



PROSPECT
STUDIO

Casita Magee

**SD Project
Manual**

1/13/21

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PROJECT IDENTIFICATION

Project Name: Casita Magee, located at:

6930 Jensen Canyon Road

Teton Village, Wyoming 83014

The Owner, hereinafter referred to as Owner: Mr. Blake and Mrs. Ana Magee

PROJECT DESCRIPTION

Summary Project Description: 1,412 sf Residence with 381 sf of Non-Habitable Area and 66 sf of Exterior Deck Space

Contract Scope: Construction.

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**SECTION 01 20 00
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. Correlation of Contractor submittals based on changes.
- E. Procedures for preparation and submittal of application for final payment.

1.02 SCHEDULE OF VALUES

- A. Submit Schedule of Values in duplicate within 15 days after date of Owner-Contractor Agreement.
- B. Electronic media printout including equivalent information will be considered in lieu of standard form specified; submit draft to Architect for approval.
 - 1. Forms filled out by hand will not be accepted.
- C. Revise schedule to list approved Change Orders, with each Application For Payment.

1.03 APPLICATIONS FOR PROGRESS PAYMENTS

- A. Payment Period: Submit at intervals stipulated in the Agreement.
- B. Electronic media printout including equivalent information will be considered in lieu of standard form specified; submit sample to Architect for approval.
 - 1. Forms filled out by hand will not be accepted.
- C. 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.
- D. Execute certification by signature of authorized officer.
- E. 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.
- F. List each authorized Change Order as a separate line item, listing Change Order number and dollar amount as for an original item of work.
- G. Submit one electronic and Owner requested hard-copies of each Application for Payment.
- H. Include the following with the application:
 - 1. Transmittal letter as specified for submittals in Section 01 30 00.
 - 2. Construction progress schedule, revised and current as specified in Section 01 30 00.
 - 3. Conditional release of liens from each Subcontractor and vendor for the current month's payment application, and unconditional release of liens from each Subcontractor and vendor for the previous month's payment application.
 - 4. Affidavits attesting to off-site stored products.
- I. When Architect requires substantiating information, submit data justifying dollar amounts in question.

1.04 MODIFICATION PROCEDURES

- A. Supplemental Instructions: For minor modifications not involving an adjustment to the Contract Sum or Contract Time, Architect will issue instructions directly to Contractor.

- B. Construction Change Directive: For other required modifications, 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 the required changes and will designate method of determining any change in Contract Sum or Contract Time.
 - 2. Promptly execute the change.
- C. Proposal Request: For modifications 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 10 days.
- D. 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 and Contract Time with full documentation. Document any requested substitutions in accordance with Section 01 6000.
- E. Computation of Change in Contract Amount: As specified in the Agreement and Conditions of the Contract.
 - 1. For change requested by Architect for work falling under a fixed price contract, the amount will be based on Contractor's price quotation.
 - 2. For change requested by Contractor, the amount will be based on the Contractor's request for a Change Order as approved by Architect.
- F. 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.
- G. Execution of Change Orders: The Contractor will issue Change Orders for signatures of parties as provided in the Conditions of the Contract.
- H. 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.
- I. 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.
- J. Promptly enter changes in Project Record Documents.

1.05 APPLICATION FOR FINAL PAYMENT

- A. Prepare Application for Final Payment as specified for progress payments, identifying total adjusted Contract Sum, 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 70 00.
 - 2. Receipt of final Certificate of Occupancy from jurisdictional authority.

END OF SECTION

**SECTION 01 25 00
SUBSTITUTION PROCEDURES**

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

2.01 GENERAL REQUIREMENTS

- A. A Substitution Request for products, assemblies, materials, and equipment constitutes a representation that the submitter:
 - 1. Has investigated proposed product and determined that it meets or exceeds the quality level of the specified product, equipment, assembly, or system.
 - 2. Agrees to provide the same warranty for the substitution as for the specified product.
 - 3. 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.
 - 4. Waives claims for additional costs or time extension that may subsequently become apparent.
- B. Document each request with complete data substantiating compliance of proposed substitution with Contract Documents. Burden of proof is on proposer.
- C. Content: Include information necessary for tracking the status of each Substitution Request, and information necessary to provide an actionable response.
 - 1. No specific form is required. Contractor's Substitution Request documentation must include the following:
 - a. Project Information:
 - b. Substitution Request Information:
 - 1) Discrete and consecutive Substitution Request number, and descriptive subject/title.
 - 2) Indication of whether the substitution is for cause or convenience.
 - 3) Issue date.
 - 4) Reference to particular Contract Document(s) specification section number, title, and article/paragraph(s).
 - 5) Description of Substitution.
 - 6) Reason why the specified item cannot be provided.
 - 7) Differences between proposed substitution and specified item.
 - c. Attached Comparative Data: Provide point-by-point, side-by-side comparison addressing essential attributes specified, as appropriate and relevant for the item:
 - 1) Physical characteristics.
 - 2) In-service performance.
 - 3) Expected durability.
 - 4) Visual effect.
 - 5) Sustainable design features.
 - 6) Warranties.
 - 7) Other salient features and requirements.
 - d. Impact of Substitution:
 - 1) Savings to Owner for accepting substitution.
 - 2) Change to Contract Time due to accepting substitution.
- D. Limit each request to a single proposed substitution item.

2.02 SUBSTITUTION PROCEDURES DURING PROCUREMENT

2.03 SUBSTITUTION PROCEDURES DURING CONSTRUCTION

- A. Architect will consider requests for substitutions only within 30 days after date of Agreement.

2.04 RESOLUTION

- A. Architect will notify Contractor in writing of decision to accept or reject request.

2.05 ACCEPTANCE

- A. Accepted substitutions change the work of the Project. They will be documented and incorporated into work of the project by Change Order, Construction Change Directive, Architectural Supplementary Instructions, or similar instruments provided for in the Conditions of the Contract.

END OF SECTION

**SECTION 01 30 00
ADMINISTRATIVE REQUIREMENTS**

PART 1 GENERAL**1.01 SECTION INCLUDES**

- A. Preconstruction meeting.
- B. Progress meetings.
- C. Construction progress schedule.
- D. Submittals for review, information, and project closeout.
- E. Number of copies of submittals.
- F. Requests for Interpretation (RFI) procedures.
- G. Submittal procedures.

1.02 PROJECT COORDINATOR

- A. Project Coordinator: Construction Manager.
- B. Cooperate with the Project Coordinator in allocation of mobilization areas of site; for field offices and sheds, for site access, traffic, and parking facilities.
- C. During construction, coordinate use of site and facilities through the Project Coordinator.
- D. Comply with Project Coordinator's procedures for intra-project communications; submittals, reports and records, schedules, coordination drawings, and recommendations; and resolution of ambiguities and conflicts.
- E. Comply with instructions of the Project Coordinator for use of temporary utilities and construction facilities.
- F. Coordinate field engineering and layout work under instructions of the Project Coordinator.
- G. Make the following types of submittals to Architect through the Project Coordinator:
 - 1. Requests for Interpretation.
 - 2. Requests for substitution.
 - 3. Shop drawings, product data, and samples.
 - 4. Test and inspection reports.
 - 5. Manufacturer's instructions and field reports.
 - 6. Applications for payment and change order requests.
 - 7. Progress schedules.
 - 8. Coordination drawings.
 - 9. Closeout submittals.
 - 10. Other specified submittals.

PART 2 PRODUCTS - NOT USED**PART 3 EXECUTION****3.01 PRECONSTRUCTION MEETING**

- A. Project Coordinator will schedule a meeting after Notice of Award.
- B. Attendance Required:
 - 1. Owner.
 - 2. Architect.
 - 3. Contractor.
 - 4. Other invited participants..
- C. Minimum Agenda:
 - 1. Execution of Owner-Contractor Agreement.
 - 2. Submission of executed bonds and insurance certificates.
 - 3. Distribution of Contract Documents.
 - 4. Submission of list of subcontractors, list of products, schedule of values, and progress schedule.
 - 5. Designation of personnel representing the parties to Contract, including Contractor, Owner, and Architect.

6. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
 7. 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 bi-monthly intervals.
- B. 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. Applicable subcontractors.
- D. Minimum 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 RFIs log and status of responses.
 7. Review of off-site fabrication and delivery schedules.
 8. Maintenance of progress schedule.
 9. Corrective measures to regain projected schedules.
 10. Planned progress during succeeding work period.
 11. Maintenance of quality and work standards.
 12. Effect of proposed changes on progress schedule and coordination.
 13. Other business relating to work.
- E. 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.

3.03 CONSTRUCTION PROGRESS SCHEDULE

- A. Within 10 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.
- B. If preliminary schedule requires revision after review, submit revised schedule within 10 days.
- C. Within 20 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.
- D. Within 10 days after joint review, submit complete schedule.
- E. Submit updated schedule with each Application for Payment.

3.04 REQUESTS FOR INTERPRETATION (RFI)

- A. Definition: A request seeking one of the following:
1. An interpretation, amplification, or clarification of some requirement of Contract Documents arising from inability to determine from them the exact material, process, or system to be installed; or when the elements of construction are required to occupy the same space (interference); or when an item of work is described differently at more than one place in Contract Documents.
 2. A resolution to an issue which has arisen due to field conditions and affects design intent.
- B. Whenever possible, request clarifications at the next appropriate project progress meeting, with response entered into meeting minutes, rendering unnecessary the issuance of a

formal RFI.

3.05 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.
- C. Samples will be reviewed for aesthetic, color, or finish selection.
- D. After review, provide copies and distribute in accordance with SUBMITTAL PROCEDURES article below and for record documents purposes described in Section 01 78 00 - Closeout Submittals.

3.06 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.

3.07 SUBMITTALS FOR PROJECT CLOSEOUT

- A. Submit Correction Punch List for Substantial Completion.
- B. Submit Final Correction Punch List for Substantial Completion.
- C. When the following are specified in individual sections, submit them at project closeout:
 - 1. Project record documents.
 - 2. Operation and maintenance data.
 - 3. Warranties.
 - 4. Bonds.
 - 5. Other types as indicated.
- D. Submit for Owner's benefit during and after project completion.

3.08 NUMBER OF COPIES OF SUBMITTALS

- A. Electronic Documents: Submit one electronic copy in PDF format; an electronically-marked up file will be returned. Create PDFs at native size and right-side up; illegible files will be rejected.
- B. Samples: Submit the number specified in individual specification sections; one of which will be retained by Architect.
 - 1. After review, produce duplicates.
 - 2. Retained samples will not be returned to Contractor unless specifically so stated.

3.09 SUBMITTAL PROCEDURES - GENERAL

- A. General Requirements:
- B. Transmit each submittal using the approved form.
 - 1. Submittal Format: Electronic Only.
 - 2. Sample Submittals: Submit as physical submittals as specified.
- C. Sequentially identify each transmittal form. For revised submittals use original number and a sequential alphabetical suffix.
 - 1. Submittal Log: Establish and maintain submittal log, numbering each submittal by corresponding CSI Section number using Architect's project number as a prefix.
- D. Identify: Project; Contractor; subcontractor or supplier; pertinent drawing and detail number; and specification section number and article/paragraph, as appropriate on each

copy.

- E. 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.
- F. Schedule submittals to expedite the Project, and coordinate submission of related items.
- G. For each submittal for review, allow 15 days excluding delivery time to and from the Contractor.
 - 1. For sequential reviews involving Architect's Consultants, Owner, or another affected party, allow an additional 15 days.
 - 2. For sequential reviews involving approval from authorities having jurisdiction (AHJ), in addition to Architect's approval, allow an additional 45 days.
- H. Identify variations from Contract Documents and product or system limitations that may be detrimental to successful performance of the completed work.
- I. Provide space for Contractor and Architect review stamps.
- J. When revised for resubmission, identify all changes made since previous submission.
- K. Distribute reviewed submittals. Instruct parties to promptly report inability to comply with requirements.
- L. Submittals not requested will not be recognized or processed.
 - 1. Submittals not reviewed by Contractor will be rejected, and will not be reviewed by the Architect. Claims for delays as the result of submittals not reviewed by Contractor will not be allowed.

