NOTICE OF A MEETING
HISTORIC PRESERVATION BOARD
MONDAY, NOVEMBER 17, 2025, AT 5:15 PM
CITY COUNCIL CHAMBERS
2ND FLOOR CITY HALL
200 W. VULCAN STREET
BRENHAM, TEXAS

1. **Call Meeting to Order**

2. **Public Comments**
   [At this time, anyone will be allowed to speak on any matter concerning this Board that is not on the agenda, for a length of time not to exceed three minutes. No Board discussion or action may take place on a matter until such matter has been placed on an agenda and posted in accordance with the law.]

3. **Reports and Announcements**
   - **Leigh Linden, Main Street Manager**
   - **Stephanie Doland, Historic Preservation Officer**

REGULAR SESSION

4. **Discuss and Possibly Act Upon Approval of Minutes from September 30, 2025, Historic Preservation Board Meeting.**

5. **Discuss and Possibly Act Upon Approval of Minutes from October 21, 2025, Historic Preservation Board Meeting.**

6. **Discuss and Possibly Act Upon Case Number 2025-004 a Certificate of Appropriateness Application from Century Property Holdings, LLC / Ken and Katie Burch for the building located at 114 E. Alamo Street, Brenham, Texas.**

7. **Adjourn.**

CERTIFICATION

I certify that a copy of November 17, 2025, agenda of items to be considered by the Historic Preservation Board, was posted to the City Hall bulletin board at 200 W. Vulcan, Brenham, Texas on Monday, November 10, 2025, at 2:30 pm.

Kim Hodde
_____
Kim Hodde
Planning Technician

Disability Access Statement: This meeting is wheelchair accessible. The accessible entrance is located at the Vulcan Street entrance to the City Administration Building. Accessible parking spaces are located adjoining the entrance. Auxiliary aids and services are available upon request (interpreters for the deaf must be requested seventy-two (72) hours before the meeting) by calling (979) 337-7200 for assistance.

I certify that the attached notice and agenda of items to be considered by the Historic Preservation Board was removed by me from the City Hall bulletin board on the _____ day of _____, 2025 at _____.

_____ _____

Signature Title

Title

CITY OF BRENHAM
HISTORIC PRESERVATION BOARD MINUTES

The meeting minutes herein are a summarization of meeting proceedings, not a verbatim transcription.

A special meeting (Training Session) of the City of Brenham's Historic Preservation Board was held on Tuesday, September 30, 2025, beginning at 3:00 p.m. in the 2nd floor Conference Room 2-A of the Brenham City Hall, located at 200 West Vulcan Street, Brenham, Texas.

Board Members present:
Hal Moorman – Chair
Brad Tegeler – Vice Chair
Becky Bosse
Angelia Gerhard
Rachel Nordt
Tommy Upchurch

Board Members absent:
Jennifer Hermann

Others:
Kelly Little, Texas Historical Commission
Ericca Espindola, Texas Historical Commission

City of Brenham Staff present:
Stephanie Doland, Historic Preservation Officer
Carolyn Miller, City Manager
Megan Mainer, Assistant City Manager
Leigh Linden, Main Stret Manager
Shauna Laauwe, City Planner
Kim Hodde, Planning Technician

1. Call Meeting to Order

Chairman Hal Moorman called the meeting to order at 3:05 pm.

2. Public Comments

There were no public comments.

3. Reports and Announcements

- **Leigh Linden, Main Street Manager**, gave a brief introduction to the Imagine the Possibilities Program and informed the Board that Brenham had been chosen for the October tour. The tour will be held on October 17, 2025 at 11:00 am in conjunction with the Texas Arts and Music Festival. The tour will begin at the Barnhill Center located at 111 W. Main Street and will include tours of the following buildings/locations:

- Top Floor Cars
- Branded Boutique
- JR's Antiques (this building was recently leased)

A press release was sent to KHOU, KBTX and other media outlets. Anyone is invited to attend.

- **Stephanie Doland, Development Services Director/Historic Preservation Officer**, informed the Board that included the Board packet is a memo highlighting six projects/properties that are in various stages of development and that may be coming before the Board in the near future.
  - 215 W. Commerce Street (Arlen and Heather Thielemann) An application has been submitted for interior and exterior renovation of the building formerly occupied by Washington County Real Estate. The interior renovation will allow for three separate lease spaces. The exterior renovation is for added openings for windows, doors, ADA accessible entrances, as well as exterior lighting and stucco siding. The application will be considered by the Board at the October 21st meeting. A subcommittee meeting was held earlier today.
  - 210 N. Park Street - 1844 Liquor (Jared Anderson) – An application has been submitted for exterior renovation of this building. The initial phase of the project includes painting of the façade and upper window trim in the colors SW Classic French Gray and SW Roycroft Pewter. The paint colors for the initial phase were approved by an Administrative Certificate of Appropriateness (COA). The second phase of the project includes complete reconstruction of the store front including the front door, transom windows, lighting and façade repairs. The application proposes to paint the accent trim color SW Chinese Red.. The application will be considered by the Board at the October 21st meeting. A subcommittee meeting was held earlier today.
  - 114 E. Alamo Street (Ken and Katie Burch). Architects Katie and Ken Burch recently purchased the "J.H. Faske" building at 114 E Alamo and have a multiple-phase approach to renovations to the building. A pre-development meeting was held in August with the Development Services staff, and the first phase of the building renovations includes asbestos abatement to the flooring, electrical upgrades, floor plan remodel on the second and third floors and upgrades to restrooms and interior finishes. A planned second phase includes life-safety renovations to the exterior including the redesign and construction of the exterior fire escape currently located on the S Baylor Street side of the building. The third phase of the project includes accessibility and cosmetic upgrades to the elevator. An application for a COA is anticipated with Phase 2 of the project.
  - 115 S. St. Charles Street (Blake Sawyer) - The property located at the Corner of S Market Street, E Alamo Street and S St Charles was recently purchased by Blake Sawyer. The property is currently vacant with remnants of concrete slab and overgrown weed vegetation being a long-time eye sore downtown. A more formal design and reconstruction plan is currently in progress with the overall development concept including private parking on the S Market Street side of the property as well as a public green space accessible from the S St Charles Street side of the property. An application for a COA is anticipated later this year or early next year and will be the first COA to be considered by the Board for new construction downtown.
  - Urn Project at the Barnhill Center – An update was provided to the Board on March 4th concerning the Urns at the Historic Barnhill Center. The Urns located on the roof were in a serious stage of dilapidation and it was determined the safest course of action was to remove the Urns, which was completed. Fortunately, the removal of the Urns was completed carefully and Urns were salvaged with minimal damage allowing for the replacement process to model original Urn design carefully. Replacement of the Urns remains a priority, however

funding for design and reconstruction has not yet been allocated. City Staff met with representatives from the Texas Historical Commission who recommended a collaboration between the City of Brenham and Texas A&M University Center for Heritage Conservation (College of Architecture). Initial contact with TAMU has been made and there is interest from the CHC in participating in the Urn restoration project. Staff will continue to work toward a partnership resulting in the restoration of the Urns on the Barnhill Center.

- 208 W. Alamo Street (Sherry Harber) - The building located at 208 W Alamo Street, The Healy – Wilder Building (1887) is currently painted a combination of colors and shares a roof/trim detail with 206 W Alamo. Owner Sherry Harbor reached out for an administrative COA to repaint her side of the building in SW Black Fox and SW Rever Pewter. However, the application did not include information about how the top portion of the building would be painted. The building shares an elaborate trim and roof detail which is currently coordinated with the adjacent building at 206 W Alamo. Staff requested that the two property owners collaborate such that the upper trim elements of the building are cohesive to continue to highlight the trim of the building across the roof detail on both buildings. The property owners have been introduced, and staff is awaiting a resubmittal. Once received, a subcommittee meeting will be scheduled to allow for Board consideration of the proposed paint colors.

REGULAR SESSION

4. Discuss and Possibly Act Upon Approval of Minutes from March 4, 2025, Board Meeting

A motion was made by Board Member Tegeler and seconded by Board Member Nordt to approve the minutes from March 4, 2025, Board Meeting, as presented.

Chairman Hal Moorman called for a vote. The motion passed with voting as follows:

Becky Bosse	Yes
Angelia Gerhard	Yes
Hal Moorman	Yes
Brad Tegeler	Yes
Tommy Upchurch	Yes
Rachel Nordt	Yes
Jennifer Hermann	*Absent*

5. The Historic Preservation Board will Participate in a Training Session Conducted by Kelly Little, Certified Local Government Coordinator, and Ericca Espindola, Local Government Preservation Specialist with the Texas Historical Commission. Topics will include:

- **Introduction to the Certified Local Government Program**
- **The Vital Role of Local Preservation Commissions**
- **Design Review Best Practices**

Stephanie Doland introduced the speakers/presenters for today's training, Kelly Little and Ericca Espindola, from the Texas Historical Commission. Kelly serves as state coordinator for the Certified Local Government (CLG) Program and Ericca is a Certified Local Government Specialist at the Texas Historical Commission. Ms. Doland then turned the meeting over to Ms. Little and Ms. Espindola who gave the following training:

Introductions

- Introduction/background of Kelly Little and Ericca Espindola
- Introduction of Historic Preservation Board Members
- Introduction of City Staff

Introduction to the Certified Local Government (CLG) Program

- What is the CLG Program?
- What are the requirements of the CLG Program?
- What are the benefits of the CLG Program?

The Vital Role of Local Preservation Commissions

- Local, State, and Federal Designations
- Local Designation Best Practices
- Communication Strategies

Design Review Best Practices

- The Secretary of Interior's Standards
- Design Guidelines vs. Standards
- Commission Do's and Don'ts

Questions and Discussion

Resources and Organizations

- Real Places Conference – April 8-10, 2026 (in-person and virtual).
- National Alliance of Preservation Commissions (monthly webinars, FORUM conference, Summer Short Course.
- THC's CLG Program (Regional trainings, CLG Reference Center, Preservation Boot Camp. (https://www.thc.texas.gov/review/certified-local-government)

A copy of the presentation was provided to all persons in attendance.

6. Adjourn

A motion was made by Board Member Nordt and seconded by Board Member Gerhard to adjourn the Historic Preservation Board meeting at 5:55 pm. The motion carried unanimously.

_____ October 21, 2025

Hal Moorman Date
Board Chair

ATTEST:

_____ October 21, 2025

Kim Hodde Date
Planning Technician

HISTORIC PRESERVATION BOARD MINUTES

A regular meeting of the City of Brenham's Historic Preservation Board was held on Tuesday, October 21, 2025, beginning at 4:00 p.m. in the Brenham City Hall, Council Chambers, at 200 West Vulcan Street, Brenham, Texas.

Board Members present:
Hal Moorman - Chair
Becky Bosse
Angelia Gerhard
Jennifer Hermann
Brad Tegeler

Board Members absent:
Rachel Nordt
Tommy Upchurch

Community/Media:
Jason May, Banner Press
Arlen Thielemann
Dillon Thielemann
Jared Anderson
Sherry Harber

City of Brenham Staff present:
Stephanie Doland, Historic Preservation Officer
Megan Mainer, Assistant City Manager
Shauna Laauwe, City Planner
Kim Hodde, Planning Technician

1. Call Meeting to Order

Chairman Hal Moorman called the meeting to order at 4:01 pm.

2. Public Comments

There were no public comments.

3. Reports and Announcements

- **Stephanie Doland, Historic Preservation Officer**, informed the Board that today is Unplug Texas Day where everyone is encouraged to unplug from devices and enjoy the outdoors. The City of Brenham Parks and Recreation Department provided burgers and hot dogs at lunch and encouraged everyone to walk the trails at the park. The Antique Carousel will be open for rides from 4:30 pm – 6:30 pm. Ms. Doland invited everyone to attend.

Ms. Doland updated the Board on 114 E. Alamo Street (former JH Faske building). Ken and Katie Burch recently purchased this building and has requested permitting for the "make-safe" portion of the project. One aspect of the project is replacement of the windows on the Baylor Street side; however, only the glass pieces will be replaced not the actual windows. Based on the Secretary of the Interior's standards replacement of the glass would be considered a maintenance item and would not require any action by the Board.

REGULAR SESSION

4. Discuss and Possibly Act Upon Case Number 2025-002 a Certificate of Appropriateness Application from Heather and Arlen Thielemann for the building located at 215 W. Commerce Street, Brenham, Texas.

Stephanie Doland, Development Services Director/Historic Preservation Officer, presented the staff report for Case Number 2025-002, a request from Heather and Arlen Thielemann for a certificate of appropriateness for interior and exterior alterations to the building located at 215 W Commerce Street. The owners/applicants would like to do interior and exterior renovations to the existing building to divide the building into an office space for the owner's use and two tenant lease spaces. The subject property was built around 1950 originally as a Texaco gas station. In the 1980's, the building was used as a Black Belt Academy, in the 1990's, the use was for Tom's Sales and Services, then most recently used as offices for Washington County Real Estate.

A certificate of appropriateness has been requested for the following improvements:

- *Stucco Façade*
  From historical photos of the property, it appears that the original building was a grey CMU block design. The proposal is to resurface the CMU block and paint with Sherwin Williams Aged White paint. There are other CMU block facades located across the street at Hermann Furniture as well as on the rear façade of Unity Theater.

- *Mahogony Door Replacement*
  The proposal is to have three entrances with transoms on the Commerce Street side of the building and to convert the overhead garage door on S. Austin Street to match the proposed stationary doors. The proposed doors are 3-panel mahogany doors.

- *Replace and add windows*
  The proposal is to replace two of the existing windows and to add three additional windows on the W. Commerce Street side. The window openings, like the new door entrances, will break up the current primarily enclosed style of the building and add additional glazing. The proposed windows are a vinyl picture window (single pane) in a bronze with white trim to match the proposed metal awnings. In addition to the five picture windows shown on the front façade, the applicant proposes adding transom windows along the diagonal façade of the building that is located nearest to the enclosed carport on the Unity Theater side. Currently there are two wood coverings over metal

plates and two very small windows located within the metal frame. With the proposed stucco modification, the metal pane will be removed and about 2/3rds of the area will be covered with stucco. The applicant proposes to enlarge the existing window such that the remaining metal pane area be a transom window. These windows will break up the primarily enclosed style of the building and will add additional glazing.

Additional window openings will improve the building façade and promote a more compatible architectural design than the current façade. These improvements are in line with the design standards and will contribute to a more walkable and inviting building façade. The current façade has very little articulation; therefore, the proposed improvements will also denote the entrances to each of the separate spaces.

- *Add exterior lighting*
  The owners/applicants propose to add pedestrian lighting on either side of each entrance and also to the faux entrance on the S. Austin Street side. The lighting will be a three candleabra, modern lantern design in oil rubbed bronze with clear glass and a metal trim. The lighting will help to frame the entrances. The design standards encourage additional pedestrian lighting to promote walkability.

- *Metal Canopies*
  The owners/applicants propose to add metal canopies/awnings over each of the proposed mahogany door entrances. The canopies are proposed to be a wood framed awning wrapped in metal with a standing seam roof in burnished slate color. The proposed awnings will help define the spaces as well as provide cover from the elements. The proposed awning design is in keeping with the Design Guidelines which recommend that the awnings should be specific to doors and windows in stead of a continuous awning across the facade.

- *Mansard Crown Cap*
  A wood framed mansard with a stucco veneer and Hardie plank soffit crown cap wrapped along the top of the building is proposed. The mansard will raise the height of the building about 30-32 inches and bring the building in line with the height of the east side elevation thus making the building height more uniform. The mansard is proposed to obscure the roof, gutters, and HVAC equipment from the street level.

ANALYSIS OF CITY OF BRENHAM HISTORIC PRESERVATION ORDINANCE:

The Historic Preservation Ordinance (Ordinance), Chapter 13 of the Brenham Code of Ordinances governs the process associated with obtaining a Certificate of Appropriateness (COA) for renovations to property within the Historic Preservation District. More specifically, Section 13-7 of the Ordinance further outlines when considering a COA, to "review all new construction plans within historic districts in order to ensure the exterior architectural features visually complement the surrounding buildings and environment in relation to design, height, scale, and setback." Section 13-8 establishes as the Criteria for Approval of a COA the City of Brenham Adopted Design Guidelines for the Brenham Downtown Historic District as well as the

Adopted Secretary of the Interior's Standards. With respect to the criteria by which the Board is to be guided for approval of a COA application, Staff finds the following criteria applicable as stated in Section 13-8(b):

(1) Every reasonable effort shall be made to adapt the property in a manner which requires minimal alteration of the building, structure, object, or site and its environment.
(2) The distinguishing original qualities or character of a historic building, structure, object, or historic property of any kind and its environment shall not be destroyed. The removal or alteration of any historic material or distinctive architectural features should be avoided when possible.
(9) Contemporary design for alterations and additions to existing properties shall not be discouraged when such alterations and additions do not destroy significant historical, architectural, or cultural material, and such design is compatible with the size, scale, color, material, and character of the property, neighborhood, or environment.
(10) Whenever possible, new additions or alterations to buildings, structures, objects, or sites shall be done in such a manner that if such additions or alterations were to be removed in the future, the essential form and integrity of the building, structure, object, or site would be unimpaired.

Staff recommends **approval** of the proposed Certificate of Appropriateness as submitted by the applicant finding the proposed building renovations such as additional openings (windows and doors), and façade articulation (canopies and mansard system) to be a more aesthetically pleasing design than the currently enclosed CMU building façade and finding the proposed modifications will be compatible with surrounding structures.

Board Member Gerhard asked the owner/applicant if the existing roof will remain or if it will be replaced. Arlen Thielemann stated that a new roof and gutter system will be installed with the same slope and gutter locations.

A motion was made by Board Member Tegeler and seconded by Board Member Bosse to approve the Certificate of Appropriateness request for Case Number 2025-002 submitted by Heather and Arlen Thielemann for the building located at 215 W. Commerce, as presented.

Chairman Hal Moorman called for a vote. The motion passed with voting as follows:

Becky Bosse	Yes
Jennifer Hermann	Yes
Hal Moorman	Yes
Brad Tegeler	Yes
Tommy Upchurch	Yes
Rachel Nordt	*Absent*
Tommy Upchurch	*Absent*

5. Discuss and Possibly Act Upon Case Number 2025-003 a Certificate of Appropriateness Application from Jared Anderson for the building located at 210 S Park Street, Brenham, Texas.

Stephanie Doland, Development Services Director/Historic Preservation Officer, presented the staff report for Case Number 2025-003, a request from Jared Anderson for a certificate of appropriateness for exterior rehabilitation / alterations to the building located at 210 S. Park Street. The subject property is owned by Alix Fox and Miguel Ramos and includes multiple businesses. Jared Anderson is the owner of the 1844 Liquor Market located on the first floor, and located on the second floor is The Side Door which is an event venue that currently has a long-term tenant. The two-story building is located in the National Register District – The Brenham Downtown Historic District – and is believed to have been constructed between 1873 and 1877. According to the Sanborn Insurance map of 1877 and 1885 the property was a two-story dry goods market. The 1906 Sanborn insurance map shows the property to have been a saloon, the 1912 map a tailor, and the 1920 map a meat market. The insurance maps also note different materials of canopy construction but each notate a wood or metal canopy over the sidewalk throughout the building history. In 1957 a newpaper article shows the property to have been O'Shea's Drug store which also sold liquor and the property has sold liqour ever since. While no historic property photos of the property show the full façade, a 1969 photo of the Ant Street Inn property shows the corner drug store with the historic neon sign (as seen today) and a metal canopy at the corner of South Park and Alamo Street. The property today, while in use as a liqour store and event space, is in need of maintenance and repairs to the exterior.

Earlier this year, the applicant and property owners submitted an application for an administrative Certificate of Appropriatness to paint the façade. The well known "goldie locks and bear" mural is planned to be painted over during the upcoming Texas Arts and Music Festival. In preparation for the event, the applicant proposes to paint the façade the primary color of Sherwin Williams Classic French Gray and the trim around the upper windows Sherwin Williams Roycroft Pewter. The trim around the first floor transom windows is proposed to be included in a future scope of work phase as Sherwin Williams Chinese Red. The administrative COA for the color selections was approved on September 3, 2025.

The applicant and property owners have submitted an additional application for consideration by the Historic Preservation Board for a Certificate of Appropriateness to restore the storefront including replacing the transom windows, storefront windows, the front and side door on the South Park Street façade, replace the awning and install pedestrian lighting along the storefront. The applicant proposes to restore the canopy to a more original design with a 90-degree straight awning versus the current slopped awning to open up the space and allow more natural lighting. The proposed window and door designs are very similar to the present day design, with a few additional window panes on the store front due to available window materials and to support the frame of the building. The applicant has recently discovered that the bulkhead underneath the existing wood storefront is a black and white marble. The applicant plans to polish and refurbish the existing marble as the base of the store front.

A certificate of appropriateness has been requested for the following improvements:

- *Window replacement*

  The existing wooden windows are beyond their useful life. The applicant has stated that during rain events there are numerous leaks caused by the condition of the windows located above the canopy and they need replacement. One transom window located on the South Park Street side is missing altogether and is boarded up. The proposed restoration includes replacing these wooden windows with a red steel frame to maximize the glazing as well as increasing the durability of the window for a long-term benefit when compared to wood. As advised by the Design Guidelines, the proposed storefront window design puts back windows in a substantially similar manner to the present-day conditions, with similar spacing of windowpanes located above the canopy and similar frame thickness separating each window. The steel frame windows will be an improvement to the functionality of the transom and the storefront. The current store front includes two single pane store front windows, whereas the proposed restoration includes three panes on either side of the front door. Overall, the proposed window design is compatible with the existing architecture without removing historic elements of the building. The second-floor wood windows are proposed to remain, with maintenance and repainting planned.

- *Door replacment*

  The applicant proposes replacing the two doors located on the South Park Street elevation. Other than paint, no changes are proposed to the French doors located on the Commerce Street elevation. The proposed door replacement will be similar in design to the proposed store front windows with a red steel frame and a large centered rectangular window. Replacing the doors with a custom red, steel frame product will protect the historical building from the elements. Additionally, the proposed improvements will correct the door swing of the primary entrance door and will bring the entrance into compliance with adopted codes for accessibility. Staff finds that the proposed contemporary metal frame windows and doors will restore the currently deteriorated store front and maintain the historic and architectural elements of the storefront.

- *Canopy replacment*

  The canopy on the building is the most documented element of the building and is noted throughout the Sanborn Insurance maps available for the property. Similarly, the canopy is shown on the only remaining historic photo of the property. The current canopy is deteriorated with wood rot and has a slight downward angled slope. The applicant proposes replacing the canopy with a steel frame with only a 1% slope (will allow for proper drainage). The existing steel canopy anchors are planned to be saved and reused on the new steel canopy. The canopy will essentially be perpendicular to the building at a 90-degree angle and will open up the entrance and allow for under-canopy signage and pedestrian lighting. Additionally, the existing canopy is only located on the South Park Street side of the building. The proposed design will wrap around the store front and include a canopy on the Commerce Steet side adjacent to the transom windows. This design restores the original canopy design.

- *Lighting*
  In accordance with the Design Guidelines, the applicant proposes adding six pedestrian lights along the frame of the steel storefront between the proposed windows and doors. The proposed lighting includes four fixtures on the South Park Street side and two fixtures on the Commerce Street side. The proposed light fixtures are a 20-inch-tall rectangular design with a primary black body and brass accents. The fixture includes a ribbed clear glass and two bulbs. The applicant states in their application that the proposed fixture is the preferred choice as it "blends historic elegance with modern restraint." Staff finds the proposed fixture to be significant improvement over the exposed conduit and simple light-bulb fixture currently located under the canopy. Additionally, the proposed fixture is contemporary but in a way that compliments the overall design.

- *Marble bulkhead*
  When considering the proposed design of the storefront, originally the applicant included plans to have a whiskey barrel base at the bulkhead, beneath the storefront windows. Upon further examination and removing a section of the existing wood base, the applicant found a black and white marble detail in good condition. The marble is located at the base of the windows on both the South Park Street and Commerce Street elevation of the building. The applicant has modified their design plans to account for the newly discovered marble material and has provided plans to include the marble in the red steel frame window storefront. The proposed frame around the marble is 2" thick, similar to the existing frame. The marble will be polished to remove the glue residue and help with consistency across the storefront.

ANALYSIS OF CITY OF BRENHAM HISTORIC PRESERVATION ORDINANCE:

The Historic Preservation Ordinance (Ordinance), Chapter 13 of the Brenham Code of Ordinances governs the process associated with obtaining a Certificate of Appropriateness (COA) for renovations to property within the Historic Preservation District. More specifically, Section 13-7 of the Ordinance further outlines when considering a COA, to "review all new construction plans within historic districts in order to ensure the exterior architectural features visually complement the surrounding buildings and environment in relation to design, height, scale, and setback." Section 13-8 establishes as the Criteria for Approval of a COA the City of Brenham Adopted Design Guidelines for the Brenham Downtown Historic District as well as the Adopted Secretary of the Interior's Standards. With respect to the criteria by which the Board is to be guided for approval of a COA application, Staff finds the following criteria applicable as stated in Section 13-8(b):

(6) Deteriorated architectural features shall be repaired rather than replaced, wherever possible. In the event replacement is necessary, the new material should reflect the material being replaced in composition, design, color, texture and other visual qualities. Repair or replacement of missing architectural features should be based on accurate duplication of features, substantiated by historical, physical or pictorial evidence rather than on conjectural designs or the availability of different architectural elements from other buildings or structures.

(7) The surface cleaning of structures shall be undertaken with the gentlest means possible. Sandblasting and other cleaning methods that will damage the historic building materials shall not be undertaken.

(9) Contemporary design for alterations and additions to existing properties shall not be discouraged when such alterations and additions do not destroy significant historical, architectural, or cultural material, and such design is compatible with the size, scale, color, material, and character of the property, neighborhood, or environment.

(10) Whenever possible, new additions or alterations to buildings, structures, objects, or sites shall be done in such a manner that if such additions or alterations were to be removed in the future, the essential form and integrity of the building, structure, object, or site would be unimpaired.

Staff recommends **approval** of the proposed Certificate of Appropriateness application as presented finding that the scope of work to include renovations to the windows, doors, canopy and overall storefront to be a necessary upgrade to protect the building from the elements while also retaining the property's historic character.

A motion was made by Board Member Tegeler and seconded by Board Member Hermann to approve the Certificate of Appropriateness request for Case Number 2025-003 submitted by Jared Anderson for the building located at 210 S. Park Street, as presented.

Chairman Hal Moorman called for a vote. The motion passed with voting as follows:

Becky Bosse	Yes
Jennifer Hermann	Yes
Hal Moorman	Yes
Brad Tegeler	Yes
Tommy Upchurch	Yes
Rachel Nordt	*Absent*
Tommy Upchurch	*Absent*

7. Adjourn

A motion was made by Board Member Tegeler and seconded by Board Member Hermann to adjourn the Historic Preservation Board meeting at 4:30 pm. The motion carried unanimously.

_____ _____

Hal Moorman Date
Board Chair

ATTEST:

_____ _____

Kim Hodde Date
Planning Technician

City of Brenham
Historic Preservation Board
Staff Report
November 11, 2025

Certificate of Appropriateness
114 East Alamo Street

STAFF CONTACT:	Stephanie Doland, Historic Preservation Officer
APPLICANT:	Katie and Ken Burch, Plan North Architecture
OWNER:	Century Property Holdings, LLC
LOCATION:	114 East Alamo Street; generally, at the southwest corner of East Alamo Street and South Baylor Street
LEGAL DESCRIPTION:	Original Town Addition, Lot 34, 40A-C
REQUEST:	Certificate of Appropriateness for a store front restoration including new pedestrian lighting windows, doors and awning.
SUMMARY RECOMMENDATION:	Staff recommends approving the Certificate of Appropriateness as requested.
LOCATION MAP:	

BACKGROUND:

Figure 1: Existing View From East Alamo

The subject property was recently purchased by Ken and Katie Burch of Century Property Holdings, LLC. The property is located on the main square around the Washington County Courthouse and is a corner property with frontage onto East Alamo Street, South Baylor Street and East Commerce Street. The building was originally constructed as the First National Bank in 1923 and was designed by Sanguinet and Staats Architects of Fort Worth. The building is the only known multiple-level concrete structure located Downtown. The property is located in the Downtown Historical District and is listed as a contributing building within the district. Following use of the property as a Bank, the property was utlized as J.H. Faske Jewelry Company until 2013 when the Jeweler relocated to the Bluebonnet Shopping center along US 290. The building has been used for a variety of uses including, retail and office space.

The building includes a basement and three levels. The first floor and basement are currently leased as a retail use to Hospice Botique. The third floor is utlized for law offices and the second floor is planned to be the future office of Plan North Architecture. The property owner plans to complete work to the interior and exterior of the building in a multi-phased approach. Permits have already been issued for interior demolition to include asbestos abatement, electrical upgrades, and plumbing upgrades to the second and third floors. The applicant is also working towards a second permit for exterior and life safety improvements. The scope of work includes relocating the existing emergency fire escape from the South Baylor side of the building to the rear of the building. With the relocation of the stairs, a window is proposed to be enlarged as the third floor fire escape access and two new openings are planned for the first and second floors. The rear façade of the building is planned to be painted white in preparation for a future Texas Arts and Music Festival mural. Lastly, the rear façade includes a third floor window which is planned to be replaced with a fire rated window and materials to meet the Fire Code. Additional exterior renovations include restoring the original building sign for First National Bank and removing the J.H. Faske Company Sign; replacing the glass within the window frames located on the second and third floors; and lighting improvements. At a later date the glass from the first floor windows are also planned to be replaced with a more translucent and energy efficient glass.

Figure 2: View From South Baylor St

ANALYSIS OF CITY OF BRENHAM HISTORIC PRESERVATION ORDINANCE:

The Historic Preservation Ordinance (Ordinance), Chapter 13 of the Brenham Code of Ordinances governs the process associated with obtaining a Certificate of Appropriateness (COA) for renovations to property within the Historic Preservation District. More specifically, Section 13-7 of the Ordinance further outlines when considering a COA, to "review all new construction plans within historic districts in order to ensure the exterior architectural features visually complement the surrounding buildings and environment in relation to design, height, scale, and setback." Section 13-8 establishes as the Criteria for Approval of a COA the City of Brenham Adopted Design Guidelines as well as the Adopted Secretary of the Interior's Standards. With respect to the aforementioned criteria by which the Board is to be guided for approval of a COA application, Staff finds the following criteria applicable. Section 13-8(b):

(1) Every reasonable effort shall be made to adapt the property in a manner which requires minimal alteration of the building, structure, object, or site and its environment.

(2) The distinguishing original qualities or character of a historic building, structure, object, or historic property of any kind and its environment shall not be destroyed. The removal or alteration of any historic material or distinctive architectural features should be avoided when possible.

(9) Contemporary design for alterations and additions to existing properties shall not be discouraged when such alterations and additions do not destroy significant historical, architectural, or cultural material, and such design is compatible with the size, scale, color, material, and character of the property, neighborhood, or environment.

(10) Whenever possible, new additions or alterations to buildings, structures, objects, or sites shall be done in such a manner that if such additions or alterations were to be removed in the future, the essential form and integrity of the building, structure, object, or site would be unimpaired.

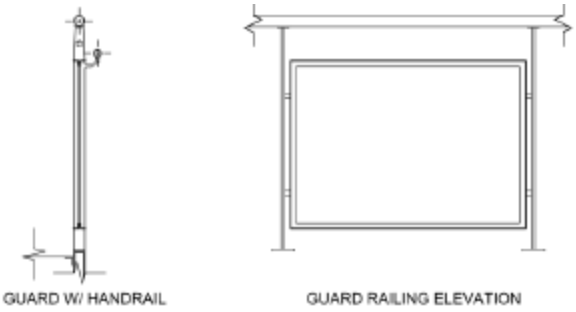
STAFF RECOMMENDATION:

Staff recommends **approving** the proposed Certificate of Appropriateness, finding the following:

a) **Fire Escape Structure**: The current fire escape is located along the side of the building facing South Baylor street and allows for access from a second and third floor window down to ground level. The fire escape is affixed to the red brick façade and is comprised of a black metal. This building as well as the building next door and addressed as 110 E Alamo, are required by deed restrictions to share fire escape emergency access. The applicants desire to improve the building by replacing the South Baylor Street fire escape with a modernized and code compliant fire escape along the back of the building which could be utilized by occupants of both the subject tract and occupants of 110 E Alamo (comprised of apartments and retail uses). The proposed fire escape will be constructed of galvanized steel with hot-dipped galvanized finish,

Figure 3: Proposed Fire Escape Structure

Figure 4: Proposed Fire Escape Detail



The open mesh panel shown is the design intent that will be placed within the frames between king posts. In the rendering, the texture has been removed for clarity on the rendering.

SW 7020 Fox Black Color is proposed for use on the window frames, doors and for elements of the fire stairs at the rear façade of the building.

contain an open mesh panel and will be painted in Sherwin Williams Fox Black. It should be noted that in Figure 3 the base of the fire escape appears to be a solid white foundation, however the rendering includes a highlight and the applicant intends for the fire escape base to match with galvanized steel frame. The fire escape structure is proposed to include a metal canopy roof which will be painted to match the railing, handrail and doors. The proposed stairwell, like the existing stairwell, is visually lightweight and comparable to other stairwell exits downtown which are of a similar metal construction and relatively compact in nature. To allow access to the stairwell from the third floor, an existing window opening will be enlarged for third-floor door access. Two additional openings are planned along the rear of the building, one on the first and second floor to allow for access from the building onto the fire escape. Staff finds that the proposed fire escape reconstruction meets the intent of the Historic Preservation Ordinance, finding that the fire escape will not only make the building safer and bring the property into conformance with adopted building and fire codes, but also that the design utilized to accomplish a safer and code compliant building minimizes the alterations to the building. The proposed stairwell being relocated to the rear façade is appropriate as the rear façade is currently stucco with a painted mural. The front and side façade of the building are comprised of red brick and is architecturally more significant. Relocating the stairs to the rear façade will not detract from the historical significance of the building.

b) **Doors:** The applicant proposes three doors to be located along the fire escape. The three doors are proposed to be fire-rated, half glass doors and painted to match the stairwell in Sherwin Williams Fox Black. The building does not currently have doors located along the side or rear façade. However, expanding the existing third floor opening, and adding two additional openings to the façade will allow the property to meet adopted building and fire codes and will allow some variety in a façade that currently has little articulation.

Figure 5: Solarban 90+

c) **Windows**: The building contains windows along all three façades and on all levels. The most notable window design are the block windows with privacy glass located along the Alamo and Baylor Street façades. The block glass windows are proposed to be maintained with the applicant stating plans at a later date to replace the glass panes with a clear(er) Solarban

90+ glass product which is more energy efficient. The window frames will remain and therefore there is no proposed modifications to the window openings, frames or construction. Also, along the Alamo and Baylor façade on both the second and third floor are standard two-pane windows located congruently across both facades. The glass on these windows are also proposed to be replaced with a more energy efficient glazing. Lastly, on the rear façade on the third floor is a window which is proposed to be replaced with a fire rated glass and material. The window is currently located just above the head of the owl mural, however with the relocation of the fire escape, this window will have direct exposure to the fire escape landing and will therefore be required by the fire code to be replaced with fire rated materials.

d) **Lighting:** The applicant proposes to include additional lighting along the fire escape and adjacent to the exit doors. Figure 6, highlights the proposed small globe-like fixture which, as researched by the applicant, is a similar fixture to the original fixtures used by the original building architect on an architecturally similar building. The fire escape will also include can lights mounted on the bottom of the landings and awning to light the stairway for exit.

Figure 6: Proposed Fixture

e) **Mural:** While it is not an architectural alteration which requires a Certificate of Appropriateness by the Board, it should be noted that the applicant has included in the renderings for the relocation and replacement of the fire escape a solid white façade in a temporary nature. The long-term plan of the applicant is to have a mural painted on the rear façade. While the details of the mural are unknown, there appears to be plenty of available façade to utilize for a mural, with or without including the fire escape structure. Additionally, a mural along the rear façade will be an improvement to the overall building aesthetic by providing some variety along the elevation versus only the solid white paint and the industrial fire escape.

f) **Signage**: Also included in the application and proposed building renovations, is the restoration of the original First National Bank signage. The front façade and front entrance is currently where the former retail jeweler located their J.H. Faske Company sign. While the sign is well known by Downtown enthusiasts and locals alike, the architecturally significant signage remains behind the Faske sign and is proposed to be rehabilitated by the applicant. Signage is also not required to be approved through the Certificate of Appropriateness process, however, the original white plaster signage original to the building is a restoration supported by the Secretary of the Interior Standards. Staff finds the proposed original signage was constructed in plaster similar to the architectural detailing of the building around the windows and doors. Staff supports the rehabilitation of the Bank Signage as it is a distinguishing original quality of the building.

Staff recommends approval of the proposed Certificate of Appropriateness application as presented finding that the scope of work to include the relocation and reconstruction of the fire escape to the rear façade to be a code-driven and code-compliant adaptation of the building that is minimal in nature and does not detract from the overall historically contributing architectural features of the building.

EXHIBITS:

A. COA Application and fire escape renderings
B. Structural Fire Escape Plan Set

PLANNORTH
ARCHITECTURAL CO.

Application for Certificate of Appropriateness

114 E. Alamo Street, Brenham Texas

PLANNORTH
ARCHITECTURAL CO.

City of Brenham
Historic Preservation Board
November 2025

Application for Certificate of Appropriateness
114 E. Alamo Street, Brenham Texas

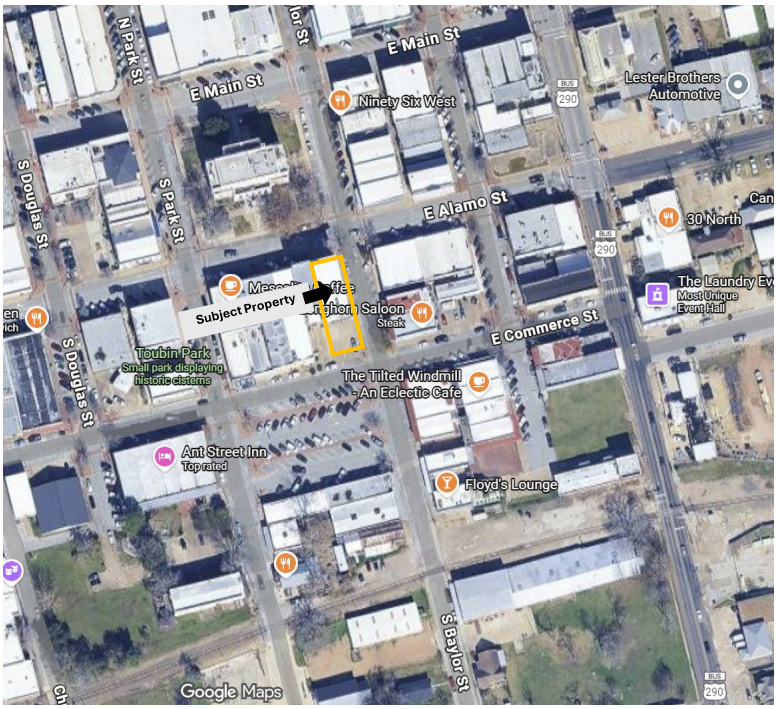
APPLICANT: Century Property Holdings LLC, Property owner

STAFF CONTACT: Stephanie Donald, Historic Preservation Officer

LOCATION: 114 E Alamo Street

LEGAL DESCRIPTION: Zoned B3 Historical and Central Business, S4750 - Original Town Add'n., 34, 40A, 40B, 40C, DT Brenham core

LOCATION MAP:



1. Project Overview

Century Property Holdings LLC is owned by Ken and Katie Burch. This entity recently purchased the historic building located at 114 E Alamo Street. Originally constructed as the First National Bank, the structure has a long and significant history in downtown Brenham. Over the years, it has housed a variety of tenants, including J.H. Faske Jewelry, retail shops, law offices, and a flooring store.

The applicants are undertaking a restoration and renovation project to preserve the building's historic integrity while updating it for modern use. Plans for the renovation on the interior are significant and complex, and the project has been grouped into three phases. When complete, Plannorth Architectural Company will occupy the second floor and a portion of the third floor. Also on the third floor will be a law firm and possibly other business-related services. On the first floor and the basement, there is a boutique with a lease through 2027, who will stay throughout that time with no renovations to their space until after their lease is up.

2. Historic Background

Constructed: 1923

Architect: Sanguinet and Staats (Fort Worth)
https://www.tshaonline.org/handbook/entries/sanguinet-and-staats

Original Use: First National Bank

Subsequent Uses: J.H. Faske Jewelry, Hospice Boutique

Later Uses: Retail space, law offices, flooring store

Historic Character: The building contributes significantly to the downtown Brenham core and retains many original architectural elements. It is the only known building in downtown Brenham to have been constructed with a multi-level concrete structure. The Architect was well-known at the time for high-rises constructed in the same manner throughout Texas.

3. Proposed Work and Improvements

The applicants are seeking a Certificate of Appropriateness from the Historic Preservation Board for the following exterior improvements:

a) Signage Restoration

Remove the existing "J.H. FASKE COMPANY" sign. Restore the original "First National Bank" signage to reestablish the building's historic identity. Refer to historic photographs for what is believed to be beneath the sign. Should that not be the case, the objective would be to recreate the original sign using plaster. All new elements to the exterior such as plaster, paint touch-ups, etc will be custom matched to the existing building color after proper cleaning.

b) Exterior Fire Stair (Required by Life Safety Code)

The existing stair at the Baylor Street façade is a fire escape, accessible only through windows. There is no area of refuge or egress for the disabled at this time, and the structure does not meet life safety code. Code requires the addition of a code compliant fire egress point for all floors. The most feasible way to accomplish this requirement is to provide a new exterior fire egress stairway at the rear of the building. To accomplish this, one existing third floor window would be enlarged to below a doorway, and additional doorways would need to be added on both the second and first floors. New doors along the fire egress pathway will be fire-rated, half-glass doors, painted to match the stairway or a gray.

There is another window on the third floor. Current fire code would require that window to be removed or fire glass added. If there is an available exemption, we'd propose to keep it. If a proper exemption is not available, the window would need to be removed. We plan to seek a peer review on this item from an Architect with more preservation experience, and move forward with that recommendation.

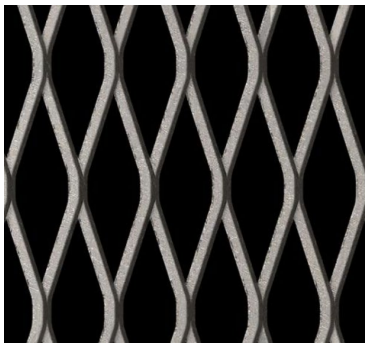
The deteriorated and non–code compliant fire escape located on the Baylor Street side of the building would be removed after the substantial completion of the code-compliant stairway, upon Fire Marshal approval.

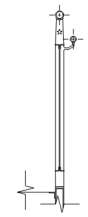
The rear of the building, which currently features a mural, is a part of the building which has evolved to a more modern interpretation than the other two visible facades. The new stairway has been designed with sensitivity to the historic structure, while also preparing to install a new mural at a later date (estimated October 2026).

In preparation for a replacement mural, the back façade wall will be custom-matched to the existing trim color of the building. The stairway color will be SW Fox Black for the columns, roof element and railings, and hot-dipped galvanized for the landings, hand-rails and stair elements. We believe that these finishes, while not original to the building, are era-appropriate and add interest in the broader scope of downtown elements. We believe that a design with multiple finishes and textures are also appropriate for the scale of the building, and reflect the evolving, modernized interpretation at the rear of this building.

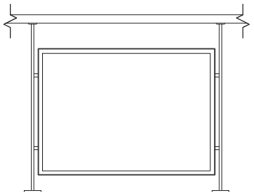
Existing Conditions, Rear Facade

Proposed Rear Stair Concept

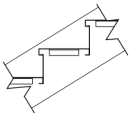




GUARD W/ HANDRAIL



GUARD RAILING ELEVATION



TYPICAL TREAD

The open mesh panel shown is the design intent that will be placed within the frames between king posts. In the rendering, the texture has been removed for clarity on the rendering.

SW 7020 Fox Black Color is proposed for use on the window frames, doors and for elements of the fire stairs at the rear façade of the building.

Example of Sanguinet and Staats Building featuring exterior light fixture (on the front right column), and an example of a modern fixture which would accomplish the same look

Proposed Rear Stair Concept

Simple, exterior globe-style light fixtures are being proposed for the rear façade only, adjacent to each new exterior door only.

Of note, this building does not have any featured exterior light fixtures which are original to the building. After researching the Architect's other similar work, it is apparent that when there are exterior fixtures used, they are simple and small in scale. Please see historic photo as an example of a similar-style building constructed by the same architect, during the same period, featuring an exterior light fixture. As noted, please observe the small scale and simple design. Although this façade has evolved as a more modern reflection of Brenham's downtown, we believe that recalling the architect's style on these exterior fixtures is one way to preserve important recollections of the original style.

c) Window Replacement

Glazing is deteriorated and non-energy efficient. The windows are not original to the building. The concept is to replace all glazing on the second and third floors with low-tint, non-mirrored, energy efficient glass. (This item has been approved by the City of Brenham as a maintenance item).

During a later phase, the glass block currently existing on the first floor will be replaced with windows to reflect the building's original design (see original photo for reference). The replacement glass for the first floor will match that installed for the second and third floor.

d) Mural Renovation

The team is considering renovating and painting over the existing mural installed in 2017, which is deteriorating and due for replacement. The concept would be to prepare the surface for a future mural, anticipated for installation during the Texas Art and Music Festival in Fall 2026.

4. Interior Adaptation and Historic Reuse

The interior design will thoughtfully incorporate building historic elements. Original interior doors with transoms will be repurposed as decorative partitions for the architectural design studio, ensuring these features remain visible and continue to tell the story of the building's past. Likely, concrete structure will be exposed to help educate about the significance of this "high rise construction" technology which was significant to the time period. Stairways, original floors, and other elements will be preserved and/or restored while carefully bringing the building up to code.

5. Preservation Philosophy

There is a strong commitment of the project team to preserve the architectural and historical significance of 114 E Alamo Street while adapting it for modern use. The proposed work prioritizes:

- Restoration of original historic elements
- Compliance with applicable life safety codes, safety and functional elements, and HVAC requirements, which will enable the building to become more sustainable over time. We believe that when the building becomes more functional and safe, the chances of long-term life and use are significantly more likely over time.
- A sensitive design approach that enhances the building's long-term contribution to both downtown Brenham's historic character and the evolving eclectic nature of downtown Brenham charm.

