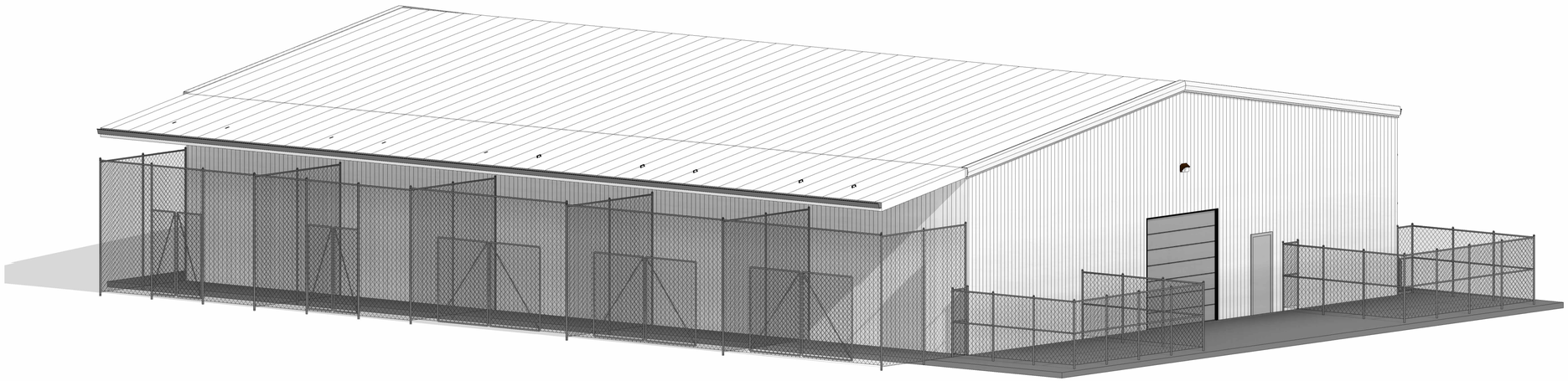
ECISD HIGH SCHOOL ATHLETIC MULTI-USE BUILDING

411 N 8TH AVE, EDINBURG, TX 78541

ECISD CSP 25-74



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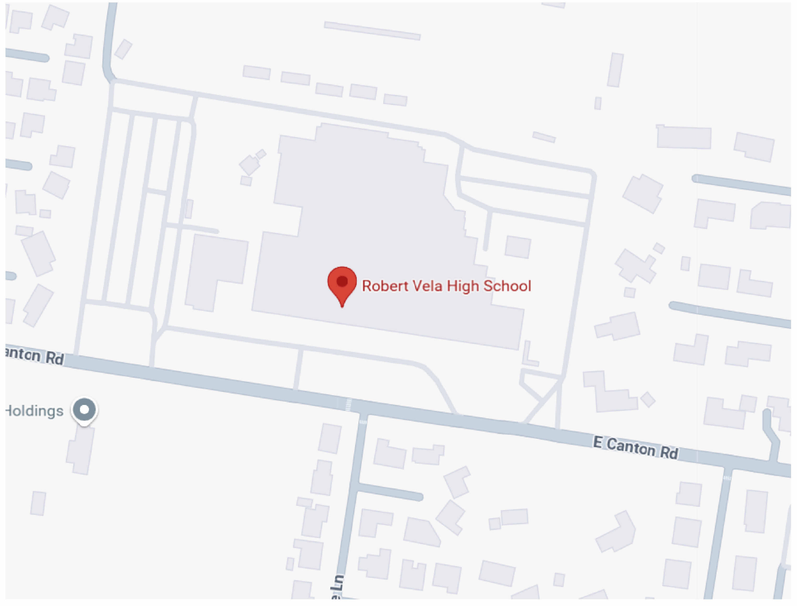

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5-16-2025

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ECISD HIGH SCHOOL ATHLETIC MULTI-USE BUILDING ECISD CSP 25-74

ROBERT VELA HIGH SCHOOL

801 E Canton Rd, Edinburg, TX 78539

CLIENT:
EDINBURG CISD

REVISION:

No.	Description	Date

PROJECT #: 25-030102
DRAWN BY: N.M.
CHECKED BY: CG3
DATE: 4/28/25

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CHAPTER 3: BUILDING BLOCKS

302 Floor or Ground Surfaces

302.1 General
Floor and ground surfaces shall be stable, firm, and slip resistant, and shall comply with. See exceptions.

302.2 Carpet. Carpet or carpet tile shall be securely attached and shall have a firm cushion, pad, or backing or no cushion or pad. Carpet or carpet tile shall have a level loop, textured loop, level cut pile, or level cut/uncut pile texture.
Pile height shall be 1/2 inch (13 mm) maximum. Exposed edges of carpet shall be fastened to floor surfaces and shall have trim on the entire length of the exposed exposed edge. Carpet edge trim shall comply with 303.

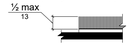


Figure 302.2 Carpet Pile Height

302.3 Openings. Openings in floor or ground surfaces shall not allow passage of a sphere more than 1/2 inch (13 mm) diameter except as allowed in 407.4.3, 409.4.3, 410.4, 810.5.3 and 810.10. Elongated openings shall be placed so that the long dimension is perpendicular to the dominant direction of travel.

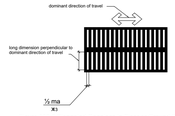


Figure 302.3 Elongated Openings in Floor or Ground Surfaces

303 Changes in level

303.1 General. Where changes in level are permitted in floor or ground surfaces, they shall comply with 303. See exceptions.

303.2 . Changes in level of 1/4 inch (6.4 mm) high maximum shall be permitted to be .

Figure 303.2 Change in Level

303.3 Beveled. Changes in level between 1/4 inch (6.4 mm) high minimum and 1/2 inch (13 mm) high maximum shall be beveled with a slope not steeper than 1:2.

Advisory 303.3 Beveled. A change in level of 1/2 inch (13 mm) is permitted to be 1/4 inch (6.4 mm) plus 1/4 inch (6.4 mm) beveled. However, in no case may the combined change in level exceed 1/2 inch (13 mm). Changes in level exceeding 1/2 inch (13 mm) must comply with 405 (Ramps) or 406 (Curb Ramps)

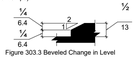


Figure 303.3 Beveled Change in Level

303.4 Ramps. Changes in level greater than 1/2" (13mm) high shall be ramped, and shall comply with 405 or 406.

304 Turning Space

304.1 General. Turning space shall comply with 304.

304.2 Floor or Ground Surfaces. Floor or ground surfaces of a turning space shall comply with 302. Changes in level are not permitted. **EXCEPTION: Slopes not steeper than 1:48 shall be permitted.**
Advisory 304.2 Floor or Ground Surface Exception. As used in this section, the phrase "changes in level" refers to surfaces with slopes and to surfaces with abrupt rise exceeding that permitted in Section 303.3. Such changes in level are prohibited in required clear floor and ground spaces, turning spaces, and in similar spaces where people using wheelchairs and other mobility devices must park their mobility aids such as in wheelchair spaces, or maneuver to use elements such as at doors, fixtures, and telephones. The exception permits slopes not steeper than 1:48.

304.3. Size.Turning space shall comply with 304.3.1 or 304.3.2.

304.3.1 Circular Space. The turning space shall be a space of 60 inches (1525 mm) diameter minimum. The space shall be permitted to include knee and toe clearance complying with 306.

304.3.2 T-Shaped Space. The turning space shall be a T-shaped space within a 60 inch (1525 mm) square minimum with arms and base 36 inches (915 mm) wide minimum. Each arm of the T shall be clear of obstructions 12 inches (305 mm) minimum in each direction and the base shall be clear of obstructions 24 inches (610 mm) minimum. The space shall be permitted to include knee and toe clearance complying with 306 only at the end of either the base or one arm.

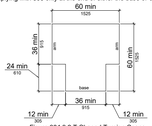


Figure 304.3.2 T-Shaped Turning Space

305 Clear Floor or Ground Space

305.3 Size. The clear floor or ground space shall be 30 inches (760 mm) minimum by 48 inches (1220 mm) minimum.

Figure 305.3 Clear Floor or Ground Space

305.4 Knee and Toe Clearance. Unless otherwise specified, clear floor or ground space shall be permitted to include knee and toe clearance complying with 306.

305.5 Unless otherwise specified, clear floor or ground space shall be positioned for either forward or parallel approach to an element.

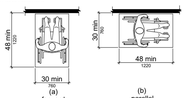


Figure 305.5 Position of Clear Floor or Ground Space

305.6 Approach. One full unobstructed side of the clear floor or ground space shall adjoin an accessible route or adjoin another clear floor or ground space.

305.7 Maneuvering Clearance. Where a clear floor or ground space is located in an alcove or otherwise confined on all or part of three sides, additional maneuvering clearance shall be provided in accordance with 305.7.1 and 305.7.2.

305.7.1 Forward Approach. Alcoves shall be 36 inches (915 mm)wide minimum where the depth exceeds 24 inches (610 mm).

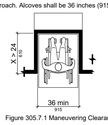


Figure 305.7.1 Maneuvering Clearance in an Alcove, Forward Approach

305.7.2 Parallel Approach. Alcoves shall be 60 inches (1525 mm) wide minimum where the depth exceeds 15 inches (380 mm).

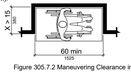


Figure 305.7.2 Maneuvering Clearance in an Alcove, Parallel Approach

306 Knee and Toe Clearance

306.1 General. Where space beneath an element is included as part of clear floor or ground space or turning space, the space shall comply with 306. Additional space shall not be prohibited beneath an element but shall not be considered as part of the clear floor or ground space or turning space.

Advisory 306.1 General. Clearances are measured in relation to the usable clear floor space, not necessarily to the support for an element. When determining clearance under an object for required turning or maneuvering space, care should be taken to ensure the space is clear of any obstructions.

306.2 Toe Clearance.

306.2.1 General. Space under an element between the finish floor or ground and 9 inches (230 mm) above the finish floor or ground shall be considered toe clearance and shall comply with 306.2.

306.2.2 Maximum Depth. Toe clearance shall extend 25 inches (635 mm) maximum under an element.

306.2.3 Minimum Required Depth. Where toe clearance is required at an element as part of a clear floor space, the toe clearance shall extend 17 inches (430 mm) minimum under the element.

306.2.4 Additional Clearance. Space extending greater than 6 inches (150 mm) beyond the available knee clearance at 9 inches (230 mm) above the finish floor or ground shall not be considered toe clearance.

306.2.5 Width. Toe clearance shall be 30 inches (760 mm) wide minimum.

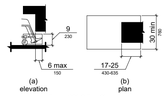


Figure 306.2 Toe Clearance

306.3 Knee Clearance.

306.3.1 General. Space under an element between 9 inches (230 mm) and 27 inches (685 mm) above the finish floor or ground shall be considered knee clearance and shall comply with 306.3.

306.3.2 Maximum Depth. Knee clearance shall extend 25 inches (635 mm) maximum under an element at 9 inches (230 mm) above the finish floor or ground.

306.3.3 Minimum Required Depth. Where knee clearance is required under an element as part of a clear floor space, the knee clearance shall be 11 inches (280 mm) deep minimum at 9 inches (230 mm) above the finish floor or ground, and 8 inches (205 mm) deep minimum at 27 inches (685 mm) above the finish floor or ground.

306.3.4 Clearance Reduction. Between 9 inches (230 mm) and 27 inches (685 mm) above the finish floor or ground, the knee clearance shall be permitted to reduce at a rate of 1 inch (25 mm) in depth for each 6 inches (150 mm) in height.

306.3.5 Width. Knee clearance shall be 30 inches (760 mm) wide minimum.

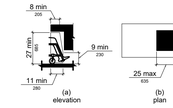


Figure 306.3 Knee Clearance

307 Protruding Objects

307.1 General. Protruding objects shall comply with 307.

307.2 Protrusion Limits. Objects with leading edges more than 27 inches (685 mm) and not more than 80 inches (2030 mm) above the finish floor or ground shall protrude 4 inches (100 mm) maximum horizontally into the circulation path.
EXCEPTION: Handrails shall be permitted to protrude 4 1/2 inches (115 mm) maximum.
Advisory 307.2 Protrusion Limits. When a cane is used and the element is in the detectable range, it gives a person sufficient time to detect the element with the cane before there is body contact. Elements located on circulation paths, including operable elements, must comply with requirements for protruding objects. For example, awnings and their supporting structures cannot reduce the minimum required clearance. Similarly, casement windows, when open, cannot encroach more than 4 inches (100 mm) into circulation paths above 27 inches (685 mm).

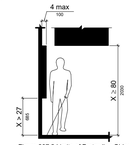


Figure 307.2 Limits of Protruding Objects

307.3 Post-Mounted Objects. Free-standing objects mounted on posts or pylons shall overhang circulation paths 12 inches (305 mm) maximum when located 27 inches (685 mm) minimum and 80 inches (2030 mm) maximum above the finish floor or ground. Where a sign or other obstruction is mounted between posts or pylons and the clear distance between the posts or pylons is greater than 12 inches (305 mm), the lowest edge of such sign or obstruction shall be 27 inches (685 mm) maximum or 80 inches (2030 mm) minimum above the finish floor or ground.

EXCEPTION: The sloping portions of handrails serving stairs and ramps shall not be required to comply with 307.3.

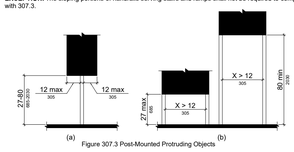


Figure 307.3 Post-Mounted Protruding Objects

307.4 Clearance. clearance shall be 80 inches (2030 mm) high minimum. Guardrails or other barriers shall be provided where the clearance is less than 80 inches (2030 mm) high. The leading edge of such guardrail or barrier shall be located 27 inches (685 mm) maximum above the finish floor or ground.

EXCEPTION: Door closers and door stops shall be permitted to be 78 inches (1980 mm) minimum above the finish floor or ground.

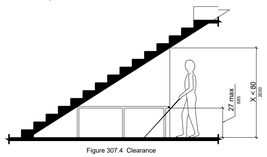


Figure 307.4 Clearance

307.5 Required Clear Width. Protruding objects shall not reduce the clear width required for accessible routes.

308 Reach Ranges

308.1 General. Reach ranges shall comply with 308.

Advisory 308.1 General. The following table provides guidance on reach ranges for children according to age where building elements such as coat hooks, lockers, or operable parts are designed for use primarily by children. These dimensions apply to either forward or side reaches. Accessible elements and operable parts designed for adult use or children over age 12 can be located outside these ranges but must be within the adult reach ranges required by 308.

Children's Reach Ranges

Forward or Side Reach	High (maximum)	Low (minimum)
Ages 3 and 4	36 in (915 mm)	20 in (510 mm)
Ages 5 through 8	40 in (1015 mm)	18 in (455 mm)
Ages 9 through 12	44 in (1120 mm)	16 in (405 mm)

308.2 Forward Reach.

308.2.1 Unobstructed. Where a forward reach is unobstructed, the high forward reach shall be 48 inches (1220 mm) maximum and the low forward reach shall be 15 inches (380 mm) minimum above the finish floor or ground.

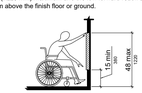


Figure 308.2.1 Unobstructed Forward Reach

308.2.2 Obstructed High Reach. Where a high forward reach is over an obstruction, the clear floor space shall extend beneath the element for a distance not less than the required reach depth over the obstruction. The high forward reach shall be 48 inches (1220 mm) maximum where the reach depth is 20 inches (510 mm) maximum. Where the reach depth exceeds 20 inches (510 mm), the high forward reach shall be 44 inches (1120 mm) maximum and the reach depth shall be 25 inches (635 mm) maximum.

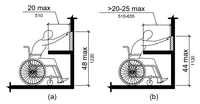


Figure 308.2.2 Obstructed High Forward Reach

308.3 Side Reach.

308.3.1 Unobstructed. Where a clear floor or ground space allows a parallel approach to an element and the side reach is unobstructed, the high side reach shall be 48 inches (1220 mm) maximum and the low side reach shall be 15 inches (380 mm) minimum above the finish floor or ground. **See exceptions.**

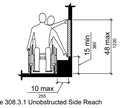


Figure 308.3.1 Unobstructed Side Reach

308.3.2 Obstructed High Reach. Where a clear floor or ground space allows a parallel approach to an element and the high side reach is over an obstruction, the height of the obstruction shall be 34 inches (865 mm) maximum and the depth of the obstruction shall be 24 inches (610 mm) maximum. The high side reach shall be 48 inches (1220 mm) maximum for a reach depth of 10 inches (255 mm) maximum. Where the reach depth exceeds 10 inches (255 mm), the high side reach shall be 46 inches (1170 mm) maximum for a reach depth of 24 inches (610 mm) maximum. **See exceptions.**

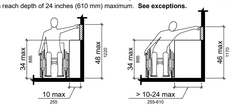


Figure 308.3.2 Obstructed High Side Reach

309 Operable Parts

309.1 General. Operable parts shall comply with 309.

309.2 Clear Floor Space. A clear floor or ground space complying with 305 shall be provided.

309.3 Height. Operable parts shall be placed within one or more of the reach ranges specified in 308.
309.4 Operation. Operable parts shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist. The force required to activate operable parts shall be 5 pounds (22.2 N) maximum. **See exception.**

CHAPTER 4: ACCESSIBLE ROUTES

401 General

401.1 Scope. The provisions of Chapter 4 shall apply where required by Chapter 2 or where referenced by a requirement in this document.

402 ACCESSIBLE ROUTES

402.1 General. Accessible routes shall comply with 402.

402.2 Components. Accessible routes shall consist of one or more of the following components: walking surfaces with a running slope not steeper than 1:20, doorways, ramps, curb ramps excluding the flared sides, elevators, and platform lifts. All components of an accessible route shall comply with the applicable requirements of Chapter 4.

Advisory 402.2 Components. Walking surfaces must have running slopes not steeper than 1:20, see 403.3. Other components of accessible routes, such as ramps (405) and curb ramps (406), are permitted to be more steeply sloped.

403 Walking Surfaces

403.1 General. Walking surfaces that are a part of an accessible route shall comply with 403.

403.2 Floor or Ground Surface. Floor or ground surfaces shall comply with 302.

403.3 Slope. The running slope of walking surfaces shall not be steeper than 1:20. The cross slope of walking surfaces shall not be steeper than 1:48.

403.4 Changes in Level. Changes in level shall comply with 303.

403.5 Clearances. Walking surfaces shall provide clearances complying with 403.5.

EXCEPTION: Within employee work areas, clearances on common use circulation paths shall be permitted to be decreased by work area equipment provided that the decrease is essential to the function of the work being performed.

403.5.1 Clear Width. Except as provided in 403.5.2 and 403.5.3, the clear width of walking surfaces shall be 36 inches (915 mm) minimum.

EXCEPTION: The clear width shall be permitted to be reduced to 32 inches (815 mm) minimum for a length of 24 inches (610 mm) maximum provided that reduced width segments are separated by segments that are 48 inches (1220 mm) long minimum and 36 inches (915 mm) wide minimum.

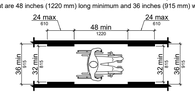


Figure 403.5.1 Clear Width of an Accessible Route

403.5.2 Clear Width at Turn. Where the accessible route makes a 180 degree turn around an element which is less than 48 inches (1220 mm) wide, clear width shall be 42 inches (1065 mm) minimum approaching the turn, 48 inches (1220 mm) minimum at the turn and 42 inches (1065 mm) minimum leaving the turn. **EXCEPTION: Where the clear width at the turn is 60 inches (1525 mm) minimum compliance with 403.5.2 shall not be required.**

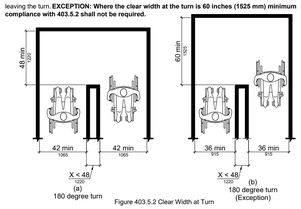


Figure 403.5.2 Clear Width at Turn

403.5.3 Passing Spaces. An accessible route with a clear width less than 60 inches (1525 mm) shall provide passing spaces at intervals of 200 feet (61 m) maximum. Passing spaces shall be either: a space 60 inches (1525 mm) minimum by 60 inches (1525 mm) minimum; or, an intersection of two walking surfaces providing a T-shaped space complying with 304.3.2 where the base and arms of the T-shaped space extend 48 inches (1220 mm) minimum beyond the intersection.

403.6 Handrails. Where handrails are provided along walking surfaces with running slopes not steeper than 1:20 they shall comply with 505.

Advisory 403.6 Handrails. Handrails provided in elevator cabs and platform lifts are not required to comply with the requirements for handrails on walking surfaces.

404 Doors, Doorways, and Gates

404.1General. Doors, doorways, and gates that are part of an accessible route shall comply with 404.

EXCEPTION: Doors, doorways, and gates designed to be operated only by security personnel shall not be required to comply with 404.2.7, 404.2.8, 404.2.9, 404.3.2 and 404.3.4 through 404.3.7.

Advisory 404.1 General Exception. Security personnel must have sole control of doors that are eligible for the Exception at 404.1. It would not be acceptable for security personnel to operate the doors for people with disabilities while allowing others to have independent access.

404.2 Manual Doors, Doorways, and Manual Gates. Manual doors and doorways and manual gates intended for user passage shall comply with 404.2.

404.2.1 Revolving Doors, Gates, and Turnstiles. Revolving doors, revolving gates, and turnstiles shall not be part of an accessible route.

404.2.2 Double-Leaf Doors and Gates. At least one of the active leaves of doorways with two leaves shall comply with 404.2.3 and 404.2.4.

404.2.3 Clear Width. Door openings shall provide a clear width of 32 inches (815 mm) minimum. Clear openings of doorways with swinging doors shall be measured between the face of the door and the stop, with the door open 90 degrees. Openings more than 24 inches (610 mm) deep shall provide a clear opening of 36 inches (915 mm) minimum. There shall be no projections into the required clear opening width lower than 34 inches (865 mm) above the finish floor or ground. Projections into the clear opening width between 34 inches (865 mm) and 80 inches (2030 mm) above the finish floor or ground shall not exceed 4 inches (100 mm).

EXCEPTIONS:
1. In alterations, a projection of 5/8 inch (16 mm) maximum into the required clear width shall be permitted for the latch side stop.
2. Door closers and door stops shall be permitted to be 78 inches (1980 mm) minimum above the finish floor or ground.

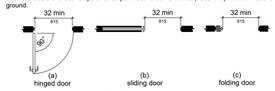


Figure 404.2.3 Clear Width of Doorways

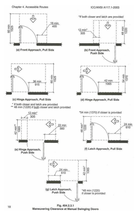
404.2.4 Maneuvering Clearances. Minimum maneuvering clearances at doors and gates shall comply with hinge side clearance.

Exception: Entry doors to hospital patient rooms shall not be required to provide the clearance beyond the latch side of the door.

404.2.4.1 Swinging Doors and Gates. Swinging doors and gates shall have maneuvering clearances complying with Table 404.2.4.1.

TABLE 404.2.4.1 Maneuvering Clearances at Manual Swinging Doors and Gates - Type of Use and Minimum Maneuvering Clearance

Approach Direction From front	Door or Gate Side	Pull	Perpendicular to Doorway 60 inches (1525 mm)	Parallel to Doorway(beyond latch side unless noted) 18 inches (455 mm)
From front provided.	Push		48 inches (1220 mm)	0 inches (0 mm) - Add 12 inches (305 mm) if closer and latch are
From hinge side	Pull		60 inches (1525 mm)	36 inches (915 mm)
From hinge side	Pull		54 inches (1370 mm)	42 inches (1065 mm)
From hinge side	Push		42 inches (1065 mm) - Add 6 inches (150 mm) if closer and latch are provided.	22 inches (560 mm) - Beyond hinge side.
From latch side	Pull		48 inches (1220 mm) - Add 6 inches (150 mm) if closer is provided	24 inches (610 mm)
From latch side	Push		42 inches (1065 mm) - Add 6 inches (150 mm) if closer is provided.	24 inches (610 mm)



404.2.6 Doors in Series and Gates in Series. The distance between two hinged or pivoted doors in series and gates in series shall be 48 inches (1220 mm) minimum plus the width of doors or gates swinging into the space.

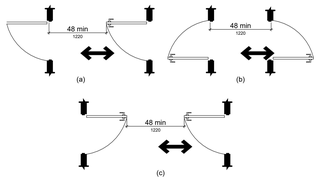


Figure 404.2.6 Doors in Series and Gates in Series

404.2.7 Door and Gate Hardware. Handles, pulls, latches, locks, and other operable parts on doors and gates shall comply with 309.4. Operable parts of such hardware shall be 34 inches (865 mm) minimum and 48 inches (1220 mm) maximum above the finish floor or ground. Where sliding doors are in the fully open position, operating hardware shall be exposed and usable from both sides.

Exceptions: 1. Existing locks shall be permitted in any location at existing glazed doors without stiles, existing overhead rolling doors or grilles, and similar existing doors or grilles that are designed with locks that are activated only at the top or bottom rail.
2. Access gates in barrier walls and fences protecting pools, spas, and hot tubs shall be permitted to have operable parts of the release of latch on self-latching devices at 54 inches (1370 mm) maximum above the finish floor or ground provided the self-latching devices are not also self-locking devices and operated by means of a key, electronic opener, or integral combination lock.

Advisory 404.2.7 Door and Gate Hardware. Door hardware that can be operated with a closed fist or a loose grip accommodates the greatest range of users. Hardware that requires simultaneous hand and finger movements require greater dexterity and coordination, and is not recommended.

404.2.8 Closing Speed. Door and gate closing speed shall comply with 404.2.8.

404.2.8.1 Door Closers and Gate Closers. Door closers and gate closers shall be adjusted so that from an open position of 90 degrees, the time required to move the door to a position of 12 degrees from the latch is 5 seconds minimum.

404.2.8.2 Spring Hinges. Door and gate spring hinges shall be adjusted so that from the open position of 70 degrees, the door or gate shall move to the closed position in 1.5 seconds minimum.

404.2.9 Door and Gate Opening Force. Fire doors shall have a minimum opening force allowable by the appropriate administrative authority. The force for pushing or pulling open a door or gate other than fire doors shall be as follows:

1. Interior hinged doors and gates: 5 pounds (22.2 N) maximum.

2. Sliding or folding doors: 5 pounds (22.2 N) maximum.

These forces do not apply to the force required to retract latch bolts or disengage other devices that hold the door or gate in a closed position.

404.2.10 Door and Gate Surfaces. Swinging door and gate surfaces within 10 inches (255 mm) of the finish floor or ground measured by shall have a smooth surface on the push side extending the full width of the door or gate. Parts creating horizontal or joints in these surfaces shall be within 1/16 inch (1.6 mm) of the same plane as the other. Cavities created by added kick plates shall be capped.

404.2.11 Vision Lights. Doors, gates, and side lights adjacent to doors or gates, containing one or more glazing panels that permit viewing through the panels shall have the bottom of at least one glazed panel located 43 inches (1090 mm) maximum above the finish floor.

404.3 Automatic and Power-Assisted Doors and Gates. Automatic doors and automatic gates shall comply with 404.3. Full-powered automatic doors shall comply with ANSI/BHMA A156.10 (incorporated by reference, see "Referenced Standards" in Chapter 1). Low-energy and power-assisted doors shall comply with ANSI/BHMA A156.19 (1997 or 2002 edition) (incorporated by reference, see "Referenced Standards" in Chapter 1).

404.3.1 Clear Width. Doorways shall provide a clear opening of 32 inches (815 mm) minimum in power-on and power-off mode. The minimum clear width for automatic door systems in a doorway shall be based on the clear opening provided by all leaves in the open position.

404.3.2 Maneuvering Clearance. Clearances at power-assisted doors and gates shall comply with 404.2.4. Clearances at automatic doors and gates without standby power and serving an accessible means of egress shall comply with 404.2.4.

404.3.3 Thresholds. Thresholds and changes in level at doorways shall comply with 404.2.5.

404.3.4 Doors in Series and Gates in Series. Doors in series and gates in series shall comply with 404.2.6.

404.3.5 Controls. Manually operated controls shall comply with 309. The clear floor space adjacent to the control shall be located beyond the arc of the door swing.

404.3.6 Break Out Opening. Where doors and gates without standby power are a part of a means of egress, the clear break out opening at swinging or sliding doors and gates shall be 32 inches (815 mm) minimum when operated in emergency mode.

EXCEPTION: Where manual swinging doors and gates comply with 404.2 and serve the same means of egress compliance with 404.3.6 shall not be required.

404.3.7 Revolving Doors, Revolving Gates, and Turnstiles. Revolving doors, revolving gates, and turnstiles shall not be part of an accessible route.

405 Ramps
405.1 General. Ramps on accessible routes shall comply with 405.

EXCEPTION: In assembly areas, aisle ramps adjacent to seating and not serving elements required to be on an accessible route shall not be required to comply with 405.

405.2 Slope. Ramp runs shall have a running slope not steeper than 1:12.

405.3 Cross Slope. Cross slope of ramp runs shall not be steeper than 1:48.

405.5 Clear Width. The clear width of a ramp run and, where handrails are provided, the clear width between handrails shall be 36 inches (915 mm) minimum.

405.6 Rise. The rise for any ramp run shall be 30 inches (760 mm) maximum.

405.7 Landings. Ramps shall have landings at the top and the bottom of each ramp run. Landings shall comply with 405.7.

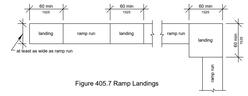


Figure 405.7 Ramp Landings

405.7.1 Slope. Landings shall have slope no steeper than 1:48. Changes in level are not permitted.

405.7.2 Width. The landing clear width shall be at least as wide as the widest ramp run leading to the landing.

405.7.3 Length. The landing clear length shall be 60 inches (1525 mm) long minimum.

405.7.4 Change in Direction. Ramps that change direction between runs at landings shall have a clear landing 60 inches (1525 mm) minimum by 60 inches (1525 mm) minimum.

405.7.5 Doorways. Where doorways are located adjacent to a ramp landing, maneuvering clearances required by 404.2.4 and and 404.3.2 shall be permitted to overlap the required landing

405.8 Handrails. Ramp runs with a rise greater than 6 inches (150 mm) shall have handrails complying with 505.

405.9 Edge Protection. Edge protection complying with 405.9.1 or 405.9.2 shall be provided on each side of ramp runs and at each side of ramp landings.

405.9.1 Extended Floor or Ground Surface. The floor or ground surface of the ramp run or landing shall extend 12 inches (305 mm) minimum beyond the inside face of a handrail complying with 505.

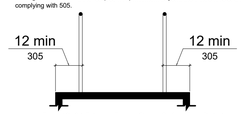


Figure 405.9.1 Extended Floor or Ground Surface Edge Protection

405.9.2 Curb or Barrier. A curb or barrier shall be provided that prevents the passage of a 4 inch (100 mm) diameter sphere, where any portion of the sphere is within 4 inches (100 mm) of the finish floor or ground surface.

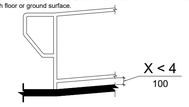


Figure 405.9.2 Curb or Barrier Edge Protection

405.10 Wet Conditions. Landings subject to wet conditions shall be designed to prevent the accumulation of water.

406 Curb Ramps
406.1 General. Curb ramps on accessible routes shall comply with 406, 405.2 through 405.5, and 405.10.

406.2 Counter Slope. Counter slopes of adjoining gutters and road surfaces immediately adjacent to the curb ramp shall not be steeper than 1:20. The adjacent surfaces at transitions at curb ramps to walks, gutters, and streets shall be at the same level.

Figure 406.2 Counter Slope of Surfaces Adjacent to Curb Ramps

406.3 Sides of Curb Ramps. Where provided, curb ramp flares shall not be steeper than 1:10.

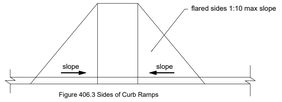


Figure 406.3 Sides of Curb Ramps

406.4 Landings. Landings shall be provided at the tops of curb ramps. The landing clear length shall be 36 inches (915 mm) minimum. The landing clear width shall be at least as wide as the curb ramp, excluding flared sides, leading to the landing.

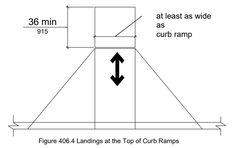


Figure 406.4 Landings at the Top of Curb Ramps

406.5 Location. Curb ramps and the flared sides of curb ramps shall be located so that they do not project into vehicular traffic lanes, parking spaces, or parking access aisles. Curb ramps at marked crossings shall be wholly contained within the markings, excluding any flared sides.

406.6 Diagonal Curb Ramps. Diagonal or corner type curb ramps with returned curbs or other well-defined edges shall have the edges parallel to the direction of pedestrian flow. The bottom of diagonal curb ramps shall have a clear space 48 inches (1220 mm) minimum outside active traffic lanes of the roadway. Diagonal curb ramps provided at marked crossings shall provide the 48 inches (1220 mm) minimum clear space within the markings. Diagonal curb ramps with flared sides shall have a segment of curb 24 inches (610 mm) long minimum located on each side of the curb ramp and within the marked crossing.

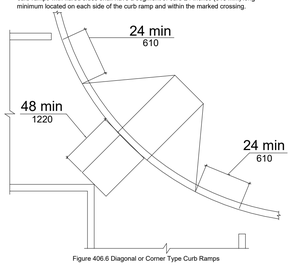


Figure 406.6 Diagonal or Corner Type Curb Ramps

406.7 Islands. Raised islands in crossings shall be cut through level with the street or have curb ramps at both sides. Each curb ramp shall have a level area 48 inches (1220 mm) long minimum by 36 inches (915 mm) wide minimum at the top of the curb ramp in the part of the island intersected by the crossings. Each 48 inch (1220 mm) minimum by 36 inch (915 mm) minimum area shall be oriented so that the 48 inch (1220 mm) minimum length is in the direction of the running slope of the curb ramp it serves. The 48 inch (1220 mm) minimum by 36 inch (915 mm) minimum areas and the accessible route shall be permitted to overlap.

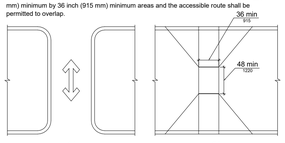


Figure 406.7 Islands in Crossings

TEXAS ARCHITECT
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REGISTERED ARCHITECT JOSE C GARCIA III 22658 STATE OF TEXAS

ECISD HIGH SCHOOL ATHLETIC MULTI-USE BUILDING ECISD CSP 25-74

ROBERT VELA HIGH SCHOOL

801 E Canton Rd, Edinburg, TX 78539

CLIENT:
EDINBURG CISD

REVISION:

No.	Description	Date

PROJECT #: 25-030102
DRAWN BY: N.M.
CHECKED BY: CG3
DATE: 4/28/25

ADA INFORMATION

G1.0

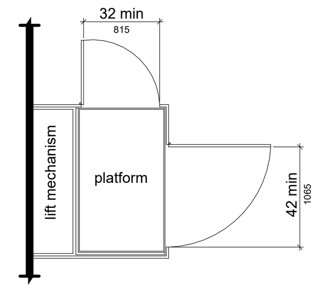


Figure 410.6 Platform Lift Doors and Gates

CHAPTER 5: GENERAL SITE AND BUILDING ELEMENTS

501 General

501.1 Scope. The provisions of Chapter 5 shall apply where required by Chapter 2 or where referenced by a requirement in this document.

502 Parking Spaces

502.1 General. Car and van parking spaces shall comply with 502. Where parking spaces are marked with lines, width measurements of parking spaces and access aisles shall be made from the centerline of the markings.

EXCEPTION: Where parking spaces or access aisles are not adjacent to another parking space or access aisle, measurements shall be permitted to include the full width of the line defining the parking space or access aisle.

502.2 Vehicle Spaces. Car parking spaces shall be 96 inches (2440 mm) wide minimum and van parking spaces shall be 132 inches (3350 mm) wide minimum, shall be marked to define the width, and shall have an adjacent access aisle complying with 502.3.

EXCEPTION: Van parking spaces shall be permitted to be 96 inches (2440 mm) wide minimum where the access aisle is 96 inches (2440 mm) wide minimum.

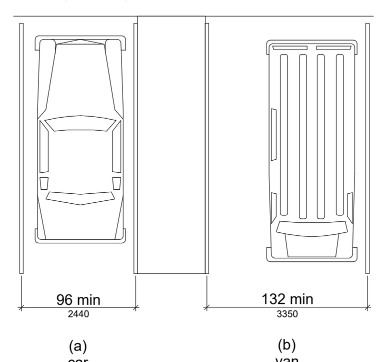


Figure 502.2 Vehicle Parking Spaces

502.3 Access Aisle Access aisles serving parking spaces shall comply with 502.3. Access aisles shall adjoin an accessible route. Two parking spaces shall be permitted to share a common access aisle.

Advisory 502.3 Access Aisle. Accessible routes must connect parking spaces to accessible entrances. In parking facilities where the accessible route must cross vehicular traffic lanes, marked crossings enhance pedestrian safety, particularly for people using wheelchairs and other mobility aids. Where possible, it is preferable that the accessible route not pass behind parked vehicles.

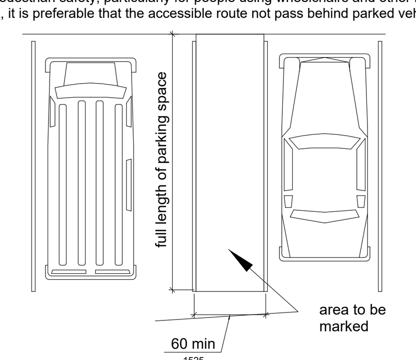


Figure 502.3 Parking Space Access Aisle

502.3.1 Width. Access aisles serving car and van parking spaces shall be 60 inches (1525 mm) wide minimum.

502.3.2 Length. Access aisles shall extend the full length of the parking spaces they serve.

502.3.3 Marking. Access aisles shall be marked so as to discourage parking in them.

Advisory 502.3.3 Marking. The method and color of marking are not specified by these requirements but may be addressed by State or local laws or regulations. Because these requirements permit the van access aisle to be as wide as a parking space, it is important that the aisle be clearly marked.

502.3.4 Location. Access aisles shall not overlap the vehicular way. Access aisles shall be permitted to be placed on either side of the parking space except for angled van parking spaces which shall have access aisles located on the passenger side of the parking spaces.

Advisory 502.3.4 Location. Wheelchair lifts typically are installed on the passenger side of vans. Many drivers, especially those who operate vans, find it more difficult to back into parking spaces than to back out into comparatively unrestricted vehicular lanes. For this reason, where a van and car share an access aisle, consider locating the van space so that the access aisle is on the passenger side of the van space.

502.4 Floor or Ground Surfaces. Parking spaces and access aisles serving them shall comply with 302. Access aisles shall be at the same level as the parking spaces they serve. Changes in level are not permitted. EXCEPTION: Slopes not steeper than 1:48 shall be permitted.

Advisory 502.4 Floor or Ground Surfaces. Access aisles are required to be nearly level in all directions to provide a surface for wheelchair transfer to and from vehicles. The exception allows sufficient slope for drainage. Built-up curb ramps are not permitted to project into access aisles and parking spaces because they would create slopes greater than 1:48.

502.5 Vertical Clearance. Parking spaces for vans and access aisles and vehicular routes serving them shall provide a clearance of 98 inches (2490 mm) minimum.

Advisory 502.5 Vertical Clearance. Signs provided at entrances to parking facilities informing drivers of clearances and the location of van accessible parking spaces can provide useful customer assistance.

502.6 Identification. Parking space identification signs shall include the International Symbol of Accessibility complying with 703.7.2.1. Signs identifying van parking spaces shall contain the designation "van accessible." Signs shall be 60 inches (1525 mm) minimum above the finish floor or ground surface measured to the bottom of the sign.

Advisory 502.6 Identification. The required "van accessible" designation is intended to be informative, not restrictive, in identifying those spaces that are better suited for van use. Enforcement of motor vehicle laws, including parking privileges, is a local matter.

502.7 Relationship to Accessible Routes Parking spaces and access aisles shall be designed so that cars and vans, when parked, cannot obstruct the required clear width of adjacent accessible routes.

Advisory 502.7 Relationship to Accessible Routes Wheel stops are an effective way to prevent vehicle overhangs from reducing the clear width of accessible routes.

503 Passenger Loading Zones

503.1 General. Passenger loading zones shall comply with 503.

503.2 Vehicle Pull-Up Space. Passenger loading zones shall provide a vehicular pull-up space 96 inches (2440 mm) wide minimum and 20 feet (6100 mm) long minimum.

503.3 Access Aisle. Passenger loading zones shall provide access aisles complying with 503 adjacent to the vehicle pull-up space. Access aisles shall adjoin an accessible route and shall not overlap the vehicular way.

503.3.1 Width. Access aisles serving vehicle pull-up spaces shall be 60 inches (1525 mm) wide minimum.

503.3.2 Length. Access aisles shall extend the full length of the vehicle pull-up spaces they serve.

503.3.3 Marking. Access aisles shall be marked so as to discourage parking in them.

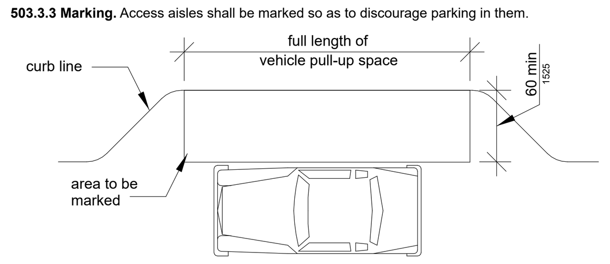


Figure 503.3 Passenger Loading Zone Access Aisle

503.4 Floor and Ground Surfaces. Vehicle pull-up spaces and access aisles serving them shall comply with 302. Access aisles shall be at the same level as the vehicle pull-up space they serve. Changes in level are not permitted.

EXCEPTION: Slopes not steeper than 1:48 shall be permitted.

503.5 Clearance. Vehicle pull-up spaces, access aisles serving them, and a vehicular route from an entrance to the passenger loading zone, and from the passenger loading zone to a vehicular exit shall provide a clearance of 114 inches (2895 mm) minimum.

504 Stairways

504.1 General. Stairs that are part of the means of egress is required to comply with 504

504.2 Treads and Risers. All steps on a flight of stairs shall have uniform riser heights and uniform tread depths. Risers shall be 4 inches (100 mm) high minimum and 7 inches (180 mm) high maximum. Treads shall be 11 inches (280 mm) deep minimum.

504.3 Open Risers. Open risers are not permitted.

504.4 Tread Surface. Stair treads shall comply with 302. Changes in level are not permitted. EXCEPTION: Treads shall be permitted to have a slope not steeper than 1:48.

Advisory 504.4 Tread Surface. Consider providing visual contrast on tread nosings, or at the leading edges of treads without nosings, so that stair treads are more visible for people with low vision.

504.5 Nosings. The radius of curvature at the leading edge of the tread shall be 1/2 inch (13 mm) maximum. Nosings that project beyond risers shall have the underside of the leading edge curved or beveled. Risers shall be permitted to slope under the tread at an angle of 30 degrees maximum from . The permitted projection of the nosing shall extend 1 1/2 inches (38 mm) maximum over the tread below.

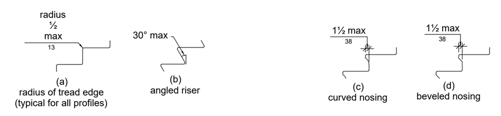


Figure 504.5 Stair Nosings

504.6 Handrails. Stairs shall have handrails complying with 505.

504.7 Wet Conditions. Stair treads and landings subject to wet conditions shall be designed to prevent the accumulation of water.

505 Handrails

505.1 General. Handrails provided along walking surfaces complying with 403, required at ramps complying with 405, and required at stairs complying with 504 shall comply with 505.

Advisory 505.1 General. Handrails are required on ramp runs with a rise greater than 6 inches (150 mm) (see 405.8) and on certain stairways (see 504). Handrails are not required on walking surfaces with running slopes less than 1:20. However, handrails are required to comply with 505 when they are provided on walking surfaces with running slopes less than 1:20 (see 403.6). Sections 505.2, 505.3, and 505.10 do not apply to handrails provided on walking surfaces with running slopes less than 1:20 as these sections only reference requirements for ramps and stairs.

505.2 Where Required. Handrails shall be provided on both sides of stairs and ramps.

EXCEPTION: In assembly areas, handrails shall not be required on both sides of aisle ramps where a handrail is provided at either side or within the aisle width.

505.3 Continuity. Handrails shall be continuous within the full length of each stair flight or ramp run. Inside handrails on switchback or dogleg stairs and ramps shall be continuous between flights or runs.

EXCEPTION: In assembly areas, handrails on ramps shall not be required to be continuous in aisles serving seating.

Advisory 505.4 Height. The requirements for stair and ramp handrails in this document are for adults. When children are the principal users in a building or facility (e.g., elementary schools), a second set of handrails at an appropriate height can assist them and aid in preventing accidents. A maximum height of 28 inches (710 mm) measured to the top of the gripping surface from the ramp surface or stair nosing is recommended for handrails designed for children. Sufficient vertical clearance between upper and lower handrails, 9 inches (230 mm) minimum, should be provided to help prevent entrapment.

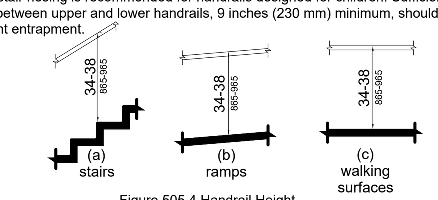


Figure 505.4 Handrail Height

505.5 Clearance. Clearance between handrail gripping surfaces and adjacent surfaces shall be 1 1/2 inches (38 mm) minimum.

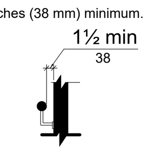


Figure 505.5 Handrail Clearance

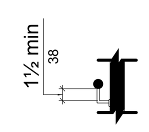


Figure 505.6 Horizontal Projections Below Gripping Surface

505.6 Gripping Surface. Handrail gripping surfaces shall be continuous along their length and shall not be obstructed along their tops or sides. The bottoms of handrail gripping surfaces shall not be obstructed for more than 20 percent of their length. Where provided, horizontal projections shall occur 1 1/2 inches (38 mm) minimum below the bottom of the handrail gripping surface.

EXCEPTIONS:

1. Where handrails are provided along walking surfaces with slopes not steeper than 1:20, the bottoms of handrail gripping surfaces shall be permitted to be obstructed along their entire length where they are integral to crash rails or bumper guards.
2. The distance between horizontal projections and the bottom of the gripping surface shall be permitted to be reduced by 1/8 inch (3.2 mm) for each 1/2 inch (13 mm) of additional handrail perimeter dimension that exceeds 4 inches (100 mm).

Advisory 505.6 Gripping Surface. People with disabilities, older people, and others benefit from continuous gripping surfaces that permit users to reach the fingers outward or downward to grasp the handrail, particularly as the user senses a loss of equilibrium or begins to fall.

505.7 Cross Section. Handrail gripping surfaces shall have a cross section complying with 505.7.1 or 505.7.2.

505.7.1 Circular Cross Section. Handrail gripping surfaces with a circular cross section shall have an outside diameter of 1 1/4 inches (32 mm) minimum and 2 inches (51 mm) maximum.

505.7.2 Non-Circular Cross Sections. Handrail gripping surfaces with a non-circular cross section shall have a perimeter dimension of 4 inches (100 mm) minimum and 6 1/4 inches (160 mm) maximum, and a cross-section dimension of 2 1/4 inches (57 mm) maximum.

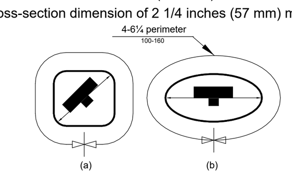


Figure 505.7.2 Handrail Non-Circular Cross Section

505.8 Surfaces. Handrail gripping surfaces and any surfaces adjacent to them shall be free of sharp or abrasive elements and shall have rounded edges.

505.9 Fittings. Handrails shall not rotate within their fittings.

505.10 Handrail Extensions. Handrail gripping surfaces shall extend beyond and in the same direction of stair flights and ramp runs in accordance with 505.10.

EXCEPTIONS:

1. Extensions shall not be required for continuous handrails at the inside turn of switchback or dogleg stairs and ramps.
2. In assembly areas, extensions shall not be required for ramp handrails in aisles serving seating where the handrails are discontinuous to provide access to seating and to permit crossovers within aisles.
3. In alterations, full extensions of handrails shall not be required where such extensions would be hazardous due to plan configuration.

505.10.1 Top and Bottom Extension at Ramps. Ramp handrails shall extend horizontally above the landing for 12 inches (305 mm) minimum beyond the top and bottom of ramp runs. Extensions shall return to a wall, guard, or the landing surface, or shall be continuous to the handrail of an adjacent ramp run.

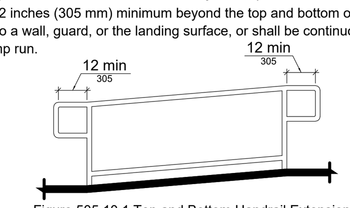


Figure 505.10.1 Top and Bottom Handrail Extension at Ramps

505.10.2 Top Extension at Stairs. At the top of a stair flight, handrails shall extend horizontally above the landing for 12 inches (305 mm) minimum beginning directly above the first riser nosing. Extensions shall return to a wall, guard, or the landing surface, or shall be continuous to the handrail of an adjacent stair flight.

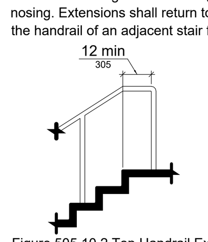


Figure 505.10.2 Top Handrail Extension at Stairs

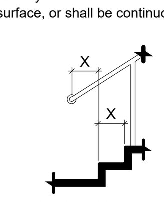


Figure 505.10.3 Bottom Handrail Extension at Stairs

505.10.3 Bottom Extension at Stairs. At the bottom of a stair flight, handrails shall extend at the slope of the stair flight for a horizontal distance at least equal to one tread depth beyond the last riser nosing. Extension shall return to a wall, guard, or the landing surface, or shall be continuous to the handrail of an adjacent stair flight.

CHAPTER 6: PLUMBING ELEMENTS AND FACILITIES

601 General

601 601.1 Scope. The provisions of Chapter 6 shall apply where required by Chapter 2 or where referenced by a requirement in this document.

602 Drinking Fountains

602.2 Clear Floor Space. Units shall have a clear floor or ground space complying with 305 positioned for a forward approach and centered on the unit. Knee and toe clearance complying with 306 shall be provided.

EXCEPTION: A parallel approach complying with 305 shall be permitted at units for children's use where the spout is 30 inches (760 mm) maximum above the finish floor or ground and is 3 1/2 inches (90 mm) maximum from the front edge of the unit, including bumpers.

602.3 Operable Parts. Operable parts shall comply with 309.

602.4 Spout Height. Spout outlets shall be 36 inches (915 mm) maximum above the finish floor or ground.

602.5 Spout Location. The spout shall be located 15 inches (380 mm) minimum from the support and 5 inches (125 mm) maximum from the front edge of the unit, including bumpers.

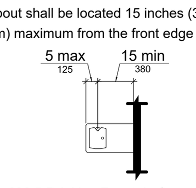


Figure 602.5 Drinking Fountain Spout Location

602.6 Water Flow. The spout shall provide a flow of water 4 inches (100 mm) high minimum and shall be located 5 inches (125 mm) maximum from the front of the unit. The angle of the water stream shall be measured horizontally relative to the front face of the unit. Where spouts are located less than 3 inches (75 mm) of the front of the unit, the angle of the water stream shall be 30 degrees maximum. Where spouts are located between 3 inches (75 mm) and 5 inches (125 mm) maximum from the front of the unit, the angle of the water stream shall be 15 degrees maximum.

Advisory 602.6 Water Flow. The purpose of requiring the drinking fountain spout to produce a flow of water 4 inches (100 mm) high minimum is so that a cup can be inserted under the flow of water to provide a drink of water for an individual who, because of a disability, would otherwise be incapable of using the drinking fountain.

602.7 Drinking Fountains for Standing Persons. Spout outlets of drinking fountains for standing persons shall be 38 inches (965 mm) minimum and 43 inches (1090 mm) maximum above the finish floor or ground.

603 Toilet and Bathing Rooms

603.1 General. Toilet and bathing rooms shall comply with 603.

603.2 Clearances. Clearances shall comply with 603.2.

603.2.1 Turning Space. Turning space complying with 304 shall be provided within the room.

603.2.2 Overlap. Required clear floor spaces, clearance at fixtures, and turning space shall be permitted to overlap.

603.2.3 Door Swing. Doors shall not swing into the clear floor space or clearance required for any fixture. Doors shall be permitted to swing into the required turning space.

EXCEPTIONS:

1. Doors to a toilet room or bathing room for a single occupant accessed only through a private office and not for common use or public use shall be permitted to swing into the clear floor space or clearance provided the swing of the door can be reversed to comply with 603.2.3.
2. Where the toilet room or bathing room is for individual use and a clear floor space complying with 305.3 is provided within the room beyond the arc of the door swing, doors shall be permitted to swing into the clear floor space or clearance required for any fixture.

Advisory 603.2.3 Door Swing Exception 1. At the time the door is installed, and if the door swing is reversed in the future, the door must meet all the requirements specified in 404. Additionally, the door swing cannot reduce the required width of an accessible route. Also, avoid violating other building or life safety codes when the door swing is reversed.

603.3 Mirrors. Mirrors located above lavatories or countertops shall be installed with the bottom edge of the reflecting surface 40 inches (1015 mm) maximum above the finish floor or ground. Mirrors not located above lavatories or countertops shall be installed with the bottom edge of the reflecting surface 35 inches (890 mm) maximum above the finish floor or ground.

Advisory 603.3 Mirrors. A single full-length mirror can accommodate a greater number of people, including children. In order for mirrors to be usable by people who are ambulatory and people who use wheelchairs, the top edge of mirrors should be 74 inches (1880 mm) minimum from the floor or ground.

603.4 Coat Hooks and Shelves. Coat hooks shall be located within one of the reach ranges specified in 308. Shelves shall be located 40 inches (1015 mm) minimum and 48 inches (1220 mm) maximum above the finish floor.

604 1 General. Water closets and toilet compartments shall comply with 604.2 through 604.8. EXCEPTION: Water closets and toilet compartments for children's use shall be permitted to comply with 604.9.

604.2 Location. The water closet shall be positioned with a wall or partition to the rear and to one side. The centerline of the water closet shall be 16 inches (405 mm) minimum to 18 inches (455 mm) maximum from the side wall or partition, except that the water closet shall be 17 inches (430 mm) minimum and 19 inches (485 mm) maximum from the side wall or partition in the ambulatory accessible toilet compartment specified in 604.8.2. Water closets shall be arranged for a left-hand or right-hand approach.

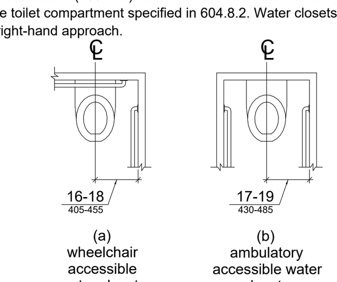


Figure 604.2 Water Closet Location

604.3 Clearance. Clearances around water closets and in toilet compartments shall comply with 604.3.

604.3.1 Size. Clearance around a water closet shall be 60 inches (1525 mm) minimum measured perpendicular from the side wall and 56 inches (1420 mm) minimum measured perpendicular from the rear wall.

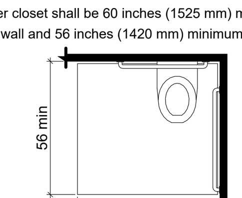


Figure 604.3.1 Size of Clearance at Water Closets

604.3.2 Overlap. The required clearance around the water closet shall be permitted to overlap the water closet, associated grab bars, dispensers, sanitary napkin disposal units, coat hooks, shelves, accessible routes, clear floor space and clearances required at other fixtures, and the turning space. No other fixtures or obstructions shall be located within the required water closet clearance.

EXCEPTION: In residential dwelling units, a lavatory complying with 606 shall be permitted on the rear wall 18 inches (455 mm) minimum from the water closet centerline where the clearance at the water closet is 66 inches (1675 mm) minimum measured perpendicular from the rear wall.

Advisory 604.3.2 Overlap. When the door to the toilet room is placed directly in front of the water closet, the water closet cannot overlap the required maneuvering clearance for the door inside the room.

Figure 604.3.2 (Exception) Overlap of Water Closet Clearance in Residential Dwelling Units

604.4 Seats. The seat height of a water closet above the finish floor shall be 17 inches (430 mm) minimum and 19 inches (485 mm) maximum measured to the top of the seat. Seats shall not be sprung to return to a lifted position.

EXCEPTIONS:

1. A water closet in a toilet room for a single occupant accessed only through a private office and not for common use or public use shall not be required to comply with 604.4.
2. In residential dwelling units, the height of water closets shall be permitted to be 15 inches (380 mm) minimum and 19 inches (485 mm) maximum above the finish floor measured to the top of the seat.

604.5 Grab Bars. Grab bars for water closets shall comply with 609. Grab bars shall be provided on the side wall closest to the water closet and on the rear wall.

EXCEPTIONS:

1. Grab bars shall not be required to be installed in a toilet room for a single occupant accessed only through a private office and not for common use or public use provided that reinforcement has been installed in walls and located so as to permit the installation of grab bars complying with 604.5.
2. In residential dwelling units, grab bars shall not be required to be installed in toilet or bathrooms provided that reinforcement has been installed in walls and located so as to permit the installation of grab bars complying with 604.5.
3. In detention or correction facilities, grab bars shall not be required to be installed in housing or holding cells that are specially designed without protrusions for purposes of suicide prevention

Advisory 604.5 Grab Bars Exception 2. Reinforcement must be sufficient to permit the installation of rear and side wall grab bars that fully meet all accessibility requirements including, but not limited to, required length, installation height, and structural strength.

604.5.1 Side Wall. The side wall grab bar shall be 42 inches (1065 mm) long minimum, located 12 inches (305 mm) maximum from the rear wall and extending 54 inches (1370 mm) minimum from the rear wall.

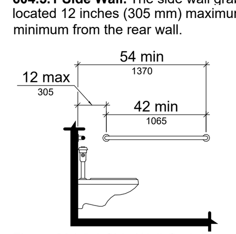


Figure 604.5.1 Side Wall Grab Bar at Water Closets

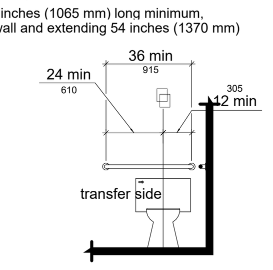


Figure 604.5.2 Rear Wall Grab Bar at Water Closets

604.5.2 Rear Wall. The rear wall grab bar shall be 36 inches (915 mm) long minimum and extend from the centerline of the water closet 12 inches (305 mm) minimum on one side and 24 inches (610 mm) minimum on the other side.

EXCEPTIONS:

1. The rear grab bar shall be permitted to be 24 inches (610 mm) long minimum, centered on the water closet, where wall space does not permit a length of 36 inches (915 mm) minimum due to the location of a recessed fixture adjacent to the water closet.
2. Where an administrative authority requires flush controls for flush valves to be located in a position that conflicts with the location of the rear grab bar, then the rear grab bar shall be permitted to be split or shifted to the open side of the toilet area.

604.6 Flush Controls. Flush controls shall be hand operated or automatic. Hand operated flush controls shall comply with 309. Flush controls shall be located on the open side of the water closet except in ambulatory accessible compartments complying with 604.8.2.

Advisory 604.6 Flush Controls. If plumbing valves are located directly behind the toilet seat, flush valves and related plumbing can cause injury or imbalance when a person leans back against them. To prevent causing injury or imbalance, the plumbing can be located behind walls or to the side of the toilet; or if approved by the local authority having jurisdiction, provide a toilet seat lid.

604.7 Dispensers. Toilet paper dispensers shall comply with 309.4 and shall be 7 inches (180 mm) minimum and 9 inches (230 mm) maximum in front of the water closet measured to the centerline of the dispenser. The outlet of the dispenser shall be 15 inches (380 mm) minimum and 48 inches (1220 mm) maximum above the finish floor and shall not be located behind grab bars. Dispensers shall not be of a type that controls delivery or that does not allow continuous paper flow.

Advisory 604.7 Dispensers. If toilet paper dispensers are installed above the side wall grab bar, the outlet of the toilet paper dispenser must be 48 inches (1220 mm) maximum above the finish floor and the top of the gripping surface of the grab bar must be 33 inches (840 mm) minimum and 36 inches (915 mm) maximum above the finish floor.

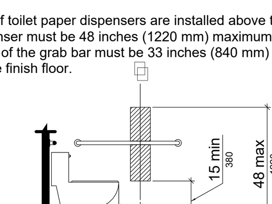


Figure 604.7 Dispenser Outlet Location

604.8 Toilet Compartments. Wheelchair accessible toilet compartments shall meet the requirements of 604.8.1 and 604.8.3. Compartments containing more than one plumbing fixture shall comply with 603. Ambulatory accessible compartments shall comply with 604.8.2 and 604.8.3.

604.8.1 Wheelchair Accessible Compartments Wheelchair accessible compartments shall comply with 604.8.1.

604.8.1.1 Size. Wheelchair accessible compartments shall be 60 inches (1525 mm) wide minimum measured perpendicular to the side wall, and 56 inches (1420 mm) deep minimum for wall hung water closets and 59 inches (1500 mm) deep minimum for floor mounted water closets measured perpendicular to the rear wall. Wheelchair accessible compartments for children's use shall be 60 inches (1525 mm) wide minimum measured perpendicular to the side wall, and 59 inches (1500 mm) deep minimum for wall hung and floor mounted water closets measured perpendicular to the rear wall.

Advisory 604.8.1.1 Size. The minimum space required in toilet compartments is provided so that a person using a wheelchair can maneuver into position at the water closet. This space cannot be obstructed by baby changing tables or other fixtures or conveniences, except as specified at 604.3.2 (Overlap). If toilet compartments are to be used to house fixtures other than those associated with the water closet, they must be designed to exceed the minimum space requirements. Convenience fixtures such as baby changing tables must also be accessible to people with disabilities as well as to other users. Toilet compartments that are designed to meet, and not exceed, the minimum space requirements may not provide adequate space for maneuvering into position at a baby changing table.

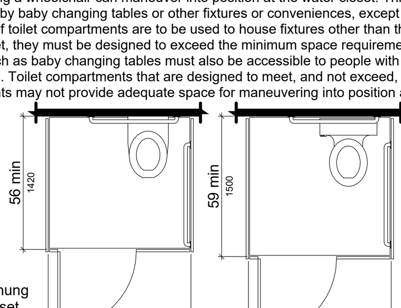


Figure 604.8.1.1 Size of Wheelchair Accessible Toilet Compartment

604.8.1.2 Doors. Toilet compartment doors, including door hardware, shall comply with 404 except that if the approach is to the latch side of the compartment door, clearance between the door side of the compartment and any obstruction shall be 42 inches (1065 mm) minimum. Doors shall be located in the front partition or in the side wall or partition farthest from the water closet. Where located in the front partition, the door opening shall be 4 inches (100 mm) maximum from the side wall or partition farthest from the water closet. Where located in the side wall or partition, the door opening shall be 4 inches (100 mm) maximum from the front partition. The door shall be self-closing. A door pull complying with 404.2.7 shall be placed on both sides of the door near the latch. Toilet compartment doors shall not swing into the minimum required compartment area.

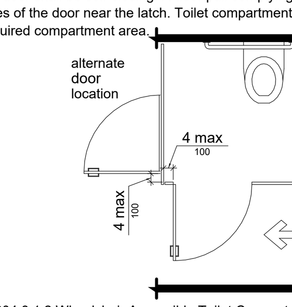


Figure 604.8.1.2 Wheelchair Accessible Toilet Compartment Doors

604.8.1.3 Approach. Compartments shall be arranged for left-hand or right-hand approach to the water closet.

604.8.1.4 Toe Clearance. The front partition and at least one side partition shall provide a toe clearance of 9 inches (230 mm) minimum above the finish floor and 6 inches (150 mm) deep minimum beyond the compartment-side face of the partition, exclusive of partition support members. Compartments for children's use shall provide a toe clearance of 12 inches (305 mm) minimum above the finish floor.

EXCEPTION: Toe clearance at the front partition is not required in a compartment greater than 62 inches (1575 mm) deep with a wall-hung water closet or 65 inches (1650 mm) deep with a floor-mounted water closet. Toe clearance at the side partition is not required in a compartment greater than 66 inches (1675 mm) wide. Toe clearance at the front partition is not required in a compartment for children's use that is greater than 65 inches (1650 mm)deep

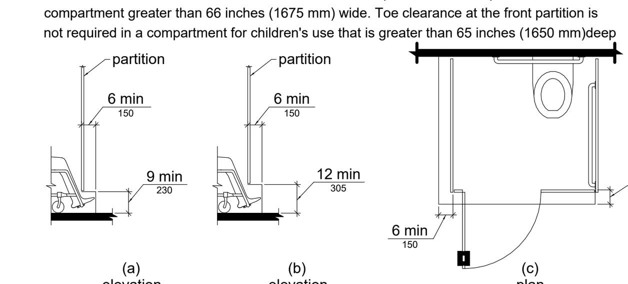


Figure 604.8.1.4 Wheelchair Accessible Toilet Compartment Toe Clearance

604.8.1.5 Grab Bars. Grab bars shall comply with 609. A side-wall grab bar complying with 604.5.1 shall be provided and shall be located on the wall closest to the water closet. In addition, a rear-wall grab bar complying with 604.5.2 shall be provided.

604.8.2 Ambulatory Accessible Compartments. Ambulatory accessible compartments shall comply with 604.8.2.

604.8.2.1 Size. Ambulatory accessible compartments shall have a depth of 60 inches (1525 mm) minimum and a width of 35 inches (890 mm) minimum and 37 inches (940 mm) maximum.

604.8.2.2 Doors. Toilet compartment doors, including door hardware, shall comply with 404, except that if the approach is to the latch side of the compartment door, clearance between the door side of the compartment and any obstruction shall be 42 inches (1065 mm) minimum. The door shall be self-closing. A door pull complying with 404.2.7 shall be placed on both sides of the door near the latch. Toilet compartment doors shall not swing into the minimum required compartment area.

604.8.2.3 Grab Bars. Grab bars shall comply with 609. A side-wall grab bar complying with 604.5.1 shall be provided on both sides of the compartment.

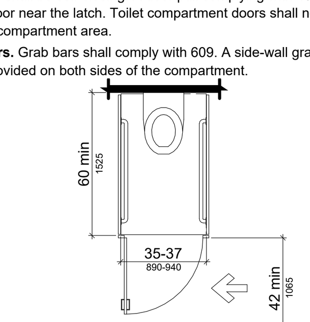


Figure 604.8.2 Ambulatory Accessible Toilet Compartment

604.8.3 Coat Hooks and Shelves. Coat hooks shall be located within one of the reach ranges specified in 308. Shelves shall be located 40 inches (1015 mm) minimum and 48 inches (1220 mm) maximum above the finish floor.

604.9 Water Closets and Toilet Compartments for Children's Use. Water closets and toilet compartments for children's use shall comply with 604.9.

Advisory 604.9 Water Closets and Toilet Compartments for Children's Use. The requirements in 604.9 are to be followed where the exception for children's water closets in 604.1 is used. The following table provides additional guidance in applying the specifications for water closets for children according to the age group served and reflects the differences in the size, stature, and reach ranges of children ages 3 through 12. The specifications chosen should correspond to the age of the primary user group. The specifications of one age group should be applied consistently in the installation of a water closet and related elements.

Advisory Specifications for Water Closets Serving Children Ages 3 through 12

	Ages 3 and 4	Ages 5 through 8	Ages 9 through 12
Water Closet Centerline	12 inches (380 to 455 mm)	12 to 15 inches (305 mm)	15 to 18 inches (305 to 380 mm)
Toilet Seat Height	11 to 12 inches (305 to 380 mm)	12 to 15 inches (280 to 305 mm)	15 to 17 inches (380 to 430 mm)
Grab Bar Height	18 to 20 inches (455 to 510 mm)	20 to 25 inches (510 to 635 mm)	25 to 27 inches (635 to 685 mm)
Dispenser Height	14 inches (355 mm)	14 to 17 inches (355 to 430 mm)	17 to 19 inches (430 to 485 mm)

604.9.1 Location. The water closet shall be located with a wall or partition to the rear and to one side. The centerline of the water closet shall be 12 inches (305 mm) minimum and 18 inches (455 mm) maximum from the side wall or partition, except that the water closet shall be 17 inches (430 mm) minimum and 19 inches (485 mm) maximum from the side wall or partition in the ambulatory accessible toilet compartment specified in 604.8.2. Compartments shall be arranged for left-hand or right-hand approach to the water closet.

604.9.2 Clearance. Clearance around a water closet shall comply with 604.3.

604.9.3 Height. The height of water closets shall be 11 inches (280 mm) minimum and 17 inches (430 mm) maximum measured to the top of the seat. Seats shall not be sprung to return to a lifted position.

604.9.4 Grab Bars. Grab bars for water closets shall comply with 604.5.

604.9.5 Flush Controls. Flush controls shall be hand operated or automatic. Hand operated flush controls shall comply with 309.2 and 309.4 and shall be installed 36 inches (915 mm) maximum above the finish floor. Flush controls shall be located on the open side of the water closet except in ambulatory accessible compartments complying with 604.8.2.

604.9.6 Dispensers. Toilet paper dispensers shall comply with 309.4 and shall be 7 inches (180 mm) minimum and 9 inches (230 mm) maximum in front of the water closet measured to the centerline of the dispenser. The outlet of the dispenser shall be 14 inches (355 mm) minimum and 19 inches (485 mm) maximum above the finish floor. There shall be a clearance of 1 1/2 inches (38 mm) minimum below the grab bar. Dispensers shall not be of a type that controls delivery or that does not allow continuous paper flow.

604.9.7 Toilet Compartments. Toilet compartments shall comply with 604.8.

605 Urinals

605.1 General. Urinals shall comply with 605

Advisory 605.1 General. Stall-type urinals provide greater accessibility for a broader range of persons, including people of short stature.

605.2 Height and Depth. Urinals shall be the stall-type or the wall-hung type with the rim 17 inches (430 mm) maximum above the finish floor or ground. Urinals shall be 13 1/2 inches (345 mm) deep minimum measured from the outer face of the urinal rim to the back of the fixture.

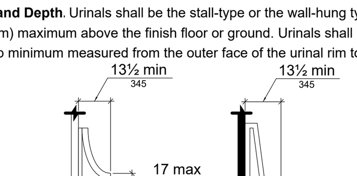


Figure 605.2 Height and Depth of Urinals

605.3 Clear Floor Space. A clear floor or ground space complying with 305 positioned for forward approach shall be provided.