3.10 SUBMITTAL REVIEW

- A. Submittals for Review: Architect and/or Consultants will review each submittal, mark it with appropriate "action", and return it to the Contractor within specified time allowance, except when it must be held for coordination, and Contractor is so advised.
- B. Where submittals include materials, products, systems, or manufacturers not specified, approved by Addendum prior to execution of the Contract, or approved in writing in conjunction with the proposed products list submittal in Section 6000, Architect reserves the right to exceed specified time allowance to allow sufficient time to determine the acceptability of such items, and no claim for delay by Contractor will be allowed.
- C. Where submittals include a material, product, system, or manufacturer substitution which has not been previously accepted or approved in writing, Architect reserves the right to reject such submittal and require a compliant submittal, or may direct that other actions be taken by Contractor to achieve compliance with Contract Documents, and no claim for delay by Contractor will be allowed.
- D. Architect's review is for general conformance only and does not relieve Contractor from full compliance with the Contract Documents.
- E. Submittals for Information: Architect will acknowledge receipt and review. See below for actions to be taken.
- F. Architect's actions will be reflected by marking each returned submittal using virtual stamp on electronic submittals.
- G. Architect's and consultants' actions on items submitted for review:
 - 1. Authorizing purchasing, fabrication, delivery, and installation:
 - a. No Exceptions Noted
 - b. Exceptions Noted
 - 2. Not Authorizing fabrication, delivery, and installation:
 - a. Revise & Resubmit
 - b. Rejected
- H. Architect's and consultants' actions on items submitted for information:
 - 1. Items for which no action was taken:
 - a. Not Required

2. Items for which action was taken:
 - a. Reviewed for Information

END OF SECTION

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**SECTION 01 32 16
CONSTRUCTION PROGRESS SCHEDULE**

PART 1 GENERAL**1.01 SECTION INCLUDES**

- A. Preliminary schedule.
- B. Construction progress schedule, bar chart type.

1.02 SCHEDULE FORMAT

- A. Listings: In chronological order according to the start date for each activity. Identify each activity with the applicable specification section number.

PART 2 PRODUCTS - NOT USED**PART 3 EXECUTION****3.01 PRELIMINARY SCHEDULE**

- A. Prepare preliminary schedule in the form of a horizontal bar chart.

3.02 CONTENT

- A. Show complete sequence of construction by activity, with dates for beginning and completion of each element of construction.
- B. Identify each item by specification section number.
- C. Identify work of separate stages and other logically grouped activities.
- D. Include conferences and meetings in schedule.
- E. Show accumulated percentage of completion of each item, and total percentage of Work completed, as of the first day of each month.
- F. Provide separate schedule of submittal dates for shop drawings, product data, and samples, owner-furnished products, products identified under Allowances, and dates reviewed submittals will be required from Architect. Indicate decision dates for selection of finishes.
- G. Indicate delivery dates for owner-furnished products.
- H. Provide legend for symbols and abbreviations used.

3.03 BAR CHARTS

- A. Include a separate bar for each major portion of Work or operation.
- B. Identify the first work day of each week.

3.04 REVIEW AND EVALUATION OF SCHEDULE

- A. Participate in joint review and evaluation of schedule with Architect at each submittal.
- B. Evaluate project status to determine work behind schedule and work ahead of schedule.
- C. After review, revise as necessary as result of review, and resubmit within 10 days.

3.05 UPDATING SCHEDULE

- A. Maintain schedules to record actual start and finish dates of completed activities.
- B. Indicate progress of each activity to date of revision, with projected completion date of each activity.
- C. Annotate diagrams to graphically depict current status of Work.
- D. Identify activities modified since previous submittal, major changes in Work, and other identifiable changes.
- E. Indicate changes required to maintain Date of Substantial Completion.
- F. Submit reports required to support recommended changes.

3.06 DISTRIBUTION OF SCHEDULE

- A. Distribute copies of updated schedules to Contractor's project site file, to subcontractors, suppliers, Architect, Owner, and other concerned parties.

- B. Instruct recipients to promptly report, in writing, problems anticipated by projections indicated in schedules.

END OF SECTION

SECTION 01 40 00 QUALITY REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Quality Assurance Submittals.
- B. Quality Control.
- C. Testing and inspection agencies and services.
- D. Control of installation.
- E. Mock-ups.
- F. Tolerances.
- G. Manufacturers' field services.
- H. Basis of Design specifications.
- I. Delegated design requirements
- J. Defect Assessment.

1.02 QUALITY ASSURANCE SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Certificates: When specified in individual specification sections, submit certification by the manufacturer and Contractor or installation/application subcontractor to Architect, in quantities specified for Product Data.
 - 1. Indicate material or product complies with or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
 - 2. Certificates may be recent or previous test results on material or product, but must be acceptable to Architect.
- C. 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.
- D. Manufacturer's Field Reports: Submit reports 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.

1.03 QUALITY CONTROL

- A. Maintain quality control over subcontractors, suppliers, manufacturers, products, services, site conditions, and workmanship to produce Work of specified quality according to the requirements of the Contract Documents.
- B. Special Testing and inspection: It is recognized that specified special testing and inspection program is intended to assist Contractor, Owner, Architect, and jurisdictional authorities in nominal determination of probable compliance with specified requirements for certain elements of the Work. This program is not intended to limit the Contractor's stand of quality control program.

1.04 TESTING AND INSPECTION AGENCIES AND SERVICES

- A. Owner will employ and pay for services of an independent testing agency to perform other specified testing.
- B. Employment of agency in no way relieves Contractor of obligation to perform Work in accordance with requirements of Contract Documents.

1.05 BASIS OF DESIGN SPECIFICATIONS

- A. Individual specification Sections may include a Basis of Design Manufacturer of Product, which forms the basis of the specification, Drawing details, and other requirements of the Contract Documents. The specified Basis of Design Manufacturer or Product is not intended to exclude other manufacturers, products, or systems which comply with the requirements of the Contract Documents, subject to the provisions and requirements

specified in individual specification Section.

- B. Comply with the administrative requirements for substitutions specified in Section 00 60 00 for proposed products or systems either than the specified Basis of Design Manufacturer or Product.

1.06 DELEGATED DESIGN REQUIREMENTS

- A. Performance and Design Requirements: Where professional design services or certificates by a licensed design professional are specially required of Contractor by the Contract Documents, provide products and systems complying with performance and design requirements specified in individual specification Sections.
- B. If specified performance or design requirements are not sufficiently complete to perform required services or provide required certifications, submit a written request or additional information to Architect under provisions Section 00 60 00.
- C. Refer to Section 00 10 00 for a listing of specification Sections that include delegated design requirements.

PART 3 EXECUTION

2.01 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.
 - 1. Should manufacturers' instructions conflict with Contract Documents, request clarification from Architect before proceeding.
- C. 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.
- D. Have Work performed by persons qualified to produce required and specified quality.
- E. Verify that field measurements are as indicated on shop drawings or as instructed by the manufacturer.
- F. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, and disfigurement.

2.02 MOCK-UPS

- A. Tests shall be performed under provisions identified in this section and identified in the respective product specification sections.
- B. Assemble and erect specified items with specified attachment and anchorage devices, flashings, seals, and finishes.
 - 1. Once mock-up has been accepted by Architect, maintain mock-up in accepted condition for remaining duration of Contract Time. Remove mock-up and clear area immediately prior to Substantial Completion, and complete remaining work in area, if any.
 - 2. Composite Mock-Up: Include all materials and accessories indicated including but not limited to all exterior cladding and finish materials.
- C. Assemble and erect individual system or product mock-ups as specified in individual specification Sections.
- D. Assemble and erect specified items with specified backing materials, attachment and anchorage devices, weather barriers, flashing, sealants, applied coatings, surface treatments, and finishes.
- E. Accepted mock-ups shall be a comparison standard for the remaining Work.
- F. Where mock-up has been accepted by Architect and is specified in product specification sections to be removed, [____], remove mock-up and clear area when directed to do so by Architect or Owner.

2.03 TOLERANCES

- A. Monitor fabrication and installation tolerance control of products to produce acceptable Work. Do not permit tolerances to accumulate.

- B. Comply with manufacturers' tolerances. Should manufacturers' tolerances conflict with Contract Documents, request clarification from Architect before proceeding.
- C. Adjust products to appropriate dimensions; position before securing products in place.

2.04 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.
- 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.
 - 1. Re-testing required because of non-compliance with specified requirements shall be paid for by Contractor.

2.05 MANUFACTURERS' FIELD SERVICES

- A. When specified in individual specification sections, require material or product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, start-up of equipment, test, adjust, and balance equipment, and systems as applicable, and to initiate instructions when necessary.
- B. Report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.

2.06 DEFECT ASSESSMENT

- 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 an appropriate remedy or adjust payment.

END OF SECTION

**SECTION 01 41 00
REGULATORY REQUIREMENTS**

PART 1 GENERAL

1.01 SUMMARY OF REFERENCE STANDARDS

- A. Regulatory requirements applicable to this project are the following:
- B. ADA Standards - Americans with Disabilities Act (ADA) Standards for Accessible Design 2010.
- C. 29 CFR 1910 - Occupational Safety and Health Standards current edition.
- D. State of Texas amendments to some or all of the following.
- E. ICC (IFC) - International Fire Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- F. ICC (IRC) - International Residential Code for One- and Two-Family Dwellings Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- G. ICC (IPC) - International Plumbing Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- H. ICC (IMC) - International Mechanical Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- I. ICC (IFGC) - International Fuel Gas Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- J. ICC (IPSDC) - International Private Sewage Disposal Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- K. NFPA 70 - National Electrical Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- L. ICC (IECC) - International Energy Conservation Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

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**SECTION 01 50 00
TEMPORARY FACILITIES AND CONTROLS**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Temporary utilities.
- B. Temporary telecommunications services.
- C. Temporary sanitary facilities.
- D. Temporary Controls: enclosures and fencing.
- E. Vehicular access and parking.
- F. Waste removal facilities and services.
- G. Field offices.

1.02 RELATED REQUIREMENTS

- A. Section 01 51 00 - Temporary Utilities.
- B. Section 01 52 13 - Field Offices and Sheds.
- C. Section 01 55 00 - Vehicular Access and Parking.

1.03 TEMPORARY UTILITIES - SEE SECTION 01 51 00

- 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.

1.04 TELECOMMUNICATIONS SERVICES

- A. Contractor to coordinate use of existing telecommunications facilities with Owner .
- B. Provide, maintain, and pay for telecommunications services to field office at time of project mobilization.
- C. Telecommunications services shall include:

1.05 TEMPORARY SANITARY FACILITIES

- A. Provide and maintain required facilities and enclosures. Provide at time of project mobilization.
- B. Use of existing facilities is permitted.
- C. New permanent facilities may not be used during construction operations.
- D. Maintain daily in clean and sanitary condition.
- E. At end of construction, return remaining facilities to same or better condition as originally found.
- F. Contractor to coordinate use and maintenance of existing sanitary facilities with Owner .

1.06 FENCING

- A. Construction: Contractor's option.
- B. Provide 6 foot high fence around construction site; equip with vehicular and pedestrian gates with locks.

1.07 EXTERIOR ENCLOSURES

- A. Provide temporary insulated weather tight closure of exterior openings to accommodate acceptable working conditions and protection for Products, to allow for temporary heating and maintenance of required ambient temperatures identified in individual specification sections, and to prevent entry of unauthorized persons. Provide access doors with self-closing hardware and locks.

1.08 VEHICULAR ACCESS AND PARKING - SEE SECTION 01 55 00

- A. Comply with regulations relating to use of streets and sidewalks, access to emergency facilities, and access for emergency vehicles.
- B. Coordinate access and haul routes with governing authorities and Owner.
- C. Provide and maintain access to fire hydrants, free of obstructions.

- D. Provide means of removing mud from vehicle wheels before entering streets.
- E. Provide temporary parking areas to accommodate construction personnel. When site space is not adequate, provide additional off-site parking.

1.09 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 periodically.
- 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.

1.10 FIELD OFFICES - SEE SECTION 01 52 13

- A. Office: Weathertight, with lighting, electrical outlets, heating, cooling equipment, and equipped with sturdy furniture, drawing rack, and drawing display table.
- B. Provide space for Project meetings, with table and chairs to accommodate 6 persons.
- C. Locate offices a minimum distance of 30 feet from existing and new structures.
- D. Use of existing building for field office is permitted.
- E. Contractor to coordinate use and maintenance of existing buildings with Owner .

1.11 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. Grade site as indicated.
- 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 51 00
TEMPORARY UTILITIES**

PART 1 GENERAL**1.01 SECTION INCLUDES**

- A. Temporary Utilities: Provision of electricity, lighting, heat, ventilation, and water.

1.02 RELATED REQUIREMENTS**1.03 REFERENCE STANDARDS**

- A. 29 CFR 1926 - U.S. Occupational Safety and Health Standards current edition.

1.04 TEMPORARY ELECTRICITY

- A. Cost: By Owner.
- B. Provide power service required from utility source.
- C. Power Service Characteristics: [] volt, [] ampere, three phase, four wire.
- D. Provide power outlets for construction operations, with branch wiring and distribution boxes located at each floor. Provide flexible power cords as required.
- E. Provide main service disconnect and over-current protection at convenient location and meter.
- F. Permanent convenience receptacles may be utilized during construction.
- G. Provide adequate distribution equipment, wiring, and outlets to provide single phase branch circuits for power and lighting.