Existing Conditions for Reference

Alamo Street Facade

Baylor and Alamo Street Intersection

Baylor Street Facade

STRUCTURAL PROJECT TEAM:

PROJECT MANAGER (PM):........ Victor Balangero | vbalangero@dudleyeng.com
DESIGN ENGINEER (DE):........ Victor Balangero | vbalangero@dudleyeng.com
PRINCIPAL IN CHARGE (PIC):........ Drew Dudley | ddudley@dudleyeng.com
CONSTRUCTION ADMINISTRATION (CA):........ CA@dudleyeng.com

COMMUNICATION: THE CONTRACTOR AND THE AGENCY RESPONSIBLE FOR SPECIAL INSPECTIONS AND TESTING SHALL COPY ALL PARTIES OF THE STRUCTURAL PROJECT TEAM INDICATED ABOVE ON ALL CORRESPONDENCE. CA@DUDLEYENG.COM MUST BE INCLUDED ON ALL NOTIFICATIONS FOR RFI, SUBMITTALS, TESTING/INSPECTION REPORT, ETC

DESIGN CRITERIA

1. THE CONSTRUCTION DOCUMENTS ARE BASED ON THE REQUIREMENTS OF THE *INTERNATIONAL BUILDING CODE* WITH LOCAL AMENDMENTS FROM THE AUTHORITY HAVING JURISDICTION.
   A. BUILDING CODE VERSION:........ 2021 INTERNATIONAL BUILDING CODE W. LOCAL AHJ AMENDMENTS
   B. AUTHORITY HAVING JURISDICTION:........ CITY OF BRENHAM
   C. RISK CATEGORY:........ II
2. DEAD LOADS:
   a. DEAD LOADS ARE BASED UPON THE ACTUAL WEIGHTS OF MATERIALS AND FIXED SERVICE EQUIPMENT INDICATED IN THESE DRAWINGS.
   b. ASSUMED LOADS FOR KNOWN FIXED EQUIPMENT ARE INDICATED ON THE STRUCTURAL DRAWINGS. ANY CHANGES IN THE TYPE, SIZE, LOCATION OR WEIGHT OF EQUIPMENT SHALL BE REPORTED TO THE EOR FOR VERIFICATION OF THE ADEQUACY OF SUPPORTING MEMBERS PRIOR TO THE SUBMISSION OF SHOP DRAWINGS.
   c. ASSUMED EQUIPMENT WEIGHTS INCLUDE THE WEIGHT OF CONCRETE PADS OR CURBS (IF APPLICABLE)
3. COLLATERAL LOADS:
   A. FOR EQUIPMENT NOT INDICATED ON THE STRUCTURAL DRAWINGS IN WHICH THE WEIGHT OF THE EQUIPMENTS DIVIDED BY ITS SURFACE AREA EXCEEDS THE INDICATED LIVE LOAD FOR THE LOCATION, THE CONTRACTOR SHALL NOTIFY THE EOR PRIOR TO SUBMISSION OF SHOP DRAWINGS.
   B. HANGING CEILING AND MECHANICAL LOADS: AN ALLOWANCE OF 15 PSF HAS BEEN MADE FOR HANGING CEILING AND MECHANICAL EQUIPMENTS SUCH AS DUCT WORK AND SPRINKLER PIPES.
4. LIVE LOADS:
   - THE CONTRACTOR SHALL ENSURE THAT CONSTRUCTION MATERIALS AND/OR EQUIPMENT WHOSE LOADS EXCEED THE DESIGN LIVE LOADS INDICATED ON THE STRUCTURAL DRAWINGS ARE NOT STORED ON FLOOR OR ROOF FRAMING.
   - (*) = LIVE LOAD REDUCTION NOT ALLOWED EXCEPT PER §1607
   - INDICATED CONCENTRATED LOADS (LBS) ARE ASSUMED TO BE UNIFORMLY DISTRIBUTED OVER AN AREA OF 2.5' x 2.5'.
   - THE STRUCTURE IS DESIGNED ASSUMING THE UNIFORM (PSF) LOAD AND CONCENTRATED LOAD (LBS) ARE NON-CONCURRENT.

   A. INTERIOR WALLS AND PARTITIONS........ 5 PSF LATERAL LIVE LOAD
      a. MINIMUM LEVEL OF RESISTANCE TO NOMINAL IMPACT LOADS THAT COMMONLY OCCUR IN THE USE OF A FACILITY, SUCH AS IMPACTS FROM MOVING FURNITURE OR EQUIPMENT, AS WELL AS TO RESIST HEATING, VENTILATING AND AIR-CONDITIONING (HVAC) PRESSURIZATION.
   B. CORRIDORS
      a. FIRST FLOOR........ 100 PSF
      b. OTHER FLOORS........ SAME AS OCCUPANCY SERVED
   C. STAIRS AND EXITS........ 100 PSF | 300 LB
      a. VERTICAL
         1. STRINGERS, TREADS, AND RISERS........ 100 PSF
         2. INDIVIDUAL TREADS AND LANDINGS........ 300 LBS [CONC. OVER 4 IN² IN A POSITION THAT WOULD CAUSE MAX. STRESS]
            - LOAD NON-CONCURRENT WITH UNIFORM LIVE LOAD
      b. LATERAL........ 12 PSF [NOMINAL, OF THE STAIR SURFACE AREA]

4. ROOF LIVE LOAD
   a. ORDINARY, FLAT, PITCHED AND CURVED UNOCCUPIED ROOFS:........ 20 PSF (NON-REDUCIBLE) , 300 LB
   b. AWNINGS AND CANOPIES (IF APPLICABLE):........ 20 PSF (NON-REDUCIBLE) , 300 LB
      - EXCEPTION: FABRIC CONSTRUCTION SUPPORTED BY A SKELETON STRUCTURE:........ 5 PSF (NON-REDUCIBLE)
5. SNOW LOAD:
   A. GROUND SNOW LOAD, Pg:........ 8 PSF
6. WIND:
   A. BASIC WIND SPEED V:........ 115 MPH (3-SEC PEAK GUST)
   B. ALLOWABLE STRESS DESIGN WIND SPEED, [Vasd = V x sqrt (0.6)]:........ 89 MPH (3-SEC PEAK GUST)
   C. TORNADO SPEED, V_T:........ NOT APPLICABLE
   D. WIND EXPOSURE CATEGORY:........ B
   E. INTERNAL PRESSURE COEFFICIENT:........ ±0.18
   F. COMPONENTS AND CLADDING PRESSURES:........ SEE SCHEDULE
   G. THE STRUCTURE IS DESIGNED AS AN ENCLOSED STRUCTURE. ALL DOORS, WINDOWS, VENTS, ETC. MUST BE CLOSED & CERTIFIED TO MEET OR EXCEED THE WIND CRITERIA FOR THIS STRUCTURE.
7. RAIN
   A. MEDIAN 15-MIN DURATION RAINFALL INTENSITY (IN/HR):........ 8.44
   B. MAXIMUM ROOF RAIN LOAD:........ 20 PSF
   C. MAXIMUM RAINWATER LEVEL - PONDING (STATIC + HYDRAULIC HEAD):........ 3¼" (REF NOTE I BELOW)
   D. THE SUREST WAY TO AVOID A PONDING COLLAPSE IS TO CONSTRUCT A ROOF WITH SUFFICIENT SLOPE AND FREE DRAINAGE SO THAT WATER NEVER ACCUMULATES.
   E. FOR DRAINAGE, THE MINIMUM SLOPE OF THE ROOF COVERING SHALL BE IN ACCORDANCE WITH IBC §1507 BUT NOT LESS THAN 1/4" PER FT.
   F. ROOF DRAINAGE SHALL BE DESIGNED IN ACCORDANCE §1502 OF THE IBC AND CH. 11 OF THE INTERNATIONAL PLUMBING CODE, BY THE ARCHITECT AND/OR PLUMBING ENGINEER. THE SECONDARY ROOF DRAINAGE (EMERGENCY OVERFLOW SCUPPERS OR SECONDARY DRAINS) QUANTITY, SIZE, LOCATION AND INLET ELEVATION OF THE SCUPPERS SHALL BE SIZED BY THE ARCHITECT/PLUMBING ENGINEER TO KEEP THE MAXIMUM RAINWATER LEVEL BELOW THAT INDICATED ABOVE.
   G. WHERE APPLICABLE, THE INLET ELEVATION OF SECONDARY DRAINAGE SYSTEMS (OVERFLOW DRAINS AND/OR OVERFLOW SCUPPERS) MUST BE AT LEAST 2" ABOVE THE LOW POINT OF THE ROOF SURFACE. THE SECONDARY DRAINAGE SYSTEM SHALL NOT SHARE DRAIN LINES WITH THE PRIMARY DRAINAGE SYSTEM. CONTROLLED FLOW ROOF DRAINS (BLUE ROOFS FOR STORMWATER DETENTION) ARE NOT ALLOWED.
   H. ROOFS AND THEIR DRAINAGE INLETS MUST BE INSPECTED AFTER ROOF CONSTRUCTION, PRIOR TO THE START OF THE RAINY OR HURRICANE SEASONS, FOLLOWING STORMS, AND AT LEAST EVERY 3 MONTHS. OBSTRUCTIONS OR ACCUMULATIONS OF FOREIGN MATTER MUST BE CLEARED AS FREQUENTLY AS NECESSARY.
   I. THE STRUCTURAL ENGINEER SHALL BE NOTIFIED IF THE MAXIMUM RAINWATER LEVEL EXCEEDS THE DESIGNED RAIN ROOF LOAD, OR IF ANY OF THE OTHER REQUIREMENTS ABOVE CANNOT BE ADHERED TO.
8. SEISMIC:
   MAPPED SPECTRAL RESPONSE VALUES, DESIGN SPECTRAL RESPONSE VALUES, AND AS SITE CLASS, HAVE BEEN PROVIDED BY :
   A. GEOTECHNICAL COMPANY AND REPORT NO.:........ REFER TO FOUNDATION DESIGN CRITERIA SECTION
   B. MAPPED SPECTRAL RESPONSE ACCELERATION PARAMETERS, S_S & S_1........ 0.077 & 0.042
   C. DESIGN SPECTRAL RESPONSE ACCELERATION PARAMETERS, S_{DS} & S_{D1}........ 0.069 & 0.063
   D. SITE CLASS:........ DEFAULT
   E. SEISMIC DESIGN CATEGORY, SDC:........ A
   F. RESPONSE MODIFICATION FACTOR, R:........ REFERENCE LATERAL LOAD RESISTING SYSTEM SECTION
   G. IMPORTANCE FACTOR (SEISMIC), I_e:........ 1.0
   H. SEISMIC RESPONSE COEFFICIENT, $C_S = S_{DS} / [R / I_e]$:........ 0.01
   I. DESIGN BASE SHEAR:........ 1% SEISMIC WEIGHT
   J. ANALYSIS PROCEDURE USED:........ EQUIVALENT LATERAL FORCE

LATERAL LOAD RESISTING SYSTEM

1. ALL LATERAL LOAD RESISTANCE AND STABILITY OF THE BUILDING IS PROVIDED EXCLUSIVELY BY THE VERTICAL LATERAL LOAD RESISTING SYSTEM. THE HORIZONTAL DIAPHRAGMS DISTRIBUTE THE LATERAL WIND AND SEISMIC FORCES HORIZONTALLY TO THE VERTICAL LATERAL LOAD RESISTING SYSTEM. WHERE MULTIPLE VLLRS's ARE USED, THE LOWEST R-VALUE WAS USED FOR DESIGN. **THE CONTRACTOR IS RESPONSIBLE FOR ALL TEMPORARY BRACING/SHORING OF THE STRUCTURE UNTIL THE BELOW SYSTEMS ARE COMPLETELY INSTALLED WITH ALL PASSING INSPECTIONS & SPECIAL INSPECTIONS PER THESE CONSTRUCTION DOCUMENTS AND STANDARD INDUSTRY PRACTICE.**
   A. VERTICAL LATERAL LOAD RESISTING SYSTEM (VLLRS): STEEL ORDINARY MOMENT OR BRACED FRAMES (BY STAIR MFR.)
   B. HORIZONTAL LATERAL LOAD RESISTING SYSTEM (HLLRS): METAL ROOF DECK (BY STAIR MFR.)

C&C - GROSS ULTIMATE WIND PRESSURES

Region	Effective Area (sf)	Coefficients +GCp	Coefficients -GCp	Wind pressures +p (psf)	Wind pressures -p (psf)
4 (WALL INTERIOR)	10	1.00	-1.10	+27.4	-29.7
	25	0.93	-1.03	+25.8	-28.1
	50	0.88	-0.98	+24.5	-26.9
	100	0.82	-0.92	+23.3	-25.6
	500	0.70	-0.80	+20.4	-22.8
5 (WALL CORNER)	10	1.00	-1.40	+27.4	-36.7
	25	0.93	-1.26	+25.8	-33.5
	50	0.88	-1.15	+24.5	-31.0
	100	0.82	-1.05	+23.3	-28.5
	500	0.70	-0.80	+20.4	-22.8
1	10	0.30	-1.70	+16.0	-43.7
	25	0.26	-1.54	+16.0	-39.9
	50	0.23	-1.41	+16.0	-37.0
	100	0.20	-1.29	+16.0	-34.1
	500	0.20	-1.00	+16.0	-27.4
1'	10	0.30	-0.90	+16.0	-25.1
	25	0.26	-0.90	+16.0	-25.1
	50	0.23	-0.90	+16.0	-25.1
	100	0.20	-0.90	+16.0	-25.1
	500	0.20	-0.55	+16.0	-17.0
2	10	0.30	-2.30	+16.0	-57.6
	25	0.26	-2.09	+16.0	-52.7
	50	0.23	-1.93	+16.0	-49.0
	100	0.20	-1.77	+16.0	-45.3
	500	0.20	-1.40	+16.0	-36.7
3	10	0.30	-3.20	+16.0	-78.5
	25	0.26	-2.78	+16.0	-68.7
	50	0.23	-2.46	+16.0	-61.3
	100	0.20	-2.14	+16.0	-53.9
	500	0.20	-1.40	+16.0	-36.7
Parapet Interior	10	1.00	-2.10	+23.2	-48.8
	25	0.93	-1.96	+21.6	-45.5
	50	0.88	-1.85	+20.4	-43.0
	100	0.82	-1.75	+19.1	-40.6
	500	0.70	-1.50	+16.3	-34.8
Parapet Edge	10	1.00	-2.40	+23.2	-55.7
	25	0.93	-2.19	+21.6	-50.9
	50	0.88	-2.03	+20.4	-47.2
	100	0.82	-1.87	+19.1	-43.5
	500	0.70	-1.50	+16.3	-34.9
Canopy Pressures	10	0.88	-0.55	+20.4	-16.0
	25	0.78	-0.51	+18.2	-16.0
	50	0.71	-0.49	+16.5	-16.0
	100	0.64	-0.46	+16.0	-16.0
	500	0.64	-0.46	+16.0	-16.0

a = MINIMUM OF (10% OF LEAST HORIZONTAL DIMENSION OR 0.4h) BUT NOT LESS THAN 4% OF LEAST HORIZONTAL DIMENSION OR 3FT

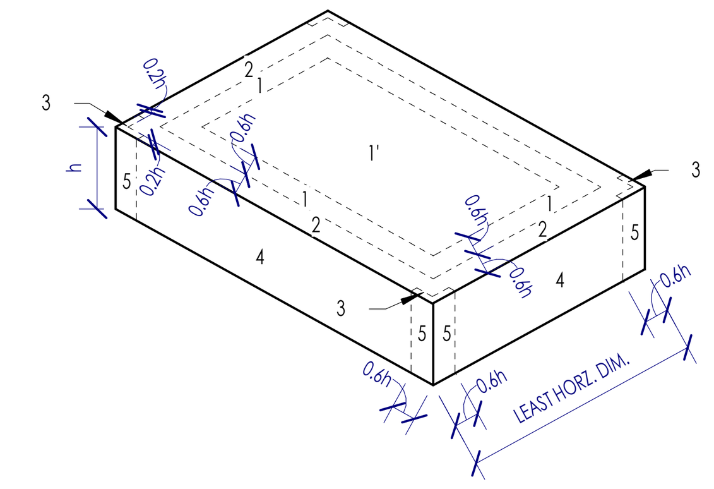
h = MEAN ROOF HEIGHT OF A BUILDING, EXCEPT THAT EAVE HEIGHT SHALL BE USED FOR ROOF ANGLES LESS THAN OR EQUAL TO 10° (~2:12 ROOF PITCH)

MEAN ROOF HEIGHT = THE AVERAGE OF THE ROOF EAVE HEIGHT AND HEIGHT TO THE HIGHEST POINT ON THE ROOF SURFACE.

POSITIVE PRESSURE = ACTING TOWARDS SURFACE
NEGATIVE PRESSURE = ACTING AWAY FROM SURFACE

COMPONENTS AND CLADDING ZONES[1]	
DESCRIPTION	ZONE
ROOF INTERIOR	1,1'
ROOF EDGE	2
ROOF RIDGE	2
ROOF CORNER	3
WALL INTERIOR	4
WALL EDGE	5

NOTES:
1. REFER TO FIGURE FOR ZONE LOCATIONS/APPLICATIONS. ZONE DESIGNATIONS AS PER ASCE 7.
2. MULTIPLY LISTED PRESSURES BY 0.6 TO CONVERT TO SERVICE-LEVEL PRESSURES.
3. THE PRESSURES SHOWN ARE THE CODE-REQUIRED WIND PRESSURES AND DO NOT INCLUDE ANY SAFETY FACTOR REQUIRED BY FM GLOBAL. THE SUPPLIERS FOR THE VARIOUS COMPONENTS & CLADDING SHALL APPLY THE FM GLOBAL SAFETY FACTOR AS NEEDED.



FLAT /HIP/ GABLE ROOF - h ≤ 60
0° (0:12) < SLOPE ≤ 7° (1.5:12)

SCOPE OF DRAWINGS (RENOVATION):

SCOPE	DESCRIPTION	INCLUDED?
REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE (RDPiRC)	REGISTERED DESIGN PROFESSIONAL OR CONSULTANT WORKING DIRECTLY FOR THE REGISTERED DESIGN PROFESSIONAL WHO IS RESPONSIBLE FOR ENSURING THE PROJECT CONSTRUCTION DOCUMENTS ARE IN COMPLIANCE WITH THE APPLICABLE REQUIREMENTS OF ANY GOVERNING BUILDING AUTHORITIES. RESPONSIBLE FOR REVIEWING AND COORDINATING SUBMITTAL DOCUMENTS PREPARED BY OTHERS, INCLUDING PHASED AND DEFERRED SUBMITTAL ITEMS, FOR COMPATIBILITY WITH THE DESIGN OF THE BUILDING. TYPICALLY THIS IS THE ARCHITECT-OF-RECORD.	NO
STRUCTURAL ENGINEER-OF-RECORD	STRUCTURAL CONSULTANT UNDER THE RDPiRC WHO IS RESPONSIBLE FOR AND SETTING STRUCTURAL PERFORMANCE REQUIREMENTS INCLUDING BUT NOT LIMITED TO DEFLECTION, VIBRATION AND DRIFT LIMITS.	NO
SPECIALTY STRUCTURAL ENGINEER (SSE) MINOR RENOVATION	STRUCTURAL ENGINEER RESPONSIBLE FOR THE INDICATED RENOVATION SCOPE. THE RENOVATION DOES NOT INCLUDE MAJOR ALTERATIONS TO THE PRIMARY STRUCTURAL SYSTEM. **RENOVATION SCOPE:** **1.** SCOPE 1: FOUNDATION DESIGN FOR STRUCTURAL STAIR (DEFERRED ITEM, BY STAIR MFR.) **2.** SCOPE 2: MASONRY OPENING DESIGN **3.** SCOPE 3: EVALUATION OF NEW STAIR (DEFERRED ITEM, BY STAIR MFR.) INTO EXISTING STRUCTURE CONNECTION.	YES
CONSTRUCTION ENGINEERING	TEMPORARY SHORING, SCAFFOLDING, LOAD CHECKS FOR MATERIAL STOCKPILING, STRUCTURAL MODIFICATIONS FOR STORAGE, STAGING AND CONSTRUCTION EQUIPMENT LOADING, MEANS OF EGRESS FOR EQUIPMENT, CRANE SELECTION, LOCATION, SUPPORT AND BRACING, ETC.	NO
ASSESSMENT / REMEDIATION / RENOVATION OF EXISTING BUILDING	STRUCTURAL CONDITION ASSESSMENT OF THE EXISTING BUILDING INCLUDING BUT NOT LIMITED TO ASSESSMENT OF STRUCTURAL INTEGRITY, CODE COMPLIANCE, DEMOLITION DRAWINGS, ETC.	NO

GEOTECHNICAL REPORT, FOUNDATION DESIGN CRITERIA & NOTES

1. THE LOAD BEARING CAPACITY OF THE SOIL HAS NOT BEEN DETERMINED BY BORINGS AND THUS THE SHALLOW FOUNDATIONS HAVE BEEN DESIGNED BASED UPON THE PRESUMPTIVE LOAD-BEARING VALUES FROM TABLE 1806.2 FROM THE INTERNATIONAL BUILDING CODE.
   A. THE ASSUMED SOIL TYPE (CLASS OF MATERIALS) IS *CLASS 4 OR 5 (CLASS 5 USED FOR DESIGN PURPOSES DUE TO LOWER VALUES)*
2. PRESUMPTIVE LOAD-BEARING VALUES SHALL APPLY TO MATERIALS WITH SIMILAR PHYSICAL CHARACTERISTICS AND DISPOSITIONS. MUD, ORGANIC SILT, ORGANIC CLAYS, PEAT OR UNPREPARED FILL SHALL NOT BE ASSUMED TO HAVE A PRESUMPTIVE LOAD-BEARING CAPACITY UNLESS DATA TO SUBSTANTIATE THE USE OF SUCH A VALUE ARE SUBMITTED.
3. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IF SOIL IS ENCOUNTERED AT THE SITE THAT DOES NOT MATCH THE ASSUMED SOIL TYPE.
4. THE CLASSES OF SOIL AND ROCK LISTED IN TABLE 1806.2 ARE THOSE MATERIALS MOST COMMONLY FOUNDAT AT CONSTRUCTION SITES AROUND THE COUNTRY. THE ALLOWABLE FOUNDATION PRESSURES EXPRESSED FOR EACH CLASS ARE BASED ON EXPERIENCE WIHT THE BEHAVIOR OF THESE MATERIALS UNDER LOADED CONDITIONS

TABLE 1806.2
PRESUMPTIVE LOAD-BEARING VALUES

CLASS OF MATERIALS	VERTICAL FOUNDATION PRESSURE (psf)	LATERAL BEARING PRESSURE (psf/ft below natural grade)	LATERAL SLIDING RESISTANCE: Coefficient of friction[a]	LATERAL SLIDING RESISTANCE: Cohesion (psf)[b]
1. Crystalline bedrock	12,000	1,200	0.70	—
2. Sedimentary and foliated rock	4,000	400	0.35	—
3. Sandy gravel and gravel (GW and GP)	3,000	200	0.35	—
4. Sand, silty sand, clayey sand, silty gravel and clayey gravel (SW, SP, SM, SC, GM and GC)	2,000	150	0.25	—
5. Clay, sandy clay, silty clay, clayey silt, silt and sandy silt (CL, ML, MH and CH)	1,500	100	—	130

For SI: 1 pound per square foot = 0.0479kPa, 1 pound per square foot per foot = 0.157 kPa/m.
a. Coefficient to be multiplied by the dead load.
b. Cohesion value to be multiplied by the contact area, as limited by Section 1806.3.2.

5. **GRADE ASSUMPTIONS AND COORDINATION** FINAL GRADE IS ASSUMED TO BE A MAXIMUM OF 1'-0" BELOW FFE, UNO ON THE DRAWINGS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE WITH THE CIVIL AND LANDSCAPE ARCHITECTURE DRAWINGS TO VERIFY EXISTING AND FINAL GRADES, AND TO ENSURE THAT ALL FOUNDATION ELEMENTS ACHIEVE THE MINIMUM REQUIRED EMBEDMENT AS SHOWN IN THE STRUCTURAL DRAWINGS. IF FIELD CONDITIONS DEVIATE FROM THOSE SHOWN ON THE GRADING PLANS OR WOULD PREVENT THE REQUIRED EMBEDMENTS FROM BEING ACHIEVED, DUDLEY SHALL BE NOTIFIED PRIOR TO DEVELOPMENT OF FOUNDATION REINFORCING SUBMITTALS SO THE FOUNDATION DESIGN CAN BE REVIEWED AND REVISED AS NECESSARY. SUBMITTALS WHICH ARE SENT WITHOUT THIS COORDINATED COMPLETED WILL BE RETURNED AS REVISE AND RESUBMIT.
6. **POST-CONSTRUCTION FOUNDATION MOVEMENT:** THE FOUNDATION DESIGN PARAMETERS PROVIDED DO NOT ELIMINATE THE POSSIBILITY OF POST-CONSTRUCTION FOUNDATION MOVEMENT. ACCORDINGLY, MEASURES SHALL BE IMPLEMENTED TO INCREASE THE TOLERANCE OF THE ELEMENTS SUPPORTED BY THE FOUNDATION. SUCH MEASURES INCLUDE, BUT ARE NOT LIMITED TO, FREQUENT CONTRACTION (CONTROL) JOINTS FOR DRYWALL, MASONRY, BRICK, STONE, OR STUCCO EXTERIOR VENEER, VERTICALLY SLIP CONNECTIONS TO ATTACH NON-LOAD BEARING WALLS TO FRAMING MEMBERS, AND OTHER DETAILS TO ACCOMMODATE MOVEMENT.
7. **ABNORMAL CONDITIONS:** THE FOUNDATION DESIGN ASSUMES THAT THE FOUNDATION IS CONSTRUCTED WHEN THE SOIL AT THE SITE IS NEAR OR AT EQUILIBRIUM MOISTURE CONTENT. IF THE SITE IS CONSTRUCTED AT A TIME WHEN THE SITE MAY BE IN A CONDITION OF EXTREME DRYNESS/WETNESS FROM A PROLONGED DRY/WET PERIOD, THEN THE CONTRACTOR SHALL NOTIFY THE GEOTECHNICAL ENGINEER FOR RECOMMENDATIONS TO ADJUST THE MOISTURE CONTENT IN THE BUILDING PAD TO ACHIEVE EQUILIBRIUM.
8. **FOUNDATION MOVEMENT:** THE FOUNDATION HAS BEEN DESIGNED WITH THE ASSUMPTION THAT MOVEMENT CAN BE TOLERATED WITHIN A STANDARD PERFORMANCE LIMIT:
   A. STANDARD PERFORMANCE DEFLECTION LIMIT: L/360
   B. STANDARD PERFORMANCE TILT LIMIT: 1%
9. **SOIL MOISTURE LEVEL:** A REASONABLY UNIFORM SOIL MOISTURE LEVEL IS REQUIRED TO BE MAINTAINED AROUND THE FOUNDATION FOR THE LIFE OF THE STRUCTURE.
10. **FOUNDATION MAINTENANCE:** POSITIVE DRAINAGE AWAY FROM THE STRUCTURE SHALL BE MAINTAINED FOR THE LIFE OF THE STRUCTURE AND THE CONTRACTOR SHALL CONVEY THIS REQUIREMENT TO THE OWNER. THE INITIAL AND ALL SUBSEQUENT OWNERS SHALL MAINTAIN THE FOUNDATION IN ACCORDANCE WITH THE LATEST REVISION OF DOCUMENT NO. FPA-SC-07, "FOUNDATION MAINTENANCE AND INSPECTION GUIDE FOR RESIDENTIAL AND OTHER LOW-RISE BUILDINGS", AVAILABLE ON THE FOUNDATION PERFORMANCE ASSOCIATION'S WEBSITE: WWW.FOUNDATIONPERFORMANCE.ORG. CONTRACTOR SHALL PROVIDE THIS DOCUMENT TO OWNER.
11. **MEP UTILITIES:** LOCATE MEP UTILITIES IN ACCORDANCE WITH MEP DRAWINGS, IF APPLICABLE AND LATEST CODES. UTILITIES SHALL NOT BE PLACED WITHIN THE SLAB NOR PARALLEL WITHIN OR BELOW GRADE BEAMS OR FOOTINGS.
12. **GROUNDING**: COORDINATE GROUNDING REQUIREMENTS WITH THE ELECTRICAL ENGINEER, IF NOT AVAILABLE ADHERE TO THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE.
13. **EXPIRATION:** PLANS ARE VALID FOR 6-MONTHS FROM THE DATE THE PLANS ARE ISSUED OR REVISED BY THE ENGINEER. CONTACT ENGINEER FOR REVIEW IF PLANS HAVE EXPIRED OR IF CONSTRUCTION OF THE FOUNDATION HAS NOT COMMENCED WITHIN THIS TIME FRAME.
14. **UNCLASSIFIED EXCAVATION**: EXCAVATE TO SUBGRADE ELEVATIONS REGARDLESS OF THE CHARACTER OF SURFACE AND SUBSURFACE CONDITIONS ENCOUNTERED. UNCLASSIFIED EXCAVATED MATERIALS MAY INCLUDE ROCK, SOIL MATERIALS, EXISTING STRUCTURES AND OBSTRUCTIONS. NO CHANGES IN THE CONTRACT SUM OR THE CONTRACT TIME WILL BE AUTHORIZED FOR ROCK EXCAVATION OR REMOVAL OF OBSTRUCTIONS. PRIOR TO REMOVAL OF ANY OBSTRUCTIONS, THE CONTRACTOR SHALL NOTIFY THE SER AND GEOTECHNICAL ENGINEER FOR APPROVAL ON THE CONTRACTORS PROPOSED METHOD OF REMOVAL. BACKFILLING WITH SELECT FILL, CEMENT STABILIZE SAND OR LEAN CONCRETE ARE TYPICAL BACKFILL METHODS TO FILL ANY VOIDS CAUSED BY REMOVAL OF OBSTRUCTIONS.

STRUCTURAL DEFERRED SUBMITTALS:

1. STRUCTURAL DEFERRED SUBMITTALS ARE THOSE PORTIONS OF THE DESIGN WHICH REQUIRE STRUCTURAL ENGINEERING THAT ARE NOT SUBMITTED AT THE TIME OF THE APPLICATION BUT ARE TO BE SUBMITTED TO THE BUILDING OFFICIAL AT A LATER DATE. DEFERRED SUBMITTALS SHALL BE SUBMITTED TO AND APPROVED BY THE RDPiRC, SER & BUILDING OFFICIAL PRIOR TO INSTALLATION OF ANY SAID WORK.
2. COMPLETE STRUCTURAL SHOP DRAWINGS FOR CONSTRUCTION OF EACH BUILDING COMPONENT NOT DESIGNED BY THE SER AND NOT SPECIFIED ON THE PROJECT CONSTRUCTION DOCUMENTS SHALL BE SEALED AND SIGNED BY A SSE WHO IS A REGISTERED DESIGN PROFESSIONAL ENGINEER REGISTERED IN THE STATE WHERE THE PROJECT IS BEING CONSTRUCTED WHO IS QUALIFIED TO PERFORM SAID WORK. A SEAL BY A LICENSED PROFESSIONAL ENGINEER IS NOT REQUIRED FOR PRODUCTS WHICH HAVE BEEN TESTED AND CERTIFIED BY AN APPROVED AGENCY SUCH AS THE ICC, NOR FOR COMPONENTS WHICH ARE FABRICATED BY A FABRICATOR THAT IS CERTIFIED BY AN APPROVED AGENCY IN WHICH THE AGENCY SPECIFIED THAT SEALING OF THE SHOP DRAWINGS IS NOT REQUIRED (E.G. STEEL JOIST INSTITUTE IN REGARDS TO OPEN WEB STEEL JOISTS). THE CONTRACTOR SHALL INCLUDE ALLOWANCES FOR ALL ITEMS REQUIRED BY THE DEFERRED SUBMITTALS TO FORM A COMPLETE SYSTEM. IF THE CONTRACTOR BELIEVES THERE IS MISSING INFORMATION IN THE CONSTRUCTION DOCUMENTS THAT WILL NOT ALLOW THEM TO DEVELOP AN ADEQUATE ESTIMATE WITH ALLOWANCE FOR A DEFERRED SUBMITTAL, THEN THEY SHALL NOTIFY THE SER IN WRITING PRIOR TO ISSUING A BID.
3. THE SSE SHALL SPECIFICALLY INDICATE IN A COVER PAGE AT THE FRONT OF THE SHOP DRAWING THAT THEY ARE THE SSE IN RESPONSIBLE CHARGE FOR THE DEFERRED SUBMITTAL AND THAT THEY HAVE REVIEWED THE SHOP DRAWING TO ENSURE COMPLIANCE WITH THEIR DESIGN AND CALCULATIONS. PERFORMANCE SPECIFICATIONS HAVE BEEN PROVIDED IN THE CONSTRUCTION DOCUMENTS, HOWEVER THE SSE IS SOLELY RESPONSIBLE FOR THE DESIGN OF THESE ELEMENTS AND SHALL DO SO IN COMPLIANCE WITH ALL RELEVANT CODES AND PROJECT CONDITIONS.
4. CALCULATION PACKAGE: ALL DEFERRED SUBMITTALS WITH (*) SYMBOL SHALL BE ACCOMPANIED BY A CALCULATION PACKAGE FOR ALL OF THE COMPONENTS ALONG WITH A SEALED LETTER BY THE SSE ATTESTING THE FOLLOWING:
   - *"I [SPECIALTY STRUCTURAL ENGINEER] HAVE REVIEWED THE REQUIREMENTS OF THE CONSTRUCTION DOCUMENTS, SENT ANY CLARIFICATION QUESTIONS TO THE STRUCTURAL ENGINEER-OF-RECORD FOR REVIEW, PERFORMED ANALYSIS AND DESIGN ON THE [SPECIAL STRUCTURAL ENGINEERING SCOPE], PROVIDED THIS INFORMATION TO THE FABRICATOR AND HAVE REVIEWED THE SHOP DRAWINGS TO ENSURE THAT THE DESIGN HAS BEEN PROPERLY IMPLEMENTED AND MEETS ALL CRITERIA OF THE BUILDING CODE AND CONSTRUCTION DOCUMENTS."*

   A. THE CALCULATION PACKAGE SHALL BE IN PDF FORMAT AND HAVE A COVER PAGE WITH BOOKMARKS AT EACH UNIQUE CALCULATION. THE PDF MUST BE SEARCHABLE.
   A. SUPPLEMENTAL STATEMENT OF SPECIAL INSPECTIONS: ALL DEFERRED SUBMITTALS WITH (+) SYMBOL, REQUIRE THE SSE TO SUBMIT A SUPPLEMENTAL STATEMENT OF SPECIAL INSPECTIONS, REF §1704.3.1.
5. DEFERRED SUBMITTALS SHALL BE SUBMITTED IN PDF FORMAT THAT ALLOWS ADDING MARKUPS. IF THE PDF DOES NOT ALLOW MARKUPS, THE SUBMITTAL WILL BE RETURNED UNREVIEWED AS REVISE AND RESUBMIT.
6. ALL STRUCTURAL DEFERRED SUBMITTALS SHALL BE REVIEWED BY THE SER AND MARKED AS EITHER NO EXCEPTIONS OR EXCEPTION NOTED, PRIOR TO SUBMITTING TO THE "FOR CONSTRUCTION" VERSION TO THE AUTHORITY HAVING JURISDICTION (AHJ) AND PRIOR TO RELEASE FOR FABRICATION.
7. DEFERRED SUBMITTALS SHALL CLEARLY INDICATE ANY REQUIRED SPECIAL INSPECTIONS AND TESTING REQUIRED EITHER BY THE BUILDING CODE OR THE SSE FOR THEIR SCOPE OF WORK.
8. STRUCTURAL DEFERRED SUBMITTALS ON THIS PROJECT INCLUDE:
   A. *+SUPPORT TO STRUCTURE FOR: MEP UTILITIES/EQUIPMENT, CEILINGS/SOFFITS, HVLS FANS, OPERABLE PARTITIONS, OVERHEAD DOORS, ETC.
   B. *+STAIRS, GUARDRAIL, HANDRAILS, GRAB BARS, LADDERS, ETC. (NOT REQUIRED IF USING CERTIFIED AND TESTED PRODUCTS/ASSEMBLIES)
   C. EXTERIOR CLADDING SYSTEMS: CURTAINWALL (GLAZING & CFS), STOREFRONT, WINDOWS, DOORS, SIDING, RAINSCREEN, ETC. (NOT REQUIRED IF USING CERTIFIED AND TESTED PRODUCTS/ASSEMBLIES)
      a. SUBMITTAL MUST INCLUDE THE REQUIRED ANCHORAGE TO THE SUPPORTING STRUCTURE WITH CALCULATIONS. CLADDING SYSTEMS SHALL NOT INTRODUCE LATERAL OR TORSIONAL LOADS TO STEEL BEAMS OR COLUMNS. IF UNAVOIDABLE, THEN BRACES, ADDED REINFORCING, CLIPS AND TIES SHALL BE DESIGNED AND SUPPLIED BY THE CONTRACTOR FOR LOAD ECCENTRICITIES AND LATERAL LOADS.
   D. *AWNINGS, CANOPIES, LOUVERS, ETC.

GENERAL CONDITIONS

1. **THE DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE SCOPE AND DESIGN INTENT. MEANS, METHODS, PROCEDURES AND SEQUENCES OF CONSTRUCTION ARE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO MAINTAIN AND ENSURE THE INTEGRITY OF THE STRUCTURE AT ALL STAGES OF CONSTRUCTION. THE PURPOSE OF THESE DRAWING AND SPECIFICATIONS ARE NOT TO SERVE AS AN INSTRUCTION MANUAL SHOWING THE CONTRACTOR HOW TO ASSEMBLE A STRUCTURE, BUT INSTEAD DEFINE PROJECT SCOPE AND DESIGN INTENT.**
2. **THE CONTRACTOR'S WORK PLAN FOR THE MEANS-AND-METHODS OF CONSTRUCTION (I.E. SHOP DRAWINGS, SCHEDULES, SUBCONTRACTS, ETC.) MUST DEFINE WHEN AND HOW THE STRUCTURE WILL BE CONSTRUCTED. THE CONTRACTOR SHALL PERFORM A CONSTRUCTABILITY REVIEW PRIOR TO BIDDING AND ON AN ONGOING BASIS THROUGHOUT THE PROJECT, BASED ON THEIR SELECTED MEANS AND METHODS. ANY CONCERNS OR POTENTIAL ISSUES IDENTIFIED SHALL BE PROMPTLY COMMUNICATED TO THE SER.**
3. REVIEW AND/OR ANALYSIS OF EQUIPMENT, MATERIAL STOCKPILING, ETC. TO BE PLACED ON THE STRUCTURE DURING CONSTRUCTION ARE NOT WITHIN THE SER'S BASIC SCOPE OF SERVICES. CONSTRUCTION ENGINEERING SERVICES CAN BE PROVIDED AS AN ADDITIONAL SERVICE OR THE CONTRACTOR CAN ENGAGE A SPECIALTY STRUCTURAL ENGINEER TO CONDUCT THE REVIEW/ANALYSIS. THE STRUCTURE HAS ONLY BEEN DESIGNED FOR THE LOADS INDICATED IN THE DESIGN CRITERIA SECTION AND/OR LIVE LOAD PLANS OF THESE GENERAL NOTES. ANY VEHICLES ON EXPOSED CONCRETE SLABS SHALL HAVE NON-MARKING TIRES OR TIRE COVERS TO PREVENT MARKING ON THE SLAB.
4. REFER TO DRAWINGS/SPECIFICATIONS OTHER THAN STRUCTURAL FOR COMPLETE INFORMATION REGARDING: SLEEVES, CURBS, INSERTS, DEPRESSIONS, OPENINGS, ETC. THE CONTRACTOR SHALL SUBMIT A COMPOSITE PLAN SHOWING ALL SLEEVES, CURBS, INSERTS, DEPRESSION, OPENINGS, ETC. TO THE SER FOR REVIEW FOR GENERAL CONFORMANCE WITH THE STRUCTURAL DESIGN INTENT PRIOR TO INSTALLATION.
5. IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO OBTAIN ALL CONTRACT DOCUMENTS AND LATEST REVISIONS/ADDENDA AND TO SUBMIT SUCH DOCUMENTS TO ALL SUBCONTRACTORS AND MATERIAL SUPPLIERS PRIOR TO THE SUBMITTAL OF SHOP DRAWINGS OR MATERIAL PROCUREMENT.
6. THE USE OR REPRODUCTIONS OF THESE CONTRACT DRAWINGS BY ANY CONTRACTOR OR MATERIAL SUPPLIER IN LIEU OF PREPARATION OF SHOP DRAWINGS SIGNIFIES THEIR ACCEPTANCE OF ALL INFORMATION SHOWN HERE ON AS CORRECT, AND ASSUMES RESPONSIBILITY FOR ANY RESULTING ERRORS, OMISSIONS, OR COSTS DUE TO IMPROPER USE OF THE CONTRACT DOCUMENTS IN LIEU OF PREPARED SUBMITTALS AND WAIVES CLAIMS RELATED TO MISINTERPRETATION OR INCOMPLETE COORDINATION RESULTING THEREFROM
7. ALL WORK SHALL CONFORM TO OSHA STANDARDS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE ADHERENCE AND COMPLIANCE.
8. THE CONTRACTOR SHALL CAREFULLY REVIEW & COMPARE ALL DESIGN DISCIPLINE DRAWINGS AND REPORT ANY DISCREPANCIES BETWEEN EACH SET OF DRAWINGS AND WITHIN EACH SET OF DRAWINGS TO THE DESIGN TEAM PRIOR TO THE BUY-OUT, FABRICATION AND INSTALLATION OF ANY STRUCTURAL ELEMENTS. IF THE CONTRACTOR IDENTIFIES ANY REQUIREMENT WHETHER PERFORMANCE, PRESCRIPTIVE OR A COMBINATION THEREOF THAT THEY DEEM IMPOSSIBLE TO PERFORM WITH THE MEANS AND METHODS STANDARD IN THE INDUSTRY FOR THE GEOGRAPHIC REGION THE PROJECT IS LOCATED, THEY SHALL NOTIFY THE ENGINEER IMMEDIATELY AND PRIOR TO THE BUY-OUT, FABRICATION AND INSTALLATION OF ANY STRUCTURAL ELEMENTS.
9. WHERE MEMBER LOCATIONS ARE NOT SPECIFICALLY DIMENSIONED, MEMBERS ARE EITHER LOCATED ON COLUMN LINES OR ARE EQUALLY SPACED BETWEEN THE LOCATED MEMBERS.
10. IF CERTAIN FEATURES ARE NOT FULLY SHOWN OR SPECIFIED ON THE DRAWINGS OR IN THE SPECIFICATIONS, THEIR CONSTRUCTION SHALL BE OF THE SAME CHARACTER AS SHOWN OR SPECIFIED IN SIMILAR CONDITIONS.
11. WHERE CONFLICT EXISTS AMONG THE VARIOUS PARTS OF THE STRUCTURAL CONTRACT DOCUMENTS, STRUCTURAL DRAWINGS, GENERAL NOTES AND SPECIFICATIONS, THE STRICTEST REQUIREMENTS, AS INDICATED BY THE SER, SHALL GOVERN.
12. INFORMATION SHOWN FOR OTHER DISCIPLINES (ARCHITECTURE, CIVIL, MEP, ETC.) ARE FOR REFERENCE ONLY. THE CONTRACTOR SHALL REFER TO THE DISCIPLINES SPECIFIC DRAWINGS AND SPECIFICATIONS FOR ALL REQUIREMENTS.
13. DUDLEY IS NOT RESPONSIBLE FOR WATERPROOFING/BUILDING ENVELOPE DESIGN OF THE STRUCTURE. WHERE WATERPROOFING ELEMENTS ARE SHOWN, THEY ARE DONE SO CONCEPTUALLY. IF WATERPROOFING/BUILDING ENVELOPE DESIGN/SPECIFICATION IS NOT ADEQUATELY COVERED BY THE ARCHITECTURAL DRAWINGS, THEN THE CONTRACTOR SHALL SOLICIT A BUILDING ENVELOPE SPECIALIST AS A DEFERRED SUBMITTAL.
14. ANY CLAIMS, CHANGE ORDERS OR CONSTRUCTION CHANGE DIRECTIVES RELEVANT TO THE STRUCTURAL ENGINEER'S SCOPE OF WORK MUST BE PROMPTLY SENT TO THE STRUCTURAL ENGINEER FOR REVIEW & APPROVAL PRIOR TO ISSUANCE AND MUST INCLUDE A CLEAR, FACT-BASED JUSTIFICATION WITH AN ITEMIZED BREAKDOWN OF COST. GENERALIZED LANGUAGE SUCH AS 'DESIGN CHANGE' OR 'FIELD CONDITIONS' IS NOT ACCEPTABLE
15. THE STRUCTURAL ENGINEER'S ROLE DURING CONSTRUCTION
    A. THE ENGINEER SHALL NOT HAVE CONTROL NOR CHARGE OF, AND SHALL NOT BE RESPONSIBLE FOR, CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, OR PROCEDURES, FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK, FOR THE ACTS OR OMISSION OF THE CONTRACTOR, SUBCONTRACTOR, OR ANY OTHER PERSONS PERFORMING ANY OF THE WORK, OR FOR THE FAILURE OF ANY OF THEM TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
       a. PERIODIC SITE OBSERVATION BY FIELD REPRESENTATIVES OF THE STRUCTURAL ENGINEER IS SOLELY FOR THE PURPOSE OF BECOMING GENERALLY FAMILIAR WITH THE PROGRESS AND QUALITY OF THE WORK COMPLETED AND DETERMINING, IN GENERAL, IF THE WORK OBSERVED IS BEING PERFORMED IN A MANNER INDICATING THAT THE WORK, WHEN FULLY COMPLETED, WILL BE IN ACCORDANCE WITH THE STRUCTURAL CONTRACT DOCUMENTS. THIS LIMITED SITE OBSERVATION(S) BY THE ENGINEER SHOULD NOT BE CONSTRUED AS EXHAUSTIVE OR CONTINUOUS TO CHECK THE QUALITY OR QUANTITY OF THE WORK, AS THAT IS THE RESPONSIBILITY OF INSPECTIONS & SPECIAL INSPECTIONS. THE ENGINEER'S PERIODIC OBSERVATIONS ARE IN AN EFFORT TO GUARD THE OWNER AGAINST DEFECTS OR DEFICIENCIES IN THE WORK OF THE CONTRACTOR.
       b. THE CONTRACTOR IS RESPONSIBLE FOR NOTIFYING THE STRUCTURAL ENGINEER OF SCHEDULED DATES FOR CONSTRUCTION INCLUDING BUT NOT LIMITED TO THE FOLLOWING, IF APPLICABLE:
          - FIRST STRUCTURAL CONCRETE POUR, FIRST ELEVATED CONCRETE POUR ON STRUCTURE, FRAMING COMPLETION AFTER MEP ROUGH-IN. FAILURE TO PROVIDE NOTICE AT LEAST **48 HOURS** IN ADVANCE MAY RESULT IN THE SER BEING UNABLE TO PERFORM TIMELY OBSERVATION AND MAY REQUIRE ADDITIONAL SITE VISITS AT THE CONTRACTOR'S EXPENSE.
16. THE OWNER/PROPERTY MANAGER IS RESPONSIBLE FOR SOLICITING A STRUCTURAL ENGINEER TO EVALUATE ANY EQUIPMENT OR PENETRATIONS THAT ARE TO BE COMPLETED DURING TENANT FINISH-OUT AND/OR FUTURE RENOVATIONS/ADDITIONS. WE RECOMMEND THAT DUDLEY BE SOLICITED FOR THIS SERVICE.
17. ALL STRUCTURES REQUIRE PERIODIC MAINTENANCE TO EXTEND LIFESPAN AND ENSURE STRUCTURAL INTEGRITY FROM EXPOSURE TO THE ENVIRONMENT. A PLANNED PROGRAM OF MAINTENANCE SHALL BE ESTABLISHED BY THE BUILDING OWNER. THIS PROGRAM SHALL INCLUDE SUCH ITEMS AS, BUT NOT LIMITED TO, PAINTING OF STRUCTURAL STEEL, PROTECTIVE COATING FOR CONCRETE, SEALANTS, CAULKED JOINTS, EXPANSION JOINTS, CONTRACTION (CONTROL) JOINTS, SPALLS AND CRACKS IN CONCRETE, AND PRESSURE WASHING OF EXPOSED STRUCTURAL ELEMENTS EXPOSED TO A SALT ENVIRONMENT OR OTHER HARSH CHEMICALS.
18. **COORDINATES AND LAYOUT:** STRUCTURAL DRAWINGS AND MODEL EXPORTS ARE FOR REFERENCE ONLY AND SHALL NOT BE USED TO ESTABLISH SURVEY CONTROL. ALL LAYOUT SHALL BE BASED ON VERIFIED CIVIL SURVEY BENCHMARKS AND CONTROL POINTS. THE CONTRACTOR SHALL CONFIRM ALIGNMENT OF ARCHITECTURAL AND STRUCTURAL MODELS WITH THE CIVIL SURVEY PRIOR TO LAYOUT.
19. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL EXCAVATION PROCEDURES INCLUDING LAGGING, SHORING AND PROTECTION OF ADJACENT PROPERTY, STRUCTURES, STREETS AND UTILITIES IN ACCORDANCE WITH ALL CODES AND REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION.
20. THE FLOOR DESIGN LIVE LOAD FOR EACH ELEVATED FLOOR STRUCTURE OR PORTION THEREOF THAT EXCEEDS 50 POUNDS PER SQUARE FOOT (PSF) SHALL BE STATED ON DURABLE SIGNS AND CONSPICUOUSLY POSTED BY THE OWNER IN THE APPLICABLE AREA(S) OF THE BUILDING.
21. FRAMING LAYOUTS ARE PROVIDED TO REPRESENT DESIGN CONCEPTS AND SYSTEMS CONSTRUCTION. THE CONTRACTOR AND SUBCONTRACTORS ARE RESPONSIBLE FOR MATERIAL QUANTITIES AND ANY AND ALL UNSPECIFIED COMPONENTS REQUIRED FOR CONSTRUCTION.
22. WATERPROOFING OF THE BUILDING ENVELOPE IS OF CRITICAL IMPORTANCE TO LONG-TERM STRUCTURAL PERFORMANCE. WATERPROOFING DESIGN SHALL BE THE RESPONSIBILITY OF THE ARCHITECT/CONTRACTOR AND SHALL BE IN ACCORDANCE WITH BEST PRACTICES FOR THE LOCALITY AND THE PARTICULAR ASSEMBLY.
23. ANY SUSPENDED EQUIPMENT, CEILING, ETC. TO BE HUNG FROM THE STRUCTURE, SHALL NOT EXCEED THE ALLOWABLE HANGING CEILING & MECHANICAL LOAD IDENTIFIED IN THE DESIGN CRITERIA. FURTHERMORE, ANY CONNECTION TO THE STRUCTURE SHALL BE DONE TO WHERE THE LOAD IS CONCENTRIC TO THE MEMBER (E.G., BEAM CLAMPS ONLY ON ONE SIDE OF THE MEMBER ARE NOT ALLOWED).
24. FLATWORK (SIDEWALK, PAVEMENT, STOOPS, ETC.) ADJACENT TO THE STRUCTURE IS NOT WITHIN THE SCOPE OF THE STRUCTURAL ENGINEER-OF-RECORD. THE CIVIL ENGINEER & CONTRACTOR SHALL FOLLOW ALL RECOMMENDATIONS FROM THE GEOTECHNICAL REPORT AND REQUIREMENTS OF THE BUILDING CODE (IMPERVIOUS SURFACE SHALL BE PERMITTED TO BE SLOPED LESS THAN 2% WHERE THE SURFACE IS A DOOR LANDING OR RAMP). THE PROCEDURE USED TO ESTABLISH THE FINAL GROUND LEVEL ADJACENT TO THE FOUNDATION SHALL ACCOUNT FOR ADDITIONAL SETTLEMENT OF BACKFILL, FREEZE/THAW DUE TO FROST, AND HEAVE/SUBSIDENCE DUE TO EXPANSIVE SOIL.
25. FIRE PROTECTION: FOR FIRE RATING AND FIREPROOFING ASSEMBLY EVALUATIONS, CONSIDER THE FOLLOWING ASSEMBLIES RESTRAINED IN ACCORDANCE WITH UL DESIGN LISTINGS AND IBC CHAPTER 7: COMPOSITE WIDE-FLANGE STEEL FRAMING, INTERIOR BAYS OF CONTINUOUS CAST-IN-PLACE CONCRETE CONSTRUCTION. CONSIDER ALL OTHER ASSEMBLIES UNRESTRAINED.
26. **ADJACENT BUILDINGS AND PROPERTY:** THE GENERAL CONTRACTOR SHALL ENSURE THAT ALL CONSTRUCTION METHODS USED WILL NOT CAUSE DAMAGE OR DISTRESS TO THE ADJACENT BUILDING COMPONENTS AND PROPERTY.
    A. TEMPORARY EXCAVATION ADJACENT TO EXISTING BUILDINGS OR PROPERTY SHALL BE PROPERLY SHORED TO PROHIBIT DAMAGED OR DISTRESS. THE CONTRACTOR SHALL SUBMIT SEALED TEMPORARY SHORING DRAWINGS FROM A LICENSED PROFESSIONAL ENGINEER WHO IS AN EXPERT AT TEMPORARY SHORINGS OF THIS KIND.
    B. CONSTRUCTION ACTIVITIES AND/OR EQUIPMENT THAT INDUCE VIBRATIONS SHALL BE REVIEWED BY A CONSTRUCTION ENGINEER TO CONFIRM THEY WILL NOT HAVE AN ADVERSE IMPACT ON ADJACENT BLDGS OR PROPERTY.
    C. THE GENERAL CONTRACTOR IS ADVISED TO PERFORM ALL PHOTOGRAPHIC SURVEYS, ELEVATION SURVEYS, AND OTHER DOCUMENTATION OF THE ADJACENT BUILDINGS BEFORE THE START OF AND DURING CONSTRUCTION TO ESTABLISH BASELINE CONDITIONS.
27. **FIELD VERIFICATION**: DIMENSIONS MARKED "FIELD VERIFY" (FV) OR "VERIFY IN FIELD" ARE APPROXIMATE OR BASED ON DESIGN ASSUMPTIONS AND MUST BE CONFIRMED BY THE CONTRACTOR THROUGH ON-SITE MEASUREMENTS PRIOR TO FABRICATION OR INSTALLATION. DO NOT RELY ON THESE DIMENSIONS WITHOUT FIELD VERIFICATION. IF FIELD-VERIFIED DIMENSIONS SIGNIFICANTLY DEVIATE FROM THOSE SHOWN ON THE DRAWINGS, THE CONTRACTOR SHALL PROMPTLY NOTIFY THE STRUCTURAL ENGINEER OF RECORD (SER) IN WRITING VIA A REQUEST FOR INFORMATION (RFI) FOR EVALUATION AND POTENTIAL DESIGN REVISIONS.