605.4 Flush Controls. Flush controls shall be hand operated or automatic. Hand operated flush controls shall comply with 309.

606 Lavatories and Sinks

606.1 General. Lavatories and sinks shall comply with 606.

Advisory 606.1 General. If soap and towel dispensers are provided, they must be located within the reach ranges specified in 308. Locate soap and towel dispensers so that they are conveniently usable by a person at the accessible lavatory.

606.2 Clear Floor Space. A clear floor space complying with 305, positioned for a forward approach, and knee and toe clearance complying with 306 shall be provided.

EXCEPTIONS:

1. A parallel approach complying with 305 shall be permitted to a kitchen sink in a space where a cook top or conventional range is not provided and to wet bars.
2. A lavatory in a toilet room or bathing facility for a single occupant accessed only through a private office and not for common use or public use shall not be required to provide knee and toe clearance complying with 306.
3. In residential dwelling units, cabinetry shall be permitted under lavatories and kitchen sinks provided that all of the following conditions are met:
(a) the cabinetry can be removed without removal or replacement of the fixture;
(b) the finish floor extends under the cabinetry; and
(c) the walls behind and surrounding the cabinetry are finished.
4. A knee clearance of 24 inches (610 mm) minimum above the finish floor or ground shall be permitted at lavatories and sinks used primarily by children 6 through 12 years where the rim or counter surface is 31 inches (785 mm) maximum above the finish floor or ground.
5. A parallel approach complying with 305 shall be permitted to lavatories and sinks used primarily by children 5 years and younger.
6. The dip of the overflow shall not be considered in determining knee and toe clearances.
7. No more than one bowl of a multi-bowl sink shall be required to provide knee and toe clearance complying with 306.

606.3 Height. Lavatories and sinks shall be installed with the front of the higher of the rim or counter surface 34 inches (865 mm) maximum above the finish floor or ground.

EXCEPTIONS:

1. A lavatory in a toilet or bathing facility for a single occupant accessed only through a private office and not for common use or public use shall not be required to comply with 606.3.
2. In residential dwelling unit kitchens, sinks that are adjustable to variable heights, 29 inches (735 mm) minimum and 36 inches (915 mm) maximum, shall be permitted where rough-in plumbing permits connections of supply and drain pipes for sinks mounted at the height of 29 inches (735 mm).

606.4 Faucets. Controls for faucets shall comply with 309. Hand-operated metering faucets shall remain open for 10 seconds minimum.

606.5 Exposed Pipes and Surfaces. Water supply and drain pipes under lavatories and sinks shall be insulated or otherwise configured to protect against contact. There shall be no sharp or abrasive surfaces under lavatories and sinks.

703 Signs

703.1 General. Signs shall comply with 703. Where both visual and tactile characters are required, either one sign with both visual and tactile characters, or two separate signs, one with visual, and one with tactile characters, shall be provided.

703.2 Raised Characters. Raised characters shall comply with 703.2 and shall be duplicated in braille complying with 703.3. Raised characters shall be installed in accordance with 703.4.

Advisory 703.2 Raised Characters. Signs that are designed to be read by touch should not have sharp or abrasive edges.

703.2.1 Depth. Raised characters shall be 1/32 inch (0.8 mm) minimum above their background.

703.2.2 Case. Characters shall be uppercase.

703.2.3 Style. Characters shall be sans serif. Characters shall not be italic, oblique, script, highly decorative, or of other unusual forms.

703.2.4 Character Proportions. Characters shall be selected from fonts where the width of the uppercase letter "O" is 55 percent minimum and 110 percent maximum of the height of the uppercase letter "I".

703.2.5 Character Height. Character height measured vertically from the baseline of the character shall be 5/8 inch (16 mm) minimum and 2 inches (51 mm) maximum based on the height of the uppercase letter "I".

EXCEPTION: Where separate raised and visual characters with the same information are provided, raised character height shall be permitted to be 1/2 inch (13 mm) minimum.

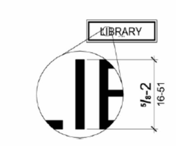


Figure 703.2.5 Height of Raised Characters

703.2.6 Stroke Thickness. Stroke thickness of the uppercase letter "I" shall be 15 percent maximum **of the height of the character.**

703.2.7 Character Spacing. Character spacing shall be measured between the two closest points of adjacent raised characters within a message, excluding word spaces. Where characters have rectangular cross sections, spacing between individual raised characters shall be 1/8 inch (3.2 mm) minimum and 4 times the raised character stroke width maximum. Where characters have other cross sections, spacing between individual raised characters shall be 1/16 inch (1.6 mm) minimum and 4 times the raised character stroke width maximum at the base of the cross sections, and 1/8 inch (3.2 mm) minimum and 4 times the raised character stroke width maximum at the top of the cross sections. Characters shall be separated from raised borders and decorative elements 3/8 inch (9.5 mm) minimum.

703.2.8 Line Spacing. Spacing between the baselines of separate lines of raised characters within a message shall be 135 percent minimum and 170 percent maximum of the raised character height.

703.3 Braille. Braille shall be contracted (Grade 2) and shall comply with 703.3 and 703.4.

703.3.1 Dimensions and Capitalization. Braille dots shall have a domed or rounded shape and shall comply with Table 703.3.1. The indication of an uppercase letter or letters shall only be used before the first word of sentences, proper nouns and names, individual letters of the alphabet, initials, and acronyms.

Table 703.3.1 Braille Dimensions

Measurement Range	Minimum in Inches Maximum in Inches
Dot base diameter	0.059 (1.5 mm) to 0.063 (1.6 mm)
Distance between two dots in the same cell¹	0.090 (2.3 mm) to 0.100 (2.5 mm)
Distance between corresponding dots in adjacent cells¹	0.241 (6.1 mm) to 0.300 (7.6 mm)
Dot height	0.025 (0.6 mm) to 0.037 (0.9 mm)
Distance between corresponding dots from one cell directly below¹	0.395 (10 mm) to 0.400 (10.2 mm)

1. Measured center to center.

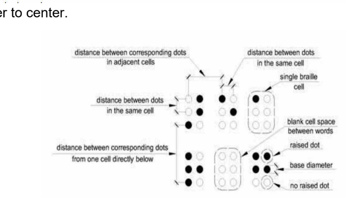


Figure 703.3.1 Braille Measurement

703.3.2 Position. Braille shall be positioned below the corresponding text. If text is multi-lined, braille shall be placed below the entire text. Braille shall be separated 3/8 inch (9.5 mm) minimum from any other tactile characters and 3/8 inch (9.5 mm) minimum from raised borders and decorative elements. EXCEPTION: Braille provided on elevator car controls shall be separated 3/16 inch (4.8 mm) minimum and shall be located either directly below or adjacent to the corresponding raised characters or symbols.

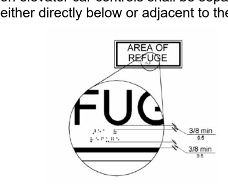


Figure 703.3.2 Position of Braille

703.4 Installation Height and Location Signs with tactile characters shall comply with 703.4.

703.4.1 Height Above Finish Floor or Ground. Tactile characters on signs shall be located 48 inches (1220 mm) minimum above the finish floor or ground surface, measured from the baseline of the lowest tactile character and 60 inches (1525 mm) maximum above the finish floor or ground surface, measured from the baseline of the highest tactile character.

EXCEPTION: Tactile characters for elevator car controls shall not be required to comply with 703.4.1.

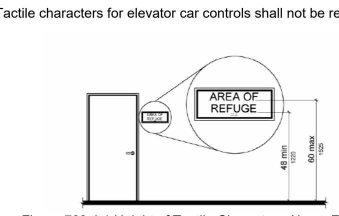


Figure 703.4.1 Height of Tactile Characters Above Finish Floor or Ground

703.4.2 Location. Where a tactile sign is provided at a door, the sign shall be located alongside the door at the latch side. Where a tactile sign is provided at double doors with one active leaf, the sign shall be located on the inactive leaf. Where a tactile sign is provided at double doors with two active leafs, the sign shall be located to the right of the right hand door. Where there is no wall space at the latch side of a single door or at the right side of double doors, signs shall be located on the nearest adjacent wall. Signs containing tactile characters shall be located so that a clear floor space of 18 inches (455 mm) minimum by 18 inches (455 mm) minimum, centered on the tactile characters, is provided beyond the arc of any door swing between the closed position and 45 degree open position.

EXCEPTION: Signs with tactile characters shall be permitted on the push side of doors with closers and without hold-open devices.

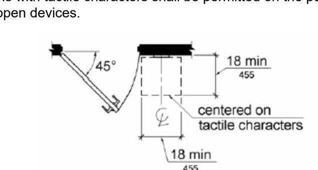


Figure 703.4.2 Location of Tactile Signs at Doors

703.5 Visual Characters. Visual characters shall comply with 703.5.

EXCEPTION: Where visual characters comply with 703.2 and are accompanied by braille complying with 703.3, they shall not be required to comply with 703.5.2 through 703.5.9.

703.5.1 Finish and Contrast. Characters and their background shall have a non-glare finish. Characters shall contrast with their background with either light characters on a dark background or dark characters on a light background.

Advisory 703.5.1 Finish and Contrast. Signs are more legible for persons with low vision when characters contrast as much as possible with their background. Additional factors affecting the ease with which the text can be distinguished from its background include shadows cast by lighting sources, surface glare, and the uniformity of the text and its background colors and textures.

703.5.2 Case. Characters shall be uppercase or lowercase or a combination of both.

703.5.3 Style. Characters shall be conventional in form. Characters shall not be italic, oblique, script, highly decorative, or of other unusual forms.

703.5.4 Character Proportions. Characters shall be selected from fonts where the width of the uppercase letter "O" is 55 percent minimum and 110 percent maximum of the height of the uppercase letter "I".

703.5.5 Character Height. Minimum character height shall comply with Table 703.5.5. Viewing distance shall be measured as the horizontal distance between the character and an obstruction preventing further approach towards the sign. Character height shall be based on the uppercase letter "I".

Table 703.5.5 Visual Character Height

Height to Finish Floor or Ground From Baseline of Character	Horizontal Viewing Distance	Minimum Character Height
40 inches (1015 mm) to less than or equal to 70 inches (1780 mm)	less than 72 inches (1830 mm)	5/8 inch (16 mm)
	72 inches (1830 mm) and greater	5/8 inch (16 mm), plus 1/8 inch (3.2 mm) per foot (305 mm) of viewing distance above 72 inches (1830 mm)
Greater than 70 inches (1780 mm) to less than or equal to 120 inches (3050 mm)	less than 180 inches (4570 mm)	2 inches (51 mm)
	180 inches (4570 mm) and greater	2 inches (51 mm), plus 1/8 inch (3.2 mm) per foot (305 mm) of viewing distance above 180 inches (4570 mm)
greater than 120 inches (3050 mm)	less than 21 feet (6400 mm)	3 inches (75 mm)
	21 feet (6400 mm) and greater	3 inches (75 mm), plus 1/8 inch (3.2 mm) per foot (305 mm) of viewing distance above 21 feet (6400 mm)

703.5.6 Height From Finish Floor or Ground Visual characters shall be 40 inches (1015 mm) minimum above the finish floor or ground.

EXCEPTION: Visual characters indicating elevator car controls shall not be required to comply with 703.5.6.

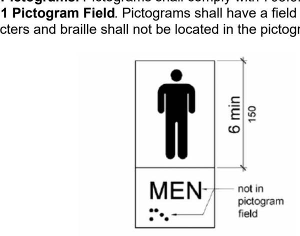
703.5.7 Stroke Thickness. Stroke thickness of the uppercase letter "I" shall be 10 percent minimum and 30 percent maximum of the height of the character.

703.5.8 Character Spacing. Character spacing shall be measured between the two closest points of adjacent characters, excluding word spaces. Spacing between individual characters shall be 10 percent minimum and 35 percent maximum of character height.

703.5.9 Line Spacing. Spacing between the baselines of separate lines of characters within a message shall be 135 percent minimum and 170 percent maximum of the character height.

703.6 Pictograms. Pictograms shall comply with 703.6.

703.6.1 Pictogram Field. Pictograms shall have a field height of 6 inches (150 mm) minimum. Characters and braille shall not be located in the pictogram field.



703.6.2 Finish and Contrast. Pictograms and their field shall have a non-glare finish. Pictograms shall contrast with their field with either a light pictogram on a dark field or a dark pictogram on a light field.

Advisory 703.6.2 Finish and Contrast. Signs are more legible for persons with low vision when characters contrast as much as possible with their background. Additional factors affecting the ease with which the text can be distinguished from its background include shadows cast by lighting sources, surface glare, and the uniformity of the text and background colors and textures.

703.6.3 Text Descriptors. Pictograms shall have text descriptors located directly below the pictogram field. Text descriptors shall comply with 703.2, 703.3 and 703.4.

703.7 Symbols of Accessibility. Symbols of accessibility shall comply with 703.7.

703.7.1 Finish and Contrast. Symbols of accessibility and their background shall have a non-glare finish. Symbols of accessibility shall contrast with their background with either a light symbol on a dark background or a dark symbol on a light background.

Advisory 703.7.1 Finish and Contrast. Signs are more legible for persons with low vision when characters contrast as much as possible with their background. Additional factors affecting the ease with which the text can be distinguished from its background include shadows cast by lighting sources, surface glare, and the uniformity of the text and background colors and textures.

703.7.2 Symbols.

703.7.2.1 International Symbol of Accessibility. The International Symbol of Accessibility shall comply with Figure 703.7.2.1.

Figure 703.7.2.1 International Symbol of Accessibility

703.7.2.2 International Symbol of TTY. The International Symbol of TTY shall comply with Figure 703.7.2.2.

Figure 703.7.2.2 International Symbol of TTY

703.7.2.3 Volume Control Telephones. Telephones with a volume control shall be identified by a pictogram of a telephone handset with radiating sound waves on a square field such as shown in Figure 703.7.2.3.

Figure 703.7.2.3 Volume Control Telephone

703.7.2.4 Assistive Listening Systems. Assistive listening systems shall be identified by the International Symbol of Access for Hearing Loss complying with Figure 703.7.2.4.

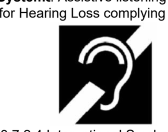


Figure 703.7.2.4 International Symbol of Access for Hearing Loss

705 Detectable Warnings

705.1 General. Detectable warnings shall consist of a surface of truncated domes and shall comply with 705.

705.1.1 Dome Size. Truncated domes in a detectable warning surface shall have a base diameter of 0.9 inch (23 mm) minimum and 1.4 inches (36 mm) maximum, a top diameter of 50 percent of the base diameter minimum to 65 percent of the base diameter maximum, and a height of 0.2 inch (5.1mm).

705.1.2 Dome Spacing. Truncated domes in a detectable warning surface shall have a center-to center spacing of 1.6 inches (41 mm) minimum and 2.4 inches (61 mm) maximum, and a base-to base spacing of 0.65 inch (17 mm) minimum, measured between the most adjacent domes on a square grid.

705.1.3 Contrast. Detectable warning surfaces shall contrast visually with adjacent walking surfaces either light-on-dark, or dark-on-light.

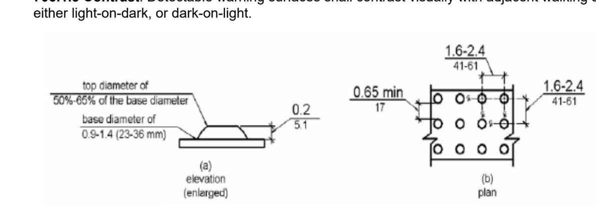


Figure 705.1 Size and Spacing of Truncated Domes

705.2 Platform Edges. Detectable warning surfaces at platform boarding edges shall be 24 inches (610 mm) wide and shall extend the full length of the public use areas of the platform.

Disclaimer:
The standards provided in these sheets are not a complete copy of the Texas Accessibility Standards (TAS). Standards provided are only the most commonly referenced standards.
The Standards provided are meant for reference use only, and not as a complete guide. To download the complete text of the 2012 TAS go to https://www.tdlr.texas.gov/ab/abtaspdf.htm

CG5 ARCHITECT

TEXAS ARCHITECT
FIRM No: BR4247
WWW.CG5ARCHITECT.COM

SEAL: 5-16-2025

REGISTERED ARCHITECT
JOSE C GARCIA III
22658
STATE OF TEXAS

ECISD HIGH SCHOOL ATHLETIC MULTI-USE BUILDING ECISD CSP 25-74

ROBERT VELA HIGH SCHOOL

801 E Canton Rd, Edinburg, TX 78539

CLIENT:

EDINBURG CISD

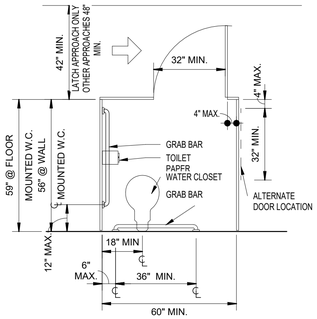
REVISION:

No.	Description	Date

PROJECT #: 25-030102
DRAWN BY: N.M.
CHECKED BY: CG3
DATE: 4/28/25

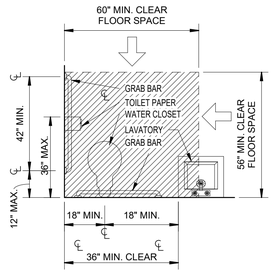
ADA INFORMATION

G1.1



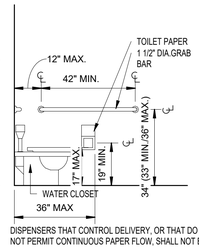
STANDARD STALL - PLAN VIEW

WATER CLOSETS IN TOILET STALLS



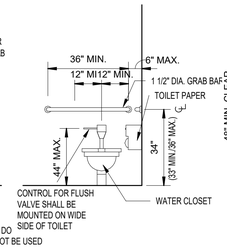
PLAN VIEW

WATER CLOSETS THAT ARE NOT IN TOILET STALLS



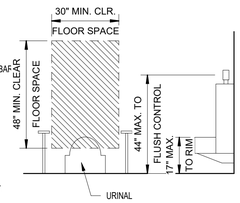
DISPENSERS THAT CONTROL DELIVERY, OR THAT DO NOT PERMIT CONTINUOUS PAPER FLOW, SHALL NOT BE USED

SIDE VIEW



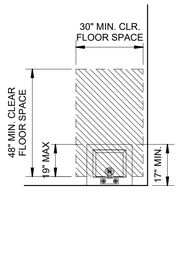
FRONT VIEW

WATER CLOSET ELEVATIONS ADULT MOUNTING HEIGHTS



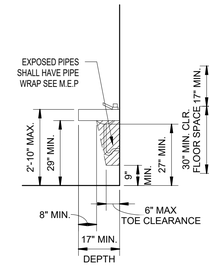
PLAN VIEW

SIDE VIEW

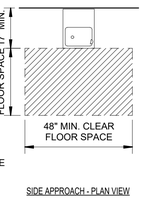


LAVATORY - PLAN

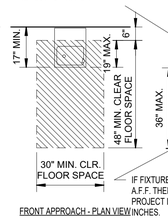
THE SPOUT SHALL BE AT THE FRONT OF THE UNIT AND SHALL DIRECT THE WATE FLOW IN A TRAJECTORY THAT IS PARALLEL OR NEARLY PARALLEL TO THE FONT OF THE UNIT. THE SPOUT WILL PROVIDE A FLOW OF WATER AT LEAST 4 INCHES HIGH SO AS TO ALLOW THE INSERTION OF A CUP OR GLASS UNDER THE FLOW OF WATER.



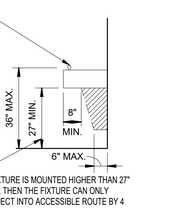
LAVATORY - ELEVATION ADULT MOUNTING HEIGHTS



SIDE APPROACH - PLAN VIEW

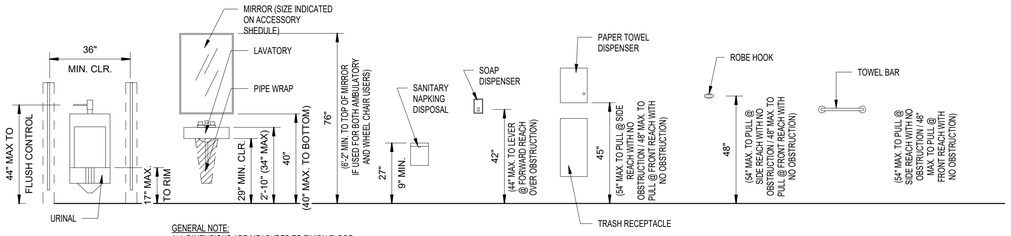


FRONT APPROACH - PLAN VIEW



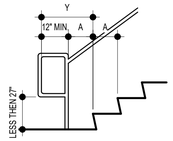
IF FIXTURE IS MOUNTED HIGHER THAN 27" A.F.F. THEN THE FIXTURE CAN ONLY PROJECT INTO ACCESSIBLE ROUTE BY 4 INCHES.

FRONT VIEW

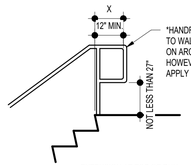


GENERAL NOTE:
ALL DIMENSIONS ARE MEASURED TO FINISH FLOOR

MOUNTING HEIGHTS FOR ADULTS - FRONT VIEW

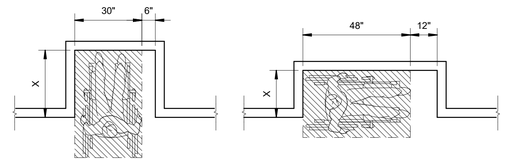


EXTENSION AT BOTTOM OF RUN



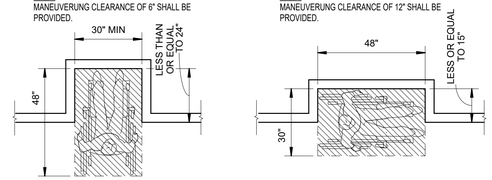
EXTENSION AT TOP OF RUN

'X' IS THE 12" MIN. HANDRAIL EXTENSION REQUIRED AT EACH TOP RISER.
'Y' IS THE MINIMUM HANDRAIL EXTENSION OF 12" PLUS THE WIDTH OF ONE TREAD THAT IS REQUIRED AT THE BOTTOM RISER.
'A' IS THE TREAD DIMENSION AS 11" BEING THE MINIMUM PERMITTED.



NOTE: IF X > 24" THEN AN ADDITIONAL MANEUVERUNG CLEARANCE OF 6" SHALL BE PROVIDED.

NOTE: IF X > 15" THEN AN ADDITIONAL MANEUVERUNG CLEARANCE OF 12" SHALL BE PROVIDED.



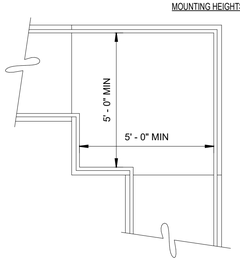
CLEAR FLOOR SPACE IN ALCOVES

GENERAL NOTES:

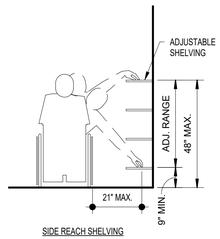
1. INFORMATION SHOWN ON THIS SHEET IS THE MINIMUM REQUIRED FOR ADA COMPLIANCE

2. SOME CONDITIONS SHOWN ON THIS SHEET MAY NOT BE REQUIRED BY THIS PROJECT. COMPARE THE REQUIREMENTS OF THE ARCHITECTURAL DRAWINGS WITH THIS SHEET FOR RELEVANT INFORMATION.

3. IF ANY DISCREPANCIES ARE FOUND BETWEEN THE DRAWINGS, SPECIFICATIONS AND THE INFORMATION ON THIS SHEET, NOTIFY THE ARCHITECT IMMEDIATELY FOR CLARIFICATION.



RAMP LANDING - CHANGE IN DIRECTION



SIDE REACH SHELVING

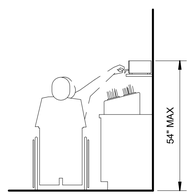
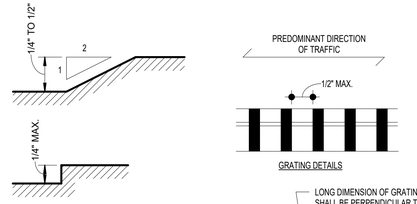


TABLE AREAS

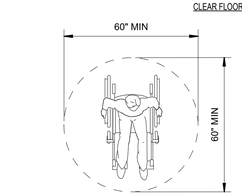


CHANGES IN LEVEL

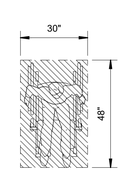
GRATING DETAILS

CARPET PILE THICKNESS

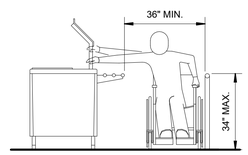
GRATING ORIENTATION



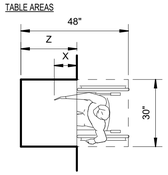
TURNING RADIUS CLEAR FLOOR SPACE



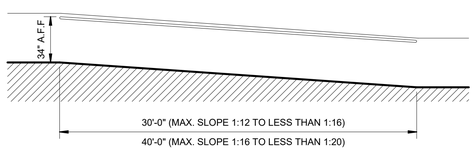
CLEAR FLOOR SPACE



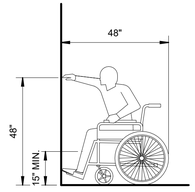
SERVING LINES



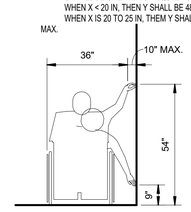
ACCESSIBLE COUNTER
NOTE: X SHALL BE SMALLER OR EQUAL TO 25";
Z SHALL BE GREATER OR EQUAL TO X.
WHEN X < 20 IN, THEN Y SHALL BE 48 IN MAX.
WHEN X IS 20 TO 25 IN, THEM Y SHALL BE 44 IN MAX.



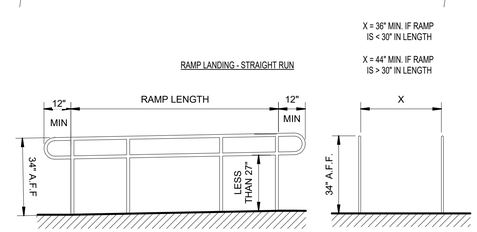
RAMP LONGITUDINAL SECTION



HIGH FORWARD REACH LIMIT



HIGH & LOW SIDE REACH LIMITS

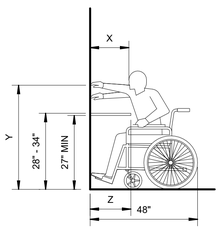


RAMP LANDING - STRAIGHT RUN

ELEVATION

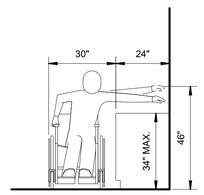
SECTION

RAILING WITH EXTENDED PLATFORM

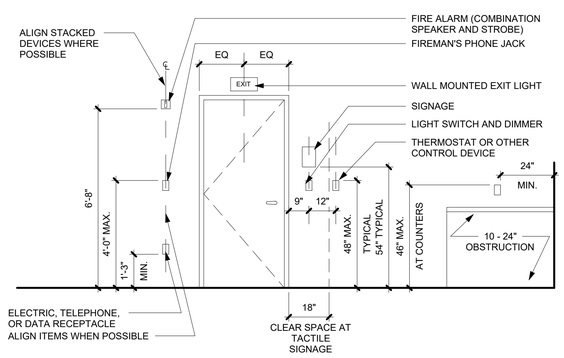


MAXIMUM FRONT REACH OVER OBSTRUCTIONS

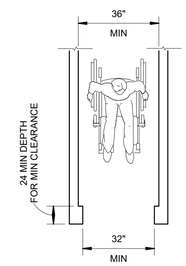
NOTE: X SHALL BE SMALLER OR EQUAL TO 25";
Z SHALL BE GREATER OR EQUAL TO X.
WHEN X < 20 IN, THEN Y SHALL BE 48 IN MAX.
WHEN X IS 20 TO 25 IN, THEM Y SHALL BE 44 IN MAX.



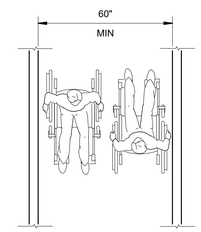
MAXIMUM SIDE REACH OVER AN OBSTRUCTION



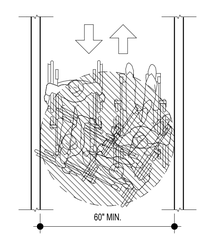
7 MISCELLANEOUS HEIGHTS
3/8" = 1'-0"



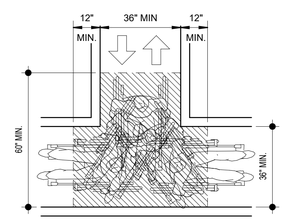
WHEELCHAIR PASSAGE WIDTH



DOUBLE WHEELCHAIR PASSAGE WIDTH



MINIMUM CLEAR WIDTH FOR TWO WHEELCHAIR



T-SHAPED SPACE FOR 180 DEGREE TURNS.

TEXAS ARCHITECT
FIRM No: BR4247
WWW.CG5ARCHITECT.COM

SEAL: 5-16-2025

REGISTERED ARCHITECT JOSE C GARCIA 22658 STATE OF TEXAS

ECISD HIGH SCHOOL ATHLETIC MULTI-USE BUILDING ECISD CSP 25-74

ROBERT VELA HIGH SCHOOL

801 E Canton Rd, Edinburg, TX 78539

CLIENT:
EDINBURG CISD

REVISION:

No.	Description	Date

PROJECT #: 25-030102
DRAWN BY: N.M.
CHECKED BY: CG3
DATE: 4/28/25

ADA INFORMATION

G1.2

GENERAL NOTES

GENERAL

1. THE NOTES AND SPECIFICATIONS PROVIDED ON THE STRUCTURAL DRAWINGS ARE EXCERPTS FROM THE RELATING PROJECT SPECIFICATIONS. THEY ARE NEITHER COMPLETE NOR DO THEY REPLACE THE CONTRACT SPECIFICATIONS.
2. CODE: CONSTRUCTION SHALL CONFORM TO THE PROVISIONS OF THE 2021 INTERNATIONAL BUILDING CODE OF LATEST ADOPTION AND ALL STANDARDS REFERENCED THEREIN IN THEIR ENTIRETY, WITH ALL LOCALLY ADOPTED AMENDMENTS, REFERENCED THEREIN.
3. MEANS AND METHODS: THE DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE MEANS AND METHODS OF CONSTRUCTION UNLESS SO STATED OR NOTED. THE CONTRACTOR IS RESPONSIBLE FOR ALL MEANS AND METHODS RELATING TO THE SPECIFIC STRUCTURAL ERECTION ITEMS ADDRESSED IN THE LATEST OSHA REGULATIONS.
4. GENERAL DETAILS AND NOTES ON THESE SHEETS SHALL APPLY UNLESS SPECIFICALLY SHOWN OR NOTED OTHERWISE. CONSTRUCTION DETAILS NOT FULLY SHOWN OR NOTED SHALL BE SIMILAR TO DETAILS SHOWN FOR SIMILAR CONDITIONS. ALL WORK OR CONSTRUCTION SHALL COMPLY WITH ALL APPLICABLE BUILDING CODES, REGULATION AND SAFETY REQUIREMENTS.
5. UNLESS ACCOMPANIED BY A FORMAL CHANGE ORDER, RESPONSES TO QUESTIONS AND RFI'S, COMMENTS MADE DURING THE REVIEW OF SUBMITTALS, AND DIRECTIVES PROVIDED IN ANY FORM, BY THE ENGINEER TO THE CONTRACTOR DURING THE CONSTRUCTION PROCESS ARE INTENDED TO BE CLARIFICATIONS OF THE CONTRACT DOCUMENTS OR CORRECTIONS TO THE PERCEIVED INTERPRETATION OF THE INTENT OF CONTRACT DOCUMENTS BY THE CONTRACTOR. SUCH CLARIFICATIONS AND CORRECTIONS ARE NOT INTENDED TO REPRESENT A CHANGE IN COST OF THE PROJECT TO THE OWNER AND ARE CONSIDERED TO BE INFERABLE FROM THE CONTENT OF THE CONTRACT DRAWINGS OR CONSISTENT WITH INDUSTRY STANDARDS OF CONSTRUCTION. IF THE CONTRACTOR DETERMINES THAT SUCH CLARIFICATIONS AND CORRECTIONS HAVE AN IMPACT ON THE COST OF THE PROJECT TO THE OWNER, THE CONTRACTOR SHALL SUBMIT A CHANGE ORDER REQUEST WITH DETAILED PRICING INFORMATION TO THE ARCHITECT BEFORE PURCHASING, DETAILING, FABRICATING OR INSTALLING ANY COMPONENT RELATED TO SUCH CLARIFICATIONS AND CORRECTIONS.
6. DISCREPANCIES: THE CONTRACTOR SHALL INFORM THE ENGINEER IN WRITING OF ANY DISCREPANCIES OR OMISSIONS NOTED ON THE DRAWINGS OR IN THE SPECIFICATIONS. UPON RECEIPT OF SUCH INFORMATION, THE ENGINEER WILL SEND WRITTEN INSTRUCTIONS TO ALL CONCERNED. ANY SUCH DISCREPANCY, OMISSION, OR VARIATION NOT REPORTED SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, AND WORK SHALL BE PERFORMED IN A MANNER AS DIRECTED BY THE ENGINEER.
7. SHORING: IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO DESIGN AND PROVIDE ADEQUATE SHORING, BRACING, AND FORMWORK, AS REQUIRED FOR THE PROTECTION OF LIFE AND PROPERTY DURING THE CONSTRUCTION OF THIS BUILDING. EXCESS LOAD CAPACITY OF SLAB SHALL NOT EXCEED LOADS EQUIVALENT TO THE DESIGN SUPERIMPOSED LOADS LESS CONSTRUCTION DEAD AND LIVE LOADS. DESIGN SUPERIMPOSED LOADS INCLUDE LIVE LOAD, PARTITION LOAD, AND ANY OTHER LOAD NOT IN PLACE AT THE TIME OF SHORING. FLOORS ARE NOT DESIGNED TO SUPPORT FORMWORK AND WET CONCRETE WEIGHT OF NEXT LEVEL. CCONTRACTOR SHALL DESIGN AND PROVIDE RE-SHORING TO PREVENT OVERSTRESSING THE STRUCTURE.
8. EXCAVATION: 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 THE LOCAL BUILDING DEPARTMENT.
9. OTHER TRADES: IT IS NOT THE INTENT THAT THE STRUCTURAL DRAWINGS BE VIEWED AS STAND ALONE DRAWINGS WITH RESPECT TO PROJECT DIMENSIONS OR ANY OTHER COMPONENT OF THE CONSTRUCTION THAT CAN AND MAY BE IDENTIFIED IN OTHER PARTS OF THE CONTRACT DOCUMENTS. IT REQUIRES THE ENTIRE SET OF CONTRACT DOCUMENTS TO PROPERLY CONSTRUCT THE STRUCTURE AS WELL AS OTHER COMPONENTS OF THE BUILDING. ANCHORS REQUIRED FOR ANCHORING MEP EQUIPMENT AND / OR PIPING ARE NOT SHOWN ON THESE DRAWINGS. THE CONTRACTOR SHALL DETERMINE AND COORDINATE REQUIREMENTS FROM OTHER DISCIPLINES AND SHALL PROVIDE APPROPRIATE ALLOWANCES INTO THE BID. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSEMBLE AND COORDINATE THE REQUIREMENTS OF ALL COMPONENTS OF THE CONTRACT DOCUMENTS IN ORDER TO PROPERLY IMPLEMENT THE REQUIREMENTS OF THE CONTRACT. SEE ARCHITECTURAL, ELECTRICAL, AND MECHANICAL DRAWINGS FOR SIZE AND LOCATION OF PIPES, VENTS, CHASES, DUCTS AND OTHER OPENINGS AND DETAILS NOT SHOWN ON THESE STRUCTURAL DRAWINGS. ALL DIMENSIONS ARE TO BE CHECKED AND VERIFIED WITH THE ARCHITECTURAL DRAWINGS.
10. BRACING: THESE DRAWINGS ILLUSTRATE THE PRIMARY STRUCTURAL FRAME IN ITS COMPLETED FORM. TEMPORARY BRACING, PROPERLY DESIGNED UNDER THE SUPERVISION OF A LICENSED STRUCTURAL ENGINEER, SHALL BE PROVIDED AS REQUIRED TO HOLD ALL COMPONENTS OF THE STRUCTURE IN PLACE UNTIL FINAL SUPPORT IS SECURELY ANCHORED.
11. INSPECTIONS: ANY INSPECTIONS, SPECIAL OR OTHERWISE, THAT ARE REQUIRED BY THE BUILDING CODES, LOCAL BUILDING DEPARTMENTS, OR THESE PLANS, SHALL BE DONE BY AN INDEPENDENT INSPECTION COMPANY. JOB SITE VISITS BY THE ENGINEER DO NOT CONSTITUTE, OR SUBSTITUTE, INSPECTIONS UNLESS SPECIFICALLY CONTRACTED FOR.
12. THE LOCATION AND DIMENSIONS OF ALL OPENINGS, DEPRESSIONS, RECESSES, SLOPES, BLOCKOUTS, CURBS, AND EMBEDMENTS SHOWN IN THE STRUCTURE WHICH ARE RELATED TO PURPOSES DEPICTED IN CONTRACT DOCUMENTS OTHER THAN THE STRUCTURAL DRAWINGS OR BY MANUFACTURERS AND INSTALLERS OF VARIOUS EQUIPMENT AND FINISHES SHALL BE VERIFIED BY THE CONTRACTOR TO BE SUITABLE FOR THE PURPOSES DEPICTED BY THE CONTRACT DOCUMENTS REQUIRING SUCH ITEMS OR TO BE SUITABLE FOR THE INSTALLATION OF VARIOUS EQUIPMENT AND FINISHES. ANY REQUIREMENT FOR RELOCATION OR CHANGE IN DIMENSIONS OF ANY OPENING, DEPRESSION, RECESS, SLOPE, BLOCKOUT, OR EMBEDMENT SHALL BE SUBMITTED TO THE ARCHITECT AND ENGINEER IN DRAWING FORM PRIOR TO THE FABRICATION OF MATERIALS OR CONSTRUCTION.
13. VARIOUS OPENINGS, DEPRESSIONS, RECESSES, SLOPES, BLOCKOUTS, CURBS, AND EMBEDMENTS NOT SHOWN IN THE STRUCTURAL DRAWINGS MAY BE REQUIRED IN THE STRUCTURE FOR PURPOSES DEPICTED IN CONTRACT DOCUMENTS OTHER THAN THE STRUCTURAL DRAWINGS OR BY THE MANUFACTURERS AND INSTALLERS OF VARIOUS EQUIPMENT AND FINISHES. THE CONTRACTOR SHALL INCORPORATE AND COORDINATE THE LOCATION AND DIMENSIONS OF ANY OPENING, DEPRESSION, RECESS, SLOPE, BLOCKOUT, OR EMBEDMENT INTO THE STRUCTURE AS REQUIRED TO BE SUITABLE FOR THE PURPOSES DEPICTED BY THE CONTRACT DOCUMENTS REQUIRING SUCH ITEMS OR TO BE SUITABLE FOR THE INSTALLATION OF VARIOUS EQUIPMENT AND FINISHES. THE SUITABLE LOCATION AND DIMENSIONS OF ALL OPENINGS, DEPRESSIONS, RECESSES, SLOPES, BLOCKOUTS, AND EMBEDMENTS SHALL BE SUBMITTED TO THE ARCHITECT AND ENGINEER IN DRAWING FORM PRIOR TO THE FABRICATION OF MATERIALS OR CONSTRUCTION. AN ALLOWANCE SHALL BE INCLUDED IN THE BID PRICE SUFFICIENT TO ADEQUATELY COVER STRUCTURAL REQUIREMENTS FOR SUCH ITEMS WITHOUT NEED FOR A FUTURE CHANGE TO THE BID PRICE.
14. LOADINGS FOR MECHANICAL EQUIPMENT: ARE BASED ON THE UNITS SHOWN ON THE MECHANICAL DRAWINGS AND IN THE EQUIPMENT SCHEDULE. ANY CHANGES IN TYPE, SIZE, WEIGHT, OR NUMBER OF PIECES OF EQUIPMENT SHALL BE REPORTED TO THE ARCHITECT FOR VERIFICATION OF THE ADEQUACY OF SUPPORTING MEMBERS PRIOR TO THE PLACEMENT OF SUCH EQUIPMENT.
15. SUBSTITUTIONS & DEVIATIONS: PROPOSED SUBSTITUTION OF MATERIALS, PRODUCTS OR DETAILS DEPICTED IN THE CONTRACT DOCUMENTS SHALL BE SUBMITTED ONLY DURING THE BIDDING PERIOD. AFTER BIDS ARE ACCEPTED, NOTICE IN WRITING OF ANY PROPOSED SUBSTITUTIONS OR ANY PROPOSED DEVIATIONS TO THE STRUCTURE AS REQUIRED BY THESE DOCUMENTS SHALL BE SUBMITTED WITH BACKUP DATA IDENTIFYING THE REASON FOR THE PROPOSED SUBSTITUTION OR DEVIATION. FOR PROPOSED SUBSTITUTIONS OF PRODUCTS, THE BACKUP DATA SHALL INCLUDE CURRENT I.C.B.O. REPORT. THE PROPOSED SUBSTITUTIONS SHALL BE CONSIDERED AFTER ACCEPTANCE OF BIDS, ONLY WHEN THEY ARE SUBMITTED WITH DOCUMENTED SAVINGS TO BE DEDUCTED FROM THE PROJECT CONTRACT AMOUNT. MATERIALS OR PRODUCTS THAT DO NOT HAVE AN I.C.B.O. REPORT, WILL NOT BE CONSIDERED FOR SUBSTITUTIONS.
16. SEE ARCHITECTURAL DRAWINGS FOR ELEVATIONS NOT SHOWN AND FOR EXACT LOCATIONS OF ALL SLAB DEPRESSIONS. THE CONTRACTOR SHALL COMPARE THE STRUCTURAL SECTIONS WITH THE ARCHITECTURAL SECTIONS AND REPORT ANY DISCREPANCY TO THE ARCHITECT PRIOR TO FABRICATING OR INSTALLING STRUCTURAL MEMBERS.
17. THE CONTRACTOR SHALL ENSURE THAT CONSTRUCTION MATERIALS WHOSE WEIGHT EXCEEDS THE DESIGN LIVE LOADS INDICATED ON THE STRUCTURAL DRAWINGS ARE NOT STORED ON STRUCTURALLY SUPPORTED FLOOR OR ROOF FRAMING.
18. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE THE GRADES WITH THE CIVIL ENGINEER'S GRADING PLAN AND THE LANDSCAPE ARCHITECT'S PLAN.
19. THE DRAWINGS IN THE STRUCTURAL DOCUMENTS ARE NOT TO BE SCALED FOR ANY PURPOSE, INCLUDING THE DETERMINATION OF QUANTITIES AND THE FIT UP OF MATERIALS.
20. THESE PLANS MUST BE SUBMITTED FOR REVIEW BY THE GEOTECHNICAL ENGINEER PRIOR TO CONSTRUCTION.
21. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN ALL CONTRACT DOCUMENTS AND LATEST ADDENDA AND TO SUBMIT SUCH DOCUMENTS TO ALL SUBCONTRACTORS AND MATERIAL SUPPLIERS PRIOR TO THE SUBMITTAL OF SHOP DRAWINGS, FABRICATION OF ANY STRUCTURAL MEMBERS, AND ERECTION IN THE FIELD.
22. PRECONSTRUCTION MEETINGS: THE CONTRACTOR IS RESPONSIBLE FOR ARRANGING PRECONSTRUCTION MEETINGS FOR THE FOUNDATION AND SUPERSTRUCTURE ELEMENTS OF THE PRIMARY FRAME WITH A MINIMUM OF TWO WEEKS OF NOTICE PRIOR TO START OF THE RELEVANT WORK. ATTENDEES SHALL INCLUDE THE CONTRACTORS, APPROPRIATE SUBCONTRACTORS, FABRICATORS, INSPECTORS, ARCHITECT/ENGINEERS. ON THE MEETING AGENDA SHALL BE REVIEW OF WORK SCOPE, PROJECT SCHEDULE OF THE ELEMENT IN QUESTION, CONTACT INFORMATION OF RESPONSIBLE PARTIES, INSPECTION POINTS, REVIEW OF MATERIALS AND ANY SPECIAL DESIGN ISSUES, CLARIFICATIONS, TESTING AND ACCEPTANCE, AND ANY OTHER TOPIC DEEMED APPROPRIATE BY THE CONTRACTOR OR THE ARCHITECT.
23. EXISTING UTILITIES: UNLESS SPECIFICALLY SHOWN ON THE STRUCTURAL PLANS, THE LOCATION OF ANY EXISTING SUBGRADE UTILITIES IS UNKNOWN. FOUNDATION CONSTRUCTION MAY HAVE TO BE MODIFIED UPON DISCOVERY OF SUCH ITEMS. NOTIFY ARCHITECT AND ENGINEER OF ANY CONFLICT OF EXISTING UTILITY ITEMS WITH THE CONSTRUCTION OF FOUNDATION ELEMENTS.
24. ROOF DRAINAGE: THE ROOF STRUCTURE AND IT'S SUPPORTING ELEMENTS HAVE BEEN DESIGNED WITH THE ASSUMPTION THAT SUFFICIENT DRAINAGE HAS BEEN PROVIDED TO PREVENT ANY PONDING OF WATER.

CODES

1. BUILDING CODE: 2021 INTERNATIONAL BUILDING CODE WITH CITY OF EDINBURG, TEXAS AMENDMENTS.
2. STRUCTURAL CONCRETE: BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE, AMERICAN CONCRETE INSTITURE, ACI 318.
3. STRUCTURAL STEEL: MANUAL OF STEEL CONSTRUCTION, ALLOWABLE STRESS DESIGN, AMERICAN INSTITUTE OF STEEL CONSTRUCTION, NINITH EDITION.
4. ASCE 7-16

WELDING

1. REFERENCES:
   AWS D1.1-86 - "STRUCTURAL WELDING CODE - STEEL"
   AWS D1.3-81 - "STRUCTURAL WELDING CODE - SHEET STEEL"
2. ALL WELDING BY AWS QUALIFIED OPERATORS.

COORDINATION

1. ONLY LARGER SLEEVE OPENINGS AND FRAMED OPENINGS IN STRUCTURAL FRAMING COMPONENET MEMBERS ARE INDICATED ON THE STRUCTURAL DRAWINGS. HOWEVER, ALL SLEEVES, INSERTS AND OPENINGS, INCLUDING FRAMES AND/OR SLEEVES SHALL BE PROVIDED FOR PASSAGE, PROVISION AND/OR INCORPORATION OF THE WORK OF THE CONTRACT, INCLUDING BUT NOT LIMITED TO ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING WORK. THIS WORK SHALL INCLUDE THE COORDINATION OF SIZES, ALIGNMENT, DIMENSIONS, POSITION, LOCATIONS, ELEVATIONS AND GRADES AS REQUIRED TO SERVE THE INTENDED PURPOSE. OPENINGS NOT INDICATED ON THE STRUCTURAL DRAWINGS, BUT REQUIRED AS NOTED ABOVE, SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW.
2. REFER TO ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS FOR FLOOR ELEVATIONS, SLOPES, DRAINS AND LOCATION OF DEPRESSED AND ELEVATED FLOOR AREAS.
3. COMPABILITY OF THE STRUCTURE AND PROVISIONS FOR BUILDING EQUIPMENT SUPPORTED ON OR FROM STRUCTURAL COMPONENTS SHALL BE VERIFIED AS TO SIZE, DIMENSIONS, CLEARANCES, ACCESSIBILITY, WEIGHTS AND REACTION WITH THE EQUIPMENT FOR WHICH THE STRUCTURE HAS BEEN DESIGNED PRIOR TO SUBMISSION OF SHOP DRAWINGS AND DATA FOR EACH PIECE OF EQUIPMENT AND FOR STRUCTURAL COMPONENTS. DIFFERENCES SHALL BE NOTED ON THE SUBMITTALS.
4. SHOP DRAWINGS SHALL BE PREPARED FOR ALL STRUCTURAL ITEMS AND SUBMITTED FOR REVIEW BY THE ENGINEER. CONTRACT DRAWINGS SHALL NOT BE REPRODUCED AND USED AS SHOP DRAWINGS. ALL ITEMS DEVIATING FROM THE CONTRACT DRAWINGS OR FROM PREVIOUSLY SUBMITTED SHOP DRAWINGS SHALL BE CLOUDED.
5. THE DETAILS DESIGNATED AS "TYPICAL DETAILS" APPLY GENERALLY TO THE DRAWINGS IN ALL AREAS WHERE CONDITIONS ARE SIMILAR TO THOSE DESCRIBED IN THE DETAILS.
6. THE DESIGN AND PROVISION OF ALL TEMPORARY SUPPORTS SUCH AS GUYS, BRACES, FALSEWORK, SUPPORTS AND ANCHORS FOR SAFETY LINES, CRIBBING, OR ANY OTHER TEMPORARY ELEMENTS REQUIRED FOR THE EXECUTION OF THE CONTRACT ARE NOT INCLUDED IN THESE DRAWINGS AND SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. TEMPORARY SUPPORTS SHALL NOT RESULT IN THE OVERSTRESS OR DAMAGE OF THE ELEMENTS TO BE BRACED NOR ANY ELEMENTS USED AS BRACE SUPPORTS.

STEEL ROOF DECK

1. REFERENCE: STEEL DECK INSTITUTE: "DESIGN MANUAL FOR COMPOSITE DECKS, FORM DECKS AND ROOF DECKS: 1987-1988."
2. DECK SHALL BE 1-1/2 INCH 20 GAGE GALVANIZED, TYPE F.
3. DECK ENDS MAY BE EITHER BUTTED OR LAPPED OVER SUPPORTS. ON JOIST FRAMING, APPROPRIATE END LAP SHALL OCCUR OVER A TOP CHORD ANGLE FOR PROPER ANCHORAGES.
4. ATTACH METAL DECK TO STRUCTURAL STEEL WITH 5/8" DIAMETER PUDDLE WELDS AT 6" O.C. AT PERIMETER AND 12" O.C. AT INTERMEDIATE SUPPORTS. FASTEN SIDE LAPS WITH #12 TEK SCREWS AT 6" O.C.

ALLOWANCE

1. IN ADDITION TO THE MATERIAL SHOWN, THE CONTRACTOR TO PROVIDE ADDITIONAL MATERIAL, FOR USE ON THE PROJECT AS DIRECTED BY THE STRUCTURAL ENGINEER FIELD REPRESENTATIVE. THE ALLOWANCE COST SHALL INCLUDE MATERIAL COST, LABOR COSTS AND PLACEMENT AT THE SITE.
2. REMAINING BALANCE AT THE END OF THE PROJECT SHALL BE RETURNED/CREDITED BACK TO THE OWNER.
3. THE ALLOWANCE SHALL APPEAR ON THE SCHEDULE OF VALUE AS A LINE ITEM

MATERIAL	ALLOWANCE
CONCRETE	5 CU. YD.
REINFORCING STEEL	500 LBS
STRUCTURAL STEEL	500 LBS
CMU	0 SQ. FT.
CONCRETE SPALL REPAIR (x6" DEEP)	0 SQ. FT.

SPECIAL NOTES TO OWNER

1.UNDER NORMAL CONDITIONS, AND FOR CONVENTIONAL BUILDINGS SUCH AS THE SUBJECT MATTER, REINFORCED CONCRETE AND MASONRY DEVELOP CRACKS. THE CRACKS ARE DUE TO INHERENT SHRINKAGE OF CONCRETE, CREEP AND RESTRAINING EFFECTS OF VERTICAL AND OTHER STRUCTURAL ELEMENTS TO WHICH THE BEAMS/SLABS ARE TIED.

2. THE CRACKS FORMED ARE NORMALLY COSMETIC. THE SLAB MAINTAINS ITS SERVICEABILITY AND STRENGTH REQUIREMENTS. IT IS EMPHASIZED THAT ALTHOUGH SPECIAL EFFORT IS MADE TO REDUCE THE POTENTIAL CAUSES AND NUMBER OF SUCH CRACKS, IT IS NOT PRACTICAL TO PROVIDE TOTAL ARTICULATION BETWEEN THE FLOOR SYSTEM AND ITS SUPPORTS AND THEREBY ACHIEVE COMPLETE INHIBITION OF ALL CRACKS.

3.MOST SUCH CRACKS DEVELOP OVER THE FIRST THREE YEARS OF THE LIFE OF THE FLOOR SYSTEM. CRACKS WHICH ARE WIDER THAN 0.01 INCH MAY NEED TO BE PRESSURE EPOXIED. REFER TO THE NOTES UNDER "ALLOWANCES".

4. THE OBJECT OF THE JOINTS PROVIDED IS TO ALLOW MOVEMENT. MOVEMENTS DUE TO CREEP AND SHRINKAGE MAY BE NOTICEABLE AT JOINTS UP TO TWO YEARS AFTER CONSTRUCTION, BEYOND WHICH MOVEMENTS DUE TO VARIATIONS IN TEMPERATURE WILL PERSIST.

DRAWING INTERPRETATION:

A. GENERAL
1. DECISIONS REGARDING THE APPLICABILITY OF "TYPICAL" AND/OR "SIMILAR" DRAWING VIEWS SHALL BE DETERMINED BY THE ENGINEER OF RECORD.

B. DRAWING VIEWS LABELED AS "TYPICAL"
1. PARTIAL PLANS, ELEVATIONS, SECTIONS, DETAILS, OR SCHEDULES LABELED WITH "TYPICAL" SHALL APPLY TO ALL SITUATIONS OCCURRING ON THE PROJECT THAT ARE THE SAME TO THOSE SHOWN.
2. THE APPLICABILITY OF THE CONTENT OF THESE VIEWS TO LOCATIONS ON THE PLAN CAN BE DETERMINED FROM THE TITLE OF THE VIEWS WHETHER OR NOT THEY ARE LABELED OR KEYED IN AT EACH LOCATION.

C. DRAWING VIEWS LABLED AS "SIMILAR"
1. PARTIAL PLANS, ELEVATIONS, SECTIONS, DETAILS, OR SCHEDULES LABELED WITH "SIMILAR" SHALL APPLY TO ALL SITUATIONS OCCURRING ON THE PROJECT THAT ARE OF SIMILAR CONTENT AND DESIGN INTENT.
2. VIEWS LABELED AS "SIMILAR" MAY REFERENCE A PARENT DETAIL THAT MAY NOT MATCH THE EXACT CONTENT OF THE INDICATED DRAWING VIEW, BUT HAS SUFFICIENT AMOUNT INFORMATION TO REPRESENT THE DESIGN INTENT.
3. VIEWS LABLED AS "SIMILAR" MAY REQUIRE MODIFICATIONS TO THE PARENT DETAIL TO MATCH THE CONDITION OF THE INDICATED DRAWING VIEW.

EXTERIOR COMPONENT AND CLADDING:

A. GENERAL
1. ALL EXTERIOR COMPONENT AND CLADDING SYSTEMS SHALL MEET THE MINIMUM WIND REQUIREMENTS AS PRESCRIBED BY THE INTERNATIONAL BUILDING CODE (IBC), PROJECT EDITION.
2. EXTERIOR COMPONENT AND CLADDING SYSTEMS INCLUDE (BUT NOT LIMITED TO): WINDOWS, CURTAINWALLS, STOREFRONTS, DOORS, SIDINGS, METAL WALL AND ROOF PANELS, ROOFING SYSTEMS, SKYLIGHTS, ROOFTOP EQUIPMENT, ETC.
3. CONTRACTOR SHALL SUBMIT COMPONENT AND CLADDING ASSEMBLY WIND PRESSURE AND IMPACT RESISTANCE TESTING RATINGS (WHEN APPLICABLE) TO AND ENGINEER FOR REVIEW.

B. TESTED ASSEMBLIES
1. THE CONTRACTOR SHALL INSTALL PROJECT SPECIFIC ASSEMBLIES THAT HAVE BEEN TESTED AND MEET THE APPLICABLE PERFORMANCE REQUIREMENTS.
2. PROJECT ASSEMBLIES SHALL BE INSTALLED IN THE SAME MANNER AS TESTED ASSEMBLIES INCLUDING COMPONENTS, REINFORCEMENT, GLAZING, HARDWARE, ANCHORS, FASTENING LOCATIONS, SEALANTS AND ALL APPLICABLE ACCESSORIES.
3. THE TESTED ASSEMBLY SHALL MEET THE POSITIVE AND NEGATIVE COMPONENT AND CLADDING WIND PRESSURES INDICATED ON THE STRUCTURAL DRAWINGS.

C. ASSEMBLY PERFORMANCE STANDARDS
1. ASTM E330 - STANDARD TEST FOR STRUCTURAL PERFORMANCE OF EXTERIOR WINDOWS, DOORS, SKYLIGHTS, AND CURTAIN WALLS BY UNIFORM STATIC AIR PRESSURE DIFFERENCE
2. ASTM E1592 - STANDARD TEST METHOD FOR STRUCTURAL PERFORMANCE OF SHEET METAL ROOF AND SIDING SYSTEMS BY UNIFORM STATIC AIR PRESSURE DIFFERENCE
3. ASTM E1886 - STANDARD TEST METHOD FOR PERFORMANCE OF EXTERIOR WINDOWS, CURTAIN WALLS, DOORS, AND IMPACT PROTECTIVE SYSTEMS IMPACTED BY MISSILE(S) AND EXPOSED TO CYCLIC PRESSURE DIFFERENTIALS
4. ASTM E1996 - STANDARD SPECIFICATION FOR PERFORMANCE OF EXTERIOR WINDOWS, CURTAIN WALLS, DOORS, AND IMPACT PROTECTIVE SYSTEMS IMPACTED BY WIND-BORNE DEBRIS IN HURRICANES
5. FM 4450 - APPROVAL STANDARD FOR CLASS 1 INSULATED STEEL DECK ROOFS
6. FM 4470 - APPROVAL STANDARD FOR SINGLE-PLY, POLYMER-MODIFIED BITUMEN SHEET, BUILT-UP ROOF (BUR) AND LIQUID APPLIED ROOF ASSEMBLIES FOR USE IN CLASS 1 AND NONCOMBUSTIBLE ROOF DECK CONSTRUCTION
7. FM 4474 - AMERICAN NATIONAL STANDARD FOR EVALUATING THE SIMULATED WIND UPLIFT RESISTANCE OF ROOF ASSEMBLIES USING STATIC POSITIVE AND/OR NEGATIVE DIFFERENTIAL PRESSURES
8. UL 580 - STANDARD FOR TESTS FOR UPLIFT RESISTANCE OF ROOF ASSEMBLIES
9. UL 1897 - STANDARD FOR UPLIFT TESTS FOR ROOF COVERING SYSTEMS
10. ASTM D1758 - STANDARD TEST METHOD FOR WIND RESISTANCE OF ASPHALT SHINGLES (UPLIFT FORCE/UPLIFT RESISTANCE METHOD)
11. ASTM D226 - STANDARD SPECIFICATION FOR ASPHALT-SATURATED ORGANIC FELT USED IN ROOFING AND WATERPROOFING

SHOP DRAWINGS AND SUBMITTALS:

A. SUBMITTAL LIST AND SCHEDULE

1. THE GENERAL CONTRACTOR SHALL PREPARE A DETAILED LIST AND SCHEDULE OF ALL SUBMITTAL ITEMS TO BE SENT TO THE STRUCTURAL ENGINEER PRIOR TO THE START OF CONSTRUCTION. THE LIST SHALL INCLUDE:
   a. DESIGN CALCULATIONS
   b. PRODUCTS, ASSEMBLIES, AND HARDWARE
   c. PRODUCT CERTIFICATES, MILL CERTIFICATES, AND FABRICATOR CERTIFICATES
   d. SHOP DRAWINGS

B. SHOP DRAWINGS AND SUBMITTALS

1. THE GENERAL CONTRACTOR SHALL SUBMIT FOR ENGINEERING REVIEW SHOP DRAWINGS AND SUBMITTALS FOR THE FOLLOWING ITEMS BUT NOT LIMITED TO:
   a. CONCRETE MIX DESIGN AND ACCESSORIES
   b. CONSTRUCTION JOINT LOCATIONS IN SLAB-ON-GRADE
   c. EMBEDDED PLATES
   d. GROUT MIX DESIGN
   e. MASONRY ASSEMBLAGE
   f. MISCELLANEOUS STEEL
   g. MORTAR MIX DESIGN
   h. PRE-ENGINEERED CANOPY REACTIONS*
   i. REINFORCING STEEL
   j. ROOF DECK
   k. ROOFTOP UNITS LOCATIONS AND ANCHORAGE*
   l. STEEL JOISTS AND JOIST GIRDERS
   m. STEEL STAIRS AND LADDERS*
   n. STRUCTURAL STEEL CONNECTION DESIGN*
   o. STRUCTURAL STEEL

   *SHOP DRAWINGS OR SUBMITTALS REQUIRED TO BE SIGNED AND SEALED BY A LICENSED PROFESSIONAL ENGINEER IN THE STATE WHERE THE PROJECT IS IN.

2. ALLOW A MINIMUM OF 12 WORKING DAYS FOR REVIEW OF EACH SET OF SHOP DRAWINGS.

C. GENERAL CONTRACTOR'S ROLE PRIOR TO SUBMISSION

1. ALL SHOP DRAWINGS AND SUBMITTALS SHALL BE REVIEWED AND APPROVED BY THE GENERAL CONTRACTOR PRIOR TO SUBMITTING TO THE ENGINEER FOR REVIEW.
2. THE GENERAL CONTRACTOR SHALL REVIEW THE SHOP DRAWINGS SUBMITTED BY THEIR SUB-CONTRACTORS AND COORDINATE SHOP DRAWINGS WITH ALL OTHER TRADES PRIOR TO SUBMISSION TO THE ENGINEER FOR REVIEW.
3. THE GENERAL CONTRACTOR SHALL ANSWER ALL QUESTIONS OR CLARIFICATIONS BY THE SUB-CONTRACTORS BEFORE SUBMITTING TO THE ENGINEER FOR REVIEW.

D. SHOP DRAWING AND SUBMITTAL LEGIBILITY

1. SHOP DRAWINGS AND SUBMITTALS SHALL USE DRAFTING LINE WORK AND LETTERING THAT IS CLEAR.
2. SHOP DRAWINGS AND SUBMITTALS SHALL SHOW CLEAR AND COMPLETE INFORMATION FOR THE FABRICATION AND INSTALLATION.

E. ERRORS AND OMISSIONS

1. REVIEW OF THE SHOP DRAWINGS AND SUBMITTALS IS FOR GENERAL CONFORMANCE TO THE STRUCTURAL DRAWINGS. REVIEW OF THE SHOP DRAWINGS AND SUBMITTALS BY THE ENGINEER DOES NOT INDEMNIFY THE CONTRACTOR FOR ANY ERRORS AND/OR OMISSIONS IN DIMENSIONS, MATERIALS, AND/OR STRUCTURAL ELEMENTS INDICATED IN THE SHOP DRAWINGS AND SUBMITTALS.

F. DISCREPANCIES

1. IF THERE EXISTS ANY DISCREPANCIES BETWEEN THE STRUCTURAL DRAWINGS AND SHOP DRAWINGS AND/OR SUBMITTALS, THE INFORMATION IN THE STRUCTURAL DRAWINGS SHALL SUPERSEDE. INFORMATION THAT IS NOT INDICATED ON THE SHOP DRAWINGS SHALL BE OBTAINED FROM THE STRUCTURAL DRAWINGS.

G. REPRODUCTION

1. THE USE OF THE ELECTRONIC FILES OR REPRODUCTIONS OF THESE CONTRACT DOCUMENTS BY THE GENERAL CONTRACTOR, AND SUB-CONTRACTOR, ERECTOR, FABRICATOR, OR SUPPLIER IN LIEU OF PREPARATION OF SHOP DRAWINGS AND/OR SUBMITTALS INDICATES THEIR ACCEPTANCE OF ALL INFORMATION SHOWN IN THESE DOCUMENTS ARE 100% CORRECT, AND OBLIGATES THEMSELVES TO ANY EXPENSES, REAL OR IMPLIED, ARISING DUE TO ANY ERRORS THAT MAY OCCUR HEREON.

MISCELLANEOUS:

A. CONTRACT DOCUMENTS
1. IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO OBTAIN ALL CONSTRUCTION DOCUMENTS, THE LATEST ADDENDA AND TO SUBMIT SUCH DOCUMENTS TO ALL SUB-CONTRACTORS AND MATERIAL SUPPLIERS PRIOR TO THE SUBMITTAL OF SHOP DRAWINGS, FABRICATION OF ANY STRUCTURAL MEMBERS, AND ERECTION IN THE FIELD.
2. THE STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE, AND DO NOT INDICATE THE METHOD OR MEANS OF CONSTRUCTION. THE GENERAL CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, PROCEDURES.
3. THE GENERAL CONTRACTOR SHALL COORDINATE ALL OPENINGS WITH MECHANICAL, ELECTRICAL, PLUMBING, AND FIRE PROTECTION DRAWINGS AND SUB-CONTRACTORS.
4. REFERENCE THE COMPLETE CONTRACT DOCUMENTS ASIDE FROM THE STRUCTURAL DRAWINGS SUCH
5. 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.
6. WHERE DETAILS OR SECTIONS ARE NOT SHOWN IN THE DRAWINGS, THE GENERAL CONTRACTOR SHALL DEVELOP THEIR OWN DETAILS OR SECTIONS BASED ON SIMILAR DETAILS OR SECTIONS IN THE DRAWINGS.

B. DRAWING CONFLICTS
1. THE GENERAL CONTRACTOR SHALL GIVE NOTIFICATION OF ANY AND ALL DISCREPANCIES WITHIN THE STRUCTURAL DRAWINGS PRIOR TO BIDDING, FABRICATION, AND INSTALLATION OF ALL STRUCTURAL MEMBERS.

C. CONFLICTS IN STRUCTURAL REQUIREMENTS
1. WHERE CONFLICTS EXIST WITHIN THE STRUCTURAL DRAWINGS, GENERAL NOTES, OR SPECIFICATIONS, THE MORE STRINGENT, STRICTEST, REQUIREMENT SHALL SUPERCEDE.

D. EXISTING CONDITIONS
1. THE GENERAL CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS OF THE EXISTING BUILDINGS AT THE JOB SITE AND REPORT ANY DISCREPANCIES FROM ASSUMED CONDITIONS SHOWN ON THE DRAWINGS TO THE ENGINEER PRIOR TO FABRICATION, ERECTION, OR INSTALLATION OF ANY STRUCTURAL MEMBERS.
2. WORK SHOWN ON THE DRAWINGS IS NEW CONSTRUCTION, UNLESS NOTED AS EXISTING IN THE DRAWINGS.
3. EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS IS LIMITED SITE OBSERVATION. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS.
4. DEMOLITION, CUTTING, DRILLING, ETC. OF EXISTING WORK SHALL BE PERFORMED WITH HIGH CAUTION SUCH THAT IT DOES NOT JEOPARDIZE THE STRUCTURAL INTEGRITY OF THE EXISTING BUILDING. IF ANY ENGINEER, STRUCTURAL, OR MEP MEMBERS OR ELEMENTS ARE CONFLICTING WITH THE NEW CONSTRUCTION, THE ARCHITECT SHALL BE NOTIFIED IMMEDIATELY AND APPROVAL SHALL BE OBTAINED PRIOR TO REMOVING CONFLICTING MEMBERS OR ELEMENTS.
5. THE CONTRACTOR SHALL SHORE EXISTING CONSTRUCTION WHEREVER EXISTING SUPPORTS ARE REMOVED TO ALLOW THE INSTALLATION OF NEW CONSTRUCTION. ALL SHORING METHODS AND SEQUENCING OF DEMOLITION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
6. THE CONTRACTOR SHALL VERIFY THE LOCATION OF EXISTING UTILITIES PRIOR TO THE START OF CONSTRUCTION AND TAKE EXTRA CARE TO PROTECT EXISTING UTILITIES THAT ARE TO REMAIN.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGES CAUSED DURING CONSTRUCTION WITH SIMILAR AND DISSIMILAR MATERIALS AS WELL AS WORKMANSHIP TO RESTORE CONDITIONS TO LEVELS ACCEPTABLE TO THE OWNER.

E. ADJACENT BUILDINGS
1. THE GENERAL CONTRACTOR SHALL ENSURE THAT ALL CONSTRUCTION WILL NOT CAUSE DAMAGE TO THE ADJACENT BUILDINGS AND PROPERTY.

F. RESPONSIBILITY OF THE CONTRACTOR
1. ALL STRUCTURAL ELEMENTS AND MEMBERS OF THE PROJECT HAVE BEEN DESIGNED BY THE STRUCTURAL ENGINEER TO RESIST THE CODE REQUIRED VERTICAL AND LATERAL LOADS THAT COULD OCCUR IN THE FINAL COMPLETED STRUCTURE ONLY. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO BRACE, STABILIZE, AND MAINTAIN SAFETY OF ALL STRUCTURAL ELEMENTS DURING THE CONSTRUCTION PROCESS UNTIL THE STRUCTURAL SYSTEM HAS BEEN COMPLETED.
2. THE STRUCTURE HAS BEEN DESIGNED TO THE VERTICAL AND LATERAL LOADS INDICATED IN THESE DOCUMENTS. THE CONTRACTOR IS CAUTIONED NOT TO OVERLOAD THE STRUCTURAL SYSTEM DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CHECKING THE ADEQUACY OF THE STRUCTURE TO SUPPORT ANY APPLIED CONSTRUCTION LOADS, INCLUDING THOSE DUE TO CONSTRUCTION VEHICLES OR EQUIPMENT, MATERIAL HANDLING AND STORAGE, SHORING OR RESHORING, OR ANY OTHER CONSTRUCTION ACTIVITY. THE CONTRACTOR SHALL SUBMIT CALCULATIONS SIGNED AND SEALED BY A LICENSED REGISTERED ENGINEER IN THE STATE THE PROJECT IS LOCATED TO VERIFY THE ADEQUACY OF THE STRUCTURE FOR ANY PROPOSED CONSTRUCTION LOADS THAT ARE IN EXCESS OF THE STATED DESIGN LOADS. THE ENGINEER OF RECORD IS NOT RESPONSIBLE TO DESIGN OR CHECK THE STRUCTURE FOR LOADS APPLIED BY ANY CONSTRUCTION ACTIVITY.

