SAHA SAN ANTONIO HOUSING AUTHORITY
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818 S. FLORES ST. □ SAN ANTONIO, TEXAS 78204 □□□ www.saha.org

Procurement Department

REQUEST FOR PROPOSALS

For

Sunshine Plaza Exterior Rehabilitation and HVAC Improvements

For

BEACON COMMUNITIES an AFFILIATE of THE HOUSING AUTHORITY of THE CITY OF SAN ANTONIO, TEXAS

RFP#: 2008-909-62-5057

Prepared by:

Department of Procurement
of
The San Antonio Housing Authority
818 South Flores Street
San Antonio, Texas 78204

President and CEO …….... David Nisivoccia

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Section A
Background Information and Evaluation

Background Information and Evaluation

Founded in 1937, the San Antonio Housing Authority (SAHA) has committed more than 80 years to building and maintaining affordable housing for the residents of San Antonio.

SAHA is one of 39 public housing authorities throughout the nation with the Moving-to-Work (MTW) designation, which provides agencies with the flexibility to design and test innovative approaches to enhance the agency's programs.

SAHA provides housing assistance to more than 65,000 children, adults and seniors through its Public Housing, Housing Choice Voucher and Mixed-Income housing programs. As a compassionate agency, we understand safe and quality affordable housing is the foundation to success, and we have the privilege of managing nearly 70 public housing communities, 46 mixed-income apartment complexes, known as Beacon Communities, and administering nearly 14,000 rental vouchers throughout San Antonio.

SAHA is one of the largest housing authorities in the state of Texas and has an existing team of experienced staff and consultants assembled to facilitate the redevelopment of its properties. SAHA is committed to ***creating dynamic communities where people thrive*** and spurs economic growth through the awarding of local contractors with housing development projects, obtaining real estate and administering rental subsidies with private property owners.

SAHA is managed by President and CEO David Nisivoccia with an innovative executive team and with the guidance of seven Board of Commissioners appointed by the Mayor of San Antonio. The SAHA Board of Commissioners, upon the advice of the President and CEO, approves all major policy and contractual decisions. The President and CEO is then charged with implementing these actions.

SAHA is a unit of government and its functions are essential governmental functions. The property of SAHA is used for essential public and governmental purposes and is exempt from all taxes, including sales tax on all its purchases of supplies and services.

SAHA enters into and executes contracts and other instruments that are necessary and convenient to the exercise of its powers. SAHA maintains contractual arrangements with United States Department of Housing and Urban Development (HUD) to manage and operate its low rent public housing program and administers the Housing Assistance Payments Programs. SAHA programs are federally funded along with development and modernization grants and rental income.

SAHA has created a number of affiliated public facility corporations (PFCs) pursuant to Chapter 303 of the Texas Local Government Code (the Public Facility Corporation Act). In some instances, these PFCs own projects. In other cases, PFCs or other related entities serve as partners in partnerships that have been awarded low-income housing tax credits. SAHA's affiliated entities own and operate more than 3,000 units of affordable housing.

SAHA staff also manages the San Antonio Housing Finance Corporation (Finance Corporation), which is primarily a conduit issuer of bonds for consultants of affordable housing projects. The Finance Corporation was created pursuant to Chapter 394 of the Texas Local Government Code (the Texas Housing Finance Corporations Act). When used, SAHA shall include its affiliated entities.

As a part of our social mission and federal mandate, SAHA is committed to providing economic, training and educational opportunities to low-income individuals in the communities we serve. All consultants are required to recruit and hire low-income individuals for new positions and provide training and educational opportunities to the greatest extent feasible for these individuals.

I. Property Improvement Opportunities:

At this time, Beacon Communities an affiliate of The Housing Authority of the City of San Antonio (SAHA) invite proposals from qualified, experienced general contractors to perform exterior building rehabilitation and selected HVAC improvements and repairs at the Sunshine Plaza Apartments located at 455 E. Sunshine, San Antonio, TX 78228 as further described in Exhibit A. The property is geographically located in the Southwest quadrant of the City of San Antonio.

SAHA will consider proposals from responsible organizations or individuals currently engaged in the performance of property construction, rehabilitation and site improvement services who have competency in performing comparable on-site property improvements for similar properties, acceptable financial resources and personnel staffing to perform the services requested. The complex is currently approximately 95% occupied.

II. Timeline:

DATE ISSUED	September 1, 2020
NON-MANDATORY PRE-SUBMITTAL MEETING	None Scheduled due to current gathering restrictions.
MANDATORY SITE VISIT	September 11, 2020 1:00 to 4:30 PM. Limited to 2 persons per company and must provide their own PPE (Gloves and Masks minimum).
LAST DATE FOR QUESTIONS	September 18, 2020
PROPOSAL DUE DATE	September 30, 2020 at 2:00 P.M. SAHA Procurement Dept. 818 S. Flores, San Antonio, TX 78204
ANTICIPATED APPROVAL BY THE BOARD	November Ops/December Board 2020
SUBMITTAL REQUIREMENTS	Submit a total of five (5) copies, one (1) Original marked “ORIGINAL” and 3 hard copies marked “COPY” and one copy of the “Original” on a CD or Thumb Drive. Only the “ORIGINAL”s will contain the Pricing.

SAHA reserves the right to modify this schedule at their discretion. Notification of changes in connection with this solicitation will be made available to all interested parties via an emailed Addendum and by posting on SAHA’s website and other websites.

III. Objectives:

The services to be provided include all aspects of demolition, rehabilitation, exterior site and HVAC improvements at the Sunshine Plaza Apartments including repairs/modifications, fencing and other work consistent with the attached plans and specifications, and applicable regulatory compliance standards, codes, rules statutes, and reporting.

The goals of the improvements to this property are to enhance and improve the asset and to extend its useable life as a safe and desirable residential facility. Achievement of this goal will include, but not be limited to the:

- Improvement of resident safety;
- Reduction of maintenance costs; and
- Improvement of aesthetics and livability;

IV. Desired Outcome:

A. The successful Contractor will assume full responsibility for the property improvements at a date and time reflected in a Notice to Proceed issued by SAHA Procurement in conjunction with the SAHA Construction Services Department. SAHA expects an approximate **270** days construction period.

V. Evaluation: Each proposal submittal will be evaluated based upon the following information and criteria:

A. Initial Evaluation-Responsiveness: Each proposal received will first be evaluated for responsiveness (i.e., meeting the minimum requirements as stated in the RFP)

B. Evaluation-Responsibility: SAHA shall select a minimum of a three-person panel, using the criteria established below, to evaluate each of the proposals submitted in response to this RFP to determine the Respondent's level of responsibility. SAHA will consider capabilities or advantages that are clearly described in the proposal that may be confirmed by oral presentations, site visits, demonstrations, and references contacted by SAHA. All proposals will be evaluated as to their overall value to SAHA.

C. Restrictions: All persons having familial (including in-laws) and/or employment relationships (past or current) with principals and/or employees of a Respondent will be excluded from participation on SAHA's evaluation panel. Similarly, all persons having ownership interest in and/or contract with a Respondents will be excluded from participation on SAHA's evaluation panel.

D. Evaluation Criteria: The evaluation panel will use the following criteria to evaluate each proposal:

5 Excellent
4 Above Average
3 Average
2 Below Average
1 Poor
0 Non Responsive

Continues on next page**.**

No.	Points	Weight	CRITERION DESCRIPTION
1	0-5	25%	**Experience in affordable, mixed-income and multi-story construction, rehabilitation and site improvements:** Depth and breadth of Respondent's experience and qualifications beyond the Minimum Qualifications; familiarity with exterior building rehabilitation, stucco, paving, HVAC and site improvements at existing low-rise multi-story multifamily buildings. Proven record of accomplishment in working on similar projects with other private and governmental entities, including housing authorities, Non Profits, and multifamily industry.
2	0-5	20%	**Project Management:** Respondent's proposed project approach and draft plan for this project including any use of technology in the plan to control risks and schedule slippage.
3	0-5	10%	**Capacity/Financial Viability:** Respondent's financial and staffing capacity to support a project of this size and scope. Current number of active projects which may affect project manpower and schedules.
4	0-5	10%	**Construction Plan**: Clarity and sufficiency of proposed Plan; Capacity to execute the proposed plan and complete construction in a timely and on budget manner. Proposed plan schedule and timeline for completion. Number and type of sub-contractors utilized vs. self-performed work.
5	0-5	5%	**Strength of the Contractor's S/W/MBE Utilization Plan**
6	0-5	30%	**Price proposal:** Competitive fee structure offered that's within SAHA's expected costs and available funding. Must provide a supporting schedule of values/build of materials.
		100%	**Total Points for Criteria**

E. Competitive Range: Once a competitive range is established from the proposals submitted, SAHA reserves the right to require Respondents within the competitive range to make a presentation to the evaluation committee. Presentations, if requested, shall be a factor in the award recommendation.

VI. Minimum Qualifications: Respondents must meet the following criteria:

A. Type of Organization: Firms or joint ventures of firms with a demonstrated record of expertise in one or more of the following:

- Construction and completion of two or more projects within the past 5 years of a similar nature, size and scope as contemplated herein.
- Completion of two or more projects in the past 5 years reflecting Respondent's experience in building rehabilitation, stucco, paving and site improvements of affordable multifamily housing properties.
- Continuous operation for three (3) or more years as a construction firm or 10 or more years' experience of principals collectively in the construction, rehabilitation and modernization of multi-family residential housing.
- Valid Contractor's license to do business in the State of Texas.
- Project Manager shall have a minimum of 10 years of project management experience in the rehabilitation and site improvements of low-rise, multi-story, multi-family construction rehabilitation and improvement projects.
- Proven ability to adhere to project budgets and schedules.
- No material litigation matters within the past five (5) years.

End Section A

Section B
Instructions to Respondents

I. **Point of Contact**: The point of contact for purposes of obtaining the Request for Proposal and to submit responses is:

POINT OF CONTACT	Charles Bode, Sr. Procurement Manager San Antonio Housing Authority 818 S. Flores San Antonio, TX 78204 Phone: (210) 477-6703 E-mail: charles_bode@saha.org

The Request for Proposals can be obtained by calling 210-477-6059 or online at

www.saha.org

https://ha.internationaleprocurement.com

http://www.publicpurchase.com

All Addenda will be posted on SAHA's website www.saha.org, https://ha.internationaleprocurement.com and www.publicpurchase.com. Any changes that are issued before the proposal submission deadline shall be binding upon all prospective Respondents.

Respondents shall address all communication and correspondences pertaining to this RFP process to only the Contact person identified above. Respondents must not inquire or communicate with any other SAHA staff member or official (including members of the Board of Commissioners) pertaining to this RFP. Failure to comply with this requirement is cause for a proposal to be disqualified. During the RFP solicitation process, SAHA will not conduct any ex parte conversations which may give one prospective Respondent an advantage over other prospective Respondents.

II. **Prohibitions:** Contact with members of the SAHA Board of Commissioners, or SAHA officers and employees other than the contact person listed herein**,** by any prospective Respondent, after publication of the RFP and prior to the execution of a contract with the successful Respondent(s) could result in disqualification of your proposal. In fairness to all prospective Respondent(s) during the RFP process, if SAHA meets in person with anyone representing a potential provider of these services to discuss this RFP other than at the pre-submittal meeting, an addendum will be issued to address all questions so as to insure no Respondent has a competitive advantage over another. This does not exclude meetings required to conduct business not related to the RFP, or possible personal presentations after written proposals have been received and evaluated.

III. Non-Mandatory Pre-Proposal Conference: A pre-proposal conference will not be held due to current gathering restrictions. Any questions must be submitted in writing (e-mail is acceptable and preferred) to the contact person listed herein and will be answered in an addendum.

IV. Mandatory Site Visit: Prospective Proposers must visit the site during the date established for the site visit. Site Visit is from 1:00 to 4:30PM September 11, 2020 and is limited to two (2) persons per company. Vendor must provide their own Personal Protective Equipment (Gloves and Masks are required at a minimum). Proposals from firms not registered on the site visit sheet will be rejected and considered as non-responsive. To pre-register for the site visit call Beacon Maintenance Superintendent Roy Menchaca at 210-477-6310 (office) or 210-559-1382 (cell) or Maintenance Supervisor Gilbert Trevino 210-986-1170 (cell).

V. SAHA'S Reservation of Rights:

SAHA reserves the right, without liability, to:

- reject any or all proposals, to waive any informality in the RFP process, or to terminate the RFP process at any time, if deemed by SAHA to be in its best interests.
- award a contract pursuant to this RFP to one or more Respondents.
- terminate a contract awarded pursuant to this RFP, at any time for its convenience upon 30 days written notice to the successful Respondent.
- determine the days, hours and locations in which the services are performed in this RFP.
- retain all proposals submitted and not permit withdrawal for a period of 90 days subsequent to the deadline for receiving proposals without the written consent from SAHA.
- negotiate the fees proposed by all Respondents. If such negotiations are not, in the opinion of SAHA successfully concluded within a reasonable timeframe as determined by SAHA, SAHA shall retain the right to end such negotiations.
- reject and not consider any proposal that does not meet the requirements of this RFP, including but not necessarily limited to rejection of incomplete proposals and/or proposals offering alternate or non-requested services and from Respondents deemed non- responsive and non-responsible.
- prohibit any further participation by a Respondent or reject any proposal submitted that does not conform to any of the requirements detailed herein. Each prospective Respondent further agrees that he/she will inform SAHA in writing within five (5) days of the discovery of any item that is issued thereafter by SAHA that he/she feels needs to be addressed. Failure to abide by this timeframe shall relieve SAHA, but not the prospective Respondents, of any responsibility pertaining to such issue.
- award, to revise, change, alter or amend any of the instructions, terms, conditions, and/or specifications identified within the RFP documents issued, within any attachment or drawing, or within any addenda issued.
- to advertise for new proposals or to proceed to do the work otherwise if proposals are rejected.
- cancel the award of any proposal(s) at any time before the execution of the contract documents by all parties.

- reduce or increase estimated or actual quantities in whatever amount necessary if funding is not available, legal restrictions are placed upon the expenditure of monies for this category of service or supplies, or SAHA's requirements in good faith change after award of the contract.
- make an award to more than one Respondents based on ratings or to make an award with or without negotiations or Best and Final Offers (BAFO)
- establish a competitive range for responses based on the initial scores and to require presentations by the Respondents within the competitive range.
- require additional information from all Respondents to determine level of responsibility. Such information shall be submitted in the form and time frame required by SAHA.
- amend the terms of the contract any time prior to contract execution.
- contact any individuals, entities, or organizations that have had a business relationship with the Respondents regardless of their inclusion in the reference section of the proposal submittal.

VI. Timely Submissions: Late submissions will not be accepted. Proposals received prior to the submittal deadline shall be securely kept, unopened, by SAHA. No proposal received after the designated deadline shall be considered. Respondents are cautioned that any proposal submittal that is time-stamped as being received by SAHA after the exact time set as the deadline for the receiving of proposals shall not be considered. Any such proposal inadvertently opened shall be ruled to be invalid. No responsibility will attach to SAHA or any official or employee thereof, for the pre-opening of, or the failure to open a proposal not properly addressed and identified.

VII. Pre-Qualification: Respondents will not be required to pre-qualify to submit a proposal. However, all Respondents will be required to submit adequate information showing that the Respondents is qualified to perform the required work

VIII. Review of RFP Forms, Documents, Specifications and Drawings: It shall be each Respondent's responsibility to examine carefully and, as may be required, properly complete all documents issued pursuant to this RFP. Unless otherwise instructed, specifications and drawings (if provided) do not purport to show all of the exact details of the work. They are intended to illustrate the character and extent of the performance desired under the proposed contract and may be supplemented or revised from time to time.

IX. Responses: A total of one (1) original signed copy (marked "ORIGINAL") using the Proposal Form attached as Attachment F, three (3) exact hard copies less the pricing information (marked copy), and one (1) copy on a CD or USB/Thumb drive shall be placed unfolded in a sealed package with the Respondent's name and return address and addressed as follows:

Continues on next page.

{RFP # {Insert Number}
{Insert Exact Title of RFP}
{Insert Month, day, year, Time of Bid Opening}
The San Antonio Housing Authority
Procurement Department
818 S. Flores
San Antonio, Texas 78204

The Respondents shall bind the proposal such that SAHA can, if needed, remove the binding (i.e. "comb-type, etc.) or remove the pages from the cover (i.e. 3-ring binder, etc.) to make copies then return the proposal submittal to its original condition.

X. Withdrawal of Proposals: A request for withdrawal of a proposal due to a purported error must be filed in writing by the Respondents within 48 hours after the proposal deadline. The request shall contain a full explanation of the purported error. The foregoing shall not be construed to violate the common law right of withdrawal for material error as defined in State statute. SAHA retains the right to accept or reject any and all bids to the extent permitted by law. Negligence on the part of the Respondents in preparing his/her proposal confers no right of withdrawal or modification of the proposal after such proposal has been received and opened.

XI. Mistake in Proposal Submitted: After a proposal has been opened it may not be changed for the purpose of correcting an error in the pricing. This does not affect the common law right of the Respondent to withdraw a bid due to a material mistake in the bid.

A. Irregular Proposal Submittal: A proposal shall be considered irregular for any one of the following reasons, any one or more of which may, at SAHA's discretion, be reason for rejection:

- If the forms furnished by SAHA are not used or are altered or if the proposed costs are not submitted as required and where provided.
- If all requested completed attachments do not accompany the proposal submittal.
- If there are unauthorized additions, conditional or alternate proposals, or irregularities of any kind which may tend to make the proposal incomplete, indefinite or ambiguous as to its meaning or give the Respondents submitting the same a competitive advantage over other Respondents.
- If the Respondent adds any provisions reserving the right to accept or reject any award or to enter into a contract pursuant to an award.

XII. Disqualification of Respondents: Any one or more of the following shall be considered as sufficient for the disqualification of a prospective Respondents and the rejection of his/her proposal:

- Evidence of collusion among prospective Respondents. Participants in such collusion will receive no recognition as Respondents or Respondents for any future work with SAHA until such participant shall have been reinstated as a qualified bidder or Respondent. The names of all participants in such collusion shall be reported to State of Texas and any other inquiring governmental agency.
- More than one proposal for the same work from an individual, firm, or corporation under the same or different name(s).
- Lack of competency, lack of experience and/or lack of adequate resources.
- Unsatisfactory performance record as shown by past work for SAHA or with any other local, state or federal agency, judged from the standpoint of workmanship and progress.
- Incomplete work, which in the judgment of SAHA, might hinder or prevent prompt completion of additional work, if awarded.
- Failure to pay or satisfactorily settle all bills due on former contracts still outstanding at the time of award.
- Failure to demonstrate minimum qualification requirements of SAHA.
- Failure to list, if required, all team members, subcontractors (if subcontractors are allowed by SAHA) who will be engaged by the successful Respondent(s) to participate in the Project.
- Failure of the successful Respondents to be properly licensed by the City, County and/or the State of Texas and/or to be insured by a commercial general liability policy and/or worker's compensation policy and/or business automobile liability policy, if applicable.
- Any reason to be determined in good faith, to be in the best interests of SAHA.

XIII. Questions/Inquiries: A Respondent may inquire or question any of the proposal documents or any part of the information contained therein, by submitting, in writing to the contact person listed herein, at least eight (8) days prior to the proposal submission deadline, a complete and specific explanation as to what he/she is requiring clarification. SAHA reserves the right to issue a revision to the applicable RFP requirements in the form of an Addendum or may reject the Respondent's request.

XIV. Substitutions: Respondents must propose a Project that meets the requirements of the RFP documents. All verbal communications or instructions provided by any SAHA personnel shall only become official and binding when issued as an addendum by the SAHA Procurement Department.

XV. No Liability for Costs: SAHA assumes no liability or responsibility for the costs incurred by the Respondents for any materials, efforts or expenses required in the preparation of proposals or in connection with presentations or demonstrations prior to the issuance of a Contract.

XVI. Proposal Opening Results: Proposals are publicly opened and the results are generally a matter of public record. When SAHA has concluded all evaluations, has chosen a final top-rated Respondent/s, has completed the award and is ready to issue such results, SAHA shall notify the successful Respondent/s. All proposal documents submitted by the Respondents are generally a matter of public record unless such information is deemed to be proprietary.

XVII. Award: Submissions will be evaluated on the criteria stated in Section A of this RFP. After evaluation of the responses, the Contract will be awarded to one or more the Respondent/s representing the "Best Value" to SAHA after preferences for Section 3 business concerns are considered. The Selected Contractor will then enter into a construction agreement with SAHA.

XVIII. Taxes: SAHA, as a governmental entity, is exempt from Texas State Sales and Use Taxes and Federal Excise Taxes. A letter of Tax Exemption will be provided upon request.

XIX. Insurance: If a Respondent receives an award and unless otherwise waived in the Contract, the Selected Developer will be required to provide an original Certificate of Insurance confirming the minimum requirements found within Exhibit I to SAHA within 10 days of contract signature.

XX. Exceptions: SAHA will consider any exception to the RFP that the Respondent wishes to include but the failure of SAHA to include such exceptions does not give the successful Respondent the right to refuse to execute SAHA's contract form. It is the responsibility of each prospective Respondent to notify SAHA, in writing, in its Proposal of any exceptions to the RFP terms. SAHA will consider such clauses and determine whether or not to include in the Contract.

XXI. <u>Right To Protest:</u>

A. Rights: Any prospective or actual Respondents or contractor, who is allegedly aggrieved in connection with the solicitation of a proposal or award of a contract, shall have the right to protest. Such right only applies to deviations from laws, rules, regulations, or procedures. Disagreements with the evaluators' judgments as to the number of points scored are not reasons for an appeal. An alleged aggrieved protestant claiming this right is hereby informed that these regulations do not provide for administrative appeal as a matter of right for that alleged aggrieved protestant.

A.1 Definition: An alleged aggrieved "protestant" is a prospective Respondent or Respondents who feels that he/she has been treated inequitably by SAHA and wishes SAHA to correct the alleged inequitable condition or situation.

A.2 **Eligibility:** To be eligible to file a protest with SAHA pertaining to an RFP or contract, the alleged aggrieved protestant must have been involved in the RFP process in some manner as a prospective Respondents (i.e. recipient of the RFP documents) when the alleged situation occurred. SAHA has no obligation to consider a protest filed by any party that does not meet these criteria.

A.3 **Procedure:** Any actual or prospective contractor may protest the solicitation or award of a contract for material violation of SAHA's procurement policy. Any protest against a SAHA solicitation must be received before the due date for receipt of Proposals or proposals and any protest against the award of a contract must be received within ten calendar days after contract award or the protest will not be considered.

All protests must be in writing and submitted to the Director of Procurement for a written decision. The Director of Procurement shall make a recommendation to the Contracting Officer who shall issue a written decision and findings to the Contractor within 30 days from receipt of the written protest. This decision is then appealable to the Board of Commissioners within 30 days of receipt of the written decision. Appeals which are not timely filed will not be considered and the decision becomes final. All appeals shall be marked and sent to the address as listed in the following example:

APPEAL OF RFP NO. (insert exact number of RFP here)
San Antonio Housing Authority
Attn: Procurement Department
818 South Flores Street
San Antonio, TX 78204

XXI. **Bonding:** Surety Bonds must be issued by companies with an "A" rating or better by AM Best and listed on the U.S. Treasury listing of Certified Companies.

A. SAHA requires a Bid Bond for this bid in the amount of 5% of the Base Bid. Bid Bond shall be placed behind the Proposal Fee Sheet. Bid Bond must be submitted with proposal. Proposals without Bid Bond shall be rejected. Non-surety bonds must be in certified funds (ex. Cashier's check) made payable to SAHA, personal or company checks are not acceptable.

B. Performance Bond: The Contractor must provide SAHA a 100% Performance Bond for total contract value, however if the Contractor is unable to acquire the equitable bonding that is acceptable to SAHA within ten (10) days of signed contract, then the Contractor will be deemed in breach of contract.

C. Payment Bond: The Contractor must provide SAHA a 100% Payment Bond for each Project Contract executed by SAHA, however if the Contractor is unable to acquire the equitable bonding that is acceptable to SAHA within ten (10) days of signed contract, then the Contractor will be deemed in breach of contract.

XXII. **Escalation:** No escalations shall be considered, this will be a fixed fee contract.

End Section B

Section C
Information To Be Submitted

The response to this RFP shall be submitted in the manner described in this Section. Each category must be separated by index dividers and the index divider must extend so that each tab can be located without opening the proposal and labeled with the corresponding tab reference noted below. Failure to submit the proposal in the manner specified may result in a premature opening of, post-opening of, or failure to open and consider that proposal and may be cause for elimination of that Respondent from consideration for award.

C.1 Tab 1, References: The Respondent shall submit 3 former or current clients/projects within the past 10 years, preferably other than SAHA, for whom the Respondent has performed construction services similar to those being proposed herein. The list shall, at a minimum, include for each reference:

- **C.1.1** The client's name and name of the contact
- **C.1.2** The client's current telephone number and address
- **C.1.3** Description of services provided to the client
- **C.1.4** Project and construction type
- **C.1.5** Date of services

This information shall be submitted under the Tab 1 of the Proposal.

C.2 Tab 2, HUD Forms, Conflict of Interest Questionnaire and Form 1295: These Forms are attached hereto as Attachment B to this RFP document must be fully completed, except as noted, executed where provided thereon, and submitted under this tab as a part of the proposal submittal. ***NOTE*** Only the successful Respondent shall be required to submit a Form 1295 to the Texas Ethics Commission in compliance with Government Code 2252.908 and a copy of the submission along with the Certification prior to execution of the contract with SAHA.

This information shall be submitted in the form of Tab 2 to the Proposal.

C.3 Tab 3, Profile of Firm Form: The Profile of Firm Form is attached hereto as Attachment C to this RFP document and Respondent is required to describe its form of business (i.e., individual, sole proprietor, corporation, non-profit corporation, partnership, limited liability company). This Form must be fully completed, executed and submitted under this tab as a part of the submittal by the Respondent. Also submit the Company Biography under this tab.

This information shall be included as Tab 3 of the Proposal.

C.4 Tab 4, Evaluation Factors: The Respondent must submit under this tab a response that addresses each of the following evaluation factors. Small/Minority/Woman/Veteran Owned Business Enterprise plan is covered in Tabs 6 and 7 below.

A. Experience: Respondent shall provide a narrative describing the firm's credentials to deliver the required services including the firm's license information, number of employees, type of client base, and location of offices. Include awards or honors earned from industry organizations and publications. Respondent shall list current projects that the firm is presently committed, or will be committed, with client name, dollar amount, the start and completion dates, and the services being provided (e.g., Construction Manager, General Contractor, etc.). Respondent shall list at least two projects of similar type, scope, and complexity as the one contemplated herein that have been constructed within the past five (5) years or are being constructed by your firm and describe the services provided. Respondent shall provide information on two or more projects in the past 5 years reflecting Respondent's experience in building rehabilitation, sewer, paving and site improvement work on multifamily housing facilities by incorporation of sustainable use improvements and other innovative and modernizing products. Respondent shall state the extent to which it has worked with other governmental entities, including housing authorities, HUD, Non Profits, and multifamily industry.

B. Project Management: Respondent shall list the firm's management, supervisory, technical professional personnel, and consultants that will be assigned to the project and their time commitment in (a) the pre-construction phase and (b) the construction phase. Provide one-page résumés of key personnel with title/position, education, professional license or registration, general employment history, and experience with this type of project. Key personnel shall include at a minimum the project manager(s), superintendent(s), and pre-construction phase cost estimator. Provide relevant references names with contact information (email and phone number) for the project manager(s). Respondent shall provide a table identifying personnel named in this section that were assigned to projects listed in A and their job titles for that project. Respondent shall provide detail around project manager's experience reflecting a minimum of 10 years of project management experience in the rehabilitation and site improvements of low-rise, multi-story, multi-family construction rehabilitation and improvement projects. Respondent shall provide its estimated Number and type of sub-contractors to be utilized and the amount of work that it intends to self-perform..

C. Capacity/Financial Viability: Respondent shall provide a copy of the most recent audited (if available) annual and/or unaudited interim period financial statements. Respondent shall provide a short account of any legal conflict encountered with customers/clients dating to January 1, 2016 regarding contract disputes and non-performance.

D. Construction Plan: Respondent shall provide a comprehensive plan indicating how Respondent's firm will deliver the pre-construction and construction services required by this RFP. Respondent shall include a project organizational chart designating the lines of authority and discuss the roles and decision-making authority of each person on Respondent's team and specific experience each has with pre-construction services, constructability issues, modernization and energy usage techniques, and value engineering. Respondent shall provide a detailed construction schedule for the project based upon projected milestones and describe the method by which the Respondent intends to meet the schedule including any use of technology in the plan to control risks and schedule slippage. Respondent shall describe the methods it intends to use for a) tracking and reporting construction scope, schedule, and accounting information including contingency amount reporting, b) quality control program for construction, c) safety program for construction, d) construction documentation including the use of technology to provide documentation to SAHA. Include information on Respondent's approach to maintaining a safe and secure work environment for workers and neighboring properties and indicate Respondent's approach to compliance with OSHA standards. Respondent shall provide its current safety EMR or equivalent rating.

E. Price Proposal: The Proposal (Attachment F) shall include the Respondent's not-to-exceed fee offer to perform all Services in the "Original" responses only. The not-to-exceed fee offer shall include, without limitation, all of Respondent's costs, overhead, and profit for the complete performance of Services for the Project. Respondent shall provide a supporting schedule of values/Build of Materials. *This will be included only in the "ORIGINAL" and its electronic copy and must be the first documents provided when opening the "ORIGINAL" binder.*

This information (Except for Item E) shall be included as Tab 4 of the Proposal.

C.5 Tab 5, Small/Minority/Woman/Disadvantaged/Veteran Business Enterprise Utilization Plan: The Respondents shall submit a plan that details how the Contractor will make a good faith effort to subcontract with S/W/MBE companies. ***FAILURE TO PROVIDE THE SWMBE PLAN MAY CAUSE THE RESPONSE TO BE DISQUALIFIED AS NON-RESPONSIVE.***

This information shall be included as Tab 5 of the Proposal.

C.6 Tab 6, Proposal Checklist and Certification: Respondent shall certify that the Proposal documents are complete and included in the response and to the Certification contained in Attachment E.

This information shall be included as Tab 6 of the Proposal.

C.7 Tab 7, Subcontractors: Respondent shall identify its proposed subcontractors and provide a completed Profile of Firm form for each (Attachment C).

This information shall be included as Tab 7 of the Proposal.

End Section C.

Section D
Terms and Conditions

These Terms and Conditions shall be considered required terms of any Contract between the Successful Respondent and SAHA. The Contractor must also be familiar with federal guidelines issued by HUD. These guidelines, together with any supplemental general conditions issued by HUD, outline requirements for the conduct of work and administrative requirements. The guidelines include, but are not limited to, Termination for Convenience, Default, Clean Air and Water standards, and compliance with Davis-Bacon wage rates.

I. GENERAL RESPONSIBILITIES:

A. Specifications. The Contractor shall provide the Project in accordance with the Specifications which are included herein.

B. Regulatory/Licensing. Contractor shall comply with all applicable federal, state and local laws, rules, regulations, ordinances and codes and obtain any licenses or permits required to provide the services. Obtaining licenses and permits shall be the sole responsibility of the Contractor.

C. Timesheets. Contractor shall keep accurate timesheets for all employees assigned to perform any project, task, or assignment in the Project.

D. Unacceptable Employees: If any employee of the Contractor is deemed unacceptable by SAHA, Contractor shall immediately replace such personnel with a substitute acceptable to SAHA.

E. Uniforms/Badges: Contractor shall provide uniforms and/or ID badges for all employees working on SAHA's properties. No employee will be allowed on SAHA's properties out of uniform and/or without an ID badge.

F. Criminal history: Contractor shall perform criminal history checks on all employees performing work on SAHA property and if requested provide summaries of the results to SAHA. Prospective employees whose criminal history checks discloses a misdemeanor or felony conviction involving crimes of moral turpitude or harm to persons or property shall not be used to perform work under this RFP or any resulting contract. Criminal history checks will be completed at the sole expense of the Contractor.

G. Drug Screening: Respondent by submitting a response to this solicitation certifies that it complies with the "Drug Free Workplace Act". Respondent agrees that if awarded a contract and upon a reasonable request by SAHA respondent, will have tested immediately any employee suspected of being under the influence of drugs or alcohol and if positive remove them permanently from assignments on SAHA owned properties.

H. Work on SAHA Property: The Contractor shall take all necessary precautions to prevent the occurrence of any injury to persons or property during the progress of such work and shall immediately return said property to a condition equal to or better than the existing condition prior to the commencement of work at the site at no cost to SAHA.

I. Wages. Contractor shall pay all salaries and expenses of, and all Federal, Social Security taxes, Federal and State Unemployment taxes, and any similar taxes relating to its employees used in the performance of the contract. The Contractor further agrees to comply with all Federal, State and local wage and hour laws and all licensing laws applicable to its employees or other personnel furnished under the agreement.

J. Independent Contractor: The Contractor shall be considered an independent contractor. Nothing herein shall create any association, agency, partnership or joint venture between the parties hereto and neither shall have any authority to bind the other in any way.

II. SECTION 3 REQUIREMENTS. Not Applicable to this Procurement.

III. SUBCONTRACTORS. Contractor may not use any subcontractors to accomplish any portion of the services described within the RFP documents or the contract without the prior written permission of SAHA. Also, any substitution of subcontractors must be approved in writing by SAHA prior to their engagement. All requirements for the "Prime" Contractor shall apply to any and all subcontractors. It is the Contractors' responsibility to insure the compliance by the subcontractors. Regardless of subcontracting, the Contractor remains liable to SAHA for the performance under the contract. The Contractor shall assure that its subcontractors comply with all applicable HUD regulations and SAHA requirements including but not limited to Section 3 requirements, insurance, Davis Bacon wage requirements and reporting, permitting, code compliance, and licensure.

IV. LIMITATION/INDEMNIFICATION/INSURANCE

A. Limitation of Liability: In no event shall SAHA be liable to the successful Respondents for any indirect, incidental, consequential or exemplary damages.

B. Indemnification. The Contractor shall indemnify and hold harmless SAHA and its officers, agents, representatives, and employees from and against all claims, losses, damages, actions, causes of action and/or expenses resulting from, brought for, or on account of any bodily injury or death of an employee of the Contractor, its agent, or its subcontractor of any tier received or sustained by any persons or property growing out of, occurring, or attributable to any work performed under or related to this Agreement, to the extent resulting in whole or in part from the negligent acts or omissions of the Contractor, any subcontractor, or any employee, agent or representative of the Contractor or any subcontractor. **CONTRACTOR ACKNOWLEDGES AND AGREES THAT THIS INDEMNITY CONTROLS OVER ALL OTHER PROVISIONS IN THE AGREEMENT, SURVIVES TERMINATION OF THIS AGREEMENT.**

For clarification purposes**,** Contractor shall indemnify and hold harmless SAHA, their agents, consultants and employees from and against any and all property damage claims, losses, damages, costs and expenses relating to the performance of this Agreement, including any resulting loss of use, *but only to the extent caused by the negligent acts or omissions of Contractor*, its employees, sub-subcontractors, suppliers, manufacturers, or other persons or entities for whose acts Contractor may be liable.

C. SAHA Actions. It is agreed by and between the parties hereto that in no event shall any official, officer, employee, or agent of SAHA in any way be personally liable or responsible for any covenant or agreement herein contained whether expressed or implied, nor for any statement, representation or warranty made herein or in any connection with this agreement.

D. Insurance: The Contractor shall maintain in full force and effect during the entire contract term insurance in the form and in amounts found in Exhibit I.

V. LIQUIDATED DAMAGES: For each day that performance under the contract is delayed beyond the time specified for completion, the successful Respondents shall be liable for liquidated damages in the amount of $1,000 per day. However, the timeframe for performance may be adjusted at SAHA's discretion in writing prior to default under the contract.

VI. WARRANTY: The Respondent represents and warrants to the Customer that the Respondent will perform the Services with reasonable care and skill and in accordance with best commercial practices and standards in the industry for similar services.

VII. INVOICING:

A. Invoices. Invoices must contain a complete description of the work or service that was performed, the contract price for each service, the purchase order number, contract number (if applicable), date of service, and address of service location or delivery address. Contractor(s) must submit a separate invoice for each purchase order issued by SAHA unless prior approval is obtained from SAHA. To insure prompt and timely payment of invoices, and unless utilizing a progress payment schedule, invoices shall be sent electronically to the following address:

Accounts_Payable@saha.org

If the Contractor does not have the capability to send invoices electronically, they may be mailed to:

San Antonio Housing Authority
Finance and Accounting
P.O. Box 830428
San Antonio, TX 78283-0428

B. Progress Payments. If applicable, SAHA may make progress payments approximately every 30 days as the work proceeds if work meets owner's standards, as approved by the Contracting Officer. SAHA may, subject to written determination and approval of the Contracting Officer, make more frequent payments to contractors which are qualified small businesses in accordance with HUD documents.

C. Direct Deposit. Upon the Award of Contract, Contractor shall complete a form for direct deposit to process all payments electronically to insure prompt and efficient payment of all invoices.

D. Timely Invoicing: Contractor shall invoice SAHA within 60 days after the delivery of the goods or service. If contractor fails to invoice within 60 days SAHA reserves the right to not pay the invoice.

VIII. Laws and Regulations

A. General. SAHA is a governmental entity as that term is defined in the procurement statutes. SAHA and this RFP and all resulting contracts are subject to federal, state and local laws, rules, regulations and policies relating to procurement as applicable. Contractor shall comply with all local, state and federal laws concerning safety (OSHA) and environmental control (EPA and Bexar County Pollution Regulations) and any other enacted ordinance, code, law or regulation. Contractor shall be responsible for all costs incurred for compliance with any such possible ordinance, code, law or regulation. No time extensions shall be granted or financial consideration given to the Contractor for time or monies lost due to violations of any such ordinance, code, law or regulations that may occur.

B. Specific. Contractors shall comply with all statutes, rules, regulations, executive orders affecting procurements by Housing Authorities including but not limited to:

- Executive Order 11246
- Executive Order 11063
- Copeland "Anti-Kickback" Act (18 USC 874)
- Davis Bacon and Related Acts (40 USC 276a-276a-7)
- Clean Air & Water Acts (42 USC 1857(h); 33 USC 1368)
- Contract Work Hours & Safety Standards Act (40 USC 327-330)
- Energy Policy & Conservation Act (PL 94-163, 89 STAT 871)
- Civil Rights Act of 1964, Title VI (PL 88-352)
- Civil Rights Act of 1968, Title VIII (PL 90-284 Fair Housing Act)
- Age Discrimination Act of 1975
- Anti-Drug Abuse Act of 1988 (42 USC 11901 et. Seq.)
- HUD Information Bulletin 909-
- Immigration Reform & Control Act of 1986
- Fair Labor Standards Act (29 USC 201, et. Seq.

C. Incorporation. Each provision of law and each clause, which is required by law to be inserted in this RFP or any contract, shall be deemed to have been inserted herein, and this RFP and any resulting contract shall be read and enforced as though such provision or clause had been physically inserted herein. If, through mistake or otherwise, any such provision is not inserted or is inserted incorrectly, this agreement shall forthwith be physically amended to make such insertion or correction upon the application of either party. The fore-mentioned statutes, regulations and executive orders are not intended as an indication that such statute, regulation or executive order is necessary applicable nor is an omission of such statute, regulation or executive order intended to indicate that it is not applicable.

IX. Termination.

A. Early Termination. In the event any resulting contract is prematurely terminated due to non-performance and/or withdrawal by the Contractor, SAHA reserves the right to seek monetary restitution (to include but not limited to withholding of monies owed) from the Contractor to cover costs for interim services and/or cover the difference of a higher cost (difference between terminated Contractor's rate and new company's rate) beginning the date of Contractor's termination through the contract expiration date. The contract may be terminated under the following conditions:

- **a. Consent:** By mutual consent of both parties, and
- **b. Termination For Cause:** As detailed within the attached HUD Forms. SAHA may terminate any and all contracts for default at any time in whole or in part, if the Contractor fails to perform any of the provisions of any contract, so fails to pursue the work as to endanger performance in accordance with the terms of the RFP or any resulting contracts, and after receipt of written notice from SAHA, fails to correct such failures within seven (7) days or such other period as SAHA may authorize or require.
- **c. Failure to Fund.** SAHA may terminate any contract resulting from this RFP in whole or in part, if funding is reduced, or is not obtained and continued at levels sufficient to allow for the expenditure.
- **d. Termination for Convenience**: In the sole discretion of the Contracting Officer, SAHA may terminate any and all contracts resulting from this RFP in whole or part upon thirty days prior notice to the Contractor when it is determined to be in the best interest of SAHA**.**

B. Action Upon Termination. Upon receipt of a notice of termination issued from SAHA, the Contractor shall immediately cease all activities under any contract resulting from this RFP, unless expressly directed otherwise by SAHA in the notice of termination.

C. Remedies Cumulative. The rights and remedies of SAHA provided under this section are not exclusive and are in addition to any other rights and remedies provided by law or under any contract.

D. Rights Upon Termination. In the event the contract is terminated for any reason, or upon its expiration, SAHA shall retain ownership of all work products including deliverables, source and object code, microcode, software licenses, and documentation in whatever form that may exist. In addition to any other provision, the Contractor shall transfer title and deliver to SAHA any partially completed work products, deliverables, source and object code, or documentation that the Contractor has produced or acquired in the performance of the contract.

X. General Conditions

A. Severability: If any provision of this agreement or any portion or provision hereof applicable to any particular situation or circumstance is held invalid, the remainder of this agreement or the remainder of such provision (as the case may be), and the application thereof to other situations or circumstances shall not be affected thereby.

B. Waiver of Breach: A waiver of either party of any terms or conditions of this agreement in any instance shall not be deemed or construed as a waiver of such term or condition for the future, or of any subsequent breach thereof. All remedies, rights, undertakings, obligations, and agreements contained in this agreement shall be cumulative and none of them shall be in limitation of any other remedy, right, obligation or agreement of either party.

C. Time of the Essence: Time is of the essence as to each provision in which a timeframe for performance is provided in this RFP. Failure to meet these timeframes may be considered a material breach, and SAHA may pursue compensatory and/or liquidated damages under the contract.

D. Examination and Retention of Contractor's Records: SAHA, HUD, or Comptroller General of the United States, or any of their duly authorized representatives shall, until three years after final payment under all contracts executed as a result of this RFP, have access to and the right to examine any of the Contractor's directly pertinent books, documents, papers, or other records involving transactions related to this contract for the purpose of making audits, examinations, excerpts and transcriptions.

E. Right to data and Patent Rights: In addition to other ownership & use rights SAHA shall have exclusive ownership of all, proprietary interest in, and the right to full and exclusive possession of all information, materials, documents, software, and all electronic data discovered or produced by Contractor and/or subcontractors pursuant to the terms of the contract, including but not limited to, reports, memoranda or letters concerning the research and reporting tasks of the contract. Both parties agree to comply with HUD Bulletin 909-23, which is the Notice of Assistance Regarding Patent and Copyright Infringement.

F. Force Majeure: Neither SAHA nor Contractor shall be held responsible for delays or default caused by fire, flood, riot, acts of God or war where such cause was beyond, respectively, SAHA or Contractor's reasonable control. Contractor shall make all reasonable efforts to remove or eliminate such a cause of delay or default and shall, upon the cessation of the cause, diligently pursue performance of its obligations under this Agreement.

G. Proposed Fee:

G1. Base: All fees are all-inclusive of all related costs that a Respondent will incur to provide the noted services in compliance with this RFP, including, but not limited to: employee wages and benefits, clerical support, overhead, profit, licensing, insurance, materials, supplies, tools, equipment, long distance telephone calls, document copying and motor vehicle fuel unless otherwise specified in this RFP. Each fee proposed shall be fully "burdened" with profit and overhead costs.

G2. Additional Unit Prices: Your proposed unit price for each item listed on the Unit Price Sheet, if required, shall be inclusive of all expenses incurred to perform the service under this RFP and any resulting contract. Unit Prices shall include but not be limited to, employee costs and benefits, clerical support, overhead, profit, supplies, materials, equipment, licensing, insurance, bonding, vehicle fuel, etc. In case of a discrepancy between a unit price and an extension, the unit price prevails.

H. "Equal": Catalogs, brand names or manufacturer's references where provided are descriptive only and indicate type and quality desired. Bids on brands of like nature and quality will be considered unless specified otherwise. If bidding other than the referenced manufacturer, brand or trade name, Bidder must provide a complete description of product offered, and illustrations and must be included in the bid submittal. Failure to include the above referenced data will require Contractor to furnish specified brand names, numbers, etc.

I. Notice to Proceed: Start work date will be determined by the SAHA Project Manager and Contractor's Manager. Contractor shall not begin work until a Notice to Proceed is received from SAHA signed by the Contracting Officer.

J. Communications:

J1. Form: All claims, notices, demands, requests, instructions, approvals and proposals must be submitted in writing.

J2. Notice to Contractor: Any Notices or Demands upon the Contractor shall be sufficiently given if delivered at the office of the Contractor stated on the signature page of the Contract or at such other office as he / she may from time to time designate in writing to SAHA or deposited in the United States mail in a sealed, postage-prepaid envelope or if delivered with charges prepaid to any telegraph company for transmission and addressed to the office of the Contractor indicated on the signature page of the contract or such other address as may be subsequently specified in writing to SAHA.

J3. Notice to SAHA: All notification papers required to be delivered to SAHA or its designated representative shall, unless otherwise specified in writing to the Contractor, be delivered to attn. Procurement, SAHA at 818 South Flores, San Antonio, Texas, 78204; and any notice to or demand upon SAHA shall be sufficiently given if so delivered or deposited in the United States mail in a sealed, postage-prepaid envelope or delivered with charges prepaid to any telegraph company for transmission to SAHA at the above address or to such other address as SAHA may subsequently specify in writing to the Contractor for such purpose.

J4. Receipt: Any such notice shall be deemed to have been given as of the time of actual delivery; or in the case of mailing, when the same should have been received in due course after the date of surrender to the Post Office; or in the case of telegrams, at the time of actual receipt, as the case may be.

K. Time for Completion: The Contractor shall immediately mobilize and commence work at the time stipulated in the Notice to Proceed to the Contractor and shall be fully completed within **270 days** unless specified otherwise in contractor's response.

L. Safety: Subject to prior approval by SAHA as to size, design, type and location, and to local regulations, the Contractor and his/her subcontractors shall erect Temporary Safety Signs for purposes of identification and controlling traffic. The Contractor shall furnish, erect, and maintain such signs as may be required by safety regulations and as necessary to safeguard life and property.

M. Builders Risk: Contractor is required to obtain Builder's Risk.

N. Storage: The Contractor and his/her subcontractors may maintain with approval by the SAHA Property & Project Managers various Storage Facilities on the site as may be necessary in the proper conduct of the work. These shall be located to cause no interference with any work to be performed on the site by the Contractor or others. The Contractor shall consult with SAHA regarding the location(s) of these facilities on each site.

O. Removal of Temporary Facilities: Upon completion of the project, or as directed by SAHA, the Contractor shall remove all temporary structures and facilities they installed from the site and leave the premises in equal or better condition than it was at turnover.

P. Final Inspection:

P.1 Notice: The Contractor shall provide prompt written notification to SAHA when all work is completed. A final project inspection shall be made when all work is completed. Until the final inspection has been made and project accepted by SAHA, SAHA shall not advance any of the retainage or make the final payment to the Contractor without the approval and concurrence of the Contracting Officer.

P.2 Inspection Date: Upon receipt of the Contractor's notification of the date when the work has been completed, SAHA shall conduct a final Inspection within 2 calendar days.

P.3 Inspection Participants: The final inspection shall be conducted by a SAHA representative/s, any System Manufacturer's Representative/s, and the Contractor's representative/s at a minimum.

Continues on next page.

P.4 **Inspection Conference:** The inspection team shall meet after completing the final inspection to determine whether the work has been completed in accordance with these specifications and produce a Punch List Schedule which describes any minor items of incomplete or unsatisfactory work and document if there are any major deficiencies which must be corrected by the Contractor and additional inspections scheduled prior to contract settlement.

Q. Settlement Documents: The settlement document shall state that the work was completed in accordance with the construction documents, including change orders except any minor items identified on SAHA's proposed certificate of completion, the total amount due the Contractor and a separately stated amount for each unsettled claim against SAHA. It shall also state that SAHA is released of all liens and all claims except those expressly stated in the Contractor's release and that wages paid to laborers or mechanics were consistent with the wage rate requirements of the contract and there are no outstanding claims for unpaid wages, materials, or supplies.

R. Wage Rate: The Davis Bacon and Related Acts wage and reporting requirements do not apply to this project.

End Section D.

EXHIBIT I
Insurance Requirements

Contractor is required to have in place during the term of the contract the following minimum insurance requirements. Contractor will be required to provide an original Certificate of Insurance to SAHA within 10 days of contract signature:

Professional Liability	**Required Limits**
SAHA and its affiliates must be named as a Certificate Holder. This is required for vendors who render observational services to SAHA such as appraisers, inspectors, attorneys, engineers or consultants.	~~$1,000,000~~ Not Required for this Project
Business Automobile Liability	**Required Limits**
SAHA and its affiliates must be named as an additional insured and as the certificate holder. This is required for any vendor that will be using their vehicle(s) to do work on SAHA properties.	$500,000 combined Single limit, Per occurrence
Workers Compensation and Employer's Liability	**Required Limits**
Workers' Compensation coverage is Statutory and has no pre-set limits. Employer's Liability limit is $500,000. Workers' Compensation is required for any vendor made up of more than two persons. ***A Waiver of Subrogation in favor of SAHA must be included in the Workers' Compensation policy.*** SAHA and its affiliates must be a Certificate Holder.	**Statutory** Employer's Liability is $500,000
Commercial General Liability	**Required Limits**
This is required for any vendor who will be doing hands on work at SAHA properties. SAHA and its affiliates must be named as an Additional Insured and as the Certificate Holder.	$1,000,000 per accident $2,000,000 aggregate
Builders Risk	**Required Limits**
Builder shall carry Builder's Risk to cover the loss of materials, and/or the building under construction/rehabilitation. SAHA and its affiliates must be named as an Additional Insured and as the Certificate Holder.	Required

ATTACHMENT A
Reports, Specifications, and Drawings

NOTE:

The following specifications reference the warranties as starting upon "Substantial Completion" this is incorrect all warranties/guarantees will commence upon "Final Acceptance."

SLAY ARCHITECTURE

Project Manual
For

San Antonio Housing Authority

Sunshine Plaza Apartments Improvements

455 E. Sunshine Drive
San Antonio, Texas 78228

Project #18011-A

San Antonio Housing Authority

President & CEO:

David Nisivoccia

Chairman:

Morris A. Stribling DPM,

Commissioners:

Dr. Ana Margarita "Cha" Guzman Chair
Jessica Weaver Vice Chair
Charles Clack Commissioner
Jo-Anne Kaplan Commissioner
Ruth Rodriguez Commissioner
Olga Kauffmann Commissioner

2019.09.27

CONSTRUCTION BID SET

August 7, 2020
(Based on original Permit set and Includes Addendum # 1 10/25/2019; and Addendum #2 8/7/2020)

SECTION 00101
PROJECT TILE PAGE

PROJECT MANUAL FOR

San Antonio Housing Authority
Sunshine Plaza Apartments Maintenance Project
455 E. Sunshine Drive
San Antonio, Texas 78228

OWNER
San Antonio Housing Authority
818 South Flores
San Antonio, Texas 78204
210.477.6534
Contact: Marvin Williams

BUILDING ENVELOPE ENGINEER
TERRACON CONSULTINGS, INC.
16911 Blanco Road
San Antonio, Texas 78216
210.641.2102
Contact Jesse H. Aguilar, PE
Jesse.aguilar@terracon.com

ARCHITECT
SLAY ARCHITECTURE
123 Altgelt Avenue
San Antonio, Texas 78201
210.736.3009
and
99001 McPherson Drive, suite 104
Laredo, Texas 78045
956.791.0405
Contact: Monica Guajardo, AIA
mguajardo@slayarchitecture.com

STRUCURAL ENGINEER
Barker Structural
303 Pearl Parkway, Suite 210
San Antonio, Texas 78215
210.349-0146
Contact: Kris M. Barker, PE
kris@barkerstructural.com

MECHANICAL & ELECTRICAL ENGINEER
MS2 Consulting Engineers
8200 West IH-10, Suite 312
San Antonio, Texas 78230
210.462-4907
Contact: Brian Goebel, PE
BGoebel@ms2-inc.com

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2019.10.25

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Structural Engineer
Barker Structural
303 Pearl Parkway #210
San Antonio, TX, 78215
210-446-5500

SECTION 00 4335

PROPOSED ELECTRICAL PRODUCTS FORM

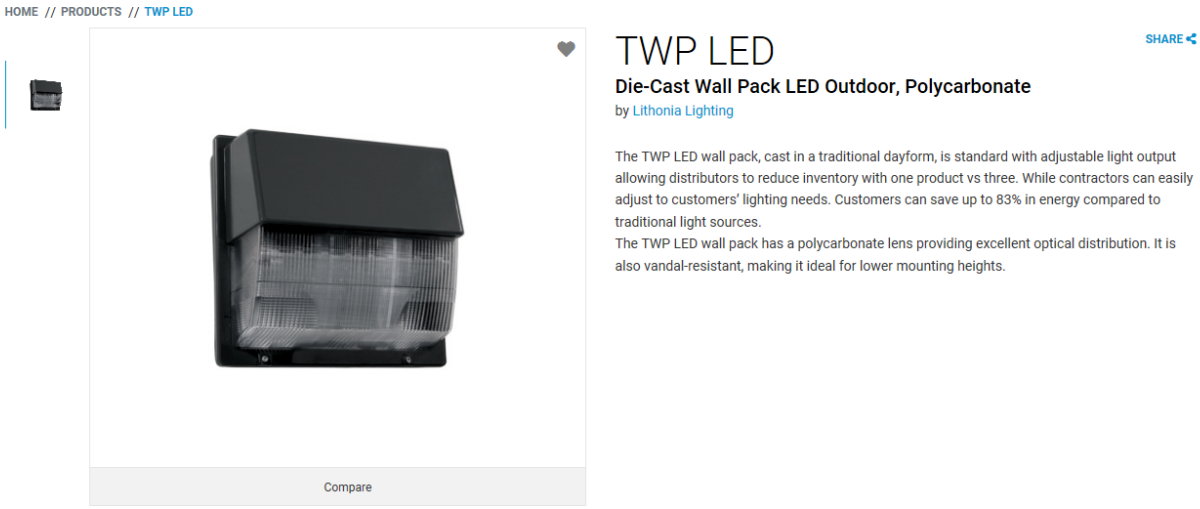
PARTICULARS

1.01 THE FOLLOWING IS THE LIST OF SUPPLEMENTARY ELECTRICAL INFORMATION REFERENCED IN THE BID SUBMITTED BY:

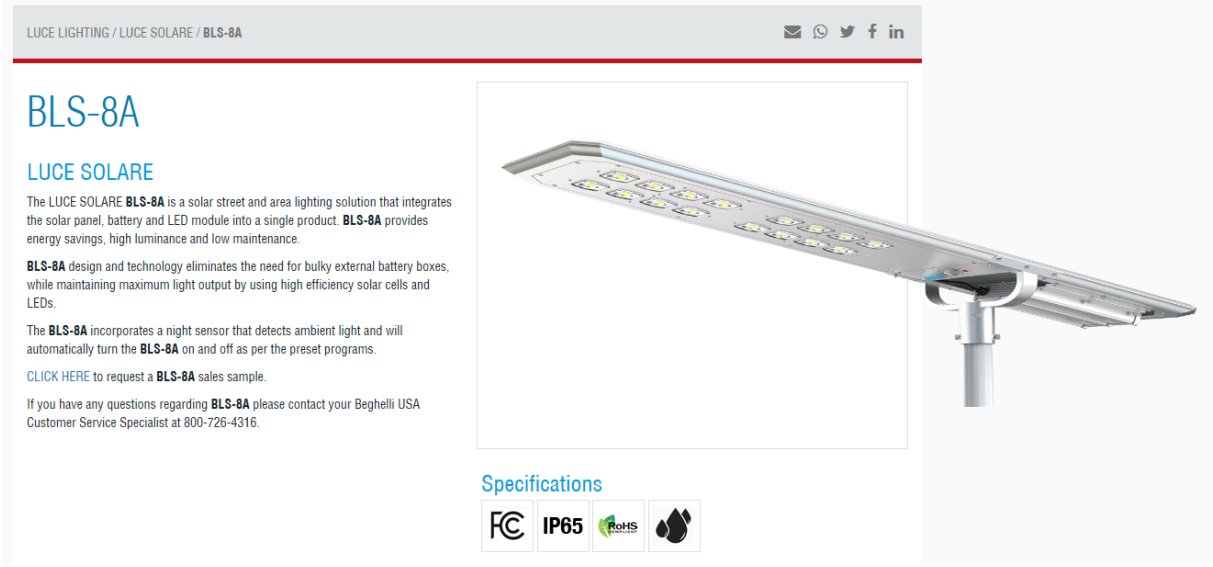
1.02 GENERAL CONTRACTOR

COMPONENT OR ITEM MANUFACTURER:

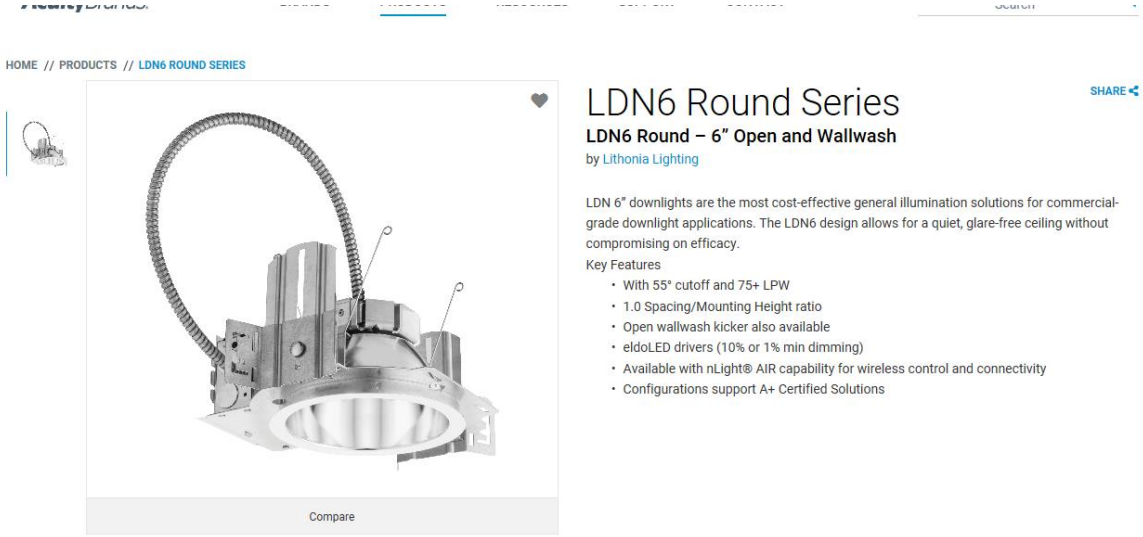
A. Light Fixture __AA



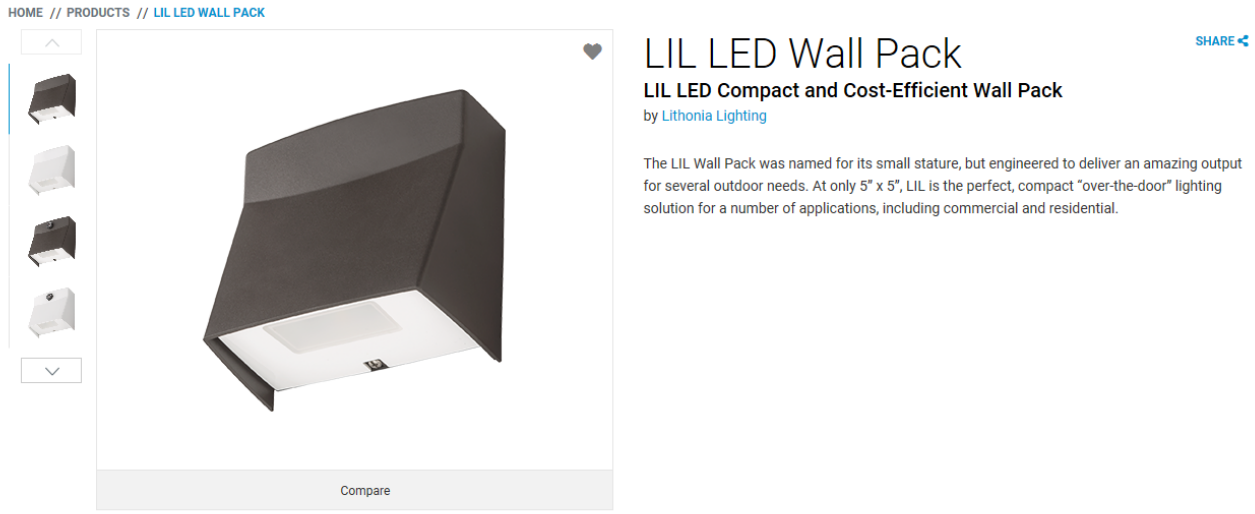
B. Light Fixture __BB



C. Light Fixture D-DE



D. Light Fixture X2-X3



END OF SECTION

SECTION 01 1000

SUMMARY

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

A. Work Included

B. Use of Premises.

C. Owner Occupancy.

D. Owner-Furnished Items.

E. Work Excluded.

1.02 RELATED REQUIREMENTS

A. General Conditions

B. Section 01 5000 - Temporary Controls and Construction Facilities

1.03 PROJECT

A. Project Name: Sunshine Plaza Apartments Improvements.

B. Owner's Name: San Antonio Housing Authority.

C. Architect's Name: Slay Architecture.

D. The Project consists of the exterior improvements of one-hundred-unit senior living apartment complex, comprised of seven, wood-framed two & three-story buildings, and site associated improvements..

1.04 WORK COVERED BY CONTRACT DOCUMENTS

A. Work of this Contract comprises the renovation of existing buildings, including, but not limited to selective demolition, site grading, new concrete equipment pads, stucco repair/painting, metal stair repair/painting, fencing replacement, door & window replacement, exterior metal repair/painting, and electrical/mechanical/plumbing replacement..

B. Work of this Contract comprises the new buildings, inlcuding, but not limited to site work.

1.05 CONTRACT DESCRIPTION

A. Contract Type: A single prime contract based on a Stipulated Sum as described in Document 00 5200 - Agreement Form.

1.06 DESCRIPTION OF ALTERATIONS WORK

A. Scope of demolition and removal work is indicated on drawings and specified in Section 02 4100.

B. Electrical Power and Lighting: Alter existing and add new construction.

1.07 WORK BY OWNER

A. Coordinate use of the site under the direction of the Architect to allow access and work of separate contractors.

1.08 OWNER OCCUPANCY

A. Owner intends to continue to occupy adjacent portions of the existing building during the entire construction period.

B. Cooperate with Owner to minimize conflict and to facilitate Owner's operations.

C. Schedule the Work to accommodate Owner occupancy.

1.09 CONTRACTOR USE OF SITE AND PREMISES

A. Coordinate use of premises under direction of Owner's representative.

B. Assume full responsibility for protection and safekeeping of products under this Contract.

C. Obtain and pay for use of additional storage or work areas needed for operations under this Contract.

D. Construction Operations: Limited to areas noted on Drawings.

E. Arrange use of site and premises to allow:
   1. Owner occupancy.
   2. Work by Others.
   3. Work by Owner.
   4. Use of site and premises by the public.

F. Provide access to and from site as required by law and by Owner:

G. Emergency Building Exits During Construction: .
   1. Do not obstruct roadways, sidewalks, or other public ways without permit.

H. Time Restrictions:
   1. Limit conduct of especially noisy exterior work to the hours of 8:00 am to 5:00pm.

I. Utility Outages and Shutdown:
   1. Limit disruption of utility services to hours the site is unoccupied.
   2. Prevent accidental disruption of utility services to other facilities.

J. Limit use of the premises as required for Owner Occupancy and work of other Contractors.

1.10 INSPECTIONS

A. After award of Contract and prior to commencement of demolition and construction activities and in the presence of the Architect and the Owner's Representative, inspect existing construction to remain. Note previously damaged conditions or unacceptable conditions or construction. Provide written copies of noted damage or unacceptable to Owner and Architect. The Owner will not be liable for cost of correcting unreported deficiencies which were visible or identifiable at time of inspection.

B. Inspect existing construction before beginning work and as additional portions of existing construction are exposed by demolition activities. Specifically inspect construction for signs or deterioration, unknown utilities and/or hazardous materials.

C. Stop demolition or construction activities if conditions or materials enumerated above or similar items of a similar nature which may pose a hazard to the proper completion of work are encountered, suspected or identified. Notify Architect in writing and do not proceed until clear directions are received.

D. Inspect existing Community Center utilities to ensure locations. If any existing locations interfere with proposed construction, notify Architect in writing and do not proceed until clear directions are received.

1.11 CLAIMS FOR ADDITIONAL TIME

A. Claims for additional time as a result of adverse weather conditions will only be considered for weather conditions that are abnormal for the period of time, and only if such weather conditions had demonstrable adverse effect on the scheduled construction. The Contractor shall document any adverse weather conditions which had an adverse effect on scheduled work on a routine basis, and submit to Architect/Engineer not later than the 5th day of each month. Only requests for extra working days where adverse weather prevents work on critical activities of scheduled work shall be considered. If no requests are submitted for any given month, it is assumed that no time was lost and the Contract Time shall not be adjusted. For purposes of this Contract, the following days per month of adverse weather are considered normal and no adjustment to Contract Time will be made unless the number of accepted adverse days exceeds the days indicated during any given month:

January	7 days	July	4 days
February	7 days	August	5 days
March	6 days	September	6 days
April	7 days	October	6 days

May	8 days	November	5 days
June	5 days	December	7 days

1. The Contractor shall keep a log on site documenting the weather conditions at the site for each calendar day of the Contract.

B. Once the work has begun, the Contractor shall properly staff the project and proceed with all diligence to complete the project within the Contract Time. The Contractor must work continuously and will not be allowed to stop activity on any work day unless due adverse weather or for reason/s pre-approved by the Owner.

1.12 WORK EXCLUDED

A. Work under this Contract specifically excludes handling, removal and abatement of asbestos containing material, poly chlorinated bi phenyl (PCB) and/or any other hazardous materials.

B. If the Contractor should discover or have reason to believe as a result of his operations, that asbestos containing materials, PCB or other hazardous materials are present, immediately cease operations and notify Owner. The Owner will arrange to have the area inspected and remove any hazardous materials.

C. No claims for additional compensation will be allowed for suspicion or finding of hazardous materials unless the Owner fails to promptly conduct an inspection and remove any hazardous materials found.

D. Work under this Contract specifically excludes handling, removal and abatement of asbestos containing material, and poly chlorinated bi phenyl (PCB).

E. Mold remediation is required for this project.

F. It is possible that asbestos containing building materials are present at the site. See Short Term Worker/Contractor Asbestos Notification form, S3-4, an attachment the Proposal Form.

1.13 DRAWINGS AND PROJECT MANUAL:

A. The Drawings and Project Manual are intended to be explanatory each to the other. Should any discrepancy arise, or any misunderstanding appears as to the importance of anything contained, the explanation by the Architect shall be final and binding on the Subcontractors.

B. All work or materials shown on the Drawings and not specified herein or any work specified and not shown on the Drawings, including anything not shown, but normally required to complete the work, shall be furnished and performed as if the same were both shown on the Drawings and mentioned herein. Where conflicts occur between Drawings and/or Specifications/Project Manual, the most stringent requirement shall govern. Failure to call to the Architect and/or Owner's attention these conflicts prior to ordering, fabrication, obtaing permits, or any installation shall result in re-ordering, re-fabricating, removing existing items and reinstalling the desired material, and General Contractor/Subcontractor bearing all costs.

C. Dimensions on large scale Drawings take precedence over scale or small Drawings. Do not scale the drawings. All explanatory notes, etc., on the Drawings are hereby made and declared a part of this Project Manual. Failure to show or mention details shall not be warranted for omission of anything necessary for the proper completion of the work to the entire satisfaction of the Architect. All Addenda, corrections or letters issued during the time of bidding shall take precedence over the Drawings and Project Manual as originally issued.

D. Supplementary Drawings will be issued if necessary. These drawings will be for clarification only and shall not affect Contract price, except when issued in conjunction with letters requesting prices for design layout or other changes. When Supplementary Drawings are issued, immediately notify Architect in writing if the Drawings affect Contract price. In case of any particular conditions, the particular specification shall govern.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 2000

PRICE AND PAYMENT PROCEDURES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Procedures for preparation and submittal of applications for progress payments.

B. Documentation of changes in Contract Sum and Contract Time.

C. Change procedures.

D. Construction Change Authorization.

E. Stipulated Sum change order.

F. Time and material change order.

G. Execution of change orders.

H. Correlation of Contractor submittals based on changes.

I. Procedures for preparation and submittal of application for final payment.

1.02 RELATED REQUIREMENTS

A. Section 00 5000 - Contracting Forms and Supplements: Forms to be used.

B. Section 01 3000 - Submittals: Submittal procedures.

C. Section 01 7000 - Contract Closeout: Final Payment.

1.03 SCHEDULE OF VALUES

A. Electronic media printout including equivalent information will be considered in lieu of standard form specified; submit draft to Architect for approval.

B. Forms filled out by hand will not be accepted.

C. Submit Schedule of Values in duplicate within 15 days after date of Owner-Contractor Agreement.

D. Format: Utilize the Table of Contents of this Project Manual. Identify each line item with number and title of the specification section. Identify site mobilization.
   1. For each item, provide a column for listing:
      a. Item Number
      b. Description of Work
      c. Scheduled Value
      d. Previous Applications
      e. Work in Place and Stored Materials under this Application
      f. Total Completed and Stored to Date
      g. Percentage of Completion
      h. Balance to Finish
      i. Retainage

E. Include in each line item, the amount of Allowances specified in this section.

F. Include within each line item, a direct proportional amount of Contractor's overhead and profit.

G. Revise schedule to list approved Change Orders, with each Application For Payment.
   1. Provide a separate line item for each approved Change Order.

1.04 APPLICATIONS FOR PROGRESS PAYMENTS

A. Payment Period: Monthly.

B. Electronic media printout including equivalent information will be considered in lieu of standard form specified; submit sample to Architect for approval.

C. Forms filled out by hand will not be accepted.

D. Present required information in typewritten form or on electronic media printout.

E. For each item, provide a column for listing each of the following:
   1. Item Number.
   2. Description of work.
   3. Scheduled Values.
   4. Previous Applications.
   5. Work in Place and Stored Materials under this Application.
   6. Authorized Change Orders.
   7. Total Completed and Stored to Date of Application.
   8. Percentage of Completion.
   9. Balance to Finish.
   10. Retainage.

F. Execute certification by signature of authorized officer.

G. Use data from approved Schedule of Values. Provide dollar value in each column for each line item for portion of work performed and for stored products.

H. List each authorized Change Order as a separate line item, listing Change Order number and dollar amount as for an original item of work.

I. Submit one electronic and three hard-copies of each Application for Payment.
   1. Submit to Architect who will review and forward to Owner with recommendation.

J. Include the following with the application:
   1. Transmittal letter as specified for submittals in Section 01 3000.
   2. Construction progress schedule, revised and current as specified in Section 01 3000.
   3. Current construction photographs specified in Section 01 3000.
   4. Partial release of liens from major subcontractors and vendors.
   5. Project record documents as specified in Section 01 7800, for review by Owner which will be returned to the Contractor.
   6. Affidavits attesting to off-site stored products.
   7. Lien releases or notarized bills paid affidavits from all Subcontractors and major material suppliers to the requirements of the General Conditions and the Supplementary Conditions.

K. When Architect requires substantiating information, submit data justifying dollar amounts in question. Provide one copy of data with cover letter for each copy of submittal. Show application number and date, and line item by number and description.

1.05 MODIFICATION PROCEDURES

A. Submit name of the individual authorized to receive change documents and who will be responsible for informing others in Contractor's employ or subcontractors of changes to Contract Documents.

B. For minor changes not involving an adjustment to the Contract Price or Contract Time, Architect will issue instructions directly to Contractor.

C. For other required changes, Architect will issue a document signed by Owner instructing Contractor to proceed with the change, for subsequent inclusion in a Change Order.
   1. The document will describe changes in the Work, and will designate method of determining any change in Contract Sum/Price or Contract Time.
   2. Promptly execute the change.

D. For changes for which advance pricing is desired, Architect will issue a document that includes a detailed description of a proposed change with supplementary or revised drawings and specifications, a change in Contract Time for executing the change with a stipulation of any overtime work required and the period of time during which the requested price will be considered valid. Contractor shall prepare and submit a fixed price quotation within 15 days.

E. Contractor may propose a change by submitting a request for change to Architect, describing the proposed change and its full effect on the Work, with a statement describing the reason for the change, and the effect on the Contract Sum/Price and Contract Time with full

documentation and a statement describing the effect on Work by separate or other contractors. Document any requested substitutions in accordance with Section 01 6000.

F. Computation of Change in Contract Amount: As specified in the Agreement and Conditions of the Contract.
   1. Based on Proposal Request of Proposed Change Order and Contractor's fixed price quotation or Contractor's Proposed Change Order as approved by Architect.
   2. For change ordered by Architect without a quotation from Contractor, the amount will be determined by Architect based on the Contractor's substantiation of costs as specified for Time and Material work.

G. Substantiation of Costs: Provide full information required for evaluation.
   1. On request, provide the following data:
      a. Quantities of products, labor, and equipment.
      b. Taxes, insurance, and bonds.
      c. Overhead and profit.
      d. Justification for any change in Contract Time.
      e. Credit for deletions from Contract, similarly documented.
   2. Support each claim for additional costs with additional information:
      a. Origin and date of claim.
      b. Dates and times work was performed, and by whom.
      c. Time records and wage rates paid.
      d. Invoices and receipts for products, equipment, and subcontracts, similarly documented.
   3. For Time and Material work, submit itemized account and supporting data after completion of change, within time limits indicated in the Conditions of the Contract.

H. Execution of Change Orders: Architect will issue Change Orders for signatures of parties as provided in the Conditions of the Contract.

I. After execution of Change Order, promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as a separate line item and adjust the Contract Sum/Price.

J. Promptly revise progress schedules to reflect any change in Contract Time, revise sub-schedules to adjust times for other items of work affected by the change, and resubmit.

K. Promptly enter changes in Project Record Documents.

L. Architect will determine the change allowable in Contract Sum/Price and Contract Time as provided in the Contract Documents.

1.06 APPLICATION FOR FINAL PAYMENT

A. Prepare Application for Final Payment as specified for progress payments, identifying total adjusted Contract Sum/Price, previous payments, and sum remaining due.

B. Application for Final Payment will not be considered until the following have been accomplished:
   1. All closeout procedures specified in Section 01 7000.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 7000

EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Examination, preparation, and general installation procedures.

B. Cutting and patching.

C. Surveying for laying out the work.

D. Cleaning and protection.

E. Starting of systems and equipment.

F. Closeout procedures, including Contractor's Correction Punch List, except payment procedures.

1.02 RELATED REQUIREMENTS

A. Section 01 1000 - Summary: Limitations on working in existing building; continued occupancy; work sequence; identification of salvaged and relocated materials.

B. Section 01 3000 - Administrative Requirements: Submittals procedures, Electronic document submittal service.

C. Section 01 4000 - Quality Requirements: Testing and inspection procedures.

D. Section 07 8400 - Firestopping.

1.03 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Survey work: Submit name, address, and telephone number of Surveyor before starting survey work.
   1. On request, submit documentation verifying accuracy of survey work.
   2. Submit a copy of site drawing signed by the Land Surveyor, that the elevations and locations of the work are in compliance with Contract Documents.
   3. Submit surveys and survey logs for the project record.

C. Cutting and Patching: Submit written request in advance of cutting or alteration that affects:
   1. Structural integrity of any element of Project.
   2. Integrity of weather exposed or moisture resistant element.
   3. Efficiency, maintenance, or safety of any operational element.
   4. Visual qualities of sight exposed elements.
   5. Work of Owner or separate Contractor.
   6. Include in request:
      a. Identification of Project.
      b. Location and description of affected work.
      c. Necessity for cutting or alteration.
      d. Description of proposed work and products to be used.
      e. Alternatives to cutting and patching.
      f. Effect on work of Owner or separate Contractor.
      g. Written permission of affected separate Contractor.
      h. Date and time work will be executed.

D. Project Record Documents: Accurately record actual locations of capped and active utilities.

1.04 QUALIFICATIONS

A. For surveying work, employ a land surveyor registered in San Antonio, Texas and acceptable to Architect. Submit evidence of surveyor's Errors and Omissions insurance coverage in the form of an Insurance Certificate. Employ only individual(s) trained and experienced in collecting and recording accurate data relevant to ongoing construction activities,

B. For field engineering, employ a professional engineer of the discipline required for specific service on Project, licensed in San Antonio, Texas. Employ only individual(s) trained and

experienced in establishing and maintaining horizontal and vertical control points necessary for laying out construction work on project of similar size, scope and/or complexity.

1.05 PROJECT CONDITIONS

A. Grade site to drain. Maintain excavations free of water. Provide, operate, and maintain pumping equipment.

B. Protect site from puddling or running water. Provide water barriers as required to protect site from soil erosion.

C. Ventilate enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.

D. Dust Control: Execute work by methods to minimize raising dust from construction operations. Provide positive means to prevent air-borne dust from dispersing into atmosphere and over adjacent property.

E. Erosion and Sediment Control: Plan and execute work by methods to control surface drainage from cuts and fills, from borrow and waste disposal areas. Prevent erosion and sedimentation.
   1. Minimize amount of bare soil exposed at one time.
   2. Provide temporary measures such as berms, dikes, and drains, to prevent water flow.
   3. Construct fill and waste areas by selective placement to avoid erosive surface silts or clays.
   4. Periodically inspect earthwork to detect evidence of erosion and sedimentation; promptly apply corrective measures.

F. Noise Control: Provide methods, means, and facilities to minimize noise produced by construction operations.

G. Pest and Rodent Control: Provide methods, means, and facilities to prevent pests and insects from damaging the work.

H. Rodent Control: Provide methods, means, and facilities to prevent rodents from accessing or invading premises.

I. Pollution Control: Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances, and pollutants produced by construction operations. Comply with federal, state, and local regulations.

PART 2 PRODUCTS

2.01 PATCHING MATERIALS

A. New Materials: As specified in product sections; match existing products and work for patching and extending work.

B. Product Substitution: For any proposed change in materials, submit request for substitution described in Section 01 6000 - Product Requirements.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that existing site conditions and substrate surfaces are acceptable for subsequent work. Start of work means acceptance of existing conditions.

B. Verify that existing substrate is capable of structural support or attachment of new work being applied or attached.

C. Examine and verify specific conditions described in individual specification sections.

D. Take field measurements before confirming product orders or beginning fabrication, to minimize waste due to over-ordering or misfabrication.

E. Verify that utility services are available, of the correct characteristics, and in the correct locations.

F. Prior to Cutting: Examine existing conditions prior to commencing work, including elements subject to damage or movement during cutting and patching. After uncovering existing work,

assess conditions affecting performance of work. Beginning of cutting or patching means acceptance of existing conditions.

3.02 PREPARATION

A. Provide temporary suports to ensure structural integrity of the Work. Provide devices and methods to protect other portions of Project from damage.

B. Provide protection from elements for areas which may be exposed by uncovering work.

C. Maintain excavations free of water.

D. Clean substrate surfaces prior to applying next material or substance.

E. Seal cracks or openings of substrate prior to applying next material or substance.

F. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying any new material or substance in contact or bond.

3.03 LAYING OUT THE WORK

A. Verify locations of survey control points prior to starting work.

B. Promptly notify Architect of any discrepancies discovered.

C. Protect survey control points prior to starting site work; preserve permanent reference points during construction.

D. Promptly report to Architect the loss or destruction of any reference point or relocation required because of changes in grades or other reasons.

E. Replace dislocated survey control points based on original survey control. Make no changes without prior written notice to Architect.

F. Utilize recognized engineering survey practices.

G. Establish elevations, lines and levels. Locate and lay out by instrumentation and similar appropriate means:
   1. Site improvements including pavements; stakes for grading, fill and topsoil placement; utility locations, slopes, and invert elevations.
   2. Grid or axis for structures.
   3. Building foundation, column locations, ground floor elevations.

H. Periodically verify layouts by same means.

I. Maintain a complete and accurate log of control and survey work as it progresses.

3.04 GENERAL INSTALLATION REQUIREMENTS

A. Install products as specified in individual sections, in accordance with manufacturer's instructions and recommendations, and so as to avoid waste due to necessity for replacement.

B. Make vertical elements plumb and horizontal elements level, unless otherwise indicated.

C. Install equipment and fittings plumb and level, neatly aligned with adjacent vertical and horizontal lines, unless otherwise indicated.

D. Make consistent texture on surfaces, with seamless transitions, unless otherwise indicated.

E. Make neat transitions between different surfaces, maintaining texture and appearance.

3.05 CUTTING AND PATCHING

A. Whenever possible, execute the work by methods that avoid cutting or patching.

B. Perform whatever cutting and patching is necessary to:
   1. Complete the work.
   2. Fit products together to integrate with other work.
   3. Provide openings for penetration of mechanical, electrical, and other services.
   4. Match work that has been cut to adjacent work.
   5. Repair areas adjacent to cuts to required condition.
   6. Repair new work damaged by subsequent work.
   7. Remove samples of installed work for testing when requested.

8. Remove and replace defective and non-complying work.

C. Execute work by methods that avoid damage to other work and that will provide appropriate surfaces to receive patching and finishing. In existing work, minimize damage and restore to original condition.

D. Employ skilled and experienced installer to perform cutting for weather exposed and moisture resistant elements, and sight exposed surfaces.

E. Cut rigid materials using masonry saw or core drill. Pneumatic tools not allowed without prior approval.

F. Restore work with new products in accordance with requirements of Contract Documents.

G. Fit work air tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.

H. At penetrations of fire rated walls, partitions, ceiling, or floor construction, completely seal voids with fire rated material in accordance with Section 07 8400, to full thickness of the penetrated element.

I. Patching:
   1. Finish patched surfaces to match finish that existed prior to patching. On continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.
   2. Match color, texture, and appearance.
   3. Repair patched surfaces that are damaged, lifted, discolored, or showing other imperfections due to patching work. If defects are due to condition of substrate, repair substrate prior to repairing finish.

3.06 PROGRESS CLEANING

A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.

B. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing the space.

C. Broom and vacuum clean interior areas prior to start of surface finishing, and continue cleaning to eliminate dust.

D. Collect and remove waste materials, debris, and trash/rubbish from site periodically and dispose off-site; do not burn or bury.

3.07 PROTECTION OF INSTALLED WORK

A. Protect installed work from damage by construction operations.

B. Provide special protection where specified in individual specification sections.

C. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.

D. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.

E. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.

F. Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.

G. Remove protective coverings when no longer needed; reuse or recycle coverings if possible.

3.08 SYSTEM STARTUP

A. Coordinate schedule for start-up of various equipment and systems.

B. Verify that each piece of equipment or system has been checked for proper lubrication, drive rotation, belt tension, control sequence, and for conditions that may cause damage.

C. Verify tests, meter readings, and specified electrical characteristics agree with those required by the equipment or system manufacturer.

D. Verify that wiring and support components for equipment are complete and tested.

E. Execute start-up under supervision of applicable Contractor personnel and manufacturer's representative in accordance with manufacturers' instructions.

F. When specified in individual specification Sections, require manufacturer to provide authorized representative to be present at site to inspect, check, and approve equipment or system installation prior to start-up, and to supervise placing equipment or system in operation.

G. Submit a written report that equipment or system has been properly installed and is functioning correctly.

3.09 DEMONSTRATION AND INSTRUCTION

A. Demonstrate operation and maintenance of products to Owner's personnel two weeks prior to date of Substantial Completion.

B. For equipment or systems requiring seasonal operation, perform demonstration for other season within six months.

C. Provide a qualified person who is knowledgeable about the Project to perform demonstration and instruction of Owner's personnel.

3.10 ADJUSTING

A. Adjust operating products and equipment to ensure smooth and unhindered operation.

3.11 FINAL CLEANING

A. Execute final cleaning prior to final project assessment.

B. Use cleaning materials that are nonhazardous.

C. Clean interior and exterior glass, surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces, vacuum carpeted and soft surfaces.

D. Remove all labels that are not permanent. Do not paint or otherwise cover fire test labels or nameplates on mechanical and electrical equipment.

E. Clean equipment and fixtures to a sanitary condition with cleaning materials appropriate to the surface and material being cleaned.

F. Clean filters of operating equipment.

G. Clean debris from roofs, gutters, downspouts, scuppers, overflow drains, area drains, drainage systems, and _____.

H. Clean site; sweep paved areas, rake clean landscaped surfaces.

I. Remove waste, surplus materials, trash/rubbish, and construction facilities from the site; dispose of in legal manner; do not burn or bury.

END OF SECTION

SECTION 01 2200

UNIT PRICES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. List of unit prices, for use in preparing Bids.

1.02 COSTS INCLUDED

A. Unit Prices included on the Bid Form shall include full compensation for all required labor, products, tools, equipment, plant, transportation, services and incidentals; erection, application or installation of an item of the Work; overhead and profit.