1.05 TEMPORARY LIGHTING FOR CONSTRUCTION PURPOSES

- A. Provide and maintain LED, compact fluorescent, or high-intensity discharge lighting as suitable for the application for construction operations in accordance with requirements of 29 CFR 1926 and authorities having jurisdiction.
- B. Provide branch wiring from power source to distribution boxes with lighting conductors, pigtails, and lamps as required.
- C. Maintain lighting and provide routine repairs.

1.06 TEMPORARY HEATING

- A. Provide heating devices and heat as needed to maintain specified conditions for construction operations.
- B. Maintain minimum ambient temperature of 50 degrees F in areas where construction is in progress, unless indicated otherwise in specifications.

1.07 TEMPORARY VENTILATION**1.08 TEMPORARY WATER SERVICE**

- A. Cost of Water Used: By Owner.
- B. Provide and maintain suitable quality water service for construction operations at time of project mobilization.

PART 2 PRODUCTS - NOT USED**PART 3 EXECUTION - NOT USED**

END OF SECTION

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SECTION 01 57 13
TEMPORARY EROSION AND SEDIMENT CONTROL

PART 1 GENERAL**1.01 SECTION INCLUDES**

- A. Prevention of erosion due to construction activities in accordance with Guadalupe County.
- B. Prevention of sedimentation of waterways, open drainage ways, and storm and sanitary sewers due to construction activities.
- C. Restoration of areas eroded due to insufficient preventive measures.
- D. Performance bond.
- E. Compensation of Owner for fines levied by authorities having jurisdiction due to non-compliance by Contractor.

1.02 PERFORMANCE REQUIREMENTS

- A. Develop and follow an Erosion and Sedimentation Prevention Plan and submit periodic inspection reports.
- B. Do not begin clearing, grading, or other work involving disturbance of ground surface cover until applicable permits have been obtained; furnish all documentation required to obtain applicable permits.
- C. Provide to Owner a Performance Bond covering erosion and sedimentation preventive measures only, in an amount equal to 100 percent of the cost of erosion and sedimentation control work.
- D. Timing: Put preventive measures in place as soon as possible after disturbance of surface cover and before precipitation occurs.
- E. Storm Water Runoff: Control increased storm water runoff due to disturbance of surface cover due to construction activities for this project.
 - 1. Prevent runoff into storm and sanitary sewer systems, including open drainage channels, in excess of actual capacity or amount allowed by authorities having jurisdiction, whichever is less.
 - 2. Anticipate runoff volume due to the most extreme short term and 24-hour rainfall events that might occur in 25 years.
- F. Erosion On Site: Minimize wind, water, and vehicular erosion of soil on project site due to construction activities for this project.
 - 1. Control movement of sediment and soil from temporary stockpiles of soil.
 - 2. Prevent development of ruts due to equipment and vehicular traffic.
 - 3. If erosion occurs due to non-compliance with these requirements, restore eroded areas at no cost to Owner.
- G. Erosion Off Site: Prevent erosion of soil and deposition of sediment on other properties caused by water leaving the project site due to construction activities for this project.
 - 1. Prevent windblown soil from leaving the project site.
 - 2. Prevent tracking of mud onto public roads outside site.
 - 3. Prevent mud and sediment from flowing onto sidewalks and pavements.
 - 4. If erosion occurs due to non-compliance with these requirements, restore eroded areas at no cost to Owner.
- H. Sedimentation of Waterways On Site: Prevent sedimentation of waterways on the project site, including rivers, streams, lakes, ponds, open drainage ways, storm sewers, and sanitary sewers.
 - 1. If sedimentation occurs, install or correct preventive measures immediately at no cost to Owner; remove deposited sediments; comply with requirements of authorities having jurisdiction.
 - 2. If sediment basins are used as temporary preventive measures, pump dry and remove deposited sediment after each storm.
- I. Sedimentation of Waterways Off Site: Prevent sedimentation of waterways off the project site, including rivers, streams, lakes, ponds, open drainage ways, storm sewers, and sanitary sewers.

1. If sedimentation occurs, install or correct preventive measures immediately at no cost to Owner; remove deposited sediments; comply with requirements of authorities having jurisdiction.
- J. Open Water: Prevent standing water that could become stagnant.
- K. Maintenance: Maintain temporary preventive measures until permanent measures have been established.

1.03 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Erosion and Sedimentation Control Plan:
 1. Include:
 - a. Site plan identifying soils and vegetation, existing erosion problems, and areas vulnerable to erosion due to topography, soils, vegetation, or drainage.
 - b. Site plan showing grading; new improvements; temporary roads, traffic accesses, and other temporary construction; and proposed preventive measures.
 - c. Where extensive areas of soil will be disturbed, include storm water flow and volume calculations, soil loss predictions, and proposed preventive measures.
 - d. Schedule of temporary preventive measures, in relation to ground disturbing activities.
 - e. Other information required by law.
 - f. Format required by law is acceptable, provided any additional information specified is also included.
 2. Obtain the approval of the Plan by authorities having jurisdiction.
 3. Obtain the approval of the Plan by Owner.
- C. Inspection Reports: Submit report of each inspection; identify each preventive measure, indicate condition, and specify maintenance or repair required and accomplished.

END OF SECTION

SECTION 01 57 19
TEMPORARY ENVIRONMENTAL CONTROLS

PART 1 GENERAL**1.01 SECTION INCLUDES**

- A. Construction procedures to promote adequate indoor air quality after construction.

1.02 PROJECT GOALS

- A. Dust and Airborne Particulates: Prevent deposition of dust and other particulates in HVAC ducts and equipment.
 - 1. Cleaning of ductwork is not contemplated under this Contract.
 - 2. Contractor shall bear the cost of cleaning required due to failure to protect ducts and equipment from construction dust.
- B. Airborne Contaminants: Procedures and products have been specified to minimize indoor air pollutants.
 - 1. Furnish products meeting the specifications.
 - 2. Avoid construction practices that could result in contamination of installed products leading to indoor air pollution.

1.03 REFERENCE STANDARDS

- A. SMACNA (OCC) - IAQ Guidelines for Occupied Buildings Under Construction 2007.

1.04 DEFINITIONS

- A. Adsorptive Materials: Gypsum board, acoustical ceiling tile and panels, carpet and carpet tile, fabrics, fibrous insulation, and other similar products.
- B. Contaminants: Gases, vapors, regulated pollutants, airborne mold and mildew, and the like, as specified.
- C. Particulates: Dust, dirt, and other airborne solid matter.
- D. Wet Work: Concrete, plaster, coatings, and other products that emit water vapor or volatile organic compounds during installation, drying, or curing.

PART 3 EXECUTION**2.01 CONSTRUCTION PROCEDURES**

- A. Prevent the absorption of moisture and humidity by adsorptive materials by:
 - 1. Sequencing the delivery of such materials so that they are not present in the building until wet work is completed and dry.
 - 2. Delivery and storage of such materials in fully sealed moisture-impermeable packaging.
 - 3. Provide sufficient ventilation for drying within reasonable time frame.
- B. Begin construction ventilation when building is substantially enclosed.
- C. Do not store construction materials or waste in mechanical or electrical rooms.
- D. Prior to use of return air ductwork without intake filters clean up and remove dust and debris generated by construction activities.
 - 1. Inspect duct intakes, return air grilles, and terminal units for dust.
 - 2. Clean plenum spaces, including top sides of lay-in ceilings, outsides of ducts, tops of pipes and conduit.
 - 3. Clean tops of doors and frames.
 - 4. Clean mechanical and electrical rooms, including tops of pipes, ducts, and conduit, equipment, and supports.
 - 5. Clean return plenums of air handling units.
 - 6. Remove intake filters last, after cleaning is complete.
- E. Do not perform dusty or dirty work after starting use of return air ducts without intake filters.
- F. Use other relevant recommendations of SMACNA (OCC) for avoiding unnecessary contamination due to construction procedures.

END OF SECTION

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SECTION 01 60 00 PRODUCT REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. General product requirements.
- B. Transportation, handling, storage and protection.
- C. Product option requirements.
- D. Substitution limitations.
- E. Procedures for Owner-supplied products.
- F. Maintenance materials, including extra materials, spare parts, tools, and software.

1.02 RELATED REQUIREMENTS

- A. Section 01 10 00 - Summary: Identification of Owner-supplied products.
- B. Section 01 25 00 - Substitution Procedures: Substitutions made during procurement and/or construction phases.
- C. Section 01 61 16 - Volatile Organic Compound (VOC) Content Restrictions: Requirements for VOC-restricted product categories.
- D. Section 01 74 19 - Construction Waste Management and Disposal: Waste disposal requirements potentially affecting product selection, packaging and substitutions.

1.03 SUBMITTALS

- A. See Sec 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Proposed Products List: Submit list of major products proposed for use, with name of manufacturer, trade name, and model number of each product.
 - 1. Submit within 15 days after date of Agreement.
 - 2. For products specified only by reference standards, list applicable reference standards.
- C. Product Data Submittals: Submit manufacturer's standard published data. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.
- D. Shop Drawing Submittals: Prepared specifically for this Project; indicate utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.
- E. Sample Submittals: Illustrate functional and aesthetic characteristics of the product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
 - 1. For selection from standard finishes, submit samples of the full range of the manufacturer's standard colors, textures, and patterns.

PART 2 PRODUCTS

2.01 NEW PRODUCTS

- A. Provide new products unless specifically required or permitted by Contract Documents.
- B. Use of products having any of the following characteristics is not permitted:
- C. Where other criteria are met, Contractor shall give preference to products that:
 - 1. If used on interior, have lower emissions, as defined in Section 01 61 16.
 - 2. If wet-applied, have lower VOC content, as defined in Section 01 61 16.

2.02 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.

- D. Products Specified by Naming a Basis of Design Manufacturer or Product with a Provision for Substitutions: Submit a request for substitution for any manufacturer listed under Other Acceptable Manufacturers, or for a manufacturer not named.
 - 1. Refer to Section 4000 for basis of design specifications requirements.

2.03 MAINTENANCE MATERIALS

- A. Furnish extra materials, spare parts, tools, and software of types and in quantities specified in individual specification sections.
- B. Deliver to Project site; obtain receipt prior to final payment.

PART 3 EXECUTION

3.01 SUBSTITUTION LIMITATIONS

- A. See Section 01 25 00 - Substitution Procedures.

3.02 OWNER-SUPPLIED PRODUCTS

- A. See Section 01 10 00 - Summary for identification of Owner-supplied products.
- B. Owner's Responsibilities:
 - 1. Arrange for and deliver Owner reviewed shop drawings, product data, and samples, to Contractor.
 - 2. Arrange and pay for product delivery to site.
 - 3. On delivery, inspect products jointly with Contractor.
 - 4. Submit claims for transportation damage and replace damaged, defective, or deficient items.
 - 5. Arrange for manufacturers' warranties, inspections, and service.
- C. Contractor's Responsibilities:
 - 1. Review Owner reviewed shop drawings, product data, and samples.
 - 2. Receive and unload products at site; inspect for completeness or damage jointly with Owner.
 - 3. Handle, store, install and finish products.
 - 4. Repair or replace items damaged after receipt.

3.03 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.

3.04 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 74 19.
- 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. Protect products from damage or deterioration due to construction operations, weather, precipitation, humidity, temperature, sunlight and ultraviolet light, dirt, dust, and other contaminants.
- G. Comply with manufacturer's warranty conditions, if any.
- H. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.
- I. Store loose granular materials on solid flat surfaces in a well-drained area. Prevent mixing with foreign matter.
- J. Prevent contact with material that may cause corrosion, discoloration, or staining.
- K. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.
- L. 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

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**SECTION 01 70 00
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. Demonstration and instruction of Owner personnel.
- F. Closeout procedures, including Contractor's Correction Punch List, except payment procedures.

1.02 RELATED REQUIREMENTS

- A. Section 07 84 00 - Firestopping.

1.03 SUBMITTALS

- A. See Section 01 30 00 - 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.

1.04 QUALIFICATIONS

- A. For demolition work, employ a firm specializing in the type of work required.
- B. For surveying work, employ a land surveyor registered in Wyoming 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,

1.05 PROJECT CONDITIONS

- A. Use of explosives is not permitted.
- B. Grade site to drain. Maintain excavations free of water. Provide, operate, and maintain pumping equipment.
- C. Protect site from puddling or running water. Provide water barriers as required to protect site from soil erosion.
- D. Ventilate enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.
- E. 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.
- F. 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.
- G. Noise Control: Provide methods, means, and facilities to minimize noise produced by construction operations.
- H. Pest and Rodent Control: Provide methods, means, and facilities to prevent pests and insects from damaging the work.
- I. Rodent Control: Provide methods, means, and facilities to prevent rodents from accessing or invading premises.
- J. 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.