G. SUBSTITUTIONS
1. ANY MATERIALS OR PRODUCTS SUBMITTED FOR APPROVAL THAT DIFFER FROM THE MATERIAL OR PRODUCTS SPECIFIED IN THE STRUCTURAL DOCUMENTS WILL BE APPROVED ONLY IF THERE IS A COST SAVINGS TO THE OWNER, DOCUMENTED, AND AN INTERNATIONAL CODE COUNCIL (ICC) REPORT IS SUBMITTED WITH THE REQUEST.
2. FOR SUBSTITUTIONS FOR ANY MATERIALS OR PRODUCTS SUPPORTING VERTICAL OR LATERAL LOADS SHALL BE SUBMITTED WITH SIGNED AND SEALED CALCULATIONS BY A LICENSED REGISTERED ENGINEER IN THE STATE THE PROJECT IS LOCATED IN ADDITION TO THE CRITERIA STATED ABOVE. REFER TO THE SPECIFICATIONS ON SUBSTITUTIONS.

DESIGN CRITERIA

1. FOUNDATION AND FRAMING DESIGN IS IN ACCORDANCE WITH THE IBC 2021

2. GEOTECHNICAL REPORT: (PENDING GEOTECH REPORT)
BY:
PROJ. NO.:
DATE:
MINIMUM DEPTH: 30"
MINIMUM BEAM WIDTH: 12 INCHES
BEARING CAPACITY (WIDENED BEAM FOOTINGS)........................ 1.5 KSF
BEARING CAPACITY (CONTINUOUS BEAM FOOTING).................... 1.5 KSF
DESIGN PLASTICITY INDEX 20
PVR (EXISTING) .... 1"

3. ROOF:
DEAD LOAD: 25 PSF
LIVE LOAD: 20 PSF

4. WIND: BASIC WIND SPEED (3 SEC. GUST): 147 MPH

GEOTECHNICAL INVESTIGATION

THE OWNER OF THIS PROJECT HAS DECLINED TO FURNISH A GEOTECHNICAL INVESTIGATION REPORT THEREFORE THE FOUNDATION DESIGN WAS BASED UPON AVERAGE SOIL CONDITIONS IN HIDALGO COUNTY, TEXAS. IF HIGHLY EXPANSIVE OR MODERATELY SOILS OR SOFT SOILS ARE ENCOUNTERED, DIFFERENTIAL FOUNDATION MOVEMENTS CAN BE EXPECTED. ALTHOUGH WE ATTEMPT TO MAKE ASSUMPTIONS THAT WILL NOT IMPAIR STRUCTURAL INTEGRITY OF THE PROJECT, WE DO NOT HAVE THE EXPERTISE OR BENEFIT OF LABORATORY INVESTIGATIONS OF A GEOTECHNICAL ENGINEER, THEREFORE THIS FIRM CANNOT ASSUME RESPONSIBILITY FOR THE PERFORMANCE OF THE DESIGN FOUNDATION SHOULD ACTUAL SURFACE OR SUBSURFACE SOIL CONDITIONS VARY FROM THOSE ASSUMED.
FOLLOWING ASSUMPTIONS;
1. SOIL BEARING PRESSURE (AT PROPOSED SITE) = 1500 PSF

FOUNDATION SUBGRADE:

A. PREPARATION OF EXISTING GRADE

1. ALL AREA TO SUPPORT SELECT FILL SHALL BE STRIPPED OF ALL VEGETATION AND/OR ORGANIC TOPSOIL.
2. REMOVE ALL TREES AND ROOTS UNDER THE BUILDING'S FOOTPRINT INCLUDING CANOPIES AND OTHER STRUCTURAL FOUNDATIONS SHOWN IN THESE CONTRACT DOCUMENTS.
3. THE SCOPE OF EXISTING GRADE PREPARATION SHALL BE AS FOLLOWS:
a. MINIMUM DEPTH OF REMOVAL: PER GEOTECH REPORT
b. EXTEND BEYOND THE BUILDING FOOTPRINT: 5 FEET

B. EXCAVATION

1. WHERE SELECT FILL IS INDICATED IN THESE CONTRACT DOCUMENTS, THE CORRESPONDING SCOPE OF EXCAVATION SHALL BE AS FOLLOWS:
a. MINIMUM ELEVATION OF EXCAVATION: PER GEOTECH REPORT
b. EXTEND BEYOND THE BUILDING FOOTPRINT: 5 FEET

2. THE EXPOSED SUBGRADE, AFTER EXCAVATION, SHOULD BE PROOFROLLED IN ACCORDANCE WITH ITEM 216 OF TxDOT's 2014 STANDARD.

3. WEAK OR SOFT AREAS IDENTIFIED DURING PROOFROLLING ACTIVITIES SHOULD BE TREATED WITH HYDRATED LIME OR PORTLAND CEMENT OR REMOVED AND REPLACED WITH SUITABLE, COMPACTED SELECT FILL. IF THE TREATMENT OPTION IS SELECTED, WEAK OR SOFT AREAS MAY BE MIXED WITH HYDRATED LIME OR PORTLAND CEMENT DOWN TO A MINIMUM DEPTH OF 8 INCHES.
4. THE EXPOSED SUBGRADE SHALL BE SCARIFIED TO A DEPTH OF 12 INCHES AND MOISTURE CONDITIONED TO WITHIN 0% TO +3% OF THE OPTIMUM MOISTURE CONTENT.
5. THE SUBGRADE SHALL BE COMPACTED TO 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D698.
6. FOLLOWING COMPLETE CLEARING AND PREPARATION OF THE SITE FOR CONSTRUCTION, THE GEOTECHNICAL ENGINEER SHALL OBSERVE THE SITE TO DETERMINE THAT SATISFACTORY PREPARATION HAS BEEN ACCOMPLISHED.

C. SELECT FILL

1. THE FOLLOWING SOILS MAY BE CONSIDERED SATISFACTORY FOR USE AS SELECT FILL MATERIAL AT THIS SITE:
a. SOILS CLASSIFIED ACCORDING TO USCS AS SC, SM, GM, CL, ML, AND COMBINATIONS OF THESE SOILS
i. SELECT FILL SHALL HAVE A LIQUID LIMIT OF LESS THAN 40.
ii. SELECT FILL SHALL HAVE A PLASTICITY INDEX BETWEEN AND INCLUSIVE OF 8 AND 20, LL < 40

2. THE NATIVE SOILS AT THIS SITE ARE NOT CONSIDERED SUITABLE FOR USE AS SELECT FILL MATERIAL.
3. PLACEMENT OF SELECT FILL SHALL MEET THE FOLLOWING CRITERIA:
a. SELECT FILL SHALL BE CONDITIONED AND COMPACTED UP TO THE PROPOSED FINISH FLOOR ELEVATION.
b. FILL LIFTS: NOT EXCEEDING 8 INCH LOOSE LIFTS (6 INCHES COMPACTED)
c. MOISTURE CONTENT: -3% TO +3% WITHIN OPTIMUM
d. COMPACTION: 95% OF MAXIMUM DRY DENSITY DETERMINED BY ASTM D698

4. ORGANIC OR OTHER PERISHABLE MATERIAL ARE NOT PERMITTED IN THE SELECT FILL.
5. STONES LARGER THAN 2 INCHES OR ONE-HALF THE LOOSE LIFT THICKNESS, WHICHEVER IS SMALLER, ARE NOT PERMITTED IN THE SELECT FILL.

6. THE FINISH FLOOR SHALL BE AS INDICATED ON CIVIL DRAWINGS.

7. SOILS CLASSIFIED AS BASE MATERIAL MEETING THE REQUIREMENTS OF TXDOT 2014 SPECIFICATION ITEM 247 TYPE E, GRADE 4 - CALICHE (SEE TABLE 3 FOR SPECIFICATIONS & REQUIREMENTS) OR ITEM 247 TYPE A, GRADE 1-2 - LIMESTONE (SEE TABLE 4 FOR SPECIFICATIONS & REQUIREMENTS).

8. B2Z RECOMMENDS ADDITIONAL QUALITY CONTROL OF ALL STRUCTURAL FILL MATERIALS AS THEY ARE PLACED AND COMPACTED TO ENSURE THAT THEY MEET THE REQUIREMENTS SPECIFIED.

9. STRUCTURAL FILL SHALL BE COMPACTED TO A MINIMUM 98 PERCENT OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE ASTM D698 AT MOISTURE CONTENTS RANGING BETWEEN MINUS TWO (-2) AND PLUS TWO (+2) PERCENTAGE POINTS OF THE OPTIMUM MOISTURE CONTENT. STRUCTURAL FILL SHALL BE PLACED IN LOOSE LIFTS NOT TO EXCEED 8 INCHES (6 INCHES COMPACTED). THE FILL SHOULD BE PROPERLY COMPACTED IN ACCORDANCE WITH THESE RECOMMENDATIONS AND TESTED FOR COMPACTION AS SPECIFIED.

10. PLEASE REERENCE GEOTECH REPORT FOR STRUCTURAL FILL GRADATION TO RESPECTIVE TYPE.

D. PERIMETER FOUNDATION CAP

1. THE FINAL 18 INCHES OF FILL OUTSIDE THE BUILDING AREA SHOULD CONSIST OF A COHESIVE LOW PERMEANCE CLAY CAP (CH OR CL) SOIL. THE CLAY CAP SHALL BE SLOPED AWAY FROM THE FOUNDATION WITH A MINIMUM GRADIENT OF 6 INCHES IN 5 FEET AND THE SURROUNDING AREAS SHOULD HAVE A POSITIVE DRAINAGE. REFER TO THE CIVIL DRAWINGS FOR FINAL ELEVATIONS.
2. THE CLAY CAP CANNOT BE ALLOWED TO DRY OUT DURING OR AFTER COMPACTION. THE MINIMUM PLASTICITY INDEX SHALL BE 20.
3. THE CLAY CAP SHALL BE A MINIMUM 50% BY WEIGHT PASSING THE NO. 200 SIEVE.
4. THE CLAY CAP SHALL BE COMPACTED TO A MINIMUM OF 95% OF MAXIMUM DRY DENSITY DETERMINED BY ASTM D698.
5. THE MOISTURE CONTENT SHOULD BE 0% TO +4% WITHIN OPTIMUM.
6. IF PLANTINGS ARE INTENDED, ADD 4 TO 6 INCHES OF LOAM ON TOP OF THE CLAY CAP.

E. FIELD CONDITIONS

1. IN THE EVENT FOUNDATION EXCAVATIONS ARE CARRIED TO A DEPTH GREATER THAN REQUIRED, THE ADDITIONAL DEPTH SHALL BE FILLED WITH THE SAME CONCRETE AS THAT FOR THE FOOTINGS AT NO ADDITIONAL EXPENSE TO THE OWNER. NO UNCONTROLLED FILL WILL BE PERMITTED.
2. THE FOOTING EXCAVATIONS SHALL BE KEPT FREE FROM LOOSE MATERIAL AND STANDING WATER.
3. CARE SHOULD BE TAKEN TO SHAPE THE BUILDING AREAS SUCH THAT WATER WILL NOT POND AROUND THE STRUCTURE DURING CONSTRUCTION AND CAUSE THE NEAR SURFACE CLAYS TO SWELL. THE PROPOSED STRUCTURE SHALL BE ISOLATED FROM ANY MOISTURE SOURCE WHICH MIGHT ALSO CAUSE SWELLING OF THE CLAYS AFTER COMPLETION OF THE CONSTRUCTION.
4. WHEN THE STRUCTURE IS COMPLETE, THE GROUND SURFACE SHOULD SLOPE AWAY FROM THE STRUCTURE.
5. DO NOT PLANT OR LEAVE IN PLACE DEEP ROOTED TREES WITHIN PROXIMITY TO THE PERIMETER OF THE STRUCTURE. DEEP ROOTED TREES HAVE THE POTENTIAL TO REMOVE MOISTURE FROM BENEATH THE BUILDING IF PLANTED CLOSE ENOUGH TO ALLOW THE ROOT BULB TO EXTEND NEAR OR BENEATH THE BUILDING.
6. AIR CONDITIONING CONDENSER DRAIN LINES SHALL DISCHARGE WATER AWAY FROM THE PERIMETER OF THE STRUCTURE. THE DISCHARGE AREA SHALL HAVE SUFFICIENT SLOPE AWAY FROM THE STRUCTURE TO PREVENT STANDING WATER.

F. COORDINATION WITH GEOTECHNICAL ENGINEER

1. THE GEOTECHNICAL ENGINEER SHALL BE THE OWNER'S REPRESENTATIVE TO CONTROL THE PLACEMENT OF COMPACTED FILL.
2. THE GEOTECHNICAL ENGINEER SHALL APPROVE THE SUBGRADE PREPARATION, THE SELECT FILL MATERIAL, THE METHOD OF PLACEMENT, AND COMPACTION.
3. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE PLACEMENT AND TESTING OF ALL LIFTS WITH THE GEOTECHNICAL ENGINEER. FAILURE TO DO SO WILL REQUIRE REMOVAL OF FILL AT THE CONTRACTOR'S EXPENSE.
4. A WRITTEN SOILS REPORT SHALL BE FORMULATED BY THE GEOTECHNICAL ENGINEER TO INDICATE APPROVAL OF THE COMPLETED FILL.

G. GEOTECHNICAL REPORT

1. THE PROJECT GEOTECHNICAL REPORT SHALL BE CONSIDERED PART OF THE CONTRACT DOCUMENTS.
2. ALL EARTHWORK AND GRADING SHALL BE PERFORMED ACCORDANCE WITH THE RECOMMENDATIONS INDICATED IN THE REPORT OR AS INDICATED ABOVE WHICHEVER IS MORE STRINGENT.

H. CONSTRUCTION DEWATERING

1. THE CONTRACTOR SHALL DETERMINE THE EXTENT OF CONSTRUCTION DEWATERING REQUIRED FOR THE EXCAVATION. THE CONTRACTOR SHALL SUBMIT TO THE GEOTECHNICAL ENGINEER FOR REVIEW THE PROPOSED PLAN FOR CONSTRUCTION DEWATERING, PRIOR TO BEGINNING THE EXCAVATION.

SPECIAL INSPECTION AND MATERIAL TESTING:

A. GENERAL
1. SPECIAL INSPECTION AND MATERIAL TESTING ARE REQUIRED FOR THIS PROJECT TO ENSURE COMPLIANCE WITH THE PROJECT BUILDING CODE, THE CONTRACT DOCUMENTS, AND SPECIFICATIONS.
2. ALL SPECIAL INSPECTION AND MATERIAL TESTING SHALL COMPLY WITH CHAPTER 17 OF THE INTERNATIONAL BUILDING CODE (IBC), PROJECT EDITION.
3. ALL SPECIAL INSPECTION AND MATERIAL TESTING SHALL BE PERFORMED BY A QUALIFIED APPROVED AGENCY.

B. DEFINITIONS
1. SPECIAL INSPECTION: INSPECTION OF CONSTRUCTION REQUIRING THE EXPERTISE OF AN APPROVED SPECIAL INSPECTOR IN ORDER TO ENSURE COMPLIANCE WITH THE APPLICABLE BUILDING CODE AND THE CONTRACT DOCUMENTS.
2. APPROVED AGENCY: AN ESTABLISHED AND RECOGNIZED AGENCY REGULARLY ENGAGED IN CONDUCTING TESTS AND/OR FURNISHING INSPECTION SERVICES APPROVED BY THE BUILDING OFFICIAL OR AUTHORITIES HAVING JURISDICTION.
3. SPECIAL INSPECTOR: A QUALIFIED PERSON, EMPLOYED OR RETAINED BY THE APPROVED AGENCY AND APPROVED BY THE BUILDING OFFICIAL, HAVING THE COMPETENCE AND QUALIFICATIONS NECESSARY TO INSPECT A PARTICULAR TYPE OF CONSTRUCTION REQUIRING SPECIAL INSPECTION.
4. CONTINUOUS INSPECTION: SPECIAL INSPECTION BY THE SPECIAL INSPECTOR WHO IS PRESENT WHEN AND WHERE THE WORK TO BE INSPECTED IS BEING PERFORMED.
5. PERIODIC INSPECTION: SPECIAL INSPECTION BY THE SPECIAL INSPECTOR WHO IS INTERMITTENTLY PRESENT WHEN THE WORK TO BE INSPECTED HAS BEEN OR IS BEING PERFORMED.
6. APPROVED FABRICATOR: AN AISC OR IAS CERTIFIED FABRICATOR THAT HAS AN ESTABLISHED QUALITY CONTROL MANAGEMENT PROGRAM AND PERIODIC AUDITING OF FABRICATION PRACTICES THAT IS APPROVED BY THE BUILDING OFFICIAL AND THE ENGINEER OF RECORD THAT ALLOWS WORK TO BE DONE ON THE PREMISES OF THE FABRICATOR WITHOUT SPECIAL INSPECTION.
7. ENGINEER OF RECORD (EOR): REGISTERED DESIGN PROFESSIONAL RESPONSIBLE FOR THE DESIGN OF THE STRUCTURAL SYSTEM.
8. REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE (RDPiRC): A LICENSED ARCHITECT OR ENGINEER ACTING AS THE OWNER'S AGENT WHO IS RESPONSIBLE FOR THE SPECIAL INSPECTION.
9. BUILDING OFFICIAL: AN OFFICER OR OTHER DESIGNATED AUTHORITY CHARGED WITH THE ADMINISTRATION AND ENFORCEMENT OF THE GOVERNING BUILDING CODE.

C. OWNER RESPONSIBILITIES
1. THE OWNER SHALL EMPLOY OR CONTRACT THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE (RDPiRC). THE RDPiRC SHALL NOT BE ANY DESIGN PROFESSIONAL ASSOCIATED WITH THE DESIGN TEAM.
2. THE OWNER OR THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE (RDPiRC), ACTING AS THE OWNER'S AGENT, SHALL EMPLOY ANY APPROVED AGENCY TO PERFORM SPECIAL INSPECTIONS AND MATERIAL TESTING DUTIES SPECIFIED IN THE SECTION, APPROVED BY THE BUILDING OFFICIAL OR AUTHORITIES HAVING JURISDICTION. THE RDPiRC IS PERMITTED TO ACT AS THE APPROVED AGENCY.

D. REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE RESPONSIBILITIES
1. THE RDPiRC SHALL IMPLEMENT A SPECIAL INSPECTIONS PROGRAM AND IS RESPONSIBLE FOR DETERMINING ALL REQUIRED SPECIAL INSPECTIONS AS DEFINED IN THE PROJECT BUILDING CODE.
2. THE RDPiRC SHALL ASSIGN ONLY TRAINED, EXPERIENCED, QUALIFIED SPECIAL INSPECTORS AND TESTING TECHNICIANS.
3. THE RDPiRC IS RESPONSIBLE FOR PROVIDING THE ARCHITECT, THE ENGINEER(S) OF RECORD, AND THE GENERAL CONTRACTOR A LIST OF ALL REQUIRED SPECIAL INSPECTIONS AND THE ASSOCIATED SPECIAL INSPECTORS PRIOR TO CONSTRUCTION.
4. THE RDPiRC SHALL PREPARE A STATEMENT OF SPECIAL INSPECTIONS.
5. THE RDPiRC SHALL SUBMIT APPLICABLE REPORTS AND CERTIFICATES TO THE BUILDING OFFICIAL.

E. STATEMENT OF SPECIAL INSPECTIONS
1. THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE (RDPiRC) SHALL PREPARE, SIGN AND SEAL A STATEMENT OF SPECIAL INSPECTIONS IN ACCORDANCE TO THE INTERNATIONAL BUILDING CODE (IBC), PROJECT EDITION, SECTION 1704.3 AND SUBMIT TO THE BUILDING OFFICIAL AS A CONDITION OF PERMIT ISSUANCE.
2. THE STATEMENT OF SPECIAL INSPECTIONS SHALL INCLUDE THE FOLLOWING:
   a. OWNER'S NAME
   b. OWNER'S ADDRESS
   c. PROJECT NAME
   d. PROJECT ADDRESS
   e. PROJECT BUILDING CODE
   f. ARCHITECT OF RECORD
   g. STRUCTURAL ENGINEER OF RECORD
   h. MEP ENGINEER OF RECORD
   i. RDPiRC'S NAME
   j. RDPiRC'S SEAL AND SIGNATURE
   k. BUILDING PERMIT NUMBER
3. THE STATEMENT OF SPECIAL INSPECTIONS SHALL INCLUDE CONTENT, AS REQUIRED IN THE INTERNATIONAL BUILDING CODE SECTION 1704.3, SUCH AS, BUT NOT LIMITED TO:
   a. THE MATERIALS, SYSTEMS, COMPONENTS AND WORK REQUIRED TO HAVE SPECIAL INSPECTION
   b. THE TYPE AND EXTENT OF EACH SPECIAL INSPECTION
   c. THE TYPE AND EXTENT OF EACH TEST
   d. ADDITIONAL REQUIREMENTS FOR SPECIAL INSPECTION OR TESTING FOR SEISMIC OR WIND REQUIREMENTS
   e. IDENTIFICATION AS TO WHERE IT WILL BE CONTINUOUS OR PERIODIC SPECIAL INSPECTION FOR EACH TYPE OF SPECIAL INSPECTION.

F. SUBMITTALS TO THE BUILDING OFFICIAL
1. THE REGISTERED DESIGN PROFFESSIONAL IN RESPONSIBLE CHARGE (RDPiRC) SHALL SUBMIT REPORTS AND CERTIFICATES IN ACCORDANCE TO THE INTERNATIONAL BUILDING CODE (IBC), PROJECT EDITION, SECTION 1704.5, 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 OF ASSEMBLIES ON THE PREMISES OF AN APPROVED FABRICATOR.
   b. CERTIFICATES OF COMPLIANCE FOR THE SEISMIC QUALIFICATION OF NONSTRUCTURAL COMPONENTS, SUPPORTS, AND ATTACHMENTS.
   c. CERTIFICATES OF COMPLIANCE FOR DESIGNATED SEISMIC SYSTEMS.
   d. REPORTS OF PRECONSTRUCTION TESTS FOR SHOTCRETE.
   e. CERTIFICATES OF COMPLIANCE FOR OPEN-WEB STEEL JOISTS AND JOIST GIRDERS.
   f. REPORTS OF MATERIAL PROPERTIES VERIFYING COMPLIANCE WITH THE REQUIREMENTS OF AWS D1.4 FOR WELDABILITY FOR REINFORCING BARS IN CONCRETE COMPLYING WITH A STANDARD OTHER THAN ASTM A706.
   g. REPORTS OF MILL TESTS FOR ASTM A615 REINFORCING BARS USED IN EARTHQUAKE-INDUCED FLEXURAL OR AXIAL FORCES IN SPECIAL MOMENT FRAMES, SPECIAL STRUCTURAL WALLS, OR COMPLING BEAMS OF SEISMIC FORCE-RESISTING SYSTEMS IN STRUCTURES ASSIGNED TO SEISMIC DESIGN CATEGORY B, C, D, E, OR F.

G. CONTRACTOR RESPONSIBILITIES
1. THE CONTRACTOR SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY ACKNOWLEDGING THE SPECIAL INSPECTION REQUIREMENTS OF THE MAIN WIND OR SEISMIC FORCE-RESISTING SYSTEM, AS INDICATED IN THE STATEMENT OF SPECIAL INSPECTION, TO THE ARCHITECT OF RECORD, STRUCTURAL ENGINEER OF RECORD, THE BUILDING OFFICIAL AND THE OWNER PRIOR TO THE COMMENCEMENT OF WORK ON THE SYSTEM OR COMPONENT.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING THE SPECIAL INSPECTOR AND TESTING LABORATORY WITH A CONSTRUCTION SCHEDULE TO FACILITATE THE PROPER COORDINATION. ANY WORK PERFORMED WITHOUT SPECIAL INSPECTION IS SUBJECT TO REMOVAL AT THE CONTRACTOR'S EXPENSE.
3. THE CONSTRUCTION OR WORK FOR WHICH SPECIAL INSPECTION IS REQUIRED SHALL REMAIN ACCESSIBLE AND EXPOSED FOR SPECIAL INSPECTION PURPOSES UNTIL COMPLETION OF THE REQUIRED SPECIAL INSPECTIONS.
4. THE CONTRACTOR SHALL REIMBURSE THE OWNER FOR RETESTING WHERE RESULTS OF INSPECTIONS AND TESTS PROVE UNSATISFACTORY AND INDICATED NONCOMPLIANCE WITH THE CONTRACT DOCUMENTS AND SPECIFICATIONS.

H. SCOPE
1. THE ITEMS LISTED HEREIN PERTAIN TO THE SPECIAL INSPECTIONS AND MATERIAL TESTING REQUIRED BY THE INTERNATIONAL BUILDING CODE (IBC) CHAPTER 17. THE APPROVED AGENCY SHALL DETERMINE ALL THE PROJECT'S APPLICABLE SPECIAL INSPECTION AND MATERIAL TESTING REQUIREMENTS FOR THE PROJECT.
2. PRIOR TO PROJECT COMMENCEMENT, THE APPROVED AGENCY WILL CONFER WITH AND OBTAIN THE APPROVAL FROM THE APPROPRIATE ENGINEER OF RECORD REGARDING THE INSPECTION AND TESTING PROCEDURES OR SPECIFICATIONS INCLUDING ANY APPROPRIATE ASTM METHODS, CODE REQUIREMENTS, OR PROJECT SPECIFICATION REQUIREMENTS AT THE START AND DURING EACH INSPECTION OF THE PROJECT TO ASCERTAIN PROPOSED CONFORMITY OF MATERIALS, PERSONNEL QUALIFICATIONS, AS REQUIRED, AND PROCEDURES WITH THE APPLICABLE CODES, THE CONTRACT DOCUMENTS, AND SPECIFICATIONS.
3. THE FOLLOWING CONSTRUCTION TYPES REQUIRE SPECIAL INSPECTION:
   a. STEEL CONSTRUCTION (1705.2)
      • STRUCTURAL STEEL (1705.2.1)
      STRUCTURAL STEEL WELDING (AISC 360 N5.4)
      NONDESTRUCTIVE TESTING OF WELDED JOINTS (AISC 360 N5.5)
      STRUCTURAL STEEL BOLTING (AISC 360 N5.6)
      STRUCTURAL STEEL FRAMING (AISC 360 N5.7)
      COMPOSITE CONSTRUCTION (AISC 360 N6)
      • STEEL CONSTRUCTION OTHER THAN STRUCTURAL STEEL (1705.2.2)
      • OPEN-WEB STEEL JOISTS AND JOIST GIRDERS (1705.2.3)
   b. CONCRETE CONSTRUCTION (1705.3)
   c. MASONRY CONSTRUCTION (1705.4)
   d. WOOD CONSTRUCTION (1705.5)
   e. SOILS (1705.6)
   f. DRIVEN DEEP FOUNDATIONS (1705.7)
   g. CAST-IN-PLACE DEEP FOUNDATIONS (1705.8)
   h. HELICAL PILE FOUNDATIONS (1705.9)
   i. FABRICATED ITEMS (1705.10)
   j. WIND RESISTANCE (1705.11)
      • STRUCTURAL WOOD (1705.11.1)
      • COLD-FORMED STEEL (1705.11.2)
      • WIND-RESISTING COMPONENTS (1705.11.3)
   k. SEISMIC RESISTANCE (1705.12)
      • STRUCTURAL STEEL (1705.12.1)
      • STRUCTURAL WOOD (1705.12.2)
      • COLD-FORMED STEEL (1705.12.3)
      • DESIGNATED SEISMIC SYSTEMS (1705.12.4)
      • ARCHITECTURAL COMPONENTS (1705.12.5)
      • MECHANICAL AND ELECTRICAL COMPONENTS (1705.12.6)
      • STORAGE RACKS (1705.12.7)
      • SEISMIC ISOLATION SYSTEMS (1705.12.8)
      • COLD-FORMED STEEL BOLTED MOMENTS FRAMES (1705.12.9)
   l. TESTING FOR SEISMIC RESISTANCE (1705.13)
      • STRUCTURAL STEEL (1705.13.1)
      • NONSTRUCTURAL COMPONENTS (1705.13.2)
      • DESIGNED SEISMIC SYSTEMS (1705.13.3)
      • SEISMIC ISOLATION SYSTEMS (1705.13.4)
   m. SPRAYED FIRE-RESISTANT MATERIALS (1705.14)
   n. MASTIC AND INTUMESCENT FIRE-RESISTANT COATINGS (1705.15)
   o. EXTERIOR INSULATION AND FINISH SYSTEMS (1705.16)
   p. FIRE-RESISTANT PENETRATIONS AND JOINTS (1705.17)
   q. SMOKE CONTROL (1705.18)

I. SPECIAL INSPECTION AND TEST REPORTS
1. ALL REPORTS SHALL BE PREPARED BY A LICENSED PROFESSIONAL ENGINEER IN THE STATE THE PROJECT IS LOCATED IN.
2. ALL COPIES OF THE TEST RESULTS AND FINAL REPORTS SHALL BE FURNISHED TO THE ARCHITECT, ENGINEER, AND BUILDING OFFICIAL WITHIN TWO DAYS AFTER THE ELEMENT HAS BEEN INSPECTED AND/OR TESTED.
3. THE SPECIAL INSPECTOR SHALL FURNISH DAILY INSPECTION REPORTS TO THE ARCHITECT, ENGINEER, AND BUILDING OFFICIAL AT A MINIMUM PER WEEK FREQUENCY. THE SPECIAL INSPECTOR SHALL SUBMIT A FINAL REPORT, SIGNED BY BOTH THE INSPECTOR AND THE INSPECTOR'S SUPERVISING LICENSED PROFESSIONAL ENGINEER STATING WHETHER THE WORK REQUIRING SPECIAL INSPECTION WAS IN CONFORMANCE WITH THE APPROVED CONTRACT DOCUMENTS, SPECIFICATIONS, AND APPLICABLE BUILDING CODE.
4. IN CASE OF DISCREPANCIES OR DEFICIENCIES, THE APPROVED AGENCY SHALL IMMEDIATELY NOTIFY THE ENGINEER OF RECORD, THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE, AND THE BUILDING OFFICIAL. ALL DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE CONTRACTOR FOR CORRECTION; THEN IF UNCORRECTED, TO THE PROPER DESIGN AUTHORITY HAVING JURISDICTION AND THE BUILDING OFFICIAL.
5. SPECIAL INSPECTION REPORTS SHALL INCLUDE, AS A MINIMUM, THE FOLLOWING INFORMATION:
a. APPROVED AGENCY NAME, ADDRESS, AND PHONE NUMBER
b. OWNER'S NAME AND ADDRESS
c. NAME AND ADDRESS OF THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE
d. UNIQUE IDENTIFICATION OF THE REPORT
e. DESCRIPTION OF THE TYPE OF INSPECTION PERFORMED
f. ANY UNRESOLVED DEVIATION, EXCLUSIONS, AND ADDITIONS TO OR FROM THE APPROVED CONTRACT DOCUMENTS AND SPECIFICATIONS RELEVANT TO THE SPECIFIC INSPECTION OR TEST
g. COMPLIANCE OF FINDINGS AND REFERENCE
h. DESCRIPTION OF LOCATION WHERE THE INSPECTION WAS PERFORMED WITHIN THE PROJECT
i. TIME AND DATE OF THE INSPECTION
j. MEASUREMENTS, EXAMINATIONS, AND DERIVED RESULTS SUPPORTED BY TABLES, GRAPHS, SKETCHES, OR PHOTOGRAPHS AS NEEDED
k. THE NAME, SIGNATURE, AND TITLE OF THE FIELD INSPECTOR PERFORMING THE SPECIAL INSPECTION
l. SIGNATURE AND PROFESSIONAL ENGINEERING SEAL OF THE SPECIAL INSPECTOR'S SUPERVISING LICENSING PROFESSIONAL ENGINEER IN THE STATE THE PROJECT IS LOCATED IN.

5-16-25
STATE OF TEXAS
C. HINOJOSA, JR.
90636
LICENSED
PROFESSIONAL ENGINEER

CHLH
ENGINEERING, LLC
TBPE FIRM No. F-8719
701 S. 15th STREET McALLEN, TX. 78501
(956) 687-5560

CG5 ARCHITECT
TEXAS ARCHITECT
FIRM No: BR4247
WWW.CG5ARCHITECT.COM

SEAL:

ECISD HIGH SCHOOL ATHLETIC MULTI-USE BUILDING 25-74

ROBERT VELA HIGH SCHOOL

801 E Canton Rd, Edinburg, TX 78539

CLIENT:
EDINBURG CISD

REVISION:

No.	Description	Date

PROJECT #:
DRAWN BY:
CHECKED BY:
DATE: 4/28/25

GENERAL NOTES

S1.0

GENERAL NOTES

REINFORCED CONCRETE:

A. GENERAL

1. VERIFY ALL DIMENSIONS. COORDINATE WITH ARCHITECTURAL PLANS PRIOR TO CONSTRUCTION AND NOTIFY THE ARCHITECT AND ENGINEER OF ANY DISCREPANCIES PRIOR TO BIDDING, AND/OR CONSTRUCTION.
2. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE AMERICAN CONCRETE INSTITUTE (ACI) SPECIFICATIONS, ACI 301, ACI 304, AND ACI 117 LATEST EDITIONS. FOOTINGS, MATS, AND DRILLED PIERS SHALL COMPLY WITH ACI 336, LATEST EDITION.
3. ALL DETAILING, FABRICATION AND ERECTION OF REINFORCING BARS, AND ALL ACCESSORIES SHALL BE IN ACCORDANCE WITH ACI 315 "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE", LATEST EDITION.

B. CLASSES OF CONCRETE

1. REFERENCE 1/SG1.2 FOR THE MINIMUM 28-DAY COMPRESSIVE STRENGTH (f'c) FOR ALL CLASSES OF CONCRETE.

C. CONCRETE MIX
1. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR THE CONCRETE MIX FOR EACH CLASS OF CONCRETE TO ACHIEVE THE 28-DAY COMPRESSIVE STRENGTH. PREPARE DESIGN MIXES SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE THE PROJECT IS IN FOR EACH CLASS OF CONCRETE, PROPORTIONED ACCORDING TO ACI 301, FOR BOTH NORMALWEIGHT AND LIGHTWEIGHT CONCRETE DETERMINED BY EITHER LABORATORY TRIAL MIX OR FIELD TEST DATA.
2. FIELD EXPERIENCE OR TRIAL MIXTURES ARE ACCEPTABLE PROVIDED ALL CRITERIA ARE MET:
   a. THE CONTRACTOR PROVIDES PROPER DOCUMENTATION OF THE STRENGTH TEST RECORDS NOT MORE THAN 24 MONTHS OLD AND SHALL CLEARLY INDICATE MATERIALS, QUALITY CONTROL PROCEDURES, AND CONDITIONS SIMILAR TO THOSE EXPECTED FOR THE PROJECT. THE CONCRETE MATERIALS INCLUDED IN THE MIX DESIGN SHALL BE THE SAME MATERIALS PROVIDED FOR THE PROJECT, AND SHALL BE PREPARED BY AN INDEPENDENT TESTING LABORATORY APPROVED BY THE OWNER.
   b. A MINIMUM OF 30 CONSECUTIVE TESTS OR TWO GROUPS OF CONSECUTIVE TESTS TOTALING TO 30 TESTS.
   c. ALL CONSECUTIVE TESTS ARE WITHIN 1000 PSI OF f'c.
   d. THE CONTRACTOR SHALL SUBMIT A CALCULATION OF THE SAMPLE STANDARD DEVIATION AND THE REQUIRED AVERAGE COMPRESSIVE STRENGTH, f'cr, IN ACCORDANCE TO ACI 318 (EDITION LISTED ON DESIGN CRITERIA) SECTION R5.3.1 AND TABLE 5.3.2.1, RESPECTIVELY.
3. SLUMP: REFERENCE 1/SG1.2 FOR SLUMP; 5" UNLESS NOTED OTHERWISE.
4. ADJUSTMENT TO CONCRETE MIXES: MIX DESIGN ADJUSTMENTS MAY BE REQUESTED BY THE CONTRACTOR WHEN CHARACTERISTICS OF MATERIALS, JOB CONDITIONS, WEATHER, TEST RESULTS, OR OTHER CIRCUMSTANCES WARRANT, AT NO ADDITIONAL COST TO OWNER AND AS ACCEPTED BY THE OWNER. LABORATORY TEST DATA FOR REVISED MIX DESIGN AND STRENGTH RESULTS MUST BE SUBMITTED TO AND ACCEPTED BY THE OWNER OR OWNER REP. BEFORE USING IN WORK. BOTH THE CONCRETE TESTING AND INSPECTION AGENCY AND THE CONCRETE CONTRACTOR SHALL SATISFY THEMSELVES THAT THE CONCRETE MIX DESIGN WILL PRODUCE A CONCRETE MIX THAT WILL MEET THE SPECIFICATIONS FOR THIS PROJECT. IN ADDITION, THE CONTRACTOR AND CONCRETE FINISHER SHALL VERIFY THAT THE WORKABILITY, FINISH, AND SETTING TIMES ARE APPROPRIATE FOR CONCRETE INSTALLATIONS. PLACEMENT SHALL BE MADE BY CHUTE DIRECTLY FROM THE CONCRETE TRUCKS. IF PUMPING OF THE CONCRETE IS CONTEMPLATED FOR ANY SPECIAL LOCATIONS, THE PROPORTIONS ESTABLISHED ABOVE SHALL NOT BE ALTERED TO THE CAPABILITIES OF THE PUMPING EQUIPMENT. PUMP SHALL NOT BE PRIMED OVER STRUCTURAL CONCRETE LOCATIONS.
5. READY MIX CONCRETE SHALL COMPLY WITH THE REQUIREMENTS OF ASTM C94. DISCHARGE OF THE CONCRETE SHALL BE COMPLETED WITHIN 90 MINUTES OR BEFORE THE DRUM HAS REVOLVED 300 REVOLUTIONS, WHICHEVER COME FIRST.
6. WATER/CEMENT RATIO SHALL BE BASED ON SURFACE DRY MATERIAL. REFERENCE 1/SG1.2.
7. PORTLAND CEMENT: CONFORM TO ASTM C150, TYPE I. USE ONE MANUFACTURER OF CEMENT THROUGHOUT THE PROJECT.
8. FLY ASH: CONFORM TO ASTM C618.
9. COARSE AND FINE AGGREGATES: CONFORM TO ASTM C33 FOR NORMALWEIGHT CONCRETE AND ASTM C330 FOR LIGHTWEIGHT CONCRETE.
10. WATER: CONFORM WITH ASTM C1602.
11. CHEMICAL ADMIXTURES: ALL CONCRETE SHALL CONTAIN CHEMICAL ADMIXTURES TO OBTAIN THE SPECIFIED DESIGN STRENGTH IN ACCORDANCE WITH ASTM C494.
12. AIR-ENTRAINING ADMIXTURES: SHALL CONFORM TO ASTM C260. AIR-ENTRAINING ADMIXTURE SHALL NOT BE USED ON INTERIOR CONCRETE.
13. WATER-REDUCING ADMIXTURE: SHALL CONFORM TO ASTM C494, TYPE A AND CONTAIN NOT MORE THAN 0.05% CHLORIDE IONS.
14. WATER REDUCING, RETARDING ADMIXTURE: SHALL CONFORM TO ASTM C494, TYPE D, AND CONTAIN NOT MORE THAN 0.05% CHLORIDE IONS.
15. HIGH RANGE WATER-REDUCING ADMIXTURE (SUPERPLASTICIZER): SHALL CONFORM TO ASTM C494, TYPE F OR TYPE G AND CONTAIN NOT MORE THAN 0.05% CHLORIDE IONS.
16. WATER-REDUCING, NON-CORROSIVE ACCELERATING ADMIXTURE: SHALL CONFORM TO ASTM C494, TYPE C OR E AND CONTAIN NOT MORE CHLORIDE IONS THAN THAT ARE PRESENT IN MUNICIPAL DRINKING WATER. THE ADMIXTURE MANUFACTURER MUST HAVE LONG-TERM, NON-CORROSIVE TEST DATA FROM AN INDEPENDENT TESTING LABORATORY (OF AT LEAST A YEAR'S DURATION) USING AN ACCEPTABLE ACCELERATED CORROSION TEST METHOD SUCH AS THAT USING ELECTRICAL POTENTIAL MEASURES.
17. PROHIBITED ADMIXTURES: CALCIUM CHLORIDE OR ADMIXTURES CONTAINING MORE THAN 0.05% CHLORIDE IONS ARE NOT PERMITTED.

D. CONSTRUCTION JOINTS

1. NO HORIZONTAL CONSTRUCTION JOINTS WILL BE PERMITTED IN SLABS OR BEAMS BLOCK OUT "BLEEDS SHALL BE DEMOLISHED.
2. VERTICAL CONSTRUCTION JOINTS IN SLABS OR BEAMS ARE TO BE AS SHOWN ON PLANS OR AS APPROVED BY THE ENGINEER.
3. SURFACE OF CONSTRUCTION JOINTS SHALL BE CLEANED AND LAITANCE REMOVED.
4. IMMEDIATELY BEFORE NEW CONCRETE IS PLACED, ALL CONSTRUCTION JOINTS SHALL BE WETTED AND STANDING WATER REMOVED.
5. REFERENCE TYPICAL DETAILS FOR CONSTRUCTION JOINT REINFORCING AND SHEAR KEY REQUIREMENTS.
6. CONSTRUCTION JOINTS IN FLOORS SHALL BE LOCATED WITHIN THE MIDDLE THIRD OF THE SPAN OF SLABS, BEAMS, AND GIRDERS.
7. CONSTRUCTION JOINTS IN GIRDERS SHALL BE OFFSET A MINIMUM DISTANCE OF TWO TIMES THE WIDTH OF THE INTERSECTING BEAMS.
8. BEAMS, GIRDERS, HAUNCHES, DROP PANELS, SHEAR CAPS, AND CAPITALS SHALL BE PLACED MONOLITHICALLY UNLESS NOTED OTHERWISE.

E. OPENINGS AND PENETRATIONS

1. ALL OPENINGS IN SLAB (FOR PIPES, DRAINS, ETC.) SHALL BE SEALED WITH SEALANT.
2. UTILITIES THAT PROJECT THROUGH SLAB FLOORS SHALL BE DESIGNED WITH SLEEVES IN ORDER TO PREVENT DAMAGE TO THE LINE SHOULD ANY MOVEMENT OCCUR.
3. ALL OPENINGS AND PENETRATIONS ARE TO BE REINFORCED AROUND THE PERIMETER. REFERENCE THE TYPICAL DETAILS FOR REINFORCING REQUIREMENTS.

F. EMBEDMENTS

1. ANCHOR RODS, DOWELS, INSERTS, ETC. SHALL BE SECURELY TIED IN PLACE PRIOR TO PLACING CONCRETE.
2. REFER TO ARCHITECTURAL, MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS FOR ALL MOLDS, GROOVES, REGLETS, PIPES, CONDUITS, INSERTS, ETC. TO BE CAST IN CONCRETE. PROVIDE OVERSIZED SLEEVES FOR PLUMBING AND ELECTRICAL CONDUITS AND PIPES. NO PIPES OR DUCTS SHALL BE PLACED IN CONCRETE FOOTINGS, BEAMS, COLUMNS, WALLS, OR SLABS UNLESS DETAILED IN STRUCTURAL DRAWINGS OR APPROVED BY THE ENGINEER OF RECORD.
3. CONDUITS ARE PERMITTED TO BE LOCATED BELOW SLAB-ON-GRADE REINFORCING THESE MUST BE LOCATED BELOW THE DESIGN DEPTH OF THE SLAB WITHIN A THICKENED SLAB. COORDINATE INSTALLATION OF RACEWAYS PRIOR TO PLACEMENT.
4. NO LIQUID, GAS, OR VAPOR, EXCEPT WATER NOT EXCEEDING 90 DEGREES FAHRENHEIT NOR 50 PSI PRESSURE SHALL BE PLACED IN THE PIPES UNTIL THE CONCRETE HAS ACHIEVED ITS DESIGN STRENGTH.
5. ALUMINUM CONDUITS, PIPES, OR OTHER INSERTS ARE NOT PERMITTED TO BE EMBEDDED INTO STRUCTURAL CONCRETE.

G. FORMWORK, SHORING, AND BACKSHORING

1. ALL FORMWORK SHALL BE DESIGNED BY THE GENERAL CONTRACTOR IN ACCORDANCE TO THE ACI 347 " GUIDE TO FORMWORK FOR CONCRETE" LATEST EDITION.
2. DESIGN OF FORMWORK SHALL CONSIDER:
   a. RATE AND METHOD OF PLACING CONCRETE.
   b. CONSTRUCTION LOADS, INCLUDING VERTICAL, HORIZONTAL, AND IMPACT LOADS.
   c. SPECIAL FORM REQUIREMENTS FOR CONSTRUCTION OF CURVED MEMBERS, SHELLS, FOLDED PLATES, DOMES, ARCHITECTURAL CONCRETE, OR SIMILAR TYPES OF ELEMENTS.
3. FORMS SHALL BE PROPERLY BRACED OR TIED TOGETHER TO MAINTAIN POSITION OF SHAPE.
4. FORMS SHALL BE SUBSTANTIAL AND SUFFICIENTLY TIGHT TO PREVENT LEAKAGE OR BLOWOUTS.
5. FORMS SHALL BE REMOVED SUCH THAT IT DOES IMPAIR THE SAFETY, SERVICEABILITY, AND STRUCTURAL INTEGRITY OF THE STRUCTURE.
6. BEFORE STARTING CONSTRUCTION, THE GENERAL CONTRACTOR IS RESPONSIBLE IN DEVELOPING A PROCEDURE AND SCHEDULE FOR REMOVAL OF SHORES AND INSTALLATION OF RESHORES AND FOR CALCULATING THE LOADS TRANSFERRED TO THE STRUCTURE DURING THE PROCESS.
7. NO CONSTRUCTION LOADS SHALL BE SUPPORTED ON, ANY SHORING REMOVED FROM, ANY PART OF THE STRUCTURE UNDER CONSTRUCTION EXCEPT SHORING HAS SUFFICIENT STRENGTH TO SUPPORT, SAFELY, ITS SELF-WEIGHT AND LOADS PLACED THEREON.
8. SUFFICIENT STRENGTH OF THE STRUCTURE BEING CONSIDERED IS OBTAINED WHEN THE CONCRETE STRENGTH HAS REACHED ITS DESIGN STRENGTH THROUGH APPROVED TESTING.

H. CONCRETE TESTING

1. CONCRETE SHALL BE TESTED IN ACCORDANCE TO ASTM C172, ASTM C31, ASTM C39, ASTM D3665, AND ACI 214R, ALL LATEST EDITION.
2. FREQUENCY OF SAMPLES FOR STRENGTH TESTING OF EACH CLASS OF CONCRETE SHALL BE:
   a. ONCE EACH DAY A GIVEN CLASS IS PLACED.
   b. ONCE FOR EACH 150 CYD OF EACH CLASS PLACED EACH DAY.
   c. FOR SLABS OR WALLS LESS THAN OR EQUAL TO 9 3/4" THICK, SAMPLING SHALL BE ONCE FOR EACH 5000 SQ FT OF SLAB OR WALL SURFACE AREA (ONE SIDE ONLY) PLACED EACH DAY. FOR SLABS OR WALLS GREATER THAN 9 3/4" THICK, SAMPLING SHALL BE ONCE FOR EACH 2500 SQ FT OF SLAB OR WALL SURFACE AREA (ONE SIDE ONLY) PLACED EACH DAY.
3. CONCRETE TESTING SHALL BE THREE SETS OF CYLINDERS: ONE SET CONSISTS OF THREE 4 BY 8 IN CYLINDERS TESTED FOR COMPRESSION AT 7 DAYS AND THREE 4 BY 8 IN CYLINDERS AT 28 DAYS. 1CYLINDER AT 56 DAYS.
4. WHERE THE TOTAL VOLUME OF CONCRETE FOR A GIVEN CLASS OF CONCRETE WOULD BE LESS THAN FIVE TESTS, PROVIDE A TEST FOR EACH BATCH.
5. LABORATORY AND FIELD TECHNICIANS SHALL BE CERTIFIED IN ACCORDANCE WITH THE REQUIREMENTS OF ACI "CONCRETE FIELD TESTING TECHNICIAN-GRADE 1 CERTIFICATION PROGRAM" OR THE REQUIREMENTS OF ASTM C1077 OR AN EQUIVALENT PROGRAM.
6. TEST REPORTS SHOULD BE PROMPTLY DISTRIBUTED TO THE OWNER, ARCHITECT, ENGINEER, GENERAL CONTRACTOR, SUB-CONTRACTORS, SUPPLIERS, AND BUILDING OFFICIAL TO ALLOW EITHER COMPLIANCE OR THE NEED FOR CORRECTIVE ACTION.
7. STRENGTH LEVEL OF AN INDIVIDUAL CLASS OF CONCRETE SHALL MEET THE FOLLOWING CRITERIA:
   a. THE AVERAGE OF THREE CONSECUTIVE STRENGTH TESTS SHALL BE EQUAL TO OR EXCEED THE DESIGN STRENGTH, f'c.
   b. THE AVERAGE OF THE STRENGTHS OF EACH TEST SHALL NOT FALL BELOW THE DESIGN STRENGTH, f'c, BY MORE THAN 500 PSI FOR f'c ≤ 5000 PSI OR BY 0.1*f'c FOR f'c > 5000 PSI.
8. IF THE CRITERIA ABOVE IS NOT MET, THREE CORE DRILLED SAMPLES IN THE AREA OF QUESTION SHALL BE TAKEN, AT THE EXPENSE OF THE GENERAL CONTRACTOR, FOR EACH STRENGTH TEST THAT FAILS TO MEET THE CRITERIA. TESTING OF CORE DRILLED SAMPLES SHALL BE IN ACCORDANCE TO ASTM C42.
9. CORE DRILLED SAMPLES SHALL BE TESTED NO EARLIER THAN 48 HOURS AND NOT LATER THAN 7 DAYS AFTER CORING.

REINFORCED CONCRETE (CONT):

I. PLACEMENT OF CONCRETE

1. READY-MIXED CONCRETE SHALL BE MIXED AND DELIVERED IN ACCORDANCE TO ASTM C94.
2. CONCRETE SHALL BE CONVEYED FROM MIXER TO PLACE OF FINAL DEPOSIT BY METHODS THAT WILL PREVENT SEPARATION OR LOSS OF MATERIALS. CONCRETE SHALL BE DEPOSITED AT OR NEAR ITS FINAL POSITION BY THE USE OF PUMPS, TREMIES, AND OTHER MEANS AND METHODS.
3. DO NOT ALLOW CONCRETE TO FREE FALL MORE THAN 3 FEET DURING PLACEMENT.
4. ALL CONCRETE SHALL BE THOROUGHLY CONSOLIDATED DURING PLACEMENT IN ACCORDANCE TO ACI 309R LATEST EDITION.
5. MECHANICALLY VIBRATE ALL CONCRETE DURING PLACEMENT TO AVOID AIR ENTRAPMENTS.
6. NO CONCRETE PLACEMENT IS PERMITTED WHEN THE TEMPERATURE OF FRESH CONCRETE IS GREATER THAN OR EQUAL TO 95°F.
7. NO CONCRETE PLACEMENT IS PERMITTED DURING RAIN FALL.
8. COLD WEATHER REQUIREMENTS:
   a. WHEN THE AMBIENT TEMPERATURE IS BELOW 50°F, PLACEMENT OF CONCRETE SHALL BE IN ACCORDANCE TO ACI 306R.
   b. ADEQUATE EQUIPMENT SHALL BE PROVIDED FOR HEATING CONCRETE MATERIALS AND PROTECTING CONCRETE DURING FREEZING OR NEAR-FREEZING WEATHER.
   c. ALL CONCRETE MATERIAL AND ALL REINFORCING, FORMS, FILLERS, AND GROUND WITH WHICH CONCRETE IS TO COME IN CONTACT SHALL BE FREE OF FROST.
9. HOT WEATHER REQUIREMENTS:
   a. WHEN THE AMBIENT TEMPERATURE EQUALS OR EXCEEDS 80°F, PLACEMENT OF CONCRETE SHALL BE IN ACCORDANCE TO ACI 305R.
   b. PROPER ATTENTION SHALL BE GIVEN TO CONCRETE MIX, PRODUCTION METHODS, HANDLING, PLACING, PROTECTION, CURING TO PREVENT EXCESSIVE CONCRETE TEMPERATURES OR WATER EVAPORATION THAT COULD IMPAIR THE REQUIRED DESIGN STRENGTH.
   c. NON-TOXIC EVAPORATION RETARDERS ARE ACCEPTABLE PROVIDED THE PRODUCT DOES NOT IMPAIR THE REQUIRED DESIGN STRENGTH. WHEN USED, THE GENERAL CONTRACTOR MUST EXERCISE PROPER SAFETY MEASURES.
10. ALL EXPOSED CONCRETE SHALL HAVE A SMOOTH FINISH SURFACE. EXPOSED CONCRETE SURFACES WITH SPALLS, CHIPS, CRACKS, HONEYCOMBS, DISCOLORATION, AND OTHER IMPERFECTIONS SHALL BE PATCHED WITH A FAST-SETTING, READY TO USE, CEMENTITIOUS POLYMER-MODIFIED REPAIR MORTAR THAT SHALL MEET ALL THE FOLLOWING CRITERIA:
   a. MINIMUM COMPRESSIVE STRENGTH = 5000 PSI @ 28 DAYS IN ACCORDANCE WITH ASTM C109
   b. MINIMUM FLEXURAL STRENGTH = 1100 PSI @ 28 DAYS IN ACCORDANCE WITH ASTM C293
   c. MINIMUM BOND STRENGTH = 1800 PSI @ 28 DAYS IN ACCORDANCE WITH ASTM C882
   d. COLOR = CONCRETE GRAY
   e. WET MIX DENSITY ≤ 110 PCF

J. TOLERANCES
1. ALL CONCRETE TOLERANCES SHALL COMPLY WITH ACI 117, "SPECIFICATIONS FOR TOLERANCES FOR CONCRETE CONSTRUCTION AND MATERIALS" LATEST EDITION.
2. ALL SLAB-ON-GRADES AND SUSPENDED FLOOR SLABS SHALL BE TESTED FOR FLOOR FLATNESS AND FLOOR LEVELNESS IN ACCORDANCE TO ASTM E1155 UTILIZING THE F-NUMBER METHOD. THE SLAB-ON-GRADE AND SUSPENDED FLOOR SLABS MEASURED F-NUMBERS SHALL MEET THE FOLLOWING CLASSIFICATION:
   a. SPECIFIED OVERALL FLOOR FLATNESS (SOFF): 25
   b. SPECIFIED OVERALL FLOOR LEVELNESS (SOFL): 20
   c. MINIMUM LOCAL FLOOR FLATNESS (MLFF): 0.60*SOFF
   d. MINIMUM LOCAL FLOOR LEVELNESS (MLFL): 0.60*SOFL
3. F-NUMBERS SHALL BE MEASURED WITHIN 72 HOURS OF PLACING THE SLAB.
4. WHERE DEFICIENCIES ARE DETECTED, REMEDIATION TO THE DEFICIENT AREA WILL BE REQUIRED AT THE EXPENSE OF THE GENERAL CONTRACTOR. REMEDIAL PROCEDURES SUCH AS, BUT NOT LIMITED TO, GRINDING OR THE USE OF A SELF-LEVELING UNDERLAYMENT SHALL BE DETERMINED BY THE CONTRACTOR TO BRING THE DEFICIENT AREA IN COMPLIANCE WITH MINIMUM TOLERANCES.
5. IN ALL INSTANCES THE MINIMUM SLAB/WALL THICKNESS, BEAM DEPTHS AND WIDTHS, COLUMN DIMENSIONS, SHALL BE OBTAINED. COORDINATE SLAB FINISHES WITH ARCHITECTURAL PLANS.

K. PLACEMENT OF REINFORCEMENT

1. ALL REINFORCING STEEL SHALL BE ASTM A615 GRADE 60 UNLESS NOTED OTHERWISE. REFERENCE "REINFORCING STEEL" NOTES FOR ADDITIONAL INFORMATION.
2. SLAB-ON-GRADE:
   a. REINFORCEMENT SHALL BE CONTINUOUS ACROSS THE ENTIRE CONCRETE SURFACE UNLESS NOTED OTHERWISE.
   b. PROVIDE Z-BARS, SAME SIZE AND SPACING AND IN THE APPLICABLE DIRECTION WHERE THE SLAB STEPS DOWN MORE THAN 3". THE Z-BARS SHALL LAP THE MAIN SLAB REINFORCING STEEL AS NEEDED.
3. GRADE BEAMS, CONTINUOUS WALL FOOTINGS, AND SPREAD FOOTINGS:
   a. REINFORCEMENT SHALL BE CONTINUOUS ACROSS THE ENTIRE PROFILE UNLESS NOTED OTHERWISE.
   b. PROVIDE CORNER BARS, TOP AND BOTTOM, AT ALL BEAM CORNERS AND DEAD END BEAM INTERSECTIONS; REFERENCE APPLICABLE DETAILS FOR ADDITIONAL INFORMATION. BARS TO EQUAL SIZE AND QUANTITY OF THE NOTED BEAM STEEL BARS UNLESS NOTED OTHERWISE.
   c. EXTEND THE SLAB REINFORCING STEEL, PERPENDICULAR TO BEAM, TO THE TOP OUTSIDE REINFORCING BAR OF THE PERIMETER BEAMS. START THE SLAB REINFORCING STEEL, PARALLEL TO THE BEAM, NOT MORE THAN 6" FROM THE TOP INSIDE REINFORCING BAR OF PERIMETER BEAMS.
   d. VERTICAL REINFORCEMENT SHALL BE TIED AND FIXED IN POSITION AT THE TOP AND BOTTOM AND AT INTERMEDIATE LOCATIONS, SPACED NOT GREATER THAN 18 INCHES ON CENTER.
4. DRILLED PIERS:
   a. REINFORCEMENT SHALL BE CONTINUOUS ACROSS THE ENTIRE PROFILE UNLESS NOTED OTHERWISE.
5. SUSPENDED SLAB (ONE-WAY):
   a. REINFORCEMENT SHALL BE CONTINUOUS ACROSS THE ENTIRE CONCRETE SURFACE. DESIGN REINFORCING IS PLACED PARALLEL TO THE DIRECTION OF SPAN. TEMPERATURE STEEL IS PROVIDED PERPENDICULAR TO THE DIRECTION OF THE SPAN.
   b. WHERE LAP SPLICES OF BARS ARE REQUIRED, LOCATE BOTTOM BAR LAP SPLICES OVER CONCRETE BEAMS OR GIRDERS, AND LOCATE TOP BAR LAP SPLICES AT MIDSPAN IN BETWEEN BEAMS.
   c. REFERENCE TYPICAL DETAILS FOR ADDITIONAL REQUIREMENTS.
6. SUSPENDED SLAB (TWO-WAY):
   a. TOP AND BOTTOM REINFORCING MATS SHALL BE CONTINUOUS EACH WAY UNLESS NOTED OTHERWISE.
   b. ADDITIONAL BARS ARE SHOWN ON THE DRAWINGS.
   c. WHERE LAP SPLICES OF BARS ARE REQUIRED, LOCATE BOTTOM BAR LAPS CENTERED TO THE COLUMN STRIPS, AND TOP BAR LAPS CENTERED TO THE MIDDLE STRIPS IN EACH DIRECTION.
   d. REFERENCE DETAILS FOR ADDITIONAL REQUIREMENTS.
7. BEAMS AND GIRDERS:
   a. REFERENCE REINFORCING SCHEDULE FOR LONGITUDINAL BAR PLACEMENT. BARS ARE TO BE CONTINUOUS UNLESS NOTED OTHERWISE.
   b. REFERENCE TYPICAL DETAILS FOR BAR LAP SPLICES. LOCATE LAP SPLICES OF BOTTOM BARS CENTERED OVER SUPPORTS, AND LOCATE TOP BAR LAPS CENTERED AT MIDSPAN IN BETWEEN SUPPORTS.
   c. REFERENCE DETAILS FOR ADDITIONAL REQUIREMENTS.
8. COLUMNS:
   a. PROVIDE CONTINUOUS LONGITUDINAL REINFORCING EQUALLY SPACED.
   b. WHEN REQUIRED, LAP SPLICE LONGITUDINAL REINFORCING WITH A CLASS B TENSION LAP SPLICE.
   c. REFERENCE DETAILS FOR ADDITIONAL REQUIREMENTS.
9. WALLS:
   a. PROVIDE CONTINUOUS REINFORCING IN BOTH DIRECTIONS AND IN EACH FACE WHERE APPLICABLE.
   b. AT HORIZONTAL CONSTRUCTION JOINTS (CONSTRUCTION LIFTS), VERTICAL BARS MUST PROJECT THE LAP SPLICE LENGTH AS SCHEDULED AS A MINIMUM LENGTH. THE GENERAL CONTRACTOR MUST COORDINATE BAR PLACEMENTS TO AVOID OVER-REINFORCING THE CONCRETE WALL.
   c. REFERENCE DETAILS FOR ADDITIONAL INFORMATION.
10. DOWELS:
   a. WALLS, PILASTERS, AND COLUMNS SHALL BE DOWELED TO THE SUPPORTING FOOTINGS WITH REINFORCEMENT AS SCHEDULED OR OF THE SAME SIZE, GRADE AND AT THE SAME SPACING AS THE VERTICAL REINFORCEMENT IN THE WALLS, PILASTERS, OR COLUMNS UNLESS NOTED OTHERWISE.

REINFORCED CONCRETE (CONT):

11. TOPPING SLABS:
   a. PROVIDED WELDED WIRE REINFORCING 6X6-W2.9XW2.9 IN ALL TOPPING SLABS UNLESS NOTED OTHERWISE.
12. HOUSEKEEPING PADS:
   a. PROVIDED #3 AT 12" ON CENTER EACH WAY IN ALL HOUSEKEEPING PADS THAT SUPPORT MECHANICAL EQUIPMENT.

L. VAPOR RETARDER

1. REFERENCE DRAWINGS FOR LOCATION AND EXTENTS OF VAPOR RETARDERS. FOR SLAB-ON-GRADE FOUNDATIONS, A VAPOR RETARDER IS TO BE INSTALLED OVER APPROVED SELECT FILL UNLESS NOTED OTHERWISE.
2. FOR ALL CONDITIONS, THE VAPOR RETARDER SHALL CONFORM TO ASTM E1745, CLASS A AND SHALL HAVE A MINIMUM WATER VAPOR PERMEANCE OF 0.01 PERMS WHEN TESTED IN ACCORDANCE WITH ASTM E96. THE VAPOR RETARDER SHALL NOT BE LESS THAN 15 MILS THICK.
3. PRE-APPROVED PRODUCTS:
   a. STEGO WRAP 15 MIL VAPOR BARRIER (CLASS A).
   b. OTHERS:PROPOSED BY SUBBMITAL PROCESS.
4. INSTALLATION:
   a. LAY SHEETS SMOOTHLY, STRETCH AND WEIGHT EDGES, LAP JOINTS AND SEAL WITH TAPE AS SPECIFIED BY THE VAPOR RETARDER MANUFACTURER. TURN THE RETARDER UP AT WALLS AND AT ALL PIPES, ABUTMENTS, ETC., AND TAPE AND SEAL AT PENETRATIONS AND AT EDGES AS SPECIFIED BY THE VAPOR RETARDER MANUFACTURER.
5. PATCHING:
   a. PATCH ALL PUNCTURES WITH A MINIMUM OVERLAP OF 6" IN ALL DIRECTIONS AND TAPE AROUND THE ENTIRE PERIMETER OF REPAIR.

M. PRE-INSTALLATION CONFERENCE
1. AT LEAST 30 DAYS PRIOR TO THE START OF THE CONCRETE CONSTRUCTION SCHEDULE, THE CONTRACTOR SHALL CONDUCT A MEETING TO REVIEW THE PROPOSED MIX DESIGNS AND TO DISCUSS THE REQUIRED METHODS AND PROCEDURES TO ACHIEVE THE REQUIRED CONCRETE CONSTRUCTION. THE CONTRACTOR SHALL SEND A PRE-INSTALLATION CONFERENCE AGENDA TO ALL ATTENDEES 20 DAYS PRIOR TO THE SCHEDULED DATE OF THE CONFERENCE.
2. THE CONTRACTOR SHALL REQUIRE RESPONSIBLE REPRESENTATIVES OF EVERY PARTY CONCERNED WITH THE CONCRETE WORK TO ATTEND THE CONFERENCE, INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
   a. GENERAL CONTRACTOR'S SUPERINTENDENT
   b. LABORATORY RESPONSIBLE FOR CONCRETE MIXES AND/OR FIELD QUALITY CONTROL
   c. READY-MIX CONCRETE PRODUCER
   d. CONCRETE SUB-CONTRACTOR
   e. JOINT FILLING APPLICATOR
3. MINUTES OF THE MEETING SHALL BE RECORDED, TYPED AND PRINTED BY THE CONTRACTOR AND DISTRIBUTED TO ALL CONCERNED PARTIES, INCLUDING THE OWNER'S REPRESENTATIVE, THE ARCHITECT, AND THE STRUCTURAL ENGINEER WITHIN FIVE DAYS OF THE MEETING.

N. CONCRETE SUB-CONTRACTOR QUALIFICATION
1. THE CONCRETE SUB-CONTRACTOR SHALL INCLUDE IN THEIR BID PACKAGE TO THE GENERAL CONTRACTOR SUFFICIENT DATA THAT CLEARLY INDICATES THE CONCRETE CONTRACTOR'S ABILITY TO SUCCESSFULLY PERFORM THE WORK AND TO ACHIEVE THE TOLERANCES SPECIFIED IN THIS SECTION.

O. CONCRETE CURING
1. CONCRETE SHALL BE MAINTAINED ABOVE 50°F AT ALL TIMES.
2. CONCRETE, OTHER THAN HIGH-EARLY STRENGTH CONCRETE, SHALL BE IN MOIST CONDITION FOR AT LEAST 7 DAYS.
3. HIGH-EARLY STRENGTH CONCRETE SHALL BE IN MOIST CONDITION FOR AT LEAST 3 DAYS.
4. EXTERIOR CURING: ALL EXTERIOR CONCRETE SLABS SHALL BE CURED USING A LIQUID MEMBRANE-FORMING CURING COMPOUND. THE LIQUID MEMBRANE-FORMING CURING COMPOUND SHALL MEET THE REQUIREMENTS OF ASTM C1315 WITH A MAXIMUM VOLATILE ORGANIC CONTENT (VOC) OF 700 g/L.
5. INTERIOR CURING: ALL INTERIOR CONCRETE SLABS SHALL BE CURED USING A REDUCED ODOR, DISSIPATING LIQUID MEMBRANE-FORMING CURING COMPOUND THAT IS FORMULATED FROM HYDROCARBON RESINS. THE DISSIPATING LIQUID MEMBRANE-FORMING CURING COMPOUND SHALL MEET THE REQUIREMENTS OF ASTM C309 WITH A MAXIMUM VOLATILE ORGANIC CONTENT (VOC) OF 350 g/L. APPLY AT 400 SF/GALLON.
6. CURING COMPOUNDS SHALL BE PLACED WITHIN 4 HOURS AFTER PLACEMENT OF CONCRETE.
7. FOR POLISHED SLAB FINISHES, PROVIDE BURLAP MEMBRANES DURING ENTIRE CONSTRUCTION OF THE BUILDING. DO NOT PROVIDE CURING COMPOUND.

P. CONTRACTION JOINTS IN SLAB-ON-GRADE
1. FORM 1/8" WEAKENED-PLANE CONTRACTION JOINTS SPACED NOT FURTHER THAN 15'-0" ON CENTER EACH WAY. SECTION CONCRETE INTO AREAS AS INDICATED IN THE DRAWINGS.
2. CONSTRUCT CONTRACTION JOINTS FOR A DEPTH EQUAL TO AT LEAST 1/4 OF THE CONCRETE THICKNESS.
3. SAWED JOINTS: ALL SAW CUTTING SHALL BE ACCOMPLISHED WITH A SOFT-CUT SAW AS SOON AS THE SLAB WILL SUPPORT THE WEIGHT OF THE SAW AND OPERATOR.
4. CONCRETE DUST SHALL BE REMOVED COMPLETELY AND IMMEDIATELY.
5. ALL CONTRACTION JOINTS SHALL BE CAULKED WITH AN EFFECTIVE SEALANT THAT CAN BOND TO THE CONCRETE, IS IMPERMEABLE, AND ABLE TO WITHSTAND THERMAL EXPANSION AND CONTRACTION.

Q. CONCRETE PROTECTION
1. SLAB PROTECTION:
   a. FOR ALL MOTORIZED AND HYDRAULIC EQUIPMENT PREVENT FLUID LEAKS.
   b. PROVIDE NON-MARKING TIRES ON RUBBER TIRED VEHICLES OR EQUIP RUBBER TIRES WITH TIRE BOOTS MADE OF NYLON FABRIC.
   c. PROVIDE MATS AT ALL ENTRANCES TO PREVENT MUD STAINS.
   d. COVER SLAB PRIOR TO PAINTING. ALL SPILLS ARE TO BE CLEARED WITH SOAP AND WATER.