1.03 UNIT QUANTITIES SPECIFIED

A. Quantities indicated in the Bid Form are for bidding and contract purposes only. Quantities and measurements of actual Work will determine the payment amount.

1.04 MEASUREMENT OF QUANTITIES

A. Take all measurements and compute quantities. Measurements and quantities will be verified by Architect.

B. Assist by providing necessary equipment, workers, and survey personnel as required.

1.05 PAYMENT

A. Payment for Work governed by unit prices will be made on the basis of the actual measurements and quantities of Work that is incorporated in or made necessary by the Work and accepted by the Architect, multiplied by the unit price.

B. Payment will not be made for any of the following:
   1. Products wasted or disposed of in a manner that is not acceptable.
   2. Products determined as unacceptable before or after placement.
   3. Products not completely unloaded from the transporting vehicle.
   4. Products placed beyond the lines and levels of the required Work.
   5. Products remaining on hand after completion of the Work.
   6. Loading, hauling, and disposing of rejected Products.

1.06 DEFECT ASSESSMENTS

A. Replace Work, or portions of the Work, not complying with specified requirements.

B. If, in the opinion of Architect, it is not practical to remove and replace the Work, Architect will direct one of the following remedies:
   1. The defective Work may remain, but the unit price will be adjusted to a new unit price at the discretion of Architect.
   2. The defective Work will be partially repaired to the instructions of the Architect, and the unit price will be adjusted to a new unit price at the discretion of Architect.

C. If, in the opinion of Owner, it is not practical to remove and replace the Work, Owner will direct one of the following remedies:
   1. The defective Work may remain, but the unit price will be adjusted to a new unit price at the discretion of Owner.
   2. The defective Work will be partially repaired to the instructions of the Owner, and the unit price will be adjusted to a new unit price at the discretion of Owner.

D. The individual specification sections may modify these options or may identify a specific formula or percentage price reduction.

E. The authority of Architect to assess the defect and identify payment adjustment is final.

1.07 SCHEDULE OF UNIT PRICES

A. Item A: Two Stories of Stair, guardrail, & handrail Replacement, painted.; Section 03 5200, 05 5000, 05 5213, 09 9113.

B. Item B: Stairway step, concrete infill and riser EACH; Section 03 5200, 05 5213, 09 9113.

C. Item C: Concrete Decking and vapor barrier on 3/4" wood decking per square foot.; Section 03 5200, 03 0516, 06 1000.

D. Item D: Structural steel members at stairways...cleaned and painted; Section 03 5200, 05 5000, 09 9113.

E. Item E: Linear Foot of wood framing replacement; Section 06 1000.

F. Item F: 4" red fire line stripping per linear foot; Section 09 9113.

G. Item G: 4 foot wide concrete sidewalk per linear foot; Section 03 3000.

H. Item H: 6" concrete curb per linear foot; Section 03 3000.

I. Item I: Replace Stucco, metal lath, & waterproofing per square foot; Section 09 2236, and 09 2400.

J. Item J: Trim tree, each; Section 03 3000.

K. Item K: Car Stops, Section 32 1712

L. Item L Linear Foot of gutter replacement, Section 07 6200

M. Item M: Linear Foot of Fire Line Stripe on concrete curb.; Section: 32-1723

N. Item N: Parking sign"Head In Parking Only".; Section 10-1400

O. Item O: Asphalt Repair; Section 32-0116 74.

P. Item P: Paint Utility Conduit as per COSA Direction; Section 09-9000

Q. Item Q: Guardrail Pickets; Section: 05-5000

R. Item R: Dimensional Lumber Replacement, linear foot, Section: 06-1000
   1. Yellow Pine
      a. 1" x 4"
      b. 2" x 4"
      c. 2" x 6"
      d. 2" x 8"
   2. Treated Wood
      a. 1" x 4"
      b. 2" x 4"
      c. 2" x 6"
      d. 2" x 8"

S. Item S: Interior Gypboard Replacement, square foot, Section: 09-2116

T. Item T: Hose Bib Replacement, Section _____

U. Item T: _____, Section _____

V. Item U: _____, Section _____

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 3000

ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Construction progress schedule.

B. Submittals for review, information, and project closeout.

C. Submittals for review and information.

D. Number of copies of submittals.

E. Requests for Interpretation (RFI) procedures.

F. Submittal procedures.

1.02 RELATED REQUIREMENTS

A. Section 01 7800 - CONTRACT CLOSEOUT: Project record documents; operation and maintenance data; warranties and bonds.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 PRECONSTRUCTION MEETING

A. Schedule meeting after Notice of Award.

B. Attendance Required:
   1. Owner.
   2. Architect.
   3. Contractor.
   4. Major Subcontractors as required.

C. Agenda:
   1. Submission of list of subcontractors, list of products, schedule of values, and progress schedule.
   2. Designation of personnel representing the parties to Contract, Owner and Architect.
   3. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
   4. Scheduling.

D. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect, Owner, participants, and those affected by decisions made.

3.02 PROGRESS MEETINGS

A. Schedule and administer meetings throughout progress of the Work at maximum twice weekly intervals.

B. Architect will make arrangements for meetings, prepare agenda with copies for participants, preside at meetings.

C. Attendance Required:
   1. Contractor.
   2. Owner.
   3. Architect.
   4. Contractor's superintendent.
   5. Major subcontractors.

D. Agenda:
   1. Review minutes of previous meetings.
   2. Review of work progress.
   3. Field observations, problems, and decisions.
   4. Identification of problems that impede, or will impede, planned progress.

5. Review of submittals schedule and status of submittals.
6. Review of off-site fabrication and delivery schedules.
7. Maintenance of progress schedule.
8. Corrective measures to regain projected schedules.
9. Planned progress during succeeding work period.
10. Coordination of projected progress.
11. Maintenance of quality and work standards.
12. Effect of proposed changes on progress schedule and coordination.
13. Other business relating to work.

E. The Contractor shall schedule additional meetings with Subcontractors and Material Suppliers as required for the proper prosecution of the Work and pre-installation conferences. For these meetings, the Contractor shall assume the above enumerated responsibilities of the Architect.

3.03 CONSTRUCTION PROGRESS SCHEDULE

A. Submit, in the form of a detailed Gantt (bar) Chart, a construction progress schedule using the table of contents of this project manual as major component headings. Show complete sequence of construction activity and indicate dates for beginning and completing each major element of construction including work to be provided or installed by the Owner or under separate contracts and sample and shop drawings submittals. Segregate schedule by phases and specifically list dates for:
1. Mobilization
2. Demolition
3. Sitework
4. Site utilities
5. Structural framing
6. Major sub-contractor Work
7. Finishes
8. Substantial Completion

B. Show complete sequence of construction by activity, identifying work of separate stages and other logically grouped activities. Show projected percentage of completion for each item of Work as of time of each Application fro Progress Payment.

C. Show submittal dates required for shop drawings, product data, and samples, and product delivery dates.

D. Revise schedule not less than monthly to maintain schedule current with construction progress and project scope. Provide a narrative report as needed to explain revisions, define problem areas, anticipated delays and impact on schedule. Also include in narrative, recommended corrective action, its effect and the effect of changes on schedules of other Contractors.

E. Within 5 days after date of the Agreement, submit preliminary schedule defining planned operations for the first 60 days of Work, with a general outline for remainder of Work.

F. If preliminary schedule requires revision after review, submit revised schedule within 10 days.

G. Within 15 days after review of preliminary schedule, submit draft of proposed complete schedule for review.
1. Include written certification that major contractors have reviewed and accepted proposed schedule.

H. Within 10 days after joint review, submit complete schedule.

I. Submit updated schedule with each Application for Payment.

3.04 GOVERNMENTAL REVIEW COMMENTS

A. Submit four opaque copies of all review comments and stamps.

B. Submit within seven (7) days of receipt from governmental agency.

3.05 GENERAL SUBMITTAL REQUIREMENTS

A. DEFINITIONS

1. Shop Drawings: See General Conditions
2. Product Data: See General Conditions
3. Samples: See General Conditions
4. Governmental Review Comments: Written comments and process stamps by authorized governmental representatives on or accompanying returned documents previously submitted for building permits, operating licenses, code or ordinance approvals or variances, or other similar or related governmental reviews or approvals.
5. "A ACTION": Fabrication, manufacture and/or construction may proceed, providing the Work is in accordance with all requirements of the Contract Documents. The Architect's final acceptance of the Work will be contingent upon such compliance.
6. "B ACTION": Fabrication, manufacture and/or construction may proceed. The Architect's final acceptance of the Work will be contingent upon compliance with all notations and all requirements of the Contract Documents.
7. "C ACTION": No work shall be fabricated, manufactured and/or constructed. The Contractor shall redraw and resubmit the Shop Drawings or other submittals to conform with all requirements of the Contract Documents. Resubmit to the Architect, until resubmission is not required. Submittals marked "C ACTION" are not permitted on the construction site.

B. CONTRACTOR'S DUTIES
1. Before submission of first submittals and prior to submission of first Application for Payment, submit Schedule of Submittals. List:
   a. Specification Section Number,
   b. Projected Date of Delivery to Architect,
   c. Date fabrication of items must begin to prevent delay in work schedule, and
   d. Subcontractor name and telephone number.
2. Submit shop drawings, product data, samples, and manufacturer's instruction within 45 days of the Contract Date.
3. Review and approve all material developed for submittal in compliance with Contract Documents. Determine and verify conformance of materials and submittals to requirements of Contract Documents.
   a. Where work is noted as "by others", indicate contractor or subcontractor providing that construction.
   b. Where dimensions are noted "field dimension", indicate whether dimension has been field verified and if not, Contractor or subcontractor responsible for the field verifications.
   c. By submitting Shop Drawings, Product Data and Samples to Architect/Engineer the Contractor represents that he has determined and verified all materials, field measurements, and field construction criteria related thereto, or will do so, and that he has checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.
4. Unless otherwise noted in the individual specification section, submittals shall contain:
   a. Date of Submission and previous submission dates if applicable.
   b. Project Title and Number.
   c. Name of Contractor.
   d. Name of product Supplier and Manufacturer.
   e. Specification section number.
   f. Field dimensions clearly indicated as such.
   g. Relationship of adjacent or critical features of the Work.
   h. Identification of deviations from the Contract Documents. Emphasize deviations by "clouding" around deviations with felt tip "Highlighter" pen in color sharply contrasting with submittal. Provide written commentary explaining reasons for deviations.
   i. Applicable standards such as ASTM, ANSI, etc.
   j. Contractor's stamp, initialed or signed, certifying review of submittal, coordination and compliance with the requirements of the Work.

5. Deliver submittal material developed to Architect/Engineer for proper distribution and review.
6. Submit with reasonable promptness and in such sequence as to cause no delay in the Work or in the work of the Owner or any Separate Contractor, all Shop Drawings, Product Data and Samples required by the Contract Documents.
7. Transmit each item under Architect/Engineer accepted form.
8. Submit construction schedule and schedule of values within 15 days after date of Owner-Contractor Agreement. After review by Architect/Engineer, revise and resubmit as required. Schedule of Values shall be used as a basis for the Contractor's Application for Payment.
9. Comply with progress schedule for submittals and related Work progress. Coordinate submittal of related items.
10. Coordinate submittals with requirements of Work and of Contract Documents.
11. Sign or initial cover sheet of each shop drawing or product data submittal, and each sample label to certify contractor's review of submittals and compliance with requirements of Contract Documents.
12. After Architect/Engineer review of submittal, revise and resubmit as required, identifying changes made since previous submittal.
13. Reproduce and distribute copies of reviewed submittals to concerned parties. Instruct recipients to promptly report or conditions which prevent compliance.
14. Do not fabricate products or begin work which requires submittals until return of submittal with Architect/Engineer acceptance, then complete work in accordance with accepted submittals.
15. The Contractor shall not be relieved from responsibility for errors or omissions in the Shop Drawings, Product Data or Samples by the Architect/Engineer's acceptance thereof. Architect/Engineer's review of Contractor's shop drawings is an aid to the Contractor to ensure Contractor correctly interpreted the Contract Documents and understands what is required by them.

C. ARCHITECT'S DUTIES
1. If Owner hires architect to do the following:
2. Receive and log submittals from Contractor.
    a. Transmit appropriate submittals to Engineer for review.
    b. Receive and log reviewed submittals from Engineer.
    c. Review Architectural submittals after receipt from Contractor for conformance with submission requirements. Return non-conforming submittals to Contractor without review for resubmission in conformance with requirements.
    d. Review Architectural submittals with reasonable promptness. Indicate modifications required, if any.
    e. Affix stamp and initial or sign, and indicated requirement for resubmittal or acceptance of submittal and return to Contractor.
    f. Notify Contractor that submittals are ready for pick-up, for distribution, or revision and resubmission.

D. ENGINEER'S DUTIES
1. If Owner hires engineer to do the following:
2. Review Engineering submittals after receipt from Architect for conformance with submission requirements. Return non-conforming submittals to Architect without review for resubmission in conformance with requirements.
    a. Review Engineering submittals with reasonable promptness. Indicate modifications required, if any.
    b. Affix stamp and initial or sign, and indicate requirements for resubmittal or acceptance of submittal and return to Architect.

E. RESUBMITTALS
1. Make resubmittals under procedures for initial submittals; identify changes made since previous submittals.

3.06 SHOP DRAWINGS

A. Unless otherwise noted in the specifications, submit in the form of one electronic copy or three opaque reproductions (Hardcopy). Opaque reproductions will be retained by the Architect/Engineer. After review, reproduce and distribute in accordance with requirements in Contractor's Duties above.
   1. File one copy of shop drawings in Project Record Documents file for transmittal to Owner at completion of project. See Section 01 700 for additional information.

B. Electronic Shop Drawings: Shop Drawings submitted through electronic medium will be accepted under the following conditions:
   1. PDF Format only.
   2. 8-1/2 x 11 and/or 11 x17 format size to scale when printed. Larger format shall be submitted as opaque reproductions (hard copies).
   3. Number of sheets shall not exceed twenty (20) with file size not to exceed 10 megabytes.
   4. All other submittal requirements apply.

C. Present in a clear and thorough manner. Title each drawing with Project name; identify each element of drawings by reference to sheet number and detail, schedule, or room number of Contract Documents.

D. Identify field dimensions; show relation to adjacent or critical features for Work or products.

E. Action on Architectural Shop Drawings:
   1. Shop Drawings which are reviewed with no corrections will be stamped "A ACTION". The Architect will return one stamped electronic or one opaque reproduction (hardcopy) to the Contractor who shall be responsible for reproducing and distributing them as necessary.
   2. Shop Drawings which have been reviewed and require only minor corrections will be stamped "B ACTION". The Architect will return one stamped electronic or one opaque reproduction (hardcopy) to the Contractor who shall be responsible for reproducing and distribution them as necessary.
   3. Shop Drawings which have been reviewed and rejected will be stamped "C ACTION".
   4. If the Shop Drawings are stamped "C ACTION", the Architect will return one electronic or one opaque reproduction (hardcopy) stamped copy to the Contractor. The Contractor shall resubmit revised shop drawings to the Architect until "A ACTION" or "B ACTION" has been indicated as described above.

F. Action on Engineering Shop Drawings: As above, unless otherwise indicated in the specification.

3.07 PRODUCT DATA

A. Unless otherwise noted in the specifications, submit four copies; two copies will be retained by the Architect/Engineer.

B. Mark each copy to identify applicable products, models, options, and other data; supplement manufacturer's standard data to provide information unique to the Work.

C. Submit only pages which are pertinent, referenced to specification Section and Article number. Show reference standards, performance characteristics, and capacities, wiring and piping diagrams and controls, component parts, finishes, dimensions, and required clearances.

D. Modify manufacturer's standard schematic drawings and diagrams to supplement standard information and to provide information specifically applicable to the Work. Delete information not applicable.

E. Action on Architectural Product Data Literature:
   1. Product Data which has been reviewed and results in no corrections will be stamped "A ACTION". The Architect/Engineer will return two stamped copies to the Contractor. The contractor shall be responsible for reproducing and distributing copies as necessary.
   2. Product Data which is reviewed and requires only minor corrections will be stamped "B ACTION".
   3. Product Data which has been reviewed and rejected will be stamped "C ACTION".

4. If stamped "C ACTION", the Architect/Engineer will return two stamped copies to the Contractor. The Contractor shall resubmit new information to the Architect/Engineer until "A ACTION" or "B ACTION" has been indicated as described above.

F. Action on Engineering Product Data Literature: As above, unless otherwise indicated in the specifications.

G. After review, reproduce and distribute in accordance with requirements in Contractor's Duties above.
   1. File one copy of shop drawings in Project Record Documents file for transmittal to Owner at completion of protect. See Section 01 700 for additional information.

3.08 SUBMITTALS FOR REVIEW

A. When the following are specified in individual sections, submit them for review:
   1. Product data.
   2. Shop drawings.
   3. Samples for selection.
   4. Samples for verification.

B. Submit to Architect for review for the limited purpose of checking for compliance with information given and the design concept expressed in Contract Documents.
   1. Samples will be reviewed for aesthetic, color, or finish selection.

C. After review, provide copies and distribute in accordance with SUBMITTAL PROCEDURES article below and for record documents purposes described in Section 01 7800 - CONTRACT CLOSEOUT.

3.09 MANUFACTURER'S INSTRUCTIONS

A. When required in individual Specification Section, submit manufacturer's printed instruction for delivery, storage, assembly, installation, start-up, adjusting, finishing, and maintenance in quantities specified for product data.

B. Submit at the same time that shop drawings are submitted.

3.10 SAMPLES

A. Unless otherwise indicated in individual specification sections, submit two sets of samples.

B. Submit full range of manufacturer's standard colors, textures, and patterns for Architect/Engineer's selection.

C. Submit samples to illustrate functional characteristics of the product, with integral parts and attachment devices. Illustrate color range by bracketing with number of samples required to fully describe range to be supplied.

D. Coordinate submittals of different sections for interfacing work.

E. Include identification on each sample, giving full descriptive information.

F. One set of samples will be returned to the Contractor and one set will be retained by Architect/Engineer.

G. Action on Architectural Samples:
   1. Samples which are reviewed with no corrections will be stamped "A ACTION". The Architect will return one stamped Sample to the Contractor.
   2. Samples which are reviewed and returned for corrections as noted, and subsequent resubmittal, will be stamped "B ACTION".
   3. Samples which are reviewed and rejected because they do not comply with the requirements will be marked "C ACTION".
   4. If the Samples are stamped "B ACTION" or "C ACTION", the Architect will return one stamped Sample to the Contractor. The Contractor shall resubmit two new sets of Samples until "A ACTION has been indicated as described above.

3.11 SUBMITTALS FOR INFORMATION

A. When the following are specified in individual sections, submit them for information:

1. Design data.
2. Certificates.
3. Test reports.
4. Inspection reports.
5. Manufacturer's instructions.
6. Manufacturer's field reports.
7. Other types indicated.

B. Submit for Architect's knowledge as contract administrator or for Owner.

3.12 NUMBER OF COPIES OF SUBMITTALS

A. Documents for Information: Submit two copies.

B. Samples: Submit the number specified in individual specification sections; one of which will be retained by Architect.
   1. Retained samples will not be returned to Contractor.

3.13 SUBMITTAL PROCEDURES

A. General Requirements:
   1. Submit separate packages of submittals for review and submittals for information, when included in the same specification section.
   2. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of products required, field dimensions, adjacent construction work, and coordination of information is in accordance with the requirements of the work and Contract Documents.

B. Submittal Numbering:
   1. Sequentially number the submittal, specification section, and submittal number for the section. Revise submittals with original number and letter "**R**". Refer to sample below:
      a. **SAMPLE**: 06-09 9000-001 Painting & Coating
         1) 06 is the submittal number (sequentially number).
            (a) **06**-09 9000-001 Painting & Coating
         2) 09 9000 is the specification section.
            (a) 06-**09 9000**-001 Painting & Coating
         3) 001 is the first submittal for that specification section.
            (a) 06-09 9000-**001** is the first submittal for that specification section.
            (b) 06-09 9000-**002** would be the second submittal for that specification section.
            (c) 06-09 9000-**001R** is a revision of the first submittal in that section.

C. Shop Drawing Procedures:
   1. Prepare accurate, drawn-to-scale, original shop drawing documentation by interpreting the Contract Documents and coordinating related Work.
   2. Generic, non-project specific information submitted as shop drawings do not meet the requirements for shop drawings.

D. Transmit each submittal with a copy of approved submittal form.

E. Identify Project, Contractor, Subcontractor or supplier; pertinent drawing and detail number, and specification section number, as appropriate on each copy.

F. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of Products required, field dimensions, adjacent construction Work, and coordination of information is in accordance with the requirements of the Work and Contract Documents.

G. Deliver submittals to Architect at the San Antonio Office.
   1. Email Electronic submittals to James Ed Carleton AIA - Architect the project construction administrator.
      a. The Contractor is responsible for to confirm that electronic submittals have been received by the Architect.

H. Schedule submittals to expedite the Project, and coordinate submission of related items.

I. Process Time: Allow enough time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Architect's receipt of submittal.
   1. Initial Review: Allow **5** business days for initial review of each submittal. Allow additional time if process must be delayed to permit coordination with subsequential submittals. Architect will advise Contractor when submittal being processed must be delayed for coordination.
   2. Concurrent Review: Where concurrent review of submittals by Architect's consultants, Owner, or other parties is required, allowed **10** business days for intitial review for each submittal.
   3. If intermediate submittal is necessary, process it in the same manner as initial submittal.
   4. Allow **10** business days for processing each re-submittal.
   5. No extension of Contract Time will be authorized because of failureto transmit submittals enough in advance of the Work to permit processing.

J. **RESUBMITTAL:** Review of more than one (1) resubmittal will result in an invoice to the Owner from the Architect that may impact deduction to retainage amount.

K. Identify variations from Contract Documents and Product or system limitations that may be detrimental to successful performance of the completed Work.

L. Provide space for Contractor and Architect review stamps.

M. Pick-up reviewed submittals from the Architect at the San Antonio Office.

N. When revised for resubmission, identify all changes made since previous submission.

O. Distribute reviewed submittals as appropriate. Instruct parties to promptly report any inability to comply with requirements.

P. Submittals not requested will not be recognized or processed.

3.14 CONTRACTOR REQUESTED PRODUCT SUBSTITUTIONS

A. See Section 01 6000 - SUBSTITUTION PROCEDURES.

B. Contractor requested product substitutions will **ONLY** be considered for acceptance by the Architect if the following conditions are met:
   1. Documented Delivery Problem: The Contractor must provide substantial written documentation to support a claim of a delivery problem which is in conflict with the construction schedule, including but not limited to copies of correspondence to and from the product manufacturer which demonstrates that a delivery problem exists relative to the timely completion of construction work. A Contractor requested product sustitution will **NOT** be considered if the Constractor or any subcontractor has delayed executing subcontract for labor agreements or scheduling subcontract work from the time of construction contract award.
   2. Construction Cost Savings: A contractor requested product substitution must result in a net savings in total constrcution cost, with the proposed credit to Tenant/Landlord itemized and submitted along with the product substitution request.
   3. The product sustitution request must be submitted to the Architect in writing, using the Request for Product Substitution form. Contractor to request copy of form from the Architect.

END OF SECTION

SECTION 01 3114

MECHANICAL AND ELECTRICAL COORDINATION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Coordination documents.

1.02 REQUIREMENTS

A. Provide necessary work and services required for the complete installation of heating, ventilating, air conditioning, plumbing, and electrical systems as shown on the Drawings. For convenience, Drawings showing primarily H.V.A.C. have been numbered with and "M", Drawings showing primarily electrical have been numbered with an "E" and Drawings showing primarily plumbing have been numbered with a "P".

B. Make installations in a manner that complies with applicable codes and laws. Where the requirements of Contract Documents exceed code requirements, comply with the Contract Documents.

C. Perform electrical Work in accordance with the latest edition of the National Electrical Code as minimum standards of quality and safety.

1.03 RELATED REQUIREMENTS

A. Section 01 3000 - Administrative Requirements: Additional requirements for coordination.

B. Section 01 7800 - CONTRACT CLOSEOUT: Project record documents.

C. Division 23 - Heating, Ventilating, and Air Conditioning

D. Division 26 - Electrical

1.04 CONTRACT DRAWINGS

A. The Drawings are schematic in nature, but indicate how the various components are integrated with other parts of the building. Determine exact locations by job measurement, by determining and verifying the requirements of other trades, and by review of Contract Documents.

B. The Drawings indicate general routing of the various parts of the systems, but do not indicate all sizes, fittings, offsets, and run outs which are required. Provide correct sizes, fittings, offsets, and run outs required to fit the system into spaces allocated to them. Locate all light fixtures, vents and supply grilles to conform to the ceiling grid system. Examine the Drawings to become familiar with this requirement.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 COORDINATION REQUIRED

A. Coordinate the work listed below:
   1. Heating, Ventilating, and Air Conditioning: Division 23.
   2. Electrical: Division 26.

B. Coordinate progress schedules, including dates for submittals and for delivery of products.

C. Conduct meetings among Subcontractors and others concerned, to establish and maintain coordination and schedules, and to resolve coordination matters in dispute.

D. Participate in progress meetings. Report on progress of work to be adjusted under coordination requirements, and any required changes in schedules. Transmit minutes of meetings and reports to concerned parties.

3.02 COORDINATION OF SUBMITTALS

A. Conform to the requirements of Section 01 3000 - Submittals.

B. Review shop drawings, product data, and samples for compliance with Contract Documents and for coordination with related work. Transmit copies of reviewed documents to Architect.

C. Check field dimensions and clearances and relationship to available space and anchors.

D. Check compatibility with equipment and work of other sections, electrical characteristics, and operational control requirements.

E. Check motor voltages and control characteristics.

F. Coordinate controls, interlocks, wiring of switches, and relays.

G. Coordinate wiring and control diagrams.

H. When changes in the work are made, review their effect on other work.

I. Show sufficient data on equipment and material submittals to indicate complete compliance with Contract Documents as follows:
   1. Proper sizes and capabilities.
   2. Ability to fit in the available space in a manner that will allow proper service.
   3. Construction methods, materials, and finishes.
   4. List of accessories.

J. Include the contract item designation, building, and proposed model number in product data.

K. If proposed air devices are different than models specified, indicate the specified model and beside it the proposed model for each type of device. Do not list quantities.

L. For any item to be installed in or on a finished surface (such as tee bar, acoustical ceiling, plaster wall) certify that applicable Contract Documents have been reviewed and that the item submitted is compatible with the surface finish on which it is to be installed.

M. All Submittals shall be bound into three ring binders with hard plastic covers, with a table of contents listing all items in that specific submittal. Loose catalog sheets or drawings will not be acceptable. A separate submittal will be required for each type of equipment; e.g., lighting fixtures, switchgear, lighting panels, mechanical equipment, plumbing items, and ductwork accessories, each in a separate brochure. Miscellaneous apparatuses such as transformers, contractors, time switches, and safety switches may be contained in one submittal.

N. Auxiliary system submittals shall contain sufficient information to show conformance with the specifications and shall include a description of the operation of each system to aid the consultant in the evaluation of each submittal.

O. Verify information and coordinate maintenance of record documents.

3.03 COORDINATION OF SUBSTITUTIONS AND MODIFICATIONS

A. Review proposals and requests for substitution prior to submission to Architect.

B. Verify compliance with Contract Documents and for compatibility with work of other sections.

C. Submit with recommendation for action.

3.04 OBSERVATION OF WORK

A. Observe work for compliance with Contract Documents.

B. Maintain a list of observed deficiencies and defects; promptly submit.

3.05 DOCUMENTATION

A. Observe and maintain a record of tests. Record:
   1. Specification section number and product name.
   2. Name of Contractor, subcontractor.
   3. Name of testing agency and name of inspector.
   4. Name of manufacturer's representative present.
   5. Date, time, and duration of tests.
   6. Type of test, and results.
   7. Retesting required.

B. Assemble background documentation for dispute and claim settlement.

C. Submit copies of documentation to Architect upon request.

3.06 EQUIPMENT START-UP

A. Verify utilities, connections, and controls are complete and equipment is in operable condition as required by Section 01 7000.

B. Observe start-up and adjustments, test run, record time and date of start-up, and results.

C. Observe equipment demonstrations made to Owner; record times and additional information required for operation and maintenance manuals.

3.07 INSPECTION AND ACCEPTANCE OF EQUIPMENT

A. Prior to inspection, verify that equipment is tested, operational, clean, and ready for operation.

B. Assist Architect with review. Prepare list of items to be completed and corrected.

END OF SECTION

SECTION 01 4000

QUALITY REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Submittals.

B. References and standards.

C. Testing and inspection agencies and services.

D. Control of installation.

E. Mock-ups.

F. Manufacturers' field services and reports.

G. Defect Assessment.

1.02 RELATED REQUIREMENTS

A. Document 00 7200 - General Conditions: Inspections and approvals required by public authorities.

B. Section 01 2100 - Allowances: Allowance for payment of testing services.

C. Section 01 3000 - Administrative Requirements: Submittal procedures.

D. Section 01 6000 - Product Requirements: Requirements for material and product quality.

1.03 REFERENCE STANDARDS

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Design Data: Submit for Architect's knowledge as contract administrator for the limited purpose of assessing compliance with information given and the design concept expressed in the Contract Documents, or for Owner's information.

C. Test Reports: After each test/inspection, promptly submit two copies of report to Architect and to Contractor.
   1. Include:
      a. Date issued.
      b. Project title and number.
      c. Name of inspector.
      d. Date and time of sampling or inspection.
      e. Identification of product and specifications section.
      f. Location in the Project.
      g. Type of test/inspection.
      h. Date of test/inspection.
      i. Results of test/inspection.
      j. Compliance with Contract Documents.
      k. When requested by Architect, provide interpretation of results.

D. Manufacturer's Instructions: When specified in individual specification sections, submit printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, for the Owner's information. Indicate special procedures, perimeter conditions requiring special attention, and special environmental criteria required for application or installation.

E. Erection Drawings: Submit drawings for Architect's benefit as contract administrator or for Owner.
   1. Submit for information for the limited purpose of assessing compliance with information given and the design concept expressed in the Contract Documents.

1.05 REFERENCES AND STANDARDS

A. For products and workmanship specified by reference to a document or documents not included in the Project Manual, also referred to as reference standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.

B. Comply with reference standard of date of issue current on date of Contract Documents, except where a specific date is established by applicable code.

C. Obtain copies of standards where required by product specification sections.

D. Maintain copy at project site during submittals, planning, and progress of the specific work, until Substantial Completion.

E. Should specified reference standards conflict with Contract Documents, request clarification from Architect before proceeding.

F. Neither the contractual relationships, duties, or responsibilities of the parties in Contract nor those of Architect shall be altered from Contract Documents by mention or inference otherwise in any reference document.

1.06 INSPECTIONS BY THE CONTRACTOR

A. Prior to the installation of materials over any substrate, inspect substrate to ensure supporting surface and construction are acceptable and adequate for its intended purpose and is complete and in an acceptable condition to receive subsequent layers. If subsequent construction will be installed by subcontractors, conduct inspections in the company of such subcontractors.

B. At the completion of the Work of any trade and before concealment of such work by subsequent construction, the General Contractor's Project Superintendent or his designated representative shall inspect the Work for compliance with Contract Documents and shall require any nonconforming work to be repaired or replaced.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 CONTROL OF INSTALLATION

A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce work of specified quality.

B. Comply with manufacturers' instructions, including each step in sequence.

C. Should manufacturers' instructions conflict with Contract Documents, request clarification from Architect before proceeding.

D. Comply with specified standards as minimum quality for the work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.

E. Have work performed by persons qualified to produce required and specified quality.

F. Verify that field measurements are as indicated on shop drawings or as instructed by the manufacturer.

G. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, and disfigurement.

3.02 MOCK-UPS

A. Assemble and erect specified items with specified attachment and anchorage devices, flashings, seals, and finishes.

B. Accepted mock-ups shall be a comparison standard for the remaining Work.

C. Where mock-up has been accepted by Architect and is specified in product specification sections to be removed, protect mock-up throughout construction, remove mock-up and clear area when directed to do so by Architect.

3.03 TESTING AND INSPECTION

A. See individual specification sections for testing and inspection required.

B. Testing Agency Duties:
   1. Test samples of mixes submitted by Contractor.
   2. Provide qualified personnel at site. Cooperate with Architect and Contractor in performance of services.
   3. Perform specified sampling and testing of products in accordance with specified standards.
   4. Ascertain compliance of materials and mixes with requirements of Contract Documents.
   5. Promptly notify Architect and Contractor of observed irregularities or non-compliance of Work or products.
   6. Perform additional tests and inspections required by Architect.
   7. Submit reports of all tests/inspections specified.
      a. Include:
         1) Date issued,
         2) Project title and number,
         3) Name of inspector,
         4) Date and time of sampling or inspection,
         5) Identification of product and Specifications Section,
         6) Location materials being samples and tested where placed in the Project,
         7) Type of inspection or test,
         8) Date of test,
         9) Results of tests,
         10) Conformance with Contract Documents
      b. When requested by Architect/Engineer, provide interpretation of test results.

C. Limits on Testing/Inspection Agency Authority:
   1. Agency may not release, revoke, alter, or enlarge on requirements of Contract Documents.
   2. Agency may not approve or accept any portion of the Work.
   3. Agency may not assume any duties of Contractor.
   4. Agency has no authority to stop the Work.

D. Contractor Responsibilities:
   1. Deliver to agency at designated location, adequate samples of materials proposed to be used that require testing, along with proposed mix designs.
   2. Cooperate with laboratory personnel, and provide access to the Work and to manufacturers' facilities.
   3. Provide incidental labor and facilities:
      a. To provide access to Work to be tested/inspected.
      b. To obtain and handle samples at the site or at source of Products to be tested/inspected.
      c. To facilitate tests/inspections.
      d. To provide storage and curing of test samples.
   4. Notify Architect and laboratory 24 hours prior to expected time for operations requiring testing/inspection services.
   5. Employ services of an independent qualified testing laboratory and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.
   6. Arrange with Owner's agency and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.

E. Re-testing required because of non-compliance with specified requirements shall be performed by the same agency on instructions by Architect.

F. Re-testing required because of non-compliance with specified requirements shall be paid for by Contractor.

G. Re-testing required because of non-conformance to specified requirements shall be performed by the same agency on instructions by Architect. Payment for re testing will be charged to the Contractor by deducting testing charges from the Contract Sum.

3.04 DEFECT ASSESSMENT

A. Replace Work or portions of the Work not complying with specified requirements.

END OF SECTION

SECTION 01 5000

TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Temporary sanitary facilities.

B. Temporary Controls: Barriers, enclosures, and fencing.
   1. Protection of the Work,

C. Water control

D. Security requirements.

E. Vehicular access and parking.

F. Waste removal facilities and services.

G. Construction Facilities: Access roads, parking, storage yards, progress cleaning, and temporary buildings.

1.02 RELATED REQUIREMENTS

A. Section 01 7000 - Contract Closeout: Final Cleaning.

1.03 TEMPORARY UTILITIES

A. Owner will provide the following:
   1. Electrical power and metering, consisting of connection to existing facilities.
   2. Water supply, consisting of connection to existing facilities.

B. Use trigger-operated nozzles for water hoses, to avoid waste of water.

1.04 TEMPORARY SANITARY FACILITIES

A. Provide and maintain required facilities and enclosures. Provide at time of project mobilization.

B. Maintain daily in clean and sanitary condition.

C. Service regularly.

D. Locate where concealed from Monarch Drive.

1.05 BARRIERS

A. Provide barriers to prevent unauthorized entry to construction areas, to prevent access to areas that could be hazardous to workers or the public, to allow for owner's use of site and to protect existing facilities and adjacent properties from damage from construction operations and demolition.
   1. Provide barriers as required to protect Owner's employees, visitors, vendors, students and consultants during the full period of construction.

B. Provide barricades and covered walkways required by governing authorities for public rights-of-way and for public access to existing building.

C. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.

D. Do not obstruct existing exits. All existing exits from the existing building must remain active during the entire construction period. Where exits must be obstructed for construction operations, coordinate activities to ensure that obstruction occurs only when existing facility is unoccupied. Complete work during holidays, on weekends or at nights as required.
   1. Existing exits that exit onto construction site must remain operable. Contractor to provide signage at these exits designating them for emergency use only when building is occupied.

1.06 FENCING

A. Construction: Contractor's option.

1.07 PROTECTION OF INSTALLED AND EXISTING WORK

A. Protect of installed and existing Work and provide special protection where specified in individual specifications Sections.

B. Provide temporary and removable protection for installed Products. Control activity in immediate work area to minimize damage.

C. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.

D. Protect finished floors and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.

E. Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.

F. Prohibit traffic from landscaped areas.

1.08 SECURITY

A. Provide security and facilities to protect Work, existing facilities, and Owner's operations from unauthorized entry, vandalism, or theft.

1.09 VEHICULAR ACCESS AND PARKING

A. Coordinate access and haul routes with governing authorities and Owner.

B. Provide and maintain access to fire hydrants, free of obstructions.

C. Provide means of removing mud from vehicle wheels before entering streets.

D. Designated existing on-site roads may be used for construction traffic.

E. Provide temporary parking areas to accommodate construction personnel. When site space is not adequate, provide additional off-site parking.
   1. Coordinate parking with Owner's representatative.

1.10 WASTE REMOVAL

A. Provide waste removal facilities and services as required to maintain the site in clean and orderly condition.

B. Provide containers with lids. Remove trash from site weekly.
   1. Not less than weekly, and more often as required by volume of debris being produced.

C. If materials to be recycled or re-used on the project must be stored on-site, provide suitable non-combustible containers; locate containers holding flammable material outside the structure unless otherwise approved by the authorities having jurisdiction.

D. Open free-fall chutes are not permitted. Terminate closed chutes into appropriate containers with lids.

E. Continuously monitor site condition. When spills or dumping occur, determine identity of those responsible and take appropriate action to prevent further incidents.

1.11 TEMPORARY CONTROL

A. Protect site against contamination of all types. Instruct all employed about the site to properly dispose of all wastes, liquid or solid, to prevent possible contamination.
   1. Prohibit dumping of chemicals, paints, oils, solvents, cleaning agents, solid waste or any other compounds which might be detrimental to the site or those at the site.
   2. Dispose of all wastes in proper containers supplied by Contractor and serviced regularly (not less than weekly and more often as required by volume of debris being produces).

B. Continuously monitor site condition. When spills or dumping occur, deter identity of those responsible and take appropriate action to prevent further incidents.

C. Continuously monitor and manage nuisances arising from construction activities such as noise, dust pollution and debris. When possible, schedule construction activities to produce as little impact on adjoining and adjacent properties as possible.

D. Do not employ construction activities which produce excessive noise or dust. Control dust using sufficient water to prevent undue discomfort to neighbors and pedestrians.

E. Provide sedimentation control, erosion control and gravel construction drive to prevent contamination of adjacent water sheds and paved surfaces. Erect or install before commencement of activities at the site.

1.12 WATER CONTROL

A. Grade site to drain. Maintain excavations free of water. Provide, operate, and maintain pumping equipment.

B. Protect site from puddling or running water. Provide water barriers as required to protect site from soil erosion. Comply with local code requirements.

1.13 FIELD OFFICES

A. Office: Weathertight, with lighting, electrical outlets, heating, cooling equipment, and equipped with sturdy furniture, drawing rack, and drawing display table.
   1. Heat and ventilate as required for comfort.

B. Provide space for Project meetings, with table and chairs to accommodate 8 persons.

C. Locate offices a minimum distance of 30 feet from existing and new structures.

1.14 PROGRESS CLEANING

A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition. Continuously clean the site and the construction area, both exterior and interior.

B. Provide tightly covered receptacles for collection of garbage.

C. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing the space.

D. Broom and vacuum clean interior areas prior to start of surface finishing, and continue cleaning to eliminate dust.

E. Remove waste materials, debris, and rubbish from site weekly and dispose off-site in a lawful manner.

F. Remove dirt, mud, rocks and debris from paved surfaces surrounding project site. Maintain in clean condition. Clean paved surfaces at intervals commensurate with amounts of debris being deposited.

G. Clean the site and the construction areas, both interior and exterior, each Friday leaving the site and building clean and orderly over the weekend.

1.15 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

A. Remove temporary utilities, equipment, facilities, materials, prior to Date of Substantial Completion inspection.

B. Remove underground installations to a minimum depth of 2 feet.

C. Clean and repair damage caused by installation or use of temporary work.

D. Restore existing facilities used during construction to original condition.

E. Restore new permanent facilities used during construction to specified condition.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 6000

PRODUCT REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. General product requirements.

B. Transportation, handling, storage and protection.

C. Product option requirements.

D. Maintenance materials, including extra materials, spare parts, tools, and software.

1.02 RELATED REQUIREMENTS

A. Section 01 4000 - Quality Requirements: Product quality monitoring.

B. Section 01 7419 - Construction Waste Management and Disposal: Waste disposal requirements potentially affecting product selection, packaging and substitutions.

PART 2 PRODUCTS

2.01 EXISTING PRODUCTS

A. Unforeseen historic items encountered remain the property of the Owner; notify Owner promptly upon discovery; protect, remove, handle, and store as directed by Owner.

2.02 NEW PRODUCTS

A. Products: Means material, machinery, components, equipment, fixtures, and systems forming the Work. Products does not include machinery and equipment used for preparation, fabrication, conveying and erection of the Work. Products may also include existing materials or components required for reuse.

B. Do not use materials and equipment removed from existing premises, except as specifically permitted by the Contract Documents.

C. Provide new products unless specifically required or permitted by Contract Documents.

D. Use of products having any of the following characteristics is not permitted:
   1. Made using or containing CFC's or HCFC's.

E. Urea-Formaldehyde Prohibition:
   1. Specific Product Categories: Comply with limitations specified elsewhere.

F. Adhesives and Joint Sealants:
   1. Specific Product Categories: Comply with limitations specified elsewhere.

G. Provide interchangeable components of the same manufacture for components being replaced.
   1. Components shall be of the manufacturer's most recent design unless otherwise noted.

2.03 VERIFICATION OF NON-CONTAMINATION

A. Submit Contractor's written certification that the materials used in the constructin of the Project are totally free of all forms of polychlorinated biphenyl (PCB) or asbestos, including actinolite, amosite, anthophyllite, chrysotile, crocidolite, and tremolite.

B. For each of the following materials provided, submit a letter from the manufacturer certifying that products are totally free of all forms of polychlorinated byphenyl (PCB) or asbestos, including actinolite, amosite, anthophyllite, chrysotile, crocidolite, and tremolite.
   1. Low density fill.
   2. Fireproofing/fire stopping.
   3. Dampproofing.
   4. Waterproofing.
   5. Sealants.
   6. Prefabricated wall panels or siding.
   7. Vinyl composition flooring.
   8. Mechanical insulation.

9. Electrical isolators.
10. Other products indicated in the specification.

C. Do not use products containing lead based solders for installation of the potable water supply or in the manufacture of any component that will be connected to the potable water supply.

2.04 PRODUCT OPTIONS

A. Products Specified by Reference Standards or by Description Only: Use any product meeting those standards or description.

B. Products Specified by Naming One or More Manufacturers: Use a product of one of the manufacturers named and meeting specifications, no options or substitutions allowed.

C. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution for any manufacturer not named.
1. Products of manufacturers named are listed to establish a level of quality and not to limit competition. Items or products of equivalent quality and function are acceptable for substitution after review and acceptance by Architect. Submit a request for substitution for any manufacturer not named.

2.05 MAINTENANCE MATERIALS

A. Furnish extra materials, spare parts, tools, and software of types and in quantities specified in individual specification sections.

B. Deliver Owner; obtain receipt prior to final payment.

PART 3 EXECUTION

3.01 SUBSTITUTION LIMITATIONS

A. See Section 01 2500 - Substitution Procedures.

B. Supplementary Conditions of the Contract specify time restrictions and requirements for submitting requests for Substitutions in addition to requirements specified in this Section.

C. Substitutions will be considered when a product, through no fault of the Contractor, becomes unavailable or unsuitable due to regulatory change.

D. Document each request with complete data substantiating compliance of proposed substitution with Contract Documents.

E. A request for substitution constitutes a representation that the submitter:
1. Has complied with the representations, certifications and agreements listed in the Supplementary Conditins of the Contract.
2. Has investigated proposed product and determined that it meets or exceeds the quality level of the specified product.
3. Agrees to provide the same warranty for the substitution as for the specified product.
4. Agrees to coordinate installation and make changes to other Work that may be required for the Work to be complete with no additional cost to Owner.
5. Waives claims for additional costs or time extension that may subsequently become apparent.
6. Agrees to reimburse Owner and Architect for review or redesign services associated with re-approval by authorities.
7. Agrees to be responsible for all costs incurred by all trades which result from each substitution of material or equipment including costs for additional time required of the Architect/Engineer to plan the relocation or rearrangement of physical features of the projcet to accommodate such substitutions.
8. Agrees that, should a substitution be accepted and this substitution prove within the Guarantee Period to be defective or otherwise unsatisfactory for service for which it was intended, the Contractor shall replace defective material with material originally specified at no additional cost.

F. Requests for time extensions will not be approved for delays due to rejected substitutions.

G. No substitution will be allowed without the Architect's/Engineer's written approval.

H. Substitution Submittal Procedure (after contract award):
   1. Submit two copies of request for substitution for consideration. Limit each request to one proposed substitution.
   2. Submit shop drawings, product data, and certified test results attesting to the proposed product equivalence. Burden of proof is on proposer.
   3. Architect will notify Contractor in writing of decision to accept or reject request.
   4. If proposed substitution is rejected, supply specified product.

3.02 TRANSPORTATION AND HANDLING

A. Package products for shipment in manner to prevent damage; for equipment, package to avoid loss of factory calibration.

B. If special precautions are required, attach instructions prominently and legibly on outside of packaging.

C. Coordinate schedule of product delivery to designated prepared areas in order to minimize site storage time and potential damage to stored materials.

D. Transport and handle products in accordance with manufacturer's instructions.

E. Transport materials in covered trucks to prevent contamination of product and littering of surrounding areas.

F. Promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are undamaged.

G. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage, and to minimize handling.

H. Arrange for the return of packing materials, such as wood pallets, where economically feasible.

3.03 STORAGE AND PROTECTION

A. Designate receiving/storage areas for incoming products so that they are delivered according to installation schedule and placed convenient to work area in order to minimize waste due to excessive materials handling and misapplication. See Section 01 7419.

B. Store and protect products in accordance with manufacturers' instructions.

C. Store with seals and labels intact and legible.

D. Store sensitive products in weathertight, climate-controlled enclosures in an environment favorable to product.

E. For exterior storage of fabricated products, place on sloped supports above ground.

F. Provide off-site storage and protection when site does not permit on-site storage or protection.

G. Protect products from damage or deterioration due to construction operations, weather, precipitation, humidity, temperature, sunlight and ultraviolet light, dirt, dust, and other contaminants.

H. Comply with manufacturer's warranty conditions, if any.

I. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.

J. Store loose granular materials on solid flat surfaces in a well-drained area. Prevent mixing with foreign matter.

K. Prevent contact with material that may cause corrosion, discoloration, or staining.

L. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.

M. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

END OF SECTION

SECTION 01 7000

EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Examination, preparation, and general installation procedures.

B. Cutting and patching.

C. Surveying for laying out the work.

D. Cleaning and protection.

E. Starting of systems and equipment.

F. Closeout procedures, including Contractor's Correction Punch List, except payment procedures.

1.02 RELATED REQUIREMENTS

A. Section 01 1000 - Summary: Limitations on working in existing building; continued occupancy; work sequence; identification of salvaged and relocated materials.

B. Section 01 3000 - Administrative Requirements: Submittals procedures, Electronic document submittal service.

C. Section 01 4000 - Quality Requirements: Testing and inspection procedures.

D. Section 07 8400 - Firestopping.

1.03 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Survey work: Submit name, address, and telephone number of Surveyor before starting survey work.
   1. On request, submit documentation verifying accuracy of survey work.
   2. Submit a copy of site drawing signed by the Land Surveyor, that the elevations and locations of the work are in compliance with Contract Documents.
   3. Submit surveys and survey logs for the project record.

C. Cutting and Patching: Submit written request in advance of cutting or alteration that affects:
   1. Structural integrity of any element of Project.
   2. Integrity of weather exposed or moisture resistant element.
   3. Efficiency, maintenance, or safety of any operational element.
   4. Visual qualities of sight exposed elements.
   5. Work of Owner or separate Contractor.
   6. Include in request:
      a. Identification of Project.
      b. Location and description of affected work.
      c. Necessity for cutting or alteration.
      d. Description of proposed work and products to be used.
      e. Alternatives to cutting and patching.
      f. Effect on work of Owner or separate Contractor.
      g. Written permission of affected separate Contractor.
      h. Date and time work will be executed.

D. Project Record Documents: Accurately record actual locations of capped and active utilities.

1.04 QUALIFICATIONS

A. For surveying work, employ a land surveyor registered in San Antonio, Texas and acceptable to Architect. Submit evidence of surveyor's Errors and Omissions insurance coverage in the form of an Insurance Certificate. Employ only individual(s) trained and experienced in collecting and recording accurate data relevant to ongoing construction activities,

B. For field engineering, employ a professional engineer of the discipline required for specific service on Project, licensed in San Antonio, Texas. Employ only individual(s) trained and

experienced in establishing and maintaining horizontal and vertical control points necessary for laying out construction work on project of similar size, scope and/or complexity.

1.05 PROJECT CONDITIONS

A. Grade site to drain. Maintain excavations free of water. Provide, operate, and maintain pumping equipment.

B. Protect site from puddling or running water. Provide water barriers as required to protect site from soil erosion.

C. Ventilate enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.

D. Dust Control: Execute work by methods to minimize raising dust from construction operations. Provide positive means to prevent air-borne dust from dispersing into atmosphere and over adjacent property.

E. Erosion and Sediment Control: Plan and execute work by methods to control surface drainage from cuts and fills, from borrow and waste disposal areas. Prevent erosion and sedimentation.
   1. Minimize amount of bare soil exposed at one time.
   2. Provide temporary measures such as berms, dikes, and drains, to prevent water flow.
   3. Construct fill and waste areas by selective placement to avoid erosive surface silts or clays.
   4. Periodically inspect earthwork to detect evidence of erosion and sedimentation; promptly apply corrective measures.

F. Noise Control: Provide methods, means, and facilities to minimize noise produced by construction operations.

G. Pest and Rodent Control: Provide methods, means, and facilities to prevent pests and insects from damaging the work.

H. Rodent Control: Provide methods, means, and facilities to prevent rodents from accessing or invading premises.

I. Pollution Control: Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances, and pollutants produced by construction operations. Comply with federal, state, and local regulations.

PART 2 PRODUCTS

2.01 PATCHING MATERIALS

A. New Materials: As specified in product sections; match existing products and work for patching and extending work.

B. Product Substitution: For any proposed change in materials, submit request for substitution described in Section 01 6000 - Product Requirements.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that existing site conditions and substrate surfaces are acceptable for subsequent work. Start of work means acceptance of existing conditions.

B. Verify that existing substrate is capable of structural support or attachment of new work being applied or attached.

C. Examine and verify specific conditions described in individual specification sections.

D. Take field measurements before confirming product orders or beginning fabrication, to minimize waste due to over-ordering or misfabrication.

E. Verify that utility services are available, of the correct characteristics, and in the correct locations.

F. Prior to Cutting: Examine existing conditions prior to commencing work, including elements subject to damage or movement during cutting and patching. After uncovering existing work,

assess conditions affecting performance of work. Beginning of cutting or patching means acceptance of existing conditions.

3.02 PREPARATION

A. Provide temporary suports to ensure structural integrity of the Work. Provide devices and methods to protect other portions of Project from damage.

B. Provide protection from elements for areas which may be exposed by uncovering work.

C. Maintain excavations free of water.

D. Clean substrate surfaces prior to applying next material or substance.

E. Seal cracks or openings of substrate prior to applying next material or substance.

F. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying any new material or substance in contact or bond.

3.03 LAYING OUT THE WORK

A. Verify locations of survey control points prior to starting work.

B. Promptly notify Architect of any discrepancies discovered.

C. Protect survey control points prior to starting site work; preserve permanent reference points during construction.

D. Promptly report to Architect the loss or destruction of any reference point or relocation required because of changes in grades or other reasons.

E. Replace dislocated survey control points based on original survey control. Make no changes without prior written notice to Architect.

F. Utilize recognized engineering survey practices.

G. Establish elevations, lines and levels. Locate and lay out by instrumentation and similar appropriate means:
   1. Site improvements including pavements; stakes for grading, fill and topsoil placement; utility locations, slopes, and invert elevations.
   2. Grid or axis for structures.
   3. Building foundation, column locations, ground floor elevations.

H. Periodically verify layouts by same means.

I. Maintain a complete and accurate log of control and survey work as it progresses.

3.04 GENERAL INSTALLATION REQUIREMENTS

A. Install products as specified in individual sections, in accordance with manufacturer's instructions and recommendations, and so as to avoid waste due to necessity for replacement.

B. Make vertical elements plumb and horizontal elements level, unless otherwise indicated.

C. Install equipment and fittings plumb and level, neatly aligned with adjacent vertical and horizontal lines, unless otherwise indicated.

D. Make consistent texture on surfaces, with seamless transitions, unless otherwise indicated.

E. Make neat transitions between different surfaces, maintaining texture and appearance.

3.05 CUTTING AND PATCHING

A. Whenever possible, execute the work by methods that avoid cutting or patching.

B. Perform whatever cutting and patching is necessary to:
   1. Complete the work.
   2. Fit products together to integrate with other work.
   3. Provide openings for penetration of mechanical, electrical, and other services.
   4. Match work that has been cut to adjacent work.
   5. Repair areas adjacent to cuts to required condition.
   6. Repair new work damaged by subsequent work.
   7. Remove samples of installed work for testing when requested.

8. Remove and replace defective and non-complying work.

C. Execute work by methods that avoid damage to other work and that will provide appropriate surfaces to receive patching and finishing. In existing work, minimize damage and restore to original condition.

D. Employ skilled and experienced installer to perform cutting for weather exposed and moisture resistant elements, and sight exposed surfaces.

E. Cut rigid materials using masonry saw or core drill. Pneumatic tools not allowed without prior approval.

F. Restore work with new products in accordance with requirements of Contract Documents.

G. Fit work air tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.

H. At penetrations of fire rated walls, partitions, ceiling, or floor construction, completely seal voids with fire rated material in accordance with Section 07 8400, to full thickness of the penetrated element.

I. Patching:
   1. Finish patched surfaces to match finish that existed prior to patching. On continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.
   2. Match color, texture, and appearance.
   3. Repair patched surfaces that are damaged, lifted, discolored, or showing other imperfections due to patching work. If defects are due to condition of substrate, repair substrate prior to repairing finish.

3.06 PROGRESS CLEANING

A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.

B. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing the space.

C. Broom and vacuum clean interior areas prior to start of surface finishing, and continue cleaning to eliminate dust.

D. Collect and remove waste materials, debris, and trash/rubbish from site periodically and dispose off-site; do not burn or bury.

3.07 PROTECTION OF INSTALLED WORK

A. Protect installed work from damage by construction operations.

B. Provide special protection where specified in individual specification sections.

C. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.

D. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.

E. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.

F. Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.

G. Remove protective coverings when no longer needed; reuse or recycle coverings if possible.

3.08 SYSTEM STARTUP

A. Coordinate schedule for start-up of various equipment and systems.

B. Verify that each piece of equipment or system has been checked for proper lubrication, drive rotation, belt tension, control sequence, and for conditions that may cause damage.

C. Verify tests, meter readings, and specified electrical characteristics agree with those required by the equipment or system manufacturer.

D. Verify that wiring and support components for equipment are complete and tested.

E. Execute start-up under supervision of applicable Contractor personnel and manufacturer's representative in accordance with manufacturers' instructions.

F. When specified in individual specification Sections, require manufacturer to provide authorized representative to be present at site to inspect, check, and approve equipment or system installation prior to start-up, and to supervise placing equipment or system in operation.

G. Submit a written report that equipment or system has been properly installed and is functioning correctly.

3.09 DEMONSTRATION AND INSTRUCTION

A. Demonstrate operation and maintenance of products to Owner's personnel two weeks prior to date of Substantial Completion.

B. For equipment or systems requiring seasonal operation, perform demonstration for other season within six months.

C. Provide a qualified person who is knowledgeable about the Project to perform demonstration and instruction of Owner's personnel.

3.10 ADJUSTING

A. Adjust operating products and equipment to ensure smooth and unhindered operation.

3.11 FINAL CLEANING

A. Execute final cleaning prior to final project assessment.

B. Use cleaning materials that are nonhazardous.

C. Clean interior and exterior glass, surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces, vacuum carpeted and soft surfaces.

D. Remove all labels that are not permanent. Do not paint or otherwise cover fire test labels or nameplates on mechanical and electrical equipment.

E. Clean equipment and fixtures to a sanitary condition with cleaning materials appropriate to the surface and material being cleaned.

F. Clean filters of operating equipment.

G. Clean debris from roofs, gutters, downspouts, scuppers, overflow drains, area drains, drainage systems, and _____.

H. Clean site; sweep paved areas, rake clean landscaped surfaces.

I. Remove waste, surplus materials, trash/rubbish, and construction facilities from the site; dispose of in legal manner; do not burn or bury.

END OF SECTION

SECTION 01 7800

CONTRACT CLOSEOUT

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Closeout Procedures.

B. Final Cleaning.

C. Adjusting.

D. Project Record Documents.

E. Operation and Maintenance Data.

F. Warranties and bonds.

G. Spare parts and maintenance manuals.

1.02 RELATED REQUIREMENTS

A. Section 01 5000 - Construction Facilities and Temporary Controls: Progress cleaning.

B. Section 01 3000 - Administrative Requirements: Submittals procedures, shop drawings, product data, and samples.

C. Individual Product Sections: Specific requirements for operation and maintenance data.

D. Individual Product Sections: Warranties required for specific products or Work.

1.03 CLOSEOUT PROCEDURES

A. Immediately prior to request for Substantial Completion, inspect the Work and replace all materials or portions of the construction that are damaged, defaced, stained, faded, scratched, abraded, chipped, cracked or in any manner rendered unsightly.

B. Before requesting Substantial Completion review, prepare a list of items to be completed and/or corrected (Punch List), the value of items on the list, and reasons why the work is not complete.

C. When Contractor considers Work or designated portion of Work is substantially complete, submit: 1) request for Substantial completion review with a list of items to be completed or corrected, one of which shall not be cleaning and 2) Record Documents as required below.

D. Submit written certification that Contract Documents have been reviewed, Work has been inspected and that Work is complete in accordance with Contract Documents.

E. Submit to Architect/Engineer with written request for review Certificate of Occupancy or evidence that request for Certificate of Occupancy has been sent to city of San Antonio and that Certificate of Occupancy has been denied or is being withheld through no fault of the Contractor.

F. After receipt of required submittals, Architect/Engineer will schedule review.

G. Should Architect/Engineer review find Work is not substantially complete, he will promptly notify Contractor in writing, listing observed deficiencies.

H. Contractor shall remedy deficiencies and send a second written notice for review.

I. Architect/Engineer will re-review the work.

J. If Architect has to review work more than three (3) times, a Change Order will be issued for the amount of time the Architect must spend, so that the Owner can get credit for the time and then pay the Architect.

K. When Architect/Engineer finds Work is substantially complete he will prepare a Certificate of Substantial Completion in accordance with provisions of General Conditions with a revised tentative list of items to be completed or corrected (Punch List).

L. Complete modifications or correction required by Punch List within 14 days from date of receipt of Punch List.

1.04 FINAL CLEANING

A. Execute final cleaning prior to final inspection.

B. In general:
   1. Clean interior and exterior glass and surfaces exposed to view.
   2. Polish transparent and glossy surfaces to a bright clean shine.
   3. Vacuum carpeted surfaces.
   4. Mop hard surfaced finish flooring. Waxing is not required.
   5. Clean light fixtures, plumbing fixtures and interior equipment.
   6. Remove temporary labels, stains and foreign substances.

C. Use only materials and methods recommended by manufacturer of material being cleaned.

D. Use materials which will not create hazards to health or property, and which will not damage surfaces.

E. Clean equipment and fixtures to a sanitary condition.

F. Replace filters of operating equipment. Service permanent equipment placed in service during construction. Return to like new condition.

G. Clean debris from roofs, gutters, downspouts, and drainage systems.

H. Clean site; wash and sweep paved areas, rake clean landscaped surfaces.

I. Remove waste and surplus materials, rubbish, and construction facilities from the site.

1.05 ADJUSTING

A. Adjust operating Products and equipment to ensure smooth and unhindered operation.

1.06 SUBMITTALS

A. Evidence of Compliance with Requirements of Governing Authorities:
   1. Certificates of Inspection.
   2. Certificate of Occupancy, if not previously delivered.

B. Keys and Keying Schedule: Under provisions of Section 08710.

C. Evidence of Payment and Release of Liens: In accordance with Conditions of the Contract.

D. Consent of Surety to Final Payment.

E. Certificates of Insurance for Products and Completed Operations: In accordance with Supplementary Conditions.

F. Final closeout submittals not previously received.

G. Project Record Documents: Submit documents to Architect with claim for final Application for Payment.
   1. As built Fire Alarm plans on CADD or mylar.

H. Operation and Maintenance Data:
   1. For equipment, or component parts of equipment put into service during construction and operated by Owner, submit completed documents within ten days after acceptance.

I. Warranties and Bonds:
   1. For equipment or component parts of equipment put into service during construction with Owner's permission, submit documents within 10 days after acceptance.
   2. Make other submittals within 10 days after Date of Substantial Completion, prior to final Application for Payment.
   3. For items of Work for which acceptance is delayed beyond Date of Substantial Completion, submit within 10 days after acceptance, listing the date of acceptance as the beginning of the warranty period.

J. Subcontractors list with address, phone numbers, fax numbers and contact person name.

K. Warranties.

L. Release of Liens.

M. General:
    1. All CADD disc shall be "Autocad" on CD Rom.
    2. All text disc to be "WordPerfect" or "Word".

1.07 STATEMENT OF ADJUSTMENT OF ACCOUNTS

A. Submit final statement reflecting adjustments to Contract Sum indicating:
    1. Original Contract Sum.
    2. Previous Change Orders
    3. Changes under allowances
    4. Deductions for uncorrected work
    5. Deductions for Architect's additional services originating from substitutions
    6. Deductions for reinspection fees
    7. Other adjustments to Contract Sum
    8. Total Contract Sum as adjusted
    9. Previous payments
    10. Sum remaining due

B. Architect/Engineer will issue a final Change Order, if required, reflecting approved adjustments to Contract Sum not previously made by Change Orders.

1.08 APPLICATION FOR FINAL PAYMENT

A. Submit application for final payment in accordance with provisions of Conditions of the Contract.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 PROJECT RECORD DOCUMENTS

A. Maintain on site one set of the following record documents; record actual revisions to the Work:
    1. Drawings.
    2. Specifications.
    3. Addenda.
    4. Change Orders and other modifications to the Contract.
    5. Reviewed shop drawings, product data, and samples.
    6. Manufacturer's instruction for assembly, installation, and adjusting.
    7. Test and inspection reports from testing laboratory.

B. Ensure entries are complete and accurate, enabling future reference by Owner.

C. Store record documents separate from documents used for construction.

D. Record information concurrent with construction progress.

E. Specifications: Legibly mark and record at each product section description of actual products installed, including the following:
    1. Manufacturer's name and product model and number.
        a. and serial number.
    2. Product substitutions or alternates utilized.
    3. Changes made by Addenda and modifications.
        a. with corresponding Addenda or Modification number.

3.02 OPERATION AND MAINTENANCE DATA

A. Submit one copy of completed set of volumes in final form with requiest for Substantial Completion inspection. This copy will be returned after Substantial Completion with Architect comments. Revise content of documents as required prior to fianl submittal.

B. See Section 01315 for additional requirements.

C. Source Data: For each product or system, list names, addresses and telephone numbers of Subcontractors and suppliers, including local source of supplies and replacement parts.

D. Product Data: Mark each sheet to clearly identify specific products and component parts, and data applicable to installation. Delete inapplicable information.

E. Drawings: Supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams.

3.03 OPERATION AND MAINTENANCE DATA FOR MATERIALS AND FINISHES

A. For Each Product, Applied Material, and Finish:
   1. Product data, with catalog number, size, composition, and color and texture designations.
   2. Information for re-ordering custom manufactured products.

B. Instructions for Care and Maintenance: Manufacturer's recommendations for cleaning agents and methods, precautions against detrimental cleaning agents and methods, and recommended schedule for cleaning and maintenance.

C. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specific products.

3.04 OPERATION AND MAINTENANCE DATA FOR EQUIPMENT AND SYSTEMS

A. For Each Item of Equipment and Each System:
   1. Description of unit or system, and component parts.
   2. Identify function, normal operating characteristics, and limiting conditions.
   3. Include performance curves, with engineering data and tests.
   4. Complete nomenclature and model number of replaceable parts.

B. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specific products.

C. Panelboard Circuit Directories: Provide electrical service characteristics, controls, and communications; typed.

D. Include color coded wiring diagrams as installed.

E. Operating Procedures: Include start-up, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shut-down, and emergency instructions. Include summer, winter, and any special operating instructions.

F. Maintenance Requirements: Include routine procedures and guide for preventative maintenance and trouble shooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.

G. Provide servicing and lubrication schedule, and list of lubricants required.

H. Include manufacturer's printed operation and maintenance instructions.

I. Include sequence of operation by controls manufacturer.

J. Provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.

K. Provide control diagrams by controls manufacturer as installed.

L. Provide charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.

M. Provide list of original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage.

N. Include test and balancing reports.

O. Additional Requirements: As specified in individual product specification sections.

3.05 ASSEMBLY OF OPERATION AND MAINTENANCE MANUALS

A. Assemble operation and maintenance data into durable manuals for Owner's personnel use, with data arranged in the same sequence as, and identified by, the specification sections.

B. Where systems involve more than one specification section, provide separate tabbed divider for each system.

C. Cover: Identify each binder with typed or printed title OPERATION AND MAINTENANCE INSTRUCTIONS; identify title of Project; identify subject matter of contents.

D. Project Directory: Title and address of Project; names, addresses, and telephone numbers of Architect, Consultants, Contractor and subcontractors, with names of responsible parties.

E. Tables of Contents: List every item separated by a divider, using the same identification as on the divider tab; where multiple volumes are required, include all volumes Tables of Contents in each volume, with the current volume clearly identified.

F. Text: Manufacturer's printed data, or typewritten data on 24 pound paper.

G. Drawings: Provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.

H. Arrange content by systems under section numbers and sequence of Table of Contents of this Project Manual.

I. Contents: Prepare a Table of Contents for each volume, with each product or system description identified, in three parts as follows:
   1. Part 1: Directory, listing names, addresses, and telephone numbers of Architect, Contractor, Subcontractors, and major equipment suppliers.
      a. Air and water balance reports.
      b. Certificates.
      c. Photocopies of warranties and bonds.

J. Provide a listing in Table of Contents for design data, with tabbed dividers and space for insertion of data.

K. Table of Contents: Provide title of Project; names, addresses, and telephone numbers of Architect, Consultants, and Contractor with name of responsible parties; schedule of products and systems, indexed to content of the volume.

3.06 WARRANTIES AND BONDS

A. Obtain warranties and bonds, executed in duplicate by responsible Subcontractors, suppliers, and manufacturers, within 10 days after completion of the applicable item of work. Except for items put into use with Owner's permission, leave date of beginning of time of warranty until Date of Substantial completion is determined.
   1. Submit prior to final Application for Payment.

B. Verify that documents are in proper form, contain full information, and are notarized.

C. Co-execute submittals when required.

D. Retain warranties and bonds until time specified for submittal.

E. For items of Work delayed beyond date of Substantial Completion, provide updated submittal within ten days after acceptance, listing date of acceptance as start of warranty period.

F. Cover: Identify each binder with typed or printed title WARRANTIES AND BONDS, with title of Project; name, address and telephone number of Contractor and equipment supplier; and name of responsible company principal.

G. Table of Contents: Neatly typed, in the sequence of the Table of Contents of the Project Manual, with each item identified with the number and title of the specification section in which specified, and the name of product or work item.

H. Separate each warranty or bond with index tab sheets keyed to the Table of Contents listing. Provide full information, using separate typed sheets as necessary. List Subcontractor, supplier, and manufacturer, with name, address, and telephone number of responsible principal.

END OF SECTION

SECTION 02 4100

DEMOLITION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Selective demolition of building elements for alteration purposes.

1.02 RELATED REQUIREMENTS

A. Section 01 1000 - Summary: Limitations on Contractor's use of site and premises.

B. Section 01 5000 - Temporary Facilities and Controls: Site fences, security, protective barriers, and waste removal.

1.03 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Project Record Documents: Accurately record actual locations of capped and active utilities and subsurface construction.

PART 2 PRODUCTS -- NOT USED

PART 3 EXECUTION

3.01 SCOPE

A. Remove doors and windows as required to accomplish new work.

B. Remove portions of exterior partitions as requires to accomplish work

C. Remove fences and gates.

D. Remove portions of metal stairs as required to accomplish the work.

3.02 GENERAL PROCEDURES AND PROJECT CONDITIONS

A. Comply with applicable codes and regulations for demolition operations and safety of adjacent structures and the public.
   1. Obtain required permits.
   2. Comply with applicable requirements of NFPA 241.
   3. Use of explosives is not permitted.
   4. Take precautions to prevent catastrophic or uncontrolled collapse of structures to be removed; do not allow worker or public access within range of potential collapse of unstable structures.
   5. Provide, erect, and maintain temporary barriers and security devices.
   6. Use physical barriers to prevent access to areas that could be hazardous to workers or the public.
   7. Conduct operations to minimize effects on and interference with adjacent structures and occupants.
   8. Do not close or obstruct roadways or sidewalks without permit.
   9. Conduct operations to minimize obstruction of public and private entrances and exits; do not obstruct required exits at any time; protect persons using entrances and exits from removal operations.
   10. Obtain written permission from owners of adjacent properties when demolition equipment will traverse, infringe upon or limit access to their property.

B. Do not begin removal until receipt of notification to proceed from Owner.

C. Protect existing structures and other elements that are not to be removed.
   1. Provide bracing and shoring.
   2. Prevent movement or settlement of adjacent structures.
   3. Stop work immediately if adjacent structures appear to be in danger.

D. If hazardous materials are discovered during removal operations, stop work and notify Architect and Owner; hazardous materials include regulated asbestos containing materials, lead, PCB's, and mercury.

3.03 EXISTING UTILITIES

A. Coordinate work with utility companies; notify before starting work and comply with their requirements; obtain required permits.

B. Protect existing utilities to remain from damage.

C. Do not disrupt public utilities without permit from authority having jurisdiction.

D. Do not close, shut off, or disrupt existing life safety systems that are in use without at least 7 days prior written notification to Owner.

E. Do not close, shut off, or disrupt existing utility branches or take-offs that are in use without at least 3 days prior written notification to Owner.

F. Remove exposed piping, valves, meters, equipment, supports, and foundations of disconnected and abandoned utilities.

3.04 SELECTIVE DEMOLITION FOR ALTERATIONS

A. Drawings showing existing construction and utilities are based on casual field observation and existing record documents only.
   1. Verify that construction and utility arrangements are as indicated.
   2. Report discrepancies to Architect before disturbing existing installation.
   3. Beginning of demolition work constitutes acceptance of existing conditions that would be apparent upon examination prior to starting demolition.

B. Separate areas in which demolition is being conducted from other areas that are still occupied.
   1. Provide, erect, and maintain temporary dustproof partitions of construction specified in Section 01 5000 in locations indicated on drawings.

C. Maintain weatherproof exterior building enclosure except for interruptions required for replacement or modifications; take care to prevent water and humidity damage.

D. Remove existing work as indicated and as required to accomplish new work.

E. Services (Including but not limited to HVAC, Plumbing, Fire Protection, Electrical, and Telecommunications): Remove existing systems and equipment as indicated.
   1. Maintain existing active systems that are to remain in operation; maintain access to equipment and operational components.
   2. Where existing active systems serve occupied facilities but are to be replaced with new services, maintain existing systems in service until new systems are complete and ready for service.
   3. Verify that abandoned services serve only abandoned facilities before removal.
   4. Remove abandoned pipe, ducts, conduits, and equipment, including those above accessible ceilings; remove back to source of supply where possible, otherwise cap stub and tag with identification.

F. Protect existing work to remain.
   1. Prevent movement of structure; provide shoring and bracing if necessary.
   2. Perform cutting to accomplish removals neatly and as specified for cutting new work.
   3. Repair adjacent construction and finishes damaged during removal work.
   4. Patch as specified for patching new work.

3.05 DEBRIS AND WASTE REMOVAL

A. Remove debris, junk, and trash from site.

B. Leave site in clean condition, ready for subsequent work.

C. Clean up spillage and wind-blown debris from public and private lands.

END OF SECTION

SECTION 03 0516

UNDERSLAB VAPOR BARRIER

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Sheet vapor barrier under concrete slabs on plywood.

1.02 RELATED REQUIREMENTS

A. Section 03 3000 - Cast-in-Place Concrete: Preparation of subgrade, granular fill, placement of concrete.

1.03 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Submit manufacturers' data on manufactured products.

C. Samples: Submit samples of underslab vapor barrier to be used.

D. Manufacturer's Installation Instructions: Indicate installation procedures and interface required with adjacent construction.

PART 2 PRODUCTS

2.01 MATERIALS

A. Underslab Vapor Barrier:
   1. Water Vapor Permeance: Not more than 0.010 perms, maximum.
   2. Thickness: 15 mils.
   3. Basis of Design:
      a. Stego Industries LLC; Stego Wrap Vapor Barrier (15-mil): www.stegoindustries.com/#sle.
      b. Substitutions: See Section 01 6000 - Product Requirements.

B. Accessory Products: Vapor barrier manufacturer's recommended tape, adhesive, mastic, etc., for sealing seams and penetrations in vapor barrier.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install vapor barrier in accordance with manufacturer's instructions and ASTM E1643.

B. Install vapor barrier under interior slabs on grade; lap sheet over footings and seal to foundation walls.

C. Lap joints minimum 6 inches.

D. Seal joints, seams and penetrations watertight with manufacturer's recommended products and follow manufacturer's written instructions.

E. No penetration of vapor barrier is allowed except for reinforcing steel and permanent utilities.

F. Repair damaged vapor retarder before covering with other materials.

END OF SECTION

SECTION 033000 - CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes cast-in-place concrete, including formwork, reinforcement, concrete materials, mixture design, placement procedures, and finishes.

B. Related Sections:

1. Section 312000 "Earth Moving" for drainage fill under slabs-on-grade.

1.2 ACTION SUBMITTALS

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

B. LEED Submittals:

1. Product Data for Credit MR 4: For products having recycled content, documentation indicating percentages by weight of postconsumer and preconsumer recycled content. Include statement indicating cost for each product having recycled content.
2. Product Data for Credit IEQ 4.3: For curing and sealing compounds, documentation including printed statement of VOC content.
3. Design Mixtures for Credit ID 1.1: For each concrete mixture containing fly ash as a replacement for portland cement or other portland cement replacements, and for equivalent concrete mixtures that do not contain portland cement replacements.

C. Design Mixtures: For each concrete mixture.

D. Steel Reinforcement Shop Drawings: Placing drawings that detail fabrication, bending, and placement.

E. Formwork Shop Drawings: Prepared by or under the supervision of a qualified professional engineer detailing fabrication, assembly, and support of formwork.

1.3 INFORMATIONAL SUBMITTALS

A. Welding certificates.

B. Material certificates.

C. Material test reports.

D. Floor surface flatness and levelness measurements.

1.4 QUALITY ASSURANCE

A. Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94/C 94M requirements for production facilities and equipment.

1. Manufacturer certified according to NRMCA's "Certification of Ready Mixed Concrete Production Facilities."

B. Testing Agency Qualifications: An independent agency qualified according to ASTM C 1077 and ASTM E 329 for testing indicated.

C. Welding Qualifications: Qualify procedures and personnel according to AWS D1.4/D 1.4M, "Structural Welding Code - Reinforcing Steel."

D. ACI Publications: Comply with the following unless modified by requirements in the Contract Documents:

1. ACI 301, "Specifications for Structural Concrete," Sections 1 through 5.
2. ACI 117, "Specifications for Tolerances for Concrete Construction and Materials."

E. Concrete Testing Service: Engage a qualified independent testing agency to perform material evaluation tests and to design concrete mixtures.

F. Preinstallation Conference: Conduct conference at Project Site.

PART 2 - PRODUCTS

2.1 FORM-FACING MATERIALS

A. Smooth-Formed Finished Concrete: Form-facing panels that will provide continuous, true, and smooth concrete surfaces. Furnish in largest practicable sizes to minimize number of joints.

B. Rough-Formed Finished Concrete: Plywood, lumber, metal, or another approved material. Provide lumber dressed on at least two edges and one side for tight fit.

2.2 STEEL REINFORCEMENT

A. Recycled Content of Steel Products: Postconsumer recycled content plus one-half of preconsumer recycled content not less than 25 percent.

B. Reinforcing Bars: ASTM A 615/A 615M, Grade 60, deformed.

C. Plain-Steel Welded Wire Reinforcement: ASTM A 185/A 185M, plain, fabricated from as-drawn steel wire into flat sheets.

D. Deformed-Steel Welded Wire Reinforcement: ASTM A 497/A 497M, flat sheet.

E. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded wire reinforcement in place. Manufacture bar supports from steel wire, plastic, or precast concrete according to CRSI's "Manual of Standard Practice.

2.3 CONCRETE MATERIALS

A. Cementitious Material: Use the following cementitious materials, of the same type, brand, and source, throughout Project:

1. Portland Cement: ASTM C 150, Type I or II.

2. Fly Ash: ASTM C 618, Class F or C.
   a. Ground Granulated Blast-Furnace Slag: ASTM C 989, Grade 100 or 120.

B. Normal-Weight Aggregates: ASTM C 33, graded.

1. Maximum Coarse-Aggregate Size: ¾-inch, (19mm) nominal.
2. Fine Aggregate: Free of materials with deleterious reactivity to alkali in cement.

C. Water: ASTM C 94/C 94M and potable.

2.4 ADMIXTURES

A. Air-Entraining Admixture: ASTM C 260.

B. Chemical Admixtures: Provide admixtures certified by manufacturer to be compatible with other admixtures and that will not contribute water-soluble chloride ions exceeding those permitted in hardened concrete. Do not use calcium chloride or admixtures containing calcium chloride.

1. Water-Reducing Admixture: ASTM C 494/C 494M, Type A.
2. Retarding Admixture: ASTM C 494/C 494M, Type B.
3. Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type D.
4. High-Range, Water-Reducing Admixture: ASTM C 494/C 494M, Type F.
5. High-Range, Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type G.
6. Plasticizing and Retarding Admixture: ASTM C 1017/C 1017M, Type II.

2.5 VAPOR RETARDERS

A. Sheet Vapor Retarder: ASTM E 1745, Class A. Include manufacturer's recommended adhesive or pressure-sensitive tape.

B. Sheet Vapor Retarder: Polyethylene sheet, ASTM D 4397, not less than 10 mils (0.25 mm) thick.

2.6 CURING MATERIALS

A. Evaporation Retarder: Waterborne, monomolecular film forming, manufactured for application to fresh concrete.

B. Water: Potable.

C. Clear, Waterborne, Membrane-Forming Curing Compound: ASTM C 309, Type 1, Class B, dissipating.

2.7 RELATED MATERIALS

A. Expansion- and Isolation-Joint-Filler Strips: ASTM D 1751, asphalt-saturated cellulosic fiber.

2.8 CONCRETE MIXTURES

A. Prepare design mixtures for each type and strength of concrete, proportioned on the basis of laboratory trial mixture or field test data, or both, according to ACI 301.

B. Cementitious Materials: Use fly ash, pozzolan, ground granulated blast-furnace slag, and silica fume as needed to reduce the total amount of portland cement, which would otherwise be used, by not less than 40 percent.

C. Admixtures: Use admixtures according to manufacturer's written instructions.

1. Use water-reducing admixture in concrete, as required, for placement and workability.

D. Proportion normal-weight concrete mixture as follows:

1. Minimum Compressive Strength: 4000 psi (27.6 MPa) at 28 days.
2. Maximum Water-Cementitious Materials Ratio: 0.45.
3. Slump Limit: 4 inches (100mm), plus or minus 1 inch (25 mm).
4. Air Content: Do not allow air content of trowel-finished floors to exceed 3 percent.

2.9 FABRICATING REINFORCEMENT

A. Fabricate steel reinforcement according to CRSI's "Manual of Standard Practice."

2.10 CONCRETE MIXING

A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete according to ASTM C 94/C 94M and furnish batch ticket information.

1. When air temperature is between 85 and 90 deg F (30 and 32 deg C), reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F (32 deg C), reduce mixing and delivery time to 60 minutes.

PART 3 - EXECUTION

3.1 FORMWORK

A. Design, erect, shore, brace, and maintain formwork, according to ACI 301, to support vertical, lateral, static, and dynamic loads, and construction loads that might be applied, until structure can support such loads.

B. Construct formwork so concrete members and structures are of size, shape, alignment, elevation, and position indicated, within tolerance limits of ACI 117.

C. Chamfer exterior corners and edges of permanently exposed concrete.

3.2 EMBEDDED ITEMS

A. Place and secure anchorage devices and other embedded items required for adjoining work that is attached to or supported by cast-in-place concrete. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.

3.3 VAPOR RETARDERS

A. Sheet Vapor Retarders: Place, protect, and repair sheet vapor retarder according to ASTM E 1643 and manufacturer's written instructions.

1. Lap joints 6 inches (150 mm) and seal with manufacturer's recommended tape.

3.4 STEEL REINFORCEMENT

A. General: Comply with CRSI's "Manual of Standard Practice" for placing reinforcement.

1. Do not cut or puncture vapor retarder. Repair damage and reseal vapor retarder before placing concrete.

3.5 JOINTS

A. General: Construct joints true to line with faces perpendicular to surface plane of concrete.

B. Construction Joints: Install so strength and appearance of concrete are not impaired, at locations indicated or as approved by Architect.

C. Contraction Joints in Slabs-on-Grade: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at least 1-inch of concrete thickness as follows:

1. Grooved Joints: Form contraction joints after initial floating by grooving and finishing each edge of joint to a radius of 1/8 inch (3.2 mm). Repeat grooving of contraction joints after applying surface finishes. Eliminate groover tool marks on concrete surfaces.
2. Sawed Joints: Form contraction joints with power saws equipped with shatterproof abrasive or diamond-rimmed blades. Cut 1/8-inch- (3.2-mm-) wide joints into concrete when cutting action will not tear, abrade, or otherwise damage surface and before concrete develops random contraction cracks.

D. Isolation Joints in Slabs-on-Grade: After removing formwork, install joint-filler strips at slab junctions with vertical surfaces, such as column pedestals, foundation walls, grade beams, and other locations, as indicated.

3.6 CONCRETE PLACEMENT

A. Before placing concrete, verify that installation of formwork, reinforcement, and embedded items is complete and that required inspections have been performed.

B. Deposit concrete continuously in one layer or in horizontal layers of such thickness that no new concrete will be placed on concrete that has hardened enough to cause seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as indicated. Deposit concrete to avoid segregation.

1. Consolidate placed concrete with mechanical vibrating equipment according to ACI 301.

C. Cold-Weather Placement: Comply with ACI 306.1.

D. Hot-Weather Placement: Comply with ACI 301.

3.7 FINISHING FLOORS AND SLABS

A. General: Comply with ACI 302.1R recommendations for screeding, restraightening, and finishing operations for concrete surfaces. Do not wet concrete surfaces.

B. Trowel Finish: After applying float finish, apply first troweling and consolidate concrete by hand or power-driven trowel. Continue troweling passes and restraighten until surface is free of trowel marks and uniform in texture and appearance. Grind smooth any surface defects that would telegraph through applied coatings or floor coverings.

1. Apply a trowel finish to surfaces to be covered with resilient flooring, carpet, ceramic or quarry tile set over a cleavage membrane, paint or another thin-film-finish coating, and the apparatus bays.
2. Finish and measure surface so gap at any point between concrete surface and an unleveled, freestanding, 10-ft.- (3.05-m-) long straightedge resting on two high spots and placed anywhere on the surface does not exceed 1/4 inch (6 mm).

3.8 CONCRETE PROTECTING AND CURING

A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold-weather protection and ACI 301 for hot-weather protection during curing.

B. Evaporation Retarder: Apply evaporation retarder to unformed concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 lb/sq. ft. x h (1 kg/sq. m x h) before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete, but before float finishing.

C. Cure concrete according to ACI 308.1, by one or a combination of the following methods:

1. Moisture Curing: Keep surfaces continuously moist for not less than seven days.
2. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches (300 mm), and sealed by waterproof tape or adhesive. Cure for not less than seven days. Immediately repair any holes or tears during curing period using cover material and waterproof tape.
3. Curing Compound: Apply uniformly in continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Maintain continuity of coating and repair damage during curing period.

    a. Removal: After curing period has elapsed, remove curing compound without damaging concrete surfaces by method recommended by curing compound manufacturer.

4. Curing and Sealing Compound: Apply uniformly to floors and slabs indicated in a continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Repeat process 24 hours later and apply a second coat. Maintain continuity of coating and repair damage during curing period.