DRAWING INTERPRETATION:

1. DRAWING VIEWS LABELED AS TYPICAL
   A. PARTIAL PLANS, ELEVATIONS, SECTIONS, DETAIL OR SCHEDULES LABELED WITH "TYPICAL" AT THE BEGINNING OF THEIR TITLE SHALL APPLY TO ALL SITUATIONS OCCURRING ON THE PROJECT THAT ARE THE SAME OR SIMILAR TO THOSE SPECIFICALLY SHOWN. THE APPLICABILITY OF THE CONTENT OF THESE VIEWS TO LOCATIONS ON THE PLAN CAN BE DETERMINED FROM THE TITLE OF THE VIEW. SUCH VIEWS SHALL APPLY WHETHER OR NOT THEY ARE KEYED IN AT EACH LOCATION. DECISIONS REGARDING APPLICABILITY OF THESE "TYPICAL" VIEWS SHALL BE DETERMINED BY THE STRUCTURAL ENGINEER.
2. COLOR: THESE DRAWINGS ARE INTENDED TO BE VIEWED IN COLOR. IF THE FOLLOWING COLORS ARE NOT RED GREEN BLUE THEN THIS DRAWING SET IS NOT BEING VIEWED AS INTENDED.
3. SCALE: IF THE FOLLOWING LINE IS NOT EXACTLY 1" LONG, THEN THIS SET HAS BEEN SCALED.

1"

SUBSTITUTIONS:

1. ALL REQUESTS FOR SUBSTITUTIONS OF MATERIALS OR DETAILS SHOWN IN THE CONTRACT DOCUMENTS SHALL BE SUBMITTED FOR APPROVAL DURING THE BIDDING PERIOD. AFTER BIDS ARE ACCEPTED, PROPOSED SUBSTITUTIONS WILL BE CONSIDERED ONLY WHEN THEY ARE OFFICIALLY SUBMITTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND THE REQUIREMENTS BELOW:
   A. SUBMITTED A MINIMUM OF 21 CALENDAR DAYS PRIOR TO THE REQUIRED PURCHASE DATE AND/OR INSTALLATION DATE.
   B. CONTRACTOR STATEMENT INDICATING WHY SUBSTITUTION IS BEING REQUESTED.
   C. CONTRACTOR DETAILED COMPARISON OF THE SUBSTITUTION AND CONTRACT DOCUMENT
   D. REQUIREMENTS FOR COMPATIBILITY INCLUDING COST SAVINGS TO THE OWNER AND CONSTRUCTION/DELIVERY TIME REDUCTION TO THE PROJECT SCHEDULE.
   E. CONTRACTOR TO INDICATE THAT THE SUBSTITUTION HAS BEEN COORDINATED WITH OTHER CONTRACTOR WORK, IF APPLICABLE.
   F. CONTRACTOR TO PROVIDE SIMILAR SUBMITTAL SUBMISSION AS REQUIRED BY THE CONTRACT DOCUMENTS.
   G. SUBMITTAL REVIEW TIME FRAME.
2. SUBMISSION OF SUBSTITUTIONS AS RFI'S WILL BE NOT BE REVIEWED.

SUBMITTALS

1. PURPOSE OF SUBMITTALS
   A. SUBMITTALS INCLUDING SHOP DRAWINGS, PRODUCT DATA AND SIMILAR SUBMITTALS ARE **PREPARED BY THE CONTRACTOR** TO DEMONSTRATE HOW THE CONTRACTOR PROPOSES TO CONFORM TO THE INFORMATION GIVEN AND THE DESIGN CONCEPT EXPRESSED IN THE CONTRACT DOCUMENTS. SHOP DRAWINGS ILLUSTRATE HOW SPECIFIC PORTIONS OF THE WORK SHALL BE FABRICATED AND/OR INSTALLED. THE INTENT OF SUBMITTALS IS TO PROVIDE A MEANS OF COMMUNICATION BETWEEN THE CONTRACTOR, FABRICATORS, SUPPLIERS, AND THE DESIGN PROFESSIONAL TO CONFIRM UNDERSTANDING OF THE DESIGN INTENT, COORDINATE THE WORK, AND FACILITATE REVIEW OF PROPOSED MATERIALS, METHODS, AND DETAILS. **SUBMITTALS ARE NOT CONTRACT DOCUMENTS.**
   B. THE USE OR REPRODUCTIONS OF THESE CONTRACT DRAWINGS BY ANY CONTRACTOR OR MATERIAL SUPPLIER IN LIEU OF PREPARATION OF SHOP DRAWINGS SIGNIFIES THEIR ACCEPTANCE OF ALL INFORMATION SHOWN HERE ON AS CORRECT, AND OBLIGATES THEMSELVES TO ANY JOB EXPENSE, REAL OR IMPLIED, DUE TO ANY ERRORS THAT MAY OCCUR.
2. SUBMITTAL LIST AND SCHEDULE
   A. THE GENERAL CONTRACTOR SHALL PREPARE A DETAILED LIST AND SCHEDULE OF ALL STRUCTURAL SUBMITTALS (**SUBMITTAL SCHEDULE**) TO BE SENT TO THE SER FOR APPROVAL **PRIOR TO THE START OF CONSTRUCTION**. THE SCHEDULE SHALL:
      a. LIST SUBMITTALS IN CHRONOLOGICAL ORDER BY DATES REQUIRED FOR CONSTRUCTION.
      b. INCLUDE CONTRACTOR AND DESIGN TEAM REVIEW TIME, ORDERING, FABRICATION, DELIVERY, AND TIME FOR REQUIRED REVISIONS.
      c. AVOID OVERLAPPING REVIEW PERIODS OF SUBMITTALS BY MORE THAN ONE WEEK.
      d. BE UPDATED AND MAINTAINED AS THE PROJECT PROGRESSES.
   B. THE SER IS NOT RESPONSIBLE FOR DELAYS RESULTING FROM SUBMITTING OF OVERLAPPING SUBMITTAL SCHEDULES AND/OR SUBMITTALS SUBMITTED LATER THAN IDENTIFIED IN THE APPROVED SUBMITTAL SCHEDULE. **IF THE CONTRACTOR DOES NOT ADHERE TO THE REQUIREMENTS ABOVE, THEN THE STRUCTURAL ENGINEER WILL REVIEW WITH REASONABLE PROMPTNESS WHILE ALLOWING SUFFICIENT TIME, IN THE SER'S PROFESSIONAL JUDGMENT, TO PERMIT ADEQUATE REVIEW.**
3. SUBMITTAL REQUIREMENTS:
   A. ALL SUBMITTALS MUST BE REVIEWED AND ELECTRONICALLY STAMPED BY THE GENERAL CONTRACTOR & RELEVANT SUBCONTRACTORS PRIOR TO SUBMISSION.
   B. BY FORWARDING TO THE DESIGN TEAM, THE CONTRACTOR AFFIRMS THAT THE WORK, AS THE CONTRACTOR HAS DIVIDED IT AMONG THE TRADES, COMPLIES WITH THE DESIGN CONCEPT OF THE CONTRACT DOCUMENTS INCLUDING BUT NOT LIMITED TO:
      a. DETERME IF IT REPRESENTS THE WORK AS THEY HAVE PURCHASED AND WILL PLACE IT (MEANS & METHODS)
      b. VERIFICATION OF MATERIALS
      c. FIELD VERIFICATION
      d. COORDINATION WITH OTHER DISCIPLINES, TRADES, SUBMITTALS, ETC. E.G. EQUIPMENT LOCATIONS, WEIGHTS, SUPPORT CONDITIONS AND OPENING SIZES MUST BE COORDINATED WITH FRAMING FOR ALL FLOOR/ROOFS/WALLS.
   C. THE SER RESERVES THE RIGHT TO MARK ANY AND ALL SUBMITTALS AS REVISE AND RESUBMIT IF THE CONTRACTOR FAILS TO REVIEW PER THE REQUIREMENS ABOVE AND ELECTRONICALLY STAMP THE SHOP DRAWINGS.
   D. **ANY DEVIATION/CLARIFICATION FROM THE CONSTRUCTION DOCUMENTS IN A SUBMITTAL SHALL BE CLEARLY INDICATED AS A DEVIATION, FOR SPECIFIC REVIEW BY THE DESIGN TEAM.** A NON-RESPONSE TO A NOTED DEVIATION/CLARIFICATION DOES NOT INDICATE APPROVAL. IF NOT ADDRESSED, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING OF THE OUTSTANDING ITEMS THAT REQUIRE REVIEW.
   E. ALL SUBMITTALS MUST INCLUDE A TRANSMITTAL SHEET WHICH INDICATES:
      a. SUBMITTAL NUMBER PER THE FOLLOWING FORMAT: E.G. 03 30 00-01.00 (DIVISION, SUBMITTAL # FOR DIVISION, ISSUE # - THE EXAMPLE INDICATES THE FIRST SUBMITTAL, FIRST ISSUE OF A CONCRETE SUBMITTAL)
      b. BRIEF DESCRIPTION OF SUBMITTAL CONTENTS
      c. DATE ISSUED
      d. REQUESTED RETURN DATE
      e. ISSUING PARTY INCLUDING NAME, PHONE NUMBER AND EMAIL
   F. CONTRACTOR SHALL PROVIDE THE SUBMITTAL IN ELECTRONIC (PDF) FORMAT. SUBMITTALS SHALL NOT BE SCANNED COPIES OF PRINTED DOCUMENTS. SUBMITTALS MUST ALLOW MARKUPS.
   G. **ALL MEMBERS OF THE STRUCTURAL DESIGN TEAM INDICATED ON THIS SHEET INCLUDING CA@DUDLEYENG.COM SHALL BE PROVIDED NOTIFICATION OF SUBMITTALS THAT REQUIRE A STRUCTURAL RESPONSE.**
   H. OMISSIONS OR ERRORS IN THE SUBMITTALS OF ANY REQUIREMENT BY THE CONTRACT DOCUMENTS SHALL NOT RELIEVE THE CONTRACTOR OF ADHERING TO THE REQUIREMENTS, REGARDLESS OF WHETHER REVIEWED, SHOWN OR COMMENTED ON IN THE SHOP DRAWING.
   I. THE CONTRACTOR MUST ALLOW AN AVERAGE MINIMUM OF 10 BUSINESS DAYS FOR STRUCTURAL REVIEW OF ALL SUBMITTALS UNLESS OTHERWISE APPROVED BY SER IN WRITING IN THE APPROVED SUBMITTAL SCHEDULE. THE CONTRACTOR CAN REQUEST AN EXPEDITED REVIEW AT AN AGREED UPON FEE WITH THE STRUCTURAL ENGINEER AS AN ADDITIONAL SERVICE.
   J. RESUBMITTALS REQUIRE THE SAME MINIMUM REVIEW TIME AS THE ORIGINAL SUBMITTAL. IF PRIOR EXCEPTIONS, COMMENTS, MARKUPS, ETC. FROM A PREVIOUS SUBMITTAL REVIEW ARE NOT INCORPORATED INTO THE SUBSEQUENT RESUBMISSION, THEN THE SER RESERVES THE RIGHT TO RETURN THE SUBMITTAL AS REVISE AND RESUBMIT UNTIL ALL ITEMS ARE INCORPORATED.
   K. SHOP DRAWING SUBMITTALS SHALL BE PROPORTIONED INTO REASONABLY SIZED PACKAGES, CONTAINING NO MORE THAN 150 SHEETS PER SUBMITTAL, UNLESS APPROVED BY THE SER PRIOR TO SUBMISSION.
4. SER REVIEW STAMP DESIGNATIONS: ALL DESIGNATIONS ARE INDICATIVE OF A REVIEW FOR THE LIMITED PURPOSE OF CHECKING FOR GENERAL CONFORMANCE WITH THE INFORMATION GIVEN AND THE DESIGN CONCEPT EXPRESSED GENERALLY IN THE STRUCTURAL CONSTRUCTION DOCUMENTS. REVIEW OF SUCH SUBMITTALS IS NOT FOR THE PURPOSE OF DETERMINING THE ACCURACY AND COMPLETENESS OF OTHER INFORMATION SUCH AS DIMENSIONS, QUANTITIES, AND INSTALLATION OR PERFORMANCE OF EQUIPMENT OR SYSTEMS, WHICH ARE THE CONTRACTOR'S RESPONSIBILITY. THE ENGINEER'S REVIEW SHALL NOT CONSTITUTE APPROVAL OF SAFETY PRECAUTIONS OR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES. THE ENGINEER'S REVIEW OF A SPECIFIC ITEM SHALL NOT INDICATE APPROVAL OF AN ASSEMBLY OF WHICH THE ITEM IS A COMPONENT.
   A. NO EXCEPTIONS
      a. NO EXCEPTIONS WITH THE STRUCTURAL CONSTRUCTION DOCUMENTS WERE IDENTIFIED IN OUR LIMITED REVIEW FOR GENERAL CONFORMANCE. THIS DOES NOT CONSTITUTE APPROVAL FOR ANY NON-CONFORMING ITEMS THAT WERE NOT IDENTIFIED IN OUR REVIEW. NO "FOR REVIEW" RESUBMITTAL IS REQUIRED.
   B. EXCEPTIONS NOTED
      a. EXCEPTIONS WITH THE STRUCTURAL CONSTRUCTION DOCUMENTS WERE IDENTIFIED IN OUR LIMITED REVIEW FOR GENERAL CONFORMANCE AND NEED TO BE REVISED PRIOR TO SUBMITTING THE "FOR CONSTRUCTION" SUBMITTAL. THIS DOES NOT CONSTITUTE APPROVAL FOR ANY NON-CONFORMING ITEMS THAT WERE NOT IDENTIFIED IN OUR REVIEW.
   C. REVISE AND RESUBMIT
      a. THE CONTRACTOR(S) DID NOT REVIEW AND ELECTRONICALLY STAMP THE SUBMITTALS.
      b. SIGNIFICANT ITEMS WERE FOUND IN CONFLICT WITH THE STRUCTURAL CONSTRUCTION DOCUMENTS. THE SUBMITTAL NEEDS TO BE RESUBMITTED "FOR REVIEW".
      c. THE CONTRACTOR SHALL DIRECT SPECIFIC ATTENTION, IN WRITING OR ON RESUBMITTED SHOP DRAWINGS, PRODUCT DATA, SAMPLES, OR SIMILAR SUBMITTALS, TO REVISIONS OTHER THAN THOSE REQUESTED BY THE ENGINEER ON PREVIOUS SUBMITTALS. IN THE ABSENCE OF SUCH NOTICE, THE ENGINEER'S APPROVAL OF A RESUBMISSION SHALL NOT APPLY TO SUCH REVISIONS.
   D. FOR INFORMATION/RECORD ONLY
      a. THIS SUBMITTAL DOES NOT REQUIRE REVIEW OR APPROVAL BY THE STRUCTURAL ENGINEER OF RECORD (SER) AND HAS BEEN FILED FOR RECORD PURPOSES ONLY. THE SER HAS NOT REVIEWED NOR ASSUMED RESPONSIBILITY FOR ITS CONTENT. THE CONTRACTOR REMAINS SOLELY RESPONSIBLE FOR DETERMINING WHETHER SUBMISSION WAS REQUIRED AND FOR ENSURING COMPLIANCE WITH THE CONTRACT DOCUMENTS. IF THE CONTRACTOR BELIEVES STRUCTURAL REVIEW IS NECESSARY, THEY SHALL NOTIFY DUDLEY IN WRITING.
         - EXAMPLES: MILL TEST REPORTS FOR REINFORCING OR STRUCTURAL STEEL, CONCRETE BATCH PLANT CERTIFICATIONS, FORMWORK OR TEMPORARY BRACING PLANS, CONSTRUCTION SEQUENCING PLANS.
   E. IMPACT TO STRUCTURE
      a. APPLIES TO DEFERRED SUBMITTALS. THIS DEFERRED SUBMITTAL HAS BEEN REVIEWED ONLY FOR ITS IMPACT ON THE STRUCTURE SHOWN IN THE CONSTRUCTION DOCUMENTS. THE REVIEW IS LIMITED TO VERIFYING THAT THE DESIGN CRITERIA USED ALIGNS WITH THE REQUIREMENTS OF THE CONSTRUCTION DOCUMENTS AND THAT ELEMENTS SUPPORTED BY MEMBERS DESIGNED BY THE SER (E.G., STAIR STRINGERS FRAMING INTO FLOOR BEAMS) MEET THE INTENDED DESIGN CRITERIA. RESPONSIBILITY FOR THE DESIGN AND ADEQUACY OF THE DEFERRED SUBMITTAL ITEM ITSELF REMAINS WITH THE CONTRACTOR AND THEIR DELEGATED DESIGN PROFESSIONAL.
         - EXAMPLES: DEFERRED SUBMITTALS SUCH AS STAIRS, RAILS, LADDERS, COLD-FORMED METAL FRAMING, ETC.
5. CONTRACTOR RESPONSIBILITY UPON RETURN OF SUBMITTALS REVIEWED BY THE DESIGN TEAM
   A. THE CONTRACTOR SHALL CAREFULLY REVIEW ALL COMMENTS AND NOTIFY THE ARCHITECT & ENGINEER OF ANY CLARIFICATION REQUIRED.
   B. IF THE CONTRACTOR BELIEVES THAT ADDITIONAL COST OR TIME IS INVOLVED BECAUSE OF CLARIFICATIONS COMMENTS, OR INSTRUCTIONS WITHIN THIS SUBMITTAL THEY SHALL NOTIFY THE ARCHITECT AND ENGINEER IMMEDIATELY BEFORE TAKING ANY OTHER ACTION.

REQUEST FOR INFORMATION / INTERPRETATION (RFI)

1. DEFINITION: A REQUEST SEEKING ONE OF THE FOLLOWING:
   A. CLARIFICATION OF THE CONTRACT DOCUMENTS WHERE THE MATERIAL, PROCESS, OR SYSTEM CANNOT BE DETERMINED, WHERE ELEMENTS OF CONSTRUCTION CONFLICT, OR WHERE INFORMATION IS DESCRIBED DIFFERENTLY IN MULTIPLE LOCATIONS;
   B. RESOLUTION OF A FIELD CONDITION AFFECTING DESIGN INTENT
2. **PREPARATION:**
   A. PREPARE AN RFI WITHIN **2-BUSINESS DAYS** UPON DISCOVERY OF A NEED FOR INTERPRETATION OF CONTRACT DOCUMENTS. FAILURE TO SUBMIT AN RFI IN A TIMELY MANNER IS NOT A LEGITIMATE CAUSE FOR CLAIMING ADDITIONAL COSTS OR DELAYS IN EXECUTION OF THE WORK.
   B. RFIS THAT SOLELY REQUIRE COORDINATION BETWEEN SUBCONTRACTORS WILL BE RETURNED WITHOUT REVIEW.
   C. THE CONTRACTOR SHALL REVIEW ALL RFIS PRIOR TO SUBMISSION TO ENSURE ACCURACY AND TO PROVIDE A PROPOSED SOLUTION. THE CONTRACTOR SHALL ACT AS THE SINGLE POINT OF SUBMISSION FOR ALL RFIS.
   D. ALL RFIS REQUIRING STRUCTURAL INPUT SHALL BE SUBMITTED TO THE STRUCTURAL DESIGN TEAM AT THE CONTACT(S) LISTED ON THIS SHEET.
3. **FORMATTING REQUIREMENTS**: RFI'S MUST BE FORMATTED IN ACCORDANCE WITH CSI/CSC FORM 13.2A REQUEST FOR INTERPRETATION, THAT AT A MINIMUM INDICATES THE FOLLOWING INFORMATION:
   A. RFI NUMBER | DATE SUBMITTED | DATE RESPONSE NEED BY | SUBMITTED BY (INCLUDE EMAIL AND PHONE NUMBER)
   B. RFI DESCRIPTION INCLUDING:
      a. REFERENCE SHEET NUMBER, DETAIL AND/OR SPECIFICATION NUMBER, IF APPLICABLE
      b. RELEVANT PHOTOS AND/OR SKETCHES WHEN APPROPRIATE TO CLEARLY ILLUSTRATE THE ISSUE
   C. EACH RFI MUST INCLUDE THE CONTRACTOR'S ASSESSMENT OF POTENTIAL IMPACTS ON CONTRACT TIME AND SUM. IF THIS INFORMATION IS OMITTED, THE RFI WILL BE REVIEWED WITH THE UNDERSTANDING THAT THERE ARE NO SUCH IMPACTS.
4. **RESPONSE TIME (DUE DATE)**
   A. THE CONTRACTOR SHALL ALLOW A MINIMUM OF 5 **BUSINESS DAYS** FOR REVIEW AND RESPONSE BY THE STRUCTURAL PROJECT TEAM TO A **COMPLETE RFI**, INCLUDING ALL REQUIRED ATTACHMENTS AND THE CONTRACTOR'S PROPOSED SOLUTION. CORRECTIVE REPAIR RFI'S MAY REQUIRE LONGER RESPONSE TIME THAT ARE MORE APPROPRIATELY HANDLED VIA ARCHITECT'S SUPPLEMENTAL INSTRUCTION (ASI).
5. **TRACKING, CLASSIFICATION AND REPORTING OF RFIS**
   A. DUDLEY RESERVES THE RIGHT TO CLASSIFY RFIS FOR TRACKING AND REPORTING. RFIS WILL BE CATEGORIZED AS EITHER:
      a. VALID: REQUIRE CLARIFICATION OR INPUT FROM THE SER
      b. INVALID: DO NOT REQUIRE SER INPUT OR MUST FOLLOW AN ALTERNATE SUBMISSION PROCESS.
   B. RFI CLASSIFICATION:
      1. **DESIGN CLARIFICATIONS** (VALID): ADDRESS CONFLICTS, DISCREPANCIES, INCOMPLETE DETAILS, OR AMBIGUITIES WITHIN THE CONTRACT DOCUMENTS THAT REQUIRE CLARIFICATION BY THE DESIGN TEAM.
      2. **CONSTRUCTABILITY CONCERNS** (VALID): ADDRESS CONSTRUCTION MEANS AND METHODS, SEQUENCING, OR TEMPORARY CONDITIONS (E.G., SHORING, RESHORING, BRACING) WHERE CONTRACTOR INPUT IS REQUIRED PRIOR TO IMPLEMENTATION. THE SER IS NOT RESPONSIBLE FOR MEANS, METHODS, SEQUENCING, OR TEMPORARY CONDITIONS; HOWEVER, MAY REVIEW DESIGN ADJUSTMENTS SOLELY TO MAINTAIN STRUCTURAL INTEGRITY OF THE FINISHED STRUCTURE.
      3. **DIFFERING SITE CONDITIONS** (VALID): WHEN ACTUAL SITE CONDITIONS DIFFER FROM THOSE ANTICIPATED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR MUST IMMEDIATELY NOTIFY OWNER AND DESIGN TEAM UPON DISCOVERY, BEFORE WORK PROCEEDS.
      4. **CORRECTIVE REPAIR** (VALID): RFI REQUIRING THE SER TO ADDRESS STRUCTURAL ISSUES ARISING FROM DEFECTIVE MATERIALS, WORKMANSHIP ERRORS, CONSTRUCTION MISTAKES, COMPONENT DAMAGE, DESIGN DEVIATIONS, OR SEQUENCING/INSTALLATION ISSUES. THE CONTRACTOR SHALL IMPLEMENT ANY REQUIRED FIELD CORRECTIONS UNDER SER DIRECTION TO RESTORE SYSTEM FUNCTIONALITY.
      5. **INFORMATION PROVIDED IN CONTRACT DOCUMENTS** (INVALID): PERTAINING TO INFORMATION THAT IS INDICATED IN THE CONTRACT DOCUMENTS. THESE WILL BE RETURNED WITH REFERENCE TO THE APPLICABLE DRAWING OR SPECIFICATION SECTION. RESPONSIBILITY REMAINS WITH THE CONTRACTOR TO THOROUGHLY REVIEW THE DOCUMENTS PRIOR TO SUBMISSION.
      6. **CONTRACTOR COORDINATION** (INVALID): PERTAINING TO ITEMS THAT REQUIRE THE GENERAL CONTRACTOR TO COORDINATE BETWEEN TRADES OR DISCIPLINES. THESE DO NOT REQUIRE DESIGN TEAM INPUT AND WILL BE RETURNED FOR CONTRACTOR RESOLUTION.
      7. **REQUEST FOR SUBSTITUTION** (INVALID): RELATED TO PROACTIVE/ELECTIVE REQUESTS RELATED TO VALUE ENGINEERING, MATERIAL AVAILABILITY, OR EASE OF INSTALLATION. SUBSTITUTIONS SHALL BE SUBMITTED STRICTLY IN ACCORDANCE WITH THE PROCEDURES OUTLINED IN THE CONTRACT DOCUMENTS. RFIS SUBMITTED IN LIEU OF A FORMAL SUBSTITUTION REQUEST WILL NOT BE PROCESSED AND WILL BE RETURNED WITH DIRECTION TO RESUBMIT IN ACCORDANCE WITH SUBSTITUTION PROCEDURES.
      8. **NOT REVIEWED - NOT RELATED TO DUDLEY SCOPE** (INVALID): AN ISSUE NOT RELEVANT TO DUDLEY'S SCOPE OF WORK FOR THE PROJECT. WILL BE RETURNED AS NOT REVIEWED. THE RESPONSIBILITY REMAINS WITH CONTRACTOR TO ROUTE RFIS TO THE APPROPRIATE PARTY.
   C. EACH RFI RESPONSE WILL BE STAMPED BY DUDLEY WITH THE APPLICABLE CLASSIFICATION. IF THE CONTRACTOR DOES NOT FORMALLY DISPUTE THE CLASSIFICATION IN WRITING WITHIN **SEVEN (7) CALENDAR DAYS** OF ISSUANCE, THE CLASSIFICATION SHALL BE DEEMED ACCEPTED.
   D. RFIS MUST CLEARLY IDENTIFY ANTICIPATED CONTRACT TIME OR COST IMPACTS. IF OMITTED, DUDLEY WILL REVIEW AND RESPOND WITH THE UNDERSTANDING THERE ARE NO SUCH IMPACTS.
   E. IF THE CONTRACTOR BELIEVES AN RFI RESPONSE MAY LEAD TO A CLAIM OR CHANGE IN CONTRACT TIME OR SUM, THE CONTRACTOR MUST PROVIDE WRITTEN NOTICE WITHIN **TEN (10) BUSINESS DAYS** OF RECEIVING THE RESPONSE, FOLLOWED BY SUBMISSION OF A CLAIM OR CHANGE ORDER REQUEST WITHIN **TWENTY (20) BUSINESS DAYS**. FAILURE TO PROVIDE TIMELY NOTICE SHALL CONSTITUTE A WAIVER OF ENTITLEMENT.

INSPECTIONS:

1. CONSTRUCTION OR WORK FOR WHICH A PERMIT IS REQUIRED SHALL BE SUBJECT TO INSPECTION BY THE BUILDING OFFICIAL/AHJ AND SUCH CONSTRUCTION OR WORK SHALL REMAIN ACCESSIBLE AND EXPOSED FOR INSPECTION PURPOSES UNTIL APPROVED. THE CONTRACTOR SHALL COORDINATE WITH THE AHJ ON THE REQUIRED INSPECTIONS.
2. **SPECIAL INSPECTIONS**: REFER TO THE STATEMENT OF SPECIAL INSPECTIONS FOR REQUIRED STRUCTURAL SPECIAL INSPECTIONS.
3. **ADDITIONAL INSPECTIONS/OBSERVATIONS REQUIRED BY STRUCTURAL ENGINEER:** REFERENCE SPECIFICATIONS / GENERAL CONDITIONS

CONTRACTOR QUALIFICATION

1. WORK SHALL BE PERFORMED BY A QUALIFIED CONSTRUCTION CONTRACTOR AND SUBCONTRACTOR EXPERIENCED IN THIS TYPE OF WORK. SUCH KNOWLEDGE SHALL INCLUDE MAKING ALLOWANCES FOR PERFORMING WORK OF THIS NATURE FOLLOWING INDUSTRY STANDARDS OF CARE.
2. THE CONSTRUCTION CONTRACTOR AND SUBCONTRACTORS SHALL UNDERSTAND THE NATURE OF DRAWING PRODUCTION AND COORDINATION BETWEEN CONSULTANTS AND SHALL NOT ENTER INTO A CONTRACT BASED ON DRAWINGS THAT ARE BELIEVED TO CONTAIN DISCREPANCIES OR ARE OTHERWISE INCOMPLETE UNLESS PROPER ALLOWANCES HAVE BEEN MADE FOR COST IMPLICATIONS THAT MAY ARISE DUE TO FUTURE CHANGES MADE IN PREPARATION OF FINAL CONSTRUCTION DOCUMENTS AND/OR SHOP DRAWINGS TO COMPLETE THE STRUCTURAL SYSTEM.
3. IN THE COURSE OF PRODUCING AND ISSUING DRAWINGS, VARIOUS STAGES OF COMPLETION ARE DEVELOPED. THE CONSTRUCTION CONTRACTOR AND SUBCONTRACTORS SHALL UNDERSTAND THE PURPOSE AND CONTENT CONTAINED IN PERMIT, PRICING, AND CONSTRUCTION DRAWINGS. COST IMPLICATIONS AND CONTRACTIBILITY ARE THE RESPONSIBILITY OF THE CONSTRUCTION CONTRACTOR AND SUBCONTRACTORS UNLESS PRIOR ARRANGEMENTS HAVE BEEN MADE WITH THE OWNER.

FUTURE EXPANSION

1. NO PROVISIONS FOR ANY FUTURE EXPANSION HAVE BEEN MADE IN THE STRUCTURAL DESIGN.

PLANNORTH
ARCHITECTURAL CO.

DUDLEY
GEOTECHNICAL | STRUCTURAL | ENVIRONMENTAL
Dudley Engineering LLC dba DUDLEY
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RENOVATION - 114 E ALAMO ST

114 E ALAMO ST,
BRENHAM, TX 77833

10/28/2025

DRAWING PREPARED BY:
PLAN**NORTH**
ARCHITECTURAL CO.
FOR CONSTRUCTION

RECORD OF DRAWINGS
10/28/2025

PROJECT NO.	25-00342
ISSUE	
DRAWN BY	Author
CHECKED BY	Checker
SHEET NO.	S0.0

STR GENERAL NOTES

ADJACENT BUILDINGS AND PROPERTY

1. THE GENERAL CONTRACTOR SHALL ENSURE THAT ALL CONSTRUCTION METHODS USED WILL NOT CAUSE DAMAGE OR DISTRESS TO THE ADJACENT BUILDING COMPONENTS AND PROPERTY.
   A. TEMPORARY EXCAVATION ADJACENT TO EXISTING BUILDINGS OR PROPERTY SHALL BE PROPERLY SHORED TO PROHIBIT DAMAGE OR DISTRESS. THE CONTRACTOR SHALL SUBMIT SEALED TEMPORARY SHORING DRAWINGS FROM A LICENSED PROFESSIONAL ENGINEER WHO IS AN EXPERT AT TEMPORARY SHORINGS OF THIS KIND.
   B. CONTRACTOR SHALL PROVIDE PROVISIONS TO CONTROL WATER RUNOFF AND EROSION DURING CONSTRUCTION AND DEMOLITION ACTIVITIES.
2. THE GENERAL CONTRACTOR IS ADVISED TO PERFORM ALL PHOTOGRAPHIC SURVEYS, ELEVATION SURVEYS, AND OTHER DOCUMENTATION OF THE ADJACENT BUILDINGS BEFORE THE START OF AND DURING CONSTRUCTION.

CONSTRUCTION PROJECT MANAGEMENT SOFTWARE PLATFORM & COMMUNICATION PROTOCOLS

1. CONSTRUCTION PROJECT MANAGEMENT SOFTWARE (CPMS)
   A. THE CONTRACTOR SHALL USE ONE OF THE FOLLOWING CPMS PLATFORMS TO FACILITATE DOCUMENT MANAGEMENT, COMMUNICATION, AND COORDINATION THROUGHOUT THE PROJECT:
      a. PROCORE, AUTODESK CONSTRUCTION CLOUD, E-BUILDER, NEWFORMA, BUILDERTREND, OR APPROVED EQUIVALENT
   B. THE CONTRACTOR SHALL ESTABLISH AND MAINTAIN SUBMITTAL & RFI REVIEW TIMELINES CONSISTENT WITH THOSE INDICATED ON THIS SHEET OR WITHIN THE **APPROVED SUBMITTAL SCHEDULE**. THE CPMS MUST CLEARLY REFLECT THESE TIMELINES TO ENSURE ACCOUNTABILITY AND TRACEABILITY.
   C. IF A SUBMITTAL IS SUBMITTED LATER THAN THE DATE AGREED UPON IN THE APPROVED SUBMITTAL SCHEDULE, THE CONTRACTOR MUST NOTE THE LATE SUBMITTAL AND REVISE THE DUE DATE ACCORDINGLY TO REFLECT THE ACTUAL SUBMISSION DATE. THE DESIGN TEAM SHALL NOT BE PENALIZED FOR DELAYS CAUSED BY THE CONTRACTOR'S LATE SUBMITTALS.
   D. THE CPMS SHALL HAVE FOLLOWING ROLES FOR THE STRUCTURAL PROJECT TEAM:
      a. APPROVER - PROVIDES THE OFFICIAL REVIEW STATUS/RESPONSE FROM THE SER (REF SER REVIEW STAMP DESIGNATIONS) FOR SUBMITTALS AND RFI'S. NOTE THAT THE RDPIRC(TYPICALLY THE ARCHITECT) ALWAYS PROVIDES THE FINAL REVIEW STATUS AND RESPONSES TO ALL SUBMITTALS AND RFI'S.
      b. REVIEWER - RECEIVES NOTIFICATIONS FOR ALL SUBMITTALS AND RFI'S, BUT IT NOT AN APPROVER (NOT LISTED AS "BALL IN COURT").
   E. THE CONTRACTOR SHALL SETUP THE STRUCTURAL PROJECT TEAM WITH THE FOLLOWING ROLES FOR THE PROJECT.
      a. PROJECT MANAGER (PM): APPROVER
      b. DESIGN ENGINEER (DE): REVIEWER
      c. PRINCIPAL IN CHARGE (PIC): REVIEWER
      d. CONSTRUCTION ADMINISTRATION (CA): REVIEWER
2. COMMUNICATION PROTOCOLS:
   A. ALL OFFICIAL PROJECT COMMUNICATIONS SHALL OCCUR VIA THE CPMS PLATFORM TO ENSURE FULL TRANSPARENCY, DOCUMENTATION, AND TRACEABILITY.
   B. EMAILS MAY BE USED FOR INFORMAL COMMUNICATION BUT MUST ALWAYS BE FOLLOWED BY FORMAL DOCUMENTATION IN THE CPMS. THE CONTRACTOR SHALL INCLUDE ALL STRUCTURAL TEAM MEMBERS AND THE RDPIRC ON ALL EMAIL CORRESPONDENCE.
   C. PHONE CALLS ARE ACCEPTABLE FOR INFORMAL DISCUSSION BUT MUST BE SUMMARIZED AND DOCUMENTED BY THE CONTRACTOR IN THE CPMS WITHIN 24 HOURS.
   D. TEXT MESSAGING SHALL NOT BE USED TO FACILITATE OR DOCUMENT PROJECT COMMUNICATION.

GYPSUM PANEL PRODUCTS (DRYWALL):

1. ALL GYPSUM PANEL PRODUCTS SHALL BE INSTALLED IN ACCORDANCE WITH THE MINIMUM REQUIREMENTS OF THE GYPSUM ASSOCIATION DOCUMENT GA-216-LATEST EDITION "APPLICATION OF FINISHING OF GYPSUM PANEL PRODUCTS" UNLESS MORE STRINGENT REQUIREMENTS ARE SPECIFIED WITHIN THE CONSTRUCTION DOCUMENTS.
2. **CONTROL JOINTS**
   A. **PROPER PLACEMENT OF CONTROL JOINTS IN GYPSUM PANEL WALL OR CEILING ASSEMBLIES IS CRUCIAL FOR MITIGATE ARCHITECTURAL/COSMETIC DISTRESS. THESE JOINTS ACCOMMODATE MOVEMENT CAUSED BY THERMAL EXPANSION, CONTRACTION, SHRINKAGE AND FOUNDATION SETTLING, HEAVE AND/OR SUBSIDENCE, THUS PREVENTING STRESS CONCENTRATION THAT CAN LEAD TO CRACKING.**
   B. CONTROL JOINTS SHALL BE EITHER MANUFACTURED DEVICES DESIGNED FOR THIS PURPOSE OR FIELD FABRICATED FROM SUITABLE MATERIALS. PRE-APPROVED PRODUCTS INCLUDE:
      a. CLARK-DIETRICH CONTROL JOINT (ZINC) OR VINYL (093V)
      b. MARINOWARE 093 CONTROL JOINT
      c. TRIM-TEX VINYL 093V CONTROL JOINT
   C. LOCATIONS
      a. WHERE SHOWN IN THE ARCHITECTURAL OR STRUCTURAL DRAWINGS, IF APPLICABLE.
      b. A CONTROL JOINT SHALL BE INSTALLED WHERE A PARTITION, WALL, OR CEILING TRAVERSES A CONSTRUCTION , CONTROL/CONTRACTION, OR EXPANSION JOINT IN THE SUPPORTING STRUCTURE.
      c. CONTROL JOINTS SHALL BE PLACED AT ALL RE-ENTRANT CORNERS (E.G., AT EACH CORNER OF A DOOR/WINDOW, AT CORNER OF L-SHAPED HALLWAYS, WHERE A PARTITION WALL INTERRUPTS A CEILING ASSEMBLY).
         - RE-ENTRANT CORNER IS AN INTERIOR ANGLE THAT IS FORMED WHERE TWO WALLS OR A WALL AND A CEILING INTERSECT AT AN ANGLE LESS THAN 180 DEGREES. ESSENTIALLY, IT'S AN INWARD-FACING CORNER OR AN INDENTED CORNER, AS OPPOSED TO AN OUTWARD-FACING (EXTERNAL) CORNER.
      d. CONTROL JOINTS SHALL BE INSTALLED WHERE A WALL, PARTITION, INTERIOR/EXTERIOR CEILING OR SOFFIT RUNS IN AN UNINTERRUPTED STRAIGHT PLANE EXCEEDING (XX - SEE BELOW) LINEAR FEET.
         - WOOD FRAMING - XX = 15'-0" OC MAXIMUM [MORE STRINGENT THAN GA-216]
         - CFS FRAMING - XX = 20'-0" MAXIMUM [MORE STRINGENT THAN GA-216]
      e. A CONTROL JOINT OR INTERMEDIATE BLOCKING SHALL BE INSTALLED WHERE CEILING FRAMING MEMBERS CHANGE DIRECTION.