R. CONCRETE COVER
1. REINFORCING STEEL COVERAGE SHOULD CONFORM TO THE REQUIREMENTS OF THE ACI 318 (EDITION IN THE DESIGN CRITERIA) SECTION 7.7 AND THE DETAILS.
2. INCREASE COVER TO MAINTAIN THE MINIMUM SPECIFIED WHERE REINFORCING STEEL INTERSECTS FOR DIFFERENT MEMBER TYPES.
3. THE REINFORCING STEEL DETAILER SHALL ADJUST REINFORCING STEEL CAGE SIZES AT INTERSECTING STRUCTURAL MEMBERS AS REQUIRED TO ALLOW CLEARANCE FOR INTERSECTING REINFORCING BAR LAYERS WITH MINIMUM SPECIFIED COVER.
4. MINIMUM CONCRETE COVER FOR REINFORCING AS FOLLOWS:
   a. ALL CONCRETE CAST AND PERMANENTLY EXPOSED TO EARTH.................... 3"
   b. CONCRETE EXPOSED TO EARTH OR WEATHER:
      i. #6 THROUGH #18.. 2"
      ii. #5, W31 OR D31, AND SMALLER.................................. 1-1/2"
   c. CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND:
      i. SLABS, WALLS, JOISTS:
         #14 THROUGH #18.. 1-1/2"
         #11 AND SMALLER.. 3/4"
      ii. BEAMS, COLUMNS..1-1/2"

POST-INSTALLED ANCHORS:

A. GENERAL
1. POST-INSTALLED ANCHORS SHALL ONLY BE USED WHERE SPECIFIED ON THE DRAWINGS.
2. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE EOR PRIOR TO INSTALLING POST-INSTALLED ANCHORS IN PLACE OF MISSING OR MISPLACED CAST-IN-PLACE ANCHORS.
3. CARE SHALL BE TAKEN IN PLACING POST-INSTALLED ANCHORS TO AVOID CONFLICTS WITH EXISTING REINFORCING STEEL.
4. HOLES SHALL BE DRILLED AND CLEANED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

B. SUBSTITUTIONS
1. SUBSTITUTION REQUESTS FOR PRODUCTS OTHER THAN THOSE SPECIFIED BELOW SHALL BE SUBMITTED BY THE CONTRACTOR TO THE EOR ALONG WITH CALCULATIONS THAT ARE PREPARED AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
2. THE CALCULATIONS SHALL DEMONSTRATE THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING THE EQUIVALENT PERFORMANCE VALUES (MINIMUM) OF THE SPECIFIED PRODUCT USING THE APPROPRIATE DESIGN PROCEDURE AND/OR STANDARD(S) AS REQUIRED BY CODE.

C. SPECIAL INSPECTION
1. REFERENCE "SPECIAL INSPECTION AND MATERIAL TESTING" FOR SPECIAL INSPECTION REQUIREMENTS FOR POSTINSTALLED ANCHORS.
2. THE SPECIAL INSPECTOR SHALL PROVIDE CONTINUOUS SPECIAL INSPECTION FOR ALL MECHANICAL AND ADHESIVE ANCHORS PER THE APPLICABLE EVALUATION REPORT.

D. INSTALLATION TRAINING/PRE-INSTALLATION CONFERENCE
1. CONTACT MANUFACTURER'S REPRESENTATIVE FOR THE INITIAL TRAINING AND INSTALLATION OF ANCHORS AND FOR PRODUCT RELATED QUESTIONS AND AVAILABILITY PRIOR TO INSTALLING ALL POST-INSTALLED ANCHORS.

E. CONCRETE ANCHORS
1. MECHANICAL ANCHORS SHALL HAVE BEEN TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ACI 355.2 AND ICC-ES AC193 FOR CRACKED AND UNCRACKED CONCRETE RECOGNITION. PRE-APPROVED MECHANICAL ANCHORS INCLUDE:
   a. SIMPSON STRONG-TIE
      i. SIMPSON STRONG-TIE "TITEN-HD" AND "TITEN-HD ROD HANGER" (ICC-ES ESR-2713)
      ii. SIMPSON STRONG-TIE "STRONG-BOLT" (ICC-ES ESR-1771)
      iii. SIMPSON STRONG-TIE "STRONG-BOLT 2" (ICC-ES ESR-3037)
      iv. SIMPSON STRONG-TIE "TORQ-CUT" (ICC-ES ESR-2705)
2. ADHESIVE ANCHORS SHALL HAVE BEEN TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ACI 355.4 AND ICCES AC308 FOR CRACKED AND UNCRACKED CONCRETE RECOGNITION. A PRE-APPROVED ADHESIVE ANCHORING SYSTEM INCLUDE:
   a. SIMPSON STRONG-TIE
      i. SIMPSON STRONG-TIE "AT-XP" ADHESIVE (ICC-ES AC308)
      ii. SIMPSON STRONG-TIE "SET-XP" ADHESIVE (ICC-ES ESR-2508)
3. POWDER ACTUATED FASTENERS SHALL HAVE BEEN TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ICCES AC70. PRE-APPROVED POWDER ACTUATED FASTENERS INCLUDE:
   a. SIMPSON STRONG-TIE
      i. SIMPSON STRONG-TIE "POWER-DRIVEN FASTENERS" (ICC-ES ESR-2138)

F. MASONRY ANCHORS
1. ANCHORAGE TO SOLID-GROUTED CONCRETE MASONRY
   MECHANICAL ANCHORS SHALL HAVE BEEN TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ICC-ES AC01 OR AC106. PRE-APPROVED MECHANICAL ANCHORS INCLUDE:
   a. SIMPSON STRONG-TIE
      i. SIMPSON STRONG-TIE "TITEN-HD" (ICC-ES ESR-1056)
      ii. SIMPSON STRONG-TIE "STRONG BOLT 2" (IAPMO-ES ER-0240)
      iii. SIMPSON STRONG-TIE "WEDGE-ALL" (ICC-ES ESR-1396)
   ADHESIVE ANCHORS SHALL HAVE BEEN TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ICC-ES AC58. PREAPPROVED ADHESIVE ANCHORING SYSTEM INCLUDE:
   a. SIMPSON STRONG-TIE
      i. SIMPSON STRONG-TIE "SET-XP" ADHESIVE (ICC-ES ESR-2508)
2. ANCHORAGE TO HOLLOW CONCRETE MASONRY/UNREINFORCED CLAY BRICK MASONRY
   MECHANICAL ANCHORS SHALL HAVE BEEN TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ICC-ES AC01 OR AC106. PRE-APPROVED MECHANICAL ANCHORS INCLUDE:
   a. SIMPSON STRONG-TIE
      i. SIMPSON STRONG-TIE "TITEN-HD" (ICC-ES ESR-1056)
   ADHESIVE ANCHORS WITH SCREEN TUBES SHALL BE TESTED AND QUALIFIED IN ACCORDANCE WITH ICC-ES AC58 OR AC60, AS APPROPRIATE. THE APPROPRIATE SCREEN TUBE SHALL BE USED AS RECOMMENDED BY THE ADHESIVE MANUFACTURER. PRE-APPROVED ADHESIVE ANCHORS WITH SCREEN TUBES INCLUDE:
   a. SIMPSON STRONG-TIE
      i. SIMPSON STRONG-TIE "SET-XP" ADHESIVE (ICC-ES ESR-2508)
3. ANCHORAGE TO HOLLOW/MULTI-WYTHE MASONRY
   ADHESIVE ANCHORS WITH SCREEN TUBES SHALL BE TESTED AND QUALIFIED IN ACCORDANCE WITH ICC-ES AC58 OR AC60, AS APPROPRIATE. THE APPROPRIATE SCREEN TUBE SHALL BE USED AS RECOMMENDED BY THE ADHESIVE MANUFACTURER. PRE-APPROVED ADHESIVE ANCHORS WITH SCREEN TUBES INCLUDE:
   a. HILTI
      i. HILTI "HIT-HY 70" MASONRY ADHESIVE (ICC-ES ESR-3442)

REINFORCING STEEL:

A. GENERAL
1. DEFORMED BAR REINFORCEMENT SHALL CONFORM TO THE FOLLOWING GRADES OF ASTM A615 GRADE 60 ON THE DRAWINGS OR IN NOTES.
2. DETAILING OF REINFORCEMENT SHALL BE IN ACCORDANCE WITH CHAPTER 25 OF ACI 318
3. REINFORCING STEEL REQUIRED TO BE WELDED SHALL CONFORM TO ASTM A706.
4. WELDED WIRE REINFORCEMENT SHALL CONFORM TO ASTM A1064.
5. ALL REINFORCEMENT SHALL BE SECURELY TIED IN PLACE BEFORE CONCRETE AND/OR GROUT.

B. SUPPORTS FOR REINFORCEMENT

1. SUPPORT FOR REINFORCEMENT SHALL INCLUDE BOLSTERS, CHAIRS, SPACERS, AND OTHER DEVICES FOR SPACING, SUPPORTING, AND FASTENING REINFORCING BARS AND WELDED WIRE REINFORCEMENT IN PLACE.
2. BAR SUPPORTS SHALL BE PROVIDED IN ACCORDANCE WITH THE PROVISIONS OF "BAR SUPPORT SPECIFICATIONS" AS THE LATEST EDITION OF "MANUAL OF STANDARD PRACTICE" BY CONCRETE REINFORCING STEEL INSTITUTE (CRSI).
   a. SLAB-ON-GRADE: USE PRECAST CONCRETE BAR SUPPORTS (DOBIES) OR CHAIRS DESIGNED FOR SOILSUPPORTED SLABS SPACED AT 36 INCHES ON CENTER FOR #3 BARS AND 48 INCHES ON CENTER FOR #4 AND ABOVE.
   b. SPREAD FOOTINGS AND GRADE BEAMS: USE PRECAST CONCRETE BAR SUPPORTS (DOBIES) OR CHAIRS DESIGNED FOR SOIL-SUPPORTED SLABS.
   c. PIERS: USE PRECAST CONCRETE BAR SUPPORTS (DOBIES), CRSI CLASS 1 WHEELS, AND BOLSTERS
   d. SUSPENDED SLABS, BEAMS, AND GIRDERS: PROVIDE CRSI CLASS 1 SUPPORTS WITH LEGS.

C. DETAILING

1. REINFORCING STEEL DETAILING, BENDING AND PLACING SHALL BE IN ACCORDANCE WITH THE CONCRETE REINFORCING STEEL INSTITUTE (CRSI) "MANUAL OF STANDARD PRACTICE", LATEST EDITION.
2. BARS DETAILED AS CONTINUOUS SHALL BE LAPPED AT SPLICES.
3. REFERENCE APPLICABLE SCHEDULES FOR LAPS AT BAR SPLICES.

D. PLACEMENT OF WELDED WIRE REINFORCING

1. WELDED WIRE REINFORCING SHALL BE CONTINUOUS ACROSS THE ENTIRE CONCRETE SURFACE AND NOT INTERRUPTED BY BEAMS OR GIRDERS.
2. LAPS OF WELDED WIRE REINFORCING AT SPLICES SHALL BE AS INDICATED IN THE SCHEDULE.

E. NON-PERMITTED ITEMS
1. WELDING OF CROSSING BARS AND TACK WELDING OF REINFORCEMENT SHALL NOT BE PERMITTED.
2. WELDING OF REINFORCING STEEL IS NOT PERMITTED, UNLESS NOTED OTHERWISE.

F. SHOP DRAWINGS
1. CONTRACTOR SHALL SUBMIT REINFORCING STEEL SHOP DRAWINGS FOR REVIEW FABRICATION SHOP DRAWINGS SHALL BE APRROVED BEFORE INSTALLATION.

CLASSES OF CONCRETE MATRIX

CONCRETE USAGE	MINIMUM COMPRESSIVE STRENGTH, f'c	CONCRETE WEIGHT	EXPOSURE CLASS	MAXIMUM WATER/CEMENT RATIO	MAXIMUM AGGREGATE SIZE (IN)	MAXIMUM SLUMP (IN)	REMARKS
SHALLOW FOUNDATIONS							
SPREAD FOOTINGS	3000 PSI @ 28 DAYS	NWC	C1	0.5	1"	5"	
WALL FOOTINGS	3000 PSI @ 28 DAYS	NWC	C1	0.5	1"	5"	
SLAB-ON-GRADE	3000 PSI @ 28 DAYS	NWC	C1	0.5	1"	5"	
MISCELLANEOUS							
HOUSEKEEPING PADS	3000 PSI @ 28 DAYS	NWC	C1	0.5	1"	5"	
ALL OTHER CONCRETE	3000 PSI @ 28 DAYS	NWC	C1	0.5	1"	5"	

NOTES:
1. ALL CONCRETE COMPRESSIVE STRENGTHS NOTED IN THE TABLE ABOVE ARE THE MINIMUM COMPRESSIVE STRENGTH, f'c, AT 28-DAYS UNLESS NOTED OTHERWISE.
2. ALL MIXES SHALL HAVE A MINIMUM OF 5 SACKS (470 LBS) OF CEMENTITIOUS MATERIAL PER CUBIC YARD REGARDLESS OF STRENGTH OBTAINED.
3. ALL CONCRETE SHALL BE CONSIDERED TO BE IN EXPOSURE F0, S0, P0, AND C0 ACCORDING TO ACI 318 UNLESS NOTED OTHERWISE IN TABLE ABOVE OR IN THE STRUCTURAL DRAWINGS.

1 CLASSES OF CONCRETE MATRIX SCHEDULE
NTS

5-16-25
STATE OF TEXAS
C. HINOJOSA, JR.
90636
LICENSED
PROFESSIONAL ENGINEER

CHLH ENGINEERING, LLC
TBPE FIRM No. F-8719
701 S. 15th STREET McALLEN, TX. 78501
(956) 687-5560

CG5 ARCHITECT
TEXAS ARCHITECT
FIRM No: BR4247
WWW.CG5ARCHITECT.COM

SEAL:

ECISD HIGH SCHOOL ATHLETIC MULTI-USE BUILDING 25-74

ROBERT VELA HIGH SCHOOL

801 E Canton Rd, Edinburg, TX 78539

CLIENT:
EDINBURG CISD

REVISION:

No.	Description	Date

PROJECT #:
DRAWN BY:
CHECKED BY:
DATE: 4/28/25

GENERAL NOTES

S1.1

GENERAL NOTES

VERIFICATION AND INSPECTION OF STRUCTURAL STEEL WELDING

SPECIAL INSPECTION REQUIRED	VERIFICATION AND INSPECTION TASK	SPECIAL INSPECTOR QCI	SPECIAL INSPECTOR QAI	REFERENCE STANDARD	IBC REFERENCE
	1. INSPECTION TASK PRIOR TO WELDING:			AISC 360-10 TABLE N5.4-1, AWS D1.1	1705.2.1
YES	a. WELDING PROCEDURES SPECIFICATIONS (WPS) AVAILABLE	P	P		
YES	b. MANUFACTURER CERTIFICATIONS FOR WELDING CONSUMABLES AVAILABLE	PP			
YES	c. MATERIAL IDENTIFICATION (TYPE/GRADE)	OO			
YES	d. WELDER IDENTIFICATION SYSTEM	OO			
YES	e. FIT-UP OF GROOVE WELDS (INCLUDING JOINT GEOMETRY) 1)JOINT PREPARATION 2)DIMENSIONS (ALIGNMENT, ROOT OPENING, ROOT FACE, BEVEL) 3)CLEANLINESS (CONDITION OF STEEL SURFACES) 4) TACKING (TACK WELD QUALITY AND LOCATION) 5)BACKING TYPE AND FIT (IF APPLICABLE)	OO			
YES	f. CONFIGURATION AND FINISH OF ACCESS HOLES	OO			
YES	g. FIT-UP OF FILLET WELDS 1)DIMENSIONS (ALIGNMENT, GAPS AT ROOT) 2)CLEANLINESS (CONDITION OF STEEL SURFACES) 3)TACKING (TACK WELD QUALITY AND LOCATION)	OO			
YES	h. CHECK WELDING EQUIPMENT	O-			
	2. INSPECTION TASK DURING WELDING:			AISC 360-10 TABLE N5.4-2, AWS D1.1	1705.2.1
YES	a. USE OF QUALIFIED WELDERS	OO			
YES	b. CONTROL AND HANDLING OF WELDING CONSUMABLES 1)PACKING 2)EXPOSURE CONTROL	OO			
YES	c. NO WELDING OVER CRACKED TACK WELDS	OO			
YES	d. ENVIRONMENTAL CONDITIONS 1)WIND SPEED WITHIN LIMITS 2)PRECIPITATION AND TEMPERATURE	OO			
YES	e. WPS FOLLOWED 1) SETTINGS ON WELDING EQUIPMENT 2) TRAVEL SPEED 3) SELECTED WELDING MATERIALS 4) SHIELDING GAS TYPE/FLOW RATE 5) PREHEAT APPLIED 6) INTERPASS TEMPERATURE MAINTAINED (MIN/MAX) 7) PROPER POSITION (F,V,H,OH)	OO			
YES	f. WELDING TECHNIQUES 1) INTERPASS AND FINAL CLEANING 2) EACH PASS WITHIN PROFILE LIMITATIONS 3) EACH PASS MEETS QUALITY REQUIREMENTS	OO			
	3. INSPECTION TASK AFTER WELDING:			AISC 360-10 TABLE N5.4-3, AWS D1.1	1705.2.1
YES	a. WELDS CLEANED	OO			
YES	b. SIZE, LENGTH AND LOCATION OF WELDS	PP			
YES	c. WELD MEET VISUAL ACCEPTANCE CRITERIA 1) CRACK PROHIBITION 2) WELD/BASE-METAL FUSION 3) CRATER CROSS SECTION 4) WELD PROFILES 5) WELD SIZE 6) UNDERCUT 7) POROSITY	PP			
YES	ARC STRIKES d.	PP			
YES	k-AREA e.	PP			
YES	REMOVED AND WELD TABS REMOVED f.	PP			
YES	g. REPAIR ACTIVITIES	PP			
YES	h. DOCUMENT ACCEPTANCE OR REJECTION OF WELD JOINT OR MEMBER	PP			

NOTES:
1. QCI = FABRICATOR'S OR ERECTOR'S QUALITY CONTROL INSPECTOR RESPONSIBLE FOR WORK PERFORMED IS IN COMPLIANCE WITH THE SHOP DRAWINGS, ERECTION DRAWINGS, REFERENCE SPECIFICATIONS, CODES AND STANDARDS.
   QAI = THE OWNER'S APPROVED AGENCY'S QUALITY ASSURANCE INSPECTOR (SPECIAL INSPECTOR) RESPONSIBLE FOR INSPECTION OF FABRICATED ITEMS, INSPECTION OF THE ERECTED STEEL SYSTEM, REVIEW TEST REPORTS AND CERTIFICATIONS, ITEMS NOTED IN THE TABLE ABOVE, AND FURNISHES INSPECTIONS, REPORTS, AND NONDESTRUCTIVE TESTING (NDT) REPORTS.
   O = OBSERVE THESE ITEMS IN A RANDOM BASIS. OPERATIONS NEED NOT BE DELAYED PENDING THESE INSPECTIONS.
   P = PERFORM THE TASK FOR EACH WELDED JOINT OR MEMBER.
2. THE QAI IS NOT REQUIRED TO INSPECT FABRICATED ITEMS IF THE STEEL FABRICATOR IS DEEMED AN APPROVED FABRICATOR.
3. WHERE A TASK IS NOTED TO BE PERFORMED BY BOTH THE QCI AND QAI, IT IS PERMITTED TO COORDINATE THE INSPECTION FUNCTION BETWEEN THE QCI AND QAI SO THAT THE INSPECTION FUNCTION IS PERFORMED BY ONLY ONE PARTY.
4. ALL FIELD WELDING, COMPLETE, AND PARTIAL JOINT PENETRATION WELDS SHALL BE SUBJECTED TO NONDESTRUCTIVE TESTING (NDT) IN ACCORDANCE WITH AWS D1.1. ACCEPTANCE CRITERIA SHALL BE IN ACCORDANCE WITH THE AWS D1.1.
5. ACCEPTABLE NONDESTRUCTIVE TESTING (NDT) METHODS AS PER THE AISC 360 SPECIFICATION ARE AS FOLLOWS:
   a. ULTRASONIC TESTING (UT)
   b. MAGNETIC PARTICLE TESTING (MT)
   c. PENETRANT TESTING (PT)
   d. RADIOGRAPHIC TESTING (RT)
6. THE SPECIAL INSPECTOR SHALL BE RESPONSIBLE FOR DETERMINING THE APPROPRIATE NOT METHOD FOR EACH WELD.
7. ALL NOT PERFORMED SHALL BE DOCUMENTED INTO A REPORT AND SHALL INCLUDE THE FOLLOWING:
   a. LOCATION OF THE TESTED WELD
   b. PIECE MARK
   c. LOCATION OF THE PIECE

VERIFICATION AND INSPECTION OF STEEL FRAMING

SPECIAL INSPECTION REQUIRED	VERIFICATION AND INSPECTION TASK	SPECIAL INSPECTOR QCI	SPECIAL INSPECTOR QAI	REFERENCE STANDARD	IBC REFERENCE
YES	1. VERIFY FABRICATED STEEL IS IN COMPLIANCE WITH THE SHOP DRAWINGS	PO		AISC 360-10 N5.7	1705.2.1
YES	2. VERIFY ERECTED STEEL IS IN COMPLIANCE WITH THE ERECTION DRAWINGS	PO			
YES	3. INSPECTION DURING PLACEMENT OF ANCHOR RODS AND OTHER EMBEDMENTS SUPPORTING STRUCTURAL STEEL FOR COMPLIANCE WITH THE CONTRACT DOCUMENTS	-P			
YES	4. VERIFY DIAMETER, GRADE, TYPE AND LENGTH OF THE ANCHOR ROD OR EMBEDDED ITEM AND THE EXTENT OR DEPTH OF EMBEDMENT INTO CONCRETE PRIOR TO PLACEMENT OF CONCRETE	-P			

NOTES:
1. QCI = FABRICATOR'S OR ERECTOR'S QUALITY CONTROL INSPECTOR RESPONSIBLE FOR WORK PERFORMED IS IN COMPLIANCE WITH THE SHOP DRAWINGS, ERECTION DRAWINGS, REFERENCE SPECIFICATIONS, CODES AND STANDARDS.
   QAI = THE OWNER'S APPROVED AGENCY'S QUALITY ASSURANCE INSPECTOR (SPECIAL INSPECTOR) RESPONSIBLE FOR INSPECTION OF FABRICATED ITEMS, INSPECTION OF THE ERECTED STEEL SYSTEM, REVIEW TEST REPORTS AND CERTIFICATIONS, ITEMS NOTED IN THE TABLE ABOVE, AND FURNISHES INSPECTIONS, REPORTS, AND NONDESTRUCTIVE TESTING (NDT) REPORTS.
   O = OBSERVE THESE ITEMS IN A RANDOM BASIS. OPERATIONS NEED NOT BE DELAYED PENDING THESE INSPECTIONS.
   P = PERFORM THE TASK FOR EACH STEEL ELEMENT.
2. THE QAI IS NOT REQUIRED TO INSPECT FABRICATED ITEMS IF THE STEEL FABRICATOR IS DEEMED AN APPROVED FABRICATOR.
3. WHERE A TASK IS NOTED TO BE PERFORMED BY BOTH THE QCI AND QAI, IT IS PERMITTED TO COORDINATE THE INSPECTION FUNCTION BETWEEN THE QCI AND QAI SO THAT THE INSPECTION FUNCTION IS PERFORMED BY ONLY ONE PARTY.
4. 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.

VERIFICATION AND INSPECTION OF STRUCTURAL STEEL BOLTING

SPECIAL INSPECTION REQUIRED	VERIFICATION AND INSPECTION TASK	SPECIAL INSPECTOR QCI	SPECIAL INSPECTOR QAI	REFERENCE STANDARD	IBC REFERENCE
	1. INSPECTION TASK PRIOR TO BOLTING:			AISC 360-10 TABLE N5.6-1	1705.2.1
YES	a. MANUFACTURER'S CERTIFICATIONS AVAILABLE FOR FASTENER MATERIALS	OP			
YES	b. FASTENERS MARKED IN ACCORDANCE WITH ASTM REQUIREMENTS	OO			
YES	c. PROPER FASTENERS SELECTED FOR THE JOINT DETAIL (GRADE, TYPE, BOLT LENGTH IF THREADS ARE TO BE EXCLUDED FROM SHEAR PLANE)	OO			
YES	d. PROPER BOLTING PROCEDURE SELECTED FOR JOINT DETAIL	O	O		
YES	e. CONNECTING ELEMENTS, INCLUDING THE APPROPIATE FAYING SURFACE CONDITION AND HOLE PREPARATION, IF SPECIFIED, MEET APPLICABLE REQUIREMENTS	OO			
YES	f. PRE-INSTALLATION VERIFICATION TESTING BY INSTALLATION PERSONNEL OBSERVED AND DOCUMENTED FOR FASTENER ASSEMBLIES AND METHODS USED	PO			
YES	g. PROPER STORAGE PROVIDED FOR BOLTS, NUTS, WASHERS AND OTHER FASTENER COMPONENTS	OO			
	2. INSPECTION TASK DURING BOLTING:			AISC 360-10 TABLE N5.6-2	1705.2.1
YES	a. FASTENER ASSEMBLIES, OF SUITABLE CONDITION, PLACED IN ALL HOLES AND WASHERS (IF REQUIRED) ARE POSITIONED AS REQUIRED	OO			
YES	b. JOINT BROUGHT TO THE SNUG-TIGHT POSITION CONDITION PRIOR TO THE PRETENSIONING OPERATION	OO			
YES	c. FASTENER COMPONENT NOT TURNED BY THE WRENCH PREVENTED FROM ROTATING	OO			
YES	d. FASTENERS ARE PRETENSIONED IN ACCORDANCE WITH THE RCSC SPECIFICATION, PROGRESSING SYSTEMATICALLY FROM THE MOST RIGID POINT TOWARD THE FREE EDGES	OO			
	3. INSPECTION TASK AFTER BOLTING:			AISC 360-10 TABLE N5.6-3	1705.2.1
YES	a. DOCUMENT ACCPETANCE OR REJECTION OF BOLTED CONNECTIONS	PP			

NOTES:
1. QCI = FABRICATOR'S OR ERECTOR'S QUALITY CONTROL INSPECTOR RESPONSIBLE FOR WORK PERFORMED IS IN COMPLIANCE WITH THE SHOP DRAWINGS, ERECTION DRAWINGS, REFERENCE SPECIFICATIONS, CODES AND STANDARDS.
   QAI = THE OWNER'S APPROVED AGENCY'S QUALITY ASSURANCE INSPECTOR (SPECIAL INSPECTOR) RESPONSIBLE FOR INSPECTION FABRICATED ITEMS, INSPECTION OF THE ERECTED STEEL SYSTEM, REVIEW TEST REPORTS AND CERTIFICATIONS, ITEMS NOTED IN THE TABLE ABOVE, AND FURNISHES INSPECTIONS, REPORTS, AND NONDESTRUCTIVE TESTING (NDT) REPORTS.
   O = OBSERVE THESE ITEMS IN A RANDOM BASIS, OPERATIONS NEED NOT BE DELAYED PENDING THESE INSPECTIONS.
   P = PERFORM THE TASK FOR EACH BOLTED CONNECTION.
2. THE QAI IS NOT REQUIRED TO INSPECT FABRICATED ITEMS IF THE STEEL FABRICATOR IS DEEMED AN APPROVED FABRICATOR.
3. WHERE A TASK IS NOTED TO BE PERFORMED BY BOTH THE QCI AND QAI, IT IS PERMITTED TO COORDINATE THE INSPECTION FUNCTION BETWEEN THE QCI AND QAI SO THAT THE INSPECTION FUNCTION IS PERFORMED BY ONLY ONE PARTY.

VERIFICATION AND INSPECTION OF WIND-RESISTING COMPONENTS

SPECIAL INSPECTION REQUIRED	VERIFICATION AND INSPECTION TASK	INSPECTION FREQUENCY CONTINUOU	INSPECTION FREQUENCY PERIODIC	REFERENCE STANDARD	IBC REFERENCE
YES	1. ROOF CLADDING	-	X	-	1705.10.3
YES	2. WALL CLADDING	-	X	-	

NOTES:
1. PERIODIC SPECIAL INSPECTION OF WIND-RESISTING COMPONENTS IS REQUIRED IF ONE OF THE FOLLOWING CRITERIA IS MET:
a. IN WIND EXPOSURE B, WHERE $V_{ult} \geq$ 120 MPH
b. IN WIND EXPOSURE C OR D, WHERE $V_{ult} \geq$ 110 MPH

VERIFICATION AND INSPECTION OF SOILS

SPECIAL INSPECTION REQUIRED	VERIFICATION AND INSPECTION TASK	INSPECTION FREQUENCY CONTINUOUS	INSPECTION FREQUENCY PERIODIC	REFERENCE STANDARD	IBC REFERENCE
YES	1. VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY	-	X	-	1705.6
YES	2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIALS	-	X	-	
YES	3. PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS	-	X	-	
YES	4. VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL	X	-	-	
YES	5. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIALS	-	X	-	

NOTES:
1. SPECIAL INSPECTION AND TESTING PROCEDURES OF EXISTING SOIL CONDITIONS, EXCAVATION, FILL PLACEMENT, AND LOAD-BEARING REQUIREMENTS SHALL BE BASED ON THE APPROVED GEOTECHNICAL REPORT AND THE CONTRACT DOCUMENTS.

VERIFICATION AND INSPECTION OF CONCRETE CONSTRUCTION

SPECIAL INSPECTION REQUIRED	VERIFICATION AND INSPECTION TASK	INSPECTION FREQUENCY CONTINUOUS	INSPECTION FREQUENCY PERIODIC	REFERENCE STANDARD	IBC REFERENCE
YES	1. INSPECTION OF REINFORCING STEEL, INCLUDING PRESTRESSING TENDONS, AND PLACEMENT	-	X	ACI 318: 3.5, 7.1-7.7	1910.4
YES	2. INSPECTION OF REINFORCING STEEL WELDING IN ACCORDANCE WITH TABLE 1705.2.2, ITEM 2b	-	-	AWS D1.4 ACI 318: 3.5.2	-
YES	3. INSPECTION OF ANCHORS CAST IN CONCRETE WHERE ALLOWABLE LOADS HAVE BEEN INCREASED OR WHERE STRENGTH DESIGN IS USED	-	X	ACI 318: 8.1.3, 21.2.8	1908.5, 1909.1
YES	4. INSPECTION OF ANCHORS POST-INSTALLED IN HARDEN CONCRETE MEMBERS:			ACI 318: APPENDIX D	1909.1
	a. SPECIAL INSPECTOR CERTIFIED ACI/CRSI ADHESIVE ANCHOR INSTALLER	X	-		
	b. ADHESIVE ANCHOR INSTALLATION REPORT INDICATING CONFORMANCE TO THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS (MPII)	X	-		
	c. INSTALLATION OF MECHANICAL ANCHORS	X	-		
	d. POST-INSTALLED ANCHOR INSTALLERS CERTIFICATIONS AVAILABLE	X	-		
	5. VERIFYING USE OF REQUIRED DESIGN MIX	-	X	ACI 318: CH. 4, 5.2-5.4	1904.2, 1910.2, 1910.3
YES	6. 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	-	ASTM C172, ASTM C31, ACI 318: 5.6, 5.8	1910.10
YES	7. INSPECTION OF CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES	X	-	ACI 318: 5.9, 5.10	1910.6, 1910.7, 1910.8
YES	8. INSPECTION FOR MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES	-	X	ACI 318: 5.11-5.13	1910.9
NO	9. INSPECTION OF PRESTRESSED CONCRETE:				
	a. APPLICATION OF PRESTRESSING FORCES	X	-	ACI 318: 18.20	-
	b. GROUTING OF BONDED PRESTRESSING TENDONS IN THE SEISMIC FORCE-RESISTING SYSTEM	X	-	ACI 318:18.18.4	-
YES	10. ERECTION OF PRECAST CONCRETE MEMBERS	-	X	ACI 318: CH. 16	"
NO	11. VERIFICATION OF IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POST-TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS	-	X	ACI 318: 6.2	-
YES	12. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED	-	X	ACI 318: 6.11.1	-

VERIFICATION AND INSPECTION OF STEEL CONSTRUCTION OTHER THAN STRUCTURAL STEEL

SPECIAL INSPECTION	VERIFICATION AND INSPECTION TASK	SPECIAL INSPECTOR QCI	SPECIAL INSPECTOR QAI	REFERENCE STANDARD	IBC REFERENCE
	1. INSPECTION OR EXECUTION TASKS PRIOR TO DECK PLACEMENT			SDI QA/QC TABLE 1.1	1705.2.2
YES	a. VERIFY COMPLIANCE OF MATERIALS (DECK AND ALL DECK ACCESSORIES) WITH CONSTRUCTION DOCUMENTS, INCLUDING PROFILES, MATERIAL PROPERTIES, AND BASE METAL THICKNESS	PP			
YES	b. DOCUMENT ACCEPTANCE OR REJECTION OF DECK AND ACCESSORIES DECK	P	P		
	2. INSPECTION OR EXECUTION TASKS AFTER DECK PLACEMENT			SDI QA/QC TABLE 1.2	1705.2.2
YES	a. VERIFY COMPLIANCE OF DECK AND ALL ACCESSORIES INSTALLATION WITH CONSTRUCTION DECK DOCUMENTS	P	P		
YES	b. VERIFY DECK MATERIALS ARE REPRESENTED BY THE MILL CERTIFICATIONS THAT COMPLY WITH THE CONSTRUCTION DOCUMENTS	-	P		
YES	c. DOCUMENT ACCEPTANCE OR REJECTION OF INSTALLATION OF DECK AND DECK ACCESSORIES	P	P		
	3. INSPECTION OR EXECUTION TASKS PRIOR TO WELDING			SDI QA/QC TABLE 1.3	1705.2.2
YES	a. WELDING PROCEDURE SPECIFICATIONS (WPS) AVAILABLE	O	O		
YES	b. MANUFACTURER CERTIFICATIONS FOR CONSUMABLES AVAILABLE WELDING	O	O		
YES	c. MATERIAL IDENTIFICATION (TYPE/GRADE)	O	O		
YES	d. CHECK WELDING EQUIPMENT	O	O		
	4. INSPECTION OR EXECUTION TASKS DURING WELDING			SDI QA/QC TABLE 1.4	1705.2.2
YES	a. USE OF QUALIFIED WELDERS	O	O		
YES	b. CONTROL AND HANDLING OF WELDING CONSUMABLES	O	O		
YES	c. ENVIRONMENTAL CONDITIONS (WIND SPEED, MOISTURE, TEMPERATURE)	O	O		
YES	d. WPS FOLLOWED	O	O		
	5. INSPECTION OR EXECUTION TASKS AFTER WELDING			SDI QA/QC TABLE 1.5	1705.2.2
YES	a. VERIFY SIZE AND LOCATION OF WELDS, INCLUDING SUPPORT, SIDE-LAP AND PERIMETER WELDS	P	P		
YES	b. WELDS MEET VISUAL ACCEPTANCE CRITERIA	P	P		
YES	c. VERIFY REPAIR ACTIVITIES	P	P		
YES	d. DOCUMENT ACCEPTANCE OR REJECTION OF WELDS	P	P		
	6. INSPECTION OR EXECUTION TASKS PRIOR TO MECHANICAL FASTENING			SDI QA/QC TABLE 1.6	1705.2.2
YES	a. MANUFACTURER INSTALLATION INSTRUCTIONS AVAILABLE FOR MECHANICAL FASTENERS	O	O		
YES	b. PROPER TOOLS AVAILABLE FOR FASTENER INSTALLATION	O	O		
YES	c. PROPER STORAGE FOR MECHANICAL FASTENERS	O	O		
	7. INSPECTION OR EXECUTION TASKS DURING MECHANICAL FASTENING			SDI QA/QC TABLE 1.7	1705.2.2
YES	a. FASTENERS ARE POSITIONED AS REQUIRED	O	O		
YES	b. FASTENERS ARE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS	O	O		
	8. INSPECTION OR EXECUTION TASKS AFTER MECHANICAL FASTENING			SDI QA/QC TABLE 1.8	1705.2.2
YES	a. CHECK SPACING, TYPE, AND INSTALLATION OF SUPPORT FASTENERS	P	P		
YES	b. CHECK SPACING, TYPE, AND INSTALLATION OF SIDE-LAP FASTENERS	P	P		
YES	c. CHECK SPACING, TYPE, AND INSTALLATION OF PERIMETER FASTENERS	P	P		
YES	d. VERIFY REPAIR ACTIVITIES	P	P		
YES	e. DOCUMENT ACCEPTANCE OR REJECTION OF FASTENERS MECHANICAL	P	P		

NOTES:
1. QCI= INSTALLER'S QUALITY CONTROL INSPECTOR RESPONSIBLE FOR CONFIRMING THAT THE MATERIAL PROVIDED AND WORK PERFORMED MEET THE REQUIREMENTS OF THE CONSTRUCTION DOCUMENTS, INSTALLATION DRAWINGS, SHOP DRAWINGS, DESIGN DOCUMENTS, AND REFERENCE STANDARDS.

   QAI= THE OWNER'S APPROVED AGENCY'S QUALITY ASSURANCE INSPECTOR (SPECIAL INSPECTOR) RESPONSIBLE FOR INSPECTION OF MATERIALS, INSTALLATION, FABRICATION, ERECTION OR PLACEMENT OF COMPONENTS AND CONNECTIONS AND CONFIRM COMPLIANCE WITH CONSTRUCTION DOCUMENTS AND REFERENCE STANDARDS.

   O= OBSERVE THESE ITEMS ON AN INTERMITTENT BASIS. OPERATIONS NEED NOT BE DELAYED PENDING THESE INSPECTIONS.

   P= PERFORM THESE TASKS PRIOR TO FINAL ACCEPTANCE FOR EACH ITEM OR ELEMENT.

2. WHERE A TASK IS NOTED TO BE PERFORMED BY BOTH THE QCI AND QAI, IT IS PERMITTED TO COORDINATE THE INSPECTION FUNCTION BETWEEN THE QCI AND QAI SO THAT THE INSPECTION FUNCTION IS PERFORMED BY ONLY ONE PARTY.

PRE-MANUFACTURED SUPERSTRUCTURE :

1. DESIGN CRITERIA
   INTERNATIONAL BUILDING CODE (IBC) 2021 EDITION
   ASC7-98
   BUILDING CODE FOR THE CITY OF CON EDINBURG, TEXAS
   MAXIMUM ALLOWABLE HORIZONTAL DRIFT OF STRUCTURE = H/400
   WHERE H = MEAN HEIGHT OF STRUCTURE
   DESIGN WIND SPEED = 105 MPH, EXPOSURE "C"*
   MINIMUM COLLATERAL LOAD = 10 PSF PLUS ROOF TOP UNITS
2. A PROFESSIONAL STRUCTURAL ENGINEER REGISTERED IN THE STATE OF TEXAS SHALL BE RESPONSIBLE FOR THE DESIGN OF THE PREFABRICATED METAL BUILDING MEMBERS AND THEIR CONNECTIONS. THIS WORK SHALL ALSO ALSO INCLUDE ALL MEMBERS AND BRACES REQUIRED TO BRACE MASONARY WALLS.
3. ALL DRAWINGS SHALL BE SEALED BY A PROFESSIONAL ENGINEER AND SHALL BE SUBMITTED FOR RECORD PURPOSES UPON REQUEST.
4. THE SUPPLIER SHALL SUBMIT A SEALED LETTER STATING DESIGN CRITERIA FOR ALL WORK AND CERTIFYING THAT ALL DESIGNS ARE IN COMPLIANCE WITH APPLICABLE CODES.
5. ALL ANCHOR BOLTS SHALL BE DESIGNED BY THE METAL BUILDING SUPPLIER AND SUPPLIED BY THE CONTRACTOR. ALL ANCHOR BOLTS SHALL CONFORM TO ASTM A36. SUBMIT MILL CERTIFICATES FOR ALL BOLTS.
6. ALL BOLTS FOR STRUCTURAL CONNECTIONS OF BEAMS, GIRDERS, PURLINS, COLUMNS, BRACES, ETC. SHALL BE OF AMERICAN ORIGIN. NO EXCEPTIONS. SUBMIT MILL CERTIFICATES FOR ALL BOLTS.
7. ALL A325 BOLTS SHALL BE FULLY TENSIONED USING THE TURN OF THE "NUT" METHOD.
8. PROVIDE PINNED BASE CONNECTION FROM COLUMN TO FOUNDATION.
9. ALL BOLTS IN THE METAL BUILDING SHALL BE INSPECTED BY THE TESTING LAB TO CONFIRM PROPER TENSION. THE TESTING LAB SHALL INSPECT EACH AND EVERY BOLT ON THE PROJECT USING A TORQUE WRENCH. SUBMIT WRITTEN REPORTS TO THE ARCHITECT.
10. THE MANUFACTURER'S ENGINEER MUST PERFORM SITE OBSERVATIONS DURING THE COURSE OF THE METAL BUILDING CONSTRUCTION TO CONFIRM THAT THE WORK IS PROGRESSING IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND SHOP DRAWINGS. THE CONTRACTOR SHALL MAKE ALL THE CONTRACTOR SHALL MAKE ALL CORRECTIVE WORK REQUIRED TO MAKE ALL NON-COMPLIANT ITEMS ACCEPTABLE TO THE ENGINEER PRIOR TO CONTINUING WITH ANY FINISH WORK. AT THE END OF THE JOB, THE MANUFACTURER'S REGISTERED TEXAS P.E. MUST SUBMIT A SEALED LETTER TO THE OWNER AND ARCHITECT STATING THAT THE DESIGN AND CONSTRUCTION OF THE METAL BUILDING IS IN COMPLIANCE WITH THE CONTRACT DOCUMENTS AND ALL APPLICABLE CODES.
11. THIS FOUNDATION HAS BEEN DESIGNED USING ASSUMED REACTIONS FROM THE PRE-ENGINEERED BUILDING COMPONENTS AND IS FOR BID PURPOSES ONLY. THE CONTRACTOR SHALL SUBMIT BASE CONNECTION DETAILS (SIZE AND THICKNESS BASE PLATE AND DIAMETER AND LENGTH ANCHOR BOLTS) AND REACTIONS OF THE BUILDING FRAMES TO THE ENGINEER PRIOR TO CONSTRUCTION SO THE DESIGN ASSUMPTIONS CAN BE VERIFIED. DEPTH OF ANCHOR BOLTS SHALL BE SUFFICIENT.
12. ANY ADDITIONAL COST OF FOUNDATION WORK REQUIRED BY REVISIONS OF THE FOUNDATION DESIGN AFTER PRE-ENGINEERED BUILDING REACTIONS ARE SUBMITTED SHALL BE BY OTHERS.

5-16-25
STATE OF TEXAS
F. C. HINOJOSA, JR.
90636
LICENSED
PROFESSIONAL ENGINEER

CHLH
ENGINEERING, LLC
TBPE FIRM No. F-8719
701 S. 15th STREET McALLEN, TX. 78501
(956) 687-5560

CG5 ARCHITECT
TEXAS ARCHITECT
FIRM No: BR4247
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SEAL:

ECISD HIGH SCHOOL ATHLETIC MULTI-USE BUILDING 25-74

ROBERT VELA HIGH SCHOOL

801 E Canton Rd, Edinburg, TX 78539

CLIENT:
EDINBURG CISD

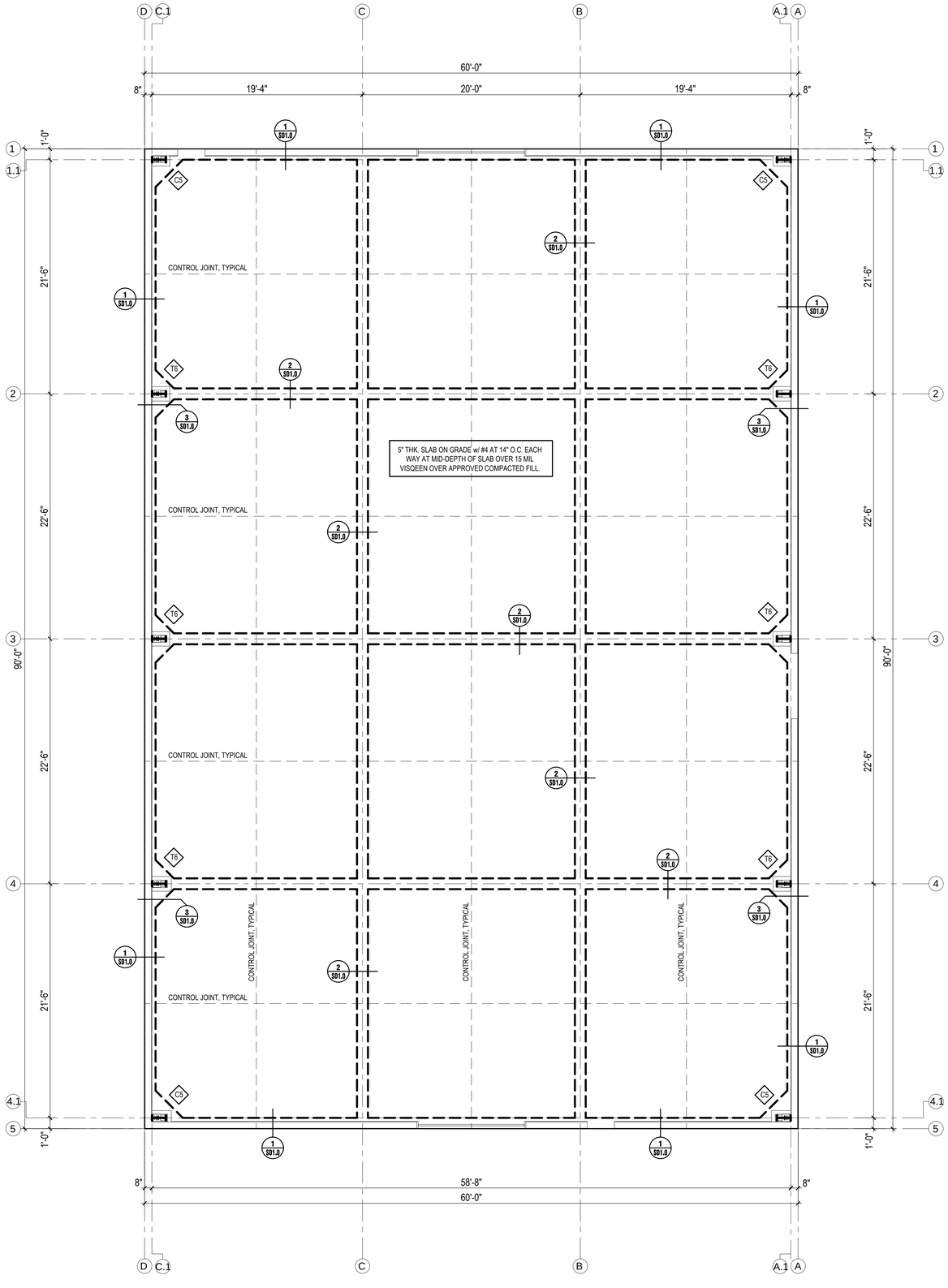
REVISION:

No.	Description	Date

PROJECT #:
DRAWN BY:
CHECKED BY:
DATE: 4/28/25

GENERAL NOTES

S1.2



FOUNDATION NOTES:

1. SEE SHEET S1.0, S1.1, S1.2 & S1.3 FOR GENERAL NOTES.
2. FOR TYPICAL DETAILS SEE SHEETS SD1.0 & SD1.1
3. CONTRACTOR/SUBCONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL DIMENSIONS WITH ARCHITECTURAL PLANS BEFORE COMMENCING ANY WORK. THE CONTRACTOR AND OR SUBCONTRACTOR SHALL REPORT ANY DISCREPANCIES TO THE ARCHITECT AND ENGINEER BEFORE THE WORK HAS BEGUN.
4. REFER TO ARCHITECTURAL PLANS FOR ADDITIONAL DIMENSIONS.
5. REFER TO ARCHITECTURAL PLANS FOR FLOOR DRAIN LOCATIONS.
6. SLOPE SLAB TO DRAINS, SEE ARCHITECTURAL PLANS FOR SLOPE.
7. REFER TO ARCHITECTURAL PLANS FOR FLOOR FINISHES. ENGINEER IS NOT RESPONSIBLE FOR TYPE OF FLOOR FINISHES.
8. PROVIDE SLAB CONTRACTION JOINTS PER TYPICAL DETAIL.
9. THE TESTING LABORATORY SHALL BE THE OWNER REPRESENTATIVE TO CONTROL THE PLACEMENT OF COMPACTED FILL. THE TESTING LABORATORY SHALL APPROVE THE SUBGRADE PREPARATION, THE FILL MATERIALS, THE METHOD OF PLACEMENT AND COMPACTION, AND COMPACTION, AND SHALL INDICATE ON THERE REPORT THE ELEVATION OF THE COMPACTED SUBGRADE.
10. ALL EARTHWORK AND GRADING SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEERING STUDY. THE STRINGENT REQUIREMENTS BETWEEN THESE SUBGRADE NOTES AND GEOTECHNICAL ENGINEERING STUDY SHALL GOVERN AND EXECUTED BY THE CONTRACTOR.
11. IN THE EVENT FOUNDATION EXCAVATIONS ARE CARRIED TO A DEPTH GREATER THAN REQUIRED, THE ADDITIONAL DEPTH SHALL BE FILLED WITH THE SAME CONCRETE AS THAT USED FOR FOOTING AT NO ADDITIONAL EXPENSE TO THE OWNER. NO UNCONTROLLED FILL WILL BE PERMITTED.
12. THE FOOTING EXCAVATIONS SHALL BE KEPT FREE FROM LOOSE MATERIAL AND STANDING WATER.

13. THE FOUNDATION EXCAVATIONS SHOULD BE OBSERVED BY THE TESTING LABORATORY PRIOR TO STEEL OR CONCRETE PLACEMENT TO ASSESS THAT THE FOUNDATION MATERIALS ARE CAPABLE OFSUPPORTING THE DESIGN LOADS AND ARE CONSISTENT WITH THE MATERIALS DISCUSSED IN THE STUDY. THIS IS ESPECIALLY IMPORTANT TO IDENTIFY THE ACCEPTABILITY OF THE SUBGRADE OR FILL MATERIAL UNDER THE FOOTING. SOFT OR LOOSE SOIL ZONES ENCOUNTERED AT THE BOTTOM OF THE FOOTING OR BEAM EXCAVATIONS SHOULD BE EXCAVATIONS SHOULD BE REMOVED TO THE LEVEL OF COMPETENT SOIL AS DIRECTED BY THE TESTING LABORATORY. CAVITIES FORMED AS A RESULT OF EXCAVATION OF SOFT OR LOOSE SOIL ZONES SHOULD BE BACKFILLED WITH LEAN CONCRETE OR SELECT FILL AS DETERMINED BY THE TESTING LABORATORY.
14. CARE SHOULD BE TAKEN TO SHAPE THE BUILDING AREAS SUCH THAT WATER WILL NOT POND AROUND THE STRUCTURE DURING CONSTRUCTION AND CAUSE THE NEAR SURFACE CLAYS TO SWELL. THE PROPOSED STRUCTURE SHALL BE ISOLATED FROM ANY MOISTURE SOURCE WHICH MIGHT ALSO CAUSE SWELLING OF THE CLAYS AFTER COMPLETION OF THE CONSTRUCTION.
15. WHEN THE STRUCTURE IS COMPLETE, THE GROUND SURFACE SHOULD SLOPE AWAY FROM THE STRUCTURE AND DOWN SPOUTS SHOULD CARRY RUNOFF WATER SEVERAL FEET FROM THE BUILDING, PREFERABLY INTO PAVED AREAS OR SEWERS, BEFORE DISCHARGING.
16. DO NOT PLANT, OR LEAVE IN PLACE, DEEP ROOTED TREES WITHIN CLOSE PROXIMITY TO THE PERIMETER OF THE STRUCTURE. DEEP ROOTED TREES HAVE POTENTIAL TO REMOVE MOISTURE FROM BENEATH THE BUILDING IF PLATED CLOSE ENOUGH TO ALLOW THE ROOT BULB EXTEND NEAR OR BENEATH THE BUILDING.
17. AIR CONDITIONING CONDENSER DRAIN LINES TO DISCHARGE WATER A MINIMUM OF 5 FEET FROM THE PERIMETER OF THE STRUCTURE. THE DISCHARGE AREA SHALL HAVE SUFFICIENT SLOPE AWAY FROM THE STRUCTURE TO PREVENT STANDING WATER.
18. THE FINAL ONE (1) FOOT OF FILL OUTSIDE THE BUILDING AREA SHOULD CONSIST OF A COHESIVE CLAYEY (CL) SOIL. FILL CAN NOT BE ALLOWED TO DRY OUT DURING OR AFTER COMPACTION.
19. NOTE THAT SOME LEVELS OF RISK ARE ASSOCIATED WITH ALL FOUNDATION SYSTEMS AND THERE IS NO SUCH THING AS A "ZERO RISK" FOUNDATION. IT ALSO SHOULD BE NOTED THAT THE FOUNDATION PROVIDED IS NOT DESIGNED TO RESIST SOIL MOVEMENT AS A RESULT OF SEWER/PLUMBING LEAKS, EXCESSIVE IRRIGATION, NON UNIFORM IRRIGATION, POOR DRAINAGE, AND WATER PONDING NEAR THE FOUNDATION SYSTEM.
20. CONSTRUCTION FOLLOWING WET WEATHER PERIODS WILL LIKELY ENCOUNTER DIFFICULTIES DUE TO THE WET OR SOFT SURFACE SOILS BECOMING A GENERAL HINDRANCE TO EQUIPMENT DUE TO RUTTING AND PUMPING OF THE SOIL SURFACE. IF THE SUBGRADE CANNOT BE ADEQUATELY COMPACTED TO MINIMUM DENSITIES AS DESCRIBED ABOVE, ONE OF THE FOLLWING MEASURES WILL BE REQUIRED:
    a) REMOVAL AND REPLACEMENT WITH SELECT FILL
    b) CHEMICAL TREATMENT OF THE SOIL TO DRY SOIL AND INCREASE THE STABILITY OF THE SUBGRADE
    c) DRYING BY NATURAL MEANS.
21. ALL FOOTINGS TO HAVE #5's AT 12" O.C. EACH WAY TOP AND BOTTOM REINFORCING.
22. FOLLOWING ARE THE SIZES OF THE REQUIRED FOOTINGS:
    C5 - INDICATES A 5'-6" x 5'-6" x 3'-0" DEEP CEE FOOTING
    T6 - INDICATES A 6'-6" x 6'-6" x 3'-0" DEEP TEE FOOTING

SLAB ON GRADE	
THICKNESS	5 INCHES
REINFORCING (EACH WAY)	#4 AT 14" O.C.
REINFORCING LOCATION	MID DEPTH
VISQUEEN	15 MIL
CONCRETE CHAIRS (NOT PLASTIC CHAIRS ALLOWED)	3'-0" O.C. EACH WAY

1 FOUNDATION PLAN
SCALE: 3/16"=1'-0"

5-16-25
STATE OF TEXAS
C. HINOJOSA, JR.
90636
LICENSED
PROFESSIONAL ENGINEER

CHLH
ENGINEERING, LLC
TBPE FIRM No. F-8719
701 S. 15th STREET McALLEN, TX. 78501
(956) 687-5560

CG5 ARCHITECT
TEXAS ARCHITECT
FIRM No: BR4247
WWW.CG5ARCHITECT.COM

SEAL:

ECISD HIGH SCHOOL ATHLETIC MULTI-USE BUILDING 25-74

ROBERT VELA HIGH SCHOOL

801 E Canton Rd, Edinburg, TX 78539

CLIENT:
EDINBURG CISD

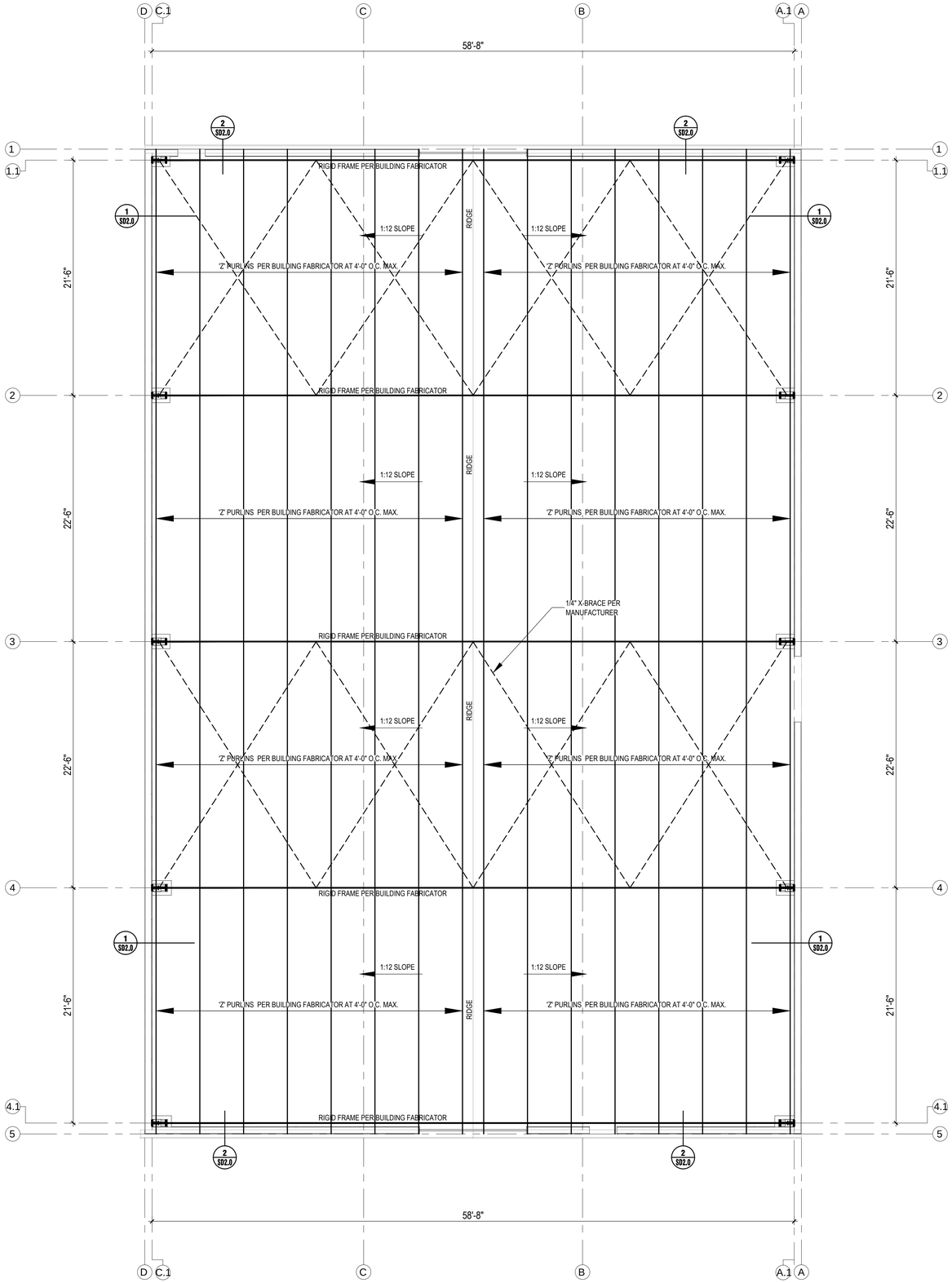
REVISION:

No.	Description	Date

PROJECT #:
DRAWN BY:
CHECKED BY:
DATE: 4/28/25

FOUNDATION PLAN

S2.0



METAL BUILDING NOTES:

1. THE DESIGN AND CONSTRUCTION OF THE METAL BUILDING IS THE RESPONSIBILITY OF THE SUPPLIER. THE PLAN SHOWN IS SCHEMATIC ONLY.
2. VERIFY SIZE AND LOCATION OF ALL SUPPORTED ITEMS WITH MANUFACTURER AND ARCH'L. DRAWINGS. PRIOR TO FABRICATING STEEL. PROVIDE ALL FRAMING INCLUDING SUB PURLINS AND ROD HANGERS BETWEEN "Z" PURLINS AS REQ'D.
3. THE CONTRACTOR SHALL VERIFY THE SIZE, LOCATION AND NUMBER OF MECH'L. UNITS SUPPORTED BY THE METAL BUILDING STRUCTURE PRIOR TO ORDERING THE METAL BUILDING. SUPPORT FRAMING SHALL BE PROVIDED FOR ALL UNITS WHETHER THEY ARE SHOWN ON THIS DRAWING OR NOT.

1 ROOF FRAMING PLAN
SCALE: 3/16"=1'-0"

5-16-25
STATE OF TEXAS
C. HINOJOSA, JR.
90636
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801 E Canton Rd, Edinburg, TX 78539

CLIENT:
EDINBURG CISD

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No.	Description	Date

PROJECT #:
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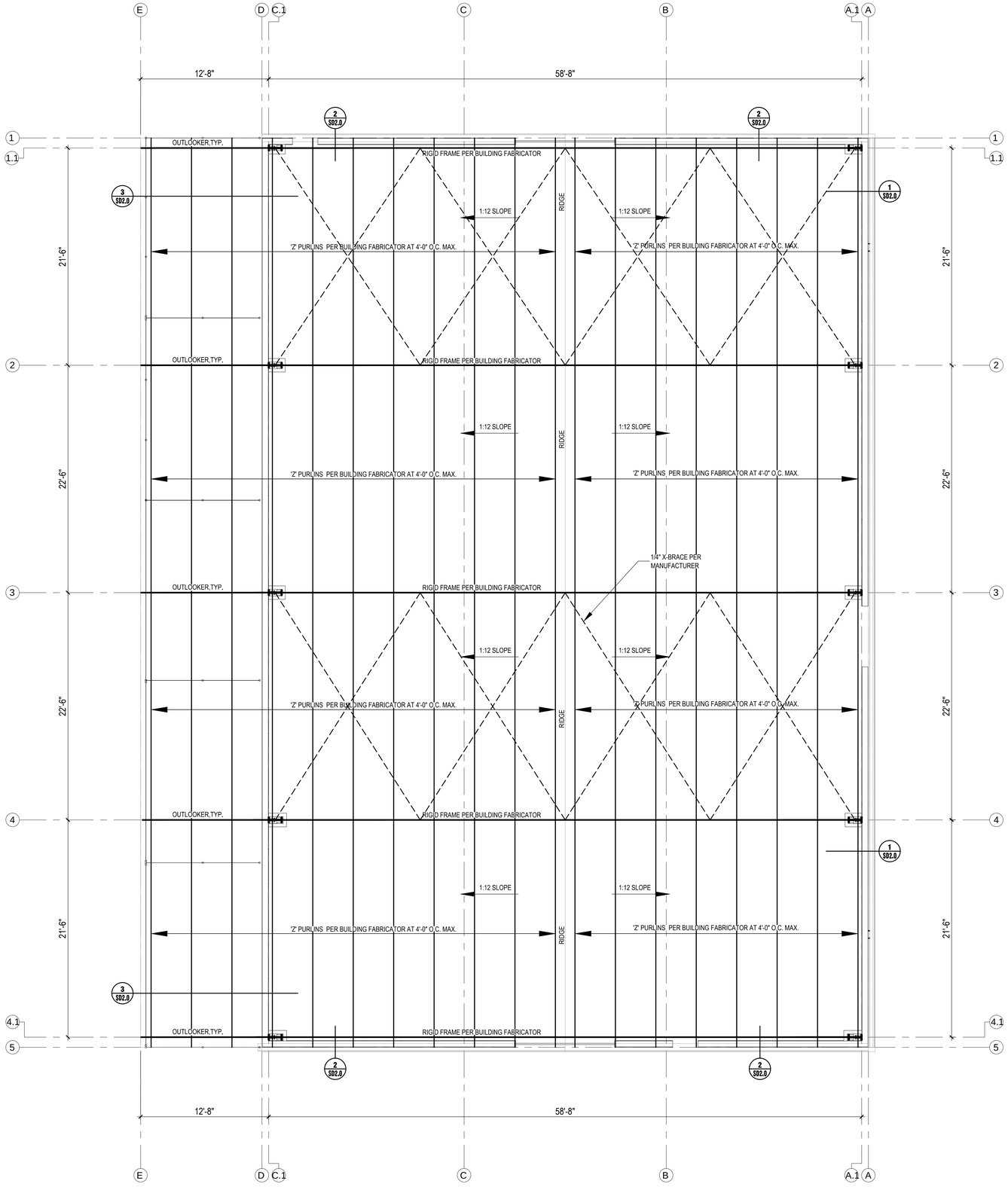
CHECKED BY:
DATE: 4/28/25

ROOF FRAMING PLAN

S3.0



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2. VERIFY SIZE AND LOCATION OF ALL SUPPORTED ITEMS WITH MANUFACTURER AND ARCH'L. DRAWINGS. PRIOR TO FABRICATING STEEL. PROVIDE ALL FRAMING INCLUDING SUB PURLINS AND ROD HANGERS BETWEEN "Z" PURLINS AS REQ'D.
3. THE CONTRACTOR SHALL VERIFY THE SIZE, LOCATION AND NUMBER OF MECH'L. UNITS SUPPORTED BY THE METAL BUILDING STRUCTURE PRIOR TO ORDERING THE METAL BUILDING. SUPPORT FRAMING SHALL BE PROVIDED FOR ALL UNITS WHETHER THEY ARE SHOWN ON THIS DRAWING OR NOT.

1 ALTERNATE ROOF FRAMING PLAN
SCALE: 3/16"=1'-0"

5-16-25
STATE OF TEXAS
C. HINOJOSA, JR.
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SEAL:

ECISD HIGH SCHOOL ATHLETIC MULTI-USE BUILDING 25-74

ROBERT VELA HIGH SCHOOL

801 E Canton Rd, Edinburg, TX 78539

CLIENT:
EDINBURG CISD

REVISION:

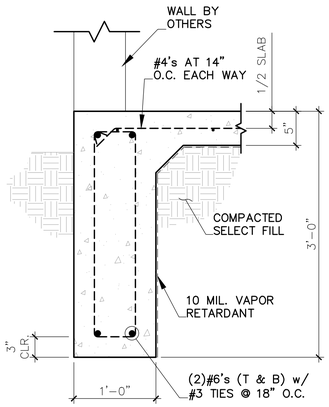
No.	Description	Date

PROJECT #:
DRAWN BY:
CHECKED BY:
DATE: 4/28/25

ALTERNATE ROOF FRAMING PLAN

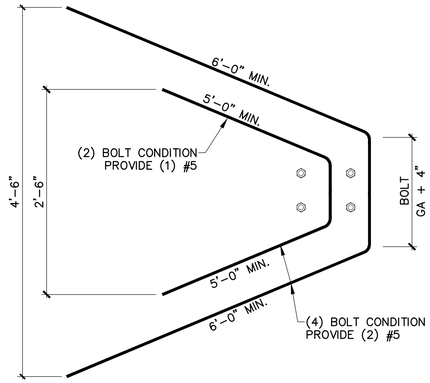
ALTERNATE

S3.1



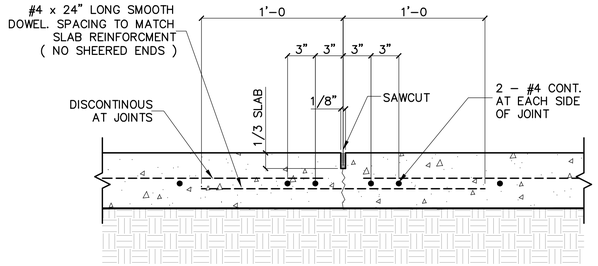
1 EXTERIOR GRADE BEAM

SCALE: NOT TO SCALE

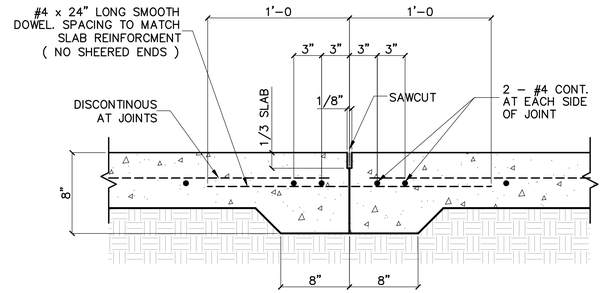


4 PLAN VIEW, TRUST BARS

SCALE: NOT TO SCALE



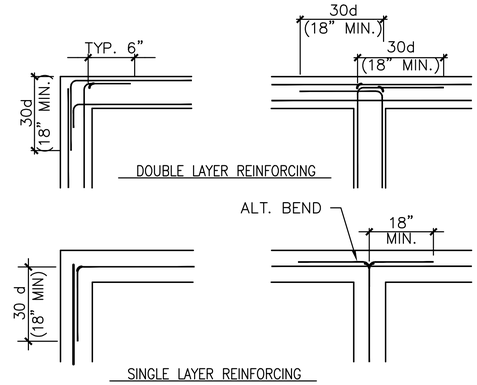
CONTRACTION JOINT @ POUR STOPS



CONSTRUCTION JOINT @ POUR STOPS

7 CONSTRUCTION / CONTRACTION JOINT

SCALE: NOT TO SCALE

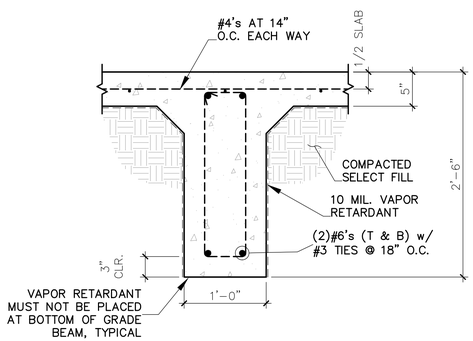


10 TYP. REINF. @ INT. OF CONC. FTG'S.

SCALE: NOT TO SCALE

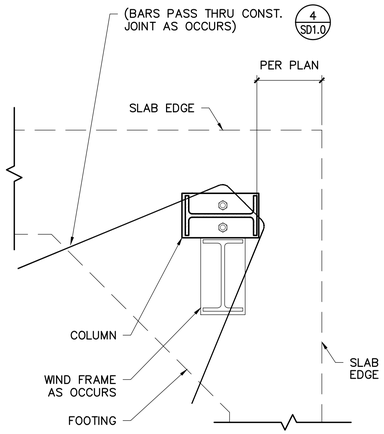
FOOTING SCHEDULE					
TYPE	A	B	C	D	REINFORCING
C5		5'-6"	5'-6"	3'-0"	#5'S @ 12" O.C. E.W. TOP & BOTT.
T6		6'-6"	6'-6"	3'-0"	#5'S @ 12" O.C. E.W. TOP & BOTT.