1.06 COORDINATION

- A. Coordinate scheduling, submittals, and work of the various sections of the Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.
- B. Notify affected utility companies and comply with their requirements.
- C. Verify that utility requirements and characteristics of new operating equipment are compatible with building utilities. Coordinate work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.
- D. Coordinate space requirements, supports, and installation of mechanical and electrical work that are indicated diagrammatically on drawings. Follow routing indicated for pipes, ducts, and conduit, as closely as practicable; place runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.
- E. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within the construction. Coordinate locations of fixtures and outlets with finish elements.
- F. Coordinate completion and clean-up of work of separate sections.
- G. After Owner occupancy of premises, coordinate access to site for correction of defective work and work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

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. Type and Quality of Existing Products: Determine by inspecting and testing products where necessary, referring to existing work as a standard.
- C. Product Substitution: For any proposed change in materials, submit request for substitution described in Section 01 60 00 - 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. Clean substrate surfaces prior to applying next material or substance.
- B. Seal cracks or openings of substrate prior to applying next material or substance.
- C. 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. Control datum for survey is that established by Owner provided survey.
- D. Protect survey control points prior to starting site work; preserve permanent reference points during construction.
- E. Promptly report to Architect the loss or destruction of any reference point or relocation required because of changes in grades or other reasons.
- F. Replace dislocated survey control points based on original survey control. Make no changes without prior written notice to Architect.
- G. Utilize recognized engineering survey practices.
- H. Establish a minimum of two permanent bench marks on site, referenced to established control points. Record locations, with horizontal and vertical data, on project record documents.
- I. 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; and [_____].
 - 2. Grid or axis for structures.
 - 3. Building foundation, column locations, ground floor elevations, and [_____].
- J. Periodically verify layouts by same means.
- K. Maintain a complete and accurate log of control and survey work as it progresses.
- L. On completion of foundation walls and major site improvements, prepare a certified survey illustrating dimensions, locations, angles, and elevations of construction and site work.

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 original 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 84 00, 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. Prohibit traffic from landscaped areas.
- H. Remove protective coverings when no longer needed; reuse or recycle coverings if possible.

3.08 DEMONSTRATION AND INSTRUCTION

- A. Demonstrate operation and maintenance of products to Owner's personnel two weeks prior to date of Substantial Completion.
- B. Demonstrate start-up, operation, control, adjustment, trouble-shooting, servicing, maintenance, and shutdown of each item of equipment at scheduled time, at equipment location.
- C. For equipment or systems requiring seasonal operation, perform demonstration for other season within six months.

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

3.09 ADJUSTING

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

3.10 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.

3.11 CLOSEOUT PROCEDURES

- A. Make submittals that are required by governing or other authorities.
- B. Submit written certification that Contract Documents have been reviewed, work has been inspected, and that work is complete in accordance with Contract Documents and ready for Architect's review.
- C. Accompany Project Coordinator on preliminary inspection to determine items to be listed for completion or correction in the Contractor's Correction Punch List for Contractor's Notice of Substantial Completion.
- D. Notify Architect when work is considered ready for Architect's Substantial Completion inspection.
- E. Submit written certification containing Contractor's Correction Punch List, that Contract Documents have been reviewed, work has been inspected, and that work is complete in accordance with Contract Documents and ready for Architect's Substantial Completion inspection.
- F. Conduct Substantial Completion inspection and create Final Correction Punch List containing Architect's and Contractor's comprehensive list of items identified to be completed or corrected and submit to Architect.
- G. Correct items of work listed in Final Correction Punch List and comply with requirements for access to Owner-occupied areas.
- H. Notify Architect when work is considered finally complete and ready for Architect's Substantial Completion final inspection.
- I. Complete items of work determined by Architect listed in executed Certificate of Substantial Completion.

END OF SECTION

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SECTION 01 74 19
CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 GENERAL**1.01 WASTE MANAGEMENT REQUIREMENTS**

- A. Owner requires that this project generate the least amount of trash and waste possible.
- B. Employ processes that ensure the generation of as little waste as possible due to error, poor planning, breakage, mishandling, contamination, or other factors.
- C. Minimize trash/waste disposal in landfills; reuse, salvage, or recycle as much waste as economically feasible.
- D. Contractor shall submit periodic Waste Disposal Reports; all landfill disposal, incineration, recycling, salvage, and reuse must be reported regardless of to whom the cost or savings accrues; use the same units of measure on all reports.
- E. Methods of trash/waste disposal that are not acceptable are:
 - 1. Burning on the project site.
 - 2. Burying on the project site.
 - 3. Dumping or burying on other property, public or private.
 - 4. Other illegal dumping or burying.
- F. Regulatory Requirements: Contractor is responsible for knowing and complying with regulatory requirements, including but not limited to Federal, state and local requirements, pertaining to legal disposal of all construction and demolition waste materials.

1.02 DEFINITIONS

- A. Clean: Untreated and unpainted; not contaminated with oils, solvents, caulk, or the like.
- B. Construction and Demolition Waste: Solid wastes typically including building materials, packaging, trash, debris, and rubble resulting from construction, remodeling, repair and demolition operations.
- C. Hazardous: Exhibiting the characteristics of hazardous substances, i.e., ignitibility, corrosivity, toxicity or reactivity.
- D. Nonhazardous: Exhibiting none of the characteristics of hazardous substances, i.e., ignitibility, corrosivity, toxicity, or reactivity.
- E. Nontoxic: Neither immediately poisonous to humans nor poisonous after a long period of exposure.
- F. Recyclable: The ability of a product or material to be recovered at the end of its life cycle and remanufactured into a new product for reuse by others.
- G. Recycle: To remove a waste material from the project site to another site for remanufacture into a new product for reuse by others.
- H. Recycling: The process of sorting, cleansing, treating and reconstituting solid waste and other discarded materials for the purpose of using the altered form. Recycling does not include burning, incinerating, or thermally destroying waste.
- I. Return: To give back reusable items or unused products to vendors for credit.
- J. Reuse: To reuse a construction waste material in some manner on the project site.
- K. Salvage: To remove a waste material from the project site to another site for resale or reuse by others.
- L. Sediment: Soil and other debris that has been eroded and transported by storm or well production run-off water.
- M. Source Separation: The act of keeping different types of waste materials separate beginning from the first time they become waste.
- N. Toxic: Poisonous to humans either immediately or after a long period of exposure.
- O. Trash: Any product or material unable to be reused, returned, recycled, or salvaged.
- P. Waste: Extra material or material that has reached the end of its useful life in its intended use. Waste includes salvageable, returnable, recyclable, and reusable material.

1.03 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Waste Disposal Reports: Submit at specified intervals, with details of quantities of trash and waste, means of disposal or reuse, and costs; show both totals to date and since last report.
 - 1. Submit updated Report with each Application for Progress Payment; failure to submit Report will delay payment.
 - 2. Submit Report on a form acceptable to Owner.
 - 3. Landfill Disposal: Include the following information:
 - a. Identification of material.
 - b. Amount, in tons or cubic yards, of trash/waste material from the project disposed of in landfills.
 - c. State the identity of landfills, total amount of tipping fees paid to landfill, and total disposal cost.
 - d. Include manifests, weight tickets, receipts, and invoices as evidence of quantity and cost.
 - 4. Incinerator Disposal: Include the following information:
 - a. Identification of material.
 - b. Amount, in tons or cubic yards, of trash/waste material from the project delivered to incinerators.
 - c. State the identity of incinerators, total amount of fees paid to incinerator, and total disposal cost.
 - d. Include manifests, weight tickets, receipts, and invoices as evidence of quantity and cost.
 - 5. Recycled and Salvaged Materials: Include the following information for each:
 - a. Identification of material, including those retrieved by installer for use on other projects.
 - b. Amount, in tons or cubic yards, date removed from the project site, and receiving party.
 - c. Transportation cost, amount paid or received for the material, and the net total cost or savings of salvage or recycling each material.
 - d. Include manifests, weight tickets, receipts, and invoices as evidence of quantity and cost.
 - e. Certification by receiving party that materials will not be disposed of in landfills or by incineration.
 - 6. Material Reused on Project: Include the following information for each:
 - a. Identification of material and how it was used in the project.
 - b. Amount, in tons or cubic yards.
 - c. Include weight tickets as evidence of quantity.
 - 7. Other Disposal Methods: Include information similar to that described above, as appropriate to disposal method.

PART 3 EXECUTION

2.01 WASTE MANAGEMENT PROCEDURES

- A. See Section 01 30 00 for additional requirements for project meetings, reports, submittal procedures, and project documentation.
- B. See Section 01 50 00 for additional requirements related to trash/waste collection and removal facilities and services.
- C. See Section 01 60 00 for waste prevention requirements related to delivery, storage, and handling.
- D. See Section 01 70 00 for trash/waste prevention procedures related to demolition, cutting and patching, installation, protection, and cleaning.

2.02 WASTE MANAGEMENT PLAN IMPLEMENTATION

- A. Manager: Designate an on-site person or persons responsible for instructing workers and overseeing and documenting results of the Waste Management Plan.
- B. Communication: Distribute copies of the Waste Management Plan to job site foreman, each subcontractor, Owner, and Architect.

- C. Instruction: Provide on-site instruction of appropriate separation, handling, and recycling, salvage, reuse, and return methods to be used by all parties at the appropriate stages of the project.
- D. Meetings: Discuss trash/waste management goals and issues at project meetings.
 - 1. Prebid meeting.
 - 2. Preconstruction meeting.
 - 3. Regular job-site meetings.
- E. Facilities: Provide specific facilities for separation and storage of materials for recycling, salvage, reuse, return, and trash disposal, for use by all contractors and installers.
 - 1. Provide containers as required.
 - 2. Provide adequate space for pick-up and delivery and convenience to subcontractors.
 - 3. Keep recycling and trash/waste bin areas neat and clean and clearly marked in order to avoid contamination of materials.
- F. Hazardous Wastes: Separate, store, and dispose of hazardous wastes according to applicable regulations.
- G. Recycling: Separate, store, protect, and handle at the site identified recyclable waste products in order to prevent contamination of materials and to maximize recyclability of identified materials. Arrange for timely pickups from the site or deliveries to recycling facility in order to prevent contamination of recyclable materials.
- H. Reuse of Materials On-Site: Set aside, sort, and protect separated products in preparation for reuse.
- I. Salvage: Set aside, sort, and protect products to be salvaged for reuse off-site.

END OF SECTION

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**SECTION 01 78 00
CLOSEOUT SUBMITTALS**

PART 1 GENERAL**1.01 SECTION INCLUDES**

- A. Project Record Documents.
- B. Operation and Maintenance Data.
- C. Warranties and bonds.

1.02 RELATED REQUIREMENTS

- A. Section 01 30 00 - Administrative Requirements: Submittals procedures, shop drawings, product data, and samples.
- B. Individual Product Sections: Specific requirements for operation and maintenance data.
- C. Individual Product Sections: Warranties required for specific products or Work.

1.03 SUBMITTALS

- A. Project Record Documents: Submit documents to Architect with claim for final Application for Payment.
- B. Operation and Maintenance Data:
 - 1. Submit two copies of preliminary draft or proposed formats and outlines of contents before start of Work. Architect will review draft and return one copy with comments.
 - 2. For equipment, or component parts of equipment put into service during construction and operated by Owner, submit completed documents within ten days after acceptance.
 - 3. Submit one copy of completed documents 15 days prior to final inspection. This copy will be reviewed and returned after final inspection, with Architect comments. Revise content of all document sets as required prior to final submission.
 - 4. Submit two sets of revised final documents in final form within 10 days after final inspection.
- C. 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.

PART 3 EXECUTION**2.01 PROJECT RECORD DOCUMENTS**

- A. Maintain on site one set of the following record documents; record actual revisions to the Work:
 - 1. Drawings.
 - 2. Addenda.
 - 3. Change Orders and other modifications to the Contract.
- 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. Record Drawings: Legibly mark each item to record actual construction including:
 - 1. Field changes of dimension and detail.
 - 2. Details not on original Contract drawings.

2.02 OPERATION AND MAINTENANCE DATA

- A. Product Data: Mark each sheet to clearly identify specific products and component parts, and data applicable to installation. Delete inapplicable information.
- B. Drawings: Supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams. Do not use Project Record Documents as

maintenance drawings.

- C. Typed Text: As required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions.