BUILDING MOVEMENT, VIBRATION AND DEFLECTION CRITERIA

1. THE BUILDING MOVEMENT SPECIFIED HEREIN IS ANTICIPATED TO OCCUR AND SHOULD BE CONSIDERED BY THE CONTRACTOR IN PERFORMANCE OF THE WORK.
   A. **LATERAL FRAME WIND DEFLECTION (DRIFT)**: THE FOLLOWING PROVISION FOR LATERAL FRAME DEFLECTION IN THE PLANE OF THE WALL OF ONE FLOOR RELATIVE TO AN ADJACENT FLOOR SHALL BE MADE IN THE DESIGN, FABRICATION AND INSTALLATION FOR THE BUILDING CLADDING.
      a. TYPICAL FLOOR TO FLOOR DRIFT:.................. H / 400
         - H = FLOOR TO FLOOR HEIGHT
   B. **DEFLECTIONS**: THE FOLLOWING PROVISION FOR SUPERIMPOSED LOAD DEFLECTIONS SHALL BE MADE IN THE DESIGN, FABRICATION, AND INSTALLATION OF ALL PARTITIONS, GLASS WALLS, AND OTHER ELEMENTS SUPPORTED BY AND ATTACHED TO THE STRUCTURE:
      a. TYPICAL FLOOR MEMBERS:.................. SPAN / 360 BUT NOT MORE THAN 1/2"
      b. TYPICAL ROOF MEMBERS:.................. SPAN / 360 BUT NOT MORE THAN 1/2"
   C. **EXTERIOR WALL DEFLECTIONS**: THE FOLLOWING PROVISION FOR SUPERIMPOSED LOAD DEFLECTIONS SHALL BE MADE IN THE DESIGN, FABRICATION, AND INSTALLATION OF ALL PARTITIONS, GLASS WALLS, AND OTHER ELEMENTS SUPPORTED BY AND ATTACHED TO THE STRUCTURE:
      a. EXTERIOR WALLS SUPPORTING MASONRY VENEER:.................. SPAN / 600
      b. EXTERIOR WALLS SUPPORTING FLEXIBLE FINISHES (METAL PANEL, FIBER-CEMENT SIDING, ETC.):.... SPAN / 360
      c. EXTERIOR WALLS SUPPORTING CURTAINWALL / STOREFRONT SYSTEMS:.................. SPAN / 240 (MAX 1¼")
   D. **VIBRATION**
      a. NO VIBRATION (STRUCTURE MOTION) PERFORMANCE CRITERIA HAS BEEN SPECIFIED BY THE CLIENT. IF REQUESTED IN WRITING A VIBRATION ANALYSIS CAN BE PERFORMED AS AN ADDITIONAL SERVICE. THE CLIENT MUST INDICATE VIBRATION PERFORMANCE CRITERIA NEEDED. NOTE THAT A VIBRATION ANALYSIS MAY DETERMINE THAT LARGER SIZE STRUCTURAL MEMBERS MAY BE REQUIRED.
   E. **SLAB ON GROUND MOVEMENT**
      a. PROVISIONS SHALL BE MADE IN THE BUILDING CLADDING AND INTERIOR PARTITIONS FOR RELATIVE DEFLECTIONS BETWEEN THE SOIL-SUPPORTED SLAB ON GRADE AND THE ROOF OR FLOOR LEVEL DIRECTLY ABOVE (E.G. DEFLECTION TRACKS, SLIDE-CLIPS, ADEQUATE SPACING OF CONTROL JOINTS, ETC.). DESIGN OF SLABS-ON-GROUND IS BASED ON A RANGE OF 0 INCH(ES) TO 1 INCH UNLESS NOTED OTHERWISE IN THESE DRAWINGS.

STAIR, LADDERS, HANDRAILS, RESTROOM ACCESSORIES AND GUARDRAIL SPECIFICATIONS:

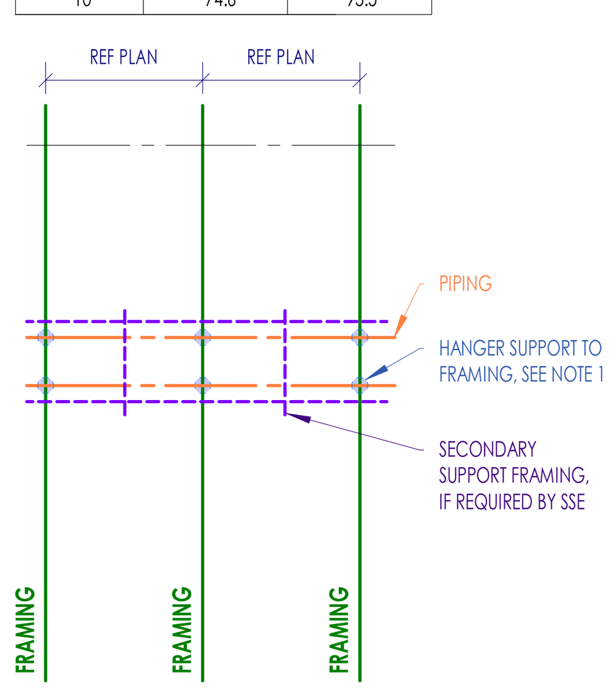
1. THE STRUCTURE FOR ALL STAIRS, GUARDRAILS AND HANDRAILS SHALL BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER BASED ON THE FOLLOWING DESIGN CRITERIA. REF STRUCTURAL DEFERRED SUBMITTAL SECTION FOR ADDITIONAL REQUIREMENTS.
   A. STAIRS:
      a. STRUCTURAL DESIGN CRITERIA:
         - THE STAIR STRUCTURAL DESIGN SHALL BE IN ACCORDANCE WITH AISC DESIGN GUIDE 34: STEEL-FRAMED STAIRWAY DESIGN., NAAMM METAL STAIRS MANUAL, & AISC CODE OF STD PRACTICE. SEE ARCH AND MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION INCLUDING BUT NOT LIMITED TO REGULATORY REQUIREMENTS (IBC AND/OR OSHA), DIMENSIONS, STAIR WIDTH, STAIR SLOPE, HEIGHT OF STAIR FLIGHTS AND GUARDRAIL, HANDRAIL AND/OR STAIR RAIL SYSTEM REQUIREMENTS.
         - HANGERS ARE NOT ALLOWED UNLESS NOTED OTHERWISE ON THE DRAWINGS.
         - STAIR CONNECTIONS SHALL NOT INTRODUCE TORSION AND/OR UNACCEPTABLE ECCENTRICITIES TO THE SUPPORTING STRUCTURAL MEMBERS. IF NOT AVOIDABLE, THEN STAIR SSE/MFR. SHALL PROVIDE ADDITIONAL BRACING AS REQUIRED BY THE SER TO MITIGATE THE EFFECTS OF THE INDUCED TORSION/ECCENTRICITY.
      b. VERTICAL LOADS:
         - INTERNATIONAL BUILDING CODE (IBC)
           1. STAIR STRINGERS, TREADS AND RISERS SHALL BE DESIGNED TO SUPPORT A UNIFORM LOAD OF 100 PSF LIVE LOAD.
           2. INDIVIDUAL STAIR TREADS & LANDINGS SHALL BE DESIGNED TO SUPPORT A 300 LB CONCENTRATED LOAD [APPLIED TO AN AREA OF 4 IN^2] PLACED IN A POSITION THAT WOULD CAUSE THE MAX STRESS.
           3. CONCENTRATED AND UNIFORM LOADS NEED NOT BE APPLIED SIMULTANEOUSLY.
         - OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA)
           1. CONCENTRATED LOAD = 5X THE NORMAL ANTICIPATED LIVE LOAD BUT NEVER LESS THAN 1,000 LBS APPLIED AT ANY POINT [OSHA 1910.25 (b) (6)
      c. LATERAL LOADS (IBC AND OSHA):
         - DESIGN FOR A NOMINAL 12 PSF LIVE LOAD OF THE STAIR SURFACE AREA , IN ADDITION TO NOTIONAL/WIND/SEISMIC LOADS, AS APPLICABLE.
         - THE STAIR DESIGNER MUST ACCOUNT FOR THE REQUIREMENTS OF ASCE/SEI 7, SECTION 1.4, FOR NOTIONAL LOADS, LOAD COMBINATIONS, LOAD PATH CONNECTIONS, LATERAL FORCES, AND CONNECTION TO SUPPORTS.
         - THE STAIR CONNECTIONS SHALL BE DETAILED TO NOT TRANSFER LATERAL FORCES FROM THE BUILDING. THE SSE SHALL INCORPORATE SEISMIC DISPLACEMENT CONNECTIONS IN ACCORDANCE WITH ASCE/SEI 7, SECTION 13.5.10. DESIGN FOR A RELATIVE DISPLACEMENT IN ACCORDANCE WITH EQUATION 13.3-7 OF ASCE 7.
      d. DEFLECTION
         - STRINGERS AND LANDING MEMBERS (NOT SUPPORTING BRITTLE FINISHES) - LIVE LOAD DEFLECTION LIMIT (L/360) - TOTAL DEFLECTION LIMIT (L/240)
         - STRINGERS AND LANDING MEMBERS (SUPPORTING BRITTLE FINISHES) - LIVE LOAD DEFLECTION LIMIT (L/600) - TOTAL DEFLECTION LIMIT (L/240)
   B. HANDRAIL AND GUARDS
      a. LOADING CRITERIA:
         - IBC:
           1. GUARD TOP RAIL AND HANDRAILS: THE TOP RAIL OF GUARDRAILS AND HANDRAILS SHALL BE DESIGNED TO WITHSTAND A LIVE LOAD OF 50 PLF APPLIED HORIZONTALLY AT RIGHT ANGLES, OR A 200 LB CONCENTRATED LIVE LOAD IN ANY DIRECTION.
           2. BALUSTERS, PANELFILLERS, AND GUARD SYSTEM INFILL COMPONENTS, INCLUDING ALL RAILS EXCEPT THE HANDRAIL AND THE TOP RAIL, SHALL BE DESIGNED TO RESIST A HORIZONTALLY APPLIED NORMAL LOAD OF 50 LB ON AN AREA NOT TO EXCEED 12 IN. × 12 IN. , INCLUDING OPENINGS AND SPACE BETWEEN RAILS AND LOCATED SO AS TO PRODUCE THE MAXIMUM LOAD EFFECTS. REACTIONS DUE TO THIS LOADING ARE NOT REQUIRED TO BE SUPERIMPOSED WITH THE LOADS FOR THE TOP RAIL AND HANDRAIL.
         - OSHA
           1. GUARD TOP RAIL AND HANDRAILS: CONCENTRATED LOAD OF 200 LBS APPLIED IN A DOWNWARD OR OUTWARD DIRECTION WITHIN 2" OF THE TOP EDGE AT ANY POINT. THE RAIL SYSTEM SHALL NOT DEFLECT TO A HEIGHT LESS THAN 39" ABOVE THE WALKING/WORKING SURFACE WHEN APPLIED IN A DOWNWARD DIRECTION.
           2. INTERMEDIATE RAILS, PANEL FILLER AND THEIR CONNECTIONS: CONCENTRATED LOAD OF 150 LBS IN ANY DOWNWARD OR OUTWARD DIRECTION AT ANY POINT.
      b. LIVE LOAD DEFLECTION CRITERIA:
         - CANTILEVER GUARD POST - H/60
         - INFILL RAILS, HANDRAIL, AND INFILL PANEL - SPAN/120
   C. RESTROOM ACCESSORIES:
      a. GRAB BARS, TUB AND SHOWER SEATS, FASTENERS, AND MOUNTING DEVICES SHALL BE DESIGNED TO RESIST A CONCENTRATED LOAD OF 250 POUNDS AT ANY LOCATION AND IN ANY DIRECTION.
      b. COUNTERTOPS SHALL BE DESIGNED TO RESIST A 50 PSF UNIFORM LIVE LOAD IN ADDITION TO A NON-CONCURRENT 250 LB CONCENTRATED LOAD AT ANY LOCATION AND IN ANY DIRECTION. THE DEFLECTION IN BOTH CASES SHALL BE LIMITED TO L/480.
   D. PERMANENT [FIXED] ACCESS LADDERS
      a. SHALL BE CONSTRUCTED IN ACCORDANCE WITH INTERNATIONAL MECHANICAL CODE [306.5] & OSHA CFR 1910.23 & 1920.28
      b. LADDERS WHICH EXTEND ABOVE 24 FEET REQUIRE A FALL PROTECTION SYSTEM.
      c. FIXED LADDERS WITH RUNGS SHALL BE DESIGNED TO RESIST A SINGLE CONCENTRATED LOAD OF 300 LB APPLIED AT ANY POINT TO PRODUCE THE MAXIMUM LOAD EFFECT ON THE ELEMENT BEING CONSIDERED. THE NUMBER AND POSITION OF ADDITIONAL CONCENTRATED LIVE LOAD UNITS SHALL BE A MINIMUM OF 1 UNIT OF 300 LB FOR EVERY 10 FT OF LADDER HEIGHT.
      d. WHERE RAILS OF FIXED LADDERS EXTEND ABOVE A FLOOR OR PLATFORM AT THE TOP OF THE LADDER, EACH SIDE RAIL EXTENSION SHALL BE DESIGNED TO RESIST A SINGLE CONCENTRATED LIVE LOAD OF 100LB APPLIED IN ANY DIRECTION AT ANY HEIGHT UP TO THE TOP OF THE SIDE RAIL EXTENSION.
      e. SHIPS LADDERS WITH TREADS INSTEAD OF RUNGS SHALL BE DESIGNED TO RESIST THE SPECIFIED STAIR LOADING.

COLLATERAL LOADS (MECHANICAL EQUIPMENT / PLUMBING / FIRE UTILITIES / CEILINGS/SOFFITS, ETC.) SUPPORTED BY FRAMING

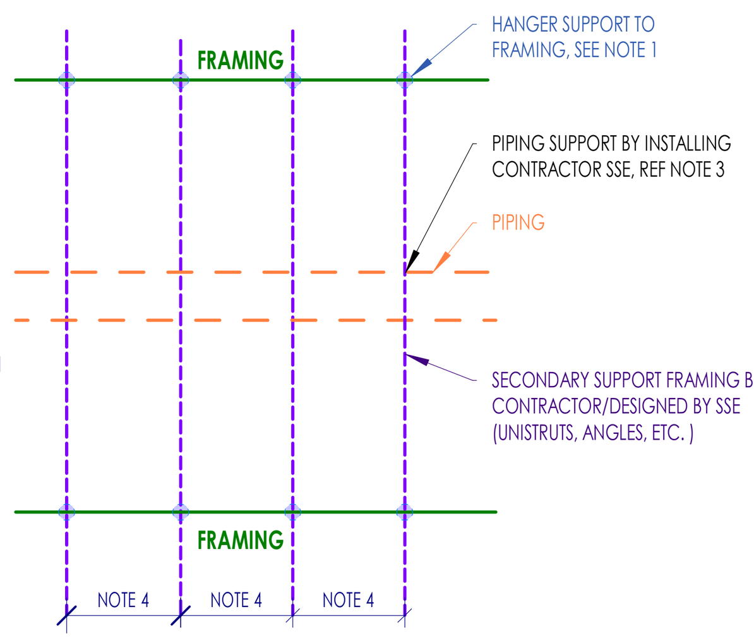
1. GENERAL
   A. REFER TO **DESIGN CRITERIA** AND/OR FRAMING NOTES ON PLAN FOR ALLOWANCES FOR LOADS ON THE STRUCTURE. THE CONTRACTOR SHALL INCLUDE SECONDARY FRAMING AS REQUIRED TO SUPPORT ALL EQUIPMENT / UTILITIES WITHIN THESE ALLOWANCES, WITHOUT DETRIMENTAL IMPACT TO THE STRUCTURE AND IN ACCORDANCE WITH INDUSTRY BEST PRACTICE.
   B. FOR ITEMS SUPPORTED FROM STEEL JOISTS, THE REACTIONS FROM ATTACHMENT POINTS TO THE JOISTS SHALL NOT EXCEED THE DESIGN ADD LOAD, REFERENCE ROOF JOIST NOTES ON ROOF FRAMING PLAN.
   C. THE CONTRACTOR SHALL COORDINATE AMONG ALL AFFECTED SUBCONTRACTORS AND TRADES TO ENSURE THAT SUBMITTALS INVOLVING PENETRATIONS OR SUPPORTS THROUGH FLOORS, ROOFS, OR CEILINGS OR SUPPORT OF EQUIPMENT BY THE STRUCTURE ARE FULLY COORDINATED PRIOR TO SUBMITTAL TO THE DESIGN TEAM.
   D. ANY SUSPENDED LOADS IN EXCESS OF 100 LBS SHALL BE SUBMITTED TO THE SER FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION. THE CONTRACTOR SHALL SUBMIT A COMPOSITE PLAN FOR EACH FLOOR/ROOF PLAN WHICH INCLUDES ALL CONCENTRATED LOADS, THE ATTACHMENT METHOD AND SUPPLEMENTAL FRAMING AS REQUIRED.
   E. STRUCTURAL COMPONENTS ARE NOT DESIGNED FOR VIBRATING EQUIPMENT. MOUNT VIBRATING EQUIPMENT ON VIBRATION ISOLATORS.
2. MECHANICAL EQUIPMENT:
   A. ALL EQUIPMENT CURBS, MECHANICAL EQUIPMENT, EQUIPMENT TIE DOWNS, AND CONNECTIONS OF ALL EQUIPMENT TO BUILDING STRUCTURE FOR WIND/SEISMIC LOADING ARE TO BE DESIGNED AND ENGINEERED BY A REGISTERED SPECIALTY ENGINEER RETAINED BY THE MECHANICAL EQUIPMENT SUPPLIER. SIGNED AND SEALED DRAWINGS AND CALCULATIONS ARE TO BE SUBMITTED TO THE ENGINEER OF RECORD FOR REVIEW AND APPROVAL. THE EQUIPMENT MANUFACTURER SHALL PROVIDE THE ATTACHMENT OF THE UNIT TO THE STRUCTURE AND SUBMIT TO THE ENGINEER LOADS, LOCATIONS, AND METHODS OF ATTACHMENT.
   B. THE GENERAL CONTRACTOR SHALL SUBMIT ACTUAL WEIGHTS OF EQUIPMENT TO BE USED IN THE PROJECT TO THE STRUCTURAL ENGINEER FOR VERIFICATION OF LOADS USED IN THE DESIGN AT LEAST THREE WEEKS PRIOR TO ISSUANCE OF SUBMITTALS, FABRICATION AND CONSTRUCTION OF THE SUPPORTING STRUCTURE.
3. PLUMBING/MECHANICAL UTILITIES:
   A. ALL PLUMBING (ROOF DRAINS, SPRINKLER LINES, ETC.) AND MECHANICAL (HYDRONIC PIPING, ETC.) UTILITIES SUPPORTED BY FRAMING SHALL BE DESIGNED AND SEALED BY A SPECIALTY STRUCTURAL ENGINEER (SSE) RETAINED BY THE INSTALLING SUBCONTRACTOR. SEALED DRAWINGS AND CALCULATIONS MUST BE SUBMITTED TO THE STRUCTURAL ENGINEER OF RECORD (SER) FOR REVIEW AND APPROVAL. FOR UTILITIES SUPPORTED BY DEFERRED FRAMING ELEMENTS (STEEL JOISTS, WOOD ROOF TRUSSES, ETC.), THE CONTRACTOR SHALL PROVIDE SEALED DRAWINGS TO THE RESPECTIVE FRAMING MANUFACTURER FOR INCORPORATION INTO THE COMPONENT DESIGN.

ASSUMED ADDITIONAL FRAMING DEAD-LOAD (PLF) FOR STEEL PIPE/TUBING FILLED WITH WATER		
PIPE SIZE (DIAMETER)	SCH. 40	SCH. 80
3"	10.8	13.2
4"	16.3	20.0
5"	23.3	28.7
6"	31.5	39.9
8"	50.2	63.2
10"	74.6	95.5

1. THE DIAGRAMS ARE CONCEPTUAL AND ILLUSTRATE THE INTENT FOR PIPING SUPPORT FROM THE PRIMARY STRUCTURAL SYSTEM DESIGNED BY THE STRUCTURAL ENGINEER OF RECORD (SER). THE CONTRACTOR AND THEIR SPECIALTY STRUCTURAL ENGINEER (SSE) MUST ENSURE THAT PIPE LOADS AND HANGER REACTIONS DO NOT EXCEED THE COLLATERAL LOADS SHOWN IN THE STRUCTURAL DRAWINGS. ADDITIONAL SUPPORTS OR CLOSER SPACING MUST BE ADDED AS REQUIRED. A PIPING SUPPORT PLAN, INCLUDING ALL REACTIONS TO THE SER-DESIGNED STRUCTURE, MUST BE SUBMITTED. FOR DEFERRED SUBMITTAL COMPONENTS (E.G., STEEL JOISTS, WOOD TRUSSES), THE CONTRACTOR MUST PROVIDE THE PLAN TO THE MANUFACTURER FOR INCORPORATION INTO THEIR DESIGN.
2. ALL JOISTS ALONG PIPE RUNS MUST BE DESIGNED TO SUPPORT SUSPENDED PIPE LOADS. THE GENERAL CONTRACTOR (GC) IS RESPONSIBLE FOR COORDINATING HANGER SPACING (E.G., 5'-0" OC OR 10'-0" OC) TO ENSURE LOADS ARE PROPERLY ACCOUNTED FOR. COORDINATION WITH THE MEP CONTRACTOR IS REQUIRED TO MAINTAIN CONSISTENT HANGING PATTERNS.
3. ACCEPTABLE PIPING SUPPORTS INCLUDE ADJUSTABLE CLEVIS HANGERS, ADJUSTABLE ROLLER HANGERS, OR TRAPEZE HANGERS (MAXIMUM OF TWO PIPES PER TRAPEZE).
4. REFER TO MEP DRAWINGS FOR MAXIMUM PIPE/TUBING SUPPORT SPACING, WHICH MUST NOT EXCEED 10'-0".



PIPING PERPENDICULAR TO JOISTS



PIPING PARALLEL TO JOISTS

UTILITIES & EXCAVATIONS UNDER STRUCTURE

1. PROVISIONS SHALL BE MADE TO MITIGATE THE POSSIBILITY THAT UTILITY TRENCHES WILL SERVE AS PATHWAYS FOR WATER TO MIGRATE FROM AREAS OUTSIDE OF THE BUILDING AREA TO BENEATH THE STRUCTURE DURING OR AFTER CONSTRUCTION. ADHERE TO ALL REQUIREMENTS FROM THE GEOTECHNICAL REPORT AND CIVIL ENGINEER. NOTIFY DUDLEY IF CONFLICTING INFORMATION IS SPECIFIED. THE FOLLOWING ARE THE MINIMUM REQUIREMENTS:
   A. THE BOTTOM OF THE UTILITY TRENCHES SHALL BE SLOPED A MINIMUM OF 1/2:12 (2.4%) IN A DOWNWARD DIRECTION AWAY FROM THE BUILDING.
   B. ANTI-SEEP COLLARS & BENTONITE PLUGS SHALL BE UTILIZED WITHIN UTILITY TRENCHES AT THE PERIMETER OF THE BUILDING TO SERVE AS A BARRIER TO MOISTURE MIGRATION ALONG THE SOILS IN THE TRENCHES TO THE INTERIOR PORTIONS OF THE BUILDING. THE ANTI-SEEP COLLAR SHALL HAVE A KEY AT THE TRENCH EDGES WHICH EXTENDS A MINIMUM OF 1'-0" INTO UNDISTURBED SOIL ON 3-SIDES (BOTH SIDES AND BOTTOM). APPROVED PRODUCTS INCLUDE THE FOLLOWING (CONTRACTOR MAY SUBMIT PROPOSE EQUIVALENT PRODUCTS FOR APPROVAL):
      a. AQUABLOK - TRENCH DAM (ANTI-SEEP COLLAR)
2. ALL EXCAVATIONS UNDER THE STRUCTURE SHALL BE UNCLASSIFIED EXCAVATION. NOTIFY THE SER AND GEOTECHNICAL ENGINEER IF UNFORSEEN CONDITIONS ARE ENCOUNTERED UNDER THE STRUCTURE.
   A. UNCLASSIFIED EXCAVATION – ALL MATERIALS ENCOUNTERED DURING EXCAVATION SHALL BE CONSIDERED UNCLASSIFIED. NO DISTINCTION WILL BE MADE BETWEEN DIFFERENT TYPES OF MATERIALS (E.G., SOIL, ROCK, FILL, DEBRIS, ETC.) FOR THE PURPOSES OF PRICING, REMOVAL, OR PAYMENT. THE CONTRACTOR SHALL INCLUDE ALL COSTS ASSOCIATED WITH EXCAVATION, REGARDLESS OF MATERIAL TYPE, IN THEIR BASE BID.
3. EXCAVATION AND SHORING REQUIREMENTS FOR ALL OPEN EXCAVATIONS SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE PROVISIONS OF OSHA 29 CFR 1926.
4. SOILS USED TO BACKFILL UTILITY TRENCHES SHALL BE FREE OF DELETERIOUS MATERIAL AND EXCESSIVE AMOUNTS OF SILT. NATIVE SOILS OR SOILS MEETING STRUCTURAL FILL REQUIREMENTS MAY BE USED FOR BACKFILLING OF UTILITY TRENCHES UNLESS OTHERWISE PROHIBITED BY PROJECT PLANS AND SPECIFICATIONS.
5. TRENCH BACKFILL SHALL BE PLACED IN LOOSE LIFTS NOT TO EXCEED 8 INCHES AND MECHANICALLY COMPACTED TO THE REQUIRED MOISTURE/DENSITY SPECIFICATIONS.
6. SOILS USED TO BACKFILL UTILITIES LOCATED BENEATH STRUCTURE, PAVED SURFACES, OR OTHER STRUCTURAL UNITS SHALL MEET THE SPECIFIED MATERIAL CHARACTERISTICS AND SHALL BE COMPACTED TO AT LEAST 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE PREVIOUSLY REFERENCED STANDARD PROCTOR COMPACTION TEST, ASTM D698.
7. UTILITY LINES UNDER THE BUILDING SHALL BE LINED TO MINIMIZE UNDERLYING HEAVE DUE TO BREAKS AND/OR LEAKS IN WATER BEARING UTILITIES.

REINFORCING STEEL - 03 20 00

1. THE CONTRACTOR MUST SUBMIT PLACING DRAWINGS (DRAWINGS SHOWING FABRICATION DIMENSIONS AND PLACEMENT LOCATIONS OF REINFORCEMENT AND REINFORCEMENT SUPPORT) COMPLETE WITH LAYOUT, SYMBOLS AND NOTATION, AND SCHEDULES WITH THE REINFORCING STEEL SHOP DRAWINGS. THE PLACING DRAWINGS MUST INCLUDE ALL INFORMATION NECESSARY FOR COMPLETE FABRICATION AND PLACING OF ALL REINFORCING STEEL. IF THE CONTRACTOR ONLY SUBMITS SCHEDULES (BAR LISTS, CUT AND BEND INFORMATION), THE SUBMITTAL WILL NOT BE REVIEWED AND WILL BE RETURNED FOR INFORMATION ONLY. DETAILING OF CONCRETE REINFORCEMENT BARS AND ACCESSORIES SHALL CONFORM TO THE FOLLOWING: ACI 315 "DETAILS AND DETAILING OF CONCRETE REINFORCEMENT", CRSI "REINFORCING BAR DETAILING" , AND CRSI "MANUAL OF STANDARD PRACTICE". ALL REFERENCES SHALL BE THE LATEST EDITION AVAILABLE.
2. PRIOR TO SUBMITTING THE CONCRETE REINFORCEMENT SUBMITTAL FOR REVIEW BY DUDLEY, THE CONTRACTOR IS REQUIRED TO PROVIDE A SUBMITTAL THAT COORDINATES THE FINAL DEPTHS OF THE GRADE BEAMS, FOOTINGS, AND PIERS (AS APPLICABLE IN THE PROJECT), IN ALIGNMENT WITH THE FINALIZED CIVIL GRADING PLAN. THIS SUBMITTAL AIMS TO ENSURE THAT THE FOUNDATION ELEMENTS COMPLY WITH THE EMBEDMENT REQUIREMENTS SPECIFIED IN THE STRUCTURAL DRAWINGS AND/OR THE GEOTECHNICAL REPORT. THE CIVIL GRADING PLAN MAY FLUCTUATE OR CHANGE DURING THE DESIGN PHASE OF THE PROJECT, AND DUDLEY DOES NOT HAVE CONTROL OVER THESE VARIATIONS WHICH IS THE REASON THAT DUDLEY CANNOT DICTATE THESE.
3. THE REINFORCING SHOP DRAWINGS SHALL INCLUDE LABEL LEGENDS INDICATING THE SPACING, BAR MARK, BAR SIZE, NUMBER OF BARS, AND NUMBER OF LOCATIONS FOR SPECIFIED REINFORCEMENT.
4. PLACING DRAWINGS ARE DETAILED WORKING DRAWINGS THAT SHOW THE QUANTITY, SIZE, DIMENSIONS, SPACING, LOCATIONS, AND OTHER INFORMATION REQUIRED FOR REINFORCEMENT FABRICATION AND INSTALLATION. PLACING DRAWINGS SHALL BE USED BY THE IRONWORKERS ON THE PROJECT TO PLACE (INSTALL) THE REINFORCING STEEL.
   A. LAYOUT: THE PLACING DRAWINGS MUST INCLUDE PLANS, DETAILS (W. DETAILS CUT AT APPLICABLE LOCATIONS ON THE PLAN & ELEVATIONS), ELEVATIONS, GRAPHICS, SCHEDULES, MATERIAL LISTS, AND BENDING DETAILS OF REINFORCEMENT AND REINFORCEMENT SUPPORTS, AS APPLICABLE TO THIS PROJECT. FOR PROJECTS WITH CMU WALLS, THE PLACING DRAWINGS MUST COORDINATE AND SHOW ALL CAST-IN-PLACE DOWELS.
   B. FIELD CONDITIONS, FIELD MEASUREMENTS, LOCATION OF CONSTRUCTION, CONTRACTION (CONTROL) JOINTS, AND EXPANSION JOINTS SHALL BE IMPLEMENTED INTO THE PLACING DRAWINGS.
   C. THE PLACING DRAWINGS MUST BE PREPARED BASED UPON THE LATEST CONSTRUCTION DOCUMENTS ALONG WITH SHOP DRAWINGS FOR OTHER TRADES THAT AFFECT THE REINFORCEMENT. THE PLACING DRAWINGS MUST INDICATE THE LATEST ISSUE OF CONTRACT DRAWINGS THEY ARE BASED UPON.
   D. THE PLACING DRAWINGS MUST BE COMPUTER GENERATED.
5. COMPLETE REINFORCING PLACING DRAWINGS PREPARED IN ACCORDANCE WITH ACI 315 SHALL BE REVIEWED BY THE ENGINEER AND AVAILABLE ON THE JOB SITE PRIOR TO & DURING THE PLACING OF CONCRETE.
6. CONCRETE REINFORCEMENT BARS SHALL CONFORM TO ASTM A615. BARS #3 THRU #6 SHALL ADHERE TO A MIN OF GRADE 60 KSI. **BARS SIZES #7 & GREATER SHALL ADHERE TO A MIN. GRADE OF 75 KSI.**
7. WELDED WIRE REINFORCEMENT (WWR) SHALL CONFORM TO ASTM 1064 GR.80 AND SHALL BE PROVIDED IN SHEET FORM. SHEETS SHALL BE MFR'D WITH SUFFICIENT OVERHANG LENGTHS TO ACHIEVE A LAP SPLICE EQUAL TO THE GREATER OF 12" OR THE LAP SPLICE DIMENSION SHOWN IN THE REBAR LAP SCHEDULE FOR BAR OF EQUAL OR GREATER DIAMETER AND GRADE. UNO, SHEETS SHALL BE INSTALLED COPLANAR SO AS TO NOT "STACK".
8. ALL REINFORCING STEEL SHALL BE SUPPORTED AT THE SPECIFIED DEPTH USING CONTINUOUS CHAIRS, SPACED AT A MAXIMUM OF 48" O.C. IN BOTH DIRECTIONS. WHERE CONDITIONS REQUIRE, THE CONTRACTOR SHALL PROVIDE CLOSER SPACING TO ADEQUATELY SUPPORT THE REINFORCEMENT. REINFORCEMENT SUPPORTS SHALL COMPLY WITH CRSI RB4.1 "SUPPORTS FOR REINFORCEMENT USED IN CONCRETE," LATEST EDITION, SUBJECT TO THE FOLLOWING ADDITIONAL REQUIREMENTS:
   A. SLABS-ON-GROUND – PLASTIC OR METALLIC CHAIRS SHALL INCORPORATE SAND PLATES.
   B. PRECAST CONCRETE SUPPORTS (UTILITY BRICKS) – PERMITTED ONLY AT THE BOTTOM OF GRADE BEAMS, FOOTINGS, OR TURNDOWNS WITH A MINIMUM DEPTH OF 12", OR WHEN SPECIFICALLY APPROVED IN WRITING BY THE SER. WHEN PERMITTED, SUPPORTS SHALL HAVE A MINIMUM BEARING AREA OF 4 IN^2 AND A COMPRESSIVE STRENGTH EQUAL TO OR GREATER THAN THE DESIGN CONCRETE STRENGTH.
   C. WATER-CONTAINMENT STRUCTURES (POOLS, TANKS, ETC.) – ONLY NON-METALLIC CHAIRS SHALL BE USED, SPACED AT 48" O.C. EACH WAY MAXIMUM.
   D. CIVIL WASTEWATER STRUCTURES – NON-METALLIC CHAIRS SHALL BE USED DUE TO DURABILITY AND CORROSION CONCERNS. ALTERNATIVES MAY BE SUBMITTED FOR WRITTEN REVIEW AND APPROVAL BY THE SER.
9. END HOOKS, DEVELOPMENT LENGTHS, AND SPLICES SHALL CONFORM TO THE REQUIREMENTS OF ACI 318.
10. REINFORCEMENT MAY BE PLACED IN BUNDLES OF NOT MORE THAN TWO W/ THE CLEAR DISTANCE BETWEEN BUNDLES OF REINFORCEMENT OR TENDONS OF 3 INCHES MINIMUM. CONCRETE COVER NOT SPECIFICALLY DETAILED ON THE DRAWINGS SHALL BE IN ACCORDANCE WITH ACI 318.
11. COVERAGE: THE FOLLOWING SHALL BE THE MINIMUM REINFORCEMENT CONCRETE COVERAGE (INCLUDING TENDONS):
    A. CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH .... 3"
    B. CONCRETE EXPOSED TO EARTH OR WEATHER:
       a. NO. 6 AND LARGER .... 2"
       b. NO. 5 BAR AND SMALLER .... 1½"
    C. CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND .... ¾"
12. LAP SPLICES
    A. UNO REFER TO THE "TYPICAL TENSION LAP SPLICE LENGTH" DETAIL FOR ALL LAP SPLICES.
    B. IF THE "TYPICAL TENSION LAP SPLICE LENGTH" DETAIL IS NOT PROVIDED, ALL LAP SPLICES OF REINFORCEMENT IN GROUND SUPPORTED ELEMENTS (GRADE BEAMS, FOOTINGS, TURN DOWNS) SHALL BE A MINIMUM OF 48Ø, WHERE Ø = THE DIAMETER OF THE BAR. REINFORCEMENT IN STRUCTURAL SLABS, WALLS, OR ELEVATED STRUCTURES SHALL REFER TO THE TYPICAL LAP SPLICE DETAIL. IF NOT PROVIDED, REQUEST IN AN RFI.
    C. LAP SPLICES FOR BAR TWO BARS OF DIFFERENT SIZES SHALL CONFORM TO THE REQUIRED LAP LENGTH FOR THE LARGER BAR.
13. HEADED CONCRETE STUD ANCHORS ("HSA") FASTENED TO AN EMBED PLATE SHALL BE NELSON OR KSM HEADED CONCRETE ANCHORS (OR APPROVED ALTERNATIVE). ANCHORS SHALL BE AUTOMATICALLY END WELDED WITH SUITABLE STUD WELDING EQUIPMENT IN THE SHOP OR IN THE FIELD. WELDING SHALL BE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE NELSON STUD WELDING COMPANY OR THE KSM WELDING SYSTEMS COMPANY.

REINFORCED CONCRETE - 03 30 00

1. **REINFORCED CONCRETE ALLOWANCE**
   a. **IN ADDITION TO ALL OF THE REINFORCED CONCRETE INDICATED WITHIN THE CONSTRUCTION DOCUMENTS, THE CONTRACTOR SHALL PROVIDE FOR AN ALLOWANCE OF A NET 5.0 CUBIC YARDS (CY) OF REINFORCED CONCRETE WITH AN ASSUMED 150 LBS/CY OF GR.60 REBAR TO BE FURNISHED (SHIPPING & HANDLING), FABRICATED, DETAILED, AND PLACED DURING THE PROGRESSION OF WORK AS MAY BE DIRECTED BY THE ENGINEER OF RECORD OR ARCHITECT. PROVIDE THE UNIT COST OF THE REINFORCED CONCRETE WITH THE BID FORM. AT PROJECT CLOSEOUT, CREDIT UNUSED AMOUNTS REMAINING IN THE CONTINGENCY ALLOWANCE TO OWNER BY CHANGE ORDER.**
   b. **THE CONTRACTOR SHALL MAKE AN ALLOWANCE FOR THE ADJUSTMENT AND DETAILING OF REINFORCED CONCRETE DURING THE SHOP DRAWING REVIEW PROCESS.**
   c. **IF THE CONTRACTOR/DETAILER BELIEVES THAT THESE CONTRACT DOCUMENTS ARE ONLY PARTIALLY COMPLETE, THEN THEY SHALL COLLABORATE WITH THE SER AND GC TO REACH MUTUAL AGREEMENT ON WHAT INFORMATION IS NOT SPECIFIED AND DOCUMENT IN WRITING WHAT ALLOWANCES ARE TO BE INCLUDED WITH APPROPRIATE CONTINGENCIES FOR THE UNCERTAINTY.**
2. **GENERAL**
   A. CONCRETE WORK SHALL CONFORM TO THE LATEST ED. OF ACI 301 (SPECIFICATIONS FOR STRUCTURAL CONCRETE) UNO IN THESE CONSTRUCTION DOCUMENTS.
   B. POINT OF DELIVERY = AT DISCHARGE FROM THE CONCRETE MIX TRUCK (END OF THE CHUTE)
   C. POINT OF PLACEMENT = AT THE LOCATION WHERE CONCRETE IS PLACED TO HARDEN. IF PUMPING, THIS WILL BE AT THE END OF THE PUMP HOSE
   D. WELDING OF REINFORCEMENT IS NOT ALLOWED WITHOUT WRITTEN PERMISSION FROM ENGINEER.

a. **CONCRETE MIX DESIGN & PLACEMENT:**
   A. ALL CONCRETE MIXES SHALL CONFORM TO ACI 301. MIX DESIGN DATA RESULTS SHALL BE SUBMITTED FOR EACH CONCRETE MIX. PROPORTIONS OF MATERIALS FOR CONCRETE SHALL BE ESTABLISHED TO:
      a. PROVIDE WORKABILITY AND CONSISTENCY TO PERMIT CONCRETE TO BE WORKED READILY INTO FORMS AND AROUND REINFORCEMENT UNDER CONDITIONS OF PLACEMENT TO BE EMPLOYED, WITHOUT SEGREGATION OR EXCESSIVE BLEEDING.
      b. MEET REQUIREMENTS FOR APPLICABLE EXPOSURE REQUIREMENTS.
      c. MEET OR EXCEED THE REQUIRED F'C.
      d. NOT EXCEED THE MAXIMUM W/C RATIO.
   B. **CONCRETE MIX DESIGN SUBMITTALS** MUST INCLUDE THE FOLLOWING INFORMATION IN THE ORDER PRESENTED:
      a. **MIX DESIGN**
         - INDICATE THE INTENDED USE (I.E. GRADE BEAMS) AND MIX CODE
         - METHOD OF PLACEMENT (PUMP, DIRECT DISCHARGE, ETC.)
         - MINIMUM INFORMATION TO BE INCLUDED: W/CM RATIO, F'C, TARGET SLUMP, TYPE OF CEMENT, ENTRAINED AIR CONTENT, COARSE AGGREGATE SIZE AND SOURCE, PROPORTIONS OF SUPPLEMENTARY CEMENTITIOUS MATERIALS, CONCRETE DENSITY, LIST OF ALL MATERIALS, ADMIXTURES, AND ADDITIVES ALONG WITH THEIR PROPORTIONS, LIMITATIONS ON TOTAL CHLORIDES, OR OTHER DURABILITY OR EXPOSURE CRITERIA.
      b. **TEST DATA TO VALIDATE THE REQUIRED CONCRETE STRENGTH** (ONE OF THE METHODS BELOW MUST BE USED), THE FOLLOWING IS A SUMMARY OF THE REQUIREMENTS. REFER TO ACI 301 AND 318. THE CONTRACTOR IS RESPONSIBLE FOR FULL COMPLIANCE WITH THESE CODE SECTIONS.
         - **FIELD STRENGTH TEST RECORDS** (HISTORICAL TEST DATA) - ACI 301 §4.2.3.2(a)
           1. FIELD STRENGTH TEST RESULTS CAN BE USED IF THERE ARE AT LEAST (10) CONSECUTIVE TESTS FOR MIXTURES USING SIMILAR MATERIALS UNDER SIMILAR CONDITIONS. IF THIS CONDITION IS NOT SATISFIED, THE MIX MUST BE QUALIFIED BASED ON THE RESULTS OF A SERIES OF TRIAL MIXTURES.
           2. A FIELD STRENGTH TEST IS THE AVERAGE COMPRESSIVE STRENGTH OF EITHER (3) 4X8 OR (2) 6X12 CYLINDERS AT 28-DAYS.
           3. AT LEAST (15) TEST RESULTS FROM A SINGLE GROUP ARE REQUIRED TO ESTABLISH A STANDARD DEVIATION USED TO DETERMINE THE REQUIRED AVERAGE STRENGTH, F'CR. WHEN LESS THAN (15) TEST RECORDS ARE AVAILABLE, ACI 301 TABLE 4.2.3.3.B ESTABLISHES THE REQUIRED AVERAGE STRENGTH IN EXCESS OF THE SPECIFIED F'C DATA FROM (2) GROUPS OF CONSECUTIVE COMPRESSIVE STRENGTH TESTS TOTALING AT LEAST (30) COMPRESSIVE STRENGTH TESTS, WITH NEITHER OF THE GROUPS HAVING LESS THAN (10) TESTS.
           4. A MODIFICATION FACTOR IS APPLIED TO THE STANDARD DEVIATION WHEN LESS THAN (30) TESTS ARE USED. SUCH TESTS SHALL BE FOR CONCRETE MIXES HAVING STRENGTH WITHIN 1,000 PSI OF F'C.
           5. TO QUALIFY AS CONSECUTIVE TESTS, THE FIELD STRENGTH TEST RECORDS MUST HAVE BEEN PERFORMED OVER A PERIOD OF AT LEAST (45) DAYS AND HAVE BEEN BASED ON SIMILAR CONCRETE MIXES WITHIN 1,000 PSI OF F'C. FIELD STRENGTH TEST RECORDS SHALL BE NO MORE THAN (24) MONTHS OLD.
           6. A SIMILAR MIX IS ONE INCORPORATING SIMILAR MATERIALS AND PROPORTIONS AND THAT IS NOT MORE RESTRICTIVE THAN THE MIX UNDER CONSIDERATION. FOR EXAMPLE, A MIX HAVING A W/CM OF 0.55 COULD BE USED TO SUPPORT A MIX WITH A W/CM OF 0.50 IF THE MATERIALS AND PROPORTIONS ARE SIMILAR. SIMILARLY, A 5.0- SACK MIX CAN BE USED TO SUPPORT A 6.0 SACK MIX, IF THEIR DESIGN STRENGTH IS WITHIN 1,000 PSI OF EACH OTHER. LIKEWISE, A 20% FLY ASH MIX COULD BE USED TO SUPPORT A 15% FLY ASH MIX IF THE W/CM IS THE SAME OR HIGHER SINCE THE 20% FLY ASH MIX WOULD BE EXPECTED TO PRODUCE A LOWER STRENGTH THAN THE PROPOSED MIX. SIMILAR MIXES SHOULD HAVE THE SAME MAXIMUM AGGREGATE SIZE AND SIMILAR GRADATIONS. SIMILAR MIXES SHALL USE THE SAME SOURCE OF MATERIAL (CEMENT, FLY ASH, AGGREGATES, ETC.)
         - **TRIAL MIXTURES** (TRIAL BATCH TEST DATA) ACI 301 §4.2.3.2(c)
           1. REQUIRES A MINIMUM OF THREE LABORATORY TRIAL BATCHES WITH A RANGE OF PROPORTIONS THAT WOULD PRODUCE A RANGE OF STRENGTHS THAT BRACKET THE REQUIRED COMPRESSIVE STRENGTHS.
           2. WHEN MULTIPLE TYPES OF CEMENTITIOUS MATERIALS ARE USED, MORE TRIAL BATCHES MAY BE NEEDED TO EXPLORE THE SENSITIVITY OF COMPRESSIVE STRENGTH TO VARIATIONS IN MIXTURE PROPORTIONS.
           3. THE PRACTICE OF SUBMITTING THE RESULTS OF A SINGLE TRIAL BATCH DOES NOT COMPLY WITH THE REQUIREMENTS FOR QUALIFICATION BY TRIAL BATCHES.
         - **CONTRACTOR'S RISK:** IF THE CONTRACTOR CANNOT COMPLY WITH EITHER OF THE METHODS ABOVE TO VALIDATE THE CONCRETE STRENGTH, THEN THE SER CANNOT APPROVE THE MIX DESIGN. IF THE F'C OF THE MIX IS BELOW 5,000 PSI, AND THE CONTRACTOR CERTIFIES IN WRITING BASED ON EXPERIENCE OR INFORMATION THAT THE MIX WILL ACHIEVE ALL PERFORMANCE REQUIREMENTS, THE CONTRACTOR MAY PROCEED AT THEIR OWN RISK. IF THIS OPTION IS TAKEN, THEN THE SAMPLING FREQUENCY FOR THE CONCRETE SHALL BE A MINIMUM OF EVERY 30 CY OR A MINIMUM OF (3) SETS PER POUR.
      c. MILL REPORTS FOR CEMENTITIOUS MATERIALS
      d. CERTIFICATIONS AND TEST RESULTS FOR CONCRETE COMPONENTS (COARSE AND FINE AGGREGATE GRADATION REPORTS)
      e. PRODUCT DATA FOR ADMIXTURES
   C. ADHERE TO THE MINIMUM CEMENTITIOUS MATERIAL CONTENT FOR FLOORS (REF ACI 301 TABLE 4.2.2.1).
   D. THE CONTRACTOR MUST INDICATE THE PLANNED PLACEMENT METHOD FOR EACH CONCRETE MIX.
   E. THE CONTRACTOR MUST PROVIDE THE APPROVED MIX DESIGNS TO THE SPECIAL INSPECTOR (OWNER'S TESTING & INSPECTION AGENCY).
   F. NO WATER SHALL BE ADDED AT THE SITE (RE-TEMPERING) WITHOUT THE SPECIAL INSPECTOR PRESENT TO ENSURE THAT THE W/C IS NOT EXCEEDED. THE READY-MIX COMPANY MUST INDICATE THE WATER WITHHELD AT THE PLANT ON EACH BATCH TICKET. WHEN THE SLUMP IS BELOW REQUIRED, WATER CAN BE ADDED, BUT MUST BE DONE IN ACCORDANCE WITH ACI 301 AND ASTM C94, SEE BELOW. IF ADDITIONAL SLUMP BEYOND THAT INDICATED IN THE CONCRETE MIX SUBMITTAL IS REQUIRED FOR PLACEMENT AND FINISH OF THE CONCRETE, THEN THE CONTRACTOR SHALL COORDINATE WITH THE CONCRETE SUPPLIER TO ADD ADDITIONAL WORKABILITY VIA PLASTICIZER, SUPERPLASTICIZER, ETC. WITHOUT INCREASING THE W/C RATIO. EXCEEDING THE W/C RATIO HAS DETRIMENTAL EFFECTS OUTSIDE OF LOWERING THE COMPRESSIVE STRENGTH INCLUDING HIGHER FREQUENCY OF SHRINKAGE CRACKS, MORE POROUS CONCRETE, AND LESS DURABLE CONCRETE.
      a. ACI 301 §4.3.2.1 SLUMP ADJUSTMENT — WHEN CONCRETE SLUMP TEST RESULTS ARE BELOW THE REQUIRED SLUMP, THE SLUMP MAY BE ADJUSTED BY ADDING WATER UP TO THE AMOUNT ALLOWED IN THE ACCEPTED MIXTURE PROPORTIONS. ADDITION OF WATER SHALL BE IN ACCORDANCE WITH ASTM C94/ C94M. DO NOT EXCEED THE SPECIFIED W/CM, SLUMP, OR ADD WATER IN EXCESS OF THAT WITHHELD AT THE BATCH PLANT.
      b. ASTM C94 REQUIREMENTS
         - DO NOT EXCEED THE MAXIMUM WATER CONTENT FOR THE BATCH AS ESTABLISHED BY THE ACCEPTED CONCRETE MIXTURE PROPORTIONS.
         - NO CONCRETE HAS BEEN DISCHARGED FROM THE MIXER EXCEPT FOR SLUMP TESTING.
         - ALL WATER ADDITIONS SHALL BE COMPLETED WITHIN 15 MINUTES FROM THE START OF THE FIRST WATER ADDITION.
         - WATER SHALL BE INJECTED INTO THE MIXER WITH SUCH PRESSURE AND DIRECTION OF FLOW TO ALLOW FOR PROPER DISTRIBUTION WITHIN THE MIXER.
         - THE DRUM SHALL BE TURNED AN ADDITIONAL 30 REVOLUTIONS OR MORE AT MIXING SPEED TO ENSURE A HOMOGENEOUS MIXTURE.
   G. SLUMP TESTS SHALL BE PERFORMED AT THE POINT OF PLACEMENT WITH THE EXCEPTIONS NOTED BELOW:
      a. IF THE POINT OF DELIVERY IS THE SAME AS THE POINT OF PLACEMENT (CONCRETE IS PLACED DIRECTLY FROM TRUCK)
      b. IF THE CONTRACTOR HAS DEVELOPED AN ACCEPTABLE (APPROVED BY SPECIAL INSPECTOR AND EOR) CORRELATION BETWEEN FRESH CONCRETE PROPERTIES AT THE POINT OF DELIVERY AND POINT OF PLACEMENT.
   H. **TRUCKS WITH SAMPLES THAT EXCEED THE APPROVED SLUMP + TOLERANCE PER THE CONCRETE MIX DESIGN SHALL BE REJECTED BY THE CONTRACTOR. IF PLACED IN THE SLAB IT IS AT THE CONTRACTOR'S RISK FOR PERFORMANCE (STRENGTH) AND AESTHETIC (SHRINKAGE CRACKING) WITH THE UNDERSTANDING THAT THEY MAY NEED TO REMOVE AND REPLACE IF PERFORMANCE/AESTHETICS ARE NOT ACCEPTABLE.**
   I. AIR-ENTRAINED CONCRETE SHALL NOT BE USED IN ANY NORMAL WEIGHT CONCRETE FLOOR SLAB THAT IS TO RECEIVE A HARD-TROWELED FINISH.