3.9 CONCRETE SURFACE REPAIRS

A. Defective Concrete: Repair and patch defective areas when approved by Architect. Remove and replace concrete that cannot be repaired and patched to Architect's

approval.

3.10 FIELD QUALITY CONTROL

A. Testing and Inspecting: Owner will engage a qualified testing and inspecting agency to perform field tests and inspections and prepare test reports.

END OF SECTION 033000

SECTION 051200 - STRUCTURAL STEEL FRAMING

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes structural steel and grout.

1.2 DEFINITIONS

A. Structural Steel: Elements of structural-steel frame, as classified by AISC 303, "Code of Standard Practice for Steel Buildings and Bridges."

1.3 PERFORMANCE REQUIREMENTS

A. Connections: Provide details of simple shear connections required by the Contract Documents to be selected or completed by structural-steel fabricator to withstand loads indicated and comply with other information and restrictions indicated.

1. Select and complete connections using AISC 360.

1.4 ACTION SUBMITTALS

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

B. LEED Submittals:

1. Product Data for Credit MR 4: For products having recycled content, documentation indicating percentages by weight of postconsumer and preconsumer recycled content. Include statement indicating cost for each product having recycled content.
2. Laboratory Test Reports for Credit IEQ 4: For primers, documentation indicating that products comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."

C. Shop Drawings: Show fabrication of structural-steel components.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For qualified fabricator.

B. Welding certificates.

C. Mill test reports for structural steel, including chemical and physical properties.

D. Source quality-control reports.

1.6 QUALITY ASSURANCE

A. Fabricator Qualifications: A qualified fabricator that participates in the AISC Quality Certification Program and is designated an AISC-Certified Plant, Category STD.

B. Installer Qualifications: A qualified installer who participates in the AISC Quality Certification Program and is designated an AISC-Certified Erector, Category CSE.

C. Welding Qualifications: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code - Steel."

D. Comply with applicable provisions of the following specifications and documents:

1. AISC 303.
2. AISC 360.
3. RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."

E. Preinstallation Conference: Conduct conference at Project Site.

PART 2 - PRODUCTS

2.1 STRUCTURAL-STEEL MATERIALS

A. Recycled Content of Steel Products: Postconsumer recycled content plus one-half of preconsumer recycled content not less than 25 percent.

B. W-Shapes: ASTM A 992/A 992M.

C. Channels, Angles: ASTM A 36/A 36M.

D. Plate and Bar: ASTM A 36/A 36M.

E. Cold-Formed Hollow Structural Sections: ASTM A 500, Grade B, structural tubing.

F. Steel Pipe: ASTM A 53/A 53M, Type E or S, Grade B.

G. Welding Electrodes: Comply with AWS requirements.

2.2 BOLTS, CONNECTORS, AND ANCHORS

A. High-Strength Bolts, Nuts, and Washers: ASTM A 325 (ASTM A 325M), Type 1, heavy-hex steel structural bolts and ASTM F 436 (ASTM F 436M), Type 1, hardened carbon-steel washers; all with plain finish.

B. Shear Connectors: ASTM A 108, Grades 1015 through 1020, headed-stud type, cold-finished carbon steel; AWS D1.1/D1.1M, Type B.

C. Unheaded Anchor Rods: ASTM F 1554, Grade 36.

1. Configuration: Straight.
2. Finish: Plain.

D. Threaded Rods: ASTM A 36/A 36M.

1. Finish: Plain.

2.3 PRIMER

A. Low-Emitting Materials: Paints and coatings shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."

B. Primer: Fabricator's standard lead- and chromate-free, nonasphaltic, rust-inhibiting primer complying with MPI#79 and compatible with topcoat.

2.4 GROUT

A. Metallic, Shrinkage-Resistant Grout: ASTM C 1107, factory-packaged, metallic aggregate grout, mixed with water to consistency suitable for application and a 30-minute working time.

B. Nonmetallic, Shrinkage-Resistant Grout: ASTM C 1107, factory-packaged, nonmetallic aggregate grout, noncorrosive and nonstaining, mixed with water to consistency suitable for application and a 30-minute working time.

2.5 FABRICATION

A. Structural Steel: Fabricate and assemble in shop to greatest extent possible. Fabricate according to AISC's "Code of Standard Practice for Steel Buildings and Bridges" and AISC 360.

B. Shear Connectors: Prepare steel surfaces as recommended by manufacturer of shear connectors. Use automatic end welding of headed-stud shear connectors according to AWS D1.1/D1.1M and manufacturer's written instructions.

2.6 SHOP CONNECTIONS

A. High-Strength Bolts: Shop install high-strength bolts according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts" for type of bolt and type of joint specified.

1. Joint Type: Snug tightened.

B. Weld Connections: Comply with AWS D1.1/D1.1M for tolerances, appearances, welding procedure specifications, weld quality, and methods used in correcting welding work.

2.7 SHOP PRIMING

A. Shop prime steel surfaces except the following:

1. Surfaces embedded in concrete or Extend priming of partially members to a depth of 2 inches (50 mm).
2. Surfaces to be field welded.

B. Surface Preparation: Clean surfaces to be painted. Remove loose rust and mill scale and spatter, slag, or flux deposits. Prepare surfaces according to the following specifications and standards:

1. SSPC-SP 2, "Hand Tool Cleaning."

2.8 SOURCE QUALITY CONTROL

A. Testing Agency: Owner will engage an independent testing and inspecting agency to perform shop tests and inspections and prepare test reports.

1. Provide testing agency with access to places where structural-steel work is being fabricated or produced to perform tests and inspections.

B. Correct deficiencies in Work that test reports and inspections indicate does not comply with the Contract Documents.

C. Bolted Connections: Shop-bolted connections will be inspected according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify, with steel Erector present, elevations of concrete- and masonry-bearing surfaces and locations of anchor rods, bearing plates, and other embedments for compliance with requirements.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 ERECTION

A. Set structural steel accurately in locations and to elevations indicated and according to AISC 303 and AISC 360.

B. Base Plates: Clean concrete- and masonry-bearing surfaces of bond-reducing materials, and roughen surfaces prior to setting plates. Clean bottom surface of plates.

1. Set plates for structural members on wedges, shims, or setting nuts as required.
2. Weld plate washers to top of baseplate.
3. Snug-tighten anchor rods after supported members have been positioned and plumbed. Do not remove wedges or shims but, if protruding, cut off flush with edge of plate before packing with grout.
4. Promptly pack grout solidly between bearing surfaces and plates so no voids remain. Neatly finish exposed surfaces; protect grout and allow to cure.

C. Maintain erection tolerances of structural steel within AISC's "Code of Standard Practice for Steel Buildings and Bridges."

3.3 FIELD CONNECTIONS

A. High-Strength Bolts: Install high-strength bolts according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts" for type of bolt and type of joint specified.

1. Joint Type: Snug-tightened.

B. Weld Connections: Comply with AWS D1.1/D1.1M for tolerances, appearances,

welding procedure specifications, weld quality, and methods used in correcting welding work.

1. **Comply with AISC 303 and AISC 360 for bearing, alignment, adequacy of temporary connections, and removal of paint on surfaces adjacent to field welds.**

3.4 FIELD QUALITY CONTROL

A. Testing Agency: Owner will engage a qualified independent testing and inspecting agency to inspect field welds and bolted connections.

B. Bolted Connections: Bolted connections will be inspected according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."

C. Welded Connections: Field welds will be visually inspected according to AWS D1.1/D1.1M.

D. Correct deficiencies in Work that test reports and inspections indicate does not comply with the Contract Documents.

END OF SECTION 051200

SECTION 05 5000

METAL FABRICATIONS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Shop fabricated steel and ferrous metal items.
   1. 14 gauge and heavier.

B. Custom fabricated ferrous metal items 14 gauge and heavier.
   1. 14 gauge and heavier.

1.02 RELATED REQUIREMENTS

A. Section 05 5213 - Pipe and Tube Railings.

B. Section 09 9113 - Exterior Painting: Paint finish.

1.03 REFERENCE STANDARDS

A. ASTM A36/A36M - Standard Specification for Carbon Structural Steel; 2014.

B. ASTM A283/A283M - Standard Specification for Low and Intermediate Tensile Strength Carbon Steel Plates; 2013.

C. ASTM A307 - Standard Specification for Carbon Steel Bolts, Studs, and Threaded Rod 60 000 PSI Tensile Strength; 2014.

D. ASTM A500/A500M - Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes; 2013.

E. ASTM A501/A501M - Standard Specification for Hot-Formed Welded and Seamless Carbon Steel Structural Tubing; 2014.

F. ASTM F3125/F3125M - Standard Specification for High Strength Structural Bolts, Steel and Alloy Steel, Heat Treated, 120 ksi (830 MPa) and 150 ksi (1040 MPa) Minimum Tensile Strength, Inch and Metric Dimensions; 2015a.

G. AWS A2.4 - Standard Symbols for Welding, Brazing, and Nondestructive Examination; 2012.

H. AWS D1.1/D1.1M - Structural Welding Code - Steel; 2015.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Shop Drawings: Indicate profiles, sizes, connection attachments, reinforcing, anchorage, size and type of fasteners, and accessories. Include erection drawings, elevations, and details where applicable.
   1. Indicate welded connections using standard AWS A2.4 welding symbols. Indicate net weld lengths.

C. Include erection drawings, elevations, and details where applicable.

D. Welders' Certificates: Submit certification for welders employed on the project, verifying AWS qualification within the previous 12 months.

PART 2 PRODUCTS

2.01 MANUFACTURED PRODUCTS

2.02 MATERIALS - STEEL

A. Steel Sections: ASTM A36/A36M.

B. Steel Tubing: ASTM A501/A501M hot-formed structural tubing.

C. Steel Plates: ASTM A283, Grade A; medium pattern for checker plate.

D. Pipe: ASTM A53/A53M, Grade B Schedule 40, hot-dip galvanized finish.

E. Guardrail Pickets

2.03 MATERIALS - GENERAL

A. Bolts, Nuts, and Washers: ASTM F3125/F3125M, Type 1, plain.

B. Welding Materials: AWS D1.1/D1.1M; type required for materials being welded.

C. Shop and Touch-Up Primer: SSPC-Paint 15,, Type 1, red oxide; complying with VOC limitations of authorities having jurisdiction.

2.04 FABRICATION

A. Fit and shop assemble items in largest practical sections, for delivery to site.

B. Verify dimensions on site prior to shop fabrication.

C. Fabricate items with joints tightly fitted and secured.

D. Use all welded construction unless otherwise indicated.

E. Provide smooth finished faces on all cut sections.

F. Dress edges of all cut members to provide smooth, burrless edges.

G. Continuously seal joined members by continuous welds.

H. Grind exposed joints flush and smooth with adjacent finish surface for architectural grade finish. Make exposed joints butt tight, flush, and hairline. Ease exposed edges to small uniform radius.

I. Exposed Mechanical Fastenings: Acceptable only in specifically approved locations; flush countersunk screws or bolts; unobtrusively located; consistent with design of component, except where specifically noted otherwise.

J. Supply components required for anchorage of fabrications. Fabricate anchors and related components of same material and finish as fabrication, except where specifically noted otherwise.

K. Fill depressions or pits in surfaces of steel members with metallic paste and grind flush with adjacent surfaces.

L. Accurately form components to fit adjacent construction.

M. Attach hardware accurately aligned and positioned for proper operation.

2.05 FABRICATED ITEMS

A. This list of Fabricated Items is a list of Principal Items only. Refer to Drawing details for items not specifically scheduled.
   1. Security Screen: Gates & Post Supports
   2. Stairway replacement Components: Steps, Stringers and Framing
   3. Guardrail replacement Components: Pickets, Posts & Framing
   4. Fence Repair Components: Pickets, Posts & Framing

2.06 FINISHES - STEEL

A. Prime paint steel items.

B. Prepare surfaces to be primed in accordance with SSPC-SP2.

C. Clean surfaces of rust, scale, grease, and foreign matter prior to finishing.

D. Prime Painting: One coat, with minimum of 1.5 mil dry film thickness for shop primers.

2.07 FABRICATION TOLERANCES

A. Squareness: 1/8 inch maximum difference in diagonal measurements.

B. Maximum Offset Between Faces: 1/16 inch.

C. Maximum Misalignment of Adjacent Members: 1/16 inch.

D. Maximum Bow: 1/8 inch in 48 inches.

E. Maximum Deviation From Plane: 1/16 inch in 48 inches.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that field conditions are acceptable and are ready to receive work.

3.02 PREPARATION

A. Clean and strip primed steel items to bare metal where site welding is required.

B. Supply setting templates to the appropriate entities for steel items required to be cast into concrete or embedded in masonry.

C. Obtain Architect/Engineer approval prior to site cutting or making adjustments not scheduled.

D. Make provision for erection loads with temporary bracing. Keep work in alignment.

3.03 INSTALLATION

A. Install items plumb and level, accurately fitted, free from distortion or defects.

B. Provide for erection loads, and for sufficient temporary bracing to maintain true alignment until completion of erection and installation of permanent attachments.

C. Perform field welding in accordance with AWS D1.1/D1.1M.

D. Obtain approval prior to site cutting or making adjustments not scheduled.

E. Replace or repair items damaged in the course of installation.

F. Provide and install items shown on Drawings, or reasonably implied therein, with anchorage and attachments necessary for completely finished installation.

G. Adjust and lubricate hardware as required for proper operation.

H. After erection, prime welds, abrasions, and surfaces not shop primed or galvanized, except surfaces to be in contact with concrete.

1. Use a primer consistent with shop coat. Cold galvanize galvanized surfaces damaged furring transportation or installation.

3.04 TOLERANCES

A. Maximum Variation From Plumb: 1/4 inch per story, non-cumulative.

B. Maximum Offset From True Alignment: 1/4 inch.

C. Maximum Out-of-Position: 1/4 inch.

END OF SECTION

SECTION 05 5213

PIPE AND TUBE RAILINGS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Stair railings and guardrails.

1.02 PRODUCTS FURNISHED BUT NOT INSTALLED UNDER THIS SECTION

A. Section 03300 - Cast-in-Place Concrete: Placement of anchors in concrete.

1.03 RELATED REQUIREMENTS

A. Section 03 3000 - Cast-in-Place Concrete: Placement of anchors in concrete.

B. Section 05500 - Metal Fabrications.

C. Section 09 9113 - Exterior Painting: Paint finish.

1.04 REFERENCE STANDARDS

A. ASTM A36 - Structural Steel

B. ASTM A53/A53M - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless; 2012.

C. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products; 2015.

D. ASTM E985 - Standard Specification for Permanent Metal Railing Systems and Rails for Buildings; 2000 (Reapproved 2006).

E. SSPC-Paint 15 - Steel Joist Shop Primer/Metal Building Primer; 1999 (Ed. 2004).

F. Design railing assembly, hand rails, guard rails, wall rails, and attachments to resist lateral force of 300 lbs and uniformly distributed load of 50 pounds per linear foot, at any point without damage or permanent set. Test in accordance with ASTM E 935.

G. Design railing to resist load individually not in combination.

1.05 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Shop Drawings: Indicate profiles, sizes, connection attachments, anchorage, size and type of fasteners, and accessories.

C. Include erection drawings, elevations, and details where applicable.

D. Indicate welded connections using standard AWS welding symbols. Indicate net weld lengths.

PART 2 PRODUCTS

2.01 RAILINGS - GENERAL REQUIREMENTS

A. Design, fabricate, and test railing assemblies in accordance with the most stringent requirements of applicable local code.

B. Allow for expansion and contraction of members and building movement without damage to connections or members.

C. Dimensions: See drawings for configurations and heights.

D. Provide anchors and other components as required to attach to structure, made of same materials as railing components unless otherwise indicated; where exposed fasteners are unavoidable provide flush countersunk fasteners.

E. Provide slip-on non-weld mechanical fittings to join lengths, seal open ends, and conceal exposed mounting bolts and nuts, including but not limited to elbows, T-shapes, splice connectors, flanges, escutcheons, and wall brackets.

2.02 STEEL RAILING SYSTEM

A. Steel Sections: ASTM A36

B. Steel Pipe: ASTM A 53/A 53M, Grade B Schedule 40, galvanized finish.

C. Non-Weld Mechanical Fittings: Slip-on, galvanized malleable iron castings, for Schedule 40 pipe, with flush setscrews for tightening by standard hex wrench, no bolts or screw fasteners.

D. Wall Brackets: Malleable iron, with threaded hole for attachment to substrate; #1701-2 manufactured by R&B Wagner, Inc. or equal.

E. Exposed Fasteners: Flush countersunk screws or bolts; consistent with design of railing.

F. Shop and Touch-Up Primer: SSPC-Paint 15, complying with VOC limitations of authorities having jurisdiction.

2.03 ACCESSORIES

A. Grout: Ready-mixed, high strength, controlled expansive portland cement based grout with non-ferrous aggregates and free of gypsum, carbon chlorides and corrosive-type materials; at flowable consistency, developing 24 hour compressive strength of 4,400 psi when tested in accordance with ASTM C109 and at 3-day compressive strength of 6,610 psi. Crystex manufactured by L&M Construction Chemicals Company or equal.

B. Adhesive Anchors: Polyester resin, quartz sand and hardener as contained in a glass vial with threaded anchor with washer and not; developing minimum 4000 lbs. pullout resistance and minimum 4000 lbs. shear resistance, both for 3/8 inch diameter fastener; HVA Adhesive Anchor manufactured by HILTI or equal.

C. Welding Materials: AWS D.1.1.

2.04 FABRICATION

A. Accurately form components to suit specific project conditions and for proper connection to building structure.

B. Fit and shop assemble components in largest practical sizes for delivery to site.

C. Fabricate components with joints tightly fitted and secured.

D. Fabricate using all welded construction.

E. Fabricate components to consistent dimensions.

F. Exterior Components: Continuously seal joined pieces by continuous welds. Drill condensate drainage holes at bottom of members at locations that will not encourage water intrusion.
   1. Seal weather exposed side of steel railing system b wire welding around members.

G. Grind exposed joints flush and smooth with adjacent finish surface for architectural grade finish. Make exposed joints butt tight, flush, and hairline. Ease exposed edges to small uniform radius.
   1. For steel railings: Fill, face and surface of all members which will be exposed after installation of finish materials. Fill with metallic or plastic filler. Fill depressions or pits in surfaces of steel members with metallic paste and grind flush with adjacent surfaces. Grind and sand smooth. Prime paint one coat.

2.05 STEEL FINISHES

A. Prepare surfaces in accordance with SSPC SP3.

B. Do not prime surfaces in direct contact with concrete or where field welding is required.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that field conditions are acceptable and are ready to receive work.

B. Beginning of installation means erector accepts existing conditions.

3.02 PREPARATION

A. Clean and strip primed steel items to bare metal where site welding is required.

B. Supply items required to be cast into concrete with setting templates, for installation as work of other sections.

3.03 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Install components plumb and level, true to line, accurately fitted, free from distortion or defects.

C. Anchor railings securely to structure.

D. Field weld anchors as required. Grind welds smooth. Touch-up welds with primer.

E. Touch-up field welds and damage to galvanized coating in accordance with ASTM A780.

F. Conceal anchor bolts and screws whenever possible. Where not concealed, use flush countersunk fastenings.

G. Remove misplaced grout and/or grout smeared on surfaces which will not be concealed.

H. Use adhesive anchors or built-in anchors where installing rail brackets on masonry or concrete developing maximum strength. Remove misplaced adhesive.

I. If sleeves are not cast into concrete:
   1. Accurately core holes in concrete and size only minimally larger than member.
   2. Keep exposed finished surfaces in path of coring runoff wet during coring to prevent staining.
   3. Clean runoff path immediately after completion of coring using natural bristle brush and clear water.

3.04 TOLERANCES

A. Maximum Variation From Plumb: 1/4 inch per floor level, non-cumulative.

B. Maximum Offset From True Alignment: 1/4 inch.

C. Maximum Out-of-Position: 1/4 inch.

3.05 CLEANING

A. At completion of installation, clean all exposed surfaces.

B. Replace handrails so damaged that they cannot be repaired to serviceable condition. Architect shall be sole judge or acceptability of rail.

END OF SECTION

SECTION 06 1000

ROUGH CARPENTRY

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Structural dimension lumber framing.

B. Non-structural dimension lumber framing.

C. Rough opening framing for doors, windows, and roof openings.

D. Preservative treated wood materials.

E. Miscellaneous framing and sheathing.

1.02 RELATED REQUIREMENTS

A. Section 03 3000 - Cast-in-Place Concrete: Setting anchors in concrete.

1.03 REFERENCE STANDARDS

A. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2009.

B. AWPA C2 - Lumber, Timber, Bridge Ties and Mine Ties -- Preservative Treatment by Pressure Processes; American Wood-Preservers' Association; 2002.

C. AWPA C9 - Plywood -- Preservative Treatment by Pressure Processes; American Wood-Preservers' Association; 2003.

D. AWPA U1 - Use Category System: User Specification for Treated Wood; 2012.

E. PS 20 - American Softwood Lumber Standard; 2010.

F. SPIB (GR) - Grading Rules; 2014.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide technical data on insulated sheathing, wood preservative materials, and application instructions.

1.05 DELIVERY, STORAGE, AND HANDLING

A. General: Cover wood products to protect against moisture. Support stacked products to prevent deformation and to allow air circulation.

PART 2 PRODUCTS

2.01 GENERAL REQUIREMENTS

A. Dimension Lumber: Comply with PS 20 and requirements of specified grading agencies.
   1. If no species is specified, provide any species graded by the agency specified; if no grading agency is specified, provide lumber graded by any grading agency meeting the specified requirements.
   2. Grading Agency: Any grading agency whose rules are approved by the Board of Review, American Lumber Standard Committee (www.alsc.org) and who provides grading service for the species and grade specified; provide lumber stamped with grade mark unless otherwise indicated.

B. Lumber fabricated from old growth timber is not permitted.

2.02 DIMENSION LUMBER FOR CONCEALED APPLICATIONS

A. Grading Agency: Southern Pine Inspection Bureau, Inc; SPIB (GR).

B. Sizes: Nominal sizes as indicated on drawings, S4S.

C. Moisture Content: S-dry or MC19.

D. Stud Framing (2 by 2 through 2 by 6):
   1. Grade: No. 2.

E. Miscellaneous Framing, Blocking, Nailers, Grounds, and Furring:
   1. Lumber: S4S, No. 2 or Standard Grade.
   2. Boards: Standard or No. 3.

2.03 ACCESSORIES

A. Fasteners and Anchors:
   1. Metal and Finish: Hot-dipped galvanized steel complying with ASTM A153/A153M for high humidity and preservative-treated wood locations, unfinished steel elsewhere.

2.04 FACTORY WOOD TREATMENT

A. Treated Lumber and Plywood: Comply with requirements of AWPA U1 - Use Category System for wood treatments determined by use categories, expected service conditions, and specific applications.
   1. Preservative-Treated Wood: Provide lumber and plywood marked or stamped by an ALSC-accredited testing agency, certifying level and type of treatment in accordance with AWPA standards.

B. Preservative Pressure Treatment of Lumber Above Grade: AWPA U1, Use Category UC3B, Commodity Specification A using waterborne preservative.
   1. Kiln dry lumber after treatment to maximum moisture content of 19 percent.
      a. Treat lumber exposed to weather.
   2. Treat lumber in contact with roofing, flashing, or waterproofing.
   3. Treat lumber in contact with masonry or concrete.
   4. Treat lumber less than 18 inches above grade.
   5. Preservative Pressure Treatment of Plywood Above Grade: AWPA U1, Use Category UC2 and UC3B, Commodity Specification F using waterborne preservative.
      a. Kiln dry plywood after treatment to maximum moisture content of 19 percent.
      b. Treat plywood in contact with roofing, flashing, or waterproofing.
      c. Treat plywood in contact with masonry or concrete.
      d. Treat plywood less than 18 inches above grade.
      e. Treat plywood in other locations as indicated.

PART 3 EXECUTION

3.01 INSTALLATION - GENERAL

A. Select material sizes to minimize waste.

B. Reuse scrap to the greatest extent possible; clearly separate scrap for use on site as accessory components, including: shims, bracing, and blocking.

C. Where treated wood is used on interior, provide temporary ventilation during and immediately after installation sufficient to remove indoor air contaminants.

3.02 BLOCKING, NAILERS, AND SUPPORTS

A. Provide framing and blocking members as indicated or as required to support finishes, fixtures, specialty items, and trim.

B. In framed assemblies that have concealed spaces, provide solid wood fireblocking as required by applicable local code, to close concealed draft openings between floors and between top story and roof/attic space; other material acceptable to code authorities may be used in lieu of solid wood blocking.

C. In metal stud walls, provide continuous blocking around door and window openings for anchorage of frames, securely attached to stud framing.

D. In walls, provide blocking attached to studs as backing and support for wall-mounted items, unless item can be securely fastened to two or more studs or other method of support is explicitly indicated.

E. Where ceiling-mounting is indicated, provide blocking and supplementary supports above ceiling, unless other method of support is explicitly indicated.

3.03 TOLERANCES

A. Framing Members: 1/4 inch from true position, maximum.

B. Surface Flatness of Floor: 1/8 inch in 10 feet maximum, and 1/4 inch in 30 feet maximum.

C. Variation from Plane (Other than Floors): 1/4 inch in 10 feet maximum, and 1/4 inch in 30 feet maximum.

3.04 CLEANING

A. Waste Disposal: Comply with the requirements of Section 01 7419 - Construction Waste Management and Disposal.
   1. Comply with applicable regulations.
   2. Do not burn scrap on project site.
   3. Do not burn scraps that have been pressure treated.
   4. Do not send materials treated with pentachlorophenol, CCA, or ACA to co-generation facilities or “waste-to-energy” facilities.

B. Do not leave any wood, shavings, sawdust, etc. on the ground or buried in fill.

C. Prevent sawdust and wood shavings from entering the storm drainage system.

END OF SECTION

SECTION 07 4646

FIBER-CEMENT SIDING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Fiber-cement siding.

1.02 RELATED REQUIREMENTS

A. Section 06 1000 - Rough Carpentry: Siding substrate.

B. Section 09 9113 - Exterior Painting: Field painting.

1.03 REFERENCE STANDARDS

A. ASTM C1186 - Standard Specification for Flat Fiber Cement Sheets; 2008 (Reapproved 2012).

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Submit manufacturer's data sheets on each product to be used, including:
   1. Manufacturer's requirements for related materials to be installed by others.
   2. Preparation instructions and recommendations.
   3. Storage and handling requirements and recommendations.
   4. Installation methods, including nail patterns.

1.05 QUALITY ASSURANCE

A. Installer Qualifications: Company specializing in performing work of the type specified in this section with minimum three years of experience.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Store products under waterproof cover and elevated above grade, on a flat surface.

PART 2 PRODUCTS

2.01 FIBER-CEMENT SIDING

A. Lap Siding: Individual horizontal boards made of cement and cellulose fiber formed under high pressure with integral surface texture, complying to ASTM C1186, Type A, Grade II; with machined edges, for nail attachment.
   1. Style: Standard lap style.
   2. Texture: Simulated cedar grain.
   3. Length: 12 ft, nominal.
   4. Width (Height): 6-1/4 inches (5 inches exposure)
   5. Thickness: 5/16 inch, nominal.
   6. Finish: Unfinished.
   7. Warranty: 50 year limited; transferable.
   8. Manufacturers:
      a. James Hardie Building Products, Inc; HardiePlank Lap Siding: www.jameshardie.com/#sle.
      b. Nichiha USA, Inc: www.nichiha.com/#sle.
      c. Allura, a division of Plycem USA, Inc; www.allurausa.com

B. Soffit Panels: Panels made of cement and cellulose fiber formed under high pressure with integral surface texture, complying with ASTM C1186, Type A, Grade II; with machined edges, for nail attachment.
   1. Texture: Smooth.
   2. Length: 96 inches, nominal.
   3. Width: 48 inches.
   4. Thickness: 5/16 inch, nominal.
   5. Finish: Unfinished.
   6. Manufacturer: Same as siding.

2.02 ACCESSORIES

A. Furring Strips: Galvanized metal channels.

B. Trim: Same material and texture as siding.

C. Fasteners: Galvanized or corrosion resistant; length as required to penetrate minimum 1-1/4 inch.

D. Finish Paint: Latex house paint acceptable to siding manufacturer; primer recommended by paint manufacturer.

PART 3 EXECUTION

3.01 EXAMINATION

A. Examine substrate, clean and repair as required to eliminate conditions that would be detrimental to proper installation.

B. Do not begin until unacceptable conditions have been corrected.

C. If substrate preparation is responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.02 PREPARATION

A. Install Sheet Metal Flashing:
   1. Above door and window trim and casings.
   2. Above horizontal trim in field of siding.

3.03 INSTALLATION

A. Install in accordance with manufacturer's instructions and recommendations.
   1. Read warranty and comply with terms necessary to maintain warranty coverage.
   2. Use trim details indicated on drawings.
   3. Touch up field cut edges before installing.
   4. Pre-drill nail holes if necessary to prevent breakage.

B. Over Wood and Wood-Composite Sheathing: Fasten siding through sheathing into studs.

C. Allow space for thermal movement between both ends of siding panels that butt against trim; seal joint between panel and trim with specified sealant.

D. Joints in Horizontal Siding: Avoid joints in lap siding except at corners; where joints are inevitable stagger joints between successive courses.

E. Do not install siding less than 6 inches from surface of ground nor closer than 1 inch to roofs, patios, porches, and other surfaces where water may collect.

F. After installation, seal joints except lap joints of lap siding; seal around penetrations, and paint exposed cut edges.

G. Finish Painting: Within one week after installation, paint siding and trim with one coat primer and two coats finish paint.

3.04 PROTECTION

A. Protect installed products until Date of Substantial Completion.

B. Touch-up, repair or replace damaged products before Date of Substantial Completion.

END OF SECTION

SECTION 07 6200

SHEET METAL FLASHING AND TRIM

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Fabricated sheet metal items, including flashings, counterflashings, gutters, and downspouts.

B. Sealants for joints within sheet metal fabrications.

C. Reglets and accessories.

D. Precast concrete splash pads.

1.02 RELATED REQUIREMENTS

A. Section 06 1000 - Rough Carpentry: Wood nailers for sheet metal work.

B. Section 07 6100 - Sheet Metal Roofing.

C. Section 07 7123 - Manufactured Gutters and Downspouts.

D. Section 07 7200 - Roof Accessories: Manufactured metal roof curbs.

E. Section 07 9200 - Joint Sealers.

1.03 REFERENCE STANDARDS

A. AAMA 2603 - Voluntary Specification, Performance Requirements and Test Procedures for Pigmented Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix); 2015.

B. AAMA 2605 - Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels; 2013.

C. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2015.

D. ASTM B32 - Standard Specification for Solder Metal; 2008 (Reapproved 2014).

E. ASTM C920 - Standard Specification for Elastomeric Joint Sealants; 2014.

F. ASTM D4586/D4586M - Standard Specification for Asphalt Roof Cement, Asbestos-Free; 2007 (Reapproved 2012).

G. NRCA (National Roofing Contractor's Association) - The NRCA Roofing and Waterproofing Manual, current edition.

H. SMACNA (ASMM) - Architectural Sheet Metal Manual; 2012.

1.04 SYSTEM DESCRIPTION

A. Work of this Section is to:
   1. Direct water within wall and roof systems to exterior.
   2. Prevent water migration to interior.

1.05 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

1.06 QUALITY ASSURANCE

A. Perform work in accordance with SMACNA Architectural Sheet Metal Manual and NRCA requirements and standard details, except as otherwise indicated.
   1. Where requirements conflict with Architect's details, consult Architect for clarification.

B. Fabricator and Installer Qualifications: Company specializing in sheet metal work with ____ years of documented experience.

1.07 PRE-INSTALLATION CONFERENCE

A. Convene one week before starting work of this section.

1.08 DELIVERY, STORAGE, AND HANDLING

A. Store products under provisions of Section 01 6000.

B. Stack material to prevent twisting, bending, and abrasion, and to provide ventilation. Slope metal sheets to ensure drainage.

C. Prevent contact with materials which may cause discoloration, damage, or staining.

1.09 PROJECT CONDITIONS

A. Coordinate installation of work under this section with the work of other trades.

B. Coordinate installation of flashing with installation of masonry products specified in Division 4.

1.10 WARRANTY

A. Submit fully executed warranty in accordance with Section 01 7800.

B. Provide materials and installers warranty for repairs or replacements for a period of no less than 5 years.

PART 2 PRODUCTS

2.01 SHEET MATERIALS

A. Galvanized Steel: ASTM A653/A653M, with G90/Z275 zinc coating; minimum 24 gage, (0.0239 inch) thick base metal.

B. Pre-Finished Galvanized Steel: ASTM A653/A653M, with G90/Z275 zinc coating; minimum 24 gage, (0.0239) inch thick base metal, shop pre-coated with PVDF coating.
   1. PVDF (Polyvinylidene Fluoride) Coating: Superior Performance Organic Finish, AAMA 2605; multiple coat, thermally cured fluoropolymer finish system.

2.02 ACCESSORIES

A. Fasteners: Same material and finish as flashing metal, with soft neoprene washers.

B. Primer: Zinc chromate type.

C. Protective Backing Paint: FS TT-C-494, Bituminous.

D. Sealant to be Concealed in Completed Work: Non-curing butyl sealant.

E. Sealant to be Exposed in Completed Work: ASTM C920; elastomeric sealant, 100 percent silicone with minimum movement capability of plus/minus 25 percent and recommended by manufacturer for substrates to be sealed; clear.

F. Sealant: Type specified in Section 07 9200.

G. Plastic Cement: ASTM D4586/D4586M, Type I.
   1. Cut back asphalt type

H. Solder: ASTM B32; Sn50 (50/50) type.

I. Pop Rivets - #44 stainless steel with stainless steel shafts.

J. Sealant: Single component polyurethane; NP1 manufactured by Sonneborn Building Products.

K. Flashing cement: Two component elastomeric adhesive; free of toxic solvents, capable of setting within 24 hours at temperatures of 75 degrees F and 50 percent RH; MBR Flashing Cement manufactured by Schuller Roofing Systems or other flashing cement acceptable to roofing system manufacturere and accepted by Architect.

L. Flux: FS O-F-506

M. Butyl Sealant: Single component, butyl rubber; non-curing; ChemCalk 300 manufactured by Bostik Construction Products Division or equivalent.

2.03 FABRICATION

A. Form sections true to shape, accurate in size, square, and free from distortion or defects.

B. Fabricate flashings from metals to match roofing surface to be protected.

C. Fabricate cleats of same material as sheet, minimum 2 inches wide, interlocking with sheet.

1. Minimum 22 gauge core steel thickness.

D. Form pieces in longest possible lengths.

E. Lap and seal corners.

F. Form flashings to extend 1/2 inch beyond face of exterior masonry wythe.

G. Joint members of through wall flashing by lapping with two beads of sealant in lap.
   1. Join with pop rivets.

H. Hem exposed edges on underside 1/2 inch; miter and seam corners.

I. Form material with flat lock seams, except where otherwise indicated; at moving joints, use sealed lapped, bayonet-type or interlocking hooked seams.

J. Fabricate corners from one piece with minimum 18 inch long legs; seam for rigidity, seal with sealant.

K. Fabricate vertical faces with bottom edge formed outward 1/4 inch (6 mm) and hemmed to form drip.

L. Fabricate flashings to allow toe to extend 2 inches over roofing flashing. Return and brake edges.

M. Except flashing inserted into masonry joint, form material with cover plate seam as follows:
   1. Bed 6-inch ling backup plate in plastic cement.
   2. Set flashings 1/2 inch apart centered on backup plate in 2 beads of butyl sealant.
   3. Provide 6-inch wide cover plate.
   4. Except for prefinished painted metals, fabricate corners from one piece with minimum 18 inch long legs; solder rigid and watertight. Fabricate corners for perfinished painted metals, from one piece with minimum 18 inch long legs; seam for rigidity and seal watertight with sealant.

2.04 FINISH

A. Pre-finished metal: Full strength Kynar 500 Fluorocarbon coating, applied by the manufacturer on a continuous coil coating line, with a top side dry film thickness of 0.70 to 0.90 mil over 0.25 to 0.35 mil prime coat to provide a total dry film thickness of 0.95 to 1.25 mi. coat bottom side with primer with a dry film thickness of 0.25 mil. Finish shall conform to all tests for adhesion, flexibility and longevity as specified by the Kynar 500 finish supplier.

B. Back paint concealed metal surfaces with protective backing paint to a minimum dry film thickness of 15 mil. Paint surfaces in contact with dissimilar metals.

2.05 GUTTER AND DOWNSPOUT FABRICATION

A. Gutters: SMACNA (ASMM), Rectangular profile.

B. Downspouts: Square profile, pre-finished.

C. Gutters and Downspouts: Size for rainfall intensity determined by a storm occurrence of 1 in 10 years in accordance with SMACNA (ASMM).

D. Accessories: Profiled to suit gutters and downspouts.
   1. Anchorage Devices: In accordance with SMACNA (ASMM) requirements.
   2. Gutter Supports: Brackets.
   3. Downspout Supports: Straps.

E. Splash Pads: Precast concrete type, of size and profiles indicated; minimum 3000 psi at 28 days, with minimum 5 percent air entrainment.

F. Seal metal joints.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify roof openings, curbs, pipes, sleeves, ducts, and vents through roof are solidly set, reglets in place, and nailing strips located.

B. Verify roofing termination and base flashings are in place, sealed, and secure.

C. Beginning of installation means acceptance of existing conditions.

3.02 PREPARATION

A. Install starter and edge strips, and cleats before starting installation.

B. Back paint concealed metal surfaces with protective backing paint to a minimum dry film thickness of 15 mil.

C. Mix flashing cement in strict accordance with manufacturer's printed instructions. Do not use flashing cement after material begins to cure.

3.03 INSTALLATION

A. Field measure site conditions prior to fabricating work.

B. Install manufactured products in accordance with manufacturer's printed instructions.

C. Seal top of flashing exposed to weather with sealant except where protected by metal flashings.

D. Install starter and edge strips, and cleats before starting installation.

E. Flash and seal top of through wall flashing to back-up wall construction.

F. End dam flashing that are onto continuous to prevent lateral migration of water.

G. Secure flashings in place using concealed fasteners, and use exposed fasteners only where permitted..

H. Cleat and seal all joints.

I. Apply plastic cement compound between metal flashings and felt flashings.

J. Fit flashings tight in place; make corners square, surfaces true and straight in planes, and lines accurate to profiles.

K. Seal metal joints watertight.

L. Seal penetrations through flashing watertight.

M. Extend flashing beyond exterior face of masonry and bend down to from drip.

N. Secure gutters and downspouts in place with concealed fasteners.

O. Slope gutters 1/4 inch per 10 feet, minimum.

3.04 SCHEDULE

A. Gutters :Pre-finished metal

B. Any other items as noted on drawings.

END OF SECTION

SECTION 07 9005

JOINT SEALERS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

A. This Section includes joint sealants for the applications indicated in the Joint-Sealant Schedule.
   1. Exterior joints in the following vertical surfaces and horizontal nontraffic surfaces:
      a. Control and expansion joints in unit masonry.
      b. Joints in exterior portland cement stucco
      c. Joints between different materials listed above.
      d. Perimeter joints between materials listed above and frames of doors, windows and louvers.
      e. Control joints in ceilings and other overhead surfaces.
      f. Other joints as indicated.
   2. Exterior joints in the following horizontal traffic surfaces:
      a. Isolation and contraction joints in cast-in-place concrete slabs.
      b. Joints between different materials listed above.
      c. Other joints as indicated.
   3. Interior joints in the following vertical surfaces and horizontal nontraffic surfaces:
      a. Control joints on exposed interior surfaces of exterior walls.
      b. Perimeter joints of exterior openings where indicated.
      c. Vertical joints on exposed surfaces of interior unit masonry walls and partitions.
      d. Perimeter joints between interior wall surfaces and frames of interior doors, windows and elevator entrances.
      e. Joints between plumbing fixtures and adjoining walls, floors, and counters.
      f. Other joints as indicated.

1.03 RELATED SECTIONS:

A. Section 09 2400 - Portland Cement Plaster: Sealing perimeter joints of gypsum veneer plaster partitions to reduce sound transmission.

1.04 PERFORMANCE REQUIREMENTS

A. Provide elastomeric joint sealants that establish and maintain watertight and airtight continuous joint seals without staining or deteriorating joint substrates.

B. Provide joint sealants for interior applications that establish and maintain airtight and water-resistant continuous joint seals without staining or deteriorating joint substrates.

1.05 SUBMITTALS

A. Product Data: For each joint-sealant product indicated.

B. Samples for Initial Selection: Manufacturer's color charts consisting of strips of cured sealants showing the full range of colors available for each product exposed to view.

C. Samples for Verification: For each type and color of joint sealant required, provide Samples with joint sealants in 1/2-inch wide joints formed between two 6-inch long strips of material matching the appearance of exposed surfaces adjacent to joint sealants.

D. Product Certificates: For each type of joint sealant and accessory, signed by product manufacturer.

E. Qualification Data: For Installer.

F. Compatibility and Adhesion Test Reports: From sealant manufacturer, indicating the following:
   1. Materials forming joint substrates and joint-sealant backings have been tested for compatibility and adhesion with joint sealants.

2. Interpretation of test results and written recommendations for primers and substrate preparation needed for adhesion.

1.06 QUALITY ASSURANCE

A. Source Limitations: Obtain each type of joint sealant through one source from a single manufacturer.

B. Perform work in accordance with sealant manufacturer's requirements for preparation of surfaces and material installation instructions.

C. Perform acoustical sealant application work in accordance with ASTM C919.

D. Product Testing: Obtain test results for "Product Test Reports" Paragraph in "Submittals" Article from a qualified testing agency based on testing current sealant formulations within a 36-month period preceding the commencement of the Work.
   1. Test elastomeric joint sealants for compliance with requirements specified by reference to ASTM C 920, and where applicable, to other standard test methods.
   2. Test elastomeric joint sealants according to SWRI's Sealant Validation Program for compliance with requirements specified by reference to ASTM C 920 for adhesion and cohesion under cyclic movement, adhesion-in-peel, and indentation hardness.

E. Mockups: Build mockups incorporating sealant joints, as follows, to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution:
   1. Joints in mockups of assemblies specified in other Sections that are indicated to receive elastomeric joint sealants, which are specified by reference to this Section.

1.07 PROJECT CONDITIONS

A. Do not proceed with installation of joint sealants under the following conditions:
   1. When ambient and substrate temperature conditions are outside limits permitted by joint-sealant manufacturer or are below 40 deg F (5 deg C).
   2. When joint substrates are wet.
   3. Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.
   4. Contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

1.08 WARRANTY

A. Special Installer's Warranty: Installer's standard form in which Installer agrees to repair or replace elastomeric joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.
   1. Warranty Period: Two years from date of Substantial Completion.

B. Special Manufacturer's Warranty: Manufacturer's standard form in which elastomeric sealant manufacturer agrees to furnish elastomeric joint sealants to repair or replace those that do not comply with performance and other requirements specified in this Section within specified warranty period.
   1. Warranty Period: Two years from date of Substantial Completion.

C. Special warranties specified in this Article exclude deterioration or failure of elastomeric joint sealants from the following:
   1. Movement of the structure resulting in stresses on the sealant exceeding sealant manufacturer's written specifications for sealant elongation and compression caused by structural settlement or errors attributable to design or construction.
   2. Disintegration of joint substrates from natural causes exceeding design specifications.
   3. Mechanical damage caused by individuals, tools, or other outside agents.
   4. Changes in sealant appearance caused by accumulation of dirt or other atmospheric contaminants.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Products: Subject to compliance with requirements, provide one of the products listed in other Part 2 articles.

2.02 MATERIALS, GENERAL

A. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by sealant manufacturer, based on testing and field experience.

B. VOC Content of Interior Sealants: Provide interior sealants and sealant primers that comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24):
   1. Sealants: 250 g/L.
   2. Sealant Primers for Nonporous Substrates: 250 g/L.
   3. Sealant Primers for Porous Substrates: 775 g/L.

C. Colors of Exposed Joint Sealants: As selected by Architect from manufacturer's full range.

2.03 ELASTOMERIC JOINT SEALANTS

A. Elastomeric Sealants: Comply with ASTM C 920 and other requirements indicated for each liquid-applied chemically curing sealant specified, including those referencing ASTM C 920 classifications for type, grade, class, and uses related to exposure and joint substrates.

B. Type A: Single-Component Non-sag Polyether Sealant (Very Low VOC [less than 2%])
   1. Products **Very Low VOC (less than 2%**)
      a. SikaHyFlex 150 LM, Sika Corporation
      b. Sonneborn, Division of BASF: Sonolastic 150.
   2. Type and Grade: S (single component) and NS (nonsag).
   3. Class: 25.
   4. Use Related to Exposure: NT (nontraffic).
   5. Uses Related to Joint Substrates: M, G, A, and, as applicable to joint substrates indicated, O.
      a. Use O Joint Substrates: galvanized steel, brick, and concrete.
   6. Stain-Test-Response Characteristics: Nonstaining to porous substrates per ASTM C 1248.
   7. Exterior Gypsum Joint Sealants
      a. SikaFlex 11 FC, Sika Corp., 1-800-933-8800
      b. UniverSeal by York Mfg. (800-551-2828)

2.04 JOINT-SEALANT BACKING

A. General: Provide sealant backings of material and type that are nonstaining; are compatible with joint substrates, sealants, primers, and other joint fillers; and are approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.

B. Cylindrical Sealant Backings: ASTM C 1330, Type C (closed-cell material with a surface skin), and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance:

2.05 MISCELLANEOUS MATERIALS

A. Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.

B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials, free of oily residues or other substances capable of staining or harming joint substrates and adjacent nonporous surfaces in any way, and formulated to promote optimum adhesion of sealants to joint substrates.

C. Masking Tape: Nonstaining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting joint-sealant performance.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 PREPARATION

A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions and the following requirements:
   1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.
   2. Clean porous joint substrate surfaces by brushing, grinding, blast cleaning, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose particles remaining after cleaning operations above by vacuuming or blowing out joints with oil-free compressed air. Porous joint substrates include the following:
      a. Concrete.
      b. Masonry.
      c. Unglazed surfaces of ceramic tile.
   3. Remove laitance and form-release agents from concrete.
      a. Clean nonporous surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants. Nonporous joint substrates include the following:
         1) Metal.
         2) Glass.
         3) Porcelain enamel.
         4) Glazed surfaces of ceramic tile.

B. Joint Priming: Prime joint substrates, where recommended in writing by joint-sealant manufacturer, based on preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.

C. Masking Tape: Use masking tape where required to prevent contact of sealant with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

3.03 INSTALLATION OF JOINT SEALANTS

A. General: Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.

B. Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.

C. Install sealant backings of type indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.
   1. Do not leave gaps between ends of sealant backings.
   2. Do not stretch, twist, puncture, or tear sealant backings.
   3. Remove absorbent sealant backings that have become wet before sealant application and replace them with dry materials.

D. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.
   1. Remove excess sealant from surfaces adjacent to joints.
   2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
   3. Provide concave joint configuration per Figure 5A in ASTM C 1193, unless otherwise indicated.
   4. Provide flush joint configuration where indicated per Figure 5B in ASTM C 1193.
   5. Provide recessed joint configuration of recess depth and at locations indicated per Figure 5C in ASTM C 1193.
      a. Use masking tape to protect surfaces adjacent to recessed tooled joints.

3.04 CLEANING

A. Clean off excess sealant or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

3.05 PROTECTION

A. Protect joint sealants during and after curing period from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealants immediately so installations with repaired areas are indistinguishable from original work.

3.06 JOINT-SEALANT SCHEDULE

LOCATION	TYPE	COLOR
WINDOW PERIMETER, FRAMES, STOREFRONT OR CURTAIN WALL ASSEMBLY	A	MATCH ADJACENT
DOOR FRAMES / WALL PERIMETERS	A	MATCH ADJACENT
UNDER THRESHOLDS, UNDER WINDOW SYSTEM WHICH RESTS DIRECTLY ON THE FLOOR SLAB IN ORDER TO PREVENT INFILTRATION	A	MATCH ADJACENT
INTERSECTION OF DISSIMILAR MATERIALS THAT ALLOWS WATER OR AIR INFILTRATION	A	MATCH ADJACENT
PERIMETER JOINTS ON INTERIOR SIDE OF DOOR FRAMES, LOUVERS IN EXTERIOR WALLS	A	MATCH ADJACENT
PERIMETER JOINTS OF DOOR FRAMES, WINDOW FRAMES AND OTHER FRAMED OPENINGS IN WALLS WITH NO FINISHED EDGE FLANGE.	A	MATCH ADJACENT
OPEN JOINT, BETWEEN DISSIMILAR MATERIALS WHERE INTENDED TO BE TIGHT, SEALED JOINT	A	MATCH ADJACENT
WITHIN AND PERIMETER OF MASONRY SYSTEM	A	MATCH ADJACENT

INTERSECTION OF DISSIMILAR MATERIALS WHICH INSTALLATIONS NOT UNIFORM OR WHERE WORKMANSHIP DOES NOT MEET ACCEPTABLE CONSTRUCTION TOLERANCES, WHEN SUCH WORKMANSHIP IS ACCEPTABLE BY THE ARCHITECT	**A**	**MATCH ADJACENT**
METAL SIDING, LOUVERS, FIXTURES AND OTHER PENETRATIONS IN BUILDING ENCLOSURES NOT OTHERWISE SEALED WEATHERTIGHT. UNLESS NOTED OTHERWISE PROVIDE CONTINUOUS SEALING PERIMETER JOINTS AND ALL OTHER JOINTS AT EXTERIOR SOFFITS	**E**	**MATCH ADJACENT**

END OF SECTION

SECTION 08 1113

HOLLOW METAL DOORS AND FRAMES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Non-fire-rated hollow metal doors and frames.

1.02 RELATED REQUIREMENTS

A. Section 08 7100 - Door Hardware.

B. Section 08 8000 - GLAZING: Glass for doors and borrowed lites.

C. Section 09 9113 - Exterior Painting: Field painting.

1.03 REFERENCE STANDARDS

A. ADA Standards - Americans with Disabilities Act (ADA) Standards for Accessible Design; 2010.

B. ANSI/SDI A250.3 - Test Procedure and Acceptance Criteria for Factory Applied Finish Coatings for Steel Doors and Frames; 2007 (R2011).

C. ANSI/SDI A250.4 - Test Procedure and Acceptance Criteria for Physical Endurance for Steel Doors, Frames and Frame Anchors; 2011.

D. ANSI/SDI A250.8 - Specifications for Standard Steel Doors and Frames (SDI-100); 2014.

E. ANSI/SDI A250.10 - Test Procedure and Acceptance Criteria for Prime Painted Steel Surfaces for Steel Doors and Frames; 2011.

F. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2015.

G. ASTM A1008/A1008M - Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, Solution Hardened, and Bake Hardenable; 2015.

H. ASTM A1011/A1011M - Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength; 2014.

I. BHMA A156.115 - American National Standard for Hardware Preparation in Steel Doors and Steel Frames; 2014.

J. ICC A117.1 - Accessible and Usable Buildings and Facilities; 2009.

K. NAAMM HMMA 830 - Hardware Selection for Hollow Metal Doors and Frames; 2002.

L. NAAMM HMMA 831 - Hardware Locations for Hollow Metal Doors and Frames; 2011.

M. NAAMM HMMA 840 - Guide Specifications for Installation and Storage of Hollow Metal Doors and Frames; 2007.

N. ADAAG - Americans with Disabilities Act Architectural Guidelines.

O. TAS - Texas Accessibility Standards.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Materials and details of design and construction, hardware locations, reinforcement type and locations, anchorage and fastening methods, and finishes .

C. Shop Drawings: Details of each opening, showing elevations, glazing, frame profiles, internal reinforcement, closure method, cut-outs for glazing, and identifying location of different finishes, if any.

D. Installation Instructions: Manufacturer's published instructions, including any special installation instructions relating to this project.

E. Manufacturer's Qualification Statement.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with not less than three years documented experience.

B. Maintain at project site copies of reference standards relating to installation of products specified.

C. Size and install door to conform to requirements of ANSI/SDI-100.

1.06 REGULATORY REQUIREMENTS

A. Size and install doors in conformance with requirements of TAS and ADAAG. Where provisions conflict, the more stringent shall apply.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, protect, and handle products to site under provisions of Section 01600.

B. Accept doors and frames on site in manufacturer's packaging. Inspect for damage.

C. Break seal on-site to permit ventilation.

D. Comply with NAAMM HMMA 840 or ANSI/SDI A250.8 (SDI-100) in accordance with specified requirements.

E. Protect with resilient packaging; avoid humidity build-up under coverings; prevent corrosion and adverse effects on factory applied painted finish.

1.08 FIELD MEASUREMENTS

A. Verify that field measurements are as indicated on shop drawings as instructed by the manufacturer.

1.09 COORDINATION

A. Coordinate the work with door and frame opening construction, door frame and door hardware installation.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Hollow Metal Doors and Frames:
   1. Ceco Door, an Assa Abloy Group company: www.assaabloydss.com.
   2. Republic Doors; ____: www.republicdoor.com.
   3. Steelcraft: www.steelcraft.com.
   4. Substitutions: See Section 01 6000 - Product Requirements.

2.02 PERFORMANCE REQUIREMENTS

A. Requirements for Hollow Metal Doors and Frames:
   1. Steel Sheet: Comply with one or more of the following requirements; galvannealed steel complying with ASTM A653/A653M, cold-rolled steel complying with ASTM A1008/A1008M, or hot-rolled pickled and oiled (HRPO) steel complying with ASTM A1011/A1011M, commercial steel (CS) Type B, for each.
   2. Accessibility: Comply with ICC A117.1 and ADA Standards.
   3. Exterior Door Top Closures: Flush end closure channel, with top and door faces aligned.
   4. Typical Door Face Sheets: Flush.
   5. Glazed Lights: Non-removable stops on non-secure side; sizes and configurations as indicated on drawings. Style: Manufacturers standard.
   6. Hardware Preparations, Selections and Locations: Comply with NAAMM HMMA 830 and NAAMM HMMA 831 or BHMA A156.115 and ANSI/SDI A250.8 (SDI-100) in accordance with specified requirements.
   7. Zinc Coating for Typical Interior and/or Exterior Locations: Provide metal components zinc-coated (galvanized) and/or zinc-iron alloy-coated (galvannealed) by the hot-dip process in accordance with ASTM A653/A653M, with manufacturer's standard coating thickness, unless noted otherwise for specific hollow metal doors and frames.

a. Based on SDI Standards: Provide at least A40/ZF120 (galvannealed) when necessary, coating not required for typical interior door applications, and at least A60/ZF180 (galvannealed) for corrosive locations.

B. Combined Requirements: If a particular door and frame unit is indicated to comply with more than one type of requirement, comply with the specified requirements for each type; for instance, an exterior door that is also indicated as being sound-rated must comply with the requirements specified for exterior doors and for sound-rated doors; where two requirements conflict, comply with the most stringent.

2.03 HOLLOW METAL DOORS

A. Door Finish: Factory primed and field finished.

B. Omega, Exterior Doors: Thermally insulated.
   1. Based on SDI Standards: ANSI/SDI A250.8 (SDI-100).
      a. Level 2 - Heavy-duty.
      b. Physical Performance Level B, 500,000 cycles; in accordance with ANSI/SDI A250.4.
      c. Model 2 - Seamless.
      d. Door Face Metal Thickness: 18 gage, 0.042 inch, minimum.
      e. Zinc Coating: A60/ZF180 galvannealed coating; ASTM A653/A653M.
   2. Door Core Material: Manufacturers standard core material/construction and in compliance with requirements.
   3. Door Thickness: 1-3/4 inch, nominal.
   4. Insulating Value: U-value of 0.50, when tested in accordance with ASTM C1363 .
   5. Weatherstripping: Refer to Section 08 7100.
   6. All seams in exterior doors shall be fully welded to provide a complete watertight seal. The top of the exterior doors shall have an inverted channel designed to shed water.

2.04 FABRICATION - STEEL DOORS

A. Fabricate doors with hardware reinforcement welded in place.

B. Attach fire rated label to each fire rated door unit.

C. Close top and bottom edge of exterior doors with inverted steel channel closure. Seal joints watertight.

D. Glass: In accordance with Section 08800.

2.05 HOLLOW METAL FRAMES

A. Comply with standards and/or custom guidelines as indicated for corresponding door in accordance with applicable door frame requirements.

B. Exterior Door Frames: Face welded type.
   1. Galvanizing: Components hot-dipped zinc-iron alloy-coated (galvannealed) in accordance with ASTM A653/A653M, with A40/ZF120 coating.
   2. Frame Metal Thickness: 14 gage, 0.067 inch, minimum.
   3. Frame Finish: Factory primed and field finished.
   4. Weatherstripping: Separate, see Section 08 7100.

C. Frames in Masonry Walls: Size to suit masonry coursing with head member 4 inch high to fill opening without cutting masonry units.

D. Frames Wider than 48 inches: Reinforce with steel channel fitted tightly into frame head, flush with top.

E. Frames Installed Back-to-Back: Reinforce with steel channels anchored to floor and overhead structure.

2.06 FINISHES

A. Primer: Rust-inhibiting, complying with ANSI/SDI A250.10, door manufacturer's standard.

2.07 FABRICATION - STEEL FRAMES

A. Fabricate frames as welded units. Grind welds smooth.

B. Fabricate frames with hardware reinforcement plates welded in place. Provide mortar guard boxes on frames for exterior locations.

C. Reinforce frames wider than 48 inches with roll formed steel channels fitted tightly into frame head, flush with top.

D. Prepare frames for silencers.

2.08 ACCESSORIES

A. Glazing: As specified in Section 08 8000, factory installed.

B. Removable Stops: Formed sheet steel, shape as indicated on drawings, mitered corners; prepared for countersink style tamper proof screws.

C. Grout for Frames: Portland cement grout with maximum 4 inch slump for hand troweling; thinner pumpable grout is prohibited.

D. Silencers: Resilient rubber, fitted into drilled hole; 3 on strike side of single door, 3 on center mullion of pairs, and 2 on each head of pairs.

E. Temporary Frame Spreaders: Provide for factory- or shop-assembled frames.

2.09 FINISHES

A. Primer: Rust-inhibiting, complying with ANSI/SDI A250.10, door manufacturer's standard.

B. Factory Finish: Complying with ANSI/SDI A250.3, manufacturer's standard coating.
   1. Modified alkyd type.

C. Bituminous Coating: Asphalt emulsion or other high-build, water-resistant, resilient coating.

D. Do not apply finish coatings until all welding and preparation work are complete.

E. Bonderize frame prior to prime painting.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify substrate conditions under provisions of Section 01 1000.

B. Verify existing conditions before starting work.

C. Verify that opening sizes and tolerances are acceptable.

D. Verify that finished walls are in plane to ensure proper door alignment.

3.02 PREPARATION

A. Coat inside of frames to be installed in masonry or to be grouted, with bituminous coating, prior to installation.

B. Coat inside of other frames with bituminous coating to a thickness of 1/16 inch.

3.03 INSTALLATION

A. Install doors and frames in accordance with manufacturer's instructions and related requirements of specified door and frame standards or custom guidelines indicated.

B. Install doors in accordance with ANSI/SDI-100 and DHI.

C. Coordinate frame anchor placement with wall construction.

D. Grout frames in masonry construction, using hand trowel methods; brace frames so that pressure of grout before setting will not deform frames.

E. Install door hardware as specified in Section 08 7100.

F. Touch up damaged factory finishes.

G. Provide one floor anchor and not less than three anchors per jamb.

3.04 TOLERANCES

A. Maximum Diagonal Distortion: 1/16 inch measured with straight edge, corner to corner.

3.05 ADJUSTING

A. Adjust Work under provisions of Section 01 7000.

B. Adjust for smooth and balanced door movement.

3.06 SCHEDULE

A. Refer to Door and Frame Schedule on the drawings.

END OF SECTION

SECTION 08 1115

STEEL DOORS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Steel entrance doors.

1.02 RELATED SECTIONS

A. Section 06100 - Rough Carpentry.

B. Section 08-7100 Door Hardware

1.03 REFERENCES

A. American Architectural Manufacturer Association (AAMA):
   1. AAMA 1304 - Voluntary Specification for Forced Entry Resistance of Side-Hinged Door Systems.

B. ASTM International (ASTM):
   1. ASTM E283 - Standard Test Method for Determining Rate of Air Leakage Through Exterior Doors Under Specified Pressure Differences Across the Specimen.
   2. ASTM E330 - Standard Test Method for Structural Performance of Exterior Doors by Uniform Static Pressure Difference.
   3. ASTM E331 - Standard Test Method for Water Penetration of Exterior Doors by Uniform Static Air Pressure Difference.
   4. ASTM E547; Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Cyclic Static Air Pressure Difference.
   5. ASTM E1886 - Standard Test Method for Performance of Exterior Doors by Missile(s) and Exposed to Cyclic Pressure Differentials.
   6. ASTM E1996 - Standard Specification for Performance of Exterior Doors by Windborne Debris in Hurricanes.

C. National Fenestration Rating Council (NFRC):
   1. NFRC 100 - Procedure for Determining Fenestration Thermal Properties.
   2. NFRC 200 - Solar Heat Gain Coefficient and Visible Transmittance.

D. National Fire Protection Association (NFPA):
   1. NFPA 252 - Standard Methods of Fire Tests of Doors Assemblies.

E. Underwriters Laboratories, Inc. (UL)
   1. UL 10B - Standard for Fire Test of Door Assemblies.
   2. UL 10C - Standard for positive Pressure Fire Tests of Doors Assemblies.

F. Uniform Building Code Standard 7-2 (UBC):
   1. UBC 7-2 - Fire Tests of Door Assemblies. (Note: Neutral pressure testing standard).
   2. UBC 7-2 - Fire Test of Door Assemblies. (Note: Positive pressure testing standard).

G. Window & Door Manufacturers Association (WDMA):
   1. WDMA I.S.4 - Water Repellent Preservative Non-Pressure Treatment for Millwork.
   2. Sponsored Hallmark Certification Program.

1.04 SUBMITTALS

A. Submit under provisions of Section 01 3000.

B. Product Data: Manufacturer's data sheets on each product to be used, including:
   1. Preparation instructions and recommendations.
   2. Storage and handling requirements and recommendations.
   3. Installation methods.

C. Shop Drawings: Submit shop drawings indicating details of construction, flashings and relationship with adjacent construction.

D. Quality Assurance Submittals:

1. Design Data, Test Reports: Provide manufacturer test reports indicating product compliance with indicated requirements.
2. Manufacturer Instructions: Provide manufacturer's written installation instructions.

1.05 QUALITY ASSURANCE

A. Installer Qualifications: Minimum 2 years installing similar assemblies.

B. Certifications: NAMI certification label indicating assemblies meet the design requirements.

C. Mock-Up: Provide a mock-up for evaluation of installation techniques and workmanship.
1. Mock-ups shall incorporate surrounding construction, including wall assembly fasteners, flashing, and other related accessories installed in accordance with manufacturer's approved installation methods.
2. Do not proceed with remaining work until workmanship is approved by Architect.
3. Rework mock-up as required to produce acceptable work.
4. At Substantial Completion, approved mockups may become part of completed Work.
5. Demolish mockups and remove from site.

D. Pre-installation Meeting: Conduct pre-installation meeting on site two weeks prior to commencement of installation.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Deliver, store and handle materials and products in strict compliance with manufacturer's instructions and recommendations and industry standards.

B. Deliver and store assembly materials and components in manufacturer's original, unopened, undamaged containers with identification labels intact.
1. Protect from damage and exposure to direct sunlight during storage.
2. Store in a dry, well-ventilated area off the floor.
3. During storage, do not remove paper or cardboard placed between products for shipment.
4. Store in a humidity and temperature controlled facility. Recommended conditions: 30 to 50 percent relative humidity and 50 to 90 degrees F (10 to 32 degrees C).

C. Handling: Handle with clean hands and equipment. Lift and carry the products when moving them. Do not drag across one another.

1.07 PROJECT CONDITIONS

A. Maintain environmental conditions; temperature, humidity, and ventilation, within limits recommended by manufacturer for optimum results. Install only in vertical walls and when conditions are dry. Do not install products under environmental conditions outside manufacturer's recommended limits.

1.08 WARRANTY

A. Manufacturer's Standard Warranty: Assemblies will be free from defects in materials and workmanship from the date of manufacture for the time periods indicated below:
1. Door Slab: 10 Years.
2. Door System: 10 Years.

PART 2 PRODUCTS

2.01 MANUFACTURER

A. Manufacturer:
1. Steves Doors, 800-617-8586; www.stevesdoors.com
2. Jeld-Wen Incorporated, 800-535-3936; www.jeld-wen.com
3. Pella Windows and Doors of San Antonio. 210-622-8673: www.pellasanantonio.com

B. Requests for substitutions will be considered in accordance with provisions of Section 01 6000.

2.02 STEEL ENTRANCE DOORS

A. Panel Doors:
1. Galvanized, 24 gauge primed steel skin
2. LVL stiles and top rail with proud edge

3. Closed-cell polystyrene core
4. 12 inches lock-block hardware reinforcement
5. Primed smooth surfaces
6. 20 minute fire-rated

B. Performance Requirements:
1. Fire-Rated Door Assemblies: Meet or exceed fire-protection ratings indicated when tested in accordance with the following: NFPA 252, UL 10B, UL 10C, and CAN/ULC S104, and UBC 7-2. Provide doors complying with specified requirements, based on testing manufacturer's doors representative of those specified: AAMA 1304, ASTM E283, ASTM E330, and ASTM E331.

C. Materials:
1. Wood Frames: Western Pine.
a. Preservative treated with AuraLast in accordance with WDMA I.S.4.

D. Door Design:
1. Door Surface: Smooth.
2. Door Shape: Squared Top.
3. Door Style:
a. Paneled
4. Face Pattern:
a. 6-Panel Beaded
5. Finish: Two-coats, low-sheen, baked-on enamel primer.
6. Hardware: Prep door for hinge and lockset.

2.03 PREHUNG HARDWOOD DOOR SYSTEMS

A. Jamb:
1. Material:
a. Solid Pine
2. Profile: Rabbeted.
3. Width:
a. Match existing to be replaced.

B. Casing:
1. Match existing to be replaced.

C. Hinges: Solid brass concealed-bearing.
1. Finish: Match existing.

D. Sills: Aluminum with Polished Aluminum Finish.

2.04 ACCESSORIES

A. Aluminum Storm Door
1. Maintenance-free aluminum frame
2. Permanent baked-on enamel finish
3. Screen configuration
a. 1st Floor Screen Doors:
1) Suntex 80 Screen
2) Pet Screen
b. 2nd & 3rd Floor Screen Doors
1) Fixed Screen for Upper Half
2) Fixed screen w/ pet screen on lower Half.
4. Push button handle with interior night lock
a. Quick Fit Handle Set or equal
5. Product
a. Pembrook Premium manufactured by Larson Manufacturing Company; www.larsondoors.com
b. Pella Architect Series by Pella Doors and Windows: www.pellasanantonio.com

PART 3 EXECUTION

3.01 EXAMINATION

A. Inspect doors prior to installation. Verify doors are suitable for installation

B. Inspect rough opening for compliance with door manufacturer recommendations. Verify rough opening conditions are within recommended tolerances.

3.02 INSTALLATION

A. Install doors in accordance with manufacturer's installation guidelines and recommendations.

B. Install Jamb Assembly:
   1. Caulk sill along outside edge and 1/2 in (13 mm) in from edge of subfloor.
   2. Set door unit into center of opening and tack in place.
   3. Shim hinge then latch side jambs straight. Inspect jamb for square, level and plumb.
   4. Shim and fasten top of unit where sidelite joins door jamb.
   5. Fasten hinge side jamb to studs.
   6. Verify door opens freely and weatherstrip meets door evenly.
   7. Verify door sweep contacts threshold evenly.
   8. Fasten latch side jamb to studs.

C. Caulk outside perimeter of door unit between brickmold and wall face, along front side of threshold, and between jamb sides and threshold.

3.03 PROTECTION

A. Protect installed doors from damage.

END OF SECTION

SECTION 08 4229

AUTOMATIC ENTRANCES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Packaged power-operated door assemblies of following types:
   1. Swinging type.

B. Controllers, actuators and safety devices.

1.02 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Shop Drawings:
   1. Indicate layout and dimensions; head, jamb, and sill conditions; elevations; components, anchorage, recesses, materials, and finishes, electrical characteristics and connection requirements.
   2. Identify installation tolerances required, assembly conditions, routing of service lines and conduit, and locations of operating components and boxes.

C. Product Data: Provide data on system components, sizes, features, and finishes.

D. Manufacturer's Installation Instructions: Indicate special procedures, perimeter conditions requiring special attention, and manufacturer's hardware and component templates.

E. Maintenance Contract.

F. Warranty: Submit manufacturer warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.

1.03 WARRANTY

A. See Section 01 7800 - CONTRACT CLOSEOUT, for additional warranty requirements.

B. Provide two year manufacturer warranty.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Swinging Automatic Entrance Door Assemblies:
   1. ASSA ABLOY Entrance Solutions; Besam SW200i: www.besam-usa.com/#sle.
   2. record-usa; 6100 Series (Low-Energy): www.recorddoors.com/#sle.
   3. Substitutions: See Section 01 6000 - Product Requirements.

2.02 POWER OPERATED DOORS

A. Power Operated Doors: Provide products that comply with NFPA 101 and requirements of authorities having jurisdiction; provide equipment selected for actual door weight and for light pedestrian traffic, unless otherwise indicated.
   1. Swinging Door Operators: Fully adjustable for opening and closing speeds, checking speeds, and hold-open time; in the event of power failure, disengage operator allowing door to function as a door with a spring closer.
   2. Packaged Door Assemblies: Provide components by single manufacturer, factory-assembled, including doors, frames, operators, actuators, and safeties.
   3. Air Leakage: Maximum of 1.0 cu ft/min/sq ft of wall area, when tested in accordance with ASTM E283 at 1.57 lbs/sq ft pressure differential across assembly.
   4. Exterior Swinging Doors: Provide equipment capable of operating, closing, and holding doors closed under positive and negative differential pressure; if necessary, provide power closing.

B. Swinging Doors with Full Power Operators: Comply with BHMA A156.10; safeties required.
   1. Comply with UL 325; acceptable evidence of compliance includes UL (DIR) or ITS (DIR) listing or test report by testing agency acceptable to authorities having jurisdiction.

2. Force Required to Set Door in Motion When Unpowered: 30 pound-force, maximum, measured at 1 inch from the latch edge of the door at any point in the closing cycle.

2.03 AUTOMATIC ENTRANCE DOOR ASSEMBLIES

A. Comply with ADA Standards for egress requirements.

B. Framing Members: Provide manufacturer's standard extruded aluminum framing, reinforced as required to support imposed loads.
   1. Nominal Sizes:
      a. Single Slide and Bi-Parting Sliding Doors: 1-3/4 inch wide by 4-1/2 inch deep.

C. Swinging Automatic Door, Type ___: Single-acting hinged, electric operation, extruded aluminum glazed door, with extruded tubular frame, and operator concealed overhead.
   1. Operation: Full-power open, spring close operation.
   2. Push-Side Actuator: Push plate.
   3. Pull-Side Actuator: Push plate.
   4. Pull-Side Safety: Door-mounted.

2.04 CONTROLLERS, ACTUATORS, AND SAFETIES

A. Controller: Provide microprocessor operated controller for each door.

B. Proximity Detector Actuator/Safety: Microwave; distance of control sensitivity adjustable.
   1. Operation Zone: 48 inch long by 48 inch wide by 48 inch deep and 48 inch above floor.
   2. Safety Zone: Same dimensions as operating zone.

2.05 ELECTRICAL CHARACTERISTICS AND COMPONENTS

A. Electrical Characteristics:
   1. 120 volts, single phase, 60 Hz.
   2. 15 amperes maximum fuse size.
   3. 1 minimum circuit capacity.

B. Motors: NEMA MG 1.

C. Wiring Terminations: Provide terminal lugs to match branch circuit conductor quantities, sizes, and materials indicated. Enclose terminal lugs in terminal box sized to NFPA 70.

D. Disconnect Switch: Factory mount disconnect switch in control panel.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that surfaces are ready to receive work and dimensions are as indicated on shop drawings.

B. Verify that electric power is available and is of the correct characteristics.

3.02 INSTALLATION

A. Install equipment in accordance with manufacturer's instructions.

3.03 ADJUSTING

A. Adjust door equipment for correct function and smooth operation.

3.04 CLEANING

A. Remove temporary protection, clean exposed surfaces.

3.05 CLOSEOUT ACTIVITIES

A. Demonstrate operation, operating components, adjustment features, and lubrication requirements.

END OF SECTION

SECTION 08 5313

VINYL WINDOWS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Vinyl-framed, factory-glazed windows.

B. Operating hardware.

C. Screens

D. Solar screens.

1.02 RELATED REQUIREMENTS

A. Section 07 9200 - Joint Sealants: Sealing joints between frames and adjacent construction.

1.03 REFERENCE STANDARDS

A. ASHRAE Std 90.1 I-P - Energy Standard for Buildings Except Low-Rise Residential Buildings; 2013, Including All Amendments and Errata.

B. NFRC 100 - Procedure for Determining Fenestration Product U-factors; 2014.

1.04 SUBMITTALS

A. Product Data: Provide component dimensions, anchors, fasteners, glass, and internal drainage.

B. Shop Drawings: Indicate opening dimensions, framed opening tolerances, affected related work, and installation requirements.

C. Manufacturer's Qualification Statement.

D. Installer's Qualification Statement.

E. Warranty Documentation: Submit manufacturer warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with not less than 10 years of documented experience.
   1. Member AAMA & NFRC

B. Installer Qualifications: Company specializing in performing of type specified and with at least three years documented experience.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Protect finished surfaces with wrapping. Do not use adhesive papers or sprayed coatings that bond when exposed to sunlight or weather.

1.07 FIELD CONDITIONS

A. Do not install sealants when ambient temperature is less than 40 degrees F.

B. Maintain this minimum temperature during and after installation of sealants.

1.08 WARRANTY

A. See Section 01 7800 - CONTRACT CLOSEOUT, for additional warranty requirements.

B. Correct defective Work within a five year period after Date of Substantial Completion.

C. Provide 10 year manufacturer warranty for insulated glass units from seal failure, interpane dusting or misting, and replacement of same. Include coverage for degradation of color finish.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Vinyl Windows:

1. Milgard Manufacturing, Inc., 1010 54th Avenue East, Tacoma, WA 98424, 800-645-4273; milgard.com
    a. Window Series: Milgard Style Line® Series
2. Pella Corporation; www.pellacommercial.com
3. Substitutions: See Section 01 6000 - Product Requirements.

2.02 DESCRIPTION

A. Vinyl Windows: Factory fabricated frame and sash members of extruded, hollow, ultra-violet-resistant, polyvinyl chloride (PVC) with integral color; with factory-installed glazing, hardware, related flashings, anchorage and attachment devices.
1. Configuration: As indicated on drawings.
2. Color: Color as selected, and with exterior tan color.
3. Size to fit openings with minimum clearance around perimeter of assembly providing necessary space for perimeter seals.
4. Framing Members: Fusion welded corners and joints, with internal reinforcement where required for structural rigidity; concealed fasteners.
5. System Internal Drainage: Drain to exterior side by means of weep drainage network any water entering joints, condensation within glazing channel, or other migrating moisture within system.
6. Glazing Stops, Trim, Flashings, and Accessory Pieces: Formed of rigid PVC, fitting tightly into frame assembly.

2.03 COMPONENTS

A. Glazing: Insulated double pane, annealed glass, clear, low-E coated, argon filled, with glass thicknesses as recommended by manufacturer for specified wind conditions.

B. Frame Depth: 3 inch.

C. Insect Screens: Aluminum, extruded or roll-formed frame with mitered and reinforced corners; apply screen mesh taut to frame; secure to window with hardware to allow easy removal.
1. Hardware: Manufacturer's standard; quantity as required per screen.
2. Screen Mesh: Vinyl-coated fiberglass, window manufacturer's 18 x 16 mesh.
3. Frame Finish: Manufacturer's standard, color to match window frame and sash color.
4. Provide at all windows except on types W1 and W4.

D. Solar Screens:
1. Solar Screens: Alamo Discount Solar Screens: https://alamosolarscreen.com
    a. Aluminum, extruded or roll-formed frame with mitered and reinforced corners; apply screen mesh taut to frame; secure to window with hardware to allow easy removal.
    b. Hardware: Manufacturer's standard; quantity as required per screen.
    c. Screen Mesh: Textilene 80, Color: Black
    d. Frame Finish: Manufacturer's standard, color to match window frame and sash color.
    e. Provide at Window Type W1

2.04 HARDWARE

A. Vertical Sliding Sash: Metal and nylon spiral friction slide cylinder, provide two for each sash and jamb.

2.05 FABRICATION

A. Fabricate frames and sash with mitered and fusion welded corners and joints.

B. Trim and finish corners and welds to match adjacent surfaces.

C. Provide concealed metal reinforcements in sash frame for attachment of lock mechanism.

D. Factory interior glaze (except Double Hung and Double Slider) with snap-on mitered PVC glazing stops matching bevels on the sash and frame. Insulated glass units shall be reglazable without dismantling sash framing.
1. Note: Field glazing is required for large window units (over 40 sq. ft).

PART 3 EXECUTION

3.01 EXAMINATION

A. Examine openings in which windows will be installed.
   1. Verify that framing complies with AAMA 2400 (Mounting Flange Installation) & AAMA 2410 (Flush Fin Installation).
   2. Verify that fasteners in framed walls are fully driven and will not interfere with window installation.

B. Coordinate with responsible entity to correct unsatisfactory conditions.

C. Commencement of work by installer is acceptance of substrate conditions.

3.02 INSTALLATION

A. Install window unit assemblies in accordance with manufacturers instructions and applicable building codes.

B. Attach window frame and shims to perimeter opening to accommodate construction tolerances and other irregularities as necessary.

C. Align window plumb and level, free of warp or twist, and maintain dimensional tolerances and alignment with adjacent work.

3.03 ADJUSTING

A. Adjust hardware for smooth operation and secure weathertight closure.

3.04 CLEANING

A. Remove protective material from pre-finished surfaces.

B. Wash surfaces by method recommended and acceptable to window manufacturer; rinse and wipe surfaces clean.

C. Remove excess glazing sealant by moderate use of mineral spirits or other solvent acceptable to sealant manufacturer and appropriate for application indicated.

END OF SECTION

SECTION 08 7100

DOOR HARDWARE

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Hardware for Steel doors.

B. Hardware for Hollow Metal Doors.

C. Thresholds.

D. Weatherstripping, seals and door gaskets.

E. Gate locks.

1.02 RELATED REQUIREMENTS

A. Section 08-1113: Hollow Metal Doors and Frames

B. Section 08 1115: Steel Doors

C. Section 08 1116 - Aluminum Doors and Frames.

1.03 REFERENCE STANDARDS

A. ADA Standards - Americans with Disabilities Act (ADA) Standards for Accessible Design; 2010.

B. BHMA A156.1 - American National Standard for Butts and Hinges; 2013.

C. BHMA A156.2 - American National Standard for Bored and Preassembled Locks & Latches; 2011.

D. BHMA A156.3 - American National Standard for Exit Devices; 2014.

E. BHMA A156.4 - American National Standard for Door Controls - Closers; 2013.

F. BHMA A156.5 - American National Standard for Cylinders and Input Devices for Locks; 2014.

G. BHMA A156.6 - American National Standard for Architectural Door Trim; 2010.

H. BHMA A156.7 - American National Standard for Template Hinge Dimensions; 2014.

I. BHMA A156.8 - American National Standard for Door Controls - Overhead Stops and Holders; 2010.

J. BHMA A156.13 - American National Standard for Mortise Locks & Latches Series 1000; 2012.

K. BHMA A156.17 - American National Standard for Self Closing Hinges & Pivots; 2014.

L. BHMA A156.18 - American National Standard for Materials and Finishes; 2012.

M. BHMA A156.21 - American National Standard for Thresholds; 2014.

N. BHMA A156.22 - American National Standard for Door Gasketing and Edge Seal Systems, Builders Hardware Manufacturers Association; 2012.

O. BHMA A156.115 - American National Standard for Hardware Preparation in Steel Doors and Steel Frames; 2014.

P. BHMA A156.115W - Hardware Preparation in Wood Doors with Wood or Steel Frames; 2006.

Q. DHI (LOCS) - Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames; 2004.

R. ICC A117.1 - Accessible and Usable Buildings and Facilities; 2009.

S. NFPA 80 - Standard for Fire Doors and Other Opening Protectives; 2016.

T. NFPA 101 - Life Safety Code; 2015.

U. UL (DIR) - Online Certifications Directory; current listings at database.ul.com.

V. ICC: International Building Code (IBC 2018).

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Manufacturer's catalog literature for each type of hardware, marked to clearly show products to be furnished for this project.

C. Cut Sheets: Illustrate each type of hardware proposed for use.

D. Hardware Schedule: Detailed listing of each item of hardware to be installed on each door. Use door numbering scheme as included in the Contract Documents. Identify electrically operated items and include power requirements.

E. Keying Schedule: Submit for approval of Owner.

F. Manufacturer's Installation Instructions: Indicate special procedures, perimeter conditions requiring special attention.

G. Maintenance Data: Include data on operating hardware, lubrication requirements, and inspection procedures related to preventative maintenance.

H. Keys: Deliver with identifying tags to Owner by security shipment direct from hardware supplier.

I. Warranty: Submit manufacturer's warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.

J. Maintenance Materials and Tools: Furnish the following for Owner's use in maintenance of project.
   1. See Section 01 6000 - Product Requirements, for additional provisions.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years of documented experience.

B. Hardware Supplier Qualifications: Company specializing in supplying commercial door hardware with five years of experience adn approved by manufacturer.

C. Installer's Qualifications: Firm with 3 years experienced in installation of similar hardware to that required for this Project, including specific requirements indicated.

D. Perform work in accordance with the following requirements:
   1. NFPA 101.
   2. NFPA 80.
   3. NFPA 252.

E. Single Source Responsibility: Except where specified in hardware schedule, furnish products of only one manufacturer for each type of hardware.

1.06 SYSTEM DESCRIPTION / INTENT

A. It is intended that the hardware specified herein be complete for its intended use, and operate as a complete system to satisfy governing codes and requirements. Hardware shall be as scheduled on the Drawings. Where items of hardware not definitely or correctly specified are required for the completion of the work, a statement of such omission, error or other discrepancy should be directed to the Architect prior to the date specified for receipt of proposals, for clarification by addendum; or furnish and include cost of such items in the type and quantity established by this specification, and appropriate to the service intended by the Owner.

1.07 REGULATORY REQUIREMENTS

A. Conform to applicable code for requirements applicable to fire rated doors and frames.

B. Install and adjust hardware in conformance with the requirements of ADAAG and TAS.

1.08 DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, protect and handle products to site under provisions of Sectio 01 6000.

B. Package hardware items individually; label and identify each package with door opening code to match hardware schedule.

C. Coordinate the work under provisions of Sectio 01 1000.

D. Storage and Protection: Comply with manufacturer's recommendations.

E. Deliver keys to the Owner directly from hardware supplier.

1.09 COORDINATION

A. Coordinate the work under provisions of Sections 01 4000 and 01 3114.

B. Coordinate the work with other directly affected sections involving manufacture or fabrication of internal reinforcement for door hardware.

C. Coordinate Owner's keying requirements during the course of the Work.

1.10 WARRANTY

A. See Section 01 7800 - CONTRACT CLOSEOUT, for additional warranty requirements.

B. Provide five year warranty for door closers.

C. Provide 5 year warranty for door exit devices.

D. Provide 3 year warranty for door locksets and cylinders.

E. Provide 2 year warranty for all other door hardware.

F. Repair or replace without charge, including labor for removal an dreplacement, any of the listed items that fail to perform satisfactoru manner during the warranty period.

1.11 MAINTENANCE PRODUCTS

A. Provide special wrenches and tools applicable to each different or special hardware component.

B. Provide maintenance tools and accessories supplied by hardware component manufacturer.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Stanley Black & Decker Inc.www.stanleyhardwarefordoors.com/

B. Harney Hardware: https://www.harneyhardware.com/

C. Substitutions: See Section 01 6000 - Product Requirements.

2.02 GENERAL REQUIREMENTS

A. Provide door hardware specified, or as required to make doors fully functional, compliant with applicable codes, and secure to the extent indicated.

B. Provide items of a single type of the same model by the same manufacturer.

C. Provide products that comply with the following:
   1. Applicable provisions of federal, state, and local codes.
   2. Accessibility: ADA Standards and ICC A117.1.
   3. Applicable provisions of NFPA 101, Life Safety Code.
   4. Fire-Rated Doors: NFPA 80.
   5. Hardware on Fire-Rated Doors, Except Hinges: Listed and classified by UL (DIR) as suitable for the purpose specified and indicated.

2.03 LOCKS AND LATCHES

A. Locks: Provide a lock for every door, unless specifically indicated as not requiring locking.
   1. If no hardware set is indicated for a swinging door provide an office lockset.
   2. Trim: Provide lever handle or pull trim on outside of all locks unless specifically stated to have no outside trim.
   3. Lock Cylinders: Provide key access on outside of all locks unless specifically stated to have no locking or no outside trim.