NOTES:
1. D = FOOTING DEPTH BELOW FINISH FLOOR
2. FOOTING DIMENSIONS ARE FOR BIDDING PURPOSES ONLY. ACTUAL DIMENSIONS MAY VARY.
3. PROVIDE UNIT PRICES (ON A CUBIC YARD BASIS) FOR REINFORCED (#6'S @ 8" OC EW TOP & BOTT.) WIDENED BEAM CONCRETE FOOTINGS



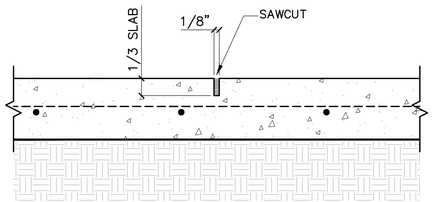
2 INTERIOR GRADE BEAM

SCALE: NOT TO SCALE



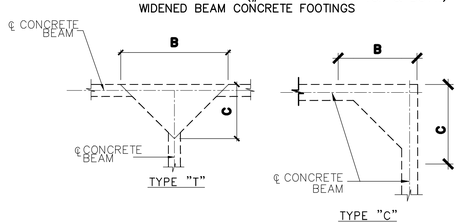
5 PLAN VIEW

SCALE: NOT TO SCALE



8 CONTROL JOINT

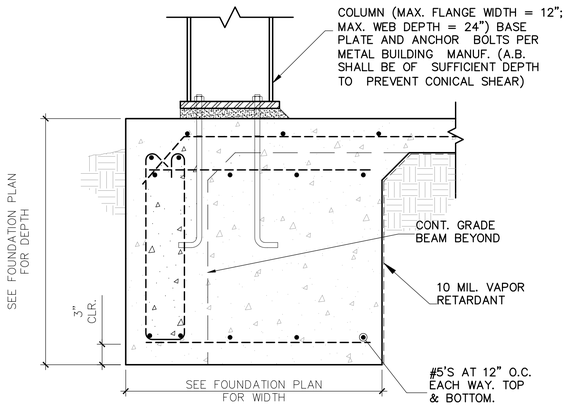
SCALE: NOT TO SCALE



WIDENED BEAM FOOTINGS

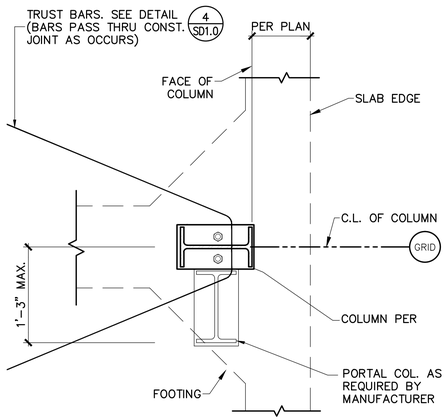
11 FOOTING AT COLUMN

SCALE: NOT TO SCALE



3 FOOTING AT COLUMN

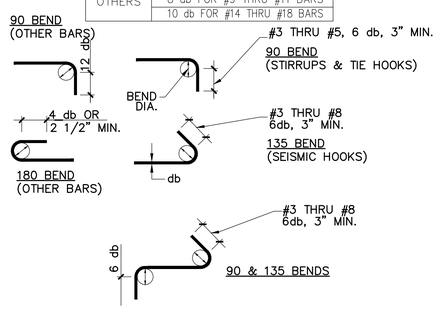
SCALE: NOT TO SCALE



6 PLAN VIEW

SCALE: NOT TO SCALE

DIAMETER OF BENDS	
STIRRUPS AND TIES	4 db FOR #3 THRU #5 BARS
	6 db FOR #6 THRU #8 BARS
ALL OTHERS	6 db FOR #3 THRU #8 BARS
	8 db FOR #9 THRU #11 BARS
	10 db FOR #14 THRU #18 BARS



9 STANDARD HOOKS

SCALE: NOT TO SCALE

5-16-25
STATE OF TEXAS
C. HINOJOSA, JR.
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CHLH ENGINEERING, LLC
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CG5 ARCHITECT
TEXAS ARCHITECT FIRM No: BR4247
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SEAL:

ECISD HIGH SCHOOL ATHLETIC MULTI-USE BUILDING 25-74

ROBERT VELA HIGH SCHOOL

801 E Canton Rd, Edinburg, TX 78539

CLIENT:
EDINBURG CISD

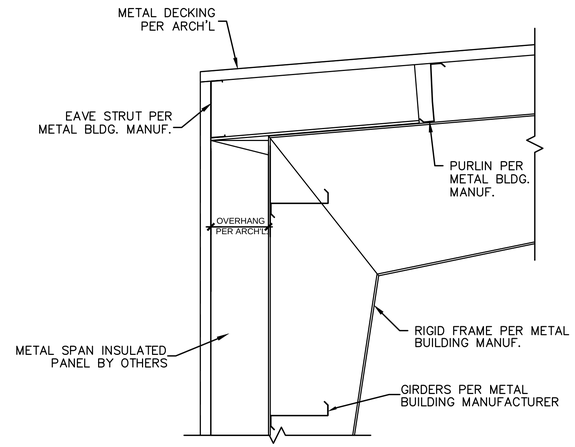
REVISION:

No.	Description	Date

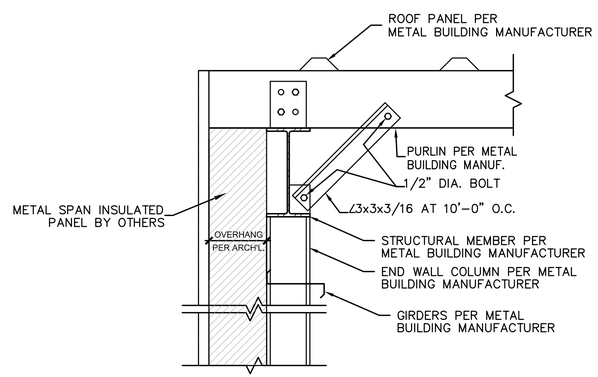
PROJECT #:
DRAWN BY:
CHECKED BY:
DATE: 4/28/25

FOUNDATION DETAILS

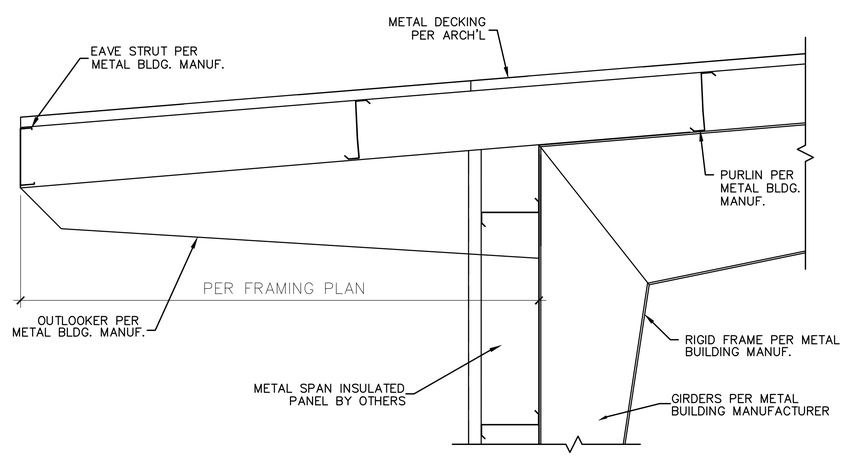
SD1.0



1 FRAME COLUMN
SCALE: NOT TO SCALE



2 END WALL
SCALE: NOT TO SCALE



3 ALTERNATE
FRAME COLUMN
SCALE: NOT TO SCALE

CG5 ARCHITECT
TEXAS ARCHITECT
FIRM No: BR4247
WWW.CG5ARCHITECT.COM

SEAL:

ECISD HIGH SCHOOL ATHLETIC MULTI-USE BUILDING 25-74

ROBERT VELA HIGH SCHOOL

801 E Canton Rd, Edinburg, TX 78539

CLIENT:
EDINBURG CISD

REVISION:

No.	Description	Date

PROJECT #:
DRAWN BY:
CHECKED BY:
DATE: 4/28/25

FRAMING DETAILS

SD2.0

CHLH
ENGINEERING, LLC
TBPE FIRM No. F-8719
701 S. 15th STREET McALLEN, TX. 78501
(956) 687-5560

2 ENLARGE SITE PLAN
3/64" = 1'-0"

N

GENERAL NOTES:

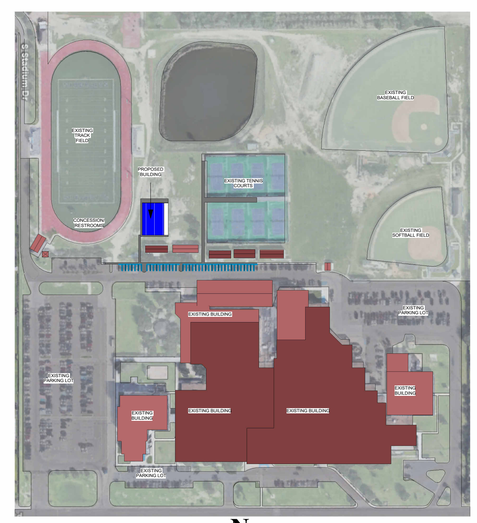
1. OWNER WILL PROVIDE SOILS TESTS PRIOR TO FOUNDATION WORKS.
2. PROVIDE SIDEWALK AS PART OF BASE BID.
3. FOR UTILITIES, RE: MEP & CIVIL
4. WARNING:
   CONTACT AEP FOR ELECTRICAL SERV. & CITY OF EDINBURG FOR WATER & SEWER UTILITIES. CONTRACTOR TO VERIFY EXISTING UTILITES
5. ALL CONSTRUCTION AND MATERIALS FOR DRAINAGE, GRADING AND PAVING TO BE IN ACCORD WITH "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION".
6. CONTRACTOR IS RESPONSIBLE FOR ALL HORIZONTAL AND VERTICAL CONTROL FOR CONSTRUCTION.
7. CONTRACTOR IS RESPONSIBLE FOR PAYING ANY FEES FOR PERMITS AS REQUIRED FOR THIS CONSTRUCTION
8. CONTRACTOR TO SET CONTROL GRADES AT 25' INTERVALS ALONG ALL PAVING FLOW LINES
9. ANY DAMAGE TO EXISTING UTILITIES BY CONTRACTOR TO BE FIXED
10. PROVIDE JOB SIGN RE:
11. ALL SOIL PLACED ONTO SITE IS TO BE COMPACTED TO 80% DENSITY, EXCEPT UNDER ANY PAVING COMPACTION IS TO BE 95%, U.N.O.
12. ALL PIPES SLEEVES SHALL BE SCH 40 PVC. AND FURNISHED IN PLACE BY THE CONTRACTOR BEFORE PAVING.
13. 6" CONC. CURB & 12" GUTTER
14. CONTRACTOR TO PROVIDE A STAGING AREA TO PROVIDE FENCING FOR CONSTRUCTION AREA

SITE NOTES:

1. MAXIMUM SLOPE AT SIDEWALK IS NOT TO EXCEED 1:20 (5%) ALONGSIDE AND 1:50 (2%) ACROSS.
2. SITE DRAINAGE SHALL NOT BE DIRECTED TOWARD ADJACENT PROPERTIES.
3. BUILDING PAD ELEVATION TO BE SET BASED ON THE AREA SURVEY AND THE APPLICABLE FLOOD ZONE.
4. VERIFY LOCATION OF SITE IMPROVEMENTS IN RELATION TO BUILDING. PROPERTIES TO BUILDING. PROPERTY LINES AND EASEMENTS.

ADA NOTES:

1. ALL SIDEWALKS AND COVERED WALKWAYS SHALL HAVE 1:50 MAXIMUM CROSS SLOPE SIDEWALKS OR COVERED WALKWAYS THAT MUST HAVE SLOPES GREATER THAN 1:20 SHALL HAVE HANDRAILS ON BOTH SIDES. HANDRAILS SHALL BE 34" TO TOP A.F.F. THERE SHALL BE NO ABRUPT CHANGE IN ELEVATION ALONG ACCESSIBLE ROUTES AT SIDEWALKS AND COVERED WALKWAYS.
2. CURB RAMP SLOPE SHALL BE 1:20 MAXIMUM WITH 1:10 FLARED SIDES AND SHALL BE TEXTURED. PAINT WITH A LIGHT REFLECTIVE PAINT. PARALLEL CURB RAMP SLOPE SHALL BE 1:12 MAXIMUM & TEXTURED. PAINT WITH A LIGHT REFLECTIVE PAINT. ALL CURB RAMPS HAVE A LANDING AT TOP & BOTTOM. LANDINGS SHALL HAVE A 1:50 MAXIMUM SLOPE IN ANY DIRECTION.
3. STRIPED ACCESS AISLES AND ACCESSIBLE PARKING SHALL HAVE A MAXIMUM CROSS SLOPE IN ALL DIRECTIONS OF 1:50.
4. ALL GRADING SHALL BE DONE TO DRAIN WATER AWAY FROM BUILDINGS.
5. ALL EXTERIOR ALCOVES SHALL HAVE A 1:50 MAXIMUM SLOPE AND SHALL HAVE NO DROPS AT DOORS NOR AT CONNECTION SIDEWALKS.
6. REFER TO CIVIL DRAWINGS. CONTRACTOR IS RESPONSIBLE FOR CONTRACTING ARCHITECT IN CASE OF DISCREPANCIES AND COORDINATING WITH CIVIL ENGINEER PRIOR TO PROCEEDING.
7. ALL EXTERIOR DOORS SHALL HAVE A LEVEL AREA IN FRONT OF THE DOOR WITH A 1:50 MAXIMUM SLOPE IN ALL DIRECTIONS. THE AREA SHALL BE A MINIMUM OF 5 FT . IN THE DIRECTIONS OF TRAVEL BY THE WIDTH OF THE SIDEWALK.



1 OVERALL SITE PLAN
1" = 200'-0"

N

CG5 ARCHITECT

TEXAS ARCHITECT
FIRM No: BR4247
WWW.CG5ARCHITECT.COM

SEAL: 5-16-2025

REGISTERED ARCHITECT
JOSE C GARCIA III
22658
STATE OF TEXAS

R VELA HIGHSCHOOL ECISD HIGH SCHOOL MULTI-USE BUILDING 25-74

801 E CANTON RD EDINBURG, TX 78539

CLIENT:
ECISD

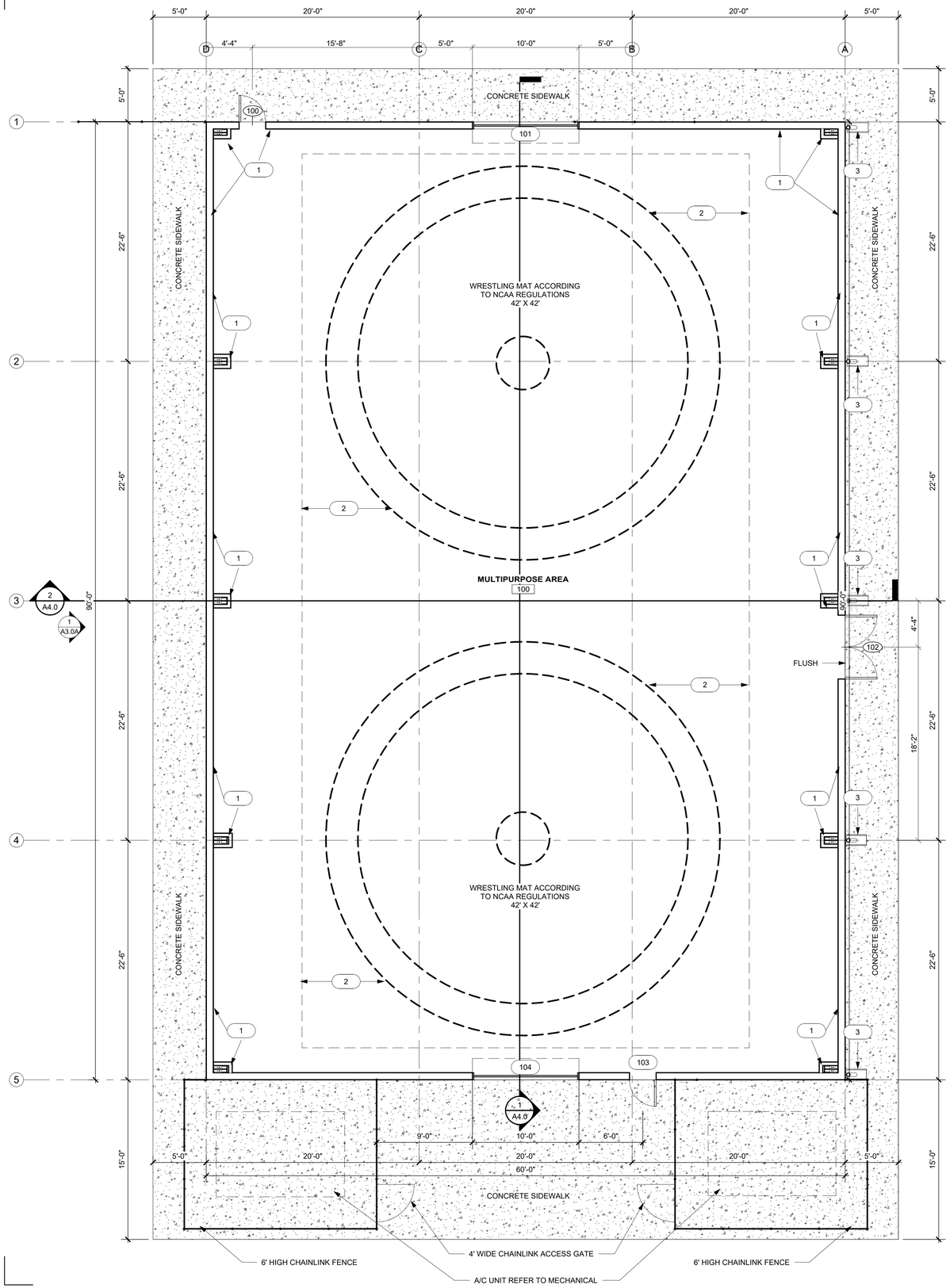
REVISION:

No.	Description	Date

PROJECT #: 25-030101
DRAWN BY: D.L.
CHECKED BY: CG3
DATE: Issue Date

SITE PLAN

A0.1



1 LEVEL 1 FLOOR PLAN
3/16" = 1'-0"

N

KEY NOTES:

1. 3 5/8" METAL STUD FURRING WALL WITH 1/2" T1-11 PANEL OR EQUAL PLYWOOD SHEATHING TO 8'-0" AFF TYPICAL, PAINTED, PROVIDE CAP AT TOP OF FURRING WALL
2. WRESTLING MAT ACCORDING TO NCAA REGULATIONS 42' X 42', BY OWNER
3. CONCRETE SPLASH BLOCKS

ROOM SCHEDULE

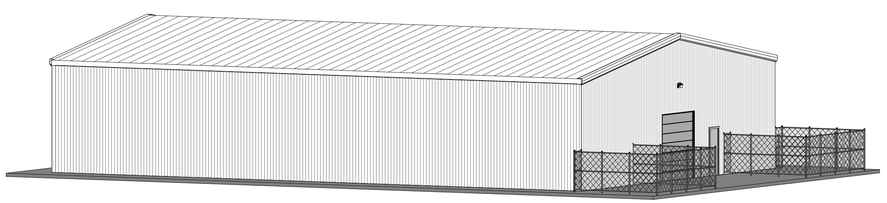
ROOM NAME	FLOOR FINISH	BASE FINISH	WALL FINISH	CEILING FINISH	COMMENTS
MULTIPURPOSE AREA	F-1	B-1	W-1	C-1	

ROOM FINISH SCHEDULE: **BASIS OF DESIGN OR EQUAL**

FLOOR:	F-1	SEALED CONCRETE FLOOR, TRANSPARENT
BASE:	B-1	4" RUBBER BASE, ROPPE 700 SERIES 4" THERMOPLASTIC RUBBER WALL COVE BASE
WALL:	W-1	T1-11 PANEL OR EQUAL PLYWOOD SHEATHING TO 8'-0" AFF TYPICAL, PAINTED, FINAL COLOR SELECTED BY OWNER
CEILING:	C-1	OPEN STRUCTURE, ONLY STRUCTURAL FRAME PAINTED

FLOOR PLAN GENERAL NOTES

1. THE CONTRACTOR SHALL CAREFULLY REVIEW THE DRAWINGS, SPECIFICATIONS, DIMENSIONS AND SITE CONDITIONS PRIOR TO BEGINNING ANY WORK AND REPORT ANY INCONSISTENCIES OR DISCREPANCIES TO THE ARCHITECT IMMEDIATELY FOR RESOLUTION DURING THE Q&A PERIOD OF THE BID PHASE, AND AT THE LATEST BEFORE BEGINNING CONSTRUCTION.
2. THE DRAWINGS AND SPECIFICATIONS ARE CORRELATIVE AND HAVE EQUAL AUTHORITY AND PRIORITY. BASE DISAGREEMENTS IN THEMSELVES OR IN EACH OTHER ON THE MOST EXPENSIVE COMBINATION OF QUANTITY AND QUALITY OF WORK INDICATED.
3. ITEMS SPECIFICALLY MENTIONED IN THE SPECIFICATIONS BUT NOT SHOWN ON THE DRAWINGS OR ITEMS SHOWN ON THE DRAWINGS BUT NOT SPECIFICALLY MENTIONED IN THE SPECIFICATIONS SHALL BE PROVIDED AS IF THEY WERE BOTH SPECIFIED AND SHOWN IN THE DRAWINGS.
4. ALL MINOR DETAILS OF WORK WHICH ARE NOT SPECIFICALLY SHOWN ON THE DRAWINGS, AS WELL AS SUCH ITEMS WHICH ARE NOT SPECIFICALLY MENTIONED IN THE SPECIFICATIONS, BUT ARE NECESSARY FOR THE PROPER COMPLETION OF THE WORK, SHALL BE CONSIDERED AS INCIDENTAL AND AS BEING PART OF AND INCLUDED WITH THE WORK FOR WHICH PRICES ARE GIVEN IN THE PROPOSAL AND NO EXTRA COMPENSATION SHALL BE ALLOWED FOR THE PERFORMANCE THEREOF.
5. ALL FLOOR PLAN DIMENSIONS ARE TO FINISH FACE OF WALL. DO NOT SCALE DRAWINGS. WHERE DIMENSIONS ARE NOTED "AS CLEAR" DIMENSION SHALL BE FROM FINISH TO FINISH.
6. CASEWORK, PLUMBING FIXTURES, TOILET PARTITIONS, AND OTHER FIXTURES AND EQUIPMENT ARE DIMENSIONED FROM FINISHED SURFACES UNLESS NOTED OTHERWISE.
7. ALL SPACES WITH FLOOR DRAINS - SLOPE NOT TO EXCEED 2% (ONE - IN - FIFTY) IN ANY DIRECTION. COORDINATE ALL FLOOR DRAINS WITH PLUMBING DRAWINGS PRIOR TO ANY ROUGH-IN AND CONCRETE PLACEMENT.
8. DIMENSIONS NOTED AS "FIELD VERIFY" SHALL BE CHECKED AT THE SITE BY THE CONTRACTOR AND REVIEWED WITH THE ARCHITECT BEFORE INCORPORATING INTO THE WORK.
9. DIMENSIONS NOTED AS "CLEAR" REQUIRE SPECIFIC COORDINATION BETWEEN DISCIPLINES AND/OR MANUFACTURERS.
10. ALL FLOOR FINISH CHANGES SHALL OCCUR AT THE CENTERLINE OF DOORS UNLESS NOTED OTHERWISE. ALL FLOOR FINISH ELEVATION CHANGES SHALL HAVE THRESHOLDS OR REDUCERS STRIPS AS SPECIFIED.
11. OPEN EXTERIOR JOINTS AROUND DOOR AND WINDOW FRAMES, BETWEEN WALLS AND FOUNDATION, BETWEEN WALLS AND ROOF, BETWEEN WALL PANELS, AT WALL AND ROOF PENETRATIONS AND ANY OTHER BUILDING ENVELOPE PENETRATION SHALL BE SEALED, CAULKED AND/OR WEATHER-STRIPPED TO PREVENT OR LIMIT AIR, MOISTURE AND VAPOR PENETRATION. USE ONLY SPECIFIED MANUFACTURER APPROVED MATERIALS AS DIRECTED BY MATERIAL MANUFACTURERS.
12. EFFECTIVELY ISOLATE ALL DISSIMILAR METALS/ MATERIALS TO PREVENT CORROSION BY ELECTROLYTIC ACTION OR OTHER CAUSES AS RECOMMENDED BY THE RESPECTIVE PRODUCT MANUFACTURER OR SUPPLIER.
13. PROPERLY TERMINATE ALL MATERIALS WITH APPROPRIATE TRIM, FLASHING, SEALANT, EXPANSION CONTROL, ETC. AS INDICATED ON DRAWINGS OR AS REQUIRED FOR PROPER INSTALLATION AS ACCEPTED BY STANDARD BUILDING PRACTICE.
14. COORDINATE AND PROVIDE APPROPRIATE BLOCKING IN WALLS AS REQUIRED TO SECURE ALL EQUIPMENT, HANDRAILS, CASEWORK, ETC. AS REQUIRED. WOOD BLOCKING SHALL MEET CODE REQUIREMENTS.
15. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR CEILING TYPES AND HEIGHTS. COORDINATE ALL LIGHT FIXTURES, MECHANICAL DIFFUSERS, NOTIFICATION DEVICES, ETC. WITH M.E.P. DRAWINGS. NOTIFY ARCHITECT OF ANY DISCREPANCIES FOR RESOLUTION.
16. COORDINATE HOUSEKEEPING PAD DIMENSIONS AND LOCATIONS WITH EQUIPMENT TO BE INSTALLED. ALL HOUSEKEEPING PADS SHALL BE A MINIMUM OF 4" TALL REINF. W/ #3 BARS AT 15" O.C.B.W. AND PROVIDE 1" (45- DEGREE) CHAMFERED EDGES UNLESS NOTED OTHERWISE.
17. ALL INTERIOR DOORS IN STUD WALL ASSEMBLIES SHALL BE SET A MINIMUM OF 4" OFF THE PERPENDICULAR ADJACENT WALL ON THE HINGE SIDE OF THE DOOR UNLESS OTHERWISE NOTED. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT OF ANY CONFLICTS FOR RESOLUTION.
18. SET ALL EXTERIOR DOOR THRESHOLDS IN FULL BED OF MANUFACTURER APPROVED SEALANT IN ACCORDANCE WITH MANUFACTURER INSTALLATION INSTRUCTIONS.
19. REFER TO CODES AND CONVENTIONS SHEET FOR MOUNTING HEIGHTS OF FIXTURES AND EQUIPMENT AS SCHEDULED. REFER TO THE TEXAS DEPARTMENT OF LICENSING AND REGULATIONS, ARCHITECTURAL BARRIERS DIVISION TEXAS ACCESSIBILITY STANDARDS FOR ALL MOUNTING HEIGHTS NOT LISTED AND FOR FURTHER CLARIFICATION AS NEEDED.
20. PROVIDE ROOM SIGNAGE AND DIRECTIONAL SIGNAGE AS PART OF BASE BID. REFER TO THE TEXAS DEPARTMENT OF LICENSING AND REGULATIONS, ARCHITECTURAL BARRIERS DIVISION TEXAS ACCESSIBILITY STANDARDS FOR ALL MOUNTING HEIGHTS NOT LISTED AND FOR FURTHER CLARIFICATION AS NEEDED.



CG5 ARCHITECT
TEXAS ARCHITECT
FIRM No: BR4247
WWW.CG5ARCHITECT.COM

SEAL:
5-16-2025

REGISTERED ARCHITECT
JOSE C GARCIA III
22658
STATE OF TEXAS

ECISD HIGH SCHOOL ATHLETIC MULTI-USE BUILDING ECISD CSP 25-74

ROBERT VELA HIGH SCHOOL

801 E Canton Rd, Edinburg, TX 78539

CLIENT:
EDINBURG CISD

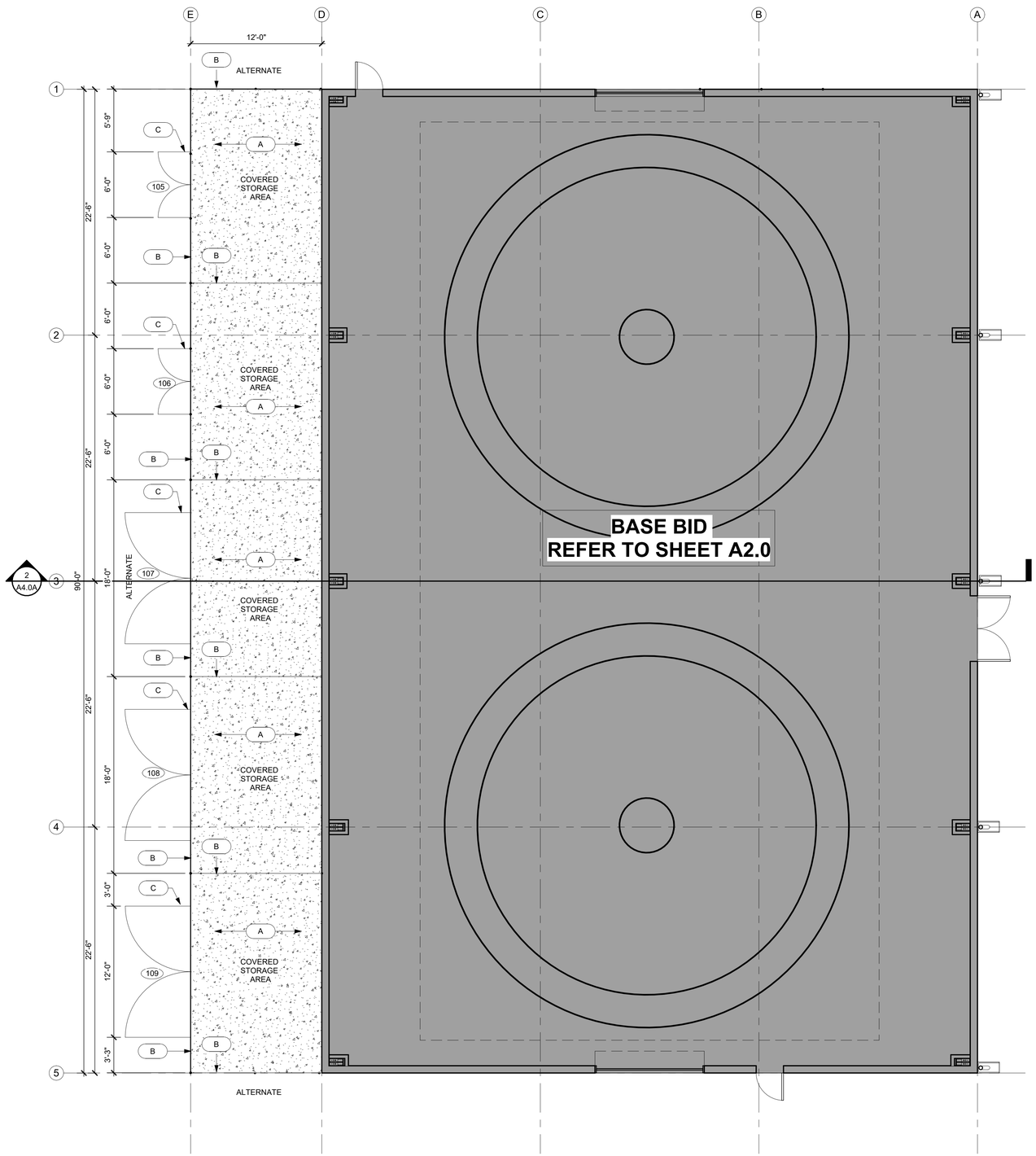
REVISION:

No.	Description	Date

PROJECT #: 25-030102
DRAWN BY: N.M.
CHECKED BY: CG3
DATE: 4/28/25

FLOOR PLAN BASE BID

A2.0



1 A3.0 LEVEL 1 FLOOR PLAN ALTERNATE
3/16" = 1'-0"

N

KEY NOTES:

A — CONCRETE FLAT WORK FLOOR AT CANOPY EXTENSION (**ALTERNATE #2**)

B — 12' HIGH CHAIN LINK FENCE AT CANOPY EXTENSION (**ALTERNATE #3**)

C — 8' HIGH CHAIN LINK DOUBLE SWING GATE AT CANOPY EXTENSION (**ALTERNATE #3**) REFER TO SHEET A7.0

FLOOR PLAN GENERAL NOTES

1. THE CONTRACTOR SHALL CAREFULLY REVIEW THE DRAWINGS, SPECIFICATIONS, DIMENSIONS AND SITE CONDITIONS PRIOR TO BEGINNING ANY WORK AND REPORT ANY INCONSISTENCIES OR DISCREPANCIES TO THE ARCHITECT IMMEDIATELY FOR RESOLUTION DURING THE Q&A PERIOD OF THE BID PHASE, AND AT THE LATEST BEFORE BEGINNING CONSTRUCTION.
2. THE DRAWINGS AND SPECIFICATIONS ARE CORRELATIVE AND HAVE EQUAL AUTHORITY AND PRIORITY. BASE DISAGREEMENTS IN THEMSELVES OR IN EACH OTHER ON THE MOST EXPENSIVE COMBINATION OF QUANTITY AND QUALITY OF WORK INDICATED.
3. ITEMS SPECIFICALLY MENTIONED IN THE SPECIFICATIONS BUT NOT SHOWN ON THE DRAWINGS OR ITEMS SHOWN ON THE DRAWINGS BUT NOT SPECIFICALLY MENTIONED IN THE SPECIFICATIONS SHALL BE PROVIDED AS IF THEY WERE BOTH SPECIFIED AND SHOWN IN THE DRAWINGS.
4. ALL MINOR DETAILS OF WORK WHICH ARE NOT SPECIFICALLY SHOWN ON THE DRAWINGS, AS WELL AS SUCH ITEMS WHICH ARE NOT SPECIFICALLY MENTIONED IN THE SPECIFICATIONS, BUT ARE NECESSARY FOR THE PROPER COMPLETION OF THE WORK, SHALL BE CONSIDERED AS INCIDENTAL AND AS BEING PART OF AND INCLUDED WITH THE WORK FOR WHICH PRICES ARE GIVEN IN THE PROPOSAL AND NO EXTRA COMPENSATION SHALL BE ALLOWED FOR THE PERFORMANCE THEREOF.
5. ALL FLOOR PLAN DIMENSIONS ARE TO FINISH FACE OF WALL. DO NOT SCALE DRAWINGS. WHERE DIMENSIONS ARE NOTED "AS CLEAR" DIMENSION SHALL BE FROM FINISH TO FINISH.
6. CASEWORK, PLUMBING FIXTURES, TOILET PARTITIONS, AND OTHER FIXTURES AND EQUIPMENT ARE DIMENSIONED FROM FINISHED SURFACES UNLESS NOTED OTHERWISE.
7. ALL SPACES WITH FLOOR DRAINS - SLOPE NOT TO EXCEED 2% (ONE - IN - FIFTY) IN ANY DIRECTION. COORDINATE ALL FLOOR DRAINS WITH PLUMBING DRAWINGS PRIOR TO ANY ROUGH-IN AND CONCRETE PLACEMENT.
8. DIMENSIONS NOTED AS "FIELD VERIFY" SHALL BE CHECKED AT THE SITE BY THE CONTRACTOR AND REVIEWED WITH THE ARCHITECT BEFORE INCORPORATING INTO THE WORK.
9. DIMENSIONS NOTED AS "CLEAR" REQUIRE SPECIFIC COORDINATION BETWEEN DISCIPLINES AND/OR MANUFACTURERS.
10. ALL FLOOR FINISH CHANGES SHALL OCCUR AT THE CENTERLINE OF DOORS UNLESS NOTED OTHERWISE. ALL FLOOR FINISH ELEVATION CHANGES SHALL HAVE THRESHOLDS OR REDUCERS STRIPS AS SPECIFIED.
11. OPEN EXTERIOR JOINTS AROUND DOOR AND WINDOW FRAMES, BETWEEN WALLS AND FOUNDATION, BETWEEN WALLS AND ROOF, BETWEEN WALL PANELS, AT WALL AND ROOF PENETRATIONS AND ANY OTHER BUILDING ENVELOPE PENETRATION SHALL BE SEALED, CAULKED AND/OR WEATHER-STRIPPED TO PREVENT OR LIMIT AIR, MOISTURE AND VAPOR PENETRATION. USE ONLY SPECIFIED MANUFACTURER APPROVED MATERIALS AS DIRECTED BY MATERIAL MANUFACTURERS.
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CG5 ARCHITECT

TEXAS ARCHITECT
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SEAL: 5-16-2025

REGISTERED ARCHITECT JOSE C GARCIA III 22658 STATE OF TEXAS

ECISD HIGH SCHOOL ATHLETIC MULTI-USE BUILDING ECISD CSP 25-74

ROBERT VELA HIGH SCHOOL

801 E Canton Rd, Edinburg, TX 78539

CLIENT:

EDINBURG CISD

REVISION:

No.	Description	Date

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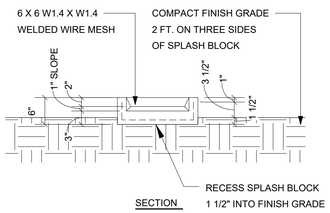
FLOOR PLAN ALTERNATE

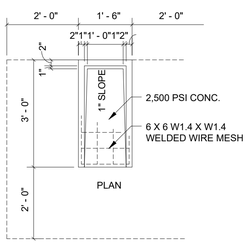
A2.0A

BASIS OF DESIGN

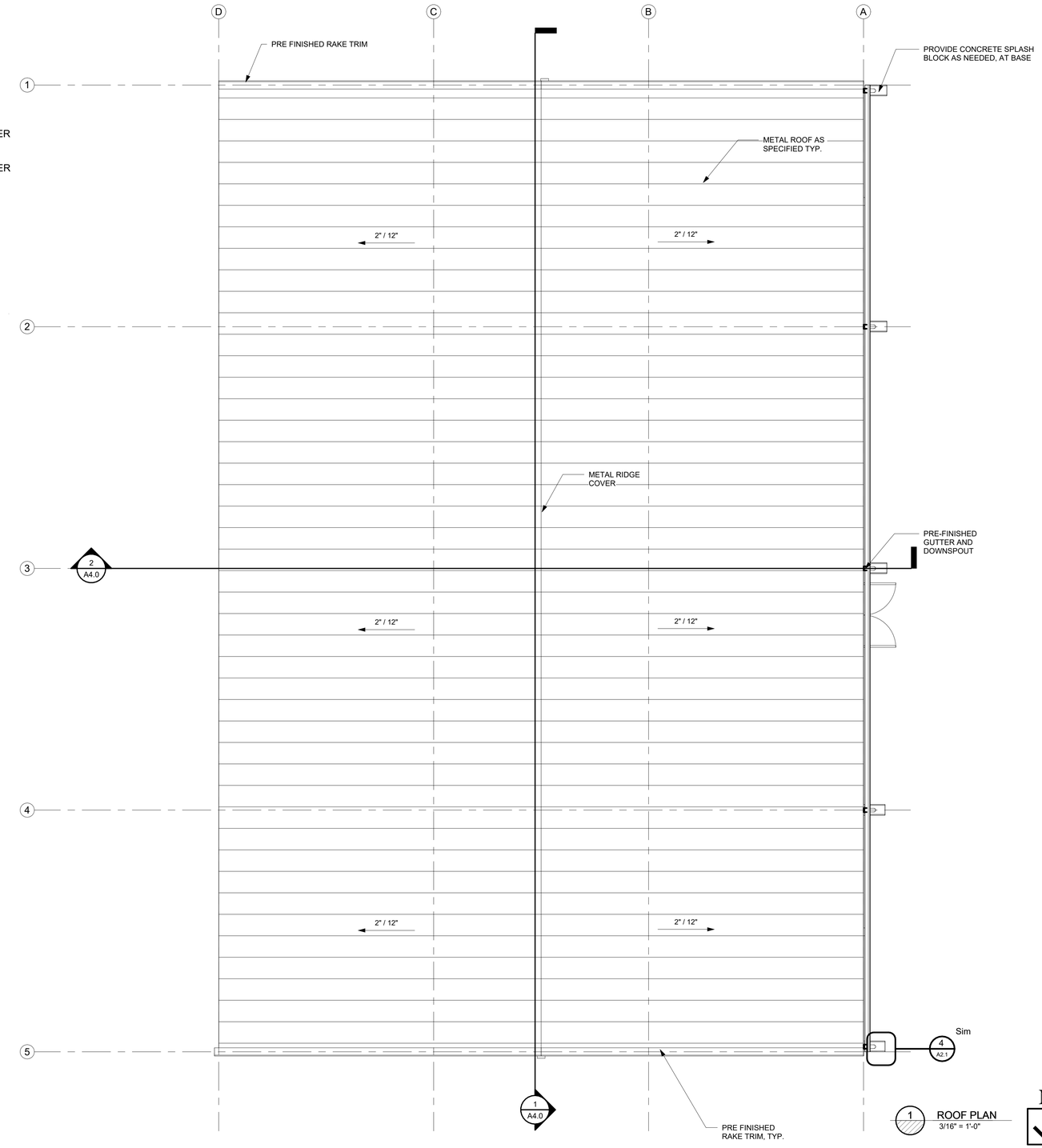
1. **WALL:** MBCI, PBU, FINAL COLOR SELECTION BY OWNER SMOOTH, 24 GAUGE.
2. **ROOF:** MBCI, PBU, FINAL COLOR SELECTION BY OWNER SMOOTH, 24 GAUGE.



4 A2.1 SPLASH
3/4" = 1'-0"



5 A2.1A SPLASH GUARD
1/2" = 1'-0"



1 ROOF PLAN
3/16" = 1'-0"

GENERAL ROOF NOTES:

1. PROVIDE ALL REQUIRED UTILITY / STRUCTURAL COMPONENTS AND/OR CONNECTIONS FOR THE FUNCTIONAL USE OF ALL CONTRACTOR SUPPLIED EQUIPMENT OR APPLIANCES, REGARDLESS OF ANY OMISSIONS OR INCONSISTENCIES ENCOUNTERED IN THE CONSTRUCTION DOCUMENTS.
2. THE WORD 'PROVIDE' SHALL MEAN 'FURNISH AND INSTALL COMPLETE AND READY TO USE.'
3. IF DISCREPANCIES APPEAR BETWEEN THE DRAWINGS AND THE SPECIFICATIONS, THE HIGHER QUALITY, QUANTITY, AND PRICE SHALL SUPERSEDE.
4. THE GENERAL CONTRACTOR AND SUBCONTRACTORS SHALL BECOME FAMILIAR WITH THE PROJECT AND THE ON-SITE / OFF-SITE CONDITIONS PRIOR TO BIDDING OR COMMENCING WORK.
5. ROOF SLOPES SHOWN ON DRAWING ARE GENERAL AND CONCEPTUAL ONLY. PROVIDE POSITIVE DRAINAGE TO ALL GUTTERS. VERIFY IN SHOP DRAWINGS. REFER TO STRUCTURAL DOCUMENTS FOR EXACT TOS/BOD ELEVATIONS.
6. PROVIDE CRICKETS (1/2"/FT. MIN. SLOPE) AT HIGH SIDE OF ALL MECHANICAL UNITS SMOKE VENTS, EXHAUST FANS & OTHER MISC. ROOF PENETRATIONS, TO SHED WATER AROUND & TO ENSURE POSITIVE ROOF DRAINAGE.
7. ALL EXPOSED FLASHING, COPING (IF APPLICABLE) AND THEIR ACCESSORIES SHALL BE AS SPECIFIED. PAINT ALL METAL FLASHING THAT IS NOT PRE-FINISHED (TYP) AND VISIBLE FROM THE GROUND.
8. ALL PITCH PANS SHALL BE SOLDERED CLAD METAL AND RECEIVE EITHER MECHANICALLY ATTACHED GOOSENECK OR METAL BONNETS. METAL BONNETS SHALL BE SECURED WITH CLAMPING RING AND SEALANT. SPECIAL CARE GIVEN TO WASH ALL METAL PRIOR TO INSTALLATION.
9. PROVIDE NEW CONCRETE SPLASH BLOCKS AT ALL DOWNSPOUT DISCHARGE LOCATIONS.
10. ALL EQUIPMENT CURBS TO BE SET OR RAISED AS NECESSARY TO MAINTAIN 10" MINIMUM HEIGHT ABOVE FINISHED ROOF SURFACE.
11. MECHANICAL, ELECTRICAL, AND PLUMBING ROOF EQUIPMENT SHOWN ON THIS PLAN IS FOR GENERAL ARCHITECTURAL INFORMATION ONLY. REFER TO M.E.P. DOCUMENTS FOR ROOFTOP EQUIPMENT NOT SHOWN, AND FOR ADDITIONAL REQUIREMENTS AND COORDINATION.
12. REFER TO M.E.P. DOCUMENTS FOR THE PIPE SUPPORT LOCATIONS, TYPE, AND DETAILS. PAD SHALL BE MIN 2" WIDER THAN SUPPORT IN ALL DIRECTIONS.
13. GUTTERS SHALL BE PRE-FINISHED GALVANIZED STEEL, SIZE PER ROOF PLAN, UNO. PROVIDE PRE-FINISHED 1/4"x1 1/2" GALVANIZED STEEL BENT PLATE BRACKETS AND PRE-FINISHED 1" GALVANIZED STEEL SPACERS AT 36" O.C. MAX, STAGGER WITH EACH OTHER AT 18" O.C.
14. PROVIDE PRE-FINISHED GUTTER EJ'S 30'-0" O.C. MAX.
15. DOWNSPOUTS SHALL BE 4"x6" PRE-FINISHED GALVANIZED STEEL UNO AS INDICATED ON ROOF PLAN. PROVIDE PRE-FINISHED 2" GALVANIZED STEEL HANGERS AT 36" O.C. COORDINATE LOCATION WITH ARCHITECT PRIOR TO INSTALLATION.

CG5 ARCHITECT
TEXAS ARCHITECT
FIRM No: BR4247
WWW.CG5ARCHITECT.COM

SEAL: 5-16-2025

REGISTERED ARCHITECT JOSE C GARCIA III 22658 STATE OF TEXAS

ECISD HIGH SCHOOL ATHLETIC MULTI-USE BUILDING ECISD CSP 25-74

ROBERT VELA HIGH SCHOOL

801 E Canton Rd, Edinburg, TX 78539

CLIENT:
EDINBURG CISD

REVISION:

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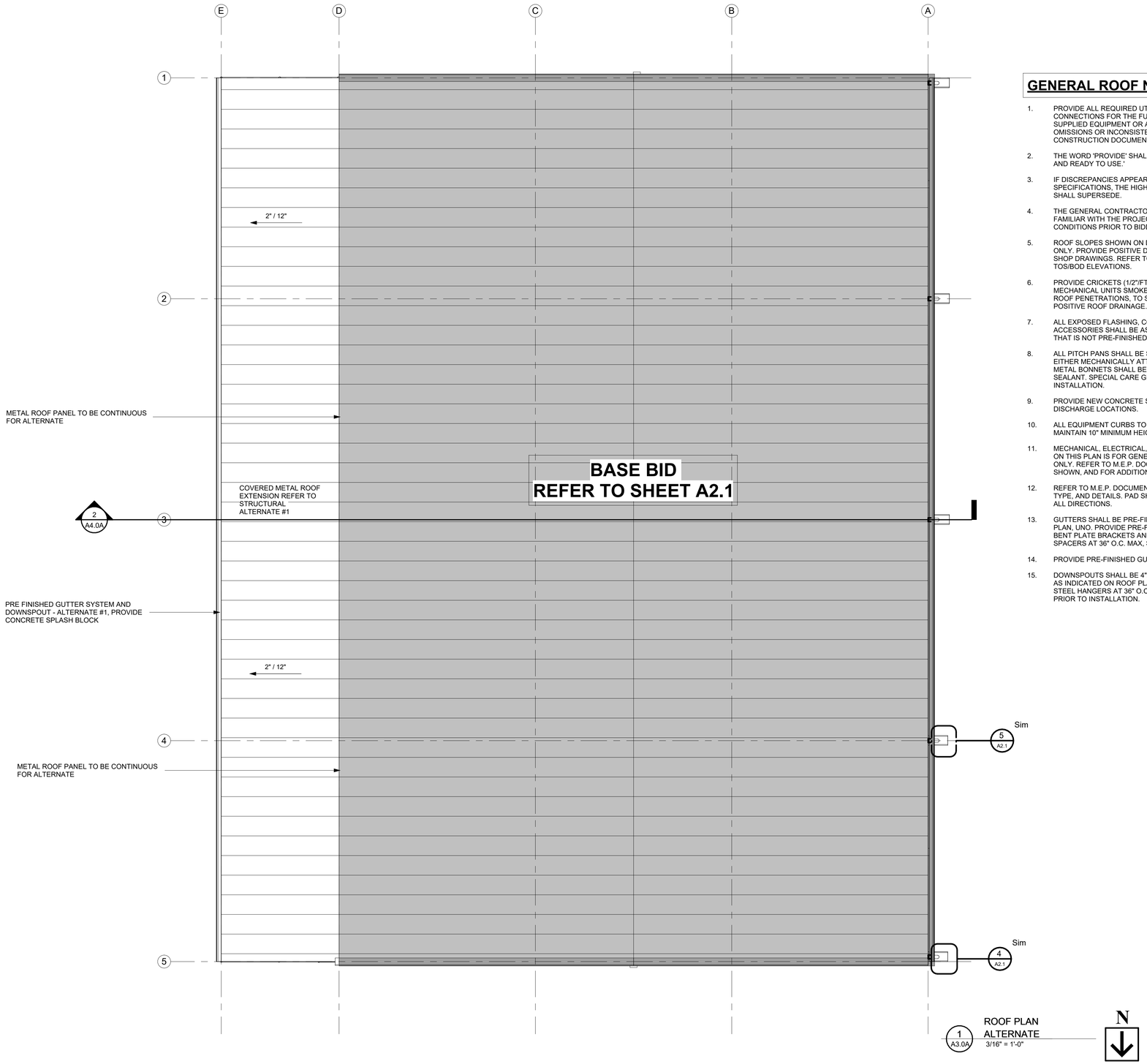
ROOF PLAN BASE BID

A2.1



GENERAL ROOF NOTES:

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7. ALL EXPOSED FLASHING, COPING (IF APPLICABLE) AND THEIR ACCESSORIES SHALL BE AS SPECIFIED. PAINT ALL METAL FLASHING THAT IS NOT PRE-FINISHED (TYP) AND VISIBLE FROM THE GROUND.
8. ALL PITCH PANS SHALL BE SOLDERED CLAD METAL AND RECEIVE EITHER MECHANICALLY ATTACHED GOOSENECK OR METAL BONNETS. METAL BONNETS SHALL BE SECURED WITH CLAMPING RING AND SEALANT. SPECIAL CARE GIVEN TO WASH ALL METAL PRIOR TO INSTALLATION.
9. PROVIDE NEW CONCRETE SPLASH BLOCKS AT ALL DOWNSPOUT DISCHARGE LOCATIONS.
10. ALL EQUIPMENT CURBS TO BE SET OR RAISED AS NECESSARY TO MAINTAIN 10" MINIMUM HEIGHT ABOVE FINISHED ROOF SURFACE.
11. MECHANICAL, ELECTRICAL, AND PLUMBING ROOF EQUIPMENT SHOWN ON THIS PLAN IS FOR GENERAL ARCHITECTURAL INFORMATION ONLY. REFER TO M.E.P. DOCUMENTS FOR ROOFTOP EQUIPMENT NOT SHOWN, AND FOR ADDITIONAL REQUIREMENTS AND COORDINATION.
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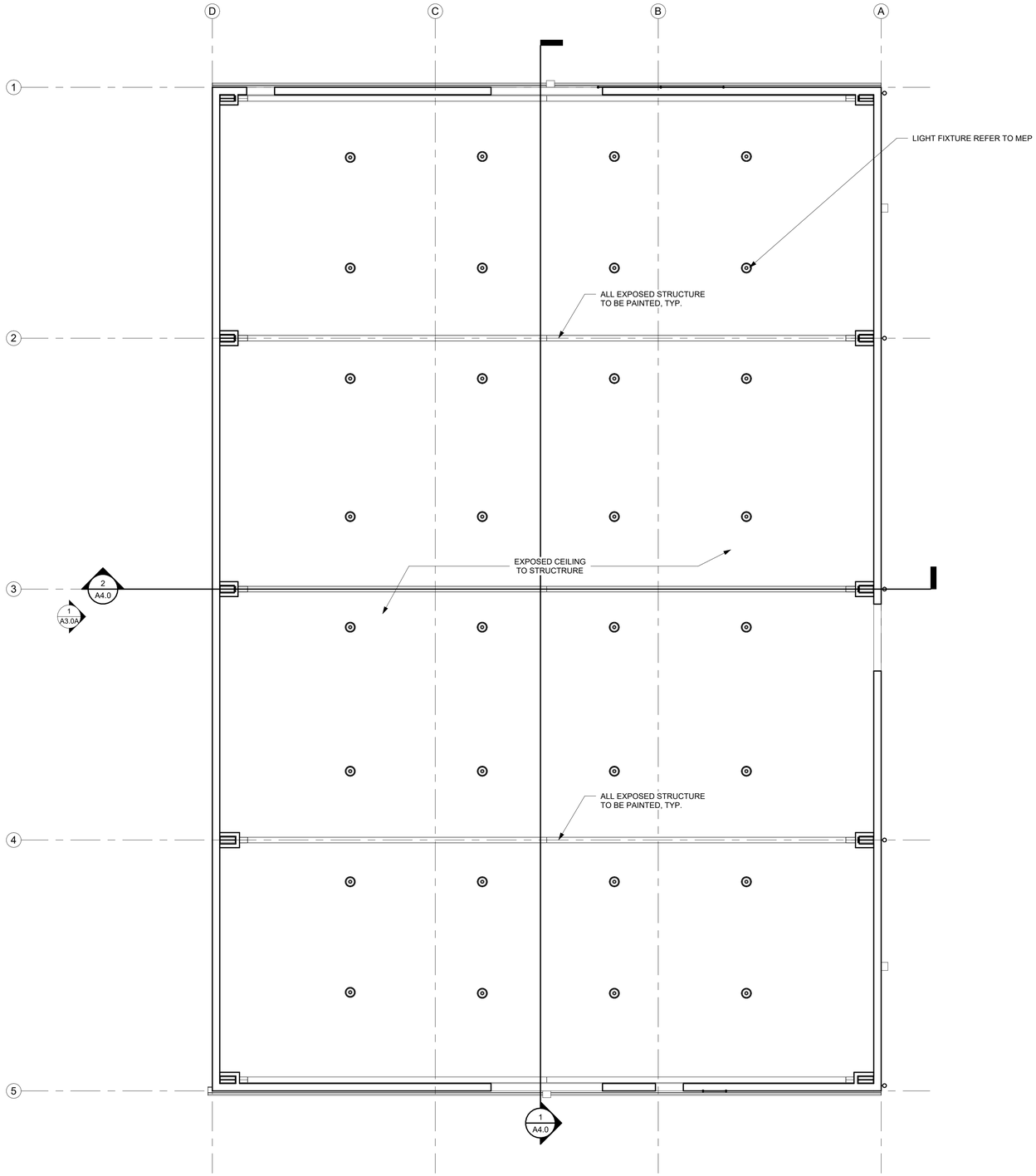
ROOF PLAN ALTERNATE

A2.1A



1 A3.0 LEVEL 1 CEILING
3/16" = 1'-0"

N

RCP GENERAL NOTES

1. ALL CEILINGS ARE 10'-0" AFF UNO COORDINATE CEILING HEIGHT WITH ARCHITECT PRIOR TO INSTALLATION.
2. ALL REFLECTED CEILING PLAN DIMENSIONS ARE FROM FINISHED FACE TO FINISHED FACE
3. ALL CEILING GRIDS ARE CENTERED ON ROOM OR CORRIDOR, UNO
4. ALL FIXTURES SHOWN AT CEILING GRID TO BE CENTERED IN BOTH DIRECTIONS WITHIN THE TILE. CENTER ALL CEILING MOUNTED ITEMS WITH CEILING ELEMENTS, IN GYP. SOFFITS AND BETWEEN OTHER CEILING MOUNTED FIXTURES
5. COORDINATED ACCESS PANEL LOCATIONS WITH LOCATION OF OTHER CEILING MOUNTED ITEMS.
6. REFER TO ELECTRICAL AND MECHANICAL DRAWINGS FOR FIXUTRE TYPES.
7. ALL AREAS OPEN TO STRUCTURE ARE TO BE PAINTED. COORDINATE PAINT COLOR WITH ARCHITECT.
8. ALL EXPOSED CONDUITS, PIPING, DUCTWORK AND MECHANICAL SYSTEMS TO BE PAINTED TO MATCH THE ADJACENT SURFACE UNO
9. COORDINATE LOCATION OF CAN LIGHTS WITH ARCHITECT PRIOR TO INSTALLATION

RCP LEGEND

OPEN TO STRUCTURE AND INSULATION ABOVE, ALL EXPOSED STRUCTURE TO BE PAINTED

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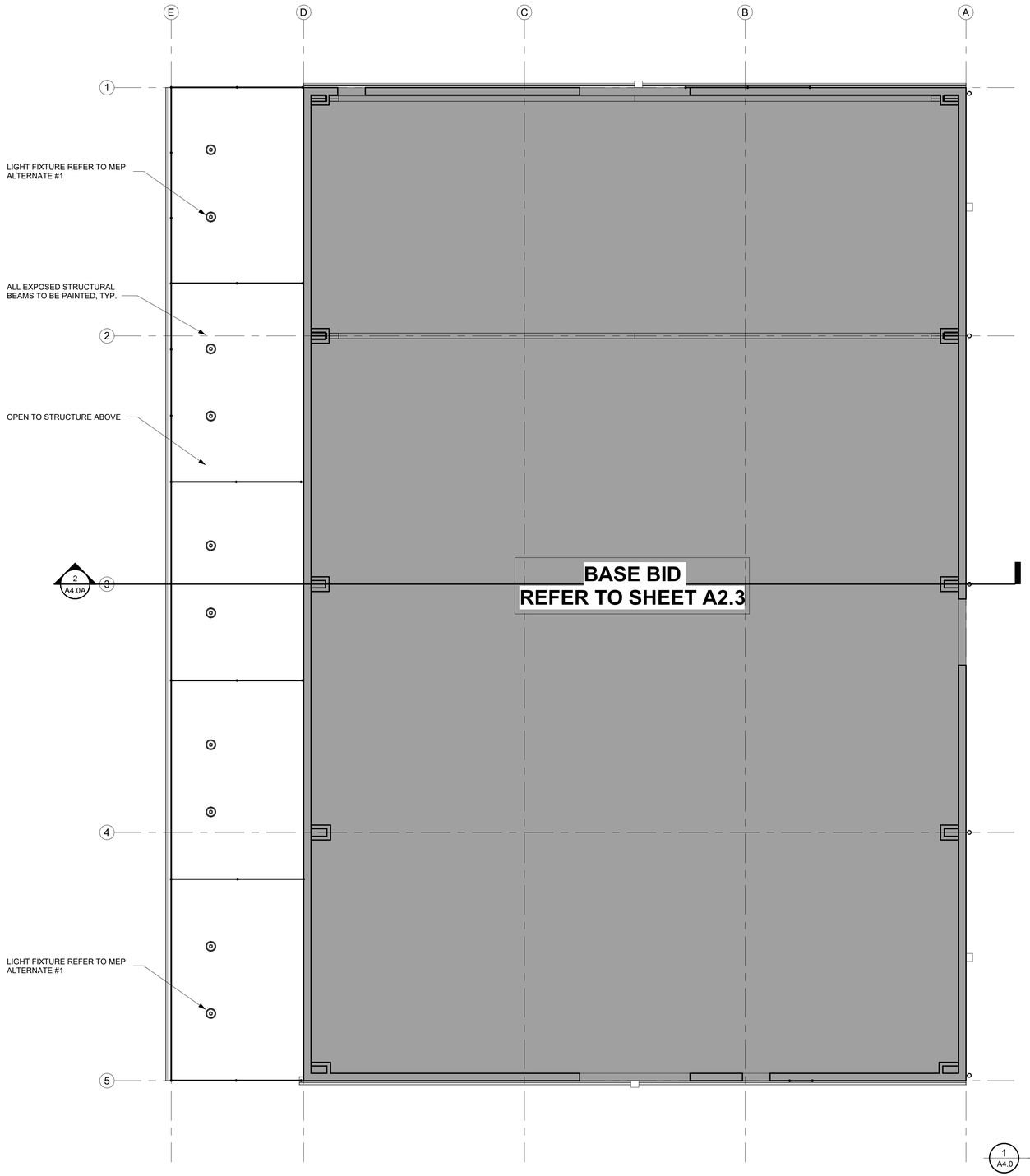
REFLECTED CEILING PLAN BASE BID

A2.3



1 A4.0 CEILING ALTERNATE
3/16" = 1'-0"

N

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8. ALL EXPOSED CONDUITS, PIPING, DUCTWORK AND MECHANICAL SYSTEMS TO BE PAINTED TO MATCH THE ADJACENT SURFACE UNO
9. COORDINATE LOCATION OF CAN LIGHTS WITH ARCHITECT PRIOR TO INSTALLATION

RCP LEGEND

NO CEILING
OPEN TO STRUCTURE ABOVE.

CG5 ARCHITECT

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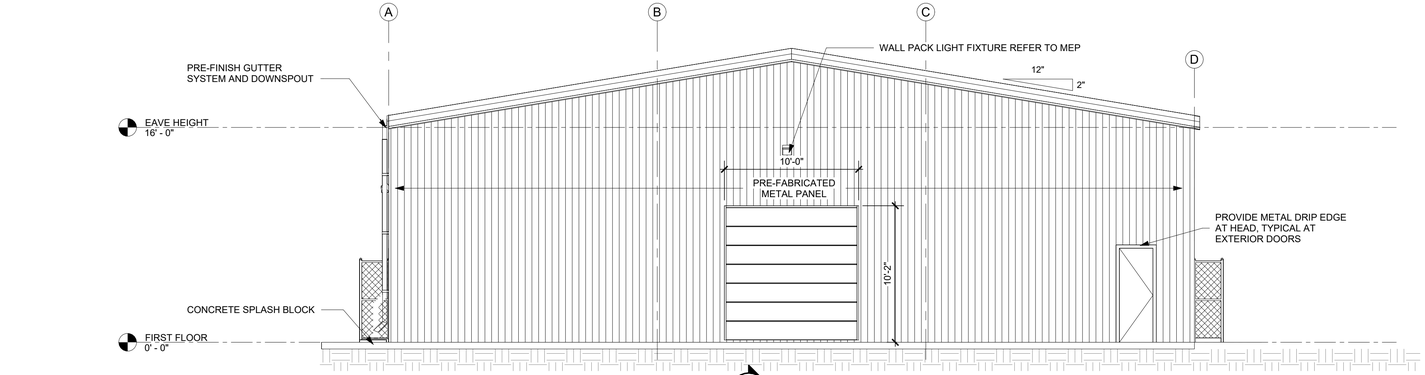
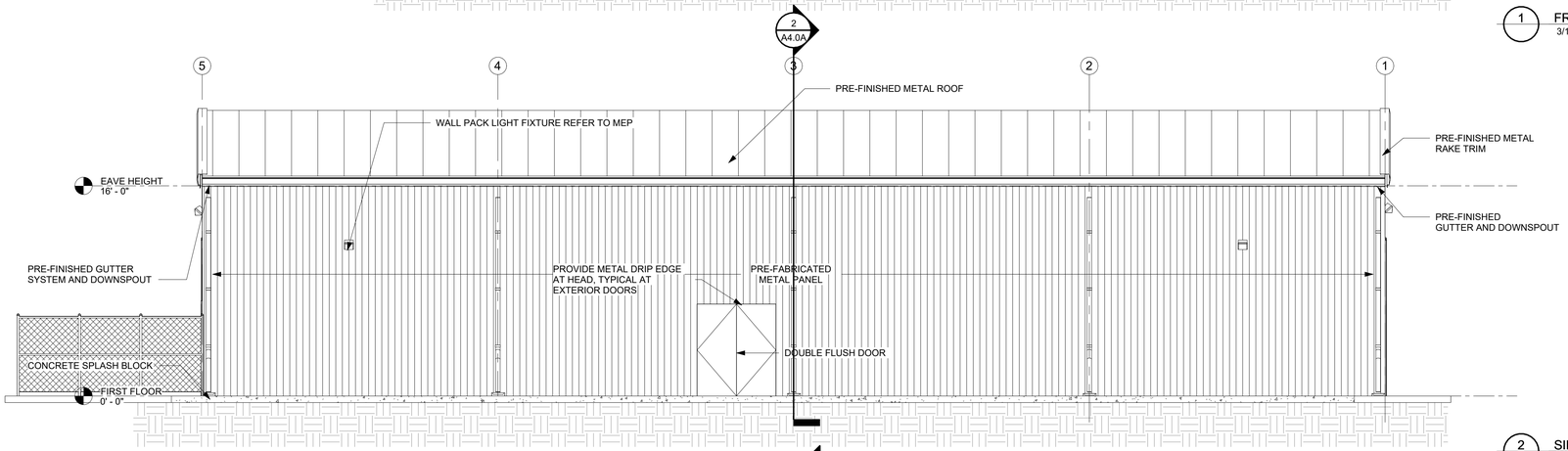
REFLECTED CEILING PLAN ALTERNATE

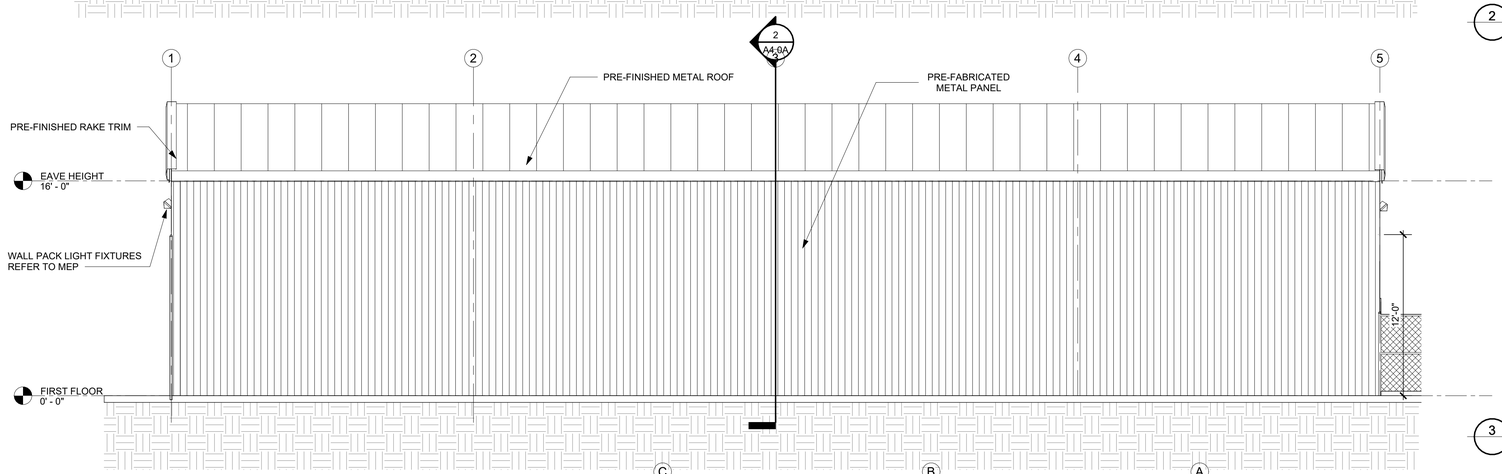
A2.3A



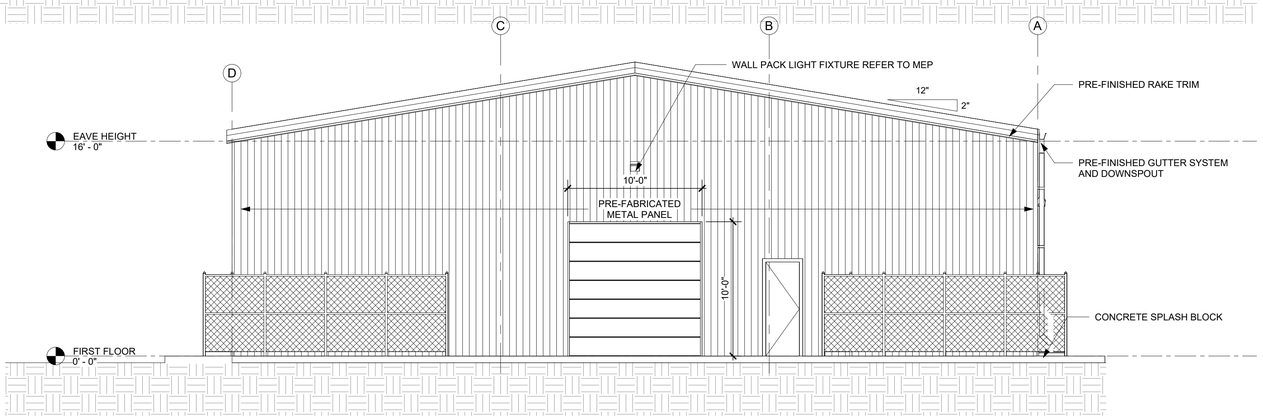
1 FRONT ELEVATION
3/16" = 1'-0"



2 SIDE ELEVATION
3/16" = 1'-0"



3 EAST ELEVATION
3/16" = 1'-0"



4 REAR ELEVATION
3/16" = 1'-0"

BASES OF DESIGN

1. **WALL:** MBCI, PBU, FINAL COLOR SELECTED BY OWNER SMOOTH, 24 GAUGE.
2. **ROOF:** MBCI, PBU, FINAL COLOR SELECTED BY OWNER SMOOTH, 24 GAUGE.