b. **CONCRETE CONSTRUCTION MATERIALS:** (FOR ALL MATERIALS APPROVED EQUIVALENTS ARE ACCEPTABLE - IT IS THE CONTRACTOR'S RESPONSIBILITY TO ESTABLISH THAT THE SUBSTITUTE PRODUCT IS EQUAL TO OR BETTER THAN THE SPECIFIED PRODUCT).
   A. **HYDRAULIC CEMENT:**
      a. USE ASTM C150 TYPE I/II OR TYPE III OR ASTM C595 TYPE IL, EXCEPT WHERE SPECIFICALLY INDICATED OTHERWISE IN TABLE BELOW.
      b. ELEMENTS WITH HIGH SULFATE EXPOSURE (CATEGORY S2 OR HIGHER) SHALL BE TYPE V CEMENT TESTED IN ACCORDANCE WITH ASTM C1012 FOR SULFATE RESISTANCE EXCEPT WHERE INDICATED OTHERWISE IN TABLE BELOW.
   B. **FLY ASH:**
      a. FLY ASH MAY BE USED TO REPLACE A PORTION OF THE PORTLAND CEMENT, SUBJECT TO THE APPROVAL OF THE ARCHITECT AND STRUCTURAL ENGINEER NOT TO EXCEED THE AMOUNTS LISTED IN THE CONCRETE TABLE.
      b. USE ASTM C618 CLASS C OR F.
   C. **NORMAL WEIGHT AGGREGATE:**
      a. USE ASTM C33.
      b. MATERIAL CERTIFICATES FROM THE AGGREGATE SUPPLIER MUST BE SUBMITTED WITH THE CONCRETE MIX DESIGN.
      c. PEA STONE (PEA GRAVEL) AGGREGATES ARE NOT ACCEPTABLE.
   D. **WATER:**
      a. COMPLY WITH THE REQUIREMENTS OF ASTM C1602.

c. **CHLORIDE ION:**
   A. FOR CORROSION PROTECTION OF REINFORCEMENT IN CONCRETE, MAXIMUM WATER SOLUBLE ION CONCENTRATIONS IN HARDENED CONCRETE AT AGES FROM 28 TO 42 DAYS CONTRIBUTED FROM THE INGREDIENTS INCLUDING WATER, AGGREGATES, CEMENTITIOUS MATERIALS, AND ADMIXTURES SHALL NOT EXCEED THE LIMITS INDICATED IN THE TABLE BELOW.

d. **PLACEMENT:**
   A. CONCRETE ELEMENTS (BEAMS, SLAB, FOOTINGS, ETC.) SHALL BE PLACED MONOLITHICALLY UNO. THE CONTRACTOR SHALL REQUEST IN WRITING PROPOSED CONSTRUCTION JOINT LOCATIONS PRIOR TO REBAR SUBMITTAL REVIEW.
   B. CONCRETE SHALL BE PLACED CAREFULLY SO AS NOT TO DEVIATE REINFORCEMENT FROM THE DESIGN LOCATION.
   C. CONCRETE SHALL BE PROPERLY VIBRATED, ESPECIALLY AROUND POST-TENSIONED ANCHORAGES AND CONGESTED AREAS SUCH AS COLUMN JOINTS.
   D. PLACEMENT OF CONCRETE SHALL BE COMPLETED WITHIN 90 MINUTES AFTER THE INTRODUCTION OF THE MIXING WATER (BATCH TIME), IN ACCORDANCE WITH ASTM C94.
   E. TOLERANCES FOR CONCRETE CONSTRUCTION SHALL CONFORM TO THE LATEST ED. OF ACI 117 (SPECIFICATION FOR TOLERANCES FOR CONCRETE CONSTRUCTION AND MATERIALS).
   F. BOARD FORM EXPOSED FACE OF GRADE BEAMS, FOOTINGS, ETC.

e. **CONCRETE CONSTRUCTION PRODUCTS**
   A. COMPRESSIBLE (JOINT) FILLER AT ISOLATION AND/OR EXPANSION JOINTS: MUST ADHERE TO ASTM D1751 ASPHALT-SATURATED CELLULOSIC FIBER
   B. JOINT FILLER [COMPRESSIBLE]: CLOSED-CELL POLYETHYLENE FOAM EXPANSION JOINT FILLER. FASTFLEX, WR MEADOWS X-FOAM, OR APPROVED EQUIV.
   C. HYDROPHILIC SWELL WATERSTOPS: SHALL BE 1" WIDE x MIN 1/2" THICK, PROVIDE 2" MIN CLEAR COVER: SIKA HYDROTITE CJ-0725-3K, GRACE ADCOR ES, Henry HYDRO-FLEX, MiraSTOP. FOLLOW ALL MFR INSTALLATION REQUIREMENTS INCLUDING THE APPLICATION OF ADHESIVE PRIMER AND/OR STEEL WIRE MESH CAGE AS REQUIRED TO SECURE TO THE CONCRETE.
   D. PVC WATERSTOPS: GREENSTREAK PVC RIBBED WATERSTOP W. CENTER BULB
   E. ELASTOMERIC JOINT SEALANT: ADHERE TO ASTM D5893 - STANDARD SPECIFICATION FOR COLD-APPLIED, SINGLE-COMPONENT, CHEMICALLY CURING SILICONE JOINT SEALANT FOR PORTLAND CEMENT CONCRETE PAVEMENTS INSTALL FOAM BACKER RODS AS REQUIRED FOR INSTALLATION. PRE-APPROVED PRODUCTS - DOW - DOWSIL 890-SL SILICON JOINT SEALANT, Sikasil®-728 S. INSTALL CLOSED CELL FOAM BACKER RODS AS REQUIRED FOR INSTALLATION TO MAINTAIN A 2:1 WIDTH:DEPTH RATIO OF THE JOINT SEALANT OR AS RECOMMENDED BY THE MFR.
   F. METAL KEYWAYS: BO METALS QUICKEY, FORM-A-KEY KEY-LOC JOINT SYSTEM. ALL KEYWAYS MUST HAVE A NON-REMOVABLE PLASTIC CAP
   G. SMOOTH BAR DOWELS: ASTM A615 GR60. ONE END OF EACH DOWEL MUST BE FITTED WITH A TIGHT, NON-COMPRESSIBLE PLASTIC OR PVC SLEEVE TO ALLOW LONGITUDINAL MOVEMENT AND PREVENT BONDING WITH CONCRETE. DOWELS SHALL HAVE A MINIMUM OF 2½" OF CLEAR COVER FROM EITHER THE TOP OR BOTTOM OF ANY CONCRETE SURFACE. DURING INSTALLATION, ENSURE PROPER ALIGNMENT AND SECURE DOWELS USING APPROVED METHODS.

f. **FORMWORK**
   A. THE CONTRACTOR SHALL SUBMIT FORMWORK DRAWINGS, PREPARED UNDER THE SUPERVISION AND SEALED BY THE FORMWORK DESIGN ENGINEER, SHALL BE SUBMITTED FOR OWNER'S RECORD AND SHALL BE REVIEWED BY THE ENGINEER FOR CONFORMANCE TO STRUCTURAL LAYOUT ONLY. SUCH SHOP DRAWINGS SHALL INDICATE ALL DIMENSIONS AND TYPES OF MATERIALS, SIZES, LENGTHS, CONNECTION DETAILS, DESIGN ALLOWANCE FOR CONSTRUCTION LOADS, ANCHORS, FORM TIES, SHORES, BRACES, CONSTRUCTION JOINTS, REVEALS, CAMBER, OPENINGS, FORMWORK COATINGS, AND ALL OTHER PERTINENT INFORMATION. [**NOT APPLICABLE TO GROUND SUPPORTED FORMWORK]**
   B. THE MINIMUM COMPRESSIVE STRENGTH OF CONCRETE FOR FORMWORK REMOVAL SHALL BE 75% OF THE SPECIFIED f'_c.
   C. ANY EXPOSED SURFACES OF GROUND SUPPORTED GRADE BEAMS SHALL HAVE A SMOOTH SURFACE FORMED BY EITHER PLYWOOD OR STEEL FORMS.

g. **CONCRETE STRENGTH VERIFICATION PRIOR TO STEEL ERECTION** - STEEL ERECTION SHALL NOT COMMENCE UNTIL THE CONTROLLING CONTRACTOR (GENERAL CONTRACTOR) HAS PROVIDED WRITTEN NOTIFICATION TO THE STEEL ERECTOR THAT THE CONCRETE IN FOOTINGS, AND PIERS HAS ATTAINED, ON THE BASIS OF AN APPROPRIATE ASTM STANDARD TEST METHOD OF FIELD-CURED CYLINDERS (ASTM C31 FOR MAKING/CURING AND ASTM C39 FOR TESTING), EITHER (1) 75 PERCENT OF THE INTENDED MINIMUM COMPRESSIVE DESIGN STRENGTH OR (2) SUFFICIENT STRENGTH TO SAFELY SUPPORT THE LOADS IMPOSED DURING STEEL ERECTION, IN ACCORDANCE WITH OSHA 29 CFR 1926.752(a). THIS WRITTEN NOTIFICATION IS THE RESPONSIBILITY OF THE CONTROLLING CONTRACTOR (GC). THE STRUCTURAL ENGINEER OF RECORD (SER) DOES NOT ISSUE, AND SHALL NOT BE INTERPRETED AS ISSUING, APPROVAL TO BEGIN STEEL ERECTION.

h. **ARCHITECTURALLY EXPOSED CONCRETE** - ANY CONCRETE ELEMENTS IN WHICH TEMPERATURE & SHRINKAGE CRACKS ARE TO BE MITIGATED (ARCHITECTURALLY EXPOSED CONCRETE, WATER-RETAINING CONCRETE, ETC.), SHALL HAVE MACRO SYNTHETIC FIBERS INCLUDED IN THE CONCRETE MIX AT A DOSAGE OF 4.0 LB/CY IN ADDITION TO THE TYPICAL REINFORCEMENT. THE CONTRACTOR SHALL SUBMIT FOR APPROVAL, THE FIBER INSTALLATION AND PRODUCT DATA. MIXING AND PLACEMENT SHALL FOLLOW THE MFR'S INSTRUCTIONS. A MINIMUM 10'x10' MOCK-UP OF THE SLAB SHALL BE PROVIDED FOR THE OWNER/ARCHITECT REVIEW PRIOR TO CONSTRUCTION. INCLUSION OF FIBERS MAY DECREASE SLUMP, HOWEVER, ADDITIONAL WATER SHOULD NOT BE ADDED. ONLY A WATER REDUCING OR HIGH RANGE WATER REDUCING ADMIXTURE SHOULD BE USED TO ADJUST CONCRETE TO THE DESIRED WORKABILITY PRIOR TO THE ADDITION OF THE FIBERS. PRE-APPROVED PRODUCTS INCLUDE THE FOLLOWING:
   a. SikaFiber-800 Stealth.
   b. MasterFiber MAX 2200 CB

i. **POST-INSTALLED ANCHORS INTO CONCRETE:** POST-INSTALLED ANCHORS SHALL ONLY BE USED WHERE SPECIFIED ON THE CONSTRUCTION DOCUMENTS. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE EOR PRIOR TO INSTALLING POST-INSTALLED ANCHORS IN PLACE OF MISSING OR MISPLACED CAST-IN-PLACE ANCHORS. CARE SHALL BE TAKEN IN PLACING POST-INSTALLED ANCHORS TO AVOID CONFLICTS WITH EXISTING REBAR. HOLES SHALL BE DRILLED AND CLEANED IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS. SUBSTITUTION REQUESTS FOR PRODUCTS OTHER THAN THOSE SPECIFIED BELOW SHALL BE SUBMITTED BY THE CONTRACTOR TO THE ENGINEER-OF-RECORD ALONG WITH CALCULATIONS THAT ARE PREPARED & SEALED BY A REGISTERED PROFESSIONAL ENGINEER. THE CALCULATIONS SHALL DEMONSTRATE THAT THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING EQUIVALENT PERFORMANCE (MINIMUM) VALUES OF THE SPECIFIED PRODUCT USING THE APPROPRIATE DESIGN PROCEDURE AND/OR STANDARDS. PROVIDE SPECIAL INSPECTIONS AS REQUIRED BY THE ANCHOR'S EVALUATION REPORT (ICC-ES OR IAPMO-UES ER). CONTACT MANUFACTURER'S REPRESENTATIVE FOR THE INITIAL TRAINING AND INSTALLATION OF ANCHORS AND FOR PRODUCT RELATED QUESTIONS AND AVAILABILITY.
   A. **MECHANICAL ANCHORS:** SHALL HAVE BEEN TESTED IN ACCORDANCE WITH ACI 355.2 AND/OR ICC-ES AC193 FOR CRACKED AND UNCRACKED CONCRETE.
   B. **ADHESIVE ANCHORS:** SHALL HAVE BEEN TESTED IN ACCORDANCE WITH ACI 355.4 AND ICC-ES AC308 FOR CRACKED AND UNCRACKED CONCRETE. ADHESIVE ANCHORS SHALL BE INSTALLED IN CONCRETE HAVING A MINIMUM AGE OF 21 DAYS. HOLES SHALL BE DRY AT THE TIME OF INSTALLATION. ACI 355.3 TEMPERATURE CATEGORY "B" ASSUMED IN DESIGN. PRIOR TO INSTALLATION OF ADHESIVE ANCHORS IN HORIZONTAL OR UPDWARDLY INCLINED ORIENTATIONS RESISTING SUSTAINED TENSION LOADS, INSTALLERS ARE REQUIRED TO BE CERTIFIED IN ACCORDANCE WITH THE ACI/CRSI ADHESIVE ANCHOR INSTALLER CERTIFICATION PROGRAM AND MUST BE CONTINUOUSLY INSPECTED. THE ADHESIVE SHALL BE A TWO-COMPONENT SYSTEM THAT ADHERES TO ASTM C881.
      a. PRE-APPROVED PRODUCTS INCLUDE: SIMPSON SET X-P, SIMPSON SET 3G, HILTI HIT HY-200, DeWALT PURE220+, DeWALT PURE110+.
   C. ANY POST-INSTALLED ANCHORS INSTALLED INTO CONCRETE SHALL BE CERTIFIED FOR THE SPECIFIC APPLICATION AND FOLLOW ALL MFR INSTRUCTIONS. ADHESIVE ANCHORS WITHIN A CORROSIVE ENVIRONMENT SHALL USE EITHER EPOXY OR VINYLESTER EPOXY, ACRYLIC IS NOT ALLOWED.

j. **SURFACE FINISH ON FORMED SURFACES:** UNO BY ARCHITECTURAL DRAWINGS/SPECIFICATIONS FORMED CONCRETE SHALL ADHERE TO SF-2.0 PER ACI 301. IF THE CONCRETE IS INTENDED TO BE ARCHITECTURALLY EXPOSED IT SHALL ADHERE TO SF-3.0 MINIMUM, AND THEN ADHERE TO ANY ARCHITECTURAL REQUIREMENTS FOR SPECIAL TEXTURED FINISHES, IF APPLICABLE.
   A. SNAP TIES WITH A MINIMUM 1" CONCRETE AND BREAK OFF DISTANCE SHALL BE USED. FOR CONCRETE IN EXPOSURE CLASS C2 OR ABOVE NON-FERROUS OR STAINLESS STEEL FORM TIES SHALL BE USED.

k. **PRECONSTRUCTION MEETING**: THE CONTRACTOR SHALL SCHEDULE AND HOST A CONCRETE PRECONSTRUCTION MEETING TO ESTABLISH AND COORDINATE PROCEDURES WITH ALL KEY PARTICIPANTS INVOLVED IN THE DESIGN OR CONSTRUCTION OF CONCRETE ON THIS PROJECT. FOR SLABS, THE PRECONSTRUCTION MEETING SHALL FOLLOWING THE RECOMMENDATIONS OF ACI 302.1R.

l. **QUALITY CONTROL**: THE CONCRETE CONTRACTORS, CONCRETE SUPPLIERS, TESTING LABORATORIES, AND CONCRETE FINISHERS SHALL ALL BE CERTIFIED BY AN INDEPENDENT THIRD-PARTY CERTIFICATION PROGRAM. FOR FLATWORK AND ADHESIVE ANCHORS THEY MUST HAVE CERTIFICATIONS FROM THE FOLLOWING PROGRAMS. THE CONTRACTOR SHALL SUBMIT EVIDENCE OF CERTIFICATION AS A SUBMITTAL FOR RECORD.
   A. FINISHER - ACI ADVANCED CONCRETE FLATWORK FINISHER
   B. ADHESIVE ANCHORS - ACI ADHESIVE ANCHOR INSTALLER

m. FLOOR CLASS (ACI 302.1R) - THE CONTRACTOR SHALL ADHERE TO THE RECOMMENDATIONS IN ACI 302.1R FOR FLOOR CLASSES INDICATED BELOW. THE CONCRETE SHALL HAVE A - 5" MAX SLUMP AT POINT OF PLACEMENT IN ACCORDANCE WITH TABLE 8.4.1A OF ACI 302.1R-15.
   A. ALL FLOORS SHALL BE CLASS 4 (INSTITUTIONAL/COMMERCIAL), EXCEPT FOR PROJECTS WITH TILT-UP WALL CONSTRUCTION IN WHICH CASE IT SHALL BE CLASS 6 (HEAVY INDUSTRIAL).

CONCRETE MIX REQUIREMENTS

ELEMENT	MIN $f'c$ (PSI)	EXPOSURE CATEGORY	MAX CL^-	MAX FLY ASH	MAX W/CM RATIO	NOM MAX COARSE AGG. SIZE	MIN. AIR CONTENT[E]
SLABS-ON-GROUND[A] (W.OUT FREEZE/THAW)	3,500	F0,S0,P(W)0,C1	0.30	20%	0.45	1"	N/A (3% MAX)

N/A = MINIMUM AIR CONTENT FOR FREEZE/THAW REQUIREMENTS IS NOT APPLICABLE (APPLIES TO F0 EXPOSURE CATEGORY ONLY)

NOTES:

A. **SHRINKAGE:** CONCRETE MIXES FOR SLABS SHALL HAVE A MAXIMUM LENGTH OF CHANGE OF 0.035% AS TESTED PER ASTM C 157 "STANDARD TEST METHOD FOR LENGTH OF CHANGE OF HARDENED HYDRAULIC-CEMENT MORTAR AND CONCRETE". THE CONTRACTOR SHALL SUBMIT CERTIFICATION THAT THE PROPOSED MIX DESIGN COMPLIES. IT IS ESSENTIAL THAT THE CONCRETE USED IN THESE TESTS BE MADE WITH THE SAME MATERIALS THAT WILL BE USED IN THE ACTUAL CONSTRUCTION. THE PORTLAND CEMENT CONTENT AND THE CONTENT OF OTHER CEMENTITIOUS PRODUCTS, IF USED, SHOULD BE SUFFICIENT TO PERMIT SATISFACTORY FINISHABILITY UNDER THE ANTICIPATED FIELD CONDITIONS. THE SETTING CHARACTERISTICS OF THE CONCRETE SHOULD BE RELATIVELY PREDICTABLE. THE CONCRETE SHOULD NOT EXPERIENCE EXCESSIVE RETARDATION, DIFFERENTIAL SET TIME, OR SURFACE CRUSTING DIFFICULTIES UNDER THE CONDITIONS OF TEMPERATURE AND HUMIDITY EXPECTED ON THE PROJECT. IF A HISTORY OF FINISHING PROPERTIES IS NOT AVAILABLE FOR A CONCRETE MIXTURE, A TEST SLAB SHOULD BE PLACED UNDER JOB CONDITIONS TO EVALUATE THE WORKABILITY, FINISHABILITY, SETTING TIME, SLUMP LOSS, AND APPEARANCE OF THE CONCRETE PROPOSED FOR USE. MATERIALS, INCLUDING ALL ADMIXTURES, EQUIPMENT, AND PERSONNEL PROPOSED FOR THE PROJECT, SHOULD BE USED. THE TEST PANEL SHOULD BE AS LARGE AS POSSIBLE AND AT LEAST 20 X 20 FT, PLACED AT THE SPECIFIED PROJECT THICKNESS. A FLOOR SLAB AREA IN A NONCRITICAL SECTION IS OFTEN CHOSEN AS THE TEST PANEL. THE CONCRETE CONTRACTOR SHOULD REVIEW THE PROPOSED MIXTURE PROPORTIONS BEFORE THE PRECONSTRUCTION MEETING AND PLACEMENT OF THE TEST SLAB. IF A PUMP WILL BE USED FOR THE PLACEMENT OF CONCRETE MATERIALS, THE TEST SLAB SHOULD BE PLACED WITH THE SAME PUMP EQUIPMENT.
B. **PERMEABILITY:** "P(W)X" REFERS TO PERMEABILITY REQUIREMENTS OF THE CONCRETE. WHEN REFERENCING ACI318-11, CATEGORY SHOULD BE READ AS "PX". WHEN REFERENCING ACI318-14 OR ACI318-19, CATEGORY SHOULD BE READ AS "WX".
   a. FOR CONCRETE IDENTIFIED AS BEING EXPOSED TO WATER IN SERVICE ((W)1,2), EVIDENCE SHALL BE SUBMITTED THAT THE CONCRETE MIXTURE COMPLIES WITH (1) AND (2) BELOW:
      - AGGREGATES ARE NOT ALKALI-SILICA REACTIVE OR MEASURES TO MITIGATE ALKALI-SILICA REACTIVITY HAVE BEEN ESTABLISHED.
      - AGGREGATES ARE NOT ALKALI-CARBONATE REACTIVE.
   b. CONCRETE SUPPLIER SHALL SUBMIT CERTIFICATION THAT AGGREGATES DO NOT CONTAIN ANY DELETERIOUS MATERIALS THAT REACT WITH ALKALIS IN THE CONCRETE MIX TO CAUSE EXCESSIVE EXPANSION WHEN EXPOSED TO WET ENVIRONMENTS.
   c. AGGREGATES SHALL BE NON-REACTIVE AS DEMONSTRATED BY ASTM C1260 WITH EXPANSION OF LESS THAN 0.10% AT 14 DAYS OR PER ASTM C1293 WITH EXPANSION OF LESS THAN 0.04% AT 1-YEAR, ELSE REACTIVITY SHALL BE MITIGATED USING SUPPLEMENTARY CEMENTITIOUS MATERIALS (SCMS) PER ASTM C1778 MITIGATION STRATEGIES.
   d. THE TOTAL ALKALI CONTENT CONTRIBUTED FROM CEMENTITIOUS MATERIALS SHALL NOT EXCEED 4.0 LBS/CY OF CONCRETE. CEMENT HAS THE ADDITIONAL REQUIREMENT THAT EQUIVALENT ALKALIS (NA2O + 0.658K2O) DO NOT EXCEED 0.60% ACCORDING TO ASTM C150.
C. **SLUMP:** UNO, THE SLUMP RANGE IS 4" ≤ SLUMP ≤ 8", ALSO WITH ADHERENCE TO TABLE 8.4.1A OF ACI 302.1R-15 FOR CONCRETE PLACED FOR FLOORS. TARGET/DESIGN SLUMP SHALL BE DETERMINED BY THE CONTRACTOR AND CONCRETE PRODUCER BASED UPON HANDLING, PLACING, FINISHING, AND CURING CRITERIA FOR CONCRETE CONSTRUCTION IN ACCORDANCE WITH NRMCA. TARGET SLUMP SHALL NOT EXCEED 8" UNLESS SLUMP FLOW TESTS ARE USED TO VERIFY THE MIX WILL NOT SEGREGATE. IF THE CONTRACTOR IS NOT ABLE TO DETERMINE SLUMP REQUIREMENTS, THEN IT SHALL BE IN ACCORDANCE WITH ACI 301 (SLUMP = 4" ± 1" AT THE POINT OF PLACEMENT). PUMPED CONCRETE LIKELY WILL A REQUIRE A SLUMP GREATER THAN 4" AT THE POINT OF DELIVERY TO ACCOUNT FOR SLUMP LOSS DURING PUMPING. THE CONTRACTOR SHALL REJECT MIXES WHEN THE FIELD SLUMP IS NOT WITHIN TOLERANCE OF THE TARGET SLUMP. SLUMP RANGES FOR DRILLED PILES SHALL BE (8" ± 1").
D. UNLESS NOTED OTHERWISE, REMOVAL OF SHORING, BRACING, FORMWORK OR BACKFILLING OF STRUCTURES SHALL NOT OCCUR UNTIL THE CONCRETE HAS OBTAINED A MINIMUM OF 75% OF F'C. SHORING, BRACING, FORMWORK, AND BACKFILLING OPERATIONS ARE MEANS AND METHOD OF CONSTRUCTION AND THUS THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THESE OPERATIONS. QUESTIONS ON CAPACITY OF THE STRUCTURE TO SUPPORT TEMPORARY LOADING CONDITIONS SHALL BE ADDRESSED IN WRITING TO THE ENGINEER. IN MANY CASES, THE CONTRACTOR WILL NEED TO CONSULT A SPECIALTY STRUCTURAL ENGINEER TO DESIGN SHORING, BRACING, ETC., TO FACILITATE THEIR SELECTED MEANS AND METHODS OF CONSTRUCTION.
E. MAXIMUM LIMITS APPLY TO SLABS THAT ARE TO RECEIVE A HARD TROWEL FINISH IS 3%, WITH AN ACCEPTABLE TOLERANCE LIMIT OF +0% / -1%.
F. UNLESS NOTED OTHERWISE, ALL CONCRETE IS TO BE NORMAL-WEIGHT WITH A DENSITY OF 145 PCF ± 2 PCF, TESTED IN ACCORDANCE WITH ATM C567.

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RENOVATION - 114 E ALAMO ST

114 E ALAMO ST,
BRENHAM, TX 77833

10/28/2025

DRAWING PREPARED BY:
PLANNORTH
ARCHITECTURAL CO.
FOR CONSTRUCTION

RECORD OF DRAWINGS

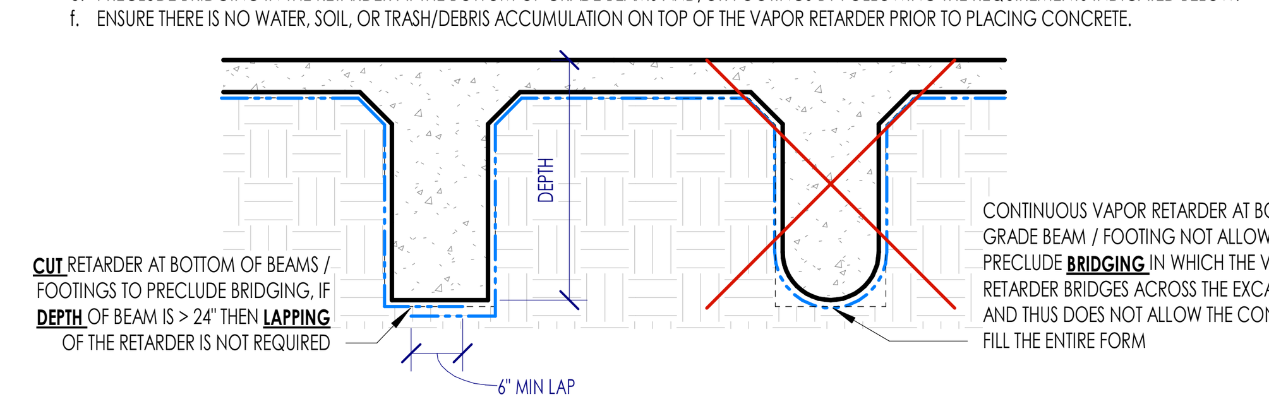
		10/28/2025

PROJECT NO.	25-00342
ISSUE	
DRAWN BY	Author
CHECKED BY	Checker
SHEET NO.	S0.1

STR GENERAL NOTES

BELOW SLAB VAPOR RETARDER - SLAB-ON-GRADE (07 26 17)

A. VAPOR RETARDERS ARE REQUIRED FOR ANY FLOOR WHICH WILL BE COVERED BY MOISTURE-SENSITIVE FLOORING MATERIALS, REF ACI 302.1R. INSTALL PER ASTM E 1643 "STANDARD PRACTICE FOR INSTALLATION OF VAPOR RETARDERS USED IN CONTACT WITH EARTH OR GRANULAR FILL UNDER CONCRETE SLABS"
B. REFER TO SPECIFICATION 07 26 17, IF APPLICABLE.
C. PRODUCT QUALITY STANDARD: ASTM E 1745, CLASS A, EXCEPT WATER VAPOR PERMEANCE PROPERTY SHALL NOT EXCEED 0.03 PERMS ACCORDING TO ASTM E 96, METHOD B.
D. DESCRIPTION: PREFABRICATED, FLEXIBLE, LIGHTWEIGHT MATERIAL MANUFACTURED FROM RAW OR VIRGIN POLYETHYLENE OR POLYOLEFIN RESINS (POST-CONSUMER, RECYCLED RESINS ARE NOT PERMITTED);
E. THICKNESS: REFER TO PLAN AND/OR ARCHITECTURAL DRAWINGS/SPECIFICATIONS FOR THE MINIMUM THICKNESS.
F. THE CONTRACTOR SHALL FOLLOW THE INSTALLATION INSTRUCTIONS FROM THE SPECIFICATIONS AND MFR. BUT AT A MINIMUM SHALL ADHERE TO THE FOLLOWING:
  a. SEAL ALL VAPOR BARRIER SEAMS WITH THE TAPE PROVIDED BY THE BARRIER MANUFACTURER.
  b. SEAMS SHOULD OVERLAP 6 INCHES.
  c. SEAL AROUND ALL PIPE PENETRATIONS AND BLOCKOUTS.
  d. PROTECT THE VAPOR BARRIER AS MUCH AS POSSIBLE DURING CONSTRUCTION AND REPAIR ANY DAMAGED SPOTS WITH THE MANUFACTURER'S TAPE.
  e. PRECLUDE BRIDGING IN THE RETARDER AT THE BOTTOM OF GRADE BEAMS AND/OR FOOTINGS BY FOLLOWING THE REQUIREMENTS INDICATED BELOW.
  f. ENSURE THERE IS NO WATER, SOIL, OR TRASH/DEBRIS ACCUMULATION ON TOP OF THE VAPOR RETARDER PRIOR TO PLACING CONCRETE.



CONCRETE FINISHING AND CURING

1. FINISHING: FINISHING OPERATIONS AND BULL FLOATING SHALL BE COMPLETED PRIOR TO THE ACCUMULATION OF BLEED WATER ON THE SURFACE. FINAL FINISHING SHOULD NOT BEGIN UNTIL THE BLEED WATER HAS EVAPORATED AND THE WATER SHEEN HAS DISAPPEARED FROM THE SURFACE. TROWELLING THE WET SURFACE WILL WEAKEN IT AND CAN RESULT IN SURFACE CRAZING AND DUSTING. REFER TO ARCHITECTURE FOR FINAL FINISHING REQUIREMENTS (STEEL TROWEL, BROOM FINISH, ETC.).
2. EXCESSIVE BLEED WATER REMOVAL: BLEEDING (FREE SURFACE WATER) OCCURS AS AGGREGATES SETTLE IN THE PLACED CONCRETE, DISPLACING WATER TO THE SURFACE. IF ALLOWED TO REMAIN ON THE SURFACE, IT DILUTES THE CEMENT CONTENT, SIGNIFICANTLY REDUCING THE STRENGTH NEAR THE SURFACE. THE CONTRACTOR SHALL REMOVE BLEED WATER. ONE METHOD OF REMOVING BLEED WATER IS TO DRAG THE SURFACE WITH A GARDEN HOSE.
3. CONTRACTION (CONTROL) JOINTS (SAW CUTS) IF REQUIRED, SHALL BE MADE AS SOON AS THE CONCRETE CAN SUPPORT THE WEIGHT OF WORKER AND THE EQUIPMENT.
4. CURING: IMMEDIATELY AFTER FINISHING THE SLAB, THE SLAB MUST BE CURED FOR A MINIMUM OF 7 DAYS. IF MITIGATING CRACKS IS A PRIORITY THEN BOTH A CURING COMPOUND AND WET CURING ARE REQUIRED, OTHERWISE ONLY A CURING COMPOUND MAY BE USED.
  A. WET-CURED BY PONDING, CONTINUOUS FOGGING, OR CONTINUOUS SPRINKLING OR A COMBINATION THEREOF.
  B. APPLYING A WATER-BASED DISSIPATING RESIN TYPE CURING COMPOUND WHICH CHEMICALLY BREAKS DOWN AFTER APPROXIMATELY 4 WEEKS. MEMBRANE FORMING COMPOUND SHALL ADHERE TO ASTM C309, TYPE 1D, CLASS B. THE COMPOUND SHALL BE APPLIED IN TWO COATS, EACH AT RIGHT ANGLES TO THE OTHER TO ENSURE A TIGHTLY SEALED SURFACE. **APPLICATION MUST OCCUR AS SOON AS FINISHING OPERATIONS IN AN AREA ARE COMPLETE.** PRE-APPROVED PRODUCTS INCLUDE:
    a. W.R. MEADOWS 1100
    b. SPECCHEM SPEC-REZ
5. LIQUID FLOOR TREATMENTS
  A. ALL EXPOSED CONCRETE FLOOR SURFACES SHALL RECEIVE A CONCRETE DENSIFIER AND CHEMICAL HARDENER COMPOUND. APPLY CONCRETE DENSIFIER AND CHEMICAL HARDENER IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. APPROVED PRODUCTS INCLUDE:
    a. W.R. MEADOWS - LIQUI-HARD ULTRA
    b. EUCLID CHEMICAL - ULTRASIL LI+
  B. IF THESE SURFACE TREATMENTS ARE TO BE APPLIED TO NEW CONCRETE FLOORS, THE FLOOR SHOULD BE MOIST CURED FOR AT LEAST 7 DAYS AND ALLOWED TO AIR DRY IN ACCORDANCE WITH THE PRODUCT MANUFACTURER'S RECOMMENDATIONS BEFORE APPLICATION. LIQUID MEMBRANE-FORMING CURING COMPOUNDS SHOULD GENERALLY BE REMOVED BEFORE APPLICATION OF SURFACE TREATMENTS BECAUSE THEY PREVENT PENETRATION OF THE LIQUID. THE LONE EXCEPTION TO THIS REQUIREMENT WOULD BE WHEN COMPATIBLE CURING AND SEALING PRODUCTS FROM A SINGLE MANUFACTURER ARE USED.

CONCRETE CRACKS

1. EVEN WITH PROPER DESIGN AND CONSTRUCTION, MINOR CRACKING IN CONCRETE IS EXPECTED. PLASTIC SHRINKAGE CRACKS CONTINUE TO OPEN AS THE SLAB AGES UP TO APPROXIMATELY ONE YEAR, AND REACH 50% OF THEIR FINAL SIZE IN APPROXIMATELY 30 DAYS. MANY PLASTIC SHRINKAGE CRACKS ARE VERY SMALL WHICH MAKE THEM BARELY NOTICEABLE AND INCONSEQUENTIAL TO THE STRUCTURAL PERFORMANCE OF THE CONCRETE.
  1. CRACKS WIDER THAN THOSE INDICATED BELOW ARE INDICATIVE OF CONCRETE PLACEMENT THAT DID NOT ADHERE TO THE CONCRETE MIX REQUIREMENTS AND RETEMPERING, PLACEMENT, FINISHING & CURING REQUIREMENTS. IN ADDITION TO BEING VISIBLY OBJECTIONABLE AND INCREASING LIKELIHOOD OF CORROSION, IF THESE CRACKS EXIST IN REGULAR CONSISTENCY, THEY MAY REDUCE THE STRUCTURAL PERFORMANCE OF THE CONCRETE AND REQUIRE STRUCTURAL REPAIR (FILL CRACKS WITH EPOXY PRODUCT) OR REPLACEMENT.
    A. **CRACK WIDTH DESIGN CRITERIA:**
      a. TYPICAL STRUCTURAL CONCRETE (ACI 318) 0.016"
      b. NON-STRUCTURAL SLAB ON GROUND (ACI 360) 0.025"
      c. ENVIRONMENTAL STRUCTURAL CONCRETE (ACI 350) 0.004"
    B. THE CONTRACTOR SHALL EPOXY INJECT ALL CRACKS EXCEEDING THE WIDTHS INDICATED ABOVE AND UP TO 1/4 IN. IN WIDTH WITH A SUPER-LOW-VISCOSITY STRUCTURAL INJECTION EPOXY (SUCH AS SIMPSON STRONG-TIE CI-SLV, SIKA SIKADUR®-55 SLV, CHEMCO SYSTEMS KEMKO® 038 / CCS™ LOW VISCOSITY IR, OR APPROVED EQUIVALENT MEETING ASTM C881, TYPE I OR IV, GRADE 1, CLASS C).
  2. PLASTIC SHRINKAGE CRACKS: OCCUR SOON AFTER THE CONCRETE IS PLACED AND WHILE IT IS STILL PLASTIC. IT IS CAUSED BY OVERLY RAPID DRYING OF THE SURFACE, USUALLY DUE TO HOT WEATHER, HIGH WIND, LOW HUMIDITY, OR A DELAY IN APPLYING THE CURING MEMBRANE.
  3. PRIOR TO INSTALLATION OF ANY FLOOR FINISHES, THE FLOORING CONTRACTOR SHALL INSPECT AND CERTIFY THAT THE CONCRETE SUBSTRATE IS SUITABLE FOR APPLICATION OF THE FLOORING. A DECOUPLING MEMBRANE SHALL BE PLACED BENEATH ANY BRITTLE FINISHES SUCH AS CERAMIC TILE, STONE, ETC.

RETEMPERING / SLUMP ADJUSTMENT (ADDING WATER TO CONCRETE ON-SITE)

1. WATER SHALL **NOT BE ADDED** TO THE MIX TRUCKS ON THE JOB SITE UNLESS THE FOLLOWING TWO CRITERIA PER ACI 301 §4.3.2.1 ARE MET:
  A. THE FIELD CONCRETE SLUMP TEST RESULTS FOR THAT TRUCK ARE BELOW THE DESIGN SLUMP INDICATED ON THE APPROVED CONCRETE MIX DESIGN & BATCH TICKET.
    a. IF THE SLUMP TEST RESULT ARE AT OR ABOVE (WITHIN TOLERANCE) OF THE APPROVED SLUMP, THEN NO WATER SHALL BE ADDED.
    b. THE SLUMP MUST BE TESTED FIRST ON ANY TRUCK IN WHICH THE CONTRACTOR WISHES TO ADD WATER.
  B. THE CONCRETE BATCH TICKET MUST INDICATE THAT THE READY-MIX PLANT WITHHELD (TRIM) WATER AT THE PLANT.
2. IF THE CRITERIA ABOVE ARE MET, THEN WATER CAN BE ADDED TO THE TRUCK WITHIN THE GUIDELINES BELOW IN ACCORDANCE WITH ASTM C94.
  A. DO NOT ADD WATER TO A POINT IN WHICH THE APPROVED SLUMP IS EXCEEDED.
  B. DO NOT ADD WATER IN EXCESS OF AMOUNT THE BATCH TICKET INDICATES WAS WITHHELD AT THE BATCH PLANT.
3. ASTM C94 REQUIREMENTS
  A. DO NOT EXCEED THE MAXIMUM WATER CONTENT FOR THE BATCH AS ESTABLISHED BY THE ACCEPTED CONCRETE MIXTURE PROPORTIONS.
  B. NO CONCRETE HAS BEEN DISCHARGED FROM THE MIXER EXCEPT FOR SLUMP TESTING.
  C. ALL WATER ADDITIONS SHALL BE COMPLETED WITHIN 15 MINUTES FROM THE START OF THE FIRST WATER ADDITION.
  D. WATER SHALL BE INJECTED INTO THE MIXER WITH SUCH PRESSURE AND DIRECTION OF FLOW TO ALLOW FOR PROPER DISTRIBUTION WITHIN THE MIXER.
  E. THE DRUM SHALL BE TURNED AN ADDITIONAL 30 REVOLUTIONS OR MORE AT MIXING SPEED TO ENSURE A HOMOGENOUS MIXTURE
4. IF THE APPROVED SLUMP AND THE ASSOCIATED TOLERANCE IS EXCEEDED, THEN THE CONCRETE SHALL BE REJECTED.
5. IF THE CONTRACTOR EXCEEDS THE APPROVED SLUMP OR ADDS WATER IN EXCESS OF THE AMOUNT THE BATCH TICKET INDICATES WAS WITHHELD, THEN THEY ARE FULLY RESPONSIBLE FOR ANY REMEDIATION REQUIRED (INCLUDING ENGINEERING FEES) INCLUDING BUT NOT LIMITED TO THE FOLLOWING OPTIONS:
  A. FULL REMOVAL AND REPLACEMENT
  B. CRACK REPAIR VIA EPOXY INJECTION, ROUTING AND SEALING, NEAR SURFACE REINFORCING AND PINNING, EXTERNAL PRESTRESSING, ETC.
6. PER ACI 224.1R § 1.3.6 POOR CONSTRUCTION PRACTICES "ADDED WATER HAS THE EFFECT OF REDUCING STRENGTH, INCREASING SETTLEMENT, AND INCREASING DRYING SHRINKAGE"

EXISTING BUILDING CODE CRITERIA:

1. THIS DESIGN COMPLIES WITH THE PRESCRIPTIVE COMPLIANCE METHOD (CH.4) OF THE IEBC WHICH COVERS THE ALTERATION, REPAIR, ADDITION AND CHANGE OF OCCUPANCY OR RELOCATION OF EXISTING BUILDINGS AND STRUCTURES.
2. THE STRUCTURE, WITH PROPOSED MODIFICATIONS, HAS BEEN ANALYZED FOR GRAVITY AND LATERAL LOADS AND FOUND TO BE IN COMPLIANCE WITH IBC SECTION 3403 OR IBC SECTION 3404 FOR ADDITIONS AND ALTERATIONS TO AN EXISTING STRUCTURE.
3. SCOPE OF THIS PROJECT: REFER TO SCOPE OF DRAWINGS (RENOVATION) ON SHEET **S0.0**
4. EXISTING MATERIALS: MATERIALS ALREADY IN USE IN A BUILDING IN COMPLIANCE WITH REQUIREMENT OR APPROVALS IN EFFECT AT THE TIME OF THEIR ERECTION OR INSTALLATION SHALL BE PERMITTED TO REMAIN IN USE UNLESS DETERMINED BY THE BUILDING OFFICE TO BE UNSAFE.
5. NEW AND REPLACEMENT MATERIALS: EXCEPT AS OTHERWISE REQUIRED OR PERMITTED BY THIS CODE, MATERIALS PERMITTED BY THE APPLICABLE CODE FOR NEW CONSTRUCTION SHALL BE USED. LIKED MATERIALS SHALL BE PERMITTED FOR REPAIRS AND ALTERATIONS, PROVIDED NO HAZARD TO LIFE, HEALTH, OR PROPERTY IS CREATED.
  A. NEW MATERIALS IN THIS PROJECT CONSTITUTE WERE DESIGNED TO THE FOLLOWING CODES:
    a. CONCRETE ACI 318-14
    b. STEEL AISC 360-16
    c. MASONRY ACI 530.1-13
    d. WOOD NDS-2018
    e. COLD-FORMED STEEL AISI 201-17
6. WHERE THE ADDITION IS STRUCTURALLY INDEPENDENT OF THE EXISTING STRUCTURE, EXISTING LATERAL LOAD-CARRYING STRUCTURAL ELEMENTS SHALL BE PERMITTED TO REMAIN UNALTERED. ANY EXISTING LATERAL LOAD CARRYING STRUCTURAL ELEMENT WHOSE DEMAND CAPACITY RATIO WITH THE ADDITION CONSIDERED IS NO MORE THAN 10% GREATER THAN ITS DEMAND-CAPACITY RATIO WITH THE ADDITION IGNORED SHALL BE PERMITTED TO REMAIN UNALTERED.
  A. THE ADDITIONS TO THIS PROJECT DO NOT INCREASE THE DEMAND-CAPACITY RATIO BY MORE THAN 10% AND THUS DO NOT NEED TO BE ALTERED.
7. "ANY EXISTING GRAVITY LOAD-CARRYING STRUCTURAL ELEMENT FOR WHICH AN ALTERATION CAUSES AN INCREASE IN DESIGN GRAVITY LOAD OF MORE THAN 5 PERCENT SHALL BE STRENGTHENED, SUPPLEMENTED, REPLACED OR OTHERWISE ALTERED AS NEEDED TO CARRY THE INCREASED GRAVITY LOAD REQUIRED BY THIS CODE FOR NEW STRUCTURES. ANY EXISTING GRAVITY LOAD-CARRYING STRUCTURAL ELEMENT WHOSE GRAVITY LOAD-CARRYING CAPACITY IS DECREASED AS PART OF THE ALTERATION SHALL BE SHOWN TO HAVE THE CAPACITY TO RESIST THE APPLICABLE DESIGN GRAVITY LOADS REQUIRED BY THIS CODE FOR NEW STRUCTURES." (IBC §3404.3)
8. THE ALTERATIONS FOR THIS PROJECT DO NOT ADD MORE THAN 5% LOAD. IN THE CASE WHERE THE LOAD BEARING WALL HAS BEEN REMOVED, IT IS REPLACED WITH MEMBERS THAT ADHERE TO THE NEW CONSTRUCTION REQUIREMENTS OF THE 2018 IBC.