B. Lock Cylinders: Manufacturer’s standard tumbler type, six-pin standard core.
   1. Provide cams and/or tailpieces as required for locking devices required.

C. Keying: Keyed in like-groups.
   1. Include construction keying.

2. Key to existing keying system.

D. Latches: Provide a latch for every door that is not required to lock, unless specifically indicated "push/pull" or "not required to latch".

2.04 MANUFACTURERS

A. The following manufacturers are approved subject to compliance with requirements of the Contract Documents. Approval of manufacturers other than those listed shall be in accordance with Division 1.

2.05 HINGES

A. Self Closing Hinges: Comply with BHMA A156.17.

B. Hinges: Provide hinges on every swinging door.
   1. Provide five-knuckle full mortise butt hinges unless otherwise indicated.
   2. Provide ball-bearing hinges at all doors having closers.
   3. Provide hinges in the quantities indicated.
   4. Provide non-removable pins on exterior outswinging doors.

C. Butt Hinges: Comply with BHMA A156.1 and BHMA A156.7; standard weight, unless otherwise indicated.
   1. Provide hinge width required to clear surrounding trim.

D. Quantity of Hinges Per Door:
   1. Doors From 60 inches High up to 90 inches High: Three hinges.
   2. Doors 90 inches High up to 120 inches High: Four hinges.

E. Manufacturers - Hinges:
   1. Stanley Black & Decker; __: www.stanleyblackanddecker.com.
   2. Substitutions: See Section 01 6000 - Product Requirements.

2.06 PUSH/PULLS

A. Push/Pulls: Comply with BHMA A156.6.
   1. Provide push and pull on doors not specified to have lockset, latchset, exit device, or auxiliary lock.
   2. On solid doors, provide matching push plate and pull plate on opposite faces.

2.07 CYLINDRICAL LOCKSETS

A. Cylindrical Locks: _____
   1. Stanley : www.stanleyblackanddecker.com.

B. Locking Functions: As defined in BHMA A156.2, and as follows.
   1. Hotel: F93.
   2. Exit Only: F89, may not be left unlocked.

C. Manufacturers - Cylindrical Locksets:
   1. Stanley Hardware. http://www.stanleyhardwarefordoors.com/products/commercial-hardware/cylindrical-locks/
   2. Substitutions: See Section 01 6000 - Product Requirements.

2.08 AUXILIARY LOCKS (DEADBOLTS)

A. Auxiliary Locks (Deadbolts) - Basis of Design: Quickset Single Cylinder Deadbolt with Smart Key.

B. Manufacturers - Auxiliary Locks (Deadbolts):
   1. Kwikset Series 780. https://www.kwikset.com/search?FilterCriteria.Query=780%20series
   2. Kwikset Series 660. https://www.kwikset.com/search?FilterCriteria.Query=series%20660
   3. Substitutions: See Section 01 6000 - Product Requirements.

2.09 EXIT DEVICES

A. Locking Functions: Functions as defined in BHMA A156.3, and as follows:
   1. Exit Only, Secure: No outside trim, no key entry, no latch holdback, deadlocking latchbolt.

B. Manufacturers - Exit Devices:
   1. PRECISION APEX.http://precisionhardware.com/products/apex-2000-series/
      a. Model 2108 w/o trim
   2. Substitutions: See Section 01 6000 - Product Requirements.

2.10 CLOSERS

A. Closers: Complying with BHMA A156.4.
   1. Provide surface-mounted, door-mounted closers unless otherwise indicated.
   2. Provide a door closer on every exterior door.
   3. Provide a door closer on every fire- and smoke-rated door. Spring hinges are not an acceptable self-closing device unless specifically so indicated.
   4. On pairs of swinging doors, if an overlapping astragal is present, provide coordinator to ensure the leaves close in proper order.

B. Manufacturers - Surface Mounted Closers:
   1. LCN, an Allegion brand; _____: www.allegion.com/us.
      a. LCN 4040XP S-CUSH
   2. Substitutions: See Section 01 6000 - Product Requirements.

2.11 GASKETING AND THRESHOLDS

A. Gasketing and Thresholds - Basis of Design: _____.

B. Gaskets: Complying with BHMA A156.22.
   1. On each door in smoke partition, provide smoke gaskets; top, sides, and meeting stile of pairs. If fire/smoke partitions are not indicated on drawings, provide smoke gaskets on each door identified as a "smoke door" and 20-minute rated fire doors.
   2. On each exterior door, provide weatherstripping gaskets, unless otherwise indicated; top, sides, and meeting stiles of pairs.
      a. Where exterior door is also required to have fire or smoke rating, provide gaskets functioning as both smoke and weather seals.
   3. On each exterior door, provide door bottom sweep, unless otherwise indicated.

C. Thresholds: Complying with BHMA A156.21.
   1. At each exterior door, provide a threshold unless otherwise indicated.
   2. Field cut threshold to frame for tight fit.

D. Smoke Seal:
   1. At each Residential Exterior Door, provide a smole seal unless otherwise indicated.

2.12 PROTECTION PLATES AND ARCHITECTURAL TRIM

A. Silencers: Trimco 1229A

B. Protection Plates and Architectural Trim - Basis of Design: Kwikset back Plate.

C. Protection Plates:
   1. Kickplate: Provide on push side of every door with closer, except aluminum storefront and glass entry doors.

2.13 KEY CONTROLS

A. Key Management System: For each keyed lock on project, provide one set of consecutively numbered duplicate key tags with hanging hole and snap catch.
   1. Security Key Tags: For each keyed lock on project, provide one set of matching key tags for permanent attachment to one key of each set.
   2. Provide key collection envelopes, receipt cards, and index cards in quantity suitable to number of keys to be managed.

B. Facility Manager's Key Cabinet: Sheet steel construction, piano hinged door with key lock.
   1. Mounting: Wall-mounted.
   2. Capacity: Actual quantity of keys, plus 25 percent additional capacity.
   3. Size key hooks to hold 6 keys each.
   4. Finish: Baked enamel, manufacturer's standard color.

5. Key cabinet lock to building keying system.
6. Manufacturers - Key Controls:
    a. TelKee.AWC-250-S, http://telkee.com/aristocrat.pdf
    b. Mount where directed by Architect.

2.14 KEYING AND LOCK CYLINDERS

A. Keying:
    1. Review keying system with Owner and provide type required (master, grandmaster or greatgrandmaster).
    2. Comply with Owner's instructions for masterkeying and, except as otherwise indicated, provide individuals change key for each lock that is not desginated to be keyed alike with group of related locks.

B. Cylinders:
    1. Equip locks with cylinders for interchangeable-core pin tumbler inserts. Provide temporary inserts for construction period, and remove these when dierected. Furnish and install final cores and keys as directed by Owner.
    2. Metals: Construct lock cylinders parts from brass and bronze, stainless steel, or nickel silver.
    3. Cylinders, removable and interchangeable core system: Best Standard 7-pin. **Confirm keying requirements with Owner before ordering of any locks or cylinders to comply with compatibility of existing system.**

C. Keys:
    1. Key Material: Provide keys of nickel silver only.

D. Key Quantities:
    1. Five (5) keys for each lock.
    2. Furnish one (1) extra blank for each lock.
    3. Furnish two (20) construction core and permanent core installation keys.

2.15 ACCESSORIES

A. Provide fasteners manufactured to conform to the ANSI standards noted.

B. Provide concealed fasteners wherever possible.

C. Exposed fasteners shall match finish of hardware being attached.

D. Secure closers, closer arms, holders, holder arms, and door stops with hex bolts and smooth head to interior.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify site conditions under provisions of Sectio 01 1000.

B. Verify that doors and frames are ready to receive work and dimensions are as indicated on shop drawings and as instructed by the manufacturer.

C. Verify that electric power is available to power operated devices and of the correct characteristics.

3.02 INSTALLATION

A. Install hardware in accordance with manufacturer's instructions and applicable codes.

B. Use templates provided by hardware item manufacturer.

C. Install closers on room side of corridor doors, stair side of stairways and interior side of exterior doors.

D. Cut and fit thresholds to the profile of door frames. Cut smooth openings for threshold bolts and similar items.

E. Install hardware on fire-rated doors and frames in accordance with code and NFPA 80.

F. Mounting heights for hardware from finished floor to center line of hardware item. As indicated in the following list; unless noted otherwise in Door Hardware Sets Schedule or on the drawings.
   1. Locksets: 40 inch to centerline of spindle.
   2. Push/Pulls: 42 inch.
   3. Dead Locks: 48 inch.
   4. Exit Devices: 42 inch.

G. Set exterior door thresholds with full-width bead of elastomeric sealant on each point of contact with floor providing a continuous weather seal; anchor thresholds with stainless steel countersunk screws.

3.03 ADJUSTING

A. Adjust work under provisions of Section 01 7000 - Execution and Closeout Requirements.

B. Adjust hardware for smooth operation.

C. Adjust hardware for operation in conformance with the requirements of ADAAG and TAS.

D. Adjust interior door closers to have a sweep period of 3 seconds min. from an open position of 70 degrees to an open position of approximately 3 inches from latch.

E. All exterior doors with closers to be adjusted to have an opening force of 8.5 lb.f. max. All interior doors with closers to be adjusted to have an opening forece of 5 lb.f. max.

3.04 CLEANING

A. Clean adjacent surfaces soiled by hardware installation. Clean finished hardware per manufacturer's instructions after final adjustments has been made. Replace items that cannot be cleaned to manufacturer's level of finish quality at no additional cost.

B. Verify that lockset latch bolts and deadbolts operate freely in their strikes.

3.05 PROTECTION

A. Protect finished Work under provisions of Section 01 7000 - Execution and Closeout Requirements.

B. Do not permit adjacent work to damage hardware or finish.

3.06 SCHEDULE

List of Manufacturers

Best	Keypad Lock	BE
Falcon	Locks, Latches Cylinders	FL
Harney Hardware	Mechanical Keyless Lever Set	HH
Kwikset	Deadbolts	KW
National Guard	Gaskets, Weatherstrip, Thresholds	NG
Precision	Exit Devices	PE
Stanley	Locks, Latches, Hinges, Closers	ST
Pemko	Ramp Thresholed	PE
Trimco	Stops, Push/Pulls, Flat Goods	TM

Finish Codes

Code	Description
619	Satin Nickel Plated
626	Brushed Chromium Plated
626/652	Satin Chromium Plated
630	Satin Stainless Steel
257A	Annodized Aluminum
Grey	Grey

A. Hardware Set #1 (Typical Unit Door Entry)

description	model number	finish	mfg
3 Spring Hinges	2060R 4 1/2 x 4 1/2	652	ST
Lockset	QCL 250 M BF	626	ST

Deadbolt	Series 780	619	KW
Deadbolt	Series 660	619	KW
Security Deadbolt	8T2-KL	626	BE
Door Stop	1240 or 42F as required	Satin Nickel Plated	
Door Viewer	975U-CAP	Bright Chromium Plated	
Extruded Alum Ramp	257x259(Field Verify Ea.)	257A	PE
Smoke Seal	S88	Gray	Pemko

Where required by code, interconnect Entry Lock QG1250 and Security Deadbolt 8T1-KL

B. Hardware Set #2 (Typical Screen Door)

Furnish one Screen door outside of each entry door
Hardware supplied by door manufacturer

C. Hardware Set #3 (Typical Gate Entry)

description	model number	finish	mfg
Mechanical Keyless Lock	MPBL-15	619	HH
Exit Device W/ Strike	2108 CD x Less Trim	626W	PR
Hinges (4 each)	2060R 4" x 4"	652	ST

Hardware will require a flat plate protected surface with a channel for mounting of exit device, Remaing portions of gate are to be secured with 3/4" #16 flattened expanded metal, 80%
Coordinate fabrication with Gate Supplier, Hardware Supplier, and Gate Fabricator

D. Hardware Set #4 - Entry (Community Center Rear Entry Door)

Doors: Aluminum Entrances

description	model number	finish	mfg
Continuous Hinge	661HD EPT	628	ST
Power Transfer	EPT-12C	620	
Exit Device	MRL 2601	630	PR
Rim Cylinder	12E-72 PATD	626	BE
Mortise Cylinders	1E-74 PATD	626	BE
Door Pulls	1191-4 Tyoe N Mounting	630	TR
Door Stops	1214H	626	TR
Door Sweep	200 NA SMS-TEKSNA		
Saddle Threshold	426 MS/EANA		
Door Position Switch	MC4DM		
Power Supply	RPSMLR2PR		
Automatic Operator by Others			DM
Actuator by Othjers			DM

Perimeter and Meeting Stile Gaskets by Door Manufacturer
Verify Threshold Application
System Operation:
- Entrance/Egress by OPush Activator
- System allows foor free manual egress upon loss of power
- Exterior remains secure upon loss of power

E. Hardware Set #5 (Community Center Door)

Door: Hollow Metal Doors and Frames

description	model number	finish	mfg
Hinges (3 ea)	CB 199 4-1/2 x 4 - 1/2 NRP	652	ST
Lockset	QCL 270 M BF	626	ST
Exit Device W/ Strike	2108 CD	626W	PR
Lock Guard	5002	630	TR
Closer/Stop	4040 xp SCHSH	689	LC
Kick Plate	K0050 10" x 2" LWD B4e CS	630	TR
Drip CAP	16A FHW SMS-TEKS		

Weaterhstrip	160 SA SMS-TEKS
Door Sweep	200 NA SMS-TEKS
Saddle Threshold	426 MS/EA

3.07 MAINTENANCE

A. Prepare a written report of current and predictable problems (of substantial nature) in the perfiormance of the hardware and submit to the Architect.

B. Approximatly six months after the acceptance of hardware in each area, the hardware installer shall:
   1. Return to the Project and re-adjust every item of hardware to restore proper function of doors and hardware.
   2. Consult with and instruct Owners personnel.
   3. Recommend additions to the maintenance proceedures.
   4. Replace hardware items which have deteriorated or failsd due to faulty design, materials, or installation of hardware units.

END OF SECTION

SECTION 08 9100

LOUVERS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Louvers, frames, and accessories.

B. Blank-off panels for louvers.

1.02 RELATED REQUIREMENTS

A. Section 07 6200 - Sheet Metal Flashing and Trim.

1.03 REFERENCE STANDARDS

A. AMCA 500-L - Laboratory Methods of Testing Louvers for Rating; 2012.

B. AMCA 511 - Certified Ratings Program for Air Control Devices; 2010.

C. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes; 2014.

D. ASTM B221M - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes [Metric]; 2013.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide data describing design characteristics, maximum recommended air velocity, design free area, materials and finishes.

C. Shop Drawings: Indicate louver layout plan and elevations, opening and clearance dimensions, tolerances; head, jamb and sill details; blade configuration, screens, blankout areas required, and frames.

D. Test Reports: Independent agency reports showing compliance with specified performance criteria.

E. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.

1.05 DEFINITIONS

A. Louver Terminology: Definitions of terms for metal louvers contained in AMCA 501 apply to this Section, unless otherwise degined in this Section or in referenced standards.

B. Standard Free Area: Free area of a louver 48 inches wide by 48 inches high, identical to that provided.

C. Maximum Standard Airflow: Airflow at point of beginning water penetration through a louver 48 inches wide by 48 inches high, identical to that provided.

D. Drainable-Blade Louver: Louver designed to collect and drain water to exterior at sill by means of gutters in front edges of blades and channels in jambs and mullions.

1.06 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products of the type specified in this section, with minimum three years of documented experience.

B. Source Limitations: Obtain louvers and vents through one source from a single manufacturer where alike in one or more respects regarding type, design, or factory-applied color finish.

C. Field Measurements: Verify louver openings by field measurements before fabrication and indicate measuremetns on Shop Drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

1. Established Dimensions: Where field measurements cannot be made without delaying the Work, establish opening dimensions and proceed with fabriating loubers without filed measurements. Coodrinate constructin to ensure that actual pening dimensions correspond to established dimensions.

1.07 WARRANTY

A. See Section 01 7800 - CONTRACT CLOSEOUT, for additional warranty requirements.

B. Provide five year manufacturer's warranty against distortion, metal degradation, and connection failures of louver components.
   1. Finish: Include twenty year coverage against degradation of exterior finish.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Louvers:
   1. Ruskin Company; Stationary Louvers, Model ELF211: www.ruskin.com/#sle.
   2. Substitutions: See Section 01 6000 - Product Requirements.

2.02 LOUVERS

2.03 MATERIALS

A. Extruded Aluminum: ASTM B221 (ASTM B221M), ____ alloy, ____ temper.

2.04 ACCESSORIES

A. Blank-Off Panels: Same material as louver, painted black on exterior side; provide where duct connected to louver is smaller than louver frame, sealing off louver area outside duct.
   1. Attach panels to back of louver frames with stainless-steel sheet-metal screws.
   2. Seal perimeter joints between panel faces and louver frames with 1/8-by-1 imch PVC compression gaskets.

B. Fasteners and Anchors: Stainless steel.
   1. Do not use metals that are imcompatible with joined materials.
   2. Use types and sizes to suit unit installation conditions.
   3. Use Phillips flat-head screws for exposed fasteners, unless otherwise indicated.
   4. Of type, size, and material required for loading and installation indicated.
   5. Use toothed steel or expoansion bolt devices for drilled-in-place anchors.

C. Flashings: Of same material as louver frame, formed to required shape, single length in one piece per location.

D. Sealant for Setting Sills and Sill Flashing: Non-curing butyl type.

E. Bituminous Paint: Cold-applied asphalt mastic complying with SSPC-Paint 12 but containing no asbestos fibers, or cold-applied asphalt emulsion complying with ASTM D 1187.

2.05 FABRICATION, GENERAL

A. Assemble louvers in factory to minimize field splicing and assembly. Disassemble units as necessary for shipping and handling limitations. Clearly mark units for reassembly and coordinated installation.

B. Maintain equal louver blade spacing, including separation between blades and frames at head and sill, to produce uniform appearance.

C. Fabricate frames, including integral sills, to fit in openings of sizes indicated, with allowances made for fabrication and installation tolerances, adjoining materials' tolerances, and perimeter sealant joints.
   1. Frame Type: Channel type, unless otherwise indicated.

D. Include supports, anchorages, and accessories required for complete assembly.

E. Join frame members to one another and to fixed louver blades with fillet welds, threaded fasteners, or both, as standard with louver manufacturer, concealed from view; unless otherwsie indicated or size of louver assembly makes bolted connections between frame members necessary.

2.06 FINISHES, GENERAL

A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

B. Finish louvers components before assembly.

2.07 ALUMINUM FINISHES

A. Finish designations prefixed by AA comply with system established by the Alunimun Association for designating aluminum finishes.

B. High-Performance Organic Coating Finish: AA-C12C42R1x (Chemical Finish: cleaned with inhibited chemicals; Chemical Finish: acid-chromate-fluoride-phosphate conversion coating; Organic Coating: as specified below). Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.

1. Fluoropolymer Two-Coat Coating System: Manufacturer's standard two-coat, thermocured system consisting of specially formulated inhibitive primer and fluoropolymer color topcoat containg not less than 70 percent polyvinylidene fluoride resin by weight; complying with AAMA 605.2,
    a. Color and Goss: As selected by Architect from manufacturer's full range of colors and glosses.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that prepared openings and flashings are ready to receive this work and opening dimensions are as indicated on shop drawings.

B. Verify that field measurements are as indicated.

C. Coordinate Setting Drawings, diagrams, templates, instructions, and directions for installation of anchorages that are to be embedded inconcrete or masonry constrauction. Coordinate delivery fo such items to Project site.

3.02 INSTALLATION

A. Install louver assembly in accordance with manufacturer's instructions.

B. Install louvers level and plumb.

C. Install flashings and align louver assembly to ensure moisture shed from flashings and diversion of moisture to exterior.

D. Secure louver frames in openings with concealed fasteners.

E. Form closely fitted joints with exposed connections accurately located and secured.

F. Provide perimeter reveals and openings of uniform width for sealants and joint fillers, as indicated.

G. Repair finishes damaged by cutting, welding, soldering, and grinding. Restore finishes so no evidence remains of corrective work. Return items that cannot be refinished in the field to the factory, make required alterations, and refinish entire unit or provide new units.

H. Protect aluminum surfaces from corrosion or galvanic action by applying a heavy coating of bituminous paint on surfaces that will be in contact with concrete, masonry, or dissimilar metals.

3.03 CLEANING

A. Strip protective finish coverings.

B. Clean surfaces and components.

C. Periodically clean exposed surfaces of louvers and vents that are not protected by temporary covering to remove fingerprints and soil during construction period. Do not let soil accumulate until final cleaning.

D. Before final inspection, clean exposed surfaces with water and a mild soap or detergent not harmful to finishes. Thoroughly rinse surfaces and dry.

3.04 PROTECTING

A. Protect louvers and vents from damage during construction. Use temporary protective coverings where needed and approved by louver manufacturer. Remove protective covering at the time of Substantial Completion.

B. Restore louvers and vents damaged during installtion and construction so no evidence remains of corrective work. If results of restoration are unsuccessful, as determined by Architect, remove damaged units and replace with new units.

END OF SECTION

SECTION 09 2116

GYPSUM BOARD ASSEMBLIES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Performance criteria for gypsum board assemblies.

B. Gypsum sheathing.

C. Gypsum wallboard.

D. Joint treatment and accessories.

1.02 RELATED REQUIREMENTS

A. Section 06 1054 - Wood Blocking and Curbing: Wood blocking for support of wall-mounted equipment.

B. Section 07212 - Board and Batt Insulation

C. Section 07900 - Joint Sealers

D. Section 09 2216 - Non-Structural Metal Framing.

E. Section 08305 - Access Doors: Metal access panels.

F. Section 09955 - Vinyl Coated Fabric Wall Covering

1.03 REFERENCE STANDARDS

A. ASTM C 36/C 36M - Standard Specification for Gypsum Wallboard; 2001.

B. ASTM C475/C475M - Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board; 2015.

C. ASTM C645 - Standard Specification for Nonstructural Steel Framing Members; 2014.

D. ASTM C 646 - Steel Drill Screws for the Application of Gypsum Sheet material to Light Gauge Steel Studs.

E. ASTM C754 - Standard Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products; 2015.

F. ASTM C840 - Standard Specification for Application and Finishing of Gypsum Board; 2013.

G. ASTM C1002 - Standard Specification for Steel Self-Piercing Tapping Screws for Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs; 2014.

H. ASTM C1280 - Standard Specification for Application of Gypsum Sheathing Board; 2013.

I. ASTM C1396/C1396M - Standard Specification for Gypsum Board; 2014.

J. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2015a.

K. ASTM E90 - Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements; 2009.

L. ANSI/ASTM E119 - Fire Tests of Building Construction and Materials.

M. ASTM E413 - Classification for Rating Sound Insulation; 2010.

N. GA-201 - Gypsum Board for Walls and Ceilings.

O. GA-214 - Recommended Levels of Gypsum Board Finish; Gypsum Association; 2007.

P. GA-216 - Application and Finishing of Gypsum Board; 2013.

Q. GA-600 - Fire Resistance Design Manual; 2015.

R. UL (FRD) - Fire Resistance Directory; current edition.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide data on gypsum sheathing, gypsum sheathing, and .

1.05 QUALITY ASSURANCE

A. Perform in accordance with ASTM C 840. Comply with requirements of GA-600 for fire-rated assemblies.

B. Applicator Qualifications: Company specializing in performing gypsum board application and finishing [] and approved by manufacturer.

PART 2 PRODUCTS

2.01 GYPSUM BOARD ASSEMBLIES

A. Provide completed assemblies complying with ASTM C840 and GA-216.

B. Interior Partitions, Drywall Replacement: Provide completed assemblies with the following characteristics:
   1. Acoustic Attenuation: STC of 45-49 calculated in accordance with ASTM E413, based on tests conducted in accordance with ASTM E90.

2.02 BOARD MATERIALS

A. Manufacturers - Gypsum-Based Board:
   1. Georgia-Pacific Gypsum; Toughrock 45: www.gpgypsum.com/#sle.
   2. National Gypsum Company; Gold Bond: www.nationalgypsum.com/#sle.
   3. USG Corporation; Brand AR X: www.usg.com/#sle.
   4. Substitutions: See Section 01 6000 - Product Requirements.

B. Gypsum Wallboard: Paper-faced gypsum panels as defined in ASTM C1396/C1396M; sizes to minimize joints in place; ends square cut.
   1. Application: Use for vertical surfaces and ceilings, unless otherwise indicated.
   2. Thickness:
      a. Vertical Surfaces: 5/8 inch.

C. Gypsum Wallboard: ASTM C 1396/C 1396M. Sizes to minimize joints in place; ends square cut.
   1. Regular Type:
      a. Application: Use for vertical surfaces and ceilings, unless otherwise indicated.
   2. Thickness: 5/8 inch.
   3. Edges: Tapered and featured.
   4. Product: Georgia-Pacific "DensArmor Plus High-Performance Interior Panel".

D. Fire Resistant Type: Complying with Type X requirements; UL or WH rated.
   1. At Assemblies Indicated with Fire-Rating: Use type required by indicated tested assembly; if no tested assembly is indicated, use Type X.
   2. Application: Where required for fire-rated assemblies, unless otherwise indicated.
   3. Thickness: 5/8 inch.
   4. Must meet ASTM D3273 for mold growth.
   5. Product: Georgia-Pacific "DensArmor Plus Fireguard High-Performance Interior Panel".

E. Flexible Gypsum Board: ASTM C 1396/C 1396M. Manufactured to bend to fit radii and to be more flexible than standard regular-type gypsum board of same thickness.
   1. Thickness: 1/4 inch.
   2. Long Edges: Tapered.
   3. Product: Georgia-Pacific "ToughRock FlexRoc Gypsum Board".

2.03 GYPSUM WALLBOARD ACCESSORIES

A. Acoustical Joint Sealant: ASTM C 834. Product effectively reduces airborne sound transmission through perimeter joints and openings as demonstrated by testing according to ASTM E 90.
   1. Products: Subject to compliance with requirements, provide one of the following:
      a. Accumetric LLC; BOSS 824 Acoustical Sound Sealant
      b. USG Corporation; SHEETROCK Acoustical Sealant.

c. Specified Technologies, Inc.; Smoke N Sound Acoustical Sealant

B. Air & Water Barrier: See Section 07 2500 AIR AND WATER BARRIER.

C. Corner Beads: Galvanized steel.

D. Edge Trim: GA 201 and GA216; Type L bead.

E. Joint Materials: ASTM C475/C475M and as recommended by gypsum board manufacturer for project conditions.
   1. Interior Gypsum Board: Paper.
   2. Exterior Glass-Mat Soffit Board: Sealant.
   3. Glass-Mat Gypsum Sheathing Board: Sealant
   4. Tile Backing Panels: As recommended by panel manufacturer.
   5. Ready-mixed vinyl-based joint compound.

F. Screws: ASTM C 1002; self-piercing tapping type; cadmium-plated for exterior locations.

G. Laminating Adhesive: Adhesive or joint compound recommended for directly adhering gypsum panels to continuous substrate.
   1. Laminating adhesive shall have a VOC content of 50 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
   2. Laminating adhesive shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."

H. Sheet Metal Reinforcing: ASTM A446, galvanized to G60; 22 ga.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that project conditions are appropriate for work of this section to commence.

B. Beginning of installation means acceptance of existing surfaces.

3.02 FRAMING INSTALLATION

A. Studs: Space studs at 16 inches on center.
   1. Extend partition framing to structure where indicated and to ceiling in other locations.
   2. Partitions Terminating at Ceiling: Attach ceiling runner securely to ceiling track in accordance with manufacturer's instructions.
   3. Partitions Terminating at Structure: Attach extended leg top runner to structure, maintain clearance between top of studs and structure, and brace both flanges of studs with continuous bridging.

B. Openings: Reinforce openings as required for weight of doors or operable panels, using not less than double studs at jambs. Install stud runners on each side of opening, at frame head heights, and between studs and adjacent studs.

C. Furring for Fire Ratings: Install as required for fire resistance ratings indicated and to GA-600 requirements.

D. Blocking: Install blocking for support of wall cabinets, hardware, and other items as shown. Comply with Section 06 1054 for wood blocking.

E. Coordinate installation of bucks, anchors, blocking, electrical and mechanical work placed in or behind partition framing.

3.03 BOARD INSTALLATION

A. Comply with ASTM C840, GA-216, and manufacturer's instructions. Install to minimize butt end joints, especially in highly visible locations.

B. Single-Layer Non-Rated: Install gypsum board in most economical direction, with ends and edges occurring over firm bearing.

C. Single-Layer Fire-Rated: Install gypsum board vertically, with edges and ends occurring over firm bearing.

D. Exterior Sheathing: Comply with ASTM C1280. Install sheathing vertically, with edges butted tight and ends occurring over firm bearing.
   1. Paper-Faced Sheathing: Immediately after installation, protect from weather by application of water-resistive barrier.
   2. Center end joints of sheathing on center of board below (running bond patter).

E. Installation on Wood Framing: For rated assemblies, comply with requirements of listing authority. For non-rated assemblies, install as follows:
   1. Single-Layer Applications: Screw attachment.
   2. Double-Layer Application: Install base layer using screws or nails. Install face layer using adhesive.

F. Moisture Protection: Treat cut edges and holes in moisture resistant gypsum board with sealant.

3.04 INSTALLATION OF TRIM AND ACCESSORIES

A. Control Joints: Place control joints consistent with lines of building spaces and as follows:
   1. Not more than 30 feet apart on walls and ceilings over 50 feet long.

B. Corner Beads: Install at external corners, using longest practical lengths.

C. Edge Trim: Install at locations where gypsum board abuts dissimilar materials.

3.05 JOINT TREATMENT

A. Finish gypsum board in accordance with levels defined in ASTM C840, as follows:
   1. Level 5: Walls and ceilings to receive semi-gloss or gloss paint finish and other areas specifically indicated.
   2. Level 4: Walls and ceilings to receive paint finish or wall coverings, unless otherwise indicated.
   3. Level 3: Walls to receive textured wall finish.
   4. Level 2: In utility areas, behind cabinetry, and on backing board to receive tile finish.
   5. Level 1: Fire rated wall areas above finished ceilings, whether or not accessible in the completed construction.

B. Finish gypsum board in scheduled areas in accordance with levels defined in ASTM C 840 and as scheduled below.
   1. Above Finished Ceilings Concealed From View: Level 1.
   2. Utility Areas and Areas Behind Cabinetry: Level 2.
   3. Walls and Ceilings to Receive Flat or Eggshell Paint Finish: Level 4.

C. Tape, fill, and sand exposed joints, edges, and corners to produce smooth surface ready to receive finishes.
   1. Finish in accordance with GA-214, Level 4.

D. Feather coats of joint compound so that camber is maximum 1/32 inch.

E. Taping, filling, and sanding is not required at surfaces behind adhesive applied ceramic tile.
   1. Taping, filling and sanding is not required at base layer of double layer applications.

F. Where Level 5 finish is indicated, spray apply high build drywall surfacer over entire surface after joints have been properly treated; achieve a flat and tool mark-free finish.

G. Spray apply high build drywall surfacer over entire surface after joints have been properly treated to achieve Level 5 finish in areas indicated.

H. Fill and finish joints and corners of cementitious backing board as recommended by manufacturer.

3.06 TEXTURE FINISH

A. Apply finish texture coating by means of spraying apparatus in accordance with manufacturer's instructions and to match approved sample.

3.07 TOLERANCES

A. Maximum Variation of Finished Gypsum Board Surface from True Flatness: 1/8 inch in 10 feet in any direction.

3.08 FINISH LEVEL SCHEDULE

A. Level 1: Above finished ceilings concealed from view.

B. Level 2: Utility areas and areas behind cabinetry.

C. Level 3: Walls scheduled to receive textured wall finish.

D. Level 4: Walls and ceilings scheduled to receive flat or eggshell paint finish.

E. Level 5: Walls and ceilings scheduled to receive semi-gloss or gloss paint finish.

END OF SECTION

SECTION 09 2236.23

METAL LATH

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Metal accessories.

B. Metal ceiling framing.

1.02 RELATED REQUIREMENTS

A. Section 08 3100 - Access Doors and Panels: Product requirements for metal access panels integral with metal lath.

B. Section 09 2400 - Cement Plastering.

C. Section 09260 - Gypsum Board Systems: Framing and substrate.

1.03 REFERENCE STANDARDS

A. ASTM C841 - Standard Specification for Installation of Interior Lathing and Furring; 2003 (Reapproved 2013).

B. ASTM C847 - Standard Specification for Metal Lath; 2014a.

C. ASTM C954 - Standard Specification for Steel Drill Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Steel Studs From 0.033 in. (0.84 mm) to 0.112 in. (2.84 mm) in Thickness; 2015.

D. ASTM C1002 - Standard Specification for Steel Self-Piercing Tapping Screws for Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs; 2014.

E. ASTM C1063 - Standard Specification for Installation of Lathing and Furring to Receive Interior and Exterior Portland Cement-Based Plaster; 2015a.

1.04 QUALITY ASSURANCE

A. Installer Qualifications: Company specializing in performing the work of this section with at least three years of documented experience.

B. Coordinate the installation of blocking, electrical and mechanical work which is to be placed in or behind framing, furring, and lathing. Allow such items to be installed during framing and/or after framing is complete.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Metal Lath and Accessories:
   1. Dietrich Industries, Inc.
   2. National Gypsum Co.
   3. United States Gypsum Co.
   4. Substitutions: See Section 01 6000 - Product Requirements.

2.02 LATH

A. All lath material and accessories to be hot-dipped galvanized steel.

B. Diamond Mesh Metal Lath: ASTM C847, galvanized; self-furring.
   1. Weight: 3.4 lb/sq yd.

C. Corner Mesh: Formed sheet steel, minimum 0.018 inch thick, expanded flanges shaped to permit complete embedding in plaster, minimum 2 inch size; same finish as lath.

D. Strip Mesh: Expanded metal lath, same weight as lath, 2 inch wide by 24 inch long; same finish as lath.

E. Beads, Screeds, Joint Accessories, and Other Trim: Depth governed by plaster thickness, and maximum possible lengths.
   1. Material: Formed sheet steel with rust inhibitive primer, expanded metal flanges.

2. Soffit vents: Equal to Fry Reglet No. 1680-V
3. Minimum 26 gauge thick.
4. Minimum 25 gauge thick.
5. One-Piece Type: Folded pair of nonperforated screeds in M-shaped configuration, with expanded or perforated flanges.
6. Provide removable protective tape on plaster face of control joints.

2.03 ACCESSORIES

A. All plaster accessories shall be hot-dipped galvanized steel.

B. Anchorage: Tie wire, nails, and other metal supports, of type and size to suit application; to rigidly secure materials in place, galvanized.

C. Fasteners: Self-piercing tapping screws; ASTM C1002 or ASTM C954.

D. Tie Wire: Annealed galvanized steel.

E. Control Joints:Galvanized steel, commercially produced.

F. Reglets and Soffit Vents: 0.050 inch thick extruded aluminum sections; prime finish for feld painting; manufactured by Gordon Inc., Fry Reglet Corporation or equivalent. Styles as noted on drawings.

G. Foundation Sill (Weep) Screed: Manufacturer's standard profile designed for use at sill plate line and watertable line to form plaster stop and prevent plaster from contacting damp earth and masonry fabricated from zinc-coated (glavanized) steel sheet.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify existing conditions before starting work.

B. Verify that substrates are ready to receive work and conditions are suitable for application.

C. Do not begin until unacceptable conditions have been corrected.

D. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

E. Beginning of installation means acceptance of substrate.

3.02 UNDERLAYMENT

A. Apply one layer of underlayment over rigid insulation substrate. Install shingle fashion lapping not less than 2 inches. Lap ends 6 inches.

B. Staple underlayment in place.

3.03 INSTALLATION - GENERAL

A. Install interior lath and furring for gypsum plaster in accordance with ASTM C841.

B. Install supplementary framing, blocking, and bracing at terminations in work and for support of fixtures and similar work to comply with details indicated or, if not otherwise indicated, to comply with applicable written instructions of lath and furring manufacturer.

C. Install additional framing, furring, runners, lath, and beads, as required to form openings and frames for other work as indicated. Coordinate support sytem for proper support of framed work that is not indicated to be supported independently of metal furring and lathing sytems.

D. Lath will be fastened with steel screw to the steel studs or backup masonry wall.

3.04 CEILING AND SOFFIT FRAMING INSTALLATION

A. Install furring after work above ceiling or soffit is complete. Coordinate the location of hangers with other work.

B. Install furring independent of walls, columns, and above-ceiling work.

C. Securely anchor hangers to structural members or embed in structural slab. Space hangers as required to limit deflection to criteria indicated. Use rigid hangers at exterior soffits.

D. Space main carrying channels at maximum 72 inch on center, and not more than 6 inches from wall surfaces. Lap splice securely.

E. Securely fix carrying channels to hangers to prevent turning or twisting and to transmit full load to hangers.

F. Install furring channels perpendicular to carrying channels, not more than 2 inches from perimeter walls, and rigidly secure. Lap splices securely.

G. Reinforce openings in suspension system that interrupt main carrying channels or furring channels with lateral channel bracing. Extend bracing minimum 24 inches past each opening.

H. Laterally brace suspension system.

3.05 CONTROL AND EXPANSION JOINT INSTALLATION

3.06 ACCESS PANELS INSTALLATION

A. Install access panels and rigidly secure in place.

B. Install frames plumb and level in opening. Secure rigidly in place.

C. Position to provide convenient access to concealed work requiring access.

3.07 LATH INSTALLATION

A. Install metal lath on sheathed wall surfaces over one layer of asphalt-saturated felt. Install felt shingle fashion. Lap edges not less than 2 inches and ends not less than 6 inches. Staple felt in place.

B. Apply lath taut, with long dimension perpendicular to supports.

C. Lap ends minimum 1 inch. Secure end laps with tie wire where they occur between supports.

D. Lap sides of diamond mesh lath minimum 1-1/2 inches.

E. Attach metal lath to metal supports using screws at maximum 6 inches on center.

F. Continuously reinforce internal angles with corner mesh, except where the metal lath returns 3 inches from corner to form the angle reinforcement; fasten at perimeter edges only.

G. Place corner bead at external wall corners; fasten at outer edges of lath only.

H. Place base screeds at termination of plaster areas; secure rigidly in place.

I. Place 4 inch wide strips of lath centered over junctions of dissimilar backing materials, and secure rigidly in place.

J. Place lath vertically above each top corner and each side of glazed frames to 6 inches above ceiling line.

K. Place casing beads at terminations of plaster finish. Butt and align ends. Secure rigidly in place.
   1. Use longest pieces possible consistent with manufactured lengths. Position to establish sealand joint as dimensioned at perimeter of installation.

L. Place additional strip mesh diagonally at corners of lathed openings. Secure rigidly in place.

M. Establish control and expansion joints with specified joint device. Locate where indicated, to divide surfaces into panels not exceeding 100 square feet and at a maximum spacing of 20 feet on center.

3.08 TOLERANCES

A. Maximum Variation from True Lines and Levels: 1/8 inch in 10 feet.

B. Maximum Variation from True Position: 1/8 inch.

END OF SECTION

SECTION 09 2400
CEMENT PLASTERING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Cement plastering.

1.02 RELATED REQUIREMENTS

A. Section 06 1000 - Rough Carpentry: Wood stud framing for plaster.

B. Section 09 2236.23 - Metal Lath: Lath, furring, beads, screeds, and joint accessories for plaster base.

C. Section 09 9113 - Exterior Painting.

1.03 REFERENCE STANDARDS

A. ASTM C150/C150M - Standard Specification for Portland Cement; 2015.

B. ASTM C206 - Standard Specification for Finishing Hydrated Lime; 2014.

C. ASTM C897 - Standard Specification for Aggregate for Job-Mixed Portland Cement-Based Plasters; 2015.

D. ASTM C926 - Standard Specification for Application of Portland Cement-Based Plaster; 2015b.

E. ASTM C932 - Standard Specification for Surface-Applied Bonding Compounds for Exterior Plastering; 2006 (Reapproved 2013).

F. ICC (IBC) - International Building Code; 2015.

G. ICC (IRC) - International Residential Code for One- and Two-Family Dwellings; 2012.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittals procedures.

B. Product Data: Provide data on plaster materials and trim accessories.

C. Installer's Qualification Statement.

1.05 QUALITY ASSURANCE

A. Installer Qualifications: Company specializing in performing the work of this section with minimum three years documented experience.

1.06 FIELD CONDITIONS

A. Exterior Plaster Work: Do not apply plaster when substrate or ambient air temperature is 40 degrees F or lower, or when temperature is expected to drop below 40 degrees F within 48 hours of application.

PART 2 PRODUCTS

2.01 CEMENT PLASTER APPLICATIONS

A. Lath Plaster Base: Metal lath.
   1. Plaster Type: Jobsite mixed plaster.
   2. Number of Coats: Three.
   3. First Coat: Apply to a nominal thickness of 3/8 inch.
   4. Second Coat: Apply to a nominal thickness of 3/8 inch.
   5. Finish Coat: Apply to a nominal thickness of 1/8 inch.

2.02 JOBSITE MIXED CEMENT PLASTER

A. Materials:
   1. Portland Cement: ASTM C150/C150M, Type I.
      a. Finish Coat: Gray color.
   2. Masonry Cement: ASTM C91/C91M, Type N.
   3. Lime: ASTM C206, Type S.

4. Sand: Clean, well graded, and complying with ASTM C897.
5. Water: Clean, fresh, potable, and free of mineral or organic matter that could adversely affect plaster.

2.03 ACCESSORIES

A. Lath: As specified in Section 09 2236.23.

B. Manufacturer:
   1. ClarkDietrich: 4200 Cedar Blvd., Baytown, TX 77520. Tel: (281) 383-1617; www.clarkdietrich.com.

C. Lath: Paper-Backed Diamond Mesh Metal Lath: ASTM C847, galvanized; self-furring.
   1. Weight: 3.4 lb/sq yd
   2. Galvanized: Structural quality, zinc-coated steel sheet complying with ASTM A 653, G60 minimum coating designation, unless otherwise indicated.
   3. The asphalt paper-backed weather resistant barrier meets Federal Specification UUB790A; Type 1, Grade D, Style 2, ASTM D226 #15 Style, printed on the face of the paper for easy identification.

D. Beads, Screeds, and Joint Accessories, and other trims: Depth governed by plaster thickness, and maximum possible lengths.
   1. Material: Formed sheet steel with rust inhibitive primer, expanded metal flanges.
   2. Minimum 26 gauge thick.

E. Control Joints: Formed sheet steel, accordion profile, 2 inch expanded metal flanges each side, galvanized.

F. Foundation Sill (Weep) Screed: Manufacturer's standard profile designed for use at sill plate line to form plaster stop and prevent plaster from contacting damp earth, fabricated from zinc-coated (galvanized) steel sheet.

G. Bonding Compound: Provide type recommended for bonding plaster to solid surfaces, complying with ASTM C932.

H. Drainage Mat: Two-ply polypropylene mortar deflection and ventilation system, 1/4 inch thickness.
   1. Advance Building Products Mortairvent.
   2. Benjamin Obdyke Home Slicker.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify existing conditions are acceptable prior to starting this work.

B. Verify lath is flat, secured to substrate, and joint and surface perimeter accessories are properly in place.

3.02 PREPARATION

A. Roughen smooth concrete surfaces and apply bonding compound in accordance with manufacturer's written installation instructions.

B. Apply dash bond coat of plaster to solid bases and moist cure for at least 24 hours before applying first coat of jobsite mixed plaster.

3.03 MIXING

A. Mix only as much plaster as can be used prior to initial set.

B. Mix materials dry, to uniform color and consistency, before adding water.

C. Protect mixtures from frost or freezing temperatures, contamination, and excessive evaporation.

3.04 APPLICATION

A. Apply plaster in accordance with manufacturer's written instructions and comply with ASTM C926.

B. Base Coats:

1. Apply base coat(s) to fully embed lath and to specified thickness.
2. Follow guidelines in ASTM C926 and manufacturer's written installation instructions for moist curing base coats and application of subsequent coats.

C. Leveling Coat:
1. Apply leveling coat to specified thickness.
2. Fully embed reinforcing mesh in leveling coat.

D. Finish Coats:
1. Cement Plaster:
a. Apply with sufficient material and pressure to ensure complete coverage of base to specified thickness.
b. Apply desired surface texture while mix is still workable.
c. Float to a consistent finish.
2. Primer and Elastomeric Coatings:
a. Remove surface contaminants such as dust and dirt without damaging substrate.
b. Apply primer in accordance with manufacturer's instructions.
c. Apply finish coating in number of coats and to thickness recommended by manufacturer.

3.05 TOLERANCES

A. Maximum Variation from True Flatness: 1/4 inch in 10 feet.

3.06 REPAIR

A. Patching: Remove loose, damaged or defective plaster and replace with plaster of same composition; finish to match surrounding area.

END OF SECTION

SECTION 09 9113

EXTERIOR PAINTING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Surface preparation.

B. Field application of paints.

C. Scope: Finish exterior surfaces exposed to view, unless fully factory-finished and unless otherwise indicated, including the following:
   1. Both sides and edges of plywood backboards for electrical and telecom equipment before installing equipment.
   2. Exposed surfaces of steel lintels and ledge angles.
   3. Mechanical and Electrical:
      a. On the roof and outdoors, paint equipment that is exposed to weather or to view, including factory-finished materials.
      b. Fire Alarm Conduits
      c. Gas Lines
      d. Meter Boxes, Raceways, and disconnect Panels
      e. Data & Phone Lines

D. Do Not Paint or Finish the Following Items:
   1. Items factory-finished unless otherwise indicated; materials and products having factory-applied primers are not considered factory finished.
   2. Items indicated to receive other finishes.
   3. Items indicated to remain unfinished.
   4. Fire rating labels, equipment serial number and capacity labels, and operating parts of equipment.
   5. Stainless steel, anodized aluminum, bronze, terne coated stainless steel, zinc, and lead.
   6. Marble, granite, slate, and other natural stones.
   7. Floors, unless specifically indicated.
   8. Ceramic and other types of tiles.
   9. Glass.
   10. Concealed pipes, ducts, and conduits.

1.02 RELATED REQUIREMENTS

A. Section 05 5000 - Metal Fabrications: Shop-primed items.

B. Section 05 5100 - Metal Stairs: Shop-primed items.

C. Section 09 9123 - Interior Painting.

1.03 DEFINITIONS

A. Comply with ASTM D16 for interpretation of terms used in this section.

B. Flat refers to a lusterless or matte finish with a gloss range below 15 when measured at an 85-degree meter.

C. MDF: Mils (thousandths of an inch) dry film thickness.

D. MWF: Mils (thousandths of an inch) wet film thickness.

1.04 REFERENCE STANDARDS

A. 40 CFR 59, Subpart D - National Volatile Organic Compound Emission Standards for Architectural Coatings; U.S. Environmental Protection Agency; current edition.

B. ASTM D16 - Standard Terminology for Paint, Related Coatings, Materials, and Applications; 2014.

C. ASTM D4258 - Standard Practice for Surface Cleaning Concrete for Coating; 2005 (Reapproved 2012).

D. ASTM D4260 - Standard Practice for Liquid and Gelled Acid Etching of Concrete; 2005 (Reapproved 2012).

E. ASTM D4442 - Standard Test Methods for Direct Moisture Content Measurement of Wood and Wood-Base Materials; 2007.

F. MPI (APL) - Master Painters Institute Approved Products List; Master Painters and Decorators Association; current edition, www.paintinfo.com.

G. MPI (APSM) - Master Painters Institute Architectural Painting Specification Manual; Current Edition, www.paintinfo.com.

H. SSPC-SP 1 - Solvent Cleaning; 2015.

I. SSPC-SP 2 - Hand Tool Cleaning; 1982 (Ed. 2004).

J. SSPC-SP 3 - Power Tool Cleaning; 1982 (Ed. 2004).

K. SSPC-SP 6 - Commercial Blast Cleaning; 2007.

L. SSPC-SP 13 - Surface Preparation of Concrete; (Reaffirmed 2015); 2003.

1.05 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide complete list of products to be used, with the following information for each:
   1. Manufacturer's name, product name and/or catalog number, and general product category (e.g. "alkyd enamel").
   2. MPI product number (e.g. MPI #47).
   3. Cross-reference to specified paint system(s) product is to be used in; include description of each system.

C. Samples: Submit three paper "draw down" samples, 8-1/2 by 11 inches in size, illustrating range of colors available for each finishing product specified.
   1. Where sheen is specified, submit samples in only that sheen.
   2. Where sheen is not specified, submit each color in each sheen available.

D. Certification: By manufacturer that paints and finishes comply with VOC limits specified.

E. Coating Maintenance Manual: Submit data including finish schedule showing where each product/color/finish was used, product technical data sheets, material safety data sheets (MSDS), care and cleaning instructions, touch-up procedures, repair of painted and finished surfaces, and color samples of each color and finish used. Manual shall be Sherwin-Williams "Custodian Project Color and Product Information" report or equal.

F. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
   1. See Section 01 6000 - Product Requirements, for additional provisions.
   2. Extra Paint and Finish Materials: 1 gallon of each color and type; from the same product run, store where directed.
   3. Label each container with color, type, and texture in addition to the manufacturer's label.

1.06 MOCK-UP

A. See Section 01 4000 - Quality Requirements, for general requirements for mock-up.

B. Provide panel, 4 feet long by 4 feet wide, illustrating paint color, texture, and finish.

C. Mock-up may remain as part of the work.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.

B. Container Label: Include manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.

C. Paint Materials: Store at minimum ambient temperature of 45 degrees F and a maximum of 90 degrees F, in ventilated area, and as required by manufacturer's instructions.

1.08 FIELD CONDITIONS

A. Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by the paint product manufacturer.

B. Follow manufacturer's recommended procedures for producing best results, including testing of substrates, moisture in substrates, and humidity and temperature limitations.

C. Do not apply exterior paint and finishes during rain or snow, or when relative humidity is outside the humidity ranges required by the paint product manufacturer.

D. Minimum Application Temperatures for Latex Paints: 50 degrees F for exterior; unless required otherwise by manufacturer's instructions.

E. Provide lighting level of 80 ft candles measured mid-height at substrate surface.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Provide paints and finishes used in any individual system from the same manufacturer; no exceptions.

B. Paints:
1. Behr Process Corporation; _____: www.behr.com/#sle.
2. Benjamin Moore & Co: www.benjaminmoore.com.
3. PPG Paints; _____: www.ppgpaints.com/#sle.
4. Sherwin-Williams Company; _____: www.sherwin-williams.com/#sle.

C. Primer Sealers: Same manufacturer as top coats.

2.02 PAINTS AND FINISHES - GENERAL

A. Paints and Finishes: Ready mixed, unless required to be a field-catalyzed paint.
1. Provide paints and finishes of a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating, with good flow and brushing properties, and capable of drying or curing free of streaks or sags.
2. Provide materials that are compatible with one another and the substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.
3. Supply each paint material in quantity required to complete entire project's work from a single production run.
4. Do not reduce, thin, or dilute paint or finishes or add materials unless such procedure is specifically described in manufacturer's product instructions.

B. Volatile Organic Compound (VOC) Content:
1. Provide paints and finishes that comply with the most stringent requirements specified in the following:
   a. 40 CFR 59, Subpart D--National Volatile Organic Compound Emission Standards for Architectural Coatings.
   b. Architectural coatings VOC limits of San Antonio, Texas.
2. Determination of VOC Content: Testing and calculation in accordance with 40 CFR 59, Subpart D (EPA Method 24), exclusive of colorants added to a tint base and water added at project site; or other method acceptable to authorities having jurisdiction.

2.03 PAINT SYSTEMS - EXTERIOR

A. Steel - Unprimed (including conduits and other mechanical and electrical equipment):
1. One coat modified alkyd primer, Sherwin Williams Pro Industrial Pro-Cryl Universal Metal primer, B66W310, 3.0 mdf.
2. Two coats of Sherwin-Williams Water-Based Acrolon 100 Polyurethane Gloss, B65-700 series, 2.0 mdf per coat.

B. Steel - Shop Primed (including mechanical equipment, electrical equipment, and all doors and door frames):
   1. Touch-up with modified Acrylic primer, Sherwin Williams Pro Industrial Pro-CrylUniversal Metal Primer, B66W310, 3.0 mdf.
   2. Two coats alkyd enamel, gloss rust retardant enamel; Sherwin Williams Pro Industrial Waterbased Alkyd Urethane, Gloss, B53W01051, 2.0 mdf per coat.

C. Plastic Pipe:
   1. Two coats Sherwim-Williams Multi-Purpose Zero VOC Latex Primer, B51 Series 1.5 mdf per coat.
   2. Two coats Sherwin-Williams Pro Industrial Acrylic Semi-Gloss, B66W650 Series, 3 mdf per coat.

D. Rough Sawn Wood and other exposed wood framing, including wood decking:
   1. S-W WoodScapes Semi-Transparent Stain, A15T5
   2. Follow manufacturer's recommendations for surface preparation and application.
   3. Tinting color as selected from full color line.

E. Portland Cement Plaster (Stucco):
   1. One coat primer PPG: Perma-crete Concrete and Stucco Primer
   2. Two Coats Perma-crete Concrete Block and Masonry Filler applied in conformance with manufacturer's printed instructions, 3.0 mdf per coat.

F. Steel - Galvanized and Non-Ferrous Metals (including lead flashings, conduits and other mechanical and electrical equipment.):
   1. Clean with mineral spirits.
   2. Primer: Sherwin-Williams Pro Industrial Pro-Cryl Universal Metal Primer, B66-310.
   3. Two coats acrylic, Sherwin-Williams Pro Industrial Zero VOC Acrylic Semi-Gloss, B66-650 series

G. Steel (Stairs/Rails): Existing Overcoating
   1. Surface Preparation: SSPC-SP3 Power Tool Cleaning.
   2. Coating System:
      a. Prime Coat: Tnemec Series 66 Epoxoline applied at 6.0 to 8.0 dry mils.
      b. First Coat: Tnemec Series 73 Endura-Shield applied at 3.0 to 5.0 dry mils.
      c. Second Coat:Tnemec Series 1070 Fluoronar applied at 2.0 to 3.0 dry mils.
         1) Semi-gloss finish: Series 1071.
         2) Satin finish: Series 1072.

H. Steel (Stairs/Rails): Existing to Bare Steel
   1. Surface Preparation: SSPC-SP6 Commercial Blast Cleaning. Anchor profile shall be angular with a 1.5 to 2.0 mils as per ASTM D 4417, Method C or NACE Standard RP0287.
   2. Coating System:
      a. Prime Coat: Tnemec Series 90G-1K97 Tneme-Zinc applied at 2.5 to 3.5 dry mils.
      b. First Coat: Tnemec Series 73 Endura-Shield applied at 3.0 to 5.0 dry mils.
      c. Second Coat:Tnemec Series 1070 Fluoronar applied at 2.0 to 3.0 dry mils.
         1) Semi-gloss finish: Series 1071
         2) Satin finish: Series 1072.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that surfaces are ready to receive work as instructed by the product manufacturer.

B. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially effect proper application.

C. Test shop-applied primer for compatibility with subsequent cover materials.

D. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces are below the following maximums:
   1. Exterior Plaster and Stucco: 12 percent.

2. Fiber Cement Siding: 12 percent.
3. Masonry, Concrete, and Concrete Masonry Units: 12 percent.
4. Exterior Wood: 15 percent, measured in accordance with ASTM D4442.
5. Concrete Floors and Traffic Surfaces: 8 percent.

3.02 PREPARATION

A. Clean surfaces thoroughly and correct defects prior to application.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

C. Remove or repair existing paints or finishes that exhibit surface defects.

D. Remove or mask surface appurtenances, including electrical plates, hardware, light fixture trim, escutcheons, and fittings, prior to preparing surfaces for finishing.

E. Seal surfaces that might cause bleed through or staining of topcoat.

F. Remove mildew from impervious surfaces by scrubbing with solution of tetra-sodium phosphate and bleach. Rinse with clean water and allow surface to dry.

G. Concrete:
   1. Remove release agents, curing compounds, efflorescence, and chalk. Do not coat surfaces if moisture content or alkalinity of surfaces to be coated exceeds that permitted in manufacturer's written instructions.
   2. Prepare surface as recommended by top coat manufacturer and according to SSPC-SP 13.

H. Fiber Cement Siding: Remove dirt, dust and other foreign matter with a stiff fiber brush. Do not coat surfaces if moisture content or alkalinity of surfaces to be coated exceeds that permitted in manufacturer's written instructions.

I. Exterior Plaster: Fill hairline cracks, small holes, and imperfections with exterior patching plaster. Make smooth and flush with adjacent surfaces. Wash and neutralize high alkali surfaces.

J. Concrete Floors and Traffic Surfaces: Remove contamination, acid etch, and rinse floors with clear water. Verify required acid-alkali balance is achieved. Allow to dry.

K. Galvanized Surfaces:
   1. Remove surface contamination and oils and wash with solvent according to SSPC-SP 1.

L. Ferrous Metal:
   1. Solvent clean according to SSPC-SP 1.
   2. Shop-Primed Surfaces: Sand and scrape to remove loose primer and rust. Feather edges to make touch-up patches inconspicuous. Clean surfaces with solvent. Prime bare steel surfaces. Re-prime entire shop-primed item.
   3. Remove rust, loose mill scale, and other foreign substances using using methods recommended in writing by paint manufacturer and blast cleaning according to SSPC-SP 6 "Commercial Blast Cleaning". Protect from corrosion until coated.

M. Exterior Wood Surfaces to Receive Opaque Finish: Remove dust, grit, and foreign matter. Seal knots, pitch streaks, and sappy sections. Fill nail holes with tinted exterior calking compound after prime coat has been applied. Back prime concealed surfaces before installation.

N. Exterior Wood to Receive Transparent Finish: Remove dust, grit, and foreign matter; seal knots, pitch streaks, and sappy sections with sealer. Fill nail holes with tinted exterior calking compound after sealer has been applied. Prime concealed surfaces.

O. Metal Doors to be Painted: Prime metal door top and bottom edge surfaces.

3.03 APPLICATION

A. Remove unfinished louvers, grilles, covers, and access panels on mechanical and electrical components and paint separately.

B. Exterior Wood to Receive Opaque Finish: If final painting must be delayed more than 2 weeks after installation of woodwork, apply primer within 2 weeks and final coating within 4 weeks.

C. Apply products in accordance with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual".

D. Where adjacent sealant is to be painted, do not apply finish coats until sealant is applied.

E. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry before next coat is applied.

F. Apply each coat to uniform appearance.

G. Dark Colors and Deep Clear Colors: Regardless of number of coats specified, apply additional coats until complete hide is achieved.

H. Sand wood and metal surfaces lightly between coats to achieve required finish.

I. Vacuum clean surfaces of loose particles. Use tack cloth to remove dust and particles just prior to applying next coat.

J. Wood to Receive Transparent Finishes: Tint fillers to match wood. Work fillers into the grain before set. Wipe excess from surface.

K. Reinstall electrical cover plates, hardware, light fixture trim, escutcheons, and fittings removed prior to finishing.

3.04 FINISHING MECHANICAL AND ELECTRICAL EQUIPMENT

A. Paint shop-primed equipment, where indicated. Paint shop prefinished items exposed to view or exterior of building.

B. Remove unfinished louvers, grilles, covers, and access panels on mechanical and electrical components and paint separately except aluminum and stainless steel units which shall not be painted.

C. Prime and paint insulated and exposed pipes, conduit, boxes, insulated and exposed ducts, hangers, brackets, collars and supports and except where items are prefinished.

D. Replace identification markings on mechanical or electrical equipment when painted accidentally.

E. Paint exposed conduit and electrical equipment.

F. Replace electrical plates, hardware, light fixture trim, and fittings removed prior to finishing.

G. Reinstall electrical cover plates, hardware, light fixture trim, escutcheons, and fittings removed prior to finishing.

3.05 FIELD QUALITY CONTROL

A. See Section 01 4000 - Quality Requirements, for general requirements for field inspection.

3.06 CLEANING

A. Collect waste material that could constitute a fire hazard, place in closed metal containers, and remove daily from site.

3.07 PROTECTION

A. Protect finishes until completion of project.

B. Touch-up damaged finishes after Substantial Completion.

3.08 COLOR SCHEDULE

A. All colors to be selected by Owner & Residents as selected from manufacturer's full line.

B. All Colors to be selected from manufacturer's full line.
   1. Gas Lines: Battleship Gray
   2. Fire Alarm Conduit: Red
   3. Date, Phone, & TV: Re: Color Scheme

END OF SECTION

SECTION 10 1400

SIGNAGE

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Room and door signs.

B. Traffic signs.

1.02 REFERENCE STANDARDS

1.03 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Signage Schedule: Provide information sufficient to completely define each sign for fabrication, including room number, room name, other text to be applied, sign and letter sizes, fonts, and colors.
   1. Submit for approval by Owner through Architect prior to fabrication.

C. Samples: Submit two samples of each type of sign, of size similar to that required for project, illustrating sign style, font, and method of attachment.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Flat Signs:
   1. Mohawk Sign Systems, Inc; M1000 (similar): www.mohawksign.com/#sle.
   2. Substitutions: See Section 01 6000 - Product Requirements.

B. Other Signs - Traffic Signs:
   1. Seton Identification Products; [Style No. PA46421.
   2. Text:Front In Parking Only.
   3. Substitutions: See Section 01 6000 - Product Requirements.

2.02 SIGN TYPES

A. Flat House Number Signs: 1/8" matt material, permanently engraved without frame.
   1. Edges: Square.
   2. Corners: Square.
   3. Size: 3" wide x 9" tall, vertical unit numbers.
   4. Wall Mounting of One-Sided Signs: Concealed or exposed screws.

B. Flat Building Signs: High Density Urethane without frame.
   1. Edges: Square.
   2. Corners: Square.
   3. Size: Custom Shape 18" x 24".
   4. Lettering to indicate:
      a. Building Number - 3"
      b. Rooms on each floor - 1-1/2"
   5. Wall Mounting of One-Sided Signs: Concealed or exposed screws.

C. Color and Font: Unless otherwise indicated:
   1. Character Font: Helvetica Regular.
   2. Character Case: Upper case only.
   3. Background Color: by owner.
   4. Character Color: by owner.

2.03 ACCESSORIES

A. Exposed Screws: Chrome plated.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Install neatly, with horizontal edges level.

C. Locate signs where indicated:

D. Protect from damage until Substantial Completion; repair or replace damaged items.

END OF SECTION

SECTION 12 2113

HORIZONTAL LOUVER BLINDS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Horizontal slat louver blinds.

B. Operating hardware.

1.02 RELATED REQUIREMENTS

A. Section 06 1000 - Rough Carpentry: Concealed wood blocking for attachment of headrail brackets.

B. Section 06114 - Wood Blocking and Curbing: Blocking for attachment of headrail brackets.

1.03 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide data indicating physical and dimensional characteristics.

C. Shop Drawings: Indicate opening sizes, tolerances required, method of attachment, clearances, and operation.

D. Manufacturer's Installation Instructions: Indicate special procedures.

1.04 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Horizontal Louver Blinds:
   1. Levolor; Metal Blinds: www.levolor.com/commercial/#sle.

2.02 BLINDS

A. Description: Horizontal slat louvers hung from full-width headrail with full-width bottom rail.

B. Wood Slats: PVC species, square slat corners.
   1. Width: 1-1/2" inch.
   2. Pre-finishedWhite.

C. Slat Support: Woven polypropylene cord, ladder configuration.

D. Head Rail: Pre-finished, formed aluminum box, with end caps; internally fitted with hardware, pulleys, and bearings for operation; same depth as width of slats.

E. Control Wand: Extruded hollow plastic; hexagonal shape.
   1. Non-removable type.
   2. Length of window opening height less 3 inch.
   3. Color: Clear.

F. Headrail Attachment: Wall brackets.

G. Options: Tap-Lok Cord Lock, Restrictive Cam Tilter

2.03 FABRICATION

A. Fabricate blinds to fit within openings with uniform edge clearance of 1/4 inch.

B. Fabricate blinds to cover window frames completely.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that openings are ready to receive the work.

B. Ensure structural blocking and supports are correctly placed. See Section 06 1000.

3.02 INSTALLATION

A. Install blinds in accordance with manufacturer's instructions.

B. Secure in place with flush countersunk fasteners.

3.03 TOLERANCES

A. Maximum Variation of Gap at Window Opening Perimeter: 1/4 inch.

B. Maximum Offset From Level: 1/8 inch.

3.04 ADJUSTING

A. Adjust blinds for smooth operation.

3.05 CLEANING

A. Clean blind surfaces just prior to occupancy.

3.06 SCHEDULE

A. Provide at all exterior windows and interior glazing.

END OF SECTION

SECTION 32 0116.74

IN PLACE HOT REUSED ASPHALT PAVING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Heating, scarifying, milling, remixing, placing, and compacting existing asphaltic concrete.

1.02 PRICE AND PAYMENT PROCEDURES

A. See Section 01 2200 - Unit Prices, for additional unit price requirements.

B. Pavement Surface Scarifying, Mixing, and Recycling: By the square yard. Includes surface cleaning, pre-heating, heating and scarifying, milling, mixing, and relaying, compacting and rolling; protection to adjacent surfaces.

1.03 FIELD CONDITIONS

A. Do not perform work when weather conditions will not permit successful completion of the Work.

PART 2 PRODUCTS

2.01 MATERIALS

A. Recycled Material: Existing in-place asphaltic concrete.

2.02 EQUIPMENT

A. Heated Asphalt Remixer: Type for the intended purpose as follows:
   1. Self-propelled, with a wheel base sufficient to maximize leveling action.

B. Compactor: Pneumatic tired roller for initial compaction; steel wheeled rollers required for additional compaction and smoothness. An oscillating screed or tamper is not acceptable.

2.03 RECYCLED MIX

PART 3 EXECUTION

3.01 PREPARATION

A. Mechanically sweep pavement surfaces immediately prior to commencement of work. Clean pavement surfaces of loose foreign matter. Verify that surfaces are dry.

B. Protect existing improvements, overhanging trees, and plant life from heat damage by individual shielding and water spray.

3.02 REMOVAL

A. Do not disfigure adjacent Work.

B. Heat pavement surface uniformly by continuous movement of a heated scarifier.

3.03 MIXING

3.04 PLACING

A. Form a gutter cut 3/4 inch deep tapered to a feather edge for a minimum of 3 feet from lip of gutter; for subsequent surface overlay to be flush with the lip of the gutter.

B. Discharge remixed material and added virgin material by a heated vibratory precompactor.

C. Spread material in a windrow for profiling and precompaction.

D. Compact by a heated vibratory screed to a uniform cross sectional thickness.

E. Place mixed material to thicknesses indicated. Thickness not less than ____ inch.

3.05 ROLLING AND COMPACTING

A. Roll and compact pavement materials to elevations existing before commencing the Work.

B. Complete the compaction process within 5 minutes of removal.

C. Compact pavement by rolling. Do not displace or extrude pavement from position.

D. Develop rolling with consecutive passes to achieve even and smooth finish, without roller marks.

3.06 PROTECTION

A. Do not permit traffic over surface for 2 hours.

END OF SECTION

SECTION 32 1216
SEAL COAT SURFACE TREATMENTS

204.1. DESCRIPTION: *Construct a surface treatment composed of a double application of asphalt material, each covered with aggregate, constructed on existing pavements or on the prepared base course or surface in accordance with these specifications. This item shall also govern for the furnishing and placing of aggregates. Quantities for the different types of surfaces and materials will be shown on the plans.*

204.2. MATERIALS: All materials shall be of the type and grade as shown on the plans and shall conform to the pertinent material requirements of the following:

A. Asphaltic Cement. TxDOT Item 300, "Asphalts, Oils, and Emulsions."

B. Aggregates. TxDOT Item 302, "Aggregates for Surface Treatments."

204.3. EQUIPMENT: Provide applicable equipment in accordance with this specification or as specified on the plans.

A. Distributor. Furnish a distributor that will apply the asphalt material uniformly at the specified rate or as directed.

1. **Transverse Variance Rate.** When a transverse variance rate is shown on the plans, ensure that the nozzles outside the wheel paths will output a predetermined percentage more of asphalt material by volume than the nozzles over the wheel paths.

2. **Calibration.**

a. Transverse Distribution. Furnish a distributor test report, no more than 1 year old, documenting that the variation in output for individual nozzles of the same size does not exceed 10% when tested at the greatest shot width in accordance with Tex-922-K, "Calibrating Asphalt Distribution Equipment," Part III.

Include the following documentation on the test report:

· the serial number of the distributor,

· a method that identifies the actual nozzle set used in the test, and

· the fan width of the nozzle set at a 12-inch bar height.

When a transverse variance rate is required, perform the test using the type and grade of asphalt material to be used on the project. The Engineer may verify the transverse rate and distribution at any time. If verification does not meet the requirements, correct deficiencies and furnish a new test report.

b. Tank Volume. Furnish a volumetric calibration and strap stick for the distributor tank in accordance with Tex-922-K, "Calibrating Asphalt Distribution Equipment," Part I. Calibrate the distributor within the previous 3 years of the date first used on the project. The Engineer may verify calibration accuracy in accordance with Tex-922-K, "Calibrating Asphalt Distribution Equipment," Part II.

3. Computerized Distributor. When paying for asphalt material by weight, the Engineer may allow use of the computerized distributor display to verify application rates. Verify application rate accuracy at a frequency acceptable to the Engineer.

B. Aggregate Spreader. Use a continuous-feed, self-propelled spreader to apply aggregate uniformly at the specified rate or as directed.

C. Broom. Furnish rotary, self-propelled brooms.

D. Aggregate Haul Trucks. Unless otherwise authorized, use trucks of uniform capacity to deliver the aggregate. Provide documentation showing measurements and calculation in cubic yards. Clearly mark the calibrated level. Truck size may be limited when shown on the plans.

E. Rollers. Unless otherwise shown on the plans, rollers provided shall meet the requirements for "Pneumatic Tire" as shown in Item 210, "Rollers."

F. Asphalt Storage and Handling Equipment. When the plans or the Engineer allows storage tanks, furnish a thermometer in each tank to indicate the asphalt temperature continuously.

Keep equipment clean and free of leaks. Keep asphalt material free of contamination.

G. Digital Measuring Instrument. Furnish a vehicle with a calibrated digital-measuring instrument accurate to ±6 feet per mile.

204.4. CONSTRUCTION:

A. General. Asphalt and aggregate rates shown on the plans are for estimating purposes only. The Engineer will adjust the rates for the existing conditions.

B. Weather. Do not place surface treatments when, in the Engineer's opinion, general weather conditions are unsuitable.
Meet the requirements for air and surface temperature shown below.

1. **Standard Temperature Limitations.** Apply surface treatment when air temperature is above 50°F and rising. Do not apply surface treatment when air temperature is 60°F and falling. In all cases, do not apply surface treatment when surface temperature is below 60°F.

2. **Polymer-Modified Asphalt Cement Temperature Limitations.** When using materials described in TxDOT Item 300, Section 2.B, "Polymer Modified Asphalt Cement," apply surface treatment when air temperature is above 70°F rising. Do not apply surface treatment when air temperature is 80°F and falling. In all cases, do not apply surface treatment when surface temperature is below 70°F.

3. **Asphalt Material Designed for Winter Use.** When winter asphalt application is allowed, the Engineer will approve the air and surface temperature for asphalt material application. Apply surface treatment at air and surface temperatures as directed.

C. Surface Preparation. Remove existing raised pavement markers. Repair any damage incurred by removal as directed. Remove dirt, dust, or other harmful material before sealing. When shown on the plans, remove vegetation and blade pavement edges. Building paper shall be placed over all manholes, valve boxes, grates, etc., so as to protect the surfaces from asphaltic materials. Asphaltic materials shall not be placed, lapped, or splashed onto adjacent structures.

D. Rock Land and Shot.

1. **Definitions.**

   a. A "rock land" is the area covered at the aggregate rate directed with 1 truckload of aggregate.
   b. A "shot" is the area covered by 1 distributor load of asphalt material.

2. **Setting Lengths.** Calculate the lengths of both rock land and shot. Adjust shot length to be an even multiple of the rock land. Verify that the distributor has enough asphalt material to complete the entire shot length. Mark shot length before applying asphalt. When directed, mark length of each rock land to verify the aggregate rate.

E. Asphalt Placement.

1. **General.** The maximum shot width is the width of the current transverse distribution test required under Section 204.3.A.2.a, “Transverse Distribution,” or the width of the aggregate spreader box, whichever is less. Adjust the shot width so operations do not encroach on traffic or interfere with the traffic control plan, as directed. Use paper or other approved material at the beginning and end of each shot to construct a straight transverse joint and to prevent overlapping of the asphalt. Unless otherwise approved, match longitudinal joints with the lane lines. The Engineer may require a string line if necessary to keep joints straight with no overlapping. Use sufficient pressure to flare the nozzles fully.

   In those areas where the asphalt distributor is not accessible, hand spraying may be permitted as directed by the Engineer.

   Select an application temperature, as approved, in accordance with Item 300, “Asphalts, Oils, and Emulsions.” Uniformly apply the asphalt material at the rate shown on the plans or as directed by the Engineer, within 15°F of the approved temperature, and not above the maximum allowable temperature.

2. **Limitations.** Do not apply asphalt to the roadway until:

   · traffic control methods and devices are in place as shown on the plans or as directed,

   · the loaded aggregate spreader is in position and ready to begin,

   · haul trucks are loaded with enough aggregate to cover the shot area, and

   · haul trucks are in place behind the spreader box.

3. **Non-Uniform Applications.** Stop application if it is not uniform due to streaking, ridging, puddling, or flowing off the roadway surface. Verify equipment condition, operating procedures, application temperature, and material properties. Determine and correct the cause of non-uniform application. If the cause is high or low emulsion viscosity replace emulsion with material that corrects the problem.

4. **Test Strips.** The Engineer may stop asphalt application and require construction of test strips at the Contractor’s expense if any of the following occurs:

   · non-uniformity of application continues after corrective action;

- on 3 consecutive shots, application rate differs by more than 0.03 gallons per square yard from the rate directed; or

- any shot differs by more than 0.05 gallons per square yard from the rate directed.

The Engineer will approve the test strip location. The Engineer may require additional test strips until surface treatment application meets specification requirements.

F. Aggregate Placement. As soon as possible, apply aggregate uniformly at the rate directed without causing the rock to roll over.

G. Rolling. Start rolling operation on each shot as soon as aggregate is applied. Use sufficient rollers to cover the entire mat width in 1 pass, i.e., 1 direction. Roll in a staggered pattern. Unless otherwise shown on the plans, make a minimum of:

- 5 passes or

- 3 passes when the asphalt material is an emulsion.

If rollers are unable to keep up with the spreader box, stop application until rollers have caught up or furnish additional rollers. Keep roller tires asphalt-free.

H. Patching. Before rolling, repair spots where coverage is incomplete. Repair can be made by hand spotting or other approved method. When necessary, apply additional asphalt material to embed aggregate.

I. Brooming. After rolling, sweep as soon as aggregate has sufficiently bonded to remove excess. After rolling of the finished surface is completed, all parkways, private property, and driveways adjacent to the work shall be cleared of any surplus aggregate by the Contractor by sweeping. Until the work has been accepted, additional sweeping shall be required as often as necessary so that loose aggregate does not present a hazard to traffic.

J. Final Acceptance. Maintain surface treatment until the Engineer accepts the work. Repair any surface failures.

K. Two-Course Surface Treatments. It is the intent of this specification that the application of asphalt and aggregate for multiple courses be applied within the same day, or immediately thereafter, and prior to opening the roadway to traffic.

The asphaltic material for each course of the surface treatment shall be applied and covered with aggregate in the same manner specified for the first application. Each surface shall then be broomed or raked as required by the Engineer and thoroughly rolled as specified for the first course. Asphaltic material and aggregate for each course shall be applied at the rates directed by the Engineer or as shown on the plans.

The Contractor shall be responsible for the maintenance of each course until covered by the succeeding courses or until the work is accepted by the Engineer. All holes or failures in the surface shall be repaired by use of additional asphalt and aggregate. All fat or bleeding surfaces shall be covered with approved cover material in such a manner that the asphaltic material will not adhere to or be picked up by the wheels of vehicles.

204.5. MEASUREMENT: "Surface Treatment" will be measured by the completed and accepted square yard.

204.6. PAYMENT: The work performed as prescribed by this item will be paid for at the contract unit bid price per square yard for "Surface Treatment," which price shall be full compensation for furnishing and placing all materials, sweeping, rolling, manipulations, labor, tools, equipment, and incidentals necessary to complete the work.

204.7. BID ITEM:

Item 204.1 - Two Course Surface Treatment - per square yard

SECTION 32 1713
PARKING BUMPERS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Precast concrete parking bumpers and anchorage.

1.02 PRICE AND PAYMENT PROCEDURES

1.03 REFERENCE STANDARDS

A. ASTM A615/A615M - Standard Specification for Deformed and Plain Carbon Steel Bars for Concrete Reinforcement; 2015.

B. ASTM C150/C150M - Standard Specification for Portland Cement; 2015.

C. ASTM C260/C260M - Standard Specification for Air-Entraining Admixtures for Concrete; 2010a.

D. ASTM C330/C330M - Standard Specification for Lightweight Aggregates for Structural Concrete; 2014.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide unit configuration, dimensions.

PART 2 PRODUCTS

2.01 MATERIALS

A. Parking Bumpers: Precast concrete, complying with the following:
   1. Nominal Size: 4 inches high, 6 inches wide, 6 feet long.
   2. Cement: ASTM C150/C150M, Portland Type I - Normal; white color.
   3. Concrete Materials: ASTM C330/C330M aggregate, water, and sand.
   4. Reinforcing Steel: ASTM A615/A615M, deformed steel bars; unfinished, strength and size commensurate with precast unit design.
   5. Air Entrainment Admixture: ASTM C260/C260M.
   6. Concrete Mix: Minimum 5,000 psi compressive strength after 28 days, air entrained to 5 to 7 percent.
   7. Use rigid molds, constructed to maintain precast units uniform in shape, size and finish. Maintain consistent quality during manufacture.
   8. Embed reinforcing steel, and drill or sleeve for two dowels.
   9. Cure units to develop concrete quality, and to minimize appearance blemishes such as non-uniformity, staining, or surface cracking.
   10. Minor patching in plant is acceptable, providing appearance of units is not impaired.

B. Dowels: Cut reinforcing steel, 1/2 inch diameter, 12 inch long, pointed tip.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install units without damage to shape or finish. Replace or repair damaged units.

B. Install units in alignment with adjacent work.

C. Fasten units in place with 2 dowels per unit.

END OF SECTION

SECTION 32 1723.13

PAINTED PAVEMENT MARKINGS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Parking lot markings, including parking bays, crosswalks, arrows, handicapped symbols, and curb markings.

1.02 PRICE AND PAYMENT PROCEDURES

A. See Section 01 2100 - Allowances, for cash allowances affecting this section.

B. See Section 01 2200 - Unit Prices, for additional unit price requirements.

1.03 REFERENCE STANDARDS

A. MPI (APL) - Master Painters Institute Approved Products List; Master Painters and Decorators Association; current edition, www.paintinfo.com.

B. FHWA MUTCD - Manual on Uniform Traffic Control Devices for Streets and Highways; U.S. Department of Transportation, Federal Highway Administration; Current Edition.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Manufacturer's data sheets on each product to be used, including:
   1. Preparation instructions and recommendations.
   2. Storage and handling requirements and recommendations.
   3. Installation methods.

PART 2 PRODUCTS

2.01 MATERIALS

A. Line and Zone Marking Paint: MPI (APL) No. 97 Latex Traffic Marking Paint; color(s) as indicated.
   1. Parking Lots: Yellow.
   2. Handicapped Symbols: Blue.
   3. Fire Lane: Red

B. Temporary Marking Tape: Preformed, reflective, pressure sensitive adhesive tape in color(s) required; Contractor is responsible for selection of material of sufficient durability as to perform satisfactorily during period for which its use is required.

PART 3 EXECUTION

3.01 EXAMINATION

A. Do not begin installation until substrates have been properly prepared.

B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.02 PREPARATION

A. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

B. Clean surfaces thoroughly prior to installation.
   1. Remove dust, dirt, and other granular surface deposits by sweeping, blowing with compressed air, rinsing with water, or a combination of these methods.

C. Where oil or grease are present, scrub affected areas with several applications of trisodium phosphate solution or other approved detergent or degreaser, and rinse thoroughly after each application; after cleaning, seal oil-soaked areas with cut shellac to prevent bleeding through the new paint.

D. Establish survey control points to determine locations and dimensions of markings; provide templates to control paint application by type and color at necessary intervals.

E. Temporary Pavement Markings: When required or directed by Architect, apply temporary markings of the color(s), width(s) and length(s) as indicated or directed.
   1. After temporary marking has served its purpose, remove temporary marking by carefully controlled sandblasting, approved grinding equipment, or other approved method so that surface to which the marking was applied will not be damaged.
   2. At Contractor's option, temporary marking tape may used in lieu of temporary painted marking; remove unsatisfactory tape and replace with painted markings at no additional cost to Owner.

3.03 INSTALLATION

A. Begin pavement marking as soon as practicable after surface has been cleaned and dried.

B. Do not apply paint if temperature of surface to be painted or the atmosphere is less than 50 degrees F or more than 95 degrees F.

C. Apply in accordance with manufacturer's instructions using an experienced technician that is thoroughly familiar with equipment, materials, and marking layouts.

D. Comply with FHWA MUTCD manual (http://mutcd.fhwa.dot.gov) for details not shown.

E. Apply markings in locations determined by measurement from survey control points; preserve control points until after markings have been accepted.

F. Apply uniformly painted markings of color(s), lengths, and widths as indicated on drawings true, sharp edges and ends.
   1. Apply paint in one coat only.
   2. Wet Film Thickness: 0.015 inch, minimum.
   3. Width Tolerance: Plus or minus 1/8 inch.

G. Parking Lots: Apply parking space lines, entrance and exit arrows, painted curbs, and other markings indicated on drawings.
   1. Mark the International Handicapped Symbol at indicated parking spaces.
   2. Hand application by pneumatic spray is acceptable.

H. Symbols: Use a suitable template that will provide a pavement marking with true, sharp edges and ends, of the design and size indicated.

END OF SECTION

SECTION 32 3119

DECORATIVE METAL FENCES AND GATES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Decorative aluminum fences.

1.02 RELATED REQUIREMENTS

A. Section 03 3000 - Cast-in-Place Concrete.

B. Section 08-7100 - Door Hardware

1.03 REFERENCE STANDARDS

A. ASTM A276/A276M - Standard Specification for Stainless Steel Bars and Shapes; 2016.

B. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes; 2014.

C. ASTM D714 - Test Method for Evaluating Degree of Blistering in Paint; 2002 (Reapproved 2009).

D. ASTM D3359 - Test Method for Measuring Adhesion by Tape Test; 2009.

E. ASTM F2408 - Standard Specification for Ornamental Fences Employing Galvanized Steel Tubular Pickets; 2016.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Preinstallation Meeting: Conduct a preinstallation meeting one week prior to start of work of this section; require attendance by affected installers.

1.05 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Submit manufacturer's data sheets on each product to be used, including:
   1. Preparation instructions and recommendations.
   2. Storage and handling requirements and recommendations.
   3. Installation methods.

C. Shop Drawings:
   1. Indicate plan layout, spacing of components, post foundation dimensions, hardware anchorage, gates, and schedule of components.
   2. Foundation details, concrete design mix and reinforcing schedule for anti-ram barrier system.

D. Installer's Qualification Statement.

E. Manufacturer's Warranty.

1.06 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with minimum five years documented experience.

B. Installer Qualifications: Experienced with type of construction involved and materials and techniques specified and approved by fence manufacturer.

1.07 DELIVERY, STORAGE AND HANDLING

A. Store materials in a manner to ensure proper ventilation and drainage. Protect against damage, weather, vandalism and theft.

1.08 WARRANTY

A. Finish: 10 years.

PART 2 PRODUCTS

2.01 MANUFACTURERS

2.02 FENCES

A. Fences: Complete factory-fabricated system of posts and panels, accessories, fittings, and fasteners; finished with electrodeposition coating, and having the following performance characteristics:

B. Aluminum: ASTM B221.
   1. Tubular Pickets, Rails and Posts: 6005-T5 alloy.
   2. Extrusions for Posts and Rails (Outer Channel): 6005-T5 alloy.
   3. Extrusions for Pickets and Rail (Inner Slide Channels): 6063-T5 alloy.

C. Fasteners: ASTM A276/A276M, Type 302 stainless steel; finished to match fence components.

2.03 ALUMINUM FENCE

A. Decorative Aluminum Fence System: Provide fence meeting the Test Load and Coating Performance requirements of ASTM F2408 for Industrial class.
   1. Fence Panels: 6 feet high by 6 feet long.
      a. Panel Style: Three rail.
      b. Attach panels to posts with manufacturer's standard panel brackets and recommended fasteners.
      c. Posts: Aluminum extrusions; 2-1/2 inches square.
      d. Rails: Extruded aluminum channels.
      e. Pickets: Extruded aluminum tubes.
         1) Size: 1 inch square.
         2) Style: Flush top rail.
      f. Fasteners: Manufacturer's standard stainless steel bolts, screws, and washers; factory finish fasteners to match fence.
      g. Accessories: Aluminum castings, extrusions and cold-formed strips; factory finished to match fence.
      h. Color: As selected by Architect from manufacturer's standard range.
      i. Products:
         1) Gate: Reference Door Schedule on A2.2.
         2) Gate Hardware:
            (a) Sampson 2 Hydraulic Gate Closer
            (b) Detex 6006 panic device

PART 3 EXECUTION

3.01 EXAMINATION

A. Do not begin installation until substrates have been properly prepared.

B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.02 PREPARATION

A. Clean surfaces thoroughly prior to installation.

3.03 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Set fence posts in accordance with the manufacturer recommended spacing.

