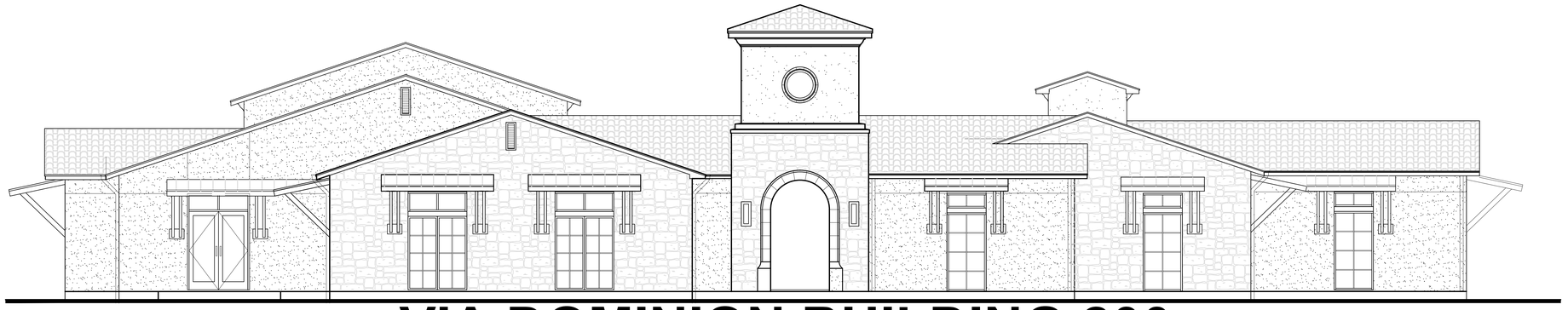

VIA DOMINION BUILDING 200

8 DOMINION DRIVE SAN ANTONIO, TX 78257

GENERAL NOTES

1. THE CONTRACT DOCUMENTS ARE COMPLIMENTARY, AND WHAT IS REQUIRED BY ONE, ARCHITECTURAL, CIVIL, STRUCTURAL, MECHANICAL, PLUMBING, OR ELECTRICAL DRAWINGS OR SPECIFICATIONS, ADDENDUM, BULLETINS, OR OTHER DOCUMENT, SHALL BE AS BINDING AS IF REQUIRED BY ALL. CONTRACTOR SHALL USE ONLY COMPLETE SETS OF CONTRACT DOCUMENTS FOR EACH AND EVERY ITEM OF WORK.
2. CONTRACTOR AGREES THAT, IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONTRACTOR SHALL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY, AND HOLD DESIGN PROFESSIONAL HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT.
3. ALL WORK SHALL COMPLY WITH ALL APPLICABLE CODE, ORDINANCE, A.D.A., T.A.S AND REGULATIONS OF ALL GOVERNING BODIES.
4. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE APPLICABLE CODES, ORDINANCES AND STANDARD SPECIFICATIONS OF ALL AGENCIES THAT HAVE THE RESPONSIBILITY OF REVIEWING PLANS AND SPECIFICATIONS FOR CONSTRUCTION OF ALL ITEMS PER THESE PLANS AND SPECIFICATIONS IN THIS LOCALITY.
5. THE CONTRACTOR SHALL OBTAIN ALL THE NECESSARY PERMITS AS REQUIRED FOR CONSTRUCTION OF THIS PROJECT. OWNER WILL PAY FOR BUILDING PERMIT.
6. WHEN ANY EXISTING UTILITY REQUIRES ADJUSTMENT OR RELOCATION, THE CONTRACTOR SHALL NOTIFY THE PROPER UTILITY AND COORDINATE HIS WORK ACCORDINGLY. THERE SHALL BE NO CLAIM MADE BY THE CONTRACTOR AND ANY COSTS CAUSED BY DELAYS IN CONSTRUCTION TO THE ADJUSTMENT OR RELOCATION OF UTILITIES.
7. ALL TRAFFIC CONTROLS ON THIS PROJECT SHALL ADHERE TO THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
8. THE OWNER SHALL NOT BE LIABLE FOR ANY CLAIMS RESULTING FROM ACCIDENTS OR DAMAGES CAUSED BY THE 'CONTRACTOR S FAILURE TO COMPLY WITH TRAFFIC AND PUBLIC SAFETY REGULATIONS DURING THE CONSTRUCTION PERIOD.
9. THE CONTRACTOR SHALL CONFINE HIS ACTIVITIES TO THE PROJECT SITE UNDER DEVELOPMENT OR THE EXISTING RIGHT-OF-WAYS, CONSTRUCTION AND PERMANENT EASEMENTS, AND SHALL NOT TRESPASS UPON OTHER PRIVATE PROPERTY WITHOUT THE CONSENT OF THE OWNER OF THE OTHER PROPERTY.
10. THE CONTRACTOR SHALL DISPOSE OF ALL SURPLUS EXCAVATION PROPERLY AND PROVIDE ALL SUITABLE FILL MATERIAL AS APPROVED BY THE SOILS ENGINEER, AND THE COST SHALL BE INCLUDED IN THE PRICE BID FOR THE RELATED ITEMS.
11. EROSION AND SEDIMENT CONTROL SHALL BE PROVIDED IN ACCORDANCE WITH LOCAL AND/OR STATE REQUIREMENTS. PROTECTIVE MEASURES SHALL BE TAKEN BY THE CONTRACTOR TO PROTECT ADJACENT PROPERTY AT ALL TIMES DURING CONSTRUCTION. PROTECTIVE MEASURES SHALL BE TAKEN BY THE CONTRACTOR SO AS NOT TO CAUSE ANY MUD, SILT, OR DEBRIS ONTO PUBLIC OR ADJACENT PROPERTY. ANY MUD OR DEBRIS ON PUBLIC PROPERTY SHALL BE REMOVED IMMEDIATELY.
12. ALL WORK SHALL BE GUARANTEED BY THE CONTRACTOR TO BE FREE FROM DEFECTS IN WORKMANSHIP AND MATERIALS AND IN CONFORMANCE WITH THE APPROVED PLANS AND SPECIFICATIONS, AND THAT THE CONTRACTOR SHALL REPLACE OR REPAIR ANY WORK OR MATERIAL FOUND TO BE DEFECTIVE.
13. CONTRACTOR SHALL VERIFY THAT THE PLANS AND SPECIFICATIONS THAT HE IS USING ARE THE VERY LATEST PLANS AND SPECIFICATIONS.
14. SHOULD THE CONTRACTOR ENCOUNTER CONFLICTS BETWEEN THESE PLANS AND SPECIFICATIONS, EITHER AMONG THEMSELVES OR WITH THE REQUIREMENTS OF ANY AND ALL REVIEWING AND PERMIT ISSUING AGENCIES, HE SHALL SEEK CLARIFICATION IN WRITING FROM THE ARCHITECT BEFORE COMMENCEMENT OF CONSTRUCTION. FAILURE TO DO SO SHALL BE AT SOLE EXPENSE TO THE CONTRACTOR.
15. THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT THE UTILITIES OR STRUCTURE AT THE 'SITE. IT SHALL BE THE CONTRACTOR S RESPONSIBILITY TO NOTIFY THE OWNER OF UTILITIES OR STRUCTURES CONCERNED BEFORE STARTING WORK. THE CONTRACTOR SHALL NOTIFY THE PROPER UTILITY IMMEDIATELY UPON BREAK OR DAMAGE TO ANY UTILITY LINE OR APPURTENANCE, OR THE INTERRUPTION OF THEIR SERVICE. HE SHALL NOTIFY THE PROPER UTILITY INVOLVED, IF EXISTING UTILITY CONSTRUCTION CONFLICTS WITH REQUIREMENTS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT MAY BE RESOLVED.
16. 'INSTALL ALL MANUFACTURED ITEMS, MATERIALS, AND EQUIPMENT IN STRICT ACCORDANCE WITH MANUFACTURER S WRITTEN INSTRUCTIONS EXCEPT THAT THE SPECIFICATIONS, WHERE MORE STRINGENT, SHALL GOVERN.
17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL TAPS, EXTENSIONS, WATER AND ELECTRICITY FOR ALL PROJECT FUNCTIONS, OFFICE, STORAGE, ETC.
18. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING HIS OWN TELEPHONE, FAX MACHINE, TOILET, VALVES, OR OTHER DEVICES NECESSARY TO RUN POWER TOOLS AND EQUIPMENT. SUCH MODIFICATIONS TO EXISTING UTILITIES SHALL BE REMOVED AT COMPLETION OF THE PROJECT.
19. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE ARCHITECT IN A TIMELY MANNER THAT WILL ALLOW NOT LESS THAN TEN DAYS FOR REVIEW. THE GENERAL CONTRACTOR SHALL SUBMIT CORRECT NUMBER REQUIRED, BUT NOT LESS THAN FOUR COPIES.
20. THE GENERAL CONTRACTOR SHALL PROVIDE STREET NUMBERING ON THE BUILDING IN COMPLIANCE WITH LOCAL AUTHORITY.
21. ALL PENETRATIONS THRU WALLS SHALL BE SEALED AIR/WATER TIGHT AND CAULKED WITH TWO PART SEALANT EACH SIDE.
22. THE GENERAL CONTRACTOR SHALL PROVIDE ONE COPY OF AS-BUILT DRAWINGS TO THE OWNER AT THE COMPLETION OF THE PROJECT. AS-BUILT DRAWINGS SHALL BE KEPT ON THE JOB AT ALL TIMES AND UPDATED THROUGHOUT THE CONSTRUCTION PHASE.
23. UNLESS NOTED OTHERWISE, SITE PLAN DIMENSIONS, ARE TO FACE OF CURB. FLOOR PLAN DIMENSIONS ARE TO FACE OF STUDS, FRAMING, MASONRY, CONCRETE WALL PANELS, OR FOUNDATION WALLS.
24. SPECIAL INSPECTIONS NOTE: AT THE COMPLETION OF CONSTRUCTION, A FINAL REPORT OF REQUIRED SPECIAL INSPECTIONS PREPARED BY THE REGISTERED DESIGN PROFESSION IN RESPONSIBLE CHARGE THAT CONFIRMS THAT THE LISTED REQUIRED SPECIAL INSPECTIONS HAVE BEEN CONDUCTED AND COMPLETED SHALL BE SUBMITTED TO THE BUILDING OFFICIAL, VIA THE OWNER. IT IS OUR UNDERSTANDING THAT A CERTIFICATE OF OCCUPANCY WILL NOT BE ISSUED BY THE AUTHORITY HAVING JURISDICTION UNTIL THIS FINAL REPORT IS RECEIVED. REFER TO DOCUMENT LABELED "DETERMINATION OF REQUIRED SPECIAL INSPECTIONS " AS WELL AS STRUCTURAL SHEET OR REQUIRED INSPECTIONS. IT IS THE CONTRACTOR 'S RESPONSIBILITY TO PROVIDE DOCUMENTATION THAT ALL REQUIRED INSPECTIONS HAVE BEEN CONDUCTED AND ALL REPORTED NON-COMPLYING ITEMS HAVE BEEN RESOLVED.
25. NOT USED
26. ALL EXPOSED ELECTRICAL EQUIPMENT, CONDUITS, PLUMBING LINES, ETC. SHALL BE PAINTED W/ MIN (2) COATS OF PAINT TO MATCH ADJACENT SURFACES.
27. KNOX BOX-LOCATE PER LOCAL FIRE DEPARTMENT REQUIREMENTS.
28. COORDINATE WITH OWNER FOR LOCATION AND REQUIREMENTS OF OWNER PROVIDED ITEMS INCLUDING BUT NOT LIMITED TO SIGNAGE, INTERIOR ITEMS, PLANTS, SHADES, ETC.
29. SEE KITCHEN PLANS FOR EQUIPMENT AND COUNTER LAYOUT AND ROUGH-IN INFORMATION.
30. SEE MEP PLANS FOR MECHANICAL, ELECTRICAL, AND PLUMBING SCHEDULES, NOTES, LINES AND OTHER REQS.
31. SEE STRUCTURAL PLANS FOR ALL FOUNDATION, FRAMING AND GENERAL STRUCTURAL DETAIL.
32. SEE REFLECTED CEILING PLAN FOR LOCATION ONLY OF LIGHTS, REGISTERS, CEILING LAYOUT, AND OTHER CEILING ITEMS.
33. CONTRACTOR SHALL CONNECT ALL REQUIRED MECHANICAL, ELECTRICAL, AND PLUMBING FOR WALK-IN COOLER.

DESIGN TEAM

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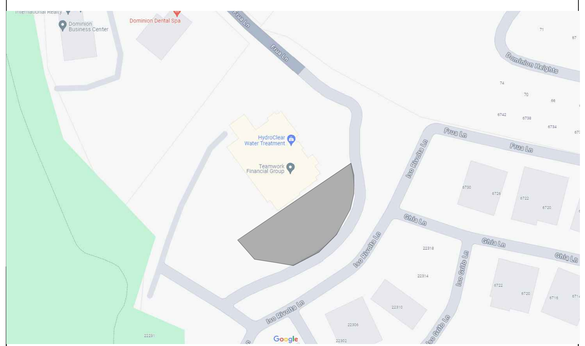
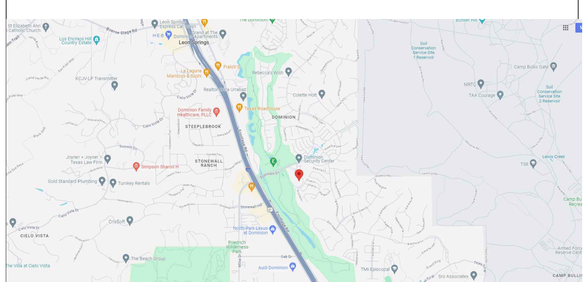
EMAIL: alfred@hm3engineering.com

LOCATION MAP



VICINITY MAP



CODE INFORMATION

DESCRIPTION: OFFICE BUILDING W/ LEASEABLE SPACES
BUILDING AREA: 6828 SF
FIRST FLOOR AREA: 6228 SF
SECOND FLOOR STORAGE AREA: 600 SF
ADDRESS: INDEPENDENCE VILLAGE AT THE DOMINION 8 DOMINION DR., SAN ANTONIO, TX 78257

BUILDING CODE: 2021 IBC
FIRE CODE: 2021 IFC
MECHANICAL CODE: 2021 IMC
ELECTRICAL CODE: 2020 NEC
PLUMBING CODE: 2021 IPC
ENERGY CODE CODE: 2021 IECC
ACCESSIBILITY CODE: 2012 TAS
CITY OF SAN ANTONIO LOCAL AMENDMENTS

SECTION 301.1 OCCUPANCY CLASSIFICATION BUSINESS GROUP B
TABLE 504.3 ALLOWABLE BUILDING HEIGHT IN FEET ABOVE GRADE 40 FEET
TABLE 504.4 ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE 2 STORIES
TABLE 506.2 ALLOWABLE AREA (NON SPRINKLERED) 9,000 SF
TABLE 601 FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)
PRIMARY STRUCTURAL FRAME FOR EXTERIOR BEARNG WALLS (TYPE VB) (0) HOUR
TABLE 506.2 ALLOWABLE AREA (NON SPRINKLERED) 9,000 SF
SECTION 602 TYPE OF CONSTRUCTION VB
TABLE 705.2 MINIMUM DISTANCE OF PROJECTION
FIRE SEPARATION DISTANCE (FSD) (FEET) 2 TO LESS THAN 3
MINIMUM DISTANCE FROM LINE USED TO DETERMINE FSD 24 INCHES
SECTION 705.2.3 PROJECTION PROTECTION
PROJECTIONS EXTENDING TO WITHIN 5 FEET OF LINE USED TO DETERMINE
THE FIRE SEPARATION DISTANCE SHALL BE ONE OF THE FOLLOWING:
1. NON-COMBUSTIBLE MATERIALS
2. COMBUSTIBLE MATERIALS OF NOT LESS THAN 1-HOUR FIRE
3. FIRE RETARDANT-TREATED WOOD RESISTANCE-RATED-CONSTRUCTION
TABLE 705.5 FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS
BASED ON FIRE SEPARATION DISTANCE (5<=X<10 , GROUP B OCCUPANCY) (1) HOUR
TABLE 705.8 MAXIMUM AREA OF EXTERIOR WALL OPENINGS BASED ON
FIRE SEPARATION DISTANCE AND DEGREE OF OPENING PROTECTION (1) HOUR
UNPROTECTED, NONSPRINKLERED
5 FEET TO LESS THAN 10 FEET 10% OPENINGS
10 FEET TO LESS THAN 15 FEET 15% OPENINGS
UNPROTECTED, SPRINKLERED
5 FEET TO LESS THAN 10 FEET 25% OPENINGS
10 FEET TO LESS THAN 15 FEET 45% OPENINGS
TABLE 1004.5 MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT
LEASEABLE AREA: 5729 SF / 150 SF PER OCC. 38 OCCUPANTS
COMMON AREA RESTROOMS HALLWAY: 271 SF / 0 SF PER OCC. 0 OCCUPANTS
BREEZEWAY: 2 SF / 0 SF PER OCC. 0 OCCUPANTS

PLUMBING FIXTURE CALCULATIONS
TABLE 2902.1 MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES
TOTAL OCCUPANT LOAD: 5729 SF / 150 SF PER OCC = 38
50% MALE: 19, 50% FEMALE: 19
TABLE 2902.1 MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES
MALE
W/C REQUIRED (1) PER 25 (1) W/C PROVIDED
LAVATORIES REQUIRED (1) PER 40 (1) W/C PROVIDED
URINALS REQUIRED (1) PER 25 (1) URINAL PROVIDED

DRINKING FOUNTAIN REQUIRED (1 PER 100) (1) DRINKING FOUNTAIN PROVIDED
FEMALE
SERVICE SINK REQUIRED (1) SERVICE SINK PROVIDED
W/C REQUIRED (1) PER 25 (2) W/C PROVIDED

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C1.00	FIRE PROTECTION PLAN				
C2.00	STORM WATER POLLUTION PREVENTION PLAN				
C2.10	STORM WATER POLLUTION PREVENTION DETAILS				
C3.00	DEMOLITION PLAN				
C4.00	DIMENSIONAL CONTROL & PAVING PLAN				
C4.10	PAVEMENT DETAILS				
C5.00	GRADING PLAN				
C6.00	UTILITY PLAN				
C6.10	UTILITY DETAILS				
C7.00	TEMPORARY POLLUTION ABATEMENT PLAN				
C7.01	TYPICAL DETAILS				
C7.02	PERMANENT POLLUTION ABATEMENT PLAN				
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L2	LANDSCAPE PLAN AND LIGHTING PLAN				
L3	LANDSCAPE AND TREE PRESERVATION DETAILS				
L4	LANDSCAPE SPECIFICATIONS				
L5	LANDSCAPE SPECIFICATIONS				
IR1	IRRIGATION PLAN				
IR2	IRRIGATION SCHEDULE & NOTES				
IR3	IRRIGATION DETAILS				
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G102	ACCESSIBILITY STANDARDS				
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04_ARCHITECTURAL					
A100	ARCHITECTURAL SITE PLAN				
A100a	BUILDING SPACE				
A101	FLOOR PLAN / ENLARGED COURTYARD & BREEZEWAY PLAN / DETAILS				
A110	ENLARGED RESTROOM PLAN / INTERIOR ELEVATIONS / DETAILS				
A201	EXTERIOR ELEVATIONS / STAIR PLAN, ELEVATIONS, SECTION & DETAILS				
A210	BUILDING CROSS SECTIONS & DETAILS				
A211	BUILDING CROSS SECTIONS				
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A501	TOWER & WALLS SECTIONS / DETAILS				
A502	WALL SECTIONS / DETAILS				
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SP5	SPECIFICATIONS				
SP6	SPECIFICATIONS				
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MEP100	MEP SITE PLAN				
M000	MECHANICAL SYMBOLS & ABBREVIATIONS				
M001	MECHANICAL DETAILS & SCHEDULES				
M100	MECHANICAL PLAN				
–	–				
07_ELECTRICAL					
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E002	ELECTRICAL DETAILS				
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E004	ELECTRICAL DETAILS				
E005	ELECTRICAL DETAILS				
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E300	ELECTRICAL ONE-LINE DIAGRAM				
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P000	PLUMBING SYMBOLS & ABBREVIATIONS				
P100	PLUMBING PLAN				
P200	PLUMBING PLAN				
P300	PLUMBING SCHEDULES & RISERS				

LUNA ARCHITECTURE
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REVISIONS:

NO.	DESCRIPTION	DATE

Key Plan:

VIA DOMINION BUILDING 200
INDEPENDENCE VILLAGE
AT THE DOMINION
8 DOMINION DRIVE, SAN ANTONIO
TEXAS, 78257

REGISTERED ARCHITECT JONATHAN A. PACE 23545 STATE OF TEXAS

JONATHAN A. PACE
11-15-2024
LUNA ARCHITECTURE

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project #: 23014
date: 04.16.2024
Project Manager: X.G.D. drawn by: J.M.
drawing title: COVER SHEET
sheet number: G101

DEMOLITION NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING ALL NECESSARY PERMITS/APPROVALS BEFORE BEGINNING DEMOLITION.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING FROM THE SITE ALL ITEMS SHOWN TO BE DEMOLISHED UNLESS OTHERWISE INDICATED. ALL MATERIALS SHALL BE DEMOLISHED AND REMOVED FROM SITE IN ACCORDANCE WITH ALL APPLICABLE, FEDERAL, STATE AND LOCAL REGULATIONS.
3. ALL EXISTING ITEMS NOT SPECIFICALLY NOTED TO BE DEMOLISHED SHALL REMAIN. CONTRACTOR IS RESPONSIBLE FOR REPLACING EXISTING ITEMS REMOVED DURING DEMOLITION THAT WERE TO REMAIN.
4. CONTRACTOR IS RESPONSIBLE FOR COORDINATION WITH ALL UTILITY COMPANIES REGARDING REMOVAL OF EXISTING SERVICES, POWER POLES TO BE REMOVED, VERIFYING UTILITIES ARE SHUT OFF OR DISCONNECTED, AND THAT ALL POSSIBLE SAFETY PRECAUTIONS HAVE BEEN ENACTED TO ENSURE THE SAFEST ENVIRONMENT FOR ALL PERSONNEL.
5. LOCATION AND DEPTH OF EXISTING UTILITIES SHOWN HEREON ARE APPROXIMATE ONLY. ACTUAL LOCATIONS AND DEPTHS MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO THE CONSTRUCTION AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, THROUGHOUT ALL PHASES OF CONSTRUCTION.
6. ALL NECESSARY EROSION CONTROL MEASURES ARE TO BE IN PLACE PRIOR TO CONSTRUCTION. EROSION CONTROL MEASURES ARE TO BE MAINTAINED AND IN WORKING CONDITION AT ALL TIMES.
7. CONTRACTOR SHALL CONFIRM WITH THE OWNER OR HIS DESIGNATE WHETHER TO SALVAGE AND MAKE ARRANGEMENTS TO STORE TRANSPLANTABLE TREES PRIOR TO REMOVAL.
8. FOR TREES SHOWN TO REMAIN, THE CONTRACTOR SHALL INSTALL TREE PROTECTION IN ACCORDANCE WITH THE PROJECT PLANS AND SPECIFICATIONS. THE CONTRACTOR SHALL NOT REMOVE OR DAMAGE ANY TREES WITHOUT A PERMIT TO DO SO.
9. NO PARKING AND/OR STORAGE SHALL BE ALLOWED WITHIN THE DRIP LINE OF THE TREES TO REMAIN.
10. THE CONTRACTOR SHALL SAW CUT EXISTING PAVEMENT, CURBS AND SIDEWALKS AT NEW PAVEMENT, CURB AND SIDEWALK JUNCTURES, NO JAGGED OR IRREGULAR CUTS WILL BE ACCEPTED.
11. THE CONTRACTOR SHALL PROTECT ALL PROPERTY PINS, BENCH MARKS, CONSTRUCTION STAKES, HUBS, OR OTHER KEY CONTROL POINTS. THE CONTRACTOR SHALL BE RESPONSIBLE TO RE-ESTABLISH ANY SUCH POINTS AT THEIR OWN EXPENSE.
12. DEMOLITION CONTRACTOR IS RESPONSIBLE FOR CLEARING THE SITE OF ALL OBSTRUCTIONS THAT EXIST ON THIS SITE PRIOR TO THE START OF CONSTRUCTION OR DURING THE CONSTRUCTION SO AS TO NOT IMPEDE THE BUILDING CONSTRUCTION CONTRACTOR.
13. CONTRACTOR SHALL COORDINATE WITH THE OWNER TO IDENTIFY ANY MATERIAL OR EQUIPMENT SCHEDULED FOR REMOVAL TO BE SALVAGED AND REUSED. CONTRACTOR SHALL REPLACE AT HIS EXPENSE ANY DESTROYED MATERIAL OR EQUIPMENT THAT WAS MARKED FOR SALVAGE.
14. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL AND DISPOSAL OF ALL HAZARDOUS MATERIAL OFFSITE FOLLOWING ALL APPLICABLE DISPOSABLE REGULATIONS. ALL CONCRETE PROPOSED FOR DEMOLITION MAY BE REUSED ON SITE AS FILL AS LONG AS IT IS CRUSHED, FREE OF REBAR, WIRE MESH AND DEBRIS AND CAN MEET GEOTECHNICAL SPECIFICATIONS.
15. CONTRACTOR SHALL REMOVE ALL EXISTING IRRIGATION PIPING ON SITE UNLESS SHOWN OTHERWISE. CUT AND CAP LATERALS AT PROJECT LIMITS TO ALLOW PROPER FUNCTION OF ZONES INTENDED TO REMAIN OR EXTEND OFF-SITE.
16. CONTRACTOR SHALL NOT DEMOLISH ANY PUBLIC WATER OR SANITARY SEWER LINES WITHOUT APPROVAL. EXISTING WATER AND SANITARY SEWER SERVICES SHALL REMAIN OPERATIONAL UNTIL NEW SERVICE IS COMPLETE. CUT AND CAP ANY ABANDONED SANITARY SEWER AND WATER SERVICES AT THE EXISTING MAIN. NO ABANDONED SERVICES SHALL REMAIN CONNECTED TO THE PUBLIC MAIN.
17. THE USE OF EXPLOSIVES WILL NOT BE PERMITTED.
18. ALL WASTE MATERIAL REMAINING AFTER OWNER SALVAGE IS COMPLETE AND RESULTING FROM DEMOLITION OPERATIONS BECOMES THE PROPERTY OF THE CONTRACTOR. APPROPRIATE DISPOSAL OF WASTE MATERIAL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AT HIS OWN EXPENSE. OWNER WILL PROVIDE LIST OF ITEMS TO BE SALVAGED.
19. THE CONTRACTOR SHALL MAINTAIN THE SITE IN A CLEAN AND ORDERLY MANNER.
20. THE CONTRACTOR SHALL MEET ALL LOCAL, STATE, AND FEDERAL REGULATIONS FOR DUST CONTROL. THE CONTRACTOR SHALL BE RESPONSIBLE AT THEIR OWN EXPENSE FOR ANY FUGITIVE DUST ON ADJOINING PROPERTIES.

DIMENSIONAL CONTROL NOTES

1. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY QUESTIONS THAT MAY ARISE CONCERNING THE INTENT, PLACEMENT OR LIMITS OF DIMENSIONS NECESSARY FOR CONSTRUCTION OF THE PROJECT.
2. THE CONTRACTOR SHALL PRESERVE ALL CONTROL POINTS, PROPERTY PINS, BENCH MARKS, HUBS OR OTHER KEY CONTROL POINTS. THE CONTRACTOR SHALL BE RESPONSIBLE TO RE-ESTABLISH ANY SUCH POINTS AT THEIR OWN EXPENSE IN THE EVENT THEY ARE REMOVED.
3. DIMENSIONAL CONTROL FOR ANY STRUCTURE IS BASED ON INFORMATION PROVIDED BY THE ARCHITECT OR STRUCTURAL ENGINEER. THE CONTRACTOR SHALL VERIFY ALL PROJECT DIMENSIONS WITH THE PROJECT DRAWINGS PRIOR TO CONSTRUCTION AND TO COMMUNICATE TO THE ENGINEER OF ANY DISCREPANCIES.
4. UNLESS OTHERWISE NOTED, THE CONTRACTOR SHALL USE THE TRAVERSE CONTROL POINTS FOR HORIZONTAL CONTROL POINTS. IF TRAVERSE CONTROL POINTS ARE NOT PROVIDED, THE CONTRACTOR MAY USE PROPERTY CORNER PINS. BENCHMARKS ARE NOT TO BE USED FOR HORIZONTAL CONTROL.
5. COORDINATES FOR HORIZONTAL CONTROL POINTS ARE BASED ON THE TEXAS STATE PLANE COORDINATE SYSTEM, SOUTH CENTRAL ZONE, AND 83(96) DISPLAYED IN SURFACE VALUES USING A SURFACE ADJUSTMENT FACTOR FOR EACH COUNTY. (THE SURFACE ADJUSTMENT FACTOR FOR BEXAR COUNTY IS 1.00017. OTHER COUNTIES WILL HAVE A DIFFERENT FACTOR; CHECK WITH THE SURVEYOR TO OBTAIN THE CORRECT SURFACE ADJUSTMENT FACTOR FOR PROJECTS LOCATED OUTSIDE OF BEXAR COUNTY.)
6. BENCHMARK ELEVATIONS ARE BASED ON NAVD 88, GEOID 03.
7. ALL DIMENSIONAL CONTROL POINTS OR DIMENSIONS ARE TO THE FACE OF CURB, FACE OF RETAINING WALL AT THE BOTTOM TOE OF SLOPE, AND CENTER OF PAINT STRIPING. ALL DIMENSIONS ARE PERPENDICULAR TO THE POINT OF REFERENCE.
8. CURB RADII ARE 3' UNLESS OTHERWISE NOTED ON THE DRAWINGS.
9. REFER TO THE ARCHITECTURAL, STRUCTURAL, AND LANDSCAPE PLANS AS APPLICABLE FOR ADDITIONAL DIMENSIONAL CONTROL INFORMATION.
10. THE CONTRACTOR SHALL RELY ON THE INFORMATION PROVIDED ON THE SIGNED AND SEALED CONSTRUCTION DRAWINGS. SUBJECT TO A SIGNED RELEASE AGREEMENT, CAD FILES MAY BE OBTAINED FROM THE ENGINEER FOR THE CONVENIENCE AND USE OF THE CONTRACTOR.

PAVEMENT & STRIPING NOTES

1. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THIS SCOPE OF WORK WHERE NOT SPECIFICALLY COVERED IN THE SPECIFICATIONS OR GEOTECHNICAL REPORT SHALL CONFORM TO ALL APPLICABLE CITY, COUNTY OR TXDOT STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (LATEST EDITION).
2. THE CONTRACTOR SHALL LOCATE AND PROTECT ALL EXISTING UTILITY AND STORM DRAIN SYSTEMS PRIOR TO CONSTRUCTION.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING TO ITS ORIGINAL, OR BETTER, CONDITION ANY DAMAGE DONE TO EXISTING TREES, BUILDINGS, UTILITIES, FENCES, PAVEMENT, CURBS, OR DRIVEWAYS (NO SEPARATE PAY ITEMS).
4. THE CONTRACTOR SHALL VERIFY ELEVATIONS AND LOCATIONS OF EXISTING FACILITIES AND NOTIFY THE ENGINEER OF ANY CONFLICTS PRIOR TO BEGINNING CONSTRUCTION.
5. ALL PAINT SHALL BE 4" WIDE REFLECTIVE PAINT: WHITE ON ASPHALT PAVING AND YELLOW ON CONCRETE UNLESS OTHERWISE NOTED ON THE DRAWINGS.
6. ALL PAVEMENT MARKINGS SHALL RECEIVE TWO COATS OF PAINT.
7. NO WORK SHALL BE PERFORMED IN A PUBLIC RIGHT-OF-WAY WITHOUT A PERMIT.
8. ALL SIGNS SHALL CONFORM TO MUTCD, LATEST EDITION.
9. THE CONTRACTOR SHALL SAW CUT EXISTING PAVING, CURB, AND SIDEWALKS TO PROVIDE A SMOOTH TRANSITION. NO JAGGED OR IRREGULAR EDGES WILL BE ALLOWED.
10. ALL CURBS WITHIN PRIVATE PROPERTY SHALL BE 6" HIGH AND ALL CURBS WITH IN PUBLIC RIGHT-OF-WAY SHALL BE 7" HIGH UNLESS OTHERWISE NOTED.
11. ALL STANDARD PERPENDICULAR PARKING STALLS ARE 9' X 18' AND COMPACT PARKING STALLS ARE 8' X 16' UNLESS DIMENSIONED OTHERWISE.

GRADING NOTES

1. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THIS SCOPE OF WORK WHERE NOT SPECIFICALLY COVERED IN THE SPECIFICATIONS OR GEOTECHNICAL REPORT SHALL CONFORM TO ALL APPLICABLE CITY, COUNTY AND TXDOT STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (LATEST EDITION).
2. SITE PREPARATION, GRADING, EXCAVATION AND FILL SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT GEOTECHNICAL REPORT AND SPECIFICATIONS.
3. ALL SELECT FILL MATERIAL PROVIDED SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACING AND COMPACTING.
4. ALL ELEVATIONS AND PROPOSED CONTOURS SHOWN ON THIS GRADING PLAN REFLECT FINISHED GRADES. THE THICKNESS OF PAVING, BASE, GRASS, TOPSOIL, AND MULCH MUST BE SUBTRACTED TO OBTAIN SUBGRADE ELEVATIONS.
5. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY QUESTIONS THAT MAY ARISE CONCERNING THE INTENT, PLACEMENT, OR LIMITS OF DIMENSIONS OR GRADES NECESSARY FOR CONSTRUCTION OF THIS PROJECT.
6. THE CONTRACTOR SHALL VERIFY THE SUITABILITY OF ALL EXISTING AND PROPOSED SITE CONDITIONS INCLUDING GRADES AND DIMENSIONS BEFORE COMMENCEMENT OF CONSTRUCTION. THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCIES.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING ALL PERMITS, TESTS, APPROVALS AND ACCEPTANCES REQUIRED TO COMPLETE CONSTRUCTION OF THIS PROJECT.
8. THE CONTRACTOR SHALL REMOVE TOP SOIL, GRASS, ROOTS, DEBRIS, ETC. AND DISPOSE OFF SITE THOSE MATERIALS NOT SUITABLE FOR EMBANKMENT AND TOPSOIL. CLEAN STRIPPINGS AND TOPSOIL MAY BE STOCKPILED ON SITE FOR REUSE IN A LOCATION SPECIFIED BY THE OWNER.
9. THE SITE CONTRACTOR SHALL BE RESPONSIBLE FOR SITE STABILIZATION. ALL DISTURBED AREAS SHALL BE REVEGETATED IN ACCORDANCE WITH PROJECT SPECIFICATIONS AND TPDES/SWPPP REQUIREMENTS. REFERENCE THE LANDSCAPE ARCHITECT'S PLAN, IF APPLICABLE.
10. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS (EROSION CONTROL MEASURES) TO KEEP DRAINAGE AND SILT FROM WASHING ONTO ADJACENT PROPERTY, STREETS, OR DRAINAGE WAYS. CONTRACTOR SHALL IMMEDIATELY REMOVE SILT DEBRIS WHICH WASHES OFFSITE OR INTO EXISTING STORM DRAIN SYSTEMS. (SEE SWPPP PLANS & TPDES BOOK).
11. THE CONTRACTOR SHALL OBTAIN GRADES SHOWN HEREON WITHIN +/- ONE-TENTH (0.10) FOOT.
12. IN PROPOSED PAVING AREAS, IT IS INTENDED THAT THE MINIMUM GRADE IS 1%. ALL EARTHEN SLOPES SHALL BE A MAXIMUM OF 3:1 AND A MINIMUM OF 2.0% UNLESS OTHERWISE SHOWN.
13. ACCESSIBILITY: SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%. SIDEWALK LONGITUDINAL SLOPE ALONG ACCESSIBLE ROUTES SHALL NOT EXCEED 5%, UNLESS OTHERWISE NOTED. SIDEWALK CURB RAMPS SHALL NOT EXCEED 8.33%. (SEE CURB RAMP DETAILS). CURB RAMP LANDINGS SHALL NOT EXCEED 2%. ACCESSIBLE PARKING STALLS SHALL NOT EXCEED 2% IN ANY DIRECTION.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING TO ITS ORIGINAL, OR BETTER, CONDITION ANY DAMAGE DONE TO EXISTING TREES, BUILDINGS, UTILITIES, FENCES, PAVEMENT, CURBS, OR DRIVEWAYS (NO SEPARATE PAY ITEMS).
15. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION IN WORKING NEAR UTILITIES, GAS LINES, SEWER, OR EXISTING APPURTENANCES. PRIOR TO PERFORMING ANY EXCAVATION, CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES AND ENSURE UTILITIES HAVE BEEN ADEQUATELY LOCATED AND IDENTIFIED. THE ENGINEER SHALL BE NOTIFIED IF ANY UTILITY CONFLICTS ARE DISCOVERED.
16. POSITIVE DRAINAGE SHALL BE MAINTAINED THROUGHOUT THE SCOPE OF THE PROJECT. DRAINAGE SHALL BE DIRECTED AWAY FROM ALL BUILDING FOUNDATIONS. CONTRACTOR SHOULD TAKE PRECAUTIONS NOT TO ALLOW ANY PONDING OF WATER.
17. FOR FILL PLACEMENT ON HILL SIDES OR STEEP SLOPE AREAS, THE CONTRACTOR SHALL REFERENCE THE PROJECT SPECIFICATIONS AND GEOTECHNICAL REPORT FOR SPECIAL INSTRUCTIONS REGARDING BENCHING.
18. NO WORK SHALL BE PERFORMED IN A PUBLIC RIGHT-OF-WAY WITHOUT A PERMIT.

SITE UTILITY NOTES

1. THE CONTRACTOR WILL BE RESPONSIBLE FOR DETERMINING EXACT LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES WHETHER SHOWN ON THE PLANS OR NOT. THE CONTRACTOR SHALL UNCOVER EXISTING UTILITIES PRIOR TO CONSTRUCTION TO VERIFY SIZE, GRADE, AND LOCATION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY DEVIATIONS FROM PLANS PRIOR TO BEGINNING CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR, AT HIS EXPENSE.
2. DRAWINGS DO NOT SHOW ALL EXISTING UTILITIES. ALL EXISTING UTILITIES SHALL BE VERIFIED IN THE FIELD WHETHER SHOWN ON THIS PLAN OR NOT (PRIOR TO INSTALLATION OF ANY NEW LINES).
3. ALL FILL MATERIAL IS TO BE IN PLACE AND COMPACTED BEFORE INSTALLATION OF PROPOSED UTILITIES
4. CONTRACTOR SHALL CALL FOR THE LOCAL JURISDICTIONAL INSPECTIONS AT LEAST 48 HOURS PRIOR TO STARTING CONSTRUCTION.
5. CONTRACTOR IS RESPONSIBLE FOR COMPLYING TO THE SPECIFICATIONS OF THE LOCAL JURISDICTION WITH REGARDS TO MATERIALS AND INSTALLATION OF THE UTILITIES AND STORM DRAINS.
6. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES FOR INSTALLATION REQUIREMENTS, SPECIFICATIONS AND ALL TESTING.
7. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS PROJECT SHALL COMPLY WITH THE FOLLOWING AS APPLICABLE:
   A. CURRENT "SAN ANTONIO WATER SYSTEM STANDARD SPECIFICATIONS FOR CONSTRUCTION"
   B. CURRENT "SAN ANTONIO WATER SYSTEM UTILITY SERVICE REGULATIONS"
   C. CURRENT CITY OF SAN ANTONIO "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION"
   D. CURRENT TxDOT "STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS, AND DRAINAGE"
   E. CURRENT CITY OF SAN ANTONIO "RIGHT-OF-WAY ORDINANCE AND CRITERIA MANUAL"
8. MINIMUM TRENCH WIDTH SHALL BE 2 FEET.
9. ALL CONCRETE FOR ENCASEMENTS SHALL HAVE A MINIMUM 28 DAY COMPRESSION STRENGTH AT 3000 P.S.I.
10. CONTRACTOR SHALL PROTECT EXISTING TREES, FENCES, PAVING, UTILITIES, AND OTHER STRUCTURES SCHEDULED TO REMAIN. ANY STRUCTURE DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED BY THE CONTRACTOR AT THEIR EXPENSE.
11. THE CONTRACTOR SHALL FURNISH THE ENGINEER WITH ALL FINAL UTILITY AS-BUILT MEASUREMENTS, TOPS AND LENGTH OF SERVICE CONNECTIONS OF THE PROJECT.
12. ALL GARBAGE OR SPOIL MATERIAL FROM THIS WORK SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR AT HIS SOLE EXPENSE.
13. GAS AND ELECTRIC ALIGNMENTS SHOWN ON THIS DRAWING ARE CONCEPTUAL. THE ACTUAL DESIGN AND LOCATIONS SHALL BE DETERMINED BY THE LOCAL SERVICE PROVIDER OR MEP ENGINEER.
14. CONTRACTOR SHALL COORDINATE TELE. COMMUNICATIONS, CABLE, ELECTRIC AND GAS LINE INSTALLATION WITH LOCAL SERVICE PROVIDER. THE SERVICE PROVIDER WILL BE RESPONSIBLE FOR INSTALLATION OF GAS LINE TO WITHIN 5' OF BUILDING.
15. REFER TO INTERIOR PLUMBING DRAWINGS FOR TIE-IN OF ALL UTILITIES.
16. SEE IRRIGATION, LIGHTING AND ARCHITECTURAL PLANS FOR ADDITIONAL CONDUIT LOCATIONS AS APPLICABLE. VERIFY ALL CONDUIT AND SLEEVE LOCATIONS PRIOR TO PLACING ANY PAVEMENT.
17. CONTRACTOR SHALL INSTALL ALL CONDUITS WITH A MINIMUM 4-FOOT SWEEP RADIUS. ALL CONDUITS SHALL HAVE A PULL STRING TO BE INSTALLED BY THE CONTRACTOR.
18. NO WORK SHALL BE ALLOWED WITHIN THE PUBLIC RIGHT-OF-WAY WITHOUT AN APPROVED PERMIT.
19. THE CONSTRUCTION OF UNDERGROUND PRIMARY ELECTRIC AND GAS DISTRIBUTION SYSTEMS SHALL BE GOVERNED BY THE ENGINEERING CONSTRUCTION PLANS PREPARED BY THE LOCAL SERVICE PROVIDER. THIS DRAWING SHALL SERVE ONLY AS REFERENCE DOCUMENT TO COORDINATE LOCATION OF THE PROPOSED PRIMARY ELECTRIC AND GAS DISTRIBUTION SYSTEM. THE LOCAL SERVICE PROVIDER'S CONSTRUCTION DRAWINGS AND CONSTRUCTION DETAILS SHALL GOVERN.
20. CONTRACTOR SHALL INCLUDE IN HIS BID A 4" PVC CONDUIT FOR TELEPHONE AND A 2" PVC CONDUIT FOR CABLE TV TO BE IN THE SAME TRENCH AS UNDERGROUND ELECTRIC LINES. CONTRACTOR SHALL VERIFY WITH APPROPRIATE UTILITY COMPANY PRIOR TO CONSTRUCTION ON NUMBER AND SIZE OF CONDUITS NEEDED FOR UTILITY SERVICE TO ALL BUILDINGS.
21. BEDDING FOR ALL UTILITIES SHALL BE PER THE PROJECT SPECIFICATIONS. NO WATER JETTING OF BACKFILL MATERIAL WILL BE ALLOWED.

SANITARY SEWER NOTES

1. SEWER PIPE WHERE WATER LINE CROSSES SHALL BE 160 P.S.I. AND MEET THE REQUIREMENTS OF ASTM D2241 WITH ONE 20' JOINT CENTERED AT WATER MAIN.
2. NO VERTICAL STACKS SHALL BE ALLOWED
3. WHEN HORIZONTAL DISTANCE BETWEEN SEWER PIPES AND WATER MAIN IS LESS THAN 9 FT. OF SEPARATION, SEWER MAIN SHALL BE INSTALLED WITH 160 PSI (MIN) PRESSURE PIPE AND FITTINGS IN ACCORDANCE WITH SAWS CONSTRUCTION CRITERIA FOR CONSTRUCTION OF SEWER MAINS IN THE VICINITY OF WATER MAINS.
4. ALL SEWER PIPES SHALL BE PVC (SDR 26), UNLESS OTHERWISE NOTED.
5. PRIOR TO CONSTRUCTION CONTRACTOR IS TO VERIFY EXISTING INVERT OF EXISTING SANITARY SEWER MAINS AND ALERT ENGINEER IMMEDIATELY OF ANY DIFFERENCE FROM INVERT SHOWN ON PLANS.
6. CONTOURS SHOWN ARE FOR GRAPHICAL USE ONLY.
7. MANHOLE OPENINGS ARE 30" AS PER TCEQ CHAPTER 217.55
8. CONTRACTOR TO INSTALL PERMANENT MARKERS AT THE END OF ALL SEWER LATERALS, PER HOUSE LATERAL DETAIL DD-854-01.
9. ALL 6" SEWER LATERALS WILL BE SET AT A MINIMUM 2% SLOPE.
10. BACKFILL MUST COMPLY WITH SAWS SPECIFICATIONS 804.4.
11. TOPS OF EXISTING MANHOLES SHALL BE ADJUSTED AS NECESSARY TO BE FLUSH WITH PROPOSED PAVEMENT ELEVATIONS, AND TO BE 0.50 FEET ABOVE FINISHED GROUND ELEVATIONS IN UNPAVED AREAS WITH WATER TIGHT LIDS.

WATER NOTES

1. ALL MATERIALS AND CONSTRUCTION PROCEDURES FOR THE WATER SYSTEM WITHIN THE SCOPE OF THIS CONTRACT SHALL CONFORM TO ALL APPLICABLE SAWS CONSTRUCTION SPECIFICATIONS.
2. MACHINE CHLORINATION SHALL BE BY THE CONTRACTOR ACCORDING TO THE SERVICE PROVIDER'S CONSTRUCTION SPECIFICATIONS.
3. ALL WATER LINES SHALL BE FOUR-FOOT (4') BURY UNLESS OTHERWISE NOTED.
4. ALL WATER LINES SHALL BE PVC PIPE UNLESS OTHERWISE INDICATED. ALL 6 & 8-INCH PVC WATER LINES SHALL BE CLASS 150 DR(18), MEETING AWWA C900 STANDARDS. ALL SERVICES 4 INCH AND SMALLER SHALL BE SCHEDULE 80 PVC. DUCTILE IRON WATER LINES SHALL BE CLASS 50.
5. ALL WATER LINES MUST BE INSTALLED A MINIMUM DISTANCE OF 9-FEET HORIZONTALLY FROM SANITARY SEWER MAINS AND LATERALS. ALL VERTICAL CROSSINGS MUST CONFORM TO TCEQ, 30 TAC, CHAPTER 290, SEPARATION REQUIREMENTS AND METHODS. WHENEVER POSSIBLE ALL WATER LINES SHALL CROSS ABOVE SANITARY SEWER LINES.
6. THE CONTRACTOR SHALL PERFORM A HYDROSTATIC TEST ON THE FIRE LINE PER THE FIRE DEPARTMENT'S REQUIREMENTS. THE HYDROSTATIC TEST SHALL FOLLOW THE PROCEDURE LISTED IN THE LOCAL FIRE CODE.
7. ALL OTHER LINES SHALL BE HYDROSTATICALLY TESTED BY THE CONTRACTOR, PER LOCAL JURISDICTIONAL REQUIREMENTS.
8. AT THE COMPLETION OF CONSTRUCTION, THE CONTRACTOR SHALL FURNISH THE OWNER WITH ALL FITTING-TO-FITTING DIMENSIONS, TYPES, AND MANUFACTURER OF MATERIALS USED AND LOCATIONS FOR ALL VALVES, BENDS, ETC.
9. THE SITE SHALL BE EXCAVATED OR FILLED TO SUBGRADE PRIOR TO THE CONSTRUCTION OF WATER AND FIRE LINES BY THE CONTRACTOR.
10. ALL SERVICES SHALL BE BROUGHT TO WITHIN 5 FEET OF THE BUILDING. BUILDING CONTRACTOR SHALL INCLUDE IN THEIR BID THE COST TO CONNECT ALL SERVICES TO THE BUILDING.
11. REFER TO PLUMBING PLAN FOR LOCATION OF ALL WATER SERVICES TO BUILDING.
12. CONTRACTOR SHALL PROVIDE ALL NECESSARY FITTINGS FOR THE PROJECT INDICATED ON THE PLANS OR AS NEEDED AT NO ADDITIONAL PAYMENT.
13. CONTRACTOR SHALL PROVIDE TEMPORARY BLOWOFFS AS REQUIRED TO FACILITATE FLUSHING THE LINES AFTER THE TESTING AND DISINFECTION PROCESS.
14. UNIT PRICE BID FOR "STANDARD FIRE HYDRANT ASSEMBLY" SHALL INCLUDE FIRE HYDRANT, 6" GATE VALVE, 6" VALVE BOX, ANCHOR BEND, AND ALL 6" DUCTILE IRON PIPE REQUIRED TO COMPLETE INSTALLATION. (DUCTILE IRON PIPE SHALL INCLUDE ALL PIPE FROM THE TEE ON THE MAIN LINE TO THE FIRE HYDRANT.)
15. ALL FITTINGS SHALL BE MECHANICAL JOINT.
16. CONTRACTOR MUST BE AN APPROVED SAWS AND APPROVED FIRELINE CONTRACTOR.
17. ALL PIPE DIMENSIONS ARE APPROXIMATE ONLY.
18. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND COMPLETING AND COORDINATING ALL NECESSARY TESTS.
19. THRUST BLOCKS SHALL BE PROVIDED AT ALL BENDS, TEES, AND VALVES AS INDICATED ON THE ATTACHED WATER DISTRIBUTION SYSTEM DETAIL SHEET.
20. ALL FDC STANDPIPES SHALL HAVE A 4" LINE CONNECTING TO FIRE SPRINKLER SYSTEM OF EACH BUILDING. CONTRACTOR SHALL VERIFY SIZE OF LINE WITH MEP PLANS. IF DISCREPANCIES EXIST MEP PLAN SHALL GOVERN AND CIVIL ENGINEER SHALL BE NOTIFIED IMMEDIATELY. CONTRACTOR SHALL REFER TO MEP PLANS FOR DETAILS OF CONNECTION AND ALIGNMENT OF LINE.

DRAINAGE NOTES

1. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THIS SCOPE OF WORK SHALL COMPLY WITH THE PROJECT GEOTECH REPORT, THE PROJECT SPECIFICATIONS, AND THE CURRENT CITY, COUNTY OR TXDOT.
2. THE CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES. THE CONTRACTOR SHOULD EXERCISE EXTREME CAUTION WHEN WORKING NEAR EXISTING UTILITIES AND SHOULD THEY BE DAMAGED DURING CONSTRUCTION OPERATIONS, THE CONTRACTOR WILL BE REQUIRED TO REPAIR OR REPLACE THE DAMAGED FACILITIES AT CONTRACTOR'S EXPENSE.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING TO ORIGINAL OR BETTER CONDITION DAMAGE DONE TO EXISTING FENCES, CURBS, STREETS, DRIVEWAYS, LANDSCAPING AND STRUCTURES.
4. CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ALL WASTE MATERIALS UPON PROJECT COMPLETION.
5. WATER JETTING THE BACKFILL OF STORM DRAIN TRENCHES WILL NOT BE PERMITTED.
6. NORTHINGS AND EASTINGS LISTED ON THESE PLANS ARE TO CENTER OF BOX FOR JUNCTION BOXES AND GRATE INLETS AND TO OUTSIDE CORNER FACE OF CURB FOR ALL CURB AND COMBINATION INLETS. ALL LENGTHS OF PIPE ARE TO INSIDE FACE OF STRUCTURES.
7. CONTRACTOR SHALL ENSURE PROPER SIZE OF JUNCTION BOXES NEEDED WHERE INDICATED ON PLAN. CONTRACTOR SHALL CONNECT STORM DRAIN PIPE TO JUNCTION BOXES PER MANUFACTURES SPECIFICATIONS.
8. ALL STORM DRAIN TO JUNCTION BOX CONNECTIONS SHALL HAVE CONCRETE COLLARS.
9. ALL GRATE INLETS MUST BE HS20 EQUIVALENT RATED GRATES.
10. TOPS OF MANHOLES, JUNCTION BOXES AND GRATES SHALL BE SET FLUSH TO FINISHED SURFACE BASED UPON GRADING PLAN.
11. CONTRACTOR SHALL GROUT INVERTS OF ALL STORM DRAIN INLETS, JUNCTION BOXES, AND DROP STRUCTURES TO DRAIN.

CAUTION UNDERGROUND UTILITIES

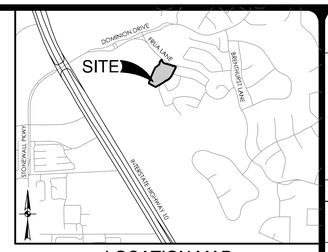
THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITED TO: WATER, SEWER, TELEPHONE, AND FIBER OPTIC LINES, SITE LIGHTING ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCT BANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. THE CONTRACTOR MUST CONTACT 1-800-DIG-TESS AND CALL THE APPROPRIATE UTILITY COMPANIES AT LEAST 48 HOURS BEFORE ANY EXCAVATION AND/OR START OF CONSTRUCTION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES (WHETHER SHOWN ON PLANS OR NOT) WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND THE REPAIR SHALL BE AT CONTRACTORS SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.

CAUTION OVERHEAD UTILITIES

CONTRACTOR TO EXERCISE EXTREME CAUTION WHEN WORKING UNDER "HIGH VOLTAGE TRANSMISSION LINES". A WORKING HEIGHT OF 30' FROM GROUND ELEVATION WILL BE OBSERVED WHEN WORKING UNDER THE HIGH VOLTAGE LINE. COORDINATE ALL WORK WITH THE LOCAL UTILITY PROVIDER.

TRENCH EXCAVATION SAFETY PROTECTION

CONTRACTOR AND/ OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/ GEOTECHNICAL/ SAFETY/ EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCA



LOCATION MAP

NOT-TO-SCALE

LEGAL DESCRIPTION:
LOTS 3, BLOCK 28, N.C.B. 16365
(PLAT NO. 24-11800297)

ADDRESS:
8 DOMINION DR
SAN ANTONIO, TX 78257

SCALE: 1"= 20'

0' 20' 40' 60'

LEGEND

- PROPERTY LINE
- LOT LINE
- 350' (T) — FIRE TRUCK HOSE LAY
- 150' (H) — HAND PULL HOSE LAY
- EXISTING WATER LINE
- PROPOSED WATER LINE
- EXISTING FIRE LANE
- PROPOSED BUILDING
- EXISTING BUILDING
- EXISTING HYDRANT

FIRE PROTECTION NOTES:

BUILDING SIZE = 6298 S.F.
CONSTRUCTION TYPE = VB
REQUIRED FIRE FLOW = 2250 GALLONS/MINUTE
NON-SPRINKLERED
1-STORY
REQUIRED FIRE HYDRANTS = 2
AVAILABLE HYDRANTS = 2
ALLOWABLE TOTAL DISTANCE TO HYDRANT = 350 FT
ALLOWABLE HAND PULL = 150 FT

FIRE LINE NOTE:

ALL NEW OR PROPOSED FIRE LINES SHALL BE PVC CLASS 150.

FIRE PROTECTION NOTES:

1. FIRE LANES SHALL HAVE A MINIMUM 20 FT. WIDTH, A MINIMUM INSIDE TURNING RADIUS OF 25 FT., & A MINIMUM OUTSIDE TURNING RADIUS OF 50 FT., UNLESS OTHERWISE NOTED.
2. FIRE LANES NEXT TO FIRE HYDRANTS OR DESIGNATED FOR AERIAL APPARATUS SHALL BE A MINIMUM OF 26 FT.
3. FIRE LANES SHALL BE DESIGNATED IN ACCORDANCE TO THE LATEST INTERNATIONAL FIRE CODE AND PER APPLICABLE LOCAL AMENDMENTS.
4. NON-SPRINKLERED BUILDINGS TRUCK HOSE LAY WILL CONSIST OF 350 FT. OF SUPPLY LINE AS DEPLOYED BY TRUCK, AND 150 FT. OF HOSE DEPLOYED BY HAND.

NO.	REVISION	DATE

12/5/24

STATE OF TEXAS
ANDREW J. BELTON
121688
LICENSED
PROFESSIONAL ENGINEER

PAPE-DAWSON ENGINEERS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM 470 | TEXAS SURVEYING FIRM 100288-00

VIA DOMINION BUILDING 200

SAN ANTONIO, TEXAS

FIRE PROTECTION PLAN

PLAT NO. 24-11800297
JOB NO. 12610-09
DATE SEPTEMBER 2024
DESIGNER AA
CHECKED EK DRAWN AA
SHEET C1.00

Date: August 29, 2024, 11:07 AM - User ID: RHughen
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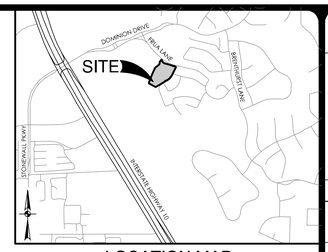

LOCATION MAP

NOT-TO-SCALE

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LOTS 3, BLOCK 28, N.C.B. 16365
(PLAT NO. 24-11800297)

ADDRESS:
8 DOMINION DR
SAN ANTONIO, TX 78257

SCALE: 1"= 20'

0' 20' 40' 60'

LEGEND

- PROPERTY LINE
- LOT LINE
- PROJECT LIMITS
- EXISTING CONTOUR
- PROPOSED CONTOUR
- FLOW ARROW (EXISTING)
- FLOW ARROW (PROPOSED)
- SILT FENCE
- ROCK BERM
- GRAVEL FILTER BAGS
- GRATE INLET PROTECTION
- STABILIZED CONSTRUCTION ENTRANCE/EXIT (FIELD LOCATE)
- CONSTRUCTION EQUIPMENT, VEHICLE & MATERIALS STORAGE AREA (FIELD LOCATE)
- CONCRETE TRUCK WASH-OUT PIT (FIELD LOCATE)
- PROPOSED BUILDING
- EXISTING BUILDING
- EXISTING GRATE INLET

GENERAL NOTES

1. DO NOT DISTURB VEGETATED AREAS (TREES, GRASS, WEEDS, BRUSH, ETC.) ANY MORE THAN NECESSARY FOR CONSTRUCTION.

2. CONSTRUCTION ENTRANCE/EXIT LOCATION, CONCRETE WASH-OUT PIT, AND CONSTRUCTION EQUIPMENT AND MATERIAL STORAGE YARD TO BE DETERMINED IN THE FIELD.

3. STORM WATER POLLUTION PREVENTION CONTROLS MAY NEED TO BE MODIFIED IN THE FIELD TO ACCOMPLISH THE DESIRED EFFECT. ALL MODIFICATIONS ARE TO BE NOTED ON THIS EXHIBIT AND SIGNED AND DATED BY THE RESPONSIBLE PARTY.

4. RESTRICT ENTRY/EXIT TO THE PROJECT SITE TO DESIGNATED LOCATIONS BY USE OF ADEQUATE FENCING, IF NECESSARY.

5. ALL STORM WATER POLLUTION PREVENTION CONTROLS ARE TO BE MAINTAINED AND IN WORKING CONDITIONS AT ALL TIMES.

6. FOR A COMPLETE LISTING OF TEMPORARY STORM WATER POLLUTION PREVENTION CONTROLS REFER TO THE TPDES STORM WATER POLLUTION PREVENTION PLAN.

7. STORM WATER POLLUTION PREVENTION STRUCTURES SHOULD BE CONSTRUCTED WITHIN THE SITE BOUNDARIES. SOME OF THESE FEATURES MAY BE SHOWN OUTSIDE THE SITE BOUNDARIES ON THIS PLAN FOR VISUAL CLARITY.

8. AS SOON AS PRACTICAL, ALL DISTURBED SOIL THAT WILL NOT BE COVERED BY IMPERVIOUS COVER SUCH AS PARKWAY AREAS, EASEMENT AREAS, EMBANKMENT SLOPES, ETC. WILL BE STABILIZED PER APPLICABLE PROJECT SPECIFICATIONS.

9. BEST MANAGEMENT PRACTICES MAY BE INSTALLED IN STAGES TO COINCIDE WITH THE DISTURBANCE OF UPGRADIENT AREAS.

10. BEST MANAGEMENT PRACTICES MAY BE REMOVED IN STAGES ONCE THE WATERSHED FOR THAT PORTION CONTROLLED BY THE BEST MANAGEMENT PRACTICES HAS BEEN STABILIZED IN ACCORDANCE WITH TPDES REQUIREMENTS.

11. UPON COMPLETION OF THE PROJECT, INCLUDING SITE STABILIZATION, AND BEFORE FINAL PAYMENT IS ISSUED, CONTRACTOR SHALL REMOVE ALL SEDIMENT AND EROSION CONTROL MEASURES, PAYING SPECIAL ATTENTION TO ROCK BERMS IN DRAINAGE FEATURES.

12. WHERE VEGETATED FILTER STRIPS ARE INDICATED, CONTRACTOR SHALL VERIFY THAT SUFFICIENT VEGETATION EXISTS, OTHERWISE CONTRACTOR SHALL PLACE SILT FENCING IN LIEU OF VEGETATED FILTER STRIP.

13. SHADED AREA DENOTES LIMITS OF DISTURBED AREAS. OTHER AREAS WITHIN THE PROJECT LIMITS, WITH THE EXCEPTION OF A CONSTRUCTION EQUIPMENT AND MATERIAL STORAGE YARD, ARE NOT A PART OF THIS TPDES STORM WATER POLLUTION PREVENTION PLAN (SWP3) AND WILL NOT BE DISTURBED BY CIVIL CONSTRUCTION ACTIVITIES. HOUSE CONSTRUCTION ACTIVITIES WILL REQUIRE A SEPARATE STORM WATER POLLUTION PREVENTION PLAN.

14. PRIOR TO BEGINNING CONSTRUCTION, CONTRACTOR SHALL COORDINATE PLACEMENT OF TEMPORARY BEST MANAGEMENT PRACTICES WITHIN TXDOT RIGHT-OF-WAY WITH TXDOT.

15. CPS ENERGY MAY FUNCTION AS A SECONDARY OPERATOR ON THIS PROJECT AND MAY BE INSTALLING ELECTRIC UTILITIES FOR ON-SITE CONSTRUCTION AND OFF-SITE FEED TO THE PROJECT.

THE ENGINEERING SEAL HAS BEEN AFFIXED TO THIS SHEET ONLY FOR THE PURPOSE OF DEMONSTRATING COMPLIANCE WITH THE POLLUTION ABATEMENT SIZING AND TREATMENT REQUIREMENTS OF THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY'S EDWARDS AQUIFER TECHNICAL GUIDANCE MANUAL.

THIS SHEET HAS BEEN PREPARED FOR PURPOSES OF POLLUTION ABATEMENT ONLY. ALL OTHER CIVIL ENGINEERING RELATED INFORMATION SHOULD BE ACQUIRED FROM THE APPROPRIATE SHEET IN THE CIVIL IMPROVEMENT PLANS.

EXHIBIT 1

NO.	REVISION	DATE

12/5/24

STATE OF TEXAS
ANDREW J. BELTON
121688
LICENSED
PROFESSIONAL ENGINEER

PAPE-DAWSON ENGINEERS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM 470 | TEXAS SURVEYING FIRM 100288-00

VIA DOMINION BUILDING 200

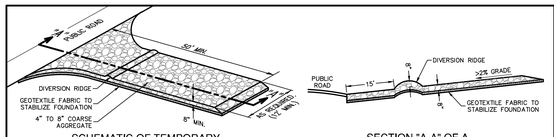
SAN ANTONIO, TEXAS

STORM WATER POLLUTION PREVENITON PLAN

PLAT NO. 24-11800297
JOB NO. 12610-09
DATE SEPTEMBER 2024
DESIGNER AA
CHECKED EK DRAWN AA
SHEET C2.00

Date: August 29, 2024, 11:07 AM - User ID: RHughen
File: P:\126\10\09\Design\Civil\TP-12610D9.dwg

THIS DOCUMENT HAS BEEN PRODUCED FROM MATERIAL THAT WAS STORED AND/OR TRANSMITTED ELECTRONICALLY AND MAY HAVE BEEN INADVERTENTLY ALTERED. RELY ONLY ON FINAL HARDCOPY MATERIALS BEARING THE CONSULTANT'S ORIGINAL SIGNATURE AND SEAL. AERIAL IMAGERY PROVIDED BY GOOGLE© UNLESS OTHERWISE NOTED. Imagery © 2016,CAPCOG,Digital Globe,Texas Orthoimagery Program, USDA Farm Service Agency.



SCHEMATIC OF TEMPORARY CONSTRUCTION ENTRANCE/EXIT

SECTION "A-A" OF A CONSTRUCTION ENTRANCE/EXIT

MATERIALS

1. THE AGGREGATE SHOULD CONSIST OF 4–INCH TO 8–INCH WASHED STONE OVER A STABLE FOUNDATION AS SPECIFIED IN THE PLAN.

2. THE AGGREGATE SHOULD BE PLACED WITH A MINIMUM THICKNESS OF 8–INCHES.

3. THE GEOTEXTILE FABRIC SHOULD BE DESIGNED SPECIFICALLY FOR USE AS A SOIL FILTRATION MEDIA WITH AN APPROXIMATE WEIGHT OF 6 OZ/YD², A MULLEN BURST RATING OF 140 LB/IN², AND AN EQUIVALENT OPENING SIZE GREATER THAN A NUMBER 50 SIEVE.

4. IF A WASHING FACILITY IS REQUIRED, A LEVEL AREA WITH A MINIMUM OF 4–INCH DIAMETER WASHED STONE OR COMMERCIAL ROCK SHOULD BE INCLUDED IN THE PLANS. DIVERT WASTEWATER TO A SEDIMENT TRAP OR BASIN.

INSTALLATION

1. AVOID CURVES ON PUBLIC ROADS AND STEEP SLOPES. REMOVE VEGETATION AND OTHER OBJECTIONABLE MATERIAL FROM THE FOUNDATION AREA. GRADE CROWN FOUNDATION FOR POSITIVE DRAINAGE.

2. THE MINIMUM WIDTH OF THE ENTRANCE/EXIT SHOULD BE 12 FEET OR THE FULL WIDTH OF EXIT ROADWAY, WHICHEVER IS GREATER.

3. THE CONSTRUCTION ENTRANCE SHOULD BE AT LEAST 50 FEET LONG.

4. IF THE SLOPE TOWARD THE ROAD EXCEEDS 2%, CONSTRUCT A RIDGE, 6–INCHES TO 8–INCHES HIGH WITH 5:1 (H:V) SIDE SLOPES, ACROSS THE FOUNDATION APPROXIMATELY 15 FEET FROM THE ENTRANCE TO DIVERT RUNOFF AWAY FROM THE PUBLIC ROAD.

5. PLACE GEOTEXTILE FABRIC AND GRADE FOUNDATION TO IMPROVE STABILITY, ESPECIALLY WHERE WET CONDITIONS ARE ANTICIPATED.

6. PLACE STONE TO DIMENSIONS AND GRADE SHOWN ON PLANS. LEAVE SURFACE SMOOTH AND SLOPE FOR DRAINAGE.

7. DIVERT ALL SURFACE RUNOFF AND DRAINAGE FROM THE STONE PAD TO A SEDIMENT TRAP OR BASIN.

8. INSTALL PIPE UNDER PAD AS NEEDED TO MAINTAIN PROPER PUBLIC ROAD DRAINAGE.

COMMON TROUBLE POINTS

1. INADEQUATE RUNOFF CONTROL–SEDIMENT WASHES ONTO PUBLIC ROAD.

2. STONE TOO SMALL OR GEOTEXTILE FABRIC ABSENT, RESULTS IN MUDDY CONDITION AS STONE IS PRESSED INTO SOIL.

3. PAD TOO SHORT FOR HEAVY CONSTRUCTION TRAFFIC–EXTEND PAD BEYOND THE MINIMUM 50–FOOT LENGTH AS NECESSARY.

4. PAD NOT FLARED SUFFICIENTLY AT ROAD SURFACE, RESULTS IN MUD BEING TRACKED ON TO ROAD AND POSSIBLE DAMAGE TO ROAD.

5. UNSTABLE FOUNDATION – USE GEOTEXTILE FABRIC UNDER PAD AND/OR IMPROVE FOUNDATION DRAINAGE.

INSPECTION AND MAINTENANCE GUIDELINES

1. THE ENTRANCE SHOULD BE MAINTAINED IN A CONDITION, WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS–OF–WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.

2. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS–OF–WAY SHOULD BE REMOVED IMMEDIATELY BY CONTRACTOR.

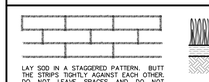
3. WHEN NECESSARY, WHEELS SHOULD BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT–OF–WAY.

4. WHEN WASHING IS REQUIRED, IT SHOULD BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.

5. ALL SEDIMENT SHOULD BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATER COURSE BY USING APPROVED METHODS.

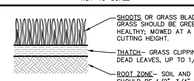
STABILIZED CONSTRUCTION ENTRANCE/EXIT DETAIL

NOT–TO–SCALE

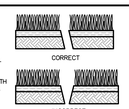


LAY SOD IN A STAGGERED PATTERN. BUTT THE STRIPS TIGHTLY AGAINST EACH OTHER; DO NOT LEAVE SPACES AND DO NOT OVERLAP. A SHARPENED MASON'S TROWEL IS A HANDY TOOL FOR TUCKING DOWN THE ENDS AND TRIMMING PIECES.

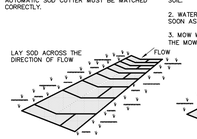
BUTTING – ANGLED ENDS CAUSED BY THE AUTOMATIC SOD CUTTER MUST BE MATCHED CORRECTLY.



APPEARANCE OF GOOD SOD



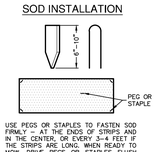
SOD INSTALLATION



NOTES:
1. ROLL SOD IMMEDIATELY TO ACHIEVE FIRM CONTACT WITH THE SOIL.

2. WATER TO A DEPTH OF 4" AS NEEDED. WATER WELL AS SOON AS THE SOD IS LAID.

3. MOW WHEN THE SOD IS ESTABLISHED – IN 2–3 WEEKS. SET THE MOWER HIGH (2"–3").



USE PEGS OR STAPLES TO FASTEN SOD FIRMLY – AT THE ENDS OF STRIPS AND IN THE CENTER, OR EVERY 3–4 FEET IF THE STRIPS ARE LONG. WHEN READY TO MOW, DRIVE PEGS OR STAPLES FLUSH WITH THE GROUND.

MATERIALS

1. SOD SHOULD BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF 3/4" INCH (± 1/4" INCH) AT THE TIME OF CUTTING. THIS THICKNESS SHOULD EXCLUDE SHOOT GROWTH AND THATCH.

2. PIECES OF SOD SHOULD BE CUT TO THE SUPPLIER'S STANDARD WIDTH AND LENGTH. WITH A MAXIMUM ALLOWABLE DEVIATION IN ANY DIMENSION OF 5%. TORN OR UNEVEN PADS SHOULD NOT BE ACCEPTABLE.

3. STANDARD SIZE SECTIONS OF SOD SHOULD BE STRONG ENOUGH TO SUPPORT THEIR OWN WEIGHT AND RETAIN THEIR SIZE AND SHAPE WHEN SUSPENDED FROM A FIRM GRASP ON ONE END OF THE SECTION.

4. SOD SHOULD BE HARVESTED, DELIVERED, AND INSTALLED WITHIN A PERIOD OF 36 HOURS.

SITE PREPARATION

1. PRIOR TO SOIL PREPARATION, AREAS TO BE SODDED SHOULD BE BROUGHT TO FINAL GRADE IN ACCORDANCE WITH THE APPROVED PLAN.

2. THE SURFACE SHOULD BE CLEARED OF ALL TRASH, DEBRIS AND OF ALL ROOTS, BRUSH, WIRE, GRADE STAKES AND OTHER OBJECTS THAT WOULD INTERFERE WITH PLANTING, FERTILIZING OR MAINTENANCE OPERATIONS.

3. FERTILIZE ACCORDING TO SOIL TESTS. FERTILIZER NEEDS CAN BE DETERMINED BY A SOIL TESTING LABORATORY OR REGIONAL RECOMMENDATIONS CAN BE MADE BY COUNTY AGRICULTURAL EXTENSION AGENTS. FERTILIZER SHOULD BE WORKED INTO THE SOIL TO A DEPTH OF 5 INCHES WITH A DISC/SPRINGTOOTH HARROW OR OTHER SUITABLE EQUIPMENT. ON SLOPING LAND, THE FINAL HARROWING OR DISCING OPERATION SHOULD BE ON THE CONTOUR.

INSTALLATION IN CHANNELS

1. SOD STRIPS IN WATERWAYS SHOULD BE LAID PERPENDICULAR TO THE DIRECTION OF FLOW. CARE SHOULD BE TAKEN TO BUTT ENDS OF STRIPS TIGHTLY (SEE FIGURE ABOVE).

2. AFTER ROLLING OR TAMPING, SOD SHOULD BE PEGGED OR STAPLED TO RESIST WASHOUT DURING THE ESTABLISHMENT PERIOD. MESH OR OTHER NETTING MAY BE PEGGED OVER THE SOD FOR EXTRA PROTECTION IN CRITICAL AREAS.

GENERAL INSTALLATION (VA. DEPT. OF CONSERVATION, 1992)

1. SOD SHOULD NOT BE CUT OR LAID IN EXCESSIVELY WET OR DRY WEATHER. SOD ALSO SHOULD NOT BE LAID ON SOIL SURFACES THAT ARE FROZEN.

2. DURING PERIODS OF HIGH TEMPERATURE, THE SOIL SHOULD BE LIGHTLY IRRIGATED IMMEDIATELY PRIOR TO LAYING THE SOD, TO COOL THE SOIL AND REDUCE ROOT BURNING AND DEBACK.

3. THE FIRST ROW OF SOD SHOULD BE LAID IN A STRAIGHT LINE WITH SUBSEQUENT ROWS PLACED PARALLEL TO AND BUTTING TIGHTLY AGAINST EACH OTHER. LATERAL JOINTS SHOULD BE STAGGERED TO PROMOTE MORE UNIFORM GROWTH AND STRENGTH. CARE SHOULD BE EXERCISED TO ENSURE THAT SOD IS NOT STRETCHED OR OVERLAPPED AND THAT ALL JOINTS ARE BUTTED TIGHT IN ORDER TO PREVENT VOIDS WHICH WOULD CAUSE DRYING OF THE ROOTS (SEE FIGURE ABOVE).

4. ON SLOPES 3:1 OR GREATER, OR WHEREVER EROSION MAY BE A PROBLEM, SOD SHOULD BE LAID WITH STAGGERED JOINTS AND SECURED BY STAPLING OR OTHER APPROVED METHODS. SOD SHOULD BE INSTALLED WITH THE LENGTH PERPENDICULAR TO THE SLOPE (ON CONTOUR).

5. AS SODDING OF CLEARLY DEFINED AREAS IS COMPLETED, SOD SHOULD BE ROLLED OR TAMPED TO PROVIDE FIRM CONTACT BETWEEN ROOTS AND SOIL.

6. AFTER ROLLING, SOD SHOULD BE IRRIGATED TO A DEPTH SUFFICIENT THAT THE UNDERSIDE OF THE SOD PAD AND THE SOIL 4 INCHES BELOW THE SOD IS THOROUGHLY WET.

7. UNTIL SUCH TIME A GOOD ROOT SYSTEM BECOMES DEVELOPED, IN THE ABSENCE OF ADEQUATE RAINFALL, WATERING SHOULD BE PERFORMED AS OFTEN AS NECESSARY TO MAINTAIN MOIST SOIL TO A DEPTH OF AT LEAST 4 INCHES.

8. THE FIRST MOWING SHOULD NOT BE ATTEMPTED UNTIL THE SOD IS FIRMLY ROOTED, USUALLY 2–3 WEEKS. NOT MORE THAN ONE THIRD OF THE GRASS LEAF SHOULD BE REMOVED AT ANY ONE CUTTING.

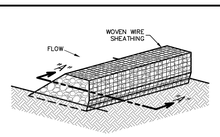
INSPECTION AND MAINTENANCE GUIDELINES

1. SOD SHOULD BE INSPECTED WEEKLY AND AFTER EACH RAIN EVENT TO LOCATE AND REPAIR ANY DAMAGE.

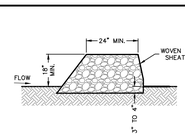
2. DAMAGE FROM STORMS OR NORMAL CONSTRUCTION ACTIVITIES SUCH AS TIRE RUTS OR DISTURBANCE OF SWALE STABILIZATION SHOULD BE REPAIRED AS SOON AS PRACTICAL.

SOD INSTALLATION DETAIL

NOT–TO–SCALE



ISOMETRIC PLAN VIEW



SECTION "A-A"

ROCK BERMS

THE PURPOSE OF A ROCK BERM IS TO SERVE AS A CHECK DAM IN AREAS OF CONCENTRATED FLOW, TO INTERCEPT SEDIMENT–LADEN RUNOFF, DETAIN THE SEDIMENT AND RELEASE THE WATER IN SHEET FLOW. THE ROCK BERM SHOULD BE USED WHEN THE CONTRIBUTING DRAINAGE AREA IS LESS THAN 5 ACRES. ROCK BERMS ARE USED IN AREAS WHERE THE VOLUME OF RUNOFF IS TOO GREAT FOR A SILT FENCE TO CONTAIN. THEY ARE LESS EFFECTIVE FOR SEDIMENT REMOVAL THAN SILT FENCES, PARTICULARLY FOR FINE PARTICLES, BUT ARE ABLE TO WITHSTAND HIGHER FLOWS THAN A SILT FENCE, AS SUCH, ROCK BERMS ARE OFTEN USED IN AREAS OF CHANNEL FLOWS (DITCHES, GULLIES, ETC.). ROCK BERMS ARE MOST EFFECTIVE AT REDUCING BED LOAD IN CHANNELS AND SHOULD NOT BE SUBSTITUTED FOR OTHER EROSION AND SEDIMENT CONTROL MEASURES FARTHER UP THE WATERSHED.

INSPECTION AND MAINTENANCE GUIDELINES

1. INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL BY THE RESPONSIBLE PARTY. FOR INSTALLATIONS IN STREAMBEDS, ADDITIONAL DAILY INSPECTIONS SHOULD BE MADE.

2. REMOVE SEDIMENT AND OTHER DEBRIS WHEN BUILDUP REACHES 6 INCHES AND DISPOSE OF THE ACCUMULATED SILT IN AN APPROVED MANNER THAT WILL NOT CAUSE ANY ADDITIONAL SILTATION.

3. REPAIR ANY LOOSE WIRE SHEATHING.

4. THE BERM SHOULD BE RESHAPED AS NEEDED DURING INSPECTION.

5. THE BERM SHOULD BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.

6. THE ROCK BERM SHOULD BE LEFT IN PLACE UNTIL ALL UPSTREAM AREAS ARE STABILIZED AND ACCUMULATED SILT REMOVED.

MATERIALS

1. THE BERM STRUCTURE SHOULD BE SECURED WITH A WOVEN WIRE SHEATHING HAVING MAXIMUM OPENING OF 1 INCH AND A MINIMUM WIRE DIAMETER OF 20 GAUGE GALVANIZED AND SHOULD BE SECURED WITH SHOAT RINGS.

2. CLEAN, OPEN GRADED 3–INCH TO 5–INCH DIAMETER ROCK SHOULD BE USED, EXCEPT IN AREAS WHERE HIGH VELOCITIES OR LARGE VOLUMES OF FLOW ARE EXPECTED, WHERE 5–INCH TO 8–INCH DIAMETER ROCKS MAY BE USED.

INSTALLATION

1. LAY OUT THE WOVEN WIRE SHEATHING PERPENDICULAR TO THE FLOW LINE. THE SHEATHING SHOULD BE 20 GAUGE WOVEN WIRE MESH WITH 1 INCH OPENINGS.

2. BERM SHOULD HAVE A TOP WIDTH OF 2 FEET MINIMUM WITH SIDE SLOPES BEING 2:1 (H:V) OR FLATTER.

3. PLACE THE ROCK ALONG THE SHEATHING AS SHOWN IN THE DIAGRAM TO A HEIGHT NOT LESS THAN 18".

4. WRAP THE WIRE SHEATHING AROUND THE ROCK AND SECURE WITH TIE WIRE SO THAT THE ENDS OF THE SHEATHING OVERLAP AT LEAST 2 INCHES, AND THE BERM RETAINS ITS SHAPE WHEN WALKED UPON.

5. BERM SHOULD BE BUILT ALONG THE CONTOUR AT ZERO PERCENT GRADE OR AS NEAR AS POSSIBLE.

6. THE ENDS OF THE BERM SHOULD BE TIED INTO EXISTING UPSLOPE GRADE AND THE BERM SHOULD BE BURIED IN A TRENCH APPROXIMATELY 3 TO 4 INCHES DEEP TO PREVENT FAILURE OF THE CONTROL.

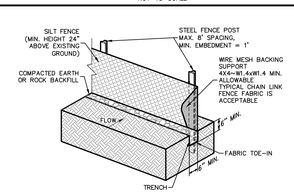
COMMON TROUBLE POINTS

1. INSUFFICIENT BERM HEIGHT OR LENGTH (RUNOFF QUICKLY ESCAPES OVER THE TOP OR AROUND THE SIDES OF BERM).

2. BERM NOT INSTALLED PERPENDICULAR TO FLOW LINE (RUNOFF ESCAPING AROUND ONE SIDE).

ROCK BERM DETAIL

NOT–TO–SCALE



ISOMETRIC PLAN VIEW

SILT FENCE

A SILT FENCE IS A BARRIER CONSISTING OF GEOTEXTILE FABRIC SUPPORTED BY METAL POSTS TO PREVENT SOIL AND SEDIMENT LOSS FROM A SITE. WHEN PROPERLY USED, SILT FENCES CAN BE HIGHLY EFFECTIVE AT CONTROLLING SEDIMENT FROM DISTURBED AREAS. THEY CAUSE RUNOFF TO POND, ALLOWING HEAVIER SOLIDS TO SETTLE OUT. IF NOT PROPERLY INSTALLED, SILT FENCES ARE NOT LIKELY TO BE EFFECTIVE.

THE PURPOSE OF A SILT FENCE IS TO INTERCEPT AND DETAIN WATER–BORN SEDIMENT FROM UNPROTECTED AREAS OF A LIMITED EXTENT. SILT FENCE IS USED DURING THE PERIOD OF CONSTRUCTION NEAR THE PERIMETER OF A DISTURBED AREA TO INTERCEPT SEDIMENT WHILE ALLOWING WATER TO PERCOLATE THROUGH. THIS FENCE SHOULD REMAIN IN PLACE UNTIL THE DISTURBED AREA IS PERMANENTLY STABILIZED. SILT FENCE SHOULD NOT BE USED WHERE THERE IS A CONCENTRATION OF WATER IN A CHANNEL OR DRAINAGE WAY. IF CONCENTRATED FLOW OCCURS AFTER INSTALLATION, CORRECTIVE ACTION MUST BE TAKEN SUCH AS PLACING A ROCK BERM IN THE AREAS OF CONCENTRATED FLOW.

SILT FENCING WITHIN THE SITE MAY BE TEMPORARILY MOVED DURING THE DAY TO ALLOW CONSTRUCTION ACTIVITY PROVIDED IT IS REPLACED AND PROPERLY ANCHORED TO THE GROUND AT THE END OF THE DAY. SILT FENCES ON THE PERIMETER OF THE SITE OR AROUND DRAINAGE WAYS SHOULD NOT BE MOVED AT ANY TIME.

MATERIALS

1. SILT FENCE MATERIAL SHOULD BE POLYPROPYLENE, POLYETHYLENE, OR POLYAMIDE WOVEN OR NONWOVEN FABRIC. THE FABRIC SHOULD BE 36 INCHES, WITH A MINIMUM UNIT WEIGHT OF 4.5 OZ/YD, MULLEN BURST STRENGTH EXCEEDING 190 LB/IN2, ULTRAVIOLET STABILITY EXCEEDING 70%, AND MINIMUM APPARENT OPENING SIZE OF U.S. SIEVE NUMBER 30.

2. FENCE POSTS SHOULD BE MADE OF HOT ROLLED STEEL, AT LEAST 4 FEET LONG WITH TEE OR Y–BAR CROSS SECTION, SURFACE PAINTED OR GALVANIZED, MINIMUM WEIGHT 1.25 LB/FT, AND BRINDELL HARDNESS EXCEEDING 140.

3. WOVEN WIRE BACKING TO SUPPORT THE FABRIC SHOULD BE GALVANIZED 2" X 4" WELDED WIRE, 12 GAUGE MINIMUM.

INSTALLATION

1. STEEL POSTS, WHICH SUPPORT THE SILT FENCE, SHOULD BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POSTS MUST BE EMBEDDED A MINIMUM OF 1–FOOT DEEP AND SPACED NOT MORE THAN 8 FEET ON CENTER. WHERE WATER CONCENTRATES, THE MAXIMUM SPACING SHOULD BE 6 FEET.

2. LAY OUT FENCING DOWN–SLOPE OF DISTURBED AREA, FOLLOWING THE CONTOUR AS CLOSELY AS POSSIBLE. THE FENCE SHOULD BE SITED SO THAT THE MAXIMUM DRAINAGE AREA IS ¼ ACRE/100 FEET OF FENCE.

3. THE TOE OF THE SILT FENCE SHOULD BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWN–SLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. WHERE FENCE CANNOT BE TRENCHED IN (E.G., PAVEMENT OR ROCK OUTCROP), WEIGHT FABRIC FLAP WITH 3 INCHES OF PEA GRAVEL ON UPHILL SIDE TO PREVENT FLOW FROM SEEPING UNDER FENCE.

4. THE TRENCH MUST BE A MINIMUM OF 6 INCHES DEEP AND 6 INCHES WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.

5. SILT FENCE SHOULD BE SECURELY FASTENED TO EACH STEEL SUPPORT POST OR TO WOVEN WIRE, WHICH IS IN TURN ATTACHED TO THE STEEL FENCE POST. THERE SHOULD BE A 3–FOOT OVERLAP, SECURELY FASTENED WHERE ENDS OF FABRIC MEET.

6. SILT FENCE SHOULD BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

COMMON TROUBLE POINTS

1. FENCE NOT INSTALLED ALONG THE CONTOUR CAUSING WATER TO CONCENTRATE AND FLOW OVER THE FENCE.

2. FABRIC NOT SEATED SECURELY TO GROUND (RUNOFF PASSING UNDER FENCE).

3. FENCE NOT INSTALLED PERPENDICULAR TO FLOW LINE (RUNOFF ESCAPING AROUND SIDES).

4. FENCE TREATING TOO LARGE AN AREA, OR EXCESSIVE CHANNEL FLOW (RUNOFF OVERTOPS OR COLLAPSES FENCE).

INSPECTION AND MAINTENANCE GUIDELINES

1. INSPECT ALL FENCING WEEKLY, AND AFTER RAINFALL.

2. REMOVE SEDIMENT WHEN BUILDUP REACHES 6 INCHES.

3. REPLACE TORN FABRIC OR INSTALL A SECOND LINE OF FENCING PARALLEL TO THE TORN SECTION.

4. REPLACE OR REPAIR SECTIONS CRUSHED OR COLLAPSED IN THE COURSE OF CONSTRUCTION ACTIVITY. IF A SECTION OF FENCE IS OBSTRUCTING VEHICULAR ACCESS, CONSIDER RELOCATING IT TO A SPOT WHERE IT WILL PROVIDE EQUAL PROTECTION, BUT WILL NOT OBSTRUCT VEHICLES. A TRIANGULAR FILTER DIKE MAY BE PREFERABLE TO A SILT FENCE AT COMMON VEHICLE ACCESS POINTS.

5. WHEN CONSTRUCTION IS COMPLETE, THE SEDIMENT SHOULD BE DISPOSED OF IN A MANNER THAT WILL NOT CAUSE ADDITIONAL SILTATION AND THE PRIOR LOCATION OF THE SILT FENCE SHOULD BE REVEGETATED. THE FENCE ITSELF SHOULD BE DISPOSED OF IN AN APPROVED LANDFILL.

SILT FENCE DETAIL

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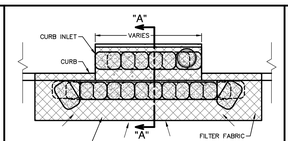
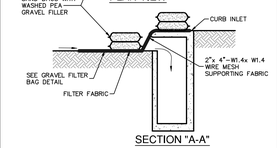


PLAN VIEW



SECTION "A-A"

GENERAL NOTES

1. CONTRACTOR TO INSTALL 2"x4"–W1.4xW1.4 WIRE MESH SUPPORTING FILTER FABRIC OVER THE INLET OPENING. FABRIC MUST BE SECURED TO WIRE BACKING WITH CLIPS OR WIRE TIES AT THIS LOCATION. SAND BAGS FILLED WITH WASHED PEA GRAVEL SHOULD BE PLACED ON TOP OF WIRE MESH ON TOP OF THE INLET AS SHOWN ON THIS DETAIL TO HOLD WIRE MESH IN PLACE. SANDBAGS FILLED WITH WASHED PEA GRAVEL SHOULD ALSO BE PLACED ALONG THE GUTTER AS SHOWN ON THIS DETAIL TO HOLD WIRE MESH IN PLACE. SAND BAGS TO BE STACKED TO FORM A CONTINUOUS BARRIER AROUND INLETS.

2. THE BAGS SHOULD BE TIGHTLY ABUTTED AGAINST EACH OTHER TO PREVENT RUNOFF FROM FLOWING BETWEEN THE BAGS.

INSPECTION AND MAINTENANCE GUIDELINES

1. INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL. REPAIR OR REPLACEMENT SHOULD BE MADE PROMPTLY AS NEEDED BY THE CONTRACTOR.

2. REMOVE SEDIMENT WHEN BUILDUP REACHES A DEPTH OF 3 INCHES. REMOVED SEDIMENT SHOULD BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE.

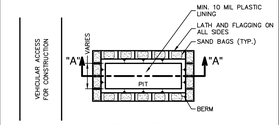
3. CHECK PLACEMENT OF DEVICE TO PREVENT GAPS BETWEEN DEVICE AND CURB.

4. INSPECT FILTER FABRIC AND PATCH OR REPLACE IF TORN OR MISSING.

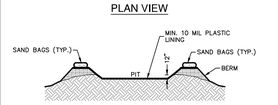
5. STRUCTURES SHOULD BE REMOVED AND THE AREA STABILIZED ONLY AFTER THE REMAINING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

BAGGED GRAVEL CURB INLET PROTECTION DETAIL

NOT–TO–SCALE



PLAN VIEW



SECTION "A-A"

GENERAL NOTES

1. DETAIL ABOVE ILLUSTRATES MINIMUM DIMENSIONS. PIT CAN BE INCREASED IN SIZE DEPENDING ON EXPECTED FREQUENCY OF USE.

2. WASHOUT PIT SHALL BE LOCATED IN AN AREA EASILY ACCESSIBLE TO CONSTRUCTION TRAFFIC.

3. WASHOUT PIT SHALL NOT BE LOCATED IN AREAS SUBJECT TO INUNDATION FROM STORM WATER RUNOFF.

4. LOCATE WASHOUT AREA AT LEAST 50 FEET FROM SENSITIVE FEATURES, STORM DRAINS, OPEN DITCHES OR WATER BODIES.

5. TEMPORARY CONCRETE WASHOUT FACILITY SHOULD BE CONSTRUCTED WITH SUFFICIENT QUANTITY AND VOLUME TO CONTAIN ALL LIQUID AND CONCRETE WASTE GENERATED BY WASHOUT OPERATIONS.

MATERIALS

PLASTIC LINING MATERIAL SHOULD BE A MINIMUM OF 10 MIL IN POLYETHYLENE SHEETING AND SHOULD BE FREE OF HOLES, TEARS, OR OTHER DEFECTS THAT COMPROMISE THE IMPERMEABILITY OF THE MATERIAL.

MAINTENANCE

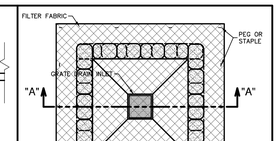
1. WHEN TEMPORARY CONCRETE WASHOUT FACILITIES ARE NO LONGER REQUIRED FOR THE WORK, THE HARDENED CONCRETE SHOULD BE REMOVED AND DISPOSED OF.

2. MATERIALS USED TO CONSTRUCT TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE REMOVED FROM THE SITE OF THE WORK AND DISPOSED OF.

3. HOLES, DEPRESSIONS OR OTHER GROUND DISTURBANCES CAUSED BY THE REMOVAL OF THE TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE BACKFILLED AND REPAIRED.

CONCRETE TRUCK WASHOUT PIT DETAIL

NOT–TO–SCALE



PLAN VIEW

SECTION "A-A"

GENERAL NOTES

1. THE SANDBAGS SHOULD BE FILLED WITH WASHED PEA GRAVEL AND STACKED TO FORM A CONTINUOUS BARRIER ABOUT 1 FOOT HIGH AROUND INLETS.

2. THE BAGS SHOULD BE TIGHTLY ABUTTED AGAINST EACH OTHER TO PREVENT RUNOFF FROM FLOWING BETWEEN THE BAGS.

INSPECTION AND MAINTENANCE GUIDELINES

1. INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL. REPAIR OR REPLACEMENT SHOULD BE MADE PROMPTLY AS NEEDED BY THE CONTRACTOR.

2. REMOVE SEDIMENT WHEN BUILDUP REACHES A DEPTH OF 3 INCHES. REMOVED SEDIMENT SHOULD BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MATTER THAT IT WILL NOT ERODE.

3. CHECK PLACEMENT OF DEVICE TO PREVENT GAPS BETWEEN DEVICE AND CURB.

4. INSPECT FILTER FABRIC AND PATCH OR REPLACE IF TORN OR MISSING.

5. STRUCTURES SHOULD BE REMOVED AND THE AREA STABILIZED ONLY AFTER THE REMAINING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

BAGGED GRAVEL GRATE INLET PROTECTION DETAIL

NOT–TO–SCALE

PLAN VIEW

SECTION "A-A"

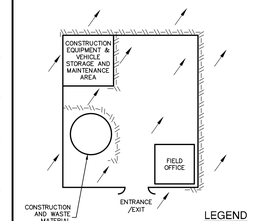
NOTES:
1. THE FILTER BAG MATERIAL SHALL BE MADE OF POLYPROPYLENE, POLYETHYLENE OR POLYAMIDE WOVEN FABRIC. MIN. UNIT WEIGHT OF 4 OUNCES/SY, HAVE A MULLEN BURST STRENGTH EXCEEDING 300 PSI AND ULTRAVIOLET STABILITY EXCEEDING 70%.

2. THE FILTER BAG SHALL BE FILLED WITH CLEAN, MEDIUM WASHED PEA GRAVEL TO COARSE GRAVEL (0.31 TO 0.75 INCH DIAMETER).

3. SAND SHALL NOT BE USED TO FILL THE FILTER BAGS.

GRAVEL FILTER BAG DETAIL

NOT–TO–SCALE



CONSTRUCTION STAGING AREA

NOT–TO–SCALE

THE ENGINEERING SEAL HAS BEEN AFFIXED TO THIS SHEET ONLY FOR THE PURPOSE OF DEMONSTRATING COMPLIANCE WITH THE TPDES–STORM WATER POLLUTION PREVENTION PLAN (SWP3) REGULATIONS.

THIS SHEET HAS BEEN PREPARED FOR PURPOSES OF THE SWP3 ONLY. ALL OTHER CIVIL ENGINEERING RELATED INFORMATION SHOULD BE ACQUIRED FROM THE APPROPRIATE SHEET IN THE CIVIL IMPROVEMENT PLANS.

EXHIBIT 3

NO.	REVISION	DATE

12/5/24

STATE OF TEXAS
ANDREW J. BELTON
121688
LICENSED
PROFESSIONAL ENGINEER

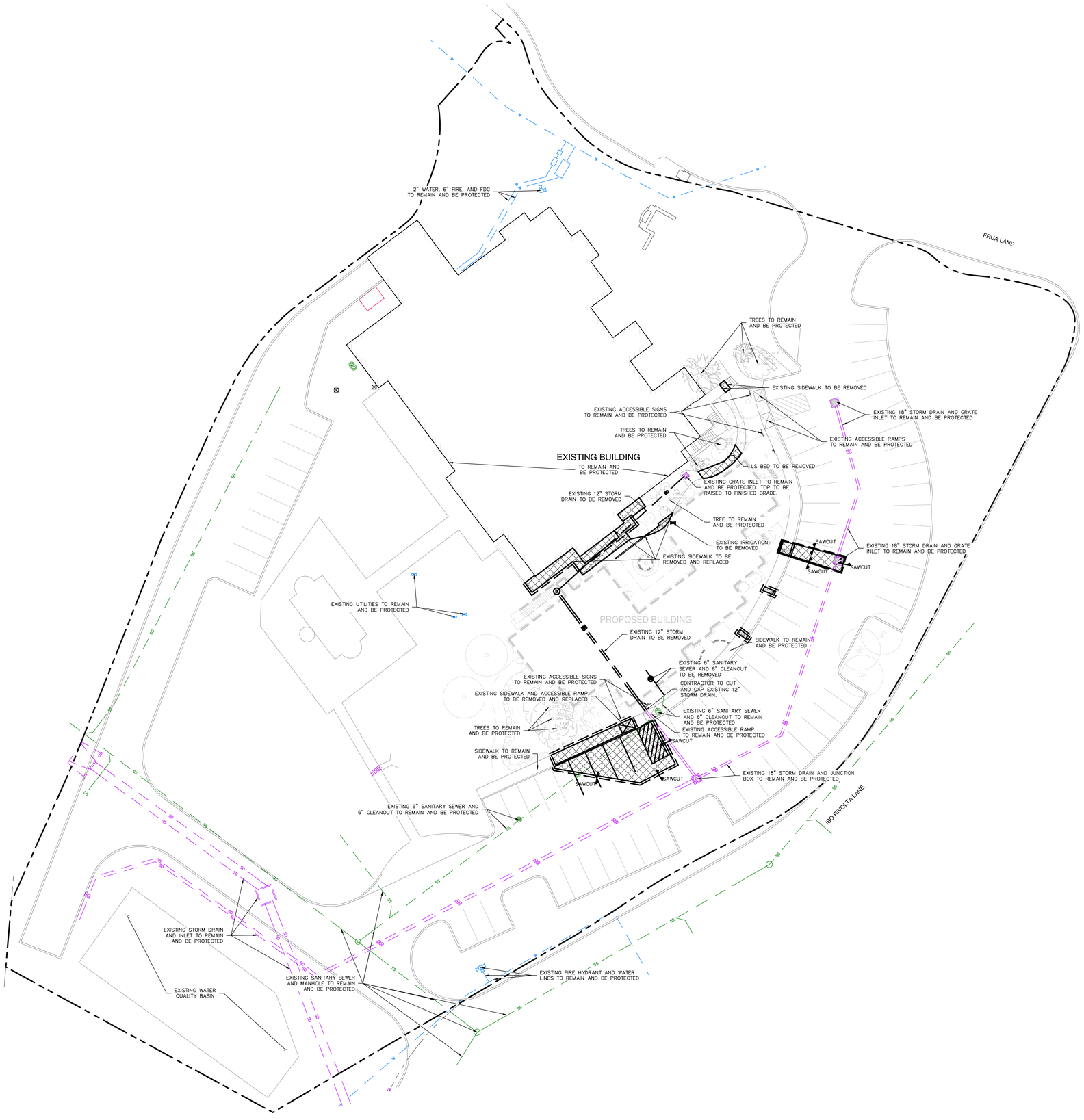
PAPE-DAWSON ENGINEERS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #100288-00

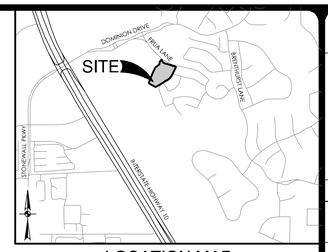
VIA DOMINION BUILDING 200
SAN ANTONIO, TEXAS

STORM WATER POLLUTION PREVENTION DETAILS

PLAT NO. 24-11800297
JOB NO. 12610-09
DATE SEPTEMBER 2024
DESIGNER AA
CHECKED EK DRAWN AA
SHEET C2.10

Date: August 29, 2024, 11:07 AM – User ID: ahughen
File: P:\126\10\09\Design\Civil





LOCATION MAP

NOT-TO-SCALE

LEGAL DESCRIPTION:
LOTS 3, BLOCK 28, N.C.B. 16385
(PLAT NO. 24-11800297)

ADDRESS:
8 DOMINION DR
SAN ANTONIO, TX 78257

SCALE: 1"= 20'

0' 20' 40' 60'

LEGEND

- PROPERTY LINE
- ADJACENT PROPERTY LINE
- PROJECT LIMITS
- UGE — EXISTING UNDERGROUND ELECTRIC
- W — EXISTING WATER LINE
- SS — EXISTING SANITARY SEWER
- EXISTING STORM DRAINAGE
- EXISTING SIDEWALKS, PAVEMENT, STRUCTURES, CURB, ETC., TO BE DEMOLISHED PRIOR TO CONSTRUCTION
- EXISTING CURB
- PROPOSED SITE PLAN
- TREES TO REMAIN*
- EXISTING BUILDING
- SAWCUT

* REF LS ARCH FOR TREE REMOVAL, MITIGATION, AND PRESERVATION

NO.	REVISION	DATE

12/5/24

STATE OF TEXAS
ANDREW J. BELTON
121688
LICENSED
PROFESSIONAL ENGINEER

PAPE-DAWSON ENGINEERS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM 470 | TEXAS SURVEYING FIRM 100288-00

VIA DOMINION BUILDING 200

SAN ANTONIO, TEXAS

DEMOLITION PLAN

PLAT NO. 24-11800297
JOB NO. 12610-09
DATE SEPTEMBER 2024
DESIGNER AA
CHECKED EK DRAWN AA
SHEET C3.00

Date: August 29, 2024, 11:07 AM - User ID: RHughen
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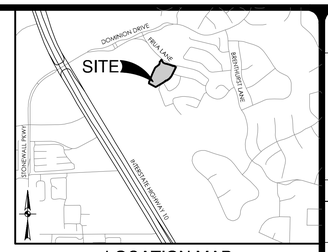

LOCATION MAP

NOT-TO-SCALE

LEGAL DESCRIPTION:
LOTS 3, BLOCK 28, N.C.B. 16385
(PLAT NO. 24-11800297)

ADDRESS:
8 DOMINION DR
SAN ANTONIO, TX 78257

SCALE: 1"= 20'

0' 20' 40' 60'

LEGEND

- PROPERTY LINE
- LOT LINE
- EXISTING CURB
- PROPOSED BUILDING
- EXISTING BUILDING
- SIDEWALK (REF. 1/C4.10)
- HEAVY DUTY PAVEMENT (REF. 7/C4.10)
- EXISTING EASEMENT
- C4.10 CROSS SECTION DETAIL

NOTE

SEE SHEET C0.10 FOR GENERAL CONSTRUCTION NOTES.