EXISTING CONDITIONS / DEMOLITION

1. THE GENERAL CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS OF THE EXISTING BUILDING AT THE JOB SITE AND REPORT ANY DISCREPANCIES FROM ASSUMED CONDITIONS SHOWN ON THE DRAWINGS TO THE ARCHITECT AND ENGINEER PRIOR TO THE SUBMISSION OF SHOP DRAWINGS, FABRICATION AND ERECTION OF ANY MEMBERS. OFTEN, BUT NOT ALWAYS DIMENSIONS THAT REQUIRE FIELD VERIFICATION BY THE CONTRACTOR ARE INDICATED AS 'FV' OR 'FIELD VERIFY'. SHOP DRAWINGS THAT ARE SUBMITTED WITHOUT THESE ITEMS VERIFIED WILL BE RETURNED AS REVISE AND RESUBMIT.
2. WORK SHOWN ON THE DRAWINGS IS NEW, UNLESS NOTED AS EXISTING OR SHOWN IN HALFTONE. SHOULD EXISTING DRAWINGS DIFFER FROM THAT SHOWN ON THE DRAWINGS, NOTIFY THE DESIGN TEAM PRIOR TO CONTINUATION OF WORK.
3. DEMOLITION, CUTTING, DRILLING, ETC. OF EXISTING WORK SHALL BE PERFORMED WITH GREAT CARE SO AS NOT TO JEOPARDIZE THE STRUCTURAL INTEGRITY OF THE EXISTING BUILDING. IF ANY ARCHITECTURAL, STRUCTURAL, OR MEP MEMBERS NOT DESIGNATED FOR REMOVAL INTERFERE WITH THE NEW WORK, THE ARCHITECT SHALL BE NOTIFIED IMMEDIATELY AND APPROVAL OBTAINED PRIOR TO REMOVAL OF THOSE MEMBERS.
4. THE CONTRACTOR SHALL SAFELY SHORE EXISTING CONSTRUCTION WHEREVER EXISTING SUPPORTS ARE REMOVED TO ALLOW THE INSTALLATION OF NEW WORK. ALL SHORING METHODS AND SEQUENCING OF DEMOLITION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND HIS ENGINEER. THE SHORING SHALL BE IN COMPLIANCE WITH ASCE/SEI 37 (LATEST ED.) "DESIGN LOADS ON STRUCTURES DURING CONSTRUCTION". EXISTING STRUCTURAL MEMBERS SHALL NOT BE CUT OR MODIFIED UNLESS SPECIFICALLY SHOWN HEREIN OR UNLESS APPROVED IN WRITING BY THE SER.
5. THE CONTRACTOR SHALL VERIFY THE LOCATION OF EXISTING UTILITIES PRIOR TO THE START OF CONSTRUCTION AND TAKE CARE TO PROTECT EXISTING UTILITIES THAT ARE TO REMAIN IN SERVICE.
6. THE CONTRACTOR SHALL REPAIR ALL DAMAGE CAUSED DURING CONSTRUCTION WITH SIMILAR MATERIALS AND WORKMANSHIP TO RESTORE CONDITIONS TO LEVELS ACCEPTABLE TO THE ARCHITECT/OWNER.
7. EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS WAS OBTAINED FROM THE FOLLOWING:
  A. THE ARCHITECTURAL CAD FILES/DRAWINGS
  B. LIMITED SITE OBSERVATION

NON-DESTRUCTIVE EVALUATION - EXISTING CONCRETE STRUCTURES

1. ITEMS EMBEDDED IN CONCRETE STRUCTURES
  A. ITEMS EMBEDDED IN CONCRETE STRUCTURES SHALL NOT BE DAMAGED DURING REPAIR WORK OR INSTALLATION OF NEW MEMBERS REQUIRING POST-INSTALLED ANCHORS. EMBEDDED ITEMS MAY INCLUDE MILD REINFORCEMENT, PRE/POST-TENSIONED REINFORCEMENT, DOWELS, EMBEDDED CONNECTIONS, ELECTRICAL CONDUITS, PLUMBING, ETC.
  B. ITEMS EMBEDDED IN CONCRETE SHALL BE LOCATED BY NON-DESTRUCTIVE EVALUATION PRIOR TO PERFORMING ANY WORK. CONTRACTOR SHALL MARK ON THE STRUCTURE THE LOCATION OF EMBEDDED ITEMS AND PROVIDE A REPORT TO THE ENGINEER.
  C. CONTRACTOR SHALL NOT START FABRICATION OF NEW MEMBERS UNTIL ITEMS EMBEDDED IN CONCRETE HAVE BEEN LOCATED. CONTACT ENGINEER IF EXISTING EMBEDDED ITEMS INTERFERE WITH LOCATION OF POST-INSTALLED ANCHORS SPECIFIED IN DRAWINGS.

MODIFICATIONS TO EXISTING STRUCTURES

GENERAL:
A. SURVEYS, INSPECTIONS AND TESTING OF EXISTING STRUCTURE IS OUTSIDE DUDLEY'S SCOPE OF SERVICES. DUDLEY'S EVALUATION OF THE EXISTING STRUCTURE WAS DONE VIA ANALYTICAL METHODS UTILIZING THE STRUCTURAL PROPERTIES DETERMINED BY APPLICABLE REFERENCE DRAWINGS.
B. ALL MEANS, METHODS, AND SAFETY REQUIREMENTS DURING ERECTION AND CONSTRUCTION ARE OUTSIDE DUDLEY'S SCOPE OF SERVICES AND SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
C. DEMOLITION AND SHORING REQUIREMENTS ARE OUTSIDE OF DUDLEY'S THE SCOPE OF SERVICES. THE EXISTING STRUCTURE SHALL BE ADEQUATELY SUPPORTED DURING RETROFIT AS TO NOT IMPOSE A SAFETY HAZARD BY OVERLOADING EXISTING STRUCTURE.
D. THE EXISTING STRUCTURE SHALL BE PROTECTED AGAINST DAMAGE DURING ERECTION.
E. SURVEYING AND FIELD DIMENSIONING OF THE EXISTING STRUCTURE IS OUTSIDE DUDLEY'S SCOPE OF SERVICES. CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER PROCUREMENT AND FIT-UP OF THE MODIFICATIONS AS DESIGNED AND DETAILED IN THESE DRAWINGS.
F. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SAFETY REQUIREMENTS ON SITE.
G. THE CONTRACTOR SHALL ENSURE THE STRUCTURAL INTEGRITY AND QUALITY PROCEDURES CONFORM TO THE REQUIREMENTS STATED IN THE DRAWING NOTES.
H. THE EXISTING STRUCTURE AND STRUCTURAL ELEMENTS SHALL NOT BE CUT OR HAVE MATERIAL REMOVED UNLESS THE MODIFICATION IS EXPRESSLY DETAILED AS SUCH IN THIS DRAWING SET.
I. THE STRUCTURAL RETROFITTING OF EXISTING STRUCTURE SHALL OCCUR ONLY UNDER REDUCED LOADING AND CALM WEATHER.

STEEL:
A. PRIOR TO RETROFIT, THE WORK AREA OF ALL EXISTING STEEL MEMBERS SHALL BE BLAST CLEANED TO REMOVE ANY COATINGS, AND SHALL BE CLEAN AND FREE OF PAINTS, OILS, GREASE, SCALE AND RUST PRIOR TO WELDING. WHERE THE EXISTING STEEL IS GALVANIZED, GALVANIZATION SHALL BE REMOVED IN THE AREA OF THE WELD BY GRINDING.
B. WELDED CONNECTIONS SHALL BE PROPERLY HEAT TREATED TO PREVENT DISTORTION, RESIDUAL STRESS, AND SHRINKAGE CRACKS.
C. A WELDING PROCEDURE SPECIFICATION SHALL BE ESTABLISHED BY THE WELDING PERSONNEL SHALL BE PROPERLY STEEL CONTRACTOR. QUALIFIED AND CERTIFIED IN ACCORDANCE WITH AWS D1.1 QUALIFICATIONS.
D. EXISTING STRUCTURAL STEEL ELEMENTS SHALL NOT BE CUT OR HAVE MATERIAL REMOVED UNLESS THE MODIFICATION IS EXPRESSLY DETAILED AS SUCH IN THIS DRAWING SET.
E. BOLT HOLES SHALL BE DRILLED TO CORRECT SIZE AS DETAILED IN THIS DRAWING SET AND REAMED TO REMOVE ALL BURRS AND LOOSE MATERIAL.
F. STRUCTURAL WELDING AND REINFORCEMENT OF EXISTING COLUMNS AND BEAMS SHALL BE COMPLETED PRIOR TO ERECTION OF NEW STEEL.
G. WHERE EXISTING ELEMENTS ARE TO BE CUT OR REMOVED, THE ADDITIONAL SURFACE PREPARATION AND THERMAL CUTTING NOTES APPLY:
  a. STEEL AND WELD METAL MAY BE THERMALLY CUT, PROVIDED A SMOOTH AND REGULAR SURFACE IS FREE FROM DEFECTS AND PROVIDED THAT AN ACCURATE PROFILE IS SECURED BY THE USE OF A MECHANICAL GUIDE.
  b. WHERE COLUMNS ARE CUT AND REMOVED BY THERMAL CUTTING, THE EXISTING INTERFACE BETWEEN THE COLUMN AND EXISTING CAP PLATE SHALL NOT BE GOUGED. WELD METAL OR PORTIONS OF THE BASE METAL SHALL BE MACHINED, GROUND, OR CHIPPED IN SUCH A WAY SUCH THAT THE ADJACENT METAL OR BASE METAL IS NOT NICKED OR GOUGED.
  c. LIMITATIONS FOR NICKS AND GOUGES SHALL NOT EXCEED 2% OF THE CROSS-SECTIONAL THICKNESS. OXYGEN GOUGING SHALL NOT BE USED.
  d. EXISTING SURFACES SHALL BE GROUND FLUSH AND BLAST CLEANED PER REQUIREMENTS PRIOR TO RE-WELDING.
  e. LACK OF CONTACT BEARING BETWEEN COMPRESSION ELEMENTS (I.E. COLUMNS) SHALL NOT EXCEED A GAP OF 1/16" INCH

CONCRETE:
A. CONCRETE RETROFIT & FOUNDATION DESIGN SHALL BE IN ACCORDANCE WITH DRAWING PLANS.
B. CONTRACTOR SHALL LOCATE ALL REBAR TO AVOID DAMAGE WHEN DOWELING OR ANCHORING TO EXISTING STRUCTURE.
C. CONTRACTOR SHALL NOT DRILL WITHIN 6" OF EXISTING CONCRETE EDGE, UNLESS SHOWN ON DRAWINGS.
D. EXISTING ANCHORAGE AND DOWELS SHALL NOT BE CUT, UNO: CONTRACTOR SHALL PRESERVE REBAR ACROSS INTERFACE OF CUT REGIONS DURING DEMOLITION.

TIMBER:
A. ANY EXISTING STRUCTURAL MEMBERS SUBJECT TO VISIBLE DAMAGE, INCLUDING BUT NOT LIMITED TO DECAY, INSECT INFESTATION, FIRE, WATER, MOLD, OR ROT SHALL BE REMOVED AND REPLACED PRIOR TO FRAME-OUT.
B. ANY EXISTING STRUCTURAL MEMBERS SUBJECT TO CONSTRUCTION DEFECTS, INCLUDING BUT NOT LIMITED TO EXCESSIVE NOTCHING, SPLITTING, KNOTTING, INDENTATIONS, SHRINKAGE, LOSS OF SUPPORT, BUCKLING OR DEFLECTED & DISTORTED OUT OF PLUMB SHALL BE REMOVED AND REPLACED PRIOR TO FRAME-OUT.
C. ALL HOLDDOWNS, ANCHORAGE AND FASTENERS IMPACTED BY THE DAMAGED FRAMING SHALL BE REPLACED AS REQUIRED PRIOR TO THE FRAME-OUT.
D. ALL REPLACED FRAMING AND COMPONENTS SHALL BE IN ACCORDANCE WITH THIS DRAWING SET.

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1. **STEEL ALLOWANCE**
  a. IN ADDITION TO ALL OF THE STEEL INDICATED WITHIN THE CONSTRUCTION DOCUMENTS, THE CONTRACTOR SHALL PROVIDE FOR AN ALLOWANCE OF A NET 2 TONS OF STEEL OF SIMILAR NATURE AND COMPLEXITY TO THIS PROJECT, TO BE FURNISHED (SHIPPING & HANDLING), FABRICATED, DETAILED, AND ERECTED DURING THE PROGRESSION OF WORK AS MAY BE DIRECTED BY THE ENGINEER OF RECORD OR ARCHITECT. PROVIDE THE UNIT COST PER TON OF STEEL WITH THE BID FORM. AT PROJECT CLOSEOUT, CREDIT UNUSED AMOUNTS REMAINING IN THE CONTINGENCY ALLOWANCE TO OWNER BY CHANGE ORDER.
  b. THE CONTRACTOR SHALL MAKE AN ALLOWANCE FOR THE ADJUSTMENT AND DETAILING OF STEEL DURING THE SHOP DRAWING REVIEW PROCESS.
  c. IF THE FABRICATOR/ERECTOR BELIEVES THAT THESE CONTRACT DOCUMENTS ARE ONLY PARTIALLY COMPLETE, THEN THEY SHALL COLLABORATE WITH THE SER AND GC TO REACH MUTUAL AGREEMENT ON WHAT INFORMATION IS NOT SPECIFIED AND DOCUMENT IN WRITING WHAT ALLOWANCE IS TO BE INCLUDED WITH APPROPRIATE CONTINGENCIES FOR THE UNCERTAINTY.
2. GENERAL
  A. ALL STRUCTURAL STEEL IS TO BE FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST EDITION OF AISC 360 (SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS).
  B. THE STEEL FABRICATOR SHOP SHALL BE APPROVED BY THE AUTHORITY HAVING JURISDICTION AND/OR AISC CERTIFIED. IF NOT, IT REQUIRES ADDITIONAL SPECIAL INSPECTIONS AND TESTING AT THE FABRICATOR'S SHOP. THE CONTRACTOR SHALL SUBMIT CERTIFICATION THAT THE FABRICATOR IS APPROVED BY THE AHJ.
  C. THE CONTRACTOR SHALL REFER TO ALL DISCIPLINE DRAWINGS AND SPECIFICATIONS TO DETERMINE GEOMETRY, ELEVATIONS, ETC. E.G. EDGE OF DECK AND TOP OF STEEL DEFINED IN THE ARCHITECTURAL DRAWINGS.
  D. PROTECTION
    a. PROTECTED - STEEL LOCATED WITHIN PERMANENTLY CONDITIONED, NON-CORROSIVE SPACE AND WITHIN THE BUILDING ENVELOPE DOES NOT REQUIRE SHOP PAINT/PRIMER UNLESS STEEL WILL BE EXPOSED TO THE ELEMENTS FOR A YEAR OR MORE DURING CONSTRUCTION.
    b. UNPROTECTED - ALL STEEL LOCATED IN UNCONDITIONED SPACE AND/OR OUTSIDE THE BUILDING ENVELOPE SHALL EITHER BE HOT-DIP GALVANIZED OR PAINTED WITH A ZINC RICH PRIMER MEETING SSPC PAINTING SYSTEM NO.12 ONE COAT ZINC RICH PAINTING SYSTEM AND THEN PAINTED WITH A CORROSION INHIBITING HIGH PERFORMANCE PAINT AS SPECIFIED BY THE ARCHITECT. THE CONTRACTOR SHALL PREPARE THE STEEL IN ACCORDANCE WITH THE GALVANIZING OR PAINT MFRS. REQUIREMENTS.
      • WHERE GALVANIZATION IS REQUIRED, STRUCTURAL STEEL MEMBERS, FABRICATIONS, AND WELDED ASSEMBLIES SHALL BE GALVANIZED AFTER FABRICATION BY HOT DIP PROCESS IN ACCORDANCE WITH ASTM A123. WEIGHT OF ZINC COATING SHALL CONFORM TO THE REQUIREMENTS SPECIFIED UNDER "WEIGHT OF COATING" IN ASTM A123 OR ASTM A386, AS APPLICABLE. THE AFFECTED PORTIONS OF FIELD WELDED GALVANIZED ASSEMBLIES SHALL BE FIELD PAINTED WITH ZINC RICH CORROSION RESISTANT PAINT.
      • IF PAINT IS SPECIFIED ON A MEMBER THAT IS ALSO GALVANIZED (DUPLEX SYSTEM), THEN THE CONTRACTOR SHALL FOLLOW ASTM D6386: PRACTICE FOR PREPARATION OF ZINC (HOT-DIP GALVANIZED) COATED IRON AND STEEL PRODUCT AND HARDWARE SURFACES FOR PAINTING AND THE AMERICAN GALVANIZERS ASSOCIATION PUBLICATION "GUIDE TO PREPARING HOT-DIP GALVANIZED STEEL FOR PAINT"
        1. REPAIR OF DAMAGED AND UNCOATED AREA OF HOT-DIP GALVANIZED COATINGS USING PAINTS CONTAINING ZINC DUST (ZINC RICH PAINT OR "COLD GALVANIZING")
          A. MATERIAL
            a. THE PAINT SHALL ADHERE TO ASTM A780, AND SSPC PAINT 20.
            b. ZINC DUST LEVEL – LEVEL 1 (≥ 85% ZINC DUST BY WEIGHT PRESENT IN DRY FILM)
            c. THE ZINC DUST MUST CONFORM TO ASTM D520, TYPE III.
          B. PRE-APPROVED PRODUCTS:
            a. ZRC® COLD GALVANIZING COMPOUND
            b. RUST-OLEUM 7000 SYSTEM COLD GALVANIZING COMPOUND
            c. HUB TRU-GALV® ZINC RICH COLD GALVANIZING SPRAY PAINT COMPOUND
          C. CLEANER / DEGREASER
            a. AN APPROPRIATE CLEANER OR DEGREASER TO REMOVE CONTAMINANTS FROM THE SURFACE PRIOR TO PAINTING.
          D. SURFACE PREPARATION
            a. CLEAN THE SURFACE TO BARE METAL, IN ACCORDANCE WITH SSPC-SP11 (POWER TOOL CLEAN TO BARE METAL), AS A MINIMUM. [ASTM A780-20 §A2.1.2. WHERE CIRCUMSTANCES DO NOT ALLOW BLAST OR POWER TOOL CLEANING, HAND TOLL AREAS CLEAN IN ACCORDANCE WITH SSPC-SP2. [ASTM A780-20 §A2.1.2]. *THESE AREAS MUST BE IDENTIFIED BY THE CONTRACTOR TO THE DESIGN TEAM FOR APPROVAL BEFORE PROCEEDING.*
            b. SURFACE PREPARATION SHALL EXTEND INTO THE SURROUNDING, UNDAMAGED GALVANIZED COATING. [ASTM A780-20 §A2.1.2]
            c. IF THE AREA TO BE RECONDITIONED INCLUDES WELDS, FIRST REMOVE ALL WELD FLUX RESIDUE AND WELD SPATTER (OF A SIZE THAT CANNOT BE REMOVED BY WIRE BRUSHING OR BLAST CLEANING) BY MECHANICAL MEANS, SUCH AS CHIPPING, GRINDING, OR POWER SCALING, ETC. [ASTM A780-20 §A2.1.3]
          E. CLEANING - ALL SURFACES TO BE PAINTED SHALL BE CLEANED IN ACCORDANCE WITH SSPC-SP 1 TO REMOVE OIL, GREASE, AND OTHER CONTAMINANTS.
          F. APPLICATION
            a. SPRAY OR BRUSH-APPLY THE PAINTS CONTAINING ZINC DUST TO THE PREPARED AREA. APPLY THE PAINT AS IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTRUCTIONS IN A SINGLE APPLICATION EMPLOYING MULTIPLE PASSES TO ACHIEVE A DRY FILM THICKNESS TO BE A MINIMUM OF 2.5 MILS, UNLESS A THICKER COATING IS SPECIFIED BY THE MFR. THE COATING THICKNESS FOR THE PAINT MUST BE 50% MORE THAN THE SURROUNDING COATING THICKNESS, BUT DO NOT EXCEED A DRY FILM THICKNESS OF 4.0 MILS. ALLOW ADEQUATE CURING TIME BEFORE SUBJECTING REPAIRED ITEMS TO SERVICE CONDITIONS IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTRUCTIONS. [ASTM A780-20 §A2.1.4]
          G. *QUALITY CONTROL*
            a. *THE CONTRACTOR SHALL* "TAKE THICKNESS MEASUREMENTS WITH EITHER A MAGNETIC, ELECTROMAGNETIC, OR EDDY-CURRENT GAUGE TO ENSURE THAT THE APPLIED COATING IS AS SPECIFIED IN ACCORDANCE WITH SSPC-PA2." [ASTM A780-20 §A2.1.5]. *SUBMIT FIELD REPORTS OF THE MEASURED DRY FILM THICKNESS AND MEASURING METHOD TO THE DESIGN TEAM.*
          H. *MAINTENANCE*
            a. *THE CONTRACTOR SHALL PROVIDE THE OWNER WITH A PERIODIC MAINTENANCE PLAN FOR RE-APPLICATION OF COLD GALVANIZATION AS REQUIRED.*
      • CLOSED SHAPES SUCH AS TUBES AND PIPES TO BE GALVANIZED THAT REQUIRE A HOLE FOR FABRICATION SHALL HAVE THE HOLE EITHER FILLED WITH WELD MATERIAL AND GALVANIZATION REPAIRED OR SEALED WITH EXTERIOR GRADE SEALANT APPROPRIATE FOR THAT USE.
      • WHERE A PAINT SYSTEM FOR UNPROTECTED STEEL IS NOT SPECIFIED BY THE ARCHITECT, AND THE PAINT IS NOT VISIBLE IN THE FINAL CONDITION, THE PAINT SYSTEM SHALL BE A MOISTURE-CURE URETHANE COATING IN ADHERENCE TO INDUSTRY SPECIFICATION - SSPC PAINT 41 AND SHALL PROVIDE A MINIMUM 15-YEAR WARRANTY. PRE-APPROVED PRODUCTS ARE LISTED BELOW, THE CONTRACTOR MAY SUBMIT EQUIVALENT PRODUCTS FOR REVIEW.
        1. THE SUPERIOR PRODUCTS INTERNATIONAL II, INC. - RUST GRIP
        2. SHERWIN WILLIAMS - COROTHANE I IRONOX
  E. HSS, PIPE OR BOX MEMBERS (CLOSED SHAPED):
    a. WHEN WATER CAN COLLECT INSIDE HSS, PIPE OR BOX MEMBERS, EITHER DURING CONSTRUCTION OR DURING SERVICE, THE MEMBER SHALL BE SEALED, PROVIDED WITH A DRAIN HOLE AT THE BASE, OR OTHERWISE PROTECTED FROM WATER INFILTRATION. ALL CLOSED SHAPES SHALL RECEIVE A MINIMUM 1/4" CAP PLATE WITH SEAL WELD AT EXPOSED ENDS UNO PER PROJECT DETAILS.
    b. CARE SHOULD BE TAKEN TO KEEP WATER FROM REMAINING IN THE HSS DURING OR AFTER CONSTRUCTION, [SINCE THE EXPANSION CAUSED BY FREEZING CAN CREATE PRESSURE THAT IS SUFFICIENT TO BURST AN HSS].
    c. FOR HOT-DIPPED GALVANIZED MEMBERS, HSS CORNER BENDS WITH THICKNESS LESS THAN 3xT (T = THICKNESS OF HSS) SHALL BE THERMALLY TREATED PRIOR TO GALVANIZING.
    d. PRIOR TO HOT-DIP GALVANIZING, INSIDE CORNERS OF HSS OPEN ENDS SHALL BE GROUND SMOOTH TO MITIGATE CRACK INITIATION.
    e. FOR HOT-DIPPED GALVANIZED HSS, THE ENDS SHALL NOT BE SEALED; PROVIDE MINIMUM DRAIN HOLES OF 1 AT BASE AND ADDITIONAL VENT HOLE 1/2" MINIMUM AT TOP.
    f. HSS ENDS AND CORNERS SHALL BE VISUALLY INSPECTED AFTER GALVANIZING, TO CHECK FOR CRACKS AND ASSURE MEMBER INTEGRITY.
  F. STRUCTURAL STEEL MEMBERS TO RECEIVE FIREPROOFING SHALL NOT BE PRIMED NOR PAINTED. FIREPROOFING MATERIAL THICKNESS SHALL BE INCREASED AS REQUIRED FOR STEEL MEMBERS NOT CONFORMING TO THE MINIMUM SIZES INDICATED IN THE U.L. FIRE RESISTANCE DIRECTORY-VOLUME 1 AND FOR STEEL MEMBERS DETERMINED UNRESTRAINED.
  G. BEAMS SHALL BE CAMBERED UPWARD WHERE SHOWN ON THE CONTRACT DOCUMENTS. WHERE NO UPWARD CAMBER IS INDICATED, ANY MILL CAMBER SHALL BE DETAILED UPWARD IN THE BEAMS.
  H. ENDS OF COLUMNS AT SPLICES AND AT OTHER BEARING CONNECTIONS SHALL BE "FINISHED TO BEAR" TO COMPLETE TRUE BEARING.
  I. ANY STRUCTURAL STEEL THAT WILL BE VISIBLE IN THE FINAL CONDITION SHALL ADHERE AT A MINIMUM TO AESS CATEGORY 2, UNLESS OTHERWISE NOTES IN THE CONSTRUCTION DOCUMENT.
  J. PROVIDE STIFFENERS "FINISHED TO BEAR" UNDER ALL LOAD CONCENTRATIONS ON SUPPORTING MEMBERS OVER COLUMNS, AND WHERE SHOWN ON DRAWINGS.
  K. UNO ON THE DRAWINGS, THE WORKING POINTS FOR VERTICAL BRACING SHALL BE AT THE INTERSECTION OF THE COLUMN CENTERLINE AND THE BEAM CENTERLINE UNLESS NOTED OTHERWISE. WORKING POINTS FOR VERTICAL BRACING AT COLUMN BASE PLATES SHALL BE AT THE INTERSECTION OF COLUMN CENTERLINE AND THE TOP OF THE BASE PLATE.
  L. THE CONTRACTOR SHALL NOTIFY STRUCTURAL ENGINEER OF ANY MISFABRICATED STRUCTURAL STEEL PRIOR TO ERECTION OF SAME.
  M. PENETRATIONS SHALL NOT BE CUT IN STRUCTURAL STEEL MEMBERS UNLESS SO INDICATED IN THE DRAWINGS OR AS REVIEWED BY THE ENGINEER.
  N. DECK EDGE ANGLES SHALL BE CONTINUOUS AND SHALL BE SPLICED ONLY AT SUPPORTS. SPLICES SHALL BE BUTT WELDED TO DEVELOP FULL CAPACITY OF THE MEMBER
a. MATERIAL
  A. ALL HOT ROLLED STEEL PLATES, SHAPES AND BARS SHALL BE NEW STEEL CONFORMING TO ASTM SPECIFICATION A6, LATEST ED.
    a. W-SHAPES: A992
    b. CHANNELS, ANGLES, PLATES: A36
    c. RECTANGULAR HSS: A500, GR.C (F_Y = 50 KSI)
    d. ROUND HSS: A500, GR.B (F_Y = 42 KSI)
    e. PIPE A53 GR.B, A500, GR.B (F_Y = 42 KSI)
b. SUBMITTALS
  • STEEL SUBMITTALS MUST BE PRODUCED IN ACCORDANCE WITH THE AISC CODE OF STANDARD PRACTICE, LATEST ED.
  • SUBMITTALS REQUIRING SER REVIEW:
    a. APPROVAL DOCUMENTS WHICH INCLUDE THE STRUCTURAL STEEL SHOP DRAWINGS, ERECTION DRAWINGS, AND EMBEDMENT DRAWINGS. A COMBINATION OF DRAWINGS AND DIGITAL MODELS IS REQUIRED. THE FABRICATOR SHALL ALLOW A MINIMUM OF 14 CALENDAR DAYS FOR REVIEW WHEN DEFERRED CONNECTION DESIGN/CALCULATIONS ARE NOT REQUIRED AND 21 CALENDAR DAYS WHEN DEFERRED CONNECTION DESIGN/CALCULATIONS ARE REQUIRED, UNLESS OTHERWISE AGREED UPON IN WRITING WITH THE SER PRIOR TO SUBMISSION. IF A SUBMITTAL SCHEDULE PER AISC 303 §4.2.3 IS NOT PROVIDED WITHIN 30 DAYS OF CONTRACT AWARD, THE DESIGN TEAM RESERVES THE RIGHT TO EXTEND REVIEW DURATIONS BEYOND THE STANDARD 14/21 DAYS.
      • **STRUCTURAL STEEL APPROVAL DOCUMENTS MUST BE ACCOMPANIED BY AN IFC 2X3 EXPORT OF THE FABRICATORS FABRICATION MODEL (SDS/2, TEKLA, ETC.) WHICH WILL BE USED BY THE DESIGN TEAM AS A VISUAL AID TO THE SHOP DRAWINGS. THE FILE FORMAT MUST BE [.IFC]. IF THE PDF SUBMITTAL IS SUBMITTED WITHOUT THE MODEL, IT WILL BE RETURNED AS REVISE AND RESUBMIT. THE IFC MODEL IS FOR COORDINATION/VISUALIZATION ONLY AND DOES NOT SUPERSEDE THE PDF APPROVAL DRAWINGS.**
      • EMBEDMENT DRAWINGS (E.G. ANCHOR ROD PLACEMENT, EMBED PLATE) SUBMITTALS SHALL SHOW THE BASEPLATES/EMBED PLATES AND COLUMNS IN RELATION TO THE ANCHORS, EDGE OF FOUNDATION AND GRIDS. EMBEDMENT DRAWINGS MUST BE SUBMITTED WITH THE FULL STRUCTURAL STEEL SHOP DRAWINGS AND ERECTION DRAWINGS, EMBEDMENT DRAWINGS WILL NOT BE REVIEWED UNTIL WE HAVE RECEIVED ALL APPROVAL DOCUMENTS.
    b. CONNECTIONS, STAIRS, RAILS, LADDERS, ETC. DEFERRED DESIGN TO A SSE (IF REQUIRED ON THE PROJECT, REFERENCE DEFERRED SUBMITTALS)
      • REPRESENTATIVE SAMPLES OF THE REQUIRED SUBSTANTIATING CONNECTION INFORMATION FOR ALL TYPES OF CONNECTIONS IN THE STRUCTURAL STEEL FRAME SHALL BE SUBMITTED PRIOR TO APPROVAL DOCUMENTS TO THE SER, [AISC 303 §3.2.3 (b)].
      • CONNECTION MAP IN WHICH THE SUBSTANTIATING CONNECTION INFORMATION RELATES TO THE CONNECTION IN THE APPROVAL DOCUMENTS, [AISC 303 §3.2.3(d)].
      • COVER PAGE SEALED BY SSE, REFERENCE REQUIREMENTS IN DEFERRED SUBMITTALS SECTION AND UNDER CONNECTIONS BELOW [AISC 303 §3.2.3 (c)].
      • CALCULATIONS PACKAGE FOR EACH ITEM DEFERRED TO SSE. MUST BE PROVIDED PRIOR TO OR CONCURRENTLY WITH APPROVAL DOCUMENTS. IF NOT PROVIDED WITH APPROVAL DOCUMENTS, THE APPROVAL DOCUMENTS WILL BE RETURNED AS REVISE AND RESUBMIT.
    c. ON PROJECTS WITH STEEL JOISTS, THE STEEL JOIST SUBMITTAL MUST BE REVIEWED AND COORDINATED / INCORPORATED INTO THE STRUCTURAL STEEL SUBMITTAL BY THE CONTRACTOR PRIOR TO ISSUANCE OF EITHER ITEM TO THE DESIGN TEAM FOR REVIEW. IF THE SUBMITTALS HAVE NOT BEEN COORDINATED AND/OR ARE NOT SENT CONCURRENTLY, THEY MAY BE SENT BACK AS REVISE AND RESUBMIT.
    d. IN THE CASE OF COMPOSITE STEEL CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT THE FOLLOWING INFORMATION REGARDING THE SHEAR STUDS:
      • A DESCRIPTION OF THE STUD AND ARC SHIELD
      • CERTIFICATION FROM THE MANUFACTURER THAT THE STUD BASE IS QUALIFIED IN CONFORMANCE WITH AWS D1-1 SECTION 7.9
      • QUALIFICATION TESTS DATA
  • SUBMITTALS REQUIRED FOR RECORD ONLY
    a. FABRICATOR'S SCHEDULE FOR THE SUBMITTAL OF THE APPROVAL DOCUMENTS, [AISC 303 §4.2.3].
    b. DOCUMENTATION OF THE FABRICATOR BEING APPROVED TO PERFORM SUCH WORK WITHOUT SPECIAL INSPECTION BY AISC OR AN OTHERWISE APPROVED AGENCY BY THE BUILDING OFFICAL (AHJ), REFERENCE IBC § 1704.2.5.1.
      • IF THE FABRICATOR IS NOT APPROVED, THEN SPECIAL INSPECTIONS ARE REQUIRED AT THE FABRICATOR'S SHOP FOR THE WORK.
    c. CERTIFICATE OF COMPLIANCE STATING THAT THE WORK WAS PERFORMED IN ACCORDANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS, REFERENCE IBC §1704.2.5.1.
    d. FOR RECORD SET OF APPROVAL DOCUMENTS WITH ALL PRIOR COMMENTS AND CORRECTIONS INCORPORATED, [AISC 303 §4.4].
    e. SUBMIT WELDING PROCEDURE SPECIFICATIONS (WPS) IN ACCORDANCE WITH ANSI/AWS D1.1 FOR ALL WELDED JOINTS. SUBMIT TEST REPORTS SHOWING SUCCESSFUL PASSAGE OF QUALIFICATION TESTS FOR ALL NON-PREQUALIFIED WPSS.
    f. PROVIDE CERTIFICATION THAT WELDERS TO BE EMPLOYED IN WORK HAVE SATISFACTORILY PASSED AWS QUALIFICATION TESTS. IF RECERTIFICATION OF WELDERS IS REQUIRED, RETESTING WILL BE AT CONTRACTOR'S RESPONSIBILITY.
c. CONNECTIONS
  A. DELEGATED STRUCTURAL STEEL CONNECTION DESIGN:
    a. ALL STEEL CONNECTIONS NOT FULLY DETAILED WITHIN THESE DRAWINGS SHALL BE DESIGNED BY A CONNECTION SPECIALTY STRUCTURAL ENGINEER (SSE) TO BE HIRED BY THE FABRICATOR. THE STRUCTURAL STEEL SUBMITTAL SHALL BE ACCOMPANIED BY A CONNECTION CALCULATION PACKAGE FOR ALL OF THE CONNECTIONS ALONG WITH A SEALED LETTER BY THE CONNECTION SSE ATTESTING THE FOLLOWING:
      • *"I [SPECIALTY STRUCTURAL ENGINEER] HAVE REVIEWED THE REQUIREMENTS OF THE CONSTRUCTION DOCUMENTS, SENT ANY CLARIFICATION QUESTIONS TO THE STRUCTURAL ENGINEER-OF-RECORD FOR REVIEW, PERFORMED ANALYSIS AND DESIGN ON THE STEEL CONNECTIONS, PROVIDED THIS INFORMATION TO THE FABRICATOR AND HAVE REVIEWED THE STRUCTURAL STEEL SHOP DRAWINGS TO ENSURE THAT THE CONNECTION DESIGN HAS BEEN PROPERLY IMPLEMENTED."*
    b. THE SSE SHALL PROVIDE REPRESENTATIVE SAMPLES WITH SUBSTANTIATING CONNECTION INFORMATION FOR ALL CONNECTION TYPES WITH ACCOMPANYING CALCULATIONS TO THE SER PRIOR TO PREPARATION OF APPROVAL DOCUMENT (STEEL SHOP DRAWINGS). THE CONTRACTOR'S SCHEDULE SHALL ALLOW A MINIMUM OF TWO-WEEKS FOR REVIEW OF THIS SUBMITTAL. FAILURE TO SUBMIT THIS SUBMITTAL OR ALLOW ADEQUATE REVIEW TIME, VOIDS ANY ADDITIONAL COST AND/OR DELAY FOR THE CONNECTION REDESIGN AND/OR REVISING THAT MAY BE REQUIRED AFTER REVIEW OF APPROVAL DRAWINGS.
    c. THE FABRICATOR AND THEIR SSE SHALL PROVIDE A MEANS BY WHICH THE SUBSTANTIATING CONNECTION INFORMATION IS REFERENCED TO THE RELATED CONNECTIONS ON THE APPROVAL DOCUMENTS (STEEL SHOP AND ERECTION DRAWINGS) FOR THE PURPOSE OF REVIEW.
    d. THE CONTRACTOR'S CONNECTION SSE SHALL BE A PROFESSIONAL ENGINEER FAMILIAR WITH THE DESIGN OF SUCH ELEMENTS AND SHALL BE LICENSED TO PRACTICE ENGINEERING IN THE STATE IN WHICH THE PROJECT IS BEING CONSTRUCTED.
    e. CONNECTION DESIGNS AND DETAILS SHOWN ON THE DRAWINGS ARE CONCEPTUAL. THE FINAL CONFIGURATION, PLATE AND ANGLE THICKNESS, STIFFENERS, NUMBER OF BOLTS ETC. SHALL BE DESIGNED BY THE CONNECTION SSE.
    f. ALL REACTIONS INDICATED IN THESE DRAWINGS ARE GIVEN AT FACTORED-LOAD LEVEL IN ACCORDANCE WITH LRFD UNO. LRFD IS TO BE USED IN THE SELECTION, COMPLETION, AND DESIGN OF THE CONNECTION DETAILS.
    g. BEAM SHEAR CONNECTIONS SHALL BE DESIGNED FOR A MINIMUM END REACTION (LRFD - FACTORED) OF [15 K OR 100% OF THE MAX TOTAL UNIFORM LOAD PER TABLE 3-6 OF AISC STEEL CONSTRUCTION MANUAL, WHICHEVER IS GREATER], UNO ON PLAN.
    h. BEAM MOMENT CONNECTIONS SHALL BE DESIGNED FOR A MINIMUM MOMENT OF 0.90 x $Ø_bM_p$ PER TABLE 3-6 OF THE AISC STEEL CONSTRUCTION MANUAL, UNO ON PLAN.
    i. BRACED FRAME CONNECTIONS - IF FORCES ARE NOT INDICATED, CONNECTIONS SHALL BE DESIGNED TO DEVELOP THE FULL TENSILE CAPACITY OF THE MEMBERS.
  B. MATERIAL SPECIFICATIONS, TYPICAL UNO ON DRAWINGS
    a. FOR UNPROTECTED STEEL (SEE DEFINITION ABOVE)ALL CONNECTION MATERIAL SHALL BE GALVANIZED PER THEIR RESPECTIVE ASTM's. NUTS FOR ASTM A325 AND F1852 BOLTS MUST BE GALVANIZED BY THE SAME PROCESS AS THE BOLT
    b. STRUCTURAL BOLTS - SHALL BE IN ACCORDANCE WITH RCSC: ALL BOLTS SHALL BE INSTALLED SNUG-TIGHTENED, UNO.
      • SNUG-TIGHTENED JOINTS: ASTM A325 TYPE 1
      • PRETENSIONED & SLIP-CRITICAL: A325 TYPE 1 (TURN-OF-NUT), ASTM F1825 [A325-TC] (TWIST-OFF)
    c. NUTS: ASTM A563 IN ACCORDANCE WITH RCSC TABLE 2.1
    d. HARDENED STEEL WASHERS: ASTM F436 IN ACCORDANCE WITH RCSC TABLE 2.1 (EXCEPT AT LONG SLOTTED HOLES IN WHICH PLATE WASHERS ARE REQUIRED). DTI WASHERS ARE ALLOWED AT PRETENSIONED OR SLIP-CRITICAL JOINTS.
    e. THREADED ROUND STOCK: ASTM F1554 GR55 S1
    f. ANCHOR RODS: UNO, SHALL BE ASTM F1554 GR55 S1 STRAIGHT ANCHORS WITH TACK WELDED HEAVY HEX NUT AT BOTTOM. BENT (L-BOLT) ANCHORS ARE NOT ALLOWED. ANCHOR RODS AND WASHERS/NUTS FOR MEMBERS THAT ARE NOT IN PERMANENTLY CONDITIONED SPACE SHALL BE HOT-DIP GALVANIZED.
      • THE CONTRACTOR SHALL CONDUCT AN ANCHOR ROD SURVEY PRIOR TO PLACEMENT OF CONCRETE AND SHALL TAKE MEASURES TO PROTECT THE ANCHORS FROM DAMAGE DURING THE COURSE OF CONSTRUCTION. MISPLACED OR DAMAGED ANCHOR RODS WHICH REQUIRE A REMEDIATION DETAIL CAN BE PROVIDED BY THE ENGINEER PER OUR HOURLY BILLING RATES.
    g. HEADED WELD STUDS (CONCRETE ANCHOR / SHEAR CONNECTORS / SHEAR STUD / NELSON STUD) SHALL BE AWS D1.1 TYPE B STUDS CONFORMING TO ASTM A108, GRADES C-1010 THROUGH C-1020. STUDS SHALL BE WELDED WITH POWER SOURCE, WELDING GUN, AND AUTOMATICALLY CONTROLLED EQUIPMENT AS RECOMMENDED BY THE STUD MANUFACTURER. WELDING VOLTAGE, CURRENT, AND TIME (REF AWS § 7.9.6) SHALL BE MEASURED AND RECORDED FOR EACH SPECIMEN. LIFT AND PLUNGE SHALL BE AT THE OPTIMUM SETTING AS RECOMMENDED BY THE MANUFACTURER.
    h. DEFORMED BAR ANCHORS ("DBA" - AWS D1.1 TYPC C STUDS): COLD DRAWN WIRE PER ASTM A496 CONFORMING TO ASTM A108 WITH A MINIMUM YIELD STRENGTH OF 70 KSI
    i. WELD ELECTRODES: E70XX (SMAW), F7XX-EXX (SAW), ER70S-X (GMAW) OR E8XT-X (FCAW)
  C. WELDING:
    a. FIELD WELDING TO BE DONE BY CERTIFIED WELDERS FOR STRUCTURAL STEEL. CONTINUOUS INSPECTION BY A SPECIAL INSPECTOR IS REQUIRED.
    b. FOR CONNECTIONS NOT SPECIFIED BY THESE NOTES/DRAWINGS, PROVIDE A CJP WELD.
    c. FOR FILLET WELDS IN WHICH A SIZE IS NOT INDICATED, PROVIDE FILLET WELDS AT ALL CONTACT SURFACES SUFFICIENT TO DEVELOP THE TENSILE STRENGTH OF THE SMALLER MEMBER (BY AREA) AT THE JOINT/CONNECTION. CLOUD SAID CONNECTIONS IN THE SHOP DRAWINGS FOR REVIEW BY THE ENGINEER.
    d. ALL COMPLETED WELDS SHALL BE CLEANED IN ACCORDANCE WITH AWS D1.1. WHERE WELDS ARE TO RECEIVE A FINISH (PAINT, GALVANIZING, OR OTHER COATING), SUCH COATINGS SHALL NOT BE APPLIED UNTIL THE WELDS HAVE BEEN INSPECTED AND ACCEPTED, PER AWS D1.1.
    e. ALL FIELD WELDS ON GALVANIZED MEMBERS SHALL BE COLD GALVANIZED. THE CONTRACTOR SHALL PROVIDE THE OWNER WITH A PERIODIC MAINTENANCE PLAN FOR REAPPLYING COLD GALV AS REQUIRED.
    f. SHOP WELDS MUST BE PERFORMED IN FABRICATION SHOP THAT IS CERTIFIED BY THE AUTHORITY HAVING JURISDICTION.
    g. ALL FILLET WELDS SHALL HAVE A MINIMUM SIZE PER THE FOLLOWING, UNO IN SPECIFIC DETAILS.