C. When cutting rails immediately seal the exposed surfaces by:
   1. Removing metal shavings from cut area.
   2. Apply zinc-rich primer to thoroughly cover cut edge and drilled hole; allow to dry.
   3. Apply two coats of custom finish spray paint matching fence color.
   4. Failure to seal exposed surfaces in accordance with manufacturer's instructions will negate manufacturer's warranty.

D. Space gate posts according to the manufacturers' drawings, dependent on standard out-to-out gate leaf dimensions and gate hardware selected.
   1. Base type and quantity of gate hinges o the application; weight, height, and number of gate cycles.
   2. Identify the necessary hardware required for the application on the manufacturer's gate drawings.
   3. Provide gate hardware by the manufacturer of the gate and install in compliance with manufacturer's recommendations.

3.04 TOLERANCES

A. Maximum Variation From Plumb: 1/4 inch.

B. Maximum Offset From Indicated Position: 1 inch.

C. Minimum Distance from Property Line: 6 inches.

3.05 FIELD QUALITY CONTROL

A. See Section 01 4000 - Quality Requirements, for additional requirements.

B. Layout: Verify that fence installation markings are accurate to design, paying attention to gate locations, underground utilities, and property lines.

C. Fence Height: Randomly measure fence height at three locations or at areas that appear out of compliance with design.

D. Gates: Inspect for level, plumb, and alignment.

E. Workmanship: Verify neat installation free of defects.

3.06 CLEANING

A. Leave immediate work area neat at end of each work day.

B. Clean jobsite of excess materials; scatter excess material from post hole excavations uniformly away from posts. Remove excess material if required.

C. Clean fence with mild household detergent and clean water rinse well.

D. Remove mortar from exposed posts and other fencing material using a 10 percent solution of muriatic acid followed immediately by several rinses with clean water.

E. Touch up scratched surfaces using materials recommended by manufacturer. Match touched-up paint color to factory-applied finish.

3.07 PROTECTION

A. Protect installed products until completion of project.

B. Touch-up, repair, or replace damaged products before Date of Substantial Completion.

END OF SECTION

SECTION 32 3132

WOOD COMPOSITE FENCES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Wood composite fences.

B. Excavation for Posts.

1.02 RELATED SECTIONS

A. Section 03 3000 - Cast-in-Place Concrete.

B. Section 05-5000 - Metal Fabrications

C. Section 08-7100 - Door Hardware

1.03 REFERENCE STANDARDS

A. ASTM C 94 - Standard Specification for Ready-Mixed Concrete

B. ASTM C 177 - Standard Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Guarded-Hot-Plate Apparatus

C. ASTM D 143 - Standard Test Methods for Small Clear Specimens of Timber

D. ASTM D 198 - Standard Test Methods of Static Tests of Lumber in Structural Sizes

E. ASTM D 1037 - Standard Test Methods for Evaluating Properties of Wood-Base Fiber and Particle Panel Materials.

F. ASTM D 1413 - Standard Test Method for Wood Preservatives by Laboratory Soil-Block Cultures

G. ASTM D 1761 - Standard Test Methods for Mechanical Fasteners in Wood

H. ASTM D1929 - Standard Test Method for Determining Ignition Temperature of Plastics

I. ASTM D 2047 - Standard Test Method for Static Coefficient of Friction of Polish-Coated Flooring Surfaces as Measured by the James Machine.

J. ASTM D 2394 - Standard Methods for Simulated Service Testing of Wood and Wood-Base Finish Flooring.

K. ASTM D 2395 - Standard Test Methods for Specific Gravity of Wood and Wood-Based Materials

L. ASTM D 4761 - Standard Test Methods for Mechanical Properties of Lumber and Wood-Base Structural Material.

M. ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials.

N. ASTM F 1679 - Standard Test Method for Using a Variable Incidence Tribometer (VIT).

O. American Wood Preservers Association (AWPA) E1-06 - Standard Method for Laboratory Evaluation to Determine Resistance to Subterranean Termites.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Preinstallation Meeting: Conduct a preinstallation meeting one week prior to start of work of this section; require attendance by affected installers.

1.05 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Submit manufacturer's data sheets on each product to be used, including:
   1. Preparation instructions and recommendations.
   2. Storage and handling requirements and recommendations.
   3. Installation methods.
   4. Instructions on care and cleaning of composite wood products.

C. Verification Samples: For each finish product specified, two samples, minimum size 9 inches (229 mm) square, representing actual product, color, and patterns.

D. Manufacturer's Certificates: Certify products meet or exceed specified requirementst.

E. Closeout Submittals: Provide manufacturer's maintenance instructions that include recommendations for cleaning and maintenance.

1.06 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with minimum five years documented experience.

B. Installer Qualifications: Experienced with type of construction involved and materials and techniques specified and approved by fence manufacturer.

1.07 DELIVERY, STORAGE AND HANDLING

A. Deliver, store and handle products in accordance with the manufacturer's instructions.

B. Store level and flat, off ground or floor, with supports at each end and maximum 24 inches on center.

C. Do not stack wood composite over 8 feet (203 mm) high

D. Cover wood composite with waterproof covering, vented to prevent moisture buildup

1.08 WARRANTY

A. Provide manufacturer's 25 year residential warranty / 10 year commercial warranty providing coverage against checking, splitting, splintering, rotting, structural damage from termites, and fungal decay of wood composite.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Decorative Metal Fences and Gates:
   1. Acceptable Manufacturer: Trex Fencing, which is located at: 160 Exeter Dr.; Winchester, VA 22603; Fax: 877-770-8739; Email: request info (edmund@cfcdistributors.com); Web: www.trexfencing.com
   2. Substitutions: Not permitted.
   3. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.

2.02 MATERIALS

A. Wood composite: Reclaimed wood and plastic with integral coloring; free from toxic chemicals and preservatives

B. Electro-Deposition Coating: Multi-stage pretreatment/wash with zinc phosphate, followed by epoxy primer and acrylic topcoat.
   1. Characteristics:
      a. Abrasion resistance: 0.01 inch wear per 1000 revolutions, tested to ASTM D 2394.
      b. Hardness: 1124 pounds, tested to ASTM D 143.
      c. Self ignition temperature: 743 degrees F, tested to ASTM D 1929.
      d. Flash ignition temperature: 698 degrees F, tested to ASTM D 1929.
      e. Flame spread rating: 80, tested to ASTM E 84.
      f. Water absorption, 24 hour immersion, tested to ASTM D 1037:
         1) Sanded surface: 4.3 percent.
         2) Unsanded surface: 1.7 percent.
      g. Thermal expansion coefficient, 36 inch long samples:
         1) Width: 35.2 x 10-6 to 42.7 x 10-6.
         2) Length: 16.1 x 10-6 to 19.2 x 10-6.
      h. Fastener withdrawal, tested to ASTM D 1761:
         1) Nail: 163 pounds per inch.
         2) Screw: 558 pounds per inch.

i. Static coefficient of friction:
   1) Dry: 0.53 to 0.55, tested to ASTM D 2047.
   2) Dry: 0.59 to 0.70, tested to ASTM F 1679.
   3) Wet: 0.70 to 0.75, tested to ASTM F 1679.
j. Fungus resistance, white and brown rot: No decay, tested to ASTM D 1413.
k. Termite resistance: 9.6 rating, tested to AWPA E-1.
l. Specific gravity: 0.91 to 0.95, tested to ASTM D 2395.
m. Compression:
   1) Parallel: 1806 PSI ultimate, 550 PSI design, tested to ASTM D 198.
   2) Perpendicular: 1944 PSI ultimate, 625 PSI design, tested to ASTM D 143.
n. Tensile strength: 854 PSI ultimate, 250 PSI design, tested to ASTM D 198.
o. Shear strength: 561 PSI ultimate, 200 PSI design, tested to ASTM D 143.
p. Modulus of rupture: 1423 PSI ultimate, 250 PSI design, tested to ASTM D 4761.
q. Modulus of elasticity: 175,000 PSI ultimate, 100,000 PSI design, tested to ASTM D 4761.
r. Thermal conductivity: 1.57 BTU per inch per hour per square foot at 85 degrees F, tested to ASTM C 177

2.03 COMPONENTS

A. Fence System: Horizons Privacy Screens with 50% Privacy Screens
   1. Fence Height: 3 feet high by 8 feet long panels.
   2. Components
      a. Fence Posts:
      b. Post Caps
         1) Posts:
            (a) Crown
      c. Top Rails.
      d. Aluminum bottom rail inserts.
      e. Bottom rail covers/Pickets, 67 inch
      f. Bottom rail covers/Pickets, 91 inch
      g. Fence brackets
   3. Surface texture: Smooth.
   4. Color:
      a. Selection by Owner from Manufacturers standard colors
   5. Fence System: Seclusions Privacy Fence System

B. Fence System: Seclusions Privacy Fence System.
   1. Fence Height: 8 feet high by as required feet long.
   2. Components
      a. Fence Posts:
      b. Post Caps
         1) Posts:
            (a) Crown
      c. Top Rails.
      d. Aluminum bottom rail inserts.
      e. Bottom rail covers/Pickets, 67 inch
      f. Bottom rail covers/Pickets, 91 inch
      g. Fence brackets
   3. Surface texture: Smooth.
   4. Color:
      a. Selection by Owner from Manufacturers standard colors
   5. Fence System: Seclusions Privacy Fence System

2.04 ACCESSORIES

A. Concrete: Provide as Specified in Section 03 30 00 - Cast-in-Place Concrete; minimum 2500 PSI compressive strength at 28 days, with a 3 to 5 inch slump.

B. Trex Post Mounts with 4 - 3/8" x 3-3/4" expansion anchors;

C. Concrete: Provide concrete conforming to ASTM C 94; minimum 2500 PSI compressive strength at 28 days, with a 3 to 5 inch slump

D. Gate & Support Posts:
   1. Fabricated by Others
   2. Reference Door Detail on A2.2
   3. Reference Hardware Schedule
   4. Coordinate Connection to decorative fence with Gate Manufacturer

E. Gate Hardware:
   1. Furnished by Gate Manufacturer and Hardware Supplier

PART 3 EXECUTION

3.01 EXAMINATION

A. Do not begin installation until substrates have been properly prepared.

B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.02 PREPARATION

A. Clean surfaces thoroughly prior to installation.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.03 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Cut and drill wood composite using carbide tipped blades

C. Space posts maximum 8 feet on center.

D. Drill post holes into undisturbed or compacted soil; excavate deeper in soft or loose soils and for posts with heavy lateral loads.

E. Drill posts to 12 inch diameter. Locate bottom of post 30 inches below grade or below frost line whichever is greater.

F. Place top of concrete 2 inches below finished grade

G. Place top of concrete flush with finished grade.

H. Place top of concrete 2 inches above finished grade.

I. Screw fence brackets to posts with four 1-5/8 inch long exterior screws.

J. Cut top rails, pickets, bottom rail covers and aluminum bottom rails to lengths required

K. Slide bottom rail covers over aluminum bottom rail pieces.

L. Position aluminum bottom rail on fence brackets with deeper side of rail channel facing downward

M. Cut end pickets to height to provide clearance under brackets and screw to posts.

N. Insert pickets into bottom rail, interlocking adjacent pieces.

O. Position top rail and screw attach to top brackets with 1-5/8 inch long exterior screws.

P. Use finish nails to secure pickets to rails if the pickets are not tightly interlocked

Q. Place post caps over post tops and secure with construction adhesive or four finish nails.

3.04 CLEANING

A. **Cleaning**
   1. Clean wood composite to remove stains:
      a. Mold, mildew, and berry and leaf stains: Clean surfaces with conventional deck wash containing detergent or sodium hypochlorite.

b. Rust and ground-in dirt: Clean surfaces with cleaner containing oxalic or phosphoric acid.
c. Oil and grease: Clean surfaces with detergent containing degreasing agent.

3.05 PROTECTION

A. Protect installed products until completion of project.

B. Touch-up, repair, or replace damaged products before Date of Substantial Completion.

END OF SECTION

SECTION 32 9300
PLANTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Preparation of subsoil.

B. Topsoil bedding.

C. New trees, plants, and ground cover.

D. Maintenance.

E. Tree Pruning.

1.02 RELATED REQUIREMENTS

A. Section 31 2200 - Grading: Topsoil material.

1.03 PRICE AND PAYMENT PROCEDURES

A. Unit Prices:
   1. See Section 01 2200 - Unit Prices, for additional unit price requirements.
   2. Topsoil: By the cubic yard. Includes topsoil, placing topsoil.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

1.05 QUALITY ASSURANCE

A. Tree Pruning: Comply with ANSI A300 Part 1.

1.06 FIELD CONDITIONS

A. Do not install plant life when ambient temperatures may drop below 35 degrees F or rise above 90 degrees F.

B. Do not install plant life when wind velocity exceeds 30 mph.

1.07 WARRANTY

A. See Section 01 7800 - CONTRACT CLOSEOUT, for additional warranty requirements.

B. Provide one year warranty.

PART 2 PRODUCTS

2.01 PLANTS

A. Plants: Species and size identified in plant schedule, grown in climatic conditions similar to those in locality of the work.

2.02 SOIL MATERIALS

A. Topsoil: Type Loam as specified in Section 31 2200.

END OF SECTION

APPENDIX A
MAINTENANCE SCHEDULE

Improvements Schedule

Sunshine Plaza Improvements Project
San Antonio Housing Authority
October 25, 2019
(ISSUED WITH CONSTRUCTION BID SET ON 8/7/2020)

General Notes

1. Contractor shall field verify existing conditions and finishes, etc. prior to bidding.
2. Prior to construction coordinate with the property manager for removal of existing air conditioner equipment.
3. Paint underneath existing signage, fire extinguisher cabinets, light fixtures, downspouts and gutters. Remove such items prior to painting and re-place after work is completed. Caulk and seal as required.
4. Field verify wall thickness at doors and windows. The wall frame thickness typically shows a 2x6 wood stud frame at first floor and 2x4 framing at 2nd and 3rd level.
5. Verify quantities and field measure all windows at apartment buildings including laundry areas and at Community Center.
6. Protect all existing construction to remain.
7. Protect all existing landscaping. Do not use any chemical that may damage existing landscaping.
8. Do not leave apartment complex areas unprotected when replacing the fence and gate enclosure. Install temporary fencing as required until new fence and gates are installed.
9. Pressure wash and scrape gum from concrete walks, corridors and all concrete stairs.
10. Provide required safety barriers around construction areas.
11. Storage of paint is not permitted within the apartment complex. Contractor shall provide storage containers located at a minimum of 20 feet from the buildings.

Work excluded from Contractor's scope of work

1. SAHA will trim back tree branches that are within 5 feet of the existing buildings.
2. SAHA will replace all missing splash blocks.

Scope of Work

I. **Site** (Refer to Drawing Sheet A1.0)

1. Re-seal and re-stripe parking areas. Current configuration of accessible parking and access lanes to remain. Coordinate fire lane striping locations with Fire Department.
2. Refer to Terra drawings and specs regarding repair and/or replacement of sidewalks.
3. Treat, sand, prep and paint existing wrought iron perimeter fence located along the property line. Re-Align 2x2 metal posts and remove existing concrete footing and replace where required. (Total of twelve (12) locations).
4. Provide wood composite type screen fencing to conceal AC equipment from street and parking areas. Refer to A1 for location of screens. Fence height to be 36" with 50% semi-privacy configuration.
5. Re-grade the immediate adjacent green areas to the north of buildings 3, 4 and 5 to create a positive slope for water to drain away from the buildings. Refer. Terracon
6. Remove and replace wood fence enclosures including framing and footings between buildings. Replace with new 8 ft tall wood composite fencing system, refer to specifications and manufacturer's recommendations for installation.
7. Remove and replace gates including frames and footing at building perimeter enclosure with new 8' tall wrought iron gates and hardware.

8. Clean, sand, prep and paint all gas and electrical panels, gutters, equipment and all exposed conduits. Verify approved methods and materials with corresponding utility service providers. Paint gas lines as per Railroad Commission Specifications.
9. Seal all wall penetrations from electrical, gas and other services. Verify approval and proper products and methods from corresponding utility service providers. Also reference to A3.0 through A3.7.
10. Provide a stamped metal tag to and self adhesive plastic metal to identify each panel with corresponding living unit.

II. **Stairs** (Refer to Drawings A1 & A3.0)

11. Refer to *Structural* for replacement of structural members and sections of stairs, at Buildings 6 and 5. Clean, treat, prime and paint.
12. Clean, treat, prep and paint railings, guardrails, columns, stair stringers, beams and supports. Repair, treat metal surfaces and remove rust prior to re-painting.
13. Patch and repair surrounding finishes on wall, soffit and fascia surfaces as required to match existing.

III. **Exterior Corridors** (Refer to Drawings A1, A3.1to A3.7, and A4.1to A4.2)

14. Prep and paint railings, guardrails and column supports. Repair, treat metal surfaces and remove rust prior to re-painting.
15. Where the corridor soffit intersect at buildings 5 & 6 and at buildings 1 & 2 (on all three floor levels), repair and replace the cracked stucco finish up to the most proximate control joint. Provide a stucco expansion joint along the most proximate line at which the crack occurs. Replace the metal lath and weather barrier where badly damaged. Report to SAHA should any further damage be perceived. Refer to detail 1/A4.2.
16. Remove the stucco finish from the exterior face of all corridor connections between buildings, at the 2nd and 3rd floor levels. Replace with cementitious siding and trim per manufacturer's recommendations. Paint assigned surface color. Refer to detail 1/A4.1.

IV. **Building Exterior** (Refer to Drawings A2.0 to A2.2 and A3.1to A3.7)

A. Walls:

17. Prior to painting, clean and prep exterior stucco surfaces and remove mildew with soap and water with a sprayer. Do not use any chemical that may damage existing landscaping. Remove loose debris, patch and repair exterior surfaces damaged during the prep procedure.
18. Repair stucco finish system where required. Refer to exterior finish system details by Terracon.
19. Re-coat all exterior stucco surfaces including exterior corridor soffit.
20. Re-seal all stucco joints. Refer to exterior finish system details by Terracon
21. Remove gutters and downspouts entirely to clean, prep and paint. Apply coating to wall and fascia surfaces underneath.
22. Remove louvers and vents along exterior walls and replace with metal type. Paint to match wall color.
23. Prep, paint and seal exposed conduit, piping, with proper approvals, methods and recommendations from corresponding utility service providers.
24. Repair, clean, treat and seal the horizontal metal supports that fasten electrical equipment to the exterior wall. Seal and caulk any gaps between the metal support and the stucco. Refer to exterior finish system details by Terracon.

25. Paint new HVAC conduit raceway and re-coat exterior wall surface prior to installation. Refer to MEP.
26. Remove wood panel cover at the exterior wall opening at each 1-Bedroom units. Field measure opening dimensions. Install fixed window, provide trim around exterior side of window and seal & caulk as required. Finish to match existing interior wall, seal & caulk and paint.
27. Remove all data and telephone lines, paint wall surface underneath. GC to coordinate with utility service providers for installation of new conduit and lines per SAHA required colors.
28. Replace light poles and light fixtures per MEP drawings and specs.

V. **Window Replacement** (Refer to Drawings A2.0 to A2.2 and A3.1to A3.7)

29. Remove and replace all windows with screens. Flash and seal around new window perimeter opening with backer rod and sealant to air/water tight condition. Repair, seal and paint interior window wood trim at head, jambs and sill.

VI. **Entry Door and Door Screen Replacement** (Refer to Drawings A2.0 to A2.2 and A3.1 to A3.7)

30. Remove concrete ramps at living unit entrances. Field measure and replace with custom threshold ramp. Refer to threshold detail on A2.2
31. Remove and replace exterior hollow metal doors and door screens. Clean seal around perimeter opening with backer rod and sealant to air/water tight condition. Provide new hardware including weather-stripping and thresholds. Repair, seal and paint interior door wood trim at head and jambs.
32. Replace apartment unit number identification with digits on a single sign panel. Coordinate location with SAHA.
33. Remove and replace rear access door at community center with automatic accessible door unit.
34. Remove and replace exterior door and hardware at community center building located along the West facing elevation. Seal, paint, and caulk as required.

VII. Building Interior (Refer to Drawings A2.0 to A2.2 and A4.3)

35. Paint entire wall where windows and doors have been replaced. Paint, trim, seal and caulk around windows and door openings.
36. Coordinate with Tenant for removal and replacement of existing window treatments. Field verify dimensions. Remove existing window treatments and replace with new. Repair, patch and paint wall surface, prior to installation of new window treatment.
37. At all Efficiency Units, seal exiting HVAC closets with gypsum drywall to match existing. Refer to detail 1/A4.3. Reference MEP.
38. Provide HVAC refrigeration and condensate line runs from hvac closet to exterior wall. Refer to MEP. Provide and install a raceway crown molding to encase and conceal lines. Paint crown molding to match existing wall color. Refer to 2/A4.3.

Refer to Terracon Consultants for Site Items and Exterior Building Envelope items.
Refer to Structural for stairs and other structural items
Refer to MEP for HVAC items

APPENDIX B
CONSTRUCTION DRAWINGS

CONSTRUCTION □OCUMENTS

SAN ANTONIO HOUSING AUTHORITY
SUNSHINE PLAZA IMPROVEMENTS PROJECT

455 E. SUNSHINE □RI□E, SAN ANTONIO, TE□AS 78228

CONSTRUCTION BID SET

August 7, 2020

(Based on original Permit set and Includes Addendum # 1 10/25/2019; and Addendum #2 8/7/2020)

SAHA | SAN ANTONIO HOUSING AUTHORITY
Opportunity Lives Here

COMMISSIONERS
DR. ANA MARGARITA "CHA" GUZMAN, CHAIR
JESSICA WEAVER, VICE CHAIR
CHARLES CLACK, COMMISSIONER
JO-ANNE KAPLAN, COMMISSIONER
RUTH RODRIGUEZ, COMMISSIONER
OLGA KAUFFMAN, COMMISSIONER

CODE SUMMARY

Applicable Codes: All work under this contract shall comply with the provisions of the specifications and drawings, and shall satisfy all applicable codes, ordinances and regulations of all governing bodies involved. All permits and somethings neccesary for the proper execution of the work shall be secured and paid for by the contractor involved.

Building Code:	• 2018 International Building Code with local amendments
Electrical Code:	• 2017 National Electrical Code with local amendments
Energy Code:	• 2018 International Energy Conservation Code with local amendments
Fire Code:	• 2018 International Fire Code with local amendments
Mechanical Code:	• 2018 International Mechanical Code with local amendments
Plumbing Code:	• 2018 International Plumbing Code with local amendments
ADA	• 2012 Texas Accessibility Standards

Occupancy Group:	Residential
Construction Type:	Type V-B
Occupant Load:	603
Fire Protection Systems:	Fire Alarm & Fire Extinguishers

INDEX OF DRAWINGS

REGISTERED ARCHITECT
MONICA GUAJARDO
18241
STATE OF TEXAS
9/26/19

MS2 CONSULTING ENGINEERS
8200 IH-10 West, Suite 312
San Antonio, Texas 78230
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Terracon
6911 Blanco Road
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P: 210.641.2112
Texas Professional Engineers No. F-3272

Project NO. 18011a
Date: 05/24/19
Revisions:
ADD #1 10/25/2019
ADD #2 08/07/2020

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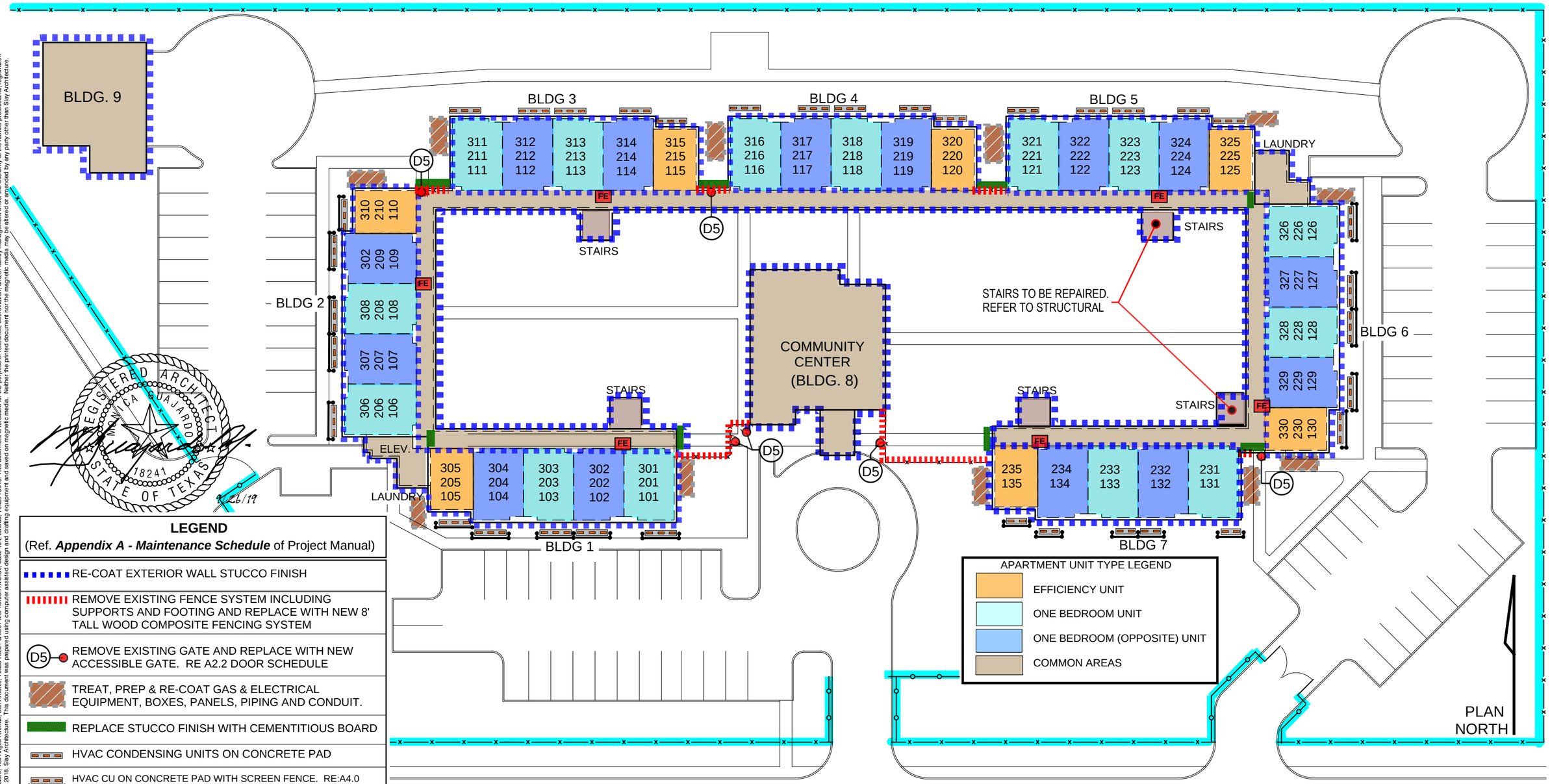

LEGEND
(Ref. ***Appendix A - Maintenance Schedule*** of Project Manual)

	RE-COAT EXTERIOR WALL STUCCO FINISH
	REMOVE EXISTING FENCE SYSTEM INCLUDING SUPPORTS AND FOOTING AND REPLACE WITH NEW 8' TALL WOOD COMPOSITE FENCING SYSTEM
D5	REMOVE EXISTING GATE AND REPLACE WITH NEW ACCESSIBLE GATE. RE A2.2 DOOR SCHEDULE
	TREAT, PREP & RE-COAT GAS & ELECTRICAL EQUIPMENT, BOXES, PANELS, PIPING AND CONDUIT.
	REPLACE STUCCO FINISH WITH CEMENTITIOUS BOARD
	HVAC CONDENSING UNITS ON CONCRETE PAD
	HVAC CU ON CONCRETE PAD WITH SCREEN FENCE. RE:A4.0
	CLEAN, TREAT FOR CORROSION AND REPAINT ALL WROUGHT IRON FENCE COMPONENETS. RE-ALIGN 2X2 METAL POSTS AND REMOVE EXISTING CONCRETE FOOTING AND REPLACE WHERE REQUIRED. (TOTAL OF 12 LOCATIONS)
FE	EXISTING FIRE EXTINGUISHER

EXISTING TREES WITHIN RENOVATION AREA SHALL NOT BE DAMAGED OR REMOVED

1 SITE PLAN

SUNSHINE PLAZA
N.T.S.

CONSTRUCTION DOCUMENTS

SUNSHINE PLAZA APARTMENTS MAINTENANCE PROJECT

SAN ANTONIO HOUSING AUTHORITY

SAN ANTONIO, TEXAS

SLAY ARCHITECTURE
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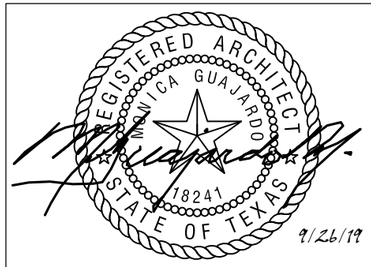
Texas Professional Engineers No. F-3272

Project NO. 18011a
Date: 09/26/2019
Revisions:

A1

SITE PLAN



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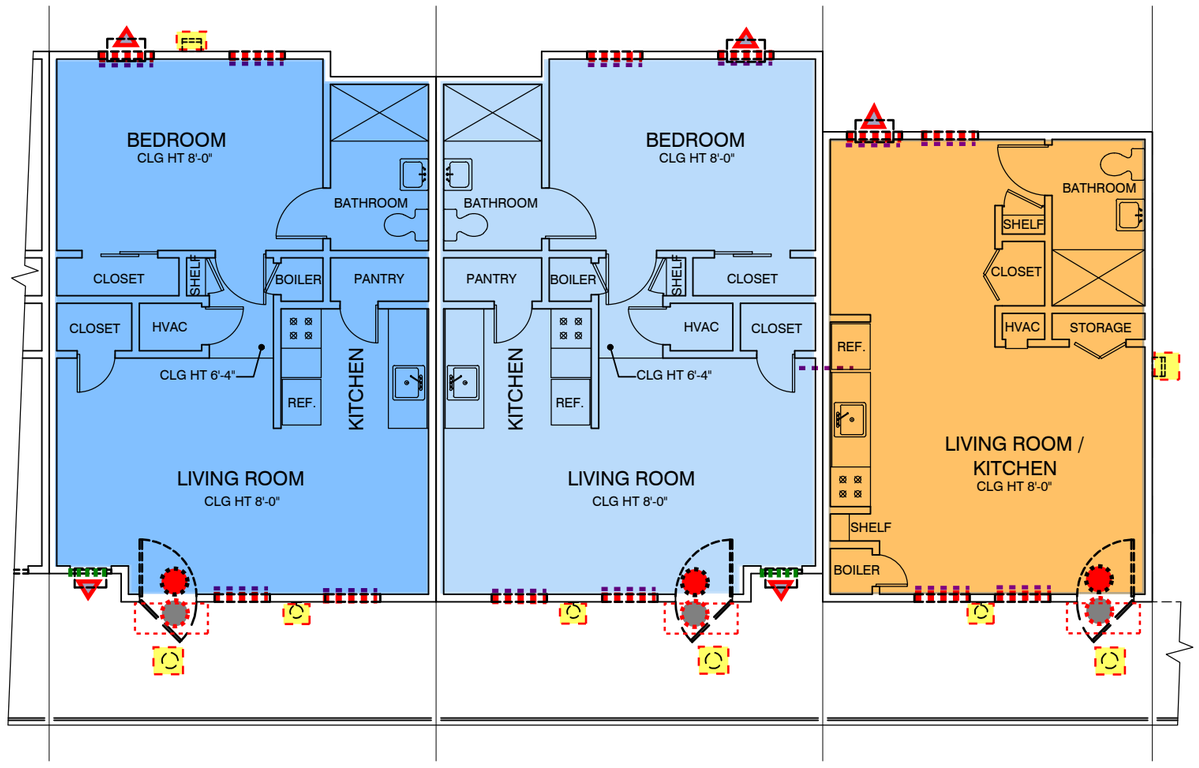
DEMOLITION LEGEND
(Ref. ***Appendix A - Maintenance Schedule*** of Project Manual)

- REMOVE WINDOW A/C UNIT / SALVAGE REFER TO MAINTENANCE SCHEDULE
- REMOVE AND REPLACE WINDOW
- REMOVE INTERIOR WINDOW TREATMENT
- REMOVE AND REPLACE ENTRY DOOR
- REMOVE AND REPLACE SCREEN DOOR
- REMOVE WOOD PANEL
- REMOVE AND REPLACE LIGHT FIXTURE REF. ELECTRICAL
- REMOVE EXISTING RAMP (IF APPLICABLE)



3 DEMO FLR. PLAN
TYPICAL 1 BDRM UNIT (OPPOSITE)
1/8" : 1' -0"

2 DEMO FLR. PLAN
TYPICAL 1 BDRM UNIT
1/8" : 1' -0"

1 DEMO FLR. PLAN
TYPICAL EFFICIENCY UNIT
1/8" : 1' -0"

APARTMENT UNIT TYPE LEGEND
- EFFICIENCY UNIT
- ONE BEDROOM UNIT
- ONE BEDROOM (OPPOSITE) UNIT
- COMMON AREAS

CONSTRUCTION DOCUMENTS

SUNSHINE PLAZA APARTMENTS IMPROVEMENT PROJECT

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Project NO. FB186000 in agreement w/ SAHA
Date: 09/26/2019
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A2.0

DEMO
FLOOR PLANS

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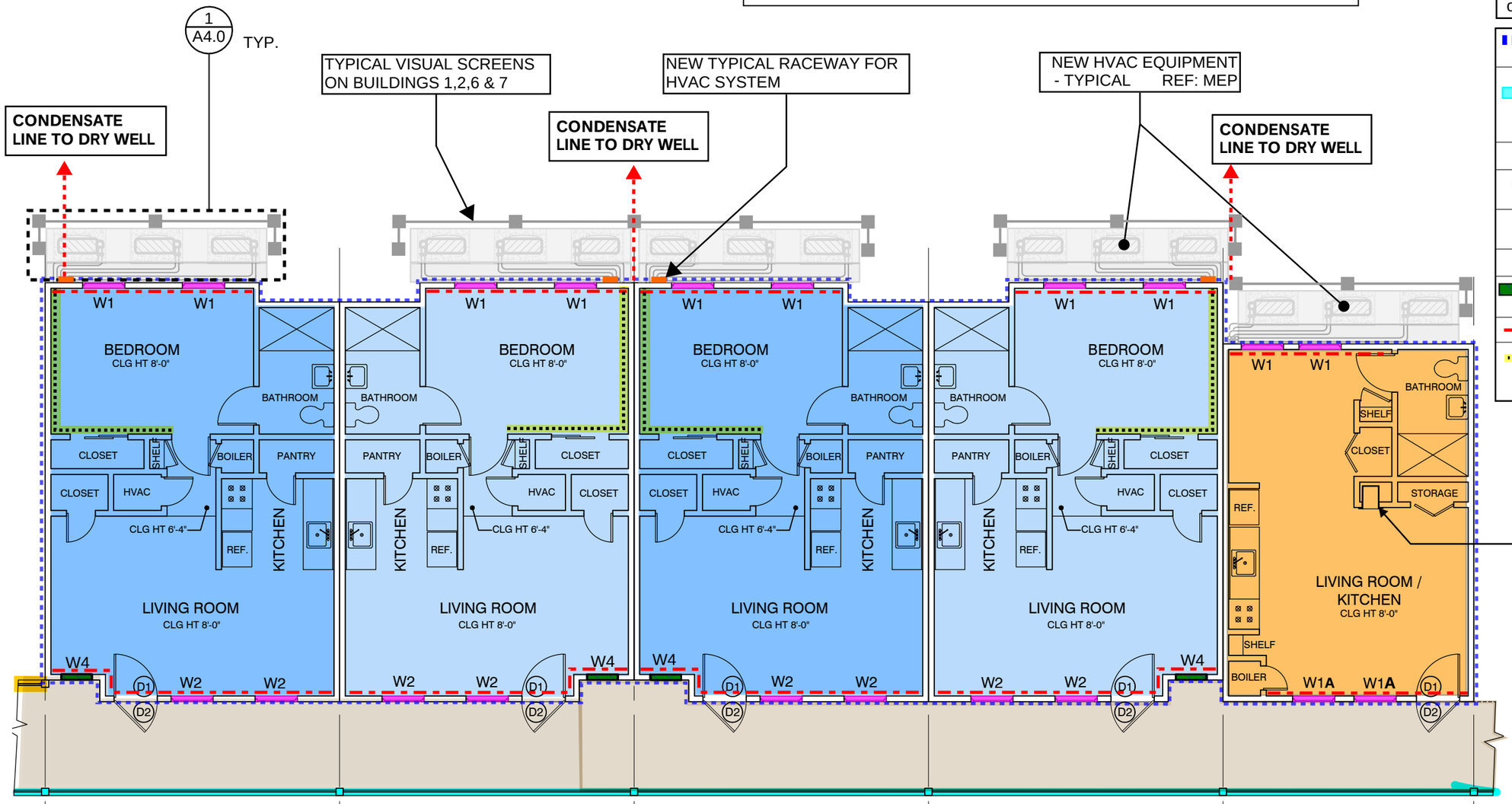

SEAL OPENING WITH DRYWALL SYSTEM PROVIDE SHELF UNIT REFER TO 1/A4.3

LEGEND
(Ref. ***Appendix A - Maintenance Schedule*** of Project Manual)

	RE-COAT EXTERIOR WALL STUCCO FINISH
	TREAT FOR CORROSION AND REPAINT ALL RAILINGS, STAIR COMPONENTS, COLUMNS, DOWNSPOUTS AND GUTTERS
W#	INSTALL WINDOW
	PROVIDE INTERIOR WINDOW TREATMENT
D1	INSTALL NEW ENTRY DOOR W/THRESHOLD
D2	INSTALL NEW SCREEN DOOR
	INSTALL WINDOW AT WALL OPENING
	PAINT INTERIOR WALL
	PROVIDE RACEWAY CROWN MOULDING TO CONCEAL HVAC LINES REF: 2/A4.3 & MEP

REGISTERED ARCHITECT
MONICA GUAJARDO
18241
STATE OF TEXAS
9/26/19

1 FLOOR PLAN

TYPICAL BUILDING FLOOR
1/8" : 1' -0"

APARTMENT UNIT TYPE LEGEND

- EFFICIENCY UNIT
- ONE BEDROOM UNIT
- ONE BEDROOM (OPPOSITE) UNIT
- COMMON AREAS

CONSTRUCTION DOCUMENTS

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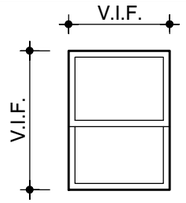
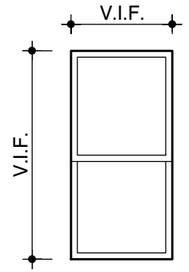
Texas Professional Engineers No. F-3272

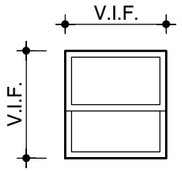
Project NO. FB186000 in agreement w/ SAHA
Date: 09/26/2019
Revisions: 10/25/2019

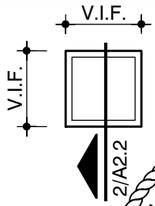
A2.1

TYPICAL BUILDING FLOOR PLAN

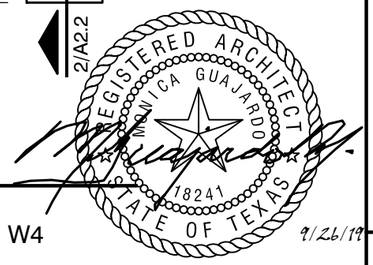




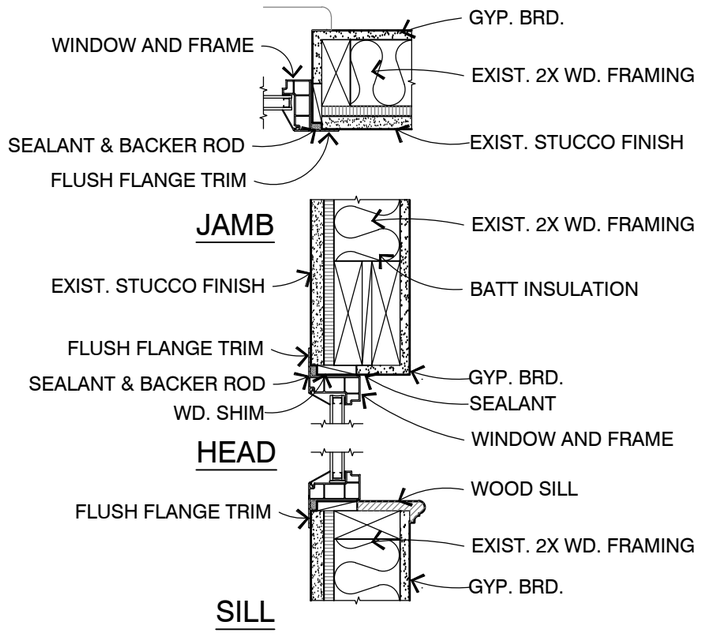




V.I.F. -VERIFY MEASUREMENTS IN FIELD

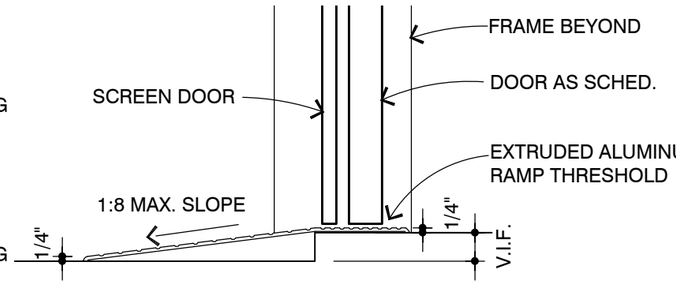


W1 & W1A	W2	W3	W4
W1 TYP. S.H. WDW @ REAR OF ALL LIVING UNITS @ PROVIDE SOLARSCREEN W1A TYP. S.H. WDW @ FRONT OF EFFICIENT UNIT W/STD SCREEN	TYP. S.H. WDW @ FRONT OF 1-BDRM W/STD. SCREEN	TYP. SH WDW @ LAUNDRY AREAS @ BLDGS. 1 & 5 W/STD. SCREEN	TYP. FIXED WDW @ AC OPENING



2 WINDOW DETAILS

@ EXISTING A/C OPENING THROUGH WALL @ 1-BDRM UNITS
1-1/2" : 1' - 0"



1 THRESHOLD DETAIL

@ LIVING UNIT WITH VERTICAL RISE AT ENTRY
1-1/2" : 1' - 0"

DOOR SCHEDULE

NO.	D1
SIZE:	3'-0" X 6'-8" X 1-3/4"
DOOR:	HOLLOW METAL
FINISH:	PAINT
FRAME:	WOOD
FINISH:	PAINT
GLASS:	NONE
ELEV:	D1
HARDWARE:	SET #1
REMARKS:	ADA COMPLIANT

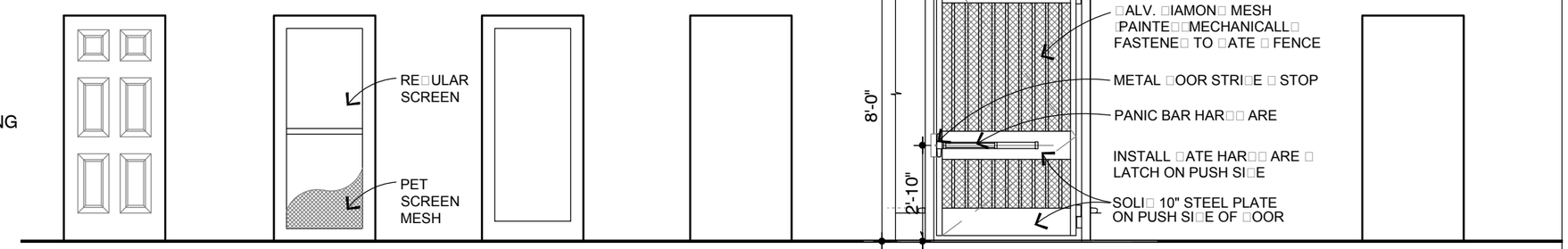
NO.	D2
SIZE:	3'-0" X 6'-8"
DOOR:	ALUMINUM
FINISH:	PRE-FINISHED
FRAME:	ALUMINUM
FINISH:	PRE-FINISHED
GLASS:	NONE
ELEV:	D2
HARDWARE:	SET #2
REMARKS:	ADA COMPLIANT W/ VENT SCREEN

NO.	D3
SIZE:	3'-0" X 6'-8"
DOOR:	ALUMINUM STOREFRONT
FINISH:	PRE- FINISHED
FRAME:	ALUMINUM
FINISH:	PRE-FINISHED
GLASS:	1/4" SAFETY GLAZING
ELEV:	D3
HARDWARE:	SET #4
REMARKS:	ADA COMPLIANT

NO.	D4 (EXISTING)
SIZE:	EXISTING
DOOR:	HOLLOW METAL
FINISH:	PAINT
FRAME:	EXISTING
FINISH:	PAINT
GLASS:	N/A
ELEV:	N/A
HARDWARE:	N/A
REMARKS:	PAINT ALL EXISTING EXTERIOR DOORS

NO.	D5
SIZE:	5'-0" X 8'-0"
DOOR:	METAL ENTRY GATE
FINISH:	PRE- FINISHED
FRAME:	EXISTING
FINISH:	PAINTED
GLASS:	N/A
ELEV:	D5
HARDWARE:	SET #3
REMARKS:	ADA COMPLIANT REFER TO SEPCS.

NO.	D6
SIZE:	3'-0" X 6'-8" X 1-3/4"
DOOR:	HOLLOW METAL
FINISH:	PAINT
FRAME:	WOOD
FINISH:	PAINT
GLASS:	NONE
ELEV:	D6
HARDWARE:	**SET #5**
REMARKS:	ADA COMPLIANT



D1	D2	D3	D4	D5	D6
H.M.EXT. DOOR @ LIVING UNITS	SCREEN DOOR @ AT LIVING UNITS	ALUM. STOREFRONT DR. @ COMM. CTR.	EXISTING H.M. EXTERIOR DOORS AT LAUNDRY & ELEVATOR AREAS	NEW GATE ENTRY	H.M. EXTERIOR DOOR AT COMMUNITY CENTER

CONSTRUCTION DOCUMENTS

SUNSHINE PLAZA APARTMENTS IMPROVEMENT PROJECT
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Project NO. FB186000 in agreement w/ SAHA
Date: 09/26/19
Revisions:
1 10/25/2019

A2.2

WINDOW & DOOR SCHEDULES

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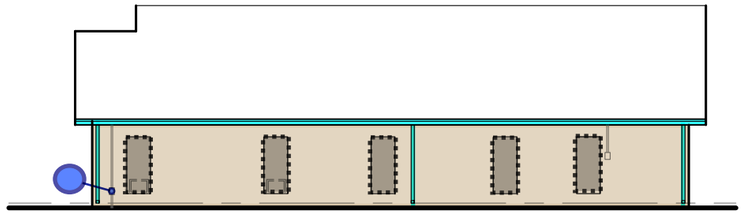
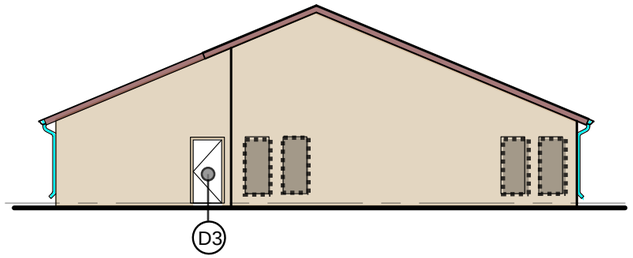
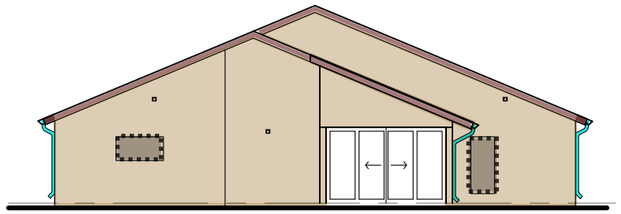


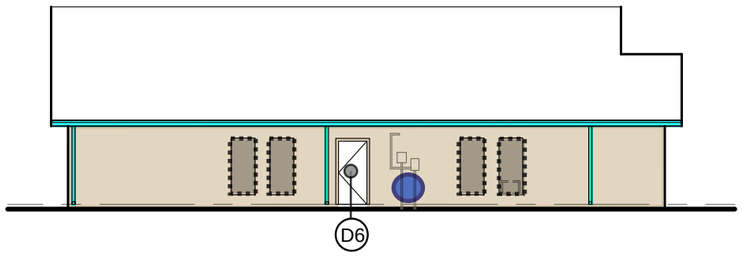
2 EAST ELEVATION
AT COMMUNITY CENTER
N.T.S.



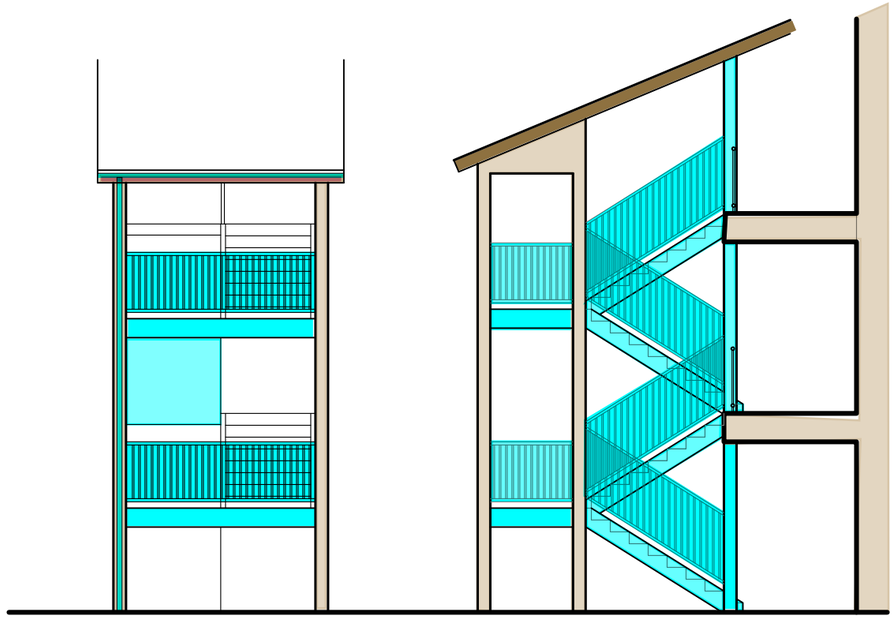
3 NORTH ELEVATION
AT COMMUNITY CENTER
N.T.S.



1 SOUTH ELEVATION
AT COMMUNITY CENTER
N.T.S.



4 WEST ELEVATION
AT COMMUNITY CENTER
N.T.S.



5 TYP ELEVATION
AT STAIRS
N.T.S.

REFER TO STRUCTURAL FOR REPLACEMENT OF DAMAGED STRUCTURAL MEMBERS ON STAIRS BLDGS 5 & 6

EXTERIOR ELEVATION LEGEND
(Ref. ***Appendix A - Maintenance Schedule*** of Project Manual)

	RE-COAT EXTERIOR WALL STUCCO FINISH
	RE-PAINT ALL FASCIA AND SOFFIT
	REPAIR STUCCO
	TREAT FOR CORROSION AND REPAINT ALL RAILINGS, STAIR COMPONENTS, COLUMNS, DOWNSPOUTS AND GUTTERS
	REPLACE WINDOW
	PROVIDE INTERIOR WINDOW TREATMENT
	REPLACE ENTRY DOOR AND SCREEN DOOR
	REMOVE WOOD PANEL AND INSTALL FIXED WINDOW W4
	TREAT, PREP & RE-COAT GAS & ELECTRICAL EQUIPMENT, BOXES, PANELS, PIPING AND CONDUIT AND SEAL ALL WALL PENETRATIONS
	PAINT EXPOSED CONDUIT TO MATCH WALL SURFACE COLOR
	REMOVE EXISTING STUCCO FINISH AND REPLACE WITH SIDING PANELS
	PAINT NEW HVAC CONDUIT TO MATCH WALL COLOR
D#	REFER TO DOOR SCHEDULE ON DRAWING SHEET A2.2

LEGEND APPLIES TO SHEETS 3.1-3.7

REGISTERED ARCHITECT
MONICA GUAJARDO
18241
STATE OF TEXAS
9/26/19

CONSTRUCTION DOCUMENTS

SUNSHINE PLAZA APARTMENTS MAINTENANCE PROJECT
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Project NO. 18011a
Date: 09/26/2019
Revisions:

A3.0
COMMUNITY CTR. & STAIRS ELEVATIONS

REFERENCE LEGEND ON SHEET A3.0

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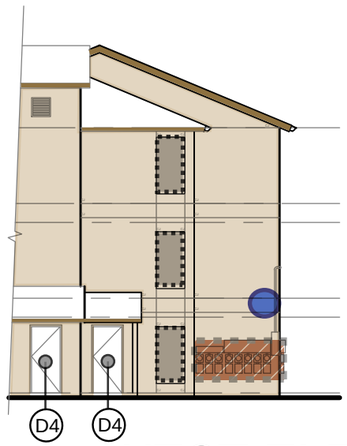
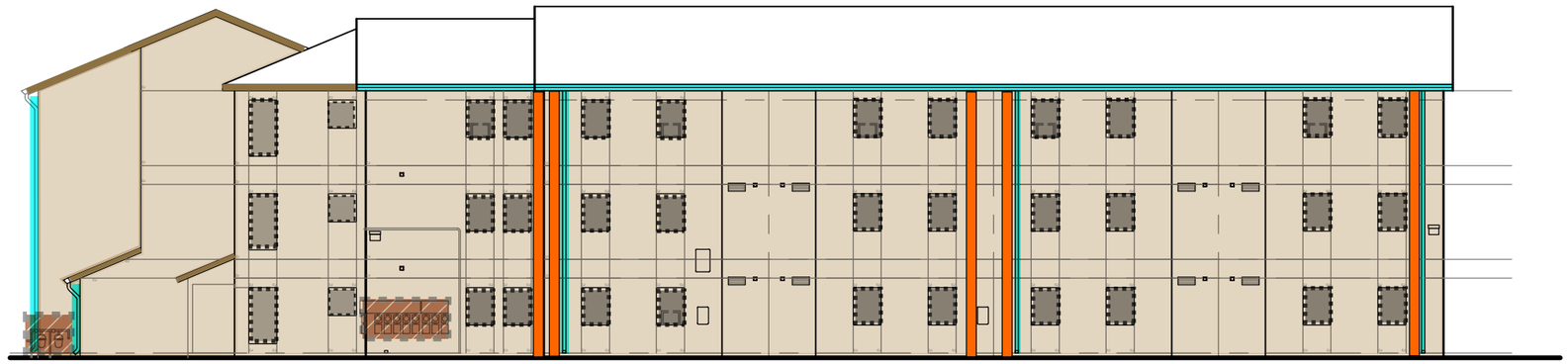


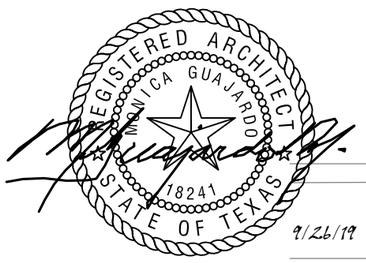
3 WEST ELEVATION

AT BUILDING 1
N.T.S.



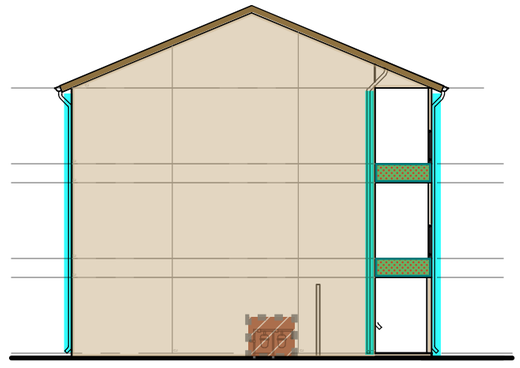
1 SOUTH ELEVATION

AT BUILDING 1
N.T.S.



4 NORTH ELEVATION

AT BUILDING 1
N.T.S.



2 EAST ELEVATION

AT BUILDING 1
N.T.S.

Project NO.: 18011
Date: 09/26/2019
Revisions:

A3.1
ELEVATIONS

CONSTRUCTION □OCUMENTS

SUNSHINE PLAZA ASSESSMENT

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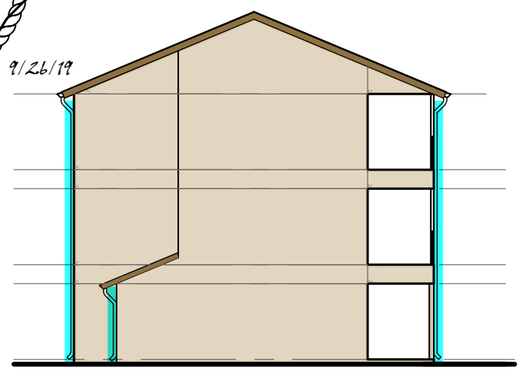
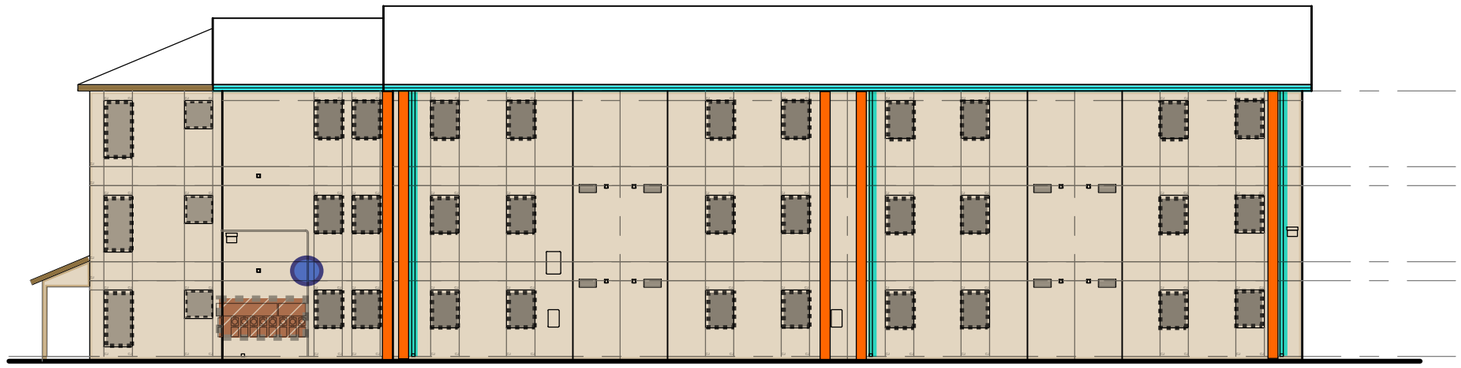
REGISTERED ARCHITECT
MONICA GUAJARDO
18241
STATE OF TEXAS

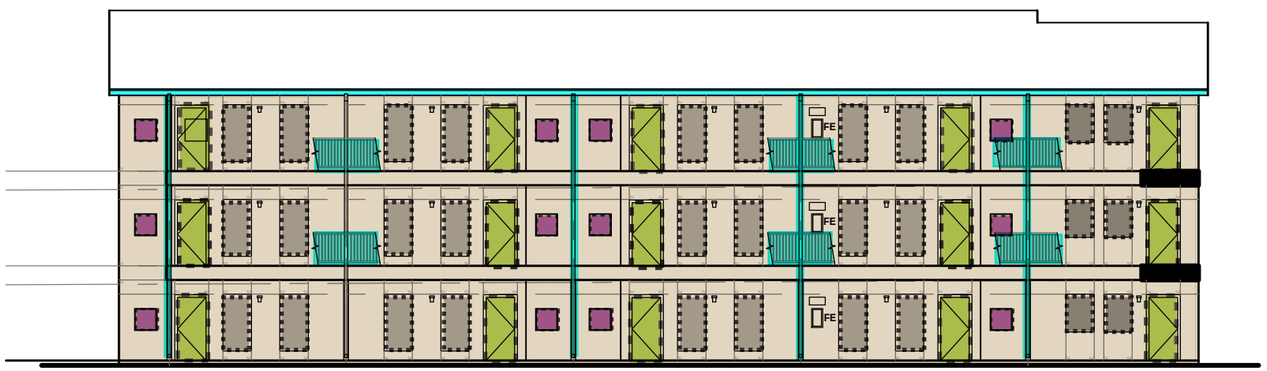
9/26/19

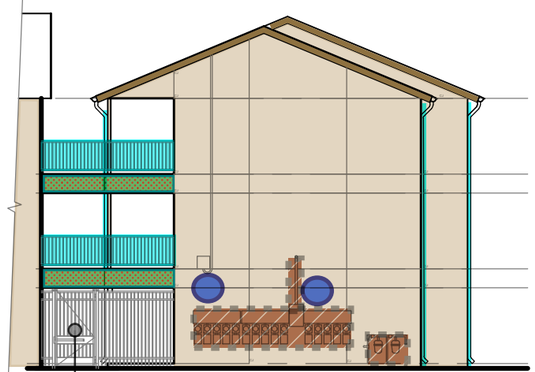




3 SOUTH ELEVATION
AT BUILDING 2
N.T.S.

1 WEST ELEVATION
AT BUILDING 2
N.T.S.





4 EAST ELEVATION
AT BUILDING 2
N.T.S.

2 NORTH ELEVATION
AT BUILDING 2
N.T.S.

Project NO.: 18011
Date: 09/26/2019
Revisions:

A3.2
ELEVATIONS

CONSTRUCTION DOCUMENTS

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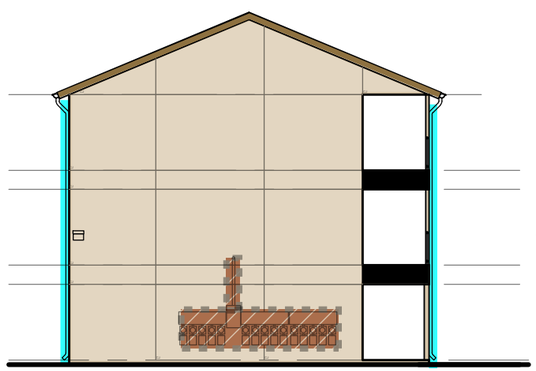
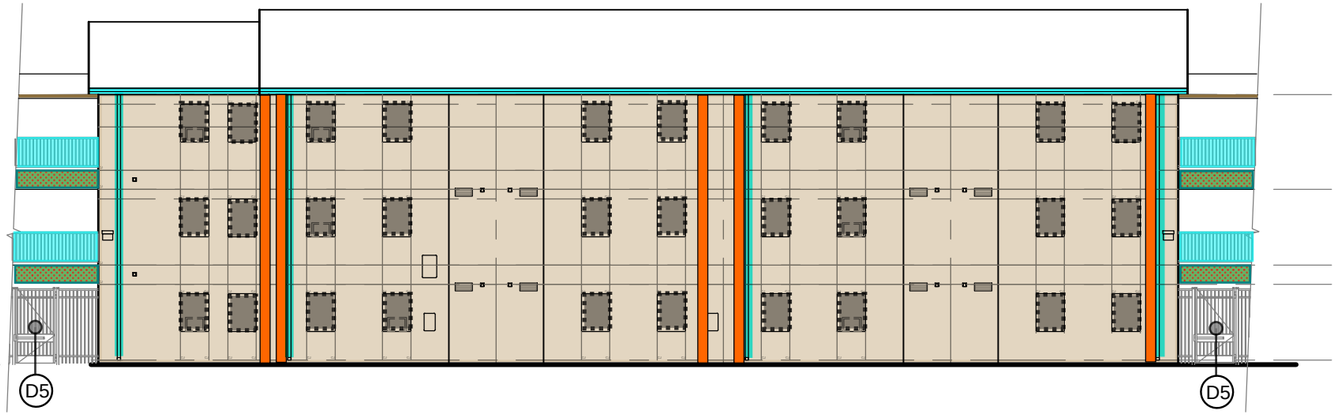
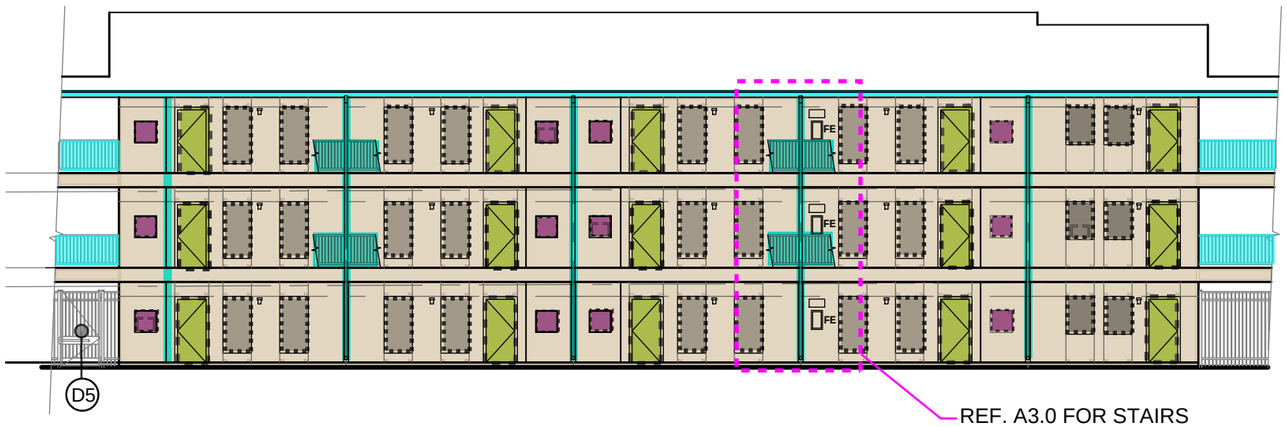


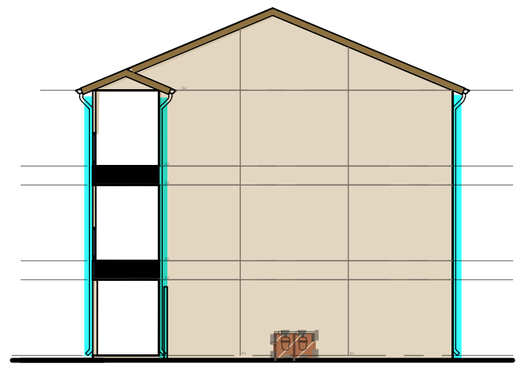


3 WEST ELEVATION
AT BUILDING 3
N.T.S.

1 NORTH ELEVATION
AT BUILDING 3
N.T.S.



4 SOUTH ELEVATION
AT BUILDING 3
N.T.S.



2 EAST ELEVATION
AT BUILDING 3
N.T.S.

Project NO.: 18011
Date: 09/26/2019
Revisions:

CONSTRUCTION □OCUMENTS

SUNSHINE PLAZA ASSESSMENT

SAN ANTONIO HOUSING AUTHORITY
SAN ANTONIO, TEXAS

A3.3
ELEVATIONS

SLAY ARCHITECTURE

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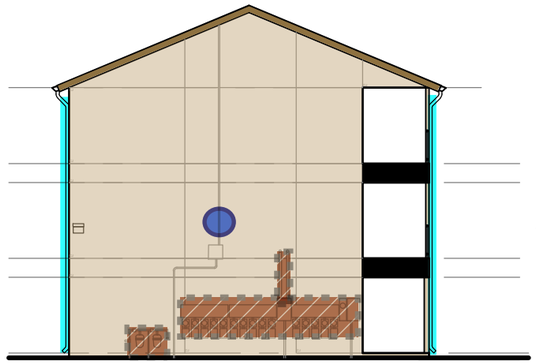
San Antonio, Texas 78201
T: 210.736.3009

LAREDO
9901 McPherson Avenue, #104
Laredo, Texas 78045
T: 956.791.0405

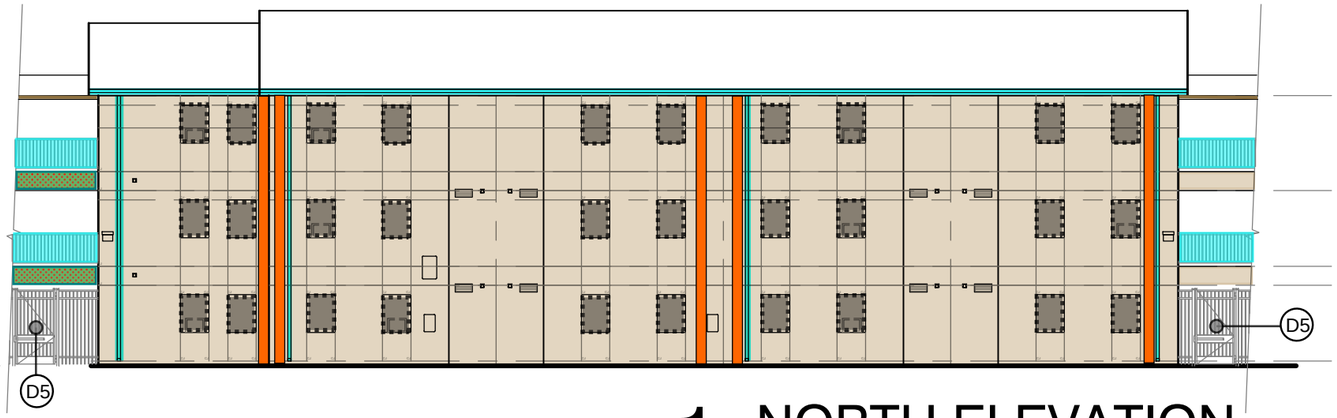
REFERENCE LEGEND ON SHEET A3.0

DRAWING IS NOT TO SCALE. VERIFY ALL MEASUREMENTS IN FIELD.
THE INFORMATION ON THIS SHEET IS ILLUSTRATED IN COLOR.



3 WEST ELEVATION

AT BUILDING 4
N.T.S.

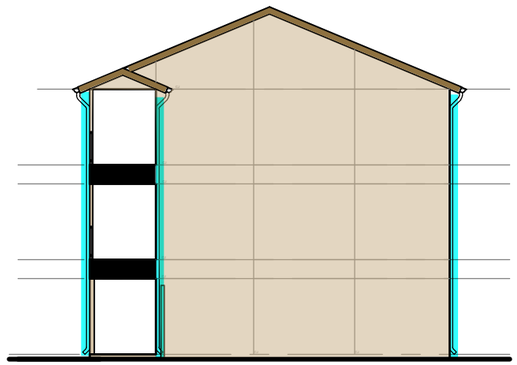


1 NORTH ELEVATION

AT BUILDING 4
N.T.S.

4 SOUTH ELEVATION

AT BUILDING 4
N.T.S.



2 EAST ELEVATION

AT BUILDING 4
N.T.S.

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MONICA GUAJARDO
18241
STATE OF TEXAS
9/26/19

Project NO.: 18011
Date: 09/26/2019
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CONSTRUCTION □OCUMENTS

SUNSHINE PLAZA ASSESSMENT

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A3.4
ELEVATIONS

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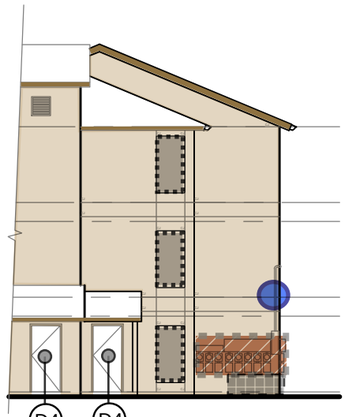

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AT BUILDING 5
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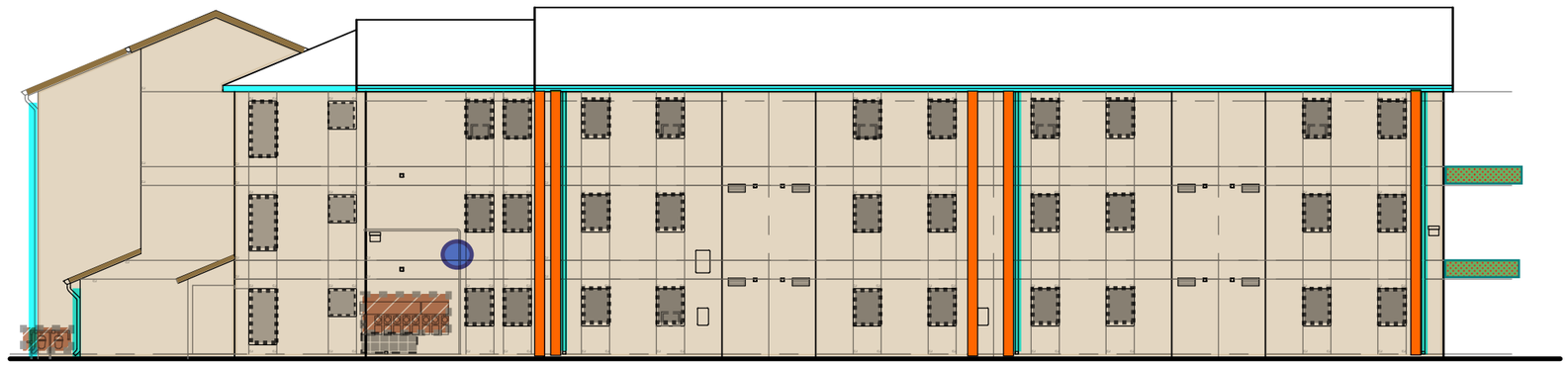
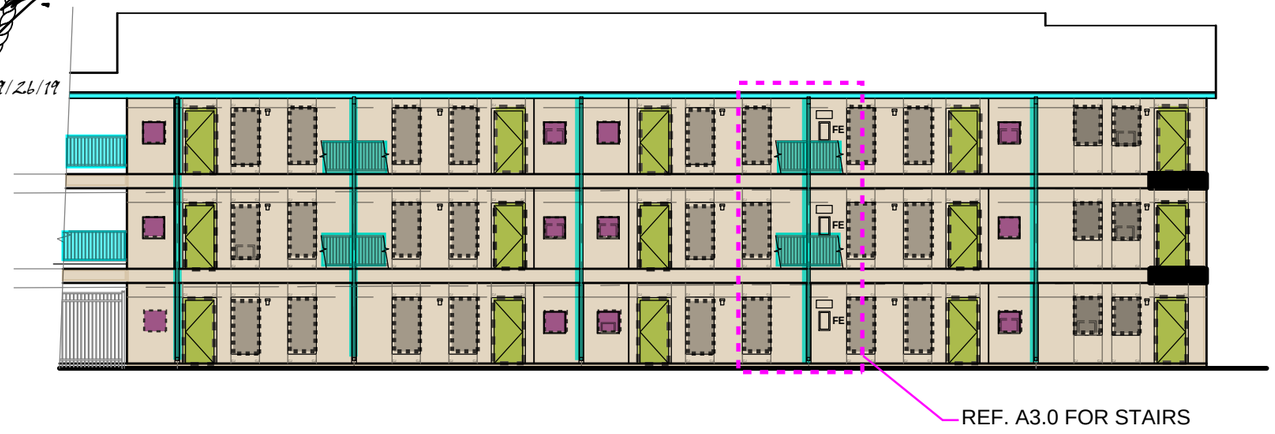


1 NORTH ELEVATION

AT BUILDING 5
N.T.S.

9/26/19



4 SOUTH ELEVATION

AT BUILDING 5
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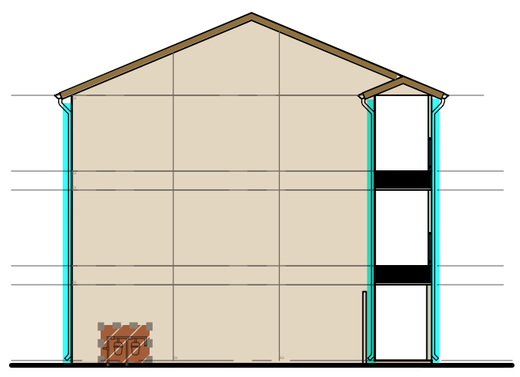

2 WEST ELEVATION

AT BUILDING 5
N.T.S.

Project NO.: 18011
Date: 09/26/2019
Revisions:

A3.5
ELEVATIONS

CONSTRUCTION □OCUMENTS

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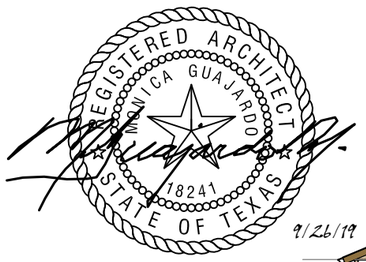
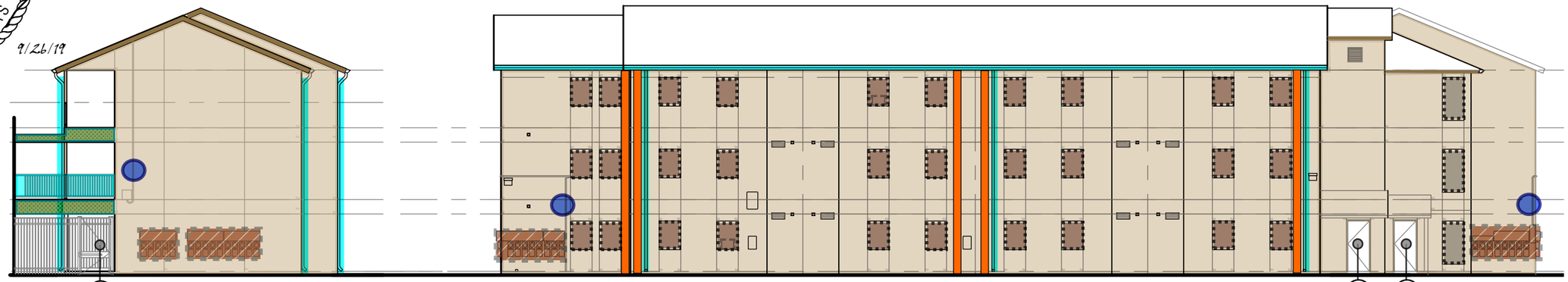
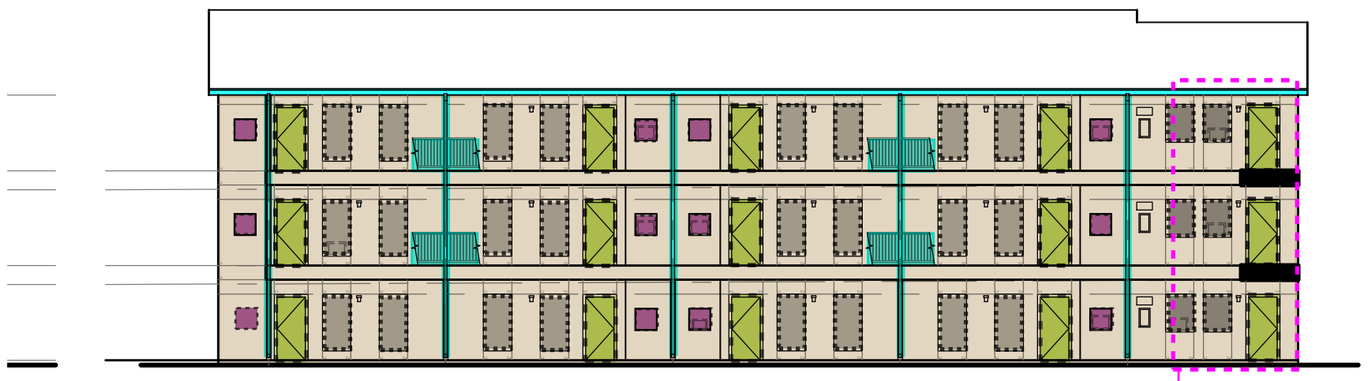


9/26/19

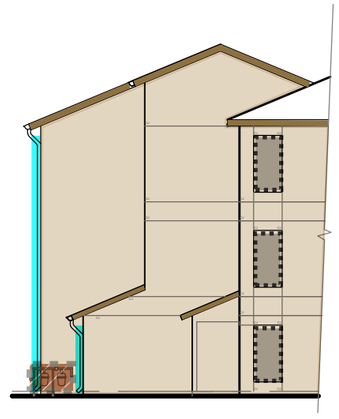


3 SOUTH ELEVATION
AT BUILDING 6
N.T.S.

1 EAST ELEVATION
AT BUILDING 6
N.T.S.



4 WEST ELEVATION
AT BUILDING 6
N.T.S.



2 NORTH ELEVATION
AT BUILDING 6
N.T.S.

Project NO.: 18011
Date: 09/26/2019
Revisions:

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SUNSHINE PLAZA ASSESSMENT

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A3.6
ELEVATIONS

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STATE OF TEXAS

9/26/19

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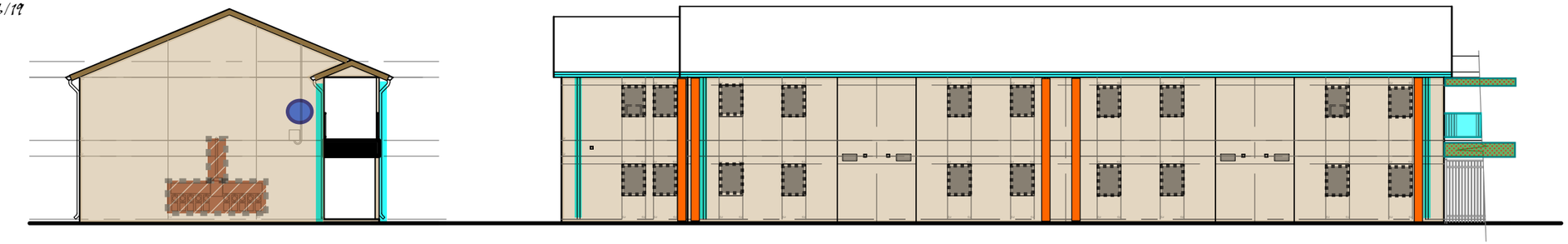
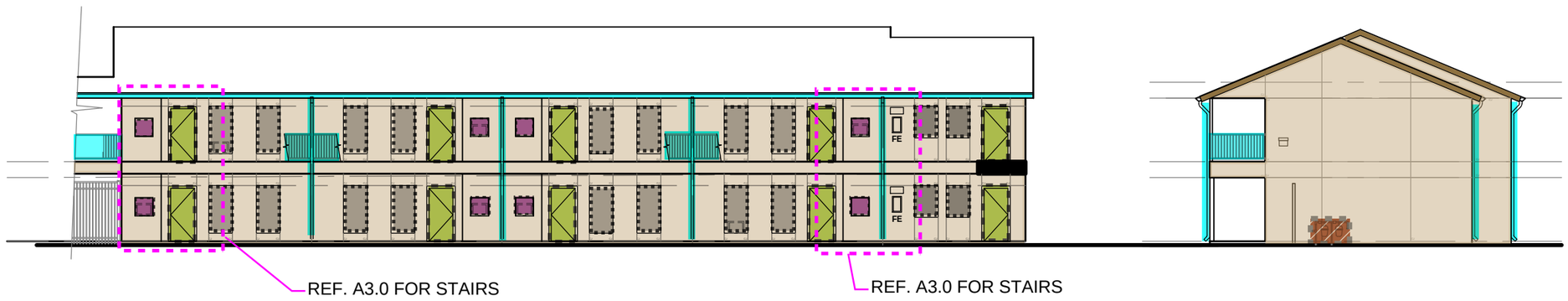


3 EAST ELEVATION
AT BUILDING 7
N.T.S.

1 SOUTH ELEVATION
AT BUILDING 7
N.T.S.



4 NORTH ELEVATION
AT BUILDING 7
N.T.S.

2 WEST ELEVATION
AT BUILDING 7
N.T.S.

Project NO.: 18011
Date: 09/26/2019
Revisions:

A3.7
ELEVATIONS

CONSTRUCTION □OCUMENTS

SUNSHINE PLAZA ASSESSMENT

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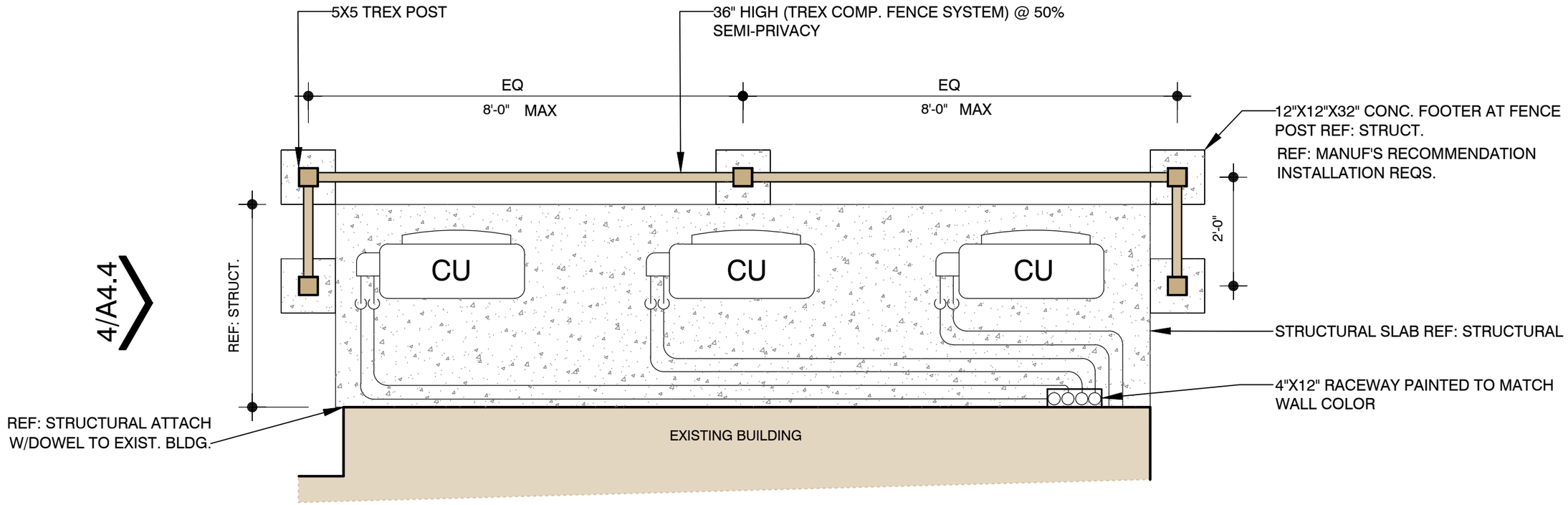
MONICA GUAJARDO
18241
STATE OF TEXAS
9/26/19

5/A4.4



1 DETAIL

CU SLAB WITH SCREEN
1/2" : 1'

CONSTRUCTION DOCUMENTS

SUNSHINE PLAZA APARTMENTS IMPROVEMENT PROJECT

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Texas Professional Engineers No. F-3272

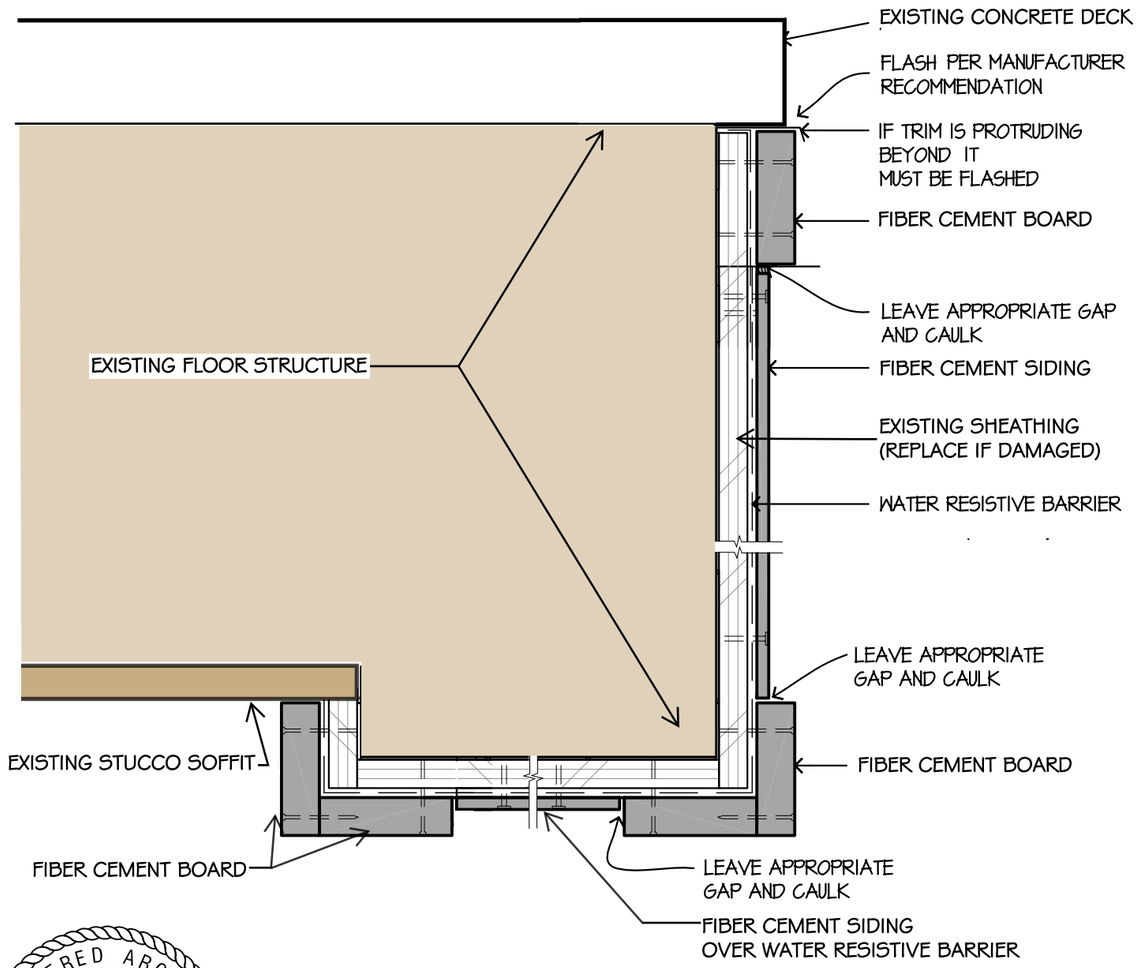
Project NO. FB186000 in agreement w/ SAHA
Date: 09/26/19
Revisions: 10/25/2019

A4.0

DETAIL

VIEW OF EXISTING CONDITION OF CORRIDOR EDGE

VIEW OF CORRIDOR EDGE AFTER REPAIRS



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9/26/19

1 FIBER CEMENT SIDING DETAIL

@ EXT. CORRIDOR EDGE
N.T.S.