CG5 ARCHITECT
TEXAS ARCHITECT
FIRM No: BR4247
WWW.CG5ARCHITECT.COM

SEAL: 5-16-2025

REGISTERED ARCHITECT JOSE C GARCIA III 22658 STATE OF TEXAS

ECISD HIGH SCHOOL ATHLETIC MULTI-USE BUILDING ECISD CSP 25-74

ROBERT VELA HIGH SCHOOL

801 E Canton Rd, Edinburg, TX 78539

CLIENT:
EDINBURG CISD

REVISION:

No.	Description	Date

PROJECT #: 25-030102
DRAWN BY: N.M.
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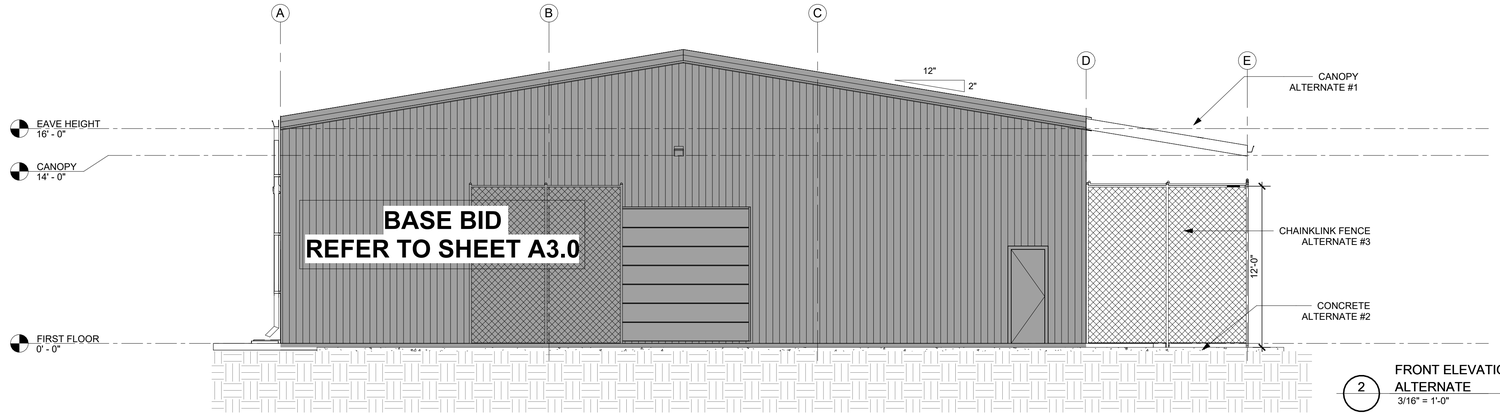
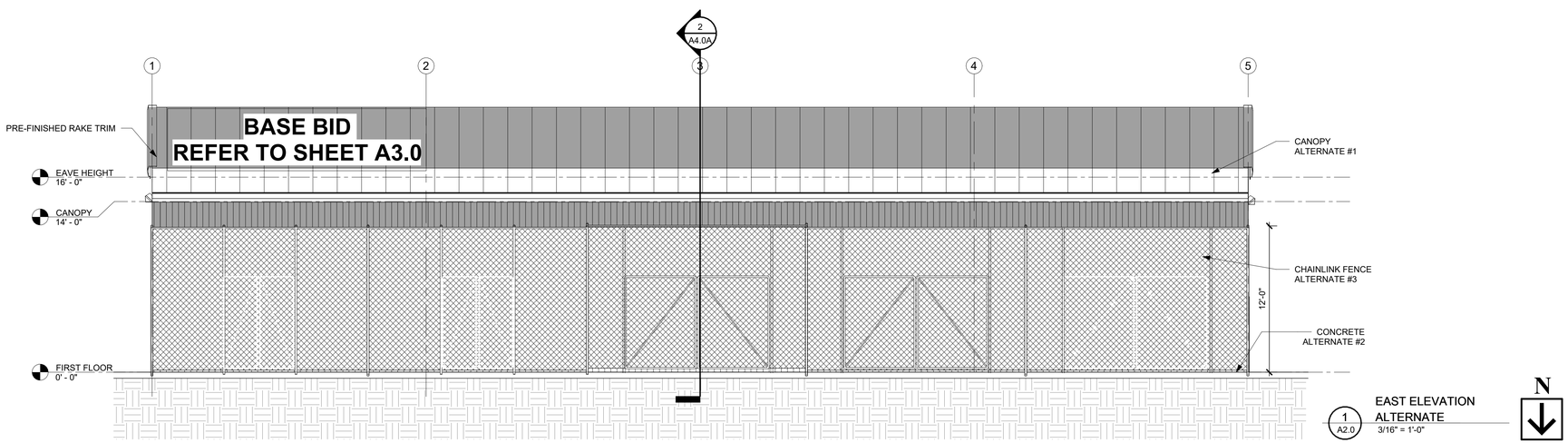
EXTERIOR ELEVATIONS BASE BID

A3.0



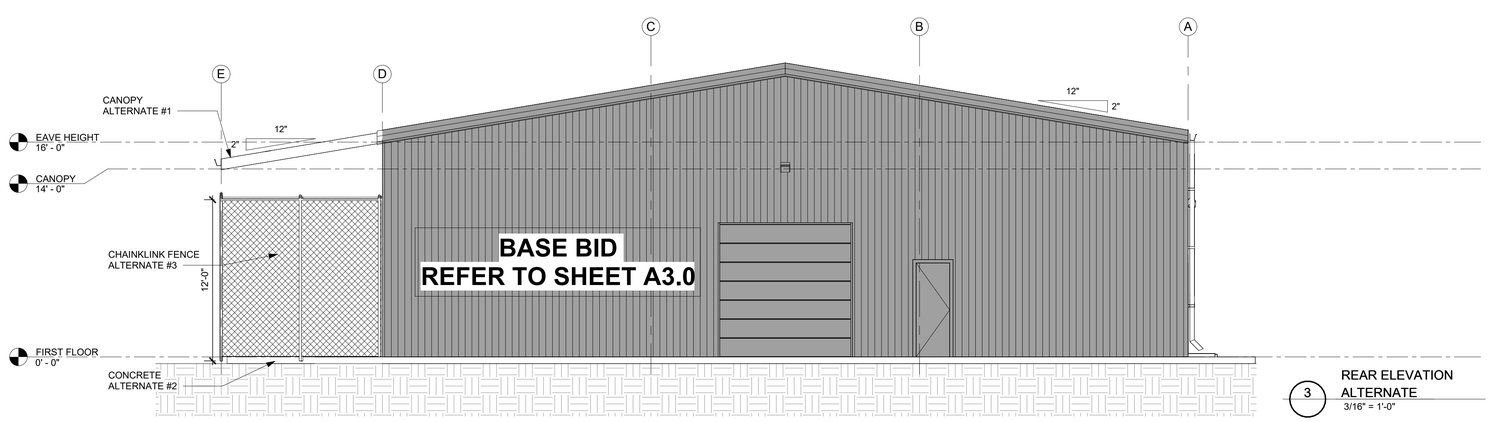
2 FRONT ELEVATION ALTERNATE
3/16" = 1'-0"

N



1 A2.0 EAST ELEVATION ALTERNATE
3/16" = 1'-0"

N



3 REAR ELEVATION ALTERNATE
3/16" = 1'-0"

N

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SEAL: 5-16-2025

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JOSE C GARCIA III
22658
STATE OF TEXAS

ECISD HIGH SCHOOL ATHLETIC MULTI-USE BUILDING
ECISD CSP 25-74

ROBERT VELA HIGH SCHOOL

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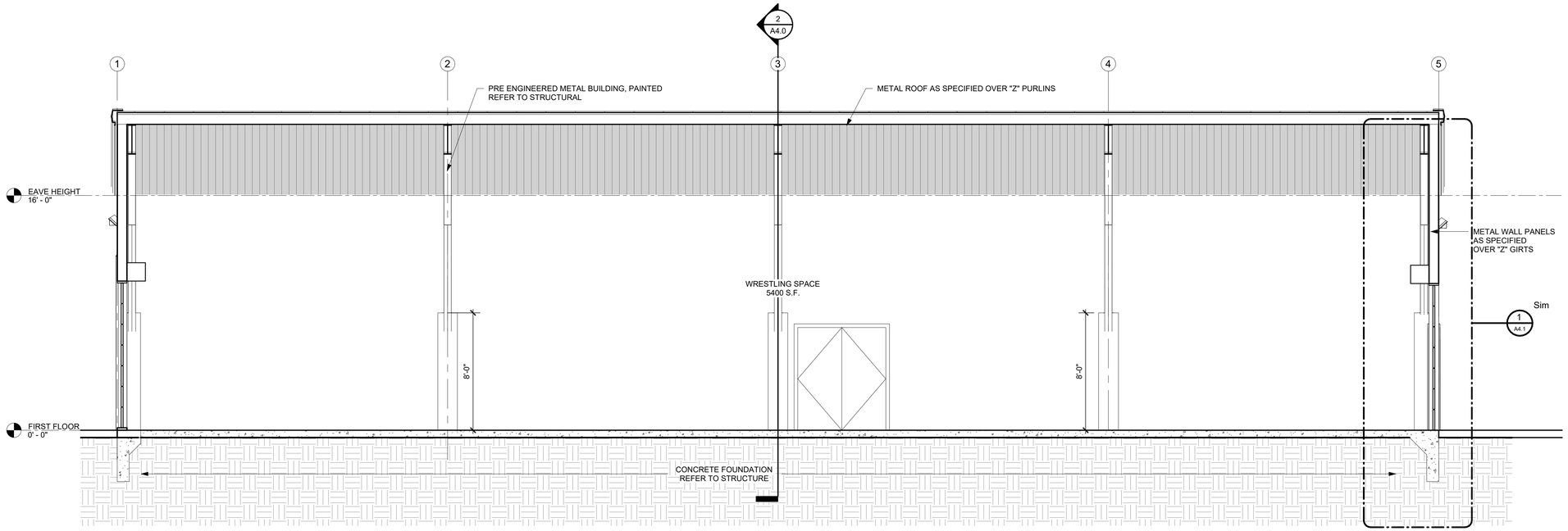
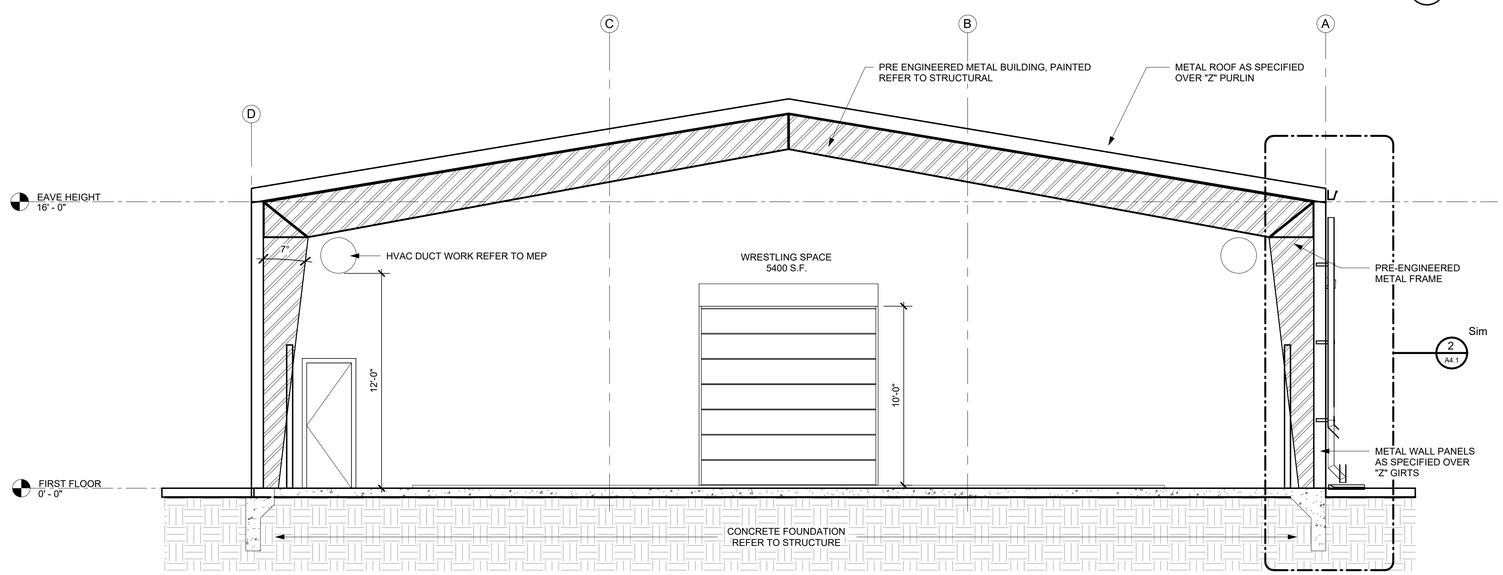
EXTERIOR ELEVATIONS ALTERNATE

A3.0A



1 A2.0 BUILDING SECTION 1
1/4" = 1'-0"



2 A2.0 BUILDING SECTION 2
1/4" = 1'-0"

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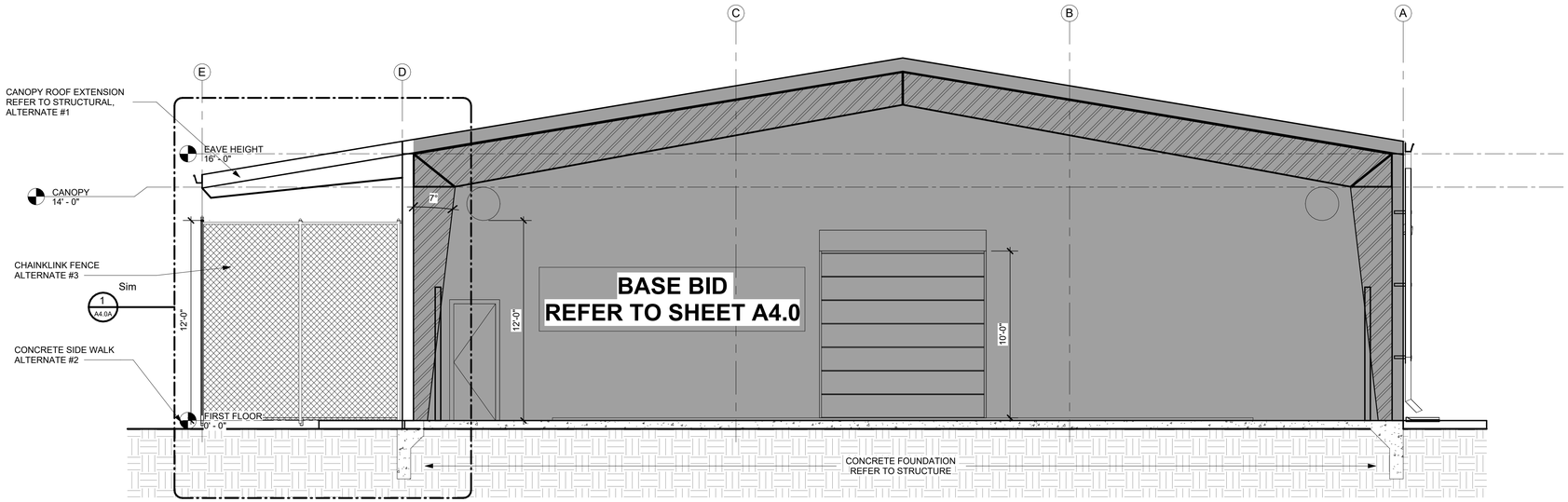
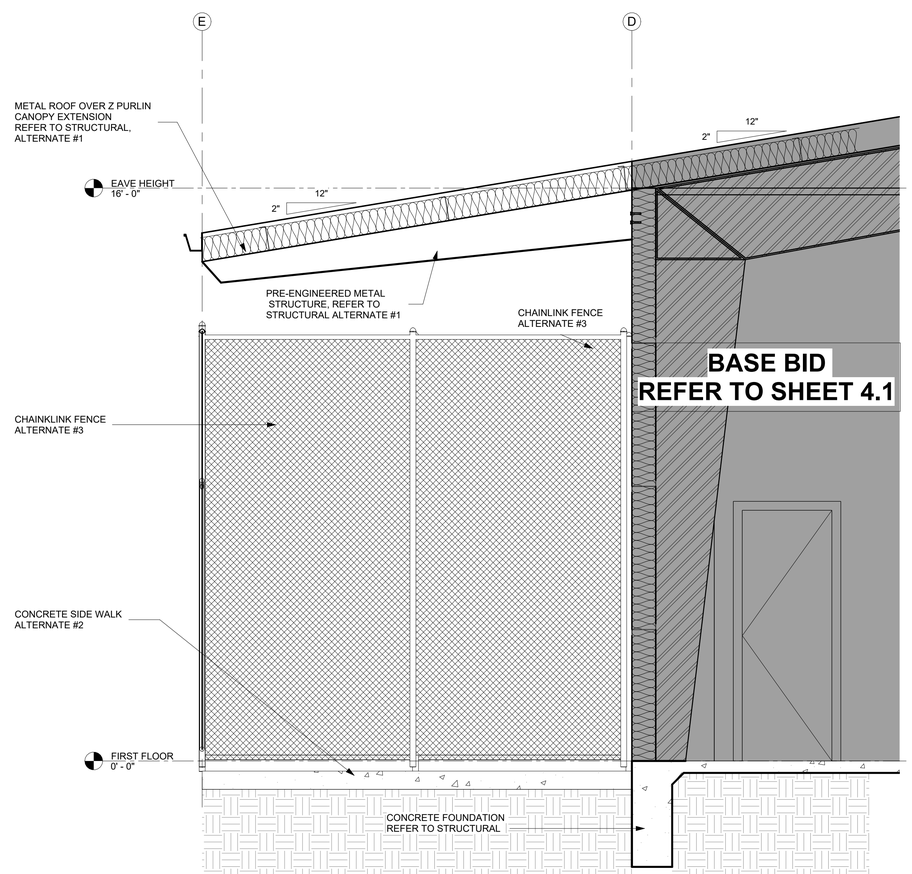
BUILDING SECTIONS BASE BID

A4.0



2 A2.0A BUILDING SECTION ALTERNATE
1/4" = 1'-0"



1 A4.0A STORAGE AREA ALTERNATE
1/2" = 1'-0"

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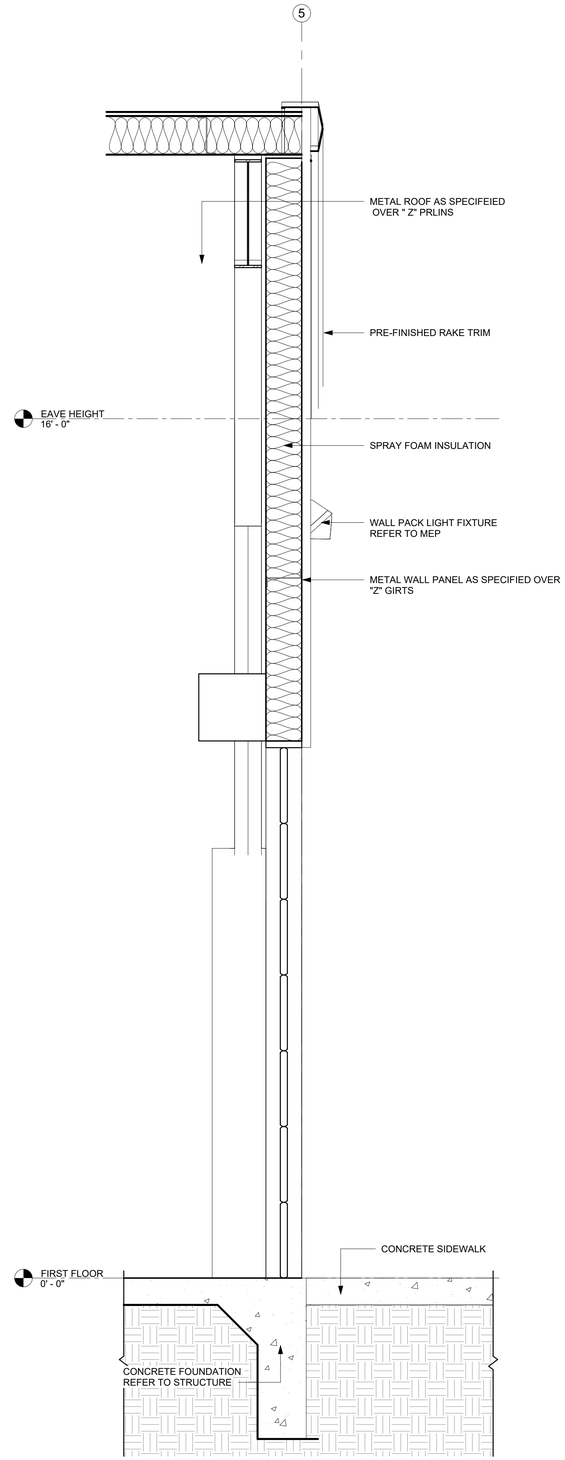
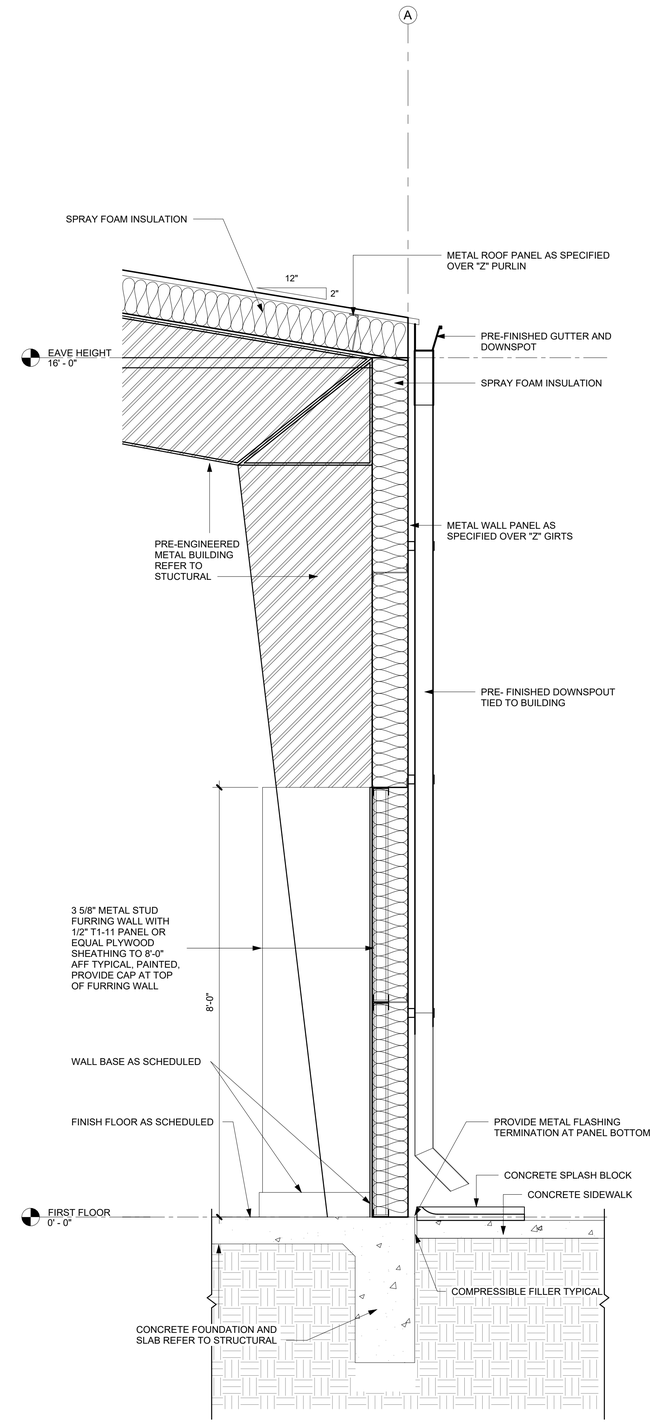
BUILDING SECTIONS ALTERNATE

A4.0A



1 A4.0 Section 1 - Callout 1
3/4" = 1'-0"



2 A4.0 Section 2 - Callout 1
3/4" = 1'-0"

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WALL SECTIONS AND DETAILS BASE BID

A4.1

DOOR HARDWARE:

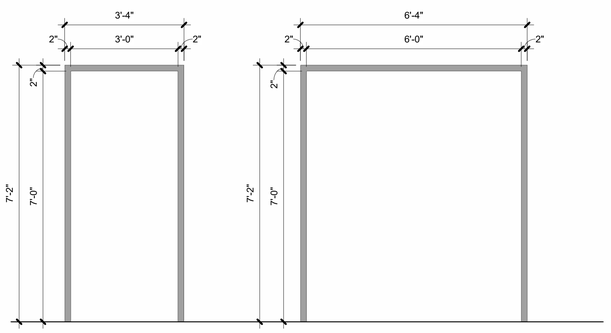
DH1: DOORS:
6 - HINGES
1 - CENTER MULLION REMOVABLE
2 - THRESHOLDS
2 - PANIC DEVICE BAR TYPE
1 - DOOR LATCH / STRIKE
1 - DOOR LATCH STRIKE
2 - EXTERIOR PULL W/ KEYED CYLINDER AT ONE DOOR (OUTSIDE) PULL
1 - WEATHER STRIPPING FOR DOUBLE DOOR
1 - RAIN GUARD FOR DOUBLE DOOR
2 - DOOR HOLD OPEN

DH2: DOORS:
3 - HINGES
1 - DEADBOLT KEYED ONE SIDE (OUTSIDE)
1 - DEADBOLT LATCH
1 - SET PUSH/ PULL
1 - KICK PLATE
1 - PANIC DEVICE BAR TYPE

DOOR HARDWARE GENERAL NOTES:
1. KEYS AS PER OWNER KEYING SYSTEM.
2. DOOR HARDWARE COLOR TO MATCH EXISTING.
3. ALL HARDWARE TO BE MEDIUM TO HEAVY DUTY

DOOR SCHEDULE

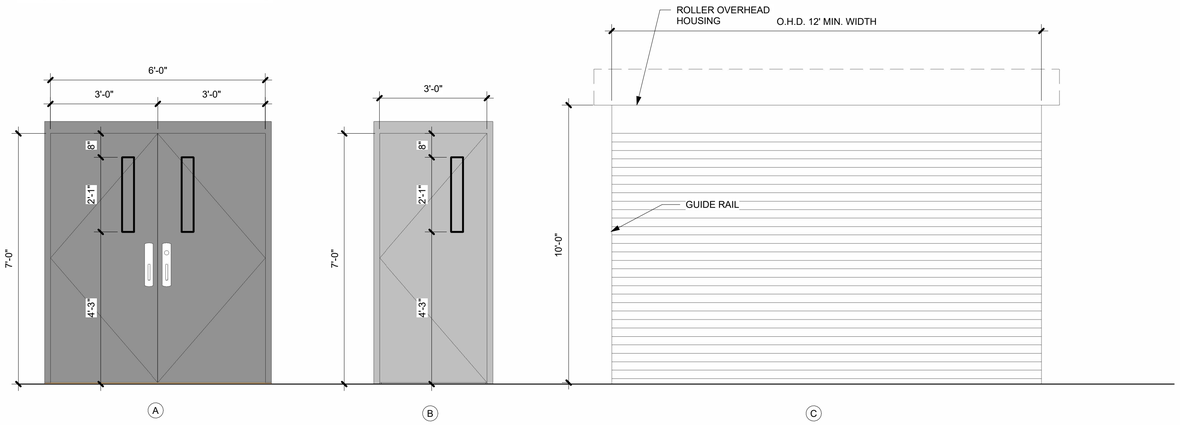
MARK	LOCATION		TYPE DESCRIPTION	SIZE	DOOR MATERIAL	DOOR FRAME	DOOR HARDWARE
	FROM	TO		WIDTH x HEIGHT			
100	EXTERIOR	MULTIPURPOSE 100	B	3'-0" x 7'-0"	HOLLOW METAL	HOLLOW METAL	DH2
101	EXTERIOR	MULTIPURPOSE 100	C	10'-0" x 10'-0"	METAL	METAL	-
102	EXTERIOR	MULTIPURPOSE 100	A	3'-0" x 7'-0" DOUBLE	HOLLOW METAL	HOLLOW METAL	DH1
103	EXTERIOR	MULTIPURPOSE 100	B	3'-0" x 7'-0"	HOLLOW METAL	HOLLOW METAL	DH2
104	EXTERIOR	MULTIPURPOSE 100	C	10'-0" x 10'-0"	METAL	METAL	-



HOLLOW METAL PAINTED FRAME 2" x 5 3/4"

HOLLOW METAL PAINTED FRAME 2" x 5 3/4"

DOOR FRAME TYPES

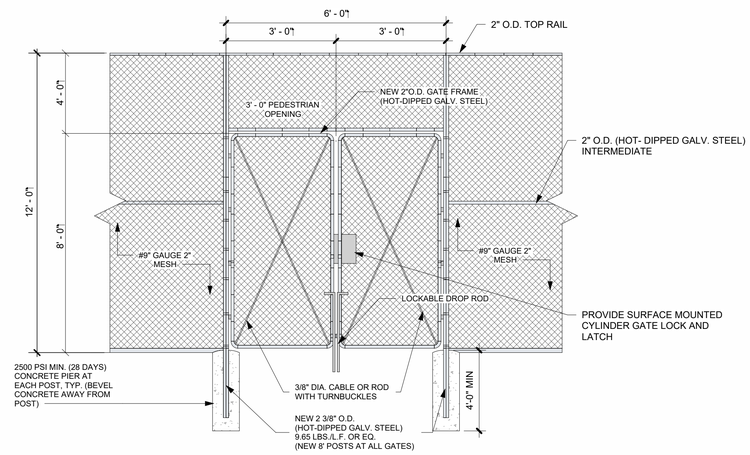


HOLLOW CORE METAL DOUBLE DOORS W/ VISION LITE, PAINTED

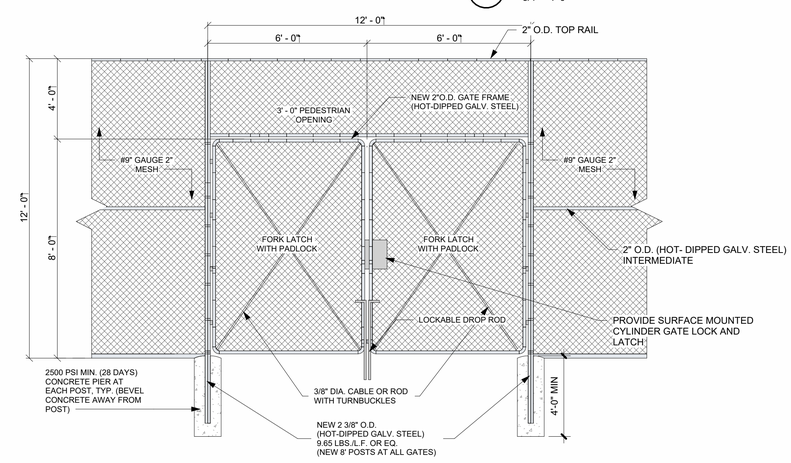
HOLLOW CORE METAL DOOR W/ VISION LITE, PAINTED

ALUMINUM ROLL-UP DOOR

DOOR TYPES



4 6' WIDE DOUBLE GATE ALTERNATE 3
3/4" = 1'-0"



3 12' WIDE DOUBLE GATE ALTERNATE
3/4" = 1'-0"

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ECISD HIGH SCHOOL ATHLETIC MULTI-USE BUILDING ECISD CSP 25-74

ROBERT VELA HIGH SCHOOL

801 E Canton Rd, Edinburg, TX 78539

CLIENT:
EDINBURG CISD

REVISION:

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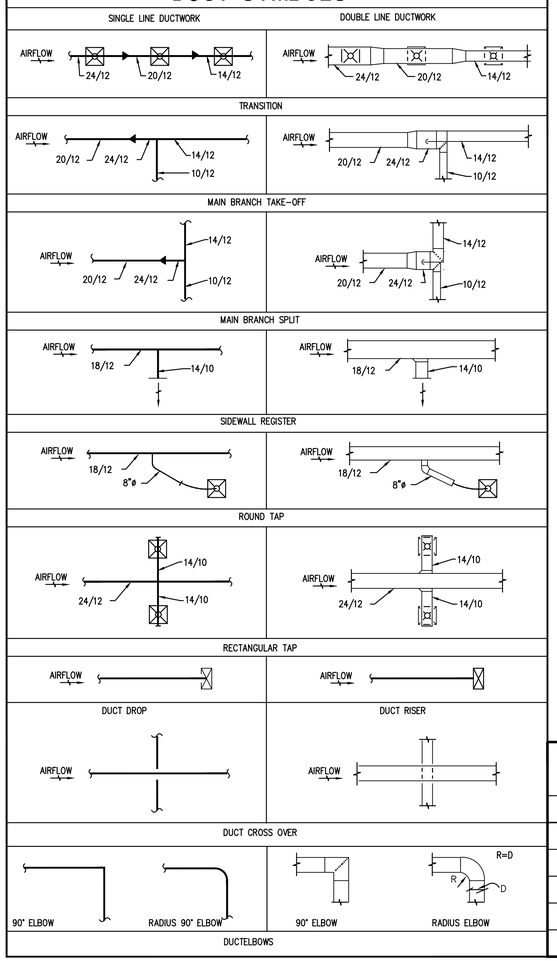
DOOR SCHEDULE

A7.0

DUCT SYMBOLS



DUCT AND AIR DEVICE NECK SCHEDULE

DUCT SIZE	CFM RANGE
6"ø	UP TO 120
8"ø	125 -220
10"ø	225 - 340
12"ø	345 - 500
14"ø	505 - 820

MECHANICAL LEGEND

SYMBOL	DESCRIPTION
(N)	NEW
(E)	EXISTING
(R)	RELOCATED
——	EXISTING TO REMAIN
—X—X—	EXISTING TO REMOVE
▬▬	NEW
PHWP	PRIMARY HOT WATER PUMP
HWC	HEATING WATER CONVERTER
ST	STEAM TRAP
CRU	CONDENSATE RETURN UNIT
(T)	THERMOSTAT
(H)	HUMIDISTAT
(F)	FIRESTAT
(ID)	IONIZATION DETECTOR
(SD)	SMOKE DAMPER
(S/D)	SMOKE DETECTOR
(VD)	VOLUME DAMPER
(A) 8"ø 200 CFM	DIFFUSER TYPE, NECK SIZE, CFM
⊢	SIDE WALL SUPPLY OR RETURN
⊠	SUPPLY
⧄	RETURN
⧄	EXHAUST
(FD)——	FIRE DAMPER
(14|14 SD)	SPLITTER DAMPER – DIMENSION AS NOTED ON DRAWING
	ELBOW WITH TURNING VANES
(MD)——	OPPOSED BLADE DAMPER
(M)——	MOTORIZED DAMPER
	FLEXIBLE DUCT CONN. TO RECTANGULAR DUCT WITH SPIN-IN CONNECTOR
UCD 1"	UNDERCUT DOOR 1"
RE:- 1/M-2.9	REFER TO DETAIL #1 ON DRAWING M-2.9
— CHS —	CHILLED WATER SUPPLY
— CHR —	CHILLED WATER RETURN
— HWS —	HOT WATER SUPPLY
— HWR —	HOT WATER RETURN
—S-15—	STEAM 15 PSIG SUPPLY
—C-15—	CONDENSER 15 PSIG RETURN
CD——	CONDENSATE DRAIN

GENERAL NOTES - MECHANICAL

1) ALL WORK DONE ON THESE DRAWINGS SHALL BE DONE IN STRICT ACCORDANCE WITH THE BASE BUILDING DOCUMENTS. REFER TO BASE BUILDING DOCUMENTS FOR ALL DETAILS AND SPECIFICATIONS.

2) CONTRACTOR SHALL COMPLY WITH ALL STATE, LOCAL, AND FEDERAL CODES AND AUTHORITIES HAVING JURISDICTION.

3) IT IS THE CONTRACTOR'S RESPONSIBILITY TO HAVE VERIFIED EXISTING JOBSITE CONDITIONS DURING THE BIDDING PERIOD, SO HE WILL HAVE OBTAINED THE SCOPE OF MECHANICAL WORK INVOLVED AS A RESULT OF ARCHITECTURAL MODIFICATIONS TO THE EXISTING STRUCTURE. THE SCOPE OF THE WORK SHALL INCLUDE MATERIALS AND DUCTWORK CONSISTING OF DEVICES, EQUIPMENT OR APPARATUS WHICH MUST BE REROUTED, RELOCATED OR REMOVED EITHER TEMPORARILY OR PERMANENTLY, OR WHICH MUST BE PROVIDED SO THAT THE INDICATED REMODELING MAY BE ACCOMPLISHED. NOT ALL EXISTING CONDITIONS ARE NECESSARILY INDICATED ON THE DRAWINGS.

4) CONTRACTOR SHALL COORDINATE WITH STRUCTURAL CONDITIONS AT THE SITE AND PROVIDE ALL CLEARANCES AS INDICATED.

5) CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR FOR ALL ELECTRICAL POWER REQUIREMENTS.

6) PROVIDE SLOTS, CEILING DIFFUSERS AND RETURN AIR GRILLES ACCORDING TO BASE BUILDING STANDARD.

7) FOR EXACT LOCATION OF ALL DIFFUSERS AND REGISTERS, REFER TO ARCHITECTURAL REFLECTED CEILING PLAN.

8) ALL EXISTING AIR DEVICES AND EQUIPMENT TO BE RELOCATED OR REUSED MUST BE CLEANED, PAINTED, AND ALL DAMAGED PARTS MUST BE REPAIRED OR REPLACED.

9) PROVIDE SPIN-IN FITTING WITH LOCKING QUADRANT BUTTERFLY DAMPER FOR ALL ROUND FLEXIBLE DUCT CONNECTIONS TO RECTANGULAR DUCT.

10) REFRIGERANT PIPING TO BE SIZED BY MANUFACTURER. INSULATE WITH 3/4" ARMAFLEX INSULATION. EXTERIOR INSULATION SHALL BE COATED WITH MANUFACTURER'S RECOMMENDED SEALANT. PROVIDE PIPE SADDLES AT HANGERS.

11) STEEL SCHEDULE 40 UNINSULATED ON PIPING IN INTERIOR OF BUILDING ALL PIPES, COILS, AND FITTINGS SHALL BE RATED FOR PSIG AS NOTED ON THE PLANS.

12) PROVIDE ROUND FLEXIBLE DUCT, MAXIMUM LENGTH TO BE 6'-0" LONG, SAME DIAMETER AS DIFFUSER NECK. EXTEND ROUND SHEETMETAL DUCT AS REQUIRED.

13) ALL NEW ROUND DUCTS SHALL BE EXTERNALLY INSULATED WITH 1-1/2" THICK FIBERGLASS INSULATION WITH VAPOR BARRIER.

14) SEAL ALL JOINTS IN DUCTWORK WITH EC-800 OR HARDCAST IRON GRIP.

15) CONTRACTOR SHALL SEAL ALL INACTIVE DUCT TAPS AIR TIGHT.

16) ALL DUCTWORK SHALL BE SHEETMETAL, LINED WITH 1" THICK FIBERGLASS INSULATION. ALL NEW EXHAUST DUCTWORK SHALL BE UNLINED SHEETMETAL. ALL NEW DUCTWORK SHALL BE FABRICATED TO THE LATEST EDITION OF SMACNA. DUCT SIZES ARE CLEAR INSIDE DIMENSIONS.

17) MOUNT THERMOSTATS AT SAME ELEVATION AS LIGHT SWITCHES. COORDINATE WITH ARCHITECT PRIOR TO CONSTRUCTION.

18) ALL CONDENSATE DRAINS SHALL BE GALVANIZED STEEL OR COPPER. CONDENSATE DRAIN LINES SHALL BE INSULATED WITH 3/8" THICK INSULATION.

20) PROVIDE NEW PLEATED, NON WOVEN FARR 30/30 FILTER FOR ALL NEW AND EXISTING FAN COIL UNITS, AIR HANDLING UNITS, HEAT PUMPS AND HOT WATER COILS.

MECHANICAL LEGEND

SYMBOL	DESCRIPTION
	SADDLE TYPE LIGHT TROFFER
	SINGLE SIDED LIGHT TROFFER
	3 WAY DIFFUSER IN DIRECTION SHOWN
	SUPPLY DIFFUSER
	RETURN AIR OR EXHAUST GRILLE
	EXISTING SLOT DIFFUSER TO REMAIN
	NEW SLOT DIFFUSER
(T)	THERMOSTAT
	EXISTING DUCTWORK TO REMAIN
	NEW DUCTWORK
RE: 1/M-7	REFER TO DETAIL #1 ON DRAWING M-7

MECHANICAL LEGEND

SYMBOL	DESCRIPTION
(A) 250	AIR DEVICE, SUPPLY CFM IF APPLICABLE
⊠ ⊠	SUPPLY DIFFUSER
⧄	RETURN AIR OR EXHAUST GRILLE
(T)	THERMOSTAT
	NEW DUCTWORK
(VD)	MANUAL VOLUME DAMPER
(14|14 SD)	SPLITTER DAMPER, DIMENSION AS SHOWN
	SCHEDULED DIFFUSER FLEX DUCT RIGID EXTENSION FROM SPIN-IN SPIN-IN FITTING WITH VOLUME DAMPER TRUNK DUCT
	EXISTING DUCTWORK
RE: #1/M200	REFER TO DETAIL #1 ON DRAWING M200

5/16/25

STATE OF TEXAS
FERNANDO GALLEGOS
109882
LICENSED PROFESSIONAL ENGINEER

ISSUED FOR PERMIT

VME ENGINEERING
1615 Laurel Ct Donna, Texas 78537
P: 956.472.5161 www.vme-engineering.com
Texas Registered Engineering Firm - F14031
Project number: 025.25

CG5 ARCHITECT
TEXAS ARCHITECT
FIRM No: BR4247
WWW.CG5ARCHITECT.COM

SEAL:

ECISD HIGH SCHOOL ATHLETIC MULTI-USE BUILDING 25-74

ROBERT VELA HIGH SCHOOL

801 E Canton Rd, Edinburg, TX 78539

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PROJECT #: 25-030102
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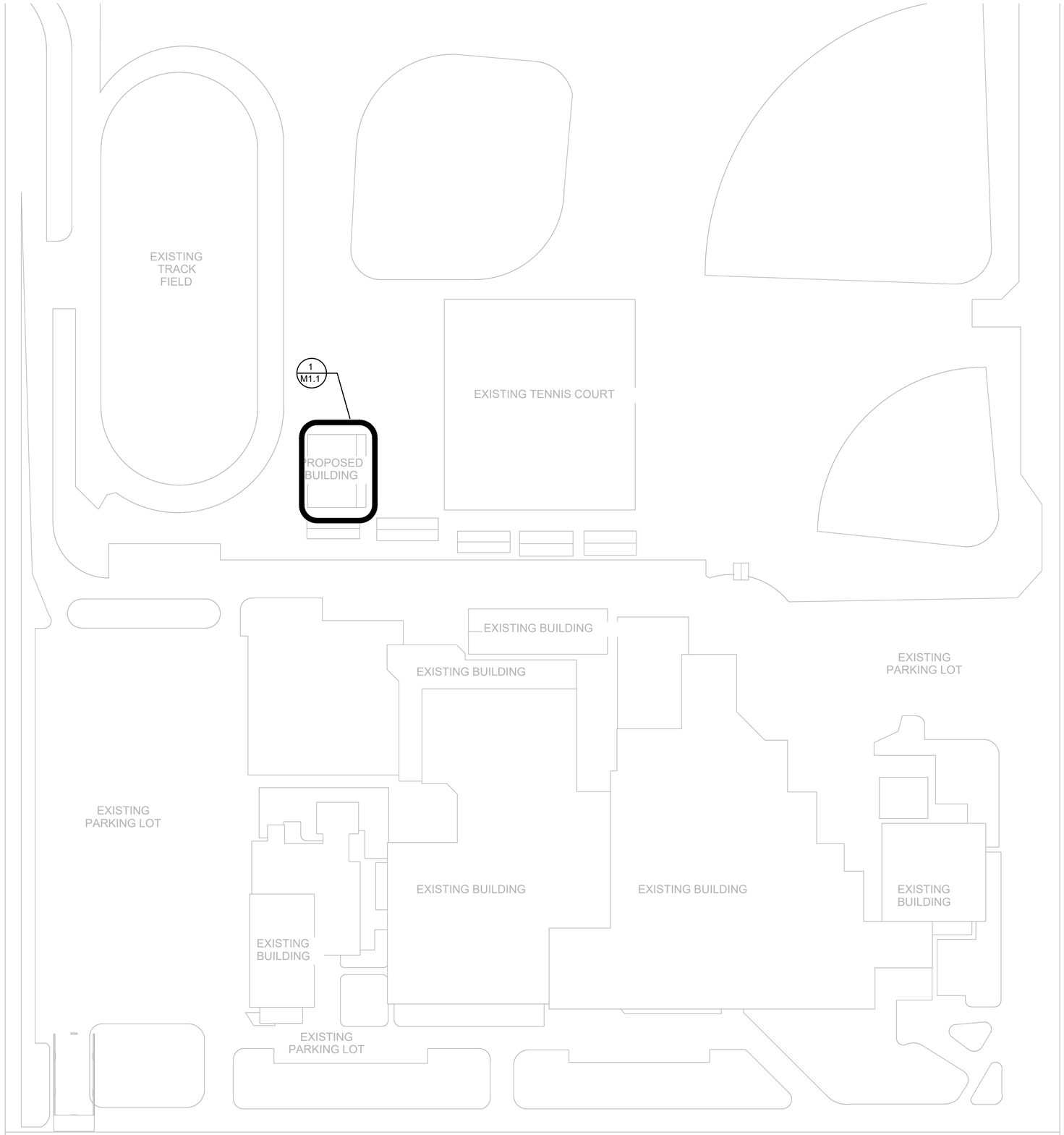
MECHANICAL LEGEND

M0.0



1 / M1.0 MECHANICAL SITE PLAN

Scale: 1/64" = 1'-0"

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MECHANICAL SITE PLAN

M1.0

5/16/25

STATE OF TEXAS
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ISSUED FOR PERMIT

VME ENGINEERING

1615 Laurel Ct Donna, Texas 78537
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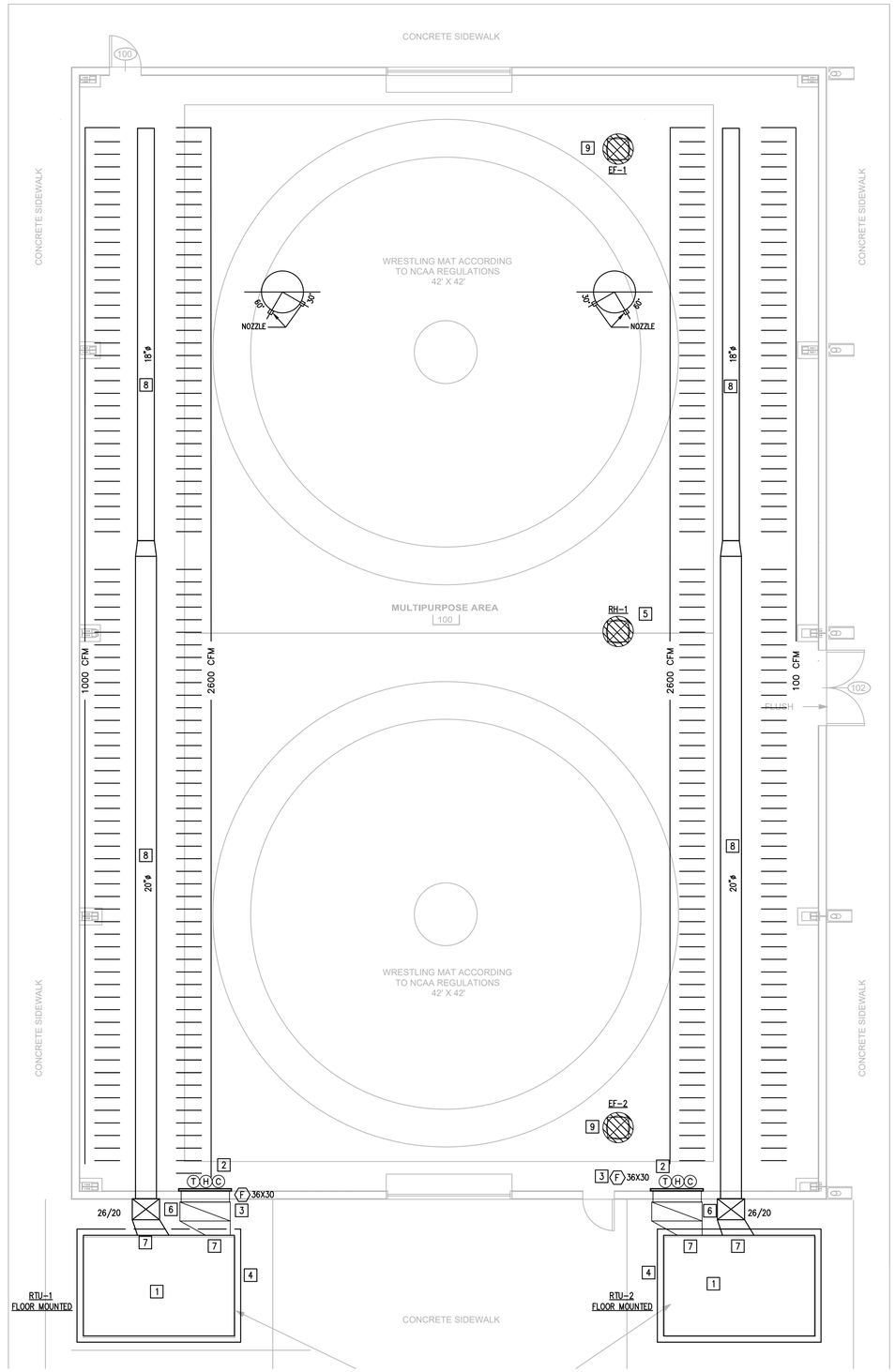

1 M1.1 MECHANICAL FLOOR PLAN
Scale: 3/16" = 1'-0"

MECHANICAL GENERAL NOTES

1. CONTRACTOR SHALL BALANCE EACH SPACE WITH THE CFM SHOWN ON PLAN. NOTE NOT ALL SPACES HAVE SAME CFM SHOWN ON RTU SCHEDULE.
2. NEW PIPING AND DUCTWORK SHOWN ON PLAN ARE SCHEMATIC ONLY. CONTRACTOR SHALL COORDINATE WITH OTHER TRADES FOR PIPING AND DUCTWORK ROUTING. OFFSET AND RUN PIPING, DUCTWORK INSIDE THE STRUCTURE IF REQUIRED. PROVIDE ANY EXTRA PIPING, DUCTWORK, FITTINGS, INSULATIONS AND OTHER ACCESSORIES IN ORDER TO COMPLETE THE INSTALLATION.
3. COORDINATE LOCATIONS ROOF OPENINGS AND SIZES OF WALL OPENINGS WITH ARCHITECT AND STRUCTURE ENGINEERS.
4. EQUIPMENT SIZES, DIMENSIONS AND REQUIRED CONNECTIONS SHALL BE VERIFIED WITH THE VENDOR DRAWINGS BEFORE FABRICATION OF DUCTWORK, PIPING.
5. DUCT SIZES SHOWN ON PLANS ARE CLEAR INSIDE AIR STREAM DIMENSIONS. DUCTWORK SHALL BE SHEET METAL.
6. CONTRACTOR SHALL COORDINATE ALL ELECTRICAL REQUIREMENTS FOR ALL HVAC EQUIPMENT PRIOR TO INSTALLATION.

MECHANICAL KEYED NOTES

1. RTU ON FLOOR PROVIDE 6" CONCRETE PAD. COORDINATE INSTALLATION WITH SIDE OPENINGS AND REQUIRED CLEARANCES. PROVIDE PROPER SUPPORT. FIELD COORDINATE LOCATION WITH STRUCTURE AND OFFSET AS REQUIRED. PROVIDE FLEXIBLE CONNECTIONS ON SUPPLY AND RETURN DUCT. COORDINATE RTU ORIENTATION WITH ACTUAL EQUIPMENT PURCHASED PRIOR TO WALL OPENINGS OR POURING HOUSEKEEPING PAD.
2. PROVIDE 7 DAY PROGRAMMABLE THERMOSTAT. INSTALL SMOKE DETECTORS WHERE REQUIRED BY FIRE MARSHALL. THERMOSTAT SHALL BE COMPATIBLE WITH ALL OF THE UNITS ACCESSORIES AND PROGRAMMING. CONSULT WITH HVAC MANUFACTURER FOR RECOMMENDED THERMOSTAT. IF SCHOOL HAS CONTROLS PROVIDE CONNECTION POINTS TO CONTROL SYSTEMS.
3. PROVIDE FILTERED RETURN AIR GRILLED AS SCHEDULED ON DOOR/WALL/CEILING. SIZE IS INDICATED ON PLAN.
4. PROVIDE 6" CONCRETE PAD FOR ACCU.
5. PROVIDE RELIEF HOOD ON ROOF. PROVIDE 14" ROOF CURB. PROVIDE RELIEF DAMPER SET AT 0.05". COORDINATE WITH ROOF SLOPE. PROVIDE DUCT SAME SIZE AS OPENING AND TERMINATE 12" BELOW ROOF INSULATION. PROVIDE WIRE MESH AT END.
6. PROVIDE PROTECTIVE SLEEVE TO EXPOSED DUCT. PAINT OR COVER TO BE WHITE.
7. PROVIDE TRANSITION FROM RTU OPENING TO DUCT INDICATED ON PLANS. PROVIDE FLEXIBLE CONNECTION.
8. RUN DUCT AS HIGH AS POSSIBLE. MINIMUM 12' A.F.F. NOZZLES TO HAVE MORE FLOW TOWARDS MIDDLE OF BUILDING.
9. PROVIDE EXHAUST FAN ON ROOF. PROVIDE 14" ROOF CURB. COORDINATE WITH ROOF SLOPE. PROVIDE DUCT SAME SIZE AS EXHAUST OPENING. ROUTE TO 24" BELOW ROOF INSULATION. PROVIDE WIRE MESH AT END. FAN TO BE ON WHEN RESPECTIVE RTU OUTSIDE AIR IS OPEN AND OFF WHEN OUTSIDE AIR DAMPER IS CLOSED. PROVIDE NECESSARY RELAYS OR CONTACTOR FOR PROPER CONTROL.

REFERENCE CODES

1. 2018 INTERNATIONAL BUILDING CODE.
2. 2018 INTERNATIONAL FIRE CODE.
3. 2018 INTERNATIONAL MECHANICAL CODE
4. 2018 INTERNATIONAL PLUMBING CODE
5. 2017 NATIONAL ELECTRICAL CODE
6. 2015 INTERNATIONAL ENERGY CONSERVATION CODE

5/16/25

STATE OF TEXAS
FERNANDO CALLEGOS
109882
LICENSED PROFESSIONAL ENGINEER

ISSUED FOR PERMIT

VME ENGINEERING

1615 Laurel Ct Donna, Texas 78537
P: 956.472.5161 www.vme-engineering.com
Texas Registered Engineering Firm - F14031
Project number: 025.25

CG5 ARCHITECT
TEXAS ARCHITECT
FIRM No: BR4247
WWW.CG5ARCHITECT.COM

SEAL:

ECISD HIGH SCHOOL ATHLETIC MULTI-USE BUILDING 25-74

ROBERT VELA HIGH SCHOOL

801 E Canton Rd, Edinburg, TX 78539

CLIENT:
EDINBURG CISD

REVISION:

No.	Description	Date

PROJECT #: 25-030102
DRAWN BY: N.M.
CHECKED BY: CG3
DATE: 4/28/25

MECHANICAL FLOOR PLAN

M1.1

AIR DEVICE SCHEDULE

MARK	MFR. & MODEL	TYPE	REMARKS
F	TITUS 350FLF1	SIDEWALL RETURN AIR GRILLE	ALUMINUM CONSTRUCTION WITH FRAME FOR SURFACE MOUNT. 3/4" BLADE SPACING, DOUBLE DEFLECTION WITH FRONT BLADES PARALLEL TO LONG DIMENSION.

NOTES:
1. REFER TO ARCHITECTURAL DRAWINGS FOR FINISH.
2. REFER TO MECHANICAL FLOOR PLAN FOR NECK SIZES.

EXHAUST FAN SCHEDULE

MARK	EF-1,2
SERVES	MULTIPURPOSE
TYPE/DRIVE	BELT
CFM	600
EXT. S.P. (IN. W.G.)	0.50
HORSEPOWER	1/4
RPM (MAX.)	1,010
SONES (MAX.)	0.6
VOLTS/PHASE/HERTZ	120/1/60
MANUFACTURER	GREENHECK
MODEL NUMBER	GB-091
NOTES	1,2

NOTES:
1. PROVIDE WITH BACKDRAFT DAMPER.
2. INTERLCOK FAN WITH SWITCH RTU OUTSIDE AIR.

ROOFTOP UNIT SCHEDULE (ELECTRIC HEAT)

FAN AND MOTOR DATA	MARK	RTU- 12.5 Ton
	SERVES	AREA
	SUPPLY AIR (CFM)	4000
	OUTSIDE AIR (CFM)	600
	MINIMUM HP (MOTOR)	5
	DRIVE	VFD
	EXT. SP. (IN W.G.)	0.8
COOLING	TOTAL COOLING (MBH)	144.3
	SENSIBLE COOLING (MBH)	105.4
	ENTERING AIR TEMP. DB/WB (F)	78.5/64.8
	LEAVING AIR TEMP. DB/WB (F)	54.4/52.6
	AMBIENT TEMP. (F)	100
HEATING	TOTAL HEATING (KW) / STAGES	18
	ENTERING AIR TEMP. DB (F)	60
	LEAVING AIR TEMP. DB (F)	74.2
ELECTRIC	VOLTS/PHASE/HERTZ	480/3/60
	MCA	45.8
	MOCP	50
GENERAL	MANUFACTURER	JOHNSON CONTROLS
	MODEL	KB150E18R4BDBCL6E1
	NOMINAL TONS	12.5
	I.E.E.R./E.E.R. (ARI)	16.0 IEER/ 12.2 EER
	WEIGHT (LBS)	1,415
	NOTES	1,2,3,5,6,7,8,9,10,11

NOTES:

1. PROVIDE SINGLE POINT ELECTRICAL CONNECTION.
2. PROVIDE FACTORY MOUNTED CONDENSER COIL GUARD.
3. PROVIDE DUAL ENTHALPY ECONOMIZER.
4. PROVIDE WITH FACTORY INSTALLED HOT GAS REHEAT DEHUMIDIFICATION.
5. PROVIDE WITH CO2 DEMMAND CONTROL VENTILATION.
6. PROVIDE WITH FACTORY INSTALLED SIMPLICITY CONTROLLER WITH BACNET INTERFACE.
7. PROVIDE WITH UNIT POWERED ELECTRIC GFCI OUTLET.
8. PROVIDE FACTORY SPACE TEMP SENSOR AND HUMIDITY SENSOR.
9. PROVIDE FACTORY INSTALLED VFD FOR SINGLE ZONE VAV OPERATION.
10. PROVIDE WITH 18" HIGH FACTORY ROOF CURB. PROVIDE TXPE WIND LOAD RATED ATTACHMENT DESIGN AND CALCULATIONS.
11. CONTACT TEXAS AIRSYSTEMS FOR PRICING AND AVAILABILITY AT (956)566-9540 OR CARLOS.CASTANEDA@TEXASAIRSYSTEMS.C

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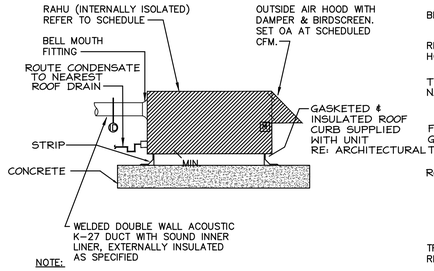
MECHANICAL SCHEDULES

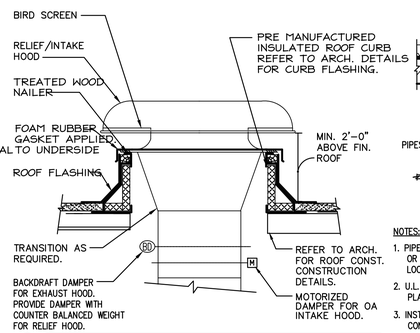
M2.0



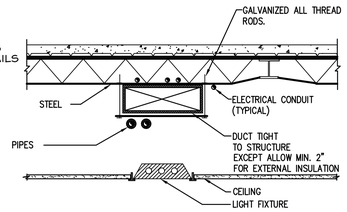
NOTE:

1. REFER TO ARCH. FOR ROOFING & FLASHING DETAIL.
2. ROUTE CHS & R HWS & R ACROSS ROOF TO CONNECT TO UNIT COIL. INSTALL CONTROL VALVES INSIDE UNIT VESTIBULE PROVIDED.
3. ALL CONDENSATE DRAIN PIPING SHALL BE SCHEDULE 40 GALVNIZED WITH MALLABLE IRON SCREWED FITTINGS.

1 FLOOR MOUNTED RTU DETAIL
NOT TO SCALE



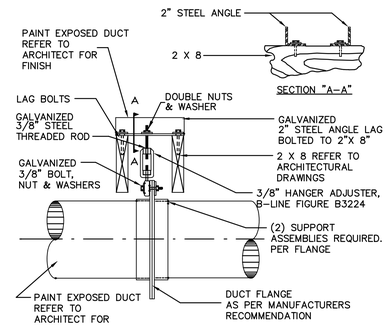
2 OA INTAKE OR EXHAUST RELIEF HOOD
NOT TO SCALE



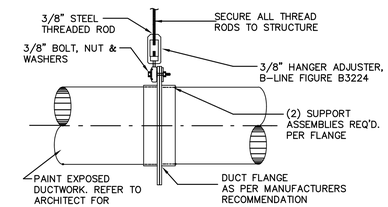
NOTES:

1. PIPES AND ELECTRICAL CONDUIT CAN BE ROUTED BETWEEN JOISTS OR THROUGH JOIST WEB SPACE AS REQUIRED. 2- DUCT SHALL BE LOCATED AS HIGH AS POSSIBLE.
2. U.L. DESIGN ASSEMBLY NUMBERS ARE SHOWN ON ARCHITECTURAL PLANS WHEN REQUIRED.
3. INSTALLATION OF ALL SERVICES MUST BE COORDINATED BY THE CONTRACTOR.

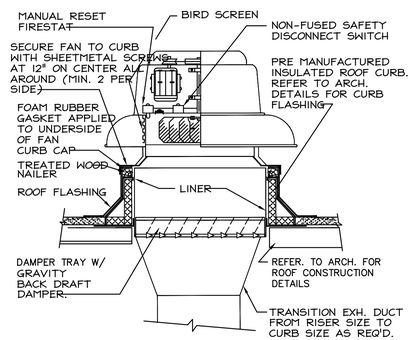
3 TYP. MEP INSTALLATION DETAIL
NOT TO SCALE



4 OVAL OR ROUND DUCT MOUNTING
NOT TO SCALE



5 OVAL OR ROUND DUCT HANGER
NOT TO SCALE



6 CENTRIFUGAL ROOF EXHAUST FAN
NOT TO SCALE

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MECHANICAL DETAILS

M3.0

SECTION 15050 – MECHANICAL SPECIFICATIONS

PART I - GENERAL–MECHANICAL

1–1 DESCRIPTION

All work on these Drawings shall be done in strict accordance with these Specifications. The Work included under this Contract shall consist of the furnishing and installation of all equipment and material necessary and required to form the complete and functioning system in all of its various phases, all as shown on the accompanying drawings and/or described in these Specifications.

1–2 WARRANTY

The Contractor shall guarantee the work for a period of one year beyond date of final acceptance. During that period, the Contractor shall repair or replace, at his own expense, any faults or imperfections that may arise due to defects in material and workmanship, including the loss of refrigerant and/or oil due to leaks. Defects shall include but not be limited to noisy operation, loose or missing parts, or noticeable deterioration of finish. During the period, the Contractor shall actually perform all service work required, including the servicing of air filters. All air conditioning compressors shall have parts and labor guarantees for a period of not less than 5 years beyond the date of final acceptance.

1–3 PROJECT CONDITIONS

The Contractor shall visit the Site of the Work and fully understand the conditions that affect the work, or the cost thereof, understand the existing utilities from which services will be supplied, verify locations of utility services, determine requirements for connections, and determine in advance that equipment and materials proposed for installation fit into the confines indicated.

1–4 PERMITS AND FEES

The Contractor shall arrange and pay for all permits, fees, test, and all inspections as required by Governmental Authorities.

1–5 COORDINATION WITH FIELD CONDITIONS

The Contract Documents are schematic in nature in that they are only to establish "Scope" and a minimum level of quality. All duct or pipe or equipment locations as indicated on the Documents do not indicate every transition, offset, or exact location. All transitions, offsets, and exact locations shall be established by actual field measurements, coordination with the structural, architectural and reflected ceiling plans. All transitions, offsets, and relocations as required by actual field conditions shall be performed by the Contractor at no additional cost to the Owner.

1–6 SUBMITTALS

Contractor shall provide six sets of Shop Drawings and Submittals on all Mechanical equipment, insulation, air devices, ductwork (flexible and rigid), and thermostats. Any deviations from the specified items shall be listed on the cover sheet and clearly itemized for all deviations. The Contractor shall provide two copies of Owner's Manual to the Architect upon completion of the Work.

1–7 QUALITY ASSURANCE

All Work shall be performed in accordance with all State, Local, and Federal Codes and all Authorities and Jurisdiction.

1–8 EQUIPMENT IDENTIFICATION

All Mechanical equipment shall be identified by means of nameplates permanently attached to the equipment. Nameplates shall be engraved laminated plastic or etched metal.

1–9 TESTING AND BALANCING

Testing and balance shall be provided by the Mechanical Sub–Contractor, with the services of an Independent Test and Balance Agency. The Test and Balance Company shall specialize in such work, and be a member of Associated Air Balance Council (AABC). The forms used shall be based on recommendations of AABC. Upon completion of the Balancing and Testing, the Balancing Contractor shall compile the test data in report forms, and forward five copies to the Architect for evaluation. The final report shall contain logged results of all tests, including such data as:

Tabulation of air volume at each outlet. (Balanced to within 5% design).

Outside dry bulb and wet bulb temperature.

Inside dry bulb and wet bulb temperatures in each conditioned space room or area.

Actual fan capacities, RPM's and static pressures. Motor current and voltage readings at each fan.

Entering and leaving air temperatures, DB and WB.

PART II - DUCTWORK–MECHANICAL

2–1 METAL DUCTWORK

All ductwork shall be properly suspended or supported from the building structure. Hangers shall be galvanized steel straps or hot–dipped galvanized rod with thread pointed after installation. Strap hanger shall be attached to the bottom of the ductwork. The spacing, size and installation hangers shall be in accordance with the recommendations of latest edition of SMACNA space hangers as required to support ducts without sagging.

Ventlock No. 699 "Test Plugs" shall be provided in ductwork at all openings in ductwork required for testing and balancing.

2–2 DUCTWORK MATERIALS

Exposed Ductwork Materials: Where ductwork is indicated to be exposed to view in occupied spaces, provide materials which are free from visual imperfections including pitting, seam marks, roller marks, stains and discolorations, and other imperfections, including those which would impair painting.

Sheet Metal: Except as otherwise indicated, fabricate ductwork from galvanized sheet, sheet complying with ASTM A527, lockforming quality, with G90 zinc coating in accordance with ASTM A 525; and mill phosphatized for exposed locations.

Stainless Steel Sheet: Where indicated, provided stainless steel complying with ASTM A167; Type 316; with No. 4 finish where exposed to view in occupied spaces, No. 1 finish elsewhere. Protect finished surfaces with mill–applied adhesive protective paper, maintained through fabrication and installation.

Aluminum Sheet: Where indicated, provide aluminum sheet complying with ASTM B209, Alloy 3003, Temper H14.

A. Non combustible and conforming to UL 181, Class 1 air duct materials.

B. Flexible ducts: Flexmaster U.S.A. Inc. Type 3M or approved equal, corrosive resistance galvanized steel formed and Mechanically locked to inner fabric with 1 inch thick insulation when flexible ducts are located in conditioned spaces and with R–5 insulation when located in unconditioned spaces. Flexible duct shall have reinforced metalized outer jacket comply with UL 181, Class 1 air duct.

C. Sealants: Hard–Cast "Iron Grip: or approved equal, non–hardening, water resistant, fire resistive and shall not be a solvent curing product. Sealants shall be compatible with mating materials, liquid used alone or with tape or heavy mastic.

D. Ductwork Support Materials: Except as otherwise indicated, provide hot–dipped galvanized steel fasteners, anchors, rods, straps, trim and angles for support of ductwork.

1. For exposed stainless steel ductwork, provide matching stainless steel support materials.
2. For aluminum ductwork, provide aluminum support materials.

2–1–2 LOW PRESSURE DUCTWORK

A. Fabricate and support in accordance with latest SMACNA low pressure duct construction standards and ASHRAE handbooks, except as indicated. Provide duct material, gages, reinforcing, and sealing for operating pressures indicated.

B. Size round ducts installed in place of rectangular ducts in accordance with ASHRAE table of equivalent rectangular and round ducts. No variation of duct configuration or sizes permitted except by approved shop drawings. Obtain engineer's approval prior to using round duct in lieu of rectangular duct.

C. Construct T's, bends, and elbows with radius of not less than 1–1/2 times width of duct on centerline. Where not possible and where rectangular elbows are used, provide airfoil–turning vanes. Where acoustical lining is indicate, provide turning vanes of perforated metal with glass fiber insulation.

D. Increase duct sizes gradually, not exceeding 15 degrees divergence wherever possible. Divergence upstream of equipment shall not exceed 30 degrees; convergence downstream shall not exceed 45 degrees.

E. Use crimp joints with bead for joining round duct sizes 6 inch smaller with crimp in direction of airflow.

F. Use double nuts and lock washers on threaded rod supports.

2–1–3 CASINGS

A. Fabricate casings in accordance with SMACNA low pressure duct construction standards and SMACNA high pressure duct construction standard and construct for operating pressures indicated.

B. Mount floor mounted casings on 4 inch high concrete curbs. At floor, rivet panels on 8 inch centers to angles. Where floors are acoustically insulated, provide liner of 18 gage galvanized expanded metal mesh supported at 12 inch centers, turned up 12 inches at sides with sheet metal shields.

C. Reinforce doorframes with steel angles tied to horizontal and vertical plenum supporting angles. Install hinged access doors where indicated or required for access to equipment for cleaning and inspection. Provide clear wire glass observation ports, minimum 6x6 inch size.

D. Fabricate acoustic casings with reinforcing turned inward. Provide 16 gage back facing and 22 gage perforated front facing with 3/32 inch diameter holes on 5/32 inch centers. Construct panels 3 inches thick packed with 4.5 lb./cubic foot minimum glass fiber media, on inverted channels of 16 gage.

2–1–4 KITCHEN HOOD EXHAUST DUCTWORK

A. Fabricate in accordance with SMACNA low pressure duct construction standards, high pressure duct construction standards, and NFPA 96.

B. Construct of 16 gage carbon steel or 18 gage stainless steel, using continuous external welded joints.

2–1–5 EXECUTION

A. Obtain Manufacturer's inspection and acceptance of fabrication and installation of ductwork at beginning of installation.