MATERIAL THICKNESS OF THINNER PART JOINED "T"	SIZE OF FILLET WELD
T = 3/16	3/16
T= 1/4	3/16
T = 5/16	1/4
T = 3/8	5/16
T = 7/16	3/8
T = 1/2	7/16
T = 3/4	1/2
T > 3/4"	5/8

  D. ANCHOR RODS: THE TYPICAL SIZE SHALL BE 3/4"Ø AND SHALL BE EMBEDDED A MINIMUM OF 1'-0" WITH A HEAVY HEX NUT AT THE EMBEDDED UNLESS NOTED OTHERWISE.
  E. GROUT:
    a. GROUT BELOW STRUCTURAL STEEL BASEPLATES SHALL BE NON-METALLIC, NON-SHRINK GROUT WITH A MINIMUM COMPRESSIVE STRENGTH OF [2 x f'_c] OF THE CONCRETE ON WHICH IT BEARS UPON.
    b. GROUT SHALL CONFORM TO CORPS OF ENGINEERS SPECIFICATION FOR NON-SHRINK GROUT, CE-CRD-C621. TWENTY-EIGHT DAY COMPRESSIVE STRENGTH AS DETERMINED BY GROUT CUBE TESTS, SHALL BE 5,000 PSI. MINIMUM THICKNESS OF GROUT UNDER ALL BASEPLATES AND BEARING PLATES SHALL BE 1½ INCH, UNLESS SPECIFIED OTHERWISE ON THE DRAWINGS.
    c. GROUT SHALL BE PLACED IN A FLUID FLOWABLE STATE UNDER BASE PLATES THAT HAVE A FORM BUILT AROUND THEM FOR GROUT CONFINEMENT. GROUT SHOULD BE CURED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
  F. SPLICING STEEL MEMBERS WHERE NOT DETAILED ON THE DRAWINGS IS PROHIBITED WITHOUT WRITTEN APPROVAL FROM EOR.
  G. HEADED CONCRETE STUD ANCHORS ("HSA") SHALL BE NELSON OR KSM HEADED CONCRETE ANCHORS (OR APPROVED ALTERNATIVE). ANCHORS SHALL BE AUTOMATICALLY END WELDED WITH SUITABLE STUD WELDING EQUIPMENT IN THE SHOP OR IN THE FIELD. WELDING SHALL BE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE NELSON STUD WELDING COMPANY OR THE KSM WELDING SYSTEMS COMPANY.
  H. DEFORMED BAR ANCHORS ("DBA") SHALL BE NELSON OR KSM DEFORMED BAR ANCHORS (OR APPROVED ALTERNATIVE). ANCHORS SHALL BE AUTOMATICALLY END WELDED WITH SUITABLE WELDING EQUIPMENT IN THE SHOP OR IN THE FIELD. WELDING SHALL BE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE NELSON STUD WELDING COMPANY OR THE KSM WELDING SYSTEMS COMPANY.
  I. BENDING OF STRUCTURAL STEEL MEMBERS:
    • IT IS THE GENERAL CONTRACTOR'S RESPONSIBILITY TO VERIFY THAT ENGAGED FABRICATOR IS ABLE TO SUCCESSFULLY BEND REQUIRED STRUCTURAL STEEL MEMBERS AS NECESSARY
    • FABRICATION CONSIDERATIONS:
      • ALL REQUIRED TOLERANCES MUST BE CONVEYED TO THE BENDER/ROLLER
      • THE FABRICATOR IS RESPONSIBLE FOR INFORMING THE BENDER/ROLLER WHEN PROCESSING MUST MEET AESS REQUIREMENTS
      • WHEN ORDERING CURVED MEMBERS, THE FABRICATOR SHOULD RECOGNIZE THAT THE BENDING PROCESS REQUIRES AN ADDITIONAL STRAIGHT LENGTH AT EACH END OF THE ARC, WHICH VARIES DEPENDING ON THE BENDER/ROLLER, METHOD, AND MACHINE; A CONSERVATIVE ESTIMATE OF THE MEMBER LENGTH CAN BE CALCULATED BY ADDING 8*D (4*D AT EACH END) TO THE ARC LENGTH (D = MEMBER LENGTH IN THE PLANE OF CURVATURE)
      • IF THICKER HSS SECTIONS ARE REQUIRED OR RECOMMENDED BY THE BENDING SUBCONTRACTOR DUE TO THE PROPOSED BENDING METHOD (E.G., COLD BENDING, INDUCTION BENDING, ETC.), OR IF INTERNAL SUPPORT MATERIALS SUCH AS MANDRELS OR NON-COMPRESSIBLE FILLERS (E.G., SAND) ARE NECESSARY TO MAINTAIN THE SECTION SHAPE AND PREVENT DISTORTION OR COLLAPSE DURING BENDING, THE CONTRACTOR SHALL INCLUDE ALL ASSOCIATED COSTS IN THEIR BID AND COORDINATE THESE REQUIREMENTS WITH THE DESIGN TEAM FOR REVIEW AND APPROVAL PRIOR TO FABRICATION
3. TOLERANCE FOR MISC STEEL
  A. MISCELLANEOUS STEEL COMPONENTS—INCLUDING SHELF ANGLES, LINTELS, CURTAIN WALL OR MASONRY SUPPORT MEMBERS, AND EDGE ANGLES FOR OPENINGS AND PERIMETER CONDITIONS—DESIGNED TO SUPPORT OR INTERFACE WITH MATERIALS PROVIDED BY OTHER TRADES SHALL BE FIELD-INSTALLED TO MEET THE TOLERANCES REQUIRED BY THOSE TRADES. WHERE THESE TOLERANCES EXCEED THE STANDARDS SPECIFIED BY THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), THE MORE STRINGENT REQUIREMENTS SHALL GOVERN.

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10/28/2025

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RECORD OF DRAWINGS

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STR GENERAL NOTES

APPROVED AGENCY REQUIREMENTS & STRUCTURAL STATEMENT OF SPECIAL INSPECTIONS & TESTING

1. §1703 APPROVALS - **FOLLOWING IS A RESTATEMENT OF REQUIREMENTS OF THE BUILDING CODE ALONG WITH ADDITIONAL REQUIREMENTS BY THE SER. THE APPROVED AGENCY FOR SPECIAL INSPECTIONS AND TESTS SHALL BE EXPERIENCED AND KNOWLEDGEABLE ON ALL REQUIREMENTS OF CHAPTER 17 - SPECIAL INSPECTIONS AND TESTING OF THE BUILDING CODE ADOPTED BY THE AUTHORITY HAVING JURISDICTION.**
   - **A.** THE NAMES AND CREDENTIALS OF THE SPECIAL INSPECTORS TO BE USED SHALL BE SUBMITTED TO THE **REGISTERED DESIGN PROFESSIONAL IN RESPONSBILE CHARGE (RDPIRC), STRUCTURAL ENGINEER OF RECORD (SER) - DUDLEY**, AND THE BUILDING OFFICIAL FOR APPROVAL. **DUDLEY ENGINEERING CAN BE SOLICITED TO PROVIDE STRUCTURAL SPECIAL INSPECTIONS. WE RECOMMEND THAT THE PROJECT GEOTECHNICAL ENGINEER BE SOLICITED TO PROVIDE SPECIAL INSPECTIONS FOR THE SOILS AND TESTING FOR THE SOIL, CONCRETE & DEEP FOUNDATIONS.**
   - B. §1703.1 APPROVED AGENCY - SPECIAL INSPECTIONS AND STRUCTURAL TESTING SHALL BE PROVIDED BY AN APPROVED INDEPENDENT AGENCY (FROM THE CONTRACTOR) EMPLOYED BY THE OWNER OR OWNER'S AUTHORIZED AGENT, OTHER THAN THE CONTRACTOR, FOR THE ITEMS IDENTIFIED IN THIS SECTION AND IN OTHER AREAS OF THE APPROVED CONSTRUCTION PLANS AND SPECIFICATIONS. (SEE IBC CHAPTER 17).
     - a. §1703.1.1 INDEPENDENCE - AN APPROVED AGENCY SHALL BE OBJECTIVE, COMPETENT AND INDEPENDENT FROM THE CONTRACTOR RESPONSIBLE FOR THE WORK BEING INSPECTED. THE AGENCY SHALL DISCLOSE TO THE BUILDING OFFICIAL AND THE REGISTERED DESIGN PROFESSIONAL IN RESPONSBILE CHARGE (RDPIRC) POSSIBLE CONFLICTS OF INTEREST SO THAT OBJECTIVITY CAN BE CONFIRMED.
     - b. §1703.1.2 EQUIPMENT - AN APPROVED AGENCY SHALL HAVE ADEQUATE EQUIPMENT TO PERFORM REQUIRED TESTS. THE EQUIPMENT SHALL BE PERIODICALLY CALIBRATED.
     - c. §1703.1.3 PERSONNEL - AN APPROVED AGENCY SHALL EMPLOY EXPERIENCED PERSONNEL EDUCATED IN CONDUCTING, SUPERVISING AND EVALUATING TESTS AND SPECIAL INSPECTIONS.
   - C. §1703.2 WRITTEN APPROVALS - ANY MATERIAL, APPLIANCE, EQUIPMENT, SYSTEM OR METHOD OF CONSTRUCTION MEETING THE REQUIREMENTS OF THIS CODE SHALL BE APPROVED IN WRITING AFTER SATISFACTORY COMPLETION OF THE REQUIRED TESTS AND SUBMISSION OF REQUIRED TEST REPORTS.
   - D. §1703.3 RECORD OF APPROVAL - FOR ANY MATERIAL, APPLIANCE, EQUIPMENT, SYSTEM OR METHOD OF CONSTRUCTION THAT HAS BEEN APPROVED, A RECORD OF SUCH APPROVAL, INCLUDING THE CONDITIONS AND LIMITATIONS OF THE APPROVAL, SHALL BE KEPT ON FILE IN THE BUILDING OFFICIAL'S OFFICE AND SHALL BE AVAILABLE FOR PUBLIC REVIEW AT APPROPRIATE TIMES.
   - E. §1703.4 PERFORMANCE - SPECIFIC INFORMATION CONSISTING OF TEST REPORTS CONDUCTED BY AN APPROVED AGENCY IN ACCORDANCE WITH THE APPROPRIATE REFERENCED STANDARDS, OR OTHER SUCH INFORMATION AS NECESSARY, SHALL BE PROVIDED FOR THE BUILDING OFFICIAL TO DETERMINE THAT THE PRODUCT, MATERIAL OR ASSEMBLY MEETS THE APPLICABLE CODE REQUIREMENTS.
2. **DUDLEY ENGINEERING IS NOT THE RDPIRC.**
3. **DUTIES OF THE OWNER**
   - A. §1704.2 SPECIAL INSPECTIONS AND TESTS - WHERE APPLICATION IS MADE TO THE BUILDING OFFICIAL FOR CONSTRUCTION, THE OWNER OR THE OWNER'S AUTHORIZED AGENT, OTHER THAN THE CONTRACTOR, SHALL EMPLOY ONE OR MORE APPROVED AGENCIES TO PROVIDE SPECIAL INSPECTIONS AND TESTS DURING CONSTRUCTION ON THE TYPES OF WORK SPECIFIED IN THE STATEMENT OF SPECIAL INSPECTIONS AND IDENTIFY THE APPROVED AGENCIES TO THE BUILDING OFFICIAL. THESE SPECIAL INSPECTIONS AND TESTS ARE IN ADDITION TO THE INSPECTIONS BY THE BUILDING OFFICIAL.
     - a. THE CONTRACTOR IS PERMITTED TO EMPLOY THE APPROVED AGENCIES WHERE THE CONTRACTOR IS ALSO THE OWNER.
   - B. § 1704.5 SUBMITTALS TO THE BUILDING OFFICIAL IN ADDITION TO THE SUBMITTAL OF REPORTS OF SPECIAL INSPECTIONS AND TESTS IN ACCORDANCE WITH SECTION 1704.2.4, REPORTS AND CERTIFICATES SHALL BE SUBMITTED BY THE OWNER OR THE OWNER'S AUTHORIZED AGENT TO THE BUILDING OFFICIAL FOR EACH OF THE FOLLOWING:
     - a. CERTIFICATES OF COMPLIANCE FOR THE FABRICATION OF STRUCTURAL, LOAD-BEARING OR LATERAL LOAD-RESISTING MEMBERS OR ASSEMBLIES ON THE PREMISES OF AN APPROVED FABRICATOR IN ACCORDANCE WITH SECTION 1704.2.5.1.
     - b. CERTIFICATES OF COMPLIANCE FOR THE SEISMIC QUALIFICATION OF NONSTRUCTURAL COMPONENTS, SUPPORTS AND ATTACHMENTS IN ACCORDANCE WITH SECTION 1705.14.2.
     - c. CERTIFICATES OF COMPLIANCE FOR DESIGNATED SEISMIC SYSTEMS IN ACCORDANCE WITH SECTION 1705.14.3.
     - d. REPORTS OF PRECONSTRUCTION TESTS FOR SHOTCRETE IN ACCORDANCE WITH ACI 318.
     - e. CERTIFICATES OF COMPLIANCE FOR OPEN WEB STEEL JOISTS AND JOIST GIRDERS IN ACCORDANCE WITH SECTION 2207.5.
     - f. REPORTS OF MATERIAL PROPERTIES VERIFYING COMPLIANCE WITH THE REQUIREMENTS OF AWS D1.4 FOR WELDABILITY AS SPECIFIED IN SECTION 26.6.4 OF ACI 318 FOR REINFORCING BARS IN CONCRETE COMPLYING WITH A STANDARD OTHER THAN ASTM A706 THAT ARE TO BE WELDED.
     - g. REPORTS OF MILL TESTS IN ACCORDANCE WITH SECTION 20.2.2.5 OF ACI 318 FOR REINFORCING BARS COMPLYING WITH ASTM A615 AND USED TO RESIST EARTHQUAKE-INDUCED FLEXURAL OR AXIAL FORCES IN THE SPECIAL MOMENT FRAMES, SPECIAL STRUCTURAL WALLS OR COUPLING BEAMS CONNECTING SPECIAL STRUCTURAL WALLS OF SEISMIC FORCE-RESISTING SYSTEMS IN STRUCTURES ASSIGNED TO SEISMIC DESIGN CATEGORY B, C, D, E OR F.
4. **DUTIES OF THE SPECIAL INSPECTOR:**
   - A. §1704.2.1 - PRIOR TO THE START OF THE CONSTRUCTION, THE APPROVED AGENCIES SHALL PROVIDE WRITTEN DOCUMENTATION TO THE BUILDING OFFICIAL DEMONSTRATING THE COMPETENCE AND RELEVANT EXPERIENCE OR TRAINING OF THE SPECIAL INSPECTORS WHO WILL PERFORM THE SPECIAL INSPECTIONS AND TESTS DURING CONSTRUCTION. EXPERIENCE OR TRAINING SHALL BE CONSIDERED TO BE RELEVANT WHERE THE DOCUMENTED EXPERIENCE OR TRAINING IS RELATED IN COMPLEXITY TO THE SAME TYPE OF SPECIAL INSPECTION OR TESTING ACTIVITIES FOR PROJECTS OF SIMILAR COMPLEXITY AND MATERIAL QUALITIES. THE RDPIRC AND SER INVOLVED IN THE DESIGN OF THE PROJECT ARE PERMITTED TO ACT AS AN APPROVED AGENCY AND THEIR PERSONNEL ARE PERMITTED TO ACT AS SPECIAL INSPECTORS FOR THE WORK DESIGNED BY THEM, PROVIDED THEY QUALIFY AS SPECIAL INSPECTORS.
   - B. THE SPECIAL INSPECTOR(S) SHALL REVIEW ALL DESIGNATED WORK FOR CONFORMANCE WITH THE APPROVED CONSTRUCTION DRAWINGS AND SPECIFICATIONS, WHICH ARE THE GOVERNING DOCUMENTS. **SUBMITTALS MAY BE USED AS A SUPPLEMENTARY REFERENCE TOOL TO AID IN FIELD VERIFICATION BUT SHALL NOT BE USED IN LIEU OF THE GOVERNING DOCUMENTS**. ANY DISCREPANCIES OBSERVED BETWEEN THE WORK, THE SUBMITTALS, AND THE GOVERNING DOCUMENTS SHALL BE PROMPTLY REPORTED TO THE DESIGN PROFESSIONAL FOR RESOLUTION. OMISSIONS OR DISCREPANCIES IN A SUBMITTAL, EVEN IF REVIEWED AND APPROVED BY THE DESIGN PROFESSIONAL, DO NOT RELIEVE THE CONTRACTOR OF THE OBLIGATION TO MEET ALL REQUIREMENTS OF THE GOVERNING DOCUMENTS.
   - C. **REPORT FREQUENCY:** THE SPECIAL INSPECTOR SHALL FURNISH SPECIAL INSPECTION REPORTS TO THE RDPIRC, STRUCTURAL ENGINEER-OF-RECORD (SER), CONTRACTOR, OWNER AND BUILDING OFFICIAL ON A **WEEKLY BASIS, OR MORE FREQUENTLY AS REQUIRED BY THE BUILDING OFFICIAL**. ALL ITEMS NOT IN COMPLIANCE SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION, AND IF UNCORRECTED, TO THE SER AND THE BUILDING OFFICIAL.
     - **a. REPORTS WITH A NON-CONFORMING TEST AND/OR INSPECTION FLAGGED WITHIN MUST BE SPECIFICALLY BROUGHT TO THE ATTENTION OF THE SER BY THE SPECIAL INSPECTOR VIA EMAIL TO CA@DUDLEYENG.COM WITH THE WORDS "NON-CONFORMING" IN THE SUBJECT LINE.**
   - D. ONCE CORRECTIONS HAVE BEEN MADE BY THE CONTRACTOR, THE SPECIAL INSPECTOR SHALL SUBMIT A FINAL SIGNED REPORT TO THE BUILDING OFFICIAL STATING THAT THE WORK REQUIRING SPECIAL INSPECTION WAS, TO THE BEST OF THE SPECIAL INSPECTOR'S KNOWLEDGE, IN CONFORMANCE WITH THE APPROVED CONSTRUCTION PLANS AND SPECIFICATIONS AS WELL AS THE APPLICABLE WORKMANSHIP PROVISIONS OF THE IBC.
   - E. 1704.2.4 REPORT REQUIREMENT - APPROVED AGENCIES SHALL KEEP RECORDS OF SPECIAL INSPECTIONS AND TESTS. THE APPROVED AGENCY SHALL SUBMIT REPORTS OF SPECIAL INSPECTIONS AND TESTS TO THE BUILDING OFFICIAL AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE AT FREQUENCIES **REQUIRED BY THESE CONSTRUCTION DOCUMENTS** OR BUILDING OFFICIAL, **WHICHEVER IS MORE STRINGENT**. ALL REPORTS SHALL DESCRIBE THE NATURE AND EXTENT OF INSPECTIONS AND TESTS, THE LOCATION WHERE THE INSPECTIONS AND TESTS WERE PERFORMED, AND INDICATE THAT WORK INSPECTED OR TESTED WAS OR WAS NOT COMPLETED IN CONFORMANCE TO APPROVED CONSTRUCTION DOCUMENTS. DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF THEY ARE NOT CORRECTED, THE DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE PRIOR TO THE COMPLETION OF THAT PHASE OF THE WORK. A FINAL REPORT DOCUMENTING REQUIRED SPECIAL INSPECTIONS AND TESTS, AND CORRECTION OF ANY DISCREPANCIES NOTED IN THE INSPECTIONS OR TESTS, SHALL BE SUBMITTED AT A POINT IN TIME AGREED UPON PRIOR TO THE START OF WORK BY THE OWNER OR THE OWNER'S AUTHORIZED AGENT TO THE BUILDING OFFICIAL.
5. **DUTIES AND RESPONSIBILITIES OF THE CONTRACTOR:**
   - A. THE CONTRACTOR SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY TO THE OWNER AND THE BUILDING OFFICIAL PRIOR TO THE COMMENCEMENT OF WORK. IN ACCORDANCE WITH IBC 1704.4, THE STATEMENT OF RESPONSIBILITY SHALL CONTAIN ACKNOWLEDGEMENT OF THE SPECIAL INSPECTION REQUIREMENTS CONTAINED WITHIN THIS "STATEMENT OF SPECIAL INSPECTIONS".
   - B. THE CONTRACTOR SHALL NOTIFY THE RESPONSIBLE SPECIAL INSPECTOR THAT WORK IS READY FOR INSPECTION AT LEAST ONE WORKING DAY (24 HOURS MINIMUM) BEFORE SUCH INSPECTION IS REQUIRED.
   - C. ALL WORK REQUIRING SPECIAL INSPECTION SHALL REMAIN ACCESSIBLE AND EXPOSED UNTIL IT HAS BEEN OBSERVED BY THE SPECIAL INSPECTOR.
   - D. THE CONTRACTOR SHALL NOTIFY THE SER, OWNER AND SPECIAL INSPECTOR IN WRITING OF ANY SPECIAL INSPECTIONS OR TESTING REQUIRED FOR DEFERRED SUBMITTAL ITEMS.
   - E. **THE CONTRACTOR SHALL SUBMIT AN RFI FOR ANY NON-CONFORMING STRUCTURAL ITEMS IDENTIFIED IN THE SPECIAL INSPECTION AND TESTING REPORT(S) THAT REQUIRE CORRECTIVE REPAIR. OTHERWISE, THE SER ASSUMES THAT THE NON-CONFORMING ITEM(S) HAS BEEN RECTIFIED TO CONFORM WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.**
6. PLEASE SEE THE SPECIAL INSPECTION SCHEDULES BELOW FOR THE TYPES, EXTENTS AND FREQUENCY OF SPECIFIC ITEMS REQUIRING STRUCTURAL SPECIAL INSPECTIONS AND STRUCTURAL TESTS AS PART OF THIS PROJECT.
7. REFER TO ARCHITECTURAL AND/OR MEP DRAWINGS FOR ADDITIONAL SPECIAL INSPECTION REQUIRED. DUDLEY ENGINEERING HAS LISTED THE STRUCTURAL SPECIAL INSPECTIONS AND TESTING WITHIN OUR SCOPE ONLY.
8. IN SOME JURISDICTIONS, THE AHJ REQUIRES THAT THE RDPIRC COMPLETE THEIR SPECIFIC STATEMENT OF SPECIAL INSPECTIONS FORM. IN THIS CASE, THE RDPIRC SHOULD USE THIS SHEET TO COMPLETE THE FORM FOR THE REQUIRED STRUCTURAL SPECIAL INSPECTIONS AND TESTS.
9. § 1704.2.5 SPECIAL INSPECTION OF FABRICATED ITEMS - WHERE FABRICATION OF STRUCTURAL, LOAD-BEARING OR LATERAL LOAD-RESISTING MEMBERS OR ASSEMBLIES IS BEING CONDUCTED ON THE PREMISES OF A FABRICATOR'S SHOP, SPECIAL INSPECTIONS OF THE FABRICATED ITEMS SHALL BE PERFORMED DURING FABRICATION, EXCEPT WHERE THE FABRICATOR HAS BEEN APPROVED TO PERFORM WORK WITHOUT SPECIAL INSPECTIONS IN ACCORDANCE WITH SECTION 1704.2.5.1.
   - A. § 1704.2.5.1 FABRICATOR APPROVAL - SPECIAL INSPECTIONS DURING FABRICATION ARE NOT REQUIRED WHERE THE WORK IS DONE ON THE PREMISES OF A FABRICATOR APPROVED TO PERFORM SUCH WORK WITHOUT SPECIAL INSPECTION. APPROVAL SHALL BE BASED ON REVIEW OF THE FABRICATOR'S WRITTEN FABRICATION PROCEDURES AND QUALITY CONTROL MANUALS THAT PROVIDE A BASIS FOR CONTROL OF MATERIALS AND WORKMANSHIP, WITH PERIODIC AUDITING OF FABRICATION AND QUALITY CONTROL PRACTICES BY AN APPROVED AGENCY OR THE BUILDING OFFICIAL. AT COMPLETION OF FABRICATION, THE APPROVED FABRICATOR SHALL SUBMIT A CERTIFICATE OF COMPLIANCE TO THE OWNER OR THE OWNER'S AUTHORIZED AGENT FOR SUBMITTAL TO THE BUILDING OFFICIAL AS SPECIFIED IN SECTION 1704.5 STATING THAT THE WORK WAS PERFORMED IN ACCORDANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS.

STRUCTURAL DEFERRED SUBMITTALS:

1. STRUCTURAL DEFERRED SUBMITTALS ARE THOSE PORTIONS OF THE DESIGN WHICH REQUIRE STRUCTURAL ENGINEERING THAT ARE NOT SUBMITTED AT THE TIME OF THE APPLICATION BUT ARE TO BE SUBMITTED TO THE BUILDING OFFICIAL AT A LATER DATE. DEFERRED SUBMITTALS SHALL BE SUBMITTED TO AND APPROVED BY THE RDPIRC, SER & BUILDING OFFICIAL PRIOR TO INSTALLATION OF ANY SAID WORK.
2. COMPLETE STRUCTURAL SHOP DRAWINGS FOR CONSTRUCTION OF EACH BUILDING COMPONENT NOT DESIGNED BY THE SER AND NOT SPECIFIED ON THE PROJECT CONSTRUCTION DOCUMENTS SHALL BE SEALED AND SIGNED BY A SSE WHO IS A REGISTERED DESIGN PROFESSIONAL ENGINEER REGISTERED IN THE STATE WHERE THE PROJECT IS BEING CONSTRUCTED WHO IS QUALIFIED TO PERFORM SAID WORK. A SEAL BY A LICENSED PROFESSIONAL ENGINEER IS NOT REQUIRED FOR PRODUCTS WHICH HAVE BEEN TESTED AND CERTIFIED BY AN APPROVED AGENCY SUCH AS THE ICC, NOR FOR COMPONENTS WHICH ARE FABRICATED BY A FABRICATOR THAT IS CERTIFIED BY AN APPROVED AGENCY IN WHICH THE AGENCY SPECIFIED THAT SEALING OF THE SHOP DRAWINGS IS NOT REQUIRED (E.G. STEEL JOIST INSTITUTE IN REGARDS TO OPEN WEB STEEL JOISTS). THE CONTRACTOR SHALL INCLUDE ALLOWANCES FOR ALL ITEMS REQUIRED BY THE DEFERRED SUBMITTALS TO FORM A COMPLETE SYSTEM. IF THE CONTRACTOR BELIEVES THERE IS MISSING INFORMATION IN THE CONSTRUCTION DOCUMENTS THAT WILL NOT ALLOW THEM TO DEVELOP AN ADEQUATE ESTIMATE WITH ALLOWANCE FOR A DEFERRED SUBMITTAL, THEN THEY SHALL NOTIFY THE SER IN WRITING PRIOR TO ISSUING A BID.
3. THE SSE SHALL SPECIFICALLY INDICATE IN A COVER PAGE AT THE FRONT OF THE SHOP DRAWING THAT THEY ARE THE SSE IN RESPONSIBLE CHARGE FOR THE DEFERRED SUBMITTAL AND THAT THEY HAVE REVIEWED THE SHOP DRAWING TO ENSURE COMPLIANCE WITH THEIR DESIGN AND CALCULATIONS. PERFORMANCE SPECIFICATIONS HAVE BEEN PROVIDED IN THE CONSTRUCTION DOCUMENTS, HOWEVER THE SSE IS SOLELY RESPONSIBLE FOR THE DESIGN OF THESE ELEMENTS AND SHALL DO SO IN COMPLIANCE WITH ALL RELEVANT CODES AND PROJECT CONDITIONS.
4. CALCULATION PACKAGE: ALL DEFERRED SUBMITTALS WITH (*) SYMBOL SHALL BE ACCOMPANIED BY A CALCULATION PACKAGE FOR ALL OF THE COMPONENTS ALONG WITH A SEALED LETTER BY THE SSE ATTESTING THE FOLLOWING:
   - *"I [SPECIALTY STRUCTURAL ENGINEER] HAVE REVIEWED THE REQUIREMENTS OF THE CONSTRUCTION DOCUMENTS, SENT ANY CLARIFICATION QUESTIONS TO THE STRUCTURAL ENGINEER-OF-RECORD FOR REVIEW, PERFORMED ANALYSIS AND DESIGN ON THE [SPECIAL STRUCTURAL ENGINEERING SCOPE], PROVIDED THIS INFORMATION TO THE FABRICATOR AND HAVE REVIEWED THE SHOP DRAWINGS TO ENSURE THAT THE DESIGN HAS BEEN PROPERLY IMPLEMENTED AND MEETS ALL CRITERIA OF THE BUILDING CODE AND CONSTRUCTION DOCUMENTS."*
   - A. THE CALCULATION PACKAGE SHALL BE IN PDF FORMAT AND HAVE A COVER PAGE WITH BOOKMARKS AT EACH UNIQUE CALCULATION. THE PDF MUST BE SEARCHABLE.
   - A. SUPPLEMENTAL STATEMENT OF SPECIAL INSPECTIONS: ALL DEFERRED SUBMITTALS WITH (+) SYMBOL, REQUIRE THE SSE TO SUBMIT A SUPPLEMENTAL STATEMENT OF SPECIAL INSPECTIONS, REF §1704.3.1.
5. DEFERRED SUBMITTALS SHALL BE SUBMITTED IN PDF FORMAT THAT ALLOWS ADDING MARKUPS. IF THE PDF DOES NOT ALLOW MARKUPS, THE SUBMITTAL WILL BE RETURNED UNREVIEWED AS REVISE AND RESUBMIT.
6. ALL STRUCTURAL DEFERRED SUBMITTALS SHALL BE REVIEWED BY THE SER AND MARKED AS EITHER NO EXCEPTIONS OR EXCEPTION NOTED, PRIOR TO SUBMITTING TO THE "FOR CONSTRUCTION" VERSION TO THE AUTHORITY HAVING JURISDICTION (AHJ) AND PRIOR TO RELEASE FOR FABRICATION.
7. DEFERRED SUBMITTALS SHALL CLEARLY INDICATE ANY REQUIRED SPECIAL INSPECTIONS AND TESTING REQUIRED EITHER BY THE BUILDING CODE OR THE SSE FOR THEIR SCOPE OF WORK.
8. STRUCTURAL DEFERRED SUBMITTALS ON THIS PROJECT INCLUDE:
   - A. *+SUPPORT TO STRUCTURE FOR: MEP UTILITIES/EQUIPMENT, CEILINGS/SOFFITS, HVLS FANS, OPERABLE PARTITIONS, OVERHEAD DOORS, ETC.
   - B. *+STAIRS, GUARDRAIL, HANDRAILS, GRAB BARS, LADDERS, ETC. (NOT REQUIRED IF USING CERTIFIED AND TESTED PRODUCTS/ASSEMBLIES)
   - C. EXTERIOR CLADDING SYSTEMS: CURTAINWALL (GLAZING & CFS), STOREFRONT, WINDOWS, DOORS, SIDING, RAINSCREEN, ETC. (NOT REQUIRED IF USING CERTIFIED AND TESTED PRODUCTS/ASSEMBLIES)
     - a. SUBMITTAL MUST INCLUDE THE REQUIRED ANCHORAGE TO THE SUPPORTING STRUCTURE WITH CALCULATIONS. CLADDING SYSTEMS SHALL NOT INTRODUCE LATERAL OR TORSIONAL LOADS TO STEEL BEAMS OR COLUMNS. IF UNAVOIDABLE, THEN BRACES, ADDED REINFORCING, CLIPS AND TIES SHALL BE DESIGNED AND SUPPLIED BY THE CONTRACTOR FOR LOAD ECCENTRICITIES AND LATERAL LOADS.
   - D. *AWNINGS, CANOPIES, LOUVERS, ETC.

REQUIRED VERIFICATION AND INSPECTION OF SOILS (TABLE 1705.6)

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	REQUIRED
VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY	-	X	YES
VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIALS	-	X	YES
PERFORM CLASSIFICATION AND TESTING OF COMPACTED MATERIALS	-	X	YES
VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESS DURING PLACEMENT AND COMPACTION OF COMPACTED FILL. CONTINUOUS VERIFICATION REQUIRES A MINIMUM OF (1) TEST EVERY 2,000 SF, WITH A MINIMUM OF (3) TESTS PER LIFT, UNLESS MORE STRINGENT REQUIREMENTS ARE REQUIRED BY APPROVED GEOTECHNICAL REPORT AND/OR THE SOILS ENGINEER.	X	-	YES
PRIOR TO PLACEMENT OF COMPACTED FILL, OBSERVE SUBGRADE AND VERIFY THE SITE HAS BEEN PREPARED PROPERLY	-	X	YES

REQUIRED VERIFICATION AND INSPECTION OF GRADING AND DRAINAGE FOR FOUNDATIONS ON EXPANSIVE SOILS

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	REQUIRED
AFTER BUILDING CONSTRUCTION AND LANDSCAPING HAVE BEEN COMPLETED, FINAL GRADES SHALL BE VERIFIED TO DOCUMENT REQUIRED DRAINAGE	-	X	YES
AFTER BUILDING CONSTRUCTION AND LANDSCAPING HAVE BEEN COMPLETED, DOWNSPOUTS SHALL BE INSPECTED TO CONFIRM CONFORMANCE.	-	X	YES
GRADES AROUND THE STRUCTURE SHALL BE PERIODICALLY INSPECTED AND ADJUSTED AS PART OF THE BUILDING'S MAINTENANCE PROGRAM	-	X	YES
PLUMBING LEAK "HYRDROSTATIC" TEST PERFORMED BY A LICENSED PLUMBER. TEST TO OCCUR AFTER ROUGH PLUMBING INSTALL	-	X	YES
WHERE PAVING/FLATWORK ABUT THE FOUNDATION, A MAINTENANCE PROGRAM SHALL BE ESTABLISHED TO EFFECTIVELY SEAL AND MAINTAIN JOINTS AND PREVENT SURFACE WATER INFILTRATION.	-	X	YES

REQUIRED VERIFICATION AND INSPECTION OF CONCRETE CONSTRUCTION (TABLE 1705.3)

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	REQUIRED
INSPECTION OF REINFORCING STEEL, INCLUDING PRESTRESSING TENDONS AND PLACEMENT. (REF NOTE 5 AND GENERAL NOTES FOR SPECIFIC INSPECTION TASKS)	X	-	YES
INSPECTION OF ANCHORS CAST IN CONCRETE WHERE ALLOWABLE LOADS HAVE BEEN USED OR STRENGTH DESIGN IS USED.	-	X	YES
INSPECTION OF ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS. SPECIAL INSPECTOR MUST BE PRESENT FOR FIRST INSTALLATION.	X	-	YES
VERIFYING USE OF REQUIRED MIX DESIGN		X	YES
AT THE TIME FRESH CONCRETE IS SAMPLED TO FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE	X	-	YES
INSPECTION OF CONCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES (REFERENCE NOTE 5B)	X	-	YES
INSPECTION FOR MAINTENANCE OF SPECIFIED CURING TEMPERATURES AND TECHNIQUES (REFERENCE NOTE 5C)	-	X	YES
INSPECTION OF PRESTRESSED CONCRETE APPLICATION OF PRESTRESSING FORCES	X	-	NO
ERECTION OF PRECAST CONCRETE MEMBERS	-	X	NO
VERIFICATION OF IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POST-TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES. BRACING AND/OR FORMS FROM BEAMS, WALLS, STRUCTURAL SLABS, ETC.	X	-	NO
INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED	X	-	YES

1. **QUALIFICATIONS OF TESTING AGENCY / SPECIAL INSPECTORS:** THE SPECIAL INSPECTORS FROM THE TESTING AGENCY TASKED WITH PERFORMING THE VERIFICATION AND INSPECTION ITEMS LISTED ABOVE SHALL HAVE THE FOLLOWING CERTIFICATIONS FROM THE AMERICAN CONCRETE INSITUTE (ACI).
   - A. CONCRETE CONSTRUCTION SPECIAL INSPECTOR
   - B. CONCRETE FIELD TESTING TECHNICIAN — GRADE I
   - C. CONCRETE STRENGTH TESTING TECHNICIAN
   - D. CONCRETE LABORATORY TESTING TECHNICIAN — LEVEL 2
   - E. POST-INSTALLED CONCRETE ANCHOR INSTALLATION INSPECTOR (IF APPLICABLE TO THE PROJECT)
2. **MIX DESIGN:** THE TESTING LABORATORY SHALL REVIEW THE SUBMITTED MIX DESIGNS WHICH HAVE BEEN APPROVED BY THE SER FOR CONFORMANCE TO THE SPECIFICATIONS AND FOR SUITABILITY FOR USE IN THE PROJECT. THE SPECIFIED SLUMP SHALL BE INDICATED IN THE MIX DESIGN. THE SPECIFIED SLUMP IS THAT WHICH IS INDICATED IN THE APPROVED MIX DESIGNS.
3. THE FOLLOWING TESTS SHALL BE COMPLETED BY THE TESTING LABORATORY:
   - A. **DURING CONCRETE PLACEMENT:**
     - a. SLUMP SHALL BE TESTED PRIOR TO ADDING ANY WATER (RETEMPERING) CONTINUOUSLY RECORD THE AMOUNT OF ANY WATER ADDED AND NOTE IF IT EXCEEDS THE AMOUNT ALLOWED TO BE ADDED SHOWN IN THE APPROVED MIX DESIGN/TRUCK TICKET. IF THE AMOUNT OF WATER ALLOWED TO BE ADDED IS NOT INCLUDED, NOTIFY THE CONTRACTOR IMMEDIATELY SO THEY CAN NOTIFY THE BATCH PLANT THAT THESE MUST BE INCLUDED.
     - b. MOLD CONCRETE TEST CYLINDERS AS SPECIFIED BELOW.
     - c. PERFORM TESTS TO DETERMINE SLUMP, CONCRETE TEMPERATURE, UNIT WEIGHT, AND AIR ENTRAINMENT AS SPECIFIED BELOW.
     - d. RECORD INFORMATION FOR CONCRETE TEST REPORTS AS SPECIFIED BELOW.
     - e. PICK UP AND TRANSPORT TO LABORATORY CYLINDERS CAST THE PREVIOUS DAY.
       - THE TESTING LABORATORY IS RESPONSIBLE FOR PROVIDING INITIAL CURING FACILITIES ON-SITE IN ACCORDANCE WITH ASTM C 31, THE CONTRACTOR SHALL PROVIDE SPACE AND TEMPORARY POWER, IF REQUIRED.
   - B. **AFTER CONCRETE PLACEMENT:**
     - a. INVESTIGATION OF LOW STRENGTH CONCRETE TEST RESULTS:
       - THE REBOUND HAMMER MAY BE USED BUT IN ACCORDANCE WITH ASTM C805 IT CANNOT BE USED AS THE BASIS TO ACCEPT OR REJECT CONCRETE AND SHALL BE SUPPLEMNTED BY COMPRESSIVE STRENTH TESTS FROM CORES TO CREATE CORRELATION.
       - COST OF INVESTIGATIONS FOR LOW STRENGTH CONCRETE: THE CONTRACTOR SHALL BEAR ALL COSTS ASSOCIATED WITH INVESTIGATIONS OF LOW-STRENGTH CONCRETE. IF THE CONTRACTOR HAS ANY RESERVATIONS REGARDING THE SAMPLING OR INSPECTION METHODS EMPLOYED BY THE TESTING LABORATORY, SUCH CONCERNS MUST BE PROMPTLY DOCUMENTED IN WRITING AND SIMULTANEOUSLY SUBMITTED TO THE OWNER, TESTING LABORATORY, AND ENGINEER OF RECORD FOR REVIEW AND RESOLUTION.
4. **STANDARDS FOR CONCRETE TESTS:**
   - A. **CONCRETE TEST CYLINDERS**: MOLD AND TEST CONCRETE CYLINDERS AS DESCRIBED BELOW:
     - a. **CYLINDER MOLDING AND TESTING:** CYLINDERS FOR STRENGTH TESTS SHALL BE MOLDED AND LABORATORY CURED IN ACCORDANCE WITH ASTM C 31 AND TESTED IN ACCORDANCE WITH ASTM C 39. CYLINDERS MAY BE EITHER 6" IN DIAMETER BY 12" OR 4" IN DIAMETER BY 8", HOWEVER, THE DIAMETER OF THE CYLINDER SHALL BE AT LEAST THREE TIMES THE NOMINAL MAXIMUM SIZE OF THE COARSE AGGREGATE IN THE MIX TESTED. ALL OF THE CYLINDERS FOR EACH CLASS OF CONCRETE SHALL BE OF THE SAME DIMENSION FOR ALL SETS OF THAT CLASS.
     - b. **FIELD SAMPLES:** FIELD SAMPLES FOR STRENGTH TESTS SHALL BE TAKEN IN ACCORDANCE WITH ASTM C 172 AT THE POINT OF PLACEMENT.
     - c. **QUANTITY OF CYLINDERS:** EACH SET OF TEST CYLINDERS SHALL CONSIST OF A MINIMUM OF (4) 4x8 or (3) 6x12 STANDARD TEST CYLINDERS. IF THE CONTRACTOR WISHES TO LOAD THE CONCRETE, STRIP FORMS, STRESS CABLES, ETC., THEN ADDITIONAL CYLINDERS SHALL BE TAKEN FOR 3, 7, ETC., DAY BREAKS.
     - d. **FREQUENCY OF TESTING:** A SET OF TEST CYLINDERS SHALL BE MADE ACCORDING TO THE FOLLOWING MINIMUM FREQUENCY GUIDELINES:
       - ONE SET FOR EACH CLASS OF CONCRETE TAKEN NOT LESS THAN ONCE A DAY.
       - SPREAD FOOTINGS: ONE SET FOR EACH 50 CUBIC YARDS OR FRACTION THEREOF.
       - FLOORS: ONE SET FOR EACH 60 CUBIC YARDS OR FRACTION THEREOF BUT NOT LESS THAN ONE SET FOR EACH 5,000 SQUARE FOOT OF FLOOR AREA.
       - ALL OTHER CONCRETE: A MINIMUM OF ONE SET FOR EACH 100 CUBIC YARDS OR FRACTION THEREOF BUT NOT LESS THAN ONE SET FOR EACH 5,000 SQUARE FOOT OF AREA FOR WALLS.
     - e. THE CYLINDERS SHALL BE NUMBERED, DATED, AND THE POINT OF CONCRETE PLACEMENT IN THE BUILDING RECORDED.
5. **FIELD INSPECTION**: THE SCOPE OF THE WORK TO BE PERFORMED BY THE INSPECTOR ON THE JOBSITE SHALL BE AS FOLLOWS:
   - A. **BEFORE CONCRETE PLACEMENT:**
     - a. INSPECT CONCRETE REINFORCING - 100% OF THE REINFORCEMENT SHALL BE INSPECTED FOR CONFORMANCE WITH THE STRUCTURAL DRAWINGS & APPROVED REINFORCEMENT PLACING DRAWINGS. IF THERE IS A DISCREPANCY BETWEEN THE TWO, THEN THE SER SHALL BE NOTIFIED TO CLARIFY INTENT.
     - b. INSPECT 100% OF BOLTS , EMBED PLATES AND ANCHOR RODS TO BE EMBEDDED IN CONCRETE FOR PROPER GRADE, SIZE, LENGTH, AND EMBEDMENT.
     - c. WHERE A MOISTURE RETARDER IS SPECIFIED, VERIFY THAT THE MOISTURE RETARDER IS PROVIDED, IS LAPPED/TAPED PROPERLY, AND IS NOT TORN OR PUNCTURED.
     - d. VERIFY THAT THERE IS NO STANDING WATER IN POUR AREA AND THAT ALL DEBRIS HAS BEEN REMOVED FROM THE AREA AND FROM THE FORMWORK.
   - B. **DURING CONCRETE PLACEMENT:** PROVIDE CONTINUOUS MONITORING TO:
     - a. VERIFY THAT THERE ARE NO COLD JOINTS.
     - b. VERIFY THAT THE CONCRETE IS PROPERLY CONSOLIDATED (VIBRATED).
     - c. VERIFY THAT THE CONTRACTOR IS USING PROPER APPLICATION TECHNIQUES.
     - d. RECORD IF THE CONTRACTOR IS SPRAYING WATER ONTO SURFACE OF CONCRETE DURING FINISHING.
   - **C. AFTER PLACEMENT**
     - a. VERIFY THAT CONTRACTION JOINTS (SAW-CUTS) ARE APPLIED PER THESE CONSTRUCTION DOCUMENTS, IF APPLICABLE.
     - b. RECORD THE METHOD OF CURING APPLIED AND WHETHER IT CONFORMS TO THE CONSTRUCTION DOCUMENTS. IF THE CONTRACTOR IS USING A CURING COMPOUND, RECORD THE PRODUCT AND APPLICATION RATE USED. CONFIRM IT HAS BEEN APPLIED IN ACCORDANCE WITH THE MFR. RECOMMENDATIONS.
6. THE TESTING LABORATORY SHALL REPORT ANY IRREGULARITIES THAT OCCUR IN THE CONCRETE AT THE JOB SITE OR TEST RESULTS TO THE CONTRACTOR, ARCHITECT, OWNER, AND ENGINEER.

REQUIRED VERIFICATION AND INSPECTION OF STRUCTURAL STEEL CONSTRUCTION (§1705.2.1)

STRUCTURAL STEEL - GENERAL

THE SPECIAL INSPECTOR SHALL INSPECT THE FABRICATED OR ERECTED STEEL FRAME, AS APPROPRIATE, TO VERIFY COMPLIANCE WITH THE DETAILS SHOWN ON THE CONSTRUCTION DOCUMENTS, SUCH AS BRACES, STIFFENERS, MEMBER LOCATIONS AND PROPER APPLICATION OF JOINT DETAILS AT EACH CONNECTION.

ALL FABRICATED STEEL AND THEIR CONNECTIONS SHALL BE INSPECTED TO VERIFY COMPLIANCE WITH THE DETAILS SHOWN IN THE APPROVED PLANS. (TABLES J8-1 AND J10-1, AISC 341-16)

STRUCTURAL STEEL - ANCHOR RODS / EMBED PLATES

THE SPECIAL INSPECTOR SHALL BE ON THE PREMISES FOR INSPECTION DURING THE PLACEMENT OF ANCHOR RODS AND OTHER EMBEDMENT SUPPORTING STRUCTURAL STEEL FOR COMPLIANCE WITH THE CONSTRUCTION DOCUMENTS. AS A MINIMUM, THE DIAMETER, GRADE, TYPE AND LENGTH OF THE ANCHOR RODS OR EMBEDDED ITEM, AND THE EXTENT OR DEPTH OF EMBEDMENT INTO THE CONCRETE, SHALL BE VERIFIED PRIOR TO PLACEMENT OF CONCRETE.