CONSTRUCTION DOCUMENTS

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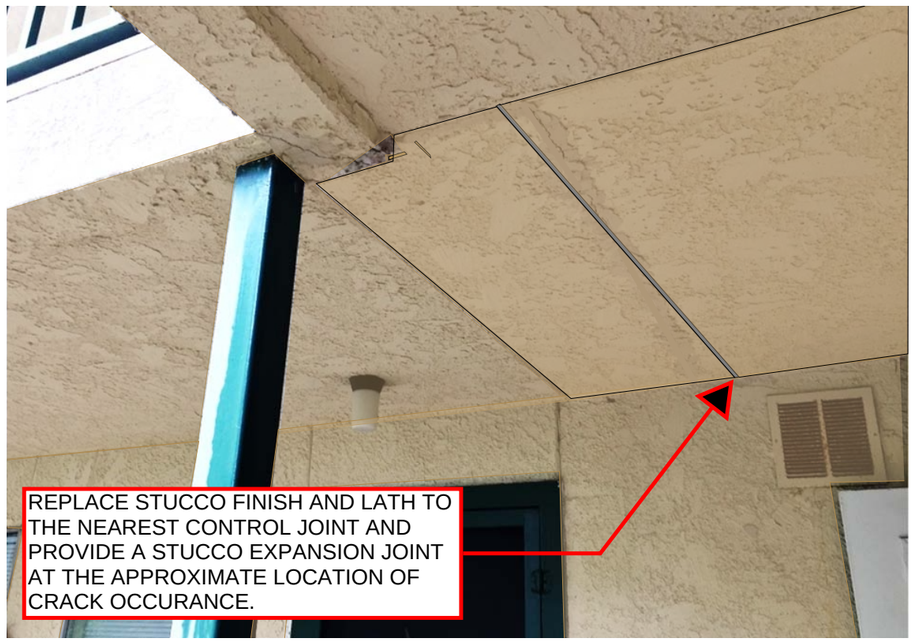
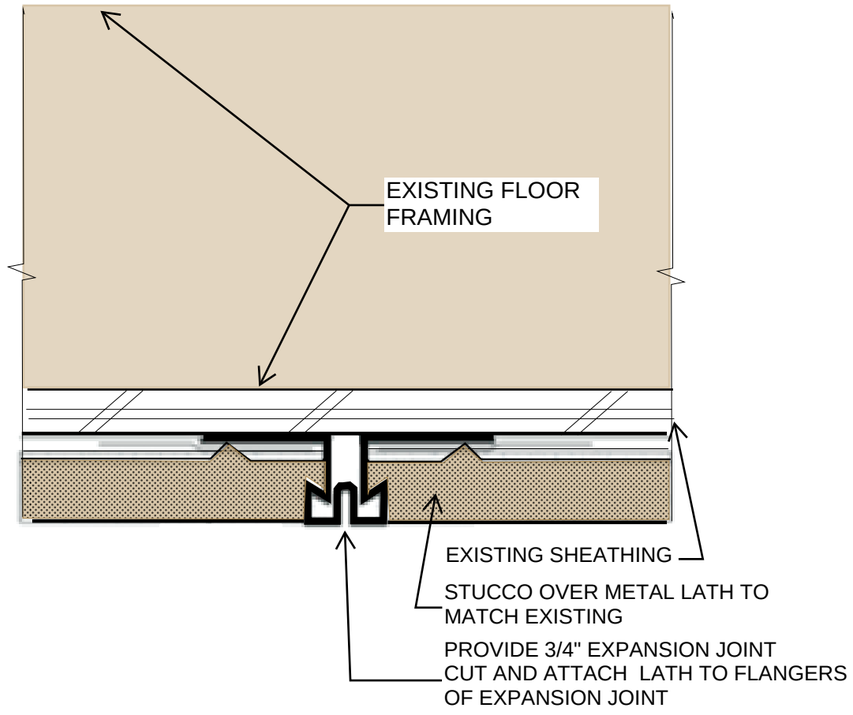
A4.1

DETAIL

VIEW OF EXISTING CONDITION OF CORRIDOR EDGE



VIEW OF CORRIDOR EDGE AFTER REPAIRS



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STATE OF TEXAS
9/26/19

1 STUCCO EXPANSION JOINT

@ CORRIDOR SOFFIT

N.T.S.

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SUNSHINE PLAZA APARTMENTS IMPROVEMENT PROJECT

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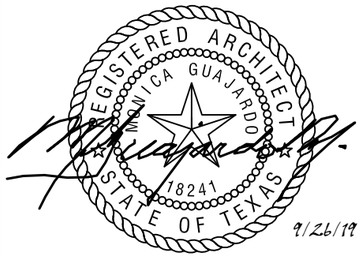
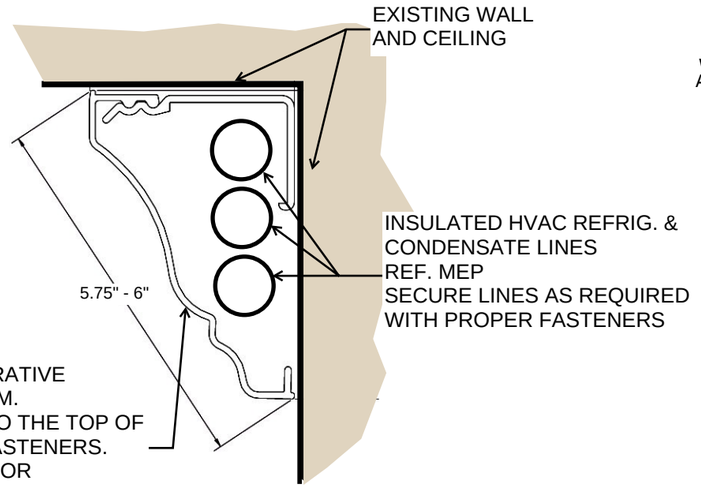
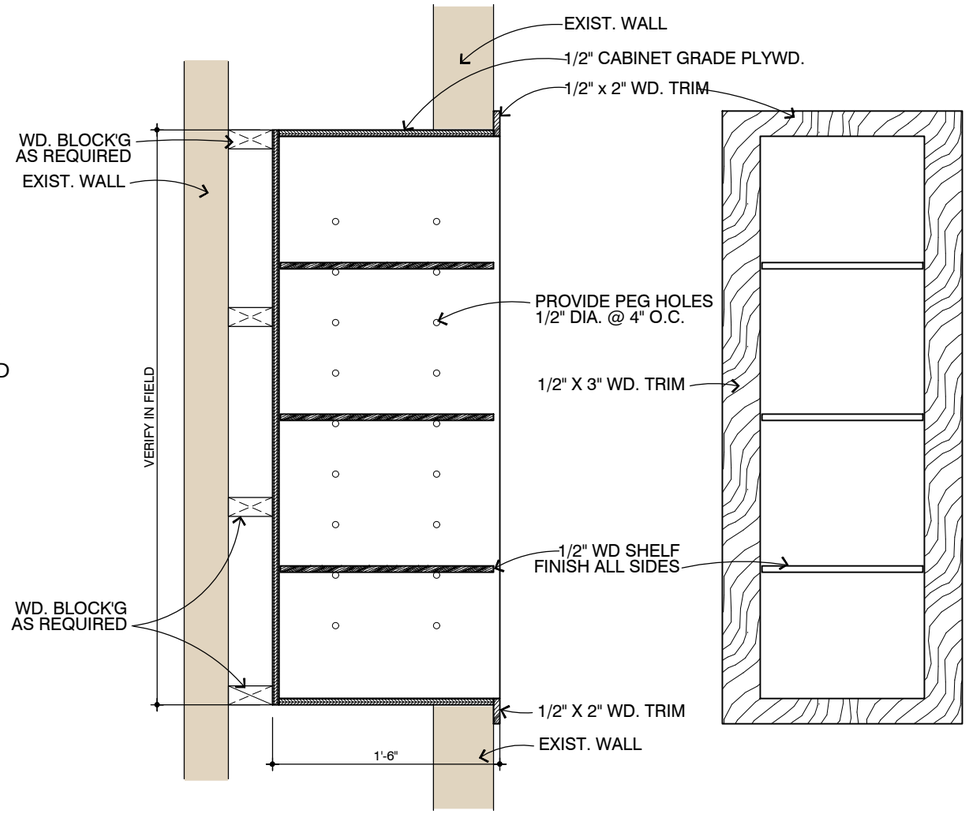
DETAIL



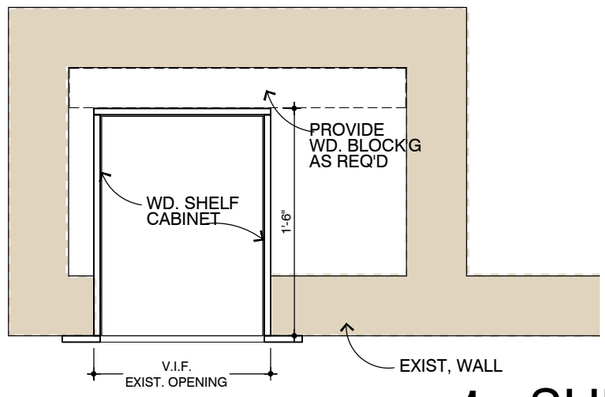


2 RACEWAY CROWN

@ MOULDING DETAIL
N.T.S.



SECTION **ELEVATION**



PLAN

1 SHELF DETAIL

@ EFFICIENCY UNIT EXIST. HVAC CLOSET
1" = 1'- 0"

CONSTRUCTION □OCUMENTS

SUNSHINE PLAZA APARTMENTS IMPROVEMENT PROJECT

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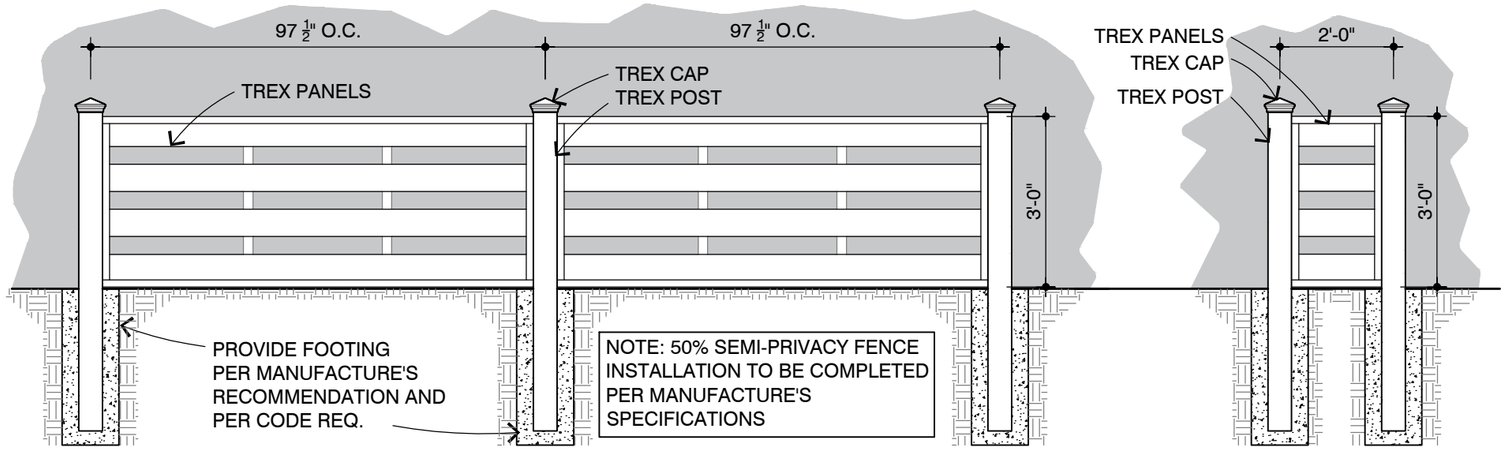
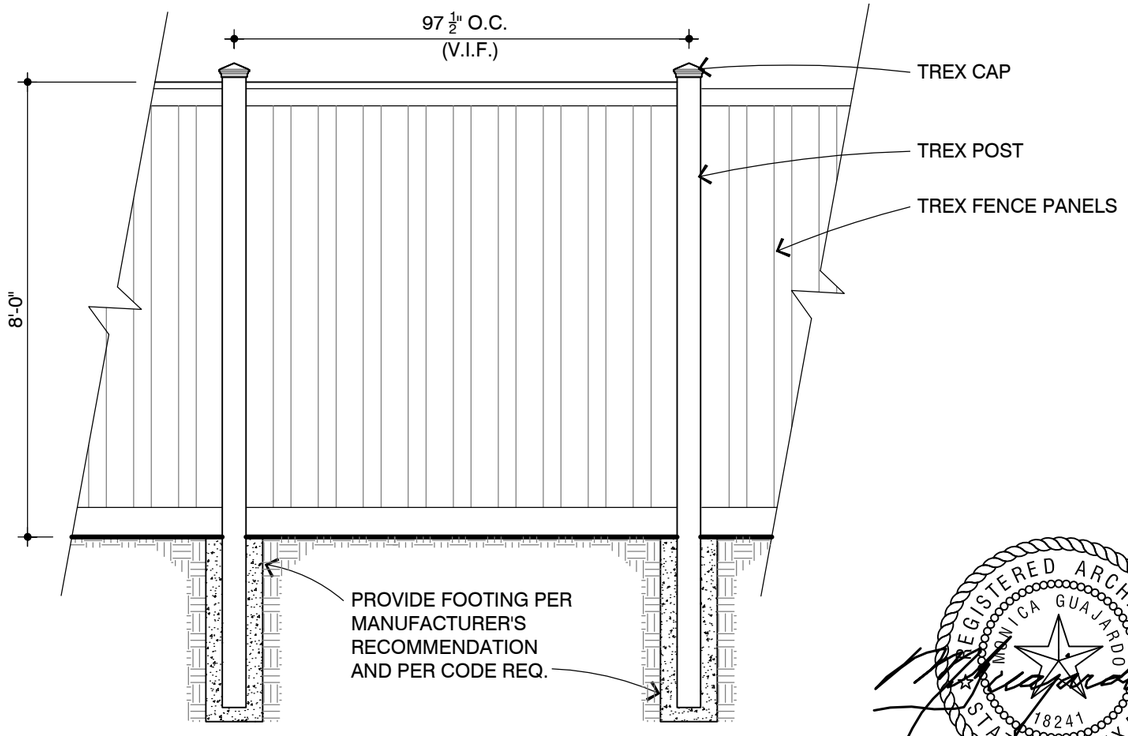
A4.3

DETAIL



5 TYP. MECH. SCREEN

FRONT ELEVATION
13/8" : 1'

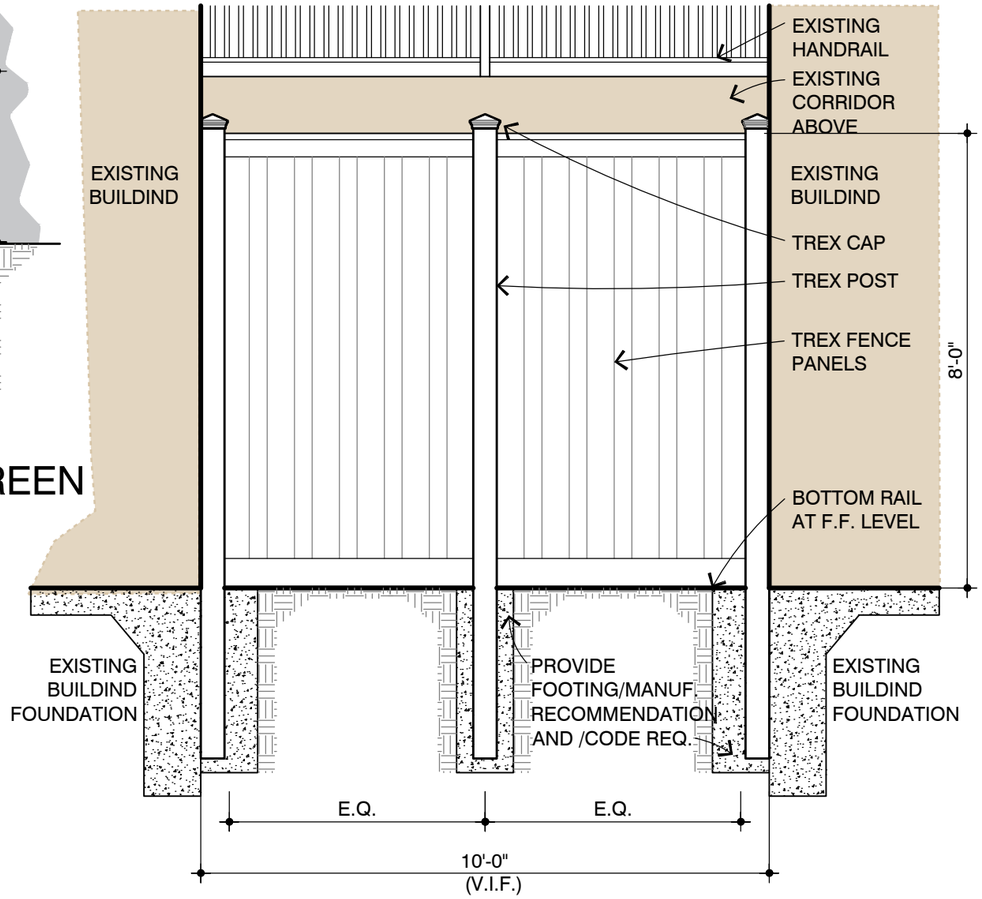


3 TYP. FENCE SYST.

FRONT ELEVATION
3/8" : 1'

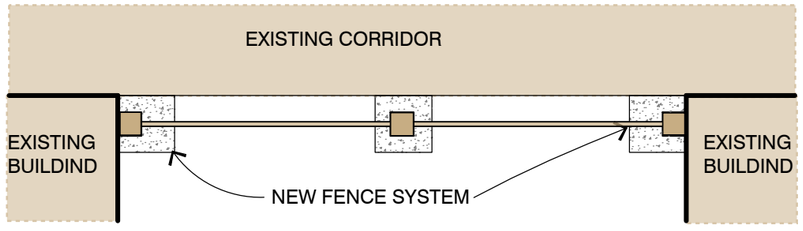
4 TYP. MECH. SCREEN

SIDE ELEVATION
3/8" : 1'



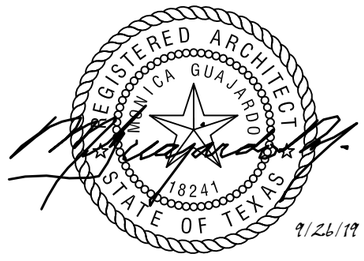
2 TYP. FENCE SYST.

@ AREAS BETWEEN BUILDINGS
3/8" : 1'



1 TYP. FENCE SYST. PLAN

@ AREAS BETWEEN BUILDINGS
3/8" : 1'



CONSTRUCTION DOCUMENTS

SUNSHINE PLAZA APARTMENTS IMPROVEMENT PROJECT

SAN ANTONIO HOUSING AUTHORITY

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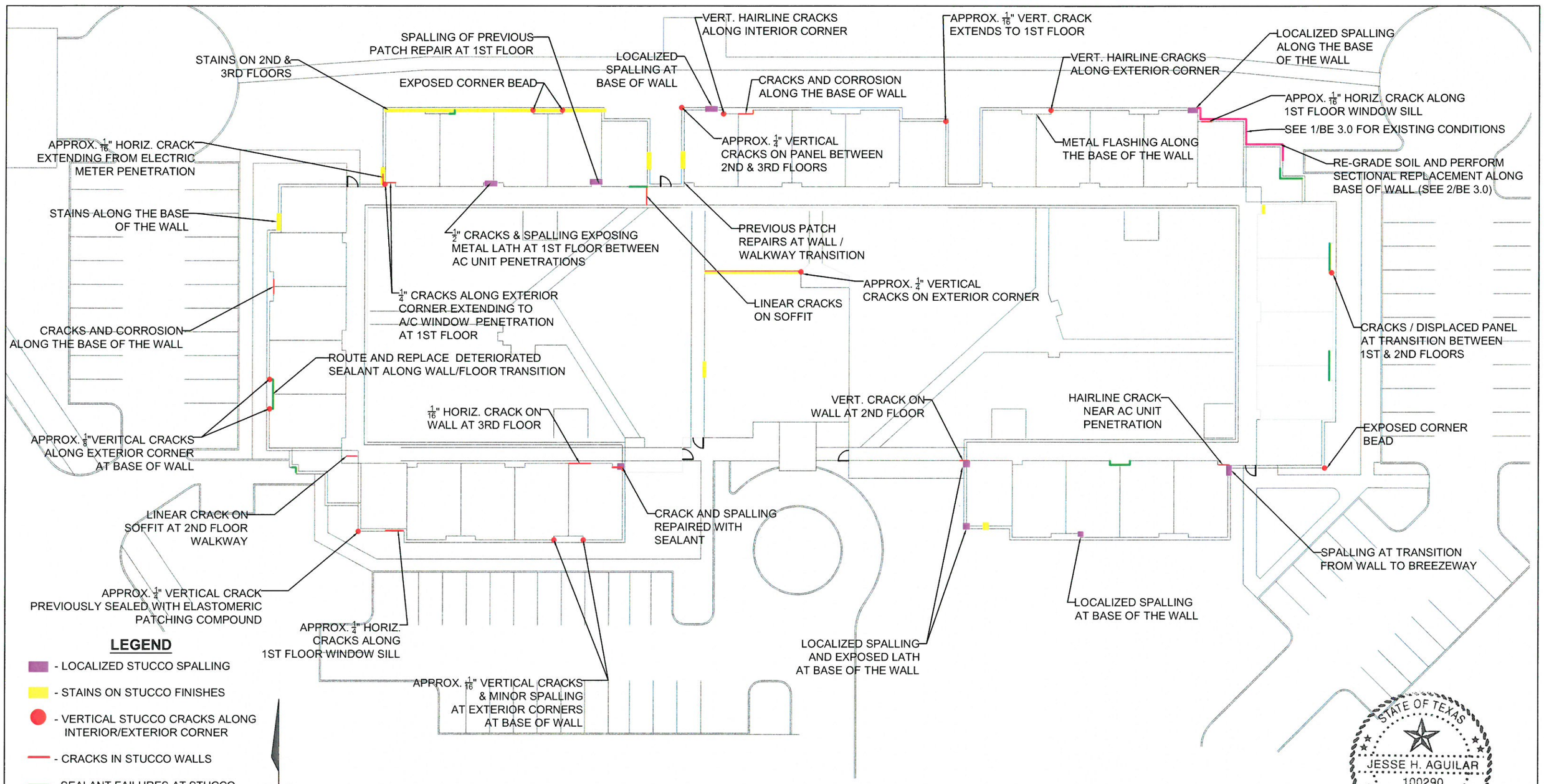
A4.4

DETAIL



LEGEND

- LOCALIZED STUCCO SPALLING
- STAINS ON STUCCO FINISHES
- VERTICAL STUCCO CRACKS ALONG INTERIOR/EXTERIOR CORNER
- CRACKS IN STUCCO WALLS
- SEALANT FAILURES AT STUCCO WALL / FLOOR INTERSECTION
- SOIL COVERING STUCCO AND WEEP SCREED
- SOIL EROSION ALONG SLAB PERIMETER

N

GENERAL NOTES

- All locations are approximate.
- Contractor to field verify crack widths and lengths (or linear footage) prior to performing repairs.
- Seal stucco cracks less than or equal to 1/4-inch wide with elastomeric patching compound.
- Perform stucco repairs on cracks greater than 1/4-inch wide at corners in accordance with 1/BE 4.0.

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9/27/19

CONSTRUCTION DOCUMENTS FOR THE

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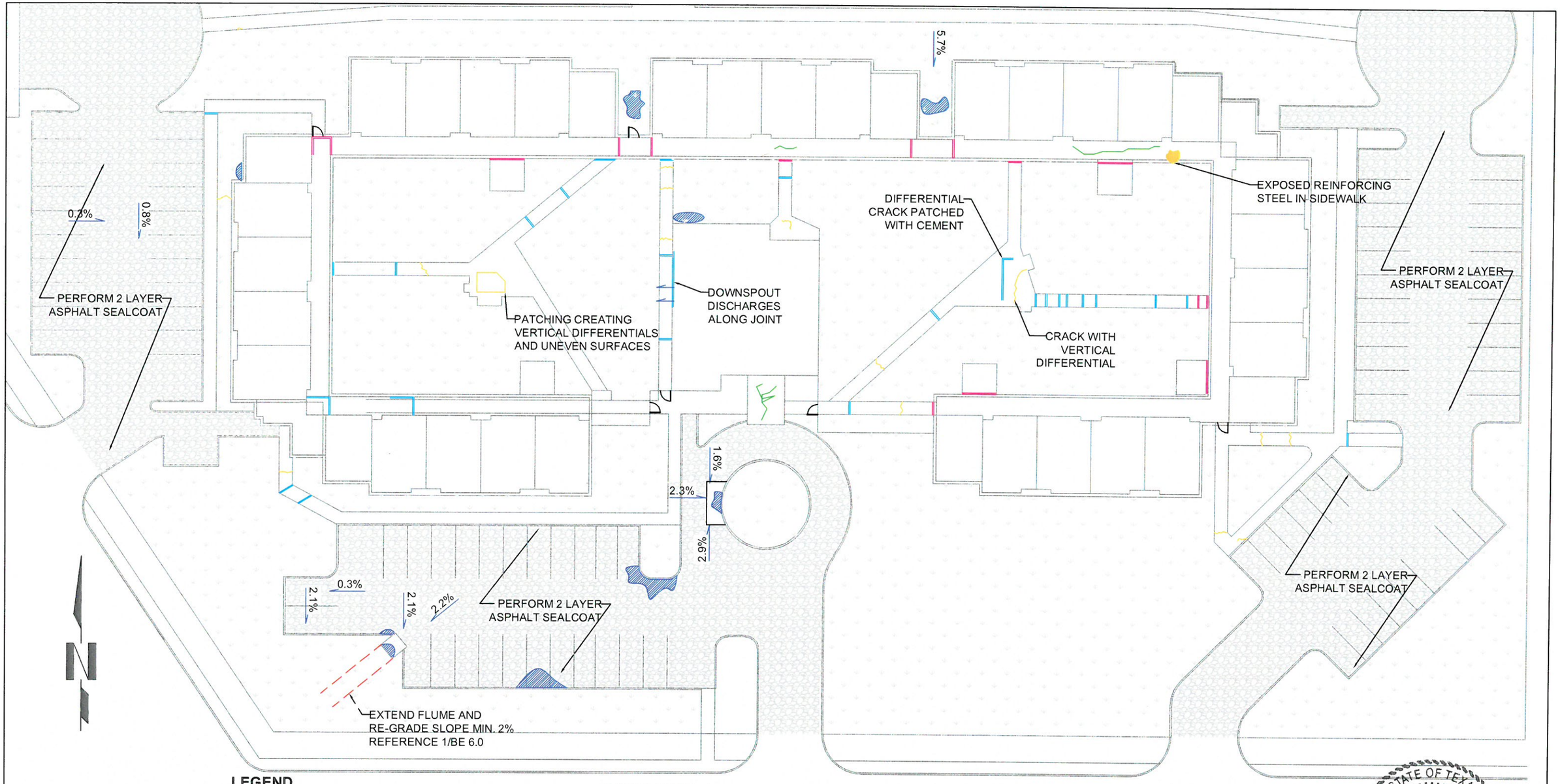
BE 1.0

STUCCO DISTRESS PLAN



LEGEND

- SUSPECT LOCALIZED PONDING
- GRADE SLOPE (ARROW POINTS TO DOWN SLOPE DIRECTION)
- CRACKS IN CONCRETE FLATWORK
- VERTICAL DIFFERENTIAL AND SEPARATION BETWEEN SIDEWALK JOINTS GREATER THAN OR EQUAL TO 1-1/2" WIDE
- VERTICAL DIFFERENTIAL AND SEPARATION BETWEEN SIDEWALK JOINTS LESS THAN 1-1/2" WIDE
- EPOXY CRACK REPAIRS IN SIDEWALKS

GENERAL NOTES

- All locations are approximate.
- All asphalt pavement to be sealcoated.
- Contractor to field verify sidewalk joint widths and linear footage prior to performing repairs.
- Perform sidewalk repairs on joints less than 1-1/2" wide in accordance with 2/BE 5.0
- Perform sidewalk repairs on joints greater than or equal to 1-1/2" wide in accordance to 4/BE 5.0

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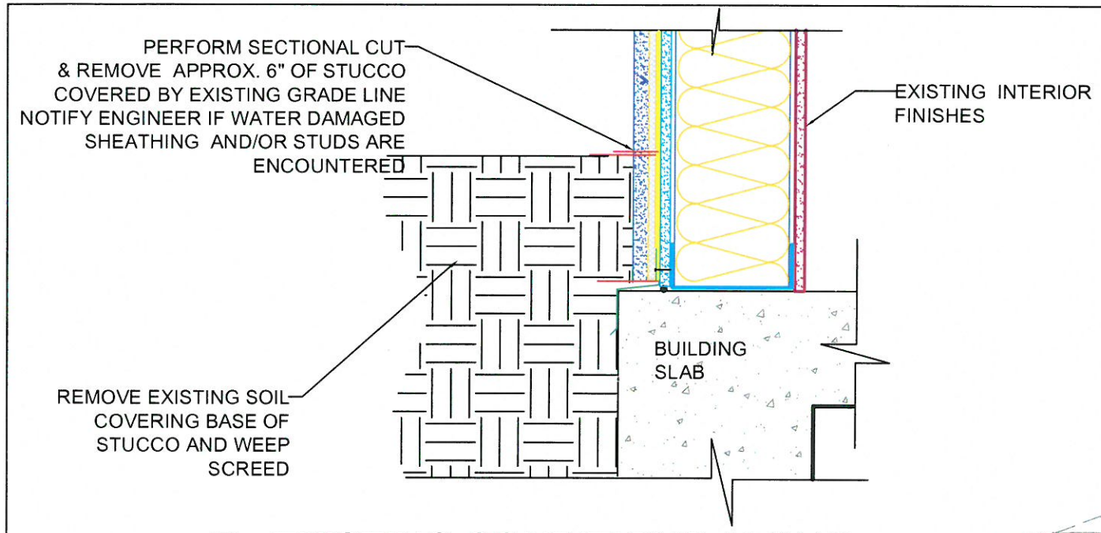
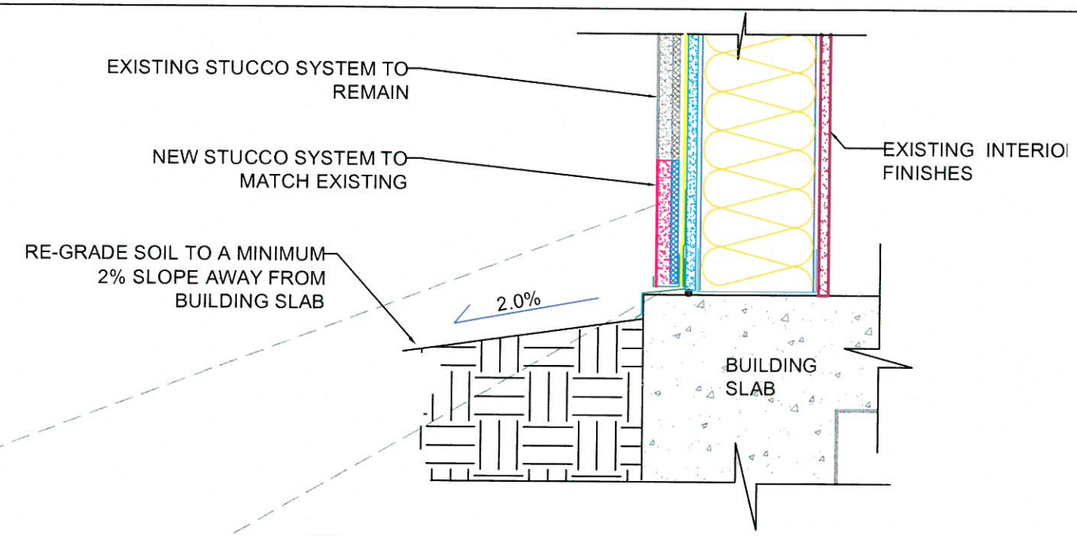
Revisions:

BE. 2.0

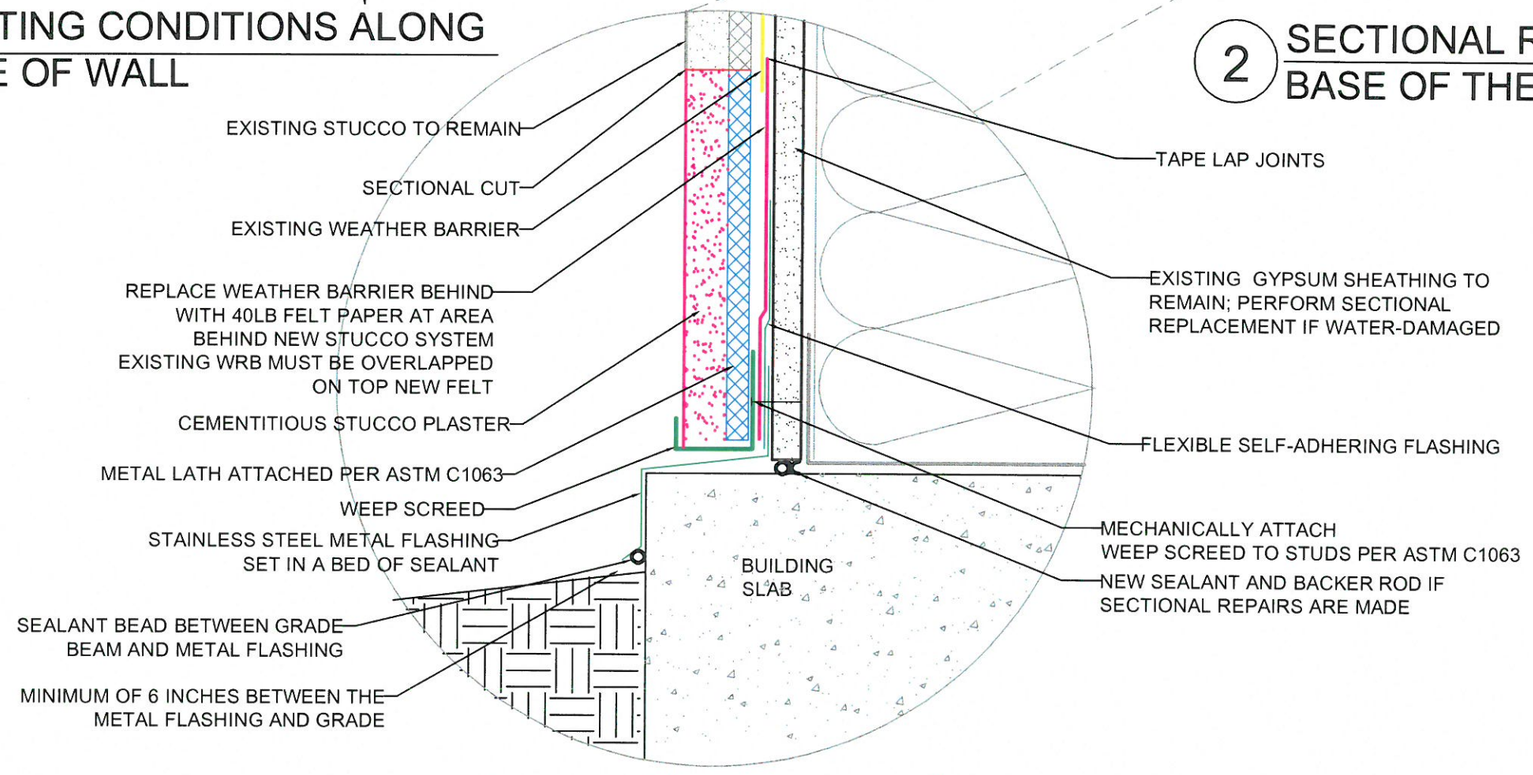
FLATWORK & PAVEMENT DISTRESS PLAN



1 EXISTING CONDITIONS ALONG BASE OF WALL



2 SECTIONAL REPAIR ALONG BASE OF THE WALL



3 NEW WEEP SCREED DETAIL

GENERAL NOTES:
1) CONTRACTOR SHOULD DEMO WITH CAUTION TO NOT DAMAGE EXISTING WRB TO ALLOW FOR FUTURE TIE-INS
2) OVERLAP METAL FLASHING MIN. 4" AND SEAL WITH SEALANT

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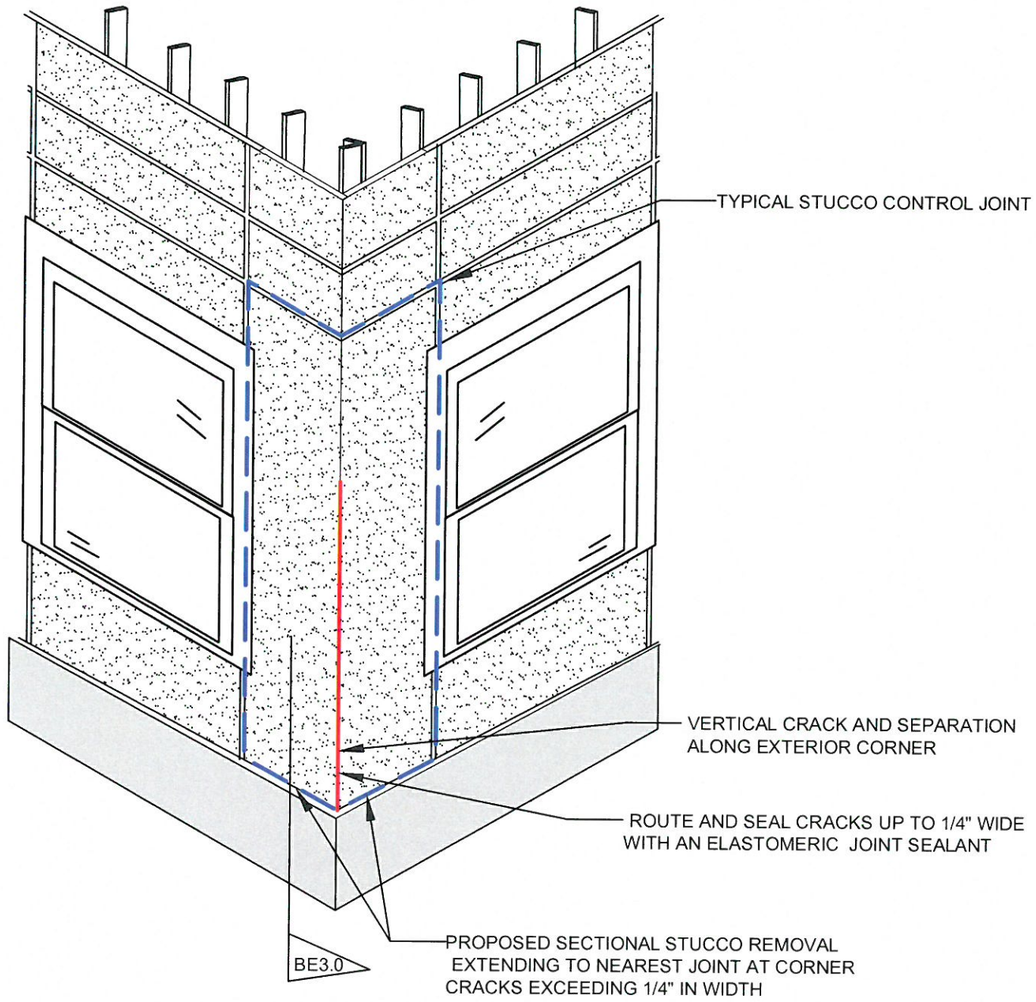
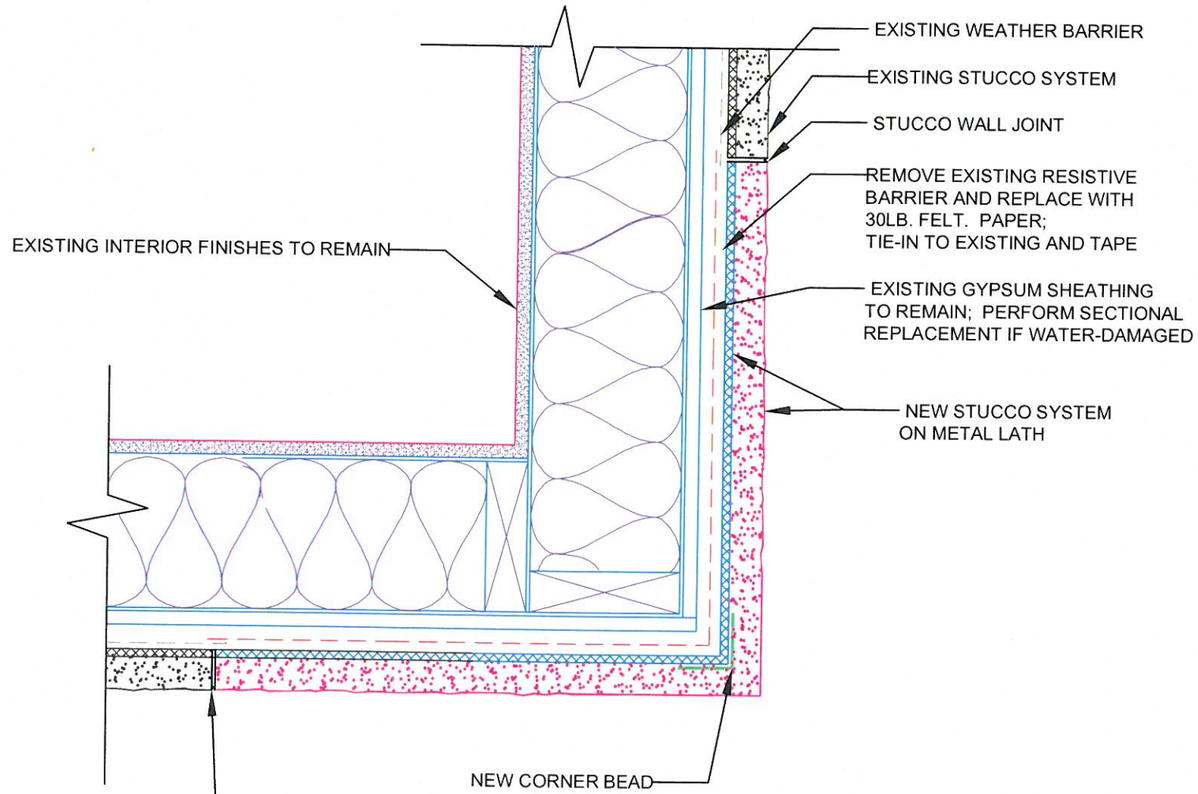
BE 3.0

STUCCO REPAIRS



1 EXISTING CONDITIONS ALONG OUTSIDE CORNER



2 NEW OUTSIDE CORNER REPAIR DETAIL CRACKS EXCEEDING 1/4-IN. WIDE

STATE OF TEXAS
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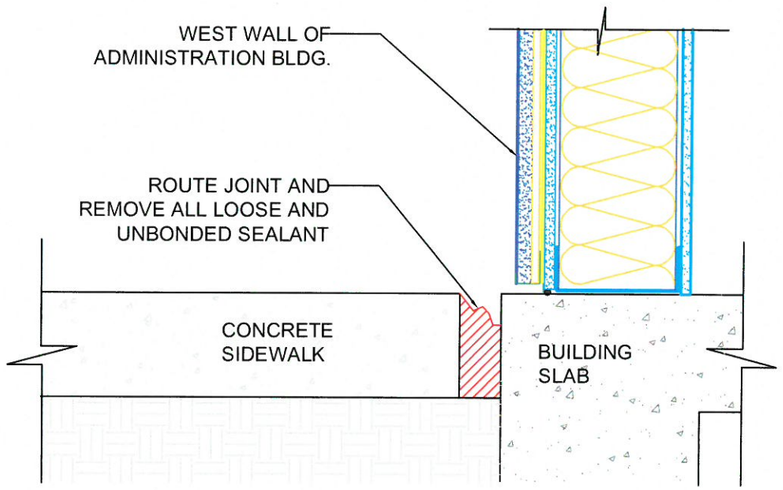
PROFESSIONAL ENGINEER
9-27-19

CONSTRUCTION DOCUMENTS FOR THE
SUNSHINE PLAZA APARTMENTS IMPROVEMENTS PROJECT
SAN ANTONIO HOUSING AUTHORITY
SAN ANTONIO, TEXAS

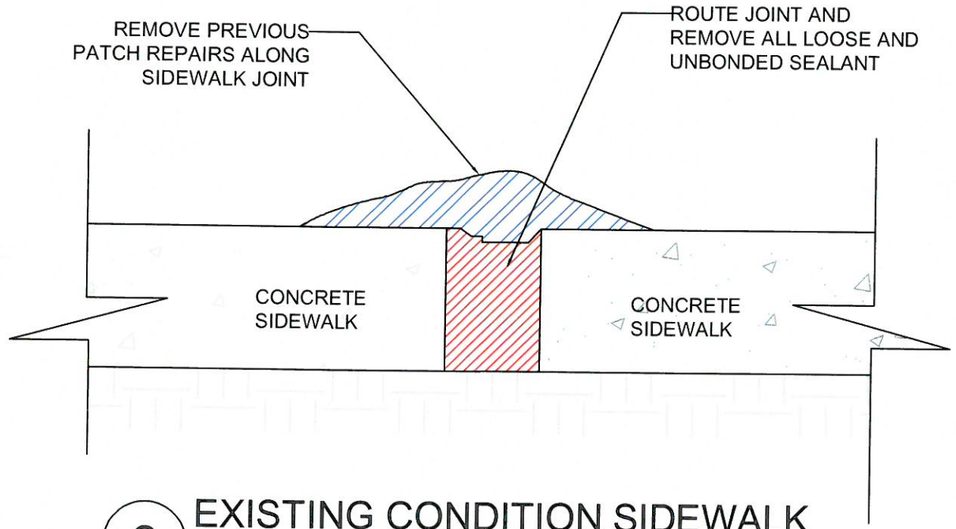
Terracon
6911 Blanco Road
San Antonio, Texas 78216
P: 210.641.2112
Texas Professional Engineers No. F-3272

Project NO. FB186000
Date: 9/27/2019
Revisions:

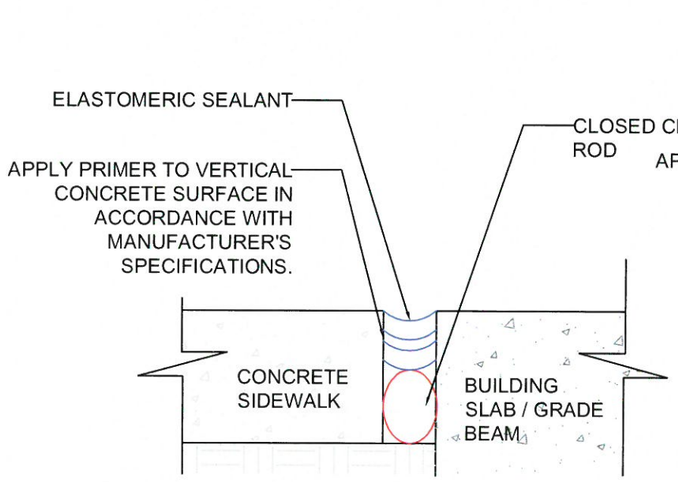
BE 4.0
STUCCO REPAIRS



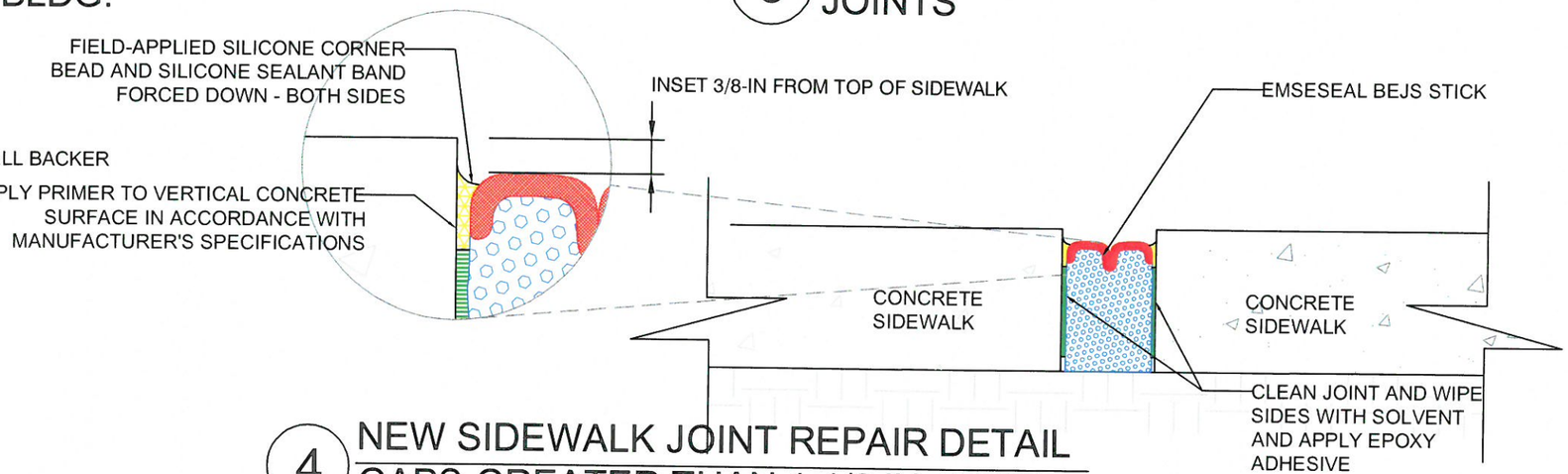
1 EXISTING CONDITION OF SIDEWALK ALONG WEST ELEVATION OF ADMIN. BLDG.



3 EXISTING CONDITION SIDEWALK JOINTS



2 NEW SIDEWALK JOINT REPAIR DETAIL GAPS LESS THAN 1-1/2 IN WIDE



4 NEW SIDEWALK JOINT REPAIR DETAIL GAPS GREATER THAN 1-1/2 IN. WIDE

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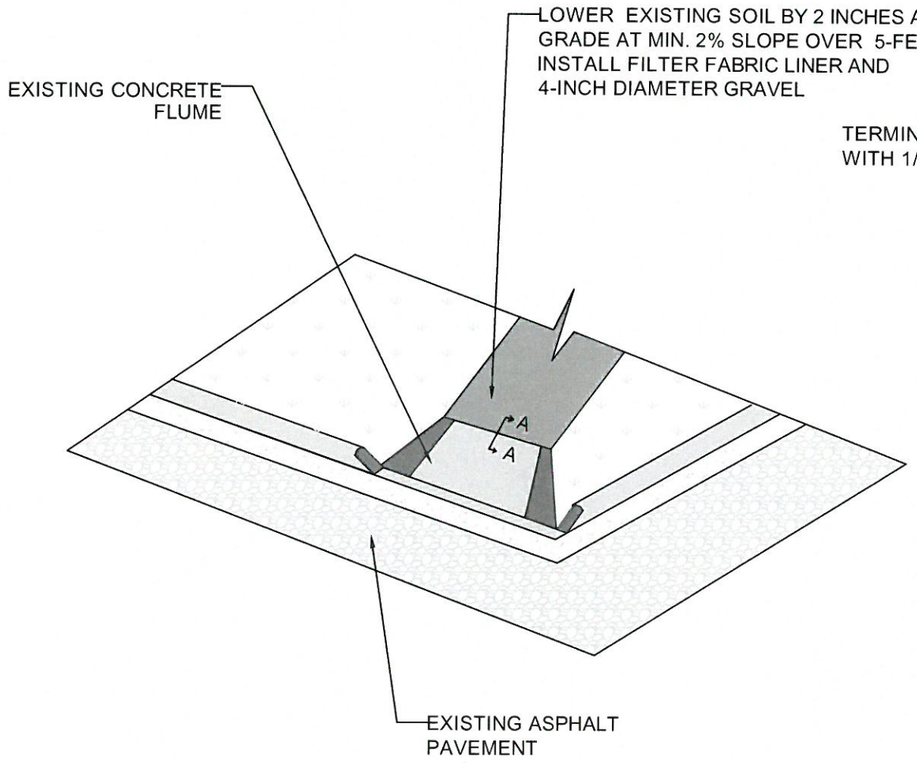
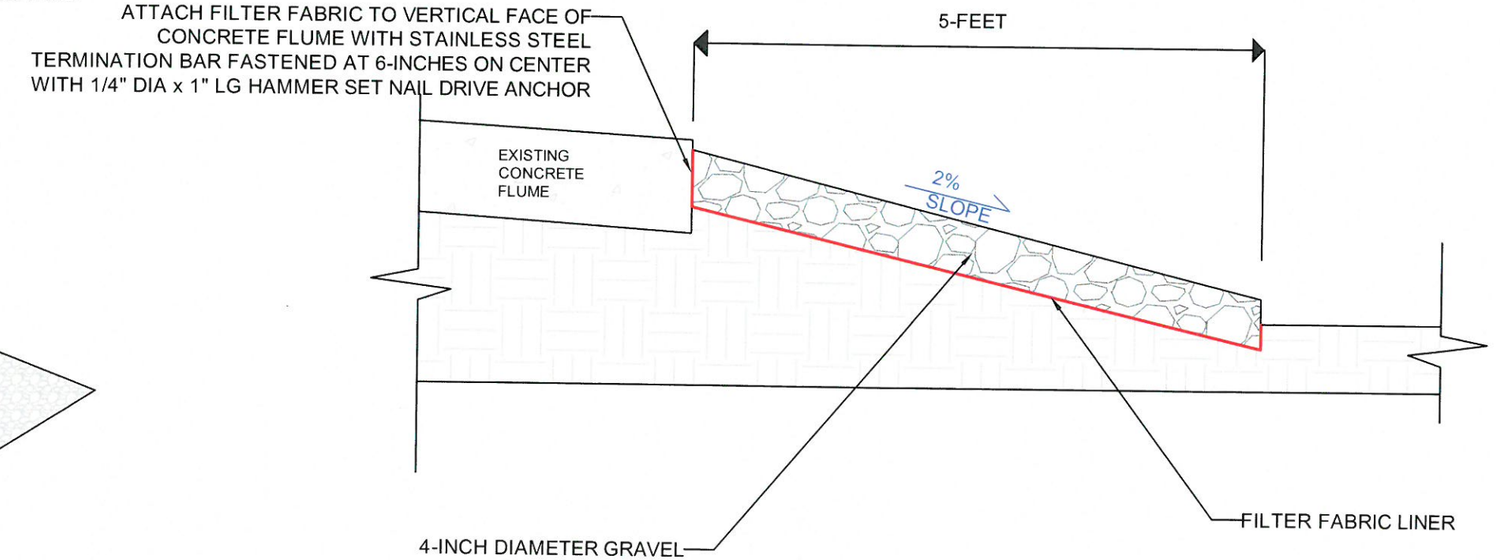
BE 5.0

SIDEWALK REPAIR



1 PROPOSED CONCRETE DRAINAGE IMPROVEMENT



2 CROSS-SECTION A-A

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BE 6.0
DRAINAGE IMPROVEMENTS

GENERAL STRUCTURAL NOTES

APPLY UNLESS NOTED ON STRUCTURAL DRAWINGS. IN CASE OF CONFLICT BETWEEN GSN, DETAILS AND PLANS, THE GREATER REQUIREMENTS GOVERN.

CODE:

COMPLY WITH 2015 INTERNATIONAL BUILDING CODE.

DEAD LOAD.....20 PSF

LIVE LOAD (REDUCIBLE).....20 PSF

WIND CRITERIA
- BASIC DESIGN WIND SPEED (3 SEC GUST).....115 MPH
- WIND EXPOSURE CATEGORY.....B
- MAIN WIND FORCE RESISTING SYSTEM
  - ROOF (ENDZONES/TYPICAL).....23.1/16 PSF
  - WALLS (ENDZONES/TYPICAL).....19.2/12.7 PSF
- COMPONENTS AND CLADDING (100 SQ. FT. AREA)
  - ROOF (ENDZONE/INTERMEDIATE/INTERIOR).....21.6/16.3/11.9 PSF
  - WALLS (ENDZONES/TYPICAL).....18.5/18.5 PSF

MECHANICAL LOADS: SEE MECHANICAL DRAWINGS. VERIFY ANY LOADS SHOWN ON STRUCTURAL DRAWINGS WITH MECHANICAL DRAWINGS.

STRUCTURAL STEEL:

FOR ALL STRUCTURAL STEEL FABRICATION AND CONSTRUCTION LATEST AISC HANDBOOKS AND CODES SHALL APPLY. ALL STEEL FABRICATION IS REQUIRED TO BE COMPLETED BY AN APPROVED STEEL FABRICATOR RECOGNIZED BY THE BUILDING DEPARTMENT.

ASTM A36, EXCEPT AS FOLLOWS: WIDE FLANGE SECTIONS - ASTM A992, PIPE SECTIONS - ASTM A53 GRADE B, HSS SECTIONS - ASTM A500 GRADE B, HP SECTIONS - ASTM A572 GRADE 50.

ANCHOR BOLTS, ASTM A307 UNO; HIGH STRENGTH BOLTS, A325-X OR A325-SC PER SCHEDULES. MINIMUM EMBEDMENT OF ALL BOLTS IN GROUT OR CONCRETE SHALL BE 8" INCLUDING BOLT HEAD OR 5" WITH A STD HOOK. WELDED ANCHORS AND SHEAR CONNECTORS SHALL BE ICC APPROVED.

UNLESS OTHERWISE NOTED MINIMUM CONNECTION SHALL BE: (2) 3/4" DIAMETER BOLTS OR 3/16" FILLET WELD 4" LONG, USING 1/4" CONNECTION MATERIAL AND DETAILED TO MINIMIZE BENDING IN THE CONNECTION.

WELDING:

ALL CONSTRUCTION AND TESTING PER AMERICAN WELDING SOCIETY CODES AND RECOMMENDATIONS. ALL WELDING SHALL BE BY WELDERS HOLDING CURRENT VALID CERTIFICATES AND HAVING CURRENT EXPERIENCE IN TYPE OF WELD CALLED FOR. WELDING RODS TO BE LOW HYDROGEN TYPE, E70 FOR STRUCTURAL STEEL AND E60 FOR METAL DECK.

ALL BUTT WELDED SPLICES IN MATERIAL THICKER THAN 5/16" SHALL BE INSPECTED BY AN INDEPENDENT TESTING LABORATORY, TO CERTIFY CONNECTION AS MEETING OR EXCEEDING STRENGTH OF MATERIALS SPLICED.

ALL WELDING OF REINFORCING SHALL CONFORM TO THE "STRUCTURAL WELDING CODES-REINFORCING STEEL" AWS D1.4, CURRENT EDITION.

ALL WELDING OF STRUCTURAL STEEL SHALL CONFORM TO THE "STRUCTURAL WELDING CODES-STEEL" AWS D1.1, CURRENT EDITION.

WELDS INDICATED MAY BE MADE IN SHOP OR FIELD WITH APPROVAL.

SPECIAL INSPECTION:

PER SECTION 1704 OF THE INTERNATIONAL BUILDING CODE, SPECIAL INSPECTION IS REQUIRED FOR THE FOLLOWING ITEMS:

1. STRUCTURAL WELDING: FIELD WELDING AND WELDING NOT DONE IN AN APPROVED FABRICATORS SP.
2. POST INSTALLED ANCHORS.

WOOD:

GENERAL:
ALL STRESS GRADE LUMBER CONSTRUCTION SHALL COMPLY WITH AITC TIMBER CONSTRUCTION STANDARDS LATEST EDITION. ALL LUMBER (EACH PIECE) SHALL BEAR THE GRADE STAMP OF GRADING RULES AGENCY APPROVED BY THE AMERICAN LUMBER STANDARDS COMMITTEE (ALSC). REGARDLESS OF REQUIRED GRADE STAMP AND CERTIFICATIONS, ALL LUMBER (EACH PIECE) IN PLACE IN THE STRUCTURE SHALL BE OF THE ORIGINAL GRADE SPECIFIED OR BETTER WHEN INSPECTED BY THE GRADING AGENCY APPROVED BY THE ALSC. GRADE LOSS RESULTING FROM EFFECTS OF WEATHERING, HANDLING, STORAGE, RESAWING OR DIVIDING LENGTHS WILL BE CAUSE FOR REJECTION.

DO NOT NOTCH OR DRILL JOISTS, BEAMS OR LOAD BEARING STUDS WITHOUT PRIOR APPROVAL OF THE STRUCTURAL ENGINEER THROUGH THE ARCHITECT.

BEAMS TO BE ARCHITECTURAL OR INDUSTRIAL APPEARANCE GRADE PER ARCHITECTURAL SPECIFICATION. INDIVIDUALLY OR LOAD WRAPPED.

SAWN LUMBER:
SOUTHERN PINE, SURFACED DRY. 6 X BEAMS AND POSTS: NO. 1. 4 X JOISTS: NO 1. ALL OTHER STRUCTURAL FRAMING NO. 2 OR BETTER. SILL PLATES IN CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESSURE TREATED DOUGLAS FIR (PTDF). FASTENERS FOR PRESSURE TREATED LUMBER SHALL BE HOT-DIPPED ZINC-COATED GALVANIZED STEEL, STAINLESS STEEL, SILICON BRONZE OR COPPER, FASTENERS AND HARDWARE SHALL BE OF THE SAME MATERIAL AND/OR COATING.

PLYWOOD:
APA RATED PLYWOOD SHEATHING EXPOSURE 1 (CDX) OR STRUCTURAL 1 (PS 1 CURRENT EDITION). STAGGER JOINTS, TYPICAL.

FLOOR PLYWOOD: (3/4" 60/48 MIN, T&G) SHALL BE TONGUE AND GROOVE TYPE AND SHALL BE GLUED TO EACH SUPPORT WITH ADHESIVE PER A.P.A. SPECIFICATIONS. SHALL HAVE FACE GRAIN LAID PERPENDICULAR TO SUPPORTS, MINIMUM 2 SPAN CONTINUOUS. STAGGER JOINTS. NAIL PLYWOOD WITH 10d COMMON NAILS AT 6" O.C. ALL EDGES AND AT 10" O.C. ALL INTERMEDIATE SUPPORTS, EXCEPT WHEN NOTED OTHERWISE ON PLANS.

OTHER HORIZONTAL PLYWOOD: (1/2" 32/16 MIN), SHALL HAVE FACE GRAIN LAID PERPENDICULAR TO STUDS OR SUPPORTS, MINIMUM 2 SPAN CONTINUOUS. STAGGER JOINTS. NAIL PLYWOOD WITH 8d COMMON NAILS AT 6" O.C. ALL EDGES AND AT 12" O.C. ALL INTERMEDIATE SUPPORTS, EXCEPT WHEN NOTED OTHERWISE ON PLANS. PROVIDE PLYWOOD CLIPS AT ALL UNBLOCKED EDGES. (CLIPS NOT REQUIRED FOR TONGUE AND GROOVE TYPE PLYWOOD).

CONNECTIONS:
ALL NAILING REFERRED TO IN THIS SECTION SHALL BE WITH COMMON NAILS. ALL FRAMED CONNECTIONS SHALL BE MADE WITH ICC APPROVED FRAMING ANCHORS OR JOIST HANGERS, BY SIMPSON OR KC METALS. ANY HANGERS USED SHALL HAVE ICC CAPACITIES EQUAL TO OR GREATER THAN THE SIMPSON HANGER CALLED OUT. FOR NAILING SCHEDULE, SEE TABLE 2304.9.1 OF 2012 INTERNATIONAL BUILDING CODE. FIELD DRILL ALL HOLES FOR PROPER MATCHING AND BEARING. PROVIDE CUT WASHERS AT BOLTS IN WOOD. PREDRILL ALL HOLES FOR NAILS LARGER THAN 20d AND FOR LAG SCREWS LARGER THAN 1/4"Ø.

DEFERRED SUBMITTALS:

DEFERRED SUBMITTALS MUST BE REVIEWED BY THE ENGINEER OF RECORD FOR CONFORMANCE TO THE CONTRACT DOCUMENTS. A SET OF DEFERRED SUBMITTAL DOCUMENTS WITH A NOTIFICATION INDICATING IT HAS BEEN REVIEWED BY THE ENGINEER OF RECORD AND FOUND TO BE IN GENERAL CONFORMANCE WITH THE DESIGN OF THE BUILDING SHALL BE FORWARDED TO THE BUILDING DEPARTMENT AND BUILDING INSPECTOR ON SITE PRIOR TO INSTALLATION OF DEFERRED ITEMS.

DEFERRED SUBMITTALS FOR STRUCTURAL ITEMS INCLUDE:

A) STEEL STAIRS.

SUPPLEMENTARY NOTES:

PROVIDE ALL TEMPORARY BRACING, SHORING, GUYING OR OTHER MEANS TO AVOID EXCESSIVE STRESSES AND TO HOLD STRUCTURAL ELEMENTS IN PLACE DURING CONSTRUCTION. ESTABLISH AND VERIFY ALL OPENINGS AND INSERTS FOR MECHANICAL, ELECTRICAL AND PLUMBING WITH APPROPRIATE TRADES, DRAWINGS AND SUBCONTRACTORS PRIOR TO CONSTRUCTION.

THE STRUCTURAL ENGINEER SHALL NOT HAVE CONTROL OR CHARGE OF, AND SHALL NOT BE RESPONSIBLE FOR, CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES, FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK, FOR THE ACTS OR OMISSIONS OF THE CONTRACTOR, SUBCONTRACTORS OR ANY OTHER PERSONS PERFORMING ANY OF THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

FOR CONNECTIONS, SEE DETAILS.

POST-INSTALLED ANCHORS SHALL ONLY BE USED WHERE SPECIFIED ON THE CONSTRUCTION DOCUMENTS. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE ENGINEER OF RECORD PRIOR TO INSTALLING POST-INSTALLED ANCHORS IN PLACE OF MISSING OR MISPLACED CAST-IN-PLACE ANCHORS. CARE SHALL BE TAKEN IN PLACING POST-INSTALLED ANCHORS TO AVOID CONFICTS WITH EXISTING REBAR. HOLES SHALL BE DRILLED AND CLEANED IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS. SUBSTITUTION REQUESTS FOR PRODUCTS OTHER THAN THOSE SPECIFIED SHALL BE SUBMITTED BY THE CONTRACTOR TO THE ENGINEER OF RECORD ALONG WITH CALCULATIONS THAT ARE PREPARED AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER. THE CALCULATIONS SHALL DEMONSTRATE THAT THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING THE EQUIVALENT OR GREATER PERFORMANCE VALUES OF THE SPECIFIED PRODUCT USING THE APPROPRIATE DESIGN PROCEDURE AND/OR STANDARD(S) AS REQUIED BY THE BUILDING CODE. CONTACT MANUFACTURER'S REPRESENTATIVE FOR THE INITIAL TRAINING AND INSTALLATION OF ANCHORS AND FOR PRODUCT RELATED QUESTIONS AND AVAILABILITY.

THE FOLLOWING IS A LIST OF THE APPROVED RETROFIT EPOXIES/ADHESIVES AND ANCHORS. THESE ARE 2012 IBC COMPLIANT WITH CURRENT ICC REPORTS. AT THE CONTRACTORS OPTION ALTERNATIVE ANCHOR AND EPOXY ICC REPORTS ALONG WITH REQUIRED USE MAY BE SUBMITTED FOR REVIEW PROVIDED THE REPORT IS 2012 IBC COMPLIANT AND IN A CASE IN WHICH IT IS BEING USED IN CONCRETE THE REPORT COVERS CRACKED CONCRETE. THIS LIST IS FOR REFERENCE ONLY AND IS NOT INTENDED TO BE USED PRIOR TO THE EOR APPROVAL. EACH CONDITION WILL NEED TO BE REVIEWED AND DIRECTION GIVEN BASED ON MATERIAL STRENGTH, EDGE DISTANCE, ETC.

EXPANSION BOLTS FOR USE IN CONCRETE SHALL BE HILTI KWIK BOLT-TZ EXPANSION ANCHOR PER CURRENT ICC ESR-1917 OR HILTI HSL-3 HEAVY DUTY SLEEVE ANCHOR PER CURRENT ICC ESR-1545. ANCHORS SHALL BE INSTALLED WITH SPECIAL INSPECTION AS DICTATED BY THE REPORT. INSTALL PER HILTI'S INSTALLATION INSTRUCTIONS.

ADHESIVE ANCHORS FOR USE IN CONCRETE SHALL BE HILTI HIT-RE 500-SD EPOXY PER CURRENT ICC ESR-2322. ANCHORS SHALL BE INSTALLED WITH SPECIAL INSPECTION AS DICTATED BY THE REPORT. INSTALL PER HILTI'S INSTALLATION INSTRUCTIONS. (NOT CURRENTLY COMPLIANT WITH 2012 IBC)

COST OF ADDITIONAL FIELD AND OFFICE WORK NECESSITATED BY REQUEST BY THE CONTRACTOR FOR AN OPTION OR DUE TO ERRORS OR OMISSIONS IN CONSTRUCTION SHALL BE BORNE BY THE CONTRACTOR. OPTIONS ARE FOR CONTRACTORS CONVENIENCE. HE SHALL BE RESPONSIBLE FOR ALL CHANGES NECESSARY IF HE CHOOSES AN OPTION AND HE SHALL COORDINATE ALL DETAILS.

ANY ENGINEERING DESIGN PROVIDED BY OTHERS AND SUBMITTED FOR REVIEW SHALL BEAR THE SEAL OF AN ENGINEER REGISTERED IN THE STATE OF TEXAS.

UNLESS OTHERWISE NOTED, DETAILS ON STRUCTURAL DRAWINGS ARE TYPICAL AS INDICATED BY CUTS, REFERENCES OR TITLES.

VERIFY ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS.

CONTRACTOR SHALL VERIFY IN FIELD ALL EXISTING CONDITIONS SHOWN ON DRAWINGS.

ALL CONSTRUCTION MEETING OR CROSSING EXPANSION OR SHRINKAGE CONTROL JOINTS IN FLOORS OR ROOFS MUST HAVE PROVISIONS TO ACCOMMODATE MOVEMENT OR MUST BE DELAYED UNTIL THE JOINT IS CLOSED.

Sep 26 2019

CONSTRUCTION DOCUMENTS

SUNSHINE PLAZA APARTMENTS IMPROVEMENT PROJECT
SAN ANTONIO HOUSING AUTHORITY
SAN ANTONIO, TEXAS

BARKER STRUCTURAL
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303 PEARL PKWY, SUITE 210
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Texas Professional Engineers No. F-3272

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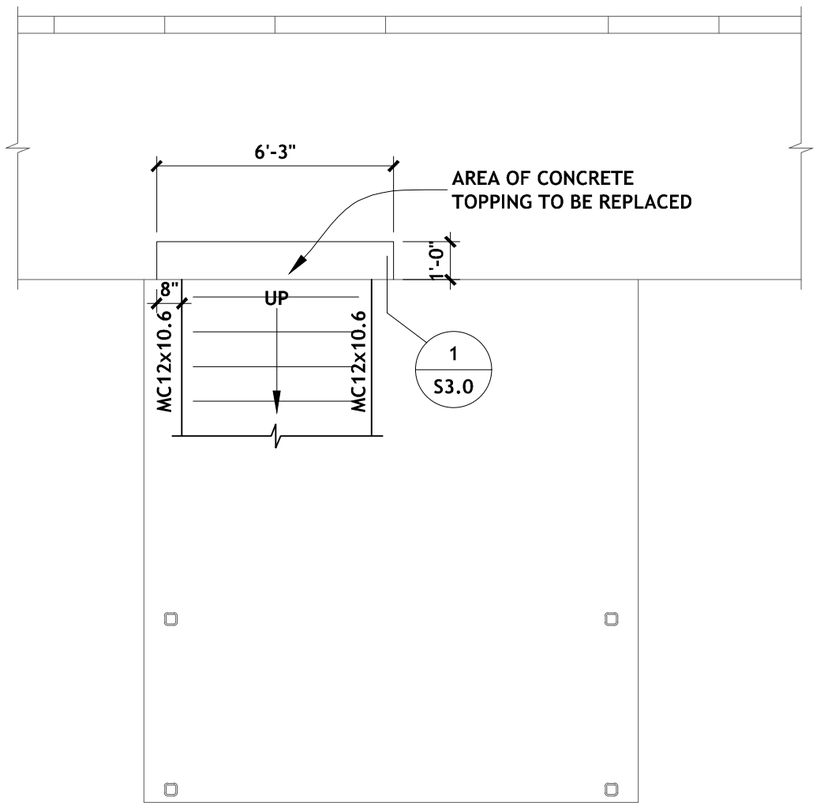
Revisions:

S1.0

GEN. STRUCTURAL NOTES

FRAMING NOTES:

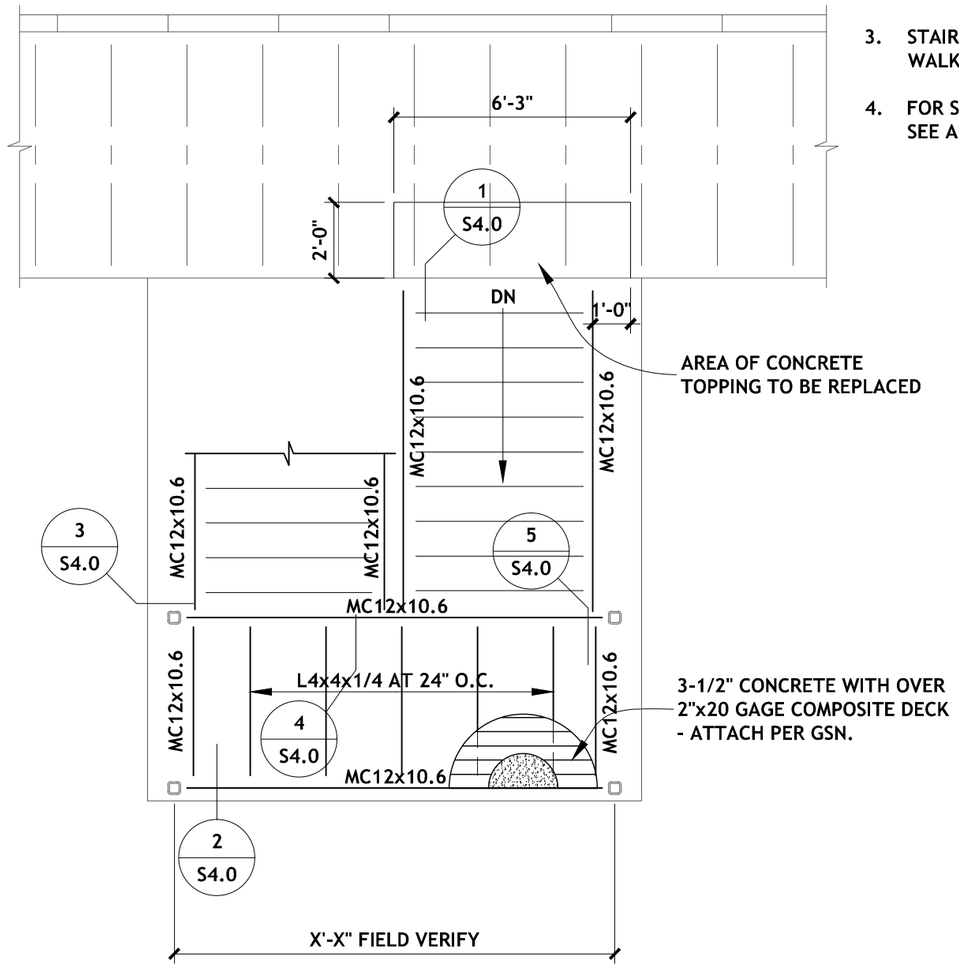
1. EXISTING TREADS, RISERS, STRINGERS AN LANDING ARE TO BE REMOVED FROM THE GROUND LEVEL UP TO THE 2ND LEVEL WALKWAY.
2. EXISTING STEEL COLUMNS AND FOOTING ARE TO REMAIN.
3. STAIR FRAMING ABOVE 2ND LEVEL WALKWAY IS TO REAMIN.
4. FOR STAIR LOCATIONS (2 TOTAL) SEE ARCHITECTURAL SHEET A1.



STAIR FOUNDATION PLAN

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

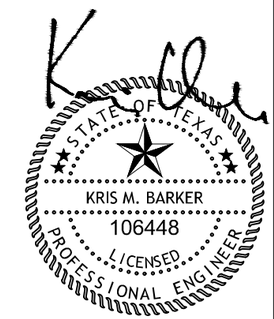
NORTH



2ND FLOOR STAIR FRAMING PLAN

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

NORTH



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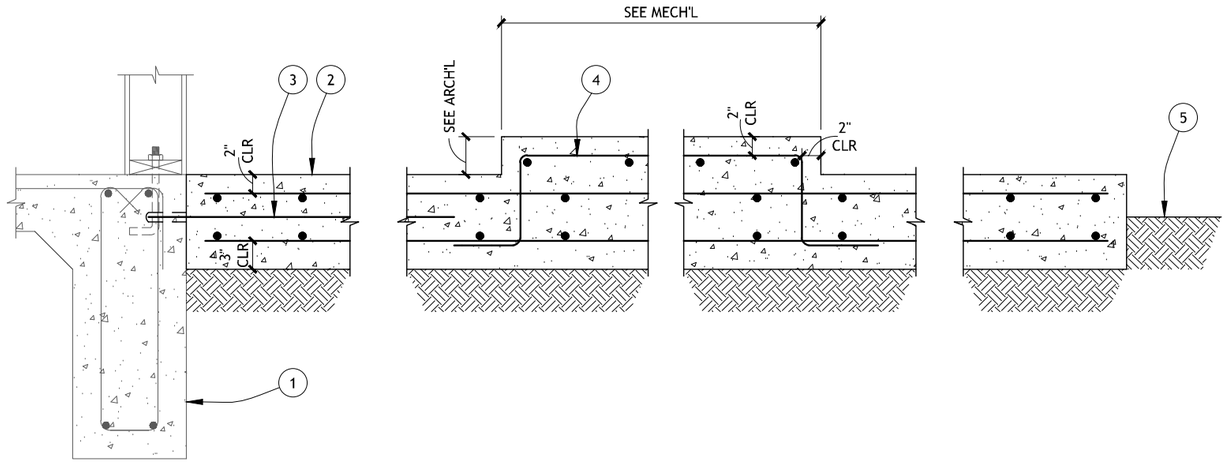
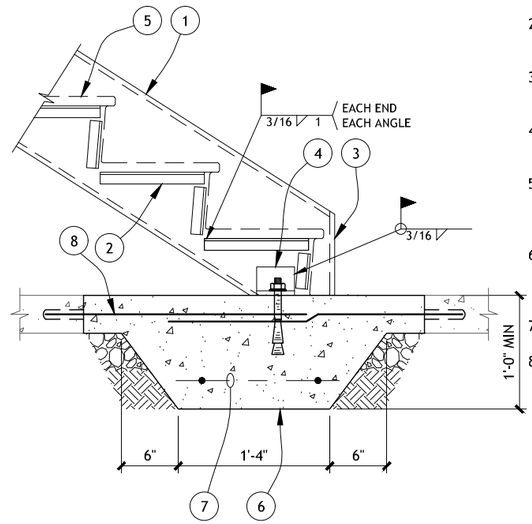
FOUNDATION AND FRAMING PLAN



1. EXISTING GRADE BEAM.
2. 10" MECHANICAL SLAB WITH #4 AT 18" O.C. EACH WAY TOP AND BOTTOM.
3. #4x36 AT 24" O.C. DRILLED AND ANCHORED WITH HILTI HY-200 EMBEDDED 6" MIN. PER ESR-3187. SPECIAL INSPECTION IS REQUIRED DURING INSTALLATION.
4. #4 BENT BARS AT 16" EACH WAY AT ELEVATED SLAB. COORDINATE WITH MECH'L FOR LOCATION.
5. FINISH GRADE.