B. Provide openings in ductwork where required to accommodate thermometers and controllers. Provide Pilot tube openings where required for testing of systems, complete with metal can with spring device or screw to ensure against air leakage where openings are provided in insulated ductwork. Install insulation material inside a metal ring.

C. Locate ducts with sufficient space around equipment to allow normal operating and maintenance activities.

D. Connect terminal units to medium or high pressure ducts with four feet maximum length of flexible duct. Do not use flexible duct to change direction.

E. Connect diffusers or troffer boots to low pressure ducts with 6 feet maximum, 4 feet minimum, length of flexible duct. Hold in place with strap or clamp.

F. During construction provide temporary closures of metal or taped polyethylene on open ductwork to prevent construction dust from entering ductwork system.

G. The interior surface of all ductwork shall be smooth. No sheet metal parts, tabs, angles, or anything else may project into the ducts for any reason, except as specified to be so. All seams and joints shall be external.

H. All ductwork located exposed on roof shall be "Crowned" to prevent water from ponding. Reference insulation for additional requirements.

I. Where ducts pass through floors, provide structural angles for duct support. Where ducts pass through walls in exposed areas, install suitable sheet metal escutcheons as closers.

J. All angles shall be carried around all four sides of the duct or group of ducts. Angles shall overlap corners and be welded or riveted.

K. All ductwork shall be fabricated in a manner to prevent the seams or joints being cut for the installation of grilles, registers, or ceiling outlets.

2–1–6 INSTALLATION OF FLEXIBLE DUCTS

A. Maximum length: For any duct run using flexible ductwork, do not exceed 6'–0" extended length.

B. Installation: Install in accordance with Section 3 of SMACNA's, "HVAC duct construction standards, metal and flexible".

C. Provide spin–in fitting for all round flexible duct connections to rectangular duct. Spin–in fittings shall factory fabricated, and include an air extractor scoop and a balancing butterfuly damper with a locking quadrant and handle. Balancing shall be at the spin–in fitting and not at the air distribution device.

2–1–7 DUCTWORK HANGERS AND SUPPORTS

A. All ductwork shall be properly suspended or supported from the building structure. Hangers shall be galvanized steel straps or hot–dipped galvanized rod with threads pointed after installation. Strap hanger shall be attached to the bottom of the ductwork. Provide a minimum of two screws one at the bottom and one in the side of each strap on metal ductwork. The spacing, size and installation of hangers shall be in accordance with the recommendations of the latest SMACNA Edition.

B. All duct risers shall be supported by angles or channels secured to the sides of the ducts at each floor with sheet metal screws or rivets. The floor supports may also be secured to ducts by rods, angles or flat bar to the duct joint or reinforcing. Structural steel supports for duct risers shall be provided under this division.

2–2 DUCT INSULATION

All insulation shall be installed in accordance with the Manufacturer's recommendations and printed installation instructions.

All items required for a complete and proper installation are not necessarily indicated on the Plans or in the Specifications. Provide all items required as per manufacturer's requirements.

All toilet exhaust ductwork shall be unlined sheet metal with all joints sealed. Duct dimensions shown on Plans are clear inside dimensions.

2–2–1 EXTERNAL DUCT INSULATION

A. Fasten all longitudinal and circumferential laps with outward clinching staples 3" on center. On rectangular ducts over 24" wide apply as above and hold insulation in place on bottom side with mechanical pins and clips on 12" centers.

B. Seal all joints, fastener penetrations and other breaks in vapor barrier with 3 inch wide strips of white glass fabric embedded between two coats of vapor barrier mastic, childers CP–30 or approved equal.

C. All external duct insulation shall be Johns Manville Type 75 fiberglass duct wrap insulation with reinforced aluminum facing or approved equal.

D. External duct wrap is required on all outside air ducts and supply air ducts that are not internally insulated. Duct wrap shall be provided as follows:

1. 1 ½" thick, 1/0 PCF density minimum when ducts are located in conditioned spaces.
2. 2" thick with a minimum installed R–value of 5 when ducts are located in unconditioned spaces, such as ceiling plenum space.

2–2–2 DUCT LINER

A. Duct liner shall be kept clean and dry during transportation, storage and installation. Care should be taken to protect the liner from exposure to the elements or damage from mechanical abuse.

B. All portions of duct designed to receive duct liner shall be completely covered with liner as specified. The smooth, black, acrylic–coated surfaces with flexible glass cloth reinforcement shall face the airstream. All duct liner shall be cut to assure tight, overlapped corner joints. The top pieces shall be supported y the sidepieces. Duct liner shall be installed following the guidelines in the NAIMA "Duct Liner Installation Standard".

C. The duct liner shall be tested according to erosion test method in UL 181 and shall be guaranteed to withstand velocities in the duct system up to 5000 FPM without surface erosion.

D. Duct liner shall be adhered to the sheet metal with full coverage of an approved adhesive that conforms to ASTM C 916, and all exposed leading edges and transverse joints shall be coated with permacote factory–applied or field–applied edge coating and shall be neatly butted without gaps. Shop or field cuts shall be liberally coated with Johns Manville Superseal? Duct butter and edge treatment or approved adhesive.

E. Metal nosings shall be securely installed over transversely oriented liner edges facing the airstream at foreward discharge and at any point where lined duct is preceded by unlined duct.

F. When velocity exceeds 4000 FPM (20.3 M/SEC), use metal nosing on every leading edge. Nosing may be formed on duct or be channel or zee attached by screws, rivets or welds.

G. The liner shall further be secured with graham welding pins and washers on not more than 18 inch centers both vertical and horizontal surfaces, and the pins and washers shall be pointed up with adhesive.

H. Duct liner shall be Johns Manville Linacoustic RC fiberglass duct liner with factory–applied edge coating or approved equal. The liner shall meet the life safety standards as established by NFPA 90A and 90B, FHC 25/50 and limited combustibility and the air stream surface coating should contain an immobilized, EPA–registered, anti microbial agent so it will not support microbial growth as tested in accordance with ASTM G21 and G22, the duct liner shall conform to the requirements of ASTM C 423 using a Type "A" mounting, and a thermal conductivity no higher than .25 BTUIN/(HRFT2°F) at 75°F mean temperature.

I. Duct liner is required on all return air ductwork, return air boots and supply air ductwork downstream of the terminal units. Duct liner shall be provided as follows:

1. 1" thick, 1.5 PCF density minimum when ducts are located in conditioned spaces.
2. 1 ½" thick with a minimum installed R–value of 5 when ducts are located in unconditioned spaces, such as ceiling plenum space.
3. 2" thick with a minimum installed R–value of 8 when ducts are located outdoors.

J. Line supply and return ductwork at connection of HVAC unit to a point of 15 feet upstream and downstream of the equipment with John Manville, linacoustic RC with an R–value of 5 or approved equal for thermal insulation and noise control. The liner shall meet the safety standards as indicated above with NRC not less than 0.75 as tested per ASTM C423 using a Type "A" mounting and thermal conductivity no higher than 0.24 BTUIN/(HRFT2°) at 75°F mean temperature. Attach with full cover coat of cement, duct dimensions up to 16 inches, provide stick clips or screws and cap for dimension over 16 inches, space 16 inches O.C. maximum. Provide sheet metal liner cap over all leading edges of internal insulation exposed to air stream.

2–2–3 EXPOSED DUCTWORK LOCATED INDOORS

A. Duct routed exposed shall be internally lined as specified.

B. Round and [flat oval] duct routed exposed shall be double wall with solid inner liner and 1" thick layer of fiberglass insulation as manufactured by United McGill Company model no. Acousti–27 or approved equal.

2–2–4 EXPOSED DUCT LOCATED OUTDOORS

A. All duct located outdoors shall be internally lined as specified and also shall have a 2" thick, 6lb. density rigid board external duct insulation, finished with a white weatherproofed canvas material.

2–2–5 AIR DEVICE AND MISCELLANEOUS DUCT INSULATION

A. The backside of all supply air devices shall be insulated with taped and sealed 1 ½ inch thick external duct wrap.

B. The Contractor shall install an additional layer of 1 ½ inch thick external fiberglass duct wrap on any portion of the supply air, return air, outside air, or exhaust air system that has condensation forming during any period of operation. The insulation shall be taped and sealed and located until all evidence of the condensation had been eliminated at no additional cost to the owner.

2–2–6 KITCHEN GREASE HOOD EXHAUST DUCT

A. All kitchen range hood exhaust duct shall be enclosed with 2 hours fire rated enclosure.

B. The duct enclosure shall be sealed around the duct at the points of penetration.

C. The enclosure shall be separated from the duct by at least 3 inches and not more than 12 inches.

D. Cleanout openings at exhaust duct with access openings at the fire rated enclosure and access doors shall be provided at each duct offset and as required for proper operation and maintenance.

E. As an alternate method, the Contractor may use the "3M fir barrier 1000 N/S silicone sealant", Johns Manville firetemp wrap SL2 or approve equals in lieu of the fire rated enclosure, providing the product used shall meet UL requirements and be approved by the local authority have jurisdiction. This application shall follow the Manufacturers' strict installation instructions and guidelines.

F. Insulation and all other requirements shall be provided per local codes.

PART III: EQUIPMENT - MECHANICAL

3–1 AIR DISTRIBUTION

A. Air distribution devices shall be selected at a maximum of 25 noise criteria and at a maximum of 0.06" W.G. total pressure drop. Approved Manufacturers are Metalaire, Titus, and Krueger.

B. The backside of all supply air devices not located in a return air plenum shall be insulated with taped and sealed 1–½" thick one lb. density fiberglass insulation with vapor barrier.

3–2 PIPING

A. All condensate drains shall be galvanized steel or copper with ½" thick armaflex insulation.

B. Refrigerant piping shall be copper ACR tubing, fittings shall be wrought copper steamlined sweat fitting.

C. All condenser water piping shall be Type L hard drawn copper tubing, fittings shall be ANSI/ASME B16.23 cast brass, or ANSI/ASME B16.29 solder wrought copper, joints shall be ANSI/AWS A5.9, BCUP silver braze.

3–3 SOUND AND VIBRATION CONTROL

A. Provide vibration isolation supports for equipment, piping, and ductwork to prevent transmission of vibration and noise to the building structure that may cause discomfort to the occupants.

B. All items required for a complete and proper installation are not necessarily indicated on the plans or in the Specification. Provide all items required as per Manufacturers requirements and install as per Manufacturers recommendations and instructions.

C. All vibration isolators shall be designed and treated for resistance to corrosion.

3–4 FANS

A. The following Manufacturers are approved subject to Specification Compliance: Greenheck, Cook, Breidert, ACME, Penn.

B. All fans shall be tested in accordance with latest AMCA Fan Test Code shall bear AMCA certified rating seal.

C. All fans with V–belt drives shall have statically and dynamically balanced adjustable sheaves with drive capacity not less than 150% of the nominal motor horsepower. Adjustable drives as Manufactures by Browning, Gates, or Goodrich will be acceptable.

D. All motors shall be selected so that they will not overload if the static pressure drops one–half inch. Motor Controller will be furnished by this division, unless noted otherwise on the plans. Refer to drawings fro 2–speed fan motor requirements. Provide fan guard for all wall mounted fans.

E. Fans shall be installed as detailed on drawings and in accordance with Manufacturer's recommendations. Fans moving 2,000 CFM and more shall have smoke detector installed in ductwork or other suitable location to detect products of combustion and shut–off fan.

3–5 AIR FILTERS

A. The following Manufacturers are approved subject to Specification Compliance; American Air Filter, Air Guard Industries Inc., and Cambridge.

B. The filters shall be Farr 30/30 2 inch thick or approved equal.

END OF SECTION

3–6 FAN COIL UNITS

A. Fan Coil Units shall be factory manufactured by Carrier, Trane, JCI.

B. Units shall be draw–through with fan section, cooling coil section, condensate drain pan, adjustable blower drive with motor on resilient mounted base, vee–belts with guard, filter section, and mixing box (unless noted otherwise on drawings). Assemble as integrated air handling units.

C. Casing shall be galvanized steel with 1" thick, 3/4 PCF density, neoprene coated fiberglass cemented in place with waterproof adhesive, having fire retardant characteristics in accordance with NFPA 90A. Drain pan shall not be lighter than 14 gage, and shall extend completely under the coil section and control valves. Fan shall be all galvanized, foam insulated with drain connections. Cooling coil shall be cartridge type and shall be removable from either end of the unit. Coils shall be constructed of copper tubes with aluminum fins and shall be designed for even distribution of air across the face of the coil. Air shall not pass around coil frames. Maximum face velocity across cooling coil shall not exceed 500 fpm. DX refrigerant coils shall be counter–flow refrigerant–to–air and shall have thermostatic expansion valves with adjustable superheat.

3–7 AIR COOLED CONDENSING UNIT

A. Air Cooled Condensing Units shall be manufactured by Carrier, Trane, or JCI.

B. Unit shall consist of high efficiency hermetic compressor, air cooled condenser with quiet fan, factory wired controls, R–410 refrigerant, and refrigeration circuit and valves. Cabinet shall be heavy–gage galvanized steel with bonding primer and baked enamel finish coat. The entire cabinet shall be protected from rust. Compressor shall be protected from excessive current and temperatures and shall be provided with a thermostatically controlled crankcase heater. Compressor shall be spring–mounted on rubber isolators in a compartment isolated from condenser fan and coil. Provide high/low refrigerant safety switches, compressor overload service, low ambient control (to 20 F), solid state timed–off control, and hard start kit. Condenser fan shall be directly connected to a weather–protected, quiet, high efficiency motor. Fan guard shall be provided and shall be a PVC finish. Connections for refrigerant suction and liquid lines shall extend outside the cabinet and shall have service valves with gauge connections.

3–8 AUTOMATIC TEMPERATURE CONTROLS

A. Provide programmable thermostat similar to Honeywell model #T7400. Thermostat shall be capable of 24 hour, seven day scheduling and night–time setback.

B. The thermostat shall have the capability to set back or shut down the system based on the day, and provide readily accessible manual overdrive that will return to the presetback or shutdown schedule with programmable override.

C. Where used to control both heating and cooling, zone thermostat controls shall provide a temperature range or deadband of a least 5°F within which the supply of eat and cooling energy to zone is capable of being shut off or reduced to a minimum.

D. Acceptable Manufacturers shall be HVAC Unit Manufacturer Johnson Controls, Honeywell, Robert–Shaw, Siebe Environmental Controls, and Powers.

E. Provide locking metal cover for thermostat.

F. Thermostats shall cycle stages of cooling and heating as indicated on the drawings to maintain room setpoint temperature (adjustable). Supply fan shall operate continuously during scheduled hours of operation.

G. Controls shall be installed under the supervision of the Manufacturer's Representative.

5/16/25

STATE OF TEXAS
FERNANDO GALLEGOS
109882
LICENSED
PROFESSIONAL ENGINEER

ISSUED FOR PERMIT

VME ENGINEERING
1615 Laurel Ct Donna, Texas 78537
P: 956.472.5161 www.vme-engineering.com
Texas Registered Engineering Firm - F14031
Project number: 025.25

CG5 ARCHITECT
TEXAS ARCHITECT
FIRM No: BR4247
WWW.CG5ARCHITECT.COM

SEAL:

ECISD HIGH SCHOOL ATHLETIC MULTI-USE BUILDING 25-74

ROBERT VELA HIGH SCHOOL

801 E Canton Rd, Edinburg, TX 78539

CLIENT:
EDINBURG CISD

REVISION:

No.	Description	Date

PROJECT #: 25-030102
DRAWN BY: N.M.
CHECKED BY: CG3
DATE: 4/28/25

MECHANICAL SPECS

M4.0

ABBREVIATIONS

A

A	AMPERES
ABV	ABOVE
A/C	AIR CONDITIONING
AC	ALTERNATING CURRENT, AIR COMPRESSOR, ABOVE COUNTER
ACC	AIR COOLED CHILLER
ACCU	AIR COOLED CONDENSING UNIT
AD	ACCESS DOOR
ADA	AMERICANS WITH DISABILITIES ACT
AF	AMPERE FUSE, AMPERE FRAME
AFC	ABOVE FINISHED CEILING
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHU	AIR HANDLING UNIT
AIC	AMPERE INTERRUPT CAPACITY
AL	ALUMINUM
AM	AMMETER
AMP	AMPLIFIER
ANN	ANNUNICATOR
AP	ACCESS PANEL, ALARM PANEL
ARCH	ARCHITECT, ARCHITECTURAL
ASC	AMPERES SHORT CIRCUIT
AT	AMPERE TRIP RATING
ATS	AUTOMATIC TRANSFER SWITCH
AVG.	AVERAGE
AUX.	AUXILIARY
AWG.	AMERICAN WIRE GAUGE

B

BAS	BUILDING AUTOMATION SYSTEM
BC	BELOW COUNTER
BKR	BREAKER
BLDG.	BUILDING

C

C	CONDUIT, CELSIUS
CATV	CABLE TELEVISION SYSTEM
CCTV	CLOSED CIRCUIT TELEVISION
CWP	CONDENSER WATER PUMP
CH	CHILLER
CHP	CHILLED WATER PUMP
CIRC	CIRCULATING
CKT	CIRCUIT
CL	CENTERLINE
CLG.	CEILING
CMU	CONCRETE MASONRY UNIT
COL.	COLUMN
CONC	CONCRETE
CONN	CONNECTION
CONT.	CONTINUOUS,CONTINUATION
CONTR.	CONTROLLER, CONTRACTOR
CP.	CIRCULATING PUMP
CPUC	CPU CHILLER
CR	CARD READER, CORD REEL
CRU	CONDENSATE RETURN UNIT
CT	CURRENT TRANSFORMER, COOLING TOWER
CTR	CENTER
CU	COPPER

D

dB	DECIBEL
DC	DIRECT CURRENT
DDC	DIRECT DIGITAL CONTROL
DTL	DETAIL
DIA	DIAMETER
DIM	DIMENSION
DISC	DISCONNECT
DN	DOWN
DP	DISTRIBUTION PANEL
DPDT	DOUBLE-POLE, DOUBLE-THROW
DPST	DOUBLE-POLE, SINGLE-THROW
DR	DROPPED RECEPTACLE
DS	DAYLIGHT SENSOR
DW	DISHWASHER
DWG	DRAWING
DWH	DOMESTIC WATER HEATER
DWP	DOMESTIC WATER PUMP
DZ	DAYLIGHT ZONE

E

(E)	EXISTING
EA	EACH
EC	ELECTRICAL CONTRACTOR
E.C.	EMPTY CONDUIT
EDF	ELECTRIC DRINKING FOUNTAIN
EF	EXHAUST FAN
EFF	EFFICIENCY
EHC	ELECTRIC HEATING COIL
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC.	ELECTRICAL
ELEV.	ELEVATOR
EMCS	ENERGY MANAGEMENT AND CONTROLS SYSTEM
EMERG	EMERGENCY
EMS	ENERGY MANAGEMENT SYSTEM
ENCL	ENCLOSURE
ENGR.	ENGINEER
EPO	EMERGENCY POWER OFF
EQUIP	EQUIPMENT
(ER)	EXISTING TO REMAIN
EUH	ELECTRIC UNIT HEATER
EWH	ELECTRIC WATER HEATER
EXH	EXHAUST

F

F	FAHRENHEIT, FAN, FIRE
FA	FIRE ALARM
FACP	FIRE ALARM CONTROL PANEL
FCU	FAN COIL UNIT
FF	FURNITURE FEED
FIXT	FIXTURE
FLA	FULL LOAD AMPS
FLEX	FLEXIBLE
FLR	FLOOR
FLUOR	FLUORESCENT
FP	FIRE PUMP, FAN POWERED
FPTB	FAN POWERED TERMINAL BOX
FRZR	FREEZER
FS	FUSED SWITCH, FLOW SWITCH
FSD	MOTORIZED FIRE SMOKE DAMPER
FT	FOOT, FEET
FTL	FEED-THRU LUGS
FUT	FUTURE
FVNR	FULL-VOLTAGE, NON-REVERSING

G

GA	GAUGE
GAL	GALLON
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GEN	GENERATOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GND	GROUND
GTD	GENERATOR TRANSFER DEVICE
GUH	GAS UNIT HEATER

H

HACR	HEATING, AIR CONDITIONING RATED CIRCUIT BREAKER
HD	ELECTRIC HAND DRYER
HID	HIGH INTENSITY DISCHARGE
HOA	HAND-OFF-AUTOMATIC
HORIZ	HORIZONTAL
HP	HORSEPOWER
HPS	HIGH PRESSURE SODIUM
HS	HAND SET
HSC	HAND SCANNER
HTG	HEATING
HTR	HEATER
HVAC	HEATING, VENTILATING, AND AIR CONDITIONING
HVU	HEATING/ VENTILATING UNIT
HWB	HOT WATER BOILER
HWC	HOT WATER CIRCULATOR
HWP	HEATING WATER PUMP
HZ	HERTZ

I

ID	INSIDE DIAMETER
IG	ISOLATED GROUND
IN	INCH
INCAND	INCANDESCENT
INT	INTERNAL, INTERIOR

J

JB	JUNCTION BOX
JP	JOCKEY PUMP

K

KEC	KITCHEN EQUIPMENT CONTRACTOR
KO	KNOCKOUT
kVA	KILOVOLT- AMPS
kW	KILOWATT
kWH	KILOWATT-HOUR

L

LED	LIGHT EMITTING DIODE
LF	LINEAR FEET
LRA	LOCKED ROTOR AMPS
LTG	LIGHTING
LV	LOW VOLTAGE TRANSFORMER
LVL	LEVEL

M

	METER
MAP	MASTER ALARM PANEL
MATV	MASTER ANTENNA TELEVISION SYSTEM
MAX.	MAXIMUM
MC	METAL CLAD CABLE
MCA	MINIMUM CIRCUIT AMPS
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MD	MOTORIZED DAMPER
MDP	MAIN DISTRIBUTION PANEL
MECH.	MECHANICAL
MFR	MANUFACTURER
MH	METAL HALIDE
MIC	MICROPHONE
MIN.	MINIMUM
MLO	MAIN LUGS ONLY
MOCP	MAXIMUM OVER-CURRENT PROTECTION
MSB	MAIN SWITCHBOARD
MTD	MOUNTED
MV	MERCURY VAPOR

N

N3R	NEMA 3R ENCLOSURE
N4X	NEMA 4X ENCLOSURE
N.C.	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION
NF	NON-FUSED
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NFS	NON-FUSED SWITCH
NIC	NOT IN CONTRACT
NL	NIGHT LIGHT
N.O.	NORMALLY OPEN
NO.	NUMBER
NTS	NOT TO SCALE

O

OAF	OUTSIDE AIR FAN
OAHU	OUTSIDE AIR HANDLING UNIT
OC	ON CENTER
OD	OUTSIDE DIAMETER
OHE	OVERHEAD ELECTRICAL
OPG	OPENING

P

	POLE, PUMP
PB	PUSHBUTTON
PC	PHOTOCELL
PH	PHASE
PL	PILOT LIGHT
PLBG	PLUMBING
PNEU	PNEUMATIC
PNL	PANEL
POS	POINT OF SALE
PP	POWER POLE
PR	PAIR
PRI	PRIMARY
PS	PHOTOSENSOR
PVC	POLYVINYL CHLORIDE
PWR	POWER

Q

QTY	QUANTITY

R

R	EXISTING TO BE REMOVED
RA	RETURN AIR
RAD	REFRIGERATED AIR DRYER
RAF	RETURN AIR FAN
RC	RECONNECT EXISTING DEVICE TO CIRCUIT INDICATED
RCP	REFLECTED CEILING PLAN
RCPT	RECEPTACLE
RE	REFERENCE, REFER
REC	RECEPTACLE
REFR	REFRIGERATOR
REINF	REINFORCING
REL	EXISTING TO BE RELOCATED
REL/EX	NEW LOCATION OF RELOCATED EQUIPMENT
REQD	REQUIRED
REV	REVISION, REVISE
RGS	RIGID GALVANIZED STEEL
RLA	RUNNING LOAD AMPS
RPM	REVOLUTIONS PER MINUTE
RR	REMOVE AND REPLACE
RTU	ROOFTOP UNIT

S

SA	SUPPLY AIR
SAF	SUPPLY AIR FAN
SCHED	SCHEDULE
SE	SEWAGE EJECTOR
SEC	SECONDARY
SECT	SECTION
SF	SQUARE FEET
SHT	SHEET
SIM	SIMILAR
SKVA	STARTING KILOVOLT-AMPS
SKW	STARTING KILOWATTS
SP	SUMP PUMP
SPEC	SPECIFICATION
SPF	STAIR PRESSURIZATION FAN
SPKR	SPEAKER
SPD	SURGE PROTECTION DEVICE
SPDT	SINGLE-POLE, DOUBLE-THROW
SPST	SINGLE-POLE, SINGLE-THROW
SQ.	SQUARE
SRF	SMOKE REMOVAL FAN
SS	START-STOP PUSH BUTTON
SSSC	SOLID STATE SPEED CONTROL
ST	SHUNT TRIP
STB	STEAM BOILER
STD	STANDARD
STL	STEEL
SURF	SURFACE
SW	SWITCH
SWBD	SWITCHBOARD

T

TC	TEMPERATURE CONTROL
TEL	TELEPHONE
TF	TRANSFER FAN
TL	TWIST-LOCK
TOC	TOP OF CURB
TOS	TOP OF STEEL
TP	CHILD TAMPER PROOF DEVICE
TSTAT	THERMOSTAT
TTB	TELEPHONE TERMINAL BOARD
TTC	TELEPHONE TERMINAL CABINET
TU	TERMINAL UNIT
TV	TELEVISION
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
TYP	TYPICAL

U

UG	UNDERGROUND
UH	UNIT HEATER
UL	UNDERWRITERS LABORATORIES, INC.
UNO	UNLESS NOTED OTHERWISE
UPS	UNINTERRUPTABLE POWER SYSTEM

V

V	VOLT
VA	VOLT-AMPERE
VAV	VARIABLE AIR VOLUME
VC	VOLUME CONTROL
VERT	VERTICAL
VFD	VARIABLE FREQUENCY DRIVE
VP	VACUUM PUMP
VM	VOLT METER

W

W	WATT, WIRE, WIDTH
WG	WIREGUARD
W/	WITH
W/O	WITHOUT
WP	WEATHERPROOF
WS	WATER SOFTENER
WT	WATERTIGHT, WEIGHT
WWF	WELDED WIRE FABRIC
W/FT²	WATTS PER SQUARE FOOT

X

XFMR	TRANSFORMER

Z

Z	ZONE

ELECTRICAL SYMBOLS

MOTORS AND CONTROLS

(5)	SINGLE OR THREE PHASE MOTOR NUMBER INDICATES HORSE POWER
	ELECTRIC DUCT HEATER
	DISCONNECT (SAFETY) SWITCH "200/3/150" DENOTES AMPERES/POLE/FUSE, "NF" DENOTES NON-FUSED "N3R" DENOTES NEMA 3R
B	ENCLOSED CIRCUIT BREAKER- "200/3/150" DENOTES AMPERES/POLE/TRIP.
	MOTOR STARTER FURNISHED BY DIVISION 23 AND INSTALLED BY DIVISION 26.
	COMBINATION DISCONNECT (SAFETY) SWITCH AND MOTOR STARTER, "30/3/15/#0" DENOTES AMPERES/POLES/FUSE/ STARTER SIZE, "NF" DENOTES NON-FUSED. FURNISHED BY DIVISION 23 AND INSTALLED BY DIVISION 26.
VFD	VARIABLE FREQUENCY DRIVE PROVIDED BY DIVISION 23 AND INSTALLED BY DIVISION 26.
EPO	EMERGENCY POWER OFF BUTTON.

RECEPTACLES AND OUTLETS

ALL RECEPTACLES SHALL BE MOUNTED 18" ABOVE FINISHED FLOOR TO CENTER OF DEVICE UNLESS NOTED OTHERWISE.

	SIMPLEX WALL RECEPTACLE, NEMA 5-20R, 20A, 125V.
	DUPLEX WALL RECEPTACLE, NEMA 5-20R, 20A, 125V. "GFCI" DENOTES GROUND FAULT INTERRUPTER, "WP" DENOTES WEATHERPROOF, "IG" DENOTES ISOLATED GROUND, "TP" DENOTES SAFETY TYPE, (TAMPER PROOF) "DR" DENOTES DROPPED RECEPTACLE, "USB" DENOTES RECEPTACLE WITH UNIVERSAL SERIAL BUS, "AC" DENOTES ABOVE COUNTER MOUNTING, SEE "UC" DENOTES UNDER COUNTER MOUNTING, SEE "H" DENOTES HORIZONTALLY ORIENTED RECEPTACLE, SEE ARCHITECTURAL PLANS FOR EXACT MOUNTING HEIGHT.
R	DUPLEX WALL RECEPTACLE ON EMERGENCY CIRCUIT, RED COLOR.
	DUPLEX WALL RECEPTACLE ON A CIRCUIT DEDICATED TO DATA PROCESSING, GRAY COLOR. PROVIDE ISOLATED GROUND TYPE RECEPTACLES WHERE NOTED.
	SPLIT WIRED RECEPTACLE. TOP RECEPTACLE SHALL BE SWITCHED ACCORDING TO PLANS, AND BOTTOM SHALL REMAIN UNSWITCHED.
SP	CONTROLLED DUPLEX WALL RECEPTACLE, NEMA 5-20R, 20A, 125V. "SP" DENOTES SPLIT WIRED
	FOURPLEX (DOUBLE DUPLEX) WALL RECEPTACLE. NEMA 5-20R, 20A, 125V.
R	FOURPLEX WALL RECEPTACLE ON EMERGENCY CIRCUIT, RED COLOR.
	CONTROLLED FOURPLEX (DOUBLE DUPLEX) WALL RECEPTACLE. NEMA 5-20R, 20A, 125V.
	SPECIAL RECEPTACLE, NEMA CONFIGURATION AS NOTED.
D R P	FLUSH ELECTRICAL FLOOR OUTLET, "P" DENOTES POKE-THRU. "D" INDICATES DUPLEX RECEPTACLE, "R" INDICATES RED RECEPTACLE ON EMERGENCY POWER. REFER TO FLOOR BOX SCHEDULE, FIRE RATED POKE-THROUGH SCHEDULE AND KEYED NOTES.
	MULTI-OUTLET SURFACE RACEWAY. SEE ARCHITECTURAL DRAWINGS FOR EXACT MOUNTING HEIGHTS.
J	JUNCTION BOX "MD" DENOTES MOTOR DAMPER, "CR" DENOTES CORD REEL, "D" DENOTES DROP CORD RECEPTACLE,
	DUPLEX RECEPTACLE WITH HOMERUN
	DUPLEX RECEPTACLE (PEDESTAL MOUNTED)
	TWO-GANG CEILING OUTLET
	TWO-GANG FLOOR OUTLET
	THREE-GANG FLOOR OUTLET
PP	POWER POLE
	DIRECT CONNECTION TO EQUIPMENT
P	PULL BOX (OVER 4" SQUARE)
C (2)	CLOCK RECEPTACLE TO BE MOUNTED 12" BELOW FINISHED CEILING. (2) DENOTES DOUBLE SIDED CLOCK.

LIGHTING

LETTER(S) DENOTE TYPE- SEE LIGHTING FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION.

	2' X 4' LIGHTING FIXTURE.
	2' X 2' LIGHTING FIXTURE.
	1' X 4' LIGHTING FIXTURE.
	1' X 2' LIGHTING FIXTURE.
	1' X 1' LIGHTING FIXTURE.
	STRIP LIGHTING FIXTURES.
	STAGGERED STRIP LIGHTING FIXTURE.
	ROUND DOWNLIGHT FIXTURE.
	SQUARE DOWNLIGHT FIXTURE.
	WALL MOUNTED LIGHTING FIXTURE.
	TRACK LIGHTING FIXTURE. MOUNTED AS SHOWN ON LIGHTING FIXTURE SCHEDULE.
	CEILING MOUNTED EXIT SIGN; ARROWS AS INDICATED. SHADED AREA DENOTES FACE.
	WALL MOUNTED EXIT SIGN; ARROWS AS INDICATED. SHADED AREA DENOTES FACE.
	EMERGENCY WALL MOUNTED LIGHTING FIXTURE. BATTERY OPERATED UNLESS NOTED OTHERWISE.
	SECURITY WALL PACK
	SITE LIGHTING FIXTURE.
	POST-TOP FIXTURE/ACORN FIXTURE BRACKET ARM INDICATES WALL MOUNT WITH ARM
	EMERGENCY LIGHT FIXTURE WITH BATTERY PACK. PROVIDE WITH UNSWITCHED HOT FOR LOSS OF VOLTAGE AND CHARGING (SAME CIRCUIT AS NORMAL POWER LIGHTING). FIXTURES SHALL BE WIRED IN A MANNER AS TO ALLOW SWITCHING OF FIXTURES WITHOUT DISCHARGING THE EMERGENCY BATTERY. BATTERY PACK IS TO ONLY OPERATE IN THE EVENT OF A POWER OUTAGE.
EM CIRCUIT	LIGHT FIXTURE ON EMERGENCY BRANCH CIRCUIT, CIRCUIT NUMBER ADJACENT TO FIXTURE INDICATES EMERGENCY CIRCUIT CONNECTED TO FIXTURE. PROVIDE UNSWITCHED HOT, NEUTRAL AND GROUND FOR ALL EMERGENCY LIGHTING ORIGINATING FROM THE EMERGENCY CIRCUIT SHOWN.
NL	EMERGENCY "NIGHT LIGHT" LIGHT FIXTURE. LIGHT FIXTURE IS UNSWITCHED AND INTENDED FOR 24 HOUR OPERATION. FEED VIA UNSWITCHED HOT.
	DAYLIGHT ZONE/PRIMARY DAYLIGHT ZONE
	SECONDARY DAYLIGHT ZONE

RACEWAYS AND WIRING

	CAP AND STAKE
	CONDUIT CONCEALED IN WALL OR CEILING
	CONDUIT UNDERSLAB OR UNDERGROUND
EM	EMERGENCY CONDUIT
	EXPOSED CONDUIT
DB	UNDERGROUND CONDUIT, "DB" DENOTES DUCTBANK ENCASED IN CONCRETE
OHE	OVERHEAD ELECTRIC PRIMARY UTILITY POWER LINE
	CONDUIT TURNED UP
	CONDUIT TURNED DOWN
2	HASH MARKS INDICATE NUMBER OF CONDUCTORS. LEFT TO RIGHT:PHASE/NEUTRAL/SWITCH LEG/GROUND/ISOLATED GROUND. NO HASH MARKS INDICATES 2# 12, PLUS GROUND, UNLESS NOTED OTHERWISE.
1LA-2,4	HOMERUN TO PANEL WITH CIRCUIT NUMBER(S) AS INDICATED.
2 (ON)1LA-6 T	PARTIAL CIRCUIT HOMERUN TO PANEL.
	COMMUNICATIONS CONDUIT OR CABLE: "CL" DENOTES MASTER CLOCK, "CR" DENOTES CASH REGISTER "D" DENOTES DATA, "FA" DENOTES FIRE ALARM, "I" DENOTES INTERCOM, "OHE" DENOTES OVERHEAD ELECTRICAL LINE. "PA" DENOTES PAGING, "S" DENOTES SECURITY, "T" DENOTES TELEPHONE, "V" DENOTES VIDEO,
	TELECOMMUNICATIONS CABLE TRAY TO BE CONCEALED ABOVE ACCESSABLE CEILING.

ELECTRICAL EQUIPMENT

	DISTRIBUTION PANEL
MSB	SWITCHBOARD, MAIN DISTRIBUTION PANEL OR MOTOR CONTROL CENTER
	PANELBOARD (FLUSH/SURFACE MOUNT)
	FLOOR MOUNTED DRY-TYPE TRANSFORMER
	SUSPENDED OR WALL MOUNTED TRANSFORMER
ATS	AUTOMATIC TRANSFER SWITCH
	FIRE RATED PLYWOOD TERMINAL BOARD, TYPE AS NOTED, 4' X 8' X 3/4" UNLESS NOTED OTHERWISE
	TERMINAL CABINET (FLUSH/SURFACE MOUNT), TYPE AS NOTED, 24" X 48" X 3-1/2" UNLESS NOTED OTHERWISE.
BAT	BATTERY/INVERTER UNIT
LV	LOW VOLTAGE TRANSFORMER.

COMMUNICATIONS

ALL OUTLET BOXES SHALL BE MOUNTED 18" ABOVE FINISHED FLOOR TO CENTER OF DEVICE UNLESS NOTED OTHERWISE.

THE FOLLOWING NOTATIONS REFER TO ALL COMMUNICATIONS OUTLETS:
"FAX" DENOTES OUTLET DEDICATED FOR A FAX,
"W" DENOTES WALL PHONE SHALL BE MOUNTED AT 42" A.F.F.
"PAY" DENOTES PAY PHONE SHALL BE MOUNTED 42" A.F.F.

HS	SCHOOL INTERCOMMUNICATION SYSTEM HANDSET.
	INDICATES THE LOCATION OF A NEW TECHNOLOGY WALL OUTLET, PROVIDE DUAL GANG BACK BOX. REFERENCE TECHNOLOGY SHEET FOR CONTENT.
M W	MICROPHONE FLOOR OUTLET, "W" INDICATES WALL MOUNTED "F" INDICATES FLOOR MOUNTED "H" INDICATES HANGING MOUNTED
S VC	CEILING MOUNTED SPEAKER. "VC" INDICATES VOLUME CONTROL ON SPEAKER.
S L	WALL MOUNTED SPEAKER. "L" INDICATED LOCAL SOUND REINFORCEMENT
CB	SCHOOL INTERCOMMUNICATION SYSTEM CALL-IN. PUSH BUTTON
	BELL, BUZZER OR CHIME AT 80+ A.F.F.
VC	VOLUME CONTROL - WALL MOUNTED
A/V W	AUXILIARY INPUT JACK. "W" INDICATES WALL MOUNTED "F" INDICATES FLOOR MOUNTED "H" INDICATES HANGING MOUNTED
AVO	"HIGH" PORTION OF "HIGH/LOW" OUTLETS, REFER TO OUTLET DETAIL.
AVO	"LOW" PORTION OF "HIGH/LOW" OUTLETS, REFER TO OUTLET DETAIL.

REFERENCE TECHNOLOGY/SECURITY SHEET FOR ADDITIONAL INFORMATION.

ONE LINE AND RISER DIAGRAMS

	TRANSFORMER, TYPE AND RATINGS AS NOTED
800A/3P	SWITCH, RATING AS SHOWN
400A	FUSE, RATING AS SHOWN
CL	CIRCUIT BREAKER, RATING AS SHOWN, 3 POLE UNLESS NOTED OTHERWISE. "CL" DENOTES CURRENT LIMITING
	DRAWOUT CIRCUIT BREAKER, RATINGS AS SHOWN, 3 POLE UNLESS NOTED OTHERWISE
ST	SHUNT TRIP
GFI	GROUND FAULT RELAY
K	KIRK-KEY INTERLOCK
M	DIGITAL METER
A 0-2000	AMMETER, RANGE AS SHOWN
AS	AMMETER SWITCH
V 0-600	VOLTMETER, RANGE AS SHOWN
VS	VOLTMETER SWITCH
WH D-15	WATT-HOUR METER, "D" DENOTES DEMAND REGISTER "15" DENOTES MINUTES OF DEMAND INTERVAL
1200/5	CURRENT TRANSFORMER, RATED AS SHOWN
12.47KV/120V	POTENTIAL TRANSFORMER, RATING AS SHOWN
	GROUND CONNECTION
	LIGHTING ARRESTOR
G	GENERATOR SET
	AUTOMATIC TRANSFER SWITCH
	BUS DUCT PLUG
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
M	ELECTRICAL METER
SPD	SURGE PROTECTION DEVICE

MISCELLANEOUS

F	SHADED SYMBOLS INDICATE EXISTING DEVICES TO REMAIN, UNLESS OTHERWISE NOTED.
	INDICATES WALL-MOUNTED WHEN ATTACHED TO ANY SYMBOL
1	DRAWING NOTE REFERENCE
1	STARTER/DISCONNECT SCHEDULE REFERENCE
1	FEEDER SCHEDULE REFERENCE
LC	LIGHTING CONTACTOR
TS	TIME SWITCH
PC	PHOTOCELL
	PUSH BUTTON/DOOR BELL
TC	TIMECLOCK
R	RELAY
SOS	AREA OF RESCUE ASSISTANCE
B	BELL

FIRE ALARM

W	WATER FLOW SWITCH
SP	SUPERVISORY SWITCH
S	SMOKE DETECTOR - MULTI CRITERIA DETECTOR
S #	SMOKE DETECTOR - "ID" INDICATES IN DUCT TYPE "AS" INDICATES AIR SAMPLING TYPE "AC" INDICATES ABOVE CEILING "BF" INDICATES BELOW FLOOR
H	HEAT DETECTOR
S BT	BEAM DETECTOR TRANSMITTER, HIGH IN CEILING WALL DIRECT LINE OF SIGHT.
S BR	BEAM DETECTOR RECEIVER, HIGH IN CEILING WALL DIRECT LINE OF SIGHT.
S	FIRE ALARM SPEAKER STROBE / CEILING MOUNTED
S	FIRE ALARM SPEAKER STROBE / WALL MOUNTED
S	FIRE ALARM SPEAKER / CEILING MOUNT.
S	FIRE ALARM SPEAKER / WALL MOUNTED
DH	MAGNETIC DOOR HOLDER
R	AUXILIARY CONTROL RELAY
FH	FIRE FIGHTER HANDSET
F	FIRE ALARM PULL STATION +42" AFF
F	FIREMAN'S TELEPHONE JACK +42" AFF
	AUDIO VISUAL FIRE ALARM HORN STROBE +80" AFF- 15/75cd U.N.O.
	VISUAL FIRE ALARM (STROBE) CEILING MOUNT - 15/75cd U.N.O.
	VISUAL FIRE ALARM (STROBE) WALL MOUNT +80" AFF- 15/75cd U.N.O.
	AUDIO FIRE ALARM HORN +80" AFF
FACP	FIRE ALARM CONTROL PANEL
ANN	REMOTE FIRE ALARM ANNUNCIATOR PANEL
RPS	REMOTE POWER SUPPLY FOR AUDIO/VISUAL FIRE ALARM DEVICES.
FSD	FIRE SMOKE DAMPER

SECURITY

KP	KEYPAD	DP	INTRUSION DETECTION PANEL
GB	GLASS BREAK SENSOR	DC	DOOR CONTACT
H	HOLD UP BUTTON	PB	ADA AUTO DOOR OPEN BUTTON
DS	INTERCOM DOOR STATION	DR	DOOR RELEASE BUTTON
MS	INTERCOM MASTER STATION	CR	CARD READER
M	LONG RANGE MOTION DETECTOR	CR	WALL MOUNTED CARD READER
M	WALL MOUNTED MOTION DETECTOR		
M	CEILING MOUNTED MOTION DETECTOR		

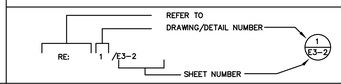
REFERENCE TECHNOLOGY/SECURITY SHEET FOR ADDITIONAL INFORMATION.

SWITCHES

ALL WALL SWITCHES SHALL BE MOUNTED AT 42" ABOVE FINISHED FLOOR TO CENTER OF DEVICE UNLESS NOTED OTHERWISE.

$	SWITCH, SPST, 20A, 120/277V.
$2	SWITCH, 20A, 120/277V: "2" DENOTES DPST, "3" DENOTES THREE-WAY, "4" DENOTES FOUR-WAY, "K" DENOTES KEY SWITCH, "P" DENOTES PILOT LIGHT, "T" DENOTES SPRING WOUND TIMER. "R" DENOTES RED "F" DENOTES FAN SPEED CONTROLLER "OC" DENOTES OCCUPANCY SENSOR SWITCH "L" DENOTES LOCKING SWITCH "LV" DENOTES LOW VOLTAGE SWITCH
$MC	SWITCH, SPDT, CENTER OFF, MOMENTARY CONTACT.
$D	DIMMER CONTROL SWITCH, 600 WATT UNLESS OTHERWISE NOTED.
$3K	THREE-WAY KEY SWITCH, 20A, 120/277V.
$SC	WALL MOUNTED SWITCH TO CONTROL MOTORIZED PROJECTION SCREENS.
$M	MOTOR RATED SWITCH WITH THERMAL OVERLOADS
OC	CEILING MOUNTED OCCUPANCY SENSOR
MP	MASTER OCCUPANCY SENSOR POWER PACK
DS	DAYLIGHT/PHOTO SENSOR
PS	PARTITION SENSOR

DRAWING/DETAIL REFERENCE KEY



GENERAL NOTES: A. NOT ALL SYMBOLS SHOWN ON THIS SYMBOL LIST ARE USED IN THE CONTRACT DOCUMENTS.

CG5 ARCHITECT
TEXAS ARCHITECT
FIRM No: BR4247
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SEAL:

ECISD HIGH SCHOOL ATHLETIC MULTI-USE BUILDING 25-74

ROBERT VELA HIGH SCHOOL

801 E Canton Rd, Edinburg, TX 78539

CLIENT:
EDINBURG CISD

REVISION:

No.	Description	Date

PROJECT #: 25-030102
DRAWN BY: N.M.
CHECKED BY: CG3
DATE: 4/28/25

ELECTRICAL SYMBOLS & ABBR.

E0.0

5/16/25

STATE OF TEXAS
FERNANDO GALLEGOS
109882
LICENSED PROFESSIONAL ENGINEER

ISSUED FOR PERMIT

VME ENGINEERING
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P: 956.472.5161 www.vme-engineering.com
Texas Registered Engineering Firm - F14031
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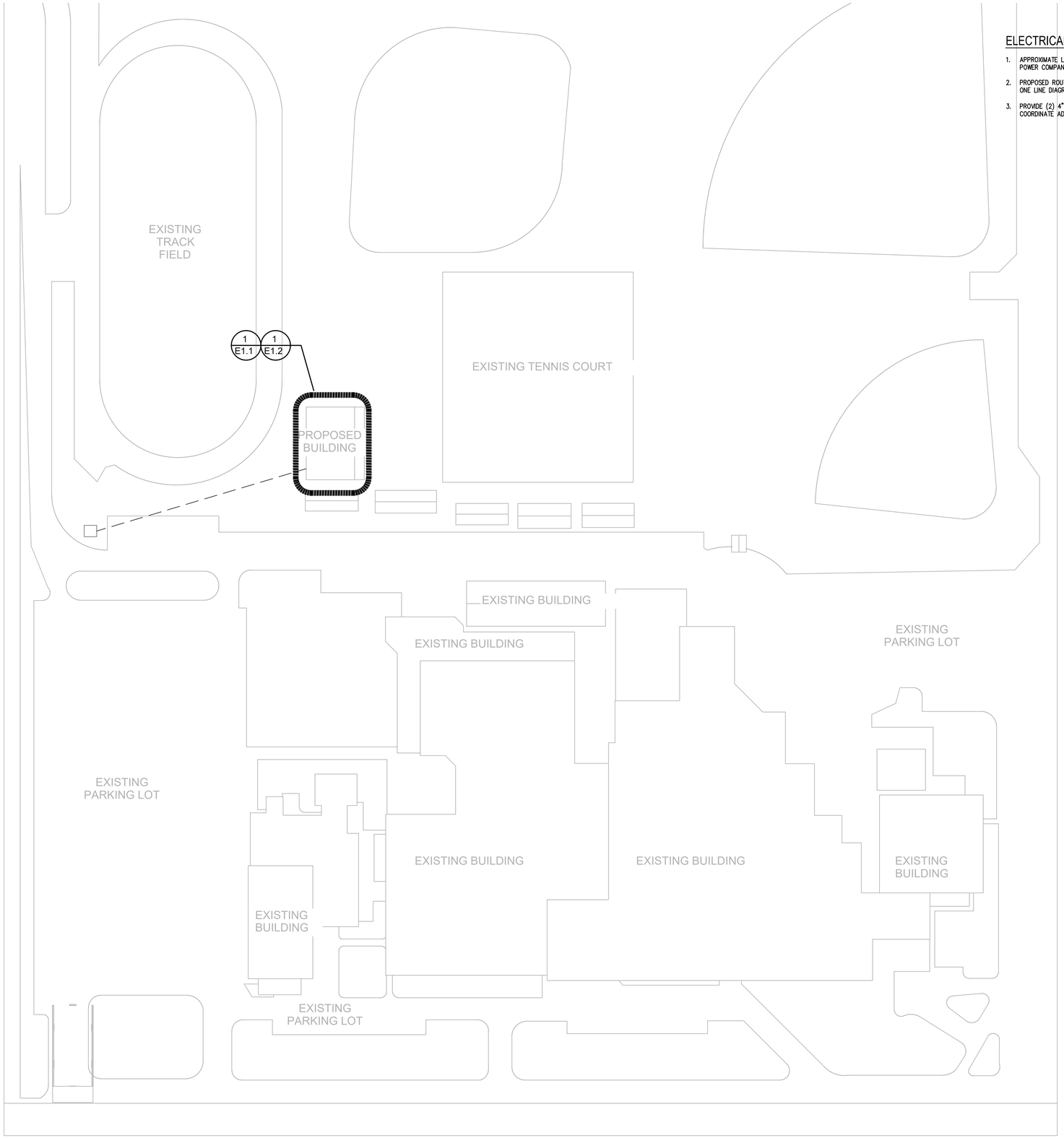

ELECTRICAL KEYED NOTES:

1. APPROXIMATE LOCATION OF EXISTING SERVICE TRANSFORMER. FIELD COORDINATE CONNECTION AND POWER COMPANY REQUIREMENTS PRIOR DIGGING.
2. PROPOSED ROUTING FOR MULTIPURPOSE BUILDING ELECTRICAL SERVICE DUCT BANK. REFER TO ONE LINE DIAGRAM ON SHEET E2.0 FOR ADDITIONAL INFORMATION.
3. PROVIDE (2) 4" UNDERGROUND CONDUIT WITH PULLSTRING FOR COMMUNICATIONS SERVICES. FIELD COORDINATE ADDITIONAL INFORMATION WITH SERVICE PROVIDER AND TECHNOLOGY CONTRACTOR.

1 / E1.0 ELECTRICAL SITE PLAN
Scale: 1/64" = 1'-0"

5/16/25
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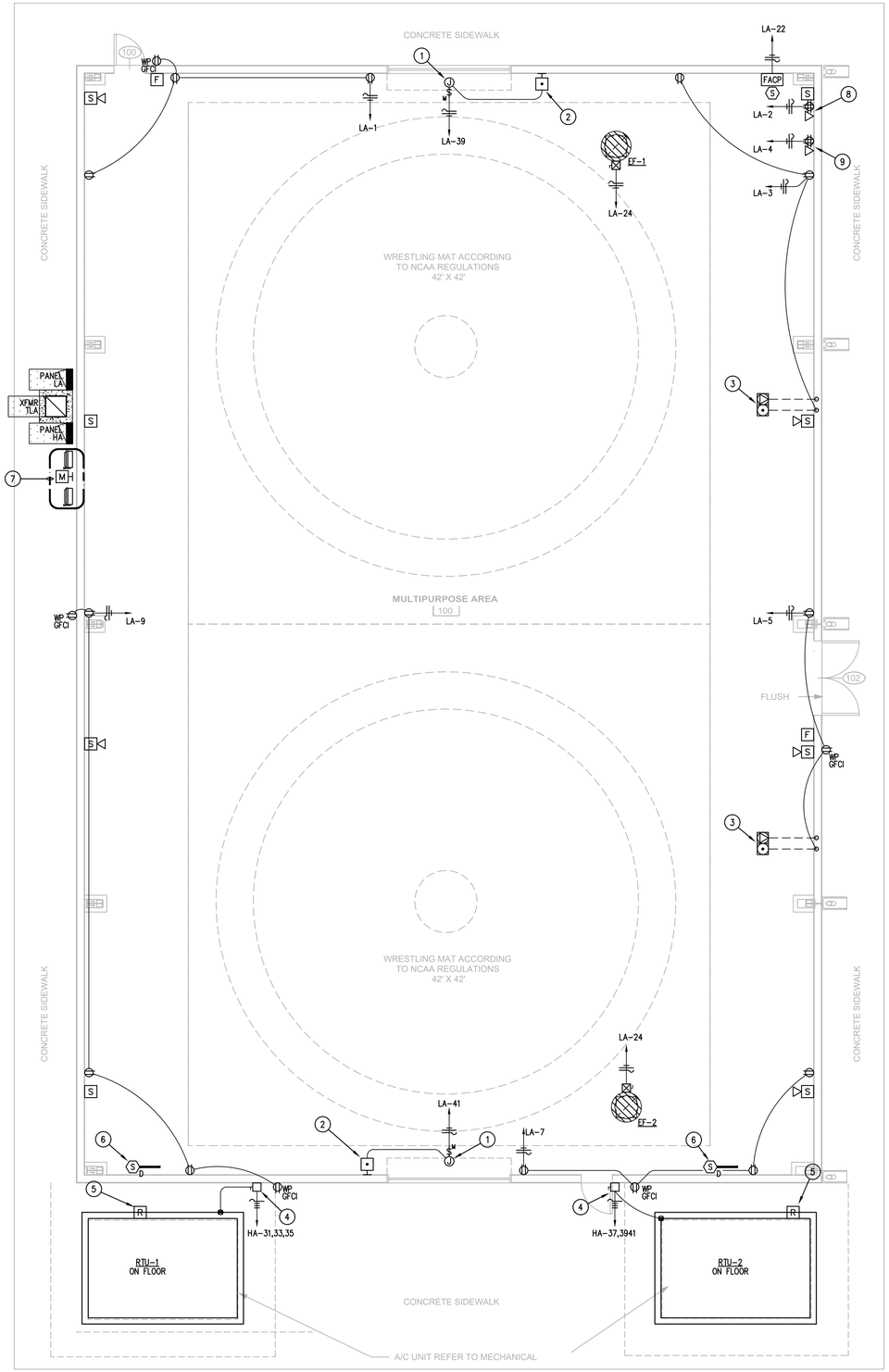
ELECTRICAL SITE PLAN

E1.0



1 E1.1 ELECTRICAL POWER FLOOR PLAN
Scale: 3/16" = 1'-0"

ELECTRICAL KEYED NOTES:

1. PROVIDE 120V POWER FOR MOTORIZED OVERHEAD DOOR. FIELD COORDINATE EXACT LOCATION AND ADDITIONAL REQUIREMENTS WITH DOOR INSTALLER PRIOR TO PLACEMENT. PROVIDE MOTOR RATED SWITCH.
2. PROVIDE BACK BOX FOR UP/DOWN PUSHBUTTON CONTROL STATION FOR MOTORIZED OVERHEAD DOOR. FIELD COORDINATE EXACT LOCATION AND ADDITIONAL REQUIREMENTS WITH DOOR INSTALLER PRIOR TO ROUGH-IN. ROUTE (1) 3/4" CONDUIT WITH CONTROL WIRE TO MOTORIZED DOOR CONTROL BOX.
3. PROVIDE HUBBELL 4-GANG FLOOR BOX #CFBG30RCR WITH (2) # PWFBMPCR20GRYTR DUPLEX RECEPTACLES, #CFBHUB2 HUB AND #CFBS1RBCVXX COVER. FIELD COORDINATE EXACT LOCATION AND ADDITIONAL REQUIREMENTS WITH ARCHITECT AND OWNER PRIOR TO PLACEMENT. ROUTE (1) 3/4" UNDERGROUND CONDUIT FOR POWER WIRING AND (1) 2" UNDERGROUND CONDUIT WITH PULL-STRING FOR DATA CABLING TO NEAREST WALL AND UP TO STRUCTURE.
4. PROVIDE 60A/3P/NF/N3R SAFETY DISCONNECT FOR ROOF TOP UNIT. FIELD COORDINATE EXACT LOCATION AND ADDITIONAL REQUIREMENTS WITH MECHANICAL CONTRACTOR PRIOR TO PLACEMENT.
5. PROVIDE FIRE ALARM SYSTEM SHUT DOWN RELAY FOR HVAC EQUIPMENT. FIELD COORDINATE EXACT LOCATION AND ADDITIONAL REQUIREMENTS WITH MECHANICAL CONTRACTOR PRIOR TO PLACEMENT.
6. PROVIDE DUCT SMOKE DETECTOR FOR HVAC EQUIPMENT SHUT DOWN. FIELD COORDINATE EXACT LOCATION AND ADDITIONAL REQUIREMENTS WITH MECHANICAL CONTRACTOR PRIOR TO PLACEMENT.
7. PROPOSED LOCATION FOR SERVICE EQUIPMENT AND POWER COMPANY METERING GEAR. REFER TO ONE LINE DIAGRAM AND SITE PLANS FOR ADDITIONAL INFORMATION.
8. PROVIDE QUAD RECEPTACLE AND DATA OUTLET FOR I.T. RACK, FIELD COORDINATE EXACT LOCATION AND ADDITIONAL REQUIREMENTS WITH TECHNOLOGY CONTRACTOR PRIOR TO PLACEMENT.
9. PROVIDE QUAD RECEPTACLE AND DATA OUTLET FOR SOUND EQUIPMENT, FIELD COORDINATE EXACT LOCATION AND ADDITIONAL REQUIREMENTS WITH AV CONTRACTOR PRIOR TO ROUGH-IN.

ELECTRICAL GENERAL NOTES:

A. ELECTRICAL CONTRACTOR SHALL GROUP HOMERUNS WITH THREE HOTS (A,B, AND C PHASE), AND #10 NEUTRAL TO PROVIDE MULTI-WIRE BRANCH CIRCUITS. NO MORE THAN 2 MULTI-WIRE HOMERUNS PER CONDUIT. CONTRACTOR SHALL PROVIDE HANDLE TIES MANUFACTURED BY THE SWITCH GEAR SUPPLIER ON ALL MULTI-WIRE CIRCUITS TO MEET THE REQUIREMENTS OF ARTICLE 210.4(B) OF THE 2020 NEC. AT THE CONTRACTOR'S OPTION, TWO AND THREE POLE BREAKERS MAY BE USED.

B. CONTRACTOR SHALL VERIFY DEVICE LOCATIONS WITH ARCHITECT PRIOR TO ROUGH-IN. REFER TO ARCHITECTURAL CASEWORK AND MILLWORK ELEVATIONS.

C. ELECTRICAL CONTRACTOR SHALL PROVIDE CONDUIT, OUTLET BOXES, JUNCTION BOXES FOR ALL TECHNOLOGY DEVICE OUTLETS. REFER TO DIVISION 26 SPECIFICATIONS AND TECHNOLOGY DRAWINGS FOR ALL WORK REQUIRED.

D. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH MECHANICAL CONTRACTOR FOR ALL EXHAUST FAN CONTROLS. PROVIDE A FAN SWITCH IF INDICATED BY MECHANICAL. ALL EXHAUST FANS SHALL BE PROVIDED WITH BUILT-IN DISCONNECT SWITCH.

E. HVAC AND PLUMBING EQUIPMENT MAY DIFFER FROM LOCATIONS AS SHOWN ON ELECTRICAL DRAWINGS. COORDINATE EXACT LOCATIONS WITH MECHANICAL AND PLUMBING CONTRACTOR.

F. CONTRACTOR SHALL INDICATE CIRCUIT SERVING EACH RECEPTACLE BY PROVIDING TYPE WRITTEN LABELING LOCATED ON INSIDE FACE OF EACH RECEPTACLE COVER PLATE.

G. ELECTRICAL CONTRACTOR SHALL ROUTE ELECTRICAL CONDUIT AND WIRING TO ALL ROOF HVAC EQUIPMENT THROUGH ROOF CURBS. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN.

H. CONTRACTOR SHALL ARRANGE PANELBOARDS IN ELECTRICAL ROOM TO PROVIDE CLEARANCE PER NEC 110.26.

I. MECHANICAL CONTRACTOR SHALL FURNISH INTEGRAL DISCONNECT SWITCH FOR ALL MECHANICAL EQUIPMENT. ELECTRICAL CONNECTIONS SHALL BE PROVIDED BY DIVISION 26.

J. VAVS WITH DAMPER ONLY SHALL BE CONNECTED BY MECHANICAL CONTRACTOR.

K. PROVIDE JUNCTION BOX AND POWER FOR ALL HARD WIRED PLUMBING FLUSH VALVES AND SENSOR EQUIPMENT TRANSFORMERS FROM NEAREST 120V/20A CIRCUIT. COORDINATE WITH PLUMBER PRIOR TO ROUGH-IN FOR EXACT LOCATION.

L. ALL RECEPTACLES LOCATED IN RESTROOMS, JANITOR CLOSETS, MECHANICAL ROOMS, SERVING ELECTRIC DRINKING FOUNTAINS OR VENDING MACHINES, LOCATED WITHIN 6' OF A SINK, LOCATED ABOVE A WET COUNTERTOP OR IN A KITCHEN OR COFFEE BAR SHALL BE GFCI. EACH GFCI PROTECTED RECEPTACLE SHARING THE SAME CIRCUIT SHALL HAVE ITS OWN RE-SET AND TEST BUTTON.

5/16/25

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ROBERT VELA HIGH SCHOOL

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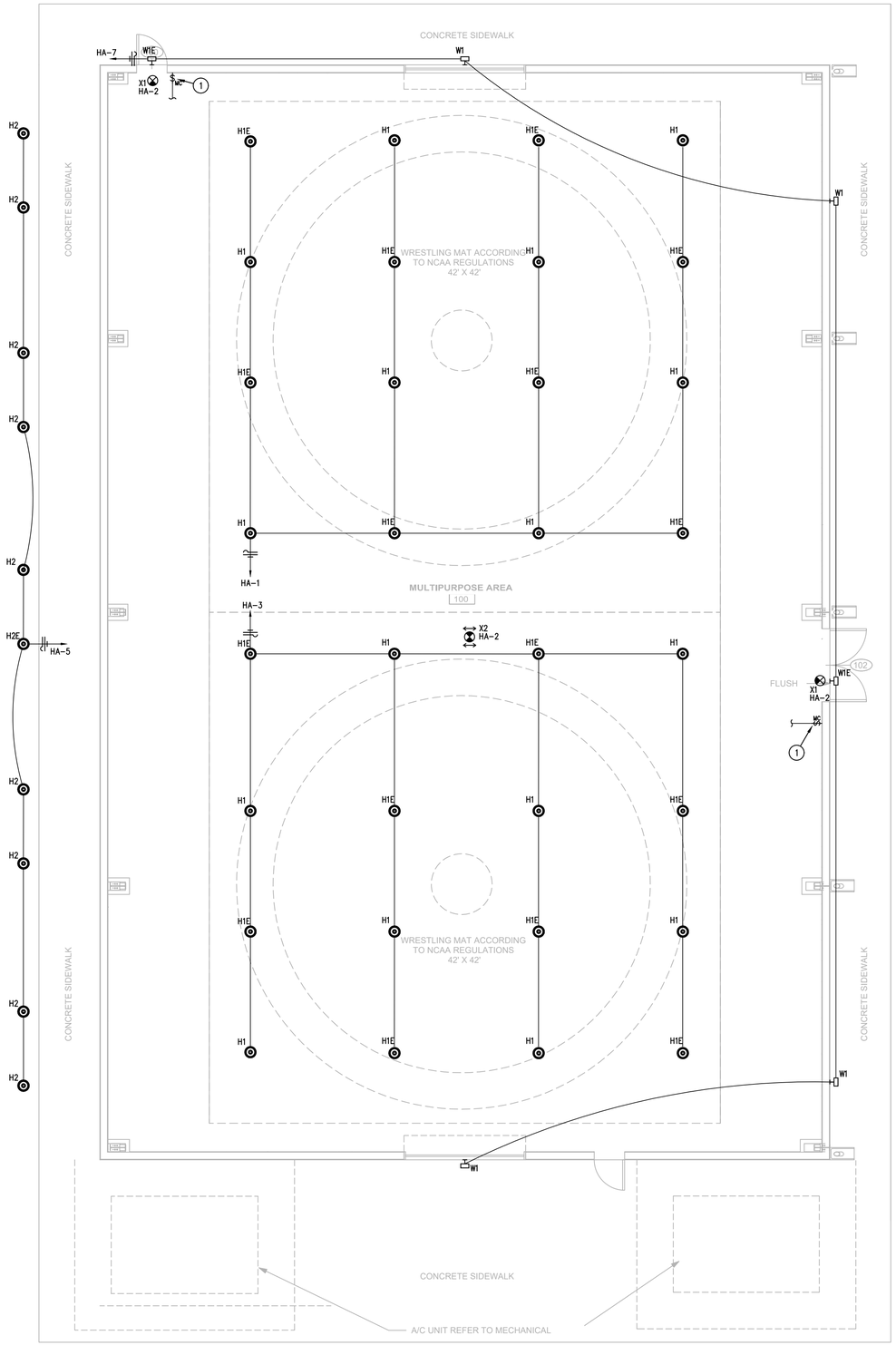
ELECTRICAL POWER FLOOR PLAN

E1.1



1 E1.2 ELECTRICAL LIGHTING FLOOR PLAN

Scale: 3/16" = 1'-0"

ELECTRICAL KEYED NOTES:

1. PROVIDE MOMENTARY CONTACT SWITCH ROUTED TO INTERIOR LIGHTING LIGHTING CONTACTOR.

ELECTRICAL GENERAL NOTES:

A. ALL CEILING MOUNTED OCCUPANCY SENSORS SHALL BE HUBBELL (WATTSTOPPER) #OMIDT-2000 (#DT-300). PROVIDE (#BZ-50 UNIVERSAL VOLTAGE) POWER PACKS AND OVERRIDE SWITCHES AS REQUIRED FOR CONTROL INDICATED.

B. ALL WALL MOUNTED OCCUPANCY SENSORS SHALL BE HUBBELL (WATTSTOPPER) #LHMTS1 (DSW-100)..

C. ALL CEILING MOUNTED DEVICES LOCATED IN LAY-IN CEILINGS SHALL BE CENTERED IN THE CEILING TILE.

D. ALL WALL BOX DIMMERS SHALL BE LUTRON NT SERIES UNLESS NOTED OTHERWISE.

E. MULTIPLE SWITCHES SHOWN TOGETHER SHALL BE GANGED UNDER A COMMON COVER PLATE.

F. PROVIDE UN-SWITCHED CIRCUIT TO ALL EXIT SIGNS.

G. CONTRACTOR SHALL INDICATE LIGHTING CIRCUIT CONTROLLED BY EACH SWITCH BY PROVIDING TYPE WRITTEN LABELING LOCATED ON INSIDE FACE OF EACH SWITCH COVER PLATE.

H. SPRINKLER CONTRACTOR SHALL COORDINATE SPRINKLER HEAD LOCATIONS WITH CEILING MOUNTED LIGHTING FIXTURES.

I. FIXTURES DESIGNATED "NL" SHALL BE UNSWITCHED NIGHTLIGHT. FIXTURES SHALL BE CONNECTED TO EMERGENCY CIRCUIT INDICATED.

J. PROVIDE ALL EMERGENCY LIGHT FIXTURES WITH UNSWITCHED HOT LEG AS DEFINED IN NEC 700.12

K. ROUTE AN UNSWITCHED HOT LEG TO ALL LIGHT FIXTURES DESIGNATED AS EMERGENCY FIXTURES. HOT LEG SHALL ORIGINATE FROM CIRCUIT SERVING NORMAL LIGHTING FIXTURES IN THAT SPACE. UNSWITCHED HOT LEG SHALL CONNECT TO THE NORMAL POWER SENSING LUG ON THE EMERGENCY BATTERY PACK.

L. LOWER CASE CHARACTER ADJACENT TO SWITCH AND/OR LIGHTING FIXTURE INDICATES SWITCHING GROUP.

5/16/25

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ROBERT VELA HIGH SCHOOL

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EDINBURG CISD

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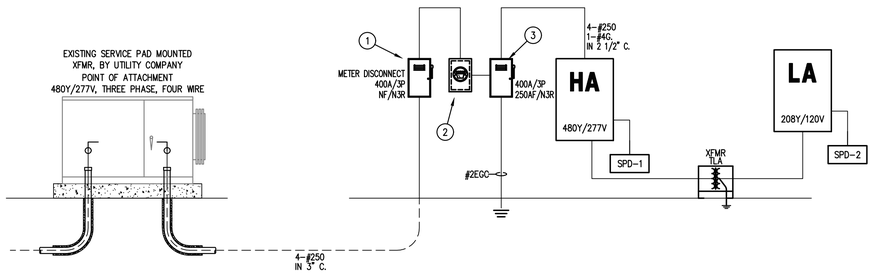
ELECTRICAL LIGHTING FLOOR PLAN

E1.2



ELECTRICAL KEYED NOTES:

1. PROVIDE METER DISCONNECT SWITCH PER POWER COMPANY SERVICE STANDARDS. FIELD COORDINATE ADDITIONAL REQUIREMENTS WITH POWER COMPANY.
2. PROVIDE 320A METER CAN PER POWER COMPANY SERVICE STANDARDS. REFER TO POWER PLANS FOR PROPOSED LOCATION.
3. PROVIDE FUSED SERVICE DISCONNECT PER POWER COMPANY SERVICE STANDARDS. REFER TO POWER PLANS FOR PROPOSED LOCATION.

TRANSFORMER SCHEDULE

MARK	KVA	PRI. VOLTAGE	SECONDARY VOLTAGE	MOUNTING	REMARKS	PHASE SHIFT
TLA	30	480V, 3ø	120Y/208V, 3ø, 4 W	FLOOR	GENERAL PURPOSE TRANSFORMER. PROVIDE WITH DRIP-SHIELD	--

SPD SCHEDULE

MARK	MANUFACTURER	MODEL	ACCUGUIDE CABLE SIZE
SPD-1	SOUTHERN TIER TECHNOLOGIES	T45277Y125ALAM1C	5 #6, 1 1/2" C.
SPD-2	SOUTHERN TIER TECHNOLOGIES	T45120Y100AWAJ2S	5 #10, 3/4" C.