2.03 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.
- 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.

END OF SECTION

Division 03 - Concrete

Section 03 05 16 - Underslab Vapor Barrier - Stego

MATERIALS

Underslab Vapor Barrier:

Water Vapor Permeance: Not more than 0.010 perms, maximum.

Complying with ASTM E1745 Class A.

Thickness: 15 mils.

Section 03 10 00 - Concrete Forming and Accessories

FORMWORK - GENERAL

Provide concrete forms, accessories, shoring, and bracing as required to accomplish cast-in-place concrete work.

Design and construct concrete that complies with design with respect to shape, lines, and dimensions.

Comply with applicable state and local codes with respect to design, fabrication, erection, and removal of formwork.

REMOVABLE PREFABRICATED FORMS

Preformed Steel Forms: Minimum 16 gauge, 0.0598 inch thick, matched, tight fitting, stiffened to support weight of concrete without deflection detrimental to tolerances and appearance of finished surfaces.

Preformed Aluminum Forms: ASTM B221 (ASTM B221M), 6061-T6 alloy, matched, tight fitting, stiffened to support weight of concrete without deflection detrimental to tolerances and appearance of finished surfaces.

Preformed Plastic Forms: Thermoplastic polystyrene form liner, tight fitting, stiffened to support weight of concrete without deflection detrimental to tolerances and appearance of finished surfaces.

Glass Fiber Fabric Reinforced Plastic Forms: Matched, tight fitting, stiffened to support weight of concrete without deflection detrimental to tolerances and appearance of finished concrete surfaces.

EARTH FORMS

Earth forms are not permitted.

Section 03 20 00 - Concrete Reinforcing

REINFORCEMENT

Reinforcing Steel: ASTM A615/A615M, Grade 60 (60,000 psi).

Steel Welded Wire Reinforcement (WWR): Galvanized, deformed type; ASTM A1064/A1064M.

Section 03 30 00 - Cast-in-Place Concrete

FORMWORK

Comply with requirements of Section 03 10 00.

REINFORCEMENT MATERIALS

Steel Welded Wire Reinforcement (WWR): Galvanized, plain type, ASTM A1064/A1064M.

CONCRETE MATERIALS

Cement: ASTM C150/C150M, Type I - Normal Portland type.

Blended, Expansive Hydraulic Cement: ASTM C845/C845M, Type K.

Fine and Coarse Aggregates: ASTM C33/C33M.

Structural Fiber Reinforcement: ASTM C1116/C1116M.

Blended Fiber Reinforcement: ASTM C1116/C1116M, engineered blend of two or more sizes of reinforcing fibers.

Fiber Type: Alkali-resistant synthetic.

CONCRETE MIX DESIGN

Proportioning Normal Weight Concrete: Comply with ACI 211.1 recommendations.

Concrete Strength: Establish required average strength for each type of concrete on the basis of field experience or trial mixtures, as specified in ACI 301.

PLACING CONCRETE

Place concrete in accordance with ACI 304R.

Place concrete for floor slabs in accordance with ACI 302.1R.

Section 03 35 11 - Concrete Floor Finishes

CONCRETE FLOOR FINISH APPLICATIONS

Liquid Densifier and Hardener:

Penetrating Clear Sealer:

Clear Coating:

SURFACE TREATMENTS

Troweling Aid, Densifier and Curing Agent: Liquid reactive colloidal silica-based topical treatment, spray-applied to wet concrete and floated or troweled into the surface.

DENSIFIERS AND HARDENERS

Dry Shake Hardener: Premixed dry powder for spreading on and working into concrete surface prior to set.

COATINGS

Penetrating Sealer: Transparent, nonyellowing, water- or solvent-based coating.

Division 04 - Masonry

Section 04 42 00 - Exterior Stone Cladding

STONE

Sandstone: Charcoal Quartzite variety; complying with ASTM C616/C616M Classification I - Sandstone.

Color: Match Existing.

Surface Finish: Split Face; as described in ASTM C119 and ASTM C1528/C1528M.

MORTAR

Mortar: ASTM C270, Type N, Proportion specification, using Portland cement of gray color (match main house).

STONE FABRICATION

Thickness: 4-5 inch.

Fabricate units for uniform coloration between adjacent units and over the full area of the installation.

Sloped Capstone where veneer meets Paver Stone.

Division 05 - Metals

Section 05 12 00 - Structural Steel Framing

MATERIALS

Steel Angles and Plates: ASTM A36/A36M.

Steel W Shapes and Tees: ASTM A992/A992M.

Rollled Steel Structural Shapes: ASTM A992/A992M.

Steel Bars: ASTM A108 Grade [].

Steel Plate: ASTM A514/A514M.

Pipe: ASTM A53/A53M, Grade B, Finish black.

Structural Bolts and Nuts: Carbon steel, ASTM A307, Grade A and galvanized in compliance with ASTM A153/A153M Class C.

Welding Materials: AWS D1.1/D1.1M; type required for materials being welded.

Shop and Touch-Up Primer: Fabricator's standard, complying with VOC limitations of authorities having jurisdiction.

Section 05 50 00 - Metal Fabrications

MATERIALS - STEEL

Steel Sections: ASTM A36/A36M.

Steel Tubing: ASTM A501/A501M hot-formed structural tubing.

Plates: ASTM A283/A283M.

Pipe: ASTM A53/A53M, Grade B Schedule 40, black finish.

Bolts, Nuts, and Washers: ASTM A307, Grade A, plain.

Bolts, Nuts, and Washers: ASTM F3125/F3125M, Type 1, plain.

Welding Materials: AWS D1.1/D1.1M; type required for materials being welded.

Shop and Touch-Up Primer: Tnemec Primers, Series V10, complying with VOC limitations of authorities having jurisdiction.

Touch-Up Primer for Galvanized Surfaces: SSPC-Paint 20, Type I - Inorganic, complying with VOC limitations of authorities having jurisdiction.

MATERIALS - ALUMINUM

Extruded Aluminum: ASTM B221 (ASTM B221M), 6063 alloy, T6 temper.

FABRICATION

Fit and shop assemble items in largest practical sections, for delivery to site.

Fabricate items with joints tightly fitted and secured.

FINISHES - STEEL

Prime paint steel items.

FINISHES - ALUMINUM

Exterior Aluminum Surfaces: high performance organic coating.

Section 05 52 13 - Pipe and Tube Railings

RAILINGS - GENERAL REQUIREMENTS

Design, fabricate, and test railing assemblies in accordance with the most stringent requirements of applicable local code.

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.

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.

Section 05 70 00 - Decorative Metal

RAILING SYSTEMS

Railing Systems - General: Factory- or shop-fabricated in design indicated, to suit specific project conditions, and for proper connection to building structure, and in largest practical sizes for delivery to site.

Metal Railing: Engineered, post-supported railing system with metal infill.

Basis of Design: Match Main House

Section 05 75 00 - Decorative Formed Metal

FORMED METAL FABRICATIONS - GENERAL

Shop Assembly: Preassemble items to greatest extent possible. Minimize field splices and field assembly. Disassemble only as necessary for transportation and handling. Mark items clearly for assembly and installation.

FORMED METAL FABRICATIONS - SHEET METAL

Closures, Trim and Fill Panels:

Mullion Cladding: Form mullion cladding from type and thickness of metal indicated. Fit tightly to adjacent constructions.

MATERIALS

General: Provide sheet metal without pitting, seam marks, roller marks, stains, discolorations, or other imperfections exposed to view on finished units.

Division 06 - Wood, Plastics, and Composites

Section 06 10 00 - Rough Carpentry

GENERAL REQUIREMENTS

Dimension Lumber: Comply with PS 20 and requirements of specified grading agencies.

Species & Grade: As per structural drawings.

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.

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.

DIMENSION LUMBER FOR CONCEALED APPLICATIONS

Sizes: Nominal sizes as indicated on drawings, S4S.

Moisture Content: S-dry or MC19.

Stud Framing (2 by 2 through 2 by 6):

Species & Grade: As per structural drawings.

Grade: No. 1.

Joist, Rafter, and Small Beam Framing (2 by 6 through 4 by 16):

Species & Grade: As per structural drawings.

Miscellaneous Framing, Blocking, Nailers, Grounds, and Furring:

Lumber: S4S, No. 1 or Construction Grade.

Boards: Standard or No. 3.

STRUCTURAL COMPOSITE LUMBER

Structural Composite Lumber: Factory fabricated beams, headers, and columns, of sizes and types indicated on drawings; structural capacity as published by manufacturer.

CONSTRUCTION PANELS

Subfloor/Underlayment Combination: Any PS 2 type, rated Single Floor.

Product: Advantech Plywood

Underlayment: APA Underlayment; plywood, Exposure 2, 1/2 inch thick. Fully sanded faces at resilient flooring.

Roof Sheathing: Any PS 2 type, rated Structural I Sheathing.

Wall Sheathing: Any PS 2 type.

FACTORY WOOD TREATMENT

Treated Lumber and Plywood: Comply with requirements of AWWA U1 - Use Category System for wood treatments determined by use categories, expected service conditions, and specific applications.

FRAMING INSTALLATION

Set structural members level, plumb, and true to line. Discard pieces with defects that would lower required strength or result in unacceptable appearance of exposed members.

Install structural members full length without splices unless otherwise specifically detailed.

Section 06 13 23 - Heavy Timber Framing

WOOD MATERIALS

Lumber Grading Rules: WWP A G-5.

Lumber: Species, Grade, and Moisture Content according to Structural Engineer.

WOOD TREATMENT

Wood Preservative (Pressure Treatment): AWWA U1, Use Category UC3B, Commodity Specification A, using waterborne preservative to 0.25 lb/cu ft retention.

ACCESSORIES

Bolts, Nuts, Washers, Lags, and Screws, Untreated Wood: Medium carbon steel; galvanized coating per ASTM A153/A153M; size and type to suit application.

Bolts, Nuts, Washers, Lags, and Screws, Preservative-Treated Wood: Stainless steel; size and type to suit application.

Section 06 15 00 - Wood Decking**WOOD MATERIALS**

Lumber Decking: Fabricated to AITC 112.

Species: ipe, graded under SPIB (GR) rules as AITC Select quality.

Size: 1 by 6, nominal.

Pattern: AITC standard beveled V-joint with single tongue and groove (Match main house).

Moisture Content: 19 percent, maximum.

Section 06 17 33 - Wood I-Joists**MATERIALS**

Wood I-Joists: Laminated veneer lumber top and bottom flanges and oriented strand board (OSB) webs bonded together with structural adhesive; as per structural drawings.

Bearing Plates: Electrogalvanized steel, unfinished.

Section 06 18 00 - Glued-Laminated Construction**MATERIALS**

Lumber: Softwood lumber complying with WWPA G-5 grading rules with 12 percent maximum moisture content before fabrication. As per structural drawings.

Steel Connections and Brackets: ASTM A36/A36M weldable quality, galvanize per ASTM A123/A123M.

Anchor Bolts: ASTM F3125/F3125M, Type 1 heavy hex high strength bolts and ASTM A563 (ASTM A563M) nuts; hot-dip galvanized to meet requirements of ASTM A153/A153M, matching washers.

Section 06 20 00 - Finish Carpentry**FINISH CARPENTRY ITEMS**

Quality Standard: Custom Grade, in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS), unless noted otherwise.

LUMBER MATERIALS

Softwood Lumber: Cedar species, VG Hemlock, Plain sawn, STK Grade, maximum moisture content of 6percent; with vertical grain, of quality suitable for transparent finish.

Hardwood Lumber: Black Walnut, White Oak species, Plain sawn, Veneer Grade, maximum moisture content of 6 percent ; with vertical grain , of quality suitable for transparent finish to match Architectural Wood Casework - Section 06 41 00.

SHEET MATERIALS

Softwood Plywood, Not Exposed to View: Any face species, veneer core; PS 1 Grade A-B, glue type as recommended for application.

HARDWARE

Hardware: Comply with BHMA A156.9.

Product: As approved by the Architect and Owner.

FABRICATION

Shop assemble work for delivery to site, permitting passage through building openings.

Section 06 41 00 - Architectural Wood Casework

CABINETS

Quality Standard: Custom Grade, in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS), unless noted otherwise.

Wood Veneer Faced Cabinet:

Exposed Surfaces: HPVA HP-1 Grade A, Black Walnut/White Oak/Cypress, plain sliced, book-matched.

Concealed Surfaces: Black Walnut.

Cabinets, Casework, and Paneling at Kitchenette and Entry :

Casework Construction Type: Type A - Frameless.

Interface Style for Cabinet and Door: Style 1 - Overlay; flush overlay, 1/8" Reveal.

Cabinet Style: Flush overlay.