2 MECHANICAL SLAB AT EXTERIOR GRADE BEAM

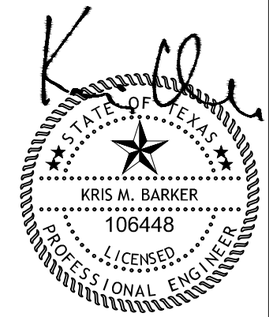
218510DS30-2



1. STEEL STAIR STRINGER.
2. SUPPORT ANGLE 1 1/4x1 1/4x3/16, TYPICAL.
3. CLOSURE PLATE 1/4. BUTT WELD ALL AROUND.
4. ANGLE 4x3x3/8 x0'-3" (SLV) WITH (1) 3/4"Ø EXPANSION ANCHOR.
5. FOR TREADS, RISERS AND ADDITIONAL STAIR INFORMATION SEE ARCH'L DETAILS.
6. THICKENED SLAB CONTINUOUS BETWEEN STRINGERS. EXTEND MIN. 1'-0" BEYOND EACH END.
7. (2) #5.
8. #4x36 AT 24" O.C. DRILLED AND ANCHORED WITH HILTI HY-200 EMBEDDED 6" MIN. PER ESR-3187. SPECIAL INSPECTION IS REQUIRED DURING INSTALLATION.

1 STRINGER AT SLAB-ON-GRADE

218510DS30-1



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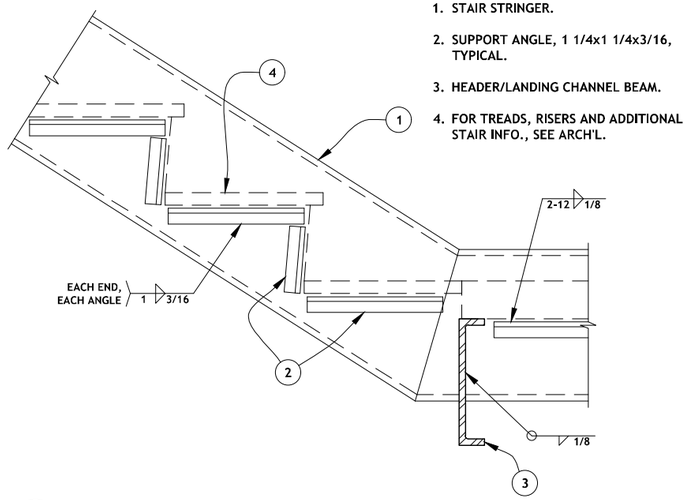
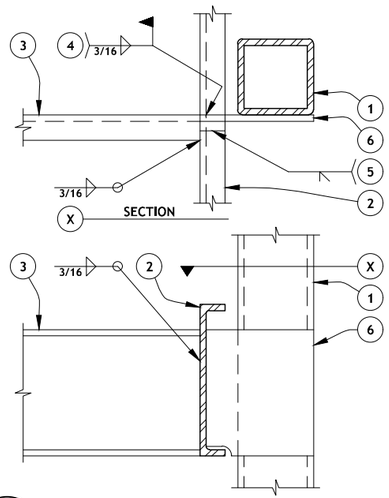
FOUNDATION DETAILS



1. STAIR STRINGER.
2. SUPPORT ANGLE, 1 1/4x1 1/4x3/16, TYPICAL.
3. HEADER/LANDING CHANNEL BEAM.
4. FOR TREADS, RISERS AND ADDITIONAL STAIR INFO., SEE ARCH'L.

5 TYPICAL STAIR PANS TO STRINGER

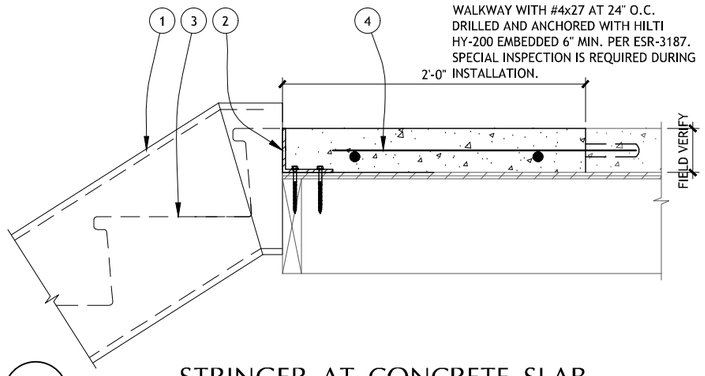
218510DS40-5



1. STAIR COLUMN.
2. STAIR STRINGER.
3. STAIR HEADER CHANNEL.
4. 3 SIDES.
5. FULL PENETRATION WELD AT TOP AND BOTTOM FLANGES. BUTT WELD AT WEB.
6. 3/8x1'-0" SHEAR TAB. NOTCH TO FIT INSIDE CHANNEL.

3 STAIR STRINGER AT HEADER

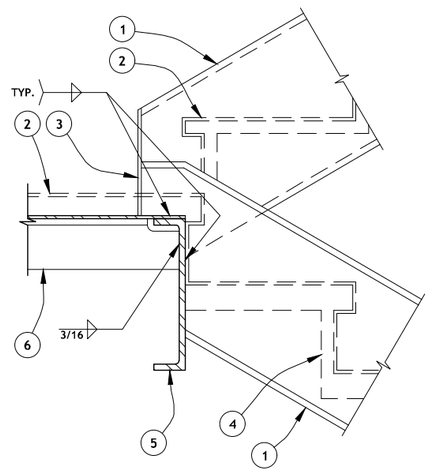
218510DS40-3



1. STAIR STRINGER.
2. 1/4" STEEL EDGE ANGLE WITH (2) 1/4"x4" SDS SCREWS INTO EACH WOOD JOIST.
3. FOR TREADS, RISERS, AND ADDITIONAL STAIR INFORMATION, SEE ARCH'L.
4. CONCRETE TOPPING TO MATCH EXISTING WALKWAY WITH #4x27 AT 24" O.C. DRILLED AND ANCHORED WITH HILTI HY-200 EMBEDDED 6" MIN. PER ESR-3187. SPECIAL INSPECTION IS REQUIRED DURING INSTALLATION.

1 STRINGER AT CONCRETE SLAB

218510DS40-1

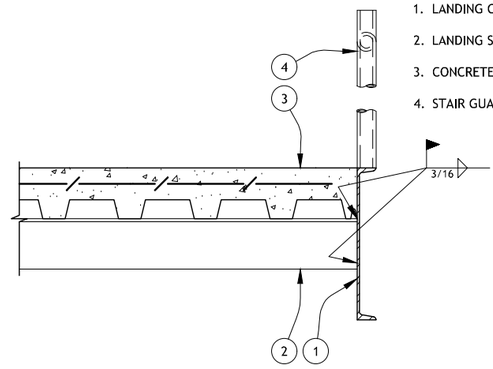


1. STRINGER CHANNEL.
2. FOR TREADS, RISERS AND LANDING, SEE ARCH'L.
3. 3/16" CLOSURE PLATES BETWEEN BEAMS AND EXPOSED ENDS.
4. ANGLE 1 1/4x1 1/4x3/16 TYPICAL AT TREAD TO STRINGER AND RISER TO STRINGER CONNECTIONS.
5. HEADER CHANNEL.
6. LANDING STIFFENERS.

NOTE:
THIS DETAIL IS INTENDED ONLY TO SHOW THE REQUIRED CONNECTION AND NOT THE DIRECTION OF THE STAIRS (UP OR DOWN). FOR DIRECTION OF STAIRS SEE PLANS.

4 STRINGERS AT HEADER CHANNEL

218510DS40-4



1. LANDING CHANNEL.
2. LANDING SUPPORT ANGLES.
3. CONCRETE OVER METAL DECK.
4. STAIR GUARD RAIL - SEE ARCH'L.

2 STEEL ANGLE TO STEEL CHANNEL

218510DS40-2

STATE OF TEXAS
KRIS M. BARKER
106448
LICENSED
PROFESSIONAL ENGINEER

Sep 26 2019

CONSTRUCTION DOCUMENTS

SUNSHINE PLAZA APARTMENTS IMPROVEMENT PROJECT

SAN ANTONIO HOUSING AUTHORITY

SAN ANTONIO, TEXAS

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Project NO. FB186000 in agreement w/ SAHA
Date: 09/26/2019
Revisions:

S4.0

FOUNDATION DETAILS

MECHANICAL SYMBOLS & ABBREVIATIONS

(SOME SYMBOLS MAY NOT BE USED ON THIS PROJECT)

PIPING SYMBOLS

SYMBOL	DESCRIPTION
	VENTURI
	AUTOMATIC AIR VENT
	BACK FLOW PREVENTER
	BALL JOINT
	BASKET STRAINER ASSEMBLY
B	STEAM TRAP (B-BASKETED BUCKET F/T-FLOAT & THERMOSTATIC
	CONCENTRIC REDUCER
	ECCENTRIC REDUCER
	EXPANSION JOINT
	FLEXIBLE CONNECTION (PIPED)
	FLOW DIRECTION
PS	PRESSURE SWITCH
	GAUGE COCK CONNECTION
	GAUGE COCK & PRESSURE GAUGE
	PIPE ANCHOR
	REFRIGERANT SITE GLASS
	STRAINER (Y TYPED W/ BLOWDOWN & CAP
	THERMOMETER
	DIAL THERMOMETER
	TEST WELL
	VIBRATION ISOLATOR
	EXISTING EQUIPMENT
	ORIFICE ASSEMBLY
	NEW PIPING
	EXISTING PIPING
	PIPING TO BE REMOVED
	90 DEGREE ELBOW
	UNION
	BLIND FLANGE
	CAP
	PIPE DROP
	PIPE RISER
	TEE FITTING - SIDE BRANCH CONNECTION
	TEE FITTING - BOTTOM BRANCH CONNECTION
	TEE FITTING - TOP BRANCH CONNECTION
	OUTSIDE SCREW & YOKE GATE VALVE (OS & Y)
	CHECK VALVE
	GATE VALVE
	BALL VALVE
CHS	CHILLED WATER SUPPLY
CHR	CHILLED WATER RETURN
CWS	CONDENSER WATER SUPPLY
CWR	CONDENSER WATER RETURN
S	STEAM SUPPLY
SR	PUMPED CONDENSATE RETURN
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
CD	CONDENSATE DRAIN
D	DRAIN LINE
	THERMOSTATIC TRAP
	FLOAT & THERMOSTATIC TRAP
	EXPANSION VALVE
	FLOAT VALVE
	GLOBE VALVE
	LIQUID SOLENOID VALVE
	MANUAL 3-WAY CONTROL VALVE
	MOTOR OPERATED, STRAIGHT THRU VALVE
	MOTOR OPERATED, 3-WAY CONTROL VALVE
	THERMOSTATIC EXPANSION VALVE
	VALVE W/ HOSE THREAD
	BUTTERFLY VALVE
MCP	MANUAL CIRCUIT SETTER

GENERAL

SYMBOL	DESCRIPTION
	TEMPERATURE SENSOR
T_3	THERMOSTAT SERVING ZONE 3
H_3	HUMIDISTAT SERVING ZONE 3
	KEYED NOTE 2
	SECTION ARROW - SECTION 1, SHEET M82
	POINT OF CONNECTION

PLUMBING SYMBOLS

SYMBOL	DESCRIPTION
CO	CLEANOUT
FCO	FLOOR CLEANOUT
YCO	YARD CLEANOUT
FD	FLOOR DRAIN SIZE & TYPE NOTED IN SPECIFICATION
HD	HUB DRAIN
	SANITARY COMBINATION FITTING
	VENT PIPE PLUMBING

PLUMBING SYMBOLS

SYMBOL	DESCRIPTION
	EXISTING SANITARY SEWER
	NEW SOIL, WASTE PIPE OR SANITARY SEWER
	EXISTING COLD WATER PIPE
	EXISTING HOT WATER PIPE
LS	EXISTING LAWN SPRINKLER PIPE
	NEW COLD WATER PIPE
	NEW HOT WATER 028°F)
	NEW HOT WATER RECIRCULATING
140°	NEW HOT WATER 040°)
TW	NEW TEMPERED WATER
F	FIRE LINE
FS	AUTOMATIC FIRE SPRINKLER PIPING
	FIRE DEPARTMENT CONNECTION (SIAMESE)
	FIRE SPRINKLER RISER - WET SYSTEM
	FIRE SPRINKLER RISER - DRY SYSTEM
	FIRE SPRINKLER RISER - PREACTION
	DOWNSPOUT NOZZLE
GAS	GAS
AW	ACID WASTE
AV	ACID VENT
GW	GREASE WASTE
RD	ROOF DRAIN PIPE
OD	OVERFLOW ROOF DRAIN PIPE
TS	TAMPER SWITCH
FS	FLOW SWITCH
PS	PRESSURE SWITCH
LPG	LIQUID PETROLEUM GAS - PROPANE
SA	SHOCK ARRESTER WITH PDI SIZE
DI	DIONIZED WATER
TWR	TEMPERED WATER RETURN
CC	CONDSATE COLLECTION SYSTEM
SP	FIRE STANDPIPE PIPING
PD	PUMPED DISCHARGED

DUCTWORK SYMBOLS

	SUPPLY AIR DEVICE - RWD CONNECTION
	SUPPLY AIR DEVICE - FLEX CONNECTION
	RETURN AIR DEVICE - RWD CONNECTION
	EXHAUST AIR DEVICE - RWD CONNECTION
	TRANSFER DUCT (ROOM TO ROOM - RWD CONNECTION
	TRANSFER DUCT (ROOM TO CEILING SPACE) - RWD CONNECTION
	SUPPLY ELBOW TURNING UP - RECTANGULAR OR SQUARE
	SUPPLY ELBOW TURNING DOWN - RECTANGULAR OR SQUARE
	RETURN OR EXHAUST ELBOW TURNING UP
	RETURN OR EXHAUST ELBOW TURNING DOWN
	SUPPLY ELBOW TURNING UP - ROUND
	SUPPLY ELBOW TURNING DOWN - ROUND
	ELBOW - RECTANGULAR OR SQUARE
	ELBOW - ROUND OR RADIUS RECTANGULAR
	ROUND DUCT BROKEN FOR CONTINUATION
	45 DEG ELBOW - ROUND AND RECTANGULAR
	CONCENTRIC TRANSITION - ROUND AND RECTANGULAR
	RECTANGULAR / SQUARE TO ROUND TRANSITION
	RECTANGULAR MAIN AND ROUND TAP WITH TRANSITION
	RECTANGULAR MAIN AND RECTANGULAR TAP WITH TRANSITION
FSD or SD or FD	FIRE/SMOKE - SMOKE - FIRE DAMPERS WITH ACCESS DOOR
	TAKE OFF TO FPB
	ROUND MAIN AND ROUND TAP WITH TRANSITION
	TEE - RECTANGULAR MAIN AND BRANCHES
	PROPORTIONAL SPLIT - RECTANGULAR
	RECTANGULAR DUCT OFFSETTING DOWN 45 DEG.
	RECTANGULAR DUCT OFFSETTING UP 45 DEG.
	TEE - RECTANGULAR MAIN WITH ROUND BRANCHES

ABBREVIATIONS

ABBREV.	DESCRIPTION
ABV	ABOVE
AC	ABOVE CEILING
A/C	AIR CONDITIONED
AD	ACCESS DOOR
AMCA	AIR MOVING AND CONDITIONING ASSOCIATION, INC.
&	AND
AP	ACCESS PANEL
APPROX	APPROXIMATE
ARCH	ARCHITECTURAL
@	AT
AAV	AUTOMATIC AIR VENT ASSEMBLY
AUX	AUXILIARY
BF	BELOW FLOOR
BLDG	BUILDING
CA	COMPRESSED AIR
CI	CAST IRON
CLG	CEILING
CO	CLEANOUT
COND	CONDENSATE
CONN	CONNECTION
CONT	CONTINUATION
CU	CONDENSING UNIT
CU	COPPER
℄	CENTER LINE
D	DRAIN
DB	DRY BULB
DIA	DIAMETER
DN	DOWN
DWG	DRAWING
EA	EACH
EAT	ENTERING AIR TEMPERATURE
EF	EXHAUST FAN
ELEC	ELECTRICAL
ELEV	ELEVATION
EG	EXHAUST GRILLE
ENT	ENTERING
EQUIP	EQUIPMENT
ER	EXHAUST REGISTER
ESP	EXTERNAL STATIC PRESSURE
EWT	ENTERING WATER TEMPERATURE
EXH	EXHAUST
EXIST	EXISTING
F	DEGREES FAHRENHEIT
FD	FIRE DAMPER
FLEX	FLEXIBLE
FLG	FLANGE
FLR	FLOOR
FPM	FEET PER MINUTE
FT	FEET, FOOT
GAL	GALLON
GALV	GALVANIZED
GPM	GALLONS PER MINUTE
IE	INVERT ELEVATION
IN	INCHES
INSUL	INSULATION
IN WG	INCHES OF WATER
LAT	LEAVING AIR TEMPERATURE
LB	POUND
LPA	LINE PRESSURE ALARM
LVR	LOUVER
MA	MECHICAL AIR
MAX	MAXIMUM
MD	MANUAL DAMPER
MECH	MECHANICAL
MIN	MINIMUM
MV	MEDICAL VACUUM
NC	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NTS	NOT TO SCALE
N_2	NITROGEN
N_2O	NITROUS OXIDE
O_2	OXYGEN
OA	OUTSIDE AIR
OAH	OUTSIDE AIR INTAKE HOOD
OBD	OPPOSED BLADE DAMPER
OC	ON CENTER
OH	OVERHEAD
OSBY	OUTSIDE SCREW & YOKE GATE VALVE
P	PUMP
P-2	PLUMBING FIXTURE DESIGNATION
PCT	PERCENT OO
PLBG	PLUMBING
PRESS	PRESSURE
PRV	PRESSURE REDUCING VALVE
PSIG	POUNDS PER SQUARE INCH (GAUGE)
RA	RETURN AIR
REI 4/P6	REFER TO DETAIL 4 DRAWING P-6
REQ'D	REQUIRED
RET	RETURN
RF	RELIEF FAN
RAG	RETURN AIR GRILLE
RH	RELATIVE HUMIDITY
RHD	RELIEF HOOD
RPM	REVOLUTIONS PER MINUTE
RRV	REFRIGERANT RELIEF VENT

ABBREV.	DESCRIPTION
SA	SUPPLY AIR
SD	SMOKE DAMPER
SEC	SECOND
SF	SUPPLY FAN
SMACNA	SHEET METAL AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION
SP	STATIC PRESSURE
SPEC	SPECIFICATION
STD	STANDARD
STL	STEEL
SW	SWITCH
TEMP	TEMPERATURE
TXV	THERMOSTATIC EXPANSION VALVE
TYP	TYPICAL
UF	UNDERFLOOR
UL	UNDERWRITERS LABORATORIES
V	VACUUM
VB	VALVE BREAKER
VEL	VELOCITY
VENT	VENTILATE
VFD	VARIABLE FREQUENCY DRIVE
VOL	VOLUME
VTR	VENT THRU ROOF
W/	WITH
W/O	WITHOUT
WB	WET BULB
YCO	YARD CLEANOUT
ZVB	ZONE VALVE BOX

ELECTRICAL SYMBOLS & ABBREVIATIONS

(SOME SYMBOLS MAY NOT BE USED ON THIS PROJECT)

GENERAL

SYMBOL	DESCRIPTION
	MOTOR
VFD	CONTROLLER TO BE FURNISHED UNDER DIVISION 25 INSTALLED UNDER DIVISION 26
	MOTOR STARTER, FURNISHED UNDER DIVISION 25, INSTALLED UNDER DIVISION 26
	COMBINATION MOTOR STARTER, FURNISHED UNDER DIVISION 25, INSTALLED UNDER DIVISION 26
J	JUNCTION BOX (CEILING)
J	JUNCTION BOX (WALL MOUNTED)
PC	PHOTOCELL
C	CONTACTOR
	TRANSFORMER AS INDICATED
	EQUIPMENT CONNECTION
PB	PUSHBUTTON
F^M	MOTOR RATED SWITCH (T=THERMAL OVERLOAD SIZED FOR MOTOR)
	DISCONNECT SWITCH

LUMINAIRES

GENERAL NOTES: UPPER CASE SUBSCRIPTS INDICATES FIXTURE TYPE
LOWER CASE SUBSCRIPT INDICATES SWITCH LEG CONFIGURATION.

$\circ_A$	CEILING MOUNTED FIXTURE.
$\circ_A$	CEILING MOUNTED FIXTURE WITH INTEGRAL EMERGENCY BATTERY BACK UP.
$\circ_A$	WALL MOUNTED FIXTURE.
$\circ_A$	WALL MOUNTED FIXTURE WITH INTEGRAL EMERGENCY BATTERY BACK UP.
A	LINEAR FIXTURE - STRIP.
A	1'x4' LINEAR FIXTURE, SURFACE OR RECESSED.
A	1'x4' LINEAR FIXTURE, SURFACE OR RECESSED, WITH INTEGRAL EMERGENCY BATTERY BACK UP.
A	2'x4' LINEAR FIXTURE, SURFACE OR RECESSED.
A	2'x4' LINEAR FIXTURE, SURFACE OR RECESSED, WITH INTEGRAL EMERGENCY BATTERY BACK UP.
	2'x2' LINEAR FIXTURE, SURFACE OR RECESSED.
A	2'x2' LINEAR FIXTURE, SURFACE OR RECESSED, WITH INTEGRAL EMERGENCY BATTERY BACK UP.
A	WALL BRACKET LINEAR FIXTURE.
A	WALL BRACKET LINEAR FIXTURE WITH INTEGRAL EMERGENCY BATTERY BACK.
	EXIT LIGHT, CEILING MOUNTED WITH DIRECTIONAL ARROWS AS INDICATED ON DRAWINGS. SINGLE OR DOUBLE FACE AS SCHEDULED
	EXIT LIGHT, WALL MOUNTED WITH DIRECTIONAL ARROWS AS INDICATED ON DRAWINGS. SINGLE OR DOUBLE FACE AS SCHEDULED
A	POLE MOUNTED LUMINAIRES - QUANTITY OF FIXTURES AS INDICATED

PANELS AND RELATED ITEMS

LIA	PANELBOARD (SEE SCHEDULE)
SWBD	SWITCHBOARD OR DISTRIBUTION BOARD
MCC	MOTOR CONTROL CENTER
LCP	LIGHTING CONTROL PANEL
	PLYWOOD TELEPHONE BACKBOARD
	GROUNDING ELECTRODE

RACEWAYS

	CONDUIT (WALL OR CEILING) WITH ONE PHASE, NEUTRAL AND GROUND CONDUCTOR UNLESS OTHERWISE NOTED
	CONDUIT UNDER FLOOR/GRADE OR CAST IN STRUCTURE WITH ONE PHASE, NEUTRAL AND GROUND CONDUCTOR UNLESS OTHERWISE NOTED
	SWITCH LEG WITH NEUTRAL AND GROUND
P1A-2,4,6	BRANCH CIRCUIT HOMERUN SUBSCRIPT 'P1A' INDICATES PANEL AND 2,4,6 INDICATES BREAKER POSITION. SEE SCHEDULE.
	TELEPHONE
F-XX	FEEDER. REFER TO FEEDER SCHEDULE.

SWITCHES

S_a	SINGLE POLE SWITCH, SUBSCRIPT INDICATES SWITCH LEG CONFIGURATION
S^K	KEY OPERATED SWITCH.
S^D	DIMMER SWITCH - RATED FOR LOAD
S_{OS}	MOTION (OCCUPANCY) SENSOR/ SWITCH COMBINATION WALL MOUNT
S_P	PILOT LIGHTED SWITCH
	MOTION (OCCUPANCY) SENSOR - CEILING MOUNT
	MOTION (OCCUPANCY) SENSOR - WALL MOUNT
PC	PHOTOCELL FLUSH CEILING MOUNTED.

FIRE ALARM

FACP	FIRE ALARM CONTROL PANEL
ANN	REMOTE FIRE ALARM ANNUNCIATOR PANEL, FLUSH MOUNT.
VEP	FIRE ALARM VOICE EVACUATION PANEL
BT	BEAM DETECTOR TRANSMITTER, HIGH IN CEILING WALL DIRECT LINE OF SIGHT.
BR	BEAM DETECTOR RECEIVER, HIGH IN CEILING WALL DIRECT LINE OF SIGHT.
	MANUAL PULL STATION 42" AFF
	SMOKE DETECTOR
	SMOKE DETECTOR, DUCT MOUNTED
FSD	FIRE SMOKE DAMPER
	HEAT DETECTOR
	FIRE ALARM AUDIO-VISUAL APPLIANCE
	FIRE ALARM VISUAL APPLIANCE
WP	FIRE ALARM HORN AUDIBLE APPLIANCE WP = WEATHERPROOF.
	MINI AUDIO FIRE ALARM APPLIANCE
	MINI AUDIO/VISUAL FIRE ALARM APPLIANCE
	FIRE ALARM SPEAKER
	FIRE ALARM SPEAKER/VISUAL
	AUXILIARY CONTROL RELAY
	MAGNETIC DOOR HOLDER
	SUPERVISORY SWITCH
	WATER FLOW SWITCH

OUTLETS

18" AC	DUPLEX RECEPTACLE - SUBSCRIPTS INDICATE MOUNTING HEIGHT AND AC = ABOVE COUNTER TOP.
18" AC	DUPLEX RECEPTACLE, ORANGE DEVICE, ISOLATED GROUND. SUBSCRIPT INDICATES MOUNTING HEIGHT AND AC=ABOVE COUNTER TOP.
GFI WP	DUPLEX RECEPTACLE GFI=GROUND FAULT CURRENT INTERRUPTING WP=WEATHERPROOF IG=ISOLATED GROUND
18" AC	DOUBLE DUPLEX (QUADRAPLEX) RECEPTACLE - SUBSCRIPTS INDICATE MOUNTING HEIGHT AND AC = ABOVE COUNTER TOP.
18"	SPECIAL PURPOSE OUTLET. SUBSCRIPTS INDICATE TYPE AND MOUNTING HEIGHT. REF'S DIVISION 26 OR SCHEDULES.
	FLOOR OUTLET - SIMPLE SERVICE - SUBSCRIPT INDICATES TYPE. REF'S DIVISION 26 OR SCHEDULES
	FLOOR OUTLET - MULTIPLE SERVICE - SUBSCRIPT INDICATES TYPE. REF'S DIVISION 26 OR SCHEDULES
18"	OUTLET BOX FOR DATA OUTLET IN WALL SUBSCRIPT INDICATES MOUNTING HEIGHT
84"	2-GANG OUTLET BOX FOR TV OUTLET. SUBSCRIPT INDICATES MOUNTING HEIGHT
18" AC	SIMPLEX RECEPTACLE - SUBSCRIPTS INDICATE MOUNTING HEIGHT AND AC = ABOVE COUNTER TOP.

SPECIAL SYSTEMS

IC	INTERCOM CALL BUTTON
VC	VOLUME CONTROL
ICM	INTERCOM MASTER.
M	MICROPHONE JACK
S	SPEAKER, CEILING MOUNTED
S 90" WP	SPEAKER, WALL MOUNTED, WP = WEATHERPROOF AND MOUNTING HEIGHT
90" WP	HORN, WP = WEATHER PROOF. SUBSCRIPT INDICATES MOUNTING HEIGHT
TC	TIME CLOCK
	CEILING MOUNTED CLOCK
	CEILING MOUNTED CLOCK - DOUBLE FACE
	WALL MOUNTED CLOCK - SINGLE FACE
	WALL MOUNTED CLOCK - DOUBLE FACE

ABBREVIATION DESCRIPTION

ABBREVIATION	DESCRIPTION
A	AMPERES
ABV	ABOVE
AC	ABOVE COUNTER
A/C	AIR CONDITIONING
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHU	AIR HANDLING UNIT
ATS	AUTOMATIC TRANSFER SWITCH
BFF	BELOW FINISHED FLOOR
BLDG	BUILDING
C	CONDUIT
CB	CIRCUIT BREAKER
CKT	CIRCUIT
DIA	DIAMETER
DIST	DISTRIBUTION
DN	DOWN
EC	EMPTY CONDUIT
EF	EXHAUST FAN
EWC	ELECTRIC WATER COOLER
EXH	EXHAUST
F/A	FIRE ALARM
FC	FOOTCANDLES
FLUOR	FLUORESCENT
FN	FULL NEUTRAL
FT	FEET, FOOT
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFI	GROUND FAULT INTERRUPTER
GND	GROUND
HID	HIGH INTENSITY DISCHARGE
HP	HORSEPOWER
HOA	HAND OFF AUTOMATIC
HPS	HIGH PRESSURE SODIUM
HZ	HERTZ
IC	INTERCOM
ID	INSIDE DIAMETER
IMC	INTERMEDIATE STEEL CONDUIT
IN	INCHES
INC	INCANDESCENT
IG	ISOLATED GROUND
JB	JUNCTION BOX
KV	KILOVOLT
KVA	KILOVOLT AMPERE

ABBREVIATION DESCRIPTION

ABBREVIATION	DESCRIPTION
KVAR	KILOVOLT AMPERE REACTIVE
KW	KILOWATT
KWH	KILOWATT HOUR
MH	MANHOLE
MAX	MAXIMUM
MCC	MOTOR CONTROL CENTER
MDP	MAIN DISTRIBUTION PANEL
MECH	MECHANICAL
MIN	MINIMUM
MLO	MAIN LUGS ONLY
MTG	MOUNTING
NA	NOT APPLICABLE
NC	NORMALLY CLOSED
NF	NON FUSED
NO	NORMALLY OPEN
OH	OVERHEAD
P	POLE
PA	PUBLIC ADDRESS
PDP	POWER DISTRIBUTION PANEL
PNL	PANELBOARD
PWR	POWER
S	SECURITY
SN	SOLID NEUTRAL
SQFT, ft²	SQUARE FOOT
SW	SWITCH
SWBD	SWITCHBOARD
TC	TIME CLOCK
TELE	TELEPHONE
TSTAT	THERMOSTAT
TV	TELEVISION
V	VOLTS
W	WIRE
WP	WEATHERPROOF
XFMR	TRANSFORMER
XPD	TRANSPONDER
1P	ONE POLE
2P	TWO POLE
3P	THREE POLE
∅	PHASE

9/26/2019

STATE OF TEXAS
PATRICK J HOWARD
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LICENSED PROFESSIONAL ENGINEER

9/26/2019

STATE OF TEXAS
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SUNSHINE PLAZA APARTMENTS MAINTENANCE PROJECT
SAN ANTONIO HOUSING AUTHORITY - CONSTRUCTION SET
SAN ANTONIO, TEXAS

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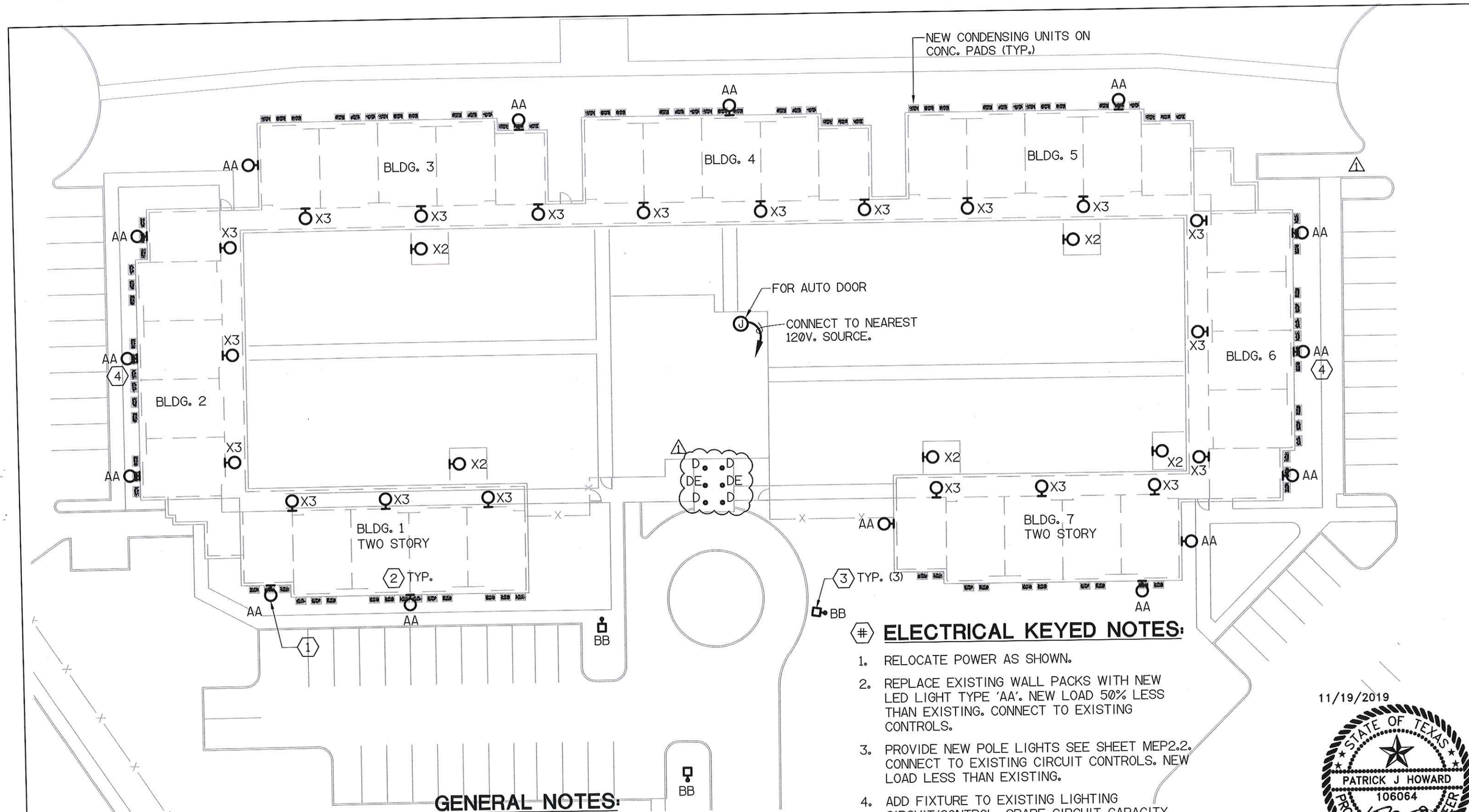
Project NO. 15802
Date: 09/26/2019
Revisions:
△ - -

MEP1.1
SYMBOLS & ABBREVIATIONS

FILENAME: 15802S00.dwg LTSCALE: 1 PLOT TIME: 9/26/2019 - 4:12pm BY: Kortney



1 **SITE PLAN - MEP**
SCALE: 1/32" = 1'-0"

GENERAL NOTES:

A. EXISTING BUILDINGS THREE STORY UNLESS NOTED.

B. REPLACE ALL EXTERIOR DRYER VENTS AND EXHAUST LOUVERS. PAINT TO MATCH EXTERIOR WALL.

ELECTRICAL KEYED NOTES:

1. RELOCATE POWER AS SHOWN.
2. REPLACE EXISTING WALL PACKS WITH NEW LED LIGHT TYPE 'AA'. NEW LOAD 50% LESS THAN EXISTING. CONNECT TO EXISTING CONTROLS.
3. PROVIDE NEW POLE LIGHTS SEE SHEET MEP2.2. CONNECT TO EXISTING CIRCUIT CONTROLS. NEW LOAD LESS THAN EXISTING.
4. ADD FIXTURE TO EXISTING LIGHTING CIRCUIT/CONTROL. SPARE CIRCUIT CAPACITY MADE AVAILABLE DUE TO USE OF LED. EXTEND 3/4"-2#10 & 1#10G EXPOSED ALONG WALL. PAINT CONDUIT TO MATCH EXIST. WALL.

11/19/2019

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SUNSHINE PLAZA APARTMENTS MAINTENANCE PROJECT
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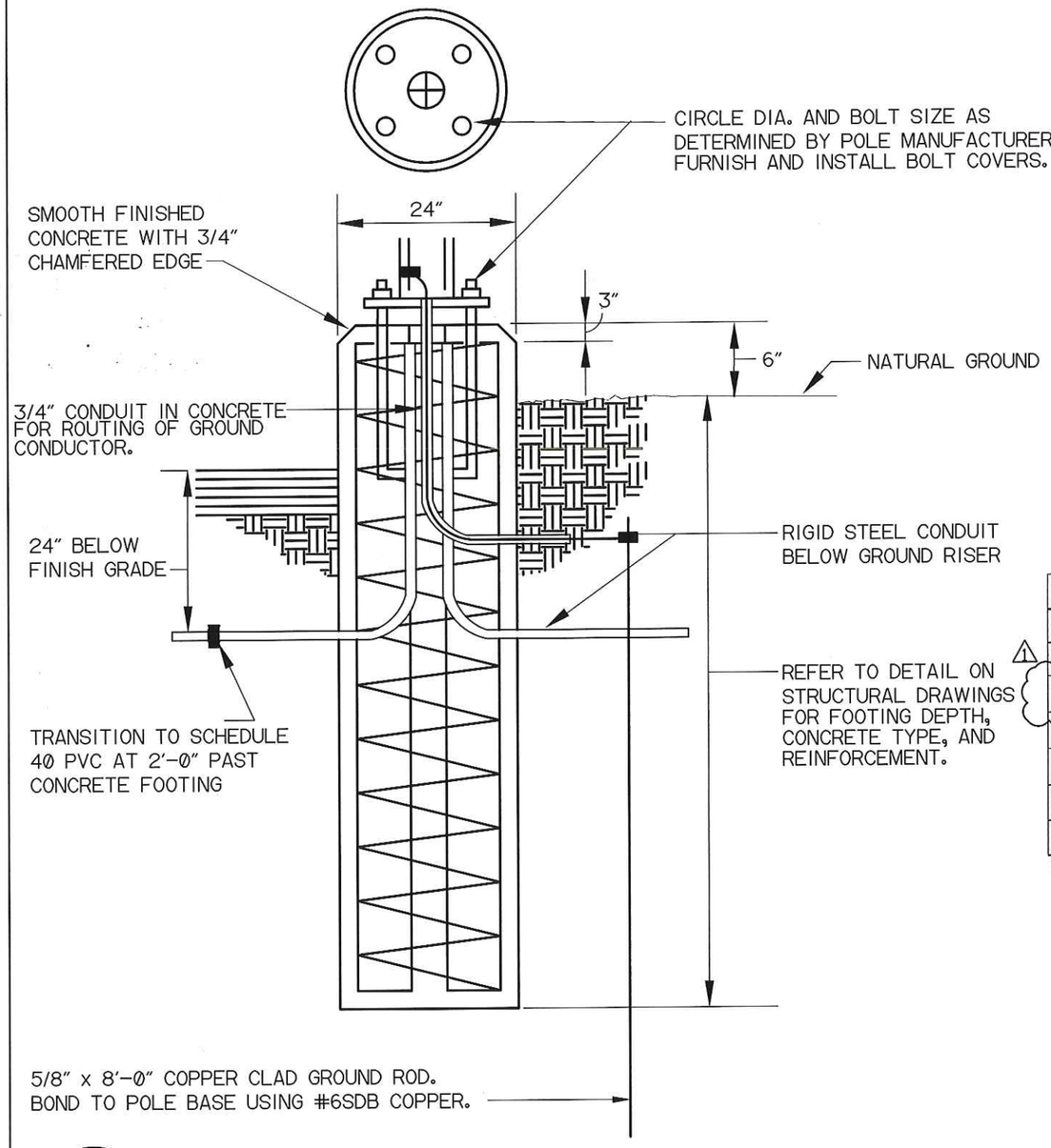
Project NO. 15802
Date: 09/26/2019
Revisions:

MEP2.1
SITE PLAN - ELECTRICAL

PLOT TIME: 11/19/2019 - 8:51pm BY: phoward



1 POLE FOOTING DETAIL

NOT TO SCALE

LIGHT FIXTURE SCHEDULE

Type	Description	Lamp Qty. / Type / Color	Total Fixture Lumen	Ballast / Driver	Volts	Input Watts	Mounting	Manufacturer / Catalog No.	Notes
AA	LED WALL LUMAIRE	LED	1000	DRIVER	MVOLT	400	WALL	LITHONIA #LEP-20C-1000-40K-T3M-MVOLT-DOBXO	1
BB	SOLAR LED AREA LUMINAIRE	LED 4000K	9720	DRIVER	SOLAR	-	POLE	CLEARWORLD #RS3202475-OG	1,2
D	6" LED DOWNLIGHT	LED 4000K	1500	DRIVER	MVOLT	18	RECESSED	LITHONIA #LDN6-40/15-L06XX-XX-MVOLT	1
DE	SAME AS TYPE 'D' WITH BATTERY	LED 4000K	1500	DRIVER	MVOLT	18	RECESSED	LITHONIA #LDN6-40/15-L06XX-XX-MVOLT-EL	1
X2	LED BATTERY WP LIGHT	LED	800	DRIVER	MVOLT	8	SURFACE	LITHONIA LIL LED BB WH-40K-PE-BB	3
X3	LED BATTERY WP LIGHT	LED	800	DRIVER	MVOLT	8	WALL	LITHONIA LIL LED BB WH-40K-PE-BB	4

NOTES 1 COORDINATE WITH OWNER/ARCHITECT FOR COLOR OF FINISH. PRIOR TO ROUGH-IN.
2 60W LED WITH T4M LIGHT DISTRIBUTION.
3 SURFACE MOUNT A STAIR LANDING CONNECT UNSWITCHED TO EXISTING STAIR LANDING LIGHT. PHOTOCELL CONTROLLED.
4 WALL MOUNT AS HIGH AS POSSIBLE - MAX. 30' O.C. PROVIDE NEW 20A. 120V. CICUIT FROM NEAREST HOUSE PANEL. PHOTOCELL CONTROLLED. THIS OCCURS ON EVERY LEVEL - BLDGS 1,2,3,4 ON ONE CIRCUIT, BLDG. 5,6,7 ON SECOND CIRCUIT.

11/19/2019

STATE OF TEXAS
PATRICK J HOWARD
106064
PROFESSIONAL LICENSED ENGINEER

SUNSHINE PLAZA APARTMENTS MAINTENANCE PROJECT
SAN ANTONIO HOUSING AUTHORITY - CONSTRUCTION SET
SAN ANTONIO, TEXAS

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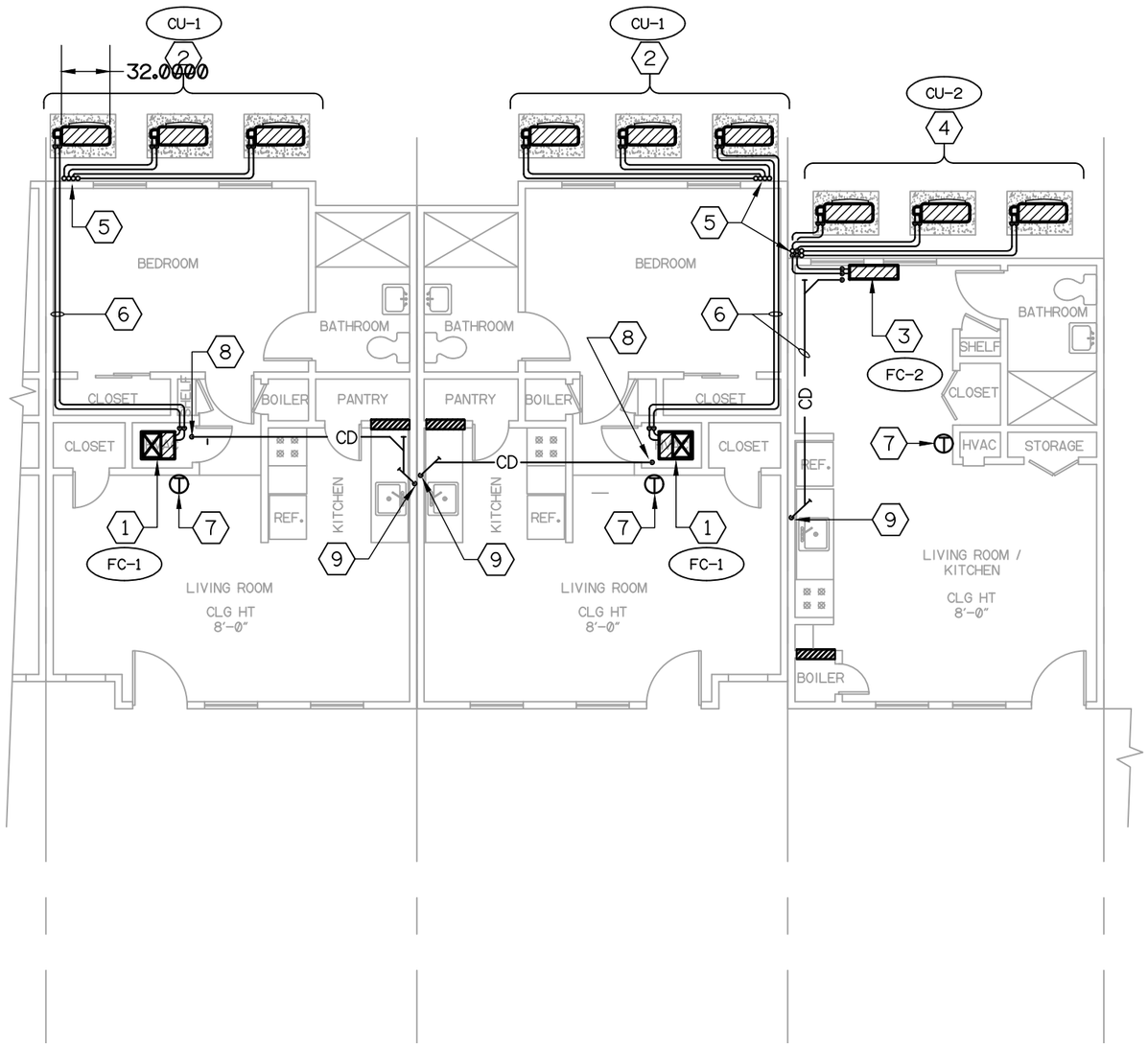
Texas Professional Engineers No. F-3272

Project NO. 15802
Date: 09/26/2019
Revisions:
⚠ ADDENDUM

MEP2.2
SITE PLAN - ELECTRICAL
DETAIL, LIGHT FIXT.SCHED.

DEVELOPMENT SERVICES

FILENAME: 15802S01.dwg LTSCALE: 384 PLOT TIME: 11/19/2019 - 8:51pm BY: phoward



1 FLOOR PLAN - MECHANICAL

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

GENERAL MECHANICAL NOTES:

A. PRIOR TO THE INSTALLATION OF ANY PIPING, DUCTWORK OR EQUIPMENT, THE MECHANICAL CONTRACTOR SHALL COORDINATE HIS WORK, INCLUDING PIPE ROUTING, WITH STRUCTURAL CONDITIONS AND ALL OTHER TRADES. PROVIDE ADEQUATE CLEARANCE AROUND MECHANICAL EQUIPMENT, CONTROL PANELS, FILTER ACCESS, DAMPERS, VALVES, ETC. AS REQUIRED FOR INSPECTION AND MAINTENANCE. ACCESS DOORS SHALL BE PROVIDED WHERE REQUIRED.

B. CONTRACTOR SHALL REFER TO MANUFACTURER'S RECOMMENDATIONS FOR INSTALLATION REQUIREMENTS OF ALL MECHANICAL EQUIPMENT INCLUDING CLEARANCES, REFRIGERANT LINE SIZES, LENGTHS OF RUN, RISERS, TRAPS, ETC.

(#) MECHANICAL KEYED NOTES:

1. PROVIDE NEW 1.5 TON FAN COIL UNIT. RECONNECT TO EXISTING SUPPLY AND RETURN AIR DUCTWORK. PROVIDE UNIT WITH SAFETY OVERFLOW SWITCH IN PRIMARY DRAIN PAN AND CONDENSATE DRAIN TRAP. RE: 1/M3.2
2. NEW 1.5 TON CONDENSING UNITS ON GROUND. PROVIDE WITH MINIMUM 4" HIGH CONCRETE HOUSEKEEPING PAD.
3. PROVIDE NEW 1 TON WALL MOUNTED FAN COIL UNIT.
4. NEW 1 TON CONDENSING UNITS ON GROUND. PROVIDE WITH MINIMUM 4" HIGH CONCRETE HOUSEKEEPING PAD.
5. ROUTE REFRIGERANT PIPING FROM LEVEL ABOVE TO CONDENSING UNITS ON GROUND.
6. ROUTE REFRIERANT PIPING WITHIN ARCHITECTURAL FURROUT.
7. PROVIDE FAN COIL UNIT WITH NEW 7 DAY PROGRAMMABLE THERMOSTAT.
8. ROUTE ¾" CONDENSATE PIPING FROM CONDENSATE PUMP UP TO ABOVE CEILING.
9. ROUTE ¾" CONDENSATE PIPING DOWN IN WALL AND CONNECT TO TAILPIECE ASSEMBLY OF SINK BELOW.

CONDENSATE DIPSOAL SHALL COMPLY WITH IB 163, PER CITY PERMIT COMMENTS.

9/26/2019

STATE OF TEXAS
BRIAN D. GOEBEL
55499
LICENSED
PROFESSIONAL ENGINEER

SUNSHINE PLAZA APARTMENTS MAINTENANCE PROJECT
SAN ANTONIO HOUSING AUTHORITY - CONSTRUCTION SET
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Project NO. 15802
Date: 09/26/2019
Revisions:
△ - -

M2.1

MECHANICAL-FLOOR PLAN

FILENAME: 15802MF1.dwg LTSCALE: 96 PLOT TIME: 9/26/2019 - 4:09pm BY: jespinoza

FAN / COIL UNIT SCHEDULE

MARK	FC-01
TYPE	VERTICAL
SUPPLY AIR FLOW (CFM)	625
OUTSIDE AIR FLOW (CFM)	0
EXT. STATIC PRESSURE (IN.WG.)	0.5
MOTOR HP	1/4
MCA	3
MOCP	15
VOLTS-PHASE	230-1
COOLING COIL	--
MIN. TOTAL CAPACITY (MBH)	18.0
MIN. SENSIBLE CAPACITY (MBH)	13.5
ENTERING DRY BULB TEMPERATURE (F)	75.0
ENTERING WET BULB TEMPERATURE (F)	65.0
COIL LEAVING DRY BULB TEMPERATURE (F)	55.0
COIL LEAVING WET BULB TEMPERATURE (F)	55.0
HEAT PUMP	--
MIN. TOTAL CAPACITY @ 47 DEG (MBH)	19.0
ENTERING DRY BULB TEMPERATURE (F)	65.0
AUXILIARY ELECTRIC HEAT (KW)	n/a
STEPS	--
MANUFACTURER	--
MAKE	MITSUBISHI
MODEL	PVA-A18
NOTES:	1

NOTES:
1. PROVIDE WITH FACTORY FURNISHED 7 DAY PROGRAMMABLE THERMOSTAT.
2. PROVIDE WITH CONDENSATE PUMP.

CONDENSING UNIT SCHEDULE

MARK	CU-01
SERVES	FC-01
MINIMUM COOLING EFFICIENCY (SEER)	20.2
MINIMUM HEATING EFFICIENCY (COP @47 DEG.)	3.78
HSPF	10.40
NUMBER OF CIRCUITS	1
NUMBER OF COMPRESSORS	1
STAGES OF UNLOADING FOR EACH CIRCUIT	1
MINIMUM COOLING CAPACITY (MBH)	18.0
MINIMUM HEATING CAPACITY AT 47 DEG F(MBH)	19.0
MINIMUM SUCTION TEMPERATURE (oF)	40
AMBIENT TEMPERATURE (oF)	100
MINIMUM OPERATING TEMPERATURE (oF)	15
UNIT VOLTS / PHASE	230 - 1
UNIT FULL LOAD AMPS	11.0
UNIT MAX. FUSE	28.0
MANUFACTURER	MITSUBISHI
MODEL	PUZ-A18
NOTES	1

NOTES:
1. PROVIDE WITH FACTORY INSTALLED HAIL GUARDS.

DX MINI-SPLIT AIR CONDITIONING UNIT

INDOOR UNIT MARK	FC-02
TYPE	WALL MOUNTED
OUTSIDE AIR FLOW (CFM)	0
EXT. STATIC PRESSURE (IN.WG.)	N/A
MIN. TOTAL CAPACITY (MBH)	12.0
MODEL	MSZ-WR12NA
OUTDOOR UNIT MARK	CU-02
COOLING EFFICIENCY (SEER / EER)	16.0
HEATING EFFICIENCY (COP @47 DEG.)	3.3
HSPF (REGION IV)	8.5
COOLING CAPACITY (MBH)	12.0
HEATING CAPACITY AT 47 DEG. (MBH)	12.2
MIN. SUCTION TEMPERATURE (F)	40
AMBIENT TEMP. OPERATING RANGE FOR COOLING (F)	32 to 115
REFRIGERANT TYPE	R-410A
MAX. TOTAL REFRIGERANT PIPE LENGTH	65
MAX. REFRIGERANT PIPE VERTICAL SEPARATION	40
VOLTAGE / PHASE	208 / 1
MINIMUM CIRCUIT AMPACITY INDOOR / OUTDOOR (AMPS)	1 / 9
MAX OVERCURRENT PROTECTION (AMPS)	15
MODEL	MUZ-WR12NA
MANUFACTURER	MITSUBISHI
NOTES:	1,2,3

NOTES:
1. INDOOR UNIT POWER COMES FROM OUTDOOR UNIT.
2. PROVIDE WITH CONDENSATE PUMP.
3. PROVIDE WITH FACTORY FURNISHED 7 DAY PROGRAMMABLE THERMOSTAT.

9/26/2019

STATE OF TEXAS
BRIAN D. GOEBEL
55499
LICENSED PROFESSIONAL ENGINEER

SUNSHINE PLAZA APARTMENTS MAINTENANCE PROJECT
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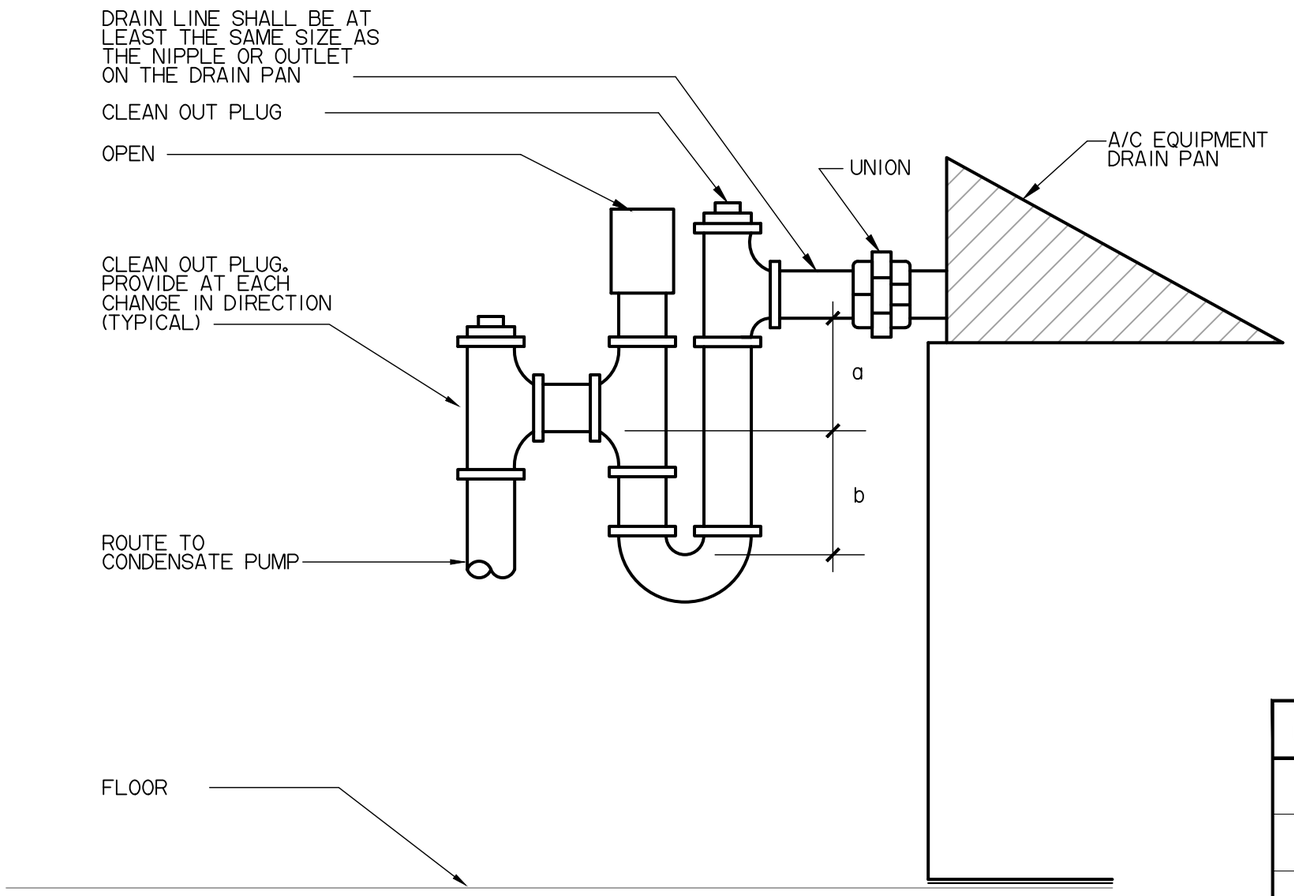
Project NO. 15802
Date: 09/26/2019
Revisions:
△ - -

M3.1
MECHANICAL SCHEDULES AND DETAILS

FILENAME: 15802MX1.dwg LTSCALE: 1 PLOT TIME: 9/26/2019 - 4:09pm BY: phoward



UNIT TOTAL STATIC PRESSURE	a	b
0" - 1"	1"	2"
1" - 2"	2"	3"
2" - 3"	2"	4"
4" - 6"	2"	7"

NOTES:

1. FOR DEPTH OF SEAL SEE SCHEDULE BELOW
2. LOCATE TRAP SO AS TO BE ACCESSIBLE FOR CLEANING.

1 CONDENSATE DRAIN TRAP

NOT TO SCALE

9/26/2019

STATE OF TEXAS
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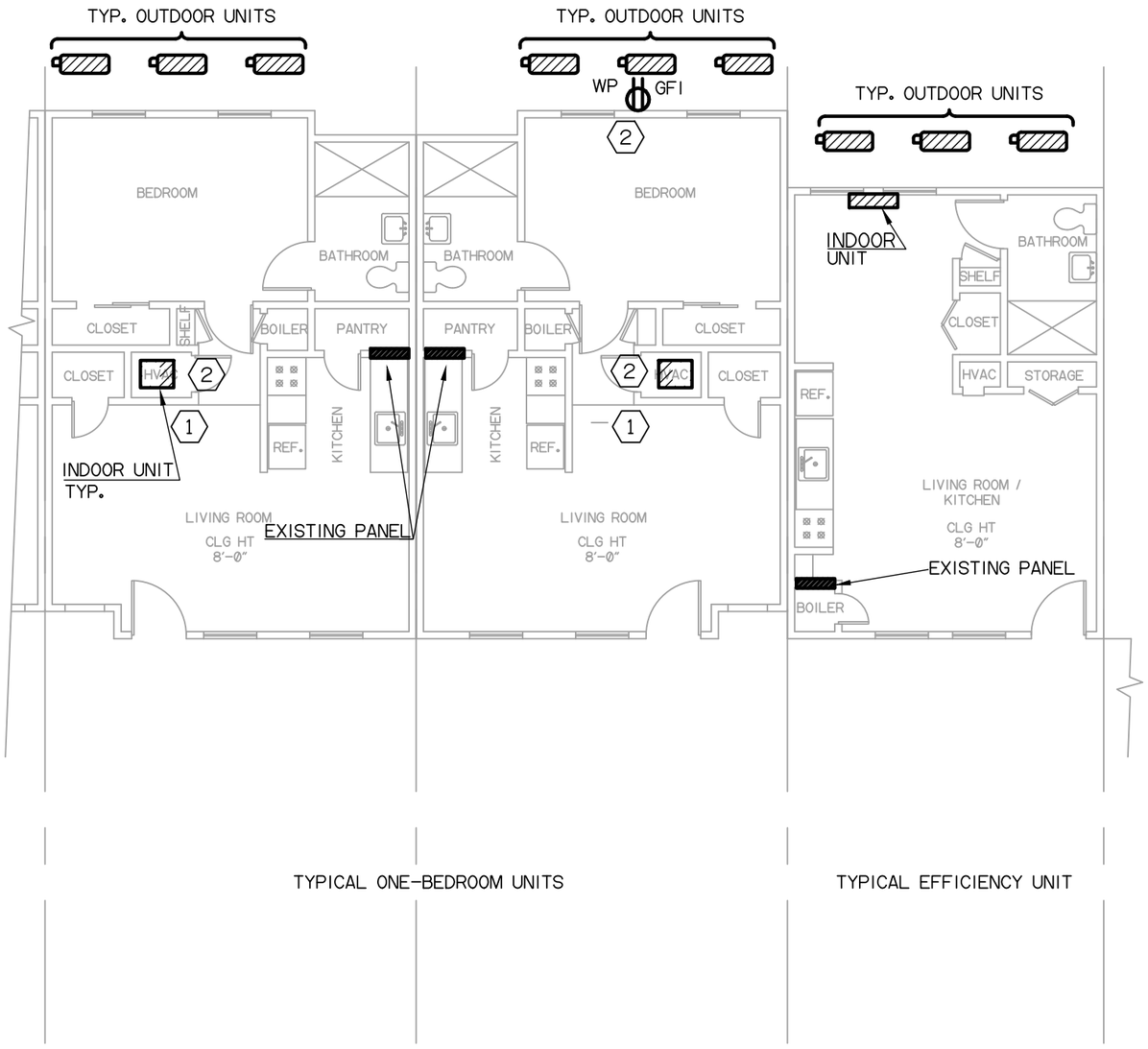
△ - -

M3.2

MECHANICAL SCHEDULES AND DETAILS

FILENAME: 15802MX1.dwg LTSCALE: 1 PLOT TIME: 9/26/2019 - 4:09pm BY: phoward



TYPICAL ONE-BEDROOM UNITS

TYPICAL EFFICIENCY UNIT

1 FLOOR PLAN - POWER

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

GENERAL ELECTRICAL NOTES:

A. COORDINATE WITH MECHANICAL FOR EQUIPMENT LOCATIONS AND QUANTITY.

B. SEE TYPICAL WIRING DIAGRAMS FOR EACH UNIT TYPE ON SHEET E4.

C. CONDUIT SHALL BE CONCEALED EXCEPT AT BUILDING EXTERIOR.

D. PROVIDE NEW PHENOLIC LABELS FOR ALL EXISTING ELECTRICAL PANELS.

(#) ELECTRICAL KEYED NOTES:

1. SEE WIRING DIAGRAM
2. CONTRACTOR SHALL PROVIDE ONE WEATHER PROOF RECEPTACLE EVERY 25' FOR MAINTENANCE. CORRECT A MAXIMUM OF (6) EACH RECEPTACLE SEWED FROM A 20AIP C.B. HOUSE PANEL.

9/26/2019

STATE OF TEXAS
PATRICK J HOWARD
106064
LICENSED
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SUNSHINE PLAZA APARTMENTS MAINTENANCE PROJECT
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△ - -

E3.1

POWER - FLOOR PLAN

FILENAME: 15802EP1.dwg LTSCALE: 96 PLOT TIME: 9/26/2019 - 4:09pm BY: phoward

GENERAL ELECTRICAL NOTES:

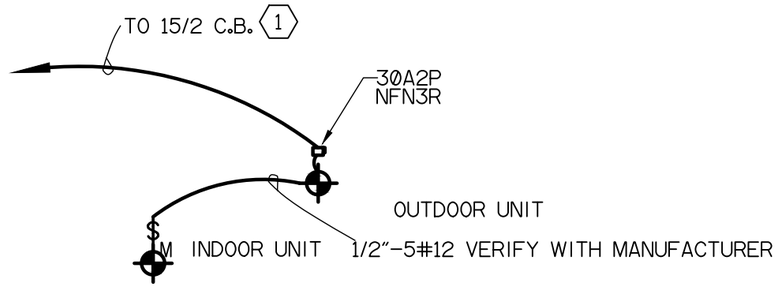
A. ALL WIRING 1/2" - 2#12 & 1#12G.
B. ALL WIRING SHALL BE CONCEALED. EXCEPT ON BUILDING EXTERIOR.

(#) ELECTRICAL KEYED NOTES:

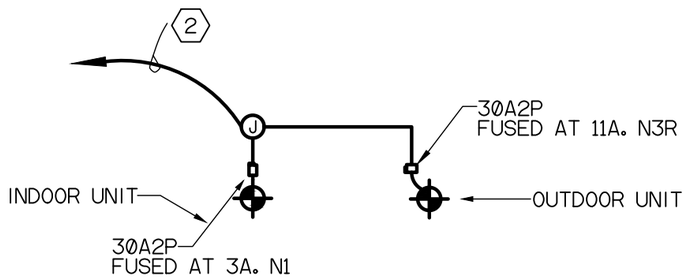
1. PROVIDE NEW 15A2P IN PLACE OF EXISTING 20/2 AT PANEL-DISCONNECT AND REWIRE ANY WIRING TO SPECIAL PURPOSE OUTLET. PROVIDE BLANK COVER AFTER SPECIAL PURPOSE OUTLET HAS BEEN RECEIVED.

2. PROVIDE NEW 20A2P IN PLACE OF EXISTING 2P BREAKER AT PANEL.

3. DISCONNECT AND REWIRE ANY WIRING TO SPECIAL PURPOSE OUTLET. PROVIDE BLANK COVER AFTER SPECIAL PURPOSE OUTLET HAS BEEN RECEIVED. INTERCONNECT WIRING FROM OUTDOOR UNIT $\frac{1}{2}$"-5#12 (VERIFY REQUIREMENTS WITH MANUFACTURER.)



1 TYPICAL EFFICIENCY UNIT WIRING DIAGRAM (3)



2 TYPICAL ONE BEDROOM WIRING DIAGRAM (3)

9/26/2019

STATE OF TEXAS
PATRICK J HOWARD
106064
PROFESSIONAL ENGINEER
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SUNSHINE PLAZA APARTMENTS MAINTENANCE PROJECT
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E4.1
ELECTRICAL
SCHEDULES AND DETAILS

FILENAME: 15802EX1.dwg LTSCALE: 1 PLOT TIME: 9/26/2019 - 4:10pm BY: phoward

ATTACHMENT B
^HUD Form 5370^ and
Conflict of Interest Questionnaire
Form 1295 Certificate of Interested Parties

NOTES:

^ The HUD Form 5370 processes and procedures included herein shall in general govern the construction project. References to PHA shall be understood to mean Beacon Communities. ^

*(Form 1295 is to be completed online by the ***Selected Respondent*** and submitted to the Texas Ethics Commission pursuant to Government Code 2252.908 and a copy returned to SAHA with the Certification prior to contract execution. A copy of the 1295 Form is included herein for information purposes only).*

General Conditions for Construction Contracts - Public Housing Programs

U.S. Department of Housing and Urban Development
Office of Public and Indian Housing
OMB Approval No. 2577-0157 (exp. 3/31/2020)

Applicability. This form is applicable to any construction/development contract greater than $150,000.

This form includes those clauses required by OMB's common rule on grantee procurement, implemented at HUD in 2 CFR 200, and those requirements set forth in Section 3 of the Housing and Urban Development Act of 1968 and its amendment by the Housing and Community Development Act of 1992, implemented by HUD at 24 CFR Part 135. The form is required for construction contracts awarded by Public Housing Agencies (PHAs).
The form is used by Housing Authorities in solicitations to provide necessary contract clauses. If the form were not used, HAs would be unable to enforce their contracts.
Public reporting burden for this collection of information is estimated to average 1.0 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Responses to the collection of information are required to obtain a benefit or to retain a benefit.
The information requested does not lend itself to confidentiality.
HUD may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a currently valid OMB number.

1. Definitions

(a) "Architect" means the person or other entity engaged by the PHA to perform architectural, engineering, design, and other services related to the work as provided for in the contract. When a PHA uses an engineer to act in this capacity, the terms "architect" and "engineer" shall be synonymous. The Architect shall serve as a technical representative of the Contracting Officer. The Architect's authority is as set forth elsewhere in this contract.

(b) "Contract" means the contract entered into between the PHA and the Contractor. It includes the forms of Bid, the Bid Bond, the Performance and Payment Bond or Bonds or other assurance of completion, the Certifications, Representations, and Other Statements of Bidders (form HUD-5370), these General Conditions of the Contract for Construction (form HUD-5370), the applicable wage rate determinations from the U.S. Department of Labor, any special conditions included elsewhere in the contract, the specifications, and drawings. It includes all formal changes to any of those documents by addendum, change order, or other modification.

(c) "Contracting Officer" means the person delegated the authority by the PHA to enter into, administer, and/or terminate this contract and designated as such in writing to the Contractor. The term includes any successor Contracting Officer and any duly authorized representative of the Contracting Officer also designated in writing. The Contracting Officer shall be deemed the authorized agent of the PHA in all dealings with the Contractor.

(d) "Contractor" means the person or other entity entering into the contract with the PHA to perform all of the work required under the contract.

(e) "Drawings" means the drawings enumerated in the schedule of drawings contained in the Specifications and as described in the contract clause entitled Specifications and Drawings for Construction herein.

(f) "HUD" means the United States of America acting through the Department of Housing and Urban Development including the Secretary, or any other person designated to act on its behalf. HUD has agreed, subject to the provisions of an Annual Contributions Contract (ACC), to provide financial assistance to the PHA, which includes assistance in financing the work to be performed under this contract. As defined elsewhere in these General Conditions or the contract documents, the determination of HUD may be required to authorize changes in the work or for release of funds to the PHA for payment to the Contractor. Notwithstanding HUD's role, nothing in this contract shall be construed to create any contractual relationship between the Contractor and HUD.

(g) "Project" means the entire project, whether construction or rehabilitation, the work for which is provided for in whole or in part under this contract.

(h) "PHA" means the Public Housing Agency organized under applicable state laws which is a party to this contract.

(j) "Specifications" means the written description of the technical requirements for construction and includes the criteria and tests for determining whether the requirements are met.

(l) "Work" means materials, workmanship, and manufacture and fabrication of components.

2. Contractor's Responsibility for Work

(a) The Contractor shall furnish all necessary labor, materials, tools, equipment, and transportation necessary for performance of the work. The Contractor shall also furnish all necessary water, heat, light, and power not made available to the Contractor by the PHA pursuant to the clause entitled Availability and Use of Utility Services herein.

(b) The Contractor shall perform on the site, and with its own organization, work equivalent to at least [ ] (12 percent unless otherwise indicated) of the total amount of work to be performed under the order. This percentage may be reduced by a supplemental agreement to this order if, during performing the work, the Contractor requests a reduction and the Contracting Officer determines that the reduction would be to the advantage of the PHA.

(c) At all times during performance of this contract and until the work is completed and accepted, the Contractor shall directly superintend the work or assign and have on the work site a competent superintendent who is satisfactory to the Contracting Officer and has authority to act for the Contractor.

(d) The Contractor shall be responsible for all damages to persons or property that occur as a result of the Contractor's fault or negligence, and shall take proper safety and health precautions to protect the work, the workers, the public, and the property of others. The Contractor shall hold and save the PHA, its officers and agents, free and harmless from liability of any nature occasioned by the Contractor's performance. The Contractor shall also be responsible for all materials delivered and work performed until completion and acceptance of the entire work, except for any completed unit of work which may have been accepted under the contract.

(e) The Contractor shall lay out the work from base lines and bench marks indicated on the drawings and be responsible for all lines, levels, and measurements of all work executed under the contract. The Contractor shall verify the figures before laying out the work and will be held responsible for any error resulting from its failure to do so.

(f) The Contractor shall confine all operations (including storage of materials) on PHA premises to areas authorized or approved by the Contracting Officer.

(g) The Contractor shall at all times keep the work area, including storage areas, free from accumulations of waste materials. After completing the work and before final inspection, the Contractor shall (1) remove from the premises all scaffolding, equipment, tools, and materials (including rejected materials) that are not the property of the PHA and all rubbish caused by its work; (2) leave the work area in a clean, neat, and orderly condition satisfactory to the Contracting Officer; (3) perform all specified tests; and, (4) deliver the installation in complete and operating condition.

(h) The Contractor's responsibility will terminate when all work has been completed, the final inspection made, and the work accepted by the Contracting Officer. The Contractor will then be released from further obligation except as required by the warranties specified elsewhere in the contract.

3. Architect's Duties, Responsibilities, and Authority

(a) The Architect for this contract, and any successor, shall be designated in writing by the Contracting Officer.

(b) The Architect shall serve as the Contracting Officer's technical representative with respect to architectural, engineering, and design matters related to the work performed under the contract. The Architect may provide direction on contract performance. Such direction shall be within the scope of the contract and may not be of a nature which: (1) institutes additional work outside the scope of the contract; (2) constitutes a change as defined in the Changes clause herein; (3) causes an increase or decrease in the cost of the contract; (4) alters the Construction Progress Schedule; or (5) changes any of the other express terms or conditions of the contract.

(c) The Architect's duties and responsibilities may include but shall not be limited to:

(1) Making periodic visits to the work site, and on the basis of his/her on-site inspections, issuing written reports to the PHA which shall include all observed deficiencies. The Architect shall file a copy of the report with the Contractor's designated representative at the site;

(2) Making modifications in drawings and technical specifications and assisting the Contracting Officer in the preparation of change orders and other contract modifications for issuance by the Contracting Officer;

(3) Reviewing and making recommendations with respect to - (i) the Contractor's construction progress schedules; (ii) the Contractor's shop and detailed drawings; (iii) the machinery, mechanical and other equipment and materials or other articles proposed for use by the Contractor; and, (iv) the Contractor's price breakdown and progress payment estimates; and,

(4) Assisting in inspections, signing Certificates of Completion, and making recommendations with respect to acceptance of work completed under the contract.

4. Other Contracts

The PHA may undertake or award other contracts for additional work at or near the site of the work under this contract. The Contractor shall fully cooperate with the other contractors and with PHA employees and shall carefully adapt scheduling and performing the work under this contract to accommodate the additional work, heeding any direction that may be provided by the Contracting Officer. The Contractor shall not commit or permit any act that will interfere with the performance of work by any other contractor or by PHA employees

Construction Requirements

5. Pre-construction Conference and Notice to Proceed

(a) Within ten calendar days of contract execution, and prior to the commencement of work, the Contractor shall attend a preconstruction conference with representatives of the PHA, its Architect, and other interested parties convened by the PHA. The conference will serve to acquaint the participants with the general plan of the construction operation and all other requirements of the contract. The PHA will provide the Contractor with the date, time, and place of the conference.

(b) The contractor shall begin work upon receipt of a written Notice to Proceed from the Contracting Officer or designee. The Contractor shall not begin work prior to receiving such notice.

6. Construction Progress Schedule

(a) The Contractor shall, within five days after the work commences on the contract or another period of time determined by the Contracting Officer, prepare and submit to the Contracting Officer for approval three copies of a practicable schedule showing the order in which the Contractor proposes to perform the work, and the dates on which the Contractor contemplates starting and completing the several salient features of the work (including acquiring labor, materials, and equipment). The schedule shall be in the form of a progress chart of suitable scale to indicate appropriately the percentage of work scheduled for completion by any given date during the period. If the Contractor fails to submit a schedule within the time prescribed, the Contracting Officer may withhold approval of progress payments or take other remedies under the contract until the Contractor submits the required schedule.

(b) The Contractor shall enter the actual progress on the chart as required by the Contracting Officer, and immediately deliver three copies of the annotated schedule to the Contracting Officer. If the Contracting Officer determines, upon the basis of inspection conducted pursuant to the clause entitled Inspection and Acceptance of Construction, herein that the Contractor is not meeting the approved schedule, the Contractor shall take steps necessary to improve its progress, including those that may be required by the Contracting Officer, without additional cost to the PHA. In this circumstance, the Contracting Officer may require the Contractor to increase the number of shifts, overtime operations, days of work, and/or the amount of construction plant, and to submit for approval any supplementary schedule or schedules in chart form as the Contracting Officer deems necessary to demonstrate how the approved rate of progress will be regained.

(c) Failure of the Contractor to comply with the requirements of the Contracting Officer under this clause shall be grounds for a determination by the Contracting Officer that the Contractor is not prosecuting the work with sufficient diligence to ensure completion within the time specified in the Contract. Upon making this determination, the Contracting Officer may terminate the Contractor's right to proceed with the work, or any separable part of it, in accordance with the Default clause of this contract.

7. Site Investigation and Conditions Affecting the Work

(a) The Contractor acknowledges that it has taken steps reasonably necessary to ascertain the nature and location of the work, and that it has investigated and satisfied itself as to the general and local conditions which can affect the work or its cost, including but not limited to, (1) conditions bearing upon transportation, disposal, handling, and storage of materials; (2) the availability of labor, water, electric power, and roads;(3) uncertainties of weather, river stages, tides, or similar physical conditions at the site; (4) the conformation and conditions of the ground; and (5) the character of equipment and facilities needed preliminary to and during work performance. The Contractor also acknowledges that it has satisfied itself as to the character, quality, and quantity of surface and subsurface materials or obstacles to be encountered insofar as this information is

reasonably ascertainable from an inspection of the site, including all exploratory work done by the PHA, as well as from the drawings and specifications made a part of this contract. Any failure of the Contractor to take the actions described and acknowledged in this paragraph will not relieve the Contractor from responsibility for estimating properly the difficulty and cost of successfully performing the work, or for proceeding to successfully perform the work without additional expense to the PHA.

(b) The PHA assumes no responsibility for any conclusions or interpretations made by the Contractor based on the information made available by the PHA. Nor does the PHA assume responsibility for any understanding reached or representation made concerning conditions which can affect the work by any of its officers or agents before the execution of this contract, unless that understanding or representation is expressly stated in this contract.

8. Differing Site Conditions

(a) The Contractor shall promptly, and before the conditions are disturbed, give a written notice to the Contracting Officer of (1) subsurface or latent physical conditions at the site which differ materially from those indicated in this contract, or (2) unknown physical conditions at the site(s), of an unusual nature, which differ materially from those ordinarily encountered and generally recognized as inhering in work of the character provided for in the contract.

(b) The Contracting Officer shall investigate the site conditions promptly after receiving the notice. Work shall not proceed at the affected site, except at the Contractor's risk, until the Contracting Officer has provided written instructions to the Contractor. If the conditions do materially so differ and cause an increase or decrease in the Contractor's cost of, or the time required for, performing any part of the work under this contract, whether or not changed as a result of the conditions, the Contractor shall file a claim in writing to the PHA within ten days after receipt of such instructions and, in any event, before proceeding with the work. An equitable adjustment in the contract price, the delivery schedule, or both shall be made under this clause and the contract modified in writing accordingly.

(c) No request by the Contractor for an equitable adjustment to the contract under this clause shall be allowed, unless the Contractor has given the written notice required; provided, that the time prescribed in (a) above for giving written notice may be extended by the Contracting Officer.

(d) No request by the Contractor for an equitable adjustment to the contract for differing site conditions shall be allowed if made after final payment under this contract.

9. Specifications and Drawings for Construction

(a) The Contractor shall keep on the work site a copy of the drawings and specifications and shall at all times give the Contracting Officer access thereto. Anything mentioned in the specifications and not shown on the drawings, or shown on the drawings and not mentioned in the specifications, shall be of like effect as if shown or mentioned in both. In case of difference between drawings and specifications, the specifications shall govern. In case of discrepancy in the figures, in the drawings, or in the specifications, the matter shall be promptly submitted to the Contracting Officer, who shall promptly make a determination in writing. Any adjustment by the Contractor without such a determination shall be at its own risk and expense. The Contracting Officer shall furnish from time to time such detailed drawings and other information as considered necessary, unless otherwise provided.

(b) Wherever in the specifications or upon the drawings the words "directed", "required", "ordered", "designated", "prescribed", or words of like import are used, it shall be understood that the "direction", "requirement", "order", "designation", or "prescription", of the Contracting Officer is intended and similarly the words "approved", "acceptable", "satisfactory", or words of like import shall mean "approved by", or "acceptable to", or "satisfactory to" the Contracting Officer, unless otherwise expressly stated.

(c) Where "as shown" "as indicated", "as detailed", or of similar import are used, it shall be understood that the reference is made to the drawings accompanying this contract unless stated otherwise. The word "provided" as used herein shall be understood to mean "provide complete in place" that is "furnished and installed".

(d) "Shop drawings" means drawings, submitted to the PHA by the Contractor, subcontractor, or any lower tier subcontractor, showing in detail (1) the proposed fabrication and assembly of structural elements and (2) the installation (i.e., form, fit, and attachment details) of materials of equipment. It includes drawings, diagrams, layouts, schematics, descriptive literature, illustrations, schedules, performance and test data, and similar materials furnished by the Contractor to explain in detail specific portions of the work required by the contract. The PHA may duplicate, use, and disclose in any manner and for any purpose shop drawings delivered under this contract.

(e) If this contract requires shop drawings, the Contractor shall coordinate all such drawings, and review them for accuracy, completeness, and compliance with other contract requirements and shall indicate its approval thereon as evidence of such coordination and review. Shop drawings submitted to the Contracting Officer without evidence of the Contractor's approval may be returned for resubmission. The Contracting Officer will indicate an approval or disapproval of the shop drawings and if not approved as submitted shall indicate the PHA's reasons therefore. Any work done before such approval shall be at the Contractor's risk. Approval by the Contracting Officer shall not relieve the Contractor from responsibility for any errors or omissions in such drawings, nor from responsibility for complying with the requirements of this contract, except with respect to variations described and approved in accordance with (f) below.

(f) If shop drawings show variations from the contract requirements, the Contractor shall describe such variations in writing, separate from the drawings, at the time of submission. If the Architect approves any such variation and the Contracting Officer concurs, the Contracting Officer shall issue an appropriate modification to the contract, except that, if the variation is minor or does not involve a change in price or in time of performance, a modification need not be issued.

(g) It shall be the responsibility of the Contractor to make timely requests of the PHA for such large scale and full size drawings, color schemes, and other additional information, not already in his possession, which shall be

required in the planning and production of the work. Such requests may be submitted as the need arises, but each such request shall be filed in ample time to permit appropriate action to be taken by all parties involved so as to avoid delay.

(h) The Contractor shall submit to the Contracting Officer for approval four copies (unless otherwise indicated) of all shop drawings as called for under the various headings of these specifications. Three sets (unless otherwise indicated) of all shop drawings, will be retained by the PHA and one set will be returned to the Contractor. As required by the Contracting Officer, the Contractor, upon completing the work under this contract, shall furnish a complete set of all shop drawings as finally approved. These drawings shall show all changes and revisions made up to the time the work is completed and accepted.

(i) This clause shall be included in all subcontracts at any tier. It shall be the responsibility of the Contractor to ensure that all shop drawings prepared by subcontractors are submitted to the Contracting Officer.

10. As-Built Drawings

(a) "As-built drawings," as used in this clause, means drawings submitted by the Contractor or subcontractor at any tier to show the construction of a particular structure or work as actually completed under the contract. "As-built drawings" shall be synonymous with "Record drawings."

(b) As required by the Contracting Officer, the Contractor shall provide the Contracting Officer accurate information to be used in the preparation of permanent as-built drawings. For this purpose, the Contractor shall record on one set of contract drawings all changes from the installations originally indicated, and record final locations of underground lines by depth from finish grade and by accurate horizontal offset distances to permanent surface improvements such as buildings, curbs, or edges of walks.

(c) This clause shall be included in all subcontracts at any tier. It shall be the responsibility of the Contractor to ensure that all as-built drawings prepared by subcontractors are submitted to the Contracting Officer.

11. Material and Workmanship

(a) All equipment, material, and articles furnished under this contract shall be new and of the most suitable grade for the purpose intended, unless otherwise specifically provided in this contract. References in the contract to equipment, material, articles, or patented processes by trade name, make, or catalog number, shall be regarded as establishing a standard of quality and shall not be construed as limiting competition. The Contractor may, at its option, use any equipment, material, article, or process that, in the judgment of, and as approved by the Contracting Officer, is equal to that named in the specifications, unless otherwise specifically provided in this contract.

(b) Approval of equipment and materials.

(1) The Contractor shall obtain the Contracting Officer's approval of the machinery and mechanical and other equipment to be incorporated into the work. When requesting approval, the Contractor shall furnish to the Contracting Officer the name of the manufacturer, the model number, and other information concerning the performance, capacity, nature, and rating of the machinery and mechanical and other equipment. When required by this contract or by the Contracting Officer, the Contractor shall also obtain the Contracting Officer's approval of the material or articles which the Contractor contemplates incorporating into the work. When requesting approval, the Contractor shall provide full information concerning the material or articles. Machinery, equipment, material, and articles that do not have the required approval shall be installed or used at the risk of subsequent rejection.

(2) When required by the specifications or the Contracting Officer, the Contractor shall submit appropriately marked samples (and certificates related to them) for approval at the Contractor's expense, with all shipping charges prepaid. The Contractor shall label, or otherwise properly mark on the container, the material or product represented, its place of origin, the name of the producer, the Contractor's name, and the identification of the construction project for which the material or product is intended to be used.