PARKING SUMMARY TABLE

BUILDING USE	OFFICE
TOTAL BUILDING SF	6,298
PARKING STORAGE STANDARDS	
MINIMUM PARKING RATIO	1/300 GFA
MAXIMUM PARKING RATIO	1/140 GFA
REGULAR	
MINIMUM REQUIRED PARKING	21
MAXIMUM REQUIRED PARKING	45
ACTUAL/EXISTING PARKING	77
ACCESSIBLE PARKING (ADA)	
REQUIRED REGULAR ACC. PARKING	2
REQUIRED V.A. PARKING	1
ACTUAL ACC. PARKING	5

NOTE

EXISTING BUILDING REQUIRES 55 SPACES BASED ON 16,382 SF OF BUSINESS OFFICE USE. TOTAL PARKING COUNT IS 77

NO.	REVISION	DATE

12/5/24

STATE OF TEXAS
ANDREW J. BELTON
121688
LICENSED
PROFESSIONAL ENGINEER

PAPE-DAWSON ENGINEERS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM 470 | TEXAS SURVEYING FIRM 100288-00

VIA DOMINION BUILDING 200

SAN ANTONIO, TEXAS

DIMENSIONAL CONTROL & PAVING PLAN

PLAT NO. 24-11800297
JOB NO. 12610-09
DATE SEPTEMBER 2024
DESIGNER AA
CHECKED EK DRAWN AA
SHEET C4.00

Date: August 29, 2024, 11:07 AM - User ID: RHughen
File: P:\726\10\09\Design\Civil\DC-126109.dwg

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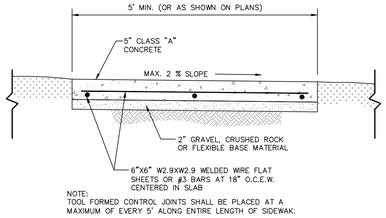
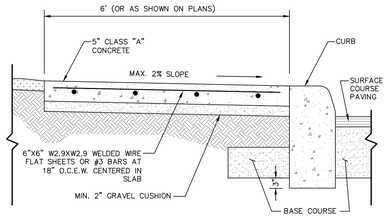
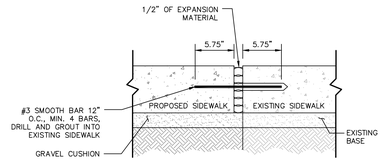


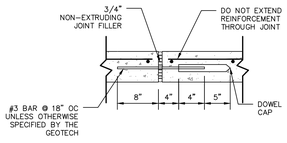
NOTE:
TOOL FORMED CONTROL JOINTS SHALL BE PLACED AT A MAXIMUM OF EVERY 5' ALONG ENTIRE LENGTH OF SIDEWAK.



(1) SIDEWALK DETAIL
NOT-TO-SCALE

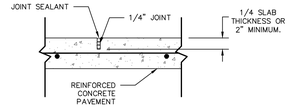


(2) SIDEWALK JUNCTURE DETAIL
NOT-TO-SCALE



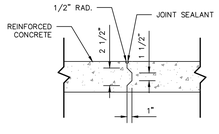
NOTE: IN THIS LOCALE, DRYING SHRINKAGE OF CONCRETE TYPICALLY SIGNIFICANTLY EXCEEDS ANTICIPATED EXPANSION DUE TO THERMAL EFFECTS. AS A RESULT, THE NEED FOR EXPANSION JOINTS IS ELIMINATED PROVIDED ALL JOINTS (INCLUDING SAWCUTS) ARE SEALED. CONSTRUCTION OF AN UNNECESSARY JOINT MAY ALSO BECOME A MAINTENANCE PROBLEM. ALL JOINTS SHOULD BE SEALED. IF ALL JOINTS, INCLUDING SAWCUTS, ARE NOT SEALED THEN EXPANSION JOINTS SHOULD BE INSTALLED

EXPANSION JOINT



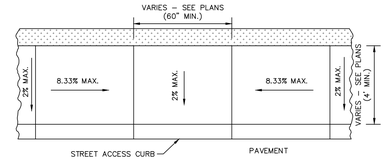
NOTE: CONTRACTION JOINT MAY BE SAWED, HAND FORMED, OR CREATED BY USE OF PREMOLDED JOINT FILLER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT CONCRETE PAVEMENT MEETS ALL FINISHING REQUIREMENTS AFTER INSTALLATION OF CONTRACTION JOINT.

CONTRACTION JOINT

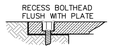


LONGITUDINAL JOINT

(3) CONCRETE JOINT DETAILS
NOT-TO-SCALE

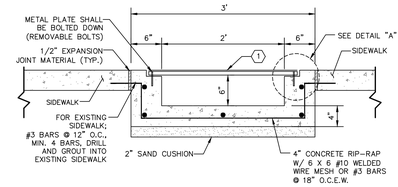


(4) CURB RAMP TYPE "A"
NOT-TO-SCALE

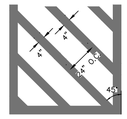


(1) CONTRACTOR SHALL INSTALL 1/4" THICK BY THE WIDTH OF SIDEWALK, PAINTED SILVER AND SCORED METAL DIAMOND PLATE WHERE SHOWN ON PLANS. SUBMIT SHOP DRAWING FOR APPROVAL

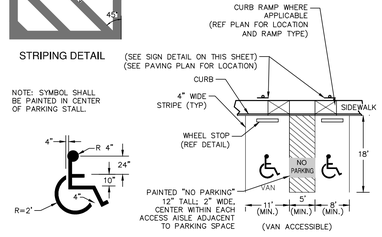
DETAIL "A"
NOT-TO-SCALE



(5) SIDEWALK BOX DRAIN DETAIL
NOT-TO-SCALE



STRIPING DETAIL



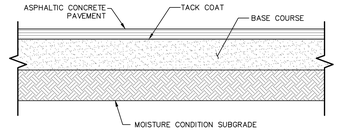
ACCESSIBLE PARKING STALL SYMBOL

ACCESSIBLE PARKING AREA DETAIL

NOTE: ALL PAVEMENT MARKINGS AND SIGNAGE OF ACCESSIBLE PARKING AREAS SHALL BE IN ACCORDANCE WITH THE MOST CURRENT ACCESSIBILITY MANUAL.

AS AN EXCEPTION, VAN PARKING SPACES MAY BE A MINIMUM OF 8' WIDE WHEN THE ACCESS AISLE IS A MINIMUM OF 8'.

(6) ACCESSIBLE PARKING DETAILS
NOT-TO-SCALE



PAVEMENT MATERIALS	ASPHALT (IN.)
HMAC, TYPE "C" OR "D"	2
FLEXIBLE BASE	8
MOISTURE CONDITIONED SUBGRADE	8

(7) FLEXIBLE PAVEMENT SECTIONS
REFERENCE GEOTECHNICAL ENGINEERING REPORT PREPARED BY CASTLE ENGINEERING & TESTING, INC., FILE No. 14G008, DATED MAY 9, 2014 FOR PAVEMENT MATERIALS AND CONSTRUCTION REQUIREMENTS. CONTRACTOR SHALL MEET OR EXCEED ALL PAVING RECOMMENDATIONS.

NO.	REVISION	DATE

12/5/24

STATE OF TEXAS
ANDREW J. BELTON
121688
LICENSED PROFESSIONAL ENGINEER

PAPE-DAWSON ENGINEERS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM 470 | TEXAS SURVEYING FIRM #10028800

VIA DOMINION BUILDING 200
SAN ANTONIO, TEXAS

PAVEMENT DETAILS

PLAT NO. 24-11800297
JOB NO. 12610-09
DATE SEPTEMBER 2024
DESIGNER AA
CHECKED EK DRAWN AA
SHEET C4.10

Date: August 29, 2024, 11:08 AM - User ID: RHughen
File: P:\128\10\09\Design\Civil\DT-1261009.dwg

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EXISTING BUILDING
EX FFE = 1128.33

PROPOSED BUILDING
FFE = 1130.50

CONTRACTOR TO ENSURE MAX 2% SLOPE ALL DIRECTIONS IN COURTYARD

2' ADA GRATE TOP SIDEWALK BOX

ADA GRATE TOP

STEPS WITH RAIL (REF. ARCH AND LS ARCH)

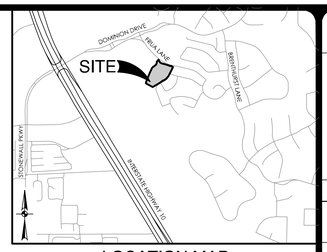
RAMP WITH RAILS (REF. LS ARCH FOR RAMP)

LS DRAIN TOP=1128.00

LS DRAIN TOP=1129.80

CONTRACTOR TO MAINTAIN 2% MAX SLOPE ALL DIRECTIONS WITHIN ACCESSIBLE PARKING SPACES AND LANDING

ISO RIVOLTA LANE



LOCATION MAP

NOT-TO-SCALE

LEGAL DESCRIPTION:
LOTS 3, BLOCK 28, N.C.B. 16365
(PLAT NO. 24-11800297)

ADDRESS:
8 DOMINION DR
SAN ANTONIO, TX 78257

SCALE: 1"= 10'

0' 10' 20' 30'

LEGEND

- PROPERTY LINE
- 1170 EXISTING CONTOURS
- 1170 PROPOSED CONTOURS
- GRADE BREAK
- SWALE
- ×880.00 PROPOSED SPOT ELEVATION
- ×1170.00 EXISTING SPOT ELEVATION
- PROPOSED FLOW ARROWS
- PROPOSED JUNCTION BOX
- EXISTING STORM INLETS

NOTE

SEE SHEET C0.10 FOR GENERAL CONSTRUCTION NOTES.

NO.	REVISION	DATE

12/5/24

STATE OF TEXAS
ANDREW J. BELTON
121688
LICENSED
PROFESSIONAL ENGINEER

PAPE-DAWSON ENGINEERS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM 470 | TEXAS SURVEYING FIRM 100288-00

VIA DOMINION BUILDING 200

SAN ANTONIO, TEXAS

GRADING PLAN

PLAT NO. 24-11800297
JOB NO. 12610-09
DATE SEPTEMBER 2024
DESIGNER AA
CHECKED EK DRAWN AA
SHEET C5.00

Date: August 29, 2024, 11:08 AM - User ID: RHughen
File: P:\12610\09\Design\Civil\GR-12610009.dwg
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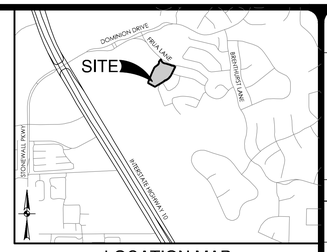

LOCATION MAP

NOT-TO-SCALE

LEGAL DESCRIPTION:
LOTS 3, BLOCK 28, N.C.B. 16385
(PLAT NO. 24-11800297)

ADDRESS:
8 DOMINION DR
SAN ANTONIO, TX 78257

SCALE: 1"= 20'
0' 20' 40' 60'

LEGEND

- PROPERTY LINE
- LOT LINE
- EXISTING WATER LINE
- PROPOSED WATER LINE
- EXISTING UNDERGROUND ELECTRIC
- PROPOSED UNDERGROUND ELECTRIC
- EXISTING SANITARY SEWER
- PROPOSED SANITARY SEWER
- EXISTING STORM DRAINAGE
- PROPOSED STORM DRAINAGE

NOTE

SEE SHEET C0.10 FOR GENERAL CONSTRUCTION NOTES.

NO.	REVISION	DATE

12/5/24

STATE OF TEXAS
ANDREW J. BELTON
121688
LICENSED
PROFESSIONAL ENGINEER

PAPE-DAWSON ENGINEERS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #100288-00

VIA DOMINION BUILDING 200

SAN ANTONIO, TEXAS

UTILITY PLAN

PLAT NO. 24-11800297
JOB NO. 12610-09
DATE SEPTEMBER 2024
DESIGNER AA
CHECKED EK DRAWN AA
SHEET C6.00

Date: August 29, 2024, 11:08 AM - User ID: Rhughen
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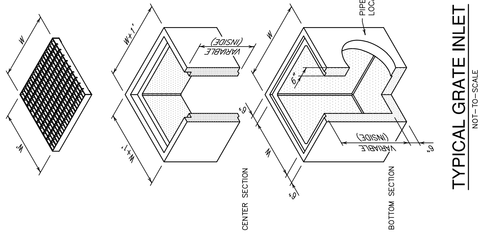
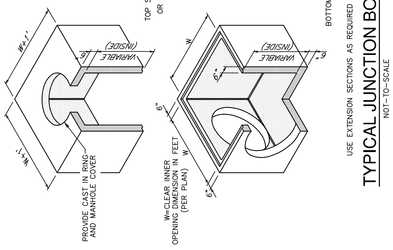


TYPICAL GRATE INLET

NOT-TO-SCALE



TYPICAL JUNCTION BOX

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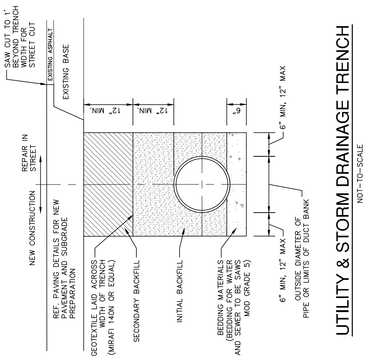

UTILITY & STORM DRAINAGE TRENCH

NOT-TO-SCALE

VIA DOMINION BUILDING 200

SAN ANTONIO, TEXAS

UTILITY DETAILS

PAPE-DAWSON ENGINEERS

2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000

TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #100288-00

ANDREW J. BELTON 121688 LICENSED PROFESSIONAL ENGINEER STATE OF TEXAS

12/5/24

NO.	REVISION	DATE
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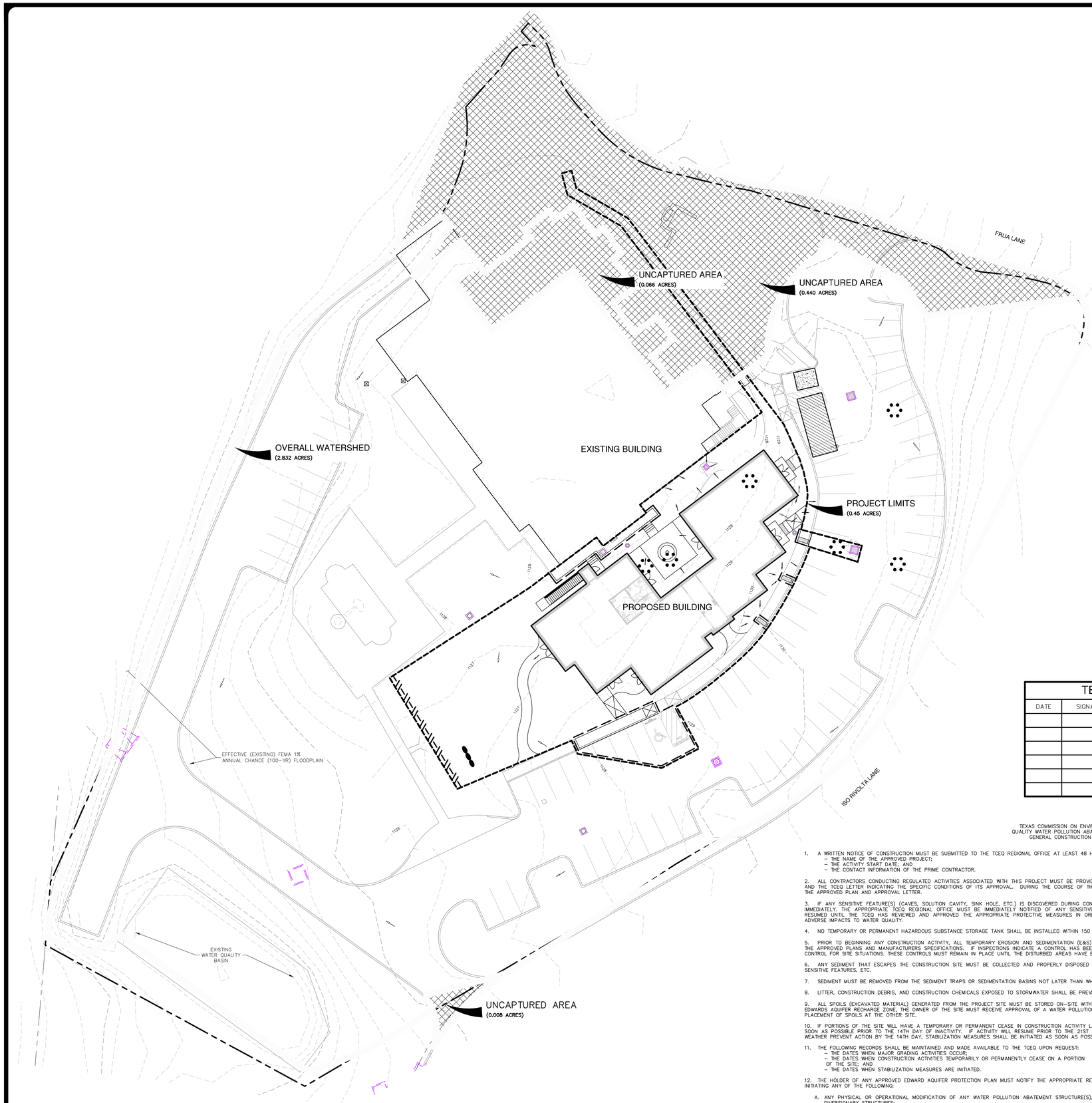

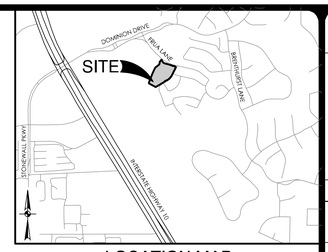

LOCATION MAP

NOT-TO-SCALE

LEGAL DESCRIPTION:
LOTS 5, BLOCK 28, N.C.B. 16365
(PLAT NO. 24-11800297)

ADDRESS:
8 DOMINION DR
SAN ANTONIO, TX 78257

SCALE: 1"= 20'

0' 20' 40' 60'

LEGEND

- PROPERTY LINE
- LOT LINE
- PROJECT LIMITS
- EXISTING CONTOUR
- PROPOSED CONTOUR
- FLOW ARROW (EXISTING)
- FLOW ARROW (PROPOSED)
- SILT FENCE
- ROCK BERM
- GRAVEL FILTER BAGS
- GRATE INLET PROTECTION
- STABILIZED CONSTRUCTION ENTRANCE/EXIT (FIELD LOCATE)
- CONSTRUCTION EQUIPMENT, VEHICLE & MATERIALS STORAGE AREA (FIELD LOCATE)
- CONCRETE TRUCK WASH-OUT PIT (FIELD LOCATE)
- PROPOSED BUILDING
- EXISTING BUILDING
- EXISTING GRATE INLET
- UNTREATED AREA
- WATERSHED BOUNDARY

TEMPORARY BMP MODIFICATIONS

DATE	SIGNATURE	DESCRIPTION

TEXAS COMMISSION ON ENVIRONMENTAL
QUALITY WATER POLLUTION ABATEMENT PLAN
GENERAL CONSTRUCTION NOTES

1. A WRITTEN NOTICE OF CONSTRUCTION MUST BE SUBMITTED TO THE TCEQ REGIONAL OFFICE AT LEAST 48 HOURS PRIOR TO THE START OF ANY REGULATED ACTIVITIES. THIS NOTICE MUST INCLUDE:
   - THE NAME OF THE APPROVED PROJECT;
   - THE ACTIVITY START DATE; AND
   - THE CONTACT INFORMATION OF THE PRIME CONTRACTOR.
2. ALL CONTRACTORS CONDUCTING REGULATED ACTIVITIES ASSOCIATED WITH THIS PROJECT MUST BE PROVIDED WITH COMPLETE COPIES OF THE APPROVED WATER POLLUTION ABATEMENT PLAN (WPAP) AND THE TCEQ LETTER INDICATING THE SPECIFIC CONDITIONS OF ITS APPROVAL. DURING THE COURSE OF THESE REGULATED ACTIVITIES, THE CONTRACTORS ARE REQUIRED TO KEEP ON-SITE COPIES OF THE APPROVED PLAN AND APPROVAL LETTER.
3. IF ANY SENSITIVE FEATURE(S) (CAVES, SOLUTION CAVITY, SINK HOLE, ETC.) IS DISCOVERED DURING CONSTRUCTION, ALL REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MUST BE SUSPENDED IMMEDIATELY. THE APPROPRIATE TCEQ REGIONAL OFFICE MUST BE IMMEDIATELY NOTIFIED OF ANY SENSITIVE FEATURES ENCOUNTERED DURING CONSTRUCTION. CONSTRUCTION ACTIVITIES MAY NOT BE RESUMED UNTIL THE TCEQ HAS REVIEWED AND APPROVED THE APPROPRIATE PROTECTIVE MEASURES IN ORDER TO PROTECT ANY SENSITIVE FEATURE AND THE EDWARDS AQUIFER FROM POTENTIALLY ADVERSE IMPACTS TO WATER QUALITY.
4. NO TEMPORARY OR PERMANENT HAZARDOUS SUBSTANCE STORAGE TANK SHALL BE INSTALLED WITHIN 150 FEET OF A WATER SUPPLY SOURCE, DISTRIBUTION SYSTEM, WELL, OR SENSITIVE FEATURE.
5. PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITY, ALL TEMPORARY EROSION AND SEDIMENTATION (E&S) CONTROL MEASURES MUST BE PROPERLY INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE APPROVED PLANS AND MANUFACTURERS SPECIFICATIONS. IF INSPECTIONS INDICATE A CONTROL HAS BEEN USED INAPPROPRIATELY, OR INCORRECTLY, THE APPLICANT MUST REPLACE OR MODIFY THE CONTROL FOR SITE SITUATIONS. THESE CONTROLS MUST REMAIN IN PLACE UNTIL THE DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED.
6. ANY SEDIMENT THAT ESCAPES THE CONSTRUCTION SITE MUST BE COLLECTED AND PROPERLY DISPOSED OF BEFORE THE NEXT RAIN EVENT TO ENSURE IT IS NOT WASHED INTO SURFACE STREAMS, SENSITIVE FEATURES, ETC.
7. SEDIMENT MUST BE REMOVED FROM THE SEDIMENT TRAPS OR SEDIMENTATION BASINS NOT LATER THAN WHEN IT OCCUPIES 50% OF THE BASIN'S DESIGN CAPACITY.
8. LITTER, CONSTRUCTION DEBRIS, AND CONSTRUCTION CHEMICALS EXPOSED TO STORMWATER SHALL BE PREVENTED FROM BEING DISCHARGED OFFSITE.
9. ALL SPOILS (EXCAVATED MATERIAL) GENERATED FROM THE PROJECT SITE MUST BE STORED ON-SITE WITH PROPER E&S CONTROLS. FOR STORAGE OR DISPOSAL OF SPOILS AT ANOTHER SITE ON THE EDWARDS AQUIFER RECHARGE ZONE, THE OWNER OF THE SITE MUST RECEIVE APPROVAL OF A WATER POLLUTION ABATEMENT PLAN FOR THE PLACEMENT OF FILL MATERIAL OR MASS GRADING PRIOR TO THE PLACEMENT OF SPOILS AT THE OTHER SITE.
10. IF PORTIONS OF THE SITE WILL HAVE A TEMPORARY OR PERMANENT CEASE IN CONSTRUCTION ACTIVITY LASTING LONGER THAN 14 DAYS, SOIL STABILIZATION IN THOSE AREAS SHALL BE INITIATED AS SOON AS POSSIBLE PRIOR TO THE 14TH DAY OF INACTIVITY. IF ACTIVITY WILL RESUME PRIOR TO THE 21ST DAY, STABILIZATION MEASURES ARE NOT REQUIRED. IF DROUGHT CONDITIONS OR INCLEMENT WEATHER PREVENT ACTION BY THE 14TH DAY, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS POSSIBLE.
11. THE FOLLOWING RECORDS SHALL BE MAINTAINED AND MADE AVAILABLE TO THE TCEQ UPON REQUEST:
   - THE DATES WHEN MAJOR GRADING ACTIVITIES OCCUR;
   - THE DATES WHEN CONSTRUCTION ACTIVITIES TEMPORARILY OR PERMANENTLY CEASE ON A PORTION OF THE SITE; AND
   - THE DATES WHEN STABILIZATION MEASURES ARE INITIATED.
12. THE HOLDER OF ANY APPROVED EDWARD AQUIFER PROTECTION PLAN MUST NOTIFY THE APPROPRIATE REGIONAL OFFICE IN WRITING AND OBTAIN APPROVAL FROM THE EXECUTIVE DIRECTOR PRIOR TO INITIATING ANY OF THE FOLLOWING:
   A. ANY PHYSICAL OR OPERATIONAL MODIFICATION OF ANY WATER POLLUTION ABATEMENT STRUCTURE(S), INCLUDING BUT NOT LIMITED TO PONDS, DAMS, BERMS, SEWAGE TREATMENT PLANTS, AND DIVERSIONARY STRUCTURES;
   B. ANY CHANGE IN THE NATURE OR CHARACTER OF THE REGULATED ACTIVITY FROM THAT WHICH WAS ORIGINALLY APPROVED OR A CHANGE WHICH WOULD SIGNIFICANTLY IMPACT THE ABILITY OF THE PLAN TO PREVENT POLLUTION OF THE EDWARDS AQUIFER;
   C. ANY DEVELOPMENT OF LAND PREVIOUSLY IDENTIFIED AS UNDEVELOPED IN THE ORIGINAL WATER POLLUTION ABATEMENT PLAN.

SAN ANTONIO REGIONAL OFFICE
14250 JUDSON ROAD
SAN ANTONIO, TEXAS 78233-4480
PHONE (210) 490-3096
FAX (210) 545-4329

GENERAL NOTES

1. DO NOT DISTURB VEGETATED AREAS (TREES, GRASS, WEEDS, BRUSH, ETC.) ANY MORE THAN NECESSARY FOR CONSTRUCTION.
2. CONSTRUCTION ENTRANCE/EXIT LOCATION, CONCRETE WASH-OUT PIT, AND CONSTRUCTION EQUIPMENT AND MATERIAL STORAGE YARD TO BE DETERMINED IN THE FIELD.
3. STORM WATER POLLUTION PREVENTION CONTROLS MAY NEED TO BE MODIFIED IN THE FIELD TO ACCOMPLISH THE DESIRED EFFECT. ALL MODIFICATIONS ARE TO BE NOTED ON THIS EXHIBIT AND SIGNED AND DATED BY THE RESPONSIBLE PARTY.
4. RESTRICT ENTRY/EXIT TO THE PROJECT SITE TO DESIGNATED LOCATIONS BY USE OF ADEQUATE FENCING, IF NECESSARY.
5. ALL STORM WATER POLLUTION PREVENTION CONTROLS ARE TO BE MAINTAINED AND IN WORKING CONDITIONS AT ALL TIMES.
6. FOR A COMPLETE LISTING OF TEMPORARY STORM WATER POLLUTION PREVENTION CONTROLS REFER TO THE TPDES STORM WATER POLLUTION PREVENTION PLAN.
7. STORM WATER POLLUTION PREVENTION STRUCTURES SHOULD BE CONSTRUCTED WITHIN THE SITE BOUNDARIES. SOME OF THESE FEATURES MAY BE SHOWN OUTSIDE THE SITE BOUNDARIES ON THIS PLAN FOR VISUAL CLARITY.
8. AS SOON AS PRACTICAL, ALL DISTURBED SOIL THAT WILL NOT BE COVERED BY IMPERVIOUS COVER SUCH AS PARKWAY AREAS, EASEMENT AREAS, EMBANKMENT SLOPES, ETC. WILL BE STABILIZED PER APPLICABLE PROJECT SPECIFICATIONS.
9. BEST MANAGEMENT PRACTICES MAY BE INSTALLED IN STAGES TO COINCIDE WITH THE DISTURBANCE OF UPGRADIENT AREAS.
10. BEST MANAGEMENT PRACTICES MAY BE REMOVED IN STAGES ONCE THE WATERSHED FOR THAT PORTION CONTROLLED BY THE BEST MANAGEMENT PRACTICES HAS BEEN STABILIZED IN ACCORDANCE WITH TPDES REQUIREMENTS.
11. UPON COMPLETION OF THE PROJECT, INCLUDING SITE STABILIZATION, AND BEFORE FINAL PAYMENT IS ISSUED, CONTRACTOR SHALL REMOVE ALL SEDIMENT AND EROSION CONTROL MEASURES, PAYING SPECIAL ATTENTION TO ROCK BERMS IN DRAINAGE FEATURES.
12. WHERE VEGETATED FILTER STRIPS ARE INDICATED, CONTRACTOR SHALL VERIFY THAT SUFFICIENT VEGETATION EXISTS, OTHERWISE CONTRACTOR SHALL PLACE SILT FENCING IN LIEU OF VEGETATED FILTER STRIP.
13. SHADED AREA DENOTES LIMITS OF DISTURBED AREAS. OTHER AREAS WITHIN THE PROJECT LIMITS, WITH THE EXCEPTION OF A CONSTRUCTION EQUIPMENT AND MATERIAL STORAGE YARD, ARE NOT A PART OF THIS TPDES STORM WATER POLLUTION PREVENTION PLAN (SWP3) AND WILL NOT BE DISTURBED BY CIVIL CONSTRUCTION ACTIVITIES. HOUSE CONSTRUCTION ACTIVITIES WILL REQUIRE A SEPARATE STORM WATER POLLUTION PREVENTION PLAN.
14. PRIOR TO BEGINNING CONSTRUCTION, CONTRACTOR SHALL COORDINATE PLACEMENT OF TEMPORARY BEST MANAGEMENT PRACTICES WITHIN TXDOT RIGHT-OF-WAY WITH TXDOT.
15. CPS ENERGY MAY FUNCTION AS A SECONDARY OPERATOR ON THIS PROJECT AND MAY BE INSTALLING ELECTRIC UTILITIES FOR ON-SITE CONSTRUCTION AND OFF-SITE FEED TO THE PROJECT.

THE ENGINEERING SEAL HAS BEEN AFFIXED TO THIS SHEET ONLY FOR THE PURPOSE OF DEMONSTRATING COMPLIANCE WITH THE POLLUTION ABATEMENT SIZING AND TREATMENT REQUIREMENTS OF THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY'S EDWARDS AQUIFER TECHNICAL GUIDANCE MANUAL.

THIS SHEET HAS BEEN PREPARED FOR PURPOSES OF POLLUTION ABATEMENT ONLY. ALL OTHER CIVIL ENGINEERING RELATED INFORMATION SHOULD BE ACQUIRED FROM THE APPROPRIATE SHEET IN THE CIVIL IMPROVEMENT PLANS.

EXHIBIT 1

NO.	REVISION	DATE

12/5/24

STATE OF TEXAS
ANDREW J. BELTON
121688
LICENSED
PROFESSIONAL ENGINEER

PAPE-DAWSON ENGINEERS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM 470 | TEXAS SURVEYING FIRM 100288-00

VIA DOMINION BUILDING 200
SAN ANTONIO, TEXAS
CONTRIBUTING ZONE PLAN
TEMPORARY POLLUTION ABATEMENT PLAN

PLAT NO. 24-11800297
JOB NO. 12610-09
DATE SEPTEMBER 2024
DESIGNER AA
CHECKED EK DRAWN AA
SHEET C7.00

Date: August 29, 2024, 11:08 AM - User ID: BHughen
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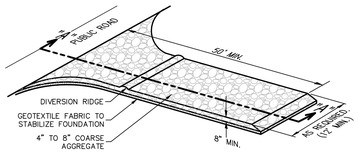
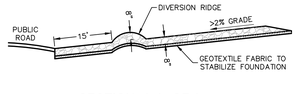


SCHEMATIC OF TEMPORARY CONSTRUCTION ENTRANCE/EXIT



SECTION "A-A" OF A CONSTRUCTION ENTRANCE/EXIT

MATERIALS

1. THE AGGREGATE SHOULD CONSIST OF 4–INCH TO 8–INCH WASHED STONE OVER A STABLE FOUNDATION AS SPECIFIED IN THE PLAN.

2. THE AGGREGATE SHOULD BE PLACED WITH A MINIMUM THICKNESS OF 8–INCHES.

3. THE GEOTEXTILE FABRIC SHOULD BE DESIGNED SPECIFICALLY FOR USE AS A SOIL FILTRATION MEDIA WITH AN APPROXIMATE WEIGHT OF 6 OZ/YD², A MULLEN BURST RATING OF 140 LB/IN², AND AN EQUIVALENT OPENING SIZE GREATER THAN A NUMBER 50 SIEVE.

4. IF A WASHING FACILITY IS REQUIRED, A LEVEL AREA WITH A MINIMUM OF 4–INCH DIAMETER WASHED STONE OR COMMERCIAL ROCK SHOULD BE INCLUDED IN THE PLANS. DIVERT WASTEWATER TO A SEDIMENT TRAP OR BASIN.

INSTALLATION

1. AVOID CURVES ON PUBLIC ROADS AND STEEP SLOPES. REMOVE VEGETATION AND OTHER OBJECTIONABLE MATERIAL FROM THE FOUNDATION AREA. GRADE CROWN FOUNDATION FOR POSITIVE DRAINAGE.

2. THE MINIMUM WIDTH OF THE ENTRANCE/EXIT SHOULD BE 12 FEET OR THE FULL WIDTH OF EXIT ROADWAY, WHICHEVER IS GREATER.

3. THE CONSTRUCTION ENTRANCE SHOULD BE AT LEAST 50 FEET LONG.

4. IF THE SLOPE TOWARD THE ROAD EXCEEDS 2%, CONSTRUCT A RIDGE, 6–INCHES TO 8–INCHES HIGH WITH 3:1 (H:V) SIDE SLOPES, ACROSS THE FOUNDATION APPROXIMATELY 15 FEET FROM THE ENTRANCE TO DIVERT RUNOFF AWAY FROM THE PUBLIC ROAD.

5. PLACE GEOTEXTILE FABRIC AND GRADE FOUNDATION TO IMPROVE STABILITY, ESPECIALLY WHERE WET CONDITIONS ARE ANTICIPATED.

6. PLACE STONE TO DIMENSIONS AND GRADE SHOWN ON PLANS. LEAVE SURFACE SMOOTH AND SLOPE FOR DRAINAGE.

7. DIVERT ALL SURFACE RUNOFF AND DRAINAGE FROM THE STONE PAD TO A SEDIMENT TRAP OR BASIN.

8. INSTALL PIPE UNDER PAD AS NEEDED TO MAINTAIN PROPER PUBLIC ROAD DRAINAGE.

COMMON TROUBLE POINTS

1. INADEQUATE RUNOFF CONTROL–SEDIMENT WASHES ONTO PUBLIC ROAD.

2. STONE TOO SMALL OR GEOTEXTILE FABRIC ABSENT, RESULTS IN MUDDY CONDITION AS STONE IS PRESSED INTO SOIL.

3. PAD TOO SHORT FOR HEAVY CONSTRUCTION TRAFFIC–EXTEND PAD BEYOND THE MINIMUM 50–FOOT LENGTH AS NECESSARY.

4. PAD NOT FLARED SUFFICIENTLY AT ROAD SURFACE, RESULTS IN MUD BEING TRACKED ON TO ROAD AND POSSIBLE DAMAGE TO ROAD.

5. UNSTABLE FOUNDATION – USE GEOTEXTILE FABRIC UNDER PAD AND/OR IMPROVE FOUNDATION DRAINAGE.

INSPECTION AND MAINTENANCE GUIDELINES

1. THE ENTRANCE SHOULD BE MAINTAINED IN A CONDITION, WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS–OF–WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.

2. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS–OF–WAY SHOULD BE REMOVED IMMEDIATELY BY CONTRACTOR.

3. WHEN NECESSARY, WHEELS SHOULD BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT–OF–WAY.

4. WHEN WASHING IS REQUIRED, IT SHOULD BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.

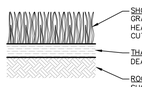
5. ALL SEDIMENT SHOULD BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATER COURSE BY USING APPROVED METHODS.

STABILIZED CONSTRUCTION ENTRANCE/EXIT DETAIL

NOT–TO–SCALE

LAY SOD IN A STAGGERED PATTERN. BUTT THE STRIPS TIGHTLY AGAINST EACH OTHER. DO NOT LEAVE SPACES AND DO NOT OVERLAP. A SHARPENED MASON'S TROWEL IS A HANDY TOOL FOR TUCKING DOWN THE ENDS AND TRIMMING PIECES.

BUTTING – ANGLED ENDS CAUSED BY THE AUTOMATIC SOD CUTTER MUST BE MATCHED CORRECTLY.

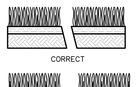


APPEARANCE OF GOOD SOD

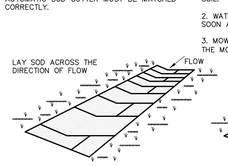
NOTES:
1. ROLL SOD IMMEDIATELY TO ACHIEVE FIRM CONTACT WITH THE SOIL.

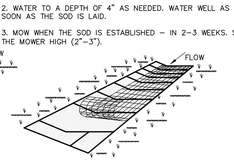
2. WATER TO A DEPTH OF 4" AS NEEDED. WATER WELL AS SOON AS THE SOD IS LAID.

3. MOW WHEN THE SOD IS ESTABLISHED – IN 2–3 WEEKS. SET THE MOWER HIGH (2"–3").

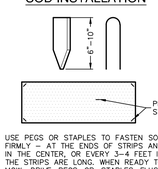


SOD INSTALLATION





IN CRITICAL AREAS, SECURE SOD WITH NETTING. USE STAPLES.



USE PEGS OR STAPLES TO FASTEN SOD FIRMLY – AT THE ENDS OF STRIPS AND IN THE CENTER, OR EVERY 3–4 FEET IF THE STRIPS ARE LONG. WHEN READY TO MOW, DRIVE PEGS OR STAPLES FLUSH WITH THE GROUND.

MATERIALS

1. SOD SHOULD BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF 3/4" INCH (± 1/4" INCH) AT THE TIME OF CUTTING. THIS THICKNESS SHOULD EXCLUDE SHOOT GROWTH AND THATCH.

2. PIECES OF SOD SHOULD BE CUT TO THE SUPPLIER'S STANDARD WIDTH AND LENGTH, WITH A MAXIMUM ALLOWABLE DEVIATION IN ANY DIMENSION OF 5%. TORN OR UNEVEN PADS SHOULD NOT BE ACCEPTABLE.

3. STANDARD SIZE SECTIONS OF SOD SHOULD BE STRONG ENOUGH TO SUPPORT THEIR OWN WEIGHT AND RETAIN THEIR SIZE AND SHAPE WHEN SUSPENDED FROM A FIRM GRASP ON ONE END OF THE SECTION.

4. SOD SHOULD BE HARVESTED, DELIVERED, AND INSTALLED WITHIN A PERIOD OF 36 HOURS.

SITE PREPARATION

1. PRIOR TO SOIL PREPARATION, AREAS TO BE SODDED SHOULD BE BROUGHT TO FINAL GRADE IN ACCORDANCE WITH THE APPROVED PLAN.

2. THE SURFACE SHOULD BE CLEARED OF ALL TRASH, DEBRIS AND OF ALL ROOTS, BRUSH, WIRE, GRADE STAKES AND OTHER OBJECTS THAT WOULD INTERFERE WITH PLANTING, FERTILIZING OR MAINTENANCE OPERATIONS.

3. FERTILIZE ACCORDING TO SOIL TESTS. FERTILIZER NEEDS CAN BE DETERMINED BY A SOIL TESTING LABORATORY OR REGIONAL RECOMMENDATIONS CAN BE MADE BY COUNTY AGRICULTURAL EXTENSION AGENTS. FERTILIZER SHOULD BE WORKED INTO THE SOIL TO A DEPTH OF 3 INCHES WITH A DISC, SPRINGTOOTH HARROW OR OTHER SUITABLE EQUIPMENT. ON SLOPING LAND, THE FINAL HARROWING OR DISCING OPERATION SHOULD BE ON THE CONTOUR.

INSTALLATION IN CHANNELS

1. SOD STRIPS IN WATERWAYS SHOULD BE LAID PERPENDICULAR TO THE DIRECTION OF FLOW. CARE SHOULD BE TAKEN TO BUTT ENDS OF STRIPS TIGHTLY (SEE FIGURE ABOVE).

2. AFTER ROLLING OR TAMPING, SOD SHOULD BE PEGGED OR STAPLED TO RESIST WASHOUT DURING THE ESTABLISHMENT PERIOD. MESH OR OTHER NETTING MAY BE PEGGED OVER THE SOD FOR EXTRA PROTECTION IN CRITICAL AREAS.

GENERAL INSTALLATION (VA. DEPT. OF CONSERVATION, 1992)

1. SOD SHOULD NOT BE CUT OR LAID IN EXCESSIVELY WET OR DRY WEATHER. SOD ALSO SHOULD NOT BE LAID ON SOIL SURFACES THAT ARE FROZEN.

2. DURING PERIODS OF HIGH TEMPERATURE, THE SOIL SHOULD BE LIGHTLY IRRIGATED IMMEDIATELY PRIOR TO LAYING THE SOD, TO COOL THE SOIL AND REDUCE ROOT BURNING AND DIEBACK.

3. THE FIRST ROW OF SOD SHOULD BE LAID IN A STRAIGHT LINE WITH SUBSEQUENT ROWS PLACED PARALLEL TO AND BUTTING TIGHTLY AGAINST EACH OTHER. LATERAL JOINTS SHOULD BE STAGGERED TO PROMOTE MORE UNIFORM GROWTH AND STRENGTH. CARE SHOULD BE EXERCISED TO ENSURE THAT SOD IS NOT STRETCHED OR OVERLAPPED AND THAT ALL JOINTS ARE BUTTED TIGHT IN ORDER TO PREVENT VOIDS WHICH WOULD CAUSE DRYING OF THE ROOTS (SEE FIGURE ABOVE).

4. ON SLOPES 3:1 OR GREATER, OR WHEREVER EROSION MAY BE A PROBLEM, SOD SHOULD BE LAID WITH STAGGERED JOINTS AND SECURED BY STAPLING OR OTHER APPROVED METHODS. SOD SHOULD BE INSTALLED WITH THE LENGTH PERPENDICULAR TO THE SLOPE (ON CONTOUR).

5. AS SODDING OF CLEARLY DEFINED AREAS IS COMPLETED, SOD SHOULD BE ROLLED OR TAMPED TO PROVIDE FIRM CONTACT BETWEEN ROOTS AND SOIL.

6. AFTER ROLLING, SOD SHOULD BE IRRIGATED TO A DEPTH SUFFICIENT THAT THE UNDERSIDE OF THE SOD PAD AND THE SOIL 4 INCHES BELOW THE SOD IS THOROUGHLY WET.

7. UNTIL SUCH TIME A GOOD ROOT SYSTEM BECOMES DEVELOPED, IN THE ABSENCE OF ADEQUATE RAINFALL, WATERING SHOULD BE PERFORMED AS OFTEN AS NECESSARY TO MAINTAIN MOIST SOIL TO A DEPTH OF AT LEAST 4 INCHES.

8. THE FIRST MOWING SHOULD NOT BE ATTEMPTED UNTIL THE SOD IS FIRMLY ROOTED, USUALLY 2–3 WEEKS. NOT MORE THAN ONE THIRD OF THE GRASS LEAF SHOULD BE REMOVED AT ANY ONE CUTTING.

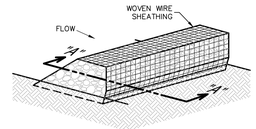
INSPECTION AND MAINTENANCE GUIDELINES

1. SOD SHOULD BE INSPECTED WEEKLY AND AFTER EACH RAIN EVENT TO LOCATE AND REPAIR ANY DAMAGE.

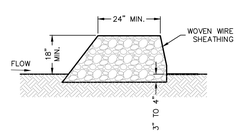
2. DAMAGE FROM STORMS OR NORMAL CONSTRUCTION ACTIVITIES SUCH AS TIRE RUTS OR DISTURBANCE OF SWALE STABILIZATION SHOULD BE REPAIRED AS SOON AS PRACTICAL.

SOD INSTALLATION DETAIL

NOT–TO–SCALE



ISOMETRIC PLAN VIEW



SECTION "A-A"

ROCK BERMS

THE PURPOSE OF A ROCK BERM IS TO SERVE AS A CHECK DAM IN AREAS OF CONCENTRATED FLOW, TO INTERCEPT SEDIMENT–LADEN RUNOFF, DETAIN THE SEDIMENT AND RELEASE THE WATER IN SHEET FLOW. THE ROCK BERM SHOULD BE USED WHEN THE CONTRIBUTING DRAINAGE AREA IS LESS THAN 5 ACRES. ROCK BERMS ARE USED IN AREAS WHERE THE VOLUME OF RUNOFF IS TOO GREAT FOR A SILT FENCE TO CONTAIN. THEY ARE LESS EFFECTIVE FOR SEDIMENT REMOVAL THAN SILT FENCES, PARTICULARLY FOR FINE PARTICLES, BUT ARE ABLE TO WITHSTAND HIGHER FLOWS THAN A SILT FENCE. AS SUCH, ROCK BERMS ARE OFTEN USED IN AREAS OF CHANNEL FLOWS (DITCHES, GULLIES, ETC.). ROCK BERMS ARE MOST EFFECTIVE AT REDUCING BED LOAD IN CHANNELS AND SHOULD NOT BE SUBSTITUTED FOR OTHER EROSION AND SEDIMENT CONTROL MEASURES FARTHER UP THE WATERSHED.

INSPECTION AND MAINTENANCE GUIDELINES

1. INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL BY THE RESPONSIBLE PARTY. FOR INSTALLATIONS IN STREAMBEDS, ADDITIONAL DAILY INSPECTIONS SHOULD BE MADE.

2. REMOVE SEDIMENT AND OTHER DEBRIS WHEN BUILDUP REACHES 6 INCHES AND DISPOSE OF THE ACCUMULATED SILT IN AN APPROVED MANNER THAT WILL NOT CAUSE ANY ADDITIONAL SILTATION.

3. REPAIR ANY LOOSE WIRE SHEATHING.

4. THE BERM SHOULD BE RESHAPED AS NEEDED DURING INSPECTION.

5. THE BERM SHOULD BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.

6. THE ROCK BERM SHOULD BE LEFT IN PLACE UNTIL ALL UPSTREAM AREAS ARE STABILIZED AND ACCUMULATED SILT REMOVED.

MATERIALS

1. THE BERM STRUCTURE SHOULD BE SECURED WITH A WOVEN WIRE SHEATHING HAVING MAXIMUM OPENING OF 1 INCH AND A MINIMUM WIRE DIAMETER OF 20 GAUGE GALVANIZED AND SHOULD BE SECURED WITH SHOAT RINGS.

2. CLEAN, OPEN GRADED 3–INCH TO 5–INCH DIAMETER ROCK SHOULD BE USED, EXCEPT IN AREAS WHERE HIGH VELOCITIES OR LARGE VOLUMES OF FLOW ARE EXPECTED, WHERE 5–INCH TO 8–INCH DIAMETER ROCKS MAY BE USED.

INSTALLATION

1. LAY OUT THE WOVEN WIRE SHEATHING PERPENDICULAR TO THE FLOW LINE. THE SHEATHING SHOULD BE 20 GAUGE WOVEN WIRE MESH WITH 1 INCH OPENINGS.

2. BERM SHOULD HAVE A TOP WIDTH OF 2 FEET MINIMUM WITH SIDE SLOPES BEING 2:1 (H:V) OR FLATTER.

3. PLACE THE ROCK ALONG THE SHEATHING AS SHOWN IN THE DIAGRAM TO A HEIGHT NOT LESS THAN 18".

4. WRAP THE WIRE SHEATHING AROUND THE ROCK AND SECURE WITH TIE WIRE SO THAT THE ENDS OF THE SHEATHING OVERLAP AT LEAST 2 INCHES, AND THE BERM RETAINS ITS SHAPE WHEN WALKED UPON.

5. BERM SHOULD BE BUILT ALONG THE CONTOUR AT ZERO PERCENT GRADE OR AS NEAR AS POSSIBLE.

6. THE ENDS OF THE BERM SHOULD BE TIED INTO EXISTING UPSLOPE GRADE AND THE BERM SHOULD BE BURIED IN A TRENCH APPROXIMATELY 3 TO 4 INCHES DEEP TO PREVENT FAILURE OF THE CONTROL.

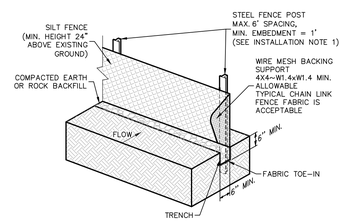
COMMON TROUBLE POINTS

1. INSUFFICIENT BERM HEIGHT OR LENGTH (RUNOFF QUICKLY ESCAPES OVER THE TOP OR AROUND THE SIDES OF BERM).

2. BERM NOT INSTALLED PERPENDICULAR TO FLOW LINE (RUNOFF ESCAPING AROUND ONE SIDE).

ROCK BERM DETAIL

NOT–TO–SCALE



ISOMETRIC PLAN VIEW

SILT FENCE

A SILT FENCE IS A BARRIER CONSISTING OF GEOTEXTILE FABRIC SUPPORTED BY METAL POSTS TO PREVENT SOIL AND SEDIMENT LOSS FROM A SITE. WHEN PROPERLY USED, SILT FENCES CAN BE HIGHLY EFFECTIVE AT CONTROLLING SEDIMENT FROM DISTURBED AREAS. THEY CAUSE RUNOFF TO POND, ALLOWING HEAVIER SOLIDS TO SETTLE OUT. IF NOT PROPERLY INSTALLED, SILT FENCES ARE NOT LIKELY TO BE EFFECTIVE.

THE PURPOSE OF A SILT FENCE IS TO INTERCEPT AND DETAIN WATER–BORN SEDIMENT FROM UNPROTECTED AREAS OF A LIMITED EXTENT. SILT FENCE IS USED DURING THE PERIOD OF CONSTRUCTION NEAR THE PERIMETER OF A DISTURBED AREA TO INTERCEPT SEDIMENT WHILE ALLOWING WATER TO PERCOLATE THROUGH. THIS FENCE SHOULD REMAIN IN PLACE UNTIL THE DISTURBED AREA IS PERMANENTLY STABILIZED. SILT FENCE SHOULD NOT BE USED WHERE THERE IS A CONCENTRATION OF WATER IN A CHANNEL OR DRAINAGE WAY. IF CONCENTRATED FLOW OCCURS AFTER INSTALLATION, CORRECTIVE ACTION MUST BE TAKEN SUCH AS PLACING A ROCK BERM IN THE AREAS OF CONCENTRATED FLOW.

SILT FENCING WITHIN THE SITE MAY BE TEMPORARILY MOVED DURING THE DAY TO ALLOW CONSTRUCTION ACTIVITY PROVIDED IT IS REPLACED AND PROPERLY ANCHORED TO THE GROUND AT THE END OF THE DAY. SILT FENCES ON THE PERIMETER OF THE SITE OR AROUND DRAINAGE WAYS SHOULD NOT BE MOVED AT ANY TIME.

MATERIALS

1. SILT FENCE MATERIAL SHOULD BE POLYPROPYLENE, POLYETHYLENE, OR POLYAMIDE WOVEN OR NONWOVEN FABRIC. THE FABRIC SHOULD BE 36 INCHES, WITH A MINIMUM UNIT WEIGHT OF 4.5 OZ/YD, MULLEN BURST STRENGTH EXCEEDING 190 LB/IN2, ULTRAVIOLET STABILITY EXCEEDING 70%, AND MINIMUM APPARENT OPENING SIZE OF U.S. SIEVE NUMBER 30.

2. FENCE POSTS SHOULD BE MADE OF HOT ROLLED STEEL, AT LEAST 4 FEET LONG WITH TEE OR Y–BAR CROSS SECTION. SURFACE PAINTED OR GALVANIZED, MINIMUM WEIGHT 1.25 LB/FT, AND BRINDELL HARDNESS EXCEEDING 140.

3. WOVEN WIRE BACKING TO SUPPORT THE FABRIC SHOULD BE GALVANIZED 2" X 4" WELDED WIRE, 12 GAUGE MINIMUM.

INSTALLATION

1. STEEL POSTS, WHICH SUPPORT THE SILT FENCE, SHOULD BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POSTS MUST BE EMBEDDED A MINIMUM OF 1–FOOT DEEP AND SPACED NOT MORE THAN 8 FEET ON CENTER. WHERE WATER CONCENTRATES, THE MAXIMUM SPACING SHOULD BE 6 FEET.

2. LAY OUT FENCING DOWN–SLOPE OF DISTURBED AREA, FOLLOWING THE CONTOUR AS CLOSELY AS POSSIBLE. THE FENCE SHOULD BE SITED SO THAT THE MAXIMUM DRAINAGE AREA IS ¼ ACRE/100 FEET OF FENCE.

3. THE TOE OF THE SILT FENCE SHOULD BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWN–SLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. WHERE FENCE CANNOT BE TRENCHED IN (E.G., PAVEMENT OR ROCK OUTCROP), WEIGHT FABRIC FLAP WITH 3 INCHES OF PEA GRAVEL ON UPHILL SIDE TO PREVENT FLOW FROM SEEPING UNDER FENCE.

4. THE TRENCH MUST BE A MINIMUM OF 6 INCHES DEEP AND 6 INCHES WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.

5. SILT FENCE SHOULD BE SECURELY FASTENED TO EACH STEEL SUPPORT POST OR TO WOVEN WIRE, WHICH IS IN TURN ATTACHED TO THE STEEL FENCE POST. THERE SHOULD BE A 3–FOOT OVERLAP, SECURELY FASTENED WHERE ENDS OF FABRIC MEET.

6. SILT FENCE SHOULD BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

COMMON TROUBLE POINTS

1. FENCE NOT INSTALLED ALONG THE CONTOUR CAUSING WATER TO CONCENTRATE AND FLOW OVER THE FENCE.

2. FABRIC NOT SEATED SECURELY TO GROUND (RUNOFF PASSING UNDER FENCE).

3. FENCE NOT INSTALLED PERPENDICULAR TO FLOW LINE (RUNOFF ESCAPING AROUND SIDES).

4. FENCE TREATING TOO LARGE AN AREA, OR EXCESSIVE CHANNEL FLOW (RUNOFF OVERTOPS OR COLLAPSES FENCE).

INSPECTION AND MAINTENANCE GUIDELINES

1. INSPECT ALL FENCING WEEKLY, AND AFTER RAINFALL.

2. REMOVE SEDIMENT WHEN BUILDUP REACHES 6 INCHES.

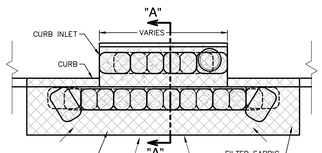
3. REPLACE TORN FABRIC OR INSTALL A SECOND LINE OF FENCING PARALLEL TO THE TORN SECTION.

4. REPLACE OR REPAIR SECTIONS CRUSHED OR COLLAPSED IN THE COURSE OF CONSTRUCTION ACTIVITY. IF A SECTION OF FENCE IS OBSTRUCTING VEHICULAR ACCESS, CONSIDER RELOCATING IT TO A SPOT WHERE IT WILL PROVIDE EQUAL PROTECTION, BUT WILL NOT OBSTRUCT VEHICLES. A TRIANGULAR FILTER DIKE MAY BE PREFERABLE TO A SILT FENCE AT COMMON VEHICLE ACCESS POINTS.

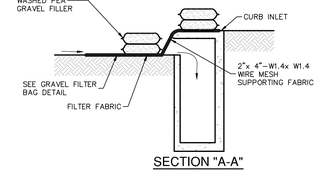
5. WHEN CONSTRUCTION IS COMPLETE, THE SEDIMENT SHOULD BE DISPOSED OF IN A MANNER THAT WILL NOT CAUSE ADDITIONAL SILTATION AND THE PRIOR LOCATION OF THE SILT FENCE SHOULD BE REVEGETATED. THE FENCE ITSELF SHOULD BE DISPOSED OF IN AN APPROVED LANDFILL.

SILT FENCE DETAIL

NOT–TO–SCALE



PLAN VIEW



SECTION "A-A"

GENERAL NOTES

1. CONTRACTOR TO INSTALL 2"x4"–W1.4xW1.4 WIRE MESH SUPPORTING FILTER FABRIC OVER THE INLET OPENING. FABRIC MUST BE SECURED TO WIRE BACKING WITH CLIPS OR WIRE TIES AT THIS LOCATION. SAND BAGS FILLED WITH WASHED PEA GRAVEL SHOULD BE PLACED ON TOP OF WIRE MESH ON TOP OF THE INLET AS SHOWN ON THIS DETAIL TO HOLD WIRE MESH IN PLACE. SANDBAGS FILLED WITH WASHED PEA GRAVEL SHOULD ALSO BE PLACED ALONG THE GUTTER AS SHOWN ON THIS DETAIL TO HOLD WIRE MESH IN PLACE. SAND BAGS TO BE STACKED TO FORM A CONTINUOUS BARRIER AROUND INLETS.

2. THE BAGS SHOULD BE TIGHTLY ABUTTED AGAINST EACH OTHER TO PREVENT RUNOFF FROM FLOWING BETWEEN THE BAGS.

INSPECTION AND MAINTENANCE GUIDELINES

1. INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL. REPAIR OR REPLACEMENT SHOULD BE MADE PROMPTLY AS NEEDED BY THE CONTRACTOR.

2. REMOVE SEDIMENT WHEN BUILDUP REACHES A DEPTH OF 3 INCHES. REMOVED SEDIMENT SHOULD BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE.

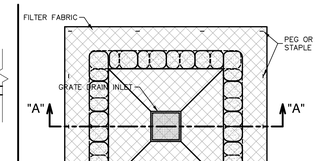
3. CHECK PLACEMENT OF DEVICE TO PREVENT GAPS BETWEEN DEVICE AND CURB.

4. INSPECT FILTER FABRIC AND PATCH OR REPLACE IF TORN OR MISSING.

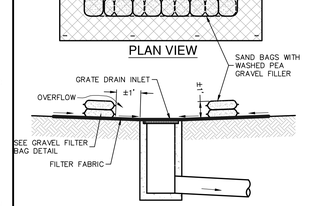
5. STRUCTURES SHOULD BE REMOVED AND THE AREA STABILIZED ONLY AFTER THE REMAINING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

BAGGED GRAVEL CURB INLET PROTECTION DETAIL

NOT–TO–SCALE



PLAN VIEW



SECTION "A-A"

GENERAL NOTES

1. THE SANDBAGS SHOULD BE FILLED WITH WASHED PEA GRAVEL AND STACKED TO FORM A CONTINUOUS BARRIER ABOUT 1 FOOT HIGH AROUND INLETS.

2. THE BAGS SHOULD BE TIGHTLY ABUTTED AGAINST EACH OTHER TO PREVENT RUNOFF FROM FLOWING BETWEEN THE BAGS.

INSPECTION AND MAINTENANCE GUIDELINES

1. INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL. REPAIR OR REPLACEMENT SHOULD BE MADE PROMPTLY AS NEEDED BY THE CONTRACTOR.

2. REMOVE SEDIMENT WHEN BUILDUP REACHES A DEPTH OF 3 INCHES. REMOVED SEDIMENT SHOULD BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MATTER THAT IT WILL NOT ERODE.

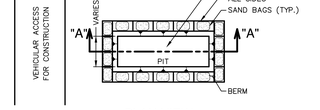
3. CHECK PLACEMENT OF DEVICE TO PREVENT GAPS BETWEEN DEVICE AND CURB.

4. INSPECT FILTER FABRIC AND PATCH OR REPLACE IF TORN OR MISSING.

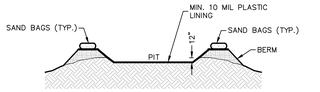
5. STRUCTURES SHOULD BE REMOVED AND THE AREA STABILIZED ONLY AFTER THE REMAINING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

BAGGED GRAVEL GRATE INLET PROTECTION DETAIL

NOT–TO–SCALE



PLAN VIEW



SECTION "A-A"

GENERAL NOTES

1. DETAIL ABOVE ILLUSTRATES MINIMUM DIMENSIONS. PIT CAN BE INCREASED IN SIZE DEPENDING ON EXPECTED FREQUENCY OF USE.

2. WASHOUT PIT SHALL BE LOCATED IN AN AREA EASILY ACCESSIBLE TO CONSTRUCTION TRAFFIC.

3. WASHOUT PIT SHALL NOT BE LOCATED IN AREAS SUBJECT TO INUNDATION FROM STORM WATER RUNOFF.

4. LOCATE WASHOUT AREA AT LEAST 50 FEET FROM SENSITIVE FEATURES, STORM DRAINS, OPEN DITCHES OR WATER BODIES.

5. TEMPORARY CONCRETE WASHOUT FACILITY SHOULD BE CONSTRUCTED WITH SUFFICIENT QUANTITY AND VOLUME TO CONTAIN ALL LIQUID AND CONCRETE WASTE GENERATED BY WASHOUT OPERATIONS.

MATERIALS

PLASTIC LINING MATERIAL SHOULD BE A MINIMUM OF 10 MIL IN POLYETHYLENE SHEETING AND SHOULD BE FREE OF HOLES, TEARS, OR OTHER DEFECTS THAT COMPROMISE THE IMPERMEABILITY OF THE MATERIAL.

MAINTENANCE

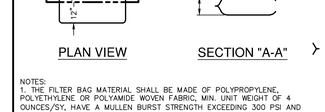
1. WHEN TEMPORARY CONCRETE WASHOUT FACILITIES ARE NO LONGER REQUIRED FOR THE WORK, THE HARDENED CONCRETE SHOULD BE REMOVED AND DISPOSED OF.

2. MATERIALS USED TO CONSTRUCT TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE REMOVED FROM THE SITE OF THE WORK AND DISPOSED OF.

3. HOLES, DEPRESSIONS OR OTHER GROUND DISTURBANCES CAUSED BY THE REMOVAL OF THE TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE BACKFILLED AND REPAIRED.

CONCRETE TRUCK WASHOUT PIT DETAIL

NOT–TO–SCALE



PLAN VIEW

SECTION "A-A"

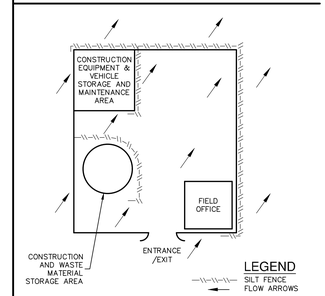
NOTES:
1. THE FILTER BAG MATERIAL SHALL BE MADE OF POLYPROPYLENE, POLYETHYLENE OR POLYAMIDE WOVEN FABRIC, MIN. UNIT WEIGHT OF 4 OUNCES/SY, HAVE A MULLEN BURST STRENGTH EXCEEDING 300 PSI AND ULTRAVIOLET STABILITY EXCEEDING 70%.

2. THE FILTER BAG SHALL BE FILLED WITH CLEAN, MEDIUM WASHED PEA GRAVEL TO COARSE GRAVEL (0.31 TO 0.75 INCH DIAMETER).

3. SAND SHALL NOT BE USED TO FILL THE FILTER BAGS.

GRAVEL FILTER BAG DETAIL

NOT–TO–SCALE



CONSTRUCTION STAGING AREA

NOT–TO–SCALE

THE ENGINEERING SEAL HAS BEEN AFFIXED TO THIS SHEET ONLY FOR THE PURPOSE OF DEMONSTRATING COMPLIANCE WITH THE TPDES–STORM WATER POLLUTION PREVENTION PLAN (SWP3) REGULATIONS.

THIS SHEET HAS BEEN PREPARED FOR PURPOSES OF THE SWP3 ONLY. ALL OTHER CIVIL ENGINEERING RELATED INFORMATION SHOULD BE ACQUIRED FROM THE APPROPRIATE SHEET IN THE CIVIL IMPROVEMENT PLANS.

EXHIBIT 3

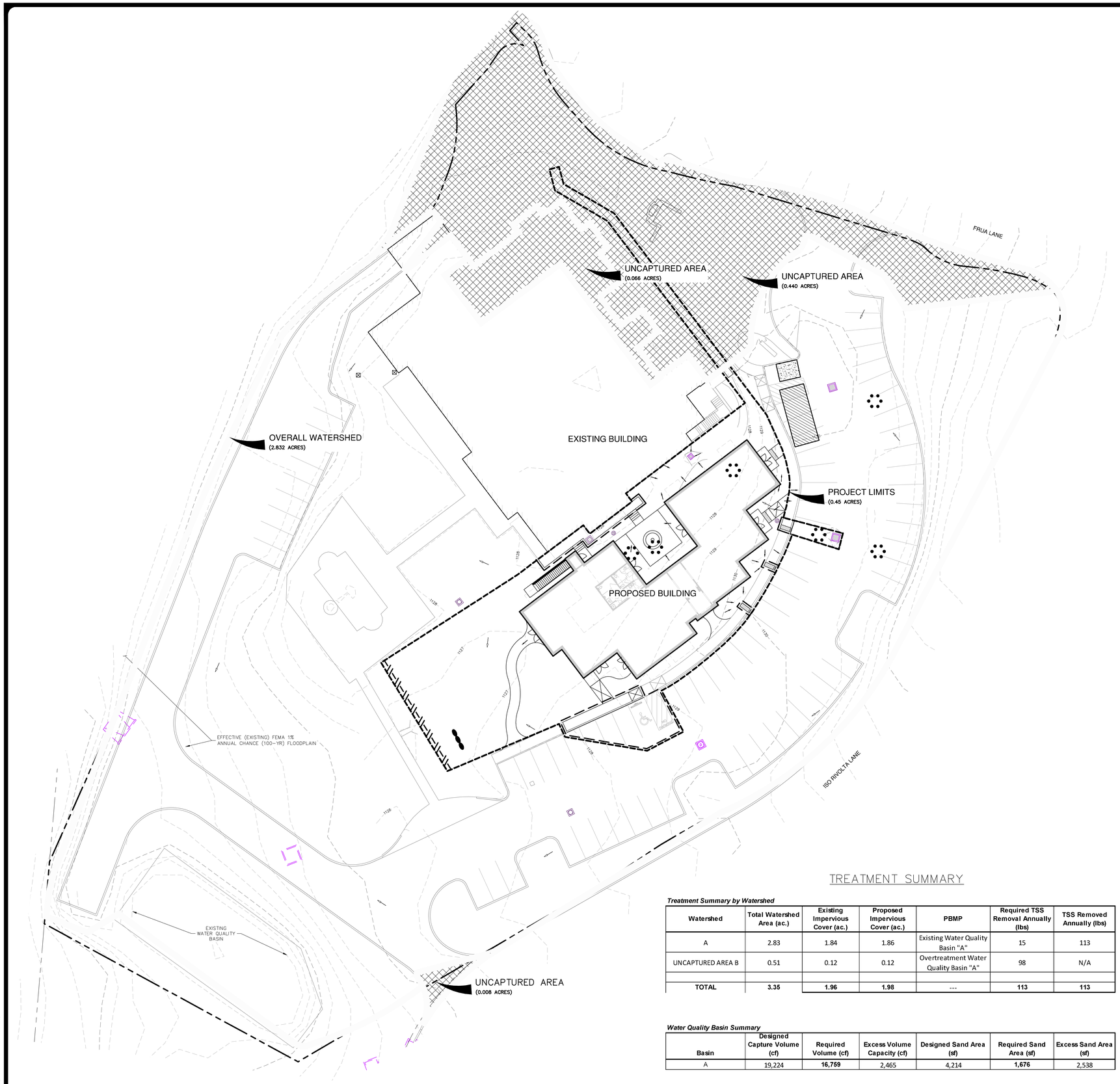
NO.	REVISION	DATE

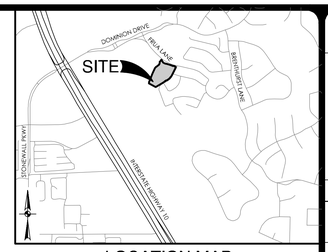
12/5/24

STATE OF TEXAS
ANDREW J. BELTON
121688
LICENSED PROFESSIONAL ENGINEER

PAPE-DAWSON ENGINEERS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM 470 | TEXAS SURVEYING FIRM #100280-00

VIA DOMINION BUILDING 200
SAN ANTONIO, TEXAS
CONTRIBU





LOCATION MAP

NOT-TO-SCALE

LEGAL DESCRIPTION:
LOTS 5, BLOCK 28, N.C.B. 16365
(PLAT NO. 24-11800297)

ADDRESS:
8 DOMINION DR
SAN ANTONIO, TX 78257

SCALE: 1"= 20'

0' 20' 40' 60'

LEGEND

- PROPERTY LINE
- LOT LINE
- PROJECT LIMITS
- EXISTING CONTOUR
- PROPOSED CONTOUR
- FLOW ARROW (EXISTING)
- FLOW ARROW (PROPOSED)
- SILT FENCE
- ROCK BERM
- GRAVEL FILTER BAGS
- GRATE INLET PROTECTION
- STABILIZED CONSTRUCTION ENTRANCE/EXIT (FIELD LOCATE)
- CONSTRUCTION EQUIPMENT, VEHICLE & MATERIALS STORAGE AREA (FIELD LOCATE)
- CONCRETE TRUCK WASH-OUT PIT (FIELD LOCATE)
- PROPOSED BUILDING
- EXISTING BUILDING
- EXISTING GRATE INLET
- UNTREATED AREA
- WATERSHED BOUNDARY

TREATMENT SUMMARY

Treatment Summary by Watershed

Watershed	Total Watershed Area (ac.)	Existing Impervious Cover (ac.)	Proposed Impervious Cover (ac.)	PBMP	Required TSS Removal Annually (lbs)	TSS Removed Annually (lbs)
A	2.83	1.84	1.86	Existing Water Quality Basin "A"	15	113
UNCAPTURED AREA B	0.51	0.12	0.12	Overtreatment Water Quality Basin "A"	98	N/A
TOTAL	**3.35**	**1.96**	**1.98**	---	**113**	**113**

Water Quality Basin Summary

Basin	Designed Capture Volume (cf)	Required Volume (cf)	Excess Volume Capacity (cf)	Designed Sand Area (sf)	Required Sand Area (sf)	Excess Sand Area (sf)
A	19,224	**16,759**	2,465	4,214	**1,676**	2,538

SUMMARY OF PERMANENT POLLUTION ABATEMENT MEASURES:

1. TEMPORARY BMP'S WILL BE MAINTAINED UNTIL THE SITE IMPROVEMENTS ARE COMPLETED AND THE SITE HAS BEEN STABILIZED, INCLUDING SUFFICIENT VEGETATION BEING ESTABLISHED.

2. DURING CONSTRUCTION, TO THE EXTENT PRACTICAL, CONTRACTOR SHALL MINIMIZE THE AREA OF SOIL DISTURBANCE. AREAS OF DISTURBED SOIL SHALL BE REVEGETATED TO STABILIZE SOIL USING SOLID SOD IN A STAGGERED PATTERN. SEE DETAIL ON EXHIBIT 4 AND REFER TO SECTION 1.3.11 IN TCEQ'S TECHNICAL GUIDANCE MANUAL RG-348 (2005). SOD SHOULD BE USED IN CHANNELS AND ON SLOPES > 15%. THE CONTRACTOR MAY SUBSTITUTE THE USE OF SOD WITH THE PLACEMENT OF TOP SOIL AND A FRIABLE SEED BED WITH A PROTECTIVE MATTING OR HYDRAULIC MULCH ALONG WITH WATERING UNTIL VEGETATION IS ESTABLISHED. APPLICATIONS AND PRODUCTS SHALL BE THOSE APPROVED BY TXDOT AS OF FEBRUARY 2001 AND IN COMPLIANCE WITH THE TGM RG-348 (2005). SEED MIXTURE AND/OR GRASS TYPE TO BE DETERMINED BY OWNER AND SHOULD BE IN COMPLIANCE WITH TGM RG-348 (2005) GUIDELINES. IRRIGATION MAY BE REQUIRED IN ORDER TO ESTABLISH SUFFICIENT VEGETATION.
3.
4. FOR DISTURBED AREAS WHERE INSUFFICIENT SOIL EXISTS TO ESTABLISH VEGETATION, CONTRACTOR SHALL PLACE A MINIMUM OF 6" OF TOPSOIL PRIOR TO REVEGETATION.

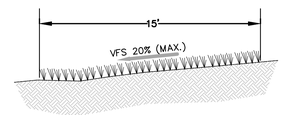
5. PERMANENT BMP'S FOR THIS SITE INCLUDE A SAND FILTER BASIN AND ONE (1) ENGINEERED VEGETATIVE FILTER STRIP. THESE PERMANENT BMP'S HAVE BEEN DESIGNED TO REMOVE AT LEAST 80% OF THE INCREASED TOTAL SUSPENDED SOLIDS (TSS) FOR THE 12.43 ACRES IN ACCORDANCE WITH THE TCEQ'S TECHNICAL GUIDANCE MANUAL (TGM) RG-348 (2005).

6. TYPICAL SLOPES ON THIS PROJECT RANGE FROM APPROXIMATELY 1.0% TO 10.0%.

7. SILT FENCING AND ROCK BERMS, WHERE APPROPRIATE, WILL BE MAINTAINED UNTIL THE ROADWAY, UTILITY, DRAINAGE IMPROVEMENTS, AND BUILDING CONSTRUCTION ARE COMPLETED.

8. CONTRACTOR SHALL INSTALL AND ESTABLISH VEGETATION FOR SOIL STABILIZATION PRIOR TO SITE CLOSEOUT.

9. ALL PERMANENT BMP'S MUST BE CERTIFIED BY A REGISTERED PROFESSIONAL ENGINEER.



ENGINEERED VEGETATIVE FILTER STRIP DETAIL

NOT-TO-SCALE

NO.	REVISION	DATE

12/5/24

STATE OF TEXAS
ANDREW J. BELTON
121688
LICENSED
PROFESSIONAL ENGINEER

PAPE-DAWSON ENGINEERS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM 470 | TEXAS SURVEYING FIRM 100288-00

VIA DOMINION BUILDING 200

SAN ANTONIO, TEXAS

CONTRIBUTING ZONE PLAN

PERMANENT POLLUTION ABATEMENT PLAN

PLAT NO. 24-11800297
JOB NO. 12610-09
DATE SEPTEMBER 2024
DESIGNER AA
CHECKED EK DRAWN AA
SHEET C7.02

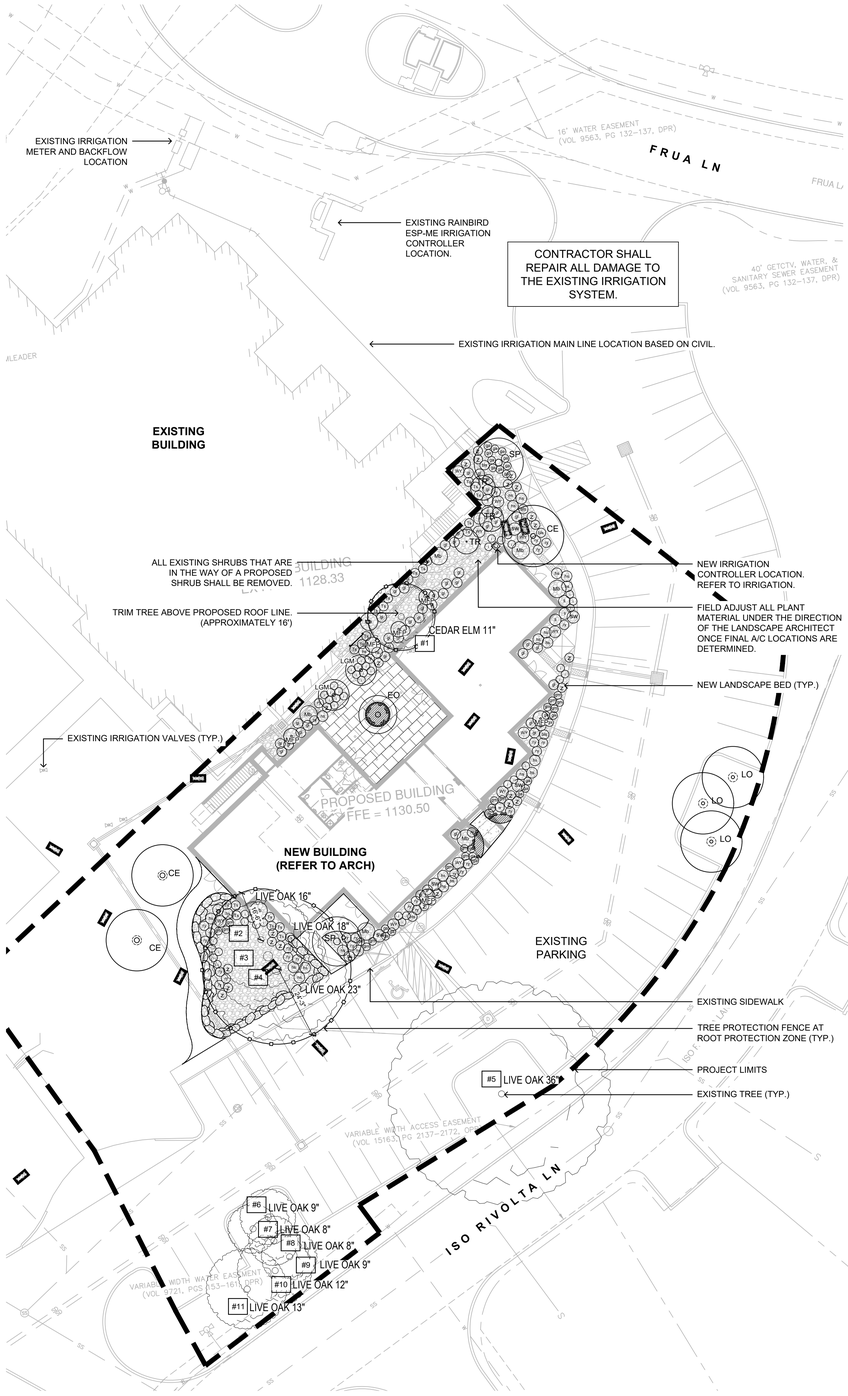
THE ENGINEERING SEAL HAS BEEN AFFIXED TO THIS SHEET ONLY FOR THE PURPOSE OF DEMONSTRATING COMPLIANCE WITH THE POLLUTION ABATEMENT SIZING AND TREATMENT REQUIREMENTS OF THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY'S EDWARDS AQUIFER TECHNICAL GUIDANCE MANUAL.

THIS SHEET HAS BEEN PREPARED FOR PURPOSES OF POLLUTION ABATEMENT ONLY. ALL OTHER CIVIL ENGINEERING RELATED INFORMATION SHOULD BE ACQUIRED FROM THE APPROPRIATE SHEET IN THE CIVIL IMPROVEMENT PLANS.

EXHIBIT 1

Date: August 29, 2024, 11:09 AM - User ID: BHughen
File: P:\726\10\09\Design\Civil\CZP-1261009.dwg

THIS DOCUMENT HAS BEEN PRODUCED FROM MATERIAL THAT WAS STORED AND/OR TRANSMITTED ELECTRONICALLY AND MAY HAVE BEEN INADVERTENTLY ALTERED. RELY ONLY ON FINAL HARDCOPY MATERIALS BEARING THE CONSULTANT'S ORIGINAL SIGNATURE AND SEAL. AERIAL IMAGERY PROVIDED BY GOOGLE© UNLESS OTHERWISE NOTED. Imagery © 2016,CAPCOG,Digital Globe,Texas Orthoimagery Program, USDA Farm Service Agency.



VIA DOMINION BUILDING 200

8 DOMINION DR.
SAN ANTONIO, TX

LANDSCAPE & IRRIGATION DRAWING INDEX

L1	OVERALL SITE PLAN, AND LANDSCAPE AND TREE PRESERVATION CALCULATIONS
L2	LANDSCAPE PLAN AND LANDSCAPE LIGHTING PLAN
L3	LANDSCAPE DETAILS AND TREE PRESERVATION DETAILS
L4	LANDSCAPE SPECIFICATIONS
L5	LANDSCAPE SPECIFICATIONS
IR1	IRRIGATION PLAN
IR2	IRRIGATION SCHEDULE AND NOTES
IR3	IRRIGATION DETAILS

GENERAL NOTES:

1. SEE CIVIL, MEP AND ARCHITECTURAL SHEETS FOR ALL CIVIL, MEP AND ARCHITECTURAL IMPROVEMENTS.
2. THE LOCATION OF ALL TREES, BOULDERS, SHRUBS AND EDGING SHALL BE STAKED OR MARKED IN THE FIELD BY THE CONTRACTOR FOR LANDSCAPE ARCHITECT APPROVAL PRIOR TO INSTALLATION.
3. THE CONTRACTOR SHALL REMOVE 12" OF EXISTING SOIL IN ALL LANDSCAPE BEDS AND REPLACE WITH 9" OF PLANTING MIX AND 3" OF MULCH.
4. ALL EXISTING AND PROPOSED UTILITIES ARE SHOWN SCHEMATICALLY AND ARE FOR THE CONTRACTORS REFERENCE. THE CONTRACTOR SHALL VERIFY THE LOCATION, SIZE AND DEPTH OF ALL UTILITIES PRIOR TO COMMENCING WORK.
5. IF ANY FIELD CONDITIONS VARY FROM THE CONTRACT DOCUMENTS THE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT IN WRITING UPON DISCOVERY.
6. MAINTAIN A POSITIVE SLOPE AWAY FROM THE BUILDING FOUNDATION.
7. THE QUANTITIES INDICATED ON THE LANDSCAPE MATERIAL SCHEDULE & PLAN ARE PROVIDED FOR THE BENEFIT OF THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR HIS OWN QUANTITY CALCULATIONS AND THE LIABILITY WHICH PERTAINS TO THESE QUANTITIES AND TO ANY RELATED CONTRACT DOCUMENTS AND/ OR PRICE QUOTATIONS. QUESTIONS SHOULD BE DIRECTED TO THE LANDSCAPE ARCHITECT.
8. ALL IMPROVEMENTS SHALL BE CONSTRUCTED TO COMPLY WITH THE TEXAS ACCESSIBILITY STANDARDS AND THE ARCHITECTURAL BARRIERS ACT OF 1968.
9. ALL PRESERVED TREES INSIDE THE PROJECT LIMITS SHALL BE TRIMMED BY A CERTIFIED ARBORIST UNDER THE DIRECTION OF THE LANDSCAPE ARCHITECT. THIS SHALL BE DONE ONCE CONTRACTOR MOBILIZES AND BEFORE TREE PROTECTIONS ARE PUT INTO PLACE. MAINTAIN MINIMUM 14'-17' OVERHEAD CLEARANCE FOR EMERGENCY VEHICLES. NO MORE THAN 25% OF ANY TREE CANOPY CAN BE REMOVED. SOUTHERN LIVE OAK TREES CAN ONLY BE TRIMMED BETWEEN JULY 1 AND JANUARY 31.
10. IT IS THE CLIENT'S RESPONSIBILITY TO SUBMIT AND OBTAIN THE REVIEW AND APPROVAL FROM THE LOCAL GOVERNMENT AGENCY THAT HAS JURISDICTION OVER THE LANDSCAPE AND IRRIGATION IMPROVEMENTS INCLUDED IN THIS SET OF DRAWINGS.

CITY OF SAN ANTONIO LANDSCAPE ORDINANCE COMPLIANCE WORKSHEET

SEC. 35-510 BUFFERYARDS

N/A

SEC. 35-511 LANDSCAPING

CONSTRUCTION IS LIMITED TO NEW BUILDING, WITH NO NEW PARKING. PROJECT LIMITS LOCATED AWAY FROM PUBLIC STREETYARD. A MINIMUM OF 25 POINTS SHALL BE REQUIRED.

REQUIRED POINTS =	25	POINTS	
PROPOSED POINTS =	25	POINTS	

A. PARKING LOT SHADING =	25	POINTS	

PARKING LOT SF=	16600	SF		
REQUIRED PARKING LOT AREA THAT IS SHADED BY CANOPY TREES =	25%			
PARKING LOT SF X 25% =	4150	SF	20 points	
PARKING LOT SF X 35% =	5810	SF	25 points	
PARKING LOT SF X 50% =	8300	SF	35 points	
TOTAL PARKING LOT AREA THAT IS SHADED BY CANOPY TREES =	SF	5961	36%	

PROPOSED TREES WITHIN 12' OF A PARKING LOT EDGE

TREE QTY.	TREE TYPE	(SF) SHADE AREA 50%	(SF) TOTAL SHADE AREA
1	CEDAR ELM	437	437
2	TEXAS REDBUD	137	274
		TOTAL =	711

EXISTING TREES WITHIN 12' OF A PARKING LOT EDGE OR IN AN ISLAND OR PENINSULA

TREE QTY.	TREE TYPE	(SF) SHADE AREA AT 100%	(SF)TOTAL SHADE AREA
6	LIVE OAK (TREE #'S : 4,5,6,7,8,9)	875	5250
		TOTAL =	5250

TREE INVENTORY TABLE

SITE AREA	=	39,574	SF
MINIMUM FINAL TREE CANOPY COVERAGE (25%)	=	9,894	SF
PRESERVED AND PROPOSED TREE CANOPY COVERAGE	=	**38%**	
TOTAL SQUARE FOOTAGE OF EXISTING CANOPY PRESERVED	=	**8,750**	SF
TOTAL SQUARE FOOTAGE OF PLANTED CANOPY	=	**6,458**	SF
TOTAL SQUARE FOOTAGE OF CANOPY	=	**15,208**	SF

Tag #	Species	Understory Species* 5.0" - 11.5"		Significant Tree 6" - 23.5"		Significant Tree** 10.0" - 23.5"		Heritage 3:1		Heritage 1:1		Mitigation tree inches ***
		Removed	Preserved	Removed	Preserved	Removed	Preserved	Removed	Preserved	Removed	Preserved	Preserved
1	CEDAR ELM				11							
2	LIVE OAK				16							
3	LIVE OAK				18							
4	LIVE OAK				23							
5	LIVE OAK								36			
6	LIVE OAK				9							
7	LIVE OAK				8							
8	LIVE OAK				8							
9	LIVE OAK				9							
10	LIVE OAK				12							
11	LIVE OAK				13							
Sub. Tot. Inches=		0	0	0	127	0	0	0	36	0	0	0
Total inches by category=		0		127		0		36		0		

Preservation percentage=	#DIV/0!	**Significant Preservation**	100%	**Heritage Preservation**	100% 0
Mitigation required (Commercial) =	0	**Commercial (inches)**	50.8		
Mitigation required (Residential) =	0	**Residential (inches)**	44.45	**Heritage Mitigation (inches)**	0

No category to fall below 10% preservation;
Preserved- Tree to remain that meets root protection zone requirements described in section 35-523 of the UDC.
Mitigation 1:1 for significant trees below minimum preservation requirements; 3:1 for heritage trees below 100% preservation
** Small species: Condalia, Redbud, Tx. Mountain Laurel, Tx. Persimmon, Hawthorn, Possumhaw - these are mitigated at 1:1 for Heritage Trees*
*** Ashe Juniper, Huisache, Mesquite, Arizona Ash, Hackberry protected at 10" dbh and mitigated at 1:1 for heritage trees*
**** Mitigation Trees: Unprotected-sized trees to be used for mitigation calculations; subtract inches from mitigation owed*

CALCULATION OF CANOPY SHADE AREA OF NEW PLANTINGS

TREE TYPE	QTY	SHADE SF	PERCENTAGE		
CEDAR ELM	3	875	90%	2362.5	SF
LIVE OAK	3	875	90%	2362.5	SF
TEXAS REDBUD	7	275	90%	1732.5	SF
			TOTAL =	**6457.5**	SF

CALCULATION OF CANOPY SHADE AREA OF EXISITNG TREES

TREE TYPE	QTY	SHADE SF	PERCENTAGE		
LIVE OAK	10	875	100%	8750	SF
			TOTAL =	**8750**	SF

HEFFNER DESIGN TEAM, PLLC

4100 N. 22nd Street
McAllen, TX. 78504
(956) 540-7850

1777 NE Loop, Suite 600
San Antonio, TX 78217
(210) 820-2677

REGISTERED LANDSCAPE ARCHITECT ANDREW T. HEFFNER 2525 STATE OF TEXAS

DATE: 11-15-2024

PROJECT:

VIA DOMINION BUILDING 200
8 DOMINION DR,
SAN ANTONIO, TEXAS 78257

DATE	DESCRIPTION
08-27-2024	CONCEPTUAL DESIGN
09-23-2024	ISSUED FOR REVIEW
10-04-2024	95% CONSTRUCTION DOCUMENTS
11-15-2024	ISSUED FOR PERMIT

SHEET TITLE:

OVERALL LANDSCAPE PLAN, AND LANDSCAPE AND TREE PRESERVATION CALCULATIONS

These Drawings and Specifications are to be an instrument of service and shall remain the property of the Landscape Architect. They are not to be used on other projects or extensions to this project except by agreement in writing with the Landscape Architect. The Landscape Architect is not responsible for construction means, methods, sequences or procedures or for safety precautions and programs in connection with the project.

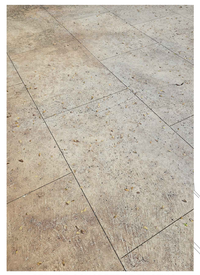
PROJECT NUMBER:
ML-24-02

SHEET NUMBER:

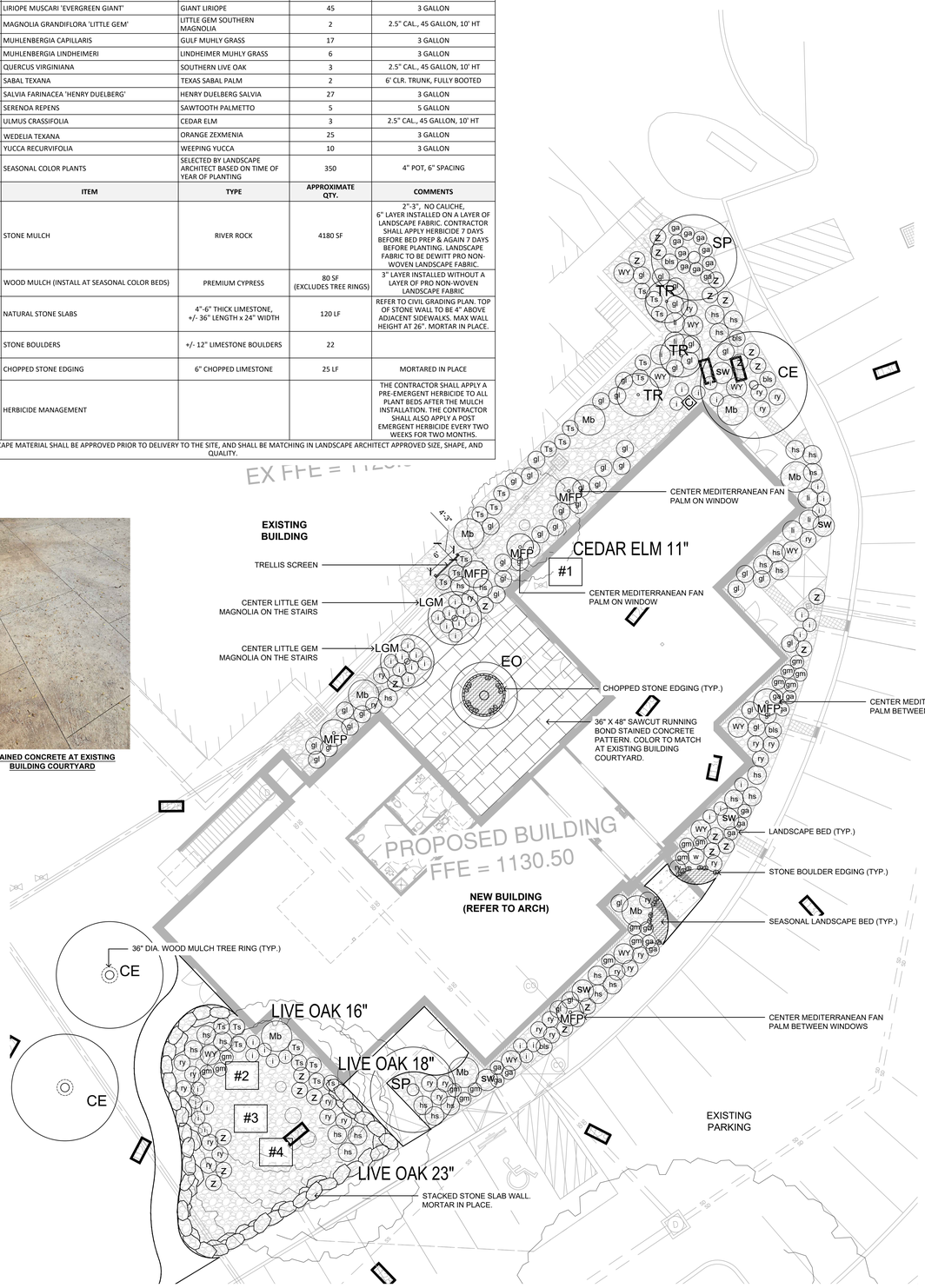
L1

LANDSCAPE MATERIAL SCHEDULE				
CODE	**BOTANICAL NAME**	**COMMON NAME**	**APPROXIMATE QTY.**	**COMMENTS**
w	AGAVE OVATIFOLIA 'FROSTY BLUE'	FROSTY BLUE WHALE'S TONGUE AGAVE	1	5 GALLON
EO	OLEA EUROPAEA 'WILSONII'	FRUITLESS EUROPEAN OLIVE TREE	1	65 GALLON, MULTI STEM, 6" CAL.
Mb	CAESELPINIA PULCHERRIMA	MEXICAN BIRD OF PARADISE	8	5 GALLON
TR	CERCIS CANADENSIS VAR TEXENSIS	TEXAS REDBUD	3	1.5" CAL., 8' HT., 30 GALLON
MFP	CHAMAEROPS HUMILIS	MEDITERRANEAN FAN PALM	6	45 GALLON, 3-3' CLR. TRUNKS
bls	DASYLIRION WHEELERI	BLUE SOTOL	5	5 GALLON
i	DIETES BICOLOR	YELLOW FLOWERING IRIS	43	3 GALLON
ga	GAURA LINDHEIMERI	PINK GAURA	22	3 GALLON
ry	HESPERALOE PARVIFLORA	RED YUCCA	32	3 GALLON
Ts	LEUCOPHYLLUM FRUTESCENS 'GREEN CLOUD'	GREEN CLOUD TEXAS SAGE	22	3 GALLON
gl	LIRIOPE MUSCARI 'EVERGREEN GIANT'	GIANT LIRIOPE	45	3 GALLON
LGM	MAGNOLIA GRANDIFLORA 'LITTLE GEM'	LITTLE GEM SOUTHERN MAGNOLIA	2	2.5" CAL., 45 GALLON, 10' HT
gm	MUHLENBERGIA CAPILLARIS	GULF MUHLY GRASS	17	3 GALLON
li	MUHLENBERGIA LINDHEIMERI	LINDHEIMER MUHLY GRASS	6	3 GALLON
LO	QUERCUS VIRGINIANA	SOUTHERN LIVE OAK	3	2.5" CAL., 45 GALLON, 10' HT
SP	SABAL TEXANA	TEXAS SABAL PALM	2	6' CLR. TRUNK, FULLY BOOTED
hs	SALVIA FARINACEA 'HENRY DUELBERG'	HENRY DUELBERG SALVIA	27	3 GALLON
sw	SERENOA REPENS	SAWTOOTH PALMETTO	5	5 GALLON
CE	ULMUS CRASSIFOLIA	CEDAR ELM	3	2.5" CAL., 45 GALLON, 10' HT
z	WEDELIA TEXANA	ORANGE ZEXMENIA	25	3 GALLON
WY	YUCCA RECURVIFOLIA	WEEPING YUCCA	10	3 GALLON
	SEASONAL COLOR PLANTS	SELECTED BY LANDSCAPE ARCHITECT BASED ON TIME OF YEAR OF PLANTING	350	4" POT, 6" SPACING
SYMBOL	**ITEM**	**TYPE**	**APPROXIMATE QTY.**	**COMMENTS**
	STONE MULCH	RIVER ROCK	4180 SF	2"-3", NO CALICHE, 6" LAYER INSTALLED ON A LAYER OF LANDSCAPE FABRIC. CONTRACTOR SHALL APPLY HERBICIDE 7 DAYS BEFORE BED PREP & AGAIN 7 DAYS BEFORE PLANTING. LANDSCAPE FABRIC TO BE DEWITT PRO NON-WOVEN LANDSCAPE FABRIC.
	WOOD MULCH (INSTALL AT SEASONAL COLOR BEDS)	PREMIUM CYPRESS	80 SF (EXCLUDES TREE RINGS)	3" LAYER INSTALLED WITHOUT A LAYER OF PRO NON-WOVEN LANDSCAPE FABRIC
	NATURAL STONE SLABS	4"-6" THICK LIMESTONE, +/- 36" LENGTH x 24" WIDTH	120 LF	REFER TO CIVIL GRADING PLAN. TOP OF STONE WALL TO BE 4" ABOVE ADJACENT SIDEWALKS. MAX WALL HEIGHT AT 26". MORTAR IN PLACE.
	STONE BOULDERS	+/- 12" LIMESTONE BOULDERS	22	
	CHOPPED STONE EDGING	6" CHOPPED LIMESTONE	25 LF	MORTARED IN PLACE
	HERBICIDE MANAGEMENT			THE CONTRACTOR SHALL APPLY A PRE-EMERGENT HERBICIDE TO ALL PLANT BEDS AFTER THE MULCH INSTALLATION. THE CONTRACTOR SHALL ALSO APPLY A POST EMERGENT HERBICIDE EVERY TWO WEEKS FOR TWO MONTHS.
ALL LANDSCAPE MATERIAL SHALL BE APPROVED PRIOR TO DELIVERY TO THE SITE, AND SHALL BE MATCHING IN LANDSCAPE ARCHITECT APPROVED SIZE, SHAPE, AND QUALITY.				