Cabinet Doors and Drawer Fronts: Flush style.

Drawer Construction Technique: Dovetail joints.

COUNTERTOPS

Countertops are specified in Section 12 36 00.

SHOP FINISHING

Finish work in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS), Section 5 - Finishing for grade specified and as follows:

Division 07 - Thermal and Moisture Protection

Section 07 11 13 - Bituminous Dampproofing

BITUMINOUS DAMPPROOFING

Bituminous Dampproofing: Cold-applied water-based emulsion; asphalt with mineral colloid or chemical emulsifying agent; with or without fiber reinforcement; asbestos-free; suitable for application on vertical and horizontal surfaces.

Composition - Vertical Application: ASTM D1227 Type III or ASTM D1187/D1187M Type I.

Composition - Horizontal and Low-Slope Application: ASTM D1227 Type II or III.

VOC Content: Not more than permitted by local, State, and federal regulations.

Applied Thickness: 1/16 inch, minimum, wet film.

Location: Foundation Stem Walls

ACCESSORIES

Drainage Panel: 1/4 inch thick formed plastic, hollowed sandwich.

Protection Board: Rigid insulation specified in Section 07 21 00.

Section 07 21 00 - Thermal Insulation

FOAM BOARD INSULATION MATERIALS

Extruded Polystyrene (XPS) Continuous Insulation (CI) Board: Complies with ASTM C578, and manufactured using carbon black technology.

Type and Compressive Resistance: Type IV, 25 psi (173 kPa), minimum.

Type and Thermal Resistance, R-value: Type IV, 5.0 (0.88), minimum, per 1 inch thickness at 75 degrees F mean temperature.

Board Size: 48 inch by 96 inch.

Board Thickness: 2 inch.

Location: Stem Walls

Polyisocyanurate (ISO) Board Insulation: Rigid cellular foam, complying with ASTM C1289.

Water Vapor Permeance: 1.2 perm, maximum, at 1 inch thickness, and when tested in accordance with ASTM E96/E96M, desiccant method.

Board Size: 48 inch by 96 inch.

Board Thickness: 8 inch.

Location: Roof

Composite Polyisocyanurate (ISO) Board Insulation Faced with Plywood: Rigid cellular foam, complying with ASTM C1289.

Plywood Thickness: 5/8 inch.

Insulation Board Thickness: 2 inch.

Location: Roof above Poly-Iso Board Insulation

BATT INSULATION MATERIALS

Where batt insulation is indicated, provide borate treated blown cellulose insulation to 2.5 lb / cu. ft. density

Glass Fiber Batt Insulation: Flexible preformed batt or blanket, complying with ASTM C665; friction fit, only where indicated.

Mineral Fiber Batt Insulation: Flexible or semi-rigid preformed batt or blanket, complying with ASTM C665; friction fit; unfaced flame spread index of 0 (zero) when tested in accordance with ASTM E84.

Product: Rockwool, Safe 'n' Sound

Location: Interior Wall and Floor Cavities

Thickness: 3 inch, minimum.

Section 07 21 19 - Foamed-In-Place Insulation

MATERIALS

Foamed-In-Place Insulation: Medium-density, rigid or semi-rigid, closed cell polyurethane foam; foamed on-site, using blowing agent of water or non-ozone-depleting

gas.

Regulatory Requirements: Comply with applicable code for flame and smoke, concealment, and overcoat limitations.

Thermal Resistance: R-value of 6.0, minimum, per 1 inch thickness at 75 degrees F mean temperature when tested in accordance with ASTM C518.

Water Vapor Permeance: Vapor retarder; 2 perms, maximum, when tested at intended thickness in accordance with ASTM E96/E96M, desiccant method.

Product: Icynene, Proseal HFO, or similar approved water-blown and HFC and PBDE free Foamed-in-Place Insulation.

ACCESSORIES

Primer: As required by insulation manufacturer.

Section 07 25 00 - Weather Barriers

WEATHER BARRIER ASSEMBLIES

Air Barrier:

On outside surface of sheathing of exterior walls use air barrier membrane, fluid applied type.

AIR BARRIER MATERIALS (WATER VAPOR PERMEABLE AND WATER-RESISTIVE)

Air Barrier, Fluid Applied: Vapor permeable, elastomeric waterproofing.

Product: Dupont, Tyvek Fluid Applied WB+ or similar Vapor Permeable Fluid Applied Weather Barrier installed per Manufacturer requirements.

Air Permeance: 0.004 cfm/sq ft, maximum, when tested in accordance with ASTM E2178.

Water Vapor Permeance: 5 perms, minimum, when tested in accordance with ASTM E96/E96M Procedure B (Water Method) at 73.4 degrees F.

Air Barrier Membrane:

Air Permeance: 0.004 cfm/sq ft, maximum, when tested in accordance with ASTM E2178.

Water Vapor Permeance: 5 perms, minimum, when tested in accordance with ASTM E96/E96M Procedure B (Water Method) at 73.4 degrees F.

Section 07 42 13 - Metal Wall Panels

MANUFACTURED METAL PANELS

Wall Panel System: Factory fabricated prefinished metal panel system, site assembled.

Provide exterior wall panels.

Design and size components to support assembly dead loads, and to withstand live loads caused by positive and negative wind pressure acting normal to plane of wall.

Exterior Wall Panels:

Profile: Flat-Lock; joining and trimming various fenestration pattern.

Side Seams: Double-interlocked, tight-fitting, sealed with continuous gaskets.

Material: Copper, 22 gage, 0.0299 inch minimum thickness. Product:

Patinated copper

Layout: Horizontal running bond

Section 07 53 23 - Ethylene-Propylene-Diene-Monomer Roofing (EPDM) - Firestone

MANUFACTURERS

Acceptable Manufacturer - Roofing System: Firestone Building Products LLC, Carmel, IN: www.firestonebpco.com/#sle or similar approved.

ROOFING SYSTEM DESCRIPTION

Roofing System: Ethylene-propylene-diene-monomer (EPDM) single-ply membrane.

Membrane Attachment: Fully adhered.

Warranty: Full System warranty; 10 year

Provide assembly having Underwriters Laboratories, Inc. (UL) Class B Fire Hazard Classification.

Provide assembly complying with Factory Mutual Corporation (FM) Roof Assembly Classification, FM DS 1-28 and FM DS 1-29, and meeting minimum requirements of FM 1-90 wind uplift rating.

Location: Crickets

Roofing System Components: Listed in order from the top of the roof down:

Membrane: Thickness per Manufacturer Requirements.

Base Sheet Over Insulation: Mechanically attached.

Insulation:

Maximum Board Thickness: 3 inches; use as many layers as necessary; stagger joints in adjacent layers.

Tapered: Slope as indicated; provide minimum R-value at thinnest point; place tapered layer on top.

Maximum Thickness: 6 inches.

Crickets: Tapered insulation of same type as specified for top layer; slope as indicated.

Section 07 62 00 - Sheet Metal Flashing and Trim

SHEET MATERIALS

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. Color to match darkened steel railings and accents on existing house.

Section 07 92 00 - Joint Sealants

JOINT SEALANT APPLICATIONS

Scope:

Exterior Joints: Seal open joints, whether or not the joint is indicated on drawings, unless specifically indicated not to be sealed. Exterior joints to be sealed include, but are not limited to, the following items.

Wall expansion and control joints.

Joints between door, window, and other frames and adjacent construction.

Joints between different exposed materials.

Openings below ledge angles in masonry.

Other joints indicated below.

Interior Joints: Do not seal interior joints unless specifically indicated to be sealed.

Interior joints to be sealed include, but are not limited to, the following items.

Joints between door, window, and other frames and adjacent construction.

In sound-rated wall and ceiling assemblies, gaps at electrical outlets, wiring devices, piping, and other openings; between wall/ceiling and other construction; and other flanking sound paths.

Other joints indicated below.

Do not seal the following types of joints.

Intentional weepholes in masonry.

Joints indicated to be treated with manufactured expansion joint cover or some other type of sealing device.

Joints where sealant is specified to be provided by manufacturer of product to be sealed.

Joints where installation of sealant is specified in another section.

Joints between suspended panel ceilings/grid and walls.

Type [] - Exterior Joints: Use non-sag non-staining silicone sealant, unless otherwise indicated.

Type [] - Interior Joints: Use non-sag polyurethane sealant, unless otherwise indicated.

Type [] - In Sound-Rated Assemblies: Acrylic emulsion latex sealant.

Sound-Rated Assemblies: Walls and ceilings identified as "STC-rated", "sound-rated", or "acoustical".

JOINT SEALANTS - GENERAL

Division 08 - Openings

Section 08 14 23 - Clad Wood Doors

COMPONENTS

Clad Wood Doors: See drawings for locations and additional requirements.

Exterior Clad Wood Doors: Water-repellent and preservative-treated lumber in accordance with WDMA I.S. 4.

Thickness: Per manufacturer, unless otherwise indicated.

Exterior Door Cladding: Aluminum sheet as indicated.

Exterior Frame Cladding: Extruded aluminum as indicated.

Door Stops: Clear preservative treated wood, finished to match frame.

Door Sill: Extruded 6063-T5 aluminum, 1/2 inch low profile threshold with compressible bulb weatherstripping and attached to frame jambs.

Color: Bronze anodized.

Hinges: Heavy duty ball bearing type, 4-1/2 inch, with non-removable pin and set screw.

Finish: Oil rubbed bronze.

DOOR INTERIOR WOOD FACINGS

Wood Finish: Factory applied clear satin polyurethane coating over natural wood.

Color: Color as selected by Architect from manufacturer's standard colors.

DOOR EXTERIOR CLADDING

Aluminum Cladding: 6063-T5 aluminum cladding on exterior side, 0.045 inch minimum thickness, factory fabricated, factory glazed; complete with integral sloped sill/threshold, flashings, and anchorage devices.

Exterior Aluminum Finish: Class II color anodized.

Color: Color as selected by Architect from manufacturer's standard colors.

PERFORMANCE REQUIREMENTS

Comply with AAMA/WDMA/CSA 101/I.S.2/A440 requirements in accordance with the following:

Performance Class (PC): R.

Performance Grade (PG): Equivalent to design wind load.

Design Pressure (DP): In accordance with applicable codes.

FABRICATION

Fabricate doors in accordance with door quality standard specified.

Factory machine doors for hardware other than surface-mounted hardware, in accordance with hardware requirements and dimensions.

Factory fit doors for frame opening dimensions identified on shop drawings, with edge clearances in accordance with specified quality standard.

FACTORY FINISHING - WOOD VENEER INTERIOR FACE

Section 08 14 33 - Stile and Rail Wood Doors

DOORS

Quality Standard: Custom Grade, Heavy Duty performance, in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS), unless otherwise indicated.

Exterior Doors: 1-3/4 inches thick unless otherwise indicated; solid lumber construction; mortise and tenon joints; water repellent treated. Transparent finish as indicated on drawings.

Interior Doors: 1-3/4 inches thick unless otherwise indicated; solid lumber construction; mortise and tenon joints. Transparent or opaque finish as indicated on drawings.

DOOR AND PANEL FACINGS

Adhesive: Type I - Waterproof.

DOOR CONSTRUCTION**ACCESSORIES**

Wood Door Frames: See Section 06 20 00.

Section 08 52 00 - Wood Windows**WOOD WINDOWS**

Wood Windows: Wood frame and sash, factory fabricated and assembled.

Exterior Finish: Metal clad, anodized.

Interior Finish: Factory applied clear satin polyurethane coating over natural wood

Color: As selected by Architect from manufacturer's standard range.

Configuration: As indicated on drawings.

Metal Cladding: Formed aluminum, factory finished, factory fit to profile of wood members.

MATCHING WOOD PATIO DOORS

Patio Doors: See drawings for locations and additional requirements.

COMPONENTS**PERFORMANCE REQUIREMENTS**

Comply with AAMA/WDMA/CSA 101/I.S.2/A440 requirements for the specific window type in accordance with the following:

Performance Class (PC): R.

Performance Grade (PG): Equivalent to design wind load.

Design Pressure (DP): In accordance with applicable codes.

Section 08 71 00 - Door Hardware**DESIGN AND PERFORMANCE CRITERIA**

Provide specified door hardware as required to make doors fully functional, compliant with applicable codes, and secure to extent indicated.

Provide door hardware products that comply with the following requirements:

Applicable provisions of federal, state, and local codes.

Fire-Rated Doors: NFPA 80, listed and labeled by qualified testing agency for fire protection ratings indicated, based on testing at positive pressure in accordance with NFPA 252 or UL 10C.

Hardware on Fire-Rated Doors: Listed and classified by UL (DIR), ITS (DIR), testing firm acceptable to authorities having jurisdiction, or [] as suitable for application indicated.