STRUCTURAL STEEL - WELDS

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	REQUIRED
INSPECTION TASKS PRIOR TO WELDING (AISC 360 TABLE N5.4-1)			
WELDING PROCEDURE SPECIFICATION(WPS'S) ARE AVAILABLE AND APPLICABLE	X	-	YES
MANUFACTURER CERTIFICATIONS FOR WELDING CONSUMABLES AVAILABLE	X	-	YES
MATERIAL IDENTIFICATION (TYPE / GRADE)	-	X	YES
WELDER IDENTIFICATION SYSTEM	-	X	YES
FIT-UP GROOVE WELDS	-	X	NO
CONFIGURATION AND FINISH OF ACCESS HOLES	-	X	NO
FIT-UP FILLET WELDS	-	X	YES
CHECK WELDING EQUIPMENT	-	X	YES
INSPECTION TASKS DURING WELDING (AISC 360 TABLE N5.4-2)			
USE OF QUALIFIED WELDERS (DOCUMENT ALL WELDERS AWS CERTIFIED WELDERS CARD)	-	X	YES
CONTROL AND HANDLING OF WELDING CONSUMABLES	-	X	YES
NO WELDING OVER CRACKED TACK WELDS	-	X	YES
ENVIRONMENTAL CONDITIONS (WIND SPEED WITHIN LIMITS, PRECIPITATION AND TEMPERATURE	-	X	YES
WPS FOLLOWED • SETTINGS ON WELDING EQUIPMENT • TRAVEL SPEED • SELECTED WELDING MATERIALS • SHIELDING GAS TYPE / FLOW RATE • PREHEAT APPLIED • INTERPASS TEMPERATURE MAINTAINED (MIN/ MAX) • PROPER POSITION (F, V, H, OH)	-	X	YES
WELDING TECHNIQUES • INTERPASS AND FINAL CLEANING • EACH PASS WITHIN PROFILE LIMITATIONS • EACH PASS MEET QUALITY REQUIREMENTS	-	X	YES
WELDS CLEANED	-	X	YES
SIZE, LENGTH AND LOCATION OF WELDS	X	-	YES
WELDS MEET VISUAL ACCEPTANCE CRITERIA • CRACK PROHIBITION • WELD / BASE-METAL FUSION • CRATER CROSS SECTION • WELD PROFILES • WELD SIZE • UNDERCUT • POROSITY	X	-	YES
ARC STRIKES	X	-	YES
k-AREA	X	-	YES
BACKING REMOVED AND WELD TABS REMOVED (IF REQUIRED)	X	-	YES
REPAIR ACTIVITIES	X	-	YES
DOCUMENT ACCEPTANCE OR REJECTION OF WELDED JOINT MEMBER	X	-	YES
FABRICATORS (IBC §1704.2.5) IF FABRICATOR IS APPROVED BY THE AUTHORITY HAVING JURISDICTION, ON-SITE INSPECTION IS NOT REQUIRED, HOWEVER A CERTIFICATE OF COMPLIANCE MUST BE PROVIDED TO THE BUILDING OFFICIAL.	X	-	YES
NON-DESTRUCTIVE TESTING OF WELDED JOINTS			
FILLET WELDS:			
MT TEST A MINIMUM OF 10% OF THE LENGTH OF EACH FILLET WELD EXCEEDING 5/16".	-	X	YES
PERIODIC MT TESTING OF REPRESENTATIVE FILLET WELDS 5/16" AND LESS BUT NEED NOT EXCEED 10% OF ALL SUCH WELDS, EXCEPT AS REQUIRED FOR HIGH REJECTION RATES AS INDICATED IN THE FOLLOWING PARAGRAPH.	-	X	YES
INCREASE MT TESTING RATE FOR WELDERS HAVING A HIGH REJECTION RATE AS REQUIRED TO ENSURE ACCEPTABLE WELDS.	X	-	YES

PARTIAL JOINT PENETRATION (PJP) WELDS INCLUDING FLARE BEVEL WELDS			
MT TEST A MINIMUM OF 25% OF THE LENGTH OF EACH PJP WELD EXCEEDING 5/16" EFFECTIVE THROAT.	-	X	YES
PERIODIC MT TESTING OF REPRESENTATIVE PJP WELDS 5/16" AND LESS BUT NEED NOT EXCEED 10% OF ALL SUCH WELDS, EXCEPT AS REQUIRED FOR HIGH REJECTION RATES AS INDICATED IN THE FOLLOWING PARAGRAPH.	-	X	YES
INCREASE MT TESTING RATE FOR WELDERS HAVING A HIGH REJECTION RATE AS REQUIRED TO ENSURE ACCEPTABLE WELDS	X	-	YES

COMPLETE JOINT PENETRATION (CJP) WELDS (AISC 360 §N5B)			
ALL CJP WELDS EXCEEDING 5/16" THICKNESS SHALL BE **100%** UT TESTED PER AWS D1.1 CLAUSE 6 PART F "ULTRASONIC TESTING OF GROOVE WELDS". THE TESTING LABORATORY SHALL REVIEW THE CJP JOINTS TO DETERMINE WHERE GEOMETRY OR ACCESSIBILITY PRECLUDES THE USE OF STANDARD SCANNING PATTERNS PER AWS D1.1 CLAUSE 6 PART F. AT THESE LOCATIONS THE TESTING LABORATORY SHALL DEVELOP AND SUBMIT FOR APPROVAL A WRITTEN TESTING PROCEDURE IN ACCORDANCE WITH AWS D1.1 ANNEX S.	X	-	YES
PERIODIC MT TESTING OF REPRESENTATIVE CJP WELDS 5/16" AND LESS NOT TO EXCEED 10% OF ALL SUCH WELDS.	-	X	YES
INCREASE MT TESTING RATE FOR WELDERS HAVING A HIGH REJECTION RATE AS REQUIRED TO ENSURE ACCEPTABLE WELDS.	X	-	YES

STRUCTURAL STEEL HIGH-STRENGTH BOLTS (SNUG-TIGHT) - INSPECTION TASKS PRIOR TO BOLTING

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	REQUIRED
DOCUMENTATION AND ACCEPTANCE OR REJECTION OF BOLTED CONNECTIONS	-	X	YES

STRUCTURAL STEEL HIGH-STRENGTH BOLTS (SNUG-TIGHT) - INSPECTION TASKS DURING BOLTING

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	REQUIRED
DOCUMENTATION OF ACCEPTANCE OR REJECTION OF BOLTED CONNECTIONS.	-	X	YES

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RENOVATION - 114 E ALAMO ST

114 E ALAMO ST,
BRENHAM, TX 77833

10/28/2025

DRAWING PREPARED BY:
PLAN**NORTH**
ARCHITECTURAL CO.
FOR CONSTRUCTION

RECORD OF DRAWINGS

10/28/2025

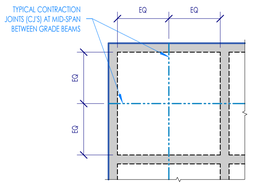
PROJECT NO.	25-00342
ISSUE	
DRAWN BY	Author
CHECKED BY	Checker
SHEET NO.	S0.4

STR STATEMENT OF SPECIAL INSPECTIONS

STRUCTURAL REFERENCE SHEETS

GENERAL CONCRETE DETAILS : S5.0

FOUNDATION DETAILS: S5.1



NOTES:

1. FOR TYPICAL CONTRACTION JOINT DETAIL REFER TO 5/SS.1
2. THE CJ LAYOUT SHOWN ABOVE ESTABLISHED THE TYPICAL SPACING RULES FOR THE CJ'S BY GRADE BEAMS. CONTRACTOR TO ADJUST AS REQUIRED FOR THE SPECIFIC GRADE BEAM LAYOUT ON THE PROJECT.

2 S1.0 TYPICAL CONTRACTION JOINTS FOR STIFFENED SLAB-ON-GROUND
NOT TO SCALE

PLAN NOTES

1. VERIFY ALL EDGE OF SLAB, LEDGE, ETC DIMENSIONS WITH FINAL ARCHITECTURE FLOOR PLANS.
2. FORM DIMENSIONS: SLAB DROPS, SLOPES, ETC., ARE SHOWN AS AN AID TO THE CONTRACTOR ONLY. VERIFY EXACT DIMENSIONS AND LOCATIONS WITH ARCH/OWNER.
3. DIMENSIONS ARE TO CL OF GRADE BEAMS OR EDGE OF SLAB UNLESS NOTED OTHERWISE.
4. REFER TO MEP DRAWINGS FOR PENETRATIONS AND UNDERGROUND UTILITIES. ALL PENETRATIONS SHALL BE SHOWN IN REBAR PLACEMENT DRAWINGS.
5. CONTRACTION (CONTROL) JOINTS (GROOVED OR SAW-CUTS) ARE REQUIRED TO MITIGATE UNCONTROLLED CRACKS IN THE SLAB. FOR THE REQUIRED MAXIMUM JOINT SPACING, DEPTH AND ADDITIONAL CRITERIA, REF/DETAIL
6. FOR FLATWORK OR PAVEMENT ABUTTING THE BUILDING FOUNDATION, REF/DETAIL
7. CONCRETE IS ASSUMED TO RECEIVE A STEEL TROWEL FINISH UNLESS NOTED OTHERWISE. NOTIFY ENGINEER IF ARCHITECTURALLY EXPOSED CONCRETE (STAINED, POLISHED, ETC.) IS PLANNED FOR ADDITIONAL SHRINKAGE CRACKING MITIGATION METHODS.
8. SUPERSTRUCTURE DESIGN: THIS FOUNDATION HAS BEEN DESIGNED BASED UPON AN ASSUMED FRAMING LAYOUT. DUDLEY SHALL BE PROVIDED THE FINAL FRAMING DESIGN/LAYOUT (WHEN COMPLETED) FOR REVIEW IN ORDER TO VERIFY THAT NO UNANTICIPATED LOADS WILL BE APPLIED TO THE FOUNDATION. IT IS ASSUMED THAT ANY WALL WITH A TOTAL FACTORED LOAD DEMAND IN EXCESS OF 500 PLF (POUNDS PER LINEAR FOOT) WILL BE POSITIONED ABOVE A GRADE BEAM OR TURNDOWN. ANY LOAD BEARING POSTS/COLUMN MUST BE LOCATED ABOVE A GRADE BEAM/TURN DOWN.
9. ANCHOR BOLT / HOLDOWNS: REFERENCE FRAMING PLAN (BY OTHERS) FOR ALL ANCHOR BOLT AND HOLDOWN SIZES AND SPACING/LOCATION REQUIREMENTS.
10. FOR THE TYPICAL SUBGRADE PREPARATION DE/GL.REF
11. CONSTRUCTION JOINTS (COLD JOINTS) ARE ONLY WHERE SPECIFICALLY SHOWN ON THE PLANS.

PLAN LEGEND

- FOUNDATION PERIMETER
- SLAB ELEVATION CHANGE
- FOOTING OUTLINE
- CONTRACTION (CONTROL) JOINT REF 5 / SS.1 &
- SLAB DROP, REF PLAN NOTE 1
- SLAB DROP W. SLOPE, REF PLAN NOTE 1
- SLOPE IN TOP SURFACE OF SLAB, REF ARCH FOR EXTENTS AND MAGNITUDE — SLOPE DOWN REF ARCH
- RE-ENTRANT CORNER BARS REF 9 / SS.1
- EXPOSED CONCRETE LIGHT BROOM FINISH

FOUNDATION & SLAB SCHEDULE

FOUNDATION TYPE:	BRAB TYPE III - STIFFENED NON-STRUCTURAL, SLAB-ON-GROUND, W. SHALLOW FDNS					
SUBGRADE MODULUS	50 PCI					
SLAB THICKNESS:	5"	DESIGN CONCENTRATED LOAD	3,000 LBS OVER 2.5'x2.5' (900N/M²) AREA			
SLAB REINFORCEMENT:	#4 @ 16" OC EACH WAY - REF DETAIL 7 / SS.1					
DESIGN METHOD:	ACI 360 (SLAB-ON-GROUND) PTI/WRI (SLAB & GRADE BEAMS) ACI 318 (FOOTINGS)					
VAPOR RETARDER:	MINIMUM 15 MIL (UNLESS THICKER REQ'D BY ARCHITECT)					

BEAM ID[1]	DESCRIPTION	WIDTH	DEPTH[2]	TOP BARS	BOTTOM BARS	STIRRUPS[3]
B1	TYPICAL BEAM	XX"	XX"	(XX) - #6	(XX) - #6	#3 @ 18" OC.
TD	TURNDOWN	12"	12"	N/R	(2) - #4	N/R

NOTES:

1. BEAMS ARE TYPE B1 UNO.
2. LOCATE THE FIRST STIRRUP A MAXIMUM OF 3" FROM FACE OF SUPPORT.
3. BEAM DEPTH INDICATED IN THE SCHEDULE IS A STRUCTURAL MINIMUM THAT THE BEAM REINFORCEMENT CAGE MAY BE BASED UPON. REFERENCE GEOTECHNICAL REPORT FOR MINIMUM GRADE BEAM EMBEDMENT BELOW ADJACENT FINAL GRADE OR FLATWORK/PAVEMENT. FOR VERTICAL MOISTURE BARRIERS THE DEPTH PROVIDED ARE AS FOLLOWS:
   A. (BEAM CAGE DEPTH / MINIMUM EMBEDMENT BELOW FINAL GRADE)
4. N/R = NOT REQUIRED
5. FOR ALLOWABLE SPLICE LOCATIONS, REF 10 / SS.1

REFERENCE DRAWING(S):

SLAB DIMENSIONS SHOWN ARE BASED UPON THE FOLLOWING CAD (COMPUTER-AIDED DESIGN) REFERENCE FILE(S), BY OTHERS.

- FILE FORMAT: REVIT
- FILE NAME: R25_PN2511_114 E Alamo St_v2
- DATE OF FILE: 10/1/2025
- FILE AUTHOR: Plan North Architectural Co.

REBAR LAP SPLICES

#4	24"
#5	30"
#6	36"

SLAB GEOMETRY

AREA (SF)	XXXX
PERIMETER (FT)	XXX
SHAPE FACTOR (SF)	XX

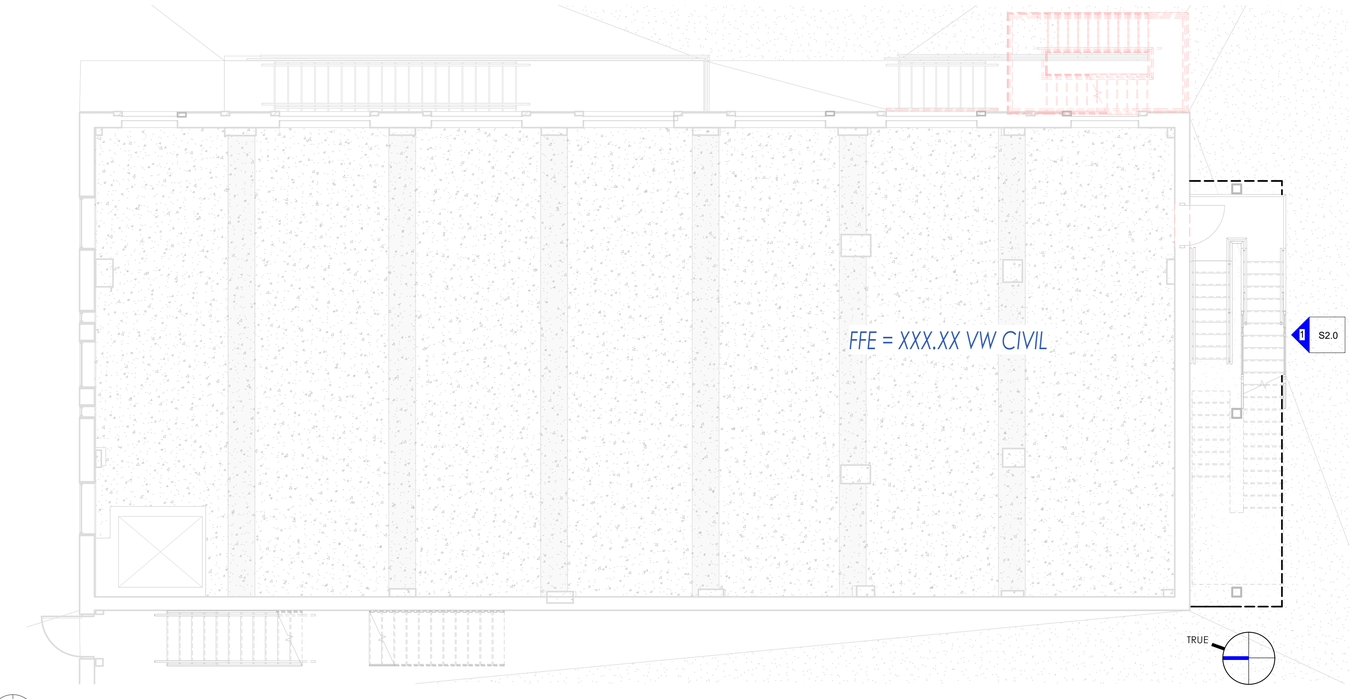
AREA AND PERIMETER OF THE SLAB ARE PROVIDED FOR PURPOSES OF CALCULATING THE SHAPE FACTOR FOR THE SLAB ONLY AND SHALL NOT BE USED FOR ANY OTHER PURPOSE.

THE (SF) IS A UNITLESS MEASURE OF A FOUNDATION'S IRREGULARITY
(SF) = PERIMETER^2 / AREA

SHALLOW FOUNDATION DESIGN PARAMETERS

ALLOW. BEARING PER IBC 2021 (PSF)	1,500
MIN PERIMETER BEAM EMBEDMENT BELOW FINAL GRADE / FLATWORK	24"

WORK IN PROGRESS



1 S1.0 FOUNDATION PLAN
2 S101
NOT TO SCALE

SUBGRADE, BUILDING PAD, DRAINAGE, UTILITIES AND LANDSCAPING NOTES (PER GEOTECHNICAL REPORT):

THE EARTHWORK AND BUILDING PAD NOTES CONTAINED BELOW ARE INTENDED TO PROVIDE A SUMMARY OF THE RECOMMENDATIONS PROVIDED IN THE GEOTECHNICAL REPORT. THE CONTRACTOR SHALL REVIEW AND BE THOROUGHLY FAMILIAR WITH ALL RECOMMENDATIONS OF THE REPORT. OMISSIONS OR RESTATEMENTS DO NOT RELIEVE THE CONTRACTOR FROM FULL COMPLIANCE WITH THE GEOTECHNICAL REPORT. THE FOUNDATION DESIGN ASSUMES THAT THE FOUNDATION IS CONSTRUCTED WHEN THE SOIL AT THE SITE IS NEAR OR AT EQUILIBRIUM MOISTURE CONTENT. IF THE SITE IS CONSTRUCTED AT A TIME WHEN THE SITE MAY BE IN A CONDITION OF EXTREME DRYNESS/WETNESS FROM A PROLONGED DRY/WET PERIOD, THEN THE CONTRACTOR SHALL NOTIFY THE GEOTECHNICAL ENGINEER FOR RECOMMENDATIONS TO ADJUST THE MOISTURE CONTENT IN THE BUILDING PAD TO ACHIEVE EQUILIBRIUM.

1. **SUBGRADE IMPROVEMENT:**
   A. PROVIDE A MINIMUM OF **6 INCHES** OF CRUSHED CONCRETE DIRECTLY BENEATH THE FOUNDATION PREPARED & INSTALLED ACCORDING TO TXDOT SPEC ITEM 247 TYPE A, UNDERLAIN BY **12 INCHES** OF COMPACTED SELECT FILL EXTENDING TO THE BOTTOM OF THE STONE SUB BASE. THE SELECT FILL PAD MUST BE OF UNIFORM THICKNESS, UNLESS OTHERWISE SPECIFIED BY THE GEOTECHNICAL ENGINEER.
2. **DRAINAGE**
   A. ROOF DRAINAGE SHALL BE COLLECTED BY A SYSTEM OF GUTTERS & DOWNSPOUTS OR PIPING SYSTEM (INTERIOR DRAINS) AND DISCHARGED A MINIMUM DISTANCE OF 10' AWAY FROM THE FOUNDATION TO AN AREA WITH POSITIVE DRAINAGE AWAY FROM THE FOUNDATION, PREFERABLY TO A PAVED SURFACE WHERE WATER CAN DRAIN RAPIDLY AWAY FROM THE STRUCTURE. SIDEWALKS, PARKING AREAS, BUILDING ACCESS DRIVES, AND THE GENERAL GROUND SURFACE SHOULD BE SLOPED SO THAT WATER WILL DRAIN AWAY FROM THE STRUCTURE. WATER SHOULD NOT BE ALLOWED TO POND NEAR THE FOUNDATION(S).
   B. FINAL GRADES SHALL SLOPE A MINIMUM OF 5% (6") FOR THE FIRST 10 FEET AWAY FROM THE FOUNDATION IN ALL DIRECTIONS, WITH THE EXCEPTIONS BELOW. [NOTE: THIS SLOPE SHALL OCCUR IN THE SELECT FILL OR IN-SITU SOIL. MERELY SLOPING TOPSOIL IS NOT SUFFICIENT, SINCE THIS STRATA IS TYPICALLY PERVIOUS AND COULD LEAD TO A PERCHED GROUNDWATER CONDITION] REFER TO CIVIL DRAWINGS FOR ALL DRAINAGE REQUIREMENTS.
      a. EXCEPTIONS:
         - WHERE LOT LINES, WALLS, SLOPES OR OTHER PHYSICAL BARRIERS PROHIBIT 6 INCHES OF FALL WITHIN 10 FEET, A 5% SLOPE SHALL BE PROVIDED TO EITHER DRAINS OR SWALES TO ENSURE DRAINAGE AWAY FROM THE STRUCTURE.
            1. SWALES USE FOR THIS PURPOSE SHALL BE SLOPED NOT LESS THAN 2% WHERE LOCATED WITHIN 10' OF THE BUILDING FOUNDATION.
         - IMPERVIOUS SURFACES WITHIN 10 FEET OF THE BUILDING FOUNDATION SHALL BE SLOPED A MINIMUM OF 2% AWAY FROM THE BUILDING.
3. **LANDSCAPING**
   A. DO NOT USE METAL EDGING OR OTHER DAMMING DEVICES WITHIN FIVE FEET OF THE FOUNDATION. THE ROOTS OF TREES AND LARGE PLANTS REMOVE LARGE QUANTITIES OF WATER FROM THE SOIL. IF THESE TREES AND SHRUBS ARE NEAR THE FOUNDATION AND IF SUFFICIENT WATER IS NOT SUPPLIED, THE SOILS MAY SHRINK IF EXPANSIVE, CAUSING SUBSIDENCE IN THE FOUNDATION. DURING DRY PERIODS, ENOUGH WATER SHOULD BE SUPPLIED TO TREES TO MINIMIZE SHRINKING OF EXPANSIVE SOILS AROUND THEM. MOST OF THE IRRIGATION WATER SHOULD BE APPLIED WELL AWAY FROM THE FOUNDATION TO ATTRACT THE TREE ROOTS IN THAT DIRECTION. WHEN TREES MATURE TO THE POINT OF SHADING THE ENTIRE LOT, REGULAR PRUNING WILL BE NEEDED TO REDUCE THEIR WATER UPTAKE. LANDSCAPING (PLANTS, SHRUBS, FLOWERS, ETC.) SHOULD NOT TRAP WATER AGAINST THE FOUNDATION. PROVIDE A SLOPE IN SOILS BELOW LANDSCAPE BEDDING AND IN THE BEDDING AWAY FROM THE FOUNDATION. ALTERNATIVELY, PROVIDE SWALES AROUND AND THROUGH THE LANDSCAPING TO DRAIN WATER AWAY. PROVIDE UNIFORM GROUND COVER AROUND THE FOUNDATION. THIS WILL HELP KEEP THE MOISTURE EVAPORATION RATE UNIFORM. IN AREAS THAT ARE NOT PLANTED, USE MULCH. EXTEND THE GROUND COVER AT LEAST FIVE FEET FROM THE FOUNDATION.
   B. ANY/ALL TREES SHALL BE PLANTED AT A MINIMUM DISTANCE EQUIVALENT TO THE HEIGHT OF THE TREE OR THE DRIP LINE PLUS 10 FEET WHICHEVER IS GREATER.
4. **UTILITIES**
   A. CONNECTIONS FOR UTILITIES (PLUMBING, ELECTRICAL, GAS, ETC.) THAT ARE UNDERNEATH, GO THROUGH OR ARE ATTACHED TO THE FOUNDATION SHALL HAVE BE FLEXIBLE TO ACCOMMODATE FOUNDATION MOVEMENT OF AT LEAST 2". ALL DRAINAGE PIPING, AND GENERAL PLUMBING SYSTEMS ASSOCIATED WITH THE FOUNDATION OR IN PROXIMITY TO THE FOUNDATION SHALL BE LEAK TESTED FOLLOWING INSTALLATION AND ON AN ANNUAL BASIS.
5. **SITE PREPARATION**
   A. SOFT SOILS SHOULD BE REMOVED UNTIL FIRM SOIL IS REACHED. THE SOFT SOILS CAN BE AERATED AND PLACED BACK IN SIX-INCH LOOSE LIFTS AND COMPACTED TO 95% AS SPECIFIED BY ASTM D-698. TREE STUMPS, TREE ROOTS, OLD SLABS, OLD FOUNDATIONS AND EXISTING PAVEMENTS SHOULD BE REMOVED FROM THE STRUCTURE AREA. IF THE TREE STUMPS AND ROOTS ARE LEFT IN PLACE, SETTLEMENT AND TERMITE INFESTATION MAY OCCUR. ONCE A ROOT SYSTEM IS REMOVED, A VOID IS CREATED IN THE SUBSOIL. IT IS RECOMMENDED TO FILL THESE VOIDS WITH STRUCTURAL FILL OR CEMENT-STABILIZED SAND AND COMPACT TO 95% AS SPECIFIED BY ASTM D-698.
   B. ANY LOW-LYING AREAS INCLUDING RAVINES, DITCHES, SWAMPS, ETC. SHOULD BE FILLED WITH STRUCTURAL FILL AND PLACED IN EIGHT-INCH LIFTS. EACH LIFT SHOULD BE COMPACTED TO 95% OF THE MAXIMUM DRY DENSITY AS SPECIFIED BY ASTM D-698.
   C. THE EXPOSED SUBGRADE SHOULD BE SCARIFIED TO A MINIMUM DEPTH OF XX (6) INCHES FOUNDATION AREAS OR PER SUBGRADE IMPROVEMENT REQUIREMENTS. THE SUBGRADE SHOULD THEN BE COMPACTED TO 95% OF THE MAXIMUM DENSITY AS DETERMINED BY THE STANDARD MOISTURE DENSITY RELATIONSHIP (ASTM D-698). IN THE EVENT THAT THE UPPER SIX (6) INCHES CANNOT BE COMPACTED DUE TO EXCESSIVE MOISTURE, WE RECOMMEND THAT THESE SOILS BE EXCAVATED AND REMOVED OR CHEMICALLY STABILIZED TO PROVIDE A FIRM BASE FOR FILL PLACEMENT. PROOF ROLLING SHOULD BE PERFORMED USING A HEAVY TIRED LOADED TRUCK OR PNEUMATIC RUBBER-TIRED WEIGHING 15-20 TONS.
   D. **SELECT FILL SOIL EXTENTS:** THE SELECT FILL SOILS (MINIMUMS UNLESS MORE STRINGENT PER GEOTECHNICAL REPORT)... SHALL BE LIMITED TO THE FOOTPRINT OF THE FOUNDATION EXCEPT WHERE THERE IS IMPERVIOUS COVER (PAVEMENT, FLATWORK, SIDEWALK, ETC.) ABUTTING THE FOUNDATION IN WHICH CASE IT SHALL BE EXTENDED OUTSIDE THE FOUNDATION FOOTPRINT (5') OR TO THE EXTENTS OF THE IMPERVIOUS COVER, WHICHEVER IS LESS. IF OVERBUILD OF SELECT FILL IS REQUIRED WHERE THIS IS NOT IMPERVIOUS COVER, THEN THE CONTRACTOR SHALL INSTALL HORIZONTAL CLAY CAP TO COVER THE FILL OVERBUILD.
   E. THE FLOOR SLAB SHOULD BE PLACED AS SOON AS POSSIBLE AFTER THE BUILDING PAD IS PREPARED. IF THE BUILDING PAD IS LEFT EXPOSED TO RAINFALL, PERCHED GROUNDWATER CONDITIONS MAY DEVELOP WHICH WILL UNDERMINE THE INTEGRITY OF THE FLOOR SLAB. ALL TRENCHES (WATER, CABLE, ELECTRICAL) SHOULD BE PROPERLY BACKFILLED AND COMPACTED TO 95% OF THE MAXIMUM DRY DENSITIES. SAND OR PERMEABLE MATERIALS SHOULD NOT BE USED AS BACKFILL. IMPROPERLY BACKFILLED AND IMPROPERLY COMPACTED TRENCH, IF LEFT EXPOSED WILL ALSO BE ANOTHER SOURCE FOR PERCHED GROUNDWATER CONDITIONS. IN GENERAL PERCHED WATER TENDS TO BE TRAPPED WITHIN THE FILL. THE TRAPPED GROUNDWATER TENDS TO SOFTEN THE SUBGRADE. POSITIVE DRAINAGE SHOULD BE MAINTAINED ACROSS THE ENTIRE BUILDING PAD.
   F. A QUALIFIED SOIL TECHNICIAN SHOULD MONITOR ALL EARTHWORK OPERATIONS. FIELD DENSITY TESTS SHOULD BE CONDUCTED ON EACH LIFT USING A NUCLEAR DENSITY GAUGE. THE GAUGE SHOULD BE CALIBRATED EVERY DAY. PRIOR TO FIELD DENSITY TESTS, A 50-POUND SAMPLE FROM THE SUBGRADE SOILS SHOULD BE OBTAINED. A SIMILAR SAMPLE SHOULD BE OBTAINED FROM THE FILL SOILS. A STANDARD MOISTURE DENSITY RELATIONSHIP (ASTM D-698) SHOULD BE PERFORMED ON EACH SAMPLE IN ORDER TO OBTAIN AN OPTIMUM MOISTURE CONTENT AND A MAXIMUM DRY DENSITY. THE FIELD DENSITY TESTS SHOULD BE COMPARED TO THESE RESULTS EVERY TIME THE SOILS ARE TESTED IN THE FIELD
6. **STRUCTURAL FILL (SELECT FILL MINIMUMS UNLESS MORE STRINGENT PER GEOTECHNICAL REPORT)**
   A. LOW SWELL POTENTIAL SELECT FILL SHOULD CONSIST OF COHESIVE SOILS FREE OF ORGANICS OR OTHER DELETERIOUS MATERIALS AND SHOULD HAVE A PLASTICITY INDEX NOT LESS THAN 7 OR MORE THAN 20, SANDY CLAYS ARE RECOMMENDED FOR USE. THE LOW SWELL POTENTIAL SELECT FILL SHOULD BE CLEANED AND FREE OF ORGANIC MATTER OR OTHER DELETERIOUS MATERIAL. THE FILL SHOULD BE PLACED IN MAXIMUM 8-INCH LOOSE LIFTS AND COMPACTED TO A MINIMUM OF 95 PERCENT OF THE MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D 698 (STANDARD PROCTOR). THE MOISTURE CONTENT AT THE TIME OF COMPACTION SHOULD BE -2%, +3% OF THE OPTIMUM VALUE AS DEFINED BY ASTM D 698. THE REFERENCED MOISTURE CONTENT AND DENSITY SHOULD BE MAINTAINED UNTIL CONSTRUCTION IS COMPLETE.
7. **HORIZONTAL MOISTURE BARRIER**
   A. WHERE THE PERIMETER OF THE FOUNDATION DOES NOT HAVE LOW PERMEABILITY FLATWORK (SIDEWALK, PAVEMENT, PATIO, ETC.) ABUTTING THE FOUNDATION, A HORIZONTAL MOISTURE BARRIER VIA CLAY CAP AND VAPOR RETARDER MUST BE PROVIDED.
      a. CLAY CAP: A MINIMUM 5' WIDE LOW PERMEABILITY CLAY "CAP" SHALL BE PLACED ALONG THE EXTERIOR OF THE FOUNDATION TO HELP MINIMIZE MOISTURE INFILTRATION INTO THE SELECT FILL SOIL PADS. THE LOW PERMEABILITY, 1-FOOT THICK CLAY "CAP" SHALL HAVE A PLASTICITY INDEX (PI) BETWEEN 20 & 35.
      b. VAPOR RETARDER: BELOW THE CLAY CAP, A MIN 10 MIL VAPOR RETARDER MUST BE PROVIDED ON A MINIMUM 5% SLOPE. RETARDER MUST BE SECURED TO THE FOUNDATION.
8. **SOIL MOISTURE**
   A. EXPANSIVE SOILS HEAVE AND SUBSIDE DUE TO CHANGES IN MOISTURE CONTENT. CHANGES IN MOISTURE CONTENT CAN CAUSE VERY LARGE CHANGES IN SOIL VOLUME WHEN GOING FROM A DRY TO A SATURATED CONDITION, AND VICE VERSA. THIS MOVEMENT DOES NOT MEAN THE FOUNDATION IS IMPROPERLY DESIGNED OR THAT IT HAS FAILED. THE FOUNDATION DESIGN ENGINEER CANNOT CONTROL THE MOISTURE CONTENT OF THE SOIL, BUT OFTEN THE OWNER/TENANT CAN. UNIFORMITY IS THE KEY: UNIFORM MOISTURE CONTENT IN THE SOIL, UNIFORMLY MAINTAINED IN ALL AREAS AROUND THE FOUNDATION. IF CHANGES IN MOISTURE CONTENT ARE UNIFORM, THEN MOVEMENT OF THE FOUNDATION WILL BE UNIFORM AND LESS DISTRESS WILL BE CREATED IN THE STRUCTURE. IF CHANGES IN MOISTURE CONTENT ARE NON-UNIFORM, THEN THERE MAY BE DIFFERENTIAL MOVEMENT IN THE FOUNDATION. DIFFERENTIAL MOVEMENT CAN CAUSE GREATER (AND MORE OBVIOUS) DISTRESS IN THE STRUCTURE. LEAKING POOLS, LEAKING PLUMBING LINES, LEAKING DRAINS, DRIPPING FAUCETS, DRIPPING AIR CONDITIONING CONDENSATE LINES, AND MISDIRECTED WATER FROM CLOGGED AND BROKEN GUTTERS AND DOWNSPOUTS CAN CAUSE LOCAL HIGH MOISTURE CONTENTS THAT CAN RESULT IN DIFFERENTIAL MOVEMENT IN AREAS OF EXPANSIVE SOILS. THESE CONDITIONS SHOULD BE REMEDIED AS SOON AS POSSIBLE. TREES IN OR NEAR THE FOOTPRINT OF THE FOUNDATION, EITHER REMOVED OR PLANTED DURING CONSTRUCTION, CAUSE THE MAJORITY OF FOUNDATION PROBLEMS REQUIRING REPAIR IN THIS AREA. TREES REMOVED DURING CONSTRUCTION TEND TO CAUSE HEAVE OF EXPANSIVE SOILS DURING THE FIRST FEW YEARS, WITH INITIAL DISTRESS OFTEN EVIDENT AT THE TIME OF MOVE-IN. TREES PLANTED DURING OR AFTER CONSTRUCTION TEND TO CAUSE SUBSIDENCE OF EXPANSIVE SOILS, HOWEVER, SIGNIFICANT SUBSIDENCE DISTRESS WILL USUALLY NOT OCCUR FOR TEN TO TWENTY YEARS AS THE TREES MATURE.
9. **CLIMATE**
   A. DURING PERIODS OF DRY WEATHER, THE SOIL AROUND THE FOUNDATION SHOULD BE IRRIGATED IF THE BUILDING IS LOCATED IN AN AREA WHERE EXPANSIVE SOILS ARE KNOWN TO OCCUR. THE MOST COMMONLY USED IRRIGATION SYSTEM IS ABOVEGROUND TIMED SPRINKLERS WITH A MANUAL OVERRIDE SO THEY CAN BE TURNED OFF IN RAINY WEATHER. AN AUTOMATIC BELOWGROUND IRRIGATION SYSTEM THAT SENSES THE MOISTURE CONTENT OF THE SOIL MAY ALSO BE USED. TEND TO KEEP THE IRRIGATION SYSTEM SET ON "MANUAL", AND ONLY USE IT IN DRIER PERIODS WHEN WILTING OF THE LAWN GRASSES AND OTHER VEGETATION OCCURS. THE IRRIGATION SHOULD BE DONE AT LEAST ONE TO TWO FEET AWAY FROM THE FOUNDATION, AND THEN LIGHTLY SO THAT TREE ROOTS ARE NOT ATTRACTED THERE. DO NOT ALLOW SPRINKLERS TO SPRAY WATER AGAINST THE STRUCTURE. IN EXTENDED DRY PERIODS, SHOULD THE SOIL CRACK AND PULL AWAY FROM THE FOUNDATION, DO NOT WATER DIRECTLY INTO THE GAP.

WORK IN PROGRESS

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RENOVATION - 114 E ALAMO ST

114 E ALAMO ST,
BRENHAM, TX 77833

10/28/2025

DRAWING PREPARED BY:
PLANNORTH
ARCHITECTURAL CO.
FOR CONSTRUCTION

RECORD OF DRAWINGS

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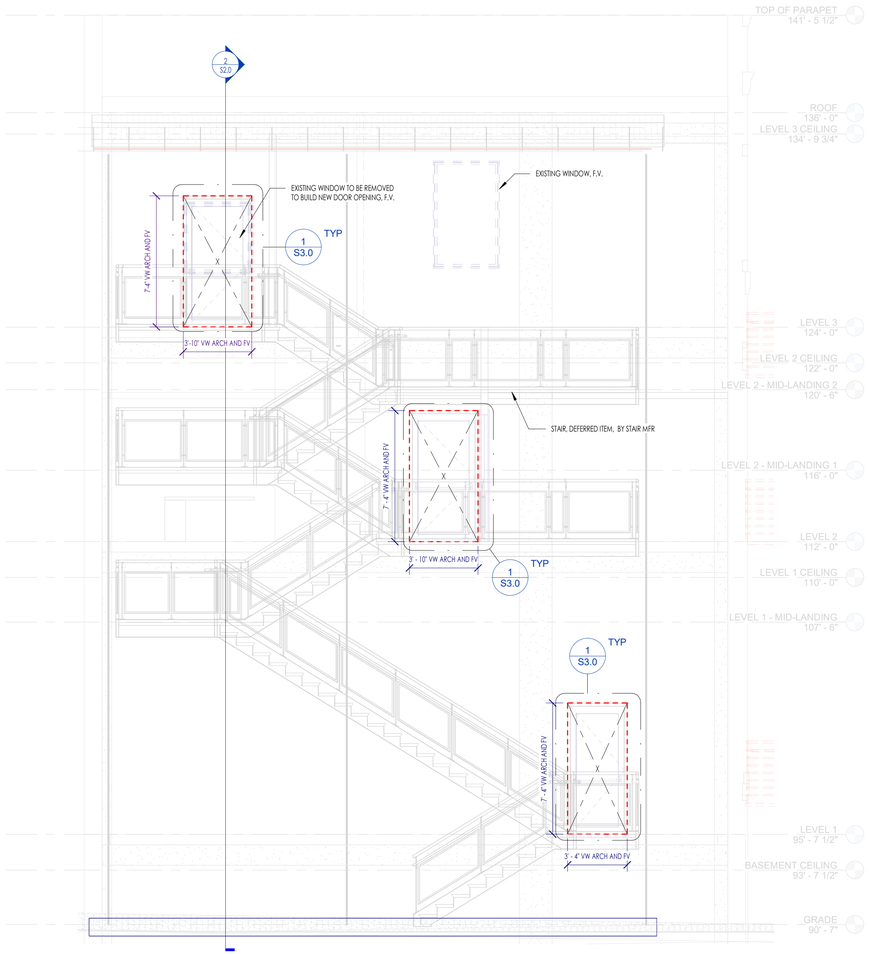
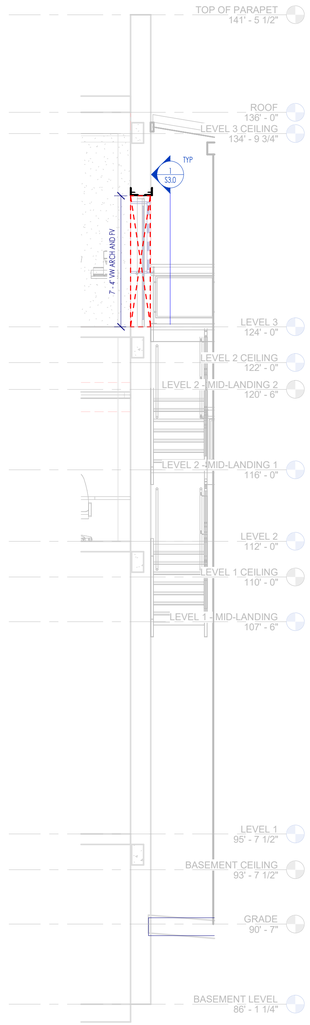
1	REV. 1	

PROJECT NO.	25-00342
ISSUE	
DRAWN BY	Author
CHECKED BY	Checker
SHEET NO.	S1.0

FOUNDATION PLAN



1 S2.0 / 1 S1.0 SOUTH ELEVATION
NOT TO SCALE



2 S2.0 / 1 S2.0 TYPICAL SECTION TROUGH OPENING
NOT TO SCALE

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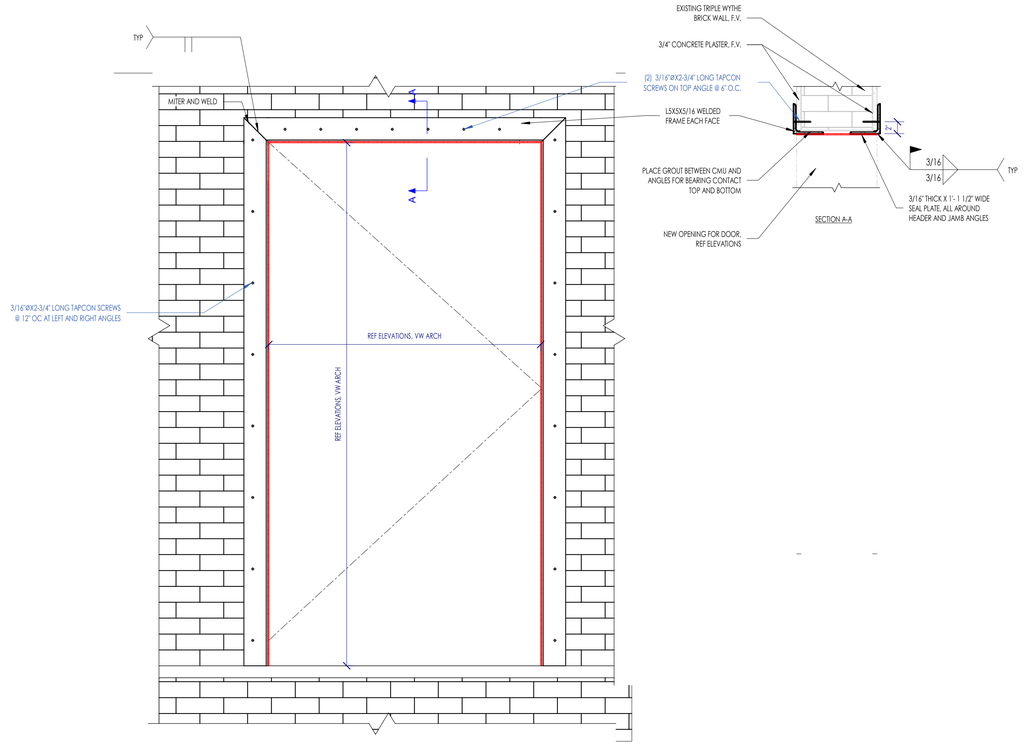
SECTIONS AND ELEVATIONS



NOTES:

1. TEMPORARY SHORING IS THE RESPONSIBILITY OF THE CONTRACTOR AS MEANS AND METHODS AS LONG AS IT MEETS THE PERFORMANCE REQUIREMENTS, INDUSTRY STANDARDS AND BEST PRACTICES.
2. PERFORMANCE OBJECTIVE:
   A. THE CONTRACTOR SHALL SAFELY SHORE EXISTING CONSTRUCTION WHEREVER EXISTING SUPPORTS ARE REMOVED TO ALLOW THE INSTALLATION OF NEW WORK. ALL SHORING METHODS AND SEQUENCING OF DEMOLITION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND THEIR ENGINEER. THE SHORING SHALL BE IN COMPLIANCE WITH ASCE/SEI 37 (LATEST ED.) 'DESIGN LOADS ON STRUCTURES DURING CONSTRUCTION', EXISTING STRUCTURAL
   B. MEMBERS SHALL NOT BE CUT OR MODIFIED UNLESS SPECIFICALLY SHOWN HEREIN OR UNLESS APPROVED IN WRITING BY THE SER.
   C. TEMPORARY SHORING SYSTEM SHALL BE DESIGNED TO SUPPORT THE LOAD ON THE EXISTING WALLS WHILE LIMITING DEFLECTION TO L/600
   D. LIMITING DAMAGE TO THE EXISTING WALLS SO THAT THEY CAN BE REPAIRED TO MATCH EXISTING AFTER REMOVAL OF TEMPORARY SHORING SYSTEM
3. REFER TO GENERAL NOTES SECTIONS EXISTING CONDITIONS / DEMOLITION & MODIFICATIONS TO EXISTING STRUCTURES TEMPORARY SHORING METHODS SHOWN IN THE SECTIONS ARE ASSUMED METHODS. ALL TEMPORARY SHORING MEANS & METHODS AND DESIGN ARE THE RESPOSIBILITY OF THE CONTRACTOR. REFERENCE THE SPECIFICATION *FOR TEMPORARY LIFTING AND SHORING OF WOOD-FRAMED BUILDINGS* ON S0.0 FOR ADDITIONAL NOTES REGARDING TEMPORARY SHORING.
4. THE DESIGN OF THE WALL OPENING RETROFIT STEEL IS BASED ON THE ASSUMPTIONS LISTED IN THE DESIGN ASSUMPTIONS SECTION BELOW. ALL CONDITIONS ARE TO BE FIELD VERIFIED AND THE EOR IS TO BE NOTIFIED OF ANY CONDITIONS THAT DIFFER FROM THE ASSUMPTIONS BELOW. MODIFICATIONS TO FRAMING DESIGN MAY BE REQUIRED FOLLOWING ASSESSMENT OF EXISTING CONDITIONS.

1 S3.0 / 1 S2.0 NEW DOOR OPENING IN EXISTING MASONRY WALL
NOT TO SCALE

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SHEET NO.	S3.0

EXISTING BRICK WALL RETROFIT DETAILS