(3) Certificates shall be submitted in triplicate, describing each sample submitted for approval and certifying that the material, equipment or accessory complies with contract requirements. The certificates shall include the name and brand of the product, name of manufacturer, and the location where produced.

(4) Approval of a sample shall not constitute a waiver of the PHA right to demand full compliance with contract requirements. Materials, equipment and accessories may be rejected for cause even though samples have been approved.

(5) Wherever materials are required to comply with recognized standards or specifications, such specifications shall be accepted as establishing the technical qualities and testing methods, but shall not govern the number of tests required to be made nor modify other contract requirements. The Contracting Officer may require laboratory test reports on items submitted for approval or may approve materials on the basis of data submitted in certificates with samples. Check tests will be made on materials delivered for use only as frequently as the Contracting Officer determines necessary to insure compliance of materials with the specifications. The Contractor will assume all costs of retesting materials which fail to meet contract requirements and/or testing materials offered in substitution for those found deficient.

(6) After approval, samples will be kept in the Project office until completion of work. They may be built into the work after a substantial quantity of the materials they represent has been built in and accepted.

(c) Requirements concerning lead-based paint. The Contractor shall comply with the requirements concerning lead-based paint contained in the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. 4821-4846) as implemented by 24 CFR Part 35.

12. Permits and Codes

(a) The Contractor shall give all notices and comply with all applicable laws, ordinances, codes, rules and regulations. Notwithstanding the requirement of the Contractor to comply with the drawings and specifications in the contract, all work installed shall comply with all applicable codes and regulations as amended by any

waivers. Before installing the work, the Contractor shall examine the drawings and the specifications for compliance with applicable codes and regulations bearing on the work and shall immediately report any discrepancy it may discover to the Contracting Officer. Where the requirements of the drawings and specifications fail to comply with the applicable code or regulation, the Contracting Officer shall modify the contract by change order pursuant to the clause entitled Changes herein to conform to the code or regulation.

(b) The Contractor shall secure and pay for all permits, fees, and licenses necessary for the proper execution and completion of the work. Where the PHA can arrange for the issuance of all or part of these permits, fees and licenses, without cost to the Contractor, the contract amount shall be reduced accordingly.

13. Health, Safety, and Accident Prevention

(a) In performing this contract, the Contractor shall:
(1) Ensure that no laborer or mechanic shall be required to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to his/her health and/or safety as determined under construction safety and health standards promulgated by the Secretary of Labor by regulation;
(2) Protect the lives, health, and safety of other persons;
(3) Prevent damage to property, materials, supplies, and equipment; and,
(4) Avoid work interruptions.

(b) For these purposes, the Contractor shall:
(1) Comply with regulations and standards issued by the Secretary of Labor at 29 CFR Part 1926. Failure to comply may result in imposition of sanctions pursuant to the Contract Work Hours and Safety Standards Act (Public Law 91-54, 83 Stat. 96), 40 U.S.C. 3701 et seq.; and
(2) Include the terms of this clause in every subcontract so that such terms will be binding on each subcontractor.

(c) The Contractor shall maintain an accurate record of exposure data on all accidents incident to work performed under this contract resulting in death, traumatic injury, occupational disease, or damage to property, materials, supplies, or equipment, and shall report this data in the manner prescribed by 29 CFR Part 1904.

(d) The Contracting Officer shall notify the Contractor of any noncompliance with these requirements and of the corrective action required. This notice, when delivered to the Contractor or the Contractor's representative at the site of the work, shall be deemed sufficient notice of the noncompliance and corrective action required. After receiving the notice, the Contractor shall immediately take corrective action. If the Contractor fails or refuses to take corrective action promptly, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. The Contractor shall not base any claim or request for equitable adjustment for additional time or money on any stop order issued under these circumstances.

(e) The Contractor shall be responsible for its subcontractors' compliance with the provisions of this clause. The Contractor shall take such action with respect to any subcontract as the PHA, the Secretary of Housing and Urban Development, or the Secretary of Labor shall direct as a means of enforcing such provisions.

14. Temporary Heating

The Contractor shall provide and pay for temporary heating, covering, and enclosures necessary to properly protect all work and materials against damage by dampness and cold, to dry out the work, and to facilitate the completion of the work. Any permanent heating equipment used shall be turned over to the PHA in the condition and at the time required by the specifications.

15. Availability and Use of Utility Services

(a) The PHA shall make all reasonably required amounts of utilities available to the Contractor from existing outlets and supplies, as specified in the contract. Unless otherwise provided in the contract, the amount of each utility service consumed shall be charged to or paid for by the Contractor at prevailing rates charged to the PHA or, where the utility is produced by the PHA, at reasonable rates determined by the Contracting Officer. The Contractor shall carefully conserve any utilities furnished without charge.

(b) The Contractor, at its expense and in a manner satisfactory to the Contracting Officer, shall install and maintain all necessary temporary connections and distribution lines, and all meters required to measure the amount of each utility used for the purpose of determining charges. Before final acceptance of the work by the PHA, the Contractor shall remove all the temporary connections, distribution lines, meters, and associated paraphernalia.

16. Protection of Existing Vegetation, Structures, Equipment, Utilities, and Improvements

(a) The Contractor shall preserve and protect all structures, equipment, and vegetation (such as trees, shrubs, and grass) on or adjacent to the work site, which are not to be removed under this contract, and which do not unreasonably interfere with the work required under this contract.

(b) The Contractor shall only remove trees when specifically authorized to do so, and shall avoid damaging vegetation that will remain in place. If any limbs or branches of trees are broken during performance of this contract, or by the careless operation of equipment, or by workmen, the Contractor shall trim those limbs or branches with a clean cut and paint the cut with a tree-pruning compound as directed by the Contracting Officer.

(c) The Contractor shall protect from damage all existing improvements and utilities (1) at or near the work site and (2) on adjacent property of a third party, the locations of which are made known to or should be known by the Contractor. Prior to disturbing the ground at the construction site, the Contractor shall ensure that all underground utility lines are clearly marked.

(d) The Contractor shall shore up, brace, underpin, secure, and protect as necessary all foundations and other parts of existing structures adjacent to, adjoining, and in the vicinity of the site, which may be affected by the excavations or other operations connected with the construction of the project.

(e) Any equipment temporarily removed as a result of work under this contract shall be protected, cleaned, and replaced in the same condition as at the time of award of this contract.

(f) New work which connects to existing work shall correspond in all respects with that to which it connects and/or be similar to existing work unless otherwise required by the specifications.
(g) No structural members shall be altered or in any way weakened without the written authorization of the Contracting Officer, unless such work is clearly specified in the plans or specifications.
(h) If the removal of the existing work exposes discolored or unfinished surfaces, or work out of alignment, such surfaces shall be refinished, or the material replaced as necessary to make the continuous work uniform and harmonious. This, however, shall not be construed to require the refinishing or reconstruction of dissimilar finishes previously exposed, or finished surfaces in good condition, but in different planes or on different levels when brought together by the removal of intervening work, unless such refinishing or reconstruction is specified in the plans or specifications.
(i) The Contractor shall give all required notices to any adjoining or adjacent property owner or other party before the commencement of any work.
(j) The Contractor shall indemnify and save harmless the PHA from any damages on account of settlement or the loss of lateral support of adjoining property, any damages from changes in topography affecting drainage, and from all loss or expense and all damages for which the PHA may become liable in consequence of such injury or damage to adjoining and adjacent structures and their premises.
(k) The Contractor shall repair any damage to vegetation, structures, equipment, utilities, or improvements, including those that are the property of a third party, resulting from failure to comply with the requirements of this contract or failure to exercise reasonable care in performing the work. If the Contractor fails or refuses to repair the damage promptly, the Contracting Officer may have the necessary work performed and charge the cost to the Contractor.

17. Temporary Buildings and Transportation of Materials

(a) Temporary buildings (e.g., storage sheds, shops, offices, sanitary facilities) and utilities may be erected by the Contractor only with the approval of the Contracting Officer and shall be built with labor and materials furnished by the Contractor without expense to the PHA. The temporary buildings and utilities shall remain the property of the Contractor and shall be removed by the Contractor at its expense upon completion of the work. With the written consent of the Contracting Officer, the buildings and utilities may be abandoned and need not be removed.
(b) The Contractor shall, as directed by the Contracting Officer, use only established roadways, or use temporary roadways constructed by the Contractor when and as authorized by the Contracting Officer. When materials are transported in prosecuting the work, vehicles shall not be loaded beyond the loading capacity recommended by the manufacturer of the vehicle or prescribed by any federal, state, or local law or regulation. When it is necessary to cross curbs or sidewalks, the Contractor shall protect them from damage. The Contractor shall repair or pay for the repair of any damaged curbs, sidewalks, or roads.

18. Clean Air and Water

The contactor shall comply with the Clean Air Act, as amended, 42 USC 7401 et seq., the Federal Water Pollution Control Water Act, as amended, 33 U.S.C. 1251 et seq., and standards issued pursuant thereto in the facilities in which this contract is to be performed.

19. Energy Efficiency

The Contractor shall comply with mandatory standards and policies relating to energy efficiency which are contained in the energy conservation plan issued in compliance with the Energy Policy and Conservation Act (Pub.L. 94-163) for the State in which the work under the contract is performed.

20. Inspection and Acceptance of Construction

(a) Definitions. As used in this clause -
(1) "Acceptance" means the act of an authorized representative of the PHA by which the PHA approves and assumes ownership of the work performed under this contract. Acceptance may be partial or complete.
(2) "Inspection" means examining and testing the work performed under the contract (including, when appropriate, raw materials, equipment, components, and intermediate assemblies) to determine whether it conforms to contract requirements.
(3) "Testing" means that element of inspection that determines the properties or elements, including functional operation of materials, equipment, or their components, by the application of established scientific principles and procedures.
(b) The Contractor shall maintain an adequate inspection system and perform such inspections as will ensure that the work performed under the contract conforms to contract requirements. All work is subject to PHA inspection and test at all places and at all reasonable times before acceptance to ensure strict compliance with the terms of the contract.
(c) PHA inspections and tests are for the sole benefit of the PHA and do not: (1) relieve the Contractor of responsibility for providing adequate quality control measures; (2) relieve the Contractor of responsibility for loss or damage of the material before acceptance; (3) constitute or imply acceptance; or, (4) affect the continuing rights of the PHA after acceptance of the completed work under paragraph (j) below.
(d) The presence or absence of the PHA inspector does not relieve the Contractor from any contract requirement, nor is the inspector authorized to change any term or condition of the specifications without the Contracting Officer's written authorization. All instructions and approvals with respect to the work shall be given to the Contractor by the Contracting Officer.
(e) The Contractor shall promptly furnish, without additional charge, all facilities, labor, and material reasonably needed for performing such safe and convenient inspections and tests as may be required by the Contracting Officer. The PHA may charge to the Contractor any additional cost of inspection or test when work is not ready at the time specified by the Contractor for inspection or test, or when prior rejection makes reinspection or retest necessary. The PHA shall perform all inspections and tests in a manner that will not unnecessarily delay the work. Special, full size, and performance tests shall be performed as described in the contract.

(f) The PHA may conduct routine inspections of the construction site on a daily basis.

(g) The Contractor shall, without charge, replace or correct work found by the PHA not to conform to contract requirements, unless the PHA decides that it is in its interest to accept the work with an appropriate adjustment in contract price. The Contractor shall promptly segregate and remove rejected material from the premises.

(h) If the Contractor does not promptly replace or correct rejected work, the PHA may (1) by contract or otherwise, replace or correct the work and charge the cost to the Contractor, or (2) terminate for default the Contractor's right to proceed.

(i) If any work requiring inspection is covered up without approval of the PHA, it must, if requested by the Contracting Officer, be uncovered at the expense of the Contractor. If at any time before final acceptance of the entire work, the PHA considers it necessary or advisable, to examine work already completed by removing or tearing it out, the Contractor, shall on request, promptly furnish all necessary facilities, labor, and material. If such work is found to be defective or nonconforming in any material respect due to the fault of the Contractor or its subcontractors, the Contractor shall defray all the expenses of the examination and of satisfactory reconstruction. If, however, such work is found to meet the requirements of the contract, the Contracting Officer shall make an equitable adjustment to cover the cost of the examination and reconstruction, including, if completion of the work was thereby delayed, an extension of time.

(j) The Contractor shall notify the Contracting Officer, in writing, as to the date when in its opinion all or a designated portion of the work will be substantially completed and ready for inspection. If the Architect determines that the state of preparedness is as represented, the PHA will promptly arrange for the inspection. Unless otherwise specified in the contract, the PHA shall accept, as soon as practicable after completion and inspection, all work required by the contract or that portion of the work the Contracting Officer determines and designates can be accepted separately. Acceptance shall be final and conclusive except for latent defects, fraud, gross mistakes amounting to fraud, or the PHA's right under any warranty or guarantee.

21. Use and Possession Prior to Completion

(a) The PHA shall have the right to take possession of or use any completed or partially completed part of the work. Before taking possession of or using any work, the Contracting Officer shall furnish the Contractor a list of items of work remaining to be performed or corrected on those portions of the work that the PHA intends to take possession of or use. However, failure of the Contracting Officer to list any item of work shall not relieve the Contractor of responsibility for complying with the terms of the contract. The PHA's possession or use shall not be deemed an acceptance of any work under the contract.

(b) While the PHA has such possession or use, the Contractor shall be relieved of the responsibility for (1) the loss of or damage to the work resulting from the PHA's possession or use, notwithstanding the terms of the clause entitled Permits and Codes herein; (2) all maintenance costs on the areas occupied; and, (3) furnishing heat, light, power, and water used in the areas occupied without proper remuneration therefore. If prior possession or use by the PHA delays the progress of the work or causes additional expense to the Contractor, an equitable adjustment shall be made in the contract price or the time of completion, and the contract shall be modified in writing accordingly.

22. Warranty of Title

The Contractor warrants good title to all materials, supplies, and equipment incorporated in the work and agrees to deliver the premises together with all improvements thereon free from any claims, liens or charges, and agrees further that neither it nor any other person, firm or corporation shall have any right to a lien upon the premises or anything appurtenant thereto.

23. Warranty of Construction

(a) In addition to any other warranties in this contract, the Contractor warrants, except as provided in paragraph (j) of this clause, that work performed under this contract conforms to the contract requirements and is free of any defect in equipment, material, or workmanship performed by the Contractor or any subcontractor or supplier at any tier. This warranty shall continue for a period of 2 years (one year unless otherwise indicated) from the date of final acceptance of the work. If the PHA takes possession of any part of the work before final acceptance, this warranty shall continue for a period of (one year unless otherwise indicated) from the date that the PHA takes possession.

(b) The Contractor shall remedy, at the Contractor's expense, any failure to conform, or any defect. In addition, the Contractor shall remedy, at the Contractor's expense, any damage to PHA-owned or controlled real or personal property when the damage is the result of—

(1) The Contractor's failure to conform to contract requirements; or

(2) Any defects of equipment, material, workmanship or design furnished by the Contractor.

(c) The Contractor shall restore any work damaged in fulfilling the terms and conditions of this clause. The Contractor's warranty with respect to work repaired or replaced will run for (one year unless otherwise indicated) from the date of repair or replacement.

(d) The Contracting Officer shall notify the Contractor, in writing, within a reasonable time after the discovery of any failure, defect or damage.

(e) If the Contractor fails to remedy any failure, defect, or damage within a reasonable time after receipt of notice, the PHA shall have the right to replace, repair or otherwise remedy the failure, defect, or damage at the Contractor's expense.

(f) With respect to all warranties, express or implied, from subcontractors, manufacturers, or suppliers for work performed and materials furnished under this contract, the Contractor shall:

(1) Obtain all warranties that would be given in normal commercial practice;

(2) Require all warranties to be executed in writing, for the benefit of the PHA; and,

(3) Enforce all warranties for the benefit of the PHA.

(g) In the event the Contractor's warranty under paragraph (a) of this clause has expired, the PHA may bring suit at its own expense to enforce a subcontractor's, manufacturer's or supplier's warranty.

(h) Unless a defect is caused by the negligence of the Contractor or subcontractor or supplier at any tier, the Contractor shall not be liable for the repair of any defect of material or design furnished by the PHA nor for the repair of any damage that results from any defect in PHA furnished material or design.

(i) Notwithstanding any provisions herein to the contrary, the establishment of the time periods in paragraphs (a) and (c) above relate only to the specific obligation of the Contractor to correct the work, and have no relationship to the time within which its obligation to comply with the contract may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to its obligation other than specifically to correct the work.

(j) This warranty shall not limit the PHA's rights under the Inspection and Acceptance of Construction clause of this contract with respect to latent defects, gross mistakes or fraud.

24. Prohibition Against Liens

The Contractor is prohibited from placing a lien on the PHA's property. This prohibition shall apply to all subcontractors at any tier and all materials suppliers.

Administrative Requirements

25. Contract Period

this contract within calendar days of the effective date of the contract, or within the time schedule established in the notice to proceed issued by the Contracting Officer.

26. Order of Provisions

In the event of a conflict between these General Conditions and the Specifications, the General Conditions shall prevail. In the event of a conflict between the contract and any applicable state or local law or regulation, the state or local law or regulation shall prevail; provided that such state or local law or regulation does not conflict with, or is less restrictive than applicable federal law, regulation, or Executive Order. In the event of such a conflict, applicable federal law, regulation, and Executive Order shall prevail.

27. Payments

(a) The PHA shall pay the Contractor the price as provided in this contract.

(b) The PHA shall make progress payments approximately every 30 days as the work proceeds, on estimates of work accomplished which meets the standards of quality established under the contract, as approved by the Contracting Officer. The PHA may, subject to written determination and approval of the Contracting Officer, make more frequent payments to contractors which are qualified small businesses.

(c) Before the first progress payment under this contract, the Contractor shall furnish, in such detail as requested by the Contracting Officer, a breakdown of the total contract price showing the amount included therein for each principal category of the work, which shall substantiate the payment amount requested in order to provide a basis for determining progress payments. The breakdown shall be approved by the Contracting Officer and must be acceptable to HUD. If the contract covers more than one project, the Contractor shall furnish a separate breakdown for each. The values and quantities employed in making up this breakdown are for determining the amount of progress payments and shall not be construed as a basis for additions to or deductions from the contract price. The Contractor shall prorate its overhead and profit over the construction period of the contract.

(d) The Contractor shall submit, on forms provided by the PHA, periodic estimates showing the value of the work performed during each period based upon the approved

submitted not later than 30 days in advance of the date set for payment and are subject to correction and revision as required. The estimates must be approved by the Contracting Officer with the concurrence of the Architect prior to payment. If the contract covers more than one project, the Contractor shall furnish a separate progress payment estimate for each.

(e) Along with each request for progress payments and the required estimates, the Contractor shall furnish the following certification, or payment shall not be made: I hereby certify, to the best of my knowledge and belief, that:

(1) The amounts requested are only for performance in accordance with the specifications, terms, and conditions of the contract;

(2) Payments to subcontractors and suppliers have been made from previous payments received under the contract, and timely payments will be made from the proceeds of the payment covered by this certification, in accordance with subcontract agreements; and,

(3) This request for progress payments does not include any amounts which the prime contractor intends to withhold or retain from a subcontractor or supplier in accordance with the terms and conditions of the subcontract.

_____
Name:

_____
Title:

_____
Date:

(f) Except as otherwise provided in State law, the PHA shall retain ten (10) percent of the amount of progress payments until completion and acceptance of all work under the contract; except, that if upon completion of 50 percent of the work, the Contracting Officer, after consulting with the Architect, determines that the Contractor's performance and progress are satisfactory, the PHA may make the remaining payments in full for the work subsequently completed. If the Contracting Officer subsequently determines that the Contractor's performance and progress are unsatisfactory, the PHA shall reinstate the ten (10) percent (or other percentage as provided in State law) retainage until such time as the Contracting Officer determines that performance and progress are satisfactory.

(g) The Contracting Officer may authorize material delivered on the site and preparatory work done to be taken into consideration when computing progress payments.

Material delivered to the Contractor at locations other than the site may also be taken into consideration if the Contractor furnishes satisfactory evidence that (1) it has acquired title to such material; (2) the material is properly stored in a bonded warehouse, storage yard, or similar suitable place as may be approved by the Contracting Officer; (3) the material is insured to cover its full value; and (4) the material will be used to perform this contract. Before any progress payment which includes delivered material is made, the Contractor shall furnish such documentation as the Contracting Officer may require to assure the protection of the PHA's interest in such materials. The Contractor shall remain responsible for such stored material notwithstanding the transfer of title to the PHA.

(h) All material and work covered by progress payments made shall, at the time of payment become the sole property of the PHA, but this shall not be construed as (1) relieving the Contractor from the sole responsibility for all material and work upon which payments have been made or the restoration of any damaged work; or, (2) waiving the right of the PHA to require the fulfillment of all of the terms of the contract. In the event the work of the Contractor has been damaged by other contractors or persons other than employees of the PHA in the course of their employment, the Contractor shall restore such damaged work without cost to the PHA and to seek redress for its damage only from those who directly caused it.

(i) The PHA shall make the final payment due the Contractor under this contract after (1) completion and final acceptance of all work; and (2) presentation of release of all claims against the PHA arising by virtue of this contract, other than claims, in stated amounts, that the Contractor has specifically excepted from the operation of the release. Each such exception shall embrace no more than one claim, the basis and scope of which shall be clearly defined. The amounts for such excepted claims shall not be included in the request for final payment. A release may also be required of the assignee if the Contractor's claim to amounts payable under this contract has been assigned.

(j) Prior to making any payment, the Contracting Officer may require the Contractor to furnish receipts or other evidence of payment from all persons performing work and supplying material to the Contractor, if the Contracting Officer determines such evidence is necessary to substantiate claimed costs.

(k) The PHA shall not; (1) determine or adjust any claims for payment or disputes arising there under between the Contractor and its subcontractors or material suppliers; or, (2) withhold any moneys for the protection of the subcontractors or material suppliers. The failure or refusal of the PHA to withhold moneys from the Contractor shall in nowise impair the obligations of any surety or sureties under any bonds furnished under this contract.

28. Contract Modifications

(a) Only the Contracting Officer has authority to modify any term or condition of this contract. Any contract modification shall be authorized in writing.

(b) The Contracting Officer may modify the contract unilaterally (1) pursuant to a specific authorization stated in a contract clause (e.g., Changes); or (2) for administrative matters which do not change the rights or responsibilities of the parties (e.g., change in the PHA address). All other contract modifications shall be in the form of supplemental agreements signed by the Contractor and the Contracting Officer.

(c) When a proposed modification requires the approval of HUD prior to its issuance (e.g., a change order that exceeds the PHA's approved threshold), such modification shall not be effective until the required approval is received by the PHA.

29. Changes

(a) The Contracting Officer may, at any time, without notice to the sureties, by written order designated or indicated to be a change order, make changes in the work within the general scope of the contract including changes:
(1) In the specifications (including drawings and designs);
(2) In the method or manner of performance of the work;
(3) PHA-furnished facilities, equipment, materials, services, or site; or,
(4) Directing the acceleration in the performance of the work.

(b) Any other written order or oral order (which, as used in this paragraph (b), includes direction, instruction, interpretation, or determination) from the Contracting Officer that causes a change shall be treated as a change order under this clause; provided, that the Contractor gives the Contracting Officer written notice stating (1) the date, circumstances and source of the order and (2) that the Contractor regards the order as a change order.

(c) Except as provided in this clause, no order, statement or conduct of the Contracting Officer shall be treated as a change under this clause or entitle the Contractor to an equitable adjustment.

(d) If any change under this clause causes an increase or decrease in the Contractor's cost of, or the time required for the performance of any part of the work under this contract, whether or not changed by any such order, the Contracting Officer shall make an equitable adjustment and modify the contract in writing. However, except for a adjustment based on defective specifications, no proposal for any change under paragraph (b) above shall be allowed for any costs incurred more than 20 days (5 days for oral orders) before the Contractor gives written notice as required. In the case of defective specifications for which the PHA is responsible, the equitable adjustment shall include any increased cost reasonably incurred by the Contractor in attempting to comply with the defective specifications.

(e) The Contractor must assert its right to an adjustment under this clause within 30 days after (1) receipt of a written change order under paragraph (a) of this clause, or (2) the furnishing of a written notice under paragraph (b) of this clause, by submitting a written statement describing the general nature and the amount of the proposal. If the facts justify it, the Contracting Officer may extend the period for submission. The proposal may be included in the notice required under paragraph (b) above. No proposal by the Contractor for an equitable adjustment shall be allowed if asserted after final payment under this contract.

(f) The Contractor's written proposal for equitable adjustment shall be submitted in the form of a lump sum proposal supported with an itemized breakdown of all increases and decreases in the contract in at least the following details:

(1) Direct Costs. Materials (list individual items, the quantity and unit cost of each, and the aggregate cost); Transportation and delivery costs associated with materials; Labor breakdowns by hours or unit costs (identified with specific work to be performed); Construction equipment exclusively necessary for the change; Costs of preparation and/ or revision to shop drawings resulting from the change; Worker's Compensation and Public Liability Insurance; Employment taxes under FICA and FUTA; and, Bond Costs when size of change warrants revision.

(2) Indirect Costs. Indirect costs may include overhead, general and administrative expenses, and fringe benefits not normally treated as direct costs.

(3) Profit. The amount of profit shall be negotiated and may vary according to the nature, extent, and complexity of the work required by the change. The allowability of the direct and indirect costs shall be determined in accordance with the Contract Cost Principles and Procedures for Commercial Firms in Part 31 of the Federal Acquisition Regulation (48 CFR 1-31), as implemented by HUD Handbook 2210.18, in effect on the date of this contract. The Contractor shall not be allowed a profit on the profit received by any subcontractor. Equitable adjustments for deleted work shall include a credit for profit and may include a credit for indirect costs. On proposals covering both increases and decreases in the amount of the contract, the application of indirect costs and profit shall be on the net-change in direct costs for the Contractor or subcontractor performing the work.

(g) The Contractor shall include in the proposal its request for time extension (if any), and shall include sufficient information and dates to demonstrate whether and to what extent the change will delay the completion of the contract in its entirety.

(h) The Contracting Officer shall act on proposals within 30 days after their receipt, or notify the Contractor of the date when such action will be taken.

(i) Failure to reach an agreement on any proposal shall be a dispute under the clause entitled Disputes herein. Nothing in this clause, however, shall excuse the Contractor from proceeding with the contract as changed.

(j) Except in an emergency endangering life or property, no change shall be made by the Contractor without a prior order from the Contracting Officer.

30. Suspension of Work

(a) The Contracting Officer may order the Contractor in writing to suspend, delay, or interrupt all or any part of the work of this contract for the period of time that the Contracting Officer determines appropriate for the convenience of the PHA.

(b) If the performance of all or any part of the work is, for an unreasonable period of time, suspended, delayed, or interrupted (1) by an act of the Contracting Officer in the administration of this contract, or (2) by the Contracting Officer's failure to act within the time specified (or within a reasonable time if not specified) in this contract an adjustment shall be made for any increase in the cost of performance of the contract (excluding profit) necessarily caused by such unreasonable suspension, delay, or interruption and the contract modified in writing accordingly. However, no adjustment shall be made under this clause for any suspension, delay, or interruption to the extent that performance would have been so suspended, delayed, or interrupted by any other cause, including the fault or negligence of the Contractor or for which any equitable adjustment is provided for or excluded under any other provision of this contract.

(c) A claim under this clause shall not be allowed (1) for any costs incurred more than 20 days before the Contractor shall have notified the Contracting Officer in writing of the act or failure to act involved (but this requirement shall not apply as to a claim resulting from a suspension order); and, (2) unless the claim, in an amount stated, is asserted in writing as soon as practicable after the termination of the suspension, delay, or interruption, but not later than the date of final payment under the contract.

31. Disputes

(a) "Claim," as used in this clause, means a written demand or written assertion by one of the contracting parties seeking, as a matter of right, the payment of money in a sum certain, the adjustment or interpretation of contract terms, or other relief arising under or relating to the contract. A claim arising under the contract, unlike a claim relating to the contract, is a claim that can be resolved under a contract clause that provides for the relief sought by the claimant. A voucher, invoice, or other routine request for payment that is not in dispute when submitted is not a claim. The submission may be converted to a claim by complying with the requirements of this clause, if it is disputed either as to liability or amount or is not acted upon in a reasonable time.

(b) Except for disputes arising under the clauses entitled Labor Standards - Davis Bacon and Related Acts, herein, all disputes arising under or relating to this contract, including any claims for damages for the alleged breach thereof which are not disposed of by agreement, shall be resolved under this clause.

(c) All claims by the Contractor shall be made in writing and submitted to the Contracting Officer for a written decision. A claim by the PHA against the Contractor shall be subject to a written decision by the Contracting Officer.

(d) The Contracting Officer shall, within 60 (unless otherwise indicated) days after receipt of the request, decide the claim or notify the Contractor of the date by which the decision will be made.

(e) The Contracting Officer's decision shall be final unless the Contractor (1) appeals in writing to a higher level in the PHA in accordance with the PHA's policy and procedures, (2) refers the appeal to an independent mediator or arbitrator, or (3) files suit in a court of competent jurisdiction. Such appeal must be made within (30 unless otherwise indicated) days after receipt of the Contracting Officer's decision.

(f) The Contractor shall proceed diligently with performance of this contract, pending final resolution of any request for relief, claim, appeal, or action arising under or relating to the contract, and comply with any decision of the Contracting Officer.

32. Default

(a) If the Contractor refuses or fails to prosecute the work, or any separable part thereof, with the diligence that will insure its completion within the time specified in this contract, or any extension thereof, or fails to complete said work within this time, the Contracting Officer may, by written notice to the Contractor, terminate the right to

proceed with the work (or separable part of the work) that has been delayed. In this event, the PHA may take over the work and complete it, by contract or otherwise, and may take possession of and use any materials, equipment, and plant on the work site necessary for completing the work. The Contractor and its sureties shall be liable for any damage to the PHA resulting from the Contractor's refusal or failure to complete the work within the specified time, whether or not the Contractor's right to proceed with the work is terminated. This liability includes any increased costs incurred by the PHA in completing the work.

(b) The Contractor's right to proceed shall not be terminated or the Contractor charged with damages under this clause if—

(1) The delay in completing the work arises from unforeseeable causes beyond the control and without the fault or negligence of the Contractor. Examples of such causes include (i) acts of God, or of the public enemy, (ii) acts of the PHA or other governmental entity in either its sovereign or contractual capacity, (iii) acts of another contractor in the performance of a contract with the PHA, (iv) fires, (v) floods, (vi) epidemics, (vii) quarantine restrictions, (viii) strikes, (ix) freight embargoes, (x) unusually severe weather, or (xi) delays of subcontractors or suppliers at any tier arising from unforeseeable causes beyond the control and without the fault or negligence of both the Contractor and the subcontractors or suppliers; and

(2) The Contractor, within days (10 days unless otherwise indicated) from the beginning of such delay (unless extended by the Contracting Officer) notifies the Contracting Officer in writing of the causes of delay. The Contracting Officer shall ascertain the facts and the extent of the delay. If, in the judgment of the Contracting Officer, the findings of fact warrant such action, time for completing the work shall be extended by written modification to the contract. The findings of the Contracting Officer shall be reduced to a written decision which shall be subject to the provisions of the Disputes clause of this contract.

(c) If, after termination of the Contractor's right to proceed, it is determined that the Contractor was not in default, or that the delay was excusable, the rights and obligations of the parties will be the same as if the termination had been for convenience of the PHA.

33. Liquidated Damages

(a) If the Contractor fails to complete the work within the time specified in the contract, or any extension, as specified in the clause entitled Default of this contract, the Contractor shall pay to the PHA as liquidated damages, the sum of $_____Contracting Officer insert amount] for each day of delay. If different completion dates are specified in the contract for separate parts or stages of the work, the amount of liquidated damages shall be assessed on those parts or stages which are delayed. To the extent that the Contractor's delay or nonperformance is excused under another clause in this contract, liquidated damages shall not be due the PHA. The Contractor remains liable for damages caused other than by delay.

(b) If the PHA terminates the Contractor's right to proceed, the resulting damage will consist of liquidated damages until such reasonable time as may be required for final completion of the work together with any increased costs occasioned the PHA in completing the work.

(c) If the PHA does not terminate the Contractor's right to proceed, the resulting damage will consist of liquidated damages until the work is completed or accepted.

34. Termination for Convenience

(a) The Contracting Officer may terminate this contract in whole, or in part, whenever the Contracting Officer determines that such termination is in the best interest of the PHA. Any such termination shall be effected by delivery to the Contractor of a Notice of Termination specifying the extent to which the performance of the work under the contract is terminated, and the date upon which such termination becomes effective.

(b) If the performance of the work is terminated, either in whole or in part, the PHA shall be liable to the Contractor for reasonable and proper costs resulting from such termination upon the receipt by the PHA of a properly presented claim setting out in detail: (1) the total cost of the work performed to date of termination less the total amount of contract payments made to the Contractor; (2) the cost (including reasonable profit) of settling and paying claims under subcontracts and material orders for work performed and materials and supplies delivered to the site, payment for which has not been made by the PHA to the Contractor or by the Contractor to the subcontractor or supplier; (3) the cost of preserving and protecting the work already performed until the PHA or assignee takes possession thereof or assumes responsibility therefore; (4) the actual or estimated cost of legal and accounting services reasonably necessary to prepare and present the termination claim to the PHA; and (5) an amount constituting a reasonable profit on the value of the work performed by the Contractor.

(c) The Contracting Officer will act on the Contractor's claim within days (60 days unless otherwise indicated) of receipt of the Contractor's claim.

(d) Any disputes with regard to this clause are expressly made subject to the provisions of the Disputes clause of this contract.

35. Assignment of Contract

The Contractor shall not assign or transfer any interest in this contract; except that claims for monies due or to become due from the PHA under the contract may be assigned to a bank, trust company, or other financial institution. Such assignments of claims shall only be made with the written concurrence of the Contracting Officer. If the Contractor is a partnership, this contract shall inure to the benefit of the surviving or remaining member(s) of such partnership as approved by the Contracting Officer.

36. Insurance

(a) Before commencing work, the Contractor and each subcontractor shall furnish the PHA with certificates of insurance showing the following insurance is in force and will insure all operations under the Contract:

(1) Workers' Compensation, in accordance with state or Territorial Workers' Compensation laws.

(2) Commercial General Liability with a combined single limit for bodily injury and property damage of not less than $2MM [Contracting Officer insert amount]

per occurrence to protect the Contractor and each subcontractor against claims for bodily injury or death and damage to the property of others. This shall cover the use of all equipment, hoists, and vehicles on the site(s) not covered by Automobile Liability under (3) below. If the Contractor has a "claims made" policy, then the following additional requirements apply: the policy must provide a "retroactive date" which must be on or before the execution date of the Contract; and the extended reporting period may not be less than five years following the completion date of the Contract.

(3) Automobile Liability on owned and non -owned motor vehicles used on the site(s) or in connection therewith for a combined single limit for bodily injury and property damage of not less than $ 500K [Contracting Officer insert amount] per occurrence.

(b) Before commencing work, the Contractor shall furnish the PHA with a certificate of insurance evidencing that Builder's Risk (fire and extended coverage) Insurance on all work in place and/or materials stored at the building site(s), including foundations and building equipment, is in force. The Builder's Risk Insurance shall be for the benefit of the Contractor and the PHA as their interests may appear and each shall be named in the policy or policies as an insured. The Contractor in installing equipment supplied by the PHA shall carry insurance on such equipment from the time the Contractor takes possession thereof until the Contract work is accepted by the PHA. The Builder's Risk Insurance need not be carried on excavations, piers, footings, or foundations until such time as work on the superstructure is started. It need not be carried on landscape work. Policies shall furnish coverage at all times for the full cash value of all completed construction, as well as materials in place and/or stored at the site(s), whether or not partial payment has been made by the PHA. The Contractor may terminate this insurance on buildings as of the date taken over for occupancy by the PHA. The Contractor is not required to carry Builder's Risk Insurance for modernization work which does not involve structural alterations or additions and where the PHA's existing fire and extended coverage policy can be endorsed to include such work.

(c) All insurance shall be carried with companies which are financially responsible and admitted to do business in the State in which the project is located. If any such insurance is due to expire during the construction period, the Contractor (including subcontractors, as applicable) shall not permit the coverage to lapse and shall furnish evidence of coverage to the Contracting Officer. All certificates of insurance, as evidence of coverage, shall provide that no coverage may be canceled or non-renewed by the insurance company until at least 30 days prior written notice has been given to the Contracting Officer.

37. Subcontracts

(a) Definitions. As used in this contract -

(1) "Subcontract" means any contract, purchase order, or other purchase agreement, including modifications and change orders to the foregoing, entered into by a subcontractor to furnish supplies, materials, equipment, and services for the performance of the prime contract or a subcontract.

(2) "Subcontractor" means any supplier, vendor, or firm that furnishes supplies, materials, equipment, or services to or for the Contractor or another subcontractor.

(b) The Contractor shall not enter into any subcontract with any subcontractor who has been temporarily denied participation in a HUD program or who has been suspended or debarred from participating in contracting programs by any agency of the United States Government or of the state in which the work under this contract is to be performed.

(c) The Contractor shall be as fully responsible for the acts or omissions of its subcontractors, and of persons either directly or indirectly employed by them as for the acts or omissions of persons directly employed by the Contractor.

(d) The Contractor shall insert appropriate clauses in all subcontracts to bind subcontractors to the terms and conditions of this contract insofar as they are applicable to the work of subcontractors.

(e) Nothing contained in this contract shall create any contractual relationship between any subcontractor and the PHA or between the subcontractor and HUD.

38. Subcontracting with Small and Minority Firms, Women's Business Enterprise, and Labor Surplus Area Firms

The Contractor shall take the following steps to ensure that, whenever possible, subcontracts are awarded to small business firms, minority firms, women's business enterprises, and labor surplus area firms:

(a) Placing qualified small and minority businesses and women's business enterprises on solicitation lists;

(b) Ensuring that small and minority businesses and women's business enterprises are solicited whenever they are potential sources;

(c) Dividing total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by small and minority businesses and women's business enterprises;

(d) Establishing delivery schedules, where the requirements of the contract permit, which encourage participation by small and minority businesses and women's business enterprises; and

(e) Using the services and assistance of the U.S. Small Business Administration, the Minority Business Development Agency of the U.S. Department of Commerce, and State and local governmental small business agencies.

39. Equal Employment Opportunity

During the performance of this contract, the Contractor agrees as follows:

(a) The Contractor shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, national origin, or handicap.

(b) The Contractor shall take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, national origin, or handicap. Such action shall include, but not be limited to, (1) employment, (2) upgrading, (3) demotion, (4) transfer, (5) recruitment or recruitment advertising, (6) layoff or termination, (7) rates of pay or other forms of compensation, and (8) selection for training, including apprenticeship.

(c) The Contractor shall post in conspicuous places available to employees and applicants for employment the notices to be provided by the Contracting Officer that explain this clause.

(d) The Contractor shall, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, or handicap.

(e) The Contractor shall send, to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding, the notice to be provided by the Contracting Officer advising the labor union or workers' representative of the Contractor's commitments under this clause, and post copies of the notice in conspicuous places available to employees and applicants for employment.

(f) The Contractor shall comply with Executive Order 11246, as amended, and the rules, regulations, and orders of the Secretary of Labor.

(g) The Contractor shall furnish all information and reports required by Executive Order 11246, as amended, Section 503 of the Rehabilitation Act of 1973, as amended, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto. The Contractor shall permit access to its books, records, and accounts by the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

(h) In the event of a determination that the Contractor is not in compliance with this clause or any rule, regulation, or order of the Secretary of Labor, this contract may be canceled, terminated, or suspended in whole or in part, and the Contractor may be declared ineligible for further Government contracts, or Federally assisted construction contracts under the procedures authorized in Executive Order 11246, as amended. In addition, sanctions may be imposed and remedies invoked against the Contractor as provided in Executive Order 11246, as amended, the rules, regulations, and orders of the Secretary of Labor, or as otherwise provided by law.

(i) The Contractor shall include the terms and conditions of this clause in every subcontract or purchase order unless exempted by the rules, regulations, or orders of the Secretary of Labor issued under Executive Order 11246, as amended, so that these terms and conditions will be binding upon each subcontractor or vendor. The Contractor shall take such action with respect to any subcontract or purchase order as the Secretary of Housing and Urban Development or the Secretary of Labor may direct as a means of enforcing such provisions, including sanctions for noncompliance; provided that if the Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction, the Contractor may request the United States to enter into the litigation to protect the interests of the United States.

(j) Compliance with the requirements of this clause shall be to the maximum extent consistent with, but not in derogation of, compliance with section 7(b) of the Indian Self-Determination and Education Assistance Act and the Indian Preference clause of this contract.

40. Employment, Training, and Contracting Opportunities for Low-Income Persons, Section 3 of the Housing and Urban Development Act of 1968.

(a) The work to be performed under this contract is subject to the requirements of section 3 of the Housing and Urban Development Act of 1968, as amended, 12 U.S.C. 1701u (section 3). The purpose of section 3 is to ensure that employment and other economic opportunities generated by HUD assistance or HUD-assisted projects covered by section 3, shall, to the greatest extent feasible, be directed to low- and very low-income persons, particularly persons who are recipients of HUD assistance for housing.

(b) The parties to this contract agree to comply with HUD's regulations in 24 CFR Part 135, which implement section 3. As evidenced by their execution of this contract, the parties to this contract certify that they are under no contractual or other impediment that would prevent them from complying with the Part 135 regulations.

(c) The contractor agrees to send to each labor organization or representative of workers with which the contractor has a collective bargaining agreement or other understanding, if any, a notice advising the labor organization or workers' representative of the contractor's commitments under this section 3 clause, and will post copies of the notice in conspicuous places at the work site where both employees and applicants for training and employment positions can see the notice. The notice shall describe the section 3 preference, shall set forth minimum number and job titles subject to hire, availability of apprenticeship and training positions, the qualifications for each; and the name and location of the person(s) taking applications for each of the positions; and the anticipated date the work shall begin.

(d) The contractor agrees to include this section 3 clause in every subcontract subject to compliance with regulations in 24 CFR Part 135, and agrees to take appropriate action, as provided in an applicable provision of the subcontract or in this section 3 clause, upon a finding that the subcontractor is in violation of the regulations in 24 CFR Part 135. The contractor will not subcontract with any subcontractor where the contractor has notice or knowledge that the subcontractor has been found in violation of the regulations in 24 CFR Part 135.

(e) The contractor will certify that any vacant employment positions, including training positions, that are filled (1) after the contractor is selected but before the contract is executed, and (2) with persons other than those to whom the regulations of 24 CFR Part 135 require employment opportunities to be directed, were not filled to circumvent the contractor's obligations under 24 CFR Part 135.

(f) Noncompliance with HUD's regulations in 24 CFR Part 135 may result in sanctions, termination of this contract for default, and debarment or suspension from future HUD assisted contracts.

(g) With respect to work performed in connection with section 3 covered Indian housing assistance, section 7(b) of the Indian Self-Determination and Education Assistance Act (25 U.S.C. 450e) also applies to the work to be performed under this contract. Section 7(b) requires that to the greatest extent feasible (i) preference and opportunities for training and employment shall be given to Indians, and (ii) preference in the award of contracts and subcontracts shall be given to Indian organizations and Indian-owned Economic Enterprises. Parties to this contract that are subject to the provisions of section 3 and section 7(b)agree to comply with section 3 to the maximum extent feasible, but not in derogation of compliance with section 7(b).

41. Interest of Members of Congress

No member of or delegate to the Congress of the United States of America shall be admitted to any share or part of this contract or to any benefit that may arise therefrom.

42. Interest of Members, Officers, or Employees and Former Members, Officers, or Employees

No member, officer, or employee of the PHA, no member of the governing body of the locality in which the project is situated, no member of the governing body of the locality in which the PHA was activated, and no other public official of such locality or localities who exercises any functions or responsibilities with respect to the project, shall, during his or her tenure, or for one year thereafter, have any interest, direct or indirect, in this contract or the proceeds thereof.

43. Limitations on Payments made to Influence Certain Federal Financial Transactions

(a) The Contractor agrees to comply with Section 1352 of Title 31, United States Code which prohibits the use of Federal appropriated funds to pay any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, and officer or employee of Congress, or an employee of a Member of Congress in connection with any of the following covered Federal actions: the awarding of any Federal contract; the making of any Federal grant; the making of any Federal loan; the entering into of any cooperative agreement; or the modification of any Federal contract, grant, loan, or cooperative agreement.

(b) The Contractor further agrees to comply with the requirement of the Act to furnish a disclosure (OMB Standard Form LLL, Disclosure of Lobbying Activities) if any funds other than Federal appropriated funds (including profit or fee received under a covered Federal transaction) have been paid, or will be paid, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with a Federal contract, grant, loan, or cooperative agreement.

44. Royalties and Patents

The Contractor shall pay all royalties and license fees. It shall defend all suits or claims for infringement of any patent rights and shall save the PHA harmless from loss on account thereof; except that the PHA shall be responsible for all such loss when a particular design, process or the product of a particular manufacturer or manufacturers is specified and the Contractor has no reason to believe that the specified design, process, or product is an infringement. If, however, the Contractor has reason to believe that any design, process or product specified is an infringement of a patent, the Contractor shall promptly notify the Contracting Officer. Failure to give such notice shall make the Contractor responsible for resultant loss.

45. Examination and Retention of Contractor's Records

(a) The PHA, HUD, or Comptroller General of the United States, or any of their duly authorized representatives shall, until 3 years after final payment under this contract, have access to and the right to examine any of the Contractor's directly pertinent books, documents, papers, or other records involving transactions related to this contract for the purpose of making audit, examination, excerpts, and transcriptions.

(b) The Contractor agrees to include in first-tier subcontracts under this contract a clause substantially the same as paragraph (a) above. "Subcontract," as used in this clause, excludes purchase orders not exceeding $10,000.

(c) The periods of access and examination in paragraphs (a) and (b) above for records relating to (1) appeals under the Disputes clause of this contract, (2) litigation or settlement of claims arising from the performance of this contract, or (3) costs and expenses of this contract to which the PHA, HUD, or Comptroller General or any of their duly authorized representatives has taken exception shall continue until disposition of such appeals, litigation, claims, or exceptions.

46. Labor Standards - Davis-Bacon and Related Acts

If the total amount of this contract exceeds $2,000, the Federal labor standards set forth in the clause below shall apply to the development or construction work to be performed under the contract.

(a) Minimum Wages.

(1) All laborers and mechanics employed under this contract in the development or construction of the project(s) involved will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR Part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the Contractor and such laborers and mechanics. Contributions made or costs reasonably anticipated for bona fide fringe benefits under Section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of 29 CFR 5.5(a)(1)(iv); also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the regular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits in the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein; provided, that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under 29 CFR 5.5(a)(1)(ii) and the Davis-Bacon poster (WH-1321) shall

be posted at all times by the Contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

(2) (i) Any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. HUD shall approve an additional classification and wage rate and fringe benefits therefor only when all the following criteria have been met: (A) The work to be performed by the classification requested is not performed by a classification in the wage determination; and (B) The classification is utilized in the area by the construction industry; and (C) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(ii) If the Contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and HUD or its designee agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by HUD or its designee to the Administrator of the Wage and Hour Division, Employee Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise HUD or its designee or will notify HUD or its designee within the 30-day period that additional time is necessary.

(iii) In the event the Contractor, the laborers or mechanics to be employed in the classification or their representatives, and HUD or its designee do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), HUD or its designee shall refer the questions, including the views of all interested parties and the recommendation of HUD or its designee, to the Administrator of the Wage and Hour Division for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise HUD or its designee or will notify HUD or its designee within the 30-day period that additional time is necessary.

(iv) The wage rate (including fringe benefits where appropriate) determined pursuant to subparagraphs (a)(2)(ii) or (iii) of this clause shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in classification.

(3) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the Contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(4) If the Contractor does not make payments to a trustee or other third person, the Contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program; provided, that the Secretary of Labor has found, upon the written request of the Contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the Contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

(b) Withholding of funds. HUD or its designee shall, upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the Contractor under this contract or any other Federal contract with the same prime Contractor, or any other Federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime Contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the Contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working in the construction or development of the project, all or part of the wages required by the contract, HUD or its designee may, after written notice to the Contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased. HUD or its designee may, after written notice to the Contractor, disburse such amounts withheld for and on account of the Contractor or subcontractor to the respective employees to whom they are due.

(c) Payrolls and basic records.

(1) Payrolls and basic records relating thereto shall be maintained by the Contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working in the construction or development of the project. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made, and actual wages paid. Whenever the Secretary of Labor has found, under 29 CFR 5.5(a)(1)(iv), that the wages of any laborer or mechanic include the amount of costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the Contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(2) (i) The Contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the Contracting Officer for transmission to HUD or its designee. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under subparagraph (c)(1) of this clause. This information may be submitted in any form desired. Optional Form WH-347 (Federal Stock Number 029-005-00014-1) is available for this purpose and may be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. The Contractor is responsible for the submission of copies of payrolls by all subcontractors. (Approved by the Office of Management and Budget under OMB Control Number 1214-0149.)

(ii) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the Contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(A) That the payroll for the payroll period contains the information required to be maintained under paragraph (c) (1) of this clause and that such information is correct and complete;

(B) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in 29 CFR Part 3; and

(C) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(iii) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirements for submission of the "Statement of Compliance" required by subparagraph (c)(2)(ii) of this clause.

(iv) The falsification of any of the above certifications may subject the Contractor or subcontractor to civil or criminal prosecution under Section 1001 of Title 18 and Section 3729 of Title 31 of the United States Code.

(3) The Contractor or subcontractor shall make the records required under subparagraph (c)(1) available for inspection, copying, or transcription by authorized representatives of HUD or its designee, the Contracting Officer, or the Department of Labor and shall permit such representatives to interview employees during working hours on the job. If the Contractor or subcontractor fails to submit the required records or to make them available, HUD or its designee may, after written notice to the Contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

(d) (1) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship and Training, Employer and Labor Services (OATELS), or with a State Apprenticeship Agency recognized by OATELS, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by OATELS or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the Contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated in this paragraph, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the Contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator of the Wage and Hour Division determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event OATELS, or a State Apprenticeship Agency recognized by OATELS, withdraws approval of an apprenticeship program, the Contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(2) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under

the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed in the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate in the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate in the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate in the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the Contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(3) Equal employment opportunity. The utilization of apprentices, trainees, and journeymen under this clause shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR Part 30.

(e) Compliance with Copeland Act requirements. The Contractor shall comply with the requirements of 29 CFR Part 3, which are hereby incorporated by reference in this contract.

(f) Contract termination; debarment. A breach of this contract clause may be grounds for termination of the contract and for debarment as a Contractor and a subcontractor as provided in 29 CFR 5.12.

(g) Compliance with Davis-Bacon and related Act requirements. All rulings and interpretations of the Davis-Bacon and related Acts contained in 29 CFR Parts 1, 3, and 5 are herein incorporated by reference in this contract.

(h) Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this clause shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR Parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the Contractor (or any of its subcontractors) and the PHA, HUD, the U.S. Department of Labor, or the employees or their representatives.

(i) Certification of eligibility.

(1) By entering into this contract, the Contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the Contractor's firm is a person or firm ineligible to be awarded contracts by the United States Government by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(2) No part of this contract shall be subcontracted to any person or firm ineligible for award of a United States Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(3) The penalty for making false statements is prescribed in the U. S. Criminal Code, 18 U.S.C. 1001.

(j) Contract Work Hours and Safety Standards Act. As used in this paragraph, the terms "laborers" and "mechanics" include watchmen and guards.

(1) Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics, including watchmen and guards, shall require or permit any such laborer or mechanic in any workweek in which the individual is employed on such work to work in excess of 40 hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of 40 hours in such workweek.

(2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the provisions set forth in subparagraph (j)(1) of this clause, the Contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such Contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic (including watchmen and guards) employed in violation of the provisions set forth in subparagraph (j)(1) of this clause, in the sum of $10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of 40 hours without payment of the overtime wages required by provisions set forth in subparagraph (j)(1) of this clause.

(3) Withholding for unpaid wages and liquidated damages. HUD or its designee shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the Contractor or subcontractor under any such contract or any Federal contract with the same prime Contractor, or any other Federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime Contractor, such sums as may be determined to be necessary to satisfy any liabilities of such Contractor or subcontractor for unpaid wages and liquidated damages as provided in the provisions set forth in subparagraph (j)(2) of this clause.

(k) Subcontracts. The Contractor or subcontractor shall insert in any subcontracts all the provisions contained in this clause, and such other clauses as HUD or its designee may by appropriate instructions require, and also a clause requiring the subcontractors to include these provisions in any lower tier subcontracts. The prime Contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all these provisions.

47. Non-Federal Prevailing Wage Rates

(a) Any prevailing wage rate (including basic hourly rate and any fringe benefits), determined under State or tribal law to be prevailing, with respect to any employee in any trade or position employed under the contract, is inapplicable to the contract and shall not be enforced against the Contractor or any subcontractor, with respect to employees engaged under the contract whenever such non-Federal prevailing wage rate exceeds:
(1) The applicable wage rate determined by the Secretary of Labor pursuant to the Davis-Bacon Act (40 U.S.C. 3141 et seq.) to be prevailing in the locality with respect to such trade;
(b) An applicable apprentice wage rate based thereon specified in an apprenticeship program registered with the U.S. Department of Labor (DOL) or a DOL-recognized State Apprenticeship Agency; or
(c) An applicable trainee wage rate based thereon specified in a DOL-certified trainee program.

48. Procurement of Recovered Materials.

(a) In accordance with Section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act, the Contractor shall procure items designated in guidelines of the Environmental Protection Agency (EPA) at 40 CFR Part 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition. The Contractor shall procure items designated in the EPA guidelines that contain the highest percentage of recovered materials practicable unless the Contractor determines that such items: (1) are not reasonably available in a reasonable period of time; (2) fail to meet reasonable performance standards, which shall be determined on the basis of the guidelines of the National Institute of Standards and Technology, if applicable to the item; or (3) are only available at an unreasonable price.
(b) Paragraph (a) of this clause shall apply to items purchased under this contract where: (1) the Contractor purchases in excess of $10,000 of the item under this contract; or (2) during the preceding Federal fiscal year, the Contractor: (i) purchased any amount of the items for use under a contract that was funded with Federal appropriations and was with a Federal agency or a State agency or agency of a political subdivision of a State; and (ii) purchased a total of in excess of $10,000 of the item both under and outside that contract.

CONFLICT OF INTEREST QUESTIONNAIRE

FORM CIQ

For vendor doing business with local governmental entity

This questionnaire reflects changes made to the law by H.B. 23, 84th Leg., Regular Session.

This questionnaire is being filed in accordance with Chapter 176, Local Government Code, by a vendor who has a business relationship as defined by Section 176.001(1-a) with a local governmental entity and the vendor meets requirements under Section 176.006(a).

By law this questionnaire must be filed with the records administrator of the local governmental entity not later than the 7th business day after the date the vendor becomes aware of facts that require the statement to be filed. *See* Section 176.006(a-1), Local Government Code.

A vendor commits an offense if the vendor knowingly violates Section 176.006, Local Government Code. An offense under this section is a misdemeanor.

OFFICE USE ONLY

Date Received

1 **Name of vendor who has a business relationship with local governmental entity.**

2 ☐ **Check this box if you are filing an update to a previously filed questionnaire.** (The law requires that you file an updated completed questionnaire with the appropriate filing authority not later than the 7th business day after the date on which you became aware that the originally filed questionnaire was incomplete or inaccurate.)

3 **Name of local government officer about whom the information is being disclosed.**

_____

Name of Officer

4 **Describe each employment or other business relationship with the local government officer, or a family member of the officer, as described by Section 176.003(a)(2)(A). Also describe any family relationship with the local government officer. Complete subparts A and B for each employment or business relationship described. Attach additional pages to this Form CIQ as necessary.**

A. Is the local government officer or a family member of the officer receiving or likely to receive taxable income, other than investment income, from the vendor?

☐ Yes ☐ No

B. Is the vendor receiving or likely to receive taxable income, other than investment income, from or at the direction of the local government officer or a family member of the officer AND the taxable income is not received from the local governmental entity?

☐ Yes ☐ No

5 **Describe each employment or business relationship that the vendor named in Section 1 maintains with a corporation or other business entity with respect to which the local government officer serves as an officer or director, or holds an ownership interest of one percent or more.**

6 ☐ Check this box if the vendor has given the local government officer or a family member of the officer one or more gifts as described in Section 176.003(a)(2)(B), excluding gifts described in Section 176.003(a-1).

7

_____ _____

Signature of vendor doing business with the governmental entity Date

CONFLICT OF INTEREST QUESTIONNAIRE
For vendor doing business with local governmental entity

A complete copy of Chapter 176 of the Local Government Code may be found at http://www.statutes.legis.state.tx.us/Docs/LG/htm/LG.176.htm. For easy reference, below are some of the sections cited on this form.

Local Government Code § 176.001(1-a): "Business relationship" means a connection between two or more parties based on commercial activity of one of the parties. The term does not include a connection based on:

(A) a transaction that is subject to rate or fee regulation by a federal, state, or local governmental entity or an agency of a federal, state, or local governmental entity;

(B) a transaction conducted at a price and subject to terms available to the public; or

(C) a purchase or lease of goods or services from a person that is chartered by a state or federal agency and that is subject to regular examination by, and reporting to, that agency.

Local Government Code § 176.003(a)(2)(A) and (B):

(a) A local government officer shall file a conflicts disclosure statement with respect to a vendor if:

***

(2) the vendor:

(A) has an employment or other business relationship with the local government officer or a family member of the officer that results in the officer or family member receiving taxable income, other than investment income, that exceeds $2,500 during the 12-month period preceding the date that the officer becomes aware that

(i) a contract between the local governmental entity and vendor has been executed; or

(ii) the local governmental entity is considering entering into a contract with the vendor;

(B) has given to the local government officer or a family member of the officer one or more gifts that have an aggregate value of more than $100 in the 12-month period preceding the date the officer becomes aware that:

(i) a contract between the local governmental entity and vendor has been executed; or

(ii) the local governmental entity is considering entering into a contract with the vendor.

Local Government Code § 176.006(a) and (a-1)

(a) A vendor shall file a completed conflict of interest questionnaire if the vendor has a business relationship with a local governmental entity and:

(1) has an employment or other business relationship with a local government officer of that local governmental entity, or a family member of the officer, described by Section 176.003(a)(2)(A);

(2) has given a local government officer of that local governmental entity, or a family member of the officer, one or more gifts with the aggregate value specified by Section 176.003(a)(2)(B), excluding any gift described by Section 176.003(a-1); or

(3) has a family relationship with a local government officer of that local governmental entity.

(a-1) The completed conflict of interest questionnaire must be filed with the appropriate records administrator not later than the seventh business day after the later of:

(1) the date that the vendor:

(A) begins discussions or negotiations to enter into a contract with the local governmental entity; or

(B) submits to the local governmental entity an application, response to a request for proposals or bids, correspondence, or another writing related to a potential contract with the local governmental entity; or

(2) the date the vendor becomes aware:

(A) of an employment or other business relationship with a local government officer, or a family member of the officer, described by Subsection (a);

(B) that the vendor has given one or more gifts described by Subsection (a); or

(C) of a family relationship with a local government officer.

CERTIFICATE OF INTERESTED PARTIES

FORM 1295

OFFICE USE ONLY

Complete Nos. 1 - 4 and 6 if there are interested parties.
Complete Nos. 1, 2, 3, 5, and 6 if there are no interested parties.

1 Name of business entity filing form, and the city, state and country of the business entity's place of business.

2 Name of governmental entity or state agency that is a party to the contract for which the form is being filed.

3 Provide the identification number used by the governmental entity or state agency to track or identify the contract, and provide a description of the goods or services to be provided under the contract.

4 Name of Interested Party	City, State, Country (place of business)	Nature of Interest (check applicable)	
		Controlling	Intermediary
DO NOT COMPLETE. COMPLTETED BY AWARDED CONTRACTOR ONLY.			

5 Check only if there is NO Interested Party. ☐

6 AFFIDAVIT

I swear, or affirm, under penalty of perjury, that the above disclosure is true and correct.

_____
Signature of authorized agent of contracting business entity

AFFIX NOTARY STAMP / SEAL ABOVE

Sworn to and subscribed before me, by the said _____, this the _____ day of _____, 20 _____ , to certify which, witness my hand and seal of office.

_____ _____ _____
Signature of officer administering oath | Printed name of officer administering oath | Title of officer administering oath

ADD ADDITIONAL PAGES AS NECESSARY

ATTACHMENT C
Profile of Firm Form
Company Biography
Subcontractor Listing

PROFILE OF FIRM FORM (Page 1 of 2)

(1) Prime ____ Joint Venture/Partner____ Sub-contractor _____ (This form shall be completed by and for each).

(2) Legal Name of Firm:_____

dba if applicable: _____

Telephone:_____ Fax: _____

Street Address, City, State, Zip:_____

(3) Identify Principals/Partners in Firm

NAME	*TITLE*	% OF OWNERSHIP

(4) Please indicate the operating structure of your company.

☐ Publicly Held Corporation ☐ Privately Held Corporation ☐ Government Agency ☐ Non-Profit Organization ☐ Partnership ☐ Sole Proprietorship

(5) Respondent's Diversity Statement: You must check all of the following that apply to the ownership of this firm and enter where provided the correct percentage (%) of ownership of each:

Minority- (MBE), or Woman-Owned (WBE) Business Enterprises qualify by virtue of 51% or more ownership and active management by one or more of the following:

☐African American ☐ Native American ☐Hispanic American ☐Asian/Pacific American ☐Hasidic Jew ☐Asian/Indian American

_____% _____% _____% _____% _____% _____%

☐Woman-Owned (MBE) ☐Woman-Owned (Caucasian) ☐Disabled Veteran ☐ Caucasian American (Male) ☐Other (Specify):

_____% _____% _____% _____% _____%

(6) Is the business 51% or more owned by a public housing resident? ___ Yes; ___ No. If yes, provide name and address of the public housing facility:

Facility Name:_____

Facility Address:_____ City:_____

(7) SWMBE Certification Number: _____

Certification Agency: _____
(NOTE: A CERTIFICATION/NUMBER IS NOT REQUIRED – ENTER IF AVAILABLE)

(8) Federal Tax ID Number: _____

(9) City of San Antonio Business License No.:_____

(10) State of Texas License Type and No.: _____

PROFILE OF FIRM FORM (Page 2 of 2)

(11) Has your firm or any member of your firm been a party to litigation with a public entity? If yes, when, with whom and state the circumstances and any resolution.

(12) Has your firm or any member of your firm ever sued or been sued by the San Antonio Housing Authority or its affiliated entities? If yes, when and state the circumstances and any resolution of the lawsuit.

(13) Has your firm or any member of your firm ever had a claim brought against because of breach of contract or nonperformance? If yes, when and state the circumstances and any resolution of the matter.

(14) Debarred Statement: Has this firm, or any principal(s) ever been debarred from providing any services by the Federal Government, any state government, the State of Texas, or any local government agency within or without the State of Texas? Yes ☐ No ☐

Initials_____

If "Yes," please attach a full detailed explanation, including dates, circumstances and current status.

(15) Disclosure Statement: Does this firm or any principals thereof have any current, past personal or professional relationship with any Commissioner or Officer of SAHA? Yes ☐ No ☐

Initials_____

If "Yes," please attach a full detailed explanation, including dates, circumstances and current status.

(16) Verification Statement: The undersigned Offerer hereby states that by completing and submitting this form he/she is verifying that all information provided herein is, to the best of his/her knowledge, true and accurate, and agrees that if the SAHA discovers that any information entered herein is false, that shall entitle the SAHA to not consider nor make award or to cancel any award with the undersigned party.

Initials_____

(17) In performing this contract, the contractor(s) shall comply with any and all applicable federal, state or local laws including but not limited to: Occupational Safety & Health, Equal Employment Opportunity, Immigration and Naturalization, The Americans with Disabilities Act, State Tax and Insurance Law, and the Fair Housing Act.

Initials_____

_____	_____	_____	_____
Signature	**Date**	**Printed Name**	**Company**

Company Biography

Company Name:_____

Headquarters Location:_____

Field Office Locations: _____

_____

_____

_____

Business Specialty or Focus:_____

Number of Full Time Staff:_____

Founding Date and Brief History:_____

_____

_____

_____

Texas Projects and/or Clients:_____
(past & current)

_____

_____

_____

Previous Housing Authority Experience: **YES** **NO**

List the Authorities: _____

_____

_____

Proposed Subcontractors

Note: A completed Profile of Firm Form must be submitted for each subcontractor.

Proposed Subcontractors					
Item	Company Name	Address	Phone	Specialty	S/W/M/BE or Section 3
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

I understand and agree that if awarded a contract as a result of this solicitation that the use of the above subcontractors is subject to the approval of SAHA and becomes a part of the contract. I further understand that any change in subcontractors also requires the pre-approval of SAHA.

_____
(Signature)

_____
(Printed Name & Title)

_____
(Company Name)

Please provide a completed Profile of Firm Form for each Sub-Contractor.

ATTACHMENT D
SWMBE Guidelines and Forms

M/WBE UTILIZATION STATEMENT
SAN ANTONIO HOUSING AUTHORITY
M/WBE PROGRAM OFFICE

Please read these instructions carefully before completing the required Minority/Women Business Enterprise (M/WBE) Utilization Statement. These instructions are designed to assist prime contractors/consultants document M/WBE program compliance or in preparing the required detailed and complete good faith effort information.

Contractors/Consultants are required to submit detailed documentation when the contract specified M/WBE participation ranges or goals are not met. The SAHA M/WBE Program Manager will review and consider a bidder's or proposer's good faith efforts in assisting SAHA to meet its M/WBE policy and program objectives.

A. Bidders/Proposers are required to make sincere efforts in attempting to achieve the applicable SAHA M/WBE participation ranges or goals. The approved M/WBE participation ranges or goals will be monitored throughout the duration of the project;

B. All bidders/proposers are to complete Section A, Project Identification and Section B, Project M/WBE Utilization, if applicable. Should there be subcontracting/sub consulting opportunities, yet the bidder/proposer *not* achieve the project's applicable M/WBE participation range or goal, the bidder/proposer must complete all other sections of the Statement.

C. This Statement should be prepared by the company's project M/WBE Coordinator or designee. The Statement must be signed and dated by an authorized company official. The Coordinator or designee should have a working knowledge as to the project's subcontracting or sub-consulting and supplier activities (actual and anticipated). This individual shall be a key figure in directing the prime contractor's M/WBE activities.

D. The M/WBE Utilization Statement demonstrating a contractor's good faith efforts is subject to the SAHA M/WBE Program Coordinator's review and approval.

E. SAHA requires all M/WBE firms to be certified as such by an entity acceptable to SAHA for project M/WBE credit.

F. SAHA reserves the right to approve all additions or deletions of subcontractors, subconsultants, and/or major vendors. In the event that an M/WBE subcontractor, subconsultant, and/or major vendor is replaced, the contractor must make a good faith effort to involve and utilize another M/WBE subcontractor, sub consultant, and/or major vendor.

Should you have any questions or need additional information, please contact:

Candace Morin
818 S Flores
Section 3/SWMBE Coordinator
candace_morin@saha.org
210-477-6165

FOR SAHA PROCUREMENT DEPARTMENT USE ONLY
Reviewed by: _____
Date: _____
Signature of SAHA Official: _____
Recommendation: Approval: _____ Denial: _____
subject to the SAHA M/WBE Program Manager's review and approval.

M/WBE UTILIZATION STATEMENT
SAN ANTONIO HOUSING AUTHORITY
M/WBE PROGRAM OFFICE

SECTION A: PROJECT IDENTIFICATION

Project Number_____ Project Title_____

Contract Amount _____ Company Name _____

Project Participation Range/Goal: M/WBE ____ %

Contract Anticipated Participation Range: M/WBE ____ %

The M/WBE participation range/goal is expressed as a percentage of the total dollar amount of the prime contract awarded to M/WBEs. The goal is applicable for those areas, which the prime contractor has subcontracted, sub-consulted, and/or major supplies necessary in the performance of the contract.

SECTION B: SUBCONTRACTOR/SUB CONSULTANT/VENDOR UTILIZATION

1. List all actual *and* anticipated subcontracts, subconsultants, and/or major material purchases, include *both* M/WBE and non-M/WBE, to be utilized on the project (*use additional sheets if necessary*).

TRADE AREA	ESTIMATED AMOUNT ($)	SUB/SUPPLIER	SUB/SUPPLIER M/WBE Yes (√) No	

2. MBE utilization in total dollars: _____ WBE utilization in total dollars: _____
3. Overall MBE utilization percentage (%): _____
4. Overall WBE utilization percentage (%): _____
5. Overall M/WBE utilization percentage (%): _____
6. Anticipated M/WBE utilization on this contract will occur:
Throughout ___ Beginning 1/3 ___ Middle 1/3 ___ Final 1/3 ___

Please Note: SAHA will credit only those M/WBEs that have been certified by an entity acceptable to SAHA. All changes, additions, or deletions occurring during the life of this contract relative to use of the listed subcontractors, sub-consultants and/or

major suppliers, M/WBE or otherwise, must be submitted to SAHA for review and approval.

If Bidder/Proposer is unable to meet the M/WBE participation range/goal, please
proceed to complete Section C and submit documentation demonstrating contractual good faith efforts.

SECTION C: GOOD FAITH EFFORT

The following items are minimally considered as good faith efforts and demonstrate specific initiatives made in attempting to achieve SAHA's M/W/BE participation ranges. The bidder/proposer is not limited to these particular areas and may include other efforts deemed appropriate. Please feel free to elaborate on any question below.

Required Questions	Yes	No
1. If applicable, was your company represented at the pre-bid conference?		
2. Did your company request and obtain a copy of the certified M/WBE firms?		
3. Were M/WBE firms solicited for contract participation?		
4. Provide listing of solicited M/WBEs with whom contact was made? Please identify name of company, contact person, date, phone number and briefly describe nature of solicitation. **(Include as an Attachment)**		
5. Was direct contact made with SAHA's M/WBE Program Office? If yes, please identify date/person contacted and assistance sought. **(Include as an Attachment)**		
6. Identify all M/WBE support agencies/associations contacted for M/WBE assistance or solicitation (Minority Chamber's of Commerce, purchasing councils, contractor groups, etc.). **(Please attach copies of solicitation letters of assistance and/or describe, as an Attachment to this section, the personal contact made)**		
7. Were bid opportunities related to this project advertised in minority/women newspapers and trade journals? **(If yes, please include a copy of the advertisement or detail the name of the publication(s), date of advertisement and describe the solicitation)**		
8. Were copies of plans and specification furnished to any M/WBEs?		
9. Were subcontractors, subconsultants, and/or suppliers (if applicable) required to provide insurance or be bonded? **(If yes, please detail any assistance that was provided or if they were referred, to whom)**		
10. List, as an Attachment, all M/WBE bids received but rejected. Identify company name, contact person, telephone number, date, trade area, and the reason for rejecting the bid/proposal.		
11. Discuss any other effort(s) aimed at involving M/WBEs (Include as an Attachment): (a) Identify any specific efforts to divide work, in accordance with normal industry practices, to allow maximum M/WBE participation.		

(b) Discuss joint ventures initiatives, requesting second-tier M/WBE subcontracting, etc., if any. (c) List all other good faith efforts employed, please elaborate.		

The undersigned acknowledges and states that all information submitted as part of this Good Faith Effort Statement is true and correct to the best of his/her knowledge. I further agree that this document shall be attached thereto and become a binding part of the SAHA contract.

_____ _____

Print Name ***Title Date***

_____ _____

Signature ***Telephone Number***

ATTACHMENT E
Proposal Checklist and Certification

PROPOSAL Checklist and Certification

(Attachment E)

(This Form must be fully completed and placed under Tab No. 8 of the proposal submitted.)

Instructions: Unless otherwise specifically required, the items listed below must be completed and included in the proposal submittal. Please complete this form by marking an "X," where provided, to verify that the referenced completed form or information has been included within the "hard copy" proposal submittal submitted by the Respondents. Also, complete the Section 3 Statement and the Respondent's Statement as noted below:

X=ITEM INCLUDED	SUBMITTAL ITEMS Change these for the section headings
_____	Tab 1 References
_____	Tab 2 HUD and State Forms
_____	Tab 3 Profile of Firm, Company Biography, and Subcontractors List
_____	Tab 4 Evaluation Criteria Response
_____	Tab 5 Small/Minority/Disadvantaged/Veteran Business Enterprise Utilization Plan
_____	Tab 6 Proposal Checklist and Certification
_____	Tab 7 Subcontractors
_____	
_____	
_____	
_____	

Respondent's Certification

By signing below, Respondent certifies that the following statements are true and correct:

1. He/she has full authority to bind Respondents and that no member of Respondent's organization is disbarred, suspended or otherwise prohibited from contracting with any federal, state or local agency,

2. Items for which Proposals were provided herein will be delivered as specified in the Proposal,

3. In performing this contract, the contractor(s) shall comply with any and all applicable federal, state or local laws including but not limited to: Occupational Safety & Health, Equal Employment Opportunity, Immigration and Naturalization, The Americans with Disabilities Act, State Tax and Insurance Law, and the Fair Housing Act.,

4. Respondents agrees that this proposal shall remain open and valid for at least a period of 90 days from the date of the Proposal Opening and that this Proposal shall constitute an offer, which, if accepted by SAHA and subject to the terms and conditions of such acceptance, shall result in a contract between SAHA and the undersigned Respondents,

5. He/she has not given, offered to give, nor intends to give at any time hereafter any economic opportunity, future employment, gift, loan, gratuity, special discount, trip, favor, or service to a public servant in connection with this Proposal,

6. Respondents, nor the firm, corporation, partnership, or institution represented by the Respondents, or anyone acting for such firm, corporation or institution has violated the antitrust laws of the State of Texas or the Federal Antitrust laws, nor communicated directly or indirectly the Proposal made to any competitor or any other person engaged in such line of business,

7. Respondents has not received compensation for participation in the preparation of the specifications for this RFP,

8. Non-Collusive Affidavit: The undersigned party submitting this Proposal hereby certifies that such Proposal is genuine and not collusive and that said Respondents has not colluded, conspired, connived or agreed, directly or indirectly, with any Respondents or person, to put in a sham Proposal or to refrain from bidding, and has not in any manner, directly or indirectly sought by agreement or collusion, or communication or conference, with any person, to fix the Proposal price of affiant or of any other Respondents, to fix overhead, profit or cost element of said Proposal price, or that of any other Respondents or to secure any advantage against SAHA or any person interested in the proposed contract; and that all statements in said Proposal are true.

9. Child Support**:** Pursuant to Section 231.006 (d) of the Texas Family Code, regarding child support, the bidder certifies that the individual or business entity named in this bid is not ineligible to receive the specified payment and acknowledges that this contract may be terminated and payment may be withheld if this certification is inaccurate.

10. Lobbying Prohibition**:** The Contractor agrees to comply with Section 1352 of Title 31, United States Code which prohibits the use of Federal appropriated funds to pay any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, and officer or employee of Congress, or an employee of a Member of Congress in connection with any of the following covered Federal actions: the awarding of any Federal contract; the making of any Federal grant; the making of any Federal loan; the entering into of any cooperative agreement; or the modification of any Federal contract, grant, loan, or cooperative agreement.

11. Non-Boycott of Israel: SAHA may not enter into a contract with a company for goods and services unless the contract contains a written verification from the company that; (i) it does not Boycott Israel; and (ii) will not Boycott Israel during the term of the contract. (Texas Government Code chapter 2270). The Contractor by accepting these General Conditions and any associated contract, the CONTRACTOR certifies that it does not Boycott Israel, and agrees that during the term of this contract will not Boycott Israel as that term is defined in the Texas Government Code Section 808.001, as amended.

12. **TX Gov. Code 2252.152:** Prohibits a government entity from awarding a contract to a company identified as Iran, Sudan, or a Foreign Terrorist Organization as identified on a list maintained by the Texas Comptroller of Public Accounts. By signature hereon bidder certifies that it is not affiliated in any manner with the businesses on this list.

SIGNED: _____ _____
(Print Name)

_____ _____ _____
(Print Company Name) (Company Phone) (Fax)

_____ _____
(Email Address) (Date)

ATTACHMENT F
Form of Proposal

Do Not include this form in the "COPIES"

Submit with this form on your company letterhead.

San Antonio Housing Authority
818 S. Flores
San Antonio, Texas 78204

Attention: Charles Bode, Assist. Director of Procurement

RE: 2008-909-62-5057 Sunshine Plaza Exterior Rehabilitation and HVAC Improvements

Gentlemen:

The undersigned Respondent, having read and examined the RFP and associated documents for the ***Sunshine Plaza Exterior Rehabilitation and HVAC Improvements*** and after thoroughly considering the factors which will affect the execution of the project and the cost thereof, does hereby propose this Proposal. All prices stated herein are firm and shall not be subject to escalation provided this Proposal is accepted within one hundred eighty (180) days after the official opening of proposals.

The undersigned hereby declares that the following list states any and all variations from and exceptions to the requirements of the proposal requirements and that, otherwise, it is the intent of this Proposal that the Project will be performed in strict accordance with the subsequent Contract Documents.
(If no exceptions are taken, indicate so by entering "None").

_____

_____

_____

_____

(Continue on separate page, if necessary, and attach hereto).

The undersigned Respondent herein proposes to execute the Property Rehabilitation and Modernization Services for the pricing/fee structure attached as a separate page hereto:

Dated this _____ day of _____, 20_____.

Offeror _____

By _____

Title _____

ATTEST:

_____

Business Address of Offeror _____

State of Incorporation _____

Address of Principal Office_____

_____

Email:_____

Fee Sheet

The undersigned proposer hereby states that by completing and submitting this Form and all other documents within this submittal, he/she is verifying that all information provided herein is, to the best of his/her knowledge, true and accurate, and that if SAHA discovers that any information entered herein to be false, that shall entitle SAHA to not consider or make award or to cancel any award with the undersigned party. Further, by completing and submitting the submittal, and by entering the costs where provided, the undersigned is thereby agreeing to abide by all terms and conditions pertaining to this RFP as issued by SAHA, in hard copy. Pursuant to all RFP Documents, all attachments, and all completed Documents submitted by proposer, including these forms, addendums, and all attachments, the undersigned proposes to supply SAHA with the services described herein for the fee(s) entered within the areas provided.

Base Bid Item	Qty	Unit	Cost
Exterior Building Rehabilitation and HVAC improvements as specified herein	**1**	**Job**	**$**

Unit Price items: These items will be utilized for unforeseen/hidden damage and require approval of the project manager. Items are to be installed complete and finished (turnkey) to match existing material where applicable. SAHA will determine which if any will be utilized. All fees shall be fully burdened including but not limited to: labor, parts, materials, demolition, installation, profit, overhead, administration, insurance, bonding, etc.

Item	Unit	Est. Qty	Unit Cost	Extension
5/8" GYP. BD. PTD.	SQ.FT.	120	**$**	**$**
5/8 Water resistant G.W.B	SQ.FT.	60	**$**	**$**
Gyp. BD. Repair PTD.	SQ.FT.	100	**$**	**$**
1"x 4" Yellow Pine Framing	LF.	75	**$**	**$**
1"x 6" Yellow Pine Framing	LF.	75	**$**	**$**
2"x 4" Yellow Pine Framing	LF.	120	**$**	**$**
2"x 6" Yellow Pine Framing	LF.	100	**$**	**$**
2"x 8" Yellow Pine Framing	LF.	50	**$**	**$**
2"x 10" Yellow Pine Framing	LF.	30	**$**	**$**
2"x 10" Yellow Pine Joist	LF.	25	**$**	**$**
2"x 12" Yellow Pine Joist	LF.	25	**$**	**$**
1"x 4" Pressure Treated (Wolmanized)	LF.	60	**$**	**$**
1"x 6" Pressure Treated (Wolmanized)	LF.	60	**$**	**$**
2"x 4" Pressure Treated (Wolmanized)	LF.	120	**$**	**$**
2"x 6" Pressure Treated (Wolmanized)	LF.	60	**$**	**$**
2"x 8" Pressure Treated (Wolmanized)	LF.	20	**$**	**$**
2"x 10" Pressure Treated (Wolmanized)	LF.	20	**$**	**$**
2"x 6" Pressure Treated (Wolmanized)	LF.	25	**$**	**$**
2"x 8" Pressure Treated (Wolmanized)	LF.	35	**$**	**$**
2"x 10" Pressure Treated (Wolmanized)	LF.	60	**$**	**$**
2"x 12" Pressure Treated (Wolmanized)	LF.	20	**$**	**$**
4 in. x 4 in. x 6 ft. #2 Ground Contact - Treated Timber	LF.	100	**$**	**$**
1" x 6" Pressure-Treated Cedar-Tone Fence Picket	LF.	300	**$**	**$**
Company Name:				

Respondent must enclose a supporting Schedule of Values/Build of Materials.

Delivery in _____ days: (Failure to enter a delivery time will subject bidder to completion in 270 days. Days are Calendar Days not Business Days.)

Item	Unit	Est. Qty	Unit Cost	Extension
Simpson Strong -Tie ABU ZMAX Galvanized Adjustable Standoff Post Base for 4x4 Nominal Lumber	E.A	30	$	$
5/8" Plywood (Decking)	SQ.FT	64	$	$
1/2" Plywood (Decking)	SQ.FT	128	$	$
3/4" Plywood (Decking)	SQ.FT	96	$	$
Hose Bib Replacement	E.A	8	$	$
Luce Solare #BLS-8A-4000K	E.A	8	$	$
Astoria Outdoor Lamp Post / Street Light Waterproof Three-Head Down Facing - 7 Ft - Oil Rubbed Bronze with footing (installed inc. electrical)	E.A	8	$	$
Concrete Grinding	SQ.FT	30	$	$
Concrete Cutting	SQ.FT	30	$	$
Seal Coating Asphalt	SQ.FT	150	$	$
Asphalt Repair	SQ.FT	60	$	$
Asphalt crack Repair	L.F	100	$	$
Parking sign: "Head In Parking Only"	E.A	8	$	$
Parking sign: " Fire Lane No Parking "	E.A	8	$	$
Parking sign: "Handicap Parking"	E.A	10	$	$
4" red Fire Line stripping	LF.	200	$	$
4" white Line stripping	LF.	100	$	$
4" yellow Line stripping	LF.	100	$	$
Car Stops	E.A	50	$	$
6" concrete curb	LF.	30	$	$
Concrete crack sealing	LF.	50	$	$
Concrete Spall Patching	LF.	90	$	$
Stairway step, concrete infill and riser	E.A	30	$	$
Two Stories of Stairway, landings guardrail, & handrail Replacement, painted	E.A	3	$	$
Concrete Decking and vapor barrier on 3/4" wood decking	SQ.FT	200	$	$
Structural steel members at stairways...cleaned and painted	E.A	3	$	$
Stucco Patching: Replace Stucco, metal lath, & waterproofing	SQ.FT	150	$	$
Gutter replacement	LF.	10	$	$
Down Spout replacement	LF.	30	$	$
4 foot wide concrete sidewalk	LF.	60	$	$
Paint Utility Conduit as per COSA	LF.	100	$	$
Guardrail Pickets	E.A	100	$	$
6" x 6" x 1/4" Structural Steel Columns	LF.	4	$	$
Expansion Joint replacement	LF.	100	$	$
Electrical Panel Box replacement	E.A	6	$	$
Wrought Iron Fencing Replacement	LF.	30	$	$
Cementitious Lap Siding 8.25" Smooth	LF.	200	$	$
Cementitious Trim 3.5" Smooth	LF.	100	$	$
Cementitious Soffit Board 1.5"	LF.	150	$	$
Cementitious Trim1.65"	LF.	200	$	$
Cementitious Fascia 7.25"	LF.	300	$	$
Cementitious Soffit smooth peforated	LF.	300	$	$
Light Weight Concrete	CY.	90	$	$
Company Name:				

Landscaping Items	Unit	Est. Qty	Unit Cost	Extension
Shrub Removal	Ea	10	$	$
Shrub Pruning	cuyd	20	$	$
Landscape steel edging	LF	175	$	$
Weed Barrier	sqyd	20	$	$
Mulch, cedar	cuyd	20	$	$
Zeon Zoysia sod (El Toro variety)	sqft	1000	$	$
Tree Pruning	CY.	20	$	$
Additional Grading, in place	SQ.FT	126	$	$
6" diameter French Drain Installed	LF.	100	$	$
Top soil (Landscape Mix)	CY.	600	$	$
Tree Pruning	CY.	20	$	$
Nolina Foothill (1.25 QT)	EA.	3	$	$
Aztec Grass (1.25 QT)	EA.	30	$	$
Dalea Black (1 gallon)	EA.	4	$	$
Rosemary (1 gallon)	EA.	4	$	$
Lavender (1 gallon)	EA.	4	$	$
Esperanza (1gallon)	EA.	4	$	$
Dalea Black (1 gallon)	EA.	4	$	$
Rosemary (1 gallon)	EA.	4	$	$
Lavender (1 gallon)	EA.	4	$	$
Esperanza (1gallon)	EA.	4	$	$
Total All Unit Price Items		$		

Addenda Acknowledgements

Addendum #1_____ Date_____

Addendum #2_____ Date_____

Addendum #3 Date

Addendum #4 Date

_____ _____

Signature **Date**

_____ _____

Printed Name **Company**

_____

E-mail address if available

_____ _____

Phone **Fax**