HINGES

Hinges: Comply with BHMA A156.1, Grade 1.

Provide hinges on every swinging door.

TRACK AND HANGERS

Pocket Doors: Provide pocket door kit, including header assembly, split studs, hangers, door hanger plates, bumper, guides, floor plate, and end bracket.

FLUSH BOLTS

Flush Bolts: Comply with BHMA A156.16, Grade 1.

Flush Bolt Throw: 3/4 inch, minimum.

CYLINDRICAL LOCKS

Cylindrical Locks (Bored): Comply with BHMA A156.2, Grade 1, 4000 Series.

Bored Hole: 2-1/8 inch diameter.

Latchbolt Throw: 1/2 inch, minimum.

Backset: 2-3/4 inch unless otherwise indicated.

Strikes: Provide manufacturer's standard strike for each latchset or lockset with strike box and curved lip extending to protect frame in compliance with indicated requirements.

FLOOR STOPS

Floor Stops: Comply with BHMA A156.16, Grade 1 and Resilient Material Retention Test as described in this standard.

FINISHES**Section 08 80 00 - Glazing****GLASS MATERIALS**

Float Glass: Provide float glass based glazing unless otherwise indicated.

Annealed Type: ASTM C1036, Type I - Transparent Flat, Class 1 - Clear, Quality - Q3.

Kind FT - Fully Tempered Type: Complies with ASTM C1048.

INSULATING GLASS UNITS

Insulating Glass Units: Types as indicated.

Durability: Certified by an independent testing agency to comply with ASTM E2190.

Coated Glass: Comply with requirements of ASTM C1376 for pyrolytic (hard-coat) or magnetic sputter vapor deposition (soft-coat) type coatings on flat glass; coated vision glass, Kind CV; coated overhead glass, Kind CO; or coated spandrel glass, Kind CS.

Warm-Edge Spacers: [_____].

Edge Seal:

GLASS COATINGS

Division 09 - Finishes

Section 09 21 16 - Gypsum Board Assemblies

BOARD MATERIALS

Gypsum Wallboard: Paper-faced gypsum panels as defined in ASTM C1396/C1396M; sizes to minimize joints in place; ends square cut.

Application: Use for vertical surfaces and ceilings, unless otherwise indicated.

Backing Board For Wet Areas: One of the following products:

Application: Surfaces behind tile in wet areas including tub and shower surrounds, shower ceilings, and areas prone to water and moisture.

Glass Mat Faced Board: Coated glass mat water-resistant gypsum backing panel as defined in ASTM C1178/C1178M.

GYPSUM WALLBOARD ACCESSORIES

Acoustic Insulation: As specified in Section 07 21 00.

Beads, Joint Accessories, and Other Trim: ASTM C1047, galvanized steel or rolled zinc, unless noted otherwise.

Joint Materials: ASTM C475/C475M and as recommended by gypsum board manufacturer for project conditions.

Section 09 30 00 - Tiling

TILE

Matte Wall Tile, Type Arizona Tile, H-Line, Alabaster: ANSI A137.1 standard grade.

Composition: Horizontal Running Bond.

Size: 3 by 6 inch, nominal.

Surface Finish: Matte

Floor Tile, Type Spec Ceramics, Wide, Vaour: ANSI A137.1 standard grade.

Composition: Stacked

Size: 12 by 24 inch by 3/8 inch, nominal.

Surface Finish: Matte

TRIM AND ACCESSORIES

Non-Ceramic Trim: Satin brass anodized extruded aluminum, style and dimensions to suit application, for setting using tile mortar or adhesive.

SETTING MATERIALS

Improved Latex-Portland Cement Mortar Bond Coat: ANSI A118.15.

GROUTS

High Performance Polymer Modified Grout: ANSI A118.7 polymer modified cement grout.

Applications: Use this type of grout where indicated and where no other type of grout is indicated.

ACCESSORY MATERIALS

Concrete Floor Slab Crack Isolation Membrane: Material complying with ANSI A118.12; not intended as waterproofing.

Waterproofing Membrane at Showers and Tiled Tubs: Specifically designed for bonding to cementitious substrate under thick mortar bed or thin-set tile; complying with ANSI A118.10.

Products: Schluter, Kerdi membrane or similar product intended for Electric Heated Floor Cable Integration.

Backer Board: Cementitious type complying with ANSI A118.9; high density, glass fiber reinforced, 1/2 inch thick; 2 inch wide coated glass fiber tape for joints and corners.

Section 09 64 29 - Wood Strip and Plank Flooring

MATERIALS

Wood Strip Flooring - Type Solid:

Species: Walnut.

Grade: First.

Factory Finish: Control Sample Approved by Architect and Owner.

Flooring Nails: Type recommended by flooring manufacturer.

Section 09 68 16 - Sheet Carpeting

CARPET

Carpet, Type Loop-Pile: Tufted, wool.

Primary Backing:

Material: Woven Polypropylene.

Secondary Backing:

Material: Woven Jute.

Total Weight: 88 oz/sq yd.

Section 09 91 13 - Exterior Painting

PAINTS AND FINISHES - GENERAL

Volatile Organic Compound (VOC) Content:

Provide paints and finishes that comply with the most stringent requirements specified in the following:

40 CFR 59, Subpart D--National Volatile Organic Compound Emission Standards for Architectural Coatings.

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.

Section 09 91 23 - Interior Painting

PAINTS AND FINISHES - GENERAL

Volatile Organic Compound (VOC) Content:

Provide paints and finishes that comply with the most stringent requirements specified in the following:

40 CFR 59, Subpart D--National Volatile Organic Compound Emission Standards for Architectural Coatings.

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.

PAINT SYSTEMS - INTERIOR

Paint I-OP - Interior Surfaces to be Painted, Unless Otherwise Indicated: Including gypsum board.

Top Coat(s): High Performance Architectural Interior Latex; MPI #138, 139, 140, or 141.

Primer: As recommended by top coat manufacturer for specific substrate.

Division 12 - Furnishings

Section 12 24 00 - Window Shades

ROLLER SHADES

General:

Provide shade system components that are easy to remove or adjust without removal of mounted shade brackets.

Provide shade system that operates smoothly when shades are raised or lowered.

Motorized Shades: Motor system housed inside roller tube, controlling shade movement via motor controls indicated; listed or recognized to UL 325.

Comply with NFPA 70.

Electrical Components: Listed, classified, and labeled as suitable for the purpose intended. Where applicable, system components to be FCC compliant.

Interior Roller Shades - Basis of Design: Lutron Electronics Co., Inc; Palladiom Roller Shades: www.lutron.com/#sle.

Description: Single roller, motor operated fabric window shade system complete with mounting brackets, roller tubes, hembars, hardware, and other components necessary for complete installation.

Mounting Hardware: As recommended by manufacturer for mounting indicated and to accommodate shade fabric roll-up size and weight.

Roller Tubes: As required for type of shade operation; designed for removal without removing mounting hardware.

Hembars: Wall thickness designed for weight requirements and adaptation to uneven surfaces, to maintain bottom of shade straight and flat.

Electronic Drive Unit:

Power: Low-voltage; NFPA 70, Class 2.

Wired Communications: Low-voltage; RS485.

Network Control:

Capable of controlling shade speed for tracking within plus or minus 0.125 inch throughout entire travel.

Capable of stopping shades within accuracy of 0.125 inch at any point between open and close limits.

Capable of storing up to 250 programmable stop points, including open, close, and any other position.

Section 12 36 00 - Countertops

COUNTERTOPS

Quality Standard: Custom Grade, in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS), unless noted otherwise.

Natural Quartz and Resin Composite Countertops: Sheet or slab of natural quartz and plastic resin over continuous substrate.

Flat Sheet Thickness: 1-1/4 inch, minimum.

Natural Quartz and Resin Composite Sheets, Slabs and Castings: Complying with ISFA 3-01 and NEMA LD 3; orthophthalic polyester resin, mineral filler, and pigments; homogenous, non-porous and capable of being worked and repaired using standard stone fabrication tools; no surface coating; color and pattern consistent throughout thickness.

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Finish Type Schedule

Schematic Design
Issue Date: January 13, 2021

Finish Types	Section	Description	Notes
Casework			
CW-1	00 00 00.00	Plain Sawn Walnut. AWI Premium grade veneer. Flat-slab door and drawer fronts. Maple boxes, concealed hinges, full extension, soft-close drawers. Drawer boxes to be dovetailed.	Millwork Throughout (Bedrooms, bathrooms, mudroom, kitchen)
CW-2	00 00 00.00		
Concrete			
CONC-1	00 00 00.00	Acrylic Sealer Over Steel - Trow Finish Slab on Grade	
CONC-2	00 00 00.00	ALT: Floor Epoxy Finish Over Steel - Trow Finish Slab on Grade	
Carpet			
CPT-1	00 00 00.00	Unique Carpets, Four Seasons, 2104 Harvest Moon	Bedrooms
Countertop			
CT-1	00 00 00.00	Taj Mahal Quartzite, 2 cm thick, leather and sealed, square, eased edge	Kitchen Countertops and Backsplash
CT-2	00 00 00.00	Ceasarstone, Fresh Concrete 4001, 2 cm, w/square eased edge	Bathroom Countertops
Glass			
GL-1	00 00 00.00	Low iron tempered clear glass, 3/8" thick	Showers
Gypsum Wall Board			
GWB-1	00 00 00.00	5/8" GWB, Level 5 finish. Painted w/low VOC paint. Colors TBD.	
GWB-2	00 00 00.00	5/8" GWB, Level 3	Garage & Mech.
Metal			
MTL-1	00 00 00.00	Horizontal, Patinated Copper Paneling w/ Flat Lock Seams	Match Existing House
MTL-2	00 00 00.00	Blackened Steel	Guardrails, Decorative Accents
MTL-3	00 00 00.00		

Millwork / Trim			
TR-1	00 00 00.00	Base Trim: 3/4" x 2" solid wood overlay, painted to match walls	
TR-2	00 00 00.00	Window/Door Trim: 3/4" x 2" solid wood overlay, finish and wood species to match windows/doors	
TR-3	00 00 00.00		

Stone			
STN-1	00 00 00.00	6" Charcoal Quartzite Stone Veneer	Match Main House

Tile			
TL-1	00 00 00.00	Spec Ceramics, Wide, Vapour, 12 x 24 x 3/8	Bathroom 103 & 204 Flooring
TL-2	00 00 00.00	Arizona Tile, H-Line, Alabaster, Matte, 3 x 6, horizontal running bond	Bathroom 103 & 204 Shower Walls
TL-3	00 00 00.00		

Wall Covering			
WC-1	00 00 00.00	Wall Covering, Maya MR-CA-3x14-K-Shearling W/ Cocoa	
WC-2	00 00 00.00	Wall Covering, Phillip Jeffries, Suit Yourself, 6112 Pressed Powder	

Wood			
WD-1	00 00 00.00	6" Exposure Sawn Cedar Shakes	Class B Fire Rated
WD-2	00 00 00.00	1x Vertical CVG Cedar @ Random Widths w/ 1/4" Gaps	Match Main House
WD-3	00 00 00.00	1x ipe Decking	Second Floor Balcony
WD-4	00 00 00.00	8" Plank Select Walnut, 3/4", Lengths may vary from 4' to 10'. 75% of boards shall be in the 7' to 9' length. solid T&G stained (per approved sample), matte finish	Wood Flooring
WD-5	00 00 00.00	He lock Soffit, 1x6 T&G,	

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Room Finish Schedule

Schematic Design
Issue Date: January 13, 2021

Ground Floor - Guest House									
Room	Finishes								
	Walls				Ceiling	Ceiling Height	Floor	Base	Notes
	N	E	S	W					
001 - Garage/Mech.	GWB-1	GWB-1	GWB-1	GWB-1	GWB-1		CONC-1		
101 - Entry	GWB-2	GWB-2	GWB-2	GWB-2	GWB-2		WD-4	TR-1	
102 - Mudroom	GWB-2	GWB-2	GWB-2	GWB-2	GWB-2		WD-4	TR-1	
103 - Bathroom	GWB-2	GWB-2	GYP-2	TL-2	GWB-2		TL-1	TR-1	
104 - Bedroom	GWB-2	GWB-2	GWB-2	WC-1	GWB-2		CPT-1	TR-1	
105 - Closet	GWB-2	GWB-2	GWB-2	GWB-2	GWB-2		CPT-1	TR-1	