Edinbug CISD Multipurpose Building - Load Analysis

Voltage		Date:	5/16/2025					
480								
Total Square Footage						Load (KVA)		
5400	Load		Unitary		Qty Of			
Load Description	Type	Qty	Load	Units	Floors	Per Floor	Total	Notes
						0.00	0.0	
Exterior Lighting	EL	1	750.00	VA	1	0.75	0.8	
Lighting Load	L	5,400	2.00	VA/SF	1	10.80	10.8	
Receptacles	R	16	180.00	VA	1	2.88	2.9	
						0.00	0.0	
HVAC						0.00	0.0	
Electrical Heating	H	5,400	12.50	VA/SF	1	67.50	67.5	
Cooling	C	5,400	10.60	VA/SF	1	57.24	57.2	
Fans	MS	5,400	2.00	VA/SF	1	10.80	10.8	

Load Types	% Load	Load (KVA)	Demand (KVA)		N.E.C.
(L) Lighting :	100%	10.80	**10.80**		**220.12**
(EL) Exterior Lighting:	125%	0.75	**0.94**		**220.14**
(R) Receptacles:	100%	2.88	**2.88**		**220.14/220.44**
(MS) Miscellaneous:	100%	10.80	**10.80**		**220.14**
(C) Cooling:	0%	57.24	**0.00**		**220.6**
(H) Heating:	100%	67.50	**67.50**		**220.6**
		Total Demand:	**92.9**	KVA	

Total Connected Load:	**150** ***KVA***
Total Demand:	***95.6 KVA***
	199.20 Amp.
Service Size:	***300.00 Amp.***
	100.80 Amp.
Spare Capacity:	**33.6 %**

Notes:
1.- Provide new 300A @ 480V 3Ph, 4W electrical service

TRANSFORMER FEEDER SCHEDULE - GENERAL PURPOSE - 3 PHASE

PRIMARY VOLTAGE				SECONDARY VOLTAGE			
480V, THREE PHASE				120/208V, THREE PHASE, FOUR WIRE			
KVA	FEEDER	CONDUIT	BREAKER	FEEDER	CONDUIT	BREAKER	GND. ELEC. SIZE
3	3#12, 1#12G.	3/4"	15A/3P	4#12, 1#8G.	3/4"	15A/3P	#8
6	3#12, 1#12G.	3/4"	15A/3P	4#10, 1#8G.	3/4"	25A/3P	#8
9	3#12, 1#12G.	3/4"	15A/3P	4#10, 1#8G.	3/4"	30A/3P	#8
15	3#10, 1#10G.	3/4"	25A/3	4#6, 1#8G.	1"	60A/3P	#8
30	3#8, 1#10G.	1"	45A/3P	4#3, 1#8G.	1 1/4"	100A/3P	#8
45	3#4, 1#8G.	1"	70A/3P	4#1/0, 1#6G.	1 1/2"	150A/3P	#6
75	3#1, 1#6G.	1 1/4"	125A/3P	4#250, 1#2G.	2 1/2"	250A/3P	#2
75	3#3, 1#8G.	1"	100A/3P	4#4/0, 1#2G.	2 1/2"	225A/3P	#2
112.5	3#2/0, 1#6G.	1 1/2"	175A/3P	4#600, 1#1/0G.	4"	400A/3P	#1/0
150	3#4/0, 1#4G.	2"	225A/3P	(2) SETS OF 4#250, 1#1/0G.	2 1/2"	500A/3P	#1/0
225	3#500, 1#3G.	3"	350A/3P	(2) SETS OF 4#600, 1#3/0G.	4"	800A/3P	#3/0
300	(2) SETS OF 3#4/0, 1#2G.	2 1/2"	450A/3P	(3) SETS OF 4#500, 1#3/0G.	3 1/2"	1000A/3P	#3/0
400	(2) SETS OF 3#350, 1#1G.	2 1/2"	600A/3P	(4) SETS OF 4#500, 1#250G.	4"	1600AF/1400AT/3P	#3/0
500	(2) SETS OF 3#500, 1#1/0G.	3"	800A/3P	(5) SETS OF 4#500, 1#350G.	4"	2000AF/1800AT/3P	#3/0

NOTE:
-ALL CONDUCTORS SHALL BE COPPER

5/16/25

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ELECTRICAL ONE-LINE DIAGRAM

E2.0

LIGHTING FIXTURE SCHEDULE

TYPE	MANUFACTURER	MOUNTING	LAMPS	VOLTS	WATTS	REMARKS	NOTES
H1	DAY-BRITE LIGHTING HCY2437L8CST-UN3-DIM	PENDANT	4000K L.E.D. INCLUDED	UNIVERSAL	150	L.E.D. HIGH BAY WITH 24,000 LUMENS OUTPUT, 0-10V DIMMING DRIVER. PROVIDE WITH #HCY2437L REFLECTOR AND #HCY2437L WIRE GUARD.	
H1E	DAY-BRITE LIGHTING HCY2437L8CST-UN3-DIM-EM	PENDANT	4000K L.E.D. INCLUDED	UNIVERSAL	150	SAME AS H1. PROVIDE WITH BODINE #ELI SERIES INVERTER, RATED FOR 90-MINUTE BATTERY RUNNING TIME.	
H2	STONCO LIGHTING LPGCA05-840-5CD-SUR-UNV-BL20MW	SURFACE	4000K L.E.D. INCLUDED	UNIVERSAL	60	L.E.D. CANOPY LIGHT WITH 10,000 LUMENS OUTPUT, BI-LEVEL DOWN TO 20% DIMMING DRIVER. PROVIDE WITH MICROWAVE MOTION SENSOR.	
H2	STONCO LIGHTING LPGCA05-840-5CD-SUR-UNV-BL20MW-BR-EM	SURFACE	4000K L.E.D. INCLUDED	UNIVERSAL	60	SAME AS H2. PROVIDE WITH EMERGENCY BY-PASS RELAY AND BODINE #ELI SERIES INVERTER, RATED FOR 90-MINUTE BATTERY RUNNING TIME.	
W1	STONCO LIGHTING LPW16-50-NW-G3-4-UNV	WALL	4000K L.E.D. INCLUDED	UNIVERSAL	50	L.E.D. SCONCE WITH 5,263 LUMEN OUTPUT	
W1E	STONCO LIGHTING LPW16-50-NW-G3-4-UNV-BAC	WALL	4000K L.E.D. INCLUDED	UNIVERSAL	50	SAME AS W1. PROVIDE WITH EMERGENCY BATTERY PACK RATED FOR 90-MINUTE RUNNING TIME.	
X1	CHLORIDE LIGHTING CLX-N-RW	UNIVERSAL	RED L.E.D. FURNISHED	120/277	5.0	SINGLE FACED EXIT SIGN WITH RED LETTERS ON WHITE PANEL AND EXTRA STENCIL FOR DOUBLE FACED APPLICATIONS. PROVIDE WITH WIREGUARD.	
X2	CHLORIDE LIGHTING CLX-N-RW	UNIVERSAL	RED L.E.D. FURNISHED	120/277	5.0	DOUBLE FACED EXIT SIGN WITH RED LETTERS ON WHITE PANEL. PROVIDE WIREGUARD.	

Panelboard LA

65,000 AIC Rating
Existing
X New

120/208 Volt,3-Phase,4-Wire
1 Section
N3R -Nema Rating

X MCB 100 AMP MCB
MLO 100 AMP BUS (Copper)
ISO. GRND. BUS

X Single
Double
Feed - Thru

Mounting
Surface
X Flush

Notes	Load (VA)	Description	Type	Wire	CB	CKT #	PH A	PH B	PH C	CKT #	CB	Wire	Type	Description	Load (VA)	Notes
	540	RC - MP AREA	R	12	20/1	1	●			2	20/1	12	R	RC - IT RACK	1200	
	720	RC - MP AREA	R	12	20/1	3		●		4	20/1	12	R	RC - SOUND RACK	1200	
	540	RC - MP AREA	R	12	20/1	5			●	6				SPACE		
	540	RC - MP AREA	R	12	20/1	7	●			8				SPACE		
	900	RC - MP AREA	R	12	20/1	9		●		10				SPACE		
		SPARE			20/1	11			●	12				SPACE		
		SPARE			20/1	13	●			14	20/1			SPARE		
		SPARE			20/1	15		●		16	20/1			SPARE		
		SPARE			20/1	17			●	18	20/1			SPARE		
		SPARE			20/1	19	●			20	20/1			SPARE		
		SPARE			20/1	21		●		22	20/1			SPARE		
		SPARE			20/1	23			●	24	20/1	12	M	EQ - FACP	500	
		SPARE			20/1	25	●			26	30/2	10		SPD-2		
	1127	EQ - MOT. OH DOOR	M			27		●		28	-	10		-		
	1127	EQ - MOT. OH DOOR	M			29			●	30	-	10		-		
	5,494	Subtotal												Subtotal	2,900	

N.E.C.	Load Type	Conn.	Fct.	Diversity	N.E.C.		Conn.	Fct.	Diversity
220.44	(R) Recept.	5,640		5,640	210.20(a)	(L) Lighting	0	125%	0
220.56	(K) Kitchen	0	100%	0		(EL) Ext. Ltg.	0	125%	0
220.60	(C) Cooling	0	0%	0	620.14	(E) Elevators	0	100%	0
220.60	(H) Heating	0	0%	0		(WH) Water Ht.	0	100%	0
220.60	(F) Fans	0	100%	0	220.5	(MT) Lrg. Mot.	0	125%	0
	(M) Misc.	2,754	100%	2,754		(SP) Sub Panel	0	100%	0
610.50	(CR) Cranes	0	100%	0					

Total Connected Load 8,394 VA = 23.3 AMPS
Total Load (Diversified 8,394 VA = 23.3 AMPS

Location of Panel:

Panelboard HA

65,000 AIC Rating
Existing
X New

277/480 Volt,3-Phase,4-Wire
1 Section
N3R -Nema Rating

MCB
X MLO 400 AMP MCB
AMP BUS (Copper)
ISO. GRND. BUS

X Single
Double
Feed - Thru

Mounting
Surface
X Flush

Notes	Load (VA)	Description	Type	Wire	CB	CKT #	PH A	PH B	PH C	CKT #	CB	Wire	Type	Description	Load (VA)	Notes
1	2400	LT - INTERIOR	L	12	20/1	1	●			2	20/1	12	L	LT - EXIT SIGNS	250	
1	2400	LT - INTERIOR	L	12	20/1	3		●		4						
2	600	LT - EXT. CANOPY	EL	12	20/1	5			●	6						
3	300	LT - EXT. WALL	EL	12	20/1	7	●			8						
						9		●		10						
						11			●	12						
						13	●			14						
						15		●		16						
						17			●	18						
						19	●			20						
						21		●		22						
						23			●	24						
						25	●			26						
						27		●		28						
		SPACE				29			●	30						
	3824	RTU-1	F	8	50/3	31	●			32						
	18000	-	H	8	-	33		●		34						
		-	C	8	-	35			●	36						
	3824	RTU-2	F	8	50/3	37	●			38	70/3	4	SP	XFMR - TLA	8394	
	18000	-	H	8	-	39		●		40	-	4	-	-		
		-	C	8	-	41			●	42	-	4	-	-		
	49,348	Subtotal												Subtotal	8,644	

N.E.C.	Load Type	Conn.	Fct.	Diversity	N.E.C.		Conn.	Fct.	Diversity
220.44	(R) Recept.	0		0	210.20(a)	(L) Lighting	5,050	125%	6,313
220.56	(K) Kitchen	0	100%	0		(EL) Ext. Ltg.	900	125%	1,125
220.60	(C) Cooling	0	0%	0	620.14	(E) Elevators	0	100%	0
220.60	(H) Heating	36,000	100%	36,000		(WH) Water Ht.	0	100%	0
220.60	(F) Fans	7,648	100%	7,648	220.5	(MT) Lrg. Mot.	0	125%	0
	(M) Misc.	0	100%	0		(SP) Sub Panel	8,394	100%	8,394
610.50	(CR) Cranes	0	100%	0					

Total Connected Load 57,992 VA = 69.8 AMPS
Total Load (Diversified 59,480 VA = 71.6 AMPS

Location of Panel:

PANELBOARD SCHEDULE KEYED NOTES:

1. ROUTE VIA LIGHTING CONTACTOR LC1.
2. ROUTE VIA LIGHTING CONTACTOR LC2.
3. ROUTE VIA LIGHTING CONTACTOR LC3

TIME CLOCK SCHEDULE

MARK	AMPS	CIRCUITS	COIL VOLTAGE	NOTE	REMARKS
TC-1	20	16	120/277	1	
NOTE #1. ALL TIME CLOCKS SHALL BE INTERMATIC ET90000, SERIES RATED FOR 20 AMP. 277 VOLT BALLAST SWITCHING.					
ZONE CIRCUITS: SITE, EXTERIOR WALLS, ENTRANCES, FLAG POLES/SIGNS & BAYS. PROVIDE OVERRIDE SWITCH AT REAR DOOR.					

CONTACTOR SCHEDULE

MARK	AMPS	POLES	COIL VOLTAGE	CONTROL	REMARKS
LC1	30	6	120	H-O-A, $	AUTOMATIC CONTROL BY TIME SWITCH TC-1- SERVES INTERIOR LIGHTING
LC2	30	4	120	H-O-A, $	AUTOMATIC CONTROL BY TIME SWITCH TC-1- SERVES EXTERIOR CANOPY
LC3	30	4	120	H-O-A, $	AUTOMATIC CONTROL BY TIME SWITCH TC-1- SERVES EXTERIOR WALL

5/16/25

STATE OF TEXAS
FERNANDO GALLEGOS
109882
LICENSED PROFESSIONAL ENGINEER

ISSUED FOR PERMIT

VME ENGINEERING
1615 Laurel Ct Donna, Texas 78537
P: 956.472.5161 www.vme-engineering.com
Texas Registered Engineering Firm - F14031
Project number: 025.25

CG5 ARCHITECT
TEXAS ARCHITECT
FIRM No: BR4247
WWW.CG5ARCHITECT.COM

SEAL:

ECISD HIGH SCHOOL ATHLETIC MULTI-USE BUILDING 25-74

ROBERT VELA HIGH SCHOOL

801 E Canton Rd, Edinburg, TX 78539

CLIENT:
EDINBURG CISD

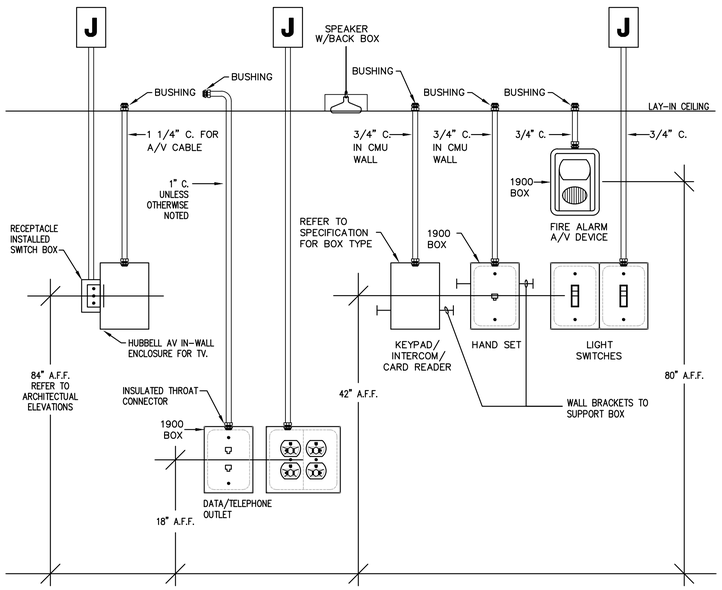
REVISION:

No.	Description	Date

PROJECT #: 25-030102
DRAWN BY: N.M.
CHECKED BY: CG3
DATE: 4/28/25

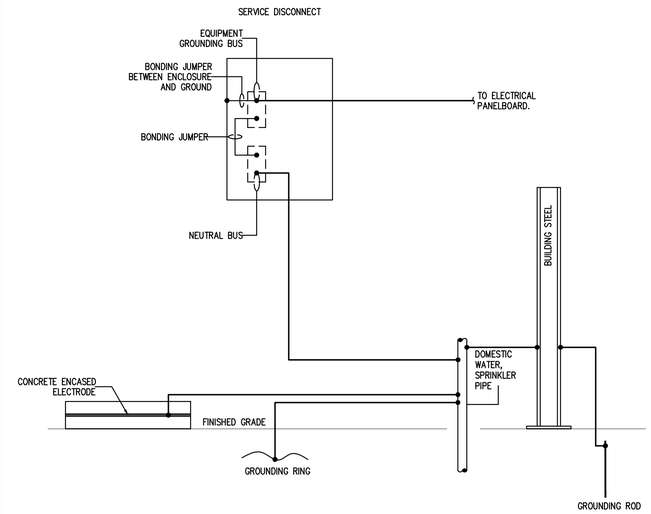
ELECTRICAL SCHEDULES

E3.0

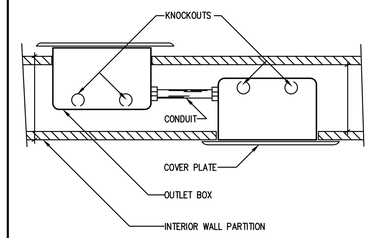


NOTE: COORDINATE EXACT LOCATION OF ALL DEVICES WITH ARCHITECT PRIOR TO ROUGH-IN.

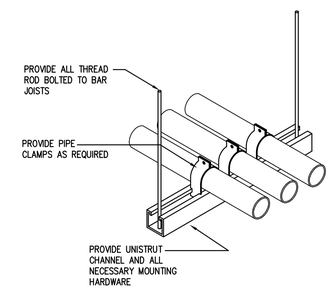
1 TYPICAL DEVICE ELEVATIONS
NOT TO SCALE E11001



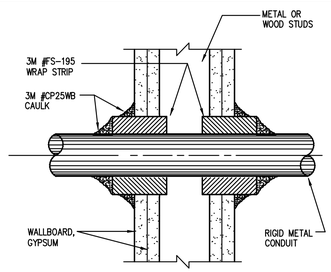
2 GROUNDING ELECTRODE SYSTEM AND BONDING DETAIL
NOT TO SCALE E13042



3 BACK-TO-BACK OUTLETS
NOT TO SCALE E13022

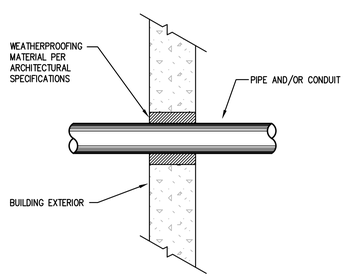


4 UNISTRUT CONDUIT DETAIL
NOT TO SCALE E10003

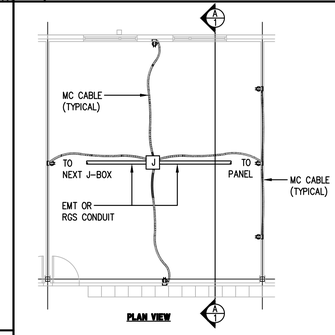


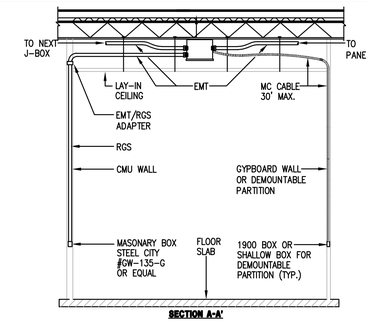
NOTE: FOLLOW MANUFACTURER'S RECOMMENDATIONS FOR INSTALLATION

5 1 AND 2 HR. GYPSUM/WALLBOARD PIPE PENETRATION
NOT TO SCALE E10017

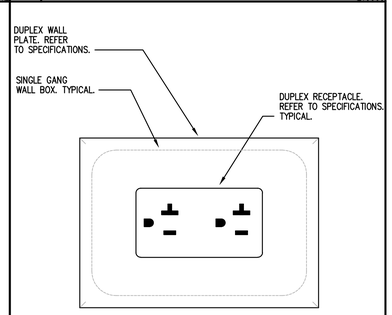


6 PIPE AND/OR CONDUIT PENETRATION
NOT TO SCALE E10018

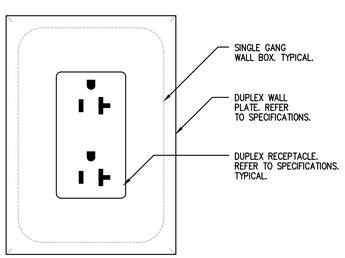




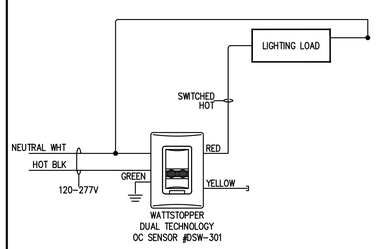
7 TYP. RACEWAY CONFIGURATION USING METAL CLAD (MC) CABLE
NOT TO SCALE E18006



8 HORIZONTAL RECEPTACLE MOUNTING DETAIL
NOT TO SCALE E13016

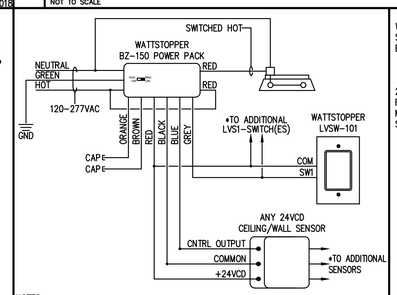


9 TYPICAL RECEPTACLE MOUNTING DETAIL
NOT TO SCALE E13018



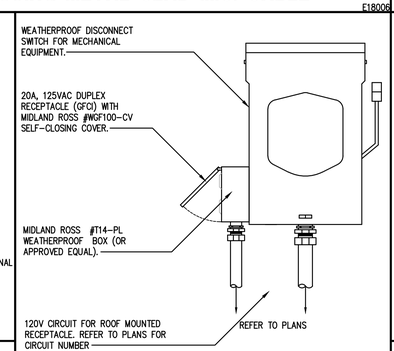
CONFIGURE SENSOR TO VACANCY MODE (MANUAL-ON/AUTO-OFF).
UN-USED WIRES SHALL BE CAPPED.

10 LINE VOLTAGE WALL MOUNTED OCCUPANCY SENSOR.
NOT TO SCALE EW25021

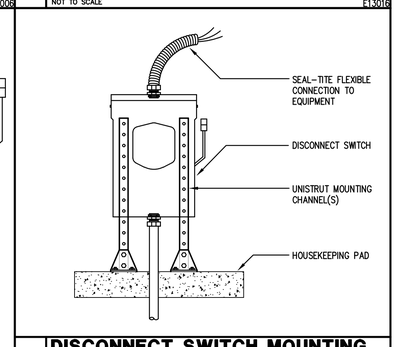


NOTES:
*4 SENSORS MAX. CAN BE POWERED BY THE POWER PACK.
*SENSORS SHALL BE SET TO MANUAL-ON/AUTO-OFF (VACANCY MODE).
SEE SENSOR DATA SHEET.

11 CEILING MOUNTED OC SENSOR WIRING DETAIL - 1 ON/OFF ZONE
NOT TO SCALE



12 ROOF MOUNTED RECEPTACLE
NOT TO SCALE E13023



13 DISCONNECT SWITCH MOUNTING AT CONCRETE PAD
NOT TO SCALE E13014

5/16/25

STATE OF TEXAS
FERNANDO GALLEGOS
109882
LICENSED PROFESSIONAL ENGINEER

ISSUED FOR PERMIT

VME ENGINEERING
1615 Laurel Ct Donna, Texas 78537
P: 956.472.5161 www.vme-engineering.com
Texas Registered Engineering Firm - F14031
Project number: 025.25

CG5 ARCHITECT
TEXAS ARCHITECT
FIRM No: BR4247
WWW.CG5ARCHITECT.COM

SEAL:

ECISD HIGH SCHOOL ATHLETIC MULTI-USE BUILDING 25-74

ROBERT VELA HIGH SCHOOL

801 E Canton Rd, Edinburg, TX 78539

CLIENT:
EDINBURG CISD

REVISION:

No.	Description	Date

PROJECT #: 25-030102
DRAWN BY: N.M.
CHECKED BY: CG3
DATE: 4/28/25

ELECTRICAL DETAILS

E4.0

SECTION 26 00 00
ELECTRICAL SPECIFICATIONS

PART I: GENERAL – ELECTRICAL

1–1 DESCRIPTION:

All work on these drawings shall be done in strict accordance with these specifications. All work fairly implied as essential to the complete functioning of the electrical systems shown on the Drawings and Specifications shall be completed as part of the work of this Division unless specifically stated otherwise. It is the intention of the Drawings and Specifications to establish the types of the systems, but not set forth each item essential to the functioning of the system. In case of doubt as to the work intended, or in the event of amplification of clarification thereof, the Contractor shall call upon the Architect for supplementary instructions, Drawings, etc. Refer to landlord's criteria for additional requirements and include in bid.

1–2 WARRANTY:

The undertaking of the work described in this Division shall be considered equivalent to the issuance, as part of this work, of a specific guarantee extending one year beyond the date of completion of work and acceptance by Owner, against defects in materials and workmanship. Materials, appliances and labor necessary to effect repairs and replacement so as to maintain said work in good functioning order shall be provided as required. Replacements necessitated by normal wear in use or by Owner's abuse are not included under this guarantee.

1–3 PROJECT CONDITIONS:

Visit the site of the proposed construction in order to fully understand the facilities, difficulties and restriction attending the execution of the work. No additional compensation will be allowed this Contractor for work or items omitted from his original Proposal due to his failure to inform himself regarding such matters affecting the performance of the work in this Contract or necessary for the installation and completion of the work included herein.

1–4 PERMITS AND FEES:

The contractor shall arrange and pay for all permits, fees, tests, and all inspections as required by governmental authorities.

1–5 COORDINATION WITH FIELD CONDITIONS:

Contractor shall review all pertinent Drawings and adjust his work to all conditions shown there on. Discrepancies between Plans, Specifications, and actual field conditions shall be brought to the prompt attention of the Architect.

Approximate location of transformers, feeders, branch circuits, lighting and power outlets panels, outlets for special systems, etc., are indicated on the Drawings. However, the Drawings, do not give complete and accurate detailed locations of such outlets, conduit runs, etc., and exact locations must be determined by actual field measurement. Such locations will, at all times, be subject to the approval of the Architect.

Communicate with the Architect and secure his approval of any outlet (light fixture, receptacle, switch, etc.) location about which there may be the least question. Outlets obviously placed in a location not suitable to the finished room or without specific approval, shall be removed and relocated when so directed by the Architect. Location of light fixtures shall be coordinated with reflected ceiling plans.

1–6 SUBMITTALS:

Contractor shall provide six sets of submittals, shop drawings, descriptive literature, physical data and a specification critique for the following items:

Panelboards
Wiring Gutters
Heavy Duty Disconnect Switches
Lighting Fixtures and Lamps
Lighting Contactors
Time Clocks
Photocells
Wiring Devices and Plates
Conduit and Fittings
Wire
Fire Alarm System
Transformers
Lighting Controls
Generator
Automatic Transfer Switch

Any deviations from the specified items shall be listed on the cover sheet and clearly itemized for all deviations. The contractor shall provide two copies of owner's manuals to the architect upon completion of the work.

1–7 SUBSTITUTIONS

A. The names, manufacturers, and model numbers have been used in the Contract documents to establish types of equipment and standards of quality. Where more than one manufacturer is named for a specific item of equipment, only one of the specified manufacturers will be considered for approval. Where only one manufacturer is mentioned with the phrase "or approved equal", Contractor may submit an alternate manufacturer for consideration, provided the following conditions are met:

1. Submit alternate equipment with complete descriptive data in shop drawing form. Provide sample of equipment upon request for review by Architect. Samples will be returned if requested in writing.
2. Alternate equipment must be equal from the standpoint of materials, construction and performance.
3. Alternate submittal must be presented to the Engineer/Architect ten (10) days prior to bid date for approval.

B. The Architect and Engineer shall be the sole judge of quality and equivalence of equipment, materials and methods.

1–8 QUALITY ASSURANCE:

All work shall be performed in accordance with all state, local & federal codes and all authorities having jurisdiction, including but not limited to:

National Electrical Code (NEC)
American Society for Testing and Materials (ASTM)
Underwriter's Laboratories, Inc. (UL)
Insulated Power Cable Engineer's Association (IPCEA).
National Electrical Manufacturer's Association (NEMA).
Institute of Electrical and Electronic's Association (IEEE).
American National Standards Institute (ANSI).
National Fire Protection Association (NFPA).

1–9 SLEEVES, CUTTING AND PATCHING:

This Section shall be responsible for the placing of sleeves for all conduit passing through walls, partitions, beams, floors, roof, etc. Sleeves through below–grade walls shall be as specified and detailed on the plans.

All cutting and patching will be done under another Division, but this Section will be responsible for timely performance of this work and layout of holes and setting sleeves.

1–10 EXCAVATION AND BACKFILL:

Trenching and backfilling and other earthwork operations required to install the facilities specified herein shall conform to the applicable requirements of Division 2 (95% of maximum standard density). Where trenching or excavation is required in improved areas, the backfill shall be compacted to a condition equal to that of adjacent undisturbed earth and the surface of the area restored to the condition existing prior to trenching or excavating operations. The plans indicate information pertaining to surface and sub–surface obstructions; however, this information is not guaranteed. Should obstructions be encountered whether or not shown, the Contractor shall alter routing of new work, reroute existing lines, remove obstructions where permitted, or otherwise perform whatever work is necessary to satisfy the purpose of new work and leave existing surfaces and structures in a satisfactory and serviceable condition.

1–11 CLEANING:

Clean lighting fixtures and equipment.

Touch–up and refinish scratches and marred surfaces on panels, switches, starters, and transformers.

1–12 TESTS AND INSPECTIONS

Tests and inspection requirements shall be coordinated Architect.

Date for final acceptance test shall be sufficiently in advance of completion date of contract to permit alterations or adjustments necessary to achieve proper functioning of equipment prior to contract completion date.

Conduct re–tests as directed by Architect on portions of work or equipment altered or adjusted as determined to be necessary by final acceptance test. No resultant delay or consumption of time as a result of such necessary re–test beyond contract completion date shall relieve Contractor of his responsibility under contract.

Put circuits and equipment into service under normal conditions, collectively and separately, as may be required to determine satisfactory operation. Demonstrate equipment to operate in accordance with requirements of these specifications. Perform tests in the presence of Architect. Furnish instruments and personnel required for tests.

At the time designated by the Architect, the entire system shall be inspected by the Architect and Engineer. The contractor or his representative shall be present at this inspection.

Panelboards, switches, fixtures, etc., shall be cleaned and in operating condition. Certificates and documents required hereinbefore shall be in order and presented to the Architect prior to inspection.

Panel covers, junction box covers, etc., shall be removed for visual inspection of the wire, bus bars, etc.

After the inspection, any items that are noted as needing to be changed or corrected in order to comply with these specifications and the drawings shall be accomplished without delay.

PART 2: PRODUCTS – ELECTRICAL

2–1 ALL PRODUCTS:

All products shall be listed by Underwriter's Laboratories and have the U.L. label affixed.

2–2 RACEWAYS AND FITTINGS:

Except as noted or otherwise specified, all wiring shall be installed in galvanized rigid steel conduit or electrical steel tube (EMT) of the proper size to contain the number of conductors required in accordance with the latest edition of the N.E.C. Where conduit sizes are shown on the drawings, those shall take preference.

Provide EMT in sizes up to 4 inches when concealed or not exposed to damage; Rigid steel, galvanized for underground use, where exposed to damage, or in exterior applications; Rigid galvanized steel where embedded in concrete or masonry construction.

Minimum size shall be 3/4 inch except for fixture whips not exceeding 6'–0" long. Branch circuits run underground shall be run in Carlon Schedule 40 PVC conduit. Install ground wire in accordance with NEC table 250–95. Electrical metallic tubing systems shall utilize watertight compression type fittings where exposed to moisture and set screw type fittings elsewhere.

Conduit shall be run concealed in finished areas. Conduit may be exposed in mechanical rooms and where otherwise indicated.

Concealed conduit shall run in as direct manner with as long bends as possible. Exposed conduit shall be run parallel with, or at right angles to the lines of the building; and all bends shall be made with standard conduit ells or conduit bent to not less than same radius. Not more than equivalent of four quarter bends shall be used in any run between terminals and cabinet, of between outlet or junction boxes. Approved conduits shall be used in lieu of conduit ells where ease of installation and appearance warrants their use. Conduit joints shall be made with approved couplings and unions.

Provide #30 nylon pulling line in all conduits in which permanent wiring is not installed.

Branch circuit conduits installed in concrete slabs on fill or grade shall be positioned in a manner to ensure complete concrete cover. In no case shall such conduits be exposed below or above the slab surfaces, or penetrate the waterproof membrane.

At locations where feeder, or other large conduits, must pass through slabs on fill or grade, the conduit shall be PVC coated rigid galvanized steel, extended 6 inches into the earth, and 2 inches above exposed surface of slab.

All conduit shall be securely fastened and supported using hot galvanized malleable iron one–hole pipe straps, clamps, hangers or other means approved by the engineer. Supports shall be as required by NEC. Tie wire shall not be used as support or securing means. Support conduit independently of ceiling hanger wire.

2–3 OUTLET AND JUNCTION BOXES:

Provide an approved galvanized outlet box with adequate volume for number of conductors concerned.

Provide standard galvanized switch boxes of the required number of gangs. Switch boxes for exposed wiring shall be handy boxes or approved equal.

Outlet boxes for receptacles shall be similar to Universal 52151 with suitable raised cover. Receptacle boxes on exposed wiring shall be handy boxes or approved equal.

Weatherproof boxes where necessary shall be FS or FD.

Outdoor boxes shall be NEMA 3R, with conduit connections made by Myers Hubs.

See notes and details on Drawings for special box requirements.

Provide junction boxes required to facilitate installation of the various conduit systems. Provide support boxes required for risers, each complete with approved cable supports as described elsewhere in this Division.

Outlet boxes for drywall shall be standard galvanized 4" square boxes with the appropriate device cover. Secure all outlet boxes with a backing brace connected to two adjacent studs. Mounting brackets with a single ear to rest against the backing sheet rock are not acceptable.

Provide coverplates for all outlet boxes.

Provide junction boxes and conduit system for all electrical systems and low voltage systems: (i.e. electrical, sound, security, fire alarm, CCTV, cameras, CATV, intercom).

2–4 PULL BOXES:

Pull boxes shall be provided for conduit systems as required and shall be constructed of galvanized steel of not less than gauge and size specified by National Electrical Code.

Where two or more feeders pass through a common pull box, they shall be tagged to indicate clearly their electrical characteristics, circuit number, and panel designation.

2–5 WIRE AND CABLE:

All wire shall be new and continuous without weld, splice, or joints throughout its length. It must be uniform in cross–section, free from flaws, scales and other imperfections.

Wire shall be soft drawn, annealed, 98% pure copper, with tin coating. Aluminum wiring is not acceptable.

Acceptable manufacturers for 600 volt wire and cable shall be Southwire, Encore, and Cerro.

Acceptable manufacturers for 300 volt wire and cable shall be Westpenn, Beldon, Alpha and Tappan.

Acceptable manufacturers for connectors shall be AMP, Burndy, Ideal, 3M, O.Z. Gedney, and Thomas & Betts.

A. TYPES:

1. Provide code gauge type "THHN/THWN–2" insulation.
2. All wiring shall be stranded. Minimum wire shall be No. 12, unless otherwise shown on Drawings.
3. Fire alarm device wiring shall be 300 volt, PVC jacket UL–listed when routed in a raceway. The jacket shall be UL listed for use in air plenums when a raceway is not used.
4. Control wiring shall be No. 14 AWG copper conductor unless otherwise shown; 600 volt rated insulation.
5. Open low voltage wiring in return air plenums shall be plenum rated or run in conduit. All wiring in mechanical rooms electrical rooms and other areas subject to physical damage shall be run in conduit.

B. COLOR CODING: Conductors shall be color coded in accordance with the governing authority requirements or as follows:

120/208V	277/480V	120/240V
NEUTRAL: White	Neutral: Gray	Neutral: White
PHASE A: Black	Phase A: Brown	Phase A: Black
PHASE B: Red	Phase B: Purple	Phase B: Orange
PHASE C: Blue	Phase C: Yellow	Phase C: Blue
GROUND: Green	Ground: Green	Ground: Green

C. SPLICES:

Splices, where required, shall be fully made up in outlet boxes with compression crimp–on type splice connectors and at least 12 inches tagged end left for the fixture hanger. Where local requirements specify certain colors for phases and neutral, etc., these shall become the standard for this project.

Joints and splices will not be permitted in mains or feeder. Joints in branch circuits will be permitted where branch circuits divide, and then shall consist of one through–circuit to which the branch shall be spliced. Joints shall not be left for the fixture hanger to make. Fit joints and splices with Buchanan Series "2000" solderless connectors complete with insulating caps or properly sized wire nuts. 'Wago' push–in connectors are not acceptable.

D. Terminations: Provide STA–CON devices to terminate stranded conductors on device not rated to accept stranded conductors. All wiring shall be torqued per manufacturers specifications.

E. METAL CLAD CABLE – TYPE MC

1. At the contractor's option, metal clad cable (MC) may be used if approved by the authority having jurisdiction and building owner. The cable shall contain an insulated green grounding conductor (3 wire) and shall be the same size as the phase conductor. Conductors shall be solid copper.
2. Metal clad cable shall not be used for homeruns. Metal clad cable shall only be used for branch circuit drops from ceiling mounted junction boxes to outlets and for horizontal runs in a common wall from outlet to outlet. Do not route outlet to adjacent walls. Fixture to fixture wiring is acceptable in hard non–accessible ceilings.
3. Metal clad shall be UL approved connectors and shall be used and installed per Article 334 of the National Electrical Code.

2–6 WIRING DEVICES:

Provide decora devices except in remodeled areas where existing devices not being replaced are toggle switches and standard receptacles.

Acceptable manufacturer is Hubbell.

A. SWITCHES

Furnish and install generally where indicated on the Drawings. Coordinate final color and exact locations with architect.

Wall switches shall be 20 amp, 120–277 volt and shall be as follows:
1. SINGLE POLE SWITCHES: DS–120W, White. Decora,(HBL 1221 TOGGLE)
3. THREE WAY SWITCHES: DS–320W, White. Decora,(HBL 1223 TOGGLE)

B. DIMMERS:

Provide Lutron "DIVA" series wall box dimmers sized to handle the load. Gang dimmers without removing heat sink fins and mount under a common Lutron coverplate.

C. RECEPTACLES:

Furnish and install generally where indicated on the Drawings. Coordinate final color and exact location with architect. Provide tamper resistant when required. All devices shall be 20AMP unless otherwise noted.

Receptacles shall be Hubbell as follows:

1. Duplex 20A–125V–self grounding: DR20WH decora (Nema configuration 5–20R) (5362 standard).
2. Ground fault circuit interrupter (GFCI) receptacle 20A–125V; GFRST20. (White with indicator light Nema Configuration 5–20R, with "Feed through" connectors capable of protecting connected downstream receptacles on a single circuit, and of being installed in a 2–3/4" deep outlet box without adapter).
3. Equipment receptacles shall be coordinated with owner/manufacturer requirements and the correct and appropriate receptacle and cover plate then installed.

D. PLATES:

1. Furnish and install plates on all outlet boxes.
2. Plates in offices and break rooms and similar finished areas shall be HUBBELL white smooth thermo–plastic.
3. Wet Locations: Provide Taymac or Carlon Nema 3R, impact resistant polycarbonate enclosure. Enclosure shall be suitable for wet locations when in use.
4. Indoor Exposed Raceway Systems: Stamped sheet metal, sized to match box without overlapping sharp edges.

E. Floor boxes shall be cast iron as manufactured by Hubbell and as indicated below: (Note: If floors are wood, provide a Hubbell cast iron floor box and flush cover designed for this application.)

1. Slab at grade (dual level, fully adjustable type 1).
a. Single gang: #B–2436 w/#SB–3083 carpet flange.
b. Two gang: #B–4233 w/#SB–3084 carpet flange.
c. Three gang: #B–4333 w/#SB–3085 carpet flange.
2. Slab above grade (shallow, semi–adjustable, type II)
a. Single gang: #B–2414 w/#SB–3083 carpet flange.
b. Two gang: #B–4214 w/#SB–3084 carpet flange.
c. Three gang: #B–4314 w/#SB–3085 carpet flange.
3. Cover plates shall have brass finish as follows:
a. #S–3825 for duplex flap for duplex receptacles.
b. #S–2425 for data/communications.
c. Provide appropriate coverplate for special purpose receptacles.

F. Fire rated poke–thrus shall be manufactured by Hubbell. Poke–thrus shall be Hubbell SystemOne unless noted otherwise. Provide sub–plate and cover as required. Confirm floor finish with architect prior to ordering cover.

Unless noted to the contrary on plans, or directed otherwise during the progress of the Work, wiring devices shall be set as follows:

1. Switches 42 inches above finished floor.
2. Duplex and single receptacles 18 inches above finish floor to the center of the device except where located above counters or interferes with shelving or as required by local codes.
3. Wall telephone outlets, except where counters or shelving interferes 18 inches above finished floor to the center of the outlet box..
4. At locations above counters, set devices 1 foot–0 inches above counter tops, verify exact mounting height with the architect.

2–7 GROUNDING AND BONDING:

Provide electrical service, equipment and wiring device grounding as shown, scheduled and as specified.

The types of grounding include, but are not limited to, the grounding bonding of all equipment devices, building steel piping, and as required by the National Electrical Code, Local Inspection Department and Power Company. A grounding conductor is required for all feeders and circuits.

Provide grounding products manufactured by Copperweld and Cadweld.

Ground rods shall be 3/4" inch diameter by 10 feet long construction with copper jacket and a steel core. Ground clamps shall be copper except for steel or iron pipes in which the clamps shall be galvanized iron. Conductors shall be connected by means of an approved pressure connector or clamp.

Perform a ground resistance test using a biddle megger. The system resistance shall not exceed 5 OHMS. Provide additional electrodes as required (refer to 250–84 of the NEC). Test shall not be conducted following wet weather. Provide personnel and instruments to conduct these tests and submit certified test for review.

A. BUILDING STEEL AND PIPING SYSTEM: Install a bonding jumper between building steel and metallic piping systems to bond them to the electrical grounding system.

B. NEUTRAL: The neutral shall be grounded only at the service entrance and other separately derived systems. The neutral shall be kept separate from the grounding system and shall not be used as a ground.

C. GROUNDING CONDUCTOR: A grounding conductor and metallic conduit system shall bond all equipment served by the electrical system. Provide a flexible bonding jumper for isolated metallic piping and ductwork and around expansion fittings and joints.

D. MOTORS: The frame of all motors shall grounded.

E. SPECIAL GROUNDING: Provide a #6 AWG copper grounding conductor for each telephone board, television system, MDF rooms, IDF rooms etc. Terminate the grounding conductor on ground bus and to the building electrical grounding system. Refer to article 800 and 820 of the NEC.

F. LIGHTING FIXTURES: Provide grounding conductor in all flexible whips, whips shall not exceed 6 feet.

G. RECEPTACLES: All receptacle shall be grounded. Receptacles shall use an approved grounding yoke.

H. REMOTE PANELBOARDS: Provide a grounding electrode conductor at all remote panels as required by the NEC.

2–10 PANELBOARDS:

Furnish and install power distribution, lighting and appliance panelboards as indicated in the panelboard schedule and as shown on the plans. Power distribution panelboards shall be equipped with fusible switches or circuit breakers as shown on the schedule. Panelboards shall be equipped with thermal–magnetic, molded case circuit breakers of frame and trip ratings as shown on the schedule. Acceptable manufactures are General Electric Company or Square D Company. Load centers are not acceptable.

Panelboard bus structure and main lugs or main breaker shall have current ratings as shown on the panelboard schedule. Such ratings shall be established by heat rise tests with maximum hot spot temperature on any connector or bus bar not to exceed 50°C. rise above 40°C ambient. Heat rise test shall be conducted in accordance with Underwriters Laboratories Standard UL 67. The use of conductor dimensions will not be accepted in lieu of actual heat tests. All current carrying parts of the bus shall be tin plated copper.

Bus structure shall be insulated. Bus bar connections to the branch circuit breakers shall be distributed phase or phase sequence type and shall accept bolt–on circuit breakers for lighting and appliance panelboards.

Provide a bare uninsulated and/or insulated ground bus and full or double size neutral bus as required and indicated in each panelboard schedule.

Each panelboard shall have an engraved bakelite nameplate. Nameplates shall be white with black letters and show panel designation. Nameplates shall be attached with stainless steel screws.

Place a neat, carefully typewritten directory card identifying the load served by each branch circuit in the frame on the panel door, under a clear plastic cover. Spares and spaces shall be written with erasable pencil for future use.

Where circuit breakers or fuses are applied in compliance with the series combination ratings marked on the equipment by the manufacturers, the equipment enclosure(s) shall be legibly marked in the field to indicate the equipment has been applied with a series combination rating. The marking shall be readily visible and state "caution – Series Rated System." (NEC 110–22). Nameplate shall identify replacement components.

A. Circuit Breakers

Where circuit breakers or fuses are applied in compliance with the series combination ratings marked on the equipment by the manufacturers, the equipment enclosure(s) shall be legibly marked in the field to indicate the equipment has been applied with a series combination rating. The marking shall be readily visible and state "caution – Series Rated System." (NEC 110–22).

5/16/25

STATE OF TEXAS
FERNANDO GALLEGOS
109882
LICENSED PROFESSIONAL ENGINEER

ISSUED FOR PERMIT

VME ENGINEERING
1615 Laurel Ct Donna, Texas 78537
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Texas Registered Engineering Firm - F14031
Project number: 025.25

CG5 ARCHITECT
TEXAS ARCHITECT
FIRM No: BR4247
WWW.CG5ARCHITECT.COM

SEAL:

ECISD HIGH SCHOOL ATHLETIC MULTI-USE BUILDING 25-74

ROBERT VELA HIGH SCHOOL

801 E Canton Rd, Edinburg, TX 78539

CLIENT:
EDINBURG CISD

REVISION:

No.	Description	Date

PROJECT #: 25-030102
DRAWN BY: N.M.
CHECKED BY: CG3
DATE: 4/28/25

ELECTRICAL SPECIFICATIONS

E5.0

1. Distribution Panelboards:
Circuit breakers shall be equipped with individually insulated, braced and protected connectors. The front faces of all circuit breakers shall be flush with each other. Large, permanent, individual circuit numbers shall be affixed to each breaker in a uniform position. Tripped indication shall be clearly shown by the breaker handle taking a position between "ON and "OFF". Provisions for additional breakers shall be such that no additional connectors will be required to add breakers. Circuit breakers shall be of the frame size, trip setting and interrupting capacity as indicated on the drawings.

Current limiting circuit breakers shall be equal to Square D Company "I-Limiter" Series.

Circuit breakers shall be conventional interrupting capacity but in no case be less than the following symmetrical amperes RMS.

FRAME SIZE/ VOLTAGE	CONVENTIONAL INTERRUPTING CAPACITY	HIGH INTERRUPTING CAPACITY	CURRENT LIMITING
100AF/240V	10,000 AIC	65,000 AIC	200,000 AIC
225AF/240V	10,000 AIC	65,000 AIC	200,000 AIC
400AF/240V	42,000 AIC	65,000 AIC	200,000 AIC
600AF/240V	42,000 AIC	65,000 AIC	200,000 AIC
800AF/240V	42,000 AIC	65,000 AIC	200,000 AIC
1000AF/240V	42,000 AIC	65,000 AIC	200,000 AIC
1200AF/240V	42,000 AIC	65,000 AIC	200,000 AIC
100AF/480V	14,000 AIC	25,000 AIC	200,000 AIC
225AF/480V	22,000 AIC	65,000 AIC	200,000 AIC
400AF/480V	30,000 AIC	35,000 AIC	200,000 AIC
600AF/480V	30,000 AIC	65,000 AIC	200,000 AIC
800AF/480V	30,000 AIC	65,000 AIC	200,000 AIC
1000AF/480V	30,000 AIC	65,000 AIC	200,000 AIC
1200AF/480V	50,000 AIC	65,000 AIC	200,000 AIC

2. 480/277 Volt Lighting Panelboards:

All main circuit breakers shall be vertically mounted and shall not be installed in branch breaker spaces. Circuit breakers shall be bolt-on thermal-magnetic, molded case circuit breakers. Breakers shall be 1, 2 or 3 pole with an integral crossbar to assure simultaneous opening of all poles in multiple circuit breakers. Breakers shall have an over-center, tri-free, toggle-type operating machinist with quick-make, quick-break action and positive handle indication. Handles shall have "ON", "OFF" and "TRIPPED" positions. Circuit breakers shall be UL listed in accordance with UL Standard 489 and shall be rated 277 volts ac (single pole, 15-30 amperes) or 480Y/277 volts ac (2 and 3 pole) with continuous current ratings as noted on the plans. Interrupting ratings shall be 14,000 rms symmetrical amperes at 277 volts ac (single pole) or 480Y/277 volts ac (2 and 3 pole). Single pole, 15 and 20 ampere circuit breakers intended to switch fluorescent lighting loads on a regular basis shall carry the SWD marking. The lugs for terminating conductors shall be rated at 75°C.

3. 240 Volt Lighting and Appliance Panelboard:

All main circuit breakers shall be vertically mounted and shall not be installed in branch breaker spaces. Circuit breakers shall be bolt-on thermal-magnetic, molded case circuit breakers. Breakers shall be 1, 2, or 3 pole with an integral crossbar to assure simultaneous opening of all poles in multiple circuit breakers. Breakers shall have an over-center, tri-free, toggle-type operating machinist with quick-make, quick-break action and positive handle indication. Handles shall have "ON", "OFF" and "TRIPPED" positions.

Circuit breakers shall be UL listed in accordance with UL standard 489 and shall be rated 240 volts ac maximum with continuous current rating as noted on the plans. The lugs for terminating conductors shall be rated at 75°C.

Single pole 15 and 20 ampere circuit breakers shall be UL listed as "Switching Breakers" at 120V ac and carry the SWD marking.

UL Class A ground fault circuit protection shall be provided on all receptacle circuits serving wet areas and on all 120V ac branch circuits as specified on the plans or panelboard schedule. This protection shall be an integral part of the branch circuit breaker, which also provides overload, and short circuit protection for branch circuit wiring. Tripping of a branch circuit breaker containing ground fault circuit interruption shall not disturb the feeder circuit to the panelboard. A single pole circuit breaker with integral ground fault circuit interruption shall require no more panelboard branch circuit space than a conventional circuit breaker. Circuit breakers shall be rated 10,000 AIC at 240V unless otherwise noted on plans.

B. Fusible Switches

All fusible switches shall be quick-make, quick-break with visible blades and dual horsepower ratings. Switch handles shall physically indicate "ON" and "OFF" positions. Switches shall be lockable only in the "OFF" position and accept three industrial type heavy duty padlocks. Switch covers and handles shall be interlocked to prevent opening in the "ON" position. A means shall be provided to permit authorized personnel to release the interlock for inspection purposes. Switches shall include positive pressure rejection type fuse clips for use with UL class R fuses and be UL labeled for 200,000 AIC. Class "J"

fuses shall be UL labeled for 200,000 AIC. The lugs for terminating conductors shall be rated at 75°C.

C. Cabinets and Fronts

The panelboard bus assembly shall be enclosed in a steel cabinet with multiple knockouts. The rigidity and gauge of steel to be as specified in UL Standard 50 for cabinets. Wiring gutter space shall be in accordance with UL Standard 67 for panelboards. The box shall be fabricated from galvanized steel or equivalent rust resistant steel. Provide stainless steel front cover for all panels located in all Pool Equipment rooms, Food Labs, Snack Bars, Culinary Arts, Kitchens and Life Skills rooms.All NEMA-1 lighting and receptacle panels shall have hinged front covers. The front cover shall have a door with hinges, latch and a lock. The hinged front covers shall allow full access to the circuit breaker gutter area without having to remove the entire front cover. All panelboard lock shall be keyed alike. Fronts shall have adjustable indicating trim clamps, which shall be completely concealed when the doors are closed. Doors shall be mounted with completely concealed steel hinges. A circuit directory frame and card with a clear plastic covering shall be provided on the inside of the door. Where required by local code, provide Nema 3R enclosure where installed in a sprinkled area.

D. Safety Barrier

The distribution panelboard interior assembly shall be dead front with panelboard front removed. Main lugs or main breakers shall have barriers on five sides. The barrier in front of the main lugs shall be hinged to a fixed part of the interior. The end of the bus structure opposite the mains shall have barriers.

E. Integrated Equipment Short Circuit Rating

Each panelboard, as a complete unit, shall have a short circuit current rating equal to or greater than the integrated equipment rating shown on the panelboard schedule or on the plans. This rating shall be established by testing with the over-current devices mounted in the panelboard. The short circuit tests on the over-current devices and on the panelboard structure shall be made simultaneously by connecting the fault to each over-current device with the panelboard connected to its rated voltage source. Method of testing shall be per Underwriters Laboratories Standard UL 67. The source shall be capable of supplying the specified panelboard short circuit current or greater. Testing of panelboard over-current devices for short circuit rating only while individually mounted is not acceptable. Also, testing of the bus structure alone is not acceptable. Panelboards shall be marked with their maximum short circuit current rating at the supply voltage and shall be UL listed.

2-10 MANUAL MOTOR STARTERS:

Manual starters shall consist of a manually operated toggle switch equipped with melting alloy type thermal overload relay. Thermal unit shall be of one-piece construction and interchangeable. Starter shall be inoperative if thermal unit is removed. Contacts shall be double break, silver alloy, visible from both sides of starter. Manual starters shall be Square "D" class 2510 or 2512 or approved equal. Provide the size and number of poles shall be as shown and required by equipment served. Furnish red pilot light as indicated.

All manual motor starter enclosures shall be NEMA 1, general purpose enclosures, unless shown otherwise. Provide Nema 3R enclosure where installed outside or in a sprinklered area when required by local code.

MOTOR CONNECTIONS: Provide electrical and grounding connections to motors as indicated. Connections as follows:

1. Not less than 18 inch length of Sealtite, extending from motor connection box to motor branch circuit conduit on outdoor and wet locations. Provide Greenfield for inside dry locations.
2. Install connections mechanically secure, assuring electrical continuity, proper and effective grounding.

INSTALLATION OF MOTOR STARTER

Install motor starters in accordance with the manufacturer's written instructions, the applicable requirements of the NEC and the NECA's "Standard of Installation", and recognized industry practices to ensure that products serve the intended function.

2-11 CURRENT - LIMITING FUSES:

Provide 200,000 amp interrupting capacity current limiting fuses of the ampacity and voltage indicated and scheduled.

Upon completion of the building the contractor shall provide the owner with spare fuses as shown below.

A. 10% (minimum of 3) of each type and rating of installed fuses shall be supplied as spares.

B. BUSSMAN spare fuse cabinets - Catalog No. SFC - shall be provided to store the above spares.

Mains, Feeders and Branch Circuits

1. Circuits 0 to 600 ampere shall be protected by current limiting BUSSMAN LOW-PEAK Dual Element Fuses LPN-RK (250 volts) or LPS-RK (600 volts). All dual-element fuses shall have separate overload and short-circuit elements. Fuse shall incorporate a spring activated thermal overload element having a 284 degree Fahrenheit melting point alloy and shall be independent of the short-circuited clearing chamber. The fuse must hold 500% of rated current for a minimum of 10 seconds and listed by Underwriters' Laboratories Inc., with an interrupting rating of 200,000 amperes r.m.s. symmetrical. The fuses shall be UL Class RK1.

2. Motor Circuits - All individual motor circuits rated 600 amperes or less shall be protected by BUSSMAN LOW-PEAK Dual Element Fuses LPN-RK (250 volts) or LPS-RK (600 volts). The fuses for 1.15 service factor motors shall be installed in ratings approximately 125% of motor full current except where high ambient temperatures prevail, or where the motor drives a heavy revolving part which cannot be brought up to full speed quickly, such as large fans. Under such conditions the fuse should be 150% to 200% of the motor full load current. Larger H.P. Motor shall be protected by BUSSMAN Type KRP-C HI-CAP Time-Delay Fuses of the rating shown on the drawings. 1.0 service factor motors shall be protected by BUSSMAN LOW-PEAK Dual-Element Fuses LPN-RK (250 volts) or LPS-RK (600 volts) installed in ratings approximately 115% of the motor full load current except as noted above. The fuses shall be UL Class RK1 or L.

2-12 SAFETY AND DISCONNECT SWITCH:

A. Products shall be designed, manufactured, tested and installed in compliance with applicable standards.

1. NEMA KS1 - Enclosed switches
2. Federal specification W-S-865C-Heavy duty switches

Products shall conform all applicable UL standards, including UL98 (standard for safety, enclosed and dead front switches) and shall be UL-labeled.

Acceptable manufacturers are:

General Electric Company, Square D Company, or Eaton.

Furnish and install heavy-duty type safety switches with the number of switched poles as indicated on the plans and specifications. All safety switches shall be NEMA Heavy Duty Type HD, and Underwriters Laboratories listed.

B. Switch Interior

All switches shall have switchblades, which are fully visible in the "OFF" position when the door is open. Switches shall have removable arc suppressor where necessary, to permit easy access to line side lugs. Lugs shall be front removable and UL listed for 60°C and 75°C copper aluminum cables. All switches blades and contacts shall be plated copper.

C. Switch Mechanism

Switches shall have a quick-make and quick-break operating handle and mechanism, which shall be an integral part of the box, not the cover. Padlocking provisions shall be provided for locking in the "OFF" position with at least three padlocks. Switches shall have a dual cover interlock to prevent unauthorized opening of the switch door when the handle is in the "ON" position, and to prevent closing of the switch mechanism with the door open. A means shall be provided to permit authorized personnel to release the interlock for inspection purposes. Handle position shall indicate if switch is "ON" or "OFF".

D. Neutral

Provide a solid neutral with the safety switch where a neutral is present in the circuit.

E. Ratings

Switches shall be horsepower rated for ac and/or dc as indicated by the plans. The fused switches shall have Class R rejection fuse clips when required. Adjust load side terminal block as required to accept Class J fuses. UL listed short circuit ratings of the switches, when equipped with Class R or Class J fuses, shall be 200,000 symmetrical amperes.

2-12 LIGHTING FIXTURES:

All fixtures shall conform to all applicable UL standards and shall be UL label including damp and wet location ratings. "ETL" is an acceptable listing.

All fluorescent ballasts shall comply with certified ballast manufacture (CBM) standard and CBM labeled.

Acceptable manufacturers for ballasts are Advance Transformer Company or Magnetek Universal Manufacturing.

Acceptable manufacturers for lamps are Osram-Sylvania or Philips.

Provide the size, type and rating of each light fixture shown and scheduled. All light fixtures shall be complete with reflectors, lens, trim rings, flanges, lamps, lamp holders, ballast, starters, fuses wiring, earthquake clips, etc. to provide a complete functioning light fixture.

STANDARDS
A. All fixtures shall conform to all applicable UL standards and shall be UL label including damp and wet location ratings. 'ETL listed' is an acceptable listing.
B. All flourescent ballast shall comply with certified ballast manufacture (CBM) standard and CBM labeled.
C. NFPA 101
D. ANSI C82.1
E. NEMA-LE
F. IEEE Publication 587 Category "A" (Electronic Ballast)
G. All LED drivers shall be UL recognized Class 2 per UL1310 or non-class 2 per Ul 1012 as applicable.
H. All LED drivers shall comply with applicable requirements of the Federal Communications Commission (FCC) rules and regulations, Title 47 CFR part 15, for Non-Consumer Equipment.
I. All LED drivers shall be RoHS compliant.
J. TM-21
K. LM-80
L. LM-79
M. L70
N. DLC

A. Lighting Fixture Types:

1. Fluorescent and LED Fixtures
a. Fixture ballast, lamp holders and drivers shall be pre-wired and installed. Fixture shall be equipped with a top access plate with knockouts for conduit entry. Fixture shall also include knockouts at each end plate for conduit entry.
b. Provide battery packs for emergency operation when specified.
2. Incandescent Fixtures
a. Fixtures shall be pre-wired equipped with frame in kit and a integral thermal protection required by UL for recessed fixtures.
b. Provide appropriate trim rings for recessed mounted fixtures compatible with the ceiling in which the fixture is installed.
c. All lamps shall inside frosted unless otherwise noted or scheduled.
3. High Intensity Discharge Fixtures (HID)
a. Fixtures shall be pre-wired with frame-in kit and integral thermal protection required by UL for recessed fixtures. Ballast shall be encased and potted and mounted on the frame-in kit.
b. Provide remote ballast mounted on a separate mounting plate where indicated or scheduled. Ballast shall include a splice box.
c. Provide a heat resistant glass shield below the lamp to contain lamp glass envelope and ARC tube to prevent them from falling to the floor and causing damage to life and property. Lamps rated for open bottom fixtures may be used in lieu of the glass shield if approved by the engineer.
d. Provide a fuse and fuse holder installed on the line side of each ballast to prevent branch circuit from tripping due to a faulty ballast. The fuse and fuse holder shall be mounted in a junction box for recessed fixtures and in the base of all poles. The fuse holder shall be waterproof when installed in damp or wet locations. Fuse size and type shall be as recommended by ballast manufacturer.
4. LED Fixtures
a. Fixtures shall be pre-wired with frame-in kit and integral thermal protection required by UL for recessed fixtures. Driver shall be encased in metal-can construction for optimal thermal performance.
b. Total fixture lumen output is dependent on the chip, thermal management, driver current and optical system. LED fixtures shall be tested as a complete unit or system. Only DOE recognized CALIPER testing laboratory results shall be utilized.
c. LED fixtures shall have integral common mode and differential mode surge protection of 3kV (1.2/50µs, 2ohm combination wave.)
5. Exit signs
a. Exit signs shall meet all federal, state and local codes.
b. Provide battery backup when not connected to a life safety generator.
6. Provide Bodine battery pack to provide 1 foot candle averages in the path of egress. These are not required when a life safety generator is used for emergency lighting.

B. Ballasts - Coordinate with Light Fixture Schedule

1. Fluorescent
a. Provide program parallel start electronic ballast. Ballasts shall be high power factor 98% minimum), operate lamp at 40 KHz, less than 10% total harmonic content, normal ballast factor 50,000 switching cycles, universal voltage, crest factor less than 1.7, multi-lamp, class P' thermally protected, sound 'A' rating, encased and potted and 0°F minimum starting temperature. Provide 5 year warranty parts and labor. Ballast shall be Advance Optanium/Centium/Smartmate or equal by Sylvania.

2. LED Drivers
a. Driver manufacturer shall have a 10-year history producing electronic drivers for the North American market.
b. Driver shall carry a five year limited warranty from date of manufacture against defects in material or workmanship (including replacement) for operation at a maximum case temperature of 80 degrees Celsius.
c. Drivers shall not contain any Polychlorinated Biphenyl (PCB).
d. Provide driver with integral color-coded leads.
e. Driver shall operate from 50/60 Hz input source of 120 Volt through 277 Volt or 347 Volt though 480 Volt with sustained Variation of +/- 10% (voltage) with no damage to the driver.
f. Driver output shall be regulated to +/- 5% across published load range. And shall have a power factor greater than .90 from primary application to 50% of full loadrating with an input current Total Harmonic Distortion (THD) of less than 20% to 50% of full load rating.
g. Provide drivers with a Class A sound rating.
h. Provide LED drivers for outdoor fixtures with a minimum operating temperature of -40 degrees Celsius (-40F). Provide LED drivers for indoor fixtures with a minimum operating temperature of -20 degrees Celsius (-2F).
i. Drivers shall tolerate sustained open circuit and short circuit output conditions without fail and auto-resetting without need for external fuses or trip devices.
j. Driver output ripple current shall be less than 15% measured peak-to-average, with ripple frequency being greater than 100Hz.
k. Driver performance requirements shall be met when operated to 50% of full load rating.
l. Driver shall have integral thermal foldback to reduce driver power above rated case temperature to protect the driver if temperature reach unacceptable levels.
m. Drivers shall comply with NEMA 410 for in-rush current limits.
n. Dimmable drivers shall be controlled by a class 2 low voltage 0-10VDC controller with dimming range controlled between 1 and 8VDC with source current 150µA.

C. Lamps - Coordinate with Light Fixture Schedule

1. F032T8 fluorescent lamps shall be 40,000 hours 3,500°K, 82 CRI or better, 32 watt and low mercury. Life rating is based on 3 hours/start using programmed start ballast.
2. All compact fluorescent lamps shall be 4 pin, 12,000 hours 3,500°K, 82 CRI or better.
3. All incandescent lamps shall be inside frosted, extended life rated for 2500 hours unless otherwise noted. 130 volt lamps may be used to provide extended life.

D. Coordination

1. The contractor shall verify the type of fixtures with the ceiling types as indicated on the drawings. Any discrepancies shall immediately be brought to the architect's attention before the contractor places his order and accepts delivery. Fixtures shall fit exact in the type of ceiling scheduled. Provide plaster frames, trim rings and other accessories required for a correct fit.
2. Provide supports attached to structural member to support fixtures when the ceiling system cannot maintain support. Provide separate supports for all recessed ceiling mounted HID fixtures.
3. Refer to architectural reflected ceiling plan for the exact location of all light fixtures. Notify the architect for any discrepancies or conflicts with structural architectural, mechanical piping or ductwork before installation.

E. Mounting

1. Pendant or surface mounted fixture shall be provided with required mounting devices and accessories, including hickeys and stud-extensions, ball-aligners, canopies and stems. Locations of fixtures in mechanical areas shall be coordinated with mechanical contractor. Mounting stems of pendant fixtures shall be of the correct length to uniformly maintain the fixture heights shown on the drawings or established in the field. The allowable variation tolerance in mounting individual fixtures shall not exceed 1/4 inch and shall not vary more than 1/2 inch from the floor mounting height shown on the Drawings. Fixtures hung in continuous runs shall be installed absolutely level and in line with each other. Hanging devices shall comply with Code requirements. Fixtures shall employ single - not twin - stem hangers unless otherwise noted.
2. All structure mounted fixtures (i.e. bracket mounted, pipe mounted and surface mounted) shall be provided with cables of suitable size and weight to support the weight of the fixture. Cables shall be fastened around or fastened to the housing of the fixture. On pendant fixtures, one safety cable of suitable size and weight to support the weight of the fixture assembly shall connect the top of the pendant to the supporting structure by means of welding or bolting, and one safety cable shall connect the housing of the fixture to the bottom of the pendant. Where more than one pendant per fixture occurs, only one pendant must be cabled. Track fixtures for pendant mounted track shall also be supplied with clip-on safety cables of suitable size and weight to support the weight of the fixture.

F. Electrical Connection

1. All light fixtures installed in an accessible suspended ceiling shall be connected from a branch circuit junction box using 1/2" flexible metal conduit fixture pigtails not exceeding 6'- 0". All fixtures must be grounded by using a grounding conductor or the conduit system. Fixture to fixture wiring of fixtures installed in an accessible ceiling is not permitted.

G. Fire Rated Ceiling

1. Provide fire rated canopy or enclosure for all fixtures recessed in a fire rated ceiling. The fire rated canopy or enclosure shall be as required by the UL design number listed in the UL fire resistance directory. Refer to architectural drawing for the UL design number. Coordinate with ceiling installer and manufacturer.

H. Air Handling Fixtures

1. Install all air handling light fixtures with return air slot in the open position, if it is to be as an air handling fixture. Coordinate with mechanical contractor.

I. Final Inspection:

1. Remove all plastic and protective coating from all fixtures. Fixtures shall be thoroughly cleaned. Replace any damaged fixture or fixture parts including reflectors, louvers, lens and metal parts that show signs of corrosion.
2. All final incandescent lamps used during construction shall be replaced with new lamps. Replace all other defective ballast, lamps or discolored lamps, showing signs of excessive usage.
3. Demonstrate proper operation of all fixtures and controls.

2-13 TELEPHONE RACEWAY SYSTEM

A. Provide pullboxes in telephone conduit runs spaced not greater than 100 ft. apart, and on backboard side at runs with more than two right angle bends. Place telephone label on pull and junction boxes. Provide pullwire in each telephone run. Provide plywood backboards and duplex receptacle in the telephone equipment room. Confirm location on jobsite prior to installation. All terminal cabinets/backboards and conduit shall be sized per the recommendations of the telephone system installer.

B. Provide telephone service conduit. Field coordinate exact requirements and include in bid.

2-14 MISCELLANEOUS ELECTRICAL CONTROLS AND WIRING

A. The types of miscellaneous control devices and wiring include but not limited to the following.

1. Contactors
2. Relays
3. Photocells
4. Time switches
5. Additional control wiring and safety devices as shown and specified.

Various control devices, of an electrical nature, for the safe operation and temperature control of the heating, ventilating, air conditioning and plumbing systems are provided under Division 23.

All control wiring and conduit shall be furnished under Division 23 00 00. All power wiring 120 volt or larger shall be provided by Division 26 00 00.

B. CONTACTORS AND RELAYS: Provide contactors and relays with the number of poles, ampere-rating, control wiring as required, is shown and specified for a complete function system. Acceptable manufacturers are General Electric Company, Square D Company, and Automatic Switch Company. Provide 2-wire or 3-wire control modules as required to operate lighting contactors. Contactors shall be mechanically held. Contactor shall contain H-O-A control.

C. Photocells provide a specification grade self-contained, weatherproof, photoelectric control that shall be mounted on an FS type weatherproof junction box. The photocell shall:

1. Switch "ON" at dusk and "OFF" at dawn.
2. Adjustable from 2 to 50 foot candles.
3. Rated at 2000 watts.
4. Use 1" diameter cadmium sulfide cell.
5. Have a 2 minute delay to prevent false switching.

Acceptable manufacturers are Tork, Inc., Intermatic time Controls, and AMF Paragon

Install photocells on the roof unless otherwise directed by Architect. Coordinate any roof penetrations with all other trades and shield from other light sources.

D. TIME SWITCHES: Provide electronic, 365 day time clock with power fail memory feature installed in a NEMA 1 enclosure. Acceptable manufacturers is Intermatic time Controls.

E. Control wiring shall be not less than #14 AWG type TW, and shall be color coded and labeled with Brady markers throughout. Bundle multiple conductors with Ty-Raps.

5/16/25

STATE OF TEXAS
FERNANDO GALLEGOS
109882
LICENSED PROFESSIONAL ENGINEER

ISSUED FOR PERMIT

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Texas Registered Engineering Firm - F14031
Project number: 025.25

CG5 ARCHITECT
TEXAS ARCHITECT
FIRM No: BR4247
WWW.CG5ARCHITECT.COM

SEAL:

ECISD HIGH SCHOOL ATHLETIC MULTI-USE BUILDING 25-74

ROBERT VELA HIGH SCHOOL

801 E Canton Rd, Edinburg, TX 78539

CLIENT:
EDINBURG CISD

REVISION:

No.	Description	Date

PROJECT #: 25-030102
DRAWN BY: N.M.
CHECKED BY: CG3
DATE: 4/28/25

ELECTRICAL SPECIFICATIONS

E5.1