LANDSCAPE LIGHTING SCHEDULE			
SYMBOL	**QUANTITY**	**ITEM**	**DESCRIPTION**
S	14	SPOT LIGHT	KICHLER 15382BK WITH 18136 LAMP (2700K, 5W, 25° BEAM)
TL	6	MOON LIGHT	KICHLER 15382BK WITH 18140 LAMP (2700K, 35W, 60° BEAM) ALL TREE LIGHTS SHALL BE MOUNTED USING A NON-INVASIVE MOUNTING STRIP FOCUS INDUSTRIES TREE MOUNT AND POLYSTRAP: FA-MDCST-TPS6BLT
GFI	1	OUTDOOR RATED GFI OUTLET	COORDINATE THE FINAL LOCATION WITH THE MEP SHEETS.
T	1	TRANSFORMER	KICHLER PRO SERIES TRANSFORMER: 15PR300SS (300W)
NOTES: 1. ALL LANDSCAPE LIGHTING WORK TO BE PROVIDED BY AN ELECTRICIAN LICENSED BY THE STATE OF TEXAS. 2. QUANTITY CALCULATIONS ARE TO BE VERIFIED BY THE CONTRACTOR. 3. ALL LANDSCAPE LIGHTING SLEEVING SHALL BE BORED.			

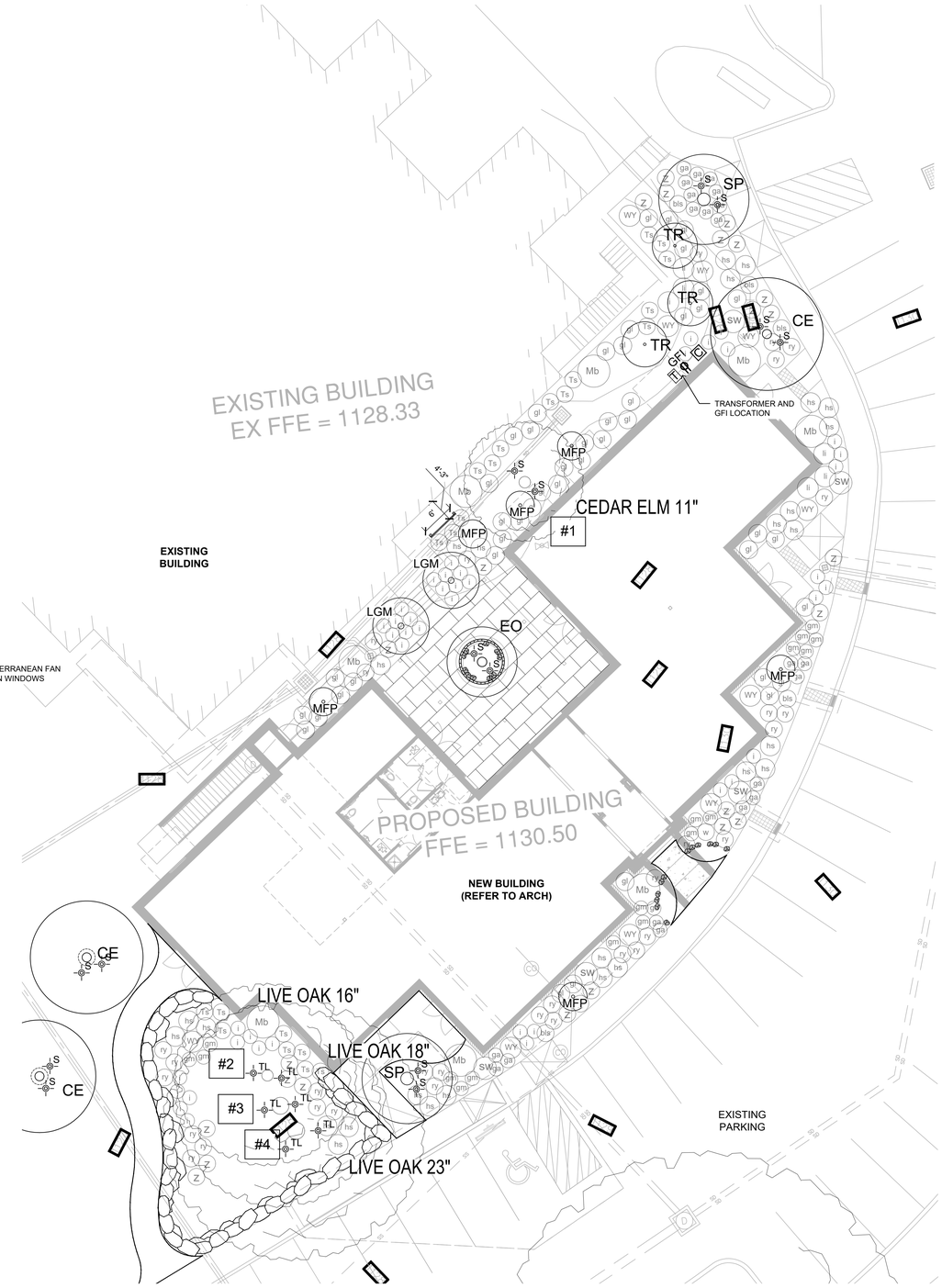


STAINED CONCRETE AT EXISTING BUILDING COURTYARD



1 L2 LANDSCAPE PLAN

SCALE: 1" = 10'



2 L2 LANDSCAPE LIGHTING PLAN

SCALE: 1" = 10'

HEFFNER DESIGN TEAM, PLLC

4100 N. 22nd Street
McAllen, TX. 78504
(956) 540-7850

1777 NE Loop, Suite 600
San Antonio, TX 78217
(210) 820-2677

REGISTERED LANDSCAPE ARCHITECT
ANDREW T. HOFFNER
2829
STATE OF TEXAS

DATE: 11-15-2024

PROJECT:

VIA DOMINION BUILDING 200

8 DOMINION DR,
SAN ANTONIO, TEXAS 78257

DATE	DESCRIPTION
08-27-2024	CONCEPTUAL DESIGN
09-23-2024	ISSUED FOR REVIEW
10-04-2024	95% CONSTRUCTION DOCUMENTS
11-15-2024	ISSUED FOR PERMIT

SHEET TITLE:

LANDSCAPE PLAN AND LIGHTING PLAN

These Drawings and Specifications are to be an instrument of service and shall remain the property of the Landscape Architect. They are not to be used on other projects or extensions to this project except by agreement in writing with the Landscape Architect. The Landscape Architect is not responsible for construction means, methods, sequences or procedures or for safety precautions and programs in connection with the project.

PROJECT NUMBER:
ML-24-02

SHEET NUMBER:

L2

GENERAL TREE PROTECTION NOTES

1. Protect and ensure the continued good health of existing trees identified on the plans. Protective measures include providing, installing, maintaining and removing protective fences, wood mulch, pruning, boring, and watering.
2. Install tree protection before any heavy equipment arrives on the site and remains in place for the duration of the project.

PROTECTIVE FENCE

1. Critical Root Zone (CRZ)= 1 foot radius per 1 caliper inch of trunk diameter.
2. Place protective fence at the edge of the critical root zone of trees to be protected. Use 4 feet high orange plastic mesh or approved equivalent supported on steel T-posts. Use steel T-posts minimum of 6 feet long, spaced at intervals sufficient to keep fence pulled tight. Stretch smooth galvanized wire from post to post across the top of fence and draw tight. Attach plastic mesh to posts and top wire with aluminum tie wire or nylon ties.
3. No excavation, grading, filling, soil compaction, parking, or equipment storage is allowed within the fenced area.
4. When a construction zone overlaps the root zone due to lack of space, place fence within 5 feet of construction zone.

VEGETATIVE WATERING FOR TREE PROTECTION

1. Water trees at a rate of 30 gallons per week for every week during construction activities.

TRUNK PROTECTION

1. Where protective fence is located closer than 6 feet from a tree trunk from any direction, protect the tree trunk with bound wood planking. Wood planks may be construction grade lumber a minimum of 1 inch by 6 inch nominal. Band planks together with rope, band, or strap of sufficient gauge and quality to keep protective planking in place around tree trunk for the duration of the project. Install wood planks of sufficient length to protect the trunk to a height of 10 feet, or the height of the lowest major branching, whichever is less. Do not use nails, screws or other damaging attachment methods.

ROOT ZONE PROTECTION

1. Cover entire area of critical root zone with 4" depth of wood mulch.
2. Vehicular traffic, stockpiling or storage of materials, parking of equipment and refueling equipment is prohibited in protected areas.

BORING, TRENCHING, GRADING, AND PRUNING

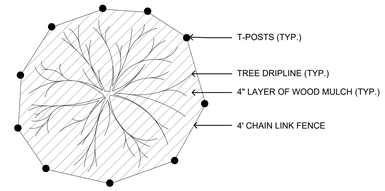
1. Where shown in plans, underground utilities crossing under protected areas will be bored beneath critical root zones. Avoid boring directly beneath root flare. Bore depth is 2 feet below existing grade.
2. No trenching, excavating, filling, or compaction is allowed within the critical root zone except as specifically identified in the plans and approved by the Landscape Architect.
3. When existing grade must be cut within the critical root zone, contact the Engineer prior to beginning work. Before grading or excavation work, saw cut roots to the depth of the proposed disturbance along the edge of the proposed disturbance before excavation is begun.
4. Prune flush with soil any roots exposed by construction. Backfill root areas with good quality topsoil as soon as possible. If exposed root areas are not to be backfilled within two days, then cover with a minimum of six inches of erosion control compost. All oak species roots shall be painted with an acceptable wound dressing within thirty minutes of cut.
5. When grading within the critical root zone, use hand or small equipment and alter grade no more than three inches. No soil disturbance is allowed on the root flare under any circumstances.
6. Perform any pruning to provide clearance for structures, vehicular traffic, and construction equipment before construction damage might occur. Prune any limb damage within two hours of occurrence and according with ANSI A300-1995 standard.

MAINTENANCE OF TREE PROTECTION MATERIALS

1. Maintain all tree protection materials throughout entire length of project. Repair damaged or affected tree protection materials. Additional erosion control compost may be required during the project.

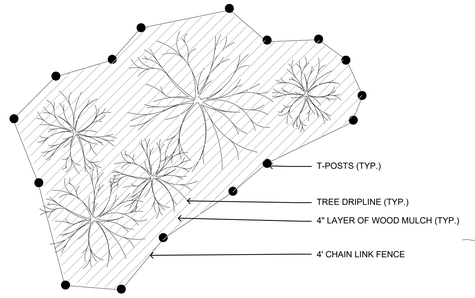
REMOVAL OF TREE PROTECTION MATERIALS

1. Remove and dispose of all protective fencing at end of project.



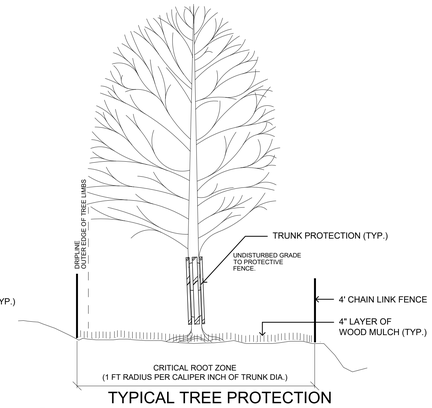
1 L3 PLAN VIEW OF INDIVIDUAL TREE AND PROTECTIVE FENCE

N.T.S.



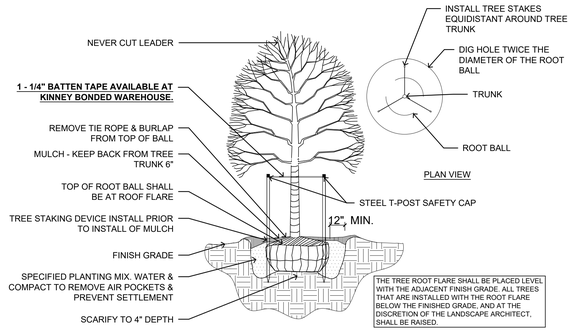
2 L3 PLAN VIEW OF GROUP TREE AND PROTECTIVE FENCE

N.T.S.



3 L3 TYPICAL TREE PROTECTION DETAIL

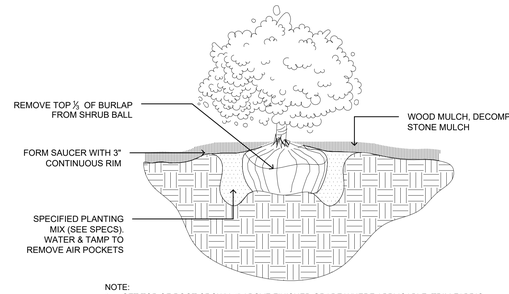
N.T.S.



NOTES:
1. FOR EACH ONE (1) INCH CALIPER OF TREE TRUNK DIAMETER INSTALL ONE 21 GRAM AGRIFORM PLANTING TABLET. INSTALL HALF-WAY UP THE ROOTBALL 1" FROM ROOT TIPS.
2. SET TOP OF ROOT CROWN 1" ABOVE FINISHED GRADE WHERE APPLICABLE. TRIM FABRIC AROUND TRUNK OF TREE.
3. REMOVE ALL PLASTIC OR POLYETHYLENE MESH FROM ROOT BALLS.
4. REMOVE ALL NYLON TYING STRING.
5. STEEL CAGING TO BE REMOVED BY 2/3rds.
6. USE MULCH TREE RING IF TREE IS IN MULCHED LANDSCAPE BED ONLY OR LAWN.

4 L3 TREE & PALM PLANTING

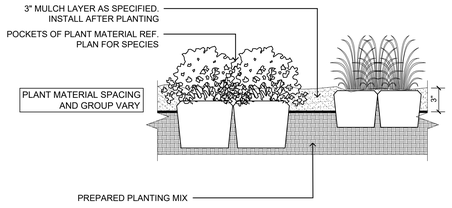
N.T.S.



NOTE:
1. SET TOP OF ROOT CROWN 1" ABOVE FINISHED GRADE WHERE APPLICABLE. TRIM FABRIC AROUND TRUNK OF TREE.
2. REMOVE ALL PLASTIC OR POLYETHYLENE MESH FROM ROOT BALLS.
3. REMOVE ALL NYLON TYING STRING.
4. STEEL CAGING TO BE REMOVED BY 2/3rds.

5 L3 5 GALLON SHRUB PLANTING

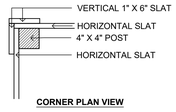
N.T.S.



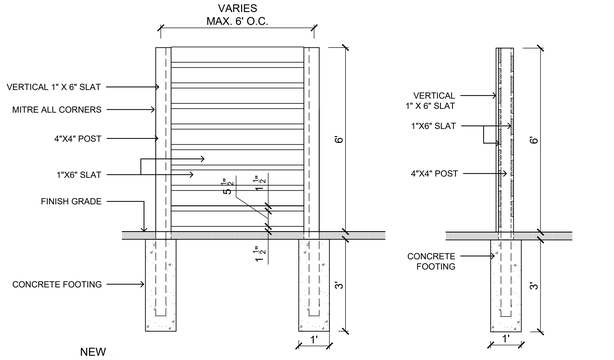
6 L3 1 & 3 GALLON SHRUB PLANTING

N.T.S.

NOTES:
1. ALL MATERIAL SHALL BE GRADE A CEDAR.
2. THE CEDAR SHALL BE STAINED, NOT PAINTED. UTILIZE BEHR PREMIUM SEMI TRANSPARENT WATER PROOFING STAIN AND SEALER.
3. ALL HARDWARE SHALL BE GALVANIZED.
4. **CONTRACTOR TO FIELD VERIFY DIMENSIONS PRIOR TO FABRICATION AND INSTALLATION OF SCREENING.**



CORNER PLAN VIEW



NEW BUILDING (REFER TO ARCH)

7 L3 EQUIPMENT SCREENING

N.T.S.

HEFFNER DESIGN TEAM, PLLC

4100 N. 22nd Street
McAllen, TX. 78504
(956) 540-7850

1777 NE Loop, Suite 600
San Antonio, TX 78217
(210) 820-2677

REGISTERED LANDSCAPE ARCHITECT ANDREW T. HEFFNER 2626 STATE OF TEXAS

DATE: 11-15-2024

PROJECT:

VIA DOMINION BUILDING 200

8 DOMINION DR,
SAN ANTONIO, TEXAS 78257

DATE	DESCRIPTION
08-27-2024	CONCEPTUAL DESIGN
09-23-2024	ISSUED FOR REVIEW
10-04-2024	95% CONSTRUCTION DOCUMENTS
11-15-2024	ISSUED FOR PERMIT

SHEET TITLE:

LANDSCAPE AND TREE PRESERVATION DETAILS

These Drawings and Specifications are to be an instrument of service and shall remain the property of the Landscape Architect. They are not to be used on other projects or extensions to this project except by agreement in writing with the Landscape Architect. The Landscape Architect is not responsible for construction means, methods, sequences or procedures or for safety precautions and programs in connection with the project.

PROJECT NUMBER:
ML-24-02

SHEET NUMBER:

L3

A. Section 328400

NON-POTABLE LANDSCAPE IRRIGATION SYSTEM

PART 1 - PRODUCTS

1.12 GENERAL

A. Unless otherwise noted on the Drawings, all materials shall be new and unused. The irrigation equipment catalog numbers used for reference in these Specifications are to establish minimum quality standards and may be substituted with an "approved equal" as outlined in Paragraph 1.06 of this section, unless specifically requested by the Owner.

B. Non-potable Irrigation System shall have all Irrigation components properly labeled and marked with purple color and purple lettering per City and State Standards and Specifications. See drawings for delineation of Potable and Non-Potable components.

1.13 POLYVINYL CHLORIDE PIPE (PURPLE PVC PIPE)

PVC pipe manufactured in accordance with ASTM Standards noted herein.

A. Marking and Identification: PVC pipe shall be continuously and permanently marked with the following information: Manufacturer's name, size, type of pipe, and material, PVC number, Product Standard number, and the NSF (National Sanitation Foundation) Seal.

B. PVC pipe fittings: Shall be of the same material as the PVC pipe specified and compatible with PVC pipe furnished. Solvent weld type shall be for Schedule 40.

C. PVC Pipe: Lateral line pipe shall be Class 200 solvent weld, SDR_21, PS 22_70 for all sizes 3/4" _ 2". Mainline pipe shall schd.40 PVC, unless otherwise noted on the Drawings.

D. Flexible PVC Risers (Nipples): All flexible PVC nipples shall be made from virgin PVC material, and shall comply with ASTM D2287, shall be tested at 200 P.S.I. static pressure for 2 hours and have a quick burst rating of a minimum 400 P.S.I. Flexible PVC pipe nipples shall be factory assembled only.

E. Unless otherwise noted on the Drawings, no pipe smaller than ¾" shall be used.

1.14 SWING JOINTS

A. Swing joints shall be manufactured Rainbird swing joints.

1.15 WIRE AND SPLICES

A. All electrical, control and ground wire shall be of size as indicated on the Drawings or in these Specifications. All wiring to be used for connecting the automatic remote control valve to the automatic controllers shall be Type "UF" 600 volt, solid copper, single conductor wire with PVC insulation and bear UL approval for direct underground burial feeder cable.

B. Verification of wire types and installation procedures shall be checked to conform to local codes.

C. Wire connectors shall be King low voltage connectors, tan color.

D. Two-wire No. 14 UF Direct Burial Cable

1. Conductor: Soft-annelaed copper conforming to UL std. 719, Parts 18-22.
2. Insulation: Polyvinylchloride, 60 degree C rated, conforming to UL std. 719, Parts23-25.
3. Manufacturer's Identification: Surface embossed with manufacturer's name, voltage rating, size and type of designation.
4. Underwriter's Laboratories Approval: All cable shall be tested physically and electrically in accordance with UL std. 719, and shall bear UL labels.

E. No. 10/2 UF Direct Burial Cable:

1. Conductors: The conductors shall consist of solid, soft-annealed copper.
2. Insulation: Over each conductor, there shall be extruded a polyvinylchoioride compound, UL rated for 60 degrees CENTIGRADE.
3. Color Coding: In conformance with the National Electrical Code.
4. Assembly: Flat, parallel configuration.
5. Overall Sheath: A polyvinylchloride sheath compound conforming to UL 719, for "UF" cable shall be applied overall.

E. Ground: The ground conductor shall consist of solid, uncoated soft-annealed No. 6 copper wire.

F. Ground rod, decoders, surge protectors

1.16 MANUAL/ISOLATION VALVES

A. All isolation valves 2-1/2 inches and larger shall be resilient wedge gate valve as manufactured by Matco-Norca series 10RT. All isolation valves smaller than 2-1/2" shall be Speers PVC, double union ball valves or approved equal. All valves must be certified for a working pressure of 125 PSI with a hydrostatic shell test of 200 PSI and a hydrostatic seal test of 150 PSI. Both ends must be screw type for use with PVC pipe.

B. All isolation valves shall be housed in an appropriately sized valve box.

1.17 ELECTRIC REMOTE CONTROL VALVES (FOR POTABLE AND NON-POTABLE IRRIGATION)

A. All electric valves shall be "normally closed", solenoid operated, 24 volt A.C., 60 Hz., Globe-Angle or Globe type valve installed in the angle or globe configuration.

B. Valves shall be Hunter, Pressure Regulating (XPR), Series, unless otherwise indicated on the Drawings.

C. A flow stem adjustment shall be included in each valve.

1.18 VALVE BOXES (FOR POTABLE AND NON-POTABLE IRRIGATION)

A. All electrical valves shall be placed below grade within 12X18" valve boxes. Valve boxes shall be ARMOR Series. With a purple bolt down or locking cover marked "Irrigation Control Valve," or approved equal.

B. All isolation shut-off valves shall be installed in suitable valve access boxes or proper size (ARMOR-10RND) as required for easy access to the valve. Valve boxes shall be Rain Bird (minimum size), with matching green bolt down or locking cover marked "Irrigation Control Valve," or approved equal.

C. A valve box shall be provided for all valves.

D. Boxes shall be suitable in size and configuration for the operability and adjustment of the valve.

E. Extension sections will be used as appropriate to the depth of piping.

F. All valve box covers shall bolt down or have locking mechanisms and shall be colored green.

1.19 POP_UP SPRAY, MICRO SPRAY, ROTOR AND BUBBLER HEADS (FOR POTABLE AND NON-POTABLE)

A. Pop-up spray, rotor and bubbler heads are specified on the Drawings.

B. One adjustable bubbler head shall be provided per each tree location as shown on the Drawings.

C. Spray heads shall have a minimum 4" pop_up or 12" pop-up as designated on the Drawings. The sprinkler body and all related parts shall be plastic cycolac or polycarbonate. They shall have a spring retraction for positive return action of the pop_up nozzle. The spring for retraction and the adjustable nozzle screw shall be made of corrosion resistant materials.

D. All heads are to be operated and site adjusted to match precipitation rate of all heads in the zone with proper nozzle selection and arc adjustments.

E. MICRO-SPRAYS -The nozzle shall be constructed of corrosion and UV-resistant plastic. The nozzle shall have a pop-up stem that when under water pressure, pops up an additional inch. It shall also have a stainless steel retraction spring to retract the stem when water pressure is released. The stem shall have an integral elastomeric flow bushing for maintaining a constant flow rate over the operating pressure range of 25 to 60 PSI (1.7 to 4.1 bars; 172 to 413 kPa). The nozzle shall be protected from debris by a stainless steel screen that is integral to the pop-up stem. The nozzle shall have standard female threads that are compatible with the threaded riser on Hunter spray heads as well as some other manufacturer's spray heads. The nozzle shall carry a two-year, exchange warranty (not prorated). Must be installed in Institutional spray body.

1.20 DRIP IRRIGATION (FOR POTABLE IRRIGATION ONLY)

A. The dripperline shall be XFS-09-12 non-potable as manufactured by Rain Bird Irrigation, Inc. Dripper flow rate and spacing shall be as indicated on the Drawings.

B. Soil Staples (TLS6): All on-surface/under mulch Techline CV/Techline Techlite installations shall be held in place with Techline Soil Staples spaced evenly every 3' to 5' on center, and with two staples on each change of direction.

C. Line Flushing Valves: All Techline/Techlite systems shall be installed with Netafim Automatic Line Flushing Valves as indicated on drawings. Techline CV zones do not require an automatic line flushing valve but must have a manual flushing port(s) in the position that an automatic flush valve would be positioned.

D. Pressure Regulator: A pressure regulator shall be installed at each zone valve or on the main line to ensure operating pressures do not exceed system requirements. The pressure regulator shall be a Netafim Pressure Regulator.

E. Disc Filter: A disc filter shall be installed at each zone valve or on the main line to ensure proper filtration. The filter shall be a Netafim Disc Filter. Model number and mesh as indicated on the Drawings.

1.21 ELECTRIC CONTROLLER

A. The electric irrigation controller shall be a Controller type controller capable of operating the number of stations as indicated on the Drawings. The system is designed to operate multiple valves at a time, unless otherwise noted. The controller will be specified on the Drawings.

B. Power source shall be standard 120 volt 60 Cycle AC. Output for operation of companion solenoid actuated valves shall be 24 volts 60 Cycle AC., unless otherwise noted on the Drawings.

C. Provide an automatic rain/freeze shutoff with controller.

D. All local and applicable codes shall take precedence in the furnishing and/or connecting of the 120 volt electrical service to the controller.

E. Adequate coverage and protect of the 24 volt service wires leading from the controllers shall be installed from the bottom of the controllers to at least six (6) inches below ground level or to floor level.

1.22 BACKFLOW PREVENTER (NOT FOR NON-POTABLE IRRIGATION SYSTEM)

A. A backflow prevention device shall be located and sized as shown on the Drawings.

B. This assembly shall be installed in a box and conform to the City Plumbing Codes and manufacturer's recommendations.

C. Backflow preventer housing shall be called for on the Drawings.

1.23 GLUE

A. All glue used shall be Red Christie Hot Glue.

B. All primer shall be P-68 Purple Primer.

1.24 FLOW SENSOR

A. A flow sensor at each water line tap shall be included.

PART 2 - EXECUTION

2.1 INSTALLATION, GENERAL

A. Design Pressure: This irrigation system has been designed to operate with a minimum static static water pressure as indicated on the Drawings. The Contractor shall take a pressure reading prior to beginning construction. If the pressure reading is 5% less than above, the Contractor shall notify the Engineer/Architect.

B. Contractor Responsibility: The Contractor shall not willfully install the irrigation system as shown on the drawings when it is obvious in the field that obstructions, grade differences or discrepancies in equipment usage, area dimensions or water pressure exist that might not have been considered in the design. Any deviation between the Contract Documents and field conditions shall be brought to the attention of the Engineer/Architect in writing. In the event this notification is not performed, the Contractor shall assume full responsibility for any revision necessary.

C. Staking: Before installation is started, place a stake or flag where each sprinkler is to be located, in accordance with the Drawings. Staking shall be approved by the Engineer/Architect before proceeding.

D. Piping Layout: Piping layout is diagrammatic. Route piping around existing trees and root zones in such a manner as to avoid damage to plantings. Where access is restricted, bore under large existing trees to avoid damage and exposure of the root system. Do not dig within the ball of newly planted trees or shrubs.

E. In areas where trees are present, trenches will be adjusted on site to provide a minimum clearance of four times the trunk diameter of the tree (at its base) between any tree and any trench.

F. All material and equipment shall be delivered to the Worksite in unbroken reels, cartons or other packaging to demonstrate that such material is new and of a quality and grade in keeping with the intent of these Specifications.

G. Refer to the Drawings for drip installation details.

2.2 EXCAVATION AND TRENCHING

A. All backfill operations shall conform to Title 30, TAC, Chapter 344.62, effective Jan. 1, 2009.

B. The Contractor shall perform all excavation to the depth indicated in these Specifications and Contract drawings. The banks of trenches shall be kept as nearly vertical as practicable. Trenches shall be wide enough to allow a minimum of 4" between parallel pipelines or electrical wiring. Where rock excavation is required, or where stones or rubbles is encountered in the bottom of the trench that would create a concentrated pressure on the pipe, the rock, stones, or rubble shall be removed to a depth of six (6) inches minimum below the trench depth indicated. The over depth rock excavation and all excess trench excavation shall be backfilled with loose, moist earth or sand, thoroughly tamped. Whenever wet or otherwise unstable soil that is incapable of properly supporting the pipe is encountered in the trench bottom, such shall be removed to a depth and length required, and the trench backfilled to trench bottom grade as hereinafter specified, with course sand, fine gravel or other suitable material.

C. Bottom of trench grade shall be continued past ground surface deviations to avoid air pockets and low collection points in the line. The minimum cover specifications shall govern regardless of variations in ground surface profile and the occasional deeper excavation required at banks and other field conditions. Excavation shall be such that a uniform trench grade variation will occur in all cases where variations are necessary.

D. Trench excavation shall comprise the satisfactory removal and disposition of all materials, and shall include all shoring and sheeting required to protect the excavation and to safeguard employees.

E. During excavation, material suitable for backfilling shall be stockpiled in an orderly manner a sufficient distance back from edge of trenches to avoid overloading and prevent slides or cave_ins. Material unsuitable for backfilling shall be wasted as directed by the Engineer/Architect. When excavated material is of a rocky nature and the topsoil or any other layer of excavated material is suitable for pipe bedding and backfill in the vicinity of the pipe, such material shall be separately stockpiled for use in such bedding and pipe backfill operations, unless satisfactory imported material is used.

F. All excavations and backfill shall be unclassified and covered in the basic bid. No additional compensation will be allowed for rock or rubble encountered.

G. Restore all surfaces, existing underground installations, etc., damaged or cut as a result of the excavations to their original conditions in a manner acceptable to the Engineer/Architect.

2.3 PIPE INSTALLATION

A. Sprinkler Mains: Sprinkler mains are that portion of piping from water source to electric valves. This portion of piping is subject to surges since it is a closed portion of the sprinkler system. Sprinkler mains shall be installed in a trench with a minimum of 18 inches of cover.

B. Lateral Piping: Lateral piping is that portion of piping from electrical valve to sprinkler heads. This portion of piping is not subject to surges since it is an "open end" portion of the sprinkler system. Lateral piping shall be installed in a trench with a minimum of 18 inches of cover.

C. Remove lumber, rubbish, and rocks from trenches. Provide firm, uniform bearing for entire length of each pipeline to prevent uneven settlement. Wedging or blocking of pipe will not be permitted. Remove foreign matter or dirt from inside of pipe before welding, and keep piping clean during and after laying pipe.

D. PVC pipe shall not be installed where there is water in the trench, nor shall PVC pipe be laid when temperature is 40 deg. F or below or when rain is imminent. PVC pipe will expand and contract as the temperature changes. Therefore, pipe shall be snaked from side to side of trench bottom to allow for expansion and contraction.

E. PVC pipe shall be cut with a hand saw or hack saw with the assistance of a square and sawing vice, or in a manner so as to ensure a square cut. Burrs at cut ends shall be removed prior to installation so that a smooth unobstructed flow will be obtained.

F. All PVC pipe shall be installed with pipe markings facing the top of the trench.

G. Thrust blocks shall be installed as indicated on the Drawings.

2.4 PVC PIPE AND FITTING ASSEMBLY

A. Make solvent_welded joints following standards noted herein. Thoroughly clean pipe and fittings of dirt, dust, and moisture with an approved colored PVC primer before applying solvent.

B. All plastic to plastic joints shall be solvent-weld joints or slip seal joints. Only the solvent recommended by the pipe manufacturer shall be used. All plastic pipe and fittings shall be installed as outlined and instructed by the pipe manufacturer and it shall be the Contractor's responsibility to make arrangements with the pipe manufacturer for any field assistance that may be necessary. The Contractor shall assume full responsibility for the correct installation.

C. Solvent weld joints shall be made in the following manner:

1. Thoroughly clean the mating pipe and fittings with approved cleaner and a clean dry cloth.
2. Apply a uniform coat of solvent to the outside of the pipe with a non-synthetic bristle brush or applicator.
3. Apply solvent to inside of the fitting in a similar manner.
4. Re-apply a light coat of solvent to the pipe and quickly insert it into the fitting.
5. Give the pipe or fitting a quarter turn to ensure even distribution of the solvent and make sure that the pipe is inserted to the full depth of the fitting socket.
6. Hold in position for 15 seconds.
7. Wipe of excess solvent that appears at the outer shoulder of the fitting. Cure 24 hours before charging system with water.

D. PVC to Metal Connection: Work metal connections first. Use a non_hardening pipe dope such as Permatex No. 2 or "Teflon" tape on threaded PVC to metal joints. Use only light wrench pressure. All plastic to metal joints shall be made with plastic male adapters.

E. Threaded PVC Connections: Where required, use threaded PVC adapters into which pipe may be welded.

2.5 CONTROL WIRE INSTALLATION

A. All electric control cables shall be of size as shown on the Drawings and/or as specified and shall be installed in the piping trenches wherever possible.

B. Install wire in the pipe trench as detailed on the Drawings.

C. Wire shall be placed in the trench as loose as possible and with as much slack as possible to allow for expansion and contraction of the wire. Where it is necessary to run wire in a separate trench, the wire shall have at least twelve (12) inches of cover.

D. All wire connections at remote control valves, either direct buried or in boxes, and at all splices shall be left with sufficient slack so that in case of repair, the splice may be brought to the surface without disconnecting the wires. Slack shall be coiled in approximately 1" wraps.

E. Each remote control valve or group of remote control valves, which are to be connected to one station of a controller, shall have wire sizes as shown in the wiring diagrams on the Drawings or as specified. All remote control valves, what are to be connected to the same controller, shall be connected to a common ground wire system entirely independent of the common ground wire system of all other controllers. Only those remote control valves which are being controlled by one specific controller, shall be connected to that controller's common ground wire system.

F. All control wire less than 500 feet in length shall be continuous without splices or joints from the controller to the valves. Connections to the electric valves shall be made within 18 inches of the valve using connectors specified in Paragraph 2.4 of this section, unless otherwise approved by the Engineer/Architect in writing.

G. The Contractor shall obtain the Engineer/Architect's approval for wire routing when installed in a separate ditch. Control wires may be installed in a common ditch with piping; however, wires must be installed underneath mainline piping.

H. All wire passing under existing or future paving, sidewalk, construction, etc., shall be encased in 1" minimum PVC Schedule 40 conduit extending at least twelve (12) inches beyond edges of paving, sidewalks, or construction.

2.6 POP_UP SPRAY, MICRO-SPRAY, ROTORY AND BUBBLER HEADS (PURPLE FOR NON-POTABLE IRRIGATION)

A. Provide heads and nozzles as specified and install in locations as shown on the Contract Drawings.

B. All heads of a particular type and for a particular function in the system shall be of the same manufacturer and shall be marked with the manufacturer's name and identification, in such a position that they can be identified without being removed from the system. All sprinkler heads and quick coupling valves shall be set perpendicular to finished grades unless otherwise indicated on the Drawings.

C. Pop_up spray and micro-spray heads shall be installed on a swing joint pipe connector as detailed. Rotary heads shall be installed on a double swing joint connected to the lateral pipe. Bubbler shall be a tree well flexible riser-bubbler head on a flex pipe. Provide wire staple to secure the bubbler to the top of the root ball. Keep heads a minimum of 4 inches from paved surfaces.

D. Heads shall be installed with underside of flange flush with the finished grade.

E. Contractor will be required to adjust heads as necessary after establishment of grass or other plant material.

2.7 MANUAL VALVES (PURPLE FOR NON-POTABLE IRRIGATION)

A. Manual valves shall be sized and located where shown on the Drawings.

B. Valve boxes shall be adjusted to be flush with finished grade.

C. Valve boxes shall be properly supported and of sufficient construction that tractors, mowers or other equipment crossing over the boxes will not push boxes down and damage the pipe, valve, or box.

2.8 VALVE AND VALVE BOX PLACEMENT (PURPLE FOR NON-POTABLE IRRIGATION)

A. A ball valve shall precede each valve to provide shut off for repair of valves.

B. All manual, electric, and quick coupling valves shall be in boxes as specified in Paragraph 2.6 of this section, and shall be set with a minimum of six (6) inches of space between their top surface and the bottom of the valve box. The base of the box shall be filled with pea gravel per manufacturer's installation instructions.

C. Valves shall be fully opened and fully closed to ensure that all parts are in operating condition.

D. Valve boxes shall be set plumb, vertical, and concentric with the valve stem.

E. Any valve box which has moved from this required position so as to prevent the use of the operating wheel of the valve shall be reset by the Contractor at his own expense.

2.9 ELECTRIC CONTROLLER

A. Electric controller shall be located as shown on the Drawings and shall be capable of operating the number of stations indicated.

B. The system is designed to operate multiple sections at a time, unless otherwise noted on the Drawings in strict accordance with the manufacturer's published installation instructions.

2.10 ELECTRIC REMOTE CONTROL VALVES

A. Remote control valves shall be located and sized as shown on the Drawings. All electrical connections shall be made when the weather is dry with connection kits as specified in Paragraph 2.4 of this section in strict accordance with manufacturer's recommended procedures. All remote control valves shall be installed in a horizontal position, in accordance to the manufacturer's published installation instructions.

B. It shall be the responsibility of the Contractor to furnish and install the proper size wire on each of the low voltage circuits from the master control center to the various electric remote control valves.

C. Consideration shall be given to each circuit for allowance of voltage drop and economy consistent with accepted practices of electrical installation. Under no circumstances shall the voltage of any branch circuit be reduced more than proper due to length of run exceeding the maximum allowable for the wire size used. "Up-sizing" wire to compensate for voltage drop shall be at the Contractor's expense, whether or not indicated on the Drawings.

2.11 BACKFILL AND COMPACTION

A. After system is operating and required tests and inspections have been made, the trenches shall be carefully backfilled with the excavated materials approved for backfilling, consisting of earth, loam, sandy clay, sand, gravel, soft shale, or other approved materials, free from large clods of earth or stone. Rock, broken concrete, or pavement, and large boulders shall not be used as backfill material. The backfill shall be thoroughly compacted and made flush with the adjacent soil level.

B. Compact trenches in areas to be planted by thoroughly flooding the backfill with water. Compact all other areas by flooding or hand tamping. The jetting process may be used in areas when flooding.

C. Backfill for all trenches, regardless of the type of pipe covered, shall be compacted to a minimum of 90% density.

D. Any trenches improperly backfilled, or where settlement occurs, shall be reopened to the depth required for compaction, then refilled and compacted with the surface restored to the required grade and left in a completed surface condition as described above.

E. Specifically tamp backfill under heads and around the flange of heads in a one (1) foot radius by a suitable means after trench backfill has dried from flooding to prevent heads loosening in the ground.

2.12 FINAL ADJUSTMENT

A. After installation has been completed, make final adjustment of sprinkler system prior to Engineer/Architect's final inspection.

B. Completely flush system to remove debris from lines by removing nozzle from heads on ends of lines and turning on system.

C. Check sprinklers for proper operation and proper alignment for direction of throw.

D. Check each new section for operating pressure and balance to other sections by use of flow adjustment on top of each valve.

E. Check nozzling for proper coverage. Prevailing wind conditions may indicate that arc or angle of spray should be other than as shown on the Drawings. In this case, change nozzles to provide correct coverage and furnish as-built data to Engineer/Architect with each change.

F. After system is thoroughly flushed and ready for operation, each section of sprinklers shall be adjusted to control pressure at heads. Use the following method, one section at a time:

1. Remove last head on section and install a temporary riser above grade. Install tee with pressure gauge attached on top of riser and re_install head with nipple onto tee.
2. Correct operating pressure at last head of each section as follows: Spray Heads _ 20_25 psi; rotor heads - 30 to 40 psi (and as recommended by the manufacturer).
3. After replacing head, at grade, tamp thoroughly around head.

G. Prior to final inspection, cycle the system through three (3) complete watering schedules of not less than twenty (20) minutes each for sprinklers and three (3) hours each for drip to assure proper function of sprinklers, valves and controller.

2.13 CLEAN_UP

A. The Site shall be thoroughly cleaned of all waste materials and all unused or salvaged materials, equipment, tools, etc.

B. After completion of the work, areas disturbed shall be leveled and the Site shall be raked clean and left in an orderly condition.

2.14 TEMPORARY IRRIGATION FOR GRASS ESTABLISHMENT

A. If the permanent irrigation system is inoperable the Contractor shall provide temporary irrigation for all new turf areas. Temporary irrigation may include equipment securely staked above grade. It shall be the Contractor's responsibility to provide complete, consistent temporary coverage in order to establish a viable, mowable stand of grass. Any above grade equipment shall be removed by the Contractor upon acceptance of the turf by the Engineer/Architect.

2.15 WARRANTY

All irrigation labor and materials shall be warranted for 1 year.

SECTION 329200

TURF AND GRASSES

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK AND RELATED DOCUMENTS

A. Furnish all work and materials, appliances, tools, equipment, facilities, transportation and services required and incidental thereto, as shown on drawings and/or specified herein including but not limited to; seed bed preparation, fertilization, installation and uniform establishment of hydromulch and sod materials, subsequent maintenance requirements.

B. Related Work Specified Elsewhere:

1. Plants: Section 329300

C. It is the responsibility of the Contractor to establish a dense, top quality lawn of permanent grasses as specified. Any part of the area that fails to show a uniform germination shall be reseeded/resodded and such reseeding/resodding shall continue until a dense lawn area is established. The Contractor shall provide all maintenance of the lawn areas as described below until Final Acceptance.

1.2 QUALITY ASSURANCE

A. Work in this Section is to be performed by a single firm specializing in commercial landscape work of similar size and quality with a minimum of five (5) years experience. The Landscape Architect shall review qualifications and approve subcontractor prior to commencing work.

B. All chemical applications shall be performed in accordance with current county, state, and federal laws, utilizing approved materials and methods of application. These applications shall be performed under the supervision of a Licensed Certified Applicator.

C. All seed must meet the requirements of the U.S. Department of Agriculture Rules & Regulations as set forth in the Federal Seed Act and the Texas Seed Law.

D. All sod must be laid within forty-eight hours of cutting and immediately upon arrival to the project site. Stack sod roots to roots and protect from damage by exposure to environmental conditions. If laying of sod is delayed more than four hours after arrival to the site it must be stored under shade and kept moist. Do not tear, stretch or drop sod. Do not allow soil to break free of turf roots.

E. Suspend all work in this Section if conditions of drought, excessive moisture, high winds or extreme or prolonged cold exist.

1.3 WARRANTY AND MAINTENANCE

A. The Contractor shall maintain all plant material described in this Section from the date of installation and continue ninety (90) days after written approval of substantial completion is received from the Landscape Architect.

B. If a uniform lawn has not been established after ninety (90) days the Contractor shall take additional actions to meet the turf establishment requirement of these Contract Documents. The Contractor shall provide a written statement to the Landscape Architect detailing a course of action to establish a lawn.

C. Maintenance period work shall include the following tasks completed weekly:

1. Provide insect and disease control to maintain health of plants.
2. Dispose of all maintenance debris/clippings off-site. Owner's dumpsters shall not be used for disposal.
3. Keep all site areas tidy and free of grass clippings, mulch or other foreign materials.
4. Reapply hydromulch or resod as necessary to achieve uniform coverage.
5. Mow turf areas to maintain a 2" maximum height. However, not more than 1/3 of the rass leaf shall be removed at any one cutting and cutting shall not be fewer than ten (10) days apart.
6. Trim/edge all turf areas that abut edging, plant beds, pavement, etc.
7. Fertilize as indicated in this Section.
8. Assure adequate watering by utilizing irrigation system, if any. Monitor and adjust t he irrigation system as needed.
9. Hand water all turf if irrigation system is not functional or does not exist.
10. The Contractor shall warranty all turf areas for a period of three months from the date of written Final Acceptance. The Landscape Architect shall provide a letter indicating Final Acceptance of the turf areas.

HEFFNER DESIGN TEAM, PLLC

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San Antonio, TX 78217
(210) 820-2677

REGISTERED LANDSCAPE ARCHITECT ANDREW S. HEFFNER 2525 STATE OF TEXAS

DATE: 11-15-2024

11-15-2024

PROJECT:

VIA DOMINION BUILDING 200

8 DOMINION DR,
SAN ANTONIO, TEXAS 78257

DATE	DESCRIPTION
08-27-2024	CONCEPTUAL DESIGN
09-23-2024	ISSUED FOR REVIEW
10-04-2024	95% CONSTRUCTION DOCUMENTS
11-15-2024	ISSUED FOR PERMIT

SHEET TITLE:

LANDSCAPE SPECIFICATIONS

These Drawings and Specifications are to be an instrument of service and shall remain the property of the Landscape Architect. They are not to be used on other projects or extensions to this project except by agreement in writing with the Landscape Architect. The Landscape Architect is not responsible for construction means, methods, sequences or procedures or for safety precautions and programs in connection with the project.

PROJECT NUMBER:
ML-24-02

SHEET NUMBER:

L4

1.4 SUBMITTALS

A. The Contractor shall submit manufacturer's specifications for fertilizers, soil amendments and seed mixtures/percentages. Also include sod inspection certificates from the Texas Department of Agriculture and one sod delivery ticket per truckload. Sod delivery tickets shall indicate sod species, nursery certification and the date and time of cutting.

B. The submittal shall include the manufacturer's name, model number, and manufacturer's installation recommendation, if applicable, for each proposed item.

C. No partial submittal will be accepted and submittals shall be neatly bound into a brochure and logically organized. After the submittal has been approved, substitutions will not be allowed except by written consent of the Landscape Architect.

D. Approval of the submittals are required prior to delivery of any materials to the job site.

E. Shop drawings shall include dimensions, elevations, construction details, arrangements, and capacity of equipment, as well as manufacturer's installation recommendations.

1.5 APPROVAL OF PLANT MATERIAL

A. All plant material shall be approved by the Landscape Architect prior to installation. At no time shall any approval impair the right of further inspection and rejection during the progress of the work or contract life for failure to conform to the listed size and condition requirements or latent defects, diseases or injuries. Rejected plant materials shall be promptly removed from the site by the Contractor.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Topsoil shall be in accordance to Section 329300.

B. Sod shall be premium #1 certified sod, grown in a sod nursery on clayey soil, at least one year old, with a heavy top, strong well-knit root system and free of weeds and disease. Refer to drawings for type of sod required.

C. Seed shall be fresh, clean, new crop seed. Apply uniformly at the following rates for type of seed and planting date:

TYPE	APPLICATION RATE POUND S/AC.	SEEDING DATE
HULLED COMMON BERMUDA GRASS 98 / 88 UNHULLED COMMON BERMUDA GRASS 98 / 88	40 40	JANUARY 1 TO MARCH 31
HULLED COMMON BERMUDA GRASS 98 / 88	40	APRIL 1 TO SEPTEMBER 30
HULLED COMMON BERMUDA GRASS 98 / 88 UNHULLED COMMON BERMUDA GRASS 98 / 88 ANNUAL RYE GRASS (GULF)	40 40 30	OCTOBER 1 TO DECEMBER 31

D. Fertilizer shall be water soluble with an analysis of 12 percent Nitrogen, 4 percent Phosphoric Acid and 8 percent Potash. The fertilizer shall be delivered to the site in fully labeled containers. Fertilizer shall be kept dry prior to being used.

E. Mulch shall be virgin wood cellulose fiber made from whole wood chips. Within the fiber mulch material, at least 20 percent of the fibers will be 10.7 mm in length and .27 mm in diameter. Rate of application shall be 2000 pounds per acre. Mulch shall have a non-toxic green dye to guide in application. Hay or straw shall not be used.

F. Tackifier shall be equal to Terra Tack. The tackifier shall be applied at a rate of 40 pounds per acre. Terra Type III, or approved equal, shall be used on slopes exceeding 10% and Terra Type I, or approved equal, shall be used in all other areas.

G. Wetting agent shall be potable water.

H. Herbicide shall have an active ingredient of 41% glyphosate. The Contractor shall follow all manufacturer's warnings and application instructions.

PART 3 - INSTALLATION

3.1 EXAMINATION

A. Examine the areas and conditions under which work of this Section will be performed. Notify the Landscape Architect of unsatisfactory conditions. Correct conditions detrimental to the proper and timely completion of the work. Do not proceed until unsatisfactory conditions have been corrected and the Landscape Architect has provided written acceptance. Beginning work indicates acceptance of the site as satisfactory by the installer.

3.2 PREPARATION

A. Site Preparation: Compacted or unsuitable soils and sub-soils from construction activities must be ripped and tilled until a loose, friable and free-draining condition is met. All existing weeds, grass, stabilized sub-base material, rubble, excavated soil and other material shall be removed from the site and disposed of by the contractor prior to starting any new landscape work. All stones over one (1) inch in any dimension in the top two (2) inches of soil shall be removed. Soil conditions around entire site must be approved by the Landscape Architect prior to rough and finish grading operations. The Contractor shall not install any fill or topsoil in turf areas prior to site condition approval by the Landscape Architect.

B. Turf Area Preparation: Grade areas to finish grades, filling as needed or removing surplus material. Float all turf areas to a smooth, uniform grade as indicated in the Contract Documents. Add compost and incorporate as stated on Plans. All turf areas shall slope to drain away from structures and planting beds. Areas where no grades are shown shall have a smooth and continual grade between fixed elements and elevations shown. The Contractor shall ensure proper drainage around all structures and adjust grades as necessary or as directed by the Landscape Architect. Lightly compact all turf areas with weighted roller to assure future settling will not occur.

C. Turf Areas and Herbicide Application: All turf areas shall be free of weeds, grass, insects, or any other deleterious material prior to bed preparation. Contractor shall herbicide all turf areas at least two times prior to installation of any new material (topsoil or seed/sod). The Contractor shall wait seven (7) days from last herbicide application before proceeding with hydromulch or sod material installation.

3.3 INSTALLATION - HYDROMULCH

A. Prior to commencement of seeding operations, the Contractor shall protect all stationary items from overspray. Any overspray shall be immediately removed from any stationary object while still wet.

B. The Contractor shall obtain approval of hydromulch area from Landscape Architect prior to application. Immediately after approval begin hydromulch application to reduce potential for erosion and excessive weed growth.

C. Turf areas shall be seeded with an approved mechanical hydromulcher. Hydraulic equipment used for the application of fertilizer, seed and slurry of prepared wood fiber mulch shall have a built-in agitation system with an operating capacity sufficient to agitate, suspend and homogeneously mix a slurry containing up to forty (40) pounds of fiber plus a combined total of seventy (70) pounds of fertilizer solids for each 100 gallons of water. The discharge line shall be equipped with a set of hydraulic spray nozzles which provide even distribution of the slurry on the area to be seeded. The slurry tank shall have a minimum capacity of eight hundred (800) gallons. The Landscape Architect may authorize equipment with a smaller tank capacity. Apply a visibly uniform coat of slurry mixture to the prepared seed bed.

D. Keep hydromulched areas moist during germination period. Adjust watering schedule as needed or as directed by the Landscape Architect.

E. After first cutting water hydromulched areas twice the first week to a minimum depth of six (6) inches with a fine spray and once per week thereafter as necessary to supplement natural rain to the equivalent of one (1) inch or to a six (6) inch depth.

F. Water for watering purposes shall be provided by the Owner at no cost to the Contractor. The Contractor shall provide equipment needed to connect to source, transport and distribute water.

G. After germination period all areas that fail to show a uniform stand of grass shall be re-hydromulched and shall be done repeatedly until a uniform stand of grass has been has been approved by the Landscape Architect.

3.4 INSTALLATION - SOD

A. The Contractor shall obtain approval of sod area from Landscape Architect prior to installation. Immediately after approval begin sod installation to reduce potential for erosion and excessive weed growth.

B. Always lay sod perpendicular to the slope and abut tightly together. Stagger strips of sod so that transverse joints are offset a minimum of eight (8) inches.

C. Roll all sod with a weighted roller weighing approximately three hundred (300) lbs. to sufficiently set sod roots into underlying soil.

D. Water the sod with an irrigation system only. Monitor the health of the sod material and adjust water needs accordingly or as directed by Landscape Architect.

E. Sodded areas shall have fertilizer applied in two (2) applications with a thorough watering immediately following each application. The first application shall be one (1) week before the sod install at the rate of 35 pounds per 1,000 square feet harrowed into the top two (2) inches of seed bed. The second application shall be done at the rate of 25 pounds per 1,000 square feet, immediately following the second mowing.

3.5 CLEANING AND PROTECTION

A. The Contractor shall perform all necessary cleaning and removal of excess soil, debris, equipment, etc., during installation and upon completion of the work. The Contractor shall immediately repair any damage resulting from turf establishment operations without cost to the Owner.

B. The Contractor shall protect turf areas from damage, theft, erosion, washout, settlement or other causes until final acceptance. The above damages shall be repaired by the Contractor at no cost to the Owner.

PART 4 - METHOD OF MEASUREMENT

MEASUREMENT:

Turfgrass as described in this section will be paid for on a lump sum basis wherein no measurement will be made.

PART 5 - BASIS OF PAYMENT

PAYMENT:

A. Turfgrass will be paid for at the Contract lump sum, which price will be full compensation for furnishing and installing equipment; shop drawings; providing all submittals and warranties; furnishing all labor, materials, tools, equipment; and incidentals necessary to complete the work as described in this section and related other sections of these Contract Documents, as well as maintenance until final acceptance.

END OF SECTION 329200.

SECTION 329300

PLANTS

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK AND RELATED DOCUMENTS

A. Furnish all work and materials, appliances, tools, equipment, facilities, transportation and services required and incidental thereto, as shown on the Drawings and/or specified herein including but not limited to; the procurement and transportation of living plants, the excavation and preparation of all planting beds and planting of all materials, mulching, watering, protection, maintenance guarantee period, bed edging, planting soil/mixes, fertilizer, mulch, trees, palms, shrubs, groundcovers, plant material replacements for all Contractor supplied plant materials, miscellaneous landscape materials.

B. Related Work Specified Elsewhere:

1. Turf and Grasses: 329200

1.2 QUALITY ASSURANCE

A. The following Codes, Regulations, Reference Standards, and Specifications apply to work included in this section:

1. "Hortus Third," 1976.
2. Texas Association of Nurserymen, Grades and Standards for Nursery Stock
3. "American Standard for Nursery Stock," ANSI Z60.1-1900.
4. National Arborist Association Standards
5. "Plants of Deep South Texas - A Field Guide to the Woody and Flowering Species"

B. Landscape work to be performed by a single firm specializing in commercial landscape work of similar size and quality with a minimum of five (5) years experience. The Landscape Architect shall review qualifications and approve subcontractor prior to commencing work.

1.3 WARRANTY AND MAINTENANCE

A. The Contractor shall warranty groundcover/shrubs for three months and trees/palms for one year after final acceptance. If plant material is deemed dead or unrecoverable by the Landscape Architect the Contractor will be notified in writing as such. The Contractor shall remove and replace the plant material within two weeks of the notification.

B. The Contractor shall maintain all plant material described in this Section for ninety days after written approval of substantial completion is received from the Landscape Architect.

C. Maintenance period work shall include the following tasks completed weekly:

1. Remove and replace dead plant material. Prune plants to remove dead wood and to maintain health of plants.
2. Maintain all mulched areas at a 3 in. depth. Remove weeds and grass from shrub and ground cover areas and from watering basins.
3. Provide insect and disease control to maintain health of plants.
4. Adjust or replace staking as required.
5. Dispose of all maintenance debris/clippings off-site. Owner's dumpsters shall not be used for disposal.
6. Keep all paved areas clear and free of grass clippings, mulch or other foreign materials.
7. Remove staking materials at end of maintenance period and deliver to Owner.

1.4 SUBMITTALS

A. The Contractor shall submit manufacturer's specifications for fertilizers, soil amendments, seed mixtures/percentages; all sources for plant materials; a one foot section of edging (as specified on the Drawings); and one pound bag samples each of topsoil, mulch and compost. The submittal shall include the manufacturer's name, model number, and manufacturer's installation recommendation, if applicable, for each proposed item in accordance with Section 01300.

B. No partial submittal will be accepted and submittals shall be neatly bound into a brochure and logically organized. After the submittal has been approved, substitutions will not be allowed except by written consent of the Landscape Architect.

C. Approval of the submittals are required prior to delivery of any materials to the job site.

D. Shop drawings shall include dimensions, elevations, construction details, arrangements, and capacity of equipment, as well as manufacturer's installation recommendations.

1.5 PROTECTION OF ITEMS TO REMAIN

A. Prior to commencing work the Contractor shall furnish and install orange construction fencing as indicated on the Drawings. Fencing shall be 60" in height, continuous and staked as needed to provide a stable and secure barrier around plant material. No work under this contract may begin until this fencing is in place and approved in writing by the Landscape Architect.

B. Trees that are to remain on site but be transplanted to a new location shall have orange construction fencing installed at the tree's dripline.

C. No trucks, machinery, stockpiled or staged material shall be placed or driven within the drip line of any plant material unless that drip line extends over an imperviously surfaced area. The Landscape Architect will determine if plant replacement or other repair is needed to restore the affected area to pre-construction conditions at the sole cost to the Contractor.

D. The Contractor shall adjust depth of earthwork and loaming when working immediately adjacent to any of the aforementioned features in order to prevent disturbing tree roots, undermining walks and pavements, and damage in general to any existing or newly incorporated item.

E. Where excavating, fill or grading is required within the branch spread of trees that are to remain, the work shall be performed as follows:

1. TRENCHING: When trenching occurs around trees to remain, the tree roots shall not be cut but the trench shall be tunneled under or around the roots by careful hand digging and without injury to the roots.
2. RAISING GRADES: When the existing grade at a tree is below the new finished grade, and fill not exceeding 16 inches (16") is required, clean, washed gravel graded from one to two inches (1" - 2") in size shall be placed directly around the tree trunk. The gravel shall extend out from trunk on all sides a minimum of 18 inches (18") and finish approximately two inches (2") above the finished grade at tree. Install gravel before any earth fill is placed. New earth fill shall not be left in contact with the trunks of any trees requiring fill. Where fill exceeding 16 inches (16") is required, a dry laid tree well shall be constructed around the trunk of the tree. The tree well shall extend out from the trunk on all sides a minimum of three feet (3') and to three inches (3") above finish grade, Coarse grade rock shall be placed directly around the tree well extending out to the drip line of the tree. Clean, washed gravel graded from one to two inches (1" - 2") in size shall be placed directly over the coarse rock to a depth of three inches (3"). Approved backfill material shall be placed directly over the washed gravel to desired finished grade.
2. LOWERING GRADES: Existing trees in areas where the now finished grade is to be lowered shall have regrading work done by hand to elevation as indicated. Roots as required shall be cut cleanly three inches (3") below finished grade and scars covered with tree paint.
3. Trees that are to remain that are located more than six inches (6") above proposed grades shall stand on broad rounded mounds and be graded smoothly into the lower level. Trees located more than 16 inches (16") above proposed grades shall have a retaining structure as detailed on the Drawings, constructed a minimum of five feet (5') from the trunk. Exposed or broken roots shall be cut clean and covered with topsoil.

1.6 APPROVAL OF PLANT MATERIAL

A. All plant material shall be approved by the Landscape Architect prior to installation. At no time shall any approval impair the right of further inspection and rejection during the progress of the work or contract life for failure to conform to the listed size and condition requirements or latent defects, diseases or injuries. Rejected plant materials shall be promptly removed from the site by the Contractor.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Plant materials shall conform to the following requirements:

1. Plants shall be true to name. The standard names are those adopted by the American Joint Committee on Horticultural Nomenclature. No substitution of species or varieties shall be accepted without the written consent of the Landscape Architect.
2. Plants shall have a normal habit of growth and shall be typical of their species unless the general shape and overall character of a particular plant is specifically noted in the Plant List on the Contract Documents.
3. Plants shall be certified healthy, freshly dug, vigorous and free from defects, decay, disfiguring roots, sun scale injuries, abrasions of the bark, plant diseases insect pests, eggs, or larvae.
4. All plants shall have been grown under climatic conditions similar to those in the locality of the project for at lease two (2) years and shall have normal healthy root systems, having been subjected to proper transplanting.
5. Plants shall not be pruned prior to delivery.
6. Balled and burlapped ("B & B") plants shall have firm, natural balls of soil of a diameter to conform to the above standards, but large enough to encompass sufficient fibrous feeding roots to insure full recovery and development of the plants. Plants grown in sand are not acceptable.
7. All precautions, which are customary in good nursery practice, shall be taken to insure the arrival of the plant material in good condition for successful growth. Plant material which arrives to the construction site poorly packed, with roots in a dry condition and/or leaves in a dehydrated condition will not be accepted.
8. All plants shall be freshly dug. All plants shall be typical of their species or variety and shall have a normal habit of growth unless otherwise specified. Trees shall have straight trunks and all old abrasions and cuts shall be completely calloused over.
9. Plants shall have a well-developed fibrous root system.
10. Measurement: Trees and shrubs shall be measured when their branches are in normal position. Height and spread dimensions specified refer to the main body of the plant, and not from branch or root tip to tip. Caliper of trees shall be taken 6" above tree root flare.
11. Palms: All new palms shall be field dug or containerized material in specified sizes shown on the Contract Documents. All palms shall have good form (straight trunks) consistent of its species, free of scares/abrasions/burn marks and disease and insects, with large healthy root systems. Rootballs sizes for B&B material must meet the following minimum specifications:
    a. Sabal Palms - 12" greater than trunk O.D., 24" height
    b. Washingtonia Palms - 8" greater than trunk O.D., 24" height
    c. Chinese Fan, Mediterranean Fan Palms, Others - 30" diameter, 30" height

B. Fertilizer: 13-13-13 Osmocote slow release fertilizer granules or approved equal.

C. Planting tablets: Agriform (20-10-15) 21 gram slow release fertilizer tablets or approved equal.

D. Compost: Premium grade compost

E. Topsoil: Fertile, agricultural soil, typical for locality, capable of sustaining vigorous plant growth, taken from drained site; free of subsoil, clay or impurities, plants, weeds and roots; minimum pH value of 5.4 and maximum 7.0; organic matter to exceed 1.5%, magnesium to exceed 100 units; phosphorus to exceed 150 units; potassium to exceed 120 units; soluble salts/conductivity not to exceed 900 ppm/0.9 mmhos/cm in soil.

F. Wood Mulch: Double Shredded Cedar.

G. Staking material:

1. Commercial grade rubber chain-locks.
2. Commercial grade T-Posts, 1.25 ga., 8' Ht., black (do not drive through rootball). Include plastic cap on all T-posts, cap color to match T-Post color.

H. Edging:

1. 4"x36" commercial grade aluminum edging. All edging that terminates at a walkway shall have the top edge rounded.

I. Planting Mix: 75 percent sandy-loam topsoil; 25 percent premium compost; (3:1 ratio by volume); and specified fertilizer or planting tablets. Provide a mix with a uniform texture without lumps and containing no stones, sticks, roots or other foreign material.

PART 3 - INSTALLATION

3.1 EXAMINATION

A. Examine the areas and conditions under which work of this Section will be performed. Notify the Landscape Architect of unsatisfactory conditions. Correct conditions detrimental to the proper and timely completion of the work. Do not proceed until unsatisfactory conditions have been corrected and the Landscape Architect has provided written acceptance. Beginning work indicates acceptance of the site as satisfactory by the installer.

3.2 EXECUTION

A. Site Preparation: Compacted or unsuitable soils and sub-soils from construction activities must be ripped and tilled until a loose, friable and free-draining condition is met. All existing weeds, grass, stabilized sub-base material, rubble, excavated soil and other material shall be removed from the site and disposed of by the contractor prior to starting any new landscape work. Soil conditions around entire site must be approved by Landscape Architect prior to rough and finish grading operations. The Contractor shall not install any fill or topsoil in landscape areas prior to site condition approval by Landscape Architect.

B. Bed Preparation and Herbicide Application: All planting areas shall be free of weeds, grass, insects, or any other deleterious material prior to bed preparation. Contractor shall herbicide all planting areas with 'RoundUp' or approved equal at least two times prior to installation of any new plants. Pre-emergent herbicide shall be applied after planting and before placement of mulch.

C. Planting Beds Adjacent to buildings and inside parking lot landscape islands: Excavate 12" of existing soil within planting beds and replace with 8" of planting mix. Final grades within all planting beds shall be 3" below adjacent curbs to allow for mulch. Contractor to ensure positive drainage throughout all landscape areas. Adjust grades as necessary to direct water away from planting beds. Report any discrepancies on all drainage issues in writing to the Landscape Architect. The Landscape Architect shall approve planting bed grades prior to planting operations.

D. Edging: Edging shall be installed as shown on the Drawings. Edging shall allow for drainage points to ensure free drainage away from all structures and walkways. Edging shall be set f lush with adjacent paving, sidewalks or driveways.

E. Turf Areas: Scarify, float and fine grade all areas to receive sod or hydromulch for approval by Landscape Architect prior to placement of sod or application of hydromulch. Supply additional topsoil as necessary to fill any/all low areas and ensure positive drainage away from planting beds.

F. Berms and Mounding: Supply topsoil and construct berms as indicated on the Drawings.

G. Berms shall have a maximum slope of 1:4. Landscape Architect to approve berming and mounding prior to planting operations. Berms shall be compacted in 6" lifts.

H. Planting Operations:

1. Installation:
    a. Excavate planting pit to depth and width indicated on Contract Documents.
    b. Set root ball on puddle/settled bottom of planting pit. Remove burlap, rope, wire, and all other wrapping material from top of ball. Completely remove any binding rope which is not biodegradable.
    c. Fill planting pit 2/3 full with planting mix, soak with water and allow to settle, and add fertilizer tablets as detailed. Finish filling pit with planting mix and tamp lightly. Do not place fertilizer tablets at bottom of planting pit.
    d. Construct a watering basin as detailed on the Drawings and described below. Water-in to completely saturate the root ball and planting mix. Add planting mix where any settling or air pockets occur and saturate with water.
    e. Stake all trees/palms immediately after planting as detailed. Staking to be maintained throughout the maintenance period.
    f. Palms: New Washingtonia palms shall be cleaned (skinned) completely of their leafstem bases and fibers to a height 4 feet below the crown. Sabal palms shall be planted with their leafstem bases remaining but cleaned and trimmed evenly. All palms shall be planted with several petioles or fronds tied up straight with natural twine. Remaining fronds shall be trimmed or "hurricane cut' to lighten wind load on terminal bud. Contractor is responsible for removing or cutting the twine supporting the fronds as directed by the Landscape Architect.

I. Watering Basins: Watering basins for all trees/palms shall be constructed in a ring shape around each tree or palm trunk. This earthen berm shall be constructed 6" in height and 36" in diameter so as to hold water and allow infiltration around root ball. A minimum of 4 inches of cypress mulch shall be placed within the watering basin. Watering basins must be maintained and kept free of weeds during the entire maintenance period. No mulch shall come in contact with the tree trunk.

J. Pruning Operations:

1. After planting, the branches of deciduous stock shall be pruned to balance the loss of roots while retaining the natural form of the plant type according to best horticultural practice.
2. Trees shall be pruned by removing all dead wood, all surplus, badly formed and interfering limbs. In general, 1/5 of the branches shall be removed but the proportion shall, in all cases, be subject to the approval of the Landscape Architect. Broken, damaged and unsymmetrical branches shall be removed or cut back to ensure healthy and symmetrical growth of new wood. In the case of multiple leaders, the one which will best promote the symmetry of the trees shall be preserved and the remainder shall be removed or cut back so that they will not compete with the selected leader. Surrounding top branches shall be cut back to conform to the leader trimming. Branches to be cut back shall be cut off at the point beyond a lateral shoot or bud a distance of not less than 1/2 the diameter of the supporting branch. The cut shall be made on an angle slopping in the direction of the lateral shoot and in no case shall stubs be left. All cut surfaces over one inch in diameter shall be painted with tree wound dressing.

K. During excavation, material suitable for backfilling shall be stockpiled in an orderly manner a sufficient distance back from edge of trenches to avoid overloading and prevent slides or cave_ins. Material unsuitable for backfilling shall be wasted as directed by the Landscape Architect. When excavated material is of a rocky nature and the topsoil or any other layer of excavated material is suitable for pipe bedding and backfill in the vicinity of the pipe, such material shall be separately stockpiled for use in such bedding and pipe backfill operations, unless satisfactory imported material is used.

L. All excavations and backfill shall be unclassified and covered in the base bid. No additional compensation will be allowed for rock encountered.

M. Restore all surfaces, existing underground installations, etc., damaged or cut as a result of the excavations to their original conditions in a manner acceptable to the Landscape Architect.

3.3 CLEANING AND PROTECTION

A. The Contractor shall perform all necessary cleaning and removal of excess soil, debris, equipment, etc., during installation and upon completion of the work. The Contractor shall immediately repair any damage resulting from planting operations without cost to the Owner.

B. The Contractor shall protect landscape plants from damage or theft until final acceptance.

PART 4 - METHOD OF MEASUREMENT MEASUREMENT:

Landscape Planting as described in this section will be paid for on a lump sum basis wherein no measurement will be made.

PART 5 - BASIS OF PAYMENT

PAYMENT:

A. Landscape Planting will be paid for at the Contract lump sum, which price will be full compensation for furnishing and installing equipment; shop drawings; providing all submittals and warranties; furnishing all labor, materials, tools, equipment; and incidentals necessary to complete the work as described in this section and related other sections of these Contract Documents, as well as maintenance until final acceptance.

END OF SECTION 329300

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McAllen, TX. 78504
(956) 540-7850

1777 NE Loop, Suite 600
San Antonio, TX 78217
(210) 820-2677

REGISTERED LANDSCAPE ARCHITECT ANDREW T. HEFFNER 2535 STATE OF TEXAS

DATE: 11-15-2024

PROJECT:

VIA DOMINION BUILDING 200

8 DOMINION DR,
SAN ANTONIO, TEXAS 78257

DATE	DESCRIPTION
08-27-2024	CONCEPTUAL DESIGN
09-23-2024	ISSUED FOR REVIEW
10-04-2024	95% CONSTRUCTION DOCUMENTS
11-15-2024	ISSUED FOR PERMIT

SHEET TITLE:

LANDSCAPE SPECIFICATIONS

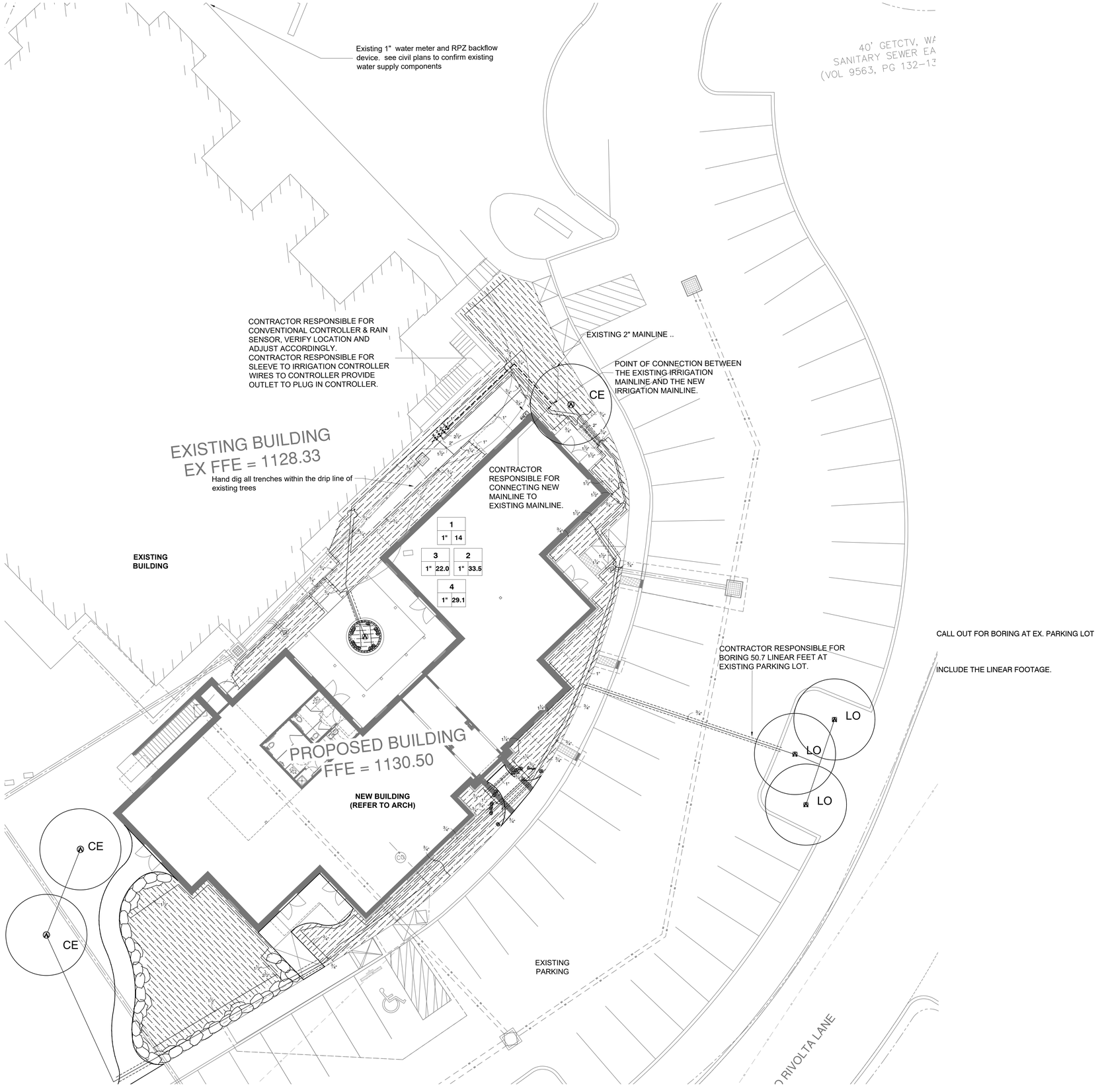
These Drawings and Specifications are to be an instrument of service and shall remain the property of the Landscape Architect. They are not to be used on other projects or extensions to this project except by agreement in writing with the Landscape Architect. The Landscape Architect is not responsible for construction means, methods, sequences or procedures or for safety precautions and programs in connection with the project.

PROJECT NUMBER:

ML-24-02

SHEET NUMBER:

L5



1 IR1 IRRIGATION PLAN

SCALE: 1" = 10'

HEFFNER DESIGN TEAM, PLLC

4100 N. 22nd Street
McAllen, TX. 78504
(956) 540-7850

1777 NE Loop, Suite 600
San Antonio, TX 78217
(210) 820-2677

STATE OF TEXAS
ROBERT DURAN
103
REGISTERED
LANDSCAPE ARCHITECT

DATE: 11-15-2024

PROJECT:

VIA DOMINION BUILDING 200

SAN ANTONIO, TEXAS

DATE	DESCRIPTION
08-27-2024	CONCEPTUAL DESIGN
09-23-2024	ISSUED FOR REVIEW
10-04-2024	95% CONSTRUCTION DOCUMENTS
11-15-2024	ISSUED FOR PERMIT

SHEET TITLE:

IRRIGATION PLAN

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IR1

IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL	QTY	ARC	PSI	GPM	RADIUS
	Hunter PROS-04-MSBN 20F	7	360	30	2	2'
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY				
	Rain Bird XCZ-100-LC 1" Wide Flow Drip Control Kit, for Light Commercial Uses. 1in. PEB Valve, with 1in. Pressure Regulating 40psi Basket Filter. 0.3-20 GPM.	3				
	Area to Receive Dripline Rain Bird XFS-09-12 XFS Sub-Surface Pressure Compensating Dripline w/Copper Shield Technology. 0.9 GPH emitters at 12" O.C. Laterals spaced at 12" apart, with emitters offset for triangular pattern. UV Resistant. Specify XF insert fittings.	4,525 l.f.				
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY				
	Rain Bird PEB 1" 1in., 1-1/2in., 2in., 3in. Plastic Industrial Remote Control Valve. Low Flow Operating Capability, Globe Configuration.	1				
C	Rain Bird ESP4ME3 with (1) ESP-SM3 7 Station, Hybrid Modular Outdoor Controller. For Residential or Light Commercial Use. LNK WiFi Module and Flow Sensor Ready.	1				
RS	Rain Bird RSD-BEx Rain Sensor, with metal latching bracket, extension wire.	1				
	Irrigation Lateral Line: PVC Class 200 SDR 21 3/4"	682.9 l.f.				
	Irrigation Lateral Line: PVC Class 200 SDR 21 1"	161.7 l.f.				
	Irrigation Lateral Line: PVC Class 200 SDR 21 1 1/4"	75.6 l.f.				
	Irrigation Lateral Line: PVC Class 200 SDR 21 1 1/2"	135.2 l.f.				
	Irrigation Lateral Line: PVC Class 200 SDR 21 2"	54.1 l.f.				
	Irrigation Lateral Line: PVC Class 200 SDR 21 2 1/2"	228.4 l.f.				
	Irrigation Mainline: PVC Schedule 40 2"	41.5 l.f.				
	Pipe Sleeve: PVC Schedule 40 4"	114.2 l.f.				

Valve Callout

WATERING SCHEDULE

NUMBER	MODEL	TYPE	PRECIP	SUN	MON	TUE	WED	THU	FRI	SAT	IN./WEEK	MIN./WEEK	GAL./WEEK	GAL./DAY
1	Rain Bird PEB	Bubbler	27.23 in/h						5 min		1	5	84	84
2	Rain Bird XCZ-100-LC	Area for Dripline	1.65 in/h						90 min		1	90	1,617	1,617
3	Rain Bird XCZ-100-LC	Area for Dripline	2.05 in/h						90 min		1	90	1,617	1,617
4	Rain Bird XCZ-100-LC	Area for Dripline	1.98 in/h						90 min		1	90	1,617	1,617
		TOTALS:							275			275	4,935	4,935

VALVE SCHEDULE

NUMBER	MODEL	SIZE	TYPE	GPM	HEADS	PIPE 3/4"	PIPE 1"	PIPE 1 1/4"	PIPE 1 1/2"	PIPE 2"	PIPE 2 1/2"	WIRE	DESIGN PSI	FRICTION LOSS	VALVE LOSS	PSI	PRECIP
1	Rain Bird PEB	1"	Bubbler	14	7	364.7	125.0					43.2	30	4.19	2.24	36.4	27.23 in/h
2	Rain Bird XCZ-100-LC	1"	Area for Dripline	33.54	1,118 l.f.				90.4		228.4	44.5	9	1.07	25	35.1	1.65 in/h
3	Rain Bird XCZ-100-LC	1"	Area for Dripline	22.04	1,470 l.f.	115.9	13.1	70.8	38.8	54.1		45.8	9	1.71	25	35.7	2.05 in/h
4	Rain Bird XCZ-100-LC	1"	Area for Dripline	29.06	1,936 l.f.	202.4	23.6	4.9	6.0			47.1	9	1.19	25	35.2	1.98 in/h
	Common Wire											41.5					

NOTES

1.- ALL IRRIGATION WORK TO BE PERFORMED BY A TEXAS LICENSED IRRIGATOR.
2.- INSTALL ALL VALVES IN AN ARMOR VALVE BOX WITH COVER OR EQUAL. VALVE SHOULD BE CENTERED IN BOX TO FACILITATE ACCESS TO SOLENOID ASSEMBLY AND MANUAL OPERATORS.
3.- PIPE AS SHOWN IS DIAGRAMMATIC BUT SHOULD BE REASONABLY FOLLOWED. LOCATION OF SPRINKLER HEADS SHALL BE ESTABLISHED BY THE CONTRACTOR BUT DESIGN SPACING MAY NOT BE EXCEEDED WITHOUT AUTHORIZATION FROM THE OWNER.
4.- ALLOW A MINIMUM OF 6" CLEARANCE FROM ANY STRUCTURE, INCLUDING SIDEWALKS, CURBS, BUILDINGS, ETC. WHEN INSTALLING SPRINKLER HEADS
5.- ALL SLEEVES SHALL BE SCH. 40 PVC, SHALL EXTEND 12" BEYOND EDGE OF PAVEMENT OR STRUCTURE, SHALL BE PLACED 24" BELOW TOP OF PAVEMENT AND SHALL BE CAPPED WITH PVC CAPS. DO NOT PENETRATE STRUCTURES WITHOUT PRIOR APPROVAL. LOCATION OF SLEEVES TO BE MARKED IN PAVEMENT WITH AN "S" CONCRETE STAMP.
6.- AFTER INSTALLATION, SYSTEM MUST BE BALANCED BY ADJUSTING PRESSURE REGULATOR CONTROLS ON VALVES.
7.- SYSTEM SHALL REQUIRE A MINIMUM OF 50 LBS. STATIC PRESSURE FOR SYSTEM TO OPERATE PROPERLY. IRRIGATION CONTRACTOR SHALL NOTIFY THE OWNER OF PRESSURE DEFICIENCIES OR IF THE PRIMARY WATER SUPPLY LINES ARE SMALLER THAN 4" AND/OR LONGER THAN 120' FROM THE SOURCE. NOTIFY THE OWNER OF ANY OTHER SITE PROBLEMS THAT MAY ALTER THE EFFECTIVENESS OF THE SYSTEM.
8.- THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE SPECIFICATIONS FOR THE LANDSCAPE IRRIGATION SYSTEM.
9.- THE CONTRACTOR SHALL PREPARE "AS-BUILT" DRAWINGS IN AN AUTOCAD FORMAT WHICH SHALL SHOW LOCATIONS OF MAIN LINES, VALVES, CONTROLLERS AND SLEEVES. THE AUTOCAD DRAWINGS SHALL BE DELIVERED ON DISC TO THE OWNERS REPRESENTATIVE FOR REVIEW AND APPROVAL.
10.- ALL SPLICES ARE TO BE CAPPED WITH TAN KING LOW VOLTAGE CONNECTORS. NO FIELD SPLICES WILL BE PERMITTED. WHERE SPLICES ARE NECESSARY ALL MUST BE IN VALVE BOXES.
11.- NO PIPE CROSSES ARE PERMITTED.
12.- HAND DIG TRENCHES WITHIN THE DRIP LINE OF EXISTING TREES.
13.- ALL MAIN & LATERAL LINES SHALL BE SET AT A MINIMUM DEPTH OF 18" TO THE TOP OF THE PIPE. ALL LATERAL LINES SHALL BE SET AT A MINIMUM DEPTH OF 18" TO THE TOP OF THE PIPE. ALL ELECTRIC VALVES SHALL BE SET TO A DEPTH OF 18" TO THE TOP OF ADJACENT PIPE.
14.- ALL PIPING TO BE LAID WITH LETTERING UP.
15.- ALL 3/4" - 2" LATERAL PIPING SHALL BE CLASS 200 SOLVENT WELD PVC.
16.- PROVIDE THRUST BLOCKS AS PER DETAILS . ALL THRUST BLOCKING SHALL BE INSPECTED AND APPROVED BY THE OWNER PRIOR TO BACKFILL.
17.- ALL VALVE WIRING SHALL BE #14 UF.
18.- PROVIDE PRESSURE GAUGE ON INLET AND OUTLET.
19.- PROVIDE QUICK COUPLERS AS INDICATED.
20.- DO NOT LOCATE VALVE BOXES IN MULTI-USE ATHLETIC FIELD AREAS. ALL PIPES GOING TO AND FROM RP AND PUMP SHALL BE SCH. 80 PVC PIPE. WRAP PIPE WITH 1/8"x2" INSULATION TAPE #4217-W3 BY NU-CALGON WHOLESALE INC. ST. LOUIS, MO. 63146.
21.- ALL SPRINKLER HEADS SHALL BE SET LEVEL TO FINISH GRADES, PLACED VERTICAL IN THE GROUND, ADJUSTED TO COVER HEAD TO HEAD WITH MINIMAL SPRAY IN AREAS NOT IRRIGATED.
22.- TEN (10) DAYS PRIOR TO START OF CONSTRUCTION THE CONTRACTOR SHALL VERIFY THE WATER STATIC PRESSURE. CONFIRM WITH OWNER THE WATER STATIC PRESSURE BEFORE COMMENCING WORK.
23.- THE CONTRACTOR SHALL PROVIDE TWO QUICK COUPLER KEYS TO MATCH QUICK COUPLER SPECIFIED.
24.- THE CONTRACTOR SHALL OBTAIN THE PROPER PERMIT FOR IRRIGATION WORK PRIOR TO COMMENCING WORK.
25.- ALL MATERIAL SHOULD BE CONSIDERED OR APPROVED EQUAL.
26.-OWNER/OPERATOR TO FOLLOW MANUFACTURER'S WINTERIZATION METHODS.

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STATE OF TEXAS
ROBERT DURAN
103416
LICENSED IRRIGATOR

DATE: 11-15-2024

PROJECT:

VIA DOMINION BUILDING 200

SAN ANTONIO, TEXAS

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SHEET TITLE:

IRRIGATION SCHEDULE & NOTES

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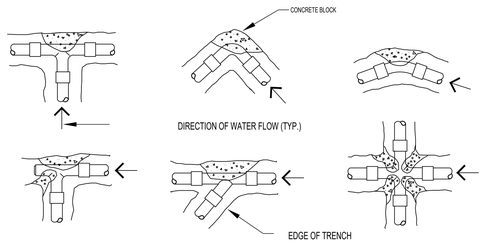
PROJECT NUMBER:
ML-24-02

SHEET NUMBER:

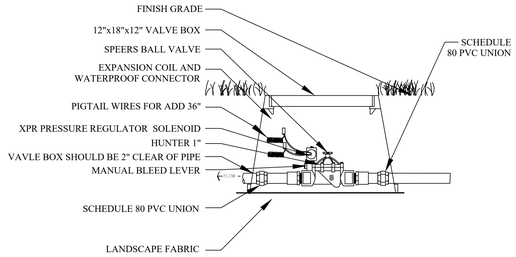
IR2



THRUST BLOCK REQUIREMENTS VS. FITTING TYPE				
PIPE SIZE	1 1/4" – 2 1/2"	3"	4"	6"
TEES/ELLS	1.00	1.00	1.40	3.2
45° BEND	1.00	1.25	2.00	4.5
90° BEND	1.00	1.00	1.00	2.4

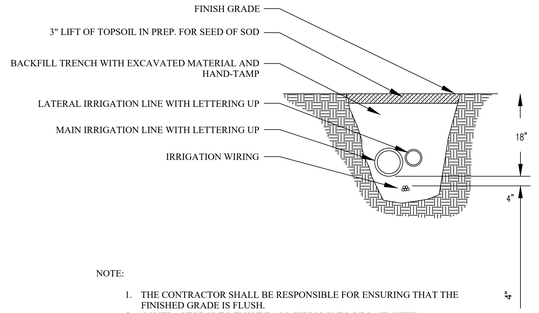
NOTES:
1. THRUST BLOCKING TO BE PLACED AT ALL DEAD ENDS, TEES, BENDS, WYES AND REDUCERS AND ANY OTHER AREA AS DETERMINED BY THE ENGINEER/ARCHITECT.
2. MINIMUM AREAS SHOWN ARE IN SQUARE FEET.
3. BEARING MUST BE ON UNDISTURBED EARTH.
4. THRUST BLOCK SHALL BEAR ON FULL 180° OF PIPE CIRCUMFERENCE.
5. USE A MINIMUM OF ONE (1) CU. FT OF 3000 PSI CONCRETE.

A THRUST BLOCKS
N.T.S.



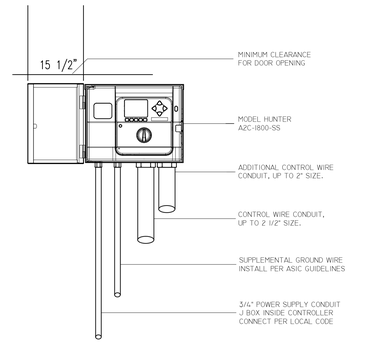
NOTES:
1. MAINTAIN A 2"-3" GAP BETWEEN THE BOTTOM OF THE VALVE AND THE TOP OF THE PATIO STONE.
2. PROVIDE 36" OF SLACK FOR CONTROL WIRES AND NEATLY COIL.
3. PROVIDE ONE EXTRA 14 GA. RED WIRE AT EACH VALVE FOR FUTURE USE.

B RAIN BIRD - PEB - 1"
N.T.S.

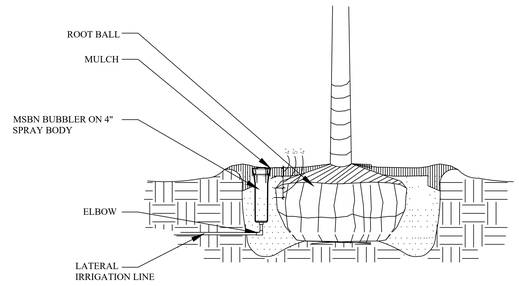


NOTE:
1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT THE FINISHED GRADE IS FLUSH.
2. CONTRACTOR IS TO ENSURE ALL PIPING IS TO BE LAID WITH LETTERING UP.

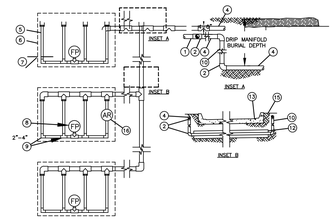
C IRRIGATION MAINLINE, LATERAL LINE, AND WIRES
N.T.S.



D Rain Bird ESP4ME3 with (1) ESP-SM3
N.T.S.



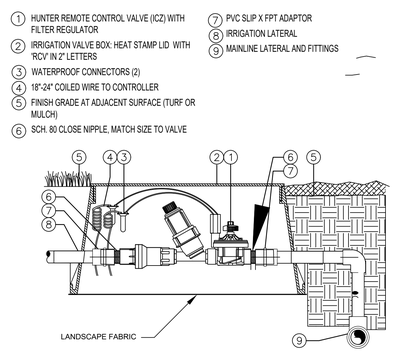
E HUNTER MSBN BUBBLER
N.T.S.



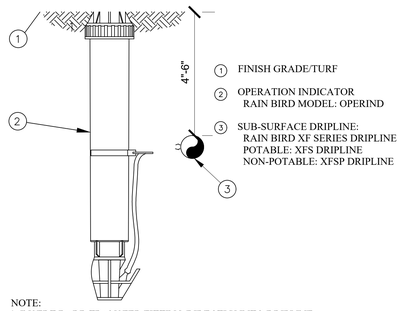
NOTES:
1. DISTANCE BETWEEN LATERAL ROWS AND EMITTER SPACING TO BE BASED ON SOIL TYPE, PLANT MATERIALS AND CHANGES IN ELEVATION. SEE INSTALLATION SPECIFICATIONS ON RAIN BIRD WEB SITE (WWW.RAINBIRD.COM) FOR SUGGESTED SPACING.
2. LENGTH OF LONGEST DRIPLINE LATERAL SHOULD NOT EXCEED THE MAXIMUM SPACING SHOWN IN THE ACCOMPANYING TABLE.
3. INSTALL AIR RELIEF VALVE AT HIGH POINTS IN DRIP LATERAL.
4. WHEN USING 17MM INSERT FITTINGS WITH DESIGN PRESSURE OVER 50PSI, IT IS RECOMMENMIDED THAT STAINLESS STEEL CLAMPS BE INSTALLED ON EACH FITTING.
5. DRIP SHALL BE PLACED UNDER LANDSCAPE FABRIC IN LANDSCAPE BEDS WITH DECOMPOSED GRANITE.

F RAINBIRD XFS-CV DRIP LINE
N.T.S.

① PVC SUPPLY HEADER
② PVC SCH 40 TEE OR EL (TYPICAL)
③ BARB X MALE FITTING:
RAIN BIRD XFF-MA FITTING (TYPICAL)
④ PVC DRIP MANIFOLD FROM RAIN BIRD CONTROL ZONE ⑤ VALVE KIT (SIZED TO MEET LATERAL FLOW DEMAND)
⑥ SUB-SURFACE DRIPLINE:
RAIN BIRD XF SERIES DRIPLINE (TYPICAL)
POTABLE: XFS DRIPLINE
NON-POTABLE: XFSP DRIPLINE
⑦ PERIMETER OF AREA
⑧ PERIMETER DRIPLINE PIPE TO BE INSTALLED 2"-4" FROM PERIMETER OF AREA
⑨ FLUSH POINT (TYPICAL) - SEE RAIN BIRD XFS DETAILS FOR FLUSH POINT INSTALLATION
⑩ BARB X BARB INSERT TEE OR EL:
RAIN BIRD XFF-TEE OR
RAIN BIRD XFF-ELBOW (TYPICAL)
⑪ PVC RISER PIPE
⑫ PVC SUPPLY MANIFOLD
⑬ PVC SCH 40 SLEEVE PIPE SIZED TWICE THE SIZE OF MANIFOLD PIPE SIZE
⑭ PAVEMENT AND CURB
⑮ TURF OR MULCH
FINISH GRADE
½" AIR RELIEF VALVE: RAIN BIRD MODEL: ARV050 SEE RAIN BIRD XFS DETAILS FOR AIR RELIEF INSTALLATION



G Rain Bird XCZ-100-LC 1"
N.T.S.



NOTE:
1. INSERT BARB TRANSFER FITTING DIRECTLY INTO DRIPLINE TUBING.
2. VAN NOZZLE MAY BE SET TO CLOSED, OR IF IT IS DESIRED TO SEE SPRAY FROM THE NOZZLE, SET THE ARC TO ¼ PATTERN. THE FLOW FROM THE NOZZLE, 0.3 GPM, SHOULD BE ACCOUNTED FOR IN THE SYSTEM DESIGN.

H RAINBIRD XFS DRIP INDICATOR
N.T.S.

HEFFNER DESIGN TEAM, PLLC
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DATE: 11-15-2024

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VIA DOMINION BUILDING 200
SAN ANTONIO, TEXAS

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SHEET TITLE:
IRRIGATION DETAILS

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PROJECT NUMBER:
ML-24-02

SHEET NUMBER:
IR3

DOOR ACCESSIBILITY NOTES

IN COMPLIANCE WITH 2012 TEXAS ACCESSIBILITY STANDARDS (T.A.S.)
REVISED 10.03.2022

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.

404.2.4 MANEUVERING CLEARANCES MINIMUM MANEUVERING CLEARANCES AT DOORS AND GATES SHALL COMPLY WITH TABLE 404.2.4.1. MANEUVERING CLEARANCES SHALL EXTEND THE FULL WIDTH OF THE DOORWAY AND THE REQUIRED LATCH SIDE OR HINGE SIDE CLEARANCE.
EXCEPTIONS:
1. ENTRY DOORS TO HOSPITAL PATIENT ROOMS SHALL NOT BE REQUIRED TO PROVIDE THE CLEARANCE BEYOND THE LATCH SIDE OF THE DOOR.

404.2.5 THRESHOLDS. THRESHOLDS, IF PROVIDED AT DOORWAYS, SHALL BE ½ INCH (13 MM) HIGH MAXIMUM. RAISED THRESHOLDS AND CHANGES IN LEVEL AT DOORWAYS SHALL COMPLY WITH 302 AND 303.
EXCEPTION: EXISTING OR ALTERED THRESHOLDS ¾ INCH (19 MM) HIGH MAXIMUM THAT HAVE A BEVELED EDGE ON EACH SIDE WITH A SLOPE NOT STEEPER THAN 1:2 SHALL NOT BE REQUIRED TO COMPLY WITH 404.2.5.

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.

404.2.9 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.

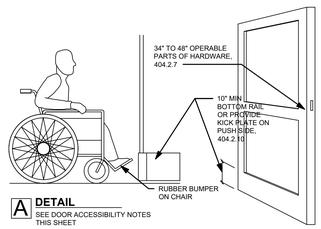
CONTROL AND DEVICE ACCESSIBILITY

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.

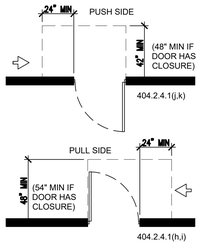
309.3 HEIGHT. OPERABLE PARTS SHALL BE PLACED WITHIN ONE OR MORE OF THE REACH RANGES SPECIFIED IN 308.

309.4 OPERABLE PARTS 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.
EXCEPTIONS:
1. GAS PUMP NOZZLES SHALL NOT BE REQUIRED TO PROVIDE OPERABLE PARTS THAT HAVE AN ACTIVATING FORCE OF 5 POUNDS (22.2 N) MAXIMUM.

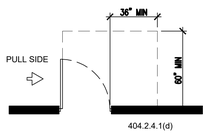


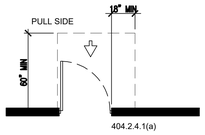
A **DETAIL**
SEE DOOR ACCESSIBILITY NOTES THIS SHEET

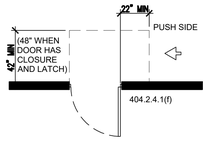
01 DOOR
SCALE: N.T.S.



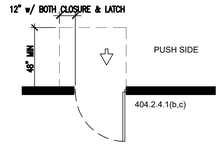
02 LATCH SIDE APPROACH
SCALE: N.T.S.



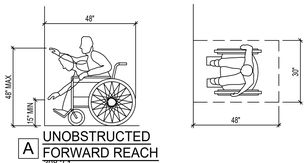




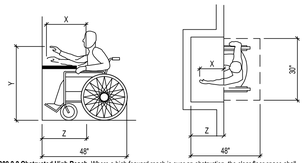
03 HINGE SIDE APPROACH
SCALE: N.T.S.



04 FRONT APPROACH
SCALE: N.T.S.

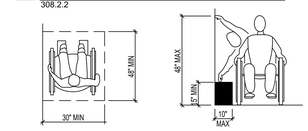


A **UNOBSTRUCTED FORWARD REACH**
308.2.1



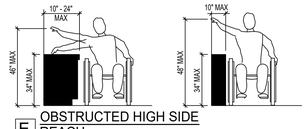
308.2.2 Obstructed High Reach. Where a high forward reach is over an obstruction, the clear floor space shall extend beneath the element for a distance not less than the required reach depth over the obstruction. The high forward reach shall be 48 inches (1220 mm) maximum where the reach depth is 20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

B **OBSTRUCTED HIGH FORWARD REACH**
308.2.2



C **CLEAR FLOOR SPACE PARALLEL APPROACH** 305.5 (b)

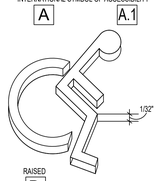
D **UNOBSTRUCTED SIDE REACH**
308.3.1



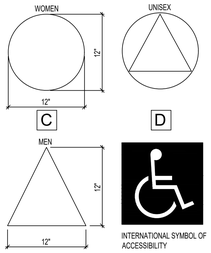
E **OBSTRUCTED HIGH SIDE REACH**
308.3.2 (b,a)

07 REACH LIMITS
SCALE: N.T.S.

INTERNATIONAL SYMBOL OF ACCESSIBILITY
A A.1



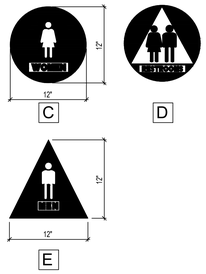
RAISED
B



C D E F

INTERNATIONAL SYMBOL OF TTY
INTERNATIONAL SYMBOL OF ACCESS FOR HEARING LOSS
G H

DOOR SIGNS FOR CALIFORNIA STORES



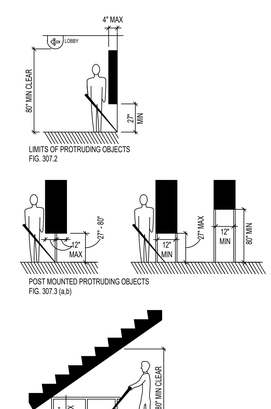
RAISED LETTERS AND NUMBERS :
703.2
1. RAISED CHARACTERS SHALL BE 1/32" MINIMUM ABOVE THEIR BACKGROUND, CHARACTERS SHALL BE UPPERCASE, SANS SERIF TYPE AND SHALL BE ACCOMPANIED WITH GRADE 2 BRAILLE (SEE BELOW).
2. CHARACTERS HEIGHT SHALL BE 5/8" MINIMUM, 2" HIGH MAXIMUM, AS DETERMINED BY THE UPPER CASE LETTER "I".
3. CHARACTER WIDTH, STROKE AND SPACING SHALL BE PROVIDED AS PER SECTIONS 703.2.4-703.2.7.
4. CHARACTERS AND THEIR BACKGROUND SHALL HAVE A NON- GLARE FINISH. CHARACTERS SHALL BE IN CONTRAST TO THEIR BACKGROUND.
5. SEE DETAILS #12 AND #13 THIS SHEET FOR MOUNTING REQUIREMENTS.

SIGNS LOCATIONS:
703.4.2
1. ALL REQUIRED ACCESSIBLE ENTRANCES IDENTIFIED WITH MINIMUM OF ONE STANDARD SIGN. (PER 216.6)
2. ADDITIONAL DIRECTIONAL SIGNS ALONG ACCESSIBLE PATH OF TRAVEL ARE REQUIRED.
3. BUILDINGS REMODELED TO PROVIDE ACCESSIBLE SANITARY FACILITIES FOR PUBLIC USE SHALL HAVE INFORMATION POSTED IN THE LOBBY AS PART OF THE BUILDING DIRECTORY.

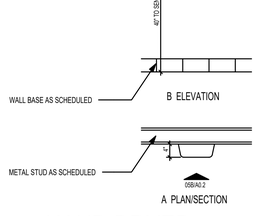
INTERNATIONAL SYMBOL OF ACCESSIBILITY:
703.7
1. STANDARD USED TO IDENTIFY ACCESSIBLE FACILITIES.
2. WHITE FIGURE ON BLUE BACKGROUND, COLOR #15090 ON FEDERAL STANDARD # 595A.
3. WHEN ENFORCING AGENCY DETERMINES, IF APPROPRIATE, SPECIAL DESIGNS AND COLORS MAY BE APPROVED.

BRAILLE:
703.3
1. BRAILLE USED SHALL BE CONTRACTED (GRADE 2).
2. UPPER CASE LETTERS SHALL ONLY BE USED BEFORE THE FIRST WORD OF SENTENCES, PROPER NOUNS AND NAMES, INDIVIDUAL LETTERS OF THE ALPHABET, INITIALS OR ACRONYMS.
3. BRAILLE DIMENSIONS SHALL COMPLY WITH 703.3.1
4. 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" MINIMUM FROM ANY OTHER TACTILE CHARACTER AND 3/8" MINIMUM FROM RAISED BORDERS AND DECORATIVE ELEMENTS.
5. SEE DETAILS #11 AND #12 THIS SHEET FOR SIGN MOUNTING REQUIREMENTS.

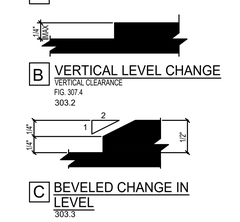
08 SIGN/PICTOGRAMS
SCALE: N.T.S.



09 PROTRUDING OBJECTS
SCALE: N.T.S.



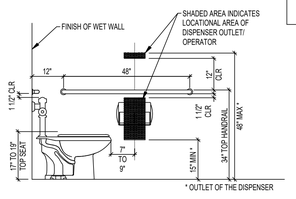
HAND DRYER
05 RECESSED DETAILS
SCALE: N.T.S.



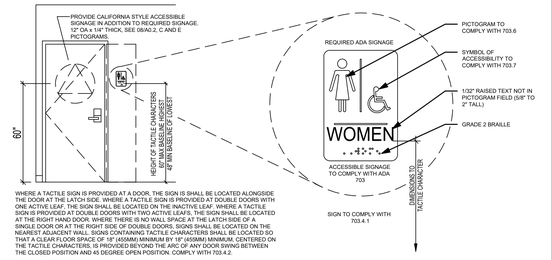
06 LEVEL CHANGES
SCALE: N.T.S.

303.2 VERTICAL. CHANGES IN LEVEL OF 1/4" HIGH MAXIMUM SHALL BE PERMITTED TO BE VERTICAL. (FIG. 303.2)
303.3 BEVELED. CHANGES IN LEVEL BETWEEN 1/4" MINIMUM AND 1/2" HIGH MAXIMUM SHALL BE BEVELED WITH A SLOPE NOT STEEPER THAN 1:2 (FIG. 303.3)
303.4 RAMPS. CHANGES IN LEVEL GREATER THAN 1/2" SHALL BE RAMPED AND SHALL COMPLY WITH 405 OR 406.

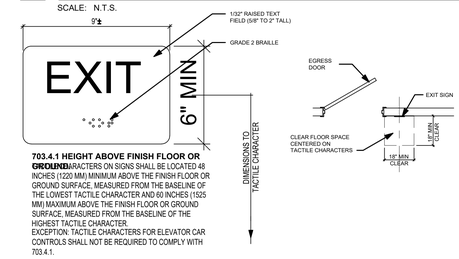
EXCEPTION:
1. ANIMAL CONTAINMENT AREAS SHALL NOT BE REQUIRED TO COMPLY WITH 303 .
2. AREAS OF SPORT ACTIVITY SHALL NOT BE REQUIRED TO COMPLY WITH 303 .



10 ENLARGED ACCESSORY DETAIL
SCALE: N.T.S.



11 RESTROOM ACCESSIBLE SIGNAGE
SCALE: N.T.S.



703.4.1 HEIGHT ABOVE FINISH FLOOR OR GROUND. 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.

12 ACCESSIBLE SIGNAGE
SCALE: N.T.S.

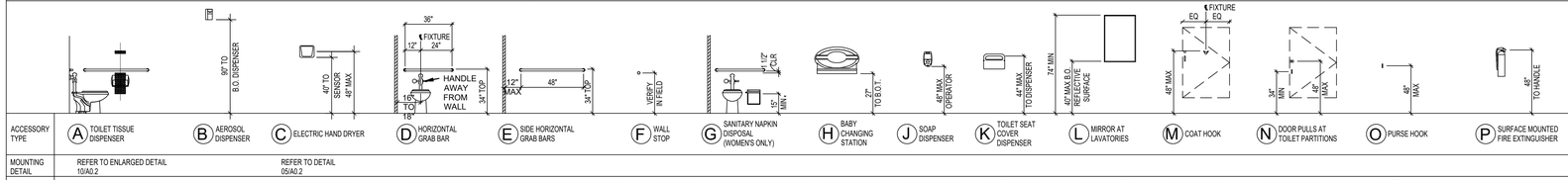
ACCESSIBILITY REQUIREMENTS

1. ALL CONSTRUCTION SHALL BE COMPLETED IN STRICT ACCORDANCE WITH THE DESIGN GUIDELINES ESTABLISHED BY THE 2012 ADA STANDARDS FOR ACCESSIBLE DESIGN (2012 STANDARDS) / ANSI 117.1 / 2012 TEXAS ACCESSIBILITY STANDARDS AND AGENCIES HAVING JURISDICTION .
2. REPORT TO THE OWNER ANY AND ALL DISCREPANCIES BETWEEN, OR WITHIN, THE CONTRACT DOCUMENTS AND THE DESIGN GUIDELINES ESTABLISHED BY THE 2012 STANDARDS PRIOR TO BEGINNING ANY PHASE OF CONSTRUCTION.
3. UTILIZE EXTREME CARE TO ENSURE THAT ALL TOLERANCES, DIMENSIONS, AND CLEARANCES ARE CONSTRUCTED ACCURATELY AND WITHOUT DEVIATION.
4. TAKE ANY AND ALL ACTIONS NECESSARY TO CORRECT CONDITIONS WHICH ARE IN THE OPINION OF THE STATE ACCESSIBILITY INSPECTOR IN VIOLATION OF GUIDELINES AS THE DIRECT & SOLE RESULT OF DEVIATIONS FROM THE CONSTRUCTION DOCUMENTS OR INADEQUATE CONSTRUCTION CONTROL & /OR. TOLERANCES.

ACCESSORY MOUNTING DIAGRAMS

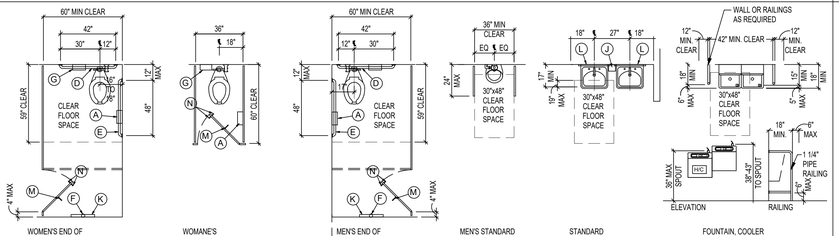
DRAWING DESIGNATION (A)

GENERAL NOTE: ACCESSORIES LISTED MAY HAVE GAPS IN ALPHABETICAL LISTING



ACCESSORY TYPE	(A) TOILET TISSUE DISPENSER	(B) AEROSOL DISPENSER	(C) ELECTRIC HAND DRYER	(D) HORIZONTAL GRAB BAR	(E) SIDE HORIZONTAL GRAB BARS	(F) WALL STOP	(G) SANITARY NAPKIN DISPOSAL (WOMEN'S ONLY)	(H) BABY CHANGING STATION	(J) SOAP DISPENSER	(K) TOILET SEAT COVER DISPENSER	(L) MIRROR AT LAVATORIES	(M) COAT HOOK	(N) DOOR PULLS AT TOILET PARTITIONS	(O) PURSE HOOK	(P) SURFACE MOUNTED FIRE EXTINGUISHER
MOUNTING DETAIL	REFER TO ENLARGED DETAIL 10/A0.2		REFER TO DETAIL 05/A0.2												
DESIGN NOTE	2010 ADA STANDARDS OF ACCESSIBLE DESIGN, SEE SECTIONS 604.7 & 609.3 *OUTLET OF THE DISPENSER		2010 STANDARDS 308 *OPERATOR	2010 OR ANSI 117.1-2003 STANDARDS 604.5.2 & 609	HORIZONTAL BAR TO COMPLY W/ 2010 STANDARDS OR ANSI 117.1-2003 604.5.1 & 609	COORDINATE LOCATION W/ PARTITION DOOR HANDLE	2010 ADA STANDARDS OF ACCESSIBLE DESIGN, SEE SECTIONS 604.7 & 609.3 *OUTLET OF THE DISPENSER	2010 STANDARDS 305 & 307 HEIGHT OF SHELF IN DOWN POSITION 27" MAX AFF	2010 STANDARDS 308	2010 STANDARDS 308	2010 STANDARDS 603.3	2010 STANDARDS 213.3.7, 603.4 & 308	2010 STANDARDS 404.2.7 & 604.8.2.2 COORDINATE W/ PARTITION MFG	2010 STANDARDS 308	2010 STANDARDS 308

STANDARD CLERANCE PLAN LAYOUTS



WOMEN'S END OF ROW ACCESSIBLE STALL PLAN DESIGNATION P2 2012 STANDARD 604

WOMANE'S STANDARD STALL PLAN DESIGNATION P1

MEN'S END OF ROW ACCESSIBLE STALL PLAN DESIGNATION P2 604

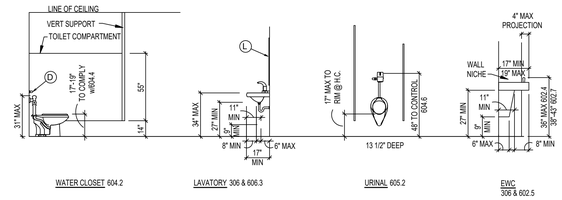
MEN'S STANDARD URINAL PLAN DESIGNATION P3 305.7.1, 605.1

STANDARD LAVATORY PLAN DESIGNATION P4 306, 606

FOUNTAIN, COOLER HI-LO PLAN DESIGNATION P6 305, 306, 602

FIXTURE MOUNTING DIAGRAMS / WATER CLOSET COMPARTMENTS

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 closer except in ambulatory accessible compartments complying with 604.8.2.



WATER CLOSET 604.2 | LAVATORY 306 & 606.3 | URINAL 605.2 | EWC 306 & 602.5

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16403 Huebner Road, San Antonio, TX 78248 · Tel: 210.340.2400 · lunarchitecture.com

REVISIONS:

NO.	DESCRIPTION	DATE

Key Plan:

VIA DOMINION BUILDING 200

INDEPENDENCE VILLAGE
AT THE DOMINION
8 DOMINION DRIVE, SAN ANTONIO
TEXAS, 78257

REGISTERED ARCHITECT JONATHAN A. PACE 26348 STATE OF TEXAS
JONATHAN A. PACE
11-15-2024
LUNA ARCHITECTURE

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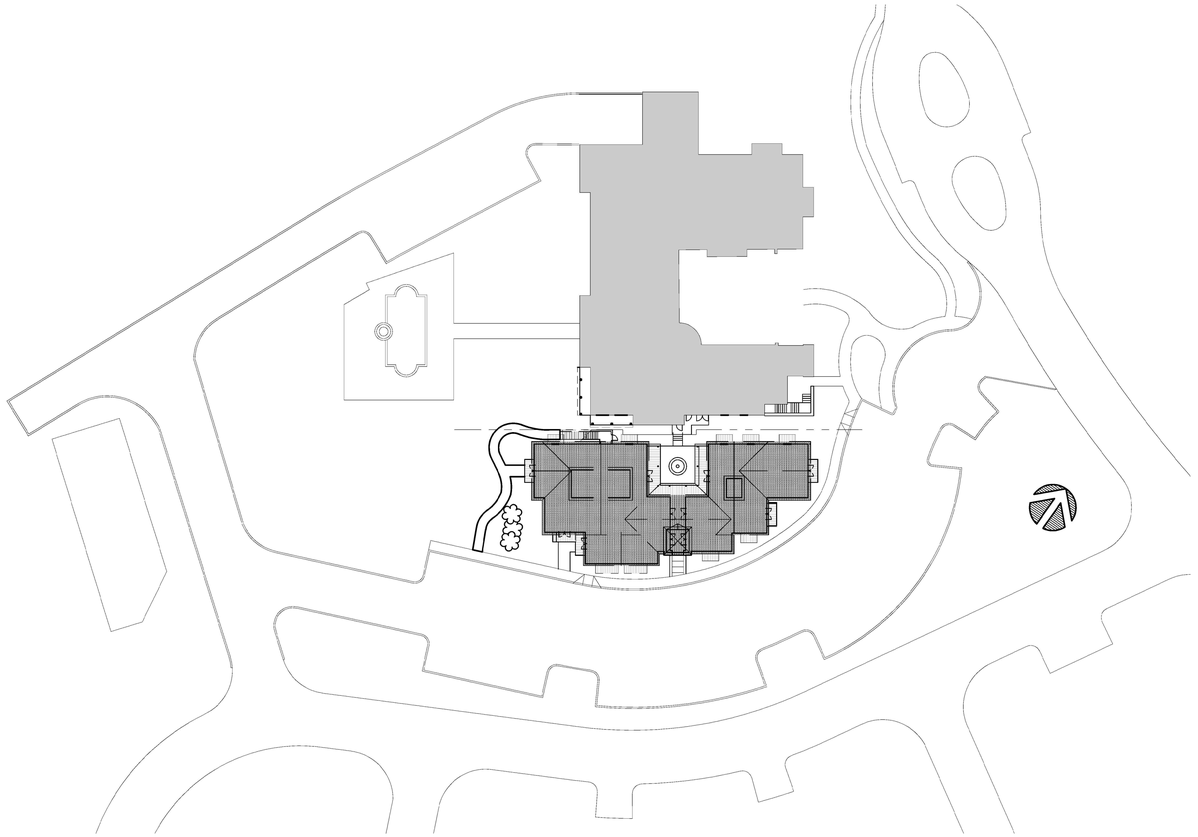
project #: 23014

date: 04.16.2024

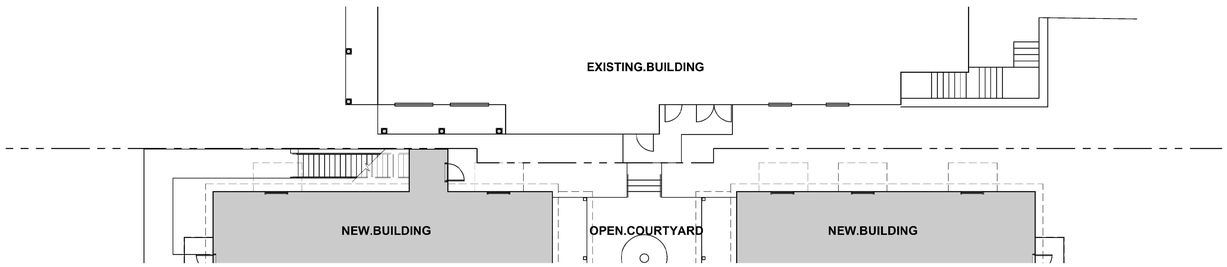
Project Manager: X.D. drawn by: J.M.

drawing title: ACCESSIBILITY STANDARDS

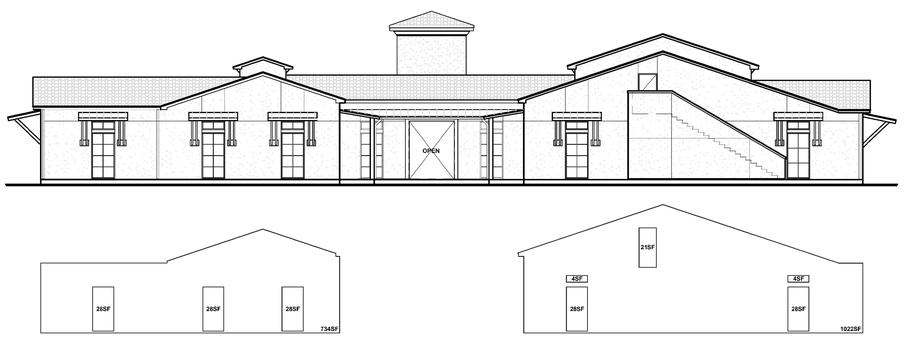
sheet number: G102



1 A100 **CODE ANALYSIS - OVERALL SITE PLAN**
SCALE: 1/32" = 1'-0"



2 A100 **CODE ANALYSIS - FIRE RESISTANCE RATINGS FOR EXTERIOR WALLS**
SCALE: 3/32" = 1'-0"



28 SF X 3 SF = 84 SF
84 SF / 734 SF = 0.11 = 11%

(28 SF X 2) + (4 SF X 2) = 21 SF = 85 SF
85 SF / 1022 SF = 0.083 = 9%

TYPE VB
UNPROTECTED, NON - SPRINKLERED
5 FEET TO LESS THAN 10 FEET _____ 10% OPENINGS
10 FEET TO LESS THAN 15 FEET _____ 15% OPENINGS

3 A100 **CODE ANALYSIS - PERCENTAGE OF EXTERIOR OPENINGS (NEW BUILDING)**
SCALE: 1/32" = 1'-0"

48 SF X 2 = 50 SF
50 SF / 348 SF = 0.144 = 15%

(13 SF X 3) + 24 SF = 63 SF
63 SF / 541 SF = 0.116 = 12%

(36 SF X 3) + (12 SF X 2) + 24 SF + 48 SF = 204 SF
204 SF / 889 SF = 0.229 = 23%

24 SF / 326 SF = 0.074 = 8%

TYPE IIIB
UNPROTECTED, FULLY SPRINKLERED
5 FEET TO LESS THAN 10 FEET _____ 25% OPENINGS
10 FEET TO LESS THAN 15 FEET _____ 45% OPENINGS

4 A100 **CODE ANALYSIS - PERCENTAGE OF EXTERIOR OPENINGS EXISTING BUILDING**
SCALE: 1/32" = 1'-0"

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REVISIONS:

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REGISTERED ARCHITECT
JONATHAN A. PACE
26348
STATE OF TEXAS

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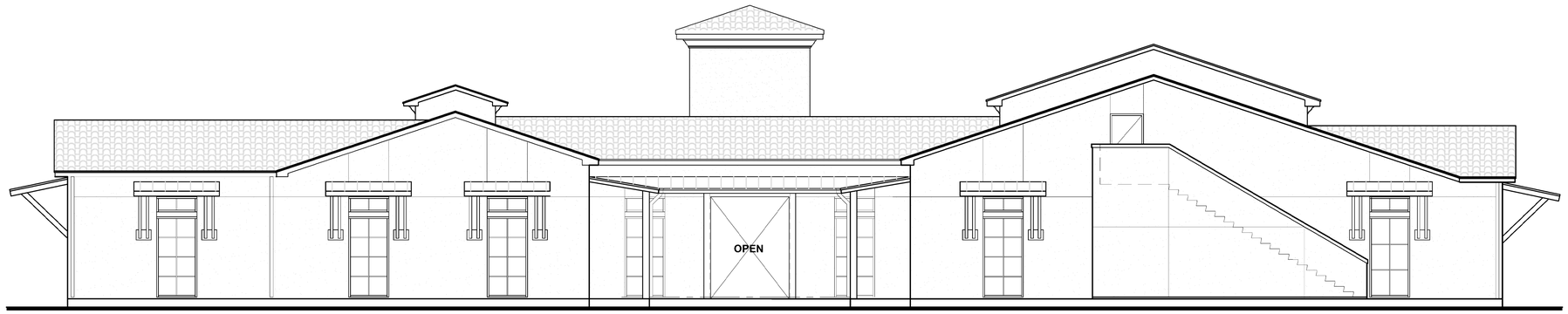
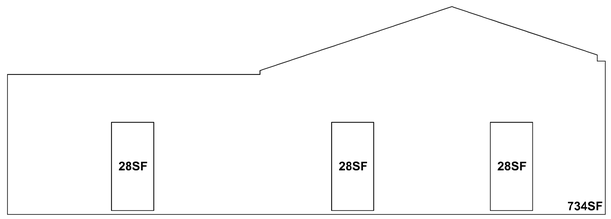
project #: 23014
date: 04.16.2024
Project Manager: drawn by: X.D.
drawing title: **CODE ANALYSES OVERALL SITE PLAN**
sheet number: **A100**





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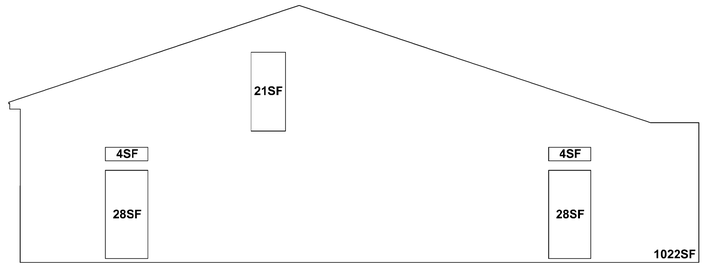

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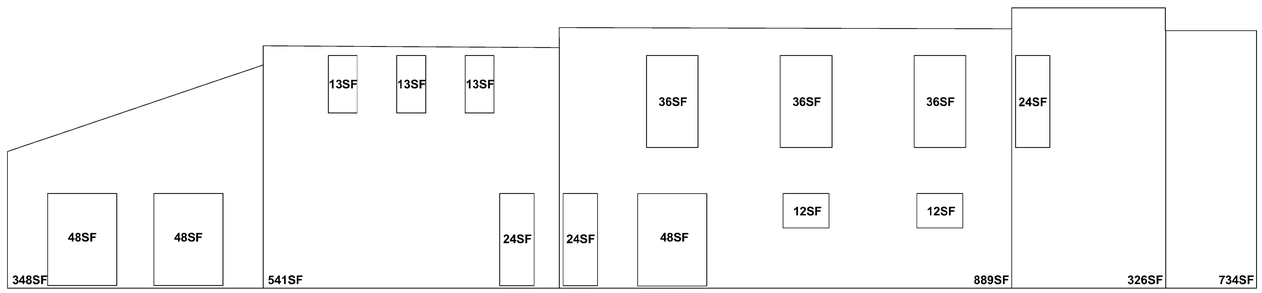
TYPE VB
UNPROTECTED, NON - SPRINKLERED

5 FEET TO LESS THAN 10 FEET _____ 10% OPENINGS
10 FEET TO LESS THAN 15 FEET _____ 15% OPENINGS

3 / A100 **CODE ANALYSIS - PERCENTAGE OF EXTERIOR OPENINGS (NEW BUILDING)**
SCALE: 3/16" = 1'-0"



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4 / A100 **CODE ANALYSIS - PERCENTAGE OF EXTERIOR OPENINGS EXISTING BUILDING**
SCALE: 3/16" = 1'-0"

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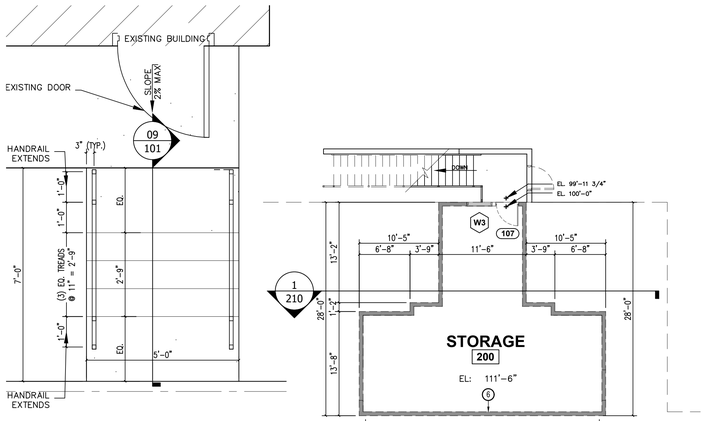
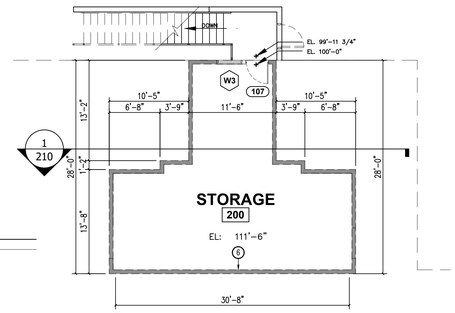
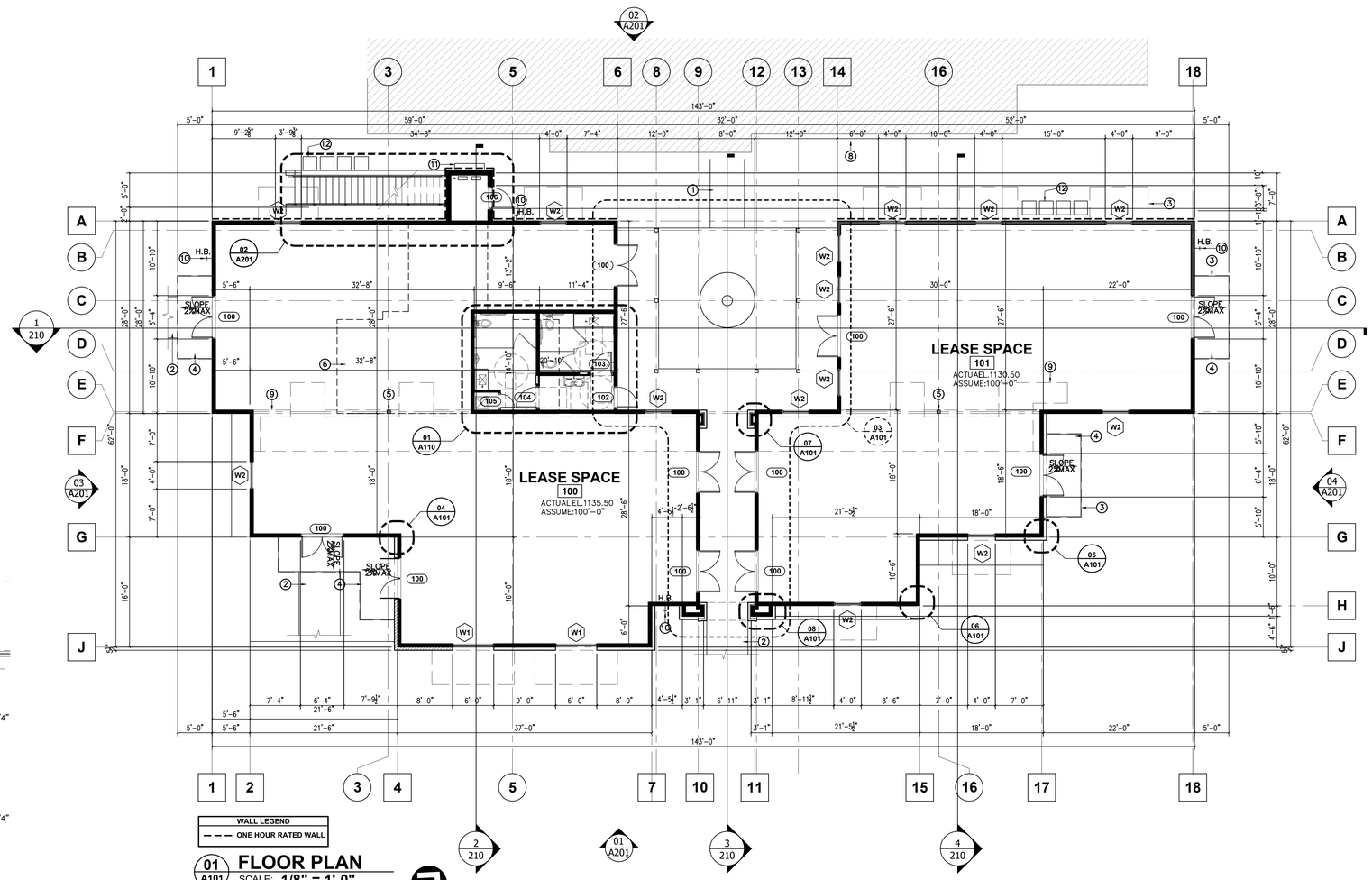
project #:
23014
date:
04.16.2024
Project Manager: drawn by:
X.D.
drawing title:
ARCHITECTURAL SITE PLAN
sheet number:
A100A

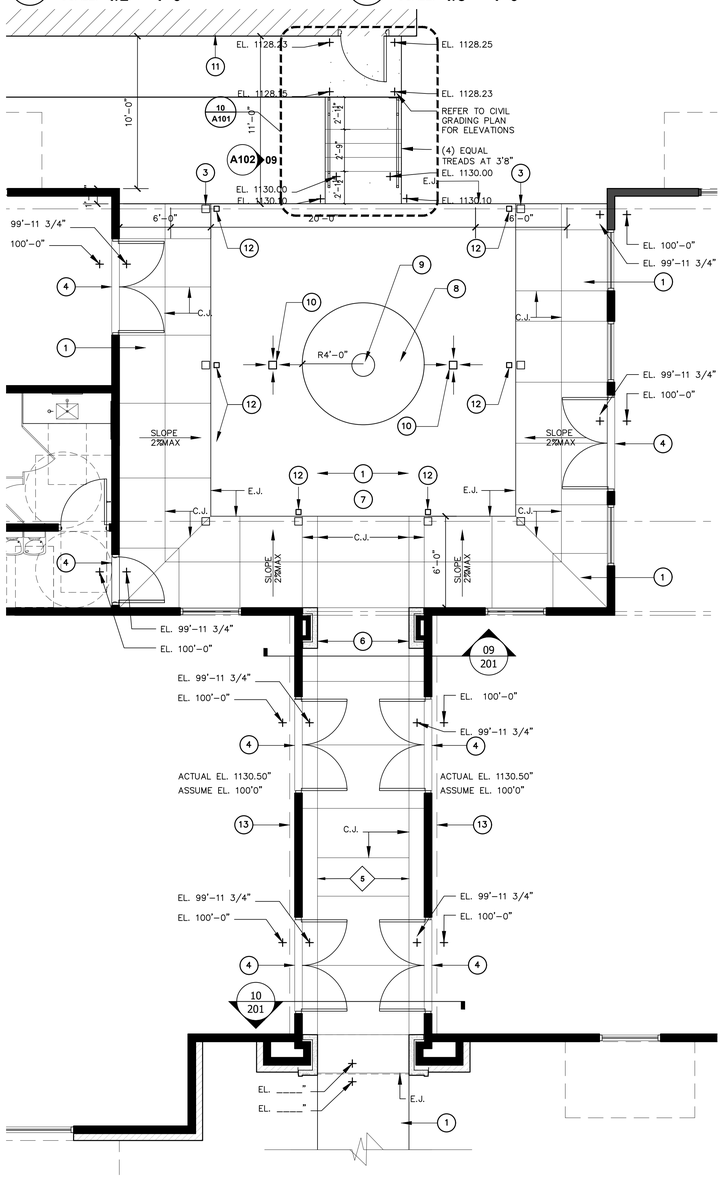


10 A101 ENLARGED STAIR PLAN
SCALE: 1/2" = 1'-0"



02 A101 SECOND FLOOR PLAN
SCALE: 1/8" = 1'-0"



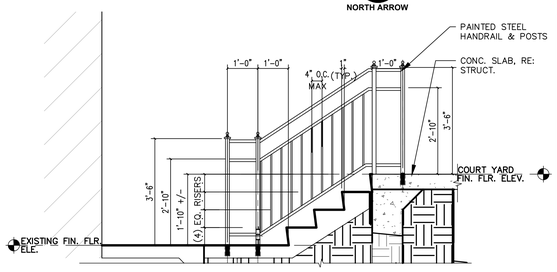


03 A101 ENLARGED BREEZEWAY/ COURTYARD PLAN
SCALE: 1/4" = 1'-0"

01 A101 FLOOR PLAN
SCALE: 1/8" = 1'-0"

WALL LEGEND
ONE HOUR RATED WALL

NORTH ARROW



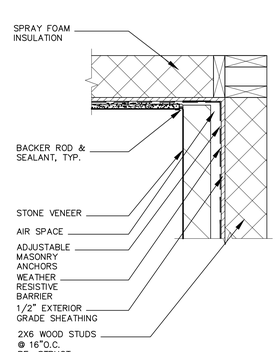
09 A101 STAIR SECTION
SCALE: 1/2" = 1'-0"

FLOOR PLAN KEYNOTES

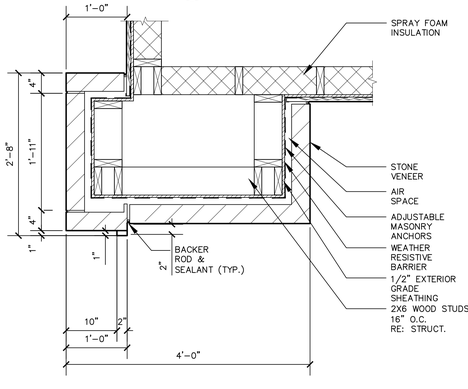
TYPE MARK	DESCRIPTION
1	CONCRETE SIDEWALK :RE CIVIL
2	CONCRETE WALK (RE: STRUCT.)
3	TYP. EAVE
4	CONCRETE PAVEMENT (RE: CIVIL)
5	6X6 WOOD COLUMN
6	STORAGE AREA ABOVE
7	EXISTING CONCRETE SIDEWALK
8	EXISTING BUILDING
9	PLUMBING LEAVE-OUT RE:MEP & STRUCT.
10	HOSE BIBBED RE:MEP
11	ELEC. SERVICE ENTRANCE RE:MEP
12	FUTURE CONDENSER UNIT DETERMINE PLACE

ENLARGED PLAN KEYNOTES

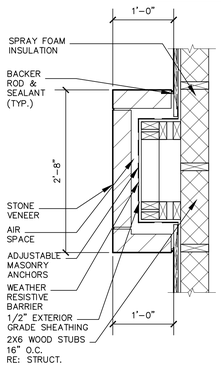
CODE	DESCRIPTION
1	ROCK SALT W/STAMPED & STAINED FINISH
2	CONCRETE SIDEWALK
3	R.S. CEDAR COLUMN, STAIN
4	THRESHOLD
5	PILASTER
6	CONCRETE WALK (RE: STRUCT.)
7	CONCRETE PAVEMENT (RE: CIVIL)
8	LANDSCAPING
9	PLANT MATERIAL, RE: LANDSCAPING
10	DRAIN INLET (RE: CIVIL)
11	EXISTING BUILDING
12	PRE-FINISHED METAL DOWNSPOUT CONNECTED TO UNDERGROUND STORM DRAIN (TYP.)
13	SPRAY FOAM INSULATION



04 A101 PLAN DETAIL
SCALE: 1 1/2" = 1'-0"



08 A101 PLAN DETAIL
SCALE: 1" = 1'-0"



07 A101 PLAN DETAIL
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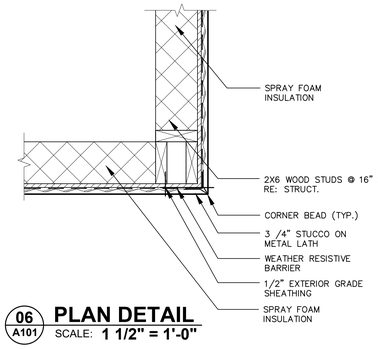
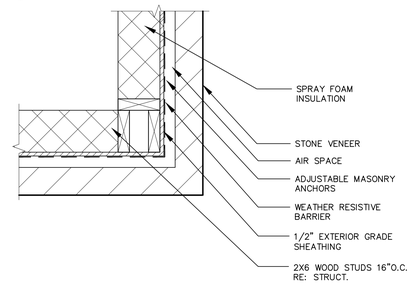


06 A101 PLAN DETAIL
SCALE: 1 1/2" = 1'-0"



05 A101 PLAN DETAIL
SCALE: 1 1/2" = 1'-0"

VIA DOMINION BUILDING
INDEPENDENCE VILLAGE
AT THE DOMINION
8 DOMINION DRIVE, SAN ANTONIO, TEXAS, 78257

LUNA ARCHITECTURE
18403 Huebner Road, San Antonio, TX 78248 . Tel. 210.340.2400 . lunaarchitecture.com

REVISIONS:

NO.	DESCRIPTION	DATE

Key Plan:

REGISTERED ARCHITECT JONATHAN A. PACE 6349 STATE OF TEXAS

JONATHAN A. PACE
11-15-2024
LUNA ARCHITECTURE
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project #: 23014

date: 04.16.2024

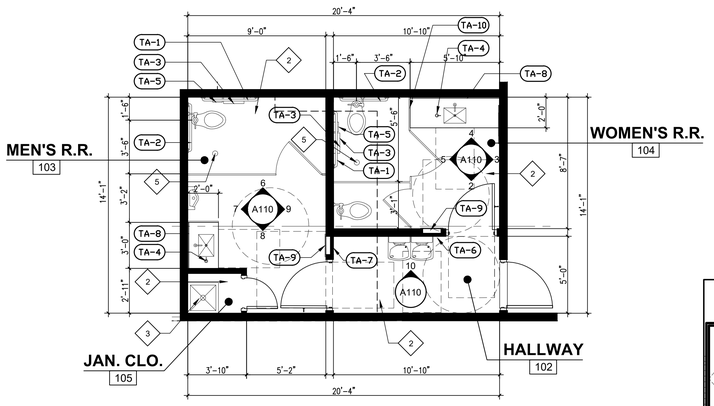
Project Manager: X.G.D. drawn by: J.M.

drawing title: FLOOR PLAN / ENLARGED COURTYARD & BREEZEWAY PLAN / DETAILS

sheet number: A101

TOILET ACCESSORY SCHEDULE

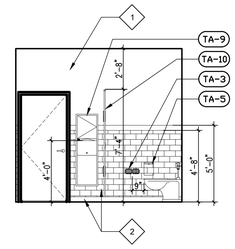
ITEM	DISCRIPTION	MANUF.	MOUNT. HT.	REMARKS
TA-1	GRAB BAR – 42"	BOBRICK: B-6806-42	36" A.F.F. TO TOP OF GRIPPING SURFACE	
TA-2	GRAB BAR – 36"	BOBRICK: B-6806-36	36" A.F.F. TO TOP OF GRIPPING SURFACE	
TA-3	BOBRICK DOUBLE ROLL PAPER DISPENSER WITH HOOD	BOBRICK: B-6999	8" ABOVE GRAB BAR TO CENTER OF DISPENSER	
TA-4	SOAP DISPENSER	AMERICAN SPECIALTIES INC. 0332	COUNTER TOP MOUNTED	
TA-5	SURFACE-MOUNTED SANITARY NAPKIN DISPOSAL	BOBRICK	30" A.F.F. TO TOP OF FIXTURE	
TA-6	WOMEN RESTROOM SIGN	SOUTHWELL-SS-4-(ADA)	AS RECOMMENDED BY MANUFACTURER	
TA-7	MEN RESTROOM SIGN	SOUTHWELL-SS-4-(ADA)	AS RECOMMENDED BY MANUFACTURER	
TA-8	FULL MIRROR	AS SELECTED BY OWNER	40" A.F.F. TO REFLECTIVE SURFACE	
TA-9	PAPER TOWEL DISPENSER/WASTE RECEPTACLE	AMERICAN SPECIALTIES INC. 0469	AS RECOMMENDED BY MANUFACTURER	RECESSED
TA-10	TOILET PARTITIONS	TEX-LAM MANUFACTURING INC.	AS RECOMMENDED BY MANUFACTURER	



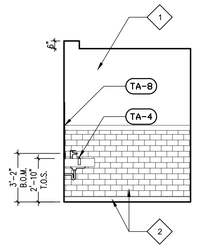
NOTE:
ALL PLUMBING WALLS AND THOSE RECEIVING RECESSED ACCESSORIES TO BE 2X6 WOOD STUDS, (TYP.)

ALL RESTROOM WALLS TO RECEIVE SOUND BATT ATTENUATION INSULATION

1 A110 ENLARGED RESTROOM PLAN
SCALE: 1/4" = 1'-0"



2 A110 INTERIOR ELEV.
SCALE: 1/4" = 1'-0"



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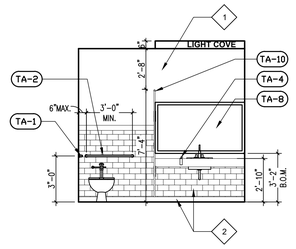

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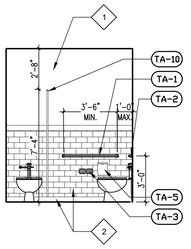

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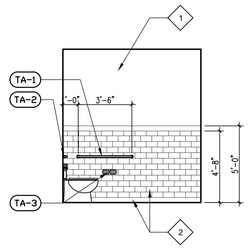

6 A110 INTERIOR ELEV.
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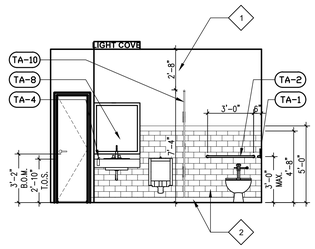
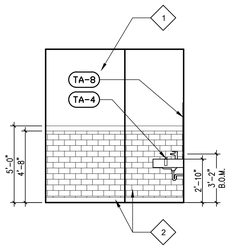
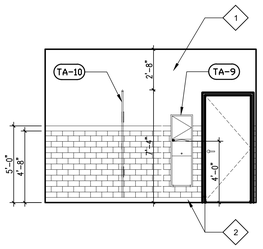


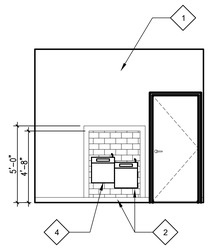
7 A110 INTERIOR ELEV.
SCALE: 1/4" = 1'-0"



8 A110 INTERIOR ELEV.
SCALE: 1/4" = 1'-0"

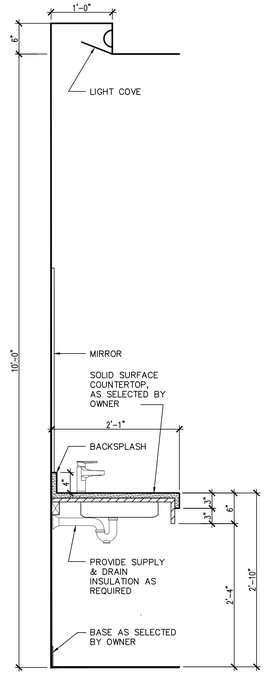


9 A110 INTERIOR ELEV.
SCALE: 1/4" = 1'-0"



10 A110 INTERIOR ELEV.
SCALE: 1/4" = 1'-0"

RESTROOM KEYNOTES	
CODE	DESCRIPTION
1	GYPSUM BOARD, PAINT
2	TILE AS SELECTED BY OWNER
3	MOP SINK, RE: MEP
4	HI/LO DRINKING FOUNTAIN
5	FLOOR DRAIN RE: MEP



11 A601 LAVATORY SECTION
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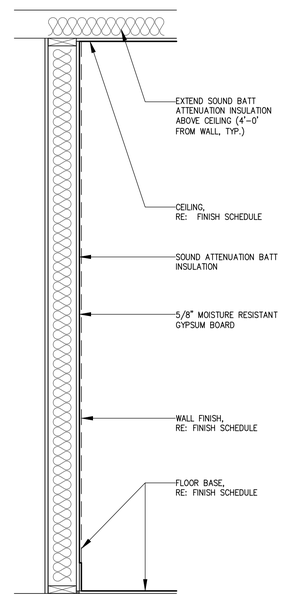

12 A601 WALL SECTION
SCALE: 1" = 1'-0"

LUNA ARCHITECTURE
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REVISIONS:

NO.	DESCRIPTION	DATE

Key Plan:

VIA DOMINION BUILDING 200
INDEPENDENCE VILLAGE
AT THE DOMINION
8 DOMINION DRIVE, SAN ANTONIO
TEXAS, 78257

REGISTERED ARCHITECT JONATHAN A. PACE 26348 STATE OF TEXAS

JONATHAN A. PACE
11-15-2024
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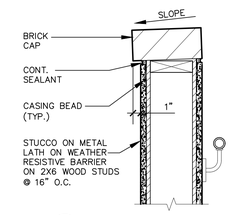
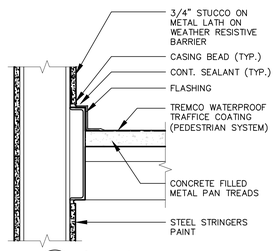
project #: 23014
date: 04.16.2024
Project Manager: X.G.D. drawn by:
drawing title: ENLARGED RESTROOM PLAN
sheet number: A110



19 A201 **DETAIL**
SCALE: 1 1/2" = 1'-0"



18 A201 **DETAIL**
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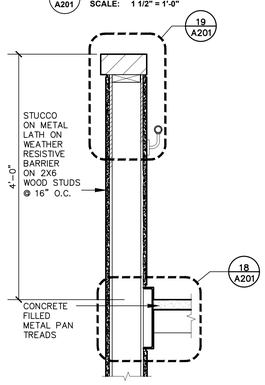

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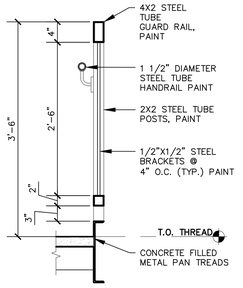

16 A201 **SECTION**
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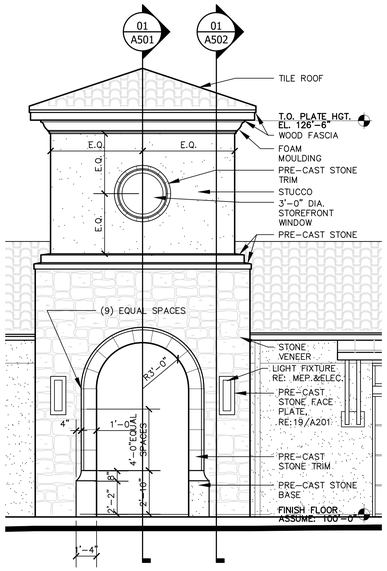
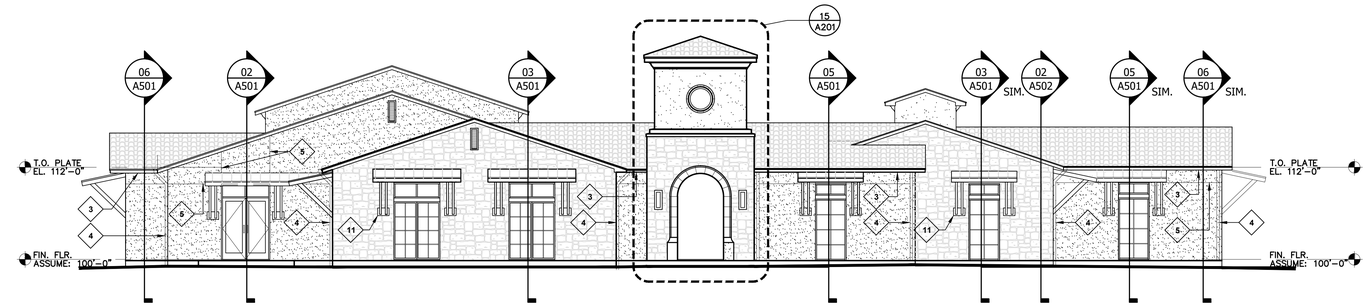
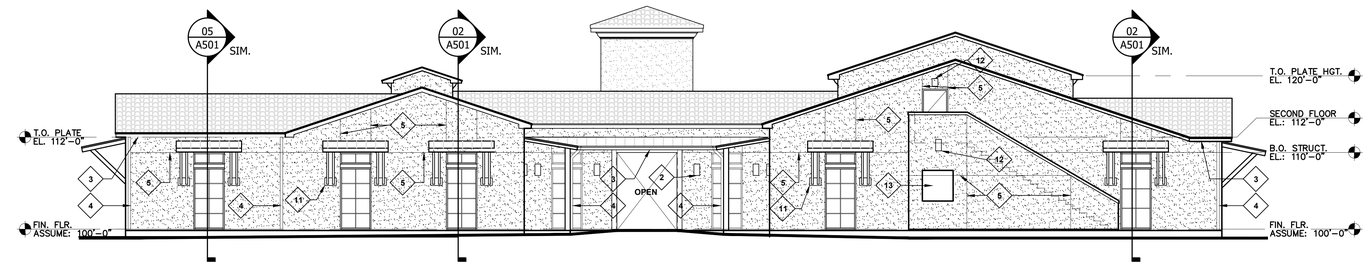


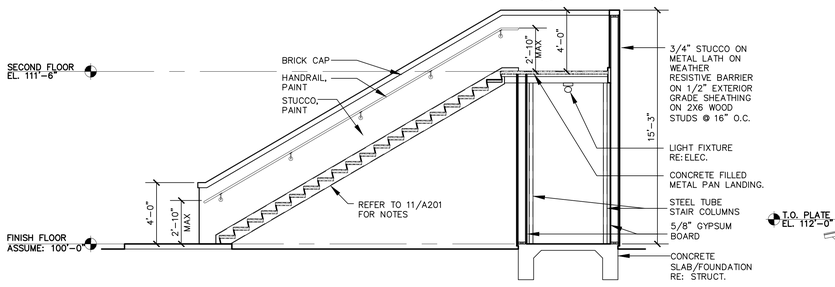
15 A201 **ENLARGED TOWER ELEVATION**
SCALE: 1/4" = 1'-0"



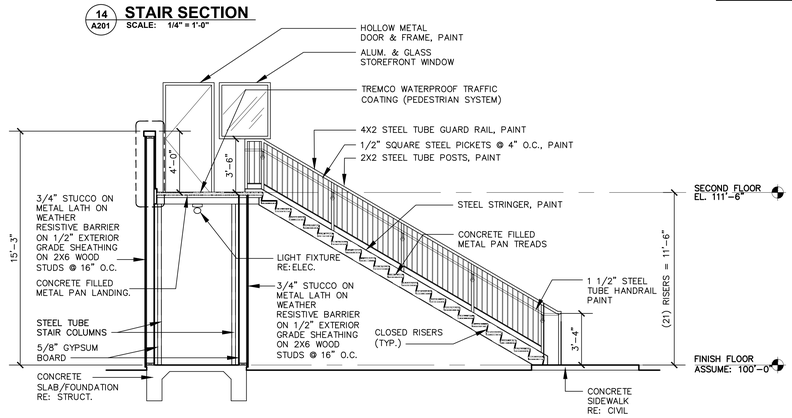
01 A101 **SOUTH ELEVATION**
SCALE: 1/8" = 1'-0"



02 A201 **NORTH ELEVATION**
SCALE: 1/8" = 1'-0"



12 A201 **STAIR SECTION**
SCALE: 1/4" = 1'-0"



13 A201 **STAIR SECTION**
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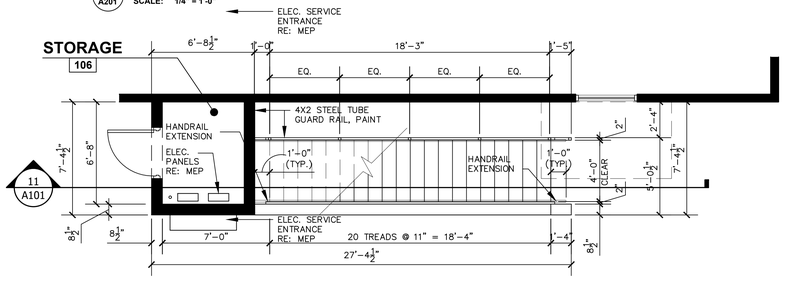
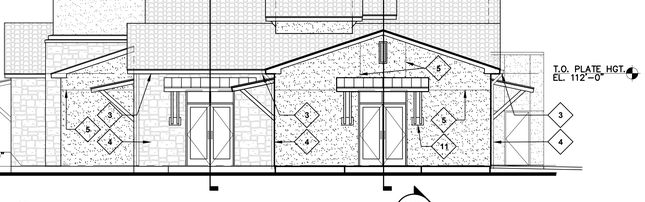
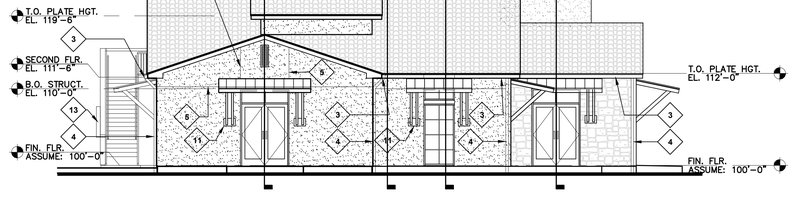


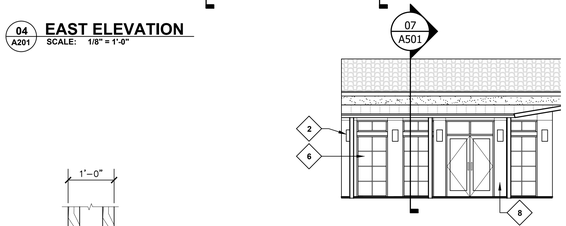
12 A201 **ENLARGED STAIR PLAN**
SCALE: 1/4" = 1'-0"



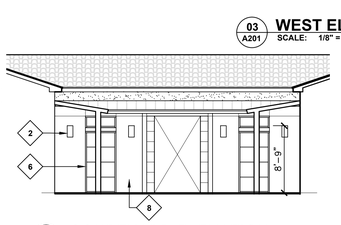
04 A201 **EAST ELEVATION**
SCALE: 1/8" = 1'-0"



03 A201 **WEST ELEVATION**
SCALE: 1/8" = 1'-0"



07 A201 **COURTYARD ELEVATION**
SCALE: 1/8" = 1'-0"



06 A201 **COURTYARD ELEVATION**
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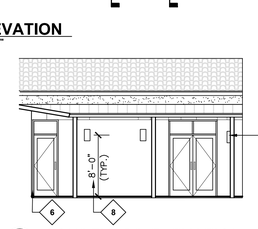

05 A201 **COURTYARD ELEVATION**
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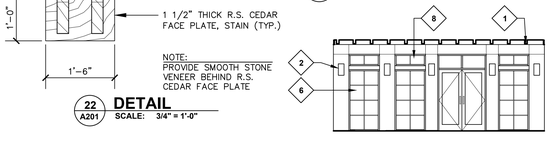
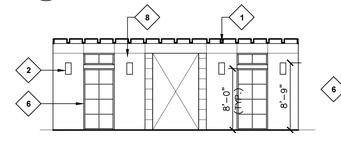
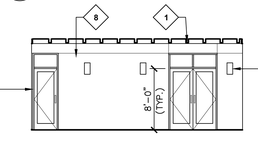


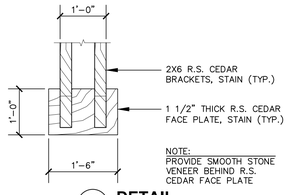
07A A201 **COURTYARD ELEVATION**
SCALE: 1/8" = 1'-0"



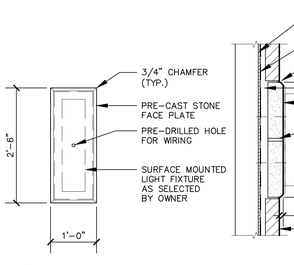
06A A201 **COURTYARD ELEVATION**
SCALE: 1/8" = 1'-0"



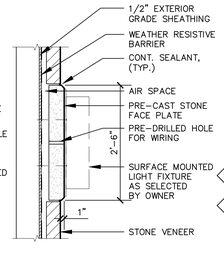
05A A201 **COURTYARD ELEVATION**
SCALE: 1/8" = 1'-0"



22 A201 **DETAIL**
SCALE: 3/4" = 1'-0"

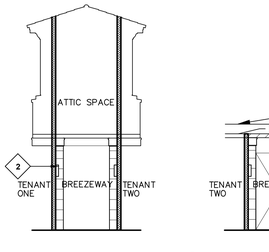


21 A201 **DETAIL**
SCALE: 3/4" = 1'-0"

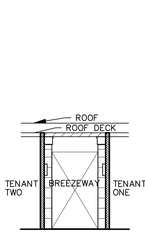


20 A201 **DETAIL**
SCALE: 3/4" = 1'-0"

11 A201 **BREEZEWAY ELEVATION**
SCALE: 1/8" = 1'-0"



10 A201 **BREEZE.W. SECTION**
SCALE: 1/8" = 1'-0"



09 A201 **BREEZE.W. SECTION**
SCALE: 1/8" = 1'-0"

08 A201 **BREEZEWAY ELEVATION**
SCALE: 1/8" = 1'-0"

ELEVATION KEYNOTES

CODE	DESCRIPTION
1	RAFTER
2	SURFACE MOUNTED LIGHT FIXTURE AS SELECTED BY OWNER
3	PRE-FINISHED METAL GUTTER
4	PRE-FINISHED METAL DOWNSPOUT
5	CONTROL JOINT (TYP.)
6	ALUM. & GLASS STOREFRONT SYSTEM
7	PENDANT LIGHT FIXTURE AS SELECTED BY OWNER
8	STUCCO, PAINT
9	PRE-CAST STONE
10	ROUGH SAWN CEDAR FACE PLATE, STAIN (TYP.)
11	PRE-CAST STONE FACE PLATE
12	LIGHT FIXTURE RE:ELEC.
13	ELEC. SERVICE ENTRANCE RE: MEP

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REVISIONS:

NO.	DESCRIPTION	DATE

Key Plan:

VIA DOMINION BUILDING 200
INDEPENDENCE VILLAGE
AT THE DOMINION
8 DOMINION DRIVE, SAN ANTONIO
TEXAS, 78257

JONATHAN A. PACE
11-15-2024
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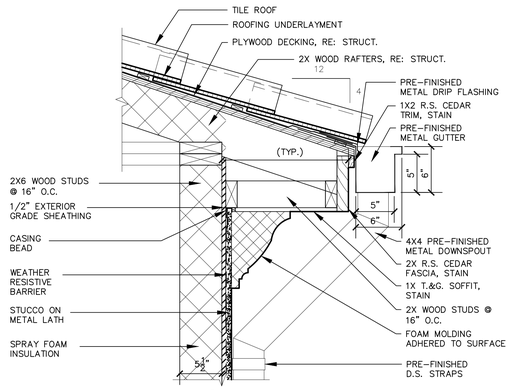
project #: 23014

date: 04.16.2024

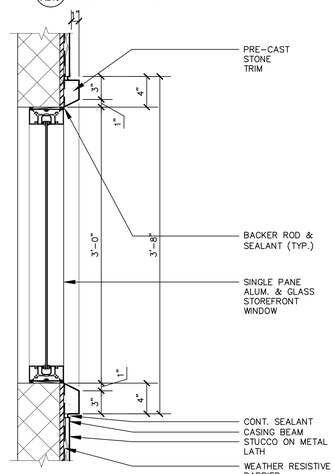
Project Manager: X.G.D. drawn by: J.M.

drawing title:
EXTERIOR ELEVATIONS / STAIR PLAN, ELEVATIONS, SECTION & DETAILS

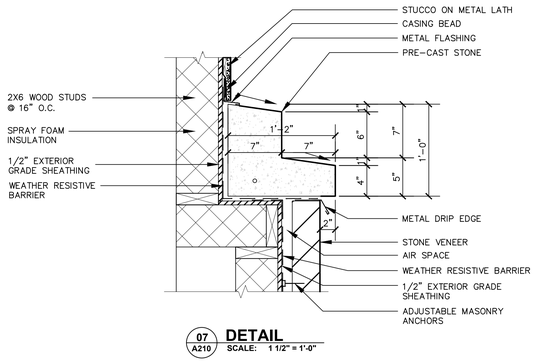
sheet number:
A201



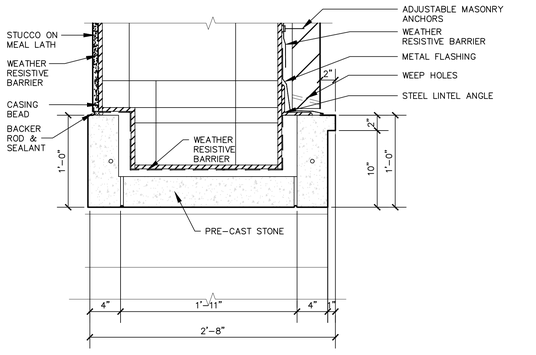
05 A210 **DETAIL**
SCALE: 1 1/2" = 1'-0"



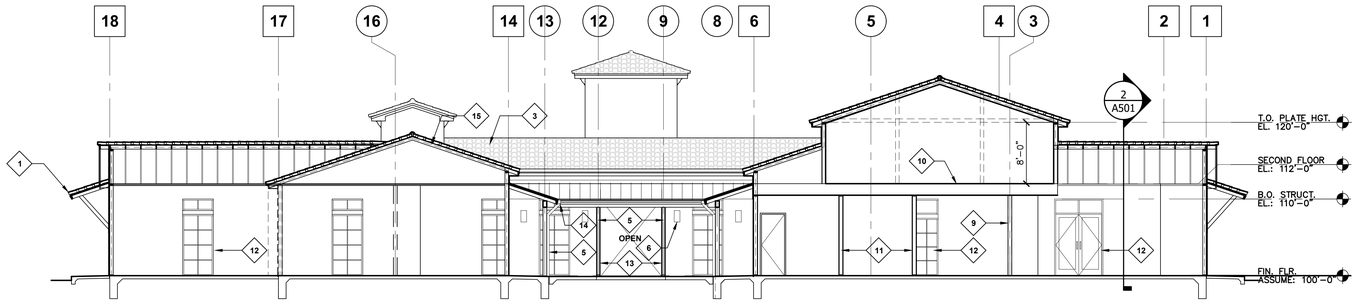
06 A210 **DETAIL**
SCALE: 1 1/2" = 1'-0"



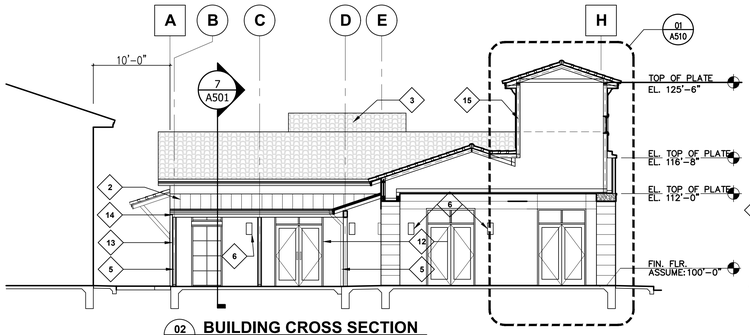
07 A210 **DETAIL**
SCALE: 1 1/2" = 1'-0"



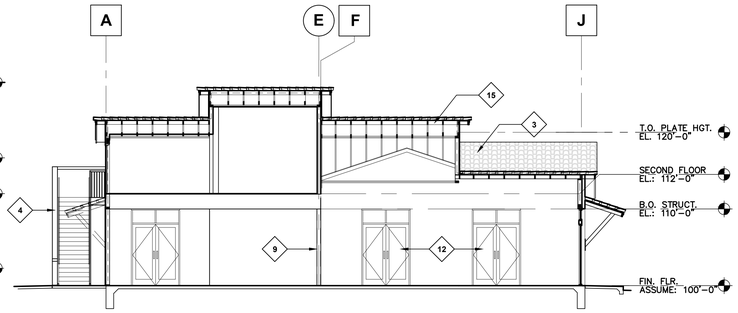
08 A210 **DETAIL**
SCALE: 1 1/2" = 1'-0"



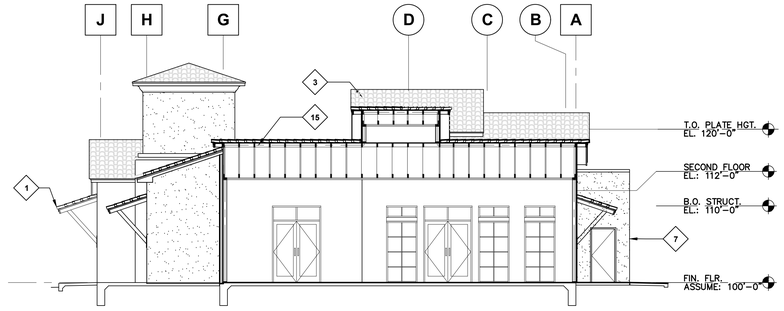
01 A210 **BUILDING CROSS SECTION**
SCALE: 1/8" = 1'-0"



02 A210 **BUILDING CROSS SECTION**
SCALE: 1/8" = 1'-0"



03 A210 **BUILDING CROSS SECTION**
SCALE: 1/8" = 1'-0"



04 A210 **BUILDING CROSS SECTION**
SCALE: 1/8" = 1'-0"

BUILDING CROSS SECTION KEYNOTES

CODE	DESCRIPTION
1	CANOPY
2	PRE-FINISHED METAL CANOPY
3	CLAY TILE ROOFING
4	STAIRS
5	PRE-FINISHED METAL DOWNSPOUTS
6	SURFACE MOUNTED LIGHT
7	STAIR BEYOND
8	HOLLOW METAL DOOR & FRAME, PAINT (TYP.)
9	STEEL TUBE COLUMN, RE: STRUCT.
10	SECOND FLOOR
11	RESTROOM WALLS
12	ALUM. & GLASS STOREFRONT SYSTEM
13	RROUGH SAWN CEDAR COLUMNS, STAIN (TYP.)
14	PRE-FINISHED METAL GUTTER
15	CLOSED CELL SPRAY ROAM INSULATION

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REVISIONS:

NO.	DESCRIPTION	DATE

Key Plan:

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INDEPENDENCE VILLAGE
AT THE DOMINION
8 DOMINION DRIVE, SAN ANTONIO
TEXAS, 78257

REGISTERED ARCHITECT
JONATHAN A. PACE
26348
STATE OF TEXAS

JONATHAN A. PACE
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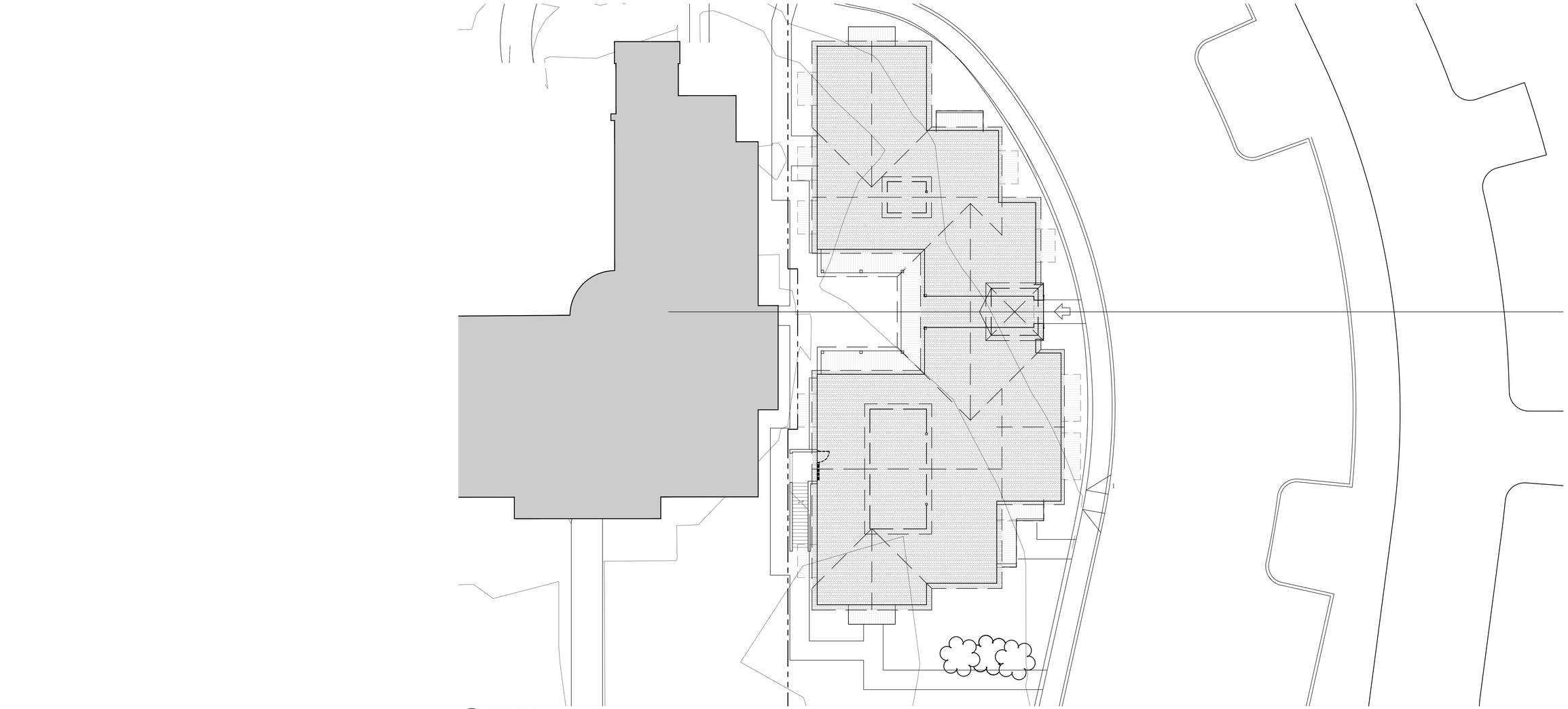
project #: 23014

date: 04.16.2024

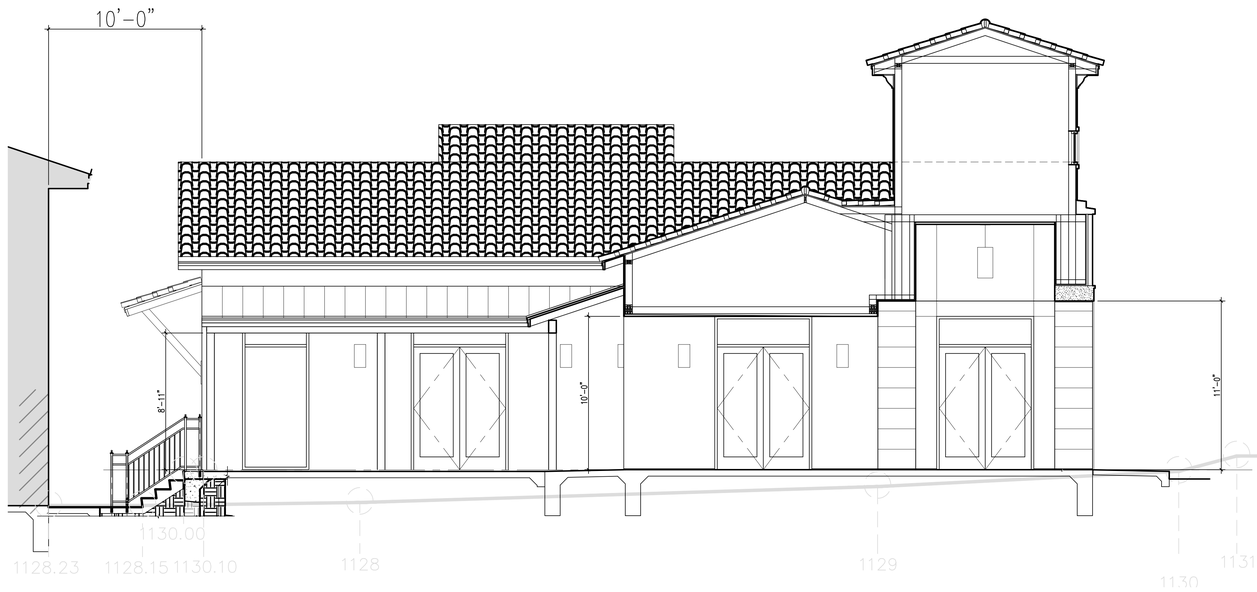
Project Manager: X.G.D. drawn by: JM

drawing title: BUILDING CROSS SECTIONS & DETAILS

sheet number: **A210**



1 A001 **SITE PLAN**
SCALE: 3/32" = 1'-0"



2 A001 **BUILDING/LANDSCPAE SECTION**
SCALE: 1/4" = 1'-0"

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STATE OF TEXAS

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project #: 23014

date: 04.16.2024

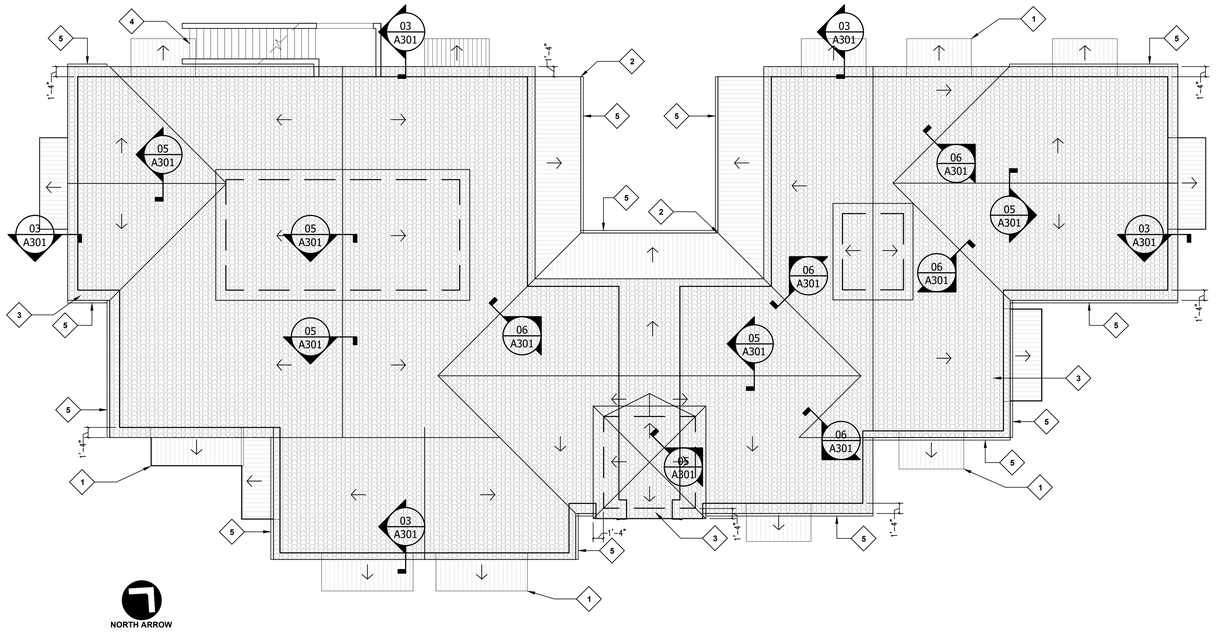
Project Manager: X.G.D. drawn by: JM

drawing title:

BUILDING CROSS SECTIONS

sheet number:

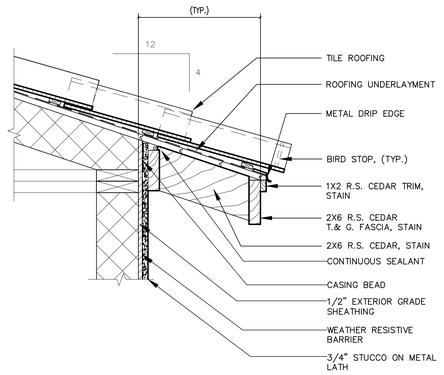
A211



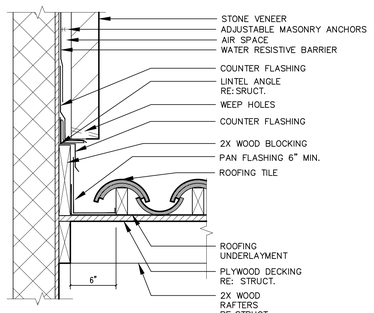
01 A301 ROOF PLAN
SCALE: 1/8" = 1'-0"

ROOF PLAN KEYNOTES

CODE	DESCRIPTION
1	TILE ROOFING CANOPY
2	PRE-FINSHED METAL ROOF PANELS
3	TILE ROOFING
4	STAIRS
5	PRE-FINISHED METAL GUTTER



09 A301 FLASHING DETAIL
SCALE: 1 1/2" = 1'-0"



07 A301 FLASHING DETAIL
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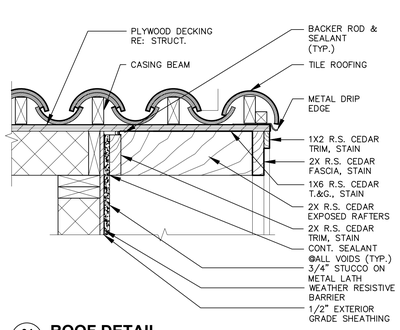
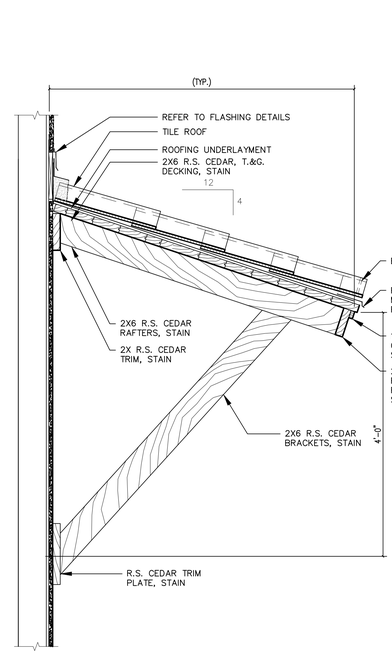
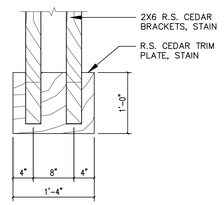
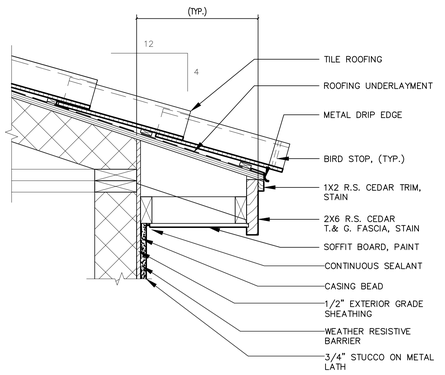


04 A301 ROOF DETAIL
SCALE: 1 1/2" = 1'-0"

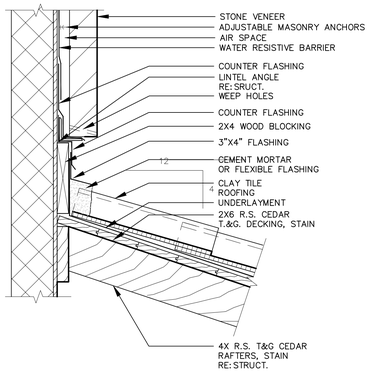


02 A301 TYP. CANOPY DETAIL
SCALE: 1" = 1'-0"

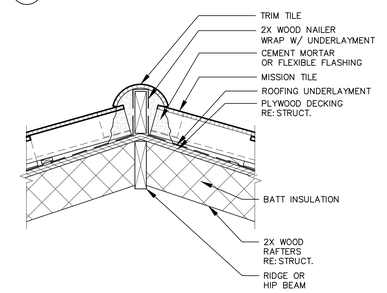




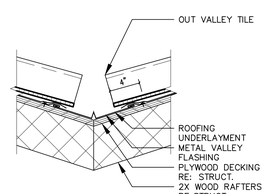
10 A301 FLASHING DETAIL
SCALE: 1 1/2" = 1'-0"



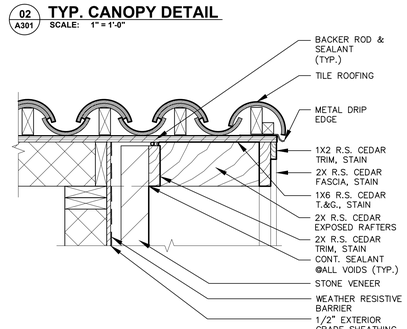
08 A301 FLASHING DETAIL
SCALE: 1 1/2" = 1'-0"



05 A301 RIDGE & HIP PLATE END DETAIL
SCALE: 1 1/2" = 1'-0"



06 A301 TYP. VALLEY FLASHING DETAIL
SCALE: 1 1/2" = 1'-0"



03 A301 ROOF DETAIL
SCALE: 1 1/2" = 1'-0"

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REGISTERED ARCHITECT JONATHAN A. PACE 26348 STATE OF TEXAS

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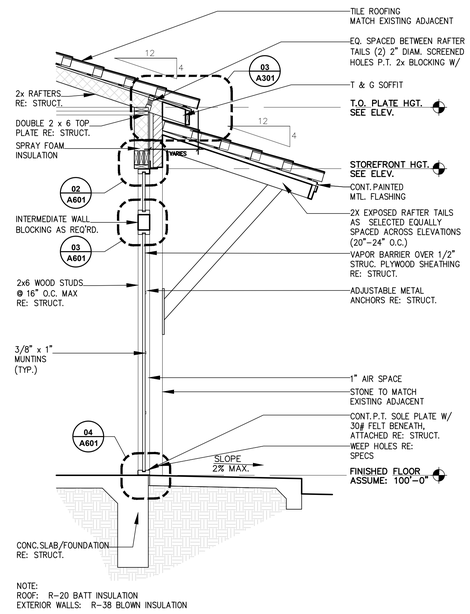
project #: **23014**

date: **04.16.2024**

Project Manager: **X.G.D.** drawn by: **J.M.**

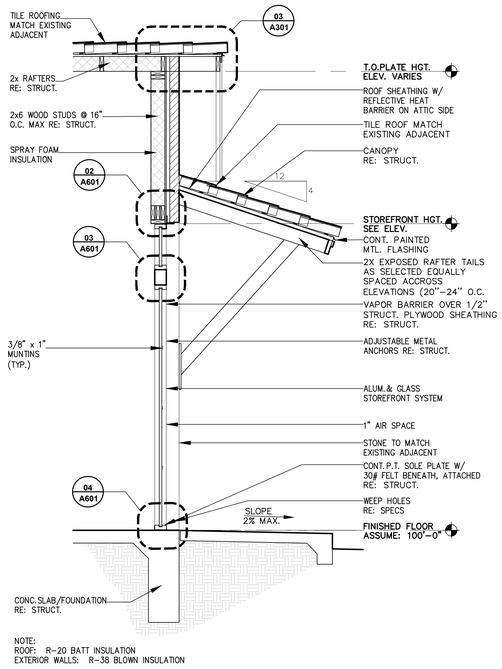
drawing title: **ROOF PLAN & DETAILS**

sheet number: **A301**



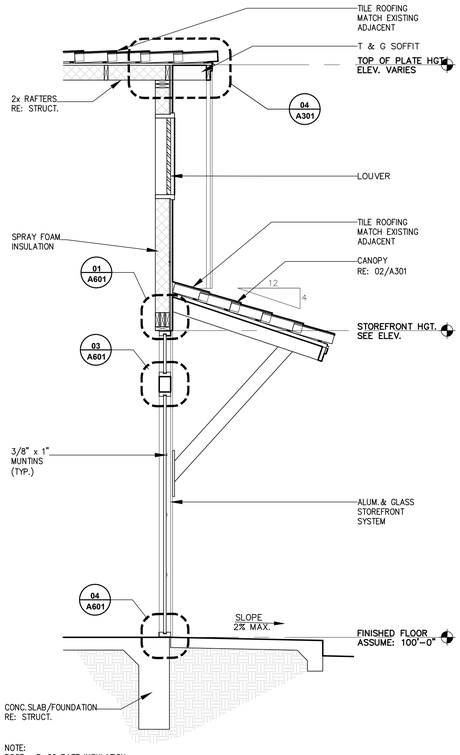
NOTE:
ROOF: R-20 BATT INSULATION
EXTERIOR WALLS: R-38 BLOWN INSULATION

04 A501 WALL SECTION SCALE: 1/2" = 1' - 0"



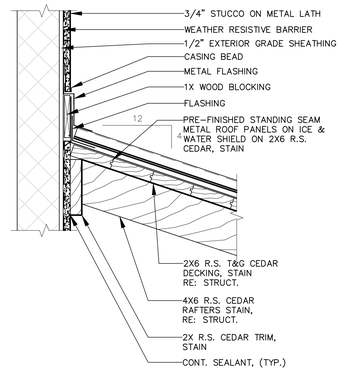
NOTE:
ROOF: R-20 BATT INSULATION
EXTERIOR WALLS: R-38 BLOWN INSULATION

03 A501 WALL SECTION SCALE: 1/2" = 1' - 0"

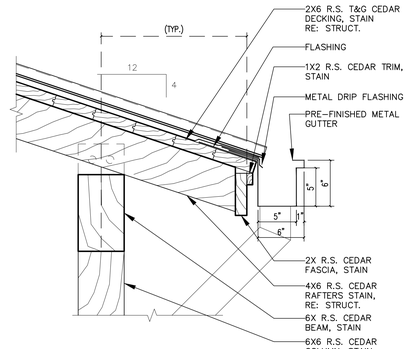


NOTE:
ROOF: R-20 BATT INSULATION
EXTERIOR WALLS: R-38 BLOWN INSULATION

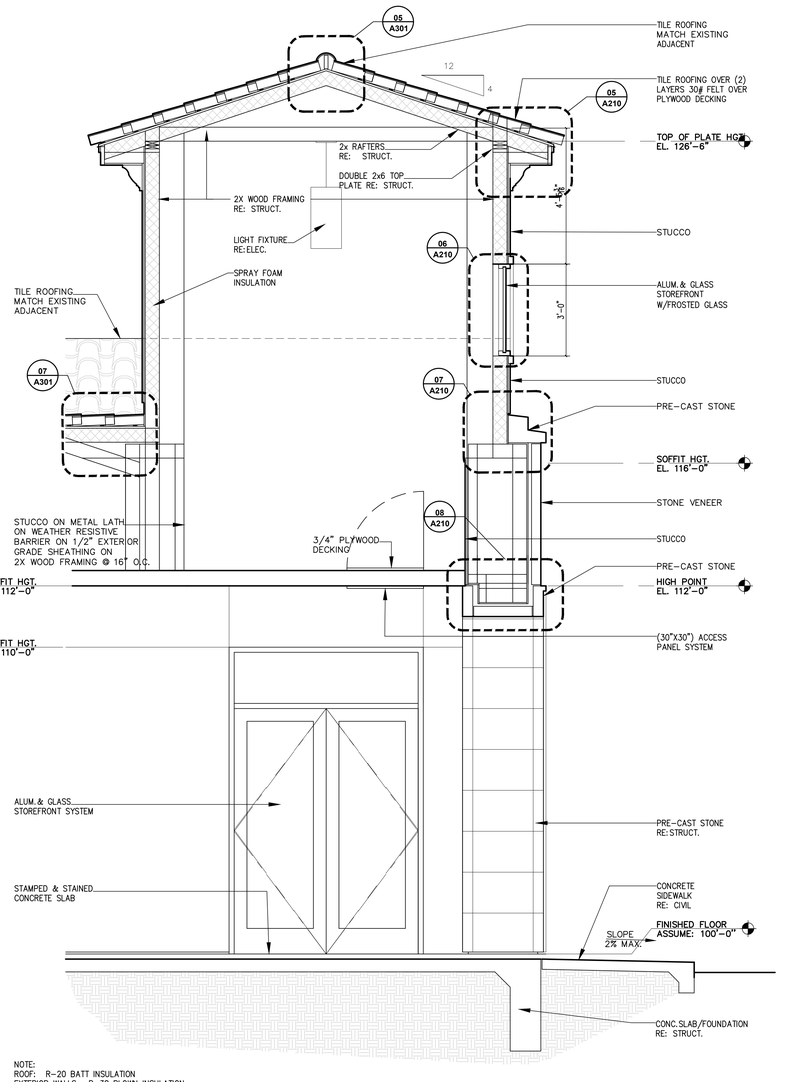
02 A501 WALL SECTION SCALE: 1/2" = 1' - 0"



09 A501 FLASHING DETAIL SCALE: 1 1/2" = 1'0"

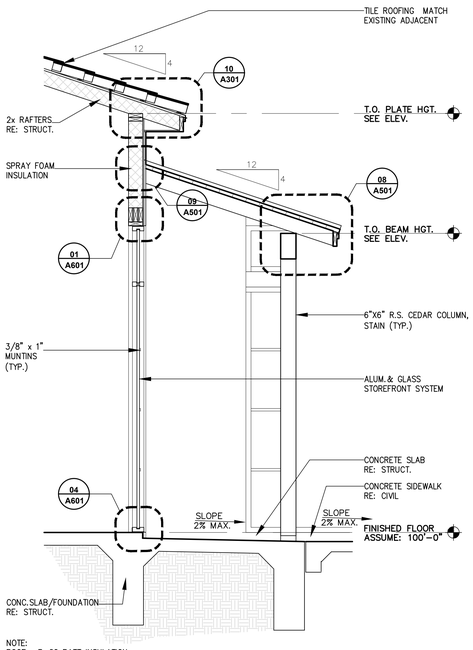


08 A501 FLASHING DETAIL SCALE: 1 1/2" = 1'0"



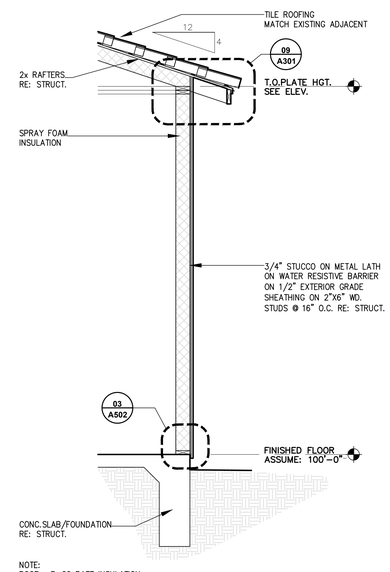
NOTE:
ROOF: R-20 BATT INSULATION
EXTERIOR WALLS: R-38 BLOWN INSULATION

01 A501 TOWER SECTION SCALE: 1/2" = 1'0"



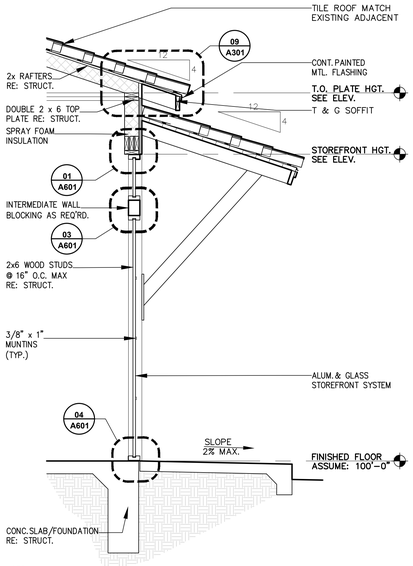
NOTE:
ROOF: R-20 BATT INSULATION
EXTERIOR WALLS: R-38 BLOWN INSULATION

07 A501 CANOPY SECTION SCALE: 1/2" = 1' - 0"



NOTE:
ROOF: R-20 BATT INSULATION
EXTERIOR WALLS: R-38 BLOWN INSULATION

06 A501 WALL SECTION SCALE: 1/2" = 1' - 0"



NOTE:
ROOF: R-20 BATT INSULATION
EXTERIOR WALLS: R-38 BLOWN INSULATION

05 A501 WALL SECTION SCALE: 1/2" = 1' - 0"

LUNA ARCHITECTURE
16403 Huebner Road, San Antonio, TX 78248 · Tel: 210.340.2400 · lunaarchitecture.com

REVISIONS:

NO.	DESCRIPTION	DATE

Key Plan:

VIA DOMINION BUILDING 200

INDEPENDENCE VILLAGE
AT THE DOMINION
8 DOMINION DRIVE, SAN ANTONIO
TEXAS, 78257

REGISTERED ARCHITECT · JONATHAN A. PACE · 26345 · STATE OF TEXAS

JONATHAN A. PACE
11-15-2024
LUNA ARCHITECTURE
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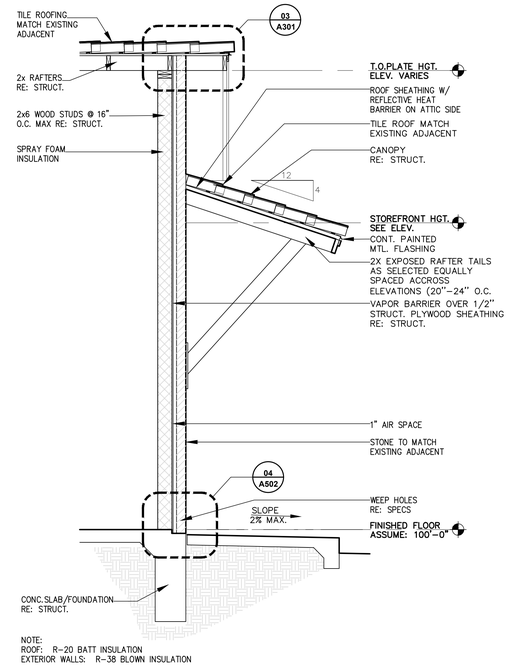
project #: 23014
date: 04.16.2024
Project Manager: X.G.D. drawn by: J.M.
drawing title: TOWER & WALL SECTIONS / DETAILS
sheet number: A501



02 A502 **WALL SECTION**
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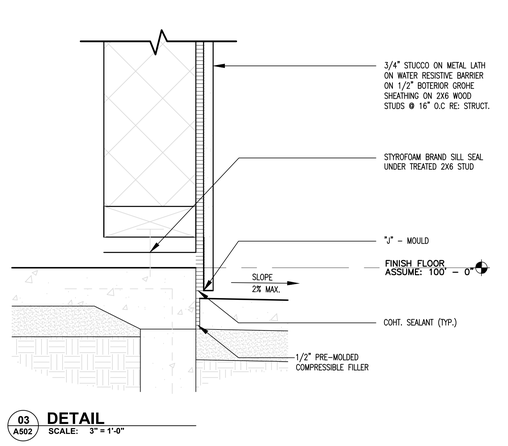
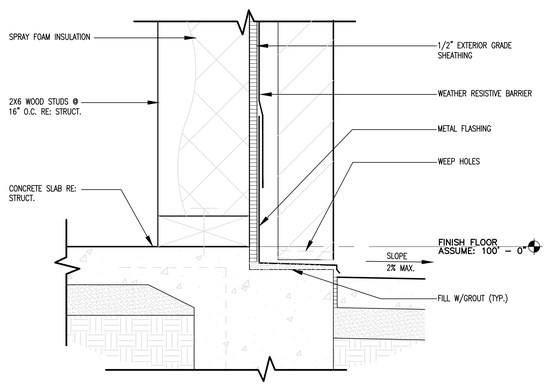
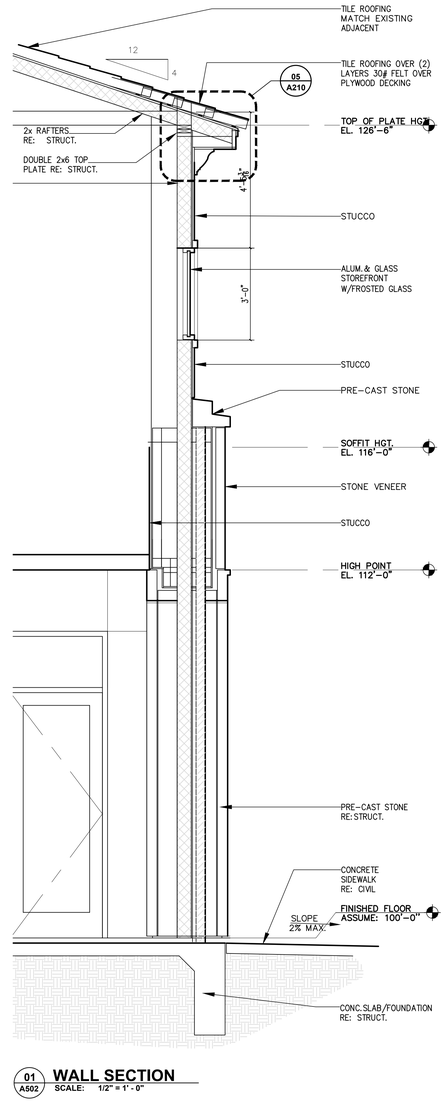


03 A502 **DETAIL**
SCALE: 3" = 1'-0"



04 A502 **DETAIL**
SCALE: 3" = 1'-0"



01 A502 **WALL SECTION**
SCALE: 1/2" = 1' - 0"

LUNA ARCHITECTURE
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2634
STATE OF TEXAS

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project #: **23014**

date: **04.16.2024**

Project Manager: **X.G.D.** drawn by: **J.M.**

drawing title:
WALL SECTIONS / DETAILS

sheet number:
A502

GENERAL NOTES:

A- ALL DOORS AND GATES SHALL COMPLY WITH REQUIREMENTS AS STATED IN SECTION 1010, 2021IBC.

B- EXIT DOORS SHALL BE OPERABLE FROM THE INSIDE WITHOUT THE USE OF A KEY, SPECIAL KNOWLEDGE OR EFFORT.

C- THE FLOOR LEVEL ON EACH SIDE OF THE INTERIOR DOOR OPENING SHALL NOT BE MORE THAN 1/4" LOWER THAN THE THRESHOLD OF THE DOOR.

DOOR NOTES:

1. ALL HARDWARE SHALL BE FURNISHED AND INSTALLED BY THE GENERAL CONTRACTOR UNLESS NOTED OTHERWISE.
2. ALL HARDWARE FINISHES SHALL BE US20D (DARK BROZE), UNLESS NOTED OTHERWISE.
3. DOORS TO BE KEYED AS DIRECTED BY OWNER.
4. HOLLOW METAL FRAMES SHALL BE 16 GA. STEEL.
5. ALL DOORS SHALL HAVE ADA APPROVED TYPE HARDWARE.
6. EXIT HARDWARE SHALL COMPLY WITH ALL APPLICABLE CODES.
7. ALL GLAZING IN DOORS, AND WITHIN A 24" ARC OF THE SIDES OF EGRESS DOORS SHALL BE OF AN APPROVED SAFETY TYPE.
8. PAINT HOLLOW METAL FRAMES & DOORS WHERE SCHEDULED w/ 2 FINISH COATS OF HIGH-GLOSS ACRYLIC ENAMEL. SEE ELEVATIONS & FINISH SCHEDULE.
9. ADJUST CLOSERS SUCH THAT SWEEP PERIOD FROM AN OPEN POSITION OF 70 DEGREES, THE DOORS SHALL TAKE AT LEAST 3 SECONDS TO MOVE TO A POINT 3" FROM THE LATCH, MEASURED TO THE LEADINING EDGE OF THE DOOR. MAXIMUM OPENING FORCE OF DOORS SHALL BE 5LBS.
10. THE BOTTOM 10" OF ALL DOORS EXCEPT AUTOMATIC AND SLIDING, SHALL HAVE A SMOOTH, UNINTERRUPTED SURFACE TO ALLOW THE DOOR TO BE OPENED TO A WHEELCHAIR FOOTREST WITHOUT CREATING A TRAP OR HAZARD CONDITION. WHERE NARROW FRAMES ARE USED, A 10"H SMOOTH PANEL SHALL BE INSTALLED ON THE PUSH SIDE OF THE DOOR, WHICH WILL ALLOW THE DOOR TO BE OPENED ON THE PUSH SIDE OF THE DOOR AND WILL ALLOW THE DOOR TO BE OPENED BY A WHEELCHAIR FOOTREST WITHOUT CREATING A TRAP OR HAZARD CONDITION.
11. MAXIMUM EFFORT TO OPERATE EXTERIOR OR INTERIOR DOORS WITH CLOSERS SHALL NOT EXCEED FIVE POUNDS.
12. DOORS SHALL BE RODENT PROOF WITH DOORS CLOSE FITTINGS WITH NO OPENING GREATER THAN 1/4" WHEN CLOSED.
13. DOORWAYS SHALL HAVE A MINIMUM NET CLEAR OPENING OF 32" WHEN THE DOOR IS OPEN 90 DEGREES MEASURED FROM THE FACE OF THE DOOR AND THE OPPOSITE STOP. 1/2" MAXIMUM THRESHOLD HEIGHT AT ALL DOORS.
14. ALL DOORS TO BE EQUIPPED WITH SINGLE EFFORT, NON-GRASP HARDWARE CENTERED BETWEEN 30" AND 44" A.F.F.

DOOR HARDWARE

HARDWARE SET 1: (DOUBLE STOREFRONT DOORS)

8	HANGING DEVICES	FBB191 DOOR HINGES 4.5 X 4.5 NRP	693	STA
1	SECURING DEVICES (ACTIVE LEAF)	M51850S DEADBOLT	643e	AD
1	SECURING DEVICES (INACTIVE LEAF)	M51880 TWO POINT FLUSHBOLT	643e	FAL
2	SECURING DEVICES (ACTIVE LEAF)	C987 7-PIN MORTISE CYLINDER HOUSING W/ AR CAM	643e	FAL
2	SECURING DEVICES (ACTIVE LEAF)	A08794-003 ADJUSTABLE RING, MORTISE CYL. 5/16-13/32	643e	FAL
2	OPERATING TRIM	108 DOOR PULL HANDLE	710	ROC
2	OPERATING TRIM	48 PUSH BAR x 31	710	ROC
2	CLOSING DEVICES	8916 DOOR CLOSER 8916 AFB9P	710	DOR
2	STOPS AND HOLDERS	473 DOO STOP W/ HOOK	710	ROC
2	SWEEPS	C607A DOOR SWEEP 36"	---	NG
1	THRESHOLD	325 HALF SADDLE THRESHOLD	---	NG

HARDWARE SET 2: (SINGLE STOREFRONT DOOR)

4	HANGING DEVICES	FBB191 DOOR HINGES 4.5 X 4.5 NRP	693	STA
1	SECURING DEVICES	M51850S DEADBOLT	643e	ADA
2	SECURING DEVICES	C987 7-PIN MORTISE CYLINDER HOUSING W/ AR CAM	643e	FAL
2	SECURING DEVICES	A08794-003 ADJUSTABLE RING, MORTISE CYL. 5/16-13/32	643e	FAL
1	OPERATING TRIM	108 DOOR PULL HANDLE	710	ROC
1	OPERATING TRIM	48 PUSH BAR x 31	710	ROC
1	CLOSING DEVICES	8916 DOOR CLOSER 8916 AFB9P	710	DOR
1	STOPS AND HOLDERS	473 DOO STOP W/ HOOK	710	ROC
1	THRESHOLD	325 HALF SADDLE THRESHOLD	---	NG

HARDWARE SET 3: (RESTROOMS)

4	HANGING DEVICES	FBB191 DOOR HINGES 5 X 4.5 NRP	630	STA
1	CLOSING DEVICES	8916 DOOR CLOSER 8916 AFB9P	689	DOR
1	PROTECTIVE TRIM UNITS	K1050 B4E KICKPLATE 10 X 34 (EA. SIDE)	630	ROC
1	ACCESSORIES	GJ64 RUBBER SILENCERS	GRAY	GJ
1	PUSH PLATE	1001-3 4" X 16"	630	TRI
1	PULL PLATE	1001-3B 4" X 16" WITH 8" C TO C PULL	630	TRI
1	STOPS AND HOLDERS	473 DOOR STOP W/ HOOK	626	ROC

HARDWARE SET 4: (JANITOR'S CLOSET)

3	HANGING DEVICES	FBB191 DOOR HINGES 5 X 4.5 NRP	630	STA
1	SECURING DEVICES	B-PB5405LNIC LEVER CLASSROOM LC B-PB5405LN-693-497 1 3/4	626	FAL
1	SECURING DEVICES	C607 7-PIN CORE COMBINATED "A" KEYWAY	626	FAL
1	CLOSING DEVICES	8916 DOOR CLOSER 8916 AFB9P	689	DOR
1	PROTECTIVE TRIM UNITS	K1050 B4E KICKPLATE 10 X 34 (EA. SIDE)	630	ROC
1	ACCESSORIES	GJ64 RUBBER SILENCERS	GRAY	GJ1
1	STOPS AND HOLDERS	473 DOOR STOP W/ HOOK	626	ROC

HARDWARE SET 5: (STORAGE / STAIR)

3	HANGING DEVICES	FBB191 DOOR HINGES 5 X 4.5 NRP	613	STA
1	SECURING DEVICES	C607 7-PIN CORE COMBINATED "A" KEYWAY	613	FAL
1	CLOSING DEVICES	8916 DOOR CLOSER 8916 AFB9P	613	DOR
1	PROTECTIVE TRIM UNITS	K1050 B4E KICKPLATE 10 X 40	630	ROC
1	ACCESSORIES	N16A RAIN DRIP 46"	A	NG
1	ACCESSORIES	137NA WEATHER STRIP 17.5" 42X84	A	NG
1	ACCESORIES	C607 DOOR SWEEP 42"	A	NG
1	STOPS AND HOLDERS	473 DOOR STOP W/ HOOK	613	ROC
1	THRESHOLD	325 HALF SADDLE THRESHOLD	---	NG

HARDWARE SET 6: (SECOND FLOOR STORAGE)

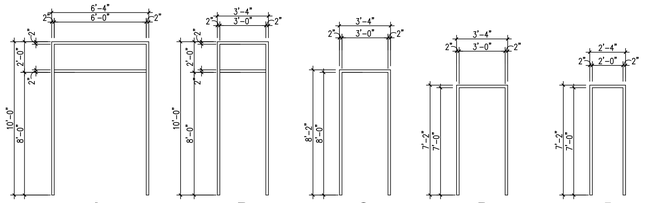
3	HANGING DEVICES	FBB191 DOOR HINGES 5 X 4.5 NRP	613	STA
1	SECURING DEVICES	C607 7-PIN CORE COMBINATED "A" KEYWAY	613	FAL
1	CLOSING DEVICES	8916 DOOR CLOSER 8916 AFB9P	613	DOR
1	PROTECTIVE TRIM UNITS	K1050 B4E KICKPLATE 10 X 40	630	ROC
1	ACCESSORIES	N16A RAIN DRIP 46"	A	NG
1	ACCESSORIES	137NA WEATHER STRIP 17.5" 42X84	A	NG
1	ACCESORIES	C607 DOOR SWEEP 42"	A	NG
1	STOPS AND HOLDERS	473 DOOR STOP W/ HOOK	613	ROC
1	THRESHOLD	325 HALF SADDLE THRESHOLD	---	NG

DOOR SCHEDULE

DOOR NO.	ROOM NAME	DOOR: NEW/ EXISTING	DOOR: TYPE	DOOR: MATL.	DOOR: WIDTH	DOOR: HEIGHT	DOOR: THICKNESS	HARDWARE TYPE	FRAME: TYPE	FRAME: MATL.	FRAME: REMARKS	DOOR NO.
100	LEASE SPACE	-	1	ALUMINUM & GLASS STOREFRONT	3'- 0" PR.	8- 0"	1 - 3/4"	1	A	ALUMINUM & GLASS STOREFRONT		100
101	LEASE SPACE	-	2	ALUMINUM & GLASS STOREFRONT	3'- 0" PR.	8'- 0"	1 - 3/4"	1	B	ALUMINUM & GLASS STOREFRONT	-	101
102	HALLWAY	-	2	ALUM. & GLASS STOREFRONT	3'- 0"	8'- 0"	1 - 3/4"	2	B	ALUMINUM & GLASS STOREFRONT	-	102
103	WOMEN'S RESTROOM	-	3	SOLID CORE WOOD	3'-0".	8'- 0"	-	3	C	HOLLOW METAL	-	103
104	MEN'S RESTROOM	-	3	SOLID CORE WOOD	3'-0"	8'- 0"	-	3	C	HOLLOW METAL	-	104
105	JANITOR'S CLOSET	-	3	SOLID WOOD CORE	2'-0"	7'- 0"	-	4	E	HOLLOW METAL	-	105
106	STORAGE (STAIR)	-	5	HOLLOW METAL	3'- 0"	7'- 0"	-	5	D	HOLLOW METAL	-	106
200	SECOND FLOOR STORAGE	-	5	HOLLOW METAL	3'-0"	7'- 0"	-	6	D	HOLLOW METAL	-	200

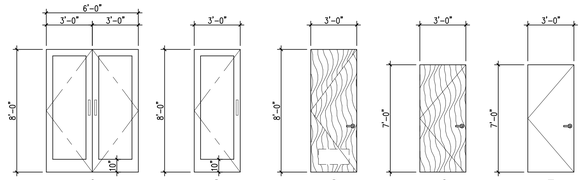
CEILING / SOFFIT PLAN KEYNOTES

CODE	DESCRIPTION
1	2X6 ROUGH SAWN CEDAR T&G DECKING, STAIN, (TYP.)
2	PRE-FINISHED SOFFIT VENT, MODEL No.
3	LIGHT FIXTURE, RE: ELEC.
4	GYPSUM BOARD, PAINT
5	STUCCO, PAINT
6	PRE-CAST STONE
7	EXPOSED STRUCTURE
8	STUCCO, PAINT
9	30"X30" ACCESS DOOR, PAINT
10	4X6 ROUGH SAWN CEDAR RAFTERS, STAIN (TYP.)
11	6X6 ROUGH SAWN CEDAR COLUMN, STAIN (TYP.)
12	6X ROUGH SAWN CEDAR BEAM, STAIN (TYP.)
13	1X6 ROUGH SAWN CEDAR T&G, STAIN (TYP.)
14	LINE OF STORAGE ABOVE
15	STEEL TUBE COLUMN, RE: STRUCT.
16	CLOSED CELL SPRAY FOAM INSULATION
17	LIGHTING RE: MEP
18	EXHAUST FAN RE: MEP
19	ACCESS PANEL RE: MEP



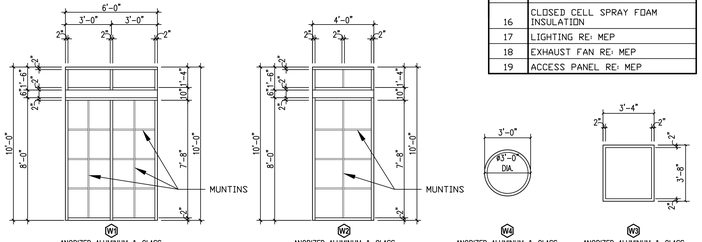
A — ANODIZED ALUMINUM STOREFRONT FRAME, DARK BRONZE
B — ANODIZED ALUMINUM STOREFRONT FRAME, DARK BRONZE
C — HOLLOW METAL (H.M.) FRAME, PAINTED
D — HOLLOW METAL (H.M.) FRAME, PAINTED
5 — PAINTED, WELDED HOLLOW METAL FRAME (H.M.)

FRAME TYPES



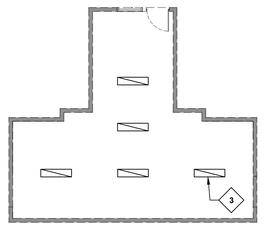
1 — ANODIZED ALUM. & GLASS STOREFRONT SYSTEM DOORS FRAME: T=TEMPERED GLASS DARK BRONZE
2 — ANODIZED ALUMINUM & GLASS STOREFRONT DOOR FRAME: T=TEMPERED GLASS DARK BRONZE
3 — SOLID CORE WOOD VENEER DOOR, STAIN
4 — SOLID CORE WOOD VENEER DOOR, STAIN
5 — HOLLOW METAL DOOR, PAINTED

DOOR TYPES



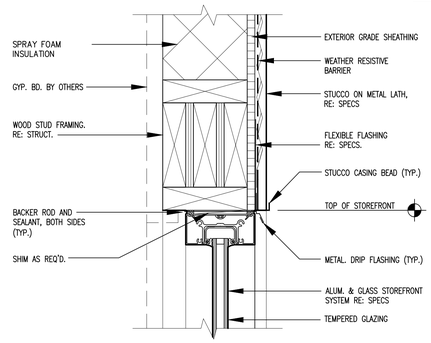
W1 — ANODIZED ALUMINUM & GLASS STOREFRONT SYSTEM (INSULATED) DARK BRONZE
W2 — ANODIZED ALUMINUM & GLASS STOREFRONT SYSTEM (INSULATED) DARK BRONZE
W4 — ANODIZED ALUMINUM & GLASS STOREFRONT SYSTEM – DARK BRONZE
W3 — ANODIZED ALUMINUM & GLASS STOREFRONT SYSTEM (INSULATED) DARK BRONZE

WINDOW TYPES

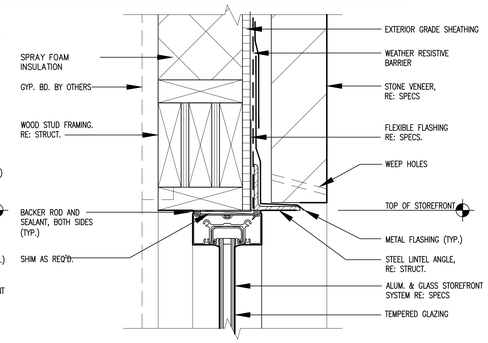


SECOND FLOOR PLAN

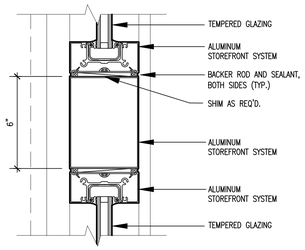
SCALE: 1/8" = 1'-0"



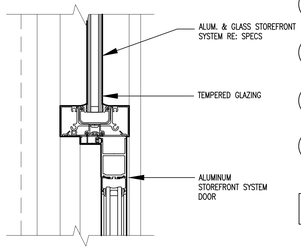
1 A601 **HEAD DETAIL** — SCALE: 3" = 1'-0"



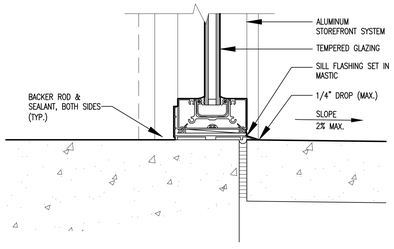
4 A601 **HEAD DETAIL** — SCALE: 3" = 1'-0"



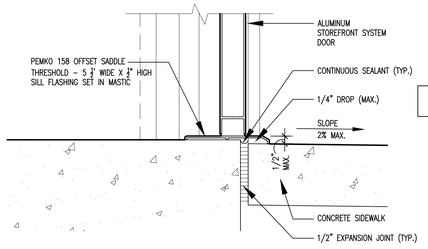
2 A601 **HEAD DETAIL** — SCALE: 3" = 1'-0"



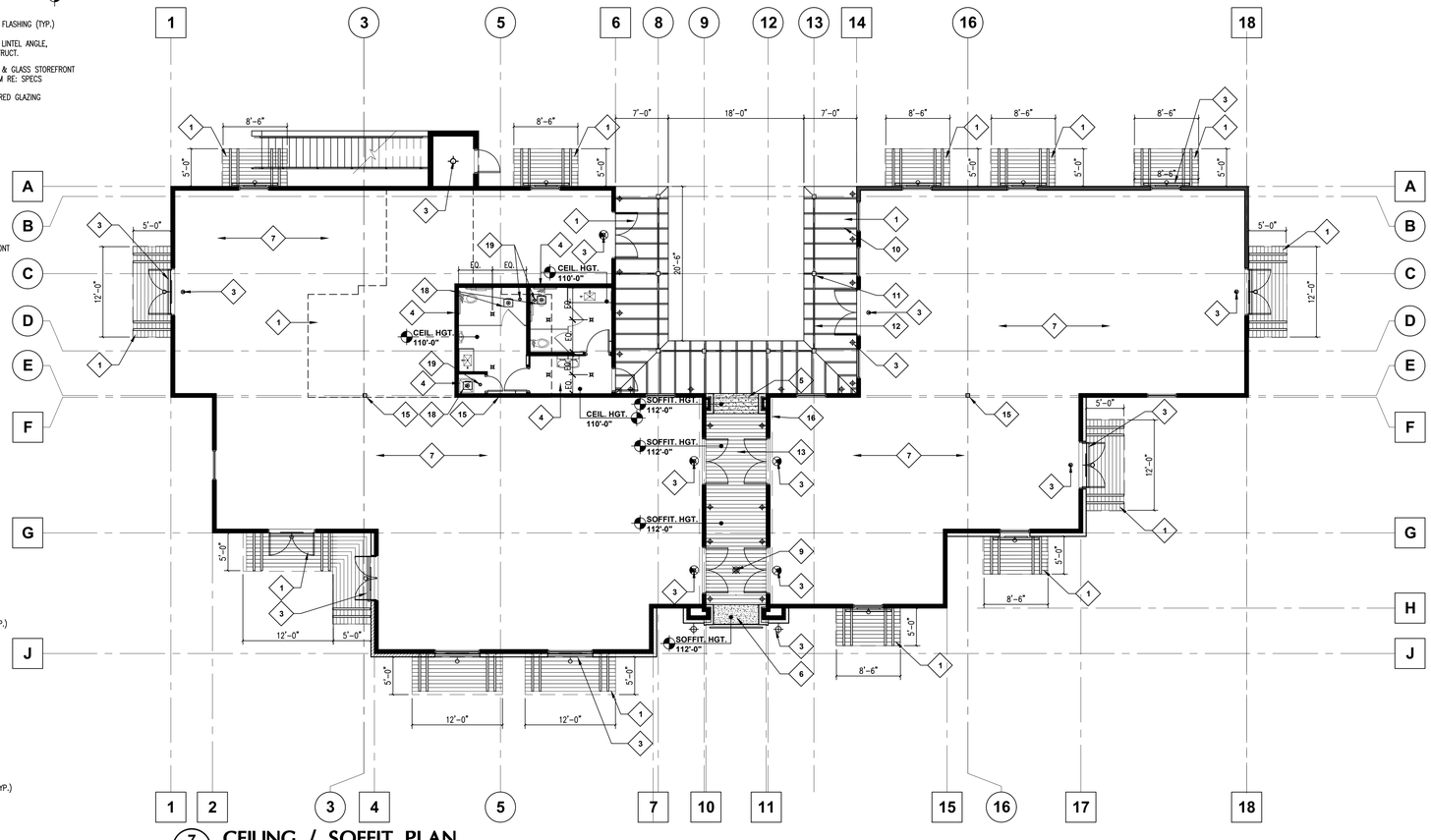
5 A601 **HEAD DETAIL** — SCALE: 3" = 1'-0"



3 A601 **SILL DETAIL** — SCALE: 3" = 1'-0"



6 A601 **SILL DETAIL** — SCALE: 3" = 1'-0"



7 A601 **CEILING / SOFFIT PLAN** — SCALE: 1/8" = 1'-0"

LUNA ARCHITECTURE
16403 Huebner Road, San Antonio, TX 78248 . Tel: 210.340.2400 . lunarchitecture.com

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project #: 23014
date: 04.16.2024
Project Manager: X.G.D. drawn by: A.C.
drawing title: **DOOR & WINDOW TYPES / SCHEDULES / REFLECTED CEILING & SOFFIT PLAN / DETAILS**
sheet number: **A601**

GENERAL SPECIFICATIONS

SECTION 011000 – SUMMARY

PART 1 – GENERAL

1.1 SUMMARY

A. SECTION INCLUDES:

1. PROJECT INFORMATION
2. WORK COVERED BY CONTRACT DOCUMENTS
3. WORK RESTRICTIONS
4. SPECIFICATIONS AND DRAWING CONVENTIONS
5. MISCELLANEOUS PROVISIONS

1.2 PROJECT INFORMATION

A. PROJECT IDENTIFICATION: VIA DOMINION BLDG. 200

1. PROJECT LOCATION: 8 DOMINION DR.,
SAN ANTONIO, TX. 78257

B. OWNER: GUILLERMO AGUAYO
AGORA RENTALS, LLC
8 DOMINION DR.,
BLDG. 100– STE. 205
SAN ANTONIO, TX. 78257

1. OWNER'S REPRESENTATIVE: CAROL LAGUTCHIK

A. ARCHITECT: LUNA ARCHITECTURE
16403 HUEBNER ROAD,
SAN ANTONIO, TX. 78248

B. CONTRACTOR: T.B.D.
a. COMPANY: (COMPANY)
(ADDRESS)
(CITY, STATE, ZIP CODE)

1.3 WORK COVERED BY CONTRACT DOCUMENTS

A. THE WORK OF PROJECT IS DEFINED BY THE CONTRACT DOCUMENTS AND CONSISTS OF THE FOLLOWING:

1. THE WORK INCLUDES THE CONSTRUCTION OF ONE CONTIGUOUS WOOD FRAMED AND WOOD TRUSS ROOF STRUCTURE WITH COMMON AREA RESTROOMS, TYPE VB CONSTRUCTION ALSO INCLUDED IS EXTERIOR LIGHTING, ADJACENT SIDEWALKS, PAVING, LANDSCAPE & IRRIGATION, AND UTILITY SERVICES INTO THE BUILDING.

B. TYPE OF CONTRACT.

1. PROJECT WILL BE CONSTRUCTED UNDER A SINGLE PRIME CONTRACT.

C. GENERAL: CONTRACTOR SHALL HAVE LIMITED USE OF PROJECT SITE FOR CONSTRUCTION OPERATIONS AS INDICATED ON DRAWINGS BY THE CONTRACT LIMITS AND AS INDICATED BY REQUIREMENTS OF THIS SECTION.

D. USE OF SITE: LIMIT USE OF PROJECT SITE TO WORK IN AREAS INDICATED. DO NOT DISTURB PORTIONS OF PROJECT SITE BEYOND AREAS IN WHICH THE WORK IS INDICATED.

1.4 WORK RESTRICTIONS

A. WORK RESTRICTIONS, GENERAL: COMPLY WITH RESTRICTIONS ON CONSTRUCTION OPERATIONS.

1. COMPLY WITH LIMITATIONS ON USE OF PUBLIC STREETS AND WITH OTHER REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION.

B. ON–SITE WORK HOURS: COORDINATE WITH BUILDING OWNER/LANDLORD,/ DOMINION H.O.A.

C. EXISTING UTILITY INTERRUPTIONS: DO NOT INTERRUPT UTILITIES SERVING FACILITIES OCCUPIED BY OWNER OR OTHERS UNLESS PERMITTED UNDER THE FOLLOWING CONDITIONS AND THEN ONLY AFTER PROVIDING TEMPORARY UTILITY SERVICES ACCORDING TO REQUIREMENTS INDICATED:

1. NOTIFY OWNER NOT LESS THAN TWO DAYS IN ADVANCE OF PROPOSED UTILITY INTERRUPTIONS.

2. OBTAIN OWNER'S WRITTEN PERMISSION BEFORE PROCEEDING WITH UTILITY INTERRUPTIONS.

D. NOISE, VIBRATION, AND ODORS: COORDINATE OPERATIONS THAT MAY RESULT IN HIGH LEVELS OF NOISE AND VIBRATION, ODORS, OR OTHER DISRUPTION TO OWNER WITH OWNER/ LLC/ H.O.A.

1. NOTIFY OWNER NOT LESS THAN TWO DAYS IN ADVANCE OF PROPOSED DISRUPTIVE OPERATIONS.

E. NONSMOKING BUILDING: COORDINATE WITH BUILDING OWNER/LANDLORD/ H.O.A.

F. CONTROLLED SUBSTANCES: USE OF TOBACCO PRODUCTS AND OTHER CONTROLLED SUBSTANCES IS NOT PERMITTED.

END OF SECTION 011000

SECTION 012600 – CONTRACT MODIFICATION PROCEDURES

PART 1 – GENERAL

1.1 SUMMARY

A. SECTION INCLUDES ADMINISTRATIVE AND PROCEDURAL REQUIREMENTS FOR HANDLING AND PROCESSING CONTRACT MODIFICATIONS.

1.2 MINOR CHANGES IN THE WORK

A. ARCHITECT WILL ISSUE SUPPLEMENTAL INSTRUCTIONS AUTHORIZING MINOR CHANGES IN THE WORK, NOT INVOLVING ADJUSTMENT TO THE CONTRACT SUM OR THE CONTRACT TIME, ON AIA DOCUMENT G710, "ARCHITECT'S SUPPLEMENTAL INSTRUCTIONS."

1.3 PROPOSAL REQUESTS

A. OWNER–INITIATED PROPOSAL REQUESTS: ARCHITECT WILL ISSUE A DETAILED DESCRIPTION OF PROPOSED CHANGES IN THE WORK THAT MAY REQUIRE ADJUSTMENT TO THE CONTRACT SUM OR THE CONTRACT TIME. IF NECESSARY, THE DESCRIPTION WILL INCLUDE SUPPLEMENTAL OR REVISED DRAWINGS AND SPECIFICATIONS.

1. WORK CHANGE PROPOSAL REQUESTS ISSUED BY ARCHITECT ARE NOT INSTRUCTIONS EITHER TO STOP WORK IN PROGRESS OR TO EXECUTE THE PROPOSED CHANGE.

2. WITHIN TIME SPECIFIED IN PROPOSAL REQUEST OR 20 DAYS, WHEN NOT OTHERWISE SPECIFIED, AFTER RECEIPT OF PROPOSAL REQUEST, SUBMIT A QUOTATION ESTIMATING COST ADJUSTMENTS TO THE CONTRACT SUM AND THE CONTRACT TIME NECESSARY TO EXECUTE THE CHANGE.

a. NCLUDE A LIST OF QUANTITIES OF PRODUCTS REQUIRED OR ELIMINATED AND UNIT COSTS, WITH TOTAL AMOUNT OF PURCHASES AND CREDITS TO BE MADE. IF REQUESTED, FURNISH SURVEY DATA TO SUBSTANTIATE QUANTITIES.
b. INDICATE APPLICABLE TAXES, DELIVERY CHARGES, EQUIPMENT RENTAL, AND AMOUNTS OF TRADE DISCOUNTS.
c. INCLUDE COSTS OF LABOR AND SUPERVISION DIRECTLY ATTRIBUTABLE TO THE CHANGE.
d. INCLUDE AN UPDATED CONTRACTOR'S CONSTRUCTION SCHEDULE THAT INDICATES THE EFFECT OF THE CHANGE, INCLUDING, BUT NOT LIMITED TO, CHANGES IN ACTIVITY DURATION, START AND FINISH TIMES, AND ACTIVITY RELATIONSHIP. USE AVAILABLE TOTAL FLOAT BEFORE REQUESTING AN EXTENSION OF THE CONTRACT TIME.
e. QUOTATION FORM: USE CSI FORM 13.6D, "PROPOSAL WORKSHEET SUMMARY," AND FORM 13.6C, "PROPOSAL WORKSHEET DETAIL.".

B. CONTRACTOR–INITIATED WORK CHANGE PROPOSALS: IF LATENT OR CHANGED CONDITIONS REQUIRE MODIFICATIONS TO THE CONTRACT, CONTRACTOR MAY INITIATE A CLAIM BY SUBMITTING A REQUEST FOR A CHANGE TO ARCHITECT.

1. INCLUDE A STATEMENT OUTLINING REASONS FOR THE CHANGE AND THE EFFECT OF THE CHANGE ON THE WORK. PROVIDE A COMPLETE DESCRIPTION OF THE PROPOSED CHANGE. INDICATE THE EFFECT OF THE PROPOSED CHANGE ON THE CONTRACT SUM AND THE CONTRACT TIME.

2. INCLUDE A LIST OF QUANTITIES OF PRODUCTS REQUIRED OR ELIMINATED AND UNIT COSTS, WITH TOTAL AMOUNT OF PURCHASES AND CREDITS TO BE MADE. IF REQUESTED, FURNISH SURVEY DATA TO SUBSTANTIATE QUANTITIES.

3. INDICATE APPLICABLE TAXES, DELIVERY CHARGES, EQUIPMENT RENTAL, AND AMOUNTS OF TRADE DISCOUNTS.

4. INCLUDE COSTS OF LABOR AND SUPERVISION DIRECTLY ATTRIBUTABLE TO THE CHANGE.

5. INCLUDE AN UPDATED CONTRACTOR'S CONSTRUCTION SCHEDULE THAT INDICATES THE EFFECT OF THE CHANGE, INCLUDING, BUT NOT LIMITED TO, CHANGES IN ACTIVITY DURATION, START AND FINISH TIMES, AND ACTIVITY RELATIONSHIP. USE AVAILABLE TOTAL FLOAT BEFORE REQUESTING AN EXTENSION OF THE CONTRACT TIME.

6. COMPLY WITH REQUIREMENTS IN DIVISION 01 SECTION "SUBSTITUTION PROCEDURES" IF THE PROPOSED CHANGE REQUIRES SUBSTITUTION OF ONE PRODUCT OR SYSTEM FOR PRODUCT OR SYSTEM SPECIFIED.

7. WORK CHANGE PROPOSAL REQUEST FORM: USE CSI FORM 13.6A, "CHANGE ORDER REQUEST (PROPOSAL)," WITH ATTACHMENTS CSI FORM 13.6D, "PROPOSAL WORKSHEET SUMMARY," AND FORM 13.6C, "PROPOSAL WORKSHEET DETAIL

1.4 ADMINISTRATIVE CHANGE ORDERS

A. ALLOWANCE ADJUSTMENT: SEE DIVISION 01 SECTION "ALLOWANCES" FOR ADMINISTRATIVE PROCEDURES FOR PREPARATION OF CHANGE ORDER PROPOSAL FOR ADJUSTING THE CONTRACT SUM TO REFLECT ACTUAL COSTS OF ALLOWANCES.

B. UNIT–PRICE ADJUSTMENT: SEE DIVISION 01 SECTION "UNIT PRICES" FOR ADMINISTRATIVE PROCEDURES FOR PREPARATION OF CHANGE ORDER PROPOSAL FOR ADJUSTING THE CONTRACT SUM TO REFLECT MEASURED SCOPE OF UNIT–
PRICE WORK.

1.5 CHANGE ORDER PROCEDURES

A. ON OWNER'S APPROVAL OF A WORK CHANGES PROPOSAL REQUEST, ARCHITECT MANAGER WILL ISSUE A CHANGE ORDER FOR SIGNATURES OF OWNER AND CONTRACTOR ON AIA DOCUMENT G701.

1.6 CONSTRUCTION CHANGE DIRECTIVE

A. CONSTRUCTION CHANGE DIRECTIVE: ARCHITECT MAY ISSUE A CONSTRUCTION CHANGE DIRECTIVE ON AIA DOCUMENT G714 CONSTRUCTION CHANGE DIRECTIVE INSTRUCTS CONTRACTOR TO PROCEED WITH A CHANGE IN THE WORK, FOR SUBSEQUENT INCLUSION IN A CHANGE ORDER.

1. CONSTRUCTION CHANGE DIRECTIVE CONTAINS A COMPLETE DESCRIPTION OF CHANGE IN THE WORK. IT ALSO DESIGNATES METHOD TO BE FOLLOWED TO DETERMINE CHANGE IN THE CONTRACT SUM OR THE CONTRACT TIME.

END OF SECTION 012600

SECTION 012900 – PAYMENT PROCEDURES

PART 1 – GENERAL

1.1 SUMMARY

A. SECTION INCLUDES ADMINISTRATIVE AND PROCEDURAL REQUIREMENTS NECESSARY TO PREPARE AND PROCESS APPLICATIONS FOR PAYMENT.

B. RELATED REQUIREMENTS:

1. DIVISION 012600 SECTION "CONTRACT MODIFICATION PROCEDURES" FOR ADMINISTRATIVE PROCEDURES FOR HANDLING CHANGES TO THE CONTRACT.

2. DIVISION 01 SECTION "CONSTRUCTION PROGRESS DOCUMENTATION" FOR ADMINISTRATIVE REQUIREMENTS GOVERNING THE PREPARATION AND SUBMITTAL OF THE CONTRACTOR'S CONSTRUCTION SCHEDULE.

1.2 SCHEDULE OF VALUES

A. COORDINATION: COORDINATE PREPARATION OF THE SCHEDULE OF VALUES WITH PREPARATION OF CONTRACTOR'S CONSTRUCTION SCHEDULE.

1. COORDINATE LINE ITEMS IN THE SCHEDULE OF VALUES WITH OTHER REQUIRED ADMINISTRATIVE FORMS AND SCHEDULES, INCLUDING THE FOLLOWING:

a. APPLICATION FOR PAYMENT FORMS WITH CONTINUATION SHEETS.
b. SUBMITTAL SCHEDULE.
c. ITEMS REQUIRED TO BE INDICATED AS SEPARATE ACTIVITIES IN CONTRACTOR'S CONSTRUCTION SCHEDULE.

2. SUBMIT THE SCHEDULE OF VALUES TO ARCHITECT EARLIEST POSSIBLE DATE BUT NO LATER THAN SEVEN DAYS BEFORE THE DATE SCHEDULED FOR SUBMITTAL OF INITIAL APPLICATIONS FOR PAYMENT.

B. FORMAT AND CONTENT: USE PROJECT MANUAL TABLE OF CONTENTS AS A GUIDE TO ESTABLISH LINE ITEMS FOR THE SCHEDULE OF VALUES. PROVIDE AT LEAST ONE LINE ITEM FOR EACH SPECIFICATION SECTION.

1. IDENTIFICATION: INCLUDE THE FOLLOWING PROJECT IDENTIFICATION ON THE SCHEDULE OF VALUES:

a. PROJECT NAME AND LOCATION.
b. NAME OF ARCHITECT.
c. ARCHITECT'S PROJECT NUMBER.
d. CONTRACTOR'S NAME AND ADDRESS.
e. DATE OF SUBMITTAL.

2. ARRANGE SCHEDULE OF VALUES CONSISTENT WITH FORMAT OF AIA DOCUMENT G703.

3. PROVIDE A BREAKDOWN OF THE CONTRACT SUM IN ENOUGH DETAIL TO FACILITATE CONTINUED EVALUATION OF APPLICATIONS FOR PAYMENT AND PROGRESS REPORTS.

4. ROUND AMOUNTS TO NEAREST WHOLE DOLLAR; TOTAL SHALL EQUAL THE CONTRACT SUM.

5. PROVIDE A SEPARATE LINE ITEM IN THE SCHEDULE OF VALUES FOR EACH PART OF THE WORK WHERE APPLICATIONS FOR PAYMENT MAY INCLUDE MATERIALS OR EQUIPMENT PURCHASED OR FABRICATED AND STORED, BUT NOT YET INSTALLED.

6. EACH ITEM IN THE SCHEDULE OF VALUES AND APPLICATIONS FOR PAYMENT SHALL BE COMPLETE. INCLUDE TOTAL COST AND PROPORTIONATE SHARE OF GENERAL OVERHEAD AND PROFIT FOR EACH ITEM.

1.3 APPLICATIONS FOR PAYMENT

A. EACH APPLICATION FOR PAYMENT SHALL BE CONSISTENT WITH PREVIOUS APPLICATIONS AND PAYMENTS AS CERTIFIED BY ARCHITECT AND PAID FOR BY OWNER.

1. INITIAL APPLICATION FOR PAYMENT, APPLICATION FOR PAYMENT AT TIME OF SUBSTANTIAL COMPLETION, AND FINAL APPLICATION FOR PAYMENT INVOLVE ADDITIONAL REQUIREMENTS.

B. PAYMENT APPLICATION TIMES: THE DATE FOR EACH PROGRESS PAYMENT IS INDICATED IN THE AGREEMENT BETWEEN OWNER AND CONTRACTOR. THE PERIOD OF CONSTRUCTION WORK COVERED BY EACH APPLICATION FOR PAYMENT IS THE PERIOD INDICATED IN THE AGREEMENT.

C. APPLICATION FOR PAYMENT FORMS: USE AIA DOCUMENT G702 AND AIA DOCUMENT G703 AS FORM FOR APPLICATIONS FOR PAYMENT.

D. APPLICATION PREPARATION: COMPLETE EVERY ENTRY ON FORM. NOTARIZE AND EXECUTE BY A PERSON AUTHORIZED TO SIGN LEGAL DOCUMENTS ON BEHALF OF CONTRACTOR. ARCHITECT WILL RETURN INCOMPLETE APPLICATIONS WITHOUT ACTION.

1. ENTRIES SHALL MATCH DATA ON THE SCHEDULE OF VALUES AND CONTRACTOR'S CONSTRUCTION SCHEDULE. USE UPDATED SCHEDULES IF REVISIONS WERE MADE.

2. INCLUDE AMOUNTS OF CHANGE ORDERS AND CONSTRUCTION CHANGE DIRECTIVES ISSUED BEFORE LAST DAY OF CONSTRUCTION PERIOD COVERED BY APPLICATION.

E. TRANSMITTAL: SUBMIT THREE SIGNED AND NOTARIZED ORIGINAL COPIES OF EACH APPLICATION FOR PAYMENT TO ARCHITECT BY A METHOD ENSURING RECEIPT WITHIN 24 HOURS. ONE COPY SHALL INCLUDE WAIVERS OF LIEN AND SIMILAR ATTACHMENTS IF REQUIRED.

1. TRANSMIT EACH COPY WITH A TRANSMITTAL FORM LISTING ATTACHMENTS AND RECORDING APPROPRIATE INFORMATION ABOUT APPLICATION.

F. WAIVERS OF MECHANIC'S LIEN: WITH EACH APPLICATION FOR PAYMENT, SUBMIT WAIVERS OF MECHANIC'S LIEN FROM ENTITIES LAWFULLY ENTITLED TO FILE A MECHANIC'S LIEN ARISING OUT OF THE CONTRACT AND RELATED TO THE WORK COVERED BY THE PAYMENT.

G. INITIAL APPLICATION FOR PAYMENT: ADMINISTRATIVE ACTIONS AND SUBMITTALS THAT MUST PRECEDE OR COINCIDE WITH SUBMITTAL OF FIRST APPLICATION FOR PAYMENT INCLUDE THE FOLLOWING:

1. SCHEDULE OF VALUES.

2. CONTRACTOR'S CONSTRUCTION SCHEDULE (PRELIMINARY IF NOT FINAL).

3. COPIES OF BUILDING PERMITS.

4. COPIES OF AUTHORIZATIONS AND LICENSES FROM AUTHORITIES HAVING JURISDICTION FOR PERFORMANCE OF THE WORK.

5. INITIAL PROGRESS REPORT.

6. REPORT OF PRECONSTRUCTION CONFERENCE.

7. CERTIFICATES OF INSURANCE AND INSURANCE POLICIES.

H. APPLICATION FOR PAYMENT AT SUBSTANTIAL COMPLETION: AFTER ARCHITECT ISSUES THE CERTIFICATE OF SUBSTANTIAL COMPLETION, SUBMIT AN APPLICATION FOR PAYMENT SHOWING 100 PERCENT COMPLETION FOR PORTION OF THE WORK CLAIMED AS SUBSTANTIALLY COMPLETE.

1. INCLUDE DOCUMENTATION SUPPORTING CLAIM THAT THE WORK IS SUBSTANTIALLY COMPLETE AND A STATEMENT SHOWING AN ACCOUNTING OF CHANGES TO THE CONTRACT SUM.

2. THIS APPLICATION SHALL REFLECT CERTIFICATES OF PARTIAL SUBSTANTIAL COMPLETION ISSUED PREVIOUSLY FOR OWNER OCCUPANCY OF DESIGNATED PORTIONS OF THE WORK.

I. FINAL PAYMENT APPLICATION: AFTER COMPLETING PROJECT CLOSEOUT REQUIREMENTS, SUBMIT FINAL APPLICATION FOR PAYMENT WITH RELEASES AND SUPPORTING DOCUMENTATION NOT PREVIOUSLY SUBMITTED AND ACCEPTED, INCLUDING, BUT NOT LIMITED, TO THE FOLLOWING:

1. EVIDENCE OF COMPLETION OF PROJECT CLOSEOUT REQUIREMENTS.

2. INSURANCE CERTIFICATES FOR PRODUCTS AND COMPLETED OPERATIONS WHERE REQUIRED AND PROOF THAT TAXES, FEES, AND SIMILAR OBLIGATIONS WERE PAID.

3. UPDATED FINAL STATEMENT, ACCOUNTING FOR FINAL CHANGES TO THE CONTRACT SUM.

4. AIA DOCUMENT G706–1994, "CONTRACTOR'S AFFIDAVIT OF PAYMENT OF DEBTS AND CLAIMS."

5. AIA DOCUMENT G706A–1994, "CONTRACTOR'S AFFIDAVIT OF RELEASE OF LIENS."

6. AIA DOCUMENT G707–1994, "CONSENT OF SURETY TO FINAL PAYMENT."

7. EVIDENCE THAT CLAIMS HAVE BEEN SETTLED.

8. FINAL METER READINGS FOR UTILITIES, A MEASURED RECORD OF STORED FUEL, AND SIMILAR DATA AS OF DATE OF SUBSTANTIAL COMPLETION OR WHEN OWNER TOOK POSSESSION OF AND ASSUMED RESPONSIBILITY FOR CORRESPONDING ELEMENTS OF THE WORK.

9. FINAL LIQUIDATED DAMAGES SETTLEMENT STATEMENT.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION 012900

SECTION 013100 – PROJECT MANAGEMENT AND COORDINATION

PART 1 – GENERAL

1.1 SUMMARY

A. SECTION INCLUDES ADMINISTRATIVE PROVISIONS FOR COORDINATING CONSTRUCTION OPERATIONS ON PROJECT INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING:

1. COORDINATION DRAWINGS.

2. REQUESTS FOR INFORMATION (RFIS).

3. PROJECT MEETINGS.

1.2 INFORMATIONAL SUBMITTALS

A. SUBCONTRACT LIST: PREPARE A WRITTEN SUMMARY IDENTIFYING INDIVIDUALS OR FIRMS PROPOSED FOR EACH PORTION OF THE WORK, INCLUDING THOSE WHO ARE TO FURNISH PRODUCTS OR EQUIPMENT FABRICATED TO A SPECIAL DESIGN. USE CSI FORM 1.5A. INCLUDE THE FOLLOWING INFORMATION IN TABULAR FORM:

1. NAME, ADDRESS, AND TELEPHONE NUMBER OF ENTITY PERFORMING SUBCONTRACT OR SUPPLYING PRODUCTS.

2. NUMBER AND TITLE OF RELATED SPECIFICATION SECTION(S) COVERED BY SUBCONTRACT.

3. DRAWING NUMBER AND DETAIL REFERENCES, AS APPROPRIATE, COVERED BY SUBCONTRACT.

1.3 GENERAL COORDINATION PROCEDURES

A. COORDINATION: COORDINATE CONSTRUCTION OPERATIONS INCLUDED IN DIFFERENT SECTIONS OF THE SPECIFICATIONS TO ENSURE EFFICIENT AND ORDERLY INSTALLATION OF EACH PART OF THE WORK. COORDINATE CONSTRUCTION OPERATIONS, INCLUDED IN DIFFERENT SECTIONS, THAT DEPEND ON EACH OTHER FOR PROPER INSTALLATION, CONNECTION, AND OPERATION.

1. SCHEDULE CONSTRUCTION OPERATIONS IN SEQUENCE REQUIRED TO OBTAIN THE BEST RESULTS WHERE INSTALLATION OF ONE PART OF THE WORK DEPENDS ON INSTALLATION OF OTHER COMPONENTS, BEFORE OR AFTER ITS OWN INSTALLATION.

2. COORDINATE INSTALLATION OF DIFFERENT COMPONENTS TO ENSURE MAXIMUM PERFORMANCE AND ACCESSIBILITY FOR REQUIRED MAINTENANCE, SERVICE, AND REPAIR.

3. MAKE ADEQUATE PROVISIONS TO ACCOMMODATE ITEMS SCHEDULED FOR LATER INSTALLATION.

B. PREPARE MEMORANDA FOR DISTRIBUTION TO EACH PARTY INVOLVED, OUTLINING SPECIAL PROCEDURES REQUIRED FOR COORDINATION. INCLUDE SUCH ITEMS AS REQUIRED NOTICES, REPORTS, AND LIST OF ATTENDEES AT MEETINGS.

1. PREPARE SIMILAR MEMORANDA FOR OWNER AND SEPARATE CONTRACTORS IF COORDINATION OF THEIR WORK IS REQUIRED.

C. ADMINISTRATIVE PROCEDURES: COORDINATE SCHEDULING AND TIMING OF REQUIRED ADMINISTRATIVE PROCEDURES WITH OTHER CONSTRUCTION ACTIVITIES AND ACTIVITIES OF OTHER CONTRACTORS TO AVOID CONFLICTS AND TO ENSURE ORDERLY PROGRESS OF THE WORK. SUCH ADMINISTRATIVE ACTIVITIES INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:

1. PREPARATION OF CONTRACTOR'S CONSTRUCTION SCHEDULE.

2. PREPARATION OF THE SCHEDULE OF VALUES.

3. INSTALLATION AND REMOVAL OF TEMPORARY FACILITIES AND CONTROLS.

4. DELIVERY AND PROCESSING OF SUBMITTALS.

5. PROGRESS MEETINGS.

6. PREINSTALLATION CONFERENCES.

7. PROJECT CLOSEOUT ACTIVITIES.

8. STARTUP AND ADJUSTMENT OF SYSTEMS.

1.4 COORDINATION DRAWINGS

A. COORDINATION DRAWINGS, GENERAL: PREPARE COORDINATION DRAWINGS ACCORDING TO REQUIREMENTS IN INDIVIDUAL SECTIONS, WHERE INSTALLATION IS NOT COMPLETELY SHOWN ON SHOP DRAWINGS, WHERE LIMITED SPACE AVAILABILITY NECESSITATES COORDINATION, OR IF COORDINATION IS REQUIRED TO FACILITATE INTEGRATION OF PRODUCTS AND MATERIALS FABRICATED OR INSTALLED BY MORE THAN ONE ENTITY.

1. CONTENT: PROJECT–SPECIFIC INFORMATION, DRAWN ACCURATELY TO A SCALE LARGE ENOUGH TO INDICATE AND RESOLVE CONFLICTS. DO NOT BASE COORDINATION DRAWINGS ON STANDARD PRINTED DATA. INCLUDE THE FOLLOWING INFORMATION, AS APPLICABLE:

a. INDICATE FUNCTIONAL AND SPATIAL RELATIONSHIPS OF COMPONENTS OF ARCHITECTURAL, STRUCTURAL, CIVIL, MECHANICAL, AND ELECTRICAL SYSTEMS.
b. INDICATE DIMENSIONS SHOWN ON THE DRAWINGS. SPECIFICALLY NOTE DIMENSIONS THAT APPEAR TO BE IN CONFLICT WITH SUBMITTED EQUIPMENT AND MINIMUM CLEARANCE REQUIREMENTS. PROVIDE ALTERNATE SKETCHES TO ARCHITECT INDICATING PROPOSED RESOLUTION OF SUCH CONFLICTS. MINOR DIMENSION CHANGES AND DIFFICULT INSTALLATIONS WILL NOT BE CONSIDERED CHANGES TO THE CONTRACT.

B. COORDINATION DRAWING ORGANIZATION: ORGANIZE COORDINATION DRAWINGS AS FOLLOWS:

1. FLOOR PLANS AND REFLECTED CEILING PLANS: SHOW ARCHITECTURAL AND STRUCTURAL ELEMENTS, AND MECHANICAL, PLUMBING, FIRE–PROTECTION, FIRE–ALARM, AND ELECTRICAL WORK. SHOW LOCATIONS OF VISIBLE CEILING–MOUNTED DEVICES RELATIVE TO ACOUSTICAL CEILING GRID.

2. PLENUM SPACE: INDICATE SUBFRAMING FOR SUPPORT OF CEILING AND WALL SYSTEMS, MECHANICAL AND ELECTRICAL EQUIPMENT, AND RELATED WORK. LOCATE COMPONENTS WITHIN CEILING PLENUM TO ACCOMMODATE LAYOUT OF LIGHT FIXTURES INDICATED ON DRAWINGS.

3. MECHANICAL ROOMS: PROVIDE COORDINATION DRAWINGS FOR MECHANICAL ROOMS SHOWING PLANS AND ELEVATIONS OF MECHANICAL, PLUMBING, FIRE–PROTECTION, FIRE–ALARM, AND ELECTRICAL EQUIPMENT.

4. STRUCTURAL PENETRATIONS: INDICATE PENETRATIONS AND OPENINGS REQUIRED FOR ALL DISCIPLINES.

5. SLAB EDGE AND EMBEDDED ITEMS: INDICATE SLAB EDGE LOCATIONS AND SIZES AND LOCATIONS OF EMBEDDED ITEMS FOR METAL FABRICATIONS, SLEEVES, ANCHOR BOLTS, BEARING PLATES, ANGLES, DOOR FLOOR CLOSERS, SLAB DEPRESSIONS FOR FLOOR FINISHES, CURBS AND HOUSEKEEPING PADS, AND SIMILAR ITEMS.

6. REVIEW: ARCHITECT WILL REVIEW COORDINATION DRAWINGS TO CONFIRM THAT THE WORK IS BEING COORDINATED, BUT NOT FOR THE DETAILS OF THE COORDINATION, WHICH ARE CONTRACTOR'S RESPONSIBILITY.

1.5 REQUESTS FOR INFORMATION (RFIS)

A. GENERAL: IMMEDIATELY ON DISCOVERY OF THE NEED FOR ADDITIONAL INFORMATION OR INTERPRETATION OF THE CONTRACT DOCUMENTS, CONTRACTOR SHALL PREPARE AND SUBMIT AN RFI IN THE FORM SPECIFIED.

1. ARCHITECT WILL RETURN RFIS SUBMITTED TO ARCHITECT BY OTHER ENTITIES CONTROLLED BY CONTRACTOR WITH NO RESPONSE.

2. COORDINATE AND SUBMIT RFIS IN A PROMPT MANNER SO AS TO AVOID DELAYS IN CONTRACTOR'S WORK OR WORK OF SUBCONTRACTORS.

B. CONTENT OF THE RFI: INCLUDE A DETAILED, LEGIBLE DESCRIPTION OF ITEM NEEDING INFORMATION OR INTERPRETATION AND THE FOLLOWING:

1. PROJECT NAME.

2. PROJECT NUMBER.

3. DATE.

4. NAME OF CONTRACTOR.

5. NAME OF ARCHITECT

6. RFI NUMBER, NUMBERED SEQUENTIALLY.

7. RFI SUBJECT.

8. SPECIFICATION SECTION NUMBER AND TITLE AND RELATED PARAGRAPHS, AS APPROPRIATE.

9. DRAWING NUMBER AND DETAIL REFERENCES, AS APPROPRIATE.

10. FIELD DIMENSIONS AND CONDITIONS, AS APPROPRIATE.

11. CONTRACTOR'S SUGGESTED RESOLUTION. IF CONTRACTOR'S SOLUTION (S) IMPACTS THE CONTRACT TIME OR THE CONTRACT SUM, CONTRACTOR SHALL STATE IMPACT IN THE RFI.

12. CONTRACTOR'S SIGNATURE.

13. ATTACHMENTS: INCLUDE SKETCHES, DESCRIPTIONS, MEASUREMENTS, PHOTOS, PRODUCT DATA, SHOP DRAWINGS, COORDINATION DRAWINGS, AND OTHER INFORMATION NECESSARY TO FULLY DESCRIBE ITEMS NEEDING INTERPRETATION.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION 013100

SECTION 013300 – SUBMITTAL PROCEDURES

PART 1 – GENERAL

1.1 SUMMARY

A. SECTION INCLUDES REQUIREMENTS FOR THE SUBMITTAL SCHEDULE AND ADMINISTRATIVE AND PROCEDURAL REQUIREMENTS FOR SUBMITTING SHOP DRAWINGS, PRODUCT DATA, SAMPLES, AND OTHER SUBMITTALS.

B. RELATED REQUIREMENTS:

1. DIVISION 01 SECTION "CONSTRUCTION PROGRESS DOCUMENTATION" FOR SUBMITTING SCHEDULES AND REPORTS, INCLUDING CONTRACTOR'S CONSTRUCTION SCHEDULE.

2. DIVISION 01 SECTION "PROJECT RECORD DOCUMENTS" FOR SUBMITTING RECORD DRAWINGS, RECORD SPECIFICATIONS, AND RECORD PRODUCT DATA.

1.2 DEFINITIONS

A. ACTION SUBMITTALS: WRITTEN AND GRAPHIC INFORMATION AND PHYSICAL SAMPLES THAT REQUIRE ARCHITECT'S RESPONSIVE ACTION.

1.3 SUBMITTAL ADMINISTRATIVE REQUIREMENTS

A. ARCHITECT'S DIGITAL DATA FILES: ELECTRONIC COPIES OF DIGITAL DATA FILES OF THE CONTRACT DRAWINGS WILL BE PROVIDED BY ARCHITECT FOR CONTRACTOR'S USE IN PREPARING SUBMITTALS.

B. PROCESSING TIME: ALLOW TIME FOR SUBMITTAL REVIEW, INCLUDING TIME FOR RESUBMITTALS, AS FOLLOWS. TIME FOR REVIEW SHALL COMMENCE ON ARCHITECT'S RECEIPT OF SUBMITTAL. NO EXTENSION OF THE CONTRACT TIME WILL BE AUTHORIZED BECAUSE OF FAILURE TO TRANSMIT SUBMITTALS ENOUGH IN ADVANCE OF THE WORK TO PERMIT PROCESSING, INCLUDING RESUBMITTALS.

1. INITIAL REVIEW: ALLOW 15 DAYS FOR INITIAL REVIEW OF EACH SUBMITTAL. ALLOW ADDITIONAL TIME IF COORDINATION WITH SUBSEQUENT SUBMITTALS IS REQUIRED. ARCHITECT WILL ADVISE CONTRACTOR WHEN A SUBMITTAL BEING PROCESSED MUST BE DELAYED FOR COORDINATION.

2. INTERMEDIATE REVIEW: IF INTERMEDIATE SUBMITTAL IS NECESSARY, PROCESS IT IN SAME MANNER AS INITIAL SUBMITTAL.

3. RESUBMITTAL REVIEW: ALLOW 15 DAYS FOR REVIEW OF EACH RESUBMITTAL.

C. DEVIATIONS: IDENTIFY DEVIATIONS FROM THE CONTRACT DOCUMENTS ON SUBMITTALS.

D. RESUBMITTALS: MAKE RESUBMITTALS IN SAME FORM AND NUMBER OF COPIES AS INITIAL SUBMITTAL.

1. NOTE DATE AND CONTENT OF PREVIOUS SUBMITTAL.

2. NOTE DATE AND CONTENT OF REVISION IN LABEL OR TITLE BLOCK AND CLEARLY INDICATE EXTENT OF REVISION.

3. RESUBMIT SUBMITTALS UNTIL THEY ARE MARKED WITH APPROVAL NOTATION FROM ARCHITECT'S ACTION STAMP.

E. USE FOR CONSTRUCTION: RETAIN COMPLETE COPIES OF SUBMITTALS ON PROJECT SITE. USE ONLY FINAL ACTION SUBMITTALS THAT ARE MARKED WITH APPROVAL NOTATION FROM ARCHITECT'S ACTION STAMP.

PART 2 – PRODUCTS

2.1 SUBMITTAL PROCEDURES

A. SHOP DRAWINGS: PREPARE PROJECT–SPECIFIC INFORMATION, DRAWN ACCURATELY TO SCALE. DO NOT BASE SHOP DRAWINGS ON REPRODUCTIONS OF THE CONTRACT DOCUMENTS OR STANDARD PRINTED DATA.

1. PREPARATION: FULLY ILLUSTRATE REQUIREMENTS IN THE CONTRACT DOCUMENTS. INCLUDE THE FOLLOWING INFORMATION, AS APPLICABLE:

a. IDENTIFICATION OF PRODUCTS.
b. SCHEDULES.
c. COMPLIANCE WITH SPECIFIED STANDARDS.
d. NOTATION OF COORDINATION REQUIREMENTS.
e. NOTATION OF DIMENSIONS ESTABLISHED BY FIELD MEASUREMENT.
f. RELATIONSHIP AND ATTACHMENT TO ADJOINING CONSTRUCTION CLEARLY INDICATED.
g. SEAL AND SIGNATURE OF PROFESSIONAL ENGINEER IF SPECIFIED.

END OF SECTION 013300

SECTION 014200 – REFERENCES

PART 1 – GENERAL

1.1 INDUSTRY STANDARDS

A. APPLICABILITY OF STANDARDS: UNLESS THE CONTRACT DOCUMENTS INCLUDE MORE STRINGENT REQUIREMENTS, APPLICABLE CONSTRUCTION INDUSTRY STANDARDS HAVE THE SAME FORCE AND EFFECT AS IF BOUND OR COPIED DIRECTLY INTO THE CONTRACT DOCUMENTS TO THE EXTENT REFERENCED. SUCH STANDARDS ARE MADE A PART OF THE CONTRACT DOCUMENTS BY REFERENCE.

B. PUBLICATION DATES: COMPLY WITH STANDARDS IN EFFECT AS OF DATE OF THE CONTRACT DOCUMENTS UNLESS OTHERWISE INDICATED.

C. COPIES OF STANDARDS: EACH ENTITY ENGAGED IN CONSTRUCTION ON PROJECT SHOULD BE FAMILIAR WITH INDUSTRY STANDARDS APPLICABLE TO ITS CONSTRUCTION ACT

SECTION 033500 – CONCRETE FINISHING

1.1 SUBMITTALS

A. QUALIFICATION DATA: FOR QUALIFIED APPLICATOR.

B. MATERIAL CERTIFICATES.

1.2 FLOOR AND SLAB TREATMENTS

A. VOC CONTENT: FLOOR TREATMENTS SHALL HAVE A VOC CONTENT OF 200 G/L OR LESS WHEN CALCULATED ACCORDING TO 40 CFR 59, SUBPART D (EPA METHOD 24).

B. UNPIGMENTED MINERAL DRY-SHAKE FLOOR HARDENER: FACTORY-PACKAGED DRY COMBINATION OF PORTLAND CEMENT, GRADED QUARTZ AGGREGATE, AND PLASTICIZING ADMIXTURE.

C. PIGMENTED MINERAL DRY-SHAKE FLOOR HARDENER: FACTORY-PACKAGED, DRY COMBINATION OF PORTLAND CEMENT, GRADED QUARTZ AGGREGATE, COLOR PIGMENTS, AND PLASTICIZING ADMIXTURE. USE COLOR PIGMENTS THAT ARE FINELY GROUND, NONFADING MINERAL OXIDES INTERGROUND WITH CEMENT.

1.3 LIQUID FLOOR TREATMENTS

A. VOC CONTENT: LIQUID FLOOR TREATMENTS SHALL HAVE A VOC CONTENT OF 200 G/L OR LESS WHEN CALCULATED ACCORDING TO 40 CFR 59, SUBPART D (EPA METHOD 24).

B. PENETRATING LIQUID FLOOR TREATMENT: CLEAR, CHEMICALLY REACTIVE, WATERBORNE SOLUTION OF INORGANIC SILICATE OR SILICONATE MATERIALS AND PROPRIETARY COMPONENTS; ODORLESS; THAT PENETRATES, HARDENS, AND DENSIFIES CONCRETE SURFACES.

C. PENETRATING LIQUID FLOOR TREATMENTS FOR POLISHED CONCRETE FINISH: CLEAR, WATERBORNE SOLUTION OF INORGANIC SILICATE OR SILICONATE MATERIALS AND PROPRIETARY COMPONENTS; ODORLESS; THAT PENETRATES, HARDENS, AND IS SUITABLE FOR POLISHED CONCRETE SURFACES.

1.4 INSTALLATION

A. DRY-SHAKE FLOOR HARDENER FINISH: AFTER INITIAL FLOATING, APPLY DRY-SHAKE FLOOR HARDENER TO SURFACES.

B. PENETRATING LIQUID FLOOR TREATMENT: PREPARE, APPLY, AND FINISH PENETRATING LIQUID FLOOR TREATMENT ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS.

C. SEALING COAT: UNIFORMLY APPLY A CONTINUOUS SEALING COAT OF CURING AND SEALING COMPOUND TO HARDENED CONCRETE BY POWER SPRAY OR ROLLER ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS.

D. PROTECT LIQUID FLOOR TREATMENT FROM DAMAGE AND WEAR DURING THE REMAINDER OF CONSTRUCTION PERIOD. USE PROTECTIVE METHODS AND MATERIALS, INCLUDING TEMPORARY COVERING, RECOMMENDED IN WRITING BY LIQUID FLOOR TREATMENTS INSTALLER.

END OF SECTION 033500

SECTION 044313 – ANCHORED STONE MASONRY VENEER

PART 1 – GENERAL

1.1 SUMMARY

A. SECTION INCLUDES:
1. STONE MASONRY ANCHORED TO WOOD FRAMING AND SHEATHING.

B. PRODUCTS INSTALLED BUT NOT FURNISHED UNDER THIS SECTION INCLUDE:
1. STEEL LINTELS IN UNIT MASONRY.
2. STEEL SHELF ANGLES FOR SUPPORTING UNIT MASONRY.

C. RELATED REQUIREMENTS:
1. SECTION 042000 "UNIT MASONRY" FOR CONCEALED FLASHING, HORIZONTAL JOINT REINFORCEMENT, AND VENEER ANCHORS.

1.2 ACTION SUBMITTALS

A. PRODUCT DATA: FOR EACH VARIETY OF STONE, STONE ACCESSORY, AND MANUFACTURED PRODUCT.

B. SAMPLES:
1. FOR EACH STONE TYPE INDICATED.
2. FOR EACH COLOR OF MORTAR REQUIRED.

1.3 FIELD CONDITIONS

A. PROTECTION OF STONE MASONRY: DURING CONSTRUCTION, COVER TOPS OF WALLS, PROJECTIONS, AND SILLS WITH WATERPROOF SHEETING AT END OF EACH DAY'S WORK.

B. COLD-WEATHER REQUIREMENTS: DO NOT USE FROZEN MATERIALS OR MATERIALS MIXED OR COATED WITH ICE OR FROST. DO NOT BUILD ON FROZEN SUBSTRATES. COMPLY WITH COLD-WEATHER CONSTRUCTION REQUIREMENTS CONTAINED IN TMS 602/ACI 530.1/ASCE 6.
1. COLD-WEATHER CLEANING: USE LIQUID CLEANING METHODS ONLY WHEN AIR TEMPERATURE IS 40 DEG F AND ABOVE AND WILL REMAIN SO UNTIL MASONRY HAS DRIED.

C. HOT-WEATHER REQUIREMENTS: COMPLY WITH HOT-WEATHER CONSTRUCTION REQUIREMENTS CONTAINED IN TMS 602/ACI 530.1/ASCE 6.

PART 2 – PRODUCTS

2.1 LIMESTONE

A. MATERIAL STANDARD: COMPLY WITH ASTM C568/C568M.
1. CLASSIFICATION: II MEDIUM DENSITY.

B. VARIETIES AND SOURCES: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE STONE VARIETIES AS INDICATED ON DRAWINGS, FROM SOURCES INDICATED ON DRAWINGS.

2.2 MORTAR MATERIALS

A. PORTLAND CEMENT: ASTM C150/C150M, TYPE I OR TYPE II, EXCEPT TYPE III MAY BE USED FOR COLD-WEATHER CONSTRUCTION; NATURAL COLOR OR WHITE CEMENT MAY BE USED AS REQUIRED TO PRODUCE MORTAR COLOR INDICATED.

1. LOW-ALKALI CEMENT: NOT MORE THAN 0.60 PERCENT TOTAL ALKALI WHEN TESTED ACCORDING TO ASTM C114.

B. HYDRATED LIME: ASTM C207, TYPE S.

C. MORTAR PIGMENTS: NATURAL AND SYNTHETIC IRON OXIDES AND CHROMIUM OXIDES, COMPOUNDED FOR USE IN MORTAR MIXES AND COMPLYING WITH ASTM C979/C979M. USE ONLY PIGMENTS WITH A RECORD OF SATISFACTORY PERFORMANCE IN STONE MASONRY MORTAR.
1. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
a. DAVIS COLORS.
b. LANXESS CORPORATION.
c. SOLOMON COLORS, INC.

D. COLORED PORTLAND CEMENT-LIME MIX: PACKAGED BLEND OF PORTLAND CEMENT, HYDRATED LIME, AND MORTAR PIGMENTS. MIX SHALL PRODUCE COLOR INDICATED OR, IF NOT INDICATED, AS SELECTED FROM MANUFACTURER'S STANDARD COLORS. PIGMENTS SHALL NOT EXCEED 10 PERCENT OF PORTLAND CEMENT BY WEIGHT.
1. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
a. HOLCIM (US) INC.
b. LAFARGE NORTH AMERICA INC.
c. LEHIGH HANSON; HEIDELBERGCEMENT GROUP.

E. AGGREGATE: ASTM C144 AND AS FOLLOWS:
1. FOR POINTING MORTAR, USE AGGREGATE GRADED WITH 100 PERCENT PASSING NO. 16 SIEVE.

RETAIN "WHITE AGGREGATES" SUBPARAGRAPH BELOW FOR WHITE MORTAR.
2. WHITE AGGREGATES: NATURAL WHITE SAND OR GROUND WHITE STONE.

DELETE "WHITE AGGREGATES" SUBPARAGRAPH ABOVE OR "COLORED AGGREGATES" SUBPARAGRAPH BELOW UNLESS BOTH WHITE AND COLORED MORTARS ARE REQUIRED.
3. COLORED AGGREGATES: NATURAL-COLORED SAND OR GROUND MARBLE, GRANITE, OR OTHER SOUND STONE; OF COLOR NECESSARY TO PRODUCE REQUIRED MORTAR COLOR.

F. WATER: POTABLE.

2.3 MISCELLANEOUS MASONRY ACCESSORIES

A. COMPRESSIBLE FILLER: REFER TO REQUIREMENTS IN SECTION 042000 "UNIT MASONRY."

B. CEMENTITIOUS DAMPPROOFING FOR LIMESTONE: CEMENTITIOUS FORMULATION RECOMMENDED BY ILI AND NONSTAINING TO STONE, COMPATIBLE WITH JOINT SEALANTS, AND NONCORROSIVE TO VENEER ANCHORS AND ATTACHMENTS.

C. ASPHALT DAMPPROOFING: ASPHALT EMULSION COMPLYING WITH ASTM D1227, TYPE III OR TYPE IV.

D. CAVITY DRAINAGE MATERIAL: REFER TO REQUIREMENTS IN SECTION 042000 "UNIT MASONRY."

2.4 FABRICATION

A. CUT STONE TO PRODUCE PIECES OF THICKNESS, SIZE, AND SHAPE INDICATED, INCLUDING DETAILS ON DRAWINGS AND PATTERN SPECIFIED IN "SETTING STONE MASONRY" ARTICLE.
1. STONE TO MATCH EXISTING ADJACENT.

B. THICKNESS OF STONE: PROVIDE THICKNESS INDICATED, BUT NOT LESS THAN THE FOLLOWING:
2. THICKNESS: 4 INCHES PLUS OR MINUS 1/4 INCH. THICKNESS DOES NOT INCLUDE PROJECTION OF PITCHED FACES.

C. FINISH EXPOSED STONE FACES AND EDGES TO COMPLY WITH REQUIREMENTS INDICATED FOR FINISH AND TO MATCH APPROVED SAMPLES.

1. FINISH: AS INDICATED ON DRAWINGS.

2.5 MORTAR MIXES

A. GENERAL: DO NOT USE ADMIXTURES UNLESS OTHERWISE INDICATED.
1. DO NOT USE CALCIUM CHLORIDE.
2. USE PORTLAND CEMENT-LIME MORTAR UNLESS OTHERWISE INDICATED.
3. MIXING POINTING MORTAR: THOROUGHLY MIX CEMENTITIOUS AND AGGREGATE MATERIALS TOGETHER BEFORE ADDING WATER. THEN MIX AGAIN, ADDING ONLY ENOUGH WATER TO PRODUCE A DAMP, UNWORKABLE MIX THAT WILL RETAIN ITS FORM WHEN PRESSED INTO A BALL. MAINTAIN MORTAR IN THIS DAMPENED CONDITION FOR ONE TO TWO HOURS. ADD REMAINING WATER IN SMALL PORTIONS UNTIL MORTAR REACHES REQUIRED CONSISTENCY. USE MORTAR WITHIN 30 MINUTES OF FINAL MIXING; DO NOT RETEMPER OR USE PARTIALLY HARDENED MATERIAL.

B. MORTAR FOR STONE MASONRY: COMPLY WITH ASTM C270, PROPORTION SPECIFICATION.
1. MORTAR FOR SETTING STONE: TYPE N.
2. MORTAR FOR POINTING STONE: TYPE N.

C. PIGMENTED MORTAR: USE COLORED CEMENT PRODUCT.

PART 3 – EXECUTION

3.1 PREPARATION

A. ACCURATELY MARK STUD CENTERLINES ON FACE OF WEATHER-RESISTANT SHEATHING PAPER BEFORE BEGINNING STONE INSTALLATION.

B. COAT CONCRETE AND UNIT MASONRY BACKUP WITH ASPHALT DAMPPROOFING.

3.2 INSTALLATION OF STONE MASONRY

A. PERFORM NECESSARY FIELD CUTTING AND TRIMMING AS STONE IS SET.
1. USE POWER SAWS TO CUT STONE THAT IS FABRICATED WITH SAW-CUT SURFACES. CUT LINES STRAIGHT AND TRUE, WITH EDGES EASED SLIGHTLY TO PREVENT SNIPPING.
2. USE HAMMER AND CHISEL TO SPLIT STONE THAT IS FABRICATED WITH SPLIT SURFACES. MAKE EDGES STRAIGHT AND TRUE, MATCHING SIMILAR SURFACES THAT WERE SHOP OR QUARRY FABRICATED.
3. PITCH FACE AT FIELD-SPLIT EDGES AS NEEDED TO MATCH STONES THAT ARE NOT FIELD SPLIT.

B. SORT STONE BEFORE IT IS PLACED IN WALL TO REMOVE STONE THAT DOES NOT COMPLY WITH REQUIREMENTS RELATING TO AESTHETIC EFFECTS, PHYSICAL PROPERTIES, OR FABRICATION, OR THAT IS OTHERWISE UNSUITABLE FOR INTENDED USE.

C. ARRANGE STONES IN RANGE TO MATCH EXISTING ADJACENT.

D. ARRANGE STONES WITH COLOR AND SIZE VARIATIONS UNIFORMLY DISPERSED FOR AN EVENLY BLENDED APPEARANCE.

E. MAINTAIN UNIFORM JOINT WIDTHS EXCEPT FOR VARIATIONS DUE TO DIFFERENT STONE SIZES AND WHERE MINOR VARIATIONS ARE REQUIRED TO MAINTAIN BOND ALIGNMENT IF ANY. LAY WALLS WITH JOINTS NOT LESS THAN 3/8 INCH AT NARROWEST POINTS OR MORE THAN 1/2 INCH AT WIDEST POINTS.

F. PROVIDE SEALANT JOINTS OF WIDTHS AND AT LOCATIONS INDICATED.
1. KEEP SEALANT JOINTS FREE OF MORTAR AND OTHER RIGID MATERIALS.
2. SEALANT JOINTS ARE SPECIFIED IN SECTION 079200 "JOINT SEALANTS."

J. INSTALL EMBEDDED FLASHING AND WEEP HOLES AT SHELF ANGLES, LINTELS, LEDGES, OTHER OBSTRUCTIONS TO DOWNWARD FLOW OF WATER IN WALL, AND WHERE INDICATED.

K. PLACE WEEP HOLES AND VENTS IN JOINTS WHERE MOISTURE MAY ACCUMULATE, INCLUDING AT BASE OF CAVITY WALLS ABOVE SHELF ANGLES, AND AT FLASHING.
1. USE OPEN HEAD JOINTS TO FORM WEEP HOLES.
2. USE WICKING MATERIAL TO FORM WEEP HOLES ABOVE FLASHING IN STONE SILLS. TURN WICKING DOWN AT LIP OF SILL TO BE AS INCONSPICUOUS AS POSSIBLE.
3. SPACE WEEP HOLES 24 INCHES O.C.

L. COAT LIMESTONE WITH CEMENTITIOUS DAMPPROOFING AS FOLLOWS:
1. STONE AT GRADE: BEDS, JOINTS, AND BACK SURFACES TO AT LEAST 12 INCHES ABOVE FINISH-GRADE ELEVATIONS.
2. STONE EXTENDING BELOW GRADE: BEDS, JOINTS, BACK SURFACES, AND FACE SURFACES BELOW GRADE.

3.3 CONSTRUCTION TOLERANCES

A. VARIATION FROM PLUMB: FOR VERTICAL LINES AND SURFACES, DO NOT EXCEED 1/4 INCH IN 10 FEET, 3/8 INCH IN 20 FEET, OR 1/2 INCH IN 40 FEET OR MORE. FOR EXTERNAL CORNERS, EXPANSION JOINTS, CONTROL JOINTS, AND OTHER CONSPICUOUS LINES, DO NOT EXCEED 1/4 INCH IN 20 FEET OR 1/2 INCH IN 40 FEET OR MORE.

B. VARIATION FROM LEVEL: FOR BED JOINTS AND LINES OF EXPOSED LINTELS, SILLS, PARAPETS, HORIZONTAL GROOVES, AND OTHER CONSPICUOUS LINES, DO NOT EXCEED 1/4 INCH IN 20 FEET OR 1/2 INCH IN 40 FEET OR MORE.

C. VARIATION OF LINEAR BUILDING LINE: FOR POSITION SHOWN IN PLAN, DO NOT EXCEED 1/2 INCH IN 20 FEET OR 3/4 INCH IN 40 FEET OR MORE.

3.4 INSTALLATION OF ANCHORED STONE MASONRY

A. ANCHOR STONE MASONRY TO STUD FRAMING WITH ADJUSTABLE, SCREW-ATTACHED VENEER ANCHORS UNLESS OTHERWISE INDICATED. FASTEN ANCHORS THROUGH SHEATHING TO FRAMING WITH TWO SCREWS.

B. EMBED VENEER ANCHORS IN MORTAR JOINTS OF STONE MASONRY AT LEAST HALFWAY, BUT NOT LESS THAN 1-1/2 INCHES, THROUGH STONE MASONRY AND WITH AT LEAST A 5/8-INCH COVER ON EXTERIOR FACE.

C. SPACE ANCHORS TO PROVIDE NOT LESS THAN ONE ANCHOR PER 2 SQ. FT. OF WALL AREA. INSTALL ADDITIONAL ANCHORS WITHIN 12 INCHES OF OPENINGS, SEALANT JOINTS, AND PERIMETER AT INTERVALS NOT EXCEEDING 12 INCHES.

D. SET STONE IN FULL BED OF MORTAR WITH FULL HEAD JOINTS UNLESS OTHERWISE INDICATED. BUILD ANCHORS INTO MORTAR JOINTS AS STONE IS SET.

E. PROVIDE 1-INCH CAVITY BETWEEN STONE MASONRY AND BACKUP CONSTRUCTION UNLESS OTHERWISE INDICATED. KEEP CAVITY FREE OF MORTAR DROPPINGS AND DEBRIS.
1. SLOPE BEDS TOWARD CAVITY TO MINIMIZE MORTAR PROTRUSIONS INTO CAVITY.
2. DO NOT ATTEMPT TO TROWEL OR REMOVE MORTAR FINS PROTRUDING INTO CAVITY.

F. RAKE OUT JOINTS FOR POINTING WITH MORTAR TO DEPTH OF NOT LESS THAN 3/4 INCH BEFORE SETTING MORTAR HAS HARDENED. RAKE JOINTS TO UNIFORM DEPTHS WITH SQUARE BOTTOMS AND CLEAN SIDES.

3.5 POINTING

A. PREPARE STONE-JOINT SURFACES FOR POINTING WITH MORTAR BY REMOVING DUST AND MORTAR PARTICLES. WHERE SETTING MORTAR WAS REMOVED TO DEPTHS GREATER THAN SURROUNDING AREAS, APPLY POINTING MORTAR IN LAYERS NOT MORE THAN 3/8 INCH DEEP UNTIL A UNIFORM DEPTH IS FORMED.

B. POINT STONE JOINTS BY PLACING AND COMPACTING POINTING MORTAR IN LAYERS OF NOT MORE THAN 3/8 INCH DEEP. COMPACT EACH LAYER THOROUGHLY AND ALLOW TO IT BECOME THUMBPRINT HARD BEFORE APPLYING NEXT LAYER.

C. TOOL JOINTS, WHEN POINTING MORTAR IS THUMBPRINT HARD, WITH A SMOOTH JOINTING TOOL TO PRODUCE THE FOLLOWING JOINT PROFILE:

1. JOINT PROFILE: CONCAVE.

3.6 ADJUSTING AND CLEANING

A. IN-PROGRESS CLEANING: CLEAN STONE MASONRY AS WORK PROGRESSES. REMOVE MORTAR FINS AND SMEARS BEFORE TOOLING JOINTS.

B. FINAL CLEANING: AFTER MORTAR IS THOROUGHLY SET AND CURED, CLEAN STONE MASONRY AS FOLLOWS:
1. REMOVE LARGE MORTAR PARTICLES BY HAND WITH WOODEN PADDLES AND NONMETALLIC SCRAPE HOES OR CHISELS.
2. TEST CLEANING METHODS ON MOCKUP; LEAVE ONE-HALF OF PANEL UNCLEANED FOR COMPARISON PURPOSES. OBTAIN ARCHITECT'S APPROVAL OF SAMPLE CLEANING BEFORE CLEANING STONE MASONRY.
3. CLEAN STONE MASONRY BY BUCKET AND BRUSH HAND-CLEANING METHOD DESCRIBED IN BIA TECHNICAL NOTE NO. 20, REVISED II, USING JOB-MIXED DETERGENT SOLUTION.
4. CLEAN LIMESTONE MASONRY TO COMPLY WITH RECOMMENDATIONS IN ILI'S "INDIANA LIMESTONE HANDBOOK."

3.7 EXCESS MATERIALS AND WASTE

A. EXCESS STONE: STACK EXCESS STONE WHERE DIRECTED BY OWNER FOR OWNER'S USE.

B. DISPOSAL AS FILL MATERIAL: DISPOSE OF CLEAN MASONRY WASTE, INCLUDING MORTAR AND EXCESS OR SOIL-CONTAMINATED SAND, BY CRUSHING AND MIXING WITH FILL MATERIAL AS FILL IS PLACED.

1. DO NOT DISPOSE OF MASONRY WASTE AS FILL WITHIN 18 INCHES OF FINISHED GRADE.

END OF SECTION 044313.13

SECTION 047200 – CAST STONE MASONRY

PART 1 – GENERAL

1.1 SUMMARY

A. SECTION INCLUDES:
1. CAST-STONE TRIM.

1.2 ACTION SUBMITTALS

A. PRODUCT DATA: FOR EACH TYPE OF PRODUCT.
2. FOR CAST-STONE UNITS, INCLUDE DIMENSIONS AND FINISHES.

B. SHOP DRAWINGS: SHOW FABRICATION AND INSTALLATION DETAILS FOR CAST-STONE UNITS. INCLUDE DIMENSIONS, DETAILS OF REINFORCEMENT AND ANCHORAGES IF ANY, AND INDICATION OF FINISHED FACES.

C. SAMPLES:
1. FOR EACH COLOR AND TEXTURE OF CAST STONE REQUIRED.
2. FOR COLORED MORTAR.

1.3 INFORMATIONAL SUBMITTALS

A. QUALIFICATION DATA: FOR MANUFACTURER.

B. MATERIAL TEST REPORTS: FOR EACH MIX REQUIRED TO PRODUCE CAST STONE, BASED ON TESTING ACCORDING TO ASTM C1364, INCLUDING TEST FOR RESISTANCE TO FREEZING AND THAWING.

1.4 QUALITY ASSURANCE

C. MANUFACTURER QUALIFICATIONS: A QUALIFIED MANUFACTURER OF CAST-STONE UNITS SIMILAR TO THOSE INDICATED FOR THIS PROJECT, THAT HAS SUFFICIENT PRODUCTION CAPACITY TO MANUFACTURE REQUIRED UNITS, AND IS A PLANT CERTIFIED BY THE CAST STONE INSTITUTE.

PART 2 – PRODUCTS

2.1 CAST-STONE UNITS

A. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
1. CUSTOM CAST STONE.
2. ARCHITECTURAL CAST STONE, INC.

B. CAST-STONE UNITS: COMPLY WITH ASTM C1364.
1. UNITS SHALL BE RESISTANT TO FREEZING AND THAWING AS DETERMINED BY LABORATORY TESTING ACCORDING TO ASTM C666/C666M, PROCEDURE A, AS MODIFIED BY ASTM C1364.

C. FABRICATE UNITS WITH SHARP ARRIS AND ACCURATELY REPRODUCED DETAILS, WITH INDICATED TEXTURE ON ALL EXPOSED SURFACES UNLESS OTHERWISE INDICATED.
1. SLOPE EXPOSED HORIZONTAL SURFACES 1:12 TO DRAIN UNLESS OTHERWISE INDICATED.
2. PROVIDE RAISED FILLETS AT BACKS OF SILLS AND AT ENDS INDICATED TO BE BUILT INTO JAMBS.
3. PROVIDE DRIPS ON PROJECTING ELEMENTS UNLESS OTHERWISE INDICATED.

D. CURE UNITS AS FOLLOWS:
1. CURE UNITS IN ENCLOSED, MOIST CURING ROOM AT 95 TO 100 PERCENT RELATIVE HUMIDITY AND TEMPERATURE OF 100 DEG F FOR 12 HOURS OR 70 DEG F FOR 16 HOURS.
2. KEEP UNITS DAMP AND CONTINUE CURING TO COMPLY WITH ONE OF THE FOLLOWING:
a. NO FEWER THAN FIVE DAYS AT MEAN DAILY TEMPERATURE OF 70 DEG F OR ABOVE.
b. NO FEWER THAN SIX DAYS AT MEAN DAILY TEMPERATURE OF 60 DEG F OR ABOVE.
c. NO FEWER THAN SEVEN DAYS AT MEAN DAILY TEMPERATURE OF 50 DEG F OR ABOVE.
d. NO FEWER THAN EIGHT DAYS AT MEAN DAILY TEMPERATURE OF 45 DEG F OR ABOVE.

E. ACID ETCH UNITS AFTER CURING TO REMOVE CEMENT FILM FROM SURFACES TO BE EXPOSED TO VIEW.

F. COLORS AND TEXTURES: AS SELECTED BY ARCHITECT FROM MANUFACTURER'S FULL RANGE.

2.2 ACCESSORIES

A. ANCHORS: TYPE AND SIZE INDICATED, FABRICATED FROM TYPE 304 STAINLESS STEEL COMPLYING WITH ASTM A240/A240M, ASTM A276, OR ASTM A666.

B. DOWELS: 1/2-INCH-DIAMETER ROUND BARS, FABRICATED FROM TYPE 304 STAINLESS STEEL COMPLYING WITH ASTM A240/A240M, ASTM A276, OR ASTM A666.

2.3 MORTAR

A. COMPLY WITH REQUIREMENTS IN SECTION 042000 "UNIT MASONRY" FOR MORTAR MIXES.
1. FOR SETTING MORTAR, USE TYPE N.
2. FOR POINTING MORTAR, USE TYPE N.

B. PIGMENTED MORTAR: USE COLORED CEMENT PRODUCT.

2.4 SOURCE QUALITY CONTROL

A. ENGAGE A QUALIFIED INDEPENDENT TESTING AGENCY TO SAMPLE AND TEST CAST-STONE UNITS ACCORDING TO ASTM C1364.
1. INCLUDE ONE TEST FOR RESISTANCE TO FREEZING AND THAWING.

PART 3 – EXECUTION

3.1 SETTING CAST STONE IN MORTAR

B. INSTALL CAST-STONE UNITS TO COMPLY WITH REQUIREMENTS IN SECTION 042000 "UNIT MASONRY."

C. SET UNITS IN FULL BED OF MORTAR WITH FULL HEAD JOINTS UNLESS OTHERWISE INDICATED.
1. FILL DOWEL HOLES AND ANCHOR SLOTS WITH MORTAR.
2. FILL COLLAR JOINTS SOLID AS UNITS ARE SET.
3. BUILD CONCEALED FLASHING INTO MORTAR JOINTS AS UNITS ARE SET.
4. KEEP HEAD JOINTS IN COPINGS AND BETWEEN OTHER UNITS WITH EXPOSED HORIZONTAL SURFACES OPEN TO RECEIVE SEALANT.
5. KEEP JOINTS AT SHELF ANGLES OPEN TO RECEIVE SEALANT.

C. RAKE OUT JOINTS FOR POINTING WITH MORTAR TO DEPTHS OF NOT LESS THAN 3/4 INCH. RAKE JOINTS TO UNIFORM DEPTHS WITH SQUARE BOTTOMS AND CLEAN SIDES. SCRUB FACES OF UNITS TO REMOVE EXCESS MORTAR AS JOINTS ARE RAKED.

D. POINT MORTAR JOINTS BY PLACING AND COMPACTING MORTAR IN LAYERS NOT GREATER THAN 3/8 INCH. COMPACT EACH LAYER THOROUGHLY AND ALLOW IT TO BECOME THUMBPRINT HARD BEFORE APPLYING NEXT LAYER.

E. TOOL EXPOSED JOINTS SLIGHTLY CONCAVE WHEN THUMBPRINT HARD. USE A SMOOTH PLASTIC JOINTER LARGER THAN JOINT THICKNESS.

F. RAKE OUT JOINTS FOR POINTING WITH SEALANT TO DEPTHS OF NOT LESS THAN 3/4 INCH. SCRUB FACES OF UNITS TO REMOVE EXCESS MORTAR AS JOINTS ARE RAKED.

G. PROVIDE SEALANT JOINTS AT HEAD JOINTS OF COPINGS AND OTHER HORIZONTAL SURFACES; AT EXPANSION, CONTROL, AND PRESSURE-RELIEVING JOINTS; AND AT LOCATIONS INDICATED.
1. KEEP JOINTS FREE OF MORTAR AND OTHER RIGID MATERIALS.
2. PREPARE AND APPLY SEALANT OF TYPE AND AT LOCATIONS INDICATED TO COMPLY WITH APPLICABLE REQUIREMENTS IN SECTION 079200 "JOINT SEALANTS."

3.2 SETTING ANCHORED CAST STONE WITH SEALANT-FILLED JOINTS

A. SET CAST STONE AS INDICATED ON DRAWINGS. SET UNITS ACCURATELY IN LOCATIONS INDICATED, WITH EDGES AND FACES ALIGNED ACCORDING TO ESTABLISHED RELATIONSHIPS AND INDICATED TOLERANCES.
1. INSTALL ANCHORS, SUPPORTS, FASTENERS, AND OTHER ATTACHMENTS INDICATED OR NECESSARY TO SECURE UNITS IN PLACE.
2. SHIM AND ADJUST ANCHORS, SUPPORTS, AND ACCESSORIES TO SET CAST STONE IN LOCATIONS INDICATED WITH UNIFORM JOINTS.
B. FILL ANCHOR HOLES WITH SEALANT.
1. WHERE DOWEL HOLES OCCUR AT PRESSURE-RELIEVING JOINTS, PROVIDE COMPRESSIBLE MATERIAL AT ENDS OF DOWELS.

C. SET CAST STONE SUPPORTED ON CLIP OR CONTINUOUS ANGLES ON RESILIENT SETTING SHIMS. USE MATERIAL OF THICKNESS REQUIRED TO MAINTAIN UNIFORM JOINT WIDTHS. HOLD SHIMS BACK FROM FACE OF CAST STONE A DISTANCE AT LEAST EQUAL TO WIDTH OF JOINT.

D. PREPARE AND APPLY SEALANT OF TYPE AND AT LOCATIONS INDICATED TO COMPLY WITH APPLICABLE REQUIREMENTS IN SECTION 079200 "JOINT SEALANTS."

3.3 INSTALLATION TOLERANCES

A. VARIATION FROM PLUMB: DO NOT EXCEED 1/8 INCH IN 10 FEET, 1/4 INCH IN 20 FEET, OR 1/2 INCH MAXIMUM.

B. VARIATION FROM LEVEL: DO NOT EXCEED 1/8 INCH IN 10 FEET, 1/4 INCH IN 20 FEET, OR 1/2 INCH MAXIMUM.

C. VARIATION IN JOINT WIDTH: DO NOT VARY JOINT THICKNESS MORE THAN 1/8 INCH IN 36 INCHES OR ONE-FOURTH OF NOMINAL JOINT WIDTH, WHICHEVER IS LESS.

D. VARIATION IN PLANE BETWEEN ADJACENT SURFACES (LIPPING): DO NOT VARY FROM FLUSH ALIGNMENT WITH ADJACENT UNITS OR ADJACENT SURFACES INDICATED TO BE FLUSH WITH UNITS BY MORE THAN 1/16 INCH, EXCEPT WHERE VARIATION IS DUE TO WARPAGE OF UNITS WITHIN TOLERANCES SPECIFIED.

3.4 ADJUSTING AND CLEANING

A. REMOVE AND REPLACE STAINED AND OTHERWISE DAMAGED UNITS AND UNITS NOT MATCHING APPROVED SAMPLES. CAST STONE MAY BE REPAIRED IF METHODS AND RESULTS ARE APPROVED BY ARCHITECT.

B. REPLACE UNITS IN A MANNER THAT RESULTS IN CAST STONE MATCHING APPROVED SAMPLES, COMPLYING WITH OTHER REQUIREMENTS, AND SHOWING NO EVIDENCE OF REPLACEMENT.

C. IN-PROGRESS CLEANING: CLEAN CAST STONE AS WORK PROGRESSES.
1. REMOVE MORTAR FINS AND SMEARS BEFORE TOOLING JOINTS.
2. REMOVE EXCESS SEALANT IMMEDIATELY, INCLUDING SPILLS, SMEARS, AND SPATTER.

D. FINAL CLEANING: AFTER MORTAR IS THOROUGHLY SET AND CURED, CLEAN EXPOSED CAST STONE AS FOLLOWS:
1. REMOVE LARGE MORTAR PARTICLES BY HAND WITH WOODEN PADDLES AND NONMETALLIC SCRAPE HOES OR CHISELS.
2. TEST CLEANING METHODS ON SAMPLE; LEAVE ONE SAMPLE UNCLEANED FOR COMPARISON PURPOSES. OBTAIN ARCHITECT'S APPROVAL OF SAMPLE CLEANING BEFORE PROCEEDING WITH CLEANING OF CAST STONE.
3. PROTECT ADJACENT SURFACES FROM CONTACT WITH CLEANER BY COVERING THEM WITH LIQUID STRIPPABLE MASKING AGENT OR POLYETHYLENE FILM AND WATERPROOF MASKING TAPE.
4. WET SURFACES WITH WATER BEFORE APPLYING CLEANERS; REMOVE CLEANERS PROMPTLY BY RINSING THOROUGHLY WITH CLEAR WATER.
5. CLEAN CAST STONE BY BUCKET-AND-BRUSH HAND-CLEANING METHOD DESCRIBED IN BIA TECHNICAL NOTES 20.
6. CLEAN CAST STONE WITH PROPRIETARY ACIDIC CLEANER APPLIED ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS.

END OF SECTION 047200

SECTION 061000 – ROUGH CARPENTRY

1.1 MATERIALS

A. WOOD-PRESERVATIVE-TREATED LUMBER:
1. PRESERVATIVE TREATMENT: AWPA U1; USE CATEGORY UC2, BUT USE CATEGORY UC3B FOR EXTERIOR CONSTRUCTION AND USE CATEGORY UC4A FOR ITEMS IN CONTACT WITH THE GROUND.
a. PRESERVATIVE CHEMICALS: CONTAINING NO ARSENIC OR CHROMIUM. DO NOT USE INORGANIC BORON (SBX) FOR SILL PLATES.
2. APPLICATION: ITEMS INDICATED AND AS FOLLOWS:
a. ITEMS IN CONTACT WITH ROOFING OR WATERPROOFING.
b. ITEMS IN CONTACT WITH CONCRETE OR MASONRY.
c. FRAMING LESS THAN 18 INCHES (460 MM) ABOVE GROUND IN CRAWLSPACES.
d. FLOOR PLATES INSTALLED OVER CONCRETE SLABS-ON-GRADE.

B. DIMENSION LUMBER FRAMING:
1. EXPOSED FRAMING: HAND-SELECTED FOR APPEARANCE AND FREEDOM FROM DECAY, HONEYCOMB, KNOT-HOLES, SHAKE, SPLITS, TORN GRAIN, AND WANE.
a. APPLICATION: EXPOSED EXTERIOR AND INTERIOR FRAMING INDICATED TO RECEIVE A STAINED OR NATURAL FINISH.
b. SPECIES AND GRADE: AS INDICATED FOR LOAD-BEARING CONSTRUCTION.

C. ENGINEERED WOOD PRODUCTS, GENERAL: PRODUCTS LOCATED WITHIN THE BUILDING WEATHERPROOFING SYSTEM SHALL CONTAIN NO ADDED UREA FORMALDEHYDE.

D. SHEAR WALL PANELS, GENERAL: PRODUCTS LOCATED WITHIN THE BUILDING WEATHERPROOFING SYSTEM SHALL CONTAIN NO ADDED UREA FORMALDEHYDE.

E. FASTENERS: [HOT-DIP GALVANIZED] [STAINLESS] STEEL WHERE EXPOSED TO WEATHER, IN GROUND CONTACT, IN CONTACT WITH TREATED WOOD, OR IN AREA OF HIGH RELATIVE HUMIDITY.

F. METAL FRAMING ANCHORS:
1. HOT-DIP GALVANIZED STEEL FOR INTERIOR LOCATIONS.
2. HOT-DIP, HEAVY-GALVANIZED STEEL FOR TREATED LUMBER AND WHERE INDICATED.
3. STAINLESS STEEL FOR EXTERIOR AND WHERE INDICATED.

G. MISCELLANEOUS MATERIALS:
1. SILL-SEALER GASKETS: [GLASS-FIBER INSULATION] [NEOPRENE FOAM].
2. ADHESIVES SHALL HAVE A VOC CONTENT OF 70 G/L OR LESS WHEN CALCULATED ACCORDING TO 40 CFR 59, SUBPART D (EPA METHOD 24).

END OF SECTION 061000

SECTION 061053 – TREATED MATERIALS

1.1 MATERIALS

A. WOOD-PRESERVATIVE-TREATED MATERIALS:
1. PRESERVATIVE TREATMENT: AWPA U1; USE CATEGORY UC2.
a. PRESERVATIVE CHEMICALS: CONTAINING NO ARSENIC OR CHROMIUM. DO NOT USE INORGANIC BORON (SBX) FOR SILL PLATES.
2. APPLICATION: ITEMS INDICATED AND THE FOLLOWING:
a. ITEMS IN CONTACT WITH ROOFING OR WATERPROOFING.
b. ITEMS IN CONTACT WITH CONCRETE OR MASONRY.
c. FRAMING LESS THAN 18 INCHES (460 MM) ABO

SECTION 071300 – WATERPROOFING

1.1 MATERIALS

A. MODIFIED BITUMINOUS SHEET: MINIMUM 60-MIL (1.5-MM) NOMINAL THICKNESS.

B. MODIFIED BITUMINOUS SHEET, FABRIC REINFORCED: MINIMUM 60-MIL (1.5-MM) NOMINAL THICKNESS.

C. EPDM RUBBER SHEET WATERPROOFING: 60 MILS (1.5 MM) THICK, UNREINFORCED.

D. BUTYL RUBBER SHEET WATERPROOFING: 90 MILS (2.3 MM) THICK, UNREINFORCED.

E. AUXILIARY MATERIALS:

1. PRIMER: WATERBORNE.

2. METAL TERMINATION BARS: ALUMINUM.

3. PROTECTION COURSE: AS RECOMMENDED BY MANUFACTURER.

F. MOLDED-SHEET DRAINAGE PANELS: MOLDED-PLASTIC DRAINAGE CORE WITH A WOVEN GEOTEXTILE FACING.

G. HIGH-CAPACITY, MOLDED-SHEET COLLECTOR-PANEL SYSTEM: MOLDED-PLASTIC DRAINAGE CORE WITH A WOVEN GEOTEXTILE FACING; BY SAME MANUFACTURER AS MOLDED-SHEET DRAINAGE PANELS.

H. INSULATION: EXTRUDED-POLYSTYRENE BOARD.

I. INSULATION DRAINAGE PANELS: EXTRUDED-POLYSTYRENE BOARD, WITH GROOVED DRAINAGE CHANNELS; FOR WALL INSTALLATION.

1.2 INSTALLATION

A. MODIFIED BITUMINOUS SHEET: ONE-PLY APPLICATION.

B. RUBBER SHEET: FULLY ADHERED, CEMENT SPLICE SEAMS.

END OF SECTION 071300

SECTION 072100 – THERMAL INSULATION
PART 1 – GENERAL
1.1 SUMMARY

A. SECTION INCLUDES:

1. POLYISOCYANURATE FOAM-PLASTIC BOARD INSULATION.
2. GLASS-FIBER BLANKET INSULATION.
3. MINERAL-WOOL BLANKET INSULATION.

1.2 ACTION SUBMITTALS

A. PRODUCT DATA: FOR THE FOLLOWING:

1. POLYISOCYANURATE FOAM-PLASTIC BOARD INSULATION.
2. GLASS-FIBER BLANKET INSULATION.
3. MINERAL-WOOL BLANKET INSULATION.

1.3 INFORMATIONAL SUBMITTALS

A. INSTALLER'S CERTIFICATION: LISTING TYPE, MANUFACTURER, AND R-VALUE OF INSULATION INSTALLED IN EACH ELEMENT OF THE BUILDING THERMAL ENVELOPE.
1. SIGN, DATE, AND POST THE CERTIFICATION IN A CONSPICUOUS LOCATION ON PROJECT SITE.
B. PRODUCT TEST REPORTS.
C. RESEARCH REPORTS.

1.4 QUALITY ASSURANCE
A. SOURCE LIMITATIONS: OBTAIN EACH TYPE OF BUILDING INSULATION THROUGH ONE SOURCE.

1.5 DELIVERY, STORAGE, AND HANDLING
A. PROTECT INSULATION MATERIALS FROM PHYSICAL DAMAGE AND FROM DETERIORATION BY MOISTURE, SOILING, AND OTHER SOURCES. STORE INSIDE AND IN A DRY LOCATION. COMPLY WITH MANUFACTURER'S WRITTEN INSTRUCTIONS FOR HANDLING, STORING, AND PROTECTING DURING INSTALLATION.

PART 2 – PRODUCTS

2.1 POLYISOCYANURATE FOAM-PLASTIC BOARD INSULATION

A. POLYISOCYANURATE BOARD INSULATION, FOIL FACED EXPOSED USE, CLOSE-CELL: ASTM C1289, FOIL FACED, TYPE I, CLASS 1 OR 2.

1. _ HYPERLINK "HTTP://WWW.SPECAGENT.COM/LOOKUP?UID=11270" MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
   a. _ HYPERLINK "HTTP://WWW.SPECAGENT.COM/LOOKUP?UID=12345717309" CARLISLE COATINGS & WATERPROOFING INC.
   b. _ HYPERLINK "HTTP://WWW.SPECAGENT.COM/LOOKUP?UID=12345717300" DOW CHEMICAL COMPANY (THE).
   c. _ HYPERLINK "HTTP://WWW.SPECAGENT.COM/LOOKUP?UID=12345717303" FIRESTONE BUILDING PRODUCTS.
   d. _ HYPERLINK "HTTP://WWW.SPECAGENT.COM/LOOKUP?UID=12345717311" JOHNS MANVILLE; A BERKSHIRE HATHAWAY COMPANY.
   e. _ HYPERLINK "HTTP://WWW.SPECAGENT.COM/LOOKUP?UID=12345717302" RMAX, INC.
2. FIRE PROPAGATION CHARACTERISTICS: PASSES NFPA 285 TESTING AS PART OF AN APPROVED ASSEMBLY.
3. LABELING: PROVIDE IDENTIFICATION OF MARK INDICATING R-VALUE OF EACH PIECE OF INSULATION 12 INCHES AND WIDER IN WIDTH.

2.2 GLASS-FIBER BLANKET INSULATION

A. GLASS-FIBER BLANKET INSULATION, UNFACED: ASTM C665, TYPE I; PASSING ASTM E136 FOR COMBUSTION CHARACTERISTICS.

1. _ HYPERLINK "HTTP://WWW.SPECAGENT.COM/LOOKUP?UID=11272" MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
   a. _ HYPERLINK "HTTP://WWW.SPECAGENT.COM/LOOKUP?UID=12345717096" CERTAINTEED CORPORATION; SAINT-GOBAIN NORTH AMERICA.
   b. _ HYPERLINK "HTTP://WWW.SPECAGENT.COM/LOOKUP?UID=12345717098" JOHNS MANVILLE; A BERKSHIRE HATHAWAY COMPANY.
   c. _ HYPERLINK "HTTP://WWW.SPECAGENT.COM/LOOKUP?UID=12345717097" KNAUF INSULATION.
   d. _ HYPERLINK "HTTP://WWW.SPECAGENT.COM/LOOKUP?UID=12345717099" OWENS CORNING.
2. FLAME-SPREAD INDEX: NOT MORE THAN 25 WHEN TESTED IN ACCORDANCE WITH ASTM E84.
3. SMOKE-DEVELOPED INDEX: NOT MORE THAN 50 WHEN TESTED IN ACCORDANCE WITH ASTM E84.
4. LABELING: PROVIDE IDENTIFICATION OF MARK INDICATING R-VALUE OF EACH PIECE OF INSULATION 12 INCHES AND WIDER IN WIDTH.

2.3 MINERAL-WOOL BLANKET INSULATION

A. MINERAL-WOOL BLANKET INSULATION, UNFACED: ASTM C665, TYPE I (BLANKETS WITHOUT MEMBRANE FACING); CONSISTING OF FIBERS; PASSING ASTM E136 FOR COMBUSTION CHARACTERISTICS.

1. HYPERLINK "HTTP://WWW.SPECAGENT.COM/LOOKUP?UID=11285" MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
   a. HYPERLINK "HTTP://WWW.SPECAGENT.COM/LOOKUP?UID=12345717316" JOHNS MANVILLE; A BERKSHIRE HATHAWAY COMPANY.
   b. HYPERLINK "HTTP://WWW.SPECAGENT.COM/LOOKUP?UID=12345717313" ROCKWOOL INTERNATIONAL.
   c. _ HYPERLINK "HTTP://WWW.SPECAGENT.COM/LOOKUP?UID=12345717314" THERMAFIBER, INC.; AN OWENS CORNING COMPANY.
2. FLAME-SPREAD INDEX: NOT MORE THAN 25 WHEN TESTED IN ACCORDANCE WITH ASTM E84.
3. SMOKE-DEVELOPED INDEX: NOT MORE THAN 50 WHEN TESTED IN ACCORDANCE WITH ASTM E84.
4. LABELING: PROVIDE IDENTIFICATION OF MARK INDICATING R-VALUE OF EACH PIECE OF INSULATION 12 INCHES AND WIDER IN WIDTH.

PART 3 – EXECUTION

3.1 INSTALLATION, GENERA
L
A. COMPLY WITH INSULATION MANUFACTURER'S WRITTEN INSTRUCTIONS APPLICABLE TO PRODUCTS AND APPLICATIONS.
B. INSTALL INSULATION THAT IS UNDAMAGED, DRY, AND UNSOILED AND THAT HAS NOT BEEN LEFT EXPOSED TO ICE, RAIN, OR SNOW AT ANY TIME.
C. INSTALL INSULATION WITH MANUFACTURER'S R-VALUE LABEL EXPOSED AFTER INSULATION IS INSTALLED.
D. EXTEND INSULATION TO ENVELOP ENTIRE AREA TO BE INSULATED. FIT TIGHTLY AROUND OBSTRUCTIONS AND FILL VOIDS WITH INSULATION. REMOVE PROJECTIONS THAT INTERFERE WITH PLACEMENT.
E. PROVIDE SIZES TO FIT APPLICATIONS AND SELECTED FROM MANUFACTURER'S STANDARD THICKNESSES, WIDTHS, AND LENGTHS. APPLY SINGLE LAYER OF INSULATION UNITS UNLESS MULTIPLE LAYERS ARE OTHERWISE SHOWN OR REQUIRED TO MAKE UP TOTAL THICKNESS OR TO ACHIEVE R-VALUE.

3.2 INSTALLATION OF CAVITY-WALL INSULATION

A. FOAM-PLASTIC BOARD INSULATION: INSTALL PADS OF ADHESIVE SPACED APPROXIMATELY 24 INCHES O.C. BOTH WAYS ON INSIDE FACE AND AS RECOMMENDED BY MANUFACTURER.
1. FIT COURSES OF INSULATION BETWEEN OBSTRUCTIONS, WITH EDGES BUTTED TIGHTLY IN BOTH DIRECTIONS, AND WITH FACES FLUSH.
2. PRESS UNITS FIRMLY AGAINST INSIDE SUBSTRATES.
3. SUPPLEMENT ADHESIVE ATTACHMENT OF INSULATION BY SECURING BOARDS WITH TWO-PIECE WALL TIES DESIGNED FOR THIS PURPOSE AND SPECIFIED IN SECTION 042000 "UNIT MASONRY."
B. MINERAL-WOOL BOARD INSULATION: INSTALL INSULATION FASTENERS 4 INCHES FROM EACH CORNER OF BOARD INSULATION, AT CENTER OF BOARD, AND AS RECOMMENDED BY MANUFACTURER.
1. FIT COURSES OF INSULATION BETWEEN OBSTRUCTIONS, WITH EDGES BUTTED TIGHTLY IN BOTH DIRECTIONS, AND WITH FACES FLUSH.
2. PRESS UNITS FIRMLY AGAINST INSIDE SUBSTRATES.

3.3 INSTALLATION OF INSULATION IN FRAMED CONSTRUCTION

A. BLANKET INSULATION: INSTALL IN CAVITIES FORMED BY FRAMING MEMBERS ACCORDING TO THE FOLLOWING REQUIREMENTS:
1. USE INSULATION WIDTHS AND LENGTHS THAT FILL THE CAVITIES FORMED BY FRAMING MEMBERS. IF MORE THAN ONE LENGTH IS REQUIRED TO FILL THE CAVITIES, PROVIDE LENGTHS THAT WILL PRODUCE A SNUG FIT BETWEEN ENDS.
2. PLACE INSULATION IN CAVITIES FORMED BY FRAMING MEMBERS TO PRODUCE A FRICTION FIT BETWEEN EDGES OF INSULATION AND ADJOINING FRAMING MEMBERS.
3. MAINTAIN 3-INCH CLEARANCE OF INSULATION AROUND RECESSED LIGHTING FIXTURES NOT RATED FOR OR PROTECTED FROM CONTACT WITH INSULATION.
4. ATTICS: INSTALL EAVE VENTILATION TROUGHS BETWEEN ROOF FRAMING MEMBERS IN INSULATED ATTIC SPACES AT VENTED EAVES.
5. FOR METAL-FRAMED WALL CAVITIES WHERE CAVITY HEIGHTS EXCEED 96 INCHES, SUPPORT UNFACED BLANKETS MECHANICALLY AND SUPPORT FACED BLANKETS BY TAPING FLANGES OF INSULATION TO FLANGES OF METAL STUDS.
6. FOR WOOD-FRAMED CONSTRUCTION, INSTALL BLANKETS ACCORDING TO ASTM C1320.

END OF SECTION 072100

SECTION 072720 – FLUID-APPLIED AIR BARRIER ASSEMBLY

1.1 SUMMARY

A. SECTION INCLUDES:

1. MATERIALS AND INSTALLATION METHODS SUPPLEMENTING A ONE-COMPONENT VAPOR PERMEABLE, LIQUID APPLIED ELASTIC AIR AND WATER BARRIER.

2. MATERIALS AND INSTALLATION TO BRIDGE AND SEAL THE FOLLOWING AIR LEAKAGE PATHWAYS AND GAPS:

   a. CONNECTIONS OF THE WALLS TO THE ROOF AIR BARRIER.
   b. CONNECTIONS OF THE WALLS TO THE FOUNDATIONS.
   c. EXPANSION JOINTS.
   d. OPENINGS AND PENETRATIONS OF WINDOW FRAMES.
   e. BARRIER ENVELOPE ASSEMBLY.
   f. DOOR FRAMES.
   g. PIPING, CONDUIT, DUCT AND SIMILAR PENETRATIONS.
   h. ALL OTHER AIR LEAKAGE PATHWAYS IN THE BUILDING ENVELOPE.
   i. SEALING FLASHING TO WALL SURFACE.

1.2 PERFORMANCE REQUIREMENTS

A. PROVIDE AN AIR BARRIER SYSTEM CONSTRUCTED TO PERFORM AS A CONTINUOUS ELASTIC AIR BARRIER, AND AS A LIQUID WATER DRAINAGE PLANE FLASHED TO DISCHARGE TO THE EXTERIOR ANY INCIDENTAL CONDENSATION OR WATER PENETRATION. MEMBRANE SHALL ACCOMMODATE MOVEMENTS OF BUILDING MATERIALS BY PROVIDING EXPANSION AND CONTROL JOINTS AS REQUIRED, WITH ACCESSORY AIR SEAL MATERIALS AT SUCH LOCATIONS, CHANGES IN SUBSTRATE AND PERIMETER CONDITIONS.

1. THE AIR BARRIER SHALL HAVE THE FOLLOWING CHARACTERISTICS:

   a. IT MUST BE CONTINUOUS, WITH ALL JOINTS MADE AIR-TIGHT.
   b. IT SHALL BE CAPABLE OF WITHSTANDING POSITIVE AND NEGATIVE COMBINED DESIGN WIND, FAN AND STACK PRESSURES ON THE ENVELOPE WITHOUT DAMAGE OR DISPLACEMENT, AND SHALL TRANSFER THE LOAD TO THE STRUCTURE. IT SHALL NOT DISPLACE ADJACENT MATERIALS UNDER FULL LOAD. THE AIR BARRIER SHALL BE JOINED IN AN AIRTIGHT AND FLEXIBLE MANNER TO THE AIR BARRIER MATERIAL OF ADJACENT ASSEMBLY, ALLOWING FOR THE RELATIVE MOVEMENT OF ASSEMBLY DUE TO THERMAL AND MOISTURE VARIATIONS AND CREEP. CONNECTION SHALL BE MADE BETWEEN:

      • FOUNDATION AND WALLS.
      1) WALLS AND WINDOWS OR DOORS.
      2) DIFFERENT WALL ASSEMBLY.
      3) WALL AND ROOF.
      4) WALLS, FLOOR AND ROOF ACROSS CONSTRUCTION, CONTROL AND EXPANSION JOINTS.
      5) WALLS, FLOORS AND ROOF TO UTILITY, PIPE AND DUCT PENETRATIONS.
      6) FLASHING TO WALL SURFACE.

2. ALL PENETRATIONS OF THE AIR BARRIER AND PATHS OF AIR INFILTRATION/EXFILTRATION SHALL BE MADE AIR-TIGHT.

3. AIR PERMEABILITY: MAXIMUM 0.04 CFM/SQ.FT. @ 10.5 PSF PER ASTM E283.

4. AIR PERMEABILITY: @ DELTA P OF 0.3 INCHES WATER...0.002 CFM/FT² PER ASTM E 2178

5. ASTM E 2357, FULL SCALE WALL TESTING OF THE AIR BARRIER SYSTEM

   a. SYSTEM AIR LEAKAGE, REQUIREMENT – 0.0008 CFM/FT² MAXIMUM
   b. PENETRATION CHECK, REQUIREMENT – 0.00088 CFM/FT² MAXIMUM

6. ASTM E96 WATER VAPOR PERMEANCE:10–20 PERMS PER PROCEDURE B

7. ASTM E331, STANDARD TEST METHOD FOR STRUCTURAL PERFORMANCE OF EXTERIOR WINDOWS, CURTAIN WALLS, AND DOORS BY UNIFORM STATIC AIR PRESSURE DIFFERENCE – 10 PSF FOR 2 HOURS.

8. ELONGATION: MINIMUM 50% PER ASTM D412.

9. AATC 127 WATER RESISTANCE – PASS

10. ASTM D 1970 SELF SEALABILITY – PASS

11. ICC-ES AC212, FREEZE THAW, CRACK BRIDGING – PASS

12. FIRE TESTING: AIR BARRIER, AS A COMPONENT OF A WALL ASSEMBLY, SHALL HAVE PASSED A NFPA 285 COMPLETE WALL FIRE TEST.

13. ASTM E84 CLASS A FIRE RESISTANT

14. LISTED AS AN EVALUATED ASSEMBLY BY THE AIR BARRIER ASSOCIATION OF AMERICA AT WWW.AIRBARRIER.ORG

1.3 SUBMITTALS

A. SECTION 01 33 00 – SUBMITTAL PROCEDURES: SUBMITTAL PROCEDURES.

B. MANUFACTURER'S INDEPENDENT LABORATORY REPORT FOR THE AIR BARRIER ASSEMBLY TESTING ON ASTM E 2357 TESTED ON A WOOD STUD FRAME WALL, RESULTS ARE TO BE BASED ON SPECIMEN 2 TESTING ONLY.

C. DOCUMENTATION CERTIFYING THAT THE AIR BARRIER SYSTEM HAS BEEN TESTED INDEPENDENTLY, INDICATING COMPLIANCE WITH THE PERFORMANCE REQUIREMENTS OF THE AIR BARRIER ASSOCIATION OF ASSOCIATION.

D. COPIES OF MANUFACTURERS' LITERATURE FOR THE SYSTEM, MEMBRANE, PRIMERS, SEALANTS, ADHESIVES AND ASSOCIATED AUXILIARY MATERIALS SHALL BE INCLUDED AS PARTS OF THE SYSTEM THAT IS LISTED BY THE AIR BARRIER ASSOCIATION OF AMERICA EVALUATION.

E. REFERENCES CLEARLY INDICATING THAT THE MATERIALS PROPOSED HAVE BEEN INSTALLED FOR NOT LESS THAN THREE YEARS ON PROJECTS OF SIMILAR SCOPE AND NATURE.

F. MANUFACTURERS' COMPLETE SET OF STANDARD DETAILS FOR AIR BARRIER/VAPOR RETARDERS. THE MANUFACTURER'S REPRESENTATIVE SHALL REVIEW THE CONTRACT DRAWINGS AND NOTE ANY MODIFICATIONS REQUIRED TO MAKE THE SYSTEM AIR AND WATER TIGHT.

1.4 QUALITY ASSURANCE

A. MANUFACTURER'S QUALIFICATIONS: PROVIDE PRIMARY PRODUCTS, INCLUDING EACH COMPONENT OF THE AIR BARRIER MEMBRANE SYSTEM, WHICH HAS BEEN COMMERCIALLY AVAILABLE FOR A MINIMUM OF 3 YEARS.

B. SECTION 072720 – FLUID-APPLIED AIR BARRIER ASSEMBLY (CONTINUED)

C. SUBMIT IN WRITING, A DOCUMENT STATING THAT THE APPLICATOR OF THE PRIMARY AIR BARRIER MEMBRANE SPECIFIED IN THIS SECTION IS RECOGNIZED BY THE MANUFACTURER AS SUITABLE FOR THE EXECUTION OF THE WORK.

D. PERFORM WORK IN ACCORDANCE WITH THE PRINTED REQUIREMENTS OF THE AIR BARRIER MANUFACTURER AND THIS SPECIFICATION.

E. MAINTAIN ONE COPY OF MANUFACTURER INSTRUCTIONS ON SITE.

F. AT THE BEGINNING OF THE WORK AND AT ALL TIMES DURING THE EXECUTION OF THE WORK, ALLOW ACCESS TO WORK SITE BY THE AIR BARRIER MEMBRANE MANUFACTURER'S REPRESENTATIVE.

G. COMPONENTS USED IN THIS SECTION SHALL BE SOURCED FROM ONE MANUFACTURER, INCLUDING SHEET MEMBRANE, AIR BARRIER SEALANTS, PRIMERS, MASTICS, TAPES AND ADHESIVES AS LISTED AS AN EVALUATED AIR BARRIER ASSEMBLY BY THE AIR BARRIER ASSOCIATION OF AMERICA.

1.5 MATERIALS

A. MEMBRANES:

1. LIQUID AIR BARRIER: ONE COMPONENT ELASTOMERIC MEMBRANE, SPRAY, TROWEL OR BRUSH APPLIED, HAVING THE FOLLOWING CHARACTERISTICS AND HAVE PASSED ALL EVALUATIONS BY THE AIR BARRIER ASSOCIATION OF AMERICA (ABAA) AND BE LISTED ON THEIR WEB SITE AS HAVING PASSED ALL THE EVALUATIONS:

   a. AIR BARRIER MATERIAL PERMEABILITY TEST:
      • AIR LEAKAGE PER ASTM E 2178, DRY FILM, DELTA P OF 0.3 INCHES OF WATER, 0.002 +/- 10%
   b. AIR BARRIER SYSTEM TEST ON FULL SCALE WALL ASSEMBLY, ASTM E 2357
      • SYSTEM AIR LEAKAGE, 0.0008 CFM/FT² +/- 10%
      1) PENETRATIONS CHECK, MUST PASS ASTM E 2357 REQUIREMENTS.
   c. WATER VAPOR PERMEANCE: (704 NG/PA.M.2.S.) 10 TO 20 PERMS, ASTM E96 METHOD B. NOTE: THE MATERIAL SPECIFIED IS VAPOR PERMEABLE.
   d. ELONGATION (ASTM D412: >50%)
   e. LOW TEMPERATURE FLEXIBILITY AND CRACK BRIDGING: PASS – ICC-ES AC212
   f. ASTM D 1970, SELF SEALABILITY – PASS
   g. RECYCLE CONTENT >20%

2. ACCEPTABLE MANUFACTURERS:

   a. STS COATINGS, WALL GUARDIAN, 830-995-5177 WWW.WALLGUARDIAN.COM. A CERTIFIED TEXAS HUB
      • A. FW-100A, A NON-ASPHALTIC PRODUCT
   b. SIKA-SARNAFIL, SIKAGARD 530, A NON-ASPHALTIC PRODUCT
   c. DUPONT LIQUID APPLIEDTYVEK

3. TRANSITION MEMBRANE, SELF-ADHERING: POLYMER-BASED, SHEET MEMBRANE COMPLETE WITH POLYESTER FACING, AND HAVING THE FOLLOWING PHYSICAL PROPERTIES:

   a. THICKNESS: 35 MILS (0.5 MM) MIN.
   b. VAPOR PERMEANCE: <0.1
   c. LOW TEMPERATURE FLEXIBILITY: –20 F TO CGSB 37-GP-56M;
   d. ELONGATION: >90% TO ASTM D412-MODIFIED
   e. ASTM E331, 10 PSF FOR 2 HOURS
      • ACCEPTABLE MATERIAL:
1. UT-40 BY STS COATINGS FOR USE WITH THE FW-100 SYSTEM.
2. OTHERS AS RECOMMENDED BY MANUFACTURER

4. CONTRACTOR QUALIFICATIONS:

   a. CONTRACTOR SHALL PROVIDE A MANUFACTURE'S LETTER STATING THAT THEY HAVE BEEN TRAINED AND ARE APPROVED TO APPLY THE MANUFACTURERS' AIR BARRIER.
   b. OPTIONAL: AN ABAA CERTIFIED CONTRACTOR, SPECIFIC CERTIFICATION FOR LIQUID APPLIED AND APPROVED BY LETTER FROM THE MANUFACTURER.

B. PRIMERS

1. PRIMER FOR SELF-ADHERING MEMBRANES: SYNTHETIC POLYMER-BASED ADHESIVE TYPE, QUICK SETTING, HAVING THE FOLLOWING CHARACTERISTICS:

   a. ACCEPTABLE MATERIAL: AS MANUFACTURED AND/OR RECOMMENDED BY THE AIR BARRIER SYSTEM MANUFACTURER. NOTE: PRIMER SHALL BE COMPATIBLE WITH SPECIFIED EXTERIOR GYPSUM SHEATHING.
   b. VERIFY COMPATIBILITY OF SELF-ADHERING MEMBRANES WITH PRESERVATIVE TREATED MATERIALS SPECIFIED IN SECTION 06 10 53. PRIME PRESERVATIVE TREATED MATERIALS AS REQUIRED USING PRIMER RECOMMENDED BY SELF-ADHERING MEMBRANE MANUFACTURER OR USE THE NON-CHEMICAL THERMALLY MODIFIED WOOD KNOWN AS ECOPREM.

C. SEALANTS

1. SEALANTS SHALL BE COMPATIBLE WITH AIR BARRIER ASSEMBLY AND SHALL BE APPROVED BY THE AIR BARRIER MANUFACTURER.

2. PRODUCTS:

   a. STS COATINGS LT-100 LIQUID TAPE FOR CONCEALED APPLICATIONS ONLY AND GREAT SEAL PE-150 FOR CONCEALED AND EXPOSED APPLICATIONS.
   b. OR QUALIFIED EQUAL.

3. PRIMERS: AS RECOMMENDED BY MANUFACTURER FOR SURFACES TO BE SEALED.

4. BACKER RODS: AS RECOMMENDED BY SEALANT MANUFACTURER.

5. OTHERS AS RECOMMENDED BY MANUFACTURER

A. PREPARATION

1. ALL SURFACES MUST BE SOUND, DRY, CLEAN AND FREE OF OIL, GREASE, DIRT, EXCESS MORTAR OR OTHER CONTAMINANTS. FILL SPALLED AREAS IN SUBSTRATES TO PROVIDE AN EVEN PLANE.

2. ALL JOINTS BETWEEN SHEATHING, ROOF BOARD, AND OTHER SUBSTRATE JOINTS UP TO 1/4" WIDE SHALL BE TREATED:

   a. STS COATINGS LT-100 LIQUID TAPE, WWW.STSCOATINGS.COM.
   b. OTHERS AS RECOMMENDED BY APPROVED MANUFACTURER

3. ALL JOINTS BETWEEN SHEATHING, ROOF BOARD, AND OTHER SUBSTRATES WIDER THAN 1/4" SHALL BE SEALED WITH:

   a. UT-40, OVERLAPPING EACH SIDE OF JOINT A MINIMUM OF 3 INCHES
   b. OTHERS AS RECOMMENDED BY APPROVED MANUFACTURER

B. PRIMER FOR TRANSITION MEMBRANE (SELF-ADHERING TYPE ONLY)

1. APPLY PRIMER FOR SELF-ADHERING MEMBRANES AT RATE RECOMMENDED BY MANUFACTURER.

2. APPLY PRIMER TO ALL AREAS TO RECEIVE TRANSITION SHEET MEMBRANE AS INDICATED IN DRAWINGS BY ROLLER OR SPRAY AND ALLOW MINIMUM 30 MINUTE OPEN TIME. PRIMED SURFACES NOT COVERED BY TRANSITION MEMBRANE DURING THE SAME WORKING DAY MUST BE RE-PRIMED.

C. TRANSITION MEMBRANE (SELF-ADHERING TYPE)

1. ALIGN AND POSITION SELF-ADHERING TRANSITION MEMBRANE, REMOVE PROTECTIVE FILM AND PRESS FIRMLY INTO PLACE. ENSURE MINIMUM 2 INCH OVERLAP AT ALL END AND SIDE LAPS UNLESS OTHERWISE NOTED.

2. TIE-IN TO ROOFING SYSTEM AND AT THE INTERFACE OF DISSIMILAR MATERIALS AS INDICATED IN DRAWINGS.

3. PROMPTLY ROLL ALL LAPS AND MEMBRANE WITH A COUNTER TOP ROLLER TO AFFECT SEAL.

4. ENSURE ALL PREPARATORY WORK IS COMPLETE PRIOR TO APPLYING LIQUID MEMBRANE.

D. PRIMARY AIR BARRIER

1. APPLY BY SPRAY OR ROLLER, A COMPLETE AND CONTINUOUS UNBROKEN FILM AT AN AMBIENT AND SUBSTRATE SURFACE TEMPERATURE OF 40'F AND RISING WITH LESS THAN A 30% CHANCE OF RAIN IN THE NEXT 18 HOURS AND APPLY AT THE SAME RATE AS LISTED IN THE AIR BARRIER ASSOCIATION OF AMERICA EVALUATION

   a. EXTERIOR GYPSUM SHEATHING, PLYWOOD OR OSB
      • WALL GUARDIAN FW-100A AT A MINIMUM OF 2.5 GALLONS PER 100 FT² (40 FT²/GALLON) (40 WET MILS)
      1) OTHERS MEETING STATED ABAA APPROVAL COVERAGE RATES.
      2) SPRAY AROUND ALL PROJECTIONS, INCLUDING MASONRY VENEER ANCHORS, ENSURING A COMPLETE AND CONTINUOUS AIR SEAL.

E. INSPECTION

1. NOTIFY ARCHITECT WHEN SECTIONS OF WORK ARE COMPLETE SO AS TO ALLOW FOR REVIEW PRIOR TO INSTALLING INSULATION. THE MANUFACTURER'S REPRESENTATIVE SHALL BE ON SITE TO REVIEW THE INSTALLATION ALONG WITH THE ARCHITECT.

END OF SECTION 072720 – FLUID-APPLIED AIR BARRIER ASSEMBLY

SECTION 073213 – CLAY ROOF TILES

PART 1 – GENERAL

1.1 SUMMARY

A. SECTION INCLUDES:

1. CLAY ROOF TILES.
2. UNDERLAYMENT.
3. RIDGE VENTS.

1.2 ACTION SUBMITTALS

A. PRODUCT DATA: FOR EACH TYPE OF PRODUCT.

B. SAMPLES: FOR EACH EXPOSED PRODUCT AND FOR EACH COLOR AND TEXTURE SPECIFIED.

1.3 INFORMATIONAL SUBMITTALS

A. MATERIAL TEST REPORTS FOR CLAY ROOF TILES.

B. EVALUATION REPORTS FOR THE FOLLOWING:

1. CLAY ROOF TILES, FASTENERS, AND ATTACHMENT SYSTEMS.
2. SYNTHETIC UNDERLAYMENT.
3. HIGH-TEMPERATURE SELF-ADHERING UNDERLAYMENT.

PART 2 – PRODUCTS

2.1 CLAY ROOF TILES

A. CLAY ROOF TILES: ASTM C 1167, MOLDED- OR EXTRUDED-CLAY ROOF TILE UNITS OF SHAPE AND CONFIGURATION INDICATED, KILN FIRED, AND FREE OF SURFACE IMPERFECTIONS. PROVIDE WITH FASTENING HOLES PREPUNCHED AT FACTORY BEFORE FIRING.

1. <DOUBLE CLICK HERE TO FIND, EVALUATE, AND INSERT LIST OF MANUFACTURERS AND PRODUCTS.>
2. DURABILITY: [GRADE 1] [GRADE 2] [GRADE 3].
3. HIGH-PROFILE SHAPE: TYPE I, [SPANISH OR "S"] [TAPERED MISSION, TWO PIECE] [STRAIGHT MISSION, TWO PIECE] [STRAIGHT BARREL MISSION, TWO PIECE] [GREEK, TWO PIECE] [ROMAN, TWO PIECE] <INSERT SHAPE>.
   a. ACCESSORY TILES: [RIDGE] [RIDGE VENT] [RIDGE END] [HIP AND HIP STARTER] [HEADER COURSE] [L-SHAPED RAKE EDGE] [ROLL RAKE EDGE] [STARTER] [END BAND] [TERMINAL] [EAVE CLOSURE] [AND] [TOP FIXTURE] <INSERT ACCESSORY> UNITS.
4. FINISH AND TEXTURE: [MATTE, SMOOTH]
5. COLOR: [TERRA COTTA].

2.2 UNDERLAYMENT MATERIALS

A. SELF-ADHERING SHEET UNDERLAYMENT, GRANULAR SURFACED: ASTM D 1970/D 1970M, MINIMUM OF [55-MIL- (1.4-MM-)] [50-MIL- (1.3-MM-)] [40-MIL- (1.0-MM-)] <INSERT DIMENSION> THICK SHEET; GLASS-FIBER-MAT-REINFORCED, SBS-MODIFIED ASPHALT; MINERAL-GRANULE SURFACED; WITH RELEASE PAPER BACKING; COLD APPLIED.[PROVIDE PRIMER FOR ADJOINING CONCRETE OR MASONRY SURFACES TO RECEIVE UNDERLAYMENT.]

2.3 PLASTIC RIDGE VENTS

A. RIGID-PLASTIC RIDGE VENT: MANUFACTURER'S STANDARD, RIGID SECTION HIGH-DENSITY POLYPROPYLENE OR OTHER UV-STABILIZED PLASTIC RIDGE VENT FOR USE UNDER RIDGE TILES.

2.4 ACCESSORIES

A. ASPHALT ROOFING CEMENT: ASTM D 4586/D 4586M, TYPE II, ASBESTOS FREE.

B. BUTYL SEALANT: ASTM C 1311, SINGLE-COMPONENT, SOLVENT-RELEASE BUTYL RUBBER SEALANT; POLYISOBUTYLENE PLASTICIZED; HEAVY BODIED.

C. ELASTOMERIC SEALANT: ASTM C 920, ELASTOMERIC [POLYURETHANE] [SILICONE]-BASED JOINT SEALANT OF TYPE, GRADE, CLASS, AND USE CLASSIFICATIONS REQUIRED TO SEAL JOINTS IN CLAY-TILE ROOFING AND REMAIN WATERTIGHT.

D. ROOFING ASPHALT: ASTM D 312, TYPE IV.

E. COLD-APPLIED ADHESIVE: MANUFACTURER'S STANDARD ASPHALT-BASED, ONE- OR TWO-PART, ASBESTOS-FREE, COLD-APPLIED ADHESIVE SPECIALLY FORMULATED FOR COMPATIBILITY AND USE WITH UNDERLAYMENTS.

F. MORTAR: ASTM C 270, TYPE M, [NATURAL COLOR] [WITH ASTM C 979/C 979M, PIGMENTED MORTAR MATCHING THE COLOR OF CLAY ROOF TILES FOR EXPOSED-TO-VIEW MORTAR, AND NATURAL COLOR FOR CONCEALED-FROM-VIEW MORTAR].

G. FOAM ADHESIVE: TWO-COMPONENT, POLYURETHANE EXPANDING ADHESIVE RECOMMENDED FOR APPLICATION BY CLAY-ROOF-TILE MANUFACTURER.

H. EAVE CLOSURE: MANUFACTURER'S STANDARD [EPDM] [COPPER] [STAINLESS-STEEL] [GALVANIZED-STEEL] [ALUMINUM, MILL FINISH] <INSERT MATERIAL> EAVE CLOSURE FORMED TO SHAPE OF CLAY ROOF TILE.

I. WOOD NAILERS: COMPLY WITH REQUIREMENTS FOR PRESSURE-PRESERVATIVE-TREATED WOOD IN [SECTION 061000 "ROUGH CARPENTRY."] [SECTION 061053 "MISCELLANEOUS ROUGH CARPENTRY."]

J. MESH FABRIC: 18-BY-14 (1.1-BY-1.4-MM) MESH OF PVC-COATED, GLASS-FIBER THREAD.

2.5 FASTENERS

A. ROOFING NAILS: ASTM F 1667, [COPPER, 0.135-INCH- (3.43-MM-)] [ALUMINUM, 0.120-INCH- (3.05-MM-)] [HOT-DIP GALVANIZED-STEEL, 0.120-INCH- (3.05-MM-)] DIAMETER SHANK, SHARP-POINTED, CONVENTIONAL ROOFING NAILS WITH BARBED SHANKS; MINIMUM 3/8-INCH- (10-MM-) DIAMETER HEAD; OF SUFFICIENT LENGTH TO PENETRATE 3/4 INCH (19 MM) INTO SUBSTRATE OR THROUGH THICKNESS OF THE SHEATHING, WHICHEVER IS LESS.
   1. WHERE NAILS ARE IN CONTACT WITH METAL FLASHING, USE NAILS MADE FROM SAME METAL AS FLASHING.
B. UNDERLAYMENT NAILS: ALUMINUM, STAINLESS-STEEL, OR HOT-DIP GALVANIZED-STEEL WIRE WITH LOW-PROFILE METAL OR PLASTIC CAPS, 1-INCH (25-MM) MINIMUM DIAMETER.
   1. PROVIDE CAP NAILS COMPLYING WITH WRITTEN INSTRUCTIONS OF SYNTHETIC-UNDERLAYMENT MANUFACTURER.
   2. PROVIDE WITH MINIMUM 0.0134-INCH- (0.34-MM-) THICK CAP, AND WITH MINIMUM 0.105-INCH- (2.67-MM-) THICK SHANK OF LENGTH TO PENETRATE AT LEAST 3/4 INCH (19 MM) INTO ROOF SHEATHING.
A. WOOD BATTEN NAILS: ASTM F 1667; COMMON OR BOX, STEEL WIRE, FLAT HEAD, AND SMOOTH SHANK.
B. WIRE TIES: [COPPER] [BRASS] [

SECTION 076200 – SHEET METAL FLASHING AND TRIM

1.1 MATERIALS

A. SHEET METALS:

1. COPPER SHEET: MILL FINISH.

2. STAINLESS-STEEL SHEET, TYPE 304: 4 (DIRECTIONAL SATIN) FINISH WITH SMOOTH, FLAT SURFACE.

3. METALLIC-COATED STEEL SHEET: PROVIDE ZINC-COATED (GALVANIZED) STEEL SHEET ACCORDING TO ASTM A 653/A 653M, G90 (Z275) COATING DESIGNATION; PREPAINTED BY COIL-COATING PROCESS TO COMPLY WITH ASTM A 755/A 755M.

a. SURFACE: MANUFACTURER'S STANDARD CLEAR ACRYLIC COATING ON BOTH SIDES.
b. COIL-COATED FINISH: TWO-COAT FLUOROPOLYMER.

B. UNDERLAYMENT: FELTS.

1.2 PRODUCTS

A. FORMED LOW-SLOPE ROOF FABRICATIONS: INCLUDING COPINGS, ROOF EXPANSION-JOINT COVERS, COUNTERFLASHING, FLASHING RECEIVERS, ROOF-PENETRATION FLASHING AND ROOF-DRAIN FLASHING.

B. FORMED WALL FABRICATIONS: INCLUDING THROUGH-WALL FLASHING, OPENING FLASHINGS IN FRAME CONSTRUCTION, AND WALL EXPANSION-JOINT COVER.

C. MISCELLANEOUS FORMED FABRICATIONS: INCLUDING EQUIPMENT SUPPORT FLASHING.

END OF SECTION 076200

SECTION 077200 – ROOF ACCESSORIES

1.1 PRODUCTS

A. ROOF CURBS: INSULATED.

1. HEIGHT: MINIMUM 12 INCHES (300 MM) ABOVE ROOFING SURFACE UNLESS OTHERWISE INDICATED.

2. NAILER: FACTORY-INSTALLED WOOD NAILER ALONG TOP FLANGE OF CURB, CONTINUOUS AROUND CURB PERIMETER.

B. EQUIPMENT SUPPORTS: RAIL TYPE.

1. HEIGHT: MINIMUM 12 INCHES (300 MM) ABOVE ROOFING SURFACE UNLESS OTHERWISE INDICATED.

C. DUCT SUPPORTS: EXTRUDED ALUMINUM, URETHANE INSULATED.

D. PIPE PORTALS: FLASHING TYPE, FORMED ALUMINUM WITH EPDM CAPS.

E. PREFORMED FLASHING SLEEVES: EXHAUST VENT FLASHING AND VENT STACK FLASHING FABRICATED FROM ALUMINUM SHEET.

END OF SECTION 077200

SECTION 079200 – JOINT SEALANTS

1.1 MATERIALS

A. VOC CONTENT OF INTERIOR SEALANTS: PROVIDE INTERIOR SEALANTS AND SEALANT PRIMERS THAT COMPLY WITH THE FOLLOWING LIMITS FOR VOC CONTENT WHEN CALCULATED ACCORDING TO 40 CFR 59, SUBPART D (EPA METHOD 24):

1. SEALANTS: 250 G/L.
2. SEALANT PRIMERS FOR NONPOROUS SUBSTRATES: 250 G/L.
3. SEALANT PRIMERS FOR POROUS SUBSTRATES: 775 G/L.

B. SUITABILITY FOR CONTACT WITH FOOD: WHERE SEALANTS ARE INDICATED FOR JOINTS THAT WILL COME IN REPEATED CONTACT WITH FOOD, PROVIDE PRODUCTS THAT COMPLY WITH 21 CFR 177.2600.

C. ELASTOMERIC JOINT SEALANTS: LIQUID APPLIED, CHEMICALLY CURING; ASTM C 920.

1. MULTICOMPONENT NONSAG NEUTRAL-CURING SILICONE SEALANT ES-1.
2. SINGLE-COMPONENT MILDEW-RESISTANT NEUTRAL-CURING SILICONE SEALANT ES-2.
3. SINGLE-COMPONENT MILDEW-RESISTANT ACID-CURING SILICONE SEALANT ES-3.
4. SINGLE-COMPONENT MILDEW-RESISTANT ACID-CURING RTV SILICONE SEALANT ES-4.
5. MULTICOMPONENT NONSAG POLYUREA SEALANT ES-5.
6. MULTICOMPONENT NONSAG POLYUREA FILLER ES-6.

D. LATEX SEALANT LS-1: COMPLY WITH ASTM C 834, TYPE P, GRADE NF.

E. JOINT-SEALANT BACKING:

1.2 JOINT-SEALANT SCHEDULE

A. JOINT-SEALANT APPLICATION JS-1: EXTERIOR HORIZONTAL NONTRAFFIC AND TRAFFIC ISOLATION AND CONTRACTION JOINTS IN CAST-IN-PLACE CONCRETE SLABS.

1. JOINT SEALANT: ES-5.

B. JOINT-SEALANT APPLICATION JS-2: EXTERIOR PERIMETER JOINTS BETWEEN WALL AND FRAMES OF DOORS AND WINDOWS.

1. JOINT SEALANT: ES-1.

C. JOINT-SEALANT APPLICATION JS-3: EXTERIOR CONTROL AND EXPANSION JOINTS IN HORIZONTAL TRAFFIC SURFACES OF BRICK PAVERS, CERAMIC TILE, STONE PAVING UNITS, CONCRETE TILE.

1. JOINT SEALANT: MULTICOMPONENT POURABLE POLYSULFIDE SEALANT.
2. JOINT-SEALANT COLOR: AS SELECTED BY ARCHITECT FROM MANUFACTURER'S FULL RANGE.

D. JOINT-SEALANT APPLICATION JS-4: INTERIOR PERIMETER JOINTS OF EXTERIOR OPENINGS.

1. JOINT SEALANT: ES-3.

E. JOINT-SEALANT APPLICATION JS-5: INTERIOR CERAMIC TILE EXPANSION, CONTROL, CONTRACTION, AND ISOLATION JOINTS IN HORIZONTAL TRAFFIC SURFACES.

1. JOINT SEALANT: ES-3.

2. JOINT-SEALANT COLOR: AS NOTED.

F. JOINT-SEALANT APPLICATION JS-6: INTERIOR JOINTS BETWEEN PLUMBING FIXTURES AND ADJOINING WALLS, FLOORS, AND COUNTERS.
JOINT SEALANT: ES-3.

1. JOINT-SEALANT COLOR: TRANSLUCENT.

G. JOINT-SEALANT APPLICATION JS-7: VERTICAL JOINTS ON EXPOSED SURFACES OF INTERIOR PARTITIONS.

1. JOINT SEALANT: ES-3.

H. JOINT-SEALANT APPLICATION JS-8: PERIMETER JOINTS BETWEEN INTERIOR WALL SURFACES AND FRAMES OF INTERIOR DOORS, WINDOWS.

1. JOINT SEALANT: ES-3.

I. JOINT-SEALANT APPLICATION JS-9: HVAC JOINTS.

1. JOINT SEALANT: ES-2.
2. JOINT-SEALANT COLOR: ALUMINUM.

J. JOINT-SEALANT APPLICATION JS-10: NON-POROUS MATERIAL TO NON-POROUS MATERIAL.

1. JOINT SEALANT: ES-4.
2. JOINT-SEALANT COLOR: CLEAR.

END OF SECTION 079200

SECTION 081130 – HOLLOW METAL DOORS AND FRAMES

1.1 SUMMARY

A. STANDARD HOLLOW METAL DOORS AND FRAMES.

1.2 SUBMITTALS

A. PRODUCT DATA: FOR EACH TYPE OF PRODUCT INDICATED. INCLUDE CONSTRUCTION DETAILS, MATERIAL DESCRIPTIONS, CORE DESCRIPTIONS, FIRE-RESISTANCE RATING, TEMPERATURE-RISE RATINGS, AND FINISHES.

B. SHOP DRAWINGS: INCLUDE THE FOLLOWING:

1. ELEVATIONS OF EACH DOOR DESIGN.

2. DETAILS OF DOORS, INCLUDING VERTICAL AND HORIZONTAL EDGE DETAILS AND METAL THICKNESSES.

3. FRAME DETAILS FOR EACH FRAME TYPE, INCLUDING DIMENSIONED PROFILES AND METAL THICKNESSES.

4. LOCATIONS OF REINFORCEMENT AND PREPARATIONS FOR HARDWARE.

5. DETAILS OF EACH DIFFERENT WALL OPENING CONDITION.

6. DETAILS OF ANCHORAGES, JOINTS, FIELD SPLICES, AND CONNECTIONS.

7. DETAILS OF ACCESSORIES.

8. DETAILS OF MOLDINGS, REMOVABLE STOPS, AND GLAZING.

9. DETAILS OF CONDUIT AND PREPARATIONS FOR POWER, SIGNAL, AND CONTROL SYSTEMS.

1.3 INTERIOR FRAMES

A. STANDARD-DUTY FRAMES: SDI A250.8, LEVEL 1. AT LOCATIONS INDICATED IN THE DOOR AND FRAME SCHEDULE.

1. PHYSICAL PERFORMANCE: LEVEL C ACCORDING TO SDI A250.4.

2. FRAMES:

a. MATERIALS: UNCOATED, COLD-ROLLED STEEL SHEET, MINIMUM THICKNESS OF 0.042 INCH (1.0 MM).
b. CONSTRUCTION: KNOCKED DOWN.

1.4 EXTERIOR HOLLOW-METAL DOORS AND FRAMES

A. HEAVY-DUTY DOORS AND FRAMES: SDI A250.8, LEVEL 2. AT LOCATIONS INDICATED IN THE DOOR AND FRAME SCHEDULE.

1. PHYSICAL PERFORMANCE: LEVEL B ACCORDING TO SDI A250.4, UL 752 LEVEL 2 BULLET RESISTANT.

2. DOORS:

a. TYPE: AS INDICATED IN THE DOOR AND FRAME SCHEDULE.
b. THICKNESS: 1-3/4 INCHES (44.5 MM.)
c. FACE: METALLIC-COATED STEEL SHEET, WITH MINIMUM A40 (ZF120) COATING.
d. EDGE CONSTRUCTION: MODEL 1, FULL FLUSH.
e. CORE: MANUFACTURER'S STANDARD KRAFT-PAPER HONEYCOMB, POLYSTYRENE, POLYURETHANE, POLYISOCYANURATE, MINERAL-BOARD, OR VERTICAL STEEL-STIFFENER CORE AT MANUFACTURER'S DISCRETION.

3. FRAMES:

a. MATERIALS: METALLIC-COATED STEEL SHEET, MINIMUM THICKNESS OF 0.053 INCH (1.3 MM), WITH MINIMUM A40 (ZF120) COATING.

B. FINISHES: FACTORY PRIMING FOR FIELD PAINTING.

1.5 INSTALLATION

A. METAL-STUD PARTITIONS AND CONCRETE WALLS: FRAMES FILLED WITH INSULATION.

B. MASONRY WALLS: FRAMES FILLED WITH GROUT.

END OF SECTION 081130

SECTION 084113 – ALUMINUM-FRAMED ENTRANCES AND STOREFRONTS

1.1 PERFORMANCE REQUIREMENTS

A. DELEGATED DESIGN: CONTRACTOR TO DESIGN ALUMINUM-FRAMED SYSTEMS.

B. DEFLECTION OF FRAMING MEMBERS:

1. DEFLECTION NORMAL TO WALL PLANE: LIMITED TO L/175.

2. DEFLECTION PARALLEL TO GLAZING PLANE: LIMITED TO L/360 OR 1/8 INCH (3.2 MM), WHICHEVER IS SMALLER.

C. AIR INFILTRATION:

1. FIXED FRAMING AND GLASS AREA: MAXIMUM AIR LEAKAGE OF 0.06 CFM/SQ. FT. (0.30 L/S PER SQ. M) AT A STATIC-AIR-PRESSURE DIFFERENTIAL OF 1.57 LBF/SQ. FT. (75 PA).

2. ENTRANCE DOORS:

a. PAIR OF DOORS: MAXIMUM AIR LEAKAGE OF 1.0 CFM/SQ. FT. (5.08 L/S PER SQ. M) AT A STATIC-AIR-PRESSURE DIFFERENTIAL OF 1.57 LBF/SQ. FT. (75 PA).
b. SINGLE DOORS: MAXIMUM AIR LEAKAGE OF 0.5 CFM/SQ. FT. (2.54 L/S PER SQ. M) AT A STATIC-AIR-PRESSURE DIFFERENTIAL OF 1.57 LBF/SQ. FT. (75 PA).

1.2 SUBMITTALS

A. PRODUCT DATA: FOR EACH TYPE OF PRODUCT.

B. SHOP DRAWINGS: INCLUDE PLANS, ELEVATIONS, SECTIONS, FULL-SIZE DETAILS, AND ATTACHMENTS TO OTHER WORK.

1. SHOW CONNECTION TO AND CONTINUITY WITH ADJACENT THERMAL, WEATHER, AIR, AND VAPOR BARRIERS.

C. SAMPLES: FOR EACH EXPOSED FINISH REQUIRED.

D. ENERGY PERFORMANCE CERTIFICATES.
E. DEFERRED SUBMITTALS: THOSE SUBMITTALS AND SHOP DRAWING WHICH ARE REQUIRED AS PART OF THE PROJECT, BUT WILL NOT BE REVIEWED BY THE STRUCTURAL ENGINEER OF RECORD, WILL BE SUBMITTED TO THE CITY AS "DEFERRED SUBMITTAL."
1. STOREFRONT SYSTEM

1.3 MATERIALS

A. ALUMINUM: ALLOY AND TEMPER RECOMMENDED BY MANUFACTURER.

B. STEEL REINFORCEMENT.

1.4 SYSTEM COMPONENTS

A. FRAMING MEMBERS:

1. CONSTRUCTION: THERMALLY BROKEN.

2. GLAZING SYSTEM: GASKETS ON FOUR SIDES.

3. GLAZING PLANE: FRONT.

B. GLAZING: SECTION 088000 "GLAZING."

C. ENTRANCE DOORS:

1. DOOR CONSTRUCTION: 1-3/4-INCH (44.5-MM) OVERALL THICKNESS.

2. DOOR DESIGN: AS INDICATED.

D. ENTRANCE DOOR HARDWARE: AS SCHEDULED.

END OF SECTION 084113

SECTION 081416 – FLUSH WOOD DOORS

PART 1 – GENERAL

1.1 SUMMARY

A. SECTION INCLUDES:
1. SOLID-CORE FLUSH WOOD DOORS WITH PLASTIC-LAMINATE-FACES.
2. FACTORY FINISHING FLUSH WOOD DOORS.
3. FACTORY FITTING FLUSH WOOD DOORS TO FRAMES AND FACTORY MACHINING FOR HARDWARE.

1.2 ACTION SUBMITTALS

A. PRODUCT DATA: FOR EACH TYPE OF PRODUCT, INCLUDING THE FOLLOWING:
1. DOOR CORE MATERIALS AND CONSTRUCTION.
2. DOOR EDGE CONSTRUCTION
3. DOOR FACE TYPE AND CHARACTERISTICS.
4. DOOR LOUVERS.
5. DOOR TRIM FOR OPENINGS.
6. DOOR FRAME CONSTRUCTION.
7. FACTORY-MACHINING CRITERIA.
8. FACTORY-FINISHING SPECIFICATIONS.

B. SHOP DRAWINGS: INDICATE LOCATION, SIZE, AND HAND OF EACH DOOR; ELEVATION OF EACH TYPE OF DOOR; CONSTRUCTION DETAILS NOT COVERED IN PRODUCT DATA; AND THE FOLLOWING:
1. DOOR SCHEDULE INDICATING DOOR LOCATION, TYPE, SIZE, FIRE PROTECTION RATING, AND SWING.
2. DOOR ELEVATIONS, DIMENSION AND LOCATIONS OF HARDWARE, LITE AND LOUVER CUTOUTS, AND GLAZING THICKNESSES.
3. DETAILS OF FRAME FOR EACH FRAME TYPE, INCLUDING DIMENSIONS AND PROFILE.
4. DETAILS OF ELECTRICAL RACEWAY AND PREPARATION FOR ELECTRIFIED HARDWARE, ACCESS CONTROL SYSTEMS, AND SECURITY SYSTEMS.
5. DIMENSIONS AND LOCATIONS OF BLOCKING FOR HARDWARE ATTACHMENT.
6. CLEARANCES AND UNDERCUTS.
7. APPLY AWI QUALITY CERTIFICATION PROGRAM LABEL TO SHOP DRAWINGS.

1.3 INFORMATIONAL SUBMITTALS

A. FIELD QUALITY-CONTROL REPORTS.

1.4 CLOSEOUT SUBMITTALS

A. QUALITY STANDARD COMPLIANCE CERTIFICATES: AWI QUALITY CERTIFICATION PROGRAM CERTIFICATES.

B. RECORD DOCUMENTS: FOR FIRE-RATED DOORS, LIST OF DOOR NUMBERS AND APPLICABLE ROOM NAME AND NUMBER TO WHICH DOOR ACCESSES.

1.5 QUALITY ASSURANCE

A. SOURCE LIMITATIONS: OBTAIN FLUSH WOOD DOORS THROUGH ONE SOURCE FROM A SINGLE MANUFACTURER.

B. QUALITY STANDARD: COMPLY WITH AWI'S "ARCHITECTURAL WOODWORK QUALITY STANDARDS ILLUSTRATED."
1. PROVIDE AWI QUALITY CERTIFICATION LABELS OR AN AWI LETTER OF LICENSING FOR PROJECT INDICATING THAT DOORS COMPLY WITH REQUIREMENTS OF GRADES SPECIFIED.

1.6 DELIVERY, STORAGE, AND HANDLING

A. COMPLY WITH REQUIREMENTS OF REFERENCED STANDARD AND MANUFACTURER'S WRITTEN INSTRUCTIONS.

B. PACKAGE DOORS INDIVIDUALLY IN CARDBOARD CARTONS AND WRAP BUNDLES OF DOORS IN PLASTIC SHEETING.

C. MARK EACH DOOR ON TOP AND BOTTOM RAIL WITH OPENING NUMBER USED ON SHOP DRAWINGS.

1.7 PROJECT CONDITIONS

A. ENVIRONMENTAL LIMITATIONS: DO NOT DELIVER OR INSTALL DOORS UNTIL BUILDING IS ENCLOSED, WET WORK IS COMPLETE, AND HVAC SYSTEM IS OPERATING AND WILL MAINTAIN TEMPERATURE AND RELATIVE HUMIDITY AT OCCUPANCY LEVELS DURING THE REMAINDER OF THE CONSTRUCTION PERIOD.

1.8 WARRANTY

A. SPECIAL WARRANTY: MANUFACTURER'S STANDARD FORM, SIGNED BY MANUFACTURER, INSTALLER AND CONTRACTOR, IN WHICH MANUFACTURER AGREES TO REPAIR OR REPLACE DOORS THAT ARE DEFECTIVE IN MATERIALS OR WORKMANSHIP, HAVE WARPED (BOW, CUP, OR TWIST) MORE THAN ¼-INCH IN A 42-BY-84-INCH SECTION, OR SHOW TELEGRAPHING OF CORE CONSTRUCTION IN FACE VENEERS EXCEEDING 0.01-INCH IN A 3-INCH SPAN.
1. WARRANTY SHALL ALSO INCLUDE INSTALLATION AND FINISHING THAT MAY BE REQUIRED DUE TO REPAIR OR REPLACEMENT OF DEFECTIVE DOORS.
2. WARRANTY SHALL BE IN EFFECT DURING THE FOLLOWING PERIOD OF TIME FROM DATE OF SUBSTANTIAL COMPLETION:
a. SOLID-CARE INTERIOR DOORS: LIFE OF INSTALLATION.

PART 2 – PRODUCTS

2.1 PERFORMANCE REQUIREMENTS
2.2 FLUSH WOOD DOORS, GENERAL

A. QUALITY STANDARD: IN ADDITION TO REQUIREMENTS SPECIFIED, COMPLY WITH "ARCHITECTURAL WOODWORK STANDARDS."

1. PROVIDE LABELS AND CERTIFICATES FROM AWI CERTIFICATION PROGRAM INDICATING THAT DOORS COMPLY WITH REQUIREMENTS OF GRADES SPECIFIED.

2.3 SOLID-CORE FLUSH WOOD DOORS WITH PLASTIC-LAMINATE FACES

A. INTERIOR DOORS:
1. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
a. ASSA ABLOY.
b. OSHKOSH DOOR COMPANY.
c. VT INDUSTRIES INC.
2. ARCHITECTURAL WOODWORK STANDARDS GRADE: CUSTOM.
3. PLASTIC-LAMINATE FACES: HIGH-PRESSURE DECORATIVE LAMINATES COMPLYING WITH NEMA LD 3, GRADE HGS.
4. COLORS, PATTERNS, AND FINISHES: AS SELECTED BY ARCHITECT FROM LAMINATE MANUFACTURER'S FULL RANGE OF PRODUCTS.
5. EXPOSED VERTICAL AND TOP EDGES: PLASTIC LAMINATE THAT MATCHES FACES, APPLIED BEFORE FACES.
6. CORE FOR NON-FIRE-RATED DOORS:
a. GLUED WOOD STAVE.
7. CONSTRUCTION: FIVE PLIES, HOT-PRESSED OR COLD-PRESSED BONDED (VERTICAL AND HORIZONTAL EDGING IS BONDED TO CORE), WITH ENTIRE UNIT ABRASIVE PLANED BEFORE FACES AND CROSSBANDS ARE APPLIED.

2.4 FABRICATION

A. FACTORY FIT DOORS TO SUIT FRAME-OPENING SIZES INDICATED.
1. COMPLY WITH CLEARANCE REQUIREMENTS OF REFERENCED QUALITY STANDARD FOR FITTING UNLESS OTHERWISE INDICATED.

B. FACTORY MACHINE DOORS FOR HARDWARE THAT IS NOT SURFACE APPLIED.
1. LOCATE HARDWARE TO COMPLY WITH DHI-WDHS-3.
2. COMPLY WITH FINAL HARDWARE SCHEDULES, DOOR FRAME SHOP DRAWINGS, ANSI/BHMA-156.115-W, AND HARDWARE TEMPLATES.
3. COORDINATE WITH HARDWARE MORTISES IN METAL FRAMES, TO VERIFY DIMENSIONS AND ALIGNMENT BEFORE FACTORY MACHINING.

2.5 FACTORY FINISHING

A. COMPLY WITH REFERENCED QUALITY STANDARD FOR FACTORY FINISHING.
1. COMPLETE FABRICATION, INCLUDING FITTING DOORS FOR OPENINGS AND MACHINING FOR HARDWARE THAT IS NOT SURFACE APPLIED, BEFORE FINISHING.
2. FINISH FACES, ALL FOUR EDGES, EDGES OF CUTOUTS, AND MORTISES.

B. FACTORY FINISH DOORS.

PART 3 – EXECUTION

3.1 INSTALLATION

A. HARDWARE: FOR INSTALLATION, SEE SECTION 087100 "DOOR HARDWARE."

B. INSTALL DOORS TO COMPLY WITH MANUFACTURER'S WRITTEN INSTRUCTIONS AND REFERENCED QUALITY STANDARD, AND AS INDICATED.

C. INSTALL FRAMES LEVEL, PLUMB, TRUE, AND STRAIGHT.
1. SHIM AS REQUIRED WITH CONCEALED SHIMS. INSTALL LEVEL AND PLUMB TO A TOLERANCE OF 1/8 INCH IN 96 INCHES.
2. ANCHOR FRAMES TO ANCHORS OR BLOCKING BUILT IN OR DIRECTLY ATTACHED TO SUBSTRATES.
a. SECURE WITH COUNTERSUNK, CONCEALED FASTENERS AND BLIND NAILING.
b. USE FINE FINISHING NAILS OR FINISHING SCREWS FOR EXPOSED FASTENING, COUNTERSUNK AND FILLED FLUSH WITH WOODWORK.
1) FOR FACTORY-FINISHED ITEMS, USE FILLER MATCHING FINISH OF ITEMS BEING INSTALLED.

D. FACTORY-FITTED DOORS: ALIGN IN FRAMES FOR UNIFORM CLEARANCE AT EACH EDGE.

3.2 FIELD QUALITY CONTROL

A. INSPECTION AGENCY: ENGAGE A QUALIFIED INSPECTOR TO PERFORM INSPECTIONS AND TO FURNISH REPORTS TO ARCHITECT.

B. INSPECTIONS:
1. PROVIDE INSPECTION OF INSTALLED WORK THROUGH AWI'S QUALITY CERTIFICATION PROGRAM, CERTIFYING THAT WOOD DOORS AND FRAMES, INCLUDING INSTALLATION, COMPLY WITH REQUIREMENTS OF AWI/AWMCA/WI'S "ARCHITECTURAL WOODWORK STANDARDS" FOR THE SPECIFIED GRADE.

C. REPAIR OR REMOVE AND REPLACE INSTALLATIONS WHERE INSPECTIONS INDICATE THAT THEY DO NOT COMPLY WITH SPECIFIED REQUIREMENTS.

D. REINSPECT REPAIRED OR REPLACED INSTALLATIONS TO DETERMINE IF REPLACED OR REPAIRED DOOR ASSEMBLY INSTALLATIONS COMPLY WITH SPECIFIED REQUIREMENTS.

3.3 ADJUSTING

A. OPERATION: REHANG OR REPLACE DOORS THAT DO NOT SWING OR OPERATE FREELY.

B. FINISHED DOORS: REPLACE DOORS THAT ARE DAMAGED OR THAT DO NOT COMPLY WITH REQUIREMENTS. DOORS MAY BE REPAIRED OR REFINISHED IF WORK COMPLIES WITH REQUIREMENTS AND SHOWS NO EVIDENCE OF REPAIR OR REFINISHING.

END OF SECTION 081416

SECTION 083113 – ACCESS DOORS AND FRAMES

PART 1 – GENERAL

1.1 SUMMARY

A. SECTION INCLUDES:
1. ACCESS DOORS AND FRAMES.

1.2 ACTION SUBMITTALS

A. PRODUCT DATA: FOR EACH TYPE OF PRODUCT.

B. SAMPLES: FOR EACH TYPE OF ACCESS DOOR AND FRAME AND FOR EACH FINISH SPECIFIED.

C. PRODUCT SCHEDULE: FOR ACCESS DOORS AND FRAMES.

1.3 CLOSEOUT SUBMITTALS

A. RECORD DOCUMENTS: FOR FIRE-RATED DOORS, LIST OF APPLICABLE ROOM NAME AND NUMBER IN WHICH ACCESS DOOR IS LOCATED.

1.4 QUALITY ASSURANCE

A. SIZE VARIATIONS: OBTAIN ARCHITECT'S APPROVAL OF MANUFACTURER'S STANDARD-SIZE UNITS, WHICH MAY VARY SLIGHTLY FROM SIZES INDICATED.

PART 2 – PRODUCTS

2.1 ACCESS DOORS AND FRAMES

A. FLUSH ACCESS DOORS WITH EXPOSED FLANGES:
1. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
a. ACUDOR PRODUCTS, INC.
b. KARP ASSOCIATES, INC.
c. LARSENS MANUFACTURING COMPANY.
d. MILCOR; A DIVISION OF HART & COOLEY, INC.
e. NYSTROM.
2. DESCRIPTION: FACE OF DOOR FLUSH WITH FRAME, WITH EXPOSED FLANGE AND CONTINUOUS PIANO HINGE.
3. LOCATIONS: PORTLAND CEMENT PLASTER (STUCCO) & WOOD SOFFIT SURFACES.
4. METALLIC-COATED STEEL SHEET FOR DOOR: MINIMUM 0.067 INCH, 14 GAGE, FACTORY FINISHED.
5. FRAME MATERIAL: MINIMUM 0.053-INCH, 16 GAGE, FACTORY FINISHED, WITH 3/4-INCH-WIDE, SURFACE MOUNTED TRIM.
6. LATCH AND LOCK: KEY-OPERATED CYLINDER LOCK.

2.2 MATERIALS

A. STEEL PLATES, SHAPES, AND BARS: ASTM A36/A36M.

B. STEEL SHEET: UNCOATED OR ELECTROLYTIC ZINC COATED, ASTM A879/A879M, WITH COLD-ROLLED STEEL SHEET SUBSTRATE COMPLYING WITH ASTM A1008/A1008M, COMMERCIAL STEEL (CS), EXPOSED.

C. METALLIC-COATED STEEL SHEET: ASTM A653/A653M, COMMERCIAL STEEL (CS), TYPE B; WITH MINIMUM G60 OR A60 METALLIC COATING.

D. STAINLESS STEEL PLATE, SHEET, AND STRIP: ASTM A240/A240M OR ASTM A666, TYPE 304. REMOVE TOOL AND DIE MARKS AND STRETCH LINES, OR BLEND INTO FINISH.

E. STAINLESS FLAT BARS: ASTM A666, TYPE 304. REMOVE TOOL AND DIE MARKS AND STRETCH LINES, OR BLEND INTO FINISH.

F. FRAME ANCHORS: SAME MATERIAL AS DOOR FACE.

G. INSERTS, BOLTS, AND ANCHOR FASTENERS: HOT-DIP GALVANIZED STEEL ACCORDING TO ASTM A153/A153M OR ASTM F2329.

2.3 FABRICATION

A. METAL SURFACES: FOR METAL SURFACES EXPOSED TO VIEW IN THE COMPLETED WORK, PROVIDE MATERIALS WITH SMOOTH, FLAT SURFACES WITHOUT BLEMISHES. DO NOT USE MATERIALS WITH EXPOSED PITTING, SEAM MARKS, ROLLER MARKS, ROLLED TRADE NAMES, OR ROUGHNESS.

B. DOORS AND FRAMES: GRIND EXPOSED WELDS SMOOTH AND FLUSH WITH ADJACENT SURFACES. FURNISH MOUNTING HOLES, ATTACHMENT DEVICES AND FASTENERS OF TYPE REQUIRED TO SECURE ACCESS DOORS TO TYPES OF SUPPORTS INDICATED.

C. LATCH AND LOCK HARDWARE:
1. QUANTITY: FURNISH NUMBER OF LATCHES AND LOCKS REQUIRED TO HOLD DOORS TIGHTLY CLOSED.
2. KEYS: FURNISH TWO KEYS PER LOCK AND KEY ALL LOCKS ALIKE.

2.4 FINISHES

A. PAINTED FINISHES: COMPLY WITH COATING MANUFACTURER'S WRITTEN INSTRUCTIONS FOR CLEANING, CONVERSION COATING, AND APPLYING AND BAKING FINISH.
1. FACTORY PRIMED: APPLY MANUFACTURER'S STANDARD, LEAD- AND CHROMATE-FREE, UNIVERSAL PRIMER IMMEDIATELY AFTER SURFACE PREPARATION AND PRETREATMENT.
2. FACTORY FINISHED: APPLY MANUFACTURER'S STANDARD BAKED-ENAMEL OR POWDER-COAT FINISH IMMEDIATELY AFTER CLEANING AND PRETREATING, WITH MINIMUM DRY-FILM THICKNESS OF 1 MIL FOR TOPCOAT.
a. COLOR: AS SELECTED BY ARCHITECT FROM FULL RANGE OF INDUSTRY COLORS.

PART 3 – EXECUTION

3.1 INSTALLATION

A. COMPLY WITH MANUFACTURER'S WRITTEN INSTRUCTIONS FOR INSTALLING ACCESS DOORS AND FRAMES.

B. ADJUST DOORS AND HARDWARE, AFTER INSTALLATION, FOR PROPER OPERATION.

END OF SECTION 083113

SECTION 087100 – DOOR HARDWARE

1.1 SUMMARY

A. COMMERCIAL DOOR HARDWARE FOR SWINGING DOORS.

B. OTHER DOORS TO THE EXTENT INDICATED.

C. CYLINDERS FOR DOORS SPECIFIED IN OTHER SECTIONS.

1.2 SUBMITTALS

A. PRODUCT DATA: INCLUDE CONSTRUCTION AND INSTALLATION DETAILS, MATERIAL DESCRIPTIONS, DIMENSIONS OF INDIVIDUAL COMPONENTS AND PROFILES, AND FINISHES.

1.3 WARRANTY

A. WARRANTY PERIOD: ONE YEAR FROM DATE OF SUBSTANTIAL COMPLETION, EXCEPT AS FOLLOWS:

1. MANUAL CLOSERS: 25 YEARS FROM DATE OF INVOICE.

2. CYLINDRICAL LOCKSETS: TWO YEARS FROM DATE OF INVOICE.

3. EXIT DEVICES: FIVE YEARS FROM DATE OF INVOICE.

1.4 MAINTENANCE SERVICE

A. FULL-MAINTENANCE SERVICE: SIX MONTHS.

1.5 PRODUCTS

A. CYLINDERS AND KEYING:

1. CONSTRUCTION KEYING: CONSTRUCTION [MASTER KEYS].

2. KEYING SYSTEM:

a. GRAND MASTER KEY.

b. LOCKS MASTER KEYED OR GRAND MASTER KEYED TO EXISTING SYSTEM.

c. ALL CYLINDERS KEYED ALIKE.

d. KEYS: NICKEL SILVER.

1. STAMPING: PERMANENTLY INSCRIBE EACH KEY WITH A LOCKNET KEY CONTROL NUMBER, STATE CODE, AND INCLUDE THE FOLLOWING NOTATION:

a. NOTATION: "DO NOT DUPLICATE."

2. QUANTITY: IN ADDITION TO ONE EXTRA KEY BLANK FOR EACH LOCK, PROVIDE THE FOLLOWING:

a. CYLINDER CHANGE KEYS: TWO.

b. CONSTRUCTION KEYS: FOUR.

c. MASTER KEYS: FOUR.

d. GRAND MASTER KEYS: TWO.

1.6 FIELD QUALITY CONTROL

A. INDEPENDENT ARCHITECTURAL HARDWARE CONSULTANT: [CONTRACTOR] ENGAGED TO PERFORM INSPECTIONS.

B. OCCUPANCY ADJUSTMENT: THREE MONTHS.

END OF SECTION 087100

SECTION 088000 – GLAZING

1.1 SUMMARY

A. GLASS FOR WINDOWS, DOORS AND STOREFRONT FRAMING.

1.2 SUBMITTALS

A. PRODUCT DATA: FOR EACH PRODUCT.

B. PRODUCT CERTIFICATES: FOR GLASS.

1.3 MATERIALS

A. SILICONE GLAZING SEALANTS: NEUTRAL OR BASIC CURING, CLASS 50, VOC LESS THAN 250 G/L.

B. GLAZING TAPES: EXPANDED-CELLULAR TYPE.

C. GLAZING GASKETS: DENSE COMPRESSION.

1.4 INSULATED GLASS SCHEDULE

A. GLASS TYPE: AS INDICATED ON DRAWINGS.

END OF SECTION 088000

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REVISIONS:

NO.	DESCRIPTION	DATE

Key Plan:

VIA DOMINION BUILDING 200

INDEPENDENCE VILLAGE
AT THE DOMINION
8 DOMINION DRIVE, SAN ANTONIO
TEXAS, 78257

REGISTERED ARCHITECT
JONATHAN A. PACE
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STATE OF TEXAS

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11-15-2024

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SECTION 092400 – CEMENT PLASTERING

PART 1 – GENERAL

1.1 SUMMARY

A. SECTION INCLUDES:

1. EXTERIOR VERTICAL PLASTERWORK (STUCCO).

1.2 ACTION SUBMITTALS

A. PRODUCT DATA: FOR EACH TYPE OF PRODUCT, WITH PROJECT SPECIFIC DETAILS.

B. SAMPLES: FOR EACH TYPE OF FACTORY-PREPARED FINISH COAT AND FOR EACH COLOR AND TEXTURE SPECIFIED.

C. WARRANTY: FOR EACH TYPE OF PRODUCT.

PART 2 – PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. FIRE-RESISTANCE RATINGS: WHERE INDICATED, PROVIDE CEMENT PLASTER ASSEMBLIES IDENTICAL TO THOSE OF ASSEMBLIES TESTED FOR FIRE RESISTANCE ACCORDING TO ASTM E119 BY A QUALIFIED TESTING AGENCY.

2.2 METAL LATH

A. EXPANDED-METAL LATH: ASTM C847, COLD-ROLLED CARBON-STEEL SHEET WITH ASTM A653/A653M, G60, HOT-DIP GALVANIZED-ZINC COATING.

1. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:

a. ALABAMA METAL INDUSTRIES COMPANY; A GIBRALTAR INDUSTRIES COMPANY.

b. CEMCO; CALIFORNIA EXPANDED METAL PRODUCTS CO.

c. CLARKDIETRICH.

d. MARINOWARE.

e. PHILLIPS MANUFACTURING CO.

2. DIAMOND-MESH LATH: FLAT OR SELF-FURRING, AS INDICATED ON DRAWINGS, 3.4 LB/SQ. YD.

B. PAPER BACKING: FS UU-B-790A, TYPE I, GRADE D, STYLE 2 VAPOR-PERMEABLE PAPER.

1. PROVIDE PAPER-BACKED LATH IN LOCATIONS INDICATED ON DRAWINGS.

2.3 ACCESSORIES

A. GENERAL: COMPLY WITH ASTM C1063, AND COORDINATE DEPTH OF TRIM AND ACCESSORIES WITH THICKNESSES AND NUMBER OF PLASTER COATS REQUIRED.

B. METAL ACCESSORIES:

1. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:

a. ALABAMA METAL INDUSTRIES COMPANY; A GIBRALTAR INDUSTRIES COMPANY.

b. BRAND X METALS, INC.

c. CEMCO; CALIFORNIA EXPANDED METAL PRODUCTS CO.

d. CLARKDIETRICH.

e. PHILLIPS MANUFACTURING CO.

2. FOUNDATION WEEP SCREED: FABRICATED FROM HOT-DIP GALVANIZED-STEEL SHEET, ASTM A653/A653M, G60 ZINC COATING.

3. CORNERITE: FABRICATED FROM METAL LATH WITH ASTM A653/A653M, G60, HOT-DIP GALVANIZED-ZINC COATING.

4. EXTERNAL- (OUTSIDE-) CORNER REINFORCEMENT: FABRICATED FROM METAL LATH WITH ASTM A653/A653M, G60, HOT-DIP GALVANIZED-ZINC COATING.

5. CORNERBEADS: FABRICATED FROM ZINC-COATED (GALVANIZED) STEEL.

a. SMALLNOSE CORNERBEAD WITH EXPANDED FLANGES; USE UNLESS OTHERWISE INDICATED.

6. CASING BEADS: FABRICATED FROM ZINC-COATED (GALVANIZED) STEEL; SQUARE-EDGED STYLE; WITH EXPANDED FLANGES.

7. CONTROL JOINTS: FABRICATED FROM ZINC-COATED (GALVANIZED) STEEL; ONE-PIECE-TYPE, FOLDED PAIR OF UNPERFORATED SCREEDS IN M-SHAPED CONFIGURATION; WITH PERFORATED FLANGES AND REMOVABLE PROTECTIVE TAPE ON PLASTER FACE OF CONTROL JOINT.

8. EXPANSION JOINTS: FABRICATED FROM ZINC-COATED (GALVANIZED) STEEL; FOLDED PAIR OF UNPERFORATED SCREEDS IN M-SHAPED CONFIGURATION; WITH EXPANDED FLANGES.

9. TWO-PIECE EXPANSION JOINTS: FABRICATED FROM [ZINC] [OR] [ZINC-COATED (GALVANIZED) STEEL]; FORMED TO PRODUCE SLIP-JOINT AND SQUARE-EDGED REVEAL THAT IS ADJUSTABLE FROM 1/4 TO 5/8 INCH WIDE; WITH PERFORATED FLANGES.

2.4 MISCELLANEOUS MATERIALS

A. WATER FOR MIXING AND FINISHING PLASTER: POTABLE AND FREE OF SUBSTANCES CAPABLE OF AFFECTING PLASTER SET OR OF DAMAGING PLASTER, LATH, OR ACCESSORIES.

B. FIBER FOR BASE COAT: ALKALINE-RESISTANT GLASS OR POLYPROPYLENE FIBERS, 1/2 INCH LONG, FREE OF CONTAMINANTS, MANUFACTURED FOR USE IN CEMENT PLASTER.

C. BONDING COMPOUND: ASTM C932.

D. FASTENERS FOR ATTACHING METAL LATH TO SUBSTRATES: ASTM C1063.

E. WIRE: ASTM A641/A641M, CLASS 1 ZINC COATING, SOFT TEMPER, NOT LESS THAN 0.0475-INCH DIAMETER UNLESS OTHERWISE INDICATED.

F. SOUND-ATTENUATION BLANKETS: ASTM C665, TYPE I (BLANKETS WITHOUT MEMBRANE FACING) PRODUCED BY COMBINING THERMOSETTING RESINS WITH MINERAL FIBERS MANUFACTURED FROM GLASS, SLAG WOOL, OR ROCK WOOL.

1. FIRE-RESISTANCE-RATED ASSEMBLIES: COMPLY WITH MINERAL-FIBER REQUIREMENTS OF ASSEMBLY.

2.5 PLASTER MATERIALS

A. PORTLAND CEMENT: ASTM C150/C150M, TYPE I.

1. COLOR FOR FINISH COATS: AS SELECTED BY ARCHITECT FROM MANUFACTURE FOR RANGE

B. COLORANTS FOR JOB-MIXED FINISH COATS: COLORFAST MINERAL PIGMENTS THAT PRODUCE FINISH PLASTER COLOR TO MATCH ARCHITECT'S SAMPLE.

C. LIME: ASTM C206, TYPE S; OR ASTM C207, TYPE S.

D. SAND AGGREGATE: ASTM C897.

1. COLOR FOR JOB-MIXED FINISH COATS: IN COLOR MATCHING ARCHITECT'S SAMPLE.

E. FIBER FOR BASE COAT: ALKALINE-RESISTANT GLASS OR POLYPROPYLENE FIBERS, 1/2 INCH LONG, FREE OF CONTAMINANTS, MANUFACTURED FOR USE IN CEMENT PLASTER.

F. ACRYLIC-BASED FINISH COATINGS: FACTORY-MIXED ACRYLIC-EMULSION COATING SYSTEMS FORMULATED WITH COLORFAST MINERAL PIGMENTS AND FINE AGGREGATES; FOR USE OVER CEMENT PLASTER BASE COATS. INCLUDE MANUFACTURER'S RECOMMENDED PRIMERS AND SEALING TOPCOATS FOR ACRYLIC-BASED FINISHES.

1. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:

a. EL REY STUCCO SOLUTIONS; A PAREX USA, INC. BRAND.

b. OMEGA PRODUCTS INTERNATIONAL, INC.

c. SONOWALL, BASF CORP.

d. STO CORP.

e. STUC-O-FLEX INTERNATIONAL, INC.

2. COLOR: AS SELECTED BY ARCHITECT FROM MANUFACTURER'S FULL RANGE.

2.6 PLASTER MIXES

A. GENERAL: COMPLY WITH ASTM C926 FOR APPLICATIONS INDICATED.

1. FIBER CONTENT: ADD FIBER TO BASE-COAT MIXES AFTER INGREDIENTS HAVE MIXED AT LEAST TWO MINUTES. COMPLY WITH FIBER MANUFACTURER'S WRITTEN INSTRUCTIONS FOR FIBER QUANTITIES IN MIXES, BUT DO NOT EXCEED 1 LB OF FIBER/CU. YD. OF CEMENTITIOUS MATERIALS.

B. BASE-COAT MIXES FOR USE OVER METAL LATH: SCRATCH AND BROWN COATS FOR THREE-COAT PLASTERWORK AS FOLLOWS:

1. PORTLAND CEMENT MIXES:

a. SCRATCH COAT: FOR CEMENTITIOUS MATERIAL, MIX 1 PART PORTLAND CEMENT AND 0 TO 3/4 PARTS LIME. USE 2-1/2 TO 4 PARTS AGGREGATE PER PART OF CEMENTITIOUS MATERIAL.

b. BROWN COAT: FOR CEMENTITIOUS MATERIAL, MIX 1 PART PORTLAND CEMENT AND 0 TO 3/4 PARTS LIME. USE 3 TO 5 PARTS AGGREGATE PER PART OF CEMENTITIOUS MATERIAL, BUT NOT LESS THAN VOLUME OF AGGREGATE USED IN SCRATCH COAT.

C. FACTORY-PREPARED FINISH-COAT MIXES: FOR ACRYLIC-BASED FINISH COATINGS, COMPLY WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.

PART 3 – EXECUTION

3.1 INSTALLATION, GENERAL

A. PREPARE SMOOTH, SOLID SUBSTRATES FOR PLASTER ACCORDING TO ASTM C926.

B. FIRE-RESISTANCE-RATED ASSEMBLIES: INSTALL COMPONENTS ACCORDING TO REQUIREMENTS FOR DESIGN DESIGNATIONS FROM LISTING ORGANIZATION AND PUBLICATION INDICATED ON DRAWINGS.

C. SOUND-ATTENUATION BLANKETS: WHERE REQUIRED, INSTALL BLANKETS BEFORE INSTALLING LATH UNLESS BLANKETS ARE READILY INSTALLED AFTER LATH HAS BEEN INSTALLED ON ONE SIDE.

3.2 INSTALLING METAL LATH

A. METAL LATH: INSTALL ACCORDING TO ASTM C1063.

3.3 INSTALLING ACCESSORIES

A. INSTALL ACCORDING TO ASTM C1063 AND AT LOCATIONS INDICATED ON DRAWINGS.

B. REINFORCEMENT FOR EXTERNAL (OUTSIDE) CORNERS:

1. INSTALL LATH-TYPE, EXTERNAL-CORNER REINFORCEMENT AT EXTERIOR LOCATIONS.

2. INSTALL CORNERBEAD AT INTERIOR LOCATIONS.

C. CONTROL JOINTS: LOCATE AS INDICATED ON DRAWINGS. OR, IF NOT INDICATED, AT LOCATIONS COMPLYING WITH THE FOLLOWING CRITERIA AND APPROVED BY ARCHITECT

1. WHERE AN EXPANSION OR CONTRACTION JOINT OCCURS IN SURFACE OF CONSTRUCTION DIRECTLY BEHIND PLASTER MEMBRANE.

2. DISTANCE BETWEEN CONTROL JOINTS: NOT TO EXCEED 18 FEET IN EITHER DIRECTION OR A LENGTH-TO-WIDTH RATIO OF 2-1/2 TO 1.

3. WALL AREAS: NOT MORE THAN 144 SQ. FT.

4. WHERE PLASTER PANEL SIZES OR DIMENSIONS CHANGE, EXTEND JOINTS FULL WIDTH OR HEIGHT OF PLASTER MEMBRANE.

3.4 PLASTER APPLICATION

A. GENERAL: COMPLY WITH ASTM C926.

B. WALLS; BASE-COAT MIXES FOR USE OVER METAL LATH: FOR SCRATCH AND BROWN COATS, FOR THREE-COAT PLASTERWORK WITH 3/4-INCH TOTAL THICKNESS, AS FOLLOWS:

1. PORTLAND CEMENT MIXES.

C. ACRYLIC-BASED FINISH COATINGS: APPLY COATING SYSTEM, INCLUDING PRIMERS, FINISH COATS, AND SEALING TOPCOATS, ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS.

D. CONCEALED EXTERIOR PLASTERWORK: WHERE PLASTER APPLICATION IS USED AS A BASE FOR ADHERED FINISHES, OMIT FINISH COAT.

3.5 PLASTER REPAIRS

A. REPAIR OR REPLACE WORK TO ELIMINATE CRACKS, DENTS, BLISTERS, BUCKLES, CRAZING AND CHECK CRACKING, DRY OUTS, EFFLORESCENCE, SWEAT OUTS, AND SIMILAR DEFECTS AND WHERE BOND TO SUBSTRATE HAS FAILED.

END OF SECTION 092400

SECTION 092900 – GYPSUM BOARD

1.1 SUMMARY

A. INTERIOR GYPSUM BOARD.

B. TILE BACKING PANELS.

1.2 SUBMITTALS

A. PRODUCT DATA: FOR EACH TYPE OF PRODUCT INDICATED.

B. SAMPLES: FOR THE FOLLOWING PRODUCTS:

1. TEXTURED FINISHES: MANUFACTURER'S STANDARD SIZE FOR EACH TEXTURED FINISH INDICATED AND ON SAME BACKING INDICATED FOR WORK.

1.3 MATERIALS

A. INTERIOR GYPSUM BOARD:

1. GENERAL: COMPLYING WITH ASTM C 36/C 36M OR ASTM C 1396/C 1396M, AS APPLICABLE TO TYPE OF GYPSUM BOARD INDICATED AND WHICHEVER IS MORE STRINGENT.

a. MUST BE CERTIFIED AS LOW EMITTING. CERTIFICATION MUST BE BASED UPON THE CALIFORNIA DEPARTMENT OF HEALTH SERVICES STANDARD PRACTICE FOR THE TESTING OF VOLATILE ORGANIC EMISSIONS FROM VARIOUS SOURCES USING SMALL-SCALE ENVIRONMENTAL CHAMBERS, INCLUDING 2004 ADDENDA OR A JURISDICTIONALLY RECOGNIZED STANDARD USING EQUIVALENT TESTING METHODOLOGIES AND VOC THRESHOLDS.

2. TYPE X:

a. THICKNESS: 5/8 INCH (15.9 MM).

b. LONG EDGES: TAPERED.

3. MOISTURE- AND MOLD-RESISTANT TYPE: WITH MOISTURE- AND MOLD-RESISTANT CORE AND SURFACES.

a. CORE: 5/8 INCH(15.9 MM), TYPE X.

b. LONG EDGES: TAPERED.

c. MOLD RESISTANCE: ASTM D 3273, SCORE OF 10 AS RATED ACCORDING TO ASTM D 3274.

B. TILE-BACKING PANELS:

1. GLASS-MAT, WATER-RESISTANT BACKING BOARD: ASTM C 1178/C 1178M, WITH MANUFACTURER'S STANDARD EDGES.

a. MUST BE CERTIFIED AS LOW EMITTING. CERTIFICATION MUST BE BASED UPON THE CALIFORNIA DEPARTMENT OF HEALTH SERVICES STANDARD PRACTICE FOR THE TESTING OF VOLATILE ORGANIC EMISSIONS FROM VARIOUS SOURCES USING SMALL-SCALE ENVIRONMENTAL CHAMBERS, INCLUDING 2004 ADDENDA OR A JURISDICTIONALLY RECOGNIZED STANDARD USING EQUIVALENT TESTING METHODOLOGIES AND VOC THRESHOLDS.

b. CORE: 5/8 INCH (15.9 MM), TYPE X.

c. MOLD RESISTANCE: ASTM D 3273, SCORE OF 10 AS RATED ACCORDING TO ASTM D 3274.

2. CEMENTITIOUS BACKER UNITS: ANSI A118.9 AND ASTM C 1288 OR 1325, WITH MANUFACTURER'S STANDARD EDGES.

a. THICKNESS: [AS INDICATED].

b. MOLD RESISTANCE: ASTM D 3273, SCORE OF 10 AS RATED ACCORDING TO ASTM D 3274.

C. TRIM ACCESSORIES:

1. INTERIOR: CORNERBEAD.

END OF SECTION 092900

SECTION 093000 – TILING

1.1 SUMMARY

A. PAVER, GLAZED, AND WALL TILE.

B. WATERPROOF MEMBRANE FOR THIN-SET TILE INSTALLATIONS.

C. METAL EDGE STRIPS INSTALLED AS PART OF TILE INSTALLATIONS.

1.2 QUALITY ASSURANCE

A. MOCKUPS FOR EACH FORM OF CONSTRUCTION.

1.3 MATERIALS

A. GLAZED WALL TILE TRIM SHAPES: COVED BASE, BULLNOSE CAP.

B. THRESHOLDS: SATIN ANODIZED ALUMINUM THRESHOLDS AND TRANSITION STRIPS.

1. BEVEL EDGES AT 1:2 SLOPE, WITH LOWER EDGE OF BEVEL ALIGNED WITH OR UP TO 1/16 INCH (1.5 MM) ABOVE ADJACENT FLOOR SURFACE. FINISH BEVEL TO MATCH TOP SURFACE OF THRESHOLD. LIMIT HEIGHT OF THRESHOLD TO 1/2 INCH (12.7 MM) OR LESS ABOVE ADJACENT FLOOR SURFACE.

C. MORTAR: LATEX-PORTLAND CEMENT

D. ELASTOMERIC SEALANTS: ONE-PART, MILDEW-RESISTANT SILICONE.

1. SEALANTS SHALL HAVE A VOC CONTENT OF 250 G/L OR LESS WHEN CALCULATED ACCORDING TO 40 CFR 59, SUBPART D (EPA METHOD 24).

1.4 FLOOR TILE INSTALLATION SCHEDULE

A. INTERIOR FLOORS ON CONCRETE: THIN-SET MORTAR.

1. TILE TYPE: UNGLAZED PAVER TILE.
2. MORTAR: LATEX- PORTLAND CEMENT MORTAR BOND COAT.
3. GROUT: POLYMER-MODIFIED UNSANDED 100% SOLIDS EPOXY NON-SAGGING GROUT.

B. INTERIOR FLOORS ON [WATERPROOF] [CRACK-SUPPRESSION] MEMBRANE OVER CONCRETE AND WOOD: THIN-SET MORTAR.

1. TILE TYPE: UNGLAZED PAVER TILE.
2. MORTAR: LATEX- PORTLAND CEMENT MORTAR BOND COAT.
3. GROUT: POLYMER-MODIFIED UNSANDED 100% SOLIDS EPOXY NON-SAGGING GROUT.

1.5 WALL TILE INSTALLATION SCHEDULE

A. INTERIOR WALLS OVER GLASS-MAT WATER-RESISTANT BACKER BOARD OR CEMENTITIOUS BACKER UNITS: THIN-SET MORTAR.

1. MORTAR: LATEX- PORTLAND CEMENT MORTAR.
2. GROUT: POLYMER-MODIFIED UNSANDED GROUT.

1.6 INSTALLATION

A. ALL TILE AND SLATE TO BE INSTALLED PER TILE COUNCIL OF AMERICA STANDARDS.

END OF SECTION 093000

SECTION 093013 – CERAMIC TILING

PART 1 – GENERAL

1.1 SUMMARY

A. SECTION INCLUDES:
1. GLAZED FLOOR TILE.
2. GLAZED WALL TILE.

B. RELATED REQUIREMENTS:
1. REFER TO SECTION 092900 'GYPSUM BOARD' FOR TILE BACKING PANELS.

1.2 ACTION SUBMITTALS

A. PRODUCT DATA: FOR EACH TYPE OF PRODUCT.

B. SAMPLES:
1. EACH TYPE AND COMPOSITION OF TILE AND FOR EACH COLOR AND FINISH REQUIRED. FOR CERAMIC MOSAIC TILE IN COLOR BLEND PATTERNS, PROVIDE SAMPLES OF EACH COLOR BLEND.
2. ASSEMBLED SAMPLES MOUNTED ON A RIGID PANEL, WITH GROUTED JOINTS, FOR EACH TYPE AND COMPOSITION OF TILE AND FOR EACH COLOR AND FINISH REQUIRED.
3. STONE THRESHOLDS.

1.3 INFORMATIONAL SUBMITTALS

A. QUALIFICATION DATA: FOR INSTALLER.

1.4 MAINTENANCE MATERIAL SUBMITTALS

A. FURNISH EXTRA MATERIALS THAT MATCH AND ARE FROM SAME PRODUCTION RUNS AS PRODUCTS INSTALLED AND THAT ARE PACKAGED WITH PROTECTIVE COVERING FOR STORAGE AND IDENTIFIED WITH LABELS DESCRIBING CONTENTS.
1. TILE AND TRIM UNITS: FURNISH QUANTITY OF FULL-SIZE UNITS EQUAL TO 3 PERCENT OF AMOUNT INSTALLED FOR EACH TYPE, COMPOSITION, COLOR, PATTERN, AND SIZE INDICATED.

1.5 QUALITY ASSURANCE

A. INSTALLER QUALIFICATIONS:
1. ENGAGE AN EXPERIENCED INSTALLER WHO HAS COMPLETED TILE INSTALLATIONS SIMILAR IN MATERIAL, DESIGN, AND EXTENT TO THAT INDICATED FOR THIS PROJECT AND WITH A SUCCESSFUL RECORD IN SERVICE AND PERFORMANCE.

PART 2 – PRODUCTS

2.1 PRODUCTS, GENERAL

A. ANSI CERAMIC TILE STANDARD: PROVIDE STANDARD-GRADE TILE THAT COMPLIES WITH ANSI A137.1 FOR TYPES, COMPOSITIONS, AND OTHER CHARACTERISTICS INDICATED.

B. ANSI STANDARDS FOR TILE INSTALLATION MATERIALS: PROVIDE MATERIALS COMPLYING WITH ANSI A108.02, ANSI STANDARDS REFERENCED IN OTHER PART 2 ARTICLES, ANSI STANDARDS REFERENCED BY TCNA INSTALLATION METHODS SPECIFIED IN TILE INSTALLATION SCHEDULES, AND OTHER REQUIREMENTS SPECIFIED.

2.2 TILE PRODUCTS

A. CERAMIC TILE: GLAZED FLOOR TILE AS SELECTED BY OWNER.

B. CERAMIC TILE: GLAZED WALL TILE AS SELECTED BY OWNER.

2.3 SETTING MATERIALS

A. MODIFIED DRY-SET MORTAR (THINSET): ANSI A118.4.
1. MANUFACTURER'S RECOMMENDED MODIFIED DRY-SET MORTAR (THINSET) FOR APPLICATION.
2. PRODUCTS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, AVAILABLE PRODUCTS THAT MAY BE INCORPORATED INTO THE WORK INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING:

a. ARDEX AMERICAS; ARDEX S 28™ MICROTEC® RAPID-SET, RAPID-DRY, SUPER-FORMAT TILE AND UNCOUPLING MEMBRANE MORTAR, ARDEX X 77™ MICROTEC® FIBER REINFORCED TILE AND STONE MORTAR, OR ARDEX X 90 OUTDOOR™ MICROTEC3 RAPID-SET, FLEXIBLE TILE AND STONE MORTAR.

b. CUSTOM BUILDING PRODUCTS; VERSABOND® PROFESSIONAL THIN SET MORTAR, OR VERSASET® ECONOMICAL THIN SET MORTAR.

c. LATICRETE INTERNATIONAL, INC.; LATICRETE 253 GOLD, LATICRETE 253R GOLD RAPID.

3. FOR WALL APPLICATIONS, PROVIDE NONSAGGING MORTAR.

2.4 GROUT MATERIALS

A. HIGH-PERFORMANCE TILE GROUT: ANSI A118.7.
1. PRODUCT: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE WALL TILE GROUT AS INDICATED ON FINISH SCHEDULE IN DRAWINGS.

B. WATER-CLEANABLE EPOXY GROUT: ANSI A118.3.
1. PRODUCT: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE FLOOR TILE GROUT AS INDICATED ON FINISH SCHEDULE IN DRAWINGS.

2.5 MISCELLANEOUS MATERIALS

C. TROWELABLE UNDERLAYMENTS AND PATCHING COMPOUNDS: LATEX-MODIFIED, PORTLAND CEMENT-BASED FORMULATION PROVIDED OR APPROVED BY MANUFACTURER OF TILE-SETTING MATERIALS FOR INSTALLATIONS INDICATED.

D. METAL EDGE STRIPS: ANGLE OR L-SHAPE, HEIGHT TO MATCH TILE AND SETTING-BED THICKNESS, METALLIC OR COMBINATION OF METAL AND PVC OR NEOPRENE BASE, DESIGNED SPECIFICALLY FOR FLOORING APPLICATIONS; EXPOSED-EDGE MATERIAL.
1. PRODUCTS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS AS INDICATED ON DRAWINGS.

C. FLOOR SEALER: MANUFACTURER'S STANDARD PRODUCT FOR SEALING GROUT JOINTS AND THAT DOES NOT CHANGE COLOR OR APPEARANCE OF GROUT.

PART 3 – EXECUTION

3.1 EXAMINATION

A. EXAMINE SUBSTRATES, AREAS, AND CONDITIONS WHERE TILE WILL BE INSTALLED, WITH INSTALLER PRESENT, FOR COMPLIANCE WITH REQUIREMENTS FOR INSTALLATION TOLERANCES AND OTHER CONDITIONS AFFECTING PERFORMANCE OF THE WORK.
1. VERIFY THAT SUBSTRATES FOR SETTING TILE ARE FIRM; DRY; CLEAN; FREE OF COATINGS THAT ARE INCOMPATIBLE WITH TILE-SETTING MATERIALS, INCLUDING CURING COMPOUNDS AND OTHER SUBSTANCES THAT CONTAIN SOAP, WAX, OIL, OR SILICONE; AND COMPLY WITH FLATNESS TOLERANCES REQUIRED BY ANSI A108.01 FOR INSTALLATIONS INDICATED.
2. VERIFY THAT CONCRETE SUBSTRATES FOR TILE FLOORS INSTALLED WITH ADHESIVES OR THINSET MORTAR COMPLY WITH SURFACE FINISH REQUIREMENTS IN ANSI A108.01 FOR INSTALLATIONS INDICATED.

B. PROCEED WITH INSTALLATION ONLY AFTER UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.

3.2 PREPARATION

A. FILL CRACKS, HOLES, AND DEPRESSIONS IN CONCRETE SUBSTRATES FOR TILE FLOORS INSTALLED WITH ADHESIVES OR THINSET MORTAR WITH TROWELABLE LEVELING AND PATCHING COMPOUND SPECIFICALLY RECOMMENDED BY TILE-SETTING MATERIAL MANUFACTURER.

B. BLENDING: FOR TILE EXHIBITING COLOR VARIATIONS, VERIFY THAT TILE HAS BEEN FACTORY BLENDED AND PACKAGED SO TILE UNITS TAKEN FROM ONE PACKAGE SHOW SAME RANGE OF COLORS AS THOSE TAKEN FROM OTHER PACKAGES AND MATCH APPROVED SAMPLES. IF NOT FACTORY BLENDED, EITHER RETURN TO MANUFACTURER OR BLEND TILES AT PROJECT SITE BEFORE INSTALLING.

3.3 INSTALLATION

A. COMPLY WITH TCNA'S "HANDBOOK FOR CERAMIC, GLASS, AND STONE TILE INSTALLATION" FOR TCNA INSTALLATION METHODS SPECIFIED IN TILE INSTALLATION SCHEDULES. COMPLY WITH PARTS OF THE ANSI A108 SERIES "SPECIFICATIONS FOR INSTALLATION OF CERAMIC TILE" THAT ARE REFERENCED IN TCNA INSTALLATION METHODS, SPECIFIED IN TILE INSTALLATION SCHEDULES, AND APPLY TO TYPES OF SETTING AND GROUTING MATERIALS USED.

B. EXTEND TILE WORK INTO RECESSES AND UNDER OR BEHIND EQUIPMENT AND FIXTURES TO FORM COMPLETE COVERING WITHOUT INTERRUPTIONS UNLESS OTHERWISE INDICATED. TERMINATE WORK NEATLY AT OBSTRUCTIONS, EDGES, AND CORNERS WITHOUT DISRUPTING PATTERN OR JOINT ALIGNMENTS.

C. ACCURATELY FORM INTERSECTIONS AND RETURNS. PERFORM CUTTING AND DRILLING OF TILE WITHOUT MARRING VISIBLE SURFACES. CAREFULLY GRIND CUT EDGES OF TILE ABUTTING TRIM, FINISH, OR BUILT-IN ITEMS FOR STRAIGHT ALIGNED JOINTS. FIT TILE CLOSELY TO ELECTRICAL OUTLETS, PIPING, FIXTURES, AND OTHER PENETRATIONS SO PLATES, COLLARS, OR COVERS OVERLAP TILE.

D. PROVIDE MANUFACTURER'S STANDARD TRIM SHAPES WHERE NECESSARY TO ELIMINATE EXPOSED TILE EDGES.

E. WHERE ACCENT TILE DIFFERS IN THICKNESS FROM FIELD TILE, VARY SETTING BED THICKNESS SO THAT TILES ARE FLUSH.

F. JOINTING PATTERN: LAY TILE IN GRID PATTERN UNLESS OTHERWISE INDICATED. LAY OUT TILE WORK AND CENTER TILE FIELDS IN BOTH DIRECTIONS IN EACH SPACE OR ON EACH WALL AREA. LAY OUT TILE WORK TO MINIMIZE THE USE OF PIECES THAT ARE LESS THAN HALF OF A TILE. PROVIDE UNIFORM JOINT WIDTHS UNLESS OTHERWISE INDICATED.

G. JOINT WIDTHS: AS INDICATED ON DRAWINGS.

H. LAY OUT TILE WAINSCOTS TO DIMENSIONS INDICATED OR TO NEXT FULL TILE BEYOND DIMENSIONS

I. EXPANSION JOINTS: PROVIDE EXPANSION JOINTS AND OTHER SEALANT-FILLED JOINTS, INCLUDING CONTROL, CONTRACTION, AND ISOLATION JOINTS, WHERE INDICATED. FORM JOINTS DURING INSTALLATION OF SETTING MATERIALS, MORTAR BEDS, AND TILE. DO NOT SAW-CUT JOINTS AFTER INSTALLING TILES.
1. WHERE JOINTS OCCUR IN CONCRETE SUBSTRATES, LOCATE JOINTS IN TILE SURFACES DIRECTLY ABOVE THEM.

J. METAL EDGE STRIPS: INSTALL AT LOCATIONS INDICATED ON DRAWINGS.

K. INSTALL TILE BACKING PANELS AND TREAT JOINTS ACCORDING TO ANSI A108.11 AND MANUFACTURER'S WRITTEN INSTRUCTIONS FOR TYPE OF APPLICATION INDICATED.

3.4 INTERIOR CERAMIC TILE INSTALLATION SCHEDULE

A. INTERIOR FLOOR INSTALLATIONS, CONCRETE SUBFLOOR:
1. CERAMIC TILE INSTALLATION FF-1: TCNA F113; THINSET MORTAR.
   a. CERAMIC TILE TYPE: ANSI A137.1.
   b. THINSET MORTAR: MODIFIED DRY-SET MORTAR, ANSI A118.4.
   c. GROUT: WATER-CLEANABLE EPOXY GROUT, ANSI A118.3.

B. INTERIOR WALL INSTALLATIONS, WOOD OR METAL STUDS OR FURRING:
1. CERAMIC TILE INSTALLATION WF-5: TCNA W245; THINSET MORTAR ON COATED GLASS-MAT, WATER-RESISTANT GYPSUM BACKER BOARD.
   a. CERAMIC TILE TYPE: ANSI A137.1.
   b. THINSET MORTAR: MODIFIED DRY-SET MORTAR.
   c. GROUT: HIGH-PERFORMANCE TILE GROUT.

END OF SECTION 093013

SECTION 099123 – INTERIOR PAINTING

1.1 SUMMARY

A. SURFACE PREPARATION AND THE APPLICATION OF PAINT SYSTEMS ON INTERIOR SUBSTRATES.

1.2 SUBMITTALS

A. SAMPLES FOR VERIFICATION:

1. FOR EACH NON-STANDARD LATEX TOPCOAT COLOR AND GLOSS INDICATED.

2. FOR EACH TYPE OF NON-STANDARD PAINT SYSTEM AND IN EACH COLOR AND GLOSS OF TOPCOAT INDICATED.

1.3 QUALITY ASSURANCE

A. QUALITY STANDARDS: "MPI APPROVED PRODUCTS LIST" AND "MPI ARCHITECTURAL PAINTING SPECIFICATION MANUAL."

B. MOCKUPS FOR EACH COLOR AND FINISH.

1.4 GENERAL

A. VOC CONTENT: PRODUCTS SHALL COMPLY WITH VOC LIMITS OF AUTHORITIES HAVING JURISDICTION [AND, FOR INTERIOR PAINTS AND COATINGS APPLIED AT PROJECT SITE, THE FOLLOWING VOC LIMITS, EXCLUSIVE OF COLORANTS ADDED TO A TINT BASE, WHEN CALCULATED ACCORDING TO 40 CFR 59, SUBPART D (EPA METHOD 24)]:

1. FLAT PAINTS AND COATINGS: 50 G/L.

2. NONFLAT PAINTS AND COATINGS: 150 G/L.

3. PRIMERS, SEALERS, AND UNDERCOATERS: 200 G/L.

4. ANTICORROSIVE AND ANTIRUST PAINTS APPLIED TO FERROUS METALS: 250 G/L.

5. HIGH PERFORMANCE COATINGS: 250 G/L.

6. FLOOR COATINGS: 100 G/L.

7. FIRE RETARDANT COATINGS, CLEAR: 650 G/L.

8. FIRE RETARDANT COATINGS, PIGMENTED: 350 G/L.

1.5 INTERIOR PAINTING SCHEDULE

A. STEEL SUBSTRATES:

1. INSTITUTIONAL LOW-ODOR/VOC LATEX SYSTEM:

a. PRIME COAT: PRIMER, RUST-INHIBITIVE, WATER BASED.

b. TOPCOAT: INSTITUTIONAL LOW-ODOR/VOC INTERIOR LATEX (GLOSS LEVEL AS INDICATED IN PAINT SCHEDULE).

2. QUICK-DRYING ENAMEL SYSTEM:

a. PRIME COAT: PRIMER, RUST-INHIBITIVE, WATER BASED.

b. TOPCOAT: ALKYD, QUICK DRY (GLOSS LEVEL AS INDICATED IN PAINT SCHEDULE).

B. GALVANIZED-METAL SUBSTRATES:

1. INSTITUTIONAL LOW-ODOR/VOC LATEX SYSTEM:

a. PRIME COAT: PRIMER, GALVANIZED, WATER BASED.

b. TOPCOAT: LATEX, INTERIOR, INSTITUTIONAL LOW ODOR/VOC, (GLOSS LEVEL AS INDICATED IN PAINT SCHEDULE).

C. WOOD SUBSTRATES:

1. INSTITUTIONAL LOW-ODOR/VOC LATEX SYSTEM:

a. PRIME COAT: INTERIOR LATEX PRIMER/SEALER.

b. TOPCOAT: INSTITUTIONAL LOW-ODOR/VOC INTERIOR LATEX (GLOSS LEVEL AS INDICATED IN PAINT SCHEDULE).

D. GYPSUM BOARD SUBSTRATES:

1. INSTITUTIONAL LOW-ODOR/VOC LATEX SYSTEM:

a. PRIME COAT: INTERIOR LATEX PRIMER/SEALER.

b. TOPCOAT: INSTITUTIONAL LOW-ODOR/VOC INTERIOR LATEX (GLOSS LEVEL AS INDICATED IN PAINT SCHEDULE).

E. HIGH-IMPACT GYPSUM BOARD SUBSTRATES:

1. HIGH-PERFORMANCE ARCHITECTURAL LATEX SYSTEM:

a. PRIME COAT: INTERIOR LATEX PRIMER/SEALER.

b. TOPCOAT: INSTITUTIONAL LOW-ODOR/VOC INTERIOR LATEX (GLOSS LEVEL AS INDICATED IN PAINT SCHEDULE).

F. PLASTER SUBSTRATES:

1. INSTITUTIONAL LOW-ODOR/VOC LATEX SYSTEM:

a. PRIME COAT: INTERIOR LATEX PRIMER/SEALER.

b. TOPCOAT: INSTITUTIONAL LOW-ODOR/VOC INTERIOR LATEX (GLOSS LEVEL AS INDICATED IN PAINT SCHEDULE).

G. ACOUSTICAL CEILING TILE:

1. INSTITUTIONAL LOW-ODOR/VOC LATEX SYSTEM:

a. PRIME COAT: INTERIOR LATEX PRIMER/SEALER.

b. TOPCOAT: INSTITUTIONAL LOW-ODOR/VOC INTERIOR LATEX (GLOSS LEVEL AS INDICATED IN PAINT SCHEDULE).

END OF SECTION 099123

SECTION 099113 – EXTERIOR PAINTING

1.1 SUMMARY

A. SURFACE PREPARATION AND THE APPLICATION OF PAINT SYSTEMS ON EXTERIOR SUBSTRATES.

1.2 SUBMITTALS

A. SAMPLES FOR VERIFICATION:

1. FOR EACH NON-STANDARD LATEX TOPCOAT COLOR AND GLOSS INDICATED.

2. FOR EACH TYPE OF NON-STANDARD PAINT SYSTEM AND IN EACH COLOR. AND GLOSS OF TOPCOAT INDICATED.

1.3 E

SECTION 104413 – FIRE PROTECTION CABINETS

PART 1 – GENERAL

1.1 SUMMARY

A. SECTION INCLUDES FIRE-PROTECTION CABINETS FOR PORTABLE FIRE EXTINGUISHERS.

1.2 ACTION SUBMITTALS

A. PRODUCT DATA: FOR EACH TYPE OF PRODUCT.

B. SHOP DRAWINGS: FOR FIRE-PROTECTION CABINETS.

1.3 CLOSEOUT SUBMITTALS

A. MAINTENANCE DATA.

1.4 COORDINATION

A. COORDINATE SIZE OF FIRE-PROTECTION CABINETS TO ENSURE THAT TYPE AND CAPACITY OF FIRE EXTINGUISHERS INDICATED ARE ACCOMMODATED.

B. COORDINATE SIZES AND LOCATIONS OF FIRE-PROTECTION CABINETS WITH WALL DEPTHS.

1.5 SEQUENCING

A. APPLY DECALS ON FIELD-PAINTED FIRE-PROTECTION CABINETS AFTER PAINTING IS COMPLETE.

PART 2 – PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. FIRE-RATED FIRE-PROTECTION CABINETS: LISTED AND LABELED TO COMPLY WITH REQUIREMENTS IN ASTM E 814 FOR FIRE-RESISTANCE RATING OF WALLS WHERE THEY ARE INSTALLED.

2.2 FIRE-PROTECTION CABINET

A. CABINET TYPE: SUITABLE FOR FIRE EXTINGUISHER.

1. SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
   a. FIRE END & CROKER CORPORATION.
   b. GENERAL ACCESSORY MFG. CO.
   c. JL INDUSTRIES, INC.
   d. KIDDE FYRNETICS.
   e. LARSEN'S MANUFACTURING COMPANY.
   f. MODERN METAL PRODUCTS; DIV. OF TECHNICO.
   g. MOON AMERICAN.
   h. POTTER ROEMER; DIV. OF SMITH INDUSTRIES, INC.
   i. WATROUS; DIV. OF AMERICAN SPECIALTIES, INC.

B. CABINET CONSTRUCTION: NONRATED

C. CABINET MATERIAL: COLD-ROLLED STEEL SHEET.

D. RECESSED CABINET:

1. TRIMLESS WITH HIDDEN FLANGE: FLANGE OF SAME METAL AND FINISH AS BOX OVERLAPS SURROUNDING WALL FINISH AND IS CONCEALED FROM VIEW BY AN OVERLAPPING DOOR.

E. CABINET TRIM MATERIAL: STEEL SHEET.

F. DOOR MATERIAL: STEEL SHEET.

G. DOOR STYLE: FULLY GLAZED PANEL WITH FRAME.

H. DOOR GLAZING: ACRYLIC SHEET.

1. ACRYLIC SHEET COLOR: CLEAR TRANSPARENT ACRYLIC SHEET.

I. DOOR HARDWARE: MANUFACTURER'S STANDARD DOOR-OPERATING HARDWARE OF PROPER TYPE FOR CABINET TYPE, TRIM STYLE, AND DOOR MATERIAL AND STYLE INDICATED.

J. ACCESSORIES:

1. DOOR LOCK: CAM LOCK THAT ALLOWS DOOR TO BE OPENED DURING EMERGENCY BY PULLING SHARPLY ON DOOR HANDLE.

2. IDENTIFICATION: LETTERING COMPLYING WITH AUTHORITIES HAVING JURISDICTION FOR LETTER STYLE, SIZE, SPACING, AND LOCATION. LOCATE AS INDICATED.
   a. IDENTIFY FIRE EXTINGUISHER IN FIRE-PROTECTION CABINET WITH THE WORDS "FIRE EXTINGUISHER."
      1) LOCATION: APPLIED TO CABINET GLAZING.
      2) APPLICATION PROCESS: DECALS.
      3) LETTERING COLOR: RED.
      4) ORIENTATION: VERTICAL.

K. MATERIALS:

1. COLD-ROLLED STEEL: ASTM A 1008/A 1008M, COMMERCIAL STEEL (CS), TYPE B.
   a. FINISH: BAKED ENAMEL OR POWDER COAT.
   b. COLOR: AS SELECTED BY ARCHITECT FROM FULL RANGE OF INDUSTRY COLORS AND COLOR DENSITIES.

2. TRANSPARENT ACRYLIC SHEET: ASTM D 4802, CATEGORY A-1 (CELL-CAST SHEET), 1.5 MM THICK, WITH FINISH 1 (SMOOTH OR POLISHED).

2.3 FABRICATION

A. FIRE-PROTECTION CABINETS: PROVIDE MANUFACTURER'S STANDARD BOX (TUB) WITH TRIM, FRAME, DOOR, AND HARDWARE TO SUIT CABINET TYPE, TRIM STYLE, AND DOOR STYLE INDICATED.

PART 3 – EXECUTION

3.1 INSTALLATION

A. PREPARE RECESSES FOR FIRE-PROTECTION CABINETS AS REQUIRED BY TYPE AND SIZE OF CABINET AND TRIM STYLE.

B. INSTALL FIRE-PROTECTION CABINETS IN LOCATIONS AND AT MOUNTING HEIGHTS INDICATED, OR, IF NOT INDICATED, AT HEIGHTS ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION.

C. FIRE-PROTECTION CABINETS: FASTEN CABINETS TO STRUCTURE, SQUARE AND PLUMB.

D. IDENTIFICATION: APPLY DECALS AT LOCATIONS INDICATED.

E. ADJUST FIRE-PROTECTION CABINET DOORS TO OPERATE EASILY WITHOUT BINDING. VERIFY THAT INTEGRAL LOCKING DEVICES OPERATE PROPERLY.

END OF SECTION 104413

SECTION 104416 – FIRE EXTINGUISHERS

PART 1 – GENERAL

1.1 SUMMARY

A. SECTION INCLUDES PORTABLE, HAND-CARRIED FIRE EXTINGUISHERS.

1.2 ACTION SUBMITTALS

A. PRODUCT DATA: FOR EACH TYPE OF PRODUCT.

1.3 INFORMATIONAL SUBMITTALS

A. WARRANTY: SAMPLE OF SPECIAL WARRANTY.

1.4 CLOSEOUT SUBMITTALS

A. OPERATION AND MAINTENANCE DATA.

1.5 COORDINATION

A. COORDINATE TYPE AND CAPACITY OF FIRE EXTINGUISHERS WITH FIRE-PROTECTION CABINETS TO ENSURE FIT AND FUNCTION.

1.6 WARRANTY

A. SPECIAL WARRANTY: MANUFACTURER'S STANDARD FORM IN WHICH MANUFACTURER AGREES TO REPAIR OR REPLACE FIRE EXTINGUISHERS THAT FAIL IN MATERIALS OR WORKMANSHIP WITHIN SPECIFIED WARRANTY PERIOD.

1. WARRANTY PERIOD: SIX YEARS FROM DATE OF SUBSTANTIAL COMPLETION.

PART 2 – PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. NFPA COMPLIANCE: FABRICATE AND LABEL FIRE EXTINGUISHERS TO COMPLY WITH NFPA 10, "PORTABLE FIRE EXTINGUISHERS."

B. FIRE EXTINGUISHERS: LISTED AND LABELED FOR TYPE, RATING, AND CLASSIFICATION BY AN INDEPENDENT TESTING AGENCY ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION.

2.2 PORTABLE, HAND-CARRIED FIRE EXTINGUISHERS

A. FIRE EXTINGUISHERS: TYPE, SIZE, AND CAPACITY FOR EACH FIRE-PROTECTION CABINET INDICATED.

1. SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE ABC DRY CHEMICAL FIRE EXTINGUISHERS BY AMEREX CORPORATION.

2. INSTRUCTION LABELS: INCLUDE PICTORIAL MARKING SYSTEM COMPLYING WITH NFPA 10, APPENDIX B.

B. MULTIPURPOSE/ABC DRY-CHEMICAL TYPE: UL-RATED 5 LB. NOMINAL CAPACITY, WITH MONOAMMONIUM PHOSPHATE-BASED DRY CHEMICAL IN MANUFACTURER'S STANDARD ENAMELED CONTAINER.

PART 3 – EXECUTION

3.1 INSTALLATION

A. EXAMINE FIRE EXTINGUISHERS FOR PROPER CHARGING AND TAGGING.

1. REMOVE AND REPLACE DAMAGED, DEFECTIVE, OR UNDERCHARGED FIRE EXTINGUISHERS.

B. INSTALL FIRE EXTINGUISHERS IN LOCATIONS INDICATED AND IN COMPLIANCE WITH REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION.

END OF SECTION 104416

LUNA ARCHITECTURE
16403 Huebner Road, San Antonio, TX 78248 . Tel: 210.340.2400 . lunaarchitecture.com

REVISIONS:

NO.	DESCRIPTION	DATE

Key Plan:

VIA DOMINION BUILDING 200

INDEPENDENCE VILLAGE
AT THE DOMINION
8 DOMINION DRIVE, SAN ANTONIO
TEXAS, 78257

REGISTERED ARCHITECT
JONATHAN A. PACE
23348
STATE OF TEXAS

JONATHAN A. PACE
11-15-2024
LUNA ARCHITECTURE
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project #:
23014

date:
04.04.2024

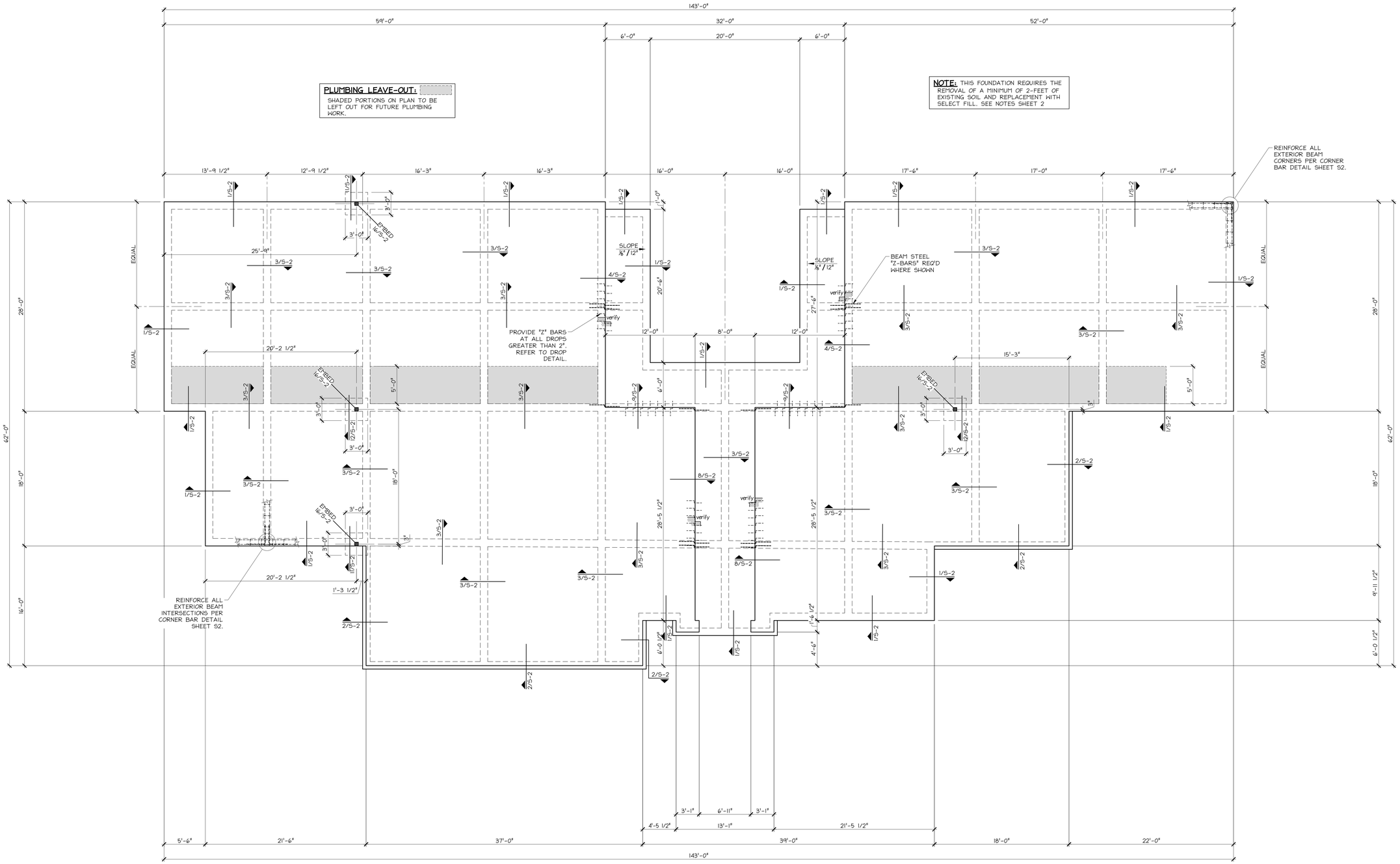
Project Manager: X.D.
drawn by: J.L.

drawing title:
SPECIFICATIONS

sheet number:
SP-6

PLUMBING LEAVE-OUT:
SHADED PORTIONS ON PLAN TO BE LEFT OUT FOR FUTURE PLUMBING WORK.

NOTE: THIS FOUNDATION REQUIRES THE REMOVAL OF A MINIMUM OF 2-FEET OF EXISTING SOIL AND REPLACEMENT WITH SELECT FILL. SEE NOTES SHEET 2



NOTE: BUILDER SHALL COORDINATE/VERIFY ALL DIMENSIONS, DROPS, AND FLOORING ALLOWANCES WITH ARCHITECT, AS PER FOUNDATION NOTE A.2. SHEET S2.

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

STATE OF TEXAS
CHRISTOPHER M. SPAULDING
100716
REGISTERED PROFESSIONAL ENGINEER
11/15/2024

Spaulding Structural Engineering
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Phone 210-451-7756 REG. # F-10775

LUNA ARCHITECTURE
CLUBHOUSE OFFICE ADDITION
8 DOMINION DRIVE
SAN ANTONIO, TEXAS
FOUNDATION PLAN

DRAWN BY:	MS
DATE:	11/15/2024
SCALE:	3/16"= 1'

S1

FOUNDATION NOTES

A. GENERAL
1. THIS FOUNDATION HAS BEEN DESIGNED AS A CONVENTIONALLY REINFORCED SLAB-ON-GRADE FOUNDATION. GEOTECHNICAL INFORMATION PROVIDED BY:

INTEC SAN ANTONIO
REPORT NO. S231756
DATED: 12/13/2024

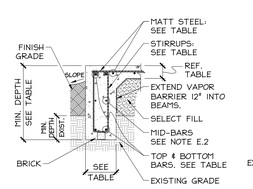
2. IT IS THE RESPONSIBILITY OF THE BUILDER AND CONCRETE CONTRACTOR TO VERIFY ALL DIMENSIONS, DROPS, BLOCK OUT LOCATIONS, ETC. WITH THE ARCHITECTURAL PLANS.
3. A PRE-POUR INSPECTION MUST BE PERFORMED ON THE FOUNDATION A MAXIMUM OF THREE DAYS BEFORE PLACEMENT OF CONCRETE. PERMISSION MUST BE GIVEN BY THE ENGINEER OR HIS REPRESENTATIVE PRIOR TO PLACEMENT OF CONCRETE.

B. CONCRETE
1. CONCRETE SHALL BE MINIMUM 3000 PSI AT 28 DAYS.
2. CONCRETE SLUMP: 5"

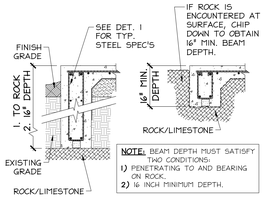
C. SITE AND SUBGRADE PREPARATION
1. EXISTING TOP SOIL AND ANY EXISTING LOOSE MATERIALS SHOULD BE STRIPPED AND REMOVED FROM THE PROPOSED BUILDING FOOTPRINT. EXISTING TREES AND SHRUBS SHOULD BE GRUBBED AND REMOVED FROM THE SITE.
2. **FOLLOWING STRIPPING AND GRUBBING OPERATIONS, THE FLOOR SLAB AREA SHOULD BE OVER-EXCAVATED A MINIMUM OF 24-INCHES.** THE OVER-EXCAVATION SHOULD EXTEND A MINIMUM OF 3-FEET BEYOND THE HORIZONTAL LIMITS OF THE PROPOSED FOUNDATION. IF BAGGING TECHNIQUES ARE BEING USED TO CONSTRUCT THE BUILDING PAD , THEN BAGGING SHOULD ONLY OCCUR AFTER COMING UP OUT OF THE GROUND BEYOND THE EXISTING GRADES. BAGGING SHOULD NOT BE CONSTRUCTED BELOW GRADE.
3. FOLLOWING EXCAVATION, THE EXPOSED SUBGRADE SOILS SHOULD BE SCARIFIED TO A DEPTH OF 6-INCHES, MOISTURE CONDITIONED BETWEEN 0 AND +4 PERCENTAGE POINTS ABOVE OPTIMUM MOISTURE CONTENT, AND COMPACTED TO AT LEAST 95% OF THE MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D698.
4. FOLLOWING APPROVAL OF THE SUBGRADE BY THE GEOTECHNICAL ENGINEER OF RECORD, THE SELECT FILL SHOULD BE PLACED UP THE THE DESIRED FINAL BUILDING PAD ELEVATION. THE SELECT FILL SHOULD BE PLACED IN 8-INCH MAXIMUM THICK LOOSE LIFTS. THE SELECT FILL SHOULD BE MOISTURE CONDITIONED BETWEEN -3 AND +3 PERCENTAGE POINTS OF THE OPTIMUM MOISTURE CONTENT AND COMPACTED TO A MINIMUM OF 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED IN ACCORDANCE WITH ASTM698 STANDARD PROCTOR METHOD. A MINIMUM OF (3) THREE NUCLEAR DENSITY TESTS SHOULD BE PERFORMED PER EACH LIFT.
5. ANY SELECT FILL SHOULD BE AN APPROVED INORGANIC MATERIAL FREE OF DEBRIS WITH A MAXIMUM PI OF 15 AND MAXIMUM PARTICLE SIZE OF 3-INCHES. THE SELECT FILL MATERIAL SHOULD BE APPROVED BY THE GEOTECHNICAL ENGINEER OF RECORD BEFORE IMPORTING TO THE SITE.
6. LOOSE SELECT FILL- USE OF PLASTIC BAGGING AND SELECT LOOSE FILL TO FORM THE BEAMS IS PERMISSABLE. THE FILL MUST HAVE A PI OF LESS THAN 20 AND NO PARTICLES EXCEEDING 3-INCHES IN DIAMETER. WHEN THE DEPTH OF FILL EXCEEDS 2-FEET FROM TOP OF SLAB, 18-INCH PIERS MUST BE PLACED AT THE INTERSECTIONS OF BEAMS AND REINFORCED WITH (4)-#3 VERTICAL REBAR. THE PIER MUST EXTEND TO EXISTNG GRADE.
7. INSTALL A 10 MIL PLASTIC VAPOR BARRIER OVER GRADED PADS. TAPE ALL TEARS AND PENETRATIONS. THE PLASTIC SHOULD EXTEND A MINIMUM OF 12-INCHES INTO GRADE BEAMS.

D.REINFORCEMENT
1. REINFORCEMENT: ASTM A-615, GRADE 60, UNLESS NOTED OTHERWISE.
2. STIRRUPS AND TIES: ASTM A-615, GRADE 40, UNLESS NOTED OTHERWISE.
3. ALL REINFORCEMENTS SHALL BE DESIGNED AND DETAILED IN ACCORDANCE WITH THE ACI "MANUAL OF STANDARD PRACTICES FOR DETAILING CONCRETE STRUCTURES" (ACI 315, LATEST ADDITION).
4. ALL LAPS AND SPLICES SHALL BE A MINIMUM OF 40 BAR DIAMETERS.
5. CONCRETE IN CONTACT WITH SOIL SHALL HAVE A MINIMUM REINFORCEMENT COVER OF 3-INCHES. CONCRETE EXPOSED TO AIR SHALL HAVE A MINIMUM COVER OF 1 1/2-INCHES.
6. SLAB BARS SHALL BE PLACED MID-PLANE.
7. CORNER BARS - ONE BAR TOP AND BOTTOM AT EXTERIOR CORNERS. TWO BOTTOM BARS WHERE INTERIOR BEAMS MEET EXTERIOR BEAMS. (REFER TO DETAILS)
8. **IMPORTANT**- REINFORCEMENT **MUST** HAVE PROPER COVER. FOUNDATION WILL NOT BE APPROVED UNTIL PROPER COVER IS OBTAINED.

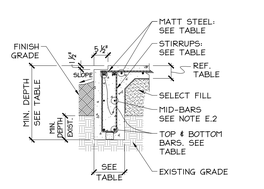
E. CONCRETE GRADE BEAMS
1. WHEN BEAM DEPTHS EXCEED 36-INCHES, ADD TWO-#3 HORIZONTAL REBAR AT 18-INCHES ON CENTER. IF BEAM DEPTH EXCEEDS 5-FEET, REF. DEEP BEAM DETAIL.
2. PAY PARTICULAR ATTENTION TO SPECIFIED PENETRATION OF EXCAVATION INTO **EXISTING** SOIL. PENETRATION DEPTH IS MEASURED FROM THE BOTTOM OF GRADE BEAM TO SURFACE OF EXISTING SOIL, NOT FINISHED GRADE.
3. CLEAN ALL TRASH AND LOOSE FILL OUT OF BEAMS PRIOR TO REQUESTING PRE-POUR INSPECTION.



1 SECTION N.T.S.
EXTERIOR BEAM



1A SECTION N.T.S.
EXTERIOR BEAM TO ROCK PROFILE



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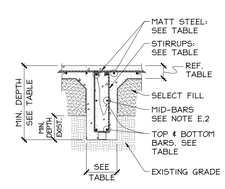
EXTERIOR BEAM W/ BRICK LUG



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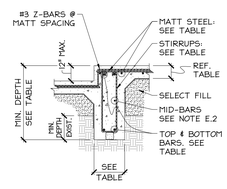
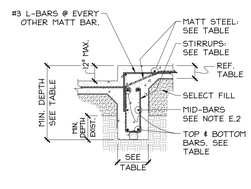
INTERIOR BEAM



4 SECTION N.T.S.
INTERIOR BEAM W/ DROP
** SEE DETAIL 4A FOR ALTERNATIVE



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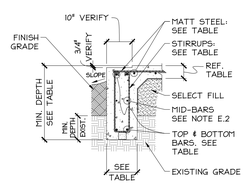
INTERIOR BEAM W/ DROP



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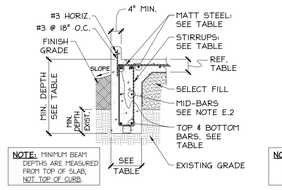
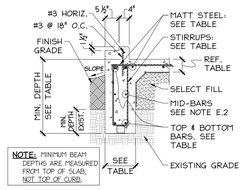
EXTERIOR BEAM W/ 3/4" DROP



6 SECTION N.T.S.
EXTERIOR BEAM W/ CURB



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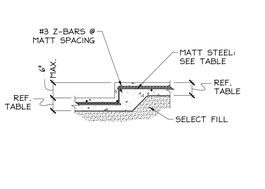
EXTERIOR BEAM W/ LUG & CURB



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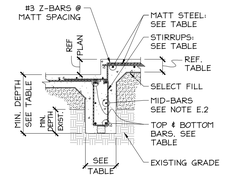
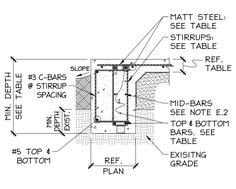
INTERIOR SLAB DROP



9 SECTION N.T.S.
DROP AT INTERIOR BEAM



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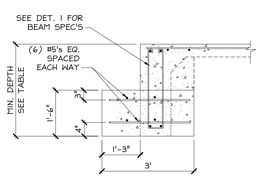
WIDENED EXTERIOR BEAM



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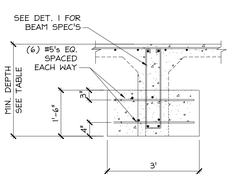
FOOTING



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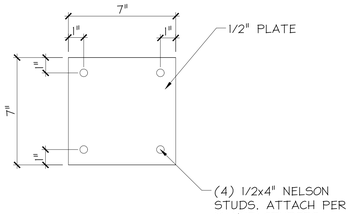
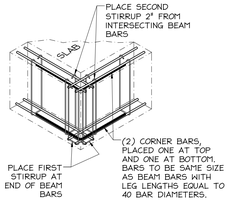


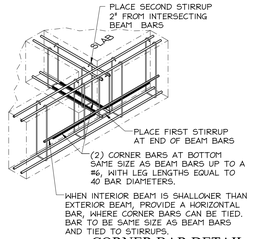
DETAIL 16

BEAM AND SLAB TABLE

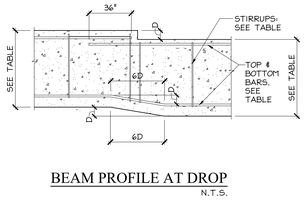
BEAM WIDTH	EXT. BEAM DEPTH	EXT. BM. DEPTH IN PAD	INT. BEAM DEPTH	BEAM BARS	STIRRUP EXT. BEAM	STIRRUP INT. BEAM	PAD BARS	SLAB THICKNESS
12" MIN.	30"	12"	24"	2-#6 TOP 2-#6 BOT	#3 @ 18" O.C.	#3 @ 18" O.C.	#4 @ 12" O.C.	5"



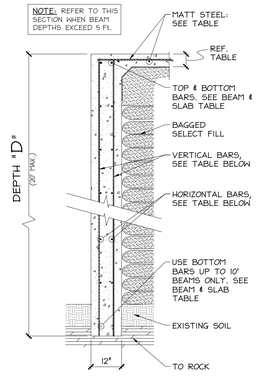
CORNER BAR DETAIL
OUTSIDE EXTERIOR BEAM CORNER
N.T.S.



CORNER BAR DETAIL
AT INTERIOR BEAM TO EXTERIOR BEAM INTERSECTION
N.T.S.



BEAM PROFILE AT DROP
N.T.S.



DEPTH "D"	VERTICAL BARS	HORIZONTAL BARS
5' < 10'	#3's @ 12" O.C.	#3's @ 18" O.C.
10' < 15'	#4's @ 12" O.C.	#3's @ 16" O.C.
15' < 20'	#5's @ 14" O.C.	#4's @ 16" O.C.

" CONTACT ENGINEER FOR DEPTHS OF 20' & GREATER

15 SECTION N.T.S.
DEEP BEAM DETAIL

Spaulding Structural Engineering
P.O. Box 781487 San Antonio, Tx 78278
Phone 210-451-7756 REG. # F-10775

LUNA ARCHITECTURE
CLUBHOUSE OFFICE ADDITION
8 DOMINION DRIVE
SAN ANTONIO, TEXAS

DETAILS & NOTES

DRAWN BY: MS
DATE: 11/15/2024
SCALE: N.T.S.

S2

WOOD FRAMING NOTES:

WALL FRAMING

1. STUDS ARE TO BE MINIMUM 2x4 SPACED A MAXIMUM OF 16" O.C. AT EXTERIOR WALLS AND 24" O.C. AT INTERIOR WALLS.
2. NOT LESS THAN 3 STUDS SHALL BE INSTALLED AT EACH CORNER OF AN EXTERIOR WALL.
3. ALL EXTERIOR AND BEARING WALLS SHALL HAVE TWO TOP PLATES, OVERLAPPING AT CORNERS, END JOINTS SHALL BE OFFSET AT LEAST 48" AND SHALL BE NAILED WITH NOT LESS THAN (8) 16d NAILS ON EACH SIDE OF THE JOINT.
4. HEADER STUDS OR KING STUDS AT OPENINGS SHALL BE DOUBLED WHERE THE SPAN OF THE HEADER EXCEEDS 4'.
5. STUDS SHALL HAVE FULL BEARING ON A PLATE EQUAL IN SIZE TO THE STUDS.

ROOF AND CEILING

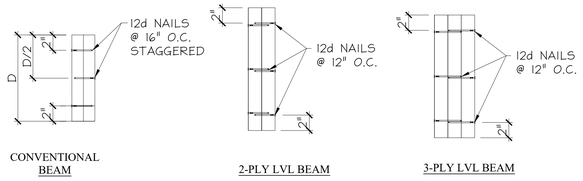
1. ALL LUMBER TO BE #2 SOUTHERN YELLOW PINE OR #2 D. FIR OR BETTER.
2. ROOF MATERIAL: TILE
RAFTERS TO BE 2x8's AT 16" O.C. UNLESS NOTED OTHERWISE.
CEILING JOISTS TO BE 2x6's AT 24" O.C. UNLESS NOTED OTHERWISE
3. HIPS VALLEYS AND RIDGES TO BE 2" NOMINAL THICKNESS WITH DEPTH NOT LESS THAN THE CUT END OF THE RAFTER.
4. RAFTERS SHALL BE FRAMED DIRECTLY OPPOSITE EACH OTHER AT THE RIDGE.
5. NOTCHING AT THE END OF RAFTERS AND CEILING JOISTS SHALL NOT EXCEED 1/4th THE DEPTH. NOTCHES AT THE TOPS OR BOTTOM OF RAFTERS SHALL NOT EXCEED 1/6th THE DEPTH AND SHALL NOT BE LOCATED IN THE MIDDLE THIRD OF THE SPAN.
6. HOLES BORED INTO RAFTERS OR CEILING JOISTS SHALL NOT BE WITHIN 2" OF THE TOP AND BOTTOM AND THEIR DIAMETER SHALL NOT EXCEED 1/3 THE DEPTH OF THE MEMBER.
7. PURLIN MAY BE INSTALLED TO REDUCE THE SPANS OF THE THE RAFTERS. THE PURLIN MUST BE THE SAME SIZE OR LARGER THAN THE RAFTER IT IS CARRYING. THE STRUTS OR PURLIN BRACE MUST BE NO SMALLER THAN 2X4. THEIR ANGLE CAN BE NO LESS THAN 45 DEGREES TO THE HORIZONTAL. THE MAXIMUM UNBRACED LENGTH OF THE STRUT IS 8'. THE STRUTS SHOULD BE PLACED 4' ON CENTER.
8. CEILING JOISTS SHALL REQUIRE BRIDGING IF THEY ARE 2X10 OR LARGER. THE BRIDGING SHALL BE NO SMALLER THAN 1X4. THERE SHALL BE 1 LINE OF BRIDGING FOR EACH 8' OF SPAN.
9. PREFABRICATED WOOD I-JOISTS, STRUCTURAL GLUE LAMINATED TIMBER AND STRUCTURAL COMPOSITE LUMBER SHALL NOT BE NOTCHED OR DRILLED EXCEPT WHERE PERMITTED BY THE MANUFACTURERS RECOMMENDATIONS OR WHERE THE EFFECTS OF SUCH ALTERATIONS ARE SPECIFICALLY CONSIDERED IN THE DESIGN OF THE MEMBER BY THE DESIGN PROFESSIONAL. STRUCTURAL BEAMS THAT BEAR ON EXTERIOR WALLS WITH THE ROOF SLOPING TO THE TOP OF THE WALL SHALL BE CUT TIGHT TO THE ROOF DECK. THERE SHALL NOT BE A GAP GREATER THAN 1/2" BETWEEN ROOF CUT ALONG TOP OF BEAM AND ROOF DECKING.
10. ROOF SHEATHING SHALL BE MINIMUM 7/16" OSB SHEATHING OR 1/2" CD STRUCTURAL PLYWOOD. ATTACH SHEATHING TO RAFTERS WITH 8d NAILS OR 2", 16 GAGE STAPLES SPACED 4" O.C. AT EDGES AND 8" O.C. AT INTERMEDIATE FRAMING.
11. REFER TO ARCHITECTURAL PLANS FOR ALL ROOF SLOPES.
12. EXTERIOR WALL SHEATHING-SHEATH ALL EXTERIOR WALL WITH $\frac{7}{16}$" OSB PLYWOOD. ATTACH USING ONE OF THE FOLLOWING METHODS:
NAIL ATTACHMENT: ATTACH 7/16" OSB TO STUDS W/ 8d (.131"ø)x 2 1/2" NAILS @ 6"O.C. AT ALL EDGES AND 6"O.C. ALONG INTERMEDIATE STUDS. 8d NAILS SHOULD BE PLACED NO LESS THAN 3/8" FROM THE PANEL EDGE.
STAPLE ATTACHMENT: ATTACH 7/16" OSB TO STUDS WITH 1 $\frac{3}{4}$"- 16 GAUGE STAPLES @ 6"O.C. AT ALL EDGES AND 6"O.C. ALONG INTERMEDIATE STUDS. STAPLES SHALL HAVE A MINIMUM CROWN WIDTH OF $\frac{7}{16}$" AND SHALL BE INSTALLED WITH THE CROWN PARALLEL TO THE LONG DIMENSION OF THE FRAMING MEMBERS.

DESIGN LOADS:

ROOF LIVE LOAD- 20 PSF
NOT REDUCED
ROOF DEAD LOAD- 20 PSF
1ST. FLOOR LIVE LOAD- 100 PSF
WIND SPEED- 110 MPH
EXP. B

EARTHQUAKE DESIGN DATA:
IMPORTANCE FACTOR 1
SITE CLASS A
SEISMIC USE GROUP 1
SEISMIC DESIGN CAT. A

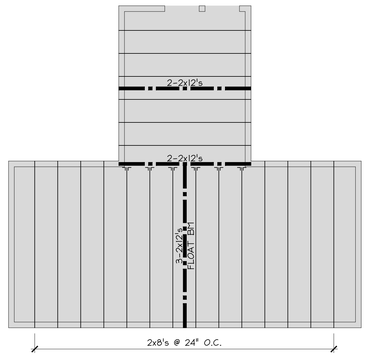
GOVERNING CODE: 2021 IBC



CONVENTIONAL BEAM

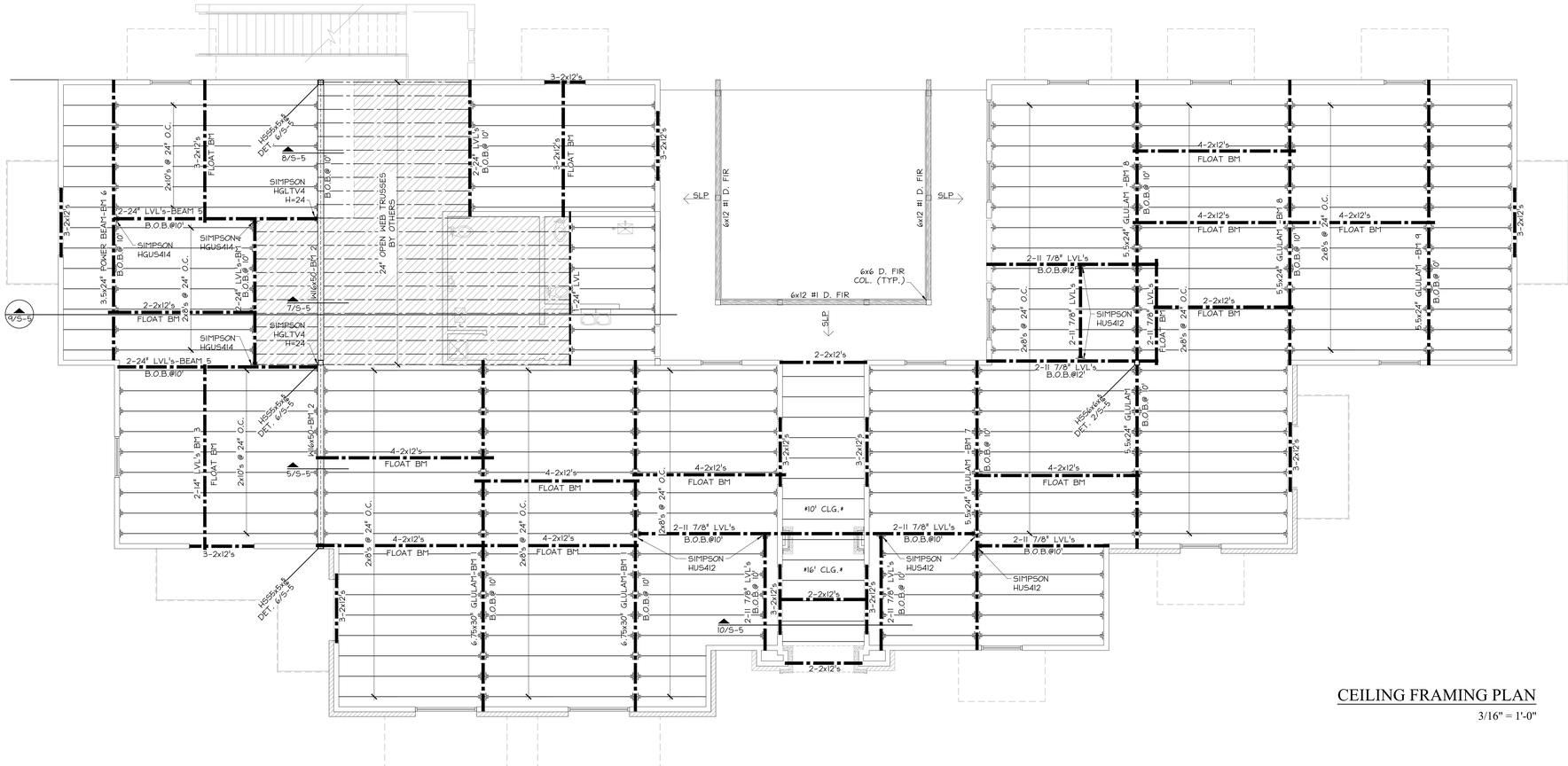
2-PLY LVL BEAM

3-PLY LVL BEAM



STORAGE CEILING FRAMING PLAN

3/16" = 1'-0"



CEILING FRAMING PLAN

3/16" = 1'-0"

STATE OF TEXAS
REGISTERED
100716
PROFESSIONAL ENGINEER
11/15/2024

SSE
Spaulding Structural Engineering
P.O. Box 781487 San Antonio, Tx 78278
Phone 210-451-7756 REG. #F-10775

LUNA ARCHITECTURE
CLUBHOUSE OFFICE ADDITION
8 DOMINION DRIVE
SAN ANTONIO, TEXAS

STRUCTURAL DETAILS

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S3

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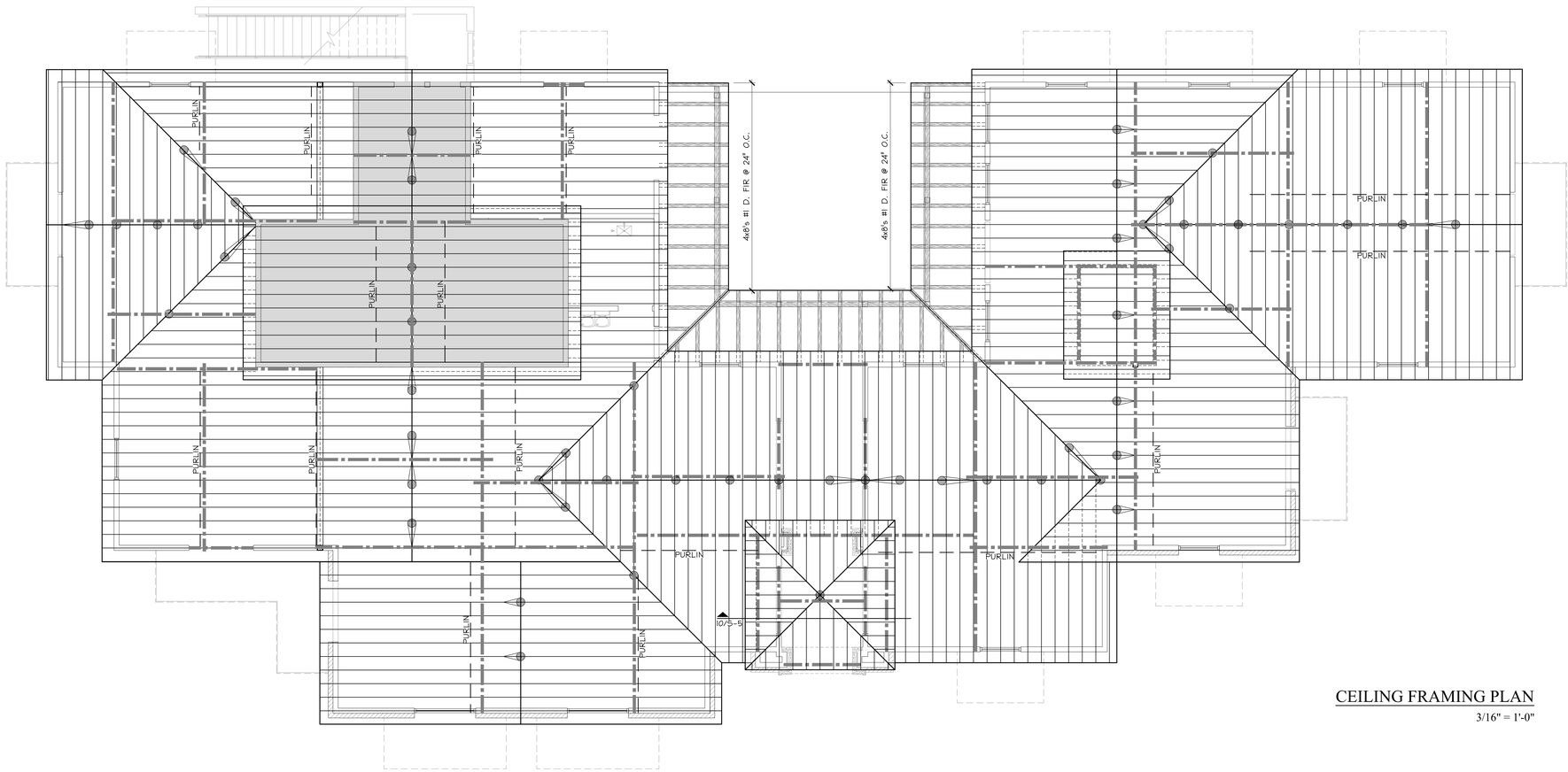
10. ROOF SHEATHING SHALL BE MINIMUM 7/16" OSB SHEATHING OR 1/2" CD STRUCTURAL PLYWOOD. ATTACH SHEATHING TO RAFTERS WITH 8d NAILS OR 2", 16 GAGE STAPLES SPACED 4" O.C. AT EDGES AND 8" O.C. AT INTERMEDIATE FRAMING.
11. REFER TO ARCHITECTURAL PLANS FOR ALL ROOF SLOPES.
12. EXTERIOR WALL SHEATHING-SHEATH ALL EXTERIOR WALL WITH $\frac{7}{16}$" OSB PLYWOOD. ATTACH USING ONE OF THE FOLLOWING METHODS:
NAIL ATTACHMENT: ATTACH 7/16" OSB TO STUDS W/ 8d (.131"ϕ)x 2 1/2" NAILS @ 6"O.C. AT ALL EDGES AND 6"O.C. ALONG INTERMEDIATE STUDS. 8d NAILS SHOULD BE PLACED NO LESS THAN 3/8" FROM THE PANEL EDGE.
STAPLE ATTACHMENT: ATTACH 7/16" OSB TO STUDS WITH 1 $\frac{3}{4}$"- 16 GAUGE STAPLES @ 6"O.C. AT ALL EDGES AND 6"O.C. ALONG INTERMEDIATE STUDS. STAPLES SHALL HAVE A MINIMUM CROWN WIDTH OF $\frac{7}{16}$" AND SHALL BE INSTALLED WITH THE CROWN PARALLEL TO THE LONG DIMENSION OF THE FRAMING MEMBERS.



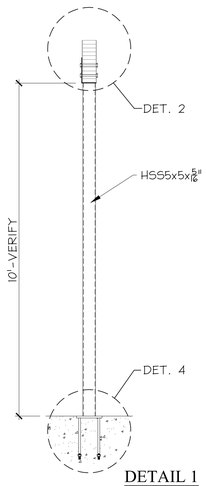
CEILING FRAMING PLAN
3/16" = 1'-0"

Spaulding Structural Engineering
P.O. Box 781487 San Antonio, Tx 78278
Phone 210-451-7756 REG. #F-10775

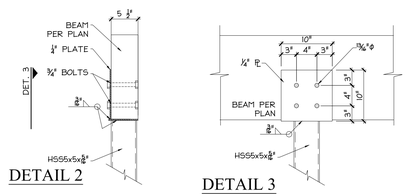
LUNA ARCHITECTURE
CLUBHOUSE OFFICE ADDITION
8 DOMINION DRIVE
SAN ANTONIO, TEXAS
STRUCTURAL PLAN

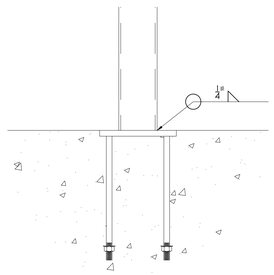
DRAWN BY: MS
DATE: 11/15/2024
SCALE: N.T.S.

S4



DETAIL 1





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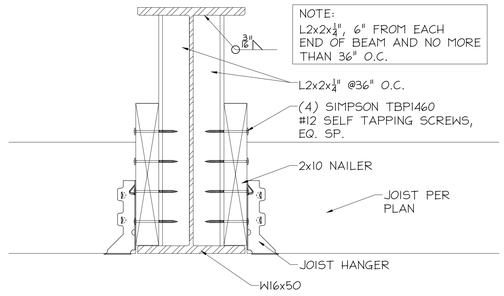

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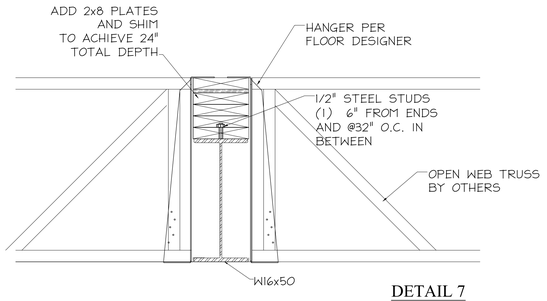

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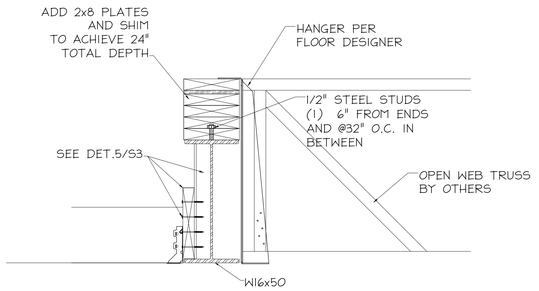

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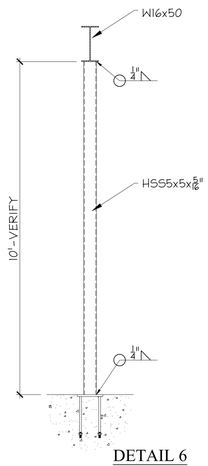

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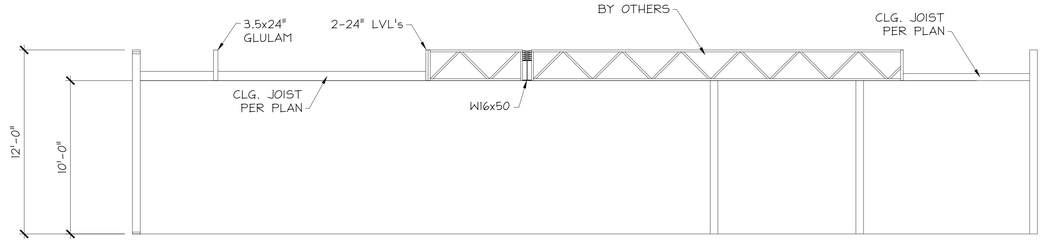

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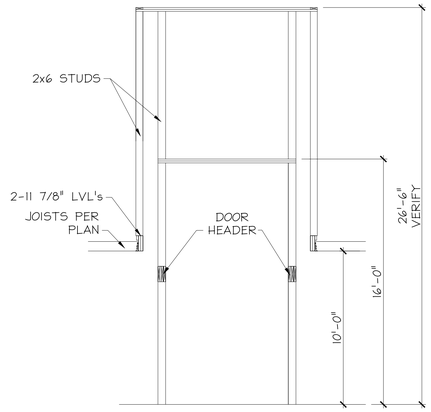

DETAIL 10

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LUNA ARCHITECTURE
CLUBHOUSE OFFICE ADDITION
8 DOMINION DRIVE
SAN ANTONIO, TEXAS

STRUCTURAL DETAILS

DRAWN BY:	MS
DATE:	11/15/2024
SCALE:	N.T.S.

S5

1 MEP SITE PLAN
1" = 20'-0"

ELECTRICAL KEYED NOTES:

1. APPROXIMATE LOCATION OF EXISTING UTILITY TRANSFORMER. FIELD VERIFY ON SITE.
2. NEW ELECTRICAL SERVICE ENTRANCE. REFER TO ONE-LINE DIAGRAM.
3. ROUTE CIRCUIT THROUGH EXTERIOR LIGHTING CONTACTOR. COORDINATE WITH OWNER FOR ON/OFF SCHEDULE OF EXTERIOR LIGHTS.

PLUMBING KEYED NOTES:

1. REFER TO CIVIL SITE UTILITY PLAN FOR CONTINUATION. CONTRACTOR TO BE RESPONSIBLE FOR COORDINATION, VERIFICATION, AND CONNECTION OF ALL UTILITIES TO SITE UTILITY STUB OUTS.

LUNA ARCHITECTURE
16403 Huebner Road, San Antonio, TX 78248 · Tel. 210.340.2400 · lunaarchitecture.com

REVISIONS:

NO.	DESCRIPTION	DATE

VIA DOMINION 200

03.15.24

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project #: 24059

date: 11/15/2024

Project Manager: AH | Drawn By: HM3

drawing title:

MEP SITE PLAN

drawing number:

MEP100

HM3 ENGINEERING
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TBPE FIRM REGISTRATION NO. 13361

DUCT SYMBOLS

DOUBLE LINE SYMBOL	DESCRIPTION	SINGLE LINE SYMBOL
20x16	DUCT- FIRST NUMBER IS VISIBLE DIMENSION.	20x16
	MITERED ELBOW W/TURNING VANES	
R	RADIUS ELBOW W/VANE(S) (1.5=R/D STANDARD)	
	DUCT SECTION, POSITIVE PRESSURE	
	DUCT SECTION, NEGATIVE PRESSURE	
	DUCT & AIRFLOW UP(LEFT) POSITIVE PRESSURE DUCT & AIRFLOW DN(RIGHT) POSITIVE PRESSURE	
	DUCT & AIRFLOW UP(LEFT) NEGATIVE PRESSURE DUCT & AIRFLOW DN(RIGHT) NEGATIVE PRESSURE	
	DUCT & AIRFLOW UP(LEFT) NEG./POS. PRESSURE DUCT & AIRFLOW DN(RIGHT) NEG./POS. PRESSURE	
R	CHANGE OF ELEVATION=RISE (R), DROP (D)	R
20x16	DUCT W/INTERNAL LINING CLEAR INSIDE DIMENSIONS SHOWN	
AD	ACCESS DOOR=SIDE (L), BOTTOM (M), TOP (R)	AD
	FLEXIBLE CONNECTOR	
	FLEXIBLE DUCT	
FD	FD- FIRE DAMPER, SD-SMOKE DAMPER, FSD- FIRE/SMOKE DAMPER.	FSD
(TYPE)	MANUAL VOLUME DAMPER-SPECIFIC TYPE, NO LABEL-BUTTERFLY, OBD-OPPOSED BLADED DAMPER, PBD-PARALLEL BLADE DAMPER	(TYPE)
M	MOTORIZED DAMPER OR ZONE CONTROL DAMPER	M
	BRANCH TAP-W/45 DEG. ENTRY	
	BRANCH TAP-CONICAL SPIN-IN	
	BRANCH TAP-STRAIGHT SPIN-IN	
20x10 | 10x10	TRANSITION	20x10 10x10
	EXISTING DUCTWORK TO BE DEMOLISHED	
	EXISTING DUCTWORK TO REMAIN	
RTU-# FCU-# XXX-#	HVAC - EQUIP AS NOTED	
	AIR DEVICE, SUPPLY- CEILING. CLEAR	
A X"ø X CFM	AIR DEVICE TAG SPIN-IN DIMENSION AIRFLOW (CFM)	
	AIR DEVICE, RETURN- CEILING.	
	AIR DEVICE, EXHAUST- CEILING.	
	AIR DEVICE, SUPPLY- SIDEWALL.	
	AIR DEVICE, RETURN/EXHAUST- SIDEWALL.	

ABBREVIATIONS

A		
	ABV	ABOVE
	AC	ALTERNATING CURRENT / ABOVE CEILING
	ACMPR	AIR COMPRESSOR
	ACU	AIR CONDITIONING UNIT
	AFF	ABOVE FINISHED FLOOR
	AFMS	AIR FLOW MEASURING STATION
	AHU	AIR HANDLING UNIT
	AMB	AMBIENT
	AMP	AMPERE
	ANSI	"AMERICAN NATIONAL STANDARDS INSTITUTE"
	APPROX.	APPROXIMATE
	ARI	AMERICAN REFRIGERATION INSTITUTE
	ASHRAE	"AMERICAN SOCIETY OF HEATING, REFRIGERATION, and AIR CONDITIONING ENGINEERS"
	ASME	"AMERICAN SOCIETY OF MECHANICAL ENGINEERS"
	ASPE	"AMERICAN SOCIETY OF PLUMBING ENGINEERS"
	ASTM	"AMERICAN SOCIETY FOR TESTING AND MATERIALS"
	AVG	AVERAGE
	AWWA	"AMERICAN WATER WORKS ASSOCIATION"
B		
	B	BOILER
	BARO	BAROMETRIC
	BAROPR	BAROMETRIC PRESSURE
	BD	BACKDRAFT DAMPER
	BF	BELOW FLOOR
	BFC	BELOW FINISHED CEILING
	BG	BELOW GRADE
	BHP	BRAKE HORSEPOWER
	BOID	BOTTOM OF DUCT
	BOM	BILL OF MATERIAL
	BOP	BOTTOM OF PIPE
	BTU	BRITISH THERMAL UNIT
C		
	CCL	COOLING COIL
	CCW	COUNTERCLOCKWISE
	CD	CONDENSATE DRAIN
	CFH	CUBIC FEET PER HOUR
	CFM	CUBIC FEET PER MINUTE
	CH	CHILLER
	CHP	CHILLER WATER PUMP
	CHR	CHILLED WATER RETURN
	CHS	CHILLED WATER SUPPLY
	CLR	CLOSED CIRCUIT COOLER
	CMPR	COMPRESSOR
	CR	CONDENSATE RETURN
	CRU	COMPUTER ROOM UNIT
	CT	COOLING TOWER
	CU	CONDENSING UNIT
	CU.FT.	CUBIC FEET
	CU.IN.	CUBIC INCH
	CV	CONSTANT VOLUME
	CO2	CARBON DIOXIDE SENSOR
	CWP	CONDENSER WATER PUMP
	CWR	CONDENSER WATER RETURN
	CWS	CONDENSER WATER SUPPLY
D		
	dB	DECIBEL
	D	DRAIN
	DBT	DRY BULB TEMPERATURE
	DC	DIRECT CURRENT
	DDC	DIRECT DIGITAL CONTROL
	DEG	DEGREE
	DENS	DENSITY
	DIA	DIAMETER
	DIFF	DIFFERENCE or DELTA
	DN	DOWN
	DP	DEEP
	DPT	DEW POINT TEMPERATURE
	DS	DUCTLESS SPLIT
	DSCU	DUCTLESS SPLIT CONDENSING UNIT
E		
	E/A	EXHAUST AIR
	EA	EACH
	EAT	ENTERING AIR TEMPERATURE
	EDH	ELECTRIC DUCT HEATER
	EF-#	EXHAUST FAN DESIGNATION
	EFF	EFFICIENCY
	EH-#	EXHAUST HOOD DESIGNATION
	ENTH.	ENTHALPY
	EOD	EMERGENCY OVERFLOW DRAIN
	ET	EXPANSION TANK
	EUH	ELECTRIC UNIT HEATER
	EVP	EVAPORATIVE COOLER
	EWT	ENTERING WATER TEMPERATURE
	EXP	EXPANSION
F		
	F	FAHRENHEIT
	FCU-#	FAN COIL UNIT DESIGNATION
	FLR.	FLOOR
	FOB	FLAT ON BOTTOM
	FOT	FLAT ON TOP
	FPM	FEET PER MINUTE
	FPS	FEET PER SECOND
	FPTU	FAN POWERED TERMINAL UNIT
	FRN	FURNACE
	FT	FEET
	FT.W.G.	FEET of WATER GAGE
	FVEL	FACE VELOCITY
G		
	GAL.	GALLONS
	GPH	GALLONS PER HOUR
	GPM	GALLONS PER MINUTE
	GR	GRAINS
H		
	HCL	HEATING COIL
	HD	HOOD
	HGT	HEIGHT
	HP	HORSEPOWER
	HPS	HIGH PRESSURE STEAM
	HR	HOUR
	HUM	HUMIDIFIER
	HWP	HOT WATER PUMP
	HWR	HOT WATER RETURN
	HWS	HOT WATER SUPPLY
	HZ	HERTZ
I		
	ID	INSIDE DIAMETER
	IH-#	INTAKE HOOD DESIGNATION
	IN.	INCH
	IN.W.G.	INCHES of WATER GAGE
	IRH	INFRARED HEATER
J		
K		
	KEF-#	KITCHEN EXHAUST FAN DESIGNATION
	KHE	KITCHEN HOOD EXHAUST
	kW	KILOWATTS
	kWH	KILOWATT HOUR
L		
	L-#	LOUVER DESIGNATION
	LAT	LEAVING AIR TEMPERATURE
	LBS.	POUNDS
	LIQ	LIQUID
	LPS	LOW PRESSURE STEAM
	LWT	LEAVING WATER TEMPERATURE
M		
	MAU-#	MAKEUP AIR UNIT DESIGNATION
	MAX.	MAXIMUM
	MBH	THOUSAND BTU/HR.
	MCA	MINIMUM CIRCUIT AMPACITY
	MCF	THOUSAND CUBIC FEET
	MIN.	MINIMUM or MINUTES
	MOCP	MAXIMUM OVERCURRENT PROTECTION
	MPS	MEDIUM PRESSURE STEAM
	MSS	"MANUFACTURERS STANDARDIZATION SOCIETY of the Valves and Fittings Industry, Inc."
N		
	N/A	NOT APPLICABLE
	NC	NOISE CRITERIA
	N.C.	NORMALLY CLOSED
	NEBB	NATIONAL ENVIRONMENTAL BALANCING BUREAU
	N.I.C.	NOT IN CONTRACT
	N.O.	NORMALLY OPEN
	N.T.S.	NOT TO SCALE
O		
	O/A	OUTSIDE AIR
	OD	OUTSIDE DIAMETER
	OSHA	OCCUPATIONAL SAFETY and HEALTH ADMINISTRATION
	OZ	OUNCE
P		
	PD	PRESSURE DIFFERENCE
	PH	PHASE
	PPM	PART PER MILLION
	PRI	PRIMARY
	PRESS.	PRESSURE
	PSI	POUNDS PER SQUARE INCH
	PSIA	"PSI, ABSOLUTE"
	PSIG	"PSI, GAGE"
Q		
R		
	R	THERMAL RESISTANCE
	R-22	REFRIGERANT-22
	R/A	RETURN AIR
	RCVR	RECEIVER
	RD	ROOF DRAIN
	RE: 1/M-xx	"REFER TO DETAIL NO.1, SHEET M-xx"
	RECIRC.	RECIRCULATE
	RF	RETURN FAN
	RH-#	RELIEF HOOD DESIGNATION
	RL	REFRIGERANT LIQUID
	RPM	REVOLUTIONS PER MINUTE
	RPS	REVOLUTIONS PER SECOND
	RS	REFRIGERANT SUCTION
	RTU-#	ROOFTOP UNIT DESIGNATION
	RV	RELIEF VENT
S		
	s	SECOND
	SA	SOUND ATTENUATOR
	S/A	SUPPLY AIR
	SAT	SATURATION
	SD	SMOKE DETECTOR
	SF	SUPPLY FAN
	SG	SPECIFIC GRAVITY
	SMACNA	"SHEET METAL and AIR CONDITIONING" "CONTRACTORS' NATIONAL ASSOCIATION"
	SP	STATIC PRESSURE
	SPEC.	SPECIFICATION
	SQ.FT.	SQUARE FEET
	SUCT.	SUCTION
T		
	TD	TEMPERATURE DIFFERENCE
	TEMP	TEMPERATURE
	TONS	TONS OF REFRIGERATION
	T-STAT	THERMOSTAT
	TU	TERMINAL UNIT
U		
	U	HEAT TRANSFER COEFFICIENT
	U/C	UNDER COUNTER
	UG	UNDERGROUND
	U.N.O.	UNLESS NOTED OTHERWISE
	UV	UNIT VENTILATOR
V		
	V	VOLTS
	VA	VOLT AMPERE
	VAC	VACUUM
	VAR	VARIABLE
	VAV	VARIABLE AIR VOLUME
	VEL.	VELOCITY
	VENT.	VENTILATION
	VERT.	VERTICAL
	VFD	VARIABLE FREQUENCY DRIVE
	VOL.	VOLUME
	VP	VELOCITY PRESSURE
	VTR	VENT THRU ROOF
W		
	W/	WITH
	W/O	WITHOUT
	W	WATTS
	WB	WET BULB
	WBT	WET BULB TEMPERATURE
	WT	WEIGHT
X		
Y		
	YCO	YARD CLEANOUT
	YD	YARD
	YR	YEAR
Z		
	ZN	ZONE

GENERAL MECHANICAL NOTES AND SPECIFICATIONS:

GENERAL

1. COORDINATE WORK AMONG ALL DISCIPLINES. IT IS NOT THE INTENT OF THESE DOCUMENTS TO DICTATE WHO MUST DO THE WORK. ALL WORK SHOWN IS THE RESPONSIBILITY OF THE (PRIME) CONTRACTOR.
2. FIELD VERIFY ALL CONDITIONS AND MEASURE DIMENSIONS WITHIN THE BUILDING PRIOR TO ORDERING EQUIPMENT AND/OR PROCEEDING WITH INSTALLATION.
3. ALL EQUIPMENT SHALL BE FACTORY TESTED, AND CONTRACTOR SHALL VERIFY THEIR CONDITION PRIOR TO INSTALLATION. CONTRACTOR IS RESPONSIBLE FOR EQUIPMENT DAMAGED DURING MOVING AND INSTALLATION.
4. EQUIPMENT FOUND DEFECTIVE PRIOR TO FINAL ACCEPTANCE SHALL BE REPLACED AT NO COST TO OWNER.
5. SUBMISSION OF BID PROPOSAL IS CONSIDERED AN ACKNOWLEDGEMENT THAT CONTRACTOR VISITED SITE, AND VERIFIED ALL EXISTING CONDITIONS, AND INCLUDED ANY MODIFICATIONS TO EXISTING AND NEW WORK REQUIRED FOR INSTALLATION OF A COMPLETE AND OPERATIONAL MECHANICAL SYSTEM.
6. COORDINATE WITH OWNER AND ENGINEER FOR ANY DISRUPTION IN UTILITY SERVICES, PARTICULARLY THOSE THAT MIGHT AFFECT OTHER BUILDINGS.
7. CONTRACTOR SHALL NOT PROCEED WITH ANY WORK INVOLVING A CHANGE IN PROJECT SCOPE OR COST WITHOUT FIRST HAVING OBTAINED ENGINEER'S APPROVAL IN WRITING. UNLESS ENGINEER HAS AGREED TO SUCH CHANGE PRIOR TO IT BEING DONE, AND HAS AGREED THAT AN INCREASE IN COST ASSOCIATED WITH SUCH CHANGE IS WARRANTED; CONTRACTOR WILL NOT BE REIMBURSED FOR SUCH CHANGE.
8. TESTING, ADJUSTING AND BALANCING (TAB) CONTRACTOR SHALL BE RETAINED BY THE PRIME CONTRACTOR TAB SHALL NOT BE A PART OF THE MECHANICAL CONTRACT.

CODES AND ORDINANCES

1. PERFORM ALL WORK PER LATEST VERSION OF INTERNATIONAL MECHANICAL CODE, AND APPLICABLE LOCAL CODES AND ORDINANCES, UNLESS DRAWINGS OR SPECIFICATIONS HAVE MORE STRINGENT REQUIREMENTS.
2. CONTRACTOR IS RESPONSIBLE FOR ALL PERMITS AND FEES ASSOCIATED WITH PROJECT, INCLUDING FEES FOR INSPECTIONS, APPLICATIONS, AND PROVISION OF NEW SERVICES.
3. NOTIFY ENGINEER OF ANY ASPECTS OF DESIGN WHICH ARE THOUGHT TO BE IN NONCOMPLIANCE WITH APPLICABLE CODES.
4. ALL MECHANICAL SYSTEM MINIMUM EFFICIENCIES AND DUCTWORK INSULATION SHALL BE IN COMPLIANCE WITH THE CITY ENERGY CODE AND THE COMMERCIAL INTERNATIONAL ENERGY CODE.
5. MECHANICAL SYSTEM SIZING, ZONING AND DESIGN ASSUME A BUILDING ENVELOPE COMPLIANCE WITH THE MINIMUM INSULATION VALUES REQUIRED BY THE INTERNATIONAL ENERGY CODE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMMUNICATING ANY PROPOSED VARIANCES FROM THE REQUIRED CODE MINIMUM VALUES FOR INSULATION AND/OR VALUE ENGINEERING OF THE INSTALLED BUILDING ENVELOPE WITH THE BUILDING ARCHITECT AND ENGINEER PRIOR TO PROVIDING ANY PRICING.
6. ALL MECHANICAL SYSTEM VENTILATION AND PRESSURIZATION SYSTEMS SHALL BE INSTALLED IN COMPLIANCE WITH THE INTERNATIONAL MECHANICAL CODE, INTERNATIONAL BUILDING CODE AND NFPA.
7. THE OUTPUT CAPACITY OF HEATING AND COOLING EQUIPMENT SHALL BE NOT GREATER THAN THAT OF THE SMALLEST AVAILABLE EQUIPMENT SIZE THAT EXCEEDS THE LOADS CALCULATED. A SINGLE PIECE OF EQUIPMENT PROVIDING BOTH HEATING AND COOLING SHALL SATISFY THIS PROVISION FOR ONE FUNCTION WITH THE CAPACITY FOR THE OTHER FUNCTION AS SMALL AS POSSIBLE, WHITING AVAILABLE EQUIPMENT OPTIONS. REFER TO CODE FOR EXCEPTIONS.
8. PRIOR TO FINAL MECHANICAL AND PLUMBING INSPECTION, A THIRD PARTY REGISTERED DESIGN PROFESSIONAL OR APPROVED AGENCY SHALL PROVIDE EVIDENCE OF MECHANICAL SYSTEMS COMMISSIONING AND COMPLETION IN ACCORDANCE WITH CODE. EXCEPTIONS FOR TOTAL MECHANICAL EQUIPMENT COOLING CAPACITY LESS THAN 480,000 BTUH (40 TONS) AND 600,000 BTUH OF COMBINED SERVICE WATER-HEATING AND SPACE-HEATING CAPACITY; AND SYSTEMS SERVING INDIVIDUAL DWELLING UNITS AND SLEEPING UNITS.
9. DO NOT LOCATE ANY EQUIPMENT REQUIRING SERVICE WITHIN 10' OF ROOFLINE WITHOUT FALL PROTECTION. ALL EQUIPMENT LOCATIONS SHOWN ON PLAN ARE APPROXIMATE AND BASED ON SITE INFORMATION AVAILABLE DURING DESIGN. IF ROOF CONDITIONS OR EQUIPMENT CLEARANCES REQUIRE ENCROACHMENT INTO 10' AREA, CONTRACTOR SHALL COORDINATE WITH ARCHITECT FOR RAILING, PARAPET, OR ALTERNATE FALL PROTECTION MEANS.

COORDINATION

1. REFER TO ARCHITECTURAL AND STRUCTURAL PLANS FOR DETAILS OF CONSTRUCTION, INCLUDING BEAMS, FLOOR AND WALL PENETRATIONS, CHASES, AND REFLECTED CEILING PLANS. VERIFY OPENING SIZES WITH EQUIPMENT FURNISHED.
2. COORDINATE ALL WORK WITH OTHER TRADES; COORDINATE SCHEDULE OF WORK WITH ALL SUB-CONTRACTORS TO ACHIEVE SMOOTH FLOW OF CONSTRUCTION.
3. CONTRACTOR SHALL REVIEW COMPLETE DOCUMENTS PRIOR TO SUBMITTAL OF PROPOSAL TO GAIN COMPLETE UNDERSTANDING OF PROJECT SCOPE, WORK BY OTHERS, AND MECHANICAL WORK ASSOCIATED WITH OTHER DISCIPLINES.
4. ENGINEER/ ARCHITECT MUST BE GIVEN AT LEAST A TEN (10) WORKING DAY NOTICE TO PERFORM ALL TYPES OF INSPECTIONS. COORDINATE WORK SCHEDULE WITH ARCHITECT AND ENGINEER TO PLAN ACCORDINGLY FOR APPROPRIATE INSPECTIONS.
5. COORDINATE LIGHT LOCATIONS WITH ELECTRICAL CONTRACTOR PRIOR TO INSTALLATION OF AIR DEVICES. LIGHT LOCATIONS TAKE PRECEDENCE OVER AIR DEVICES.

ECONOMIZER

1. FOR SYSTEMS THAT REQUIRE ECONOMIZER, MECHANICAL CONTRACTOR SHALL PROVIDE A CONTROLLER EQUAL TO HONEYWELL JADE ECONOMIZER MODULE W7220. REFER TO ECONOMIZER DETAIL FOR ADDITIONAL INFORMATION.

RETURN AIR SYSTEMS

1. MECHANICAL DESIGN ASSUMES A MINIMUM 1" DOOR UNDERCUTS FOR ALL DOORS AND WALL PARTITIONS WITHIN CONDITIONED SPACES.
2. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE PROJECT ENGINEER IF ANY DOOR OR PARTITION IS NOT PROVIDED WITH A MINIMUM 1" UNDERCUT OR IF ANY OF THE SPECIFIED SYSTEM RETURN PATHS ARE COMPROMISED DURING CONSTRUCTION IN ANY WAY.
3. AT A MINIMUM, THE CONTRACTOR SHALL PROVIDE A FIBERGLASS DUCTED TRANSFER BOOT/GRILL ABOVE CEILING FOR ANY DOOR OR PARTITION THAT IS NOT PROVIDED WITH A MINIMUM 1" UNDERCUT.
4. RETURN BOOT SHALL TERMINATE IN NEW RETURN AIR DEVICES. RETURN AIR DEVICES SHALL BE WHITE ALUMINUM PERFORATED LAY-IN TYPE WITH ALL NECESSARY MOUNTING HARDWARE TO MATCH OTHER RETURN DEVICES ON SITE. PROVIDE FRAMED AIR DEVICE IF IN HARD CEILING.

METAL AND FLEXIBLE DUCTS

1. DRAWINGS ARE DIAGRAMMATIC IN NATURE. FOR CLARITY SAKE, MOST DUCT OFFSETS/RISES/DROPS ARE NOT SHOWN. RECTANGULAR AND ROUND DUCTWORK SHALL BE GALVANIZED STEEL. SIZES SHOWN ARE INSIDE CLEAR DIMENSION.
2. PRIOR TO CONSTRUCTION, CONTRACTOR IS REQUIRED TO COORDINATE HEIGHTS OF DUCTWORK LAYOUT WITH EXISTING STRUCTURE, OTHER TRADES, AND PROPOSED CEILING HEIGHT TO CONFIRM ADEQUATE VERTICAL SPACE FOR STACKING.
3. CONSTRUCT AND LEAKAGE TEST ALL DUCTWORK BASED ON SMACNA REQUIREMENTS. COORDINATE PRESSURE CLASSES WITH EQUIPMENT SCHEDULES.
4. ALL GALVANIZED SHEET METAL DUCT WORK SHALL COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS--METAL AND FLEXIBLE".
5. USE 2" GLASS FIBER-REINFORCED FABRIC JOINT AND SEAM TAPE. USE WATER BASED JOINT AND SEAM SEALER. USE FIRE RESISTANT SEALER FOR FILLING OPENINGS AROUND DUCT PENETRATIONS THROUGH WALLS. ACCEPTABLE PRODUCTS ARE DOW CORNING, FIRE STOP FOAM AND FIRE STOP SEALER OR EQUAL.
6. USE SHEET METAL SCREWS OR BLIND RIVETS COMPATIBLE WITH DUCT MATERIALS WHEN SECURING ALL DUCTWORK TO STRUCTURE.
7. FLEXIBLE DUCT MAY BE USED TO CONNECT TO SUPPLY DIFFUSERS. MAXIMUM LENGTH OF FLEXIBLE DUCT LIMITED TO 5 FEET. PROVIDE FLEXMASTER TYPE 8M UL 181 CLASS 1 AIR DUCT OR EQUAL. FLEXIBLE DUCT SHALL HAVE MIN. R-8 INSULATING VALUE.
8. FLEXIBLE DUCT CLAMP SHALL BE OF STAINLESS STEEL BANDS WITH CADMIUM PLATED HEX SCREW TO TIGHTEN BAND WITH WORM GEAR ACTION.
9. PROVIDE TURNING VANES IN ALL SPLITS, TEES AND SWEPT 90 DEGREE ANGLE DUCT FITTINGS. MANUFACTURED TURNING VANES TO BE 1-1/2" WIDE, DOUBLE VANE, CURVED BLADES OF GALVANIZED SHEET STEEL SET ¼" O.C. ACCEPTABLE MANUFACTURER'S ARE DUCTMATE INDUSTRIES, METALAIRE, WARD INDUSTRIES OR EQUAL.
10. WHERE RECTANGULAR TEE FITTINGS ARE SHOWN, PROVIDE FITTING WITH ADJUSTABLE DIVIDER SHEET AND TURNING VANES.
11. WHERE RECTANGULAR MAIN AND BRANCH CONNECTIONS ARE SHOWN, PROVIDE EXTRACTOR VANES.
12. PROVIDE MANUAL VOLUME CONTROL DAMPERS WHERE SHOWN ON DRAWINGS. DAMPERS TO HAVE NEOPRENE BLADE SEALS AND GALVANIZED STEEL FRAMES, TIE BARS, DAMPER AND BRACKETS. ACCEPTABLE MANUFACTURER'S ARE RUSKIN CO., NAILOR INDUSTRIES, FLEXMASTER OR EQUAL.
13. ABOVE INACCESSIBLE CEILINGS AND WHERE DUCT CONFIGURATION DOES NOT ALLOW FOR INSTALLATION OF DAMPER IN DUCTWORK OR DIFFUSER, PROVIDE REMOTE MANUAL DAMPER BY YOUNG REGULATOR, (BOWDEN CABLE CONTROL SYSTEM). CONTRACTOR MAY PROVIDE OPPOSED BLADE DAMPER THAT IS INTEGRAL TO GRD WITH ENGINEER'S APPROVAL.
14. ALL DUCTWORK SHALL BE CONSTRUCTED IN COMPLIANCE WITH 2021 IECC C403.12.1 - C403.12.2.3.

INSULATION

1. DUCT WRAP INSULATION SHALL BE MINERAL FIBER INSULATION. ALL SERVICE JACKETING MANUFACTURED FROM KRAFT PAPER, REINFORCING SCRIM, ALUMINUM FOIL AND VINYL FILM. ACCEPTABLE MANUFACTURER'S ARE CERTAINTEED, KNAUF OR OWENS-CORNING. INSTALL DUCT WRAP INSULATION PER MANUFACTURER'S INSTRUCTIONS.
2. INTERIOR DUCTWORK TO BE INSULATED WITH DUCT WRAP INSULATION. ALL SUPPLY DUCTS TO HAVE 3" MIN. THICKNESS (R-8) INSULATION AND ALL RETURN AND OUTSIDE AIR DUCTS TO HAVE 2" MIN. INSULATION. SUPPLY AND RETURN AIR DUCTS AND PLENUM SHALL BE INSULATED WITH NOT LESS THAN R-6 INSULATION WHERE LOCATED IN UNCONDITIONED SPACES AND WITH NOT LESS THAN R-8 WHERE LOCATED OUTSIDE THE BUILDING AS REQUIRED BY 2021 IECC C403.12.1.
3. HVAC PIPING SHALL BE INSULATED PER 2021 IECC TABLE C403.12.3. PROVIDE MINIMUM 1" INSULATION THICKNESS.

TESTING, ADJUSTING AND BALANCING (TAB)

1. TAB TO BE PERFORMED BY AN INDEPENDENT ENTITY, CERTIFIED BY AABC OR NEBB, AND PROVIDED BY GENERAL CONTRACTOR.
2. PERFORM TESTING AND BALANCING PROCEDURES PER AABC'S "NATIONAL STANDARDS FOR TOTAL SYSTEM BALANCE" OR NEBB'S "PROCEDURAL STANDARDS FOR TESTING, ADJUSTING, AND BALANCING OF ENVIRONMENTAL SYSTEMS".

ENVELOPE GENERAL NOTES

1. MECHANICAL DESIGN (ZONING, EQUIPMENT SIZING, ETC) ASSUMES CURRENT APPLICABLE CODE MINIMUMS FOR BUILDING ENVELOPE INSULATION.
2. THIS PROJECT ASSUMES A MINIMUM R-12 FOR WALLS, R-25 FOR ROOFS, AND U-0.570734 FOR GLASS WITH SHGC 0.2525.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMMUNICATING ANY PROPOSED VARIANCES FOR THE REQUIRED CODE MINIMUM VALES FOR INSULATION AND/OR VALUE ENGINEERING OF THE INSTALLED BUILDING ENVELOPE WITH THE BUILDING ARCHITECT AND ENGINEER PRIOR TO PROVIDING ANY PRICING.

PLENUM SPACES

1. INSTALL TYPE "L" COPPER PIPE FOR CONDENSATE DRAINAGE IN ALL PLENUM RATED SPACES.

THERMOSTATIC CONTROLS

1. ALL THERMOSTATS AND THERMOSTATIC CONTROLS SHALL BE PROGRAMMABLE AND SHALL COMPLY WITH 2021 IECC SECTIONS C403.4.1 THROUGH C403.4.5.

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REVISIONS:

NO.	DESCRIPTION	DATE

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03.15.24

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Drawn By: HM3

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M000

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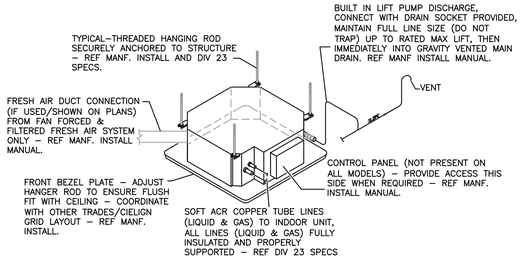
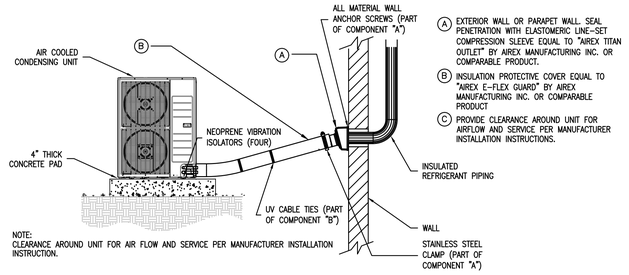


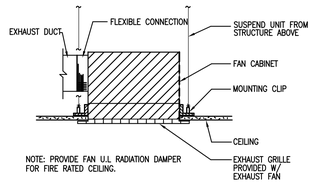
1 VRF CASSETTE INDOOR UNIT DETAIL

NTS



2 VRF CONDENSING UNIT MOUNTING ON GRADE

NTS



3 CEILING MOUNTED EXHAUST FAN

NTS

MECHANICAL FAN SCHEDULE

TAG	FLOW RATE	STATIC PRESSURE	MOTOR DATA		ELECTRICAL DATA			MAXIMUM	BASIS OF DESIGN		NOTES
		EXTERNAL	LOAD	SPEED	MCA	MOCP	VOLTAGE	LOUDNESS			
	CFM	IN WG	HP	RPM	AMPS	AMPS		SONES	MANUFACTURER	MODEL OR SERIES	
EF-1	60	0.15	-	634	0.4	20	120	0.6	L. COOK	GCVF-100	2-6
EF-2	150	0.15	-	1075	0.4	20	120	2.5	L. COOK	GC-148	1,2,3,5,6
EF-3	150	0.15	-	1075	0.4	20	120	2.5	L. COOK	GC-148	1,2,3,5,6

NOTES:

1. INTERCONNECT WITH LIGHTS IN ROOM. REFER TO ELECTRICAL LIGHTING PLAN
2. PROVIDE FACTORY MOUNTED AND INSTALLED DISCONNECT.
3. PROVIDE ACCESS DOOR TO SERVICE UNIT IF IN HARD CEILING.
4. PROVIDE DEDICATED MOTOR RATED SWITCH. REFER TO ELECTRICAL LIGHTING PLAN.
5. NON-EMBEDDED FAN SHALL COMPLY WITH 2021 IECC SECTIONS C403.8.1 THROUGH C403.8.6.
6. NON-EMBEDDED FAN IS EXEMPT FROM FEI RATING PER EXCEPTION 1 OF 2021 IECC SECTION C403.8.3. FAN HAS A MOTOR NAMEPLATE HORSPOWER OF LESS THAN 1HP. IF NO HP OR WATTAGE IS LISTED, FAN HP IS LESS THAN 1/12HP, AND SHALL COMPLY WITH 2021 IECC TABLE C403.8.5.

DUCTLESS SPLIT SYSTEM SCHEDULE

	MARK	FCU-1	FCU-2
INDOOR UNIT	SERVES	MENS RR	WOMEN'S RR
	TYPE	1-WAY CASSETTE	1-WAY CASSETTE
	AIRFLOW (CFM) L / M / H	205 / 230 / 258	205 / 230 / 258
	NOMINAL COOLING CAPACITY (MBH)	9.0	9.0
	NOMINAL HEATING CAPACITY (MBH)	12.0	12.0
	VOLTS/PHASE/HERTZ	208 / 1 / 60	208-230 / 1 / 60
	MCA	SEE NOTE 7	SEE NOTE 7
	MOCP	SEE NOTE 7	SEE NOTE 7
	MANUFACTURER	SAMSUNG	SAMSUNG
	MODEL NUMBER	AC009BN1DCH/11	AC009BN1DCH/AA
OUTDOOR UNIT	MARK	CU-1	
	VOLTS/PHASE/HERTZ	208-230 / 1 / 60	
	RATED COOLING PERFORMANCE (MBH	18.0	
	RATED HEATING PERFORMANCE (MBH)	22.0	
	MCA	16.5	
	MOCP	20	
	SEER2 / EER2 (NON-DUCTED)	19.5 / 12.7	
	MANUFACTURER	SAMSUNG	
	MODEL NUMBER	AJ020BXJ2CH/AA	
NOTES:		ALL	

NOTES:

1. PROVIDE REFRIGERANT PIPING IN ACCORDANCE WITH MFR'S RECOMMENDATIONS.
2. UNIT TO BE PROVIDED WITH ELECTRIC HEAT, FAN, DX COOLING COIL AND FILTER SECTION.
3. INDOOR UNIT AND OUTDOOR UNIT SHALL BE OF THE SAME MANUFACTURER AND SHALL BE CERTIFIED FOR USE WITH EACH OTHER. REMOTE CONDENSING UNITS SHALL BE SECURELY MOUNTED AS DETAILED IN THE MANUFACTURERS INSTALLATION MANUAL.
4. PROVIDE 4" CONCRETE PAD AND CONDENSER COIL HAIL GUARD.
5. THE SYSTEM SHALL CONNECT TO SAMSUNG ADVANCED REMOTE CONTROLLER.
6. INDOOR UNIT SHALL INCLUDE A FIELD INSTALLED CONDENSATE PUMP.
7. SYSTEM SHALL HAVE A SINGLE CIRCUIT BREAKER AND POWER CONNECTION AT OUTDOOR UNIT WITH A FIELD-SUPPLIED INTERCONNECTING 14/3 AWG POWER CABLE BETWEEN OUTDOOR AND INDOOR UNITS. THE CONDENSING UNIT POWERS THE INDOOR UNIT.
8. PROVIDE DEDICATED 16/2 AWG STRANDED, SHIELDED COMMUNICATION WIRE BETWEEN INDOOR AND OUTDOOR UNITS.
9. CONTACT BRYAN SUBLETT WITH MCMILLAN JAMES EQUIPMENT COMPANY AT 210-781-9669 OR BRYANS@MJEC.COM FOR PRICING.

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drawing title: MECHANICAL DETAILS & SCHEDULES

drawing number: **M001**

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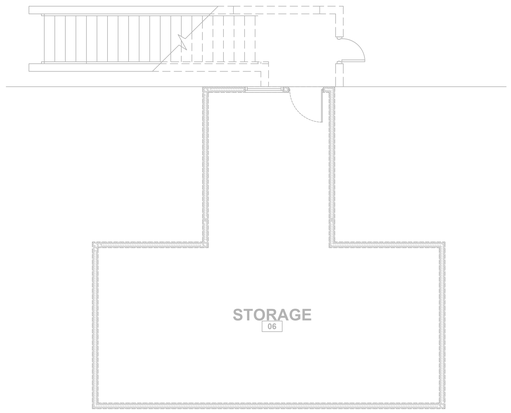


2 MECHANICAL PLAN - SECOND FLOOR
3/16" = 1'-0"

MECHANICAL GENERAL NOTES:

A. CONTRACTOR SHALL BALANCE EACH DEVICE WITH THE CFM SHOWN ON PLAN.

B. 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.

C. COORDINATE LOCATIONS AND SIZES OF ROOF OPENINGS WITH OWNER AND STRUCTURAL ENGINEERS.

D. EQUIPMENT SIZES, DIMENSIONS AND REQUIRED CONNECTIONS SHALL BE VERIFIED WITH THE ACTUAL EQUIPMENT SELECTED VENDOR DRAWINGS BEFORE FABRICATION OF DUCTWORK, PIPING, ETC...

E. DUCT SIZES SHOWN ON PLANS ARE CLEAR INSIDE AIR STREAM DIMENSIONS.

F. CONTRACTOR SHALL COORDINATE ALL ELECTRICAL REQUIREMENTS FOR ALL HVAC BASED ON ACTUAL EQUIPMENT SELECTED PRIOR TO INSTALLATION.

G. CONTRACTOR SHALL COORDINATE EQUIPMENT WEIGHTS AND SUPPORTS BASED ON ACTUAL EQUIPMENT SELECTED.

H. ALL EXPOSED DUCTWORK SHALL BE AS SHOWN, DOUBLE-WALL, INSULATED METAL, PRIMED FOR PAINTING, UNLESS OTHERWISE NOTED ON PLAN. ALL CONCEALED DUCTWORK SHALL BE INSULATED METAL RECTANGULAR UNLESS ALLOWED IN WRITING BY THE ENGINEER OF RECORD. COORDINATE FINAL FINISH WITH ARCHITECT.

I. COORDINATE WITH ALL TRADES FOR MATERIALS IN RATED AND PLENUM SPACES.

J. ALL EXHAUST FANS SCHEDULED TO BE AUTOMATICALLY CONTROLLED BY MECHANICAL AIR HANDLERS SHALL BE CONNECTED BY MEANS OF AN AUXILIARY RELAY. PROVIDE AUXILIARY RELAY AS NEEDED.

K. ALL SOURCES OF MECHANICAL INTAKE SHALL MAINTAIN 10 LINEAR FEET SEPARATION BETWEEN ANY SOURCE OF EXHAUST. CONTRACTOR IS RESPONSIBLE TO ADJUST DUCT LENGTH AS NEEDED.

L. ALL FIRE DAMPERS AND FIRE SMOKE DAMPERS SHALL BE PROVIDED WITH AN APPROVED MEANS OF ACCESS, LARGE ENOUGH TO PERMIT INSPECTION AND MAINTENANCE OF THE DAMPER AND ITS oPERATING PARTS. THE ACCESS SHALL NOT AFFECT THE INTEGRITY OF FIRE-RESISTANCE-RATED ASSEMBLIES. THE ACCESS OPENINGS SHALL NOT REDUCE THE FIRE-RESISTANCE RATING OF THE ASSEMBLY. ACCESS POINTS SHALL BE PERMANENTLY IDENTIFIED ON THE EXTERIOR BY A LABEL HAVING LETTERS NOT LESS THAN 1/2 INCH (12.7MM) IN HEIGHT. ACCESS DOORS IN DUCTS SHALL BE TIGHT FITTING AND SUITABLE FOR THE REQUIRED DUCT CONSTRUCTION.

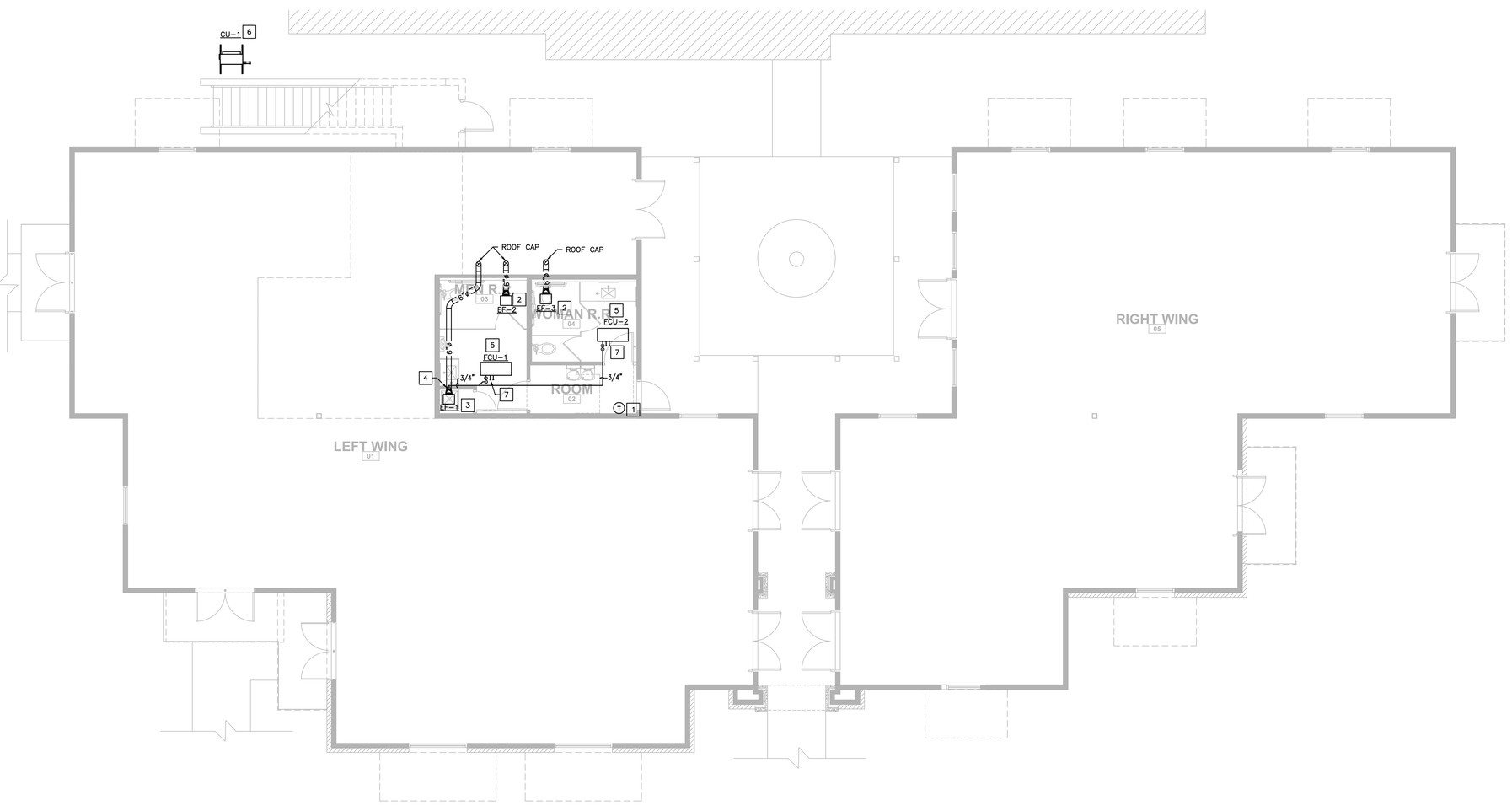
KEYED NOTES:

1. LOCATION OF DIGITAL THERMOSTAT CONTROL. PROVIDE LOCKABLE COVER.
2. PROVIDE ACCESS PANEL FOR CEILING MOUNTED EXHAUST FAN. INTERCONNECT EXHAUST FAN WITH LIGHTS IN THIS ROOM. REFER TO ELECTRICAL LIGHTING PLAN. FAN SHALL BE SUSPENDED FROM STRUCTURE ABOVE. VERIFY EXACT LOCATION OF STRUCTURAL MEMBERS PRIOR TO INSTALLATION. PROVIDE ROOF CAP.
3. PROVIDE ACCESS PANEL FOR CEILING MOUNTED EXHAUST FAN. INTERCONNECT EXHAUST FAN WITH DEDICATED MOTOR RATED SWITCH. REFER TO ELECTRICAL LIGHTING PLAN. FAN SHALL BE SUSPENDED FROM STRUCTURE ABOVE. VERIFY EXACT LOCATION OF STRUCTURAL MEMBERS PRIOR TO INSTALLATION. PROVIDE ROOF CAP.
4. CONTRACTOR TO RUN CONDENSATE DRAIN TO MOP SINK IN JANITOR CLOSET.
5. COORDINATE FINAL LOCATION OF FCU'S WITH ARCHITECT AND OWNER.
6. COORDINATE FINAL LOCATION OF CU'S WITH OWNER AND ARCHITECT.
7. REFRIGERANT SIZE AS RECOMMENDED BY SYSTEM MFGR FOR LENGTH AND RISE OF RUN.

COMMERCIAL ENERGY COMMISSIONING CHECKLIST: MECHANICAL SYSTEM COMMISSIONING AND CHECKLIST

MECHANICAL SYSTEMS IN BUILDINGS WHERE THE TOTAL MECHANICAL EQUIPMENT CAPACITY IS 480,000 BTU/H COOLING CAPACITY OR GREATER AND 600,000 BTU/H HEATING CAPACITY OR GREATER.

- ☐ PRIOR TO FINAL INSPECTION, THE REGISTERED DESIGN PROFESSIONAL SHALL PROVIDE EVIDENCE OF MECHANICAL SYSTEMS COMMISSIONING AND COMPLETION.
- ☐ COMMISSIONING PLAN WITH CHECKLIST COMPLETED. (BEFORE FUNCTIONAL TESTING)
- ☐ COMMISSIONING PLAN WAS USED DURING CONSTRUCTION AND INCLUDES ITEMS REQUIRED IN SECTION C408.2.1
- ☐ SYSTEM ADJUSTING AND BALANCING (C408.2.2).
- ☐ AIR SYSTEM BALANCING (C408.2.2.1).
- ☐ EQUIPMENT FUNCTIONAL PERFORMANCE TESTING (C408.2.3.1).
- ☐ HVAC CONTROLS SYSTEMS (C408.2.3.2).
- ☐ AIR ECONOMIZER FUNCTIONAL TESTING (C408.2.3.3).
- ☐ A PRELIMINARY COMMISSIONING REPORT AND COMMISSIONING COMPLIANCE CHECKLIST TO THE OWNER OR OWNER'S AUTHORIZED AGENT AND TO THE BUILDING OFFICIAL PRIOR TO FINAL INSPECTION/ISSUANCE OF A CERTIFICATE OF OCCUPANCY.
- ☐ SYSTEM BALANCING REPORT TO THE OWNER OR OWNER'S AUTHORIZED AGENT WITHIN 90 DAYS OF TEH DATE OF RECIPEINT OF THE CERTIFICATE OF OCCUPANCY.
- ☐ FINAL COMMISSIONING REPORT TO THE OWNER OR OWNER'S AUTHORIZED AGENT WITHIN 90 DAYS OF THE DATE OF RECEIPT OF THE CERTIFICATE OF OCCUPANCY.



1 MECHANICAL PLAN - FIRST FLOOR
3/16" = 1'-0"

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ABBREVIATIONS

A	
A	AMPERES
ABV	ABOVE
A/C	AIR CONDITIONING
AC	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	
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
	CONTROLLER, CONTRACTOR
CP.	CIRCULATING PUMP
CPUC	CPU CHILLER
CRT	CATHODE RAY TUBE
CRU	CONDENSATE RETURN UNIT
CT	CURRENT TRANSFORMER, COOLING TOWER
CTR	CENTER
CU	COPPER
D	
dB	DECIBEL
DC	DIRECT CURRENT
DDC	DIRECT DIGITAL CONTROL
DTL	
DIA	DIAMETER
DIM	DIMENSION
DISC	DISCONNECT
DN	
DP	DISTRIBUTION PANEL
DPDT	DOUBLE-POLE, DOUBLE-THROW
DPST	DOUBLE-POLE, SINGLE-THROW
DR	DROPPED RECEPTACLE
DW	DISHWASHER
DWG	DRAWING
DWH	DOMESTIC WATER HEATER
DWP	DOMESTIC WATER PUMP
DXFC	DX FAN COIL UNIT
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
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	
FA	FIRE ALARM
FACP	FIRE ALARM CONTROL PANEL
FCU	FAN COIL UNIT
FLA	FULL LOAD AMPS
FLUOR	FLUORESCENT
FS	FUSED SWITCH, FLOW SWITCH
FSD	MOTORIZED FIRE SMOKE DAMPER
FT	FOOT, FEET
FTL	FEED-THRU LUGS
FUT	FUTURE

G	
GA	GAUGE
GAL	GALLON
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GEN	GENERATOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GND	GROUND
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
GUH	HOT WATER/ GAS UNIT HEATER
HVAC	HEATING, VENTILATING, AND AIR CONDITIONING
HVU	HEATING/ VENTILATING UNIT
HWB	HOT WATER BOILER
HWC	HOT WATER CIRCULATOR
HWP	HEATING WATER PUMP
H_Z	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	
LCP	LIGHTING CONTROL PANEL
LF	LINEAR FEET
LRA	LOCKED ROTOR AMPS
LTG	LIGHTING
LV	LOW VOLTAGE TRANSFORMER
LVL	LEVEL
M	
M	METER
MAP	MASTER ALARM PANEL
MATV	MASTER ANTENNA TELEVISION SYSTEM
MAX.	MAXIMUM
MC	MECHANICAL CONTRACTOR
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
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	
P	POLE, PUMP
PH	PHASE
PNL	PANEL
POS	POINT OF SALE
PP	POWER POLE
PR	PAIR
PWR	POWER

Q	
QTY	QUANTITY
R	
R	EXISTING TO BE REMOVED
RA	RETURN AIR
RCP	REFLECTED CEILING PLAN
RCPT	RECEPTACLE
RE	REFERENCE, REFER
REC	RECEPTACLE
REV	REVISION, REVISE
RGS	RIGID GALVANIZED STEEL
RTU	ROOFTOP UNIT
S	
SCHED	SCHEDULE
SEC	SECONDARY
SECT	SECTION
SF	SQUARE FEET
SPEC	SPECIFICATION
SPKR	SPEAKER
SPDT	SINGLE-POLE, DOUBLE-THROW
SPST	SINGLE-POLE, SINGLE-THROW
SQ.	SQUARE
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
X	
XFMR	TRANSFORMER
Z	
Z	ZONE

ELECTRICAL SYMBOLS

MOTORS AND CONTROLS

- (S) — SINGLE OR THREE PHASE MOTOR NUMBER INDICATES HORSE POWER
- — ELECTRIC DUCT HEATER
- DF — DISCONNECT (SAFETY) SWITCH "200/3/150" DENOTES AMPERES/POLE/FUSE, "NF" DENOTES NON-FUSED "N3R" DENOTES NEMA 3R
- BF — ENCLOSED CIRCUIT BREAKER- "200/3/150" DENOTES AMPERES/POLE/TRIP.
- ⊠ — MOTOR STARTER FURNISHED BY DIVISION 15 AND INSTALLED BY DIVISION 16.
- ⊠F — COMBINATION DISCONNECT (SAFETY) SWITCH AND MOTOR STARTER, "30/3/15/#0" DENOTES AMPERES/POLES/FUSE/ STARTER SIZE, "NF" DENOTES NON-FUSED. FURNISHED BY DIVISION 15 AND INSTALLED BY DIVISION 16.
- VFD — VARIABLE FREQUENCY DRIVE PROVIDED BY DIVISION 15 AND INSTALLED BY DIVISION 16.
- EPO — EMERGENCY POWER OFF BUTTON.

RECEPTACLES AND OUTLETS

ALL RECEPTACLES SHALL BE MOUNTED 16" 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.
  - "EM" DENOTES EMERGENCY CIRCUIT. PROVIDE RED RECEPTACLE AND FACEPLATE.
  - "GFI" DENOTES GROUND FAULT INTERRUPTER,
  - "WP" DENOTES WEATHERPROOF,
  - "IG" DENOTES ISOLATED GROUND,
  - "TP" DENOTES SAFETY TYPE, (TAMPER PROOF)
  - "DR" DENOTES DROPPED RECEPTACLE,
  - "AC" DENOTES ABOVE COUNTER MOUNTING, SEE ARCHITECTURAL PLANS FOR EXACT MOUNTING HEIGHT.
  - "SW" DENOTES SPLIT WIRED RECEPTACLE. TOP RECEPTACLE SHALL BE SWITCHED ACCORDING TO PLAN, AND BOTTOM SHALL REMAIN UNSWITCHED.
- — 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 CONTROLLED BY PLUGLOAD RELAY TIED TO LIGHTING OCCUPANCY SENSOR IN COMPLIANCE WITH IECC 2021.
- — FOURPLEX (DOUBLE DUPLEX) WALL RECEPTACLE. NEMA 5-20R, 20A, 125V.
- R — FOURPLEX WALL RECEPTACLE ON EMERGENCY CIRCUIT, RED COLOR.
- — 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
- — MULTI-OUTLET SURFACE RACEWAY. SEE ARCHITECTURAL DRAWINGS FOR EXACT MOUNTING HEIGHTS.
- J — JUNCTION BOX (SQUARE)
- J — JUNCTION BOX
- — DUPLEX RECEPTACLE WITH HOMERUN
- — DUPLEX RECEPTACLE (PEDESTAL MOUNTED)
- — TWO-GANG FLOOR OUTLET
- — THREE-GANG FLOOR OUTLET
- PP — POWER POLE
- — DIRECT CONNECTION TO EQUIPMENT
- P — PULL BOX (OVER 4" SQUARE)
- L — TENANT LIGHTING JUNCTION BOX
- P — TENANT POWER JUNCTION BOX
- C (2) — CLOCK RECEPTACLE TO BE MOUNTED 12" BELOW FINISHED CEILING. (2) DENOTES DOUBLE SIDED CLOCK. (1) SINGLE SIDED. NO NUMBER MEANS CLOCK TO MOUNTED WITH BACK SURFACE MOUNTED ON WALL

LIGHTING

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

- — 2' X 4' LED LIGHTING FIXTURE.
- — 2' X 2' LED LIGHTING FIXTURE.
- — 1' X 4' LED LIGHTING FIXTURE.
- — 1' X 2' LED LIGHTING FIXTURE.
- — 1' X 1' LED LIGHTING FIXTURE.
- — LED STRIP LIGHTING FIXTURES.
- — STAGGERED STRIP LIGHTING FIXTURE.
- — LED DOWNLIGHT FIXTURE.
- — WALL MOUNTED LED 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.
- — LED SECURITY WALL PACK

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
- — HASH MARKS INDICATE NUMBER OF CONDUCTORS. LEFT TO RIGHT:PHASE/NEUTRAL/GROUND/ISOLATED GROUND. NO HASH MARKS INDICATES 2 #12, PLUS GROUND, UNLESS NOTED OTHERWISE.
- LA1-2,4 — HOMERUN TO PANEL WITH CIRCUIT NUMBER(S) AS INDICATED.
- LA1-1 (S.C.) — SPLIT CIRCUIT HOMERUN TO PANEL.
- T — COMMUNICATIONS CONDUIT OR CABLE:
  - "C" DENOTES MASTER CLOCK,
  - "CA" 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
- — SWITCHBOARD, MAIN DISTRIBUTION PANEL OR MOTOR CONTROL CENTER
- — PANELBOARD (FLUSH/SURFACE MOUNT)
- — FLOOR MOUNTED DRY-TYPE TRANSFORMER

COMMUNICATIONS

ALL RECEPTACLES SHALL BE MOUNTED 16" 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.

- — TELEPHONE WALL OUTLET.
- — DATA WALL OUTLET.
- — VOICE/DATA OUTLET
- — FLUSH TELEPHONE FLOOR OUTLET, "P" DENOTES POKE-THRU
- — FLUSH DATA FLOOR OUTLET, "P" DENOTES POKE-THRU
- — FLUSH VOICE/DATA FLOOR OUTLET, "P" DENOTES POKE-THRU
- HDS — SCHOOL INTERCOMMUNICATION SYSTEM DESKSET.
- HHS — SCHOOL INTERCOMMUNICATION SYSTEM HANDSET.
- HTV — TELEVISION OUTLET 1 GANG JUNCTION BOX WITH ONE FEMALE COAX BARREL CONNECTOR MOUNTED IN SINGLE GANG S.S. COVER PLATE.
- MPW — MICROPHONE FLOOR OUTLET, "W" INDICATES WALL MOUNTED
- SVC — CEILING MOUNTED SPEAKER. "VC" INDICATES VOLUME CONTROL ON SPEAKER.
- HS — WALL MOUNTED SPEAKER.

DRAWING/DETAIL REFERENCE KEY

REFER TO DRAWING/DETAIL NUMBER — 1 / E3-2 — SHEET NUMBER

RE: 1 /E3-2

GENERAL NOTES

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

MISCELLANEOUS

- XX — 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
- H — PUSH BUTTON
- TC — TIMECLOCK
- R — RELAY
- OS — OCCUPANCY/VACANCY SENSOR

FIRE ALARM

- W — WATER FLOW SWITCH
- SP — SUPERVISORY SWITCH
- S_D — SMOKE DETECTOR - "D" INDICATES DUCT TYPE
- H — HEAT DETECTOR
- BT — BEAM DETECTOR TRANSMITTER, HIGH IN CEILING WALL DIRECT LINE OF SIGHT.
- BR — BEAM DETECTOR RECEIVER, HIGH IN CEILING WALL DIRECT LINE OF SIGHT.
- S — SPEAKER/VISUAL +80" A.F.F. - 15/75cd UNLESS NOTED OTHERWISE.
- D — MAGNETIC DOOR HOLDER
- R — AUXILIARY CONTROL RELAY
- F — FIRE ALARM PULL STATION +42" AFF
- F — FIREMAN'S TELEPHONE JACK +42" AFF
- F — AUDIO VISUAL FIRE ALARM HORN +80" AFF
- H — AUDIO FIRE ALARM HORN +80" AFF
- V — VISUAL FIRE ALARM (STROBE) +80" AFF
- FACP — FIRE ALARM CONTROL PANEL
- ANN — REMOTE FIRE ALARM ANNUNCIATOR PANEL
- VEP — FIRE ALARM VOICE EVACUATION PANEL
- HS — FIRE ALARM SPEAKER / WALL MOUNTED
- M — MINI AUDIO FIRE ALARM HORN +80" AFF
- MS — MINI AUDIO/VISUAL FIRE ALARM HORN +80" AFF
- HFH — FIRE FIGHTER HANDSET
- RPS — REMOTE POWER SUPPLY FOR AUDIO/VISUAL FIRE ALARM DEVICES.
- FSD — FIRE SMOKE DAMPER
- V — VISUAL FIRE ALARM STROBE, CEILING MOUNTED
- F — AUDIO VISUAL FIRE ALARM HORN-CEILING MOUNTED
- S — FIRE ALARM SPEAKER / VISUAL - CEILING MOUNTED

SWITCHES

ALL 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,
  - "ST" DENOTES SPRING WOUND TIMER.
  - "R" DENOTES RED
  - "F" FAN SPEED CONTROLLER
  - "OC" OCCUPANCY SENSOR
  - "L" DENOTES LOCKING SWITCH
- $_{MC}$ — SWITCH, SPDT, CENTER OFF, MOMENTARY CONTACT.
- $_D$ — DIMMER CONTROL SWITCH, 600 WATT UNLESS OTHERWISE NOTED.
- $_3$ — THREE-WAY KEY SWITCH, 20A, 120/277V.
- $_{SC}$ — WALL MOUNTED SWITCH TO CONTROL MOTORIZED PROJECTION SCREENS.
- $_M$ — MOTOR RATED SWITCH WITH THERMAL OVERLOADS
- $_T$ — MOTOR RATED TOGGLE SWITCH
- OC — CEILING MOUNTED OCCUPANCY SENSOR

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GENERAL NOTES LIGHTING SHEETS:
(APPLIES TO ALL LIGHTING SHEETS)

A. WHEN LOCATING SYSTEMS NEXT TO DOORS, LOCATE 8 INCHES OFF DOOR JAMB TO CENTER OF DEVICE. WHEN MULTIPLE DEVICES ARE TOGETHER, STACK BUT NO MORE THAN 72 INCHES AFF. COORDINATE SWITCH LOCATIONS IN ROOMS WITH ARCHITECT AND OTHER DEVICES (THERMOSTATS, FIRE ALARM, AND CALL BUTTONS).

B. MINIMUM CIRCUIT SIZE IS 2 #12 AND 1 #12 GROUND IN 3/4"CONDUIT. MAXIMUM FIXTURE WHIP LENGTH FROM ANY J-BOX 6 FEET. LIGHTING CIRCUITS JOINTS SHALL BE MADE UP IN OVERHEAD J-BOXES SECURED TO STRUCTURE WITH LIGHTING WHIPS FROM THE J-BOXES. FIXTURES DESIGNED TO BE QUICK-CLIPPED TOGETHER SHALL BE CONNECTED AS PER MANUFACTURER.

C. COORDINATE LIGHT LOCATIONS WITH OTHER CEILING ITEMS OR JOIST ITEMS PRIOR TO INSTALLATION. LIGHT LOCATIONS TAKE PRECEDENCE OVER AIR DEVICES.

D. PROVIDE SECONDARY SUPPORT WIRES FROM ALL FOUR (4) CORNERS OF THE LAY-IN FIXTURES TO THE STRUCTURE ABOVE. DO NOT SUPPORT FIXTURES FROM CEILING GRID WIRE SUPPORTS, PIPING, CONDUIT, SIDE WALLS, OR MECHANICAL EQUIPMENT. CEILING SPECIFICATIONS DO NOT SUPERCEDE THIS REQUIREMENT.

E. PROVIDE INTEGRAL BATTERY BACK-UP W/INTEGRAL BATTERY & TEST SWITCH FOR ALL FIXTURES WITH AN "E" SUFFIX.

F. FIRESTOP ALL CONDUIT PENETRATIONS IN RATED WALLS. SEE ARCHITECTURAL FOR WALL RATINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO SHEET ROCK AND REPAIR. PROVIDE FIRE RATED SLEEVES IN ALL FLOOR PENETRATIONS.

G. CONTRACTOR TO VERIFY FIXTURE VOLTAGE PRIOR TO INSTALLING ANY RELOCATED FIXTURE. COORDINATE WITH RCP FOR FIXTURE LOCATIONS.

H. ALL ROOMS AND HALLWAYS SHALL HAVE LOCAL SWITCHES PER NEC WHETHER SHOWN ON PLAN OR NOT. ALL SPACES WITH MORE THAN ONE FIXTURE SHALL HAVE SWITCHING CAPABLE OF REDUCING LIGHTING OUTPUT BY AT LEAST 50% THROUGH DIMMING OR DUAL SWITCHING. ALL HALLWAYS GREATER THAN 30'-0" IN LENGTH SHALL HAVE AT LEAST (2) 3-WAY SWITCHES.

I. PROVIDE AN EXTRA UNSWITCHED HOT LEG FOR EXITS LIGHTS, NIGHTLIGHTS AND EMERGENCY LIGHTS. PROVIDE THE EXTRA UNSWITCHED HOT LEG FROM THE LINE SIDE OF THE CONTACTOR TO EACH EXIT AND EMERGENCY LIGHT AS INDICATED ON DRAWINGS. DO NOT ROUTE A SWITCHED (EITHER BY SWITCH OR CONTACTOR) HOT LEG TO EMERGENCY LIGHTS AND BALLASTS AS THIS WILL NOT ALLOW FOR PROPER OPERATION OF THE EMERGENCY/EXIT FIXTURE.

J. UNLESS OTHER METHODS OF LIGHTING CONTROL ARE SHOWN, PROVIDE A MINIMUM OF (2) CONTACTORS ADJACENT TO NEW TENANT PANEL. (1) 8 POLE CONTACTOR SHALL BE PROVIDED WITH PROGRAMMABLE ASTRONOMICAL TIME CLOCK WITH HOLIDAY SCHEDULE FOR "ON/OFF" CONTROL OF ALL INTERIOR LIGHTS COMPLETE WITH (3) 20 MINUTE MANUAL OVERRIDE SWITCHES. COORDINATE OVERRIDE SWITCH LOCATIONS WITH OWNER PRIOR TO INSTALLATION. THE SECOND CONTACTOR SHALL ALSO BE MOUNTED ADJACENT TO THE TENANT PANEL AND SHALL BE 4 POLE FOR CONTROL OF EXTERIOR LIGHTING AS NOTED. PROVIDE 120V FROM TENANT PANEL SPARE 20A/1P C.B.. SPECIFICATION OF A LIGHTING CONTROL RELAY PANEL SHALL SUPERCEDE ALL OTHER REQUIREMENTS OF NOTE J.

GENERAL MECHANICAL CONNECTION NOTES:
(APPLIES TO ALL MECHANICAL POWER SHEETS)

A. REFER TO MECHANICAL EQUIPMENT ELECTRICAL CONNECTION SCHEDULE FOR CIRCUITING, SIZE OF CONDUCTORS, DISCONNECTS AND ALL CONNECTION REQUIREMENTS.

B. COORDINATE EQUIPMENT LOCATION WITH MECHANICAL PLAN.

C. ALL EQUIPMENT SHALL HAVE A LOCAL DISCONNECTING MEANS, EITHER CORDED PLUG AND RECEPTACLE OR SWITCHED DISCONNECT. VERIFY FROM EQUIPMENT SUBMITTED OR RELOCATED IF DIRECT CONNECT OR RECEPTACLE. IF DIRECT CONNECT, PROVIDE SWITCH AS PER NEC OTHERWISE, PROVIDE RECEPTACLE, CORD PLUG AS REQUIRED BY EQUIPMENT SUBMITTAL.

D. PROVIDE DISCONNECTS (FUSED AND NON-FUSED) FULL RATING OF EQUIPMENT PROTECTED. COORDINATE SIZES WITH EQUIPMENT SUBMITTED. PROVIDE FUSED DISCONNECTS FOR ALL MULTIPLE PIECES OF EQUIPMENT ON THE SAME CIRCUIT. DISCONNECTS AND FUSES SHALL BE EQUAL TO OR GREATER THAN THE FEEDER/BREAKER SIZE. SIZE LOAD SIDE OF DISCONNECTS FOR EQUIPMENT AS LISTED.

E. MOUNT DISCONNECTS ON UNISTRUT SUPPORTS. PROVIDE UNISTRUT RACKS FOR DISCONNECTS ON ROOF AS DETAILED. DISCONNECTS LOCATED ABOVE CEILING SHALL BE SUPPORTED FROM STRUCTURE.

F. PROVIDE A WEATHERPROOF, GFCI RECEPTACLE ON UNISTRUT RACKS FOR ROOF MOUNTED EQUIPMENT SO THAT EACH UNIT IS NO MORE THAN 25' FROM MECHANICAL EQUIPMENT. CIRCUIT ROOF MOUNTED RECEPTACLES FROM A 20A/1P SPARE CIRCUIT BREAKER IN THE NEAREST 120/208V PANEL BELOW. CIRCUIT NO MORE THAN (5) RECEPTACLES PER 20A CIRCUIT.

G. ON CIRCUITS GREATER THAN 20A, FEEDING MULTIPLE PIECES OF EQUIPMENT, PROVIDE FUSED DISCONNECTS (SIZED FOR EQUIPMENT PROTECTING). PROVIDE FULL SIZED FEEDERS FROM BRANCH CIRCUIT BREAKER TO EQUIPMENT DISCONNECT WITH CONDUCTORS QUANTITIES AS INDICATED ON MECHANICAL EQUIPMENT ELECTRICAL SCHEDULE.

H. PROVIDE SEPARATE NEUTRAL FOR MOTORS FOR ALL FAN POWER BOXES.

I. PROVIDE EMT UNDER ROOF. SECURE TO STRUCTURE WITH BEAM CLAMPS (SINGLE) OR UNISTRUT (MULTIPLE).

J. PROVIDE IMC ON ROOF FROM ROOF HOODS TO DISCONNECTS.

K. PROVIDE RIGID STEEL CONDUIT ON ROOF FROM ROOF HOODS TO DISCONNECTS.

L. PENETRATE ROOFS AS PER ROOFING GUIDELINES AND GANG CONDUIT TOGETHER. SUPPORT ROOFTOP CONDUIT WITH NEOPRENE BLOCKS WITH INTEGRAL UNISTRUT. SECURE CONDUIT TO BLOCKS ON ROOF.

M. PROVIDE SEALTITE WITH WP FITTINGS TO MECHANICAL EQUIPMENT, MAX DISTANCE 48". DO NOT USE CONDUITS.

N. PROVIDE INDIVIDUAL DISCONNECTS FOR ALL SMOKE FIRE DAMPERS AND VAV'S. NO EXCEPTIONS.

O. FIRESTOP ALL CONDUIT PENETRATIONS IN RATED WALLS. SEE ARCHITECTURAL FOR WALL RATINGS. CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO SHEET ROCK AND REPAIR.

P. PROVIDE NEMA 3R DISCONNECTS FOR ALL EXTERIOR LOCATIONS AND NEMA 1 DISCONNECTS FOR ALL INTERIOR, DRY LOCATIONS.

Q. POWER AND DATA REQUIREMENTS FOR HVAC CONTROLLERS ARE SHOWN ON POWER SHEETS.

R. ALL EQUIPMENT CONNECTION POINTS ARE DIAGRAMATIC IN NATURE. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH EQUIPMENT INSTALLER FOR EXACT POINT OF CONNECTION. EXTEND FEEDERS IN CONDUIT AS REQUIRED.

GENERAL SITE GROUNDING NOTES:

A. ALL GROUNDING SHALL BE INSTALLED IN ACCORDANCE WITH ARTICLE 250 OF THE CURRENT NEC WITH ALL CITY AMENDMENTS.

B. THE PERIMETER GROUND LOOP CONDUCTOR SHALL BE MINIMUM 4/0 STRANDED BARE COPPER, BURIED NOT LESS THAN 24 INCHES BELOW GRADE AND 36 INCHES FROM THE BUILDING. IT SHALL BE EXOTHERMICALLY WELDED (CAD) TO COLUMN GROUNDS AND PERIMETER GROUND RODS.

C. PERIMETER GROUND RODS SHALL BE MINIMUM 3/4 INCH AND 8 FOOT LONG COPPER OR COPPER CLAD, BURIED VERTICALLY TO A MINIMUM DEPTH OF 8 FOOT 6 INCH BELOW GRADE. DRIVE ALL GROUND RODS INTO EXPOSED EARTH. IF DUE TO CONSTRUCTION, THE EARTH HAS BEEN DISTURBED AT THE GROUND ROD POINT, COMPACT THE LOCATION AND INSTALL GROUND ROD.

D. EXPOSED GROUNDING CONDUCTORS SHALL BE SUPPORTED BY MECHANICAL MEANS AND PROPERLY PROTECTED FROM DAMAGE. ALL GROUNDING CONDUCTORS SHALL BE SLEEVED THROUGH BUILDING WALLS.

E. BOND THE GROUNDING SYSTEM TO THE WATER PIPE SYSTEM. IF THE WATER PIPING IS SUSPENDED BELOW THE STRUCTURE, BOND THE GROUND TO THE WATER PIPE AT THE GRADE POINT.

F. BOND THE GROUND LOOP TO THE BUILDING COLUMN CASINGS. EXOTHERMICALLY WELD THE CONNECTIONS. IF THE COLUMN STEEL DOES NOT PENETRATE THE EARTH MORE THAN 4 FEET, PROVIDE COPPER BONDING JUMPER FROM THE CASING TO THE COLUMN.

G. BOND BUILDING GROUND SYSTEM TO ALL BUILDING STEEL, TO INCLUDE BAR JOISTS OFF MASONRY WALLS. MECHANICAL BONDING CLAMPS ARE PERMITTED. ALL CONDUCTORS ON BEAMS SHALL BE SECURED 48"INTERVALS WITH MALLEABLE CABLE STRAPS. SAND AND CLEAN ALL BOLT-ON CONNECTIONS.

H. PROVIDE GROUNDING SYSTEM PER NEC 250.32 FOR ALL STANDALONE STRUCTURES.

GENERAL NOTES POWER SHEETS:
(APPLIES TO ALL POWER SHEETS)

A. SEE ALL OTHER PLANS FOR ADDITIONAL DEVICES. SOME POWER CIRCUITING MAY BE ON OTHER PLANS. COORDINATE THE LOCATIONS OF DATA/CATV JACKS WITH THE RECEPTACLES. MOUNT ADJACENT TO EACH OTHER.

B. WHEN LOCATING SYSTEMS NEXT TO DOORS, LOCATE 8 INCHES OFF DOOR JAMB TO CENTER OF DEVICE. WHEN MULTIPLE DEVICES ARE TOGETHER, STACK BUT NO MORE THAN 72 INCHES AFF.

C. MINIMUM CIRCUIT SIZE IS 2 #12 AND 1 #12 GROUND IN 3/4"CONDUIT FOR INDIVIDUAL CIRCUITS, 3/4"CONDUIT FOR MULTIPLE CIRCUITS. ALL CONDUCTORS SHALL BE 75 DEGREE (MINIMUM) COPPER THHN, COLOR CODED AS PER NEC AND LOCAL AMENDMENTS WITH SIZE, TEMPERATURE, AND VOLTAGE PERMANENTLY PRINTED ON THE JACKET. ALL JOINTS SHALL BE MADE UP USING SELF LOCKING, TWIST-ON, COLOR CODED, SQUARE WIRE SPRING GRAB, LONG SKIRT, WIRE CONNECTORS WITH SWEPT WINGS.

D. PROVIDE #10 AWG MIN NEUTRAL FOR ALL MUTLIWIRE BRANCH CIRCUITS AND PROVIDE HANDLE TIES FOR CIRCUIT BREAKERS AS REQUIRED BY NEC 210.4

E. CONDUCTOR SIZES INDICATED ASSUME NO MORE THAN (3) SINGLE POLE BRANCH CIRCUITS IN EACH CONDUIT. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DE-RATE CONDUCTORS PER NEC TABLE 310.15(B)(2)(a) FOR CONDUITS WITH MORE THAN (3) CURRENT "CARRYING CONDUCTORS". THE NEUTRAL CONDUCTOR SHALL BE CONSIDERED "CURRENT CARRYING" FOR ALL BRANCH CIRCUITS SERVING MORE THAN (4) COMPUTERS.

F. REFER TO VOLTAGE DROP FEEDER SCHEDULE FOR BRANCH CIRCUITS EXCEEDING 100' IN LENGTH.

G. COORDINATE RECEPTACLE LOCATIONS WITH MILLWORK AND COUNTERS. DO NOT LOCATE RECEPTACLES BEHIND DRAWERS OR HIDDEN IN MILLWORK UNLESS SPECIFICALLY DIRECTED BY OWNER/ARCHITECT. REVIEW ARCHITECTURAL ELEVATIONS PRIOR TO RECEPTACLE ROUGH-INS. SEE ARCH. ELEVATIONS IN BREAKROOMS FOR APPLIANCES AND RECEPTACLE MOUNTING LOCATIONS.

H. MOUNT RECEPTACLES 18"AFF, 6"ABOVE BACKSPLASH AT COUNTERS, 48"IN TOILET ROOMS, AT EQUIPMENT ROUGH-IN LOCATIONS FOR APPLIANCES, AND 96"FOR TV'S. PROVIDE GFI RECEPTACLES AT/LOCATED ALL SINKS, ROOFTOP RECEPTACLES, KITCHEN RECEPTACLES, BATHROOM/TOILT ROOMS, EXTERIOR RECEPTACLES, AND UNDERCOUNTER EQUIPMENT. ALSO, ALL RECEPTACLES SERVING DRINKING FOUNTAINS SHALL HAVE GFI.

M. ALL RECEPTACLES NOT DEDICATED TO EQUIPMENT WITHIN 6' OF SINK, MOP SINK, DRINKING FOUNTAIN OR OTHER USER WATER SOURCE SHALL BE GFI PROTECTED.

N. ALL RECEPTACLES IN KITCHENS SHALL BE GFI PROTECTED.

O. ALL EQUIPMENT SHALL HAVE A LOCAL DISCONNECTING MEANS, EITHER CORDED PLUG AND RECEPTACLE OR SWITCHED DISCONNECT. VERIFY FROM EQUIPMENT SUBMITTED OR RELOCATED IF DIRECT CONNECT OR RECEPTACLE. IF DIRECT CONNECT, PROVIDE SWITCH AS PER NEC OTHERWISE, PROVIDE RECEPTACLE, CORD PLUG AS REQUIRED BY EQUIPMENT SUBMITTAL.

P. FIRESTOP ALL CONDUIT PENETRATIONS IN RATED WALLS. SEE ARCHITECTURAL FOR WALL RATINGS. CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO SHEET ROCK AND REPAIR.

Q. PROVIDE FIRE RATED SLEEVES IN ALL FLOOR PENETRATIONS.

R. PROVIDE A DUCT-MOUNTED SMOKE DETECTOR ON THE RETURN SIDE OF ALL RTU'S, AHU'S, AND FCU'S RATED AT 2000 CFM SUPPLY AND OVER. PROVIDE A DUCT-MOUNTED SMOKE DETECTOR ON THE RETURN AND SUPPLY SIDE OF ALL MECHANICAL EQUIPMENT RATED AT 10,000 CFM AND OVER. CONNECT FOR AUTOMATIC SHUTDOWN OF UNIT AND ALARM TO FACP (WHERE APPLICABLE). REFER TO MECHANICAL EQUIPMENT SCHEDULES FOR CFM RATINGS.

S. PROVIDE A MINIMUM OF (10) SPARE 20A/1P BREAKERS AND (3) 20A/1P SPACES IN EACH PANEL WHETHER SHOWN ON SCHEDULE OR NOT.

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project #: 24059
date: 11/15/2024
Project Manager: AH
Drawn By: HM3
drawing title: ELECTRICAL GENERAL NOTES
drawing number: E001

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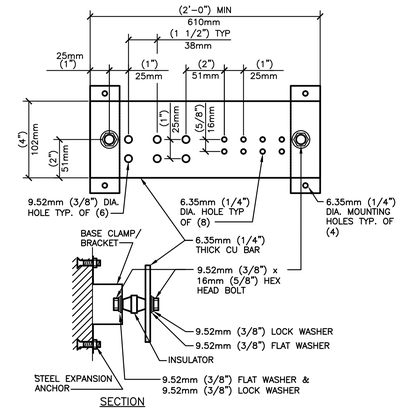


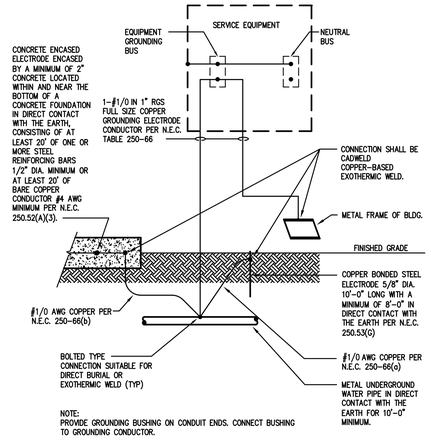
SECTION

GENERAL NOTES:

1. ALL HARDWARE SHALL BE STAINLESS STEEL.
2. PROVIDE 1 MOUNTING POINT PER 305mm (12") OF BAR LENGTH.
3. HOLES MAY BE ADDED IF REQUIRED.

1 GROUNDING BAR DETAIL

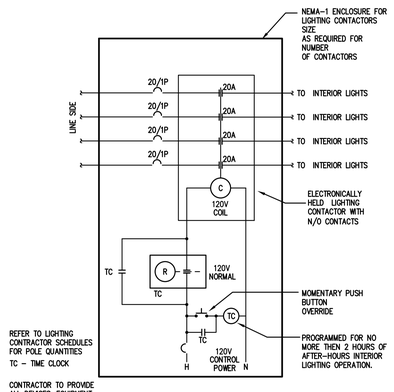
NTS SD260526-01



NOTE:
PROVIDE GROUNDING BUSHING ON CONDUIT ENDS. CONNECT BUSHING TO GROUNDING CONDUCTOR.

2 GROUNDING ELECTRODE SYSTEM

NTS

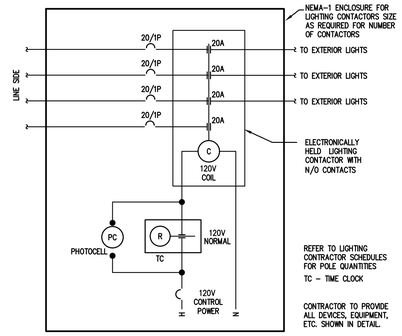


REFER TO LIGHTING CONTRACTOR SCHEDULES FOR POLE QUANTITIES
TC – TIME CLOCK

CONTRACTOR TO PROVIDE ALL DEVICES, EQUIPMENT, ETC. SHOWN IN DETAIL.

3 INTERIOR LIGHTING CONTACTOR DETAIL

NTS

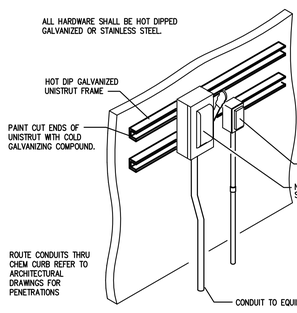


REFER TO LIGHTING CONTRACTOR SCHEDULES FOR POLE QUANTITIES
TC – TIME CLOCK

CONTRACTOR TO PROVIDE ALL DEVICES, EQUIPMENT, ETC. SHOWN IN DETAIL.

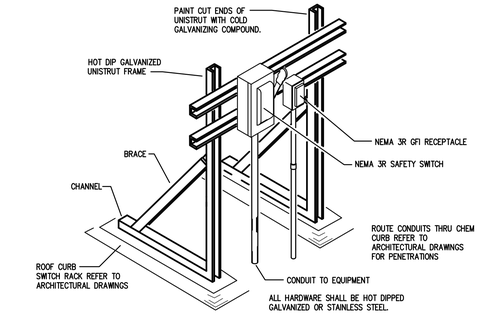
4 EXTERIOR LIGHTING CONTACTOR DETAIL

NTS



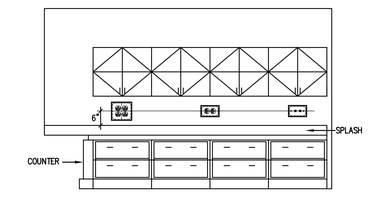
5 EXTERIOR WALL DISCONNECT DETAIL

NTS



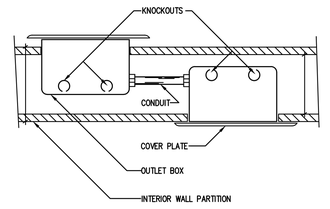
6 ROOF DISCONNECT RACK DETAIL

NTS



7 TYPICAL COUNTERTOP DEVICE ELEVATION

NTS



8 BACK TO BACK OUTLETS DETAIL

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Project Manager: AH
Drawn By: HM3

drawing title:
ELECTRICAL DETAILS

drawing number:
E002

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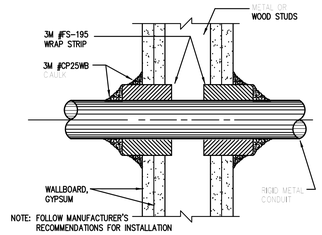
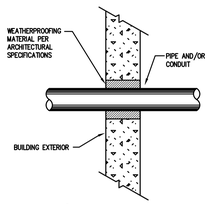


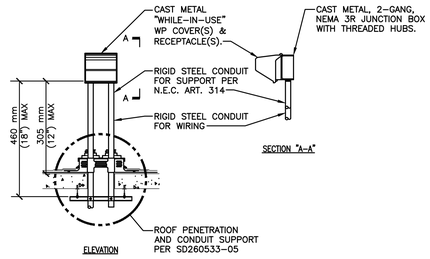
1 1 AND 2 HR. GYPSUM/WALLBOARD PENETRATION DETAIL

NTS



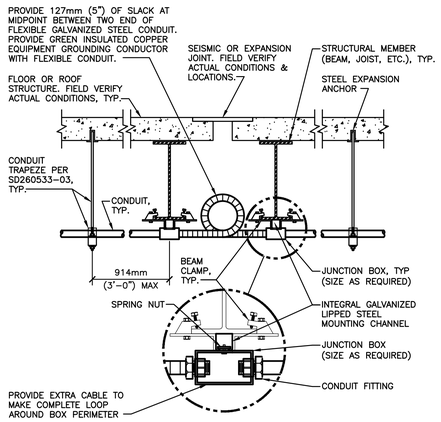
2 PIPE AND/OR CONDUIT PENETRATION

NTS



3 RECEPTACLE ROOF MOUNTING DETAIL

NTS SD262726-01

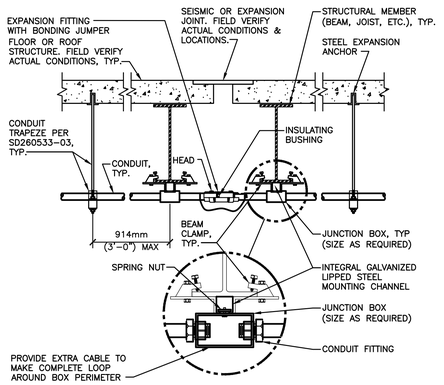


GENERAL NOTE:

1. DETAIL IS APPLICABLE ONLY FOR CONDUIT SMALLER THAN 76mm (3").

4 CONDUIT EXPANSION JOINT CROSSING DETAIL- FLEXIBLE CONDUIT

NTS SD260533-01

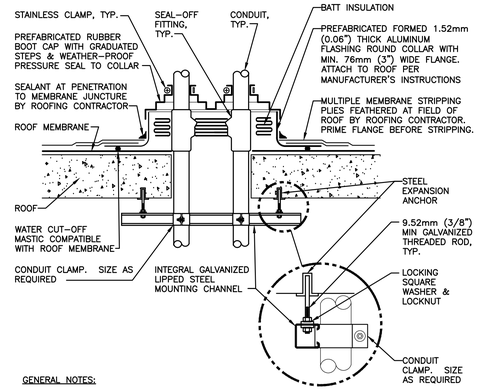


GENERAL NOTES:

1. INSTALLATION IS ACCEPTABLE ALTERNATE TO DETAIL SD260533-01.
2. INSTALLATION IS REQUIRED FOR CONDUIT 76mm (3") AND LARGER.

5 CONDUIT EXPANSION JOINT CROSSING DETAIL- EXPANSION FITTING

NTS SD260533-02

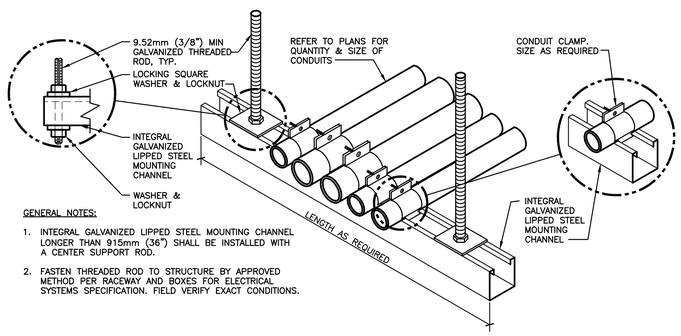


GENERAL NOTES:

1. MAINTAIN A MINIMUM CLEARANCE OF 305mm (12") ON ALL SIDES OF ROOF PENETRATION FROM WALLS, CURBS, AND OTHER PROJECTIONS TO FACILITATE PROPER FLASHING.
2. FLANGES OF ADJACENT FLASHINGS SHALL NOT BE CUT OR OVERLAPPED.
3. VERIFY ROOF & STRUCTURAL SYSTEM WITH ARCHITECT.
4. COORDINATE FLASHING INSTALLATION WITH ROOFING CONTRACTOR TO ENSURE PROPER METHODS & MATERIALS ARE USED TO MAINTAIN ROOF WARRANTY.

6 CONDUIT ROOF PENETRATION DETAIL

NTS SD260533-05

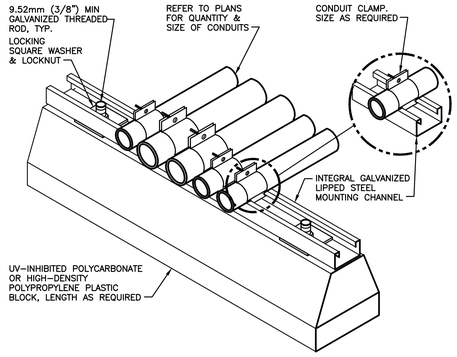


GENERAL NOTES:

1. INTEGRAL GALVANIZED LIPPED STEEL MOUNTING CHANNEL LONGER THAN 915mm (36") SHALL BE INSTALLED WITH A CENTER SUPPORT ROD.
2. FASTEN THREADED ROD TO STRUCTURE BY APPROVED METHOD PER RACEWAY AND BOXES FOR ELECTRICAL SYSTEMS SPECIFICATION. FIELD VERIFY EXACT CONDITIONS.

7 CONDUIT TRAPEZE MOUNTING DETAIL

NTS SD260533-03



8 ROOF CONDUIT SUPPORT DETAIL

NTS SD260533-04

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date: 11/15/2024

Project Manager: AH Drawn By: HM3

drawing title: ELECTRICAL DETAILS

drawing number: E003

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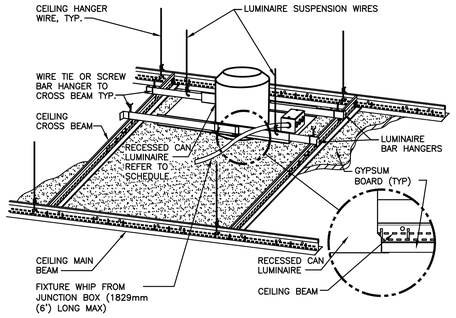
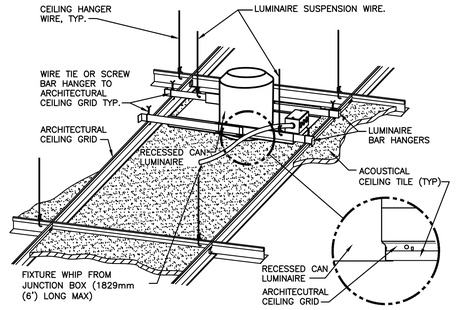


GENERAL NOTE:

1. INSTALL IN ACCORDANCE WITH MANUFACTURER'S MOUNTING INSTRUCTIONS AND USING THE RECOMMENDED MOUNTING HARDWARE.

1 DOWNLIGHT MOUNTING - GYPBOARD CEILING

NTS SD265100-03

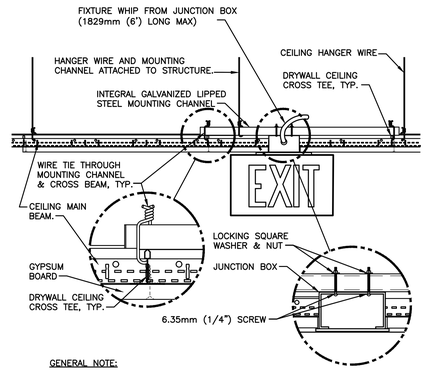


GENERAL NOTE:

1. INSTALL IN ACCORDANCE WITH MANUFACTURER'S MOUNTING INSTRUCTIONS AND USING RECOMMENDED MOUNTING HARDWARE

2 DOWNLIGHT MOUNTING - LAY-IN CEILING

NTS SD265100-04

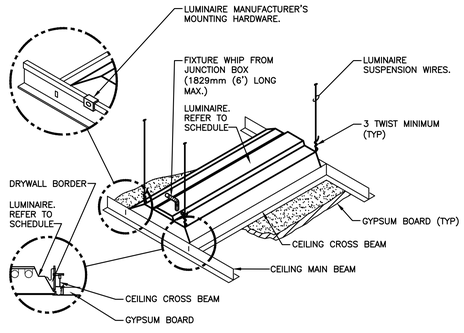


GENERAL NOTE:

1. INSTALL IN ACCORDANCE WITH MANUFACTURER'S MOUNTING INSTRUCTIONS AND USING THE RECOMMENDED MOUNTING HARDWARE.

3 EXIT SIGN MOUNTING - GYPBOARD CEILING

NTS SD265100-05

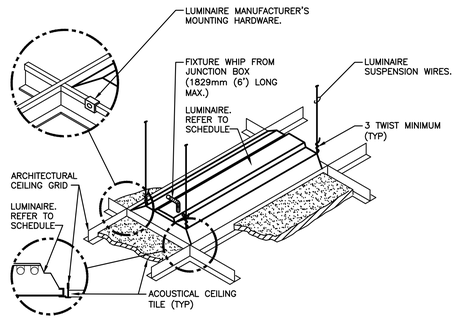


GENERAL NOTE:

1. INSTALL IN ACCORDANCE WITH MANUFACTURER'S MOUNTING INSTRUCTIONS AND USING THE RECOMMENDED MOUNTING HARDWARE.

4 LUMINAIRE MOUNTING - GYPBOARD CEILING

NTS SD265100-01

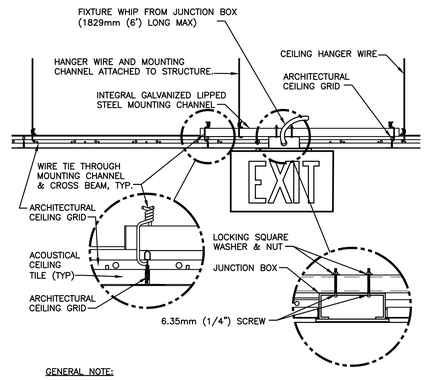


GENERAL NOTE:

1. INSTALL IN ACCORDANCE WITH MANUFACTURER'S MOUNTING INSTRUCTIONS AND USING THE RECOMMENDED MOUNTING HARDWARE.

5 LUMINAIRE MOUNTING - LAY-IN CEILING

NTS SD265100-02



GENERAL NOTE:

1. INSTALL IN ACCORDANCE WITH MANUFACTURER'S MOUNTING INSTRUCTIONS AND USING THE RECOMMENDED MOUNTING HARDWARE.

6 EXIT SIGN MOUNTING - LAY-IN CEILING

NTS SD265100-06

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project #: 24059

date: 11/15/2024

Project Manager: AH | Drawn By: HM3

drawing title: ELECTRICAL DETAILS

drawing number: E004

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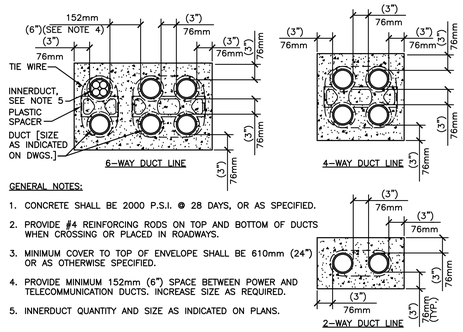
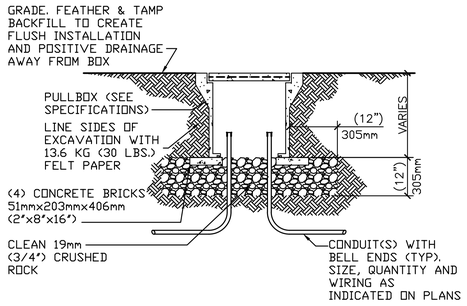


GENERAL NOTES:

1. CONCRETE SHALL BE 2000 P.S.I. @ 28 DAYS, OR AS SPECIFIED.
2. PROVIDE #4 REINFORCING RODS ON TOP AND BOTTOM OF DUCTS WHEN CROSSING OR PLACED IN ROADWAYS.
3. MINIMUM COVER TO TOP OF ENVELOPE SHALL BE 610mm (24") OR AS OTHERWISE SPECIFIED.
4. PROVIDE MINIMUM 152mm (6") SPACE BETWEEN POWER AND TELECOMMUNICATION DUCTS. INCREASE SIZE AS REQUIRED.
5. INNERDUCT QUANTITY AND SIZE AS INDICATED ON PLANS.

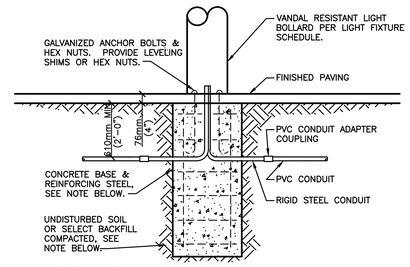
1 DUCT BANK DETAILS

NTS SD260541-02



2 UNDERGROUND CONCRETE PULLBOX

NTS SD260541-05

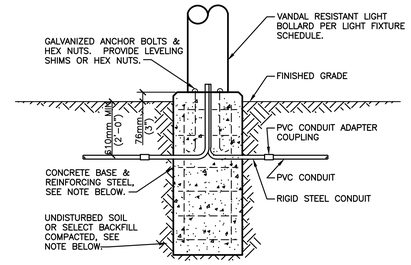


GENERAL NOTES:

1. BACKFILL, CONCRETE, REINFORCING STEEL, AND ANCHOR BOLTS ARE SHOWN FOR REFERENCE ONLY. STRUCTURAL DESIGN IS SHOWN ON STRUCTURAL DRAWINGS.
2. REFER TO SPECIFICATIONS FOR MOUNTING AND LEVELING REQUIREMENTS.
3. REFER TO LANDSCAPE DETAILS FOR INSTALLATION OF PAVERS AND INTERFACE BETWEEN PAVERS AND POLE BASE.

3 BOLLARD BASE DETAIL - PAVED AREAS

NTS SD265600-04

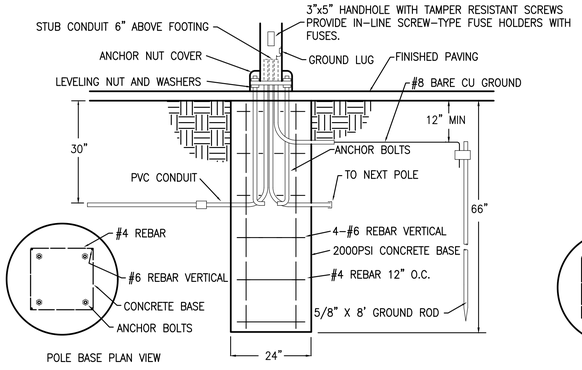


GENERAL NOTES:

1. BACKFILL, CONCRETE, REINFORCING STEEL, AND ANCHOR BOLTS ARE SHOWN FOR REFERENCE ONLY. STRUCTURAL DESIGN IS SHOWN ON STRUCTURAL DRAWINGS.
2. REFER TO SPECIFICATIONS FOR MOUNTING AND LEVELING REQUIREMENTS.

4 BOLLARD BASE DETAIL - TURF AREAS

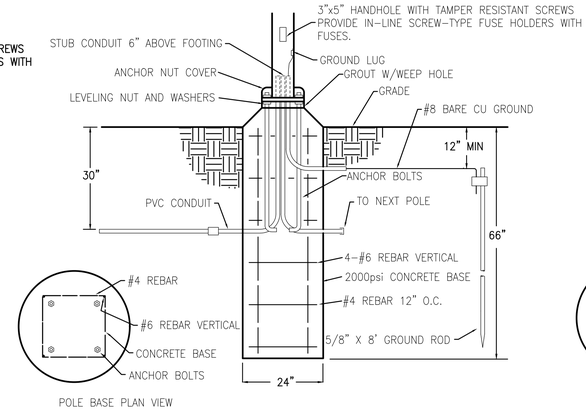
NTS SD265600-05



NOTE: USE MANUFACTURER'S TEMPLATE TO POSITION ANCHOR BOLTS.

5 POLE BASE DETAIL - PAVED AREAS

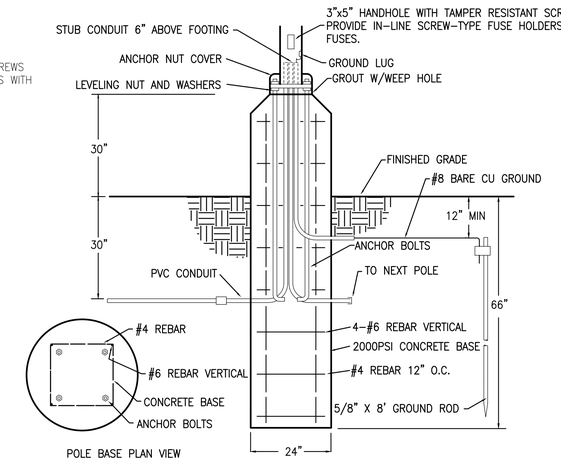
NTS SD265600-01



NOTE: USE MANUFACTURER'S TEMPLATE TO POSITION ANCHOR BOLTS.

6 POLE BASE DETAIL - PEDESTRIAN

NTS SD265600-02



NOTE: USE MANUFACTURER'S TEMPLATE TO POSITION ANCHOR BOLTS.

7 POLE BASE DETAIL

NTS SD265600-03

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REVISIONS:

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project #: 24059

date: 11/15/2024

Project Manager: AH | Drawn By: HM3

drawing title: ELECTRICAL DETAILS

drawing number: E005

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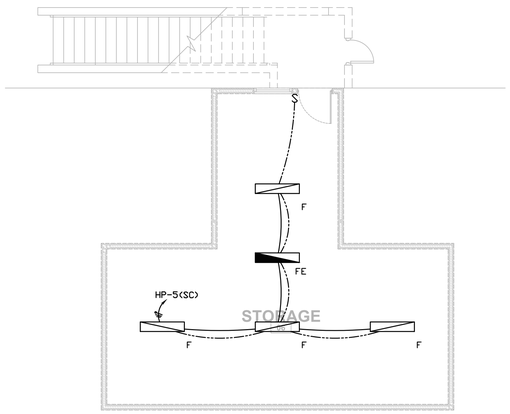
SAN ANTONIO - RGV
TBPE FIRM REGISTRATION NO. 13361



MLOD COMPLIANCE:

MAXIMUM ALLOWED B-U-G RATING OF FIXTURE TYPE A1 PER MLR-1/LZ-2: 4-2-2
B-U-G RATING OF TYPE A1 FIXTURE PER DESIGN: 4-2-2

MAXIMUM ALLOWED B-U-G RATING OF FIXTURE TYPE A2 PER MLR-1/LZ-2: 4-2-2
B-U-G RATING OF TYPE A2 FIXTURE PER DESIGN: 4-2-2

MAXIMUM ALLOWED B-U-G RATING OF FIXTURE TYPE BE PER MLR-1/LZ-2: 4-2-2
B-U-G RATING OF TYPE BE FIXTURE PER DESIGN: 4-2-2

MAXIMUM ALLOWED B-U-G RATING OF FIXTURE TYPE S1 PER MLR-1/LZ-2: 4-2-2
B-U-G RATING OF TYPE S1 FIXTURE PER DESIGN: 2-0-2

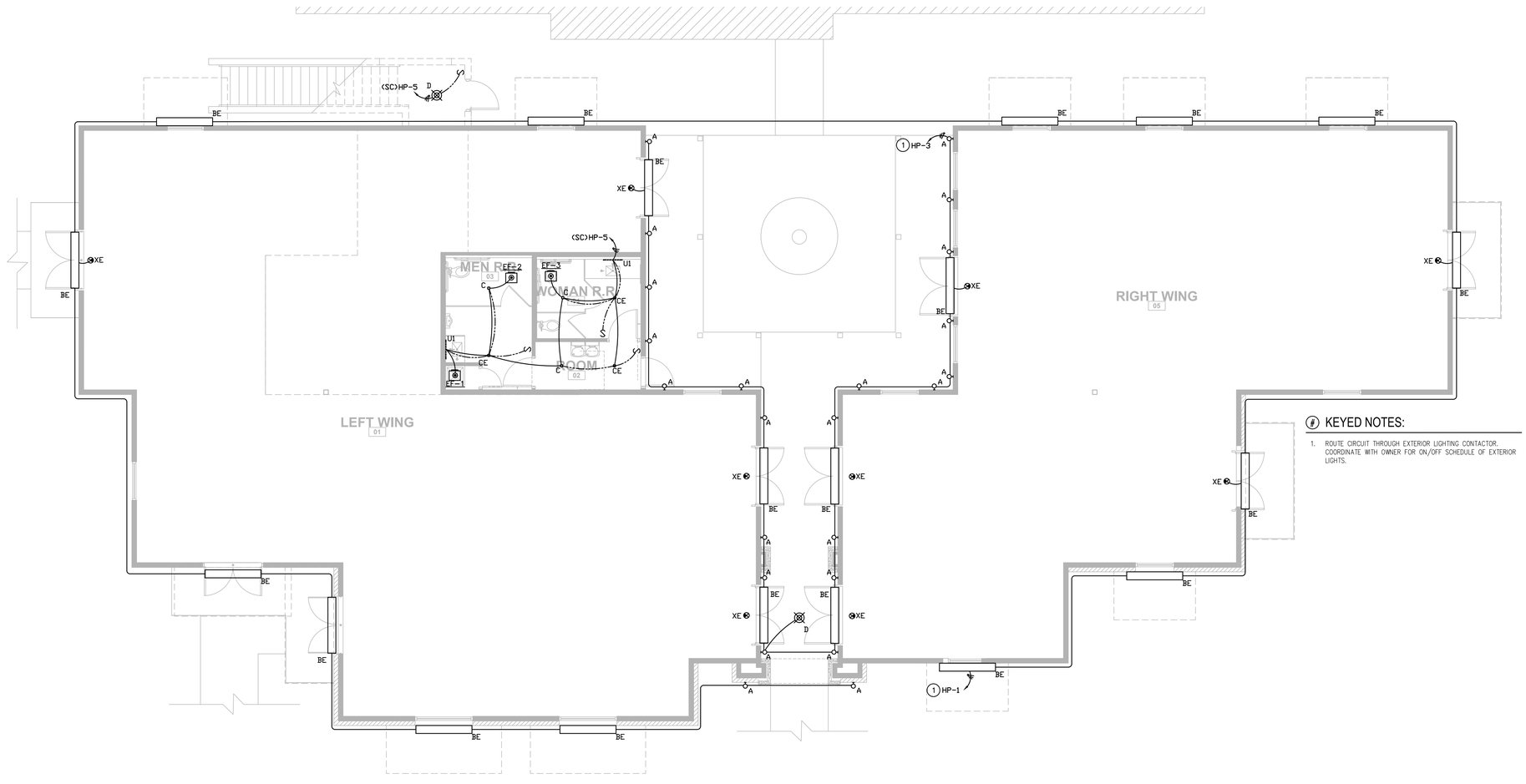
The Engineer of Record certifies that this drawing is in compliance with and adheres to the requirements set-forth by Sec. 35-339.04 Military Lighting Overlay Districts

LIGHT FIXTURE SCHEDULE

TAG	MANUFACTURER	CATALOG #	MOUNTING	LAMPS	COLOR TEMP.	LUMENS	VOLTAGE	WATTS	REMARKS
A	ALW	CSS4/WL-13833560NN-NV10-L-RAL	WALL	LED	3500K	1300lm	120V	12W	LED WALL MOUNTED SCONCE
BE	LITHONIA	ZL1N L48 SMR 2500LM FST MVOLT 35K 80CRI E10W GALV	SURFACE	LED	3500K	2500lm	120V	19W	4' OUTDOOR RATED LED STRIP LIGHT
C,CE	LITHONIA	LDN6 35/15 L06 AR LSS MVOLT EZ10	RECESSED	LED	3500K	1500lm	120V	18W	6" RECESSED LED CAN LIGHT
D	ALW	CSP4/WL-13833560NN-NV10-L-RAL-BK-AC	PENDANT	LED	3500K	1300lm	120V	12W	DECORATIVE PENDANT LIGHT FIXTURE
F,FE	LITHONIA	CLX L48 2500LM HEF RDL MVOLT GZ10 35K 80CRI WH	SURFACE	LED	3500K	2500lm	120V	32W	4' LED STRIP LIGHT
U1	LLI	LLI-WID-SF-H4.4W-35K-24V-24IN	SURFACE	LED	3500K	368lm/ft	120V	5W/FT	LED COVE LIGHT
XE	LITHONIA	WLTC	SURFACE	LED	-	-	120V	6W	LED COMBINATION EMERGENCY EGRESS FIXTURE/EXIT SIGN
S1	LITHONIA	RSXI LED P3 30K R3 MVOLT RPA DBLXD	POLE	LED	3000K	12,763lm	120V	109W	LED POLE LIGHT FIXTURE MOUNTED AT 20' A.F.F.

NOTES:
COORDINATE ALL FIXTURE FINISHES WITH ARCHITECT PRIOR TO ORDERING.
ORDER WITH MANUFACTURER RECOMMENDED MOUNTING HARDWARE.
*PROVIDE EMERGENCY BATTERY W/TEST FOR ALL "E" SUFFIXED FIXTURES.

2 LIGHTING PLAN - SECOND FLOOR
3/16" = 1'-0"



KEYED NOTES:

1. ROUTE CIRCUIT THROUGH EXTERIOR LIGHTING CONTACTOR. COORDINATE WITH OWNER FOR ON/OFF SCHEDULE OF EXTERIOR LIGHTS.

1 LIGHTING PLAN - FIRST FLOOR
3/16" = 1'-0"

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REVISIONS:

NO.	DESCRIPTION	DATE

VIA DOMINION 200

03.15.24

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ALFREDO HERNANDEZ
101108
LICENSED
PROFESSIONAL ENGINEER
11/15/24

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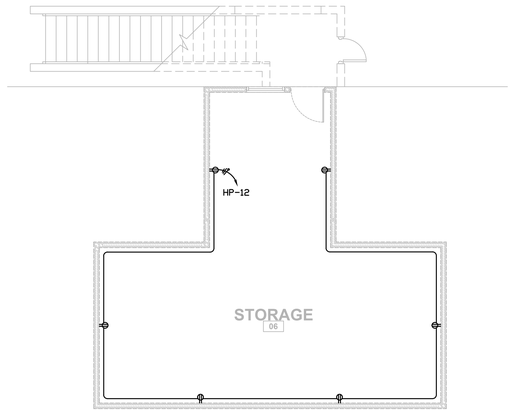
project #:
24059

date:
11/15/2024

Project Manager: AH
Drawn By: HM3

drawing title:
LIGHTING PLAN

drawing number:
E100



2 POWER PLAN - SECOND FLOOR
3/16" = 1'-0"

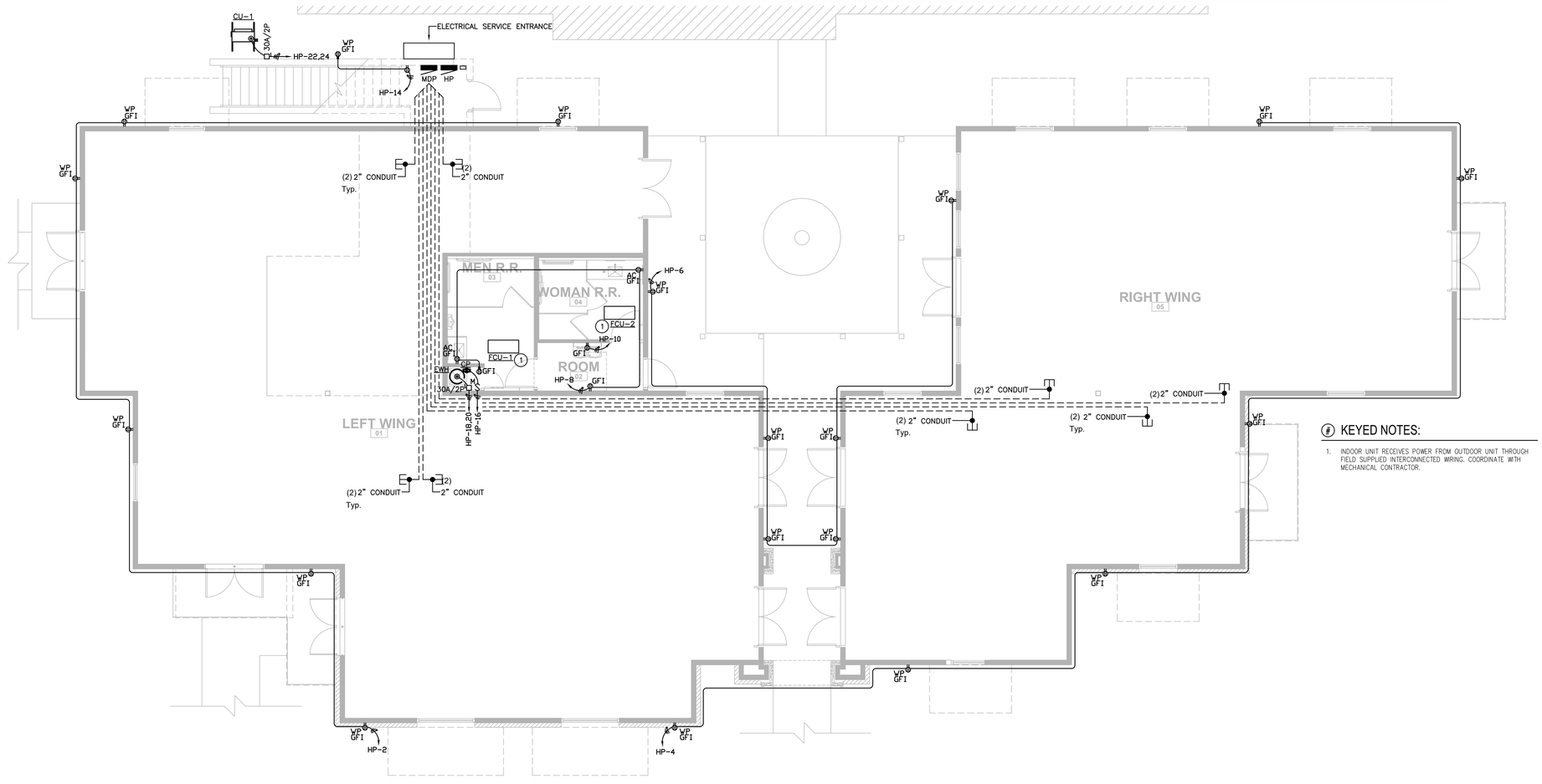
PANEL HP

VOLTAGE (L-N):	120	ENCLOSURE TYPE:	NEMA 1
VOLTAGE (L-L):	208	MOUNTING:	SURFACE
PHASES, WIRES:	3 ϕ 4 W	AIC RATING (A):	10000
MINIMUM BUS CAPACITY (A):	100 A	NOTES:	----
MAIN O.C. DEVICE (A):	100 A		

CKT NO	DESCRIPTION	TRIP AMPS	POLE	PHASE LOADS (VA) A		B		C		POLE	TRIP AMPS	DESCRIPTION	CKT NO
1	LIGHTING	20	1	308	1080					1	20	RECEPTACLES	2
3	LIGHTING	20	1			452	1080			1	20	RECEPTACLES	4
5	LIGHTING	20	1					444	1080	1	20	RECEPTACLES	6
7	PARKING LOT LIGHTING	20	1	109	720					1	20	RECEPTACLES	8
9	SPARE	20	1			0	180			1	20	RECEPTACLE - DRINKING FOUNTAIN	10
11	SPARE	20	1					0	1080	1	20	RECEPTACLES	12
13	SPARE	20	1	0	360					1	20	RECEPTACLES	14
15	SPARE	20	1			0	540			1	20	CP-1	16
17	SPARE	20	1					0	2000	2	30	EWH	18,20
19	SPARE	20	1	0	2000					2	30	EWH	18,20
21	SPARE	20	1			0	1664			2	30	CU-1	22,24
23	SPARE	20	1					0	1664	2	30	CU-1	22,24
				CONNECTED LOAD PHASE TOTALS (VA)									
				4577		3916		6268					

	CONNECTED LOAD (KVA)	DEMAND FACTOR	DEMAND LOAD (KVA)
Electric Water Heater	4.0	1.00	4.0
Lighting	1.1	1.25	1.3
Lighting - Exterior	0.1	1.25	0.1
Motors	0.1	1.00	0.1
Motors (Largest)	0.5	1.25	0.7
Receptacles (0 - 10 KVA)	5.4	1.00	5.4
Cooling and Heating	3.3	1.00	3.3
Equipment	0.2	1.00	0.2
TOTAL:	14.8		15.2
LOAD (AMPS):	41.0		42.2

DEMAND LOAD	15.2 KVA
SPARE CAPACITY	20.8 KVA
SPARE CAPACITY	57.8 AMPS
SPARE CAPACITY	58 %
PHASE BALANCE	
A TO B	86 %
B TO C	62 %
C TO A	73 %



1 POWER PLAN - FIRST FLOOR
3/16" = 1'-0"

KEYED NOTES:

1. INDOOR UNIT RECEIVES POWER FROM OUTDOOR UNIT THROUGH FIELD SUPPLIED INTERCONNECTED WIRING. COORDINATE WITH MECHANICAL CONTRACTOR.

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REVISIONS:

NO.	DESCRIPTION	DATE

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03.15.24

STATE OF TEXAS
ALFREDO HERNANDEZ
101108
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project #: 24059

date: 11/15/2024

Project Manager: AH | Drawn By: HM3

drawing title: POWER PLAN

drawing number: E200

PANEL MDP

VOLTAGE (L–N):	120	ENCLOSURE TYPE:	NEMA 1
VOLTAGE (L–L):	208	MOUNTING:	SURFACE
PHASES, WIRES:	3 ϕ 4 W	AIC RATING (A):	42000
MINIMUM BUS CAPACITY (A):	1000 A	NOTES:	----
MAIN O.C. DEVICE (A):	1000 A		

CKT NO	DESCRIPTION	TRIP AMPS	POLE	PHASE LOADS (VA) A		B		C		POLE	TRIP AMPS	DESCRIPTION	CKT NO
1,3,5	PANEL HP	100	3	4577	0					----	----	BUSSED SPACE ONLY	2
1,3,5	PANEL HP	100	3			3916	0			----	----	BUSSED SPACE ONLY	4
1,3,5	PANEL HP	100	3					6268	0	3	125	TENANT PANEL	6,8,10
7,9,11	TENANT PANEL	125	3	0	0					3	125	TENANT PANEL	6,8,10
7,9,11	TENANT PANEL	125	3			0	0			3	125	TENANT PANEL	6,8,10
7,9,11	TENANT PANEL	125	3					0	0	3	125	TENANT PANEL	12,14,16
13,15,17	TENANT PANEL	125	3	0	0					3	125	TENANT PANEL	12,14,16
13,15,17	TENANT PANEL	125	3			0	0			3	125	TENANT PANEL	12,14,16
13,15,17	TENANT PANEL	125	3					0	0	3	125	TENANT PANEL	18,20,22
19,21,23	TENANT PANEL	125	3	0	0					3	125	TENANT PANEL	18,20,22
19,21,23	TENANT PANEL	125	3			0	0			3	125	TENANT PANEL	18,20,22
19,21,23	TENANT PANEL	125	3					0	0	3	125	TENANT PANEL	24,26,28
25,27,29	TENANT PANEL	125	3	0	0					3	125	TENANT PANEL	24,26,28
25,27,29	TENANT PANEL	125	3			0	0			3	125	TENANT PANEL	24,26,28
25,27,29	TENANT PANEL	125	3					0	0	----	----	BUSSED SPACE ONLY	30
				CONNECTED LOAD PHASE TOTALS (VA)									
				4577		3916		6268					

	CONNECTED LOAD (KVA)	DEMAND FACTOR	DEMAND LOAD (KVA)
Electric Water Heater	4.0	1.00	4.0
Lighting	1.1	1.25	1.3
Lighting – Exterior	0.1	1.25	0.1
Motors	0.1	1.00	0.1
Motors (Largest)	0.5	1.25	0.7
Receptacles (0 – 10 KVA)	5.4	1.00	5.4
Cooling and Heating	3.3	1.00	3.3
Equipment	0.2	1.00	0.2
TOTAL:	14.8		15.2
LOAD (AMPS):	41.0		42.2

DEMAND LOAD	15.2 KVA
SPARE CAPACITY	345.1KVA
SPARE CAPACITY	957.8 AMPS
SPARE CAPACITY	96 %
PHASE BALANCE	
A TO B	86 %
B TO C	62 %
C TO A	73 %

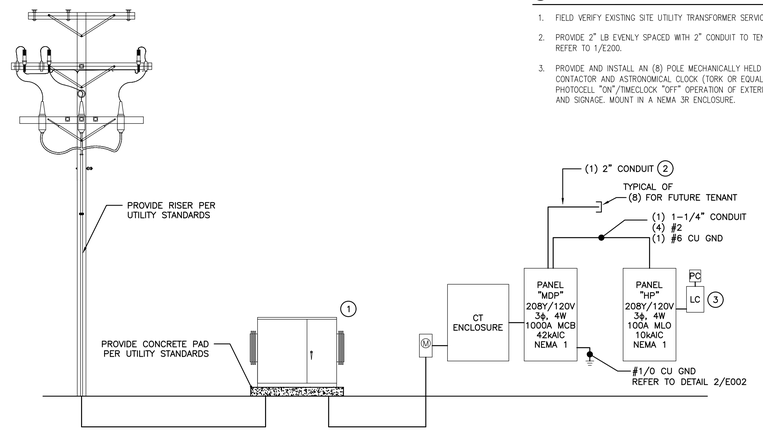
ELECTRICAL LOAD ANALYSIS - MDP

208˚/ 120˚, 3˚-PHASE, 4 -WIRE

DESCRIPTION	LOAD	DIV.	NEC	KVA
HOUSE PANEL LOADS:				
LIGHTING =	1,300	VA X 125%	210.20(a)	1.6
RECEPTACLES =	5,400	VA	220.44	5.4
HEATING AND COOLING	3,300	VA		3.3
FUTURE TENANT LOADS				
GENERAL LIGHTING =	16,200	VA 3VA/SF	220.12	16.2
RECEPTACLES =	27,000	VA 5000 VA/SF	220.14(k), 220.44	18.5
WATER HEATER =	36,000	VA 4500 VA PER TENANT		36.0
HVAC	70,200	VA ~300 SF/TON	220.60	70.2
ANTICIPATED FUTURE LOAD INCLUDING HOUSE PANEL			TOTAL =	151.2
			TOTAL AMPS:	419.8
			SERVICE SIZE:	1000.0
			SPARE AMPACITY:	580.2

COMMERCIAL ENERGY COMMISSIONING CHECKLIST: LIGHTING SYSTEMS AUTOMATIC CONTROLS - FUNCTIONAL TESTING

- ☐ PRIOR TO PASSING FINAL INSPECTION, THE REGISTERED DESIGN PROFESSIONAL SHALL PROVIDE EVIDENCE THAT THE LIGHTING CONTROL SYSTEMS HAVE BEEN TESTED TO ENSURE THAT CONTROL HARDWARE AND SOFTWARE ARE CALIBRATED, ADJUSTED, PROGRAMMED AND IN PROPER WORKING CONDITION IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS AND MANUFACTURER'S INSTRUCTIONS.
- ☐ OCCUPANCY SENSOR CONTROLS (C408.3.1.1)
- ☐ TIME SWITCH CONTROLS (C.408.3.1.2)
- ☐ DAYLIGHT RESPONSIVE CONTROLS (C408.3.1.3)
- ☐ WHERE APPLICABLE, A PRELIMINARY COMMISSIONING REPORT AND COMMISSIONING COMPLIANCE CHECKLIST TO THE OWNER OR OWNER'S AUTHORIZED AGENT AND TO THE BUILDING OFFICIAL, PRIOR TO FINAL INSPECTION/ISSUANCE OF A CERTIFICATE OF OCCUPANCY.
- ☐ DRAWINGS WITH LOCATIONS AND CATALOGUE NUMBER OF EACH PIECE OF EQUIPMENT TO THE OWNER OR OWNER'S AUTHORIZED AGENT WITHIN 90 DAYS OF THE RECEIPT OF THE CERTIFICATE OF OCCUPANCY.
- ☐ OPERATING AND MAINTENANCE MANUALS TO THE OWNER OR OWNER;S AUTHORIZED AGENT WITHIN 90 DAYS OF THE DATE OF RECEIPT OF THE CERTIFICATE OF OCCUPANCY.
- ☐ A REPORT OF TEST RESULTS TO THE OWNER OR OWNER'S AUTHORIZED AGENT WITHIN 90 DAYS OF THE DATE OF RECEIPT OF THE CERTIFICATE OF OCCUPANCY.



1 ONE-LINE DIAGRAM
NTS

KEYED NOTES:

1. FIELD VERIFY EXISTING SITE UTILITY TRANSFORMER SERVICE VOLTAGE.
2. PROVIDE 2" LB EVENLY SPACED WITH 2" CONDUIT TO TENANT SPACE. REFER TO 1/E200.
3. PROVIDE AND INSTALL AN (8) POLE MECHANICALLY HELD LIGHTING CONTACTOR AND ASTRONOMICAL CLOCK (TORK OR EQUAL) FOR PHOTOCELL "ON"/TIMECLOCK "OFF" OPERATION OF EXTERIOR LIGHTS AND SIGNAGE. MOUNT IN A NEMA 3R ENCLOSURE.

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REVISIONS:

NO.	DESCRIPTION	DATE

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project #: 24059

date: 11/15/2024

Project Manager: AH | Drawn By: HM3

drawing title: ELECTRICAL ONE-LINE DIAGRAM & SCHEDULES

drawing number: E300

PLUMBING SYMBOLS AND ABBREVIATIONS

(NOT ALL OF THE SYMBOLS SHOWN MAY BE USED ON THE PROJECT.)

SYMBOL	DESCRIPTION	ABBREVIATION
SD	STORM DRAIN, RAINWATER DRAIN	SD, RT
SSD	SUBSOIL DRAIN, FOOTING DRAIN	SSD
GW	GREASE WASTE	GREASE WASTE
	ABOVE GRADE SOIL, WASTE, OR SANITARY SEWER	S, W, SAN, SS
	BELOW GRADE SOIL, WASTE, OR SANITARY SEWER	S, W, SAN, SS
	VENT	V
AW	ACID WASTE	AW
AV	ACID VENT	AV
D	INDIRECT DRAIN	D
PD	PUMP DISCHARGE LINE	PD
	COLD WATER	CW
	HOT WATER SUPPLY (120°)	HW
140	HOT WATER SUPPLY (140°)	140°
	HOT WATER RETURN (120°)	HWR
	HOT WATER RETURN (140°)	140°R
TW	TEMPERED HOT WATER (TEMP.°F)	TEMP, HW, TW
TWR	TEMPERED HOT WATER RECIRCULATING (TEMP.°F)	TEMP, HWR, TWR
DWS	(CHILLED) DRINKING WATER SUPPLY	DWS
DWR	(CHILLED) DRINKING WATER RECIRCULATING	DWR
SW	SOFT WATER	SW
CD	CONDENSATE DRAIN	CD
DI	DISTILLED WATER	DI
DE	DEIONIZED WATER	DE
	PIPING TO BE HEAT TRACED	–
LS	LAWN SPRINKLER SUPPLY	LS
F	FIRE PROTECTION WATER SUPPLY	F
G	GAS–LOW–PRESSURE	G
MG	GAS–MEDIUM–PRESSURE	MG
HG	GAS–HIGH–PRESSURE	HG
GV	GAS VENT	GV
	CONCENTRIC REDUCER	–
	ECCENTRIC REDUCER	–
GWH–1	EQUIPMENT DESIGNATION (GAS WATER HEATER #1)	–
P–1	NEW PLUMBING FIXTURE DESIGNATION	–
	EXISTING PLUMBING FIXTURE TO BE REMOVED	–
1	PLUMBING KEYED NOTE	–
	AQUASTAT	–
TS	TAMPER SWITCH	TS
FS	FLOW SWITCH	FS
PS	PRESSURE SWITCH	PS
"A"	WATER HAMMER ARRESTER (PDI DESIGNATION "A")	WHA
	PRESSURE GAUGE WITH GAUGE COCK	PG
	THERMOMETER (SPECIFY TYPE)	–
AV	AUTOMATIC AIR VENT	AAV
	CIRCUIT SETTER	CS
	VALVE IN RISER (TYPE AS SPECIFIED OR NOTED)	–
	RISER DOWN (ELBOW)	–
	RISER (ELBOW)	–
	AIR CHAMBER	AC
	RISE OR DROP	–
	BRANCH–BOTTOM CONNECTION	–
	BRANCH–SIDE CONNECTION	–
	CAP ON END PIPE	–
	FLOW INDICATOR FOR STATIONARY METER (ORIFICE)	–
	FLOW INDICATOR FOR PORTABLE METER (SPECIFY FLOW RATE)	–

SYMBOL	DESCRIPTION	ABBREVIATION
	OUTSIDE YOLK & STEM GATE VALVE	OSY
	GATE VALVE	GV
	GLOBE VALVE	GLV
	ANGLE VALVE	AV
	BALL VALVE	BV
	BUTTERFLY VALVE	BFV
	GAS COCK, GAS STOP	–
	BALANCING VALVE (SPECIFY TYPE)	BLV
	CHECK VALVE	CV
	PLUG VALVE	PV
AP	ACCESS PANEL LOCATION	AP
P–1A	PLUMBING FIXTURE DESIGNATION	–
	SOLENOID VALVE	–
	MOTOR–OPERATED VALVE (SPECIFY TYPE)	–
PRV	PRESSURE–REDUCING VALVE	PRV
	PRESSURE–RELIEF VALVE	RV
T&P	TEMPERATURE–PRESSURE–RELIEF VALVE	TPV
RZBP	REDUCED ZONE BACKFLOW PREVENTER	RZBP
DCV	DOUBLE–CHECK BACKFLOW PREVENTER	DCBP
HB	HOSE BIBB	HB
WH	RECESSED–BOX HOSE BIBB OR WALL HYDRANT	WH
YB	VALVE IN YARD BOX (VALVE TYPE SYMBOL AS REQUIRED FOR VALVE USE)	YB
	UNION (SCREW)	–
	UNION (FLANGED)	–
	STRAINER (SPECIFY TYPE)	–
	PIPE ANCHOR	PA
	PIPE GUIDE	–
EJ	EXPANSION JOINT	EJ
FC	FLEXIBLE CONNECTOR	FC
	TEE	–
	SIAMESE FIRE DEPARTMENT CONNECTION	–
	FREESTANDING SIAMESE FIRE DEPARTMENT CONNECTION	–
	WALL (SPECIFY NUMBERS AND SIZE OF OUTLETS)	–
FP/JP	FIRE PUMP / JOCKEY PUMP	–
TP	TRAP PRIMER	TP
PG	PROPANE GAS	PG

SYMBOL	DESCRIPTION	ABBREVIATION
	UPRIGHT FIRE SPRINKLER HEAD	–
FHR	FIRE HOSE RACK	FHR
AS	AUTOMATIC SPRINKLER PIPE	–
DPS	DRY PIPE SPRINKLER	–
PRA	PREACTION SPRINKLER PIPE	–
FHV	FIRE HOSE VALVE	FHV
	FIRE HOSE CABINET (SURFACE–MOUNTED)	FHC
	FIRE HOSE CABINET (RECESSED)	FHC
CO	CLEANOUT PLUG	CO
FCO	FLOOR CLEANOUT	FCO
WCO	WALL CLEANOUT	WCO
CO	YARD CLEANOUT OR CLEANOUT TO GRADE	CO
FD	FLOOR DRAIN WITH P–TRAP	FD
	PITCH DOWN OR UP–IN DIRECTION OF ARROW	–
	FLOW–IN DIRECTION OF ARROW	–
POC	POINT OF CONNECTION	POC
F&T	STEAM TRAP (ALL TYPES)	–
FFD	FUNNEL FLOOR DRAIN	FDD
FS	FLOOR SINK (3/4 GRATE)	FS
	FLOOR SINK (1/2 GRATE)	FS
	SOIL/VENT STACK DESIGNATION	–
	REFERENCE: DETAIL NUMBER REFERENCE: SHEET NUMBER	–
	UPRIGHT SPRINKLER	–
	PENDENT SPRINKLER	–
	UPRIGHT SPRINKLER, NIPPLED UP	–
	PENDENT SPRINKLER, ON DROP NIPPLE	–
	SIDEWALL SPRINKLER	–
	PIPE HANGER	–
	ALARM CHECK VALVE ASSEMBLY	–
	DRY PIPE VALVE ASSEMBLY	–
	DELUGE VALVE ASSEMBLY	–
	PREACTION VALVE ASSEMBLY	–
FH	EXISTING FIRE HYDRANT	–
FH	NEW FIRE HYDRANT	–
	WALL HYDRANT, TWO HOSE OUTLETS	–

ABBREVIATIONS

A	
AFF	ABOVE FINISHED FLOOR
AC	ABOVE CEILING
ACU	AIR–CONDITIONING UNIT(S)
AHU	AIR HANDLING UNIT
AHP	AIR HORSEPOWER
AC	ALTERNATING CURRENT
ALT	ALTITUDE
AMB	AMBIENT
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
AWG	AMERICAN WIRE GAUGE
AMP	AMPERE (AMP, AMPS)
ANG	ANGLE
ANGI	ANGLE OF INCIDENCE
ADP	APPARATUS DEW POINT
APPROX	APPROXIMATE
A	AREA
ATM	ATMOSPHERE
AVG	AVERAGE
B	
BFF	BELOW FINISH FLOOR
BG	BELOW GRADE
BHP	BRAKE HORSEPOWER
BTU	BRITISH THERMAL UNIT
C	
°C	CELSIUS
C TO C	CENTER TO CENTER
CKT	CIRCUIT
CCW	COUNTERCLOCKWISE
FT 3	CUBIC FEET
IN 3	CUBIC INCH
CFM	CUBIC FEET PER MINUTE
SCFM	CFM, STANDARD CONDITIONS
SCFS	CUBIC FT PER SEC, STANDARD
D	
DIA	DIAMETER
ID	DIAMETER, INSIDE
OD	DIAMETER, OUTSIDE
DIFF	DIFFERENCE OR DELTA
DC	DIRECT CURRENT
–	DRY
DYCO	DOUBLE YARD CLEANOUT
E	
EFF	EFFICIENCY
ELEV	ELEVATION
EVAP	EVAPORATE (–E, –ING, –ED, –OR)
EXP	EXPANSION
F	
°F	FAHRENHEIT
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FT	FOOT OR FEET
FTLB	FOOT–POUND
FCO	FLOOR CLEANOUT
G	
GA	GAGE OR GAUGE
GAL	GALLONS
GPH	GALLONS PER HOUR
STD GPH	GPH, STANDARD
GPD	GALLONS PER DAY
GR	GRAINS
H	
HD	HEAD
HT	HEAT
HTR	HEATER
HGT	HEIGHT
HPS	HIGH–PRESSURE STEAM
HTHW	HIGH–TEMPERATURE HOT WATER
HP	HORSEPOWER
H	HOUR(S)
I	
IPS	INTERNATIONAL PIPE STD
IPS	IRON PIPE SIZE
K	
K	KELVIN
KW	KILOWATT
KWH	KILOWATT HOUR
L	
LG	LENGTH
LIN FT	LINEAR FEET
LIQ	LIQUID
LPS	LOW–PRESSURE STEAM

ABBREVIATIONS

M	
MAX	MAXIMUM
MPS	MEDIUM–PRESSURE STEAM
MTHW	MEDIUM–TEMPERATURE HOT WATER
HG	MERCURY
MPH	MILES PER HOUR
MIN	MINIMUM
N	
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
NA	NOT APPLICABLE
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
NO.	NUMBER
O	
OZ	OUNCE
OA	OUTSIDE AIR
OH	OVER HEAD
P	
PPM	PARTS PER MILLION
%	PERCENT
PH	PHASE (ELECTRICAL)
PIPE	PIPE
LB	POUNDS
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSIA	PSI ABSOLUTE
PSIG	PSI GAGE
PRES	PRESSURE
Q	
QT	QUART
R	
R	RADIUS
RCVR	RECEIVER
RECIRC	RECIRCULATE
REV	REVOLUTIONS
RPM	REVOLUTIONS PER MINUTE
RPS	REVOLUTIONS PER SECOND
S	
S	SECOND
SPEC	SPECIFICATION
SQ	SQUARE
STD	STANDARD
SP	STATIC PRESSURE
SUCT	SUCTION
SUM	SUMM (–ER, –ARY, –ATION)
SPLY	SUPPLY
SYS	SYSTEM
T	
TAB	TABULAT (–E, –ION)
TEE	TEE
TEMP	TEMPERATURE
TD	TEMPERATURE DIFFERENCE
TSTAT	THERMOSTAT
THKNS	THICK (–NESS)
MCM	THOUSAND CIRCULAR MILES
MCF	THOUSAND CUBIC FEET
KIP FT	THOUSAND FOOT–POUNDS
KIP	THOUSAND POUNDS
TON	TON
U	
U	U–FACTOR
UF	UNDER FLOOR
UG	UNDER GROUND
V	
VAC	VACUUM
V	VALVE
VAR	VARIABLE
VAV	VARIABLE AIR VOLUME
VEL	VELOCITY
VENT	VENTILATION, VENT
VERT	VERTICAL
V	VOLT
VOL	VOLUME
VTR	VENT THRU ROOF
W	
WAL	WALL
WTR	WATER
W	WATT
WH	WATT–HOUR
WT	WEIGHT
WCO	WALL CLEANOUT
Y	
YCO	YARD CLEANOUT
YR	YEAR
Z	
Z	ZONE

GENERAL PLUMBING NOTES:

A. ALL WORK SHALL CONFORM TO ALL STATE AND LOCAL CODES, RULES AND REGULATIONS, AND ORDINANCES.

B. PLUMBING PLANS ARE DIAGRAMMATIC ONLY. THEY ARE INTENDED TO INDICATE CAPACITY, SIZE, LOCATION, DIRECTION AND GENERAL ARRANGEMENT. WHERE NOT SPECIFICALLY SHOWN ON PLANS, CONTRACTOR SHALL APPLY PROFESSIONAL STANDARDS SUCH AS THAT OF THE AMERICAN SOCIETY OF PLUMBING ENGINEERS.

C. WORK SHALL INCLUDE ALL LABOR, MATERIALS, PERMITS AND OTHER COSTS AS ARE NECESSARY FOR THE INSTALLATION OF A COMPLETE AND SATISFACTORY OPERATIONAL PLUMBING AND SANITARY SYSTEM. EQUIPMENT SHALL BE INSTALLED IN SUCH A MANNER AS TO MAINTAIN ITS LISTING AND THE MANUFACTURER'S GUARANTEES AND WARRANTIES.

D. THIS CONTRACTOR SHALL COORDINATE WITH THE OTHER TRADES TO INSURE THAT EACH TRADE SHALL HAVE SUFFICIENT SPACE TO INSTALL THEIR EQUIPMENT (DUCTWORK, PIPING, ELECTRICAL, ETC.), ALONG WITH THE PLUMBING WORK.

E. WHERE THE TERM "PROVIDE" IS USED, IT SHALL MEAN "FURNISH AND INSTALL". THE CONTRACTOR SHALL COORDINATE HIS WORK WITH ALL THE OTHER TRADES PRIOR TO THE FABRICATION, PURCHASE AND/OR INSTALLATION OF THE WORK.

F. UNLESS NOTED, ALL MATERIALS SHALL BE NEW, COMPLETE, INCLUDE MANUFACTURER'S WARRANTY, AND BE U.L. APPROVED IF APPLICABLE. ALL WORK SHALL PRESENT A NEAT MECHANICAL APPEARANCE WHEN COMPLETED.

G. FIELD VERIFY ALL DIMENSIONS. CONTRACTOR SHALL VERIFY ELEVATION OF UTILITY CONNECTIONS ON SITE PRIOR TO COMMENCING WORK. FINAL CONNECTION TO SITE UTILITIES SHALL BE BY THE PLUMBING CONTRACTOR.

H. PIPING ROUTED THROUGH FOUNDATIONS SHALL BE SLEEVED AND INSTALLED IN ACCORDANCE WITH THE AMERICAN SOCIETY OF PLUMBING ENGINEERS STANDARDS.

I. PLUMBING SYSTEM INSTALLER SHALL PROVIDE ALL STRUCTURAL MEMBERS, SUPPORT BRACKETS, FLASHING, HARDWARE, ETC., REQUIRED TO INSTALL A COMPLETE SYSTEM.

J. DRAIN WASTE AND VENT PIPING SHALL BE PVC SCH. 40 WHEN INSTALLED BELOW GRADE OR UNDER CONCRETE SLABS. DRAIN WASTE AND VENT PIPING INSTALLED ABOVE GRADE SHALL BE PVC SCH. 40.

K. DOMESTIC WATER PIPING SHALL BE TYPE "L" COPPER.

L. PLUMBING CONTRACTOR SHALL CERTIFY ALL WATER PIPING AND SPECIALTIES FREE FROM MICROBIAL CONTAMINATION BY SANITIZING THE PLUMBING SYSTEM BEFORE OCCUPATION OF BUILDING.

M. EXPOSED FIXTURE TRIM SHALL BE CHROME PLATED BRASS. PROVIDE INDIVIDUAL STOPS FOR EACH HOT AND COLD WATER CONNECTION TO FIXTURES.

N. ALL SANITARY PIPING CHANGES OF DIRECTION 45 DEGREES OR MORE SHALL BE ACCOMPLISHED BY USING 45 DEGREE 1/8 BEND ELBOWS UNLESS OTHERWISE NOTED.

O. ALL SANITARY PIPING UNDER SLAB SHALL BE 2" OR LARGER.

P. INSTALL HEAT TRAPS ON ALL WATER HEATERS, WHERE THE SYSTEM IS NOT RECIRCULATED.

Q. PROVIDE MAINTENANCE AND/OR OTHER CLEARANCES AT EACH PIECE OF EQUIPMENT AS REQUIRED OR RECOMMENDED BY THE EQUIPMENT MANUFACTURER. COORDINATE WITH GENERAL CONTRACTOR TO PROVIDE ANY ADDITIONAL SPACE REQUIRED FOR SUBMITTED EQUIPMENT.

R. PROVIDE ACCESS DOORS IN INACCESSIBLE FINISHES FOR ALL VALVES TRAP PRIMER, ETC., THAT REQUIRES PERIODIC ADJUSTMENTS OR MAINTENANCE.

S. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFEKEEPING OF HIS OWN PROPERTY ON THE JOB SITE. OWNER ASSUMES NO RESPONSIBILITY FOR PROTECTION OF PROPERTY AGAINST FIR THEFT OR ENVIRONMENTAL CONDITIONS.

T. ALL MODEL NUMBERS INDICATED ARE PROVIDED TO ESTABLISH THE QUALITY LEVEL AND FEATURES REQUIRED. LISTED MANUFACTURERS AND OTHER PRIOR APPROVED EQUALS MAY BE SUBSTITUTED WHEN PROVIDED WITH EQUAL FEATURES, EITHER STANDARD OR AS ACCESSORIES. SUBSTITUTED AIR DEVICES AND PLUMBING FIXTURES MUST BE SIMILAR IN APPEARANCE TO THE ITEMS SPECIFICALLY INDICATED.

U. ALL WORK SHALL BE PERFORMED IN A WORKMANLIKE MANNER. CLEAN THE SITE DAILY AND REMOVE FROM THE PREMISES ANY DIRT AND DEBRIS CAUSED BY THE WORK INCLUDED IN THIS CONTRACT.

V. PROVIDE 1" ARMAFLEX INSULATION ON ALL HOT AND CIRCULATING WATER PIPING.

W. ALL LAVATORY ASSEMBLIES SHALL HAVE WASTE OUTLETS NOT LESS THAN 1–1/4 INCHES IN DIAMETER. AN APPROVED STRAINER AND POP–UP STOPPER SHALL BE PROVIDED TO RESTRICT THE CLEAR OPENING OF THE WASTE OUTLET.

X. ALL SINK ASSEMBLIES SHALL HAVE WASTE OUTLETS NOT LESS THAN 1–1/2 INCHES. AN APPROVED STRAINER AND STOPPER SHALL BE PROVIDED TO RESTRICT THE CLEAR OPENING OF THE WASTE OUTLET.

Y. CONTRACTOR TO INSTALL ALL VTR AT A MINIMUM OF 10' HORIZONTALLY AWAY FROM ANY AIR INTAKE OPENING OR 3' OR MORE ABOVE AIR INTAKE. FIELD VERIFY EXISTING ROOF EQUIPMENT PRIOR TO PENETRATING THE ROOF.

Z. CONTRACTOR TO BE RESPONSIBLE FOR DOMESTIC WATER SYSTEM NOT TO EXCEED 78 PSI. PROVIDE PRV AS REQUIRED. COORDINATE WITH CIVIL.

AA. COORDINATE WITH MECHANICAL CONTRACTOR FOR CONDENSATE PIPING CONNECTION/DISCHARGE REQUIREMENTS PER IPC AND LOCAL AMENDMENTS.

AB. INSTALL CAST IRON PIPE IN ALL PLENUM RATED SPACES.

PLUMBING SYSTEMS INSULATION REQUIREMENTS

1. DESIGN ASSUMES A CODE COMPLIANT BUILDING ENVELOPE.
2. ALL HOT WATER AND RECIRCULATION PIPING SHALL BE INSULATED.
3. CONTRACTOR SHALL INSULATE ALL PIPING INSTALLED WITHIN EXTERIOR WALLS.
4. CONTRACTOR SHALL INSULATE ALL PIPING LOCATED IN UNCONDITIONED SPACES SUBJECT TO FREEZING.
5. CONTRACTOR SHALL INSULATE ALL EXPOSED PIPING INSTALLED WITHIN A NORMALLY OCCUPIED SPACE FOR SOUND ATTENUATION AND AESTHETIC. THIS INCLUDES EXPOSED SANITARY AND STORM PIPING.
6. INSTALLING CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH GC FOR DETERMINATION OF THE INSTALLED BUILDING INSULATION AND/OR VALUE ENGINEERING OF THE REQUIRED INSULATION NOTED WITH THE BUILDING ARCHITECT AND ENGINEER PRIOR TO PROVIDING ANY PRICING.

LUNA ARCHITECTURE
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REVISIONS:

NO.	DESCRIPTION	DATE

VIA DOMINION 200
03.15.24

STATE OF TEXAS
ALFREDO HERNANDEZ
101108
LICENSED
PROFESSIONAL ENGINEER
11/15/24

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project #: 24059

date: 11/15/2024

Project Manager: AH Drawn By: HM3

drawing title: PLUMBING SYMBOLS & ABBREVIATIONS

drawing number: P000

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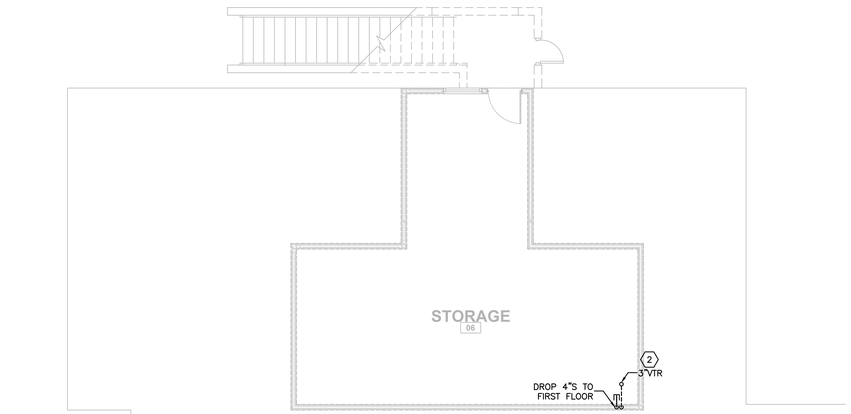