Second Level - Guest House									
	Walls				Ceiling	Ceiling Height	Floor	Base	Notes
	N	E	S	W					
201 - Living/Kitchen/Dining	GWB-2	GWB-2	GWB-2	GWB-2	WD-5		WD-4	TR-1	
202 - Hall	GWB-2	GWB-2	GWB-2	GWB-2	WD-5		WD-4	TR-1	
203 - Bedroom	GWB-2	GWB-2	GWB-2	WC-2	WD-5		CPT-1	TR-1	
204 - Bathroom	GWB-2	GWB-2	GWB-2	TL-2	GWB-2		WD-4	TR-1	
205 - Exterior Deck	ST-1	WD-2	ST-1		WD-5		WD-3		
206 - Closet	GWB-2	GWB-2	GWB-2	GWB-2	GWB-2		CPT-1	TR-1	

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F.F.E. Schedule
Schematic Design
 Issue Date: January 13, 2021

Ground Floor					
101 - Entry	Make	Model	Product #	Finish	Notes
Wall Hooks	Nameek	Boutique Hotel	NNBL0019	Polished Chrome	
102 - Mudroom	Make	Model	Product #	Finish	Notes
Wall Hooks	Nameek	Boutique Hotel	NNBL0019	Polished Chrome	
Bench					
Overhead Shelving					

103 - Bathroom					
Undermount Sink	Kohler	Verticyl, undermount	K-2882-0	White	Rectangular
Sink Faucet	Kohler	Purist	K-14406-3-CP	Polished chrome	Purist, widespread low cross handles, gooseneck spout
Toilet	Toto	Carolina II one piece	MS644114CEF G#01	White	
Mirror					
24" Towel Bars	Kohler	Purist	K-14436	Polished chrome	
Medicine Cabinet					
Robe Hook	Kohler	Purist	K-14443-CP	Polished chrome	
Hand Towel Holder	Kohler	Purist	K-14441-CP	Polished chrome	
Sink Cabinets					Custom Walnut (3) drawers
Shower Head and Control	Kohler	Purist	K-T14488-3-CP	Polished chrome	
Shower Head					
Shower Drain					
Shower Door Hardware	CR LAURENCE	Vienna Series		Chrome	
Toilet Paper Holder	Kohler	Purist	K-14377-CP	Polished chrome	
Toilet Brush					

104 - Bedroom					
Desk					
End Tables					
Queen Bed					
Desk Chair					

105 - Closet					
Clothes Rod					
Hat Shelf					

001 - Garage/Mech.					
Garage Door					

Second Floor					
201 - Living/Kitchen/Dining					
Refrigerator & Freezer	Subzero				Panel ready
Undermount Sink	Franke			Stainless	
Faucet	Kohler	Purist	K-7505-CP	Polished Chrome	Purist, single hole, 8" spout, w/pull-out spray
Electric Cook-top	Wolf				
Hood vent?					
Disposal	Insinkerator	Evolution Excel		Brushed Stainless	1 Button switch
Wallmounted Cabinets					Custom Walnut
Undercounter Cabinets					Custom Walnut
Lounge Chairs					TBD
Side Table					TBD
Microwave Oven	Sharp	24" Microwave Drawer	SMD2470AS	Stainless	

202 - Hall					
Wall Hooks	Nameek	Boutique Hotel	NNBL0019	Polished Chrome	

203 - Bedroom					
Desk					Walnut
End Tables					
King Bed					

204 - Bathroom					
Undermount Sink	Kohler	Verticyl, undermount	K-2882-0	White	Rectangular
Sink Faucet	Kohler	Purist	K-14406-3-CP	Polished chrome	Purist, widespread low cross handles, gooseneck spout
Toilet	Toto	Carolina II one piece	MS644114CEF G#01	White	
Mirror					
24" Towel Bars	Kohler	Purist	K-14436	Polished chrome	
Medicine Cabinet					
Robe Hook	Kohler	Purist	K-14443-CP	Polished chrome	
Hand Towel Holder	Kohler	Purist	K-14441-CP	Polished chrome	
Sink Cabients					Custom Walnut (3) drawers
Shower Controls	Kohler	Purist	K-T14488-3-CP	Polished chrome	
Shower Head	KOHLER		K-965-AK-CP		Purist, Single function w/ air induction spray
Shower Drain	SCHLUTER		Kerdi-Line		Frameless, Tileable, size to be verified by contractor
Shower Door	CR LAURENCE	Vienna Series		Chrome	
Toilet Paper Holder	Kohler	Purist	K-14377-CP	Polished chrome	

205 - Exterior Deck					
BBQ					

206 - Closet					
Clothes Rod					
Hat Shelf					

Specialties					
Window Shades	Lutron				
Keypad Switches					
Door/Window Hardware	Ashley Norton				
Door Stops					
Mechanical Grilles					



Energy 1

Smart Energy. Clean Energy.™

DESIGN CRITERIA
1/13/2021

Project: Casita Magee
Teton Village, Wyoming

Re: Design Criteria – MEP Systems

Distribution: Prospect Studio
Attention: Zeke Nelson
4030 West Lake Creek Drive
Wilson, WY 83014

Composed by: Scott Giesick

Cc: Joe Serre

Attachments: Casita Magee_Preliminary Zoning.pdf

Zeke,

As we begin design coordination for the Casita Magee project, please review and confirm the following Design Criteria and general programmatic details outlined below. The information provided herein will be the basis for our design and related coordination. This is a key step as we initiate design and will help to ensure that we are matching expectations with the overall MEP program.

The following Design Criteria outline is intended to:

1. Confirm design assumptions and goals with the Architect/Owners as coordination begins.
2. Discuss any Owner-preferred comfort considerations and/or health/lifestyle conditions that require additional attention during design.
3. Produce design documents for overall coordination and create value engineering concepts (if necessary).
4. Enhance the project coordination between Energy 1 and the architectural design team, structural consultant, general contractor, and other associated trades in order to maximize efficiency – and minimize changes or issues during construction.
5. Avert the potential for changes in system design, after design coordination has commenced.



Energy 1

A. EXECUTIVE SUMMARY

- Reference architectural drawing set dated: 1/11/2021
- Main House Overall Square Footage
 - Habitable: ~ 750 sqft
 - Garage: ~ 344 sqft
- Occupied Set Points
 - Heating: 72°F (Garage, Storage: 60°F) Cooling: 68°F
- Unoccupied Set Points
 - Heating: 55°F Cooling: 80°F
- Geothermal Supply
 - Geothermal supply and return will be provided with Eco-flex piping running from the main house to Casita Magee. Approximately 300 ft of 1-1/2" supply and 300 ft of 1-1/2" return are estimated. The geothermal equipment distribution pump size will need to be reevaluated based on the increased flow rate and head loss.
- Hydronic Heating
 - In-floor hydronic radiant heat to act as the primary heat source throughout (approximately 5 zones).
 - In-slab snowmelt is not part of the design.
- Forced Air Heating, Ventilation, and Air Conditioning
 - Forced air HVAC systems to provide supplemental heating (approximately 2 zones).
 - The HVAC system will also provide humidification to maintain a level of 20-30% relative humidity in the main house.

B. DETAILED MECHANICAL SYSTEM DESIGN PARAMETERS

Radiant Heat

- Balancing manifolds will be specified to ensure flow is evenly distributed throughout the radiant system (approximately 5 zones) and will allow for additional adjustment to meet comfort expectations as required.
- Floor coverings to be confirmed with Prospect Studio prior to design completion.
- Note that a transition time for the system to return to occupied conditions from unoccupied conditions is estimated at 24-48 hours. The Owner (or other designated representative) to select building occupied settings 24-48 hours prior to arrival, allowing ample time for the system to most efficiently return to occupied settings. Also note that during extreme temperature conditions, building temperatures may vary slightly from design set point temperatures.
- Geothermal heat pump is assumed to be primary heating source for radiant heat. Electric boiler will be the backup heating source for the radiant system, and primary heating source for domestic hot water via an indirect water heater. The heat plant will also have a 50 gallon storage tank.



Energy 1

Forced-Air

- There are approximately 2 zones of forced air currently planned for the main house. This will be finalized as design continues and will be adjusted based on Owner preference, structural considerations, and available mechanical equipment and ducting routes.
- The forced air heating and cooling will tentatively be accomplished by water-to-air heat pumps paired with a geothermal heat exchanger located at the main house. The alternative method, if geothermal is not going to be used, will be fan coils tied into ASHPs with electric strip heat as back up heat if outdoor air temperatures are below 10°F.
- Final ducting/register layout will be coordinated with Prospect Studio to ensure integration with the structure, building architecture, and other trades.
- Each forced air piece of equipment will have its own humidifier to provide 20-30% humidification.
- Outside air ventilation to be evaluated with the use of a heat recovery ventilator(s), each of which will have a Thermolec duct heater.
- Make-up air to be accomplished with a Thermolec duct heater (size dependent on fireplaces and range hood).
- Registers to be AAG Registers (to be confirmed with Prospect Studio).
- As we understand, an acoustical consultant will not be retained, and occupant sensitivity is assumed to be “normal”. Note that Energy 1 will design systems to the best practices that have been internally developed from designing and installing systems for custom homes and not from an acoustic engineer. The following forced air noise criteria will be used on distribution and delivery:
 - Register sizing noise criteria: NC-30 (recommended for libraries, executive offices)
 - Vibration Isolation Mounting for motor driven equipment.
 - Flexible Duct Connections at register boots.
 - Internally Lined Supply and Return for first ten (10) feet from unit.
 - Limiting main trunk and branch ducting to 900 and 600 fpm respectively.
- Crawlspace to be ventilated using an ERV.

Snow Melt

- Snowmelt is not included in the design.

Controls

- Thermostat and sensor locations will be shown on design plans, but may need to be adjusted for ease of access, coordination with lighting fixtures and controls, artwork, furniture, etc. Use of remote temperature sensors TBD.
- Remote temperature and system monitoring to be reviewed and incorporated into controls package in coordination with A/V system designer.

Energy Load Summary

- The energy model will be used to calculate building heating and cooling loads, as well as used to develop hourly building loads to aid in the design of the geothermal heat exchanger. This energy model will focus on the building heating and cooling loads and the inputs that relate to sizing the heat plant and relevant equipment. This model will not be used to size electrical equipment, electrical loads, appliance selection, or predict utility costs.



Energy 1

- The current assumptions that will be utilized in the building model are as follows (to be verified by Architect):
 - Windows: Typical values that may be used for a base-line: U-value: 0.32 Btu/hr/ft²/°F , SHGC: 0.34
 - Exterior walls: 2x6 framed wall with R-11 batts and 2" spray foam.
 - Roof: R-49 insulation below roof deck. Wood Frame at 24in on center.

C. ELECTRICAL SYSTEM DESIGN PARAMETERS

- It is assumed that the electrical service to the buildings will be 120/240V single-phase power.
- Electrical system design will include the following:
 - Electrical load calculations and development of single-line diagram for electrical service.
 - Location of major electrical gear.
 - Panel schedules and circuiting.
 - Provisions for special systems which are to be designed by others (security, intercom, CCTV and Cable TV) will be provided.
 - Lighting fixture selection and layout is to be provided by Prospect Studio.
 - Heat tape for gutters, downspouts and patio drains.
 - EV charging ports.

D. PLUMBING SYSTEM DESIGN PARAMETERS

- Plumbing system design will consist of domestic water piping, waste and vent piping, gas piping, hot water heating and hot water circulation.
 - Hot water to be heated by indirect water heaters and the boiler plant.
 - Equipment power and space requirements to be incorporated in plans.
 - Plumbing fixtures to be selected by Architects or others.
- Water requirements (flow rate and pressure) to be discussed with civil engineer to determine if water storage and/or pressure boosting will be required.

END

January 13, 2021
Casita Magee
Teton Village, Wyoming

Lighting, Lighting Controls, and Shade Design Narrative

HELIUS design scope is for lighting design. Lighting control and motorized shade information is provided for reference.

Lighting

The guest house lighting plan will be consistent with the main house design. Recessed and other architectural lighting will match previous specifications. All materials will use integral LED light sources with 2700k color temperature, 90+ CRI and quality dimming performance.

- Architectural lighting material budget: \$18,000.00

Lighting Control

The main house Lutron lighting control system will be extended to the guest house. It is anticipated that the guest house will have a separate processor and will communicate with the main house over through the network. User interface will be a hybrid system of keypads and local devices. As a general rule where more than 3 dimmers or switches are required for control a keypad will be used.

- Material Allowance: \$15,000.00
- Programming Allowance: \$3,500.00

Shades

Lutron Sivoia QS shades will be integral to the lighting control system and operated via the lighting control keypads. Motorized shades are assumed at the living / kitchen / dining, stairs, and bedrooms.

- Material Allowance: \$2,500 / shade x 16ea = \$40,000.00
- Programming Allowance: \$1,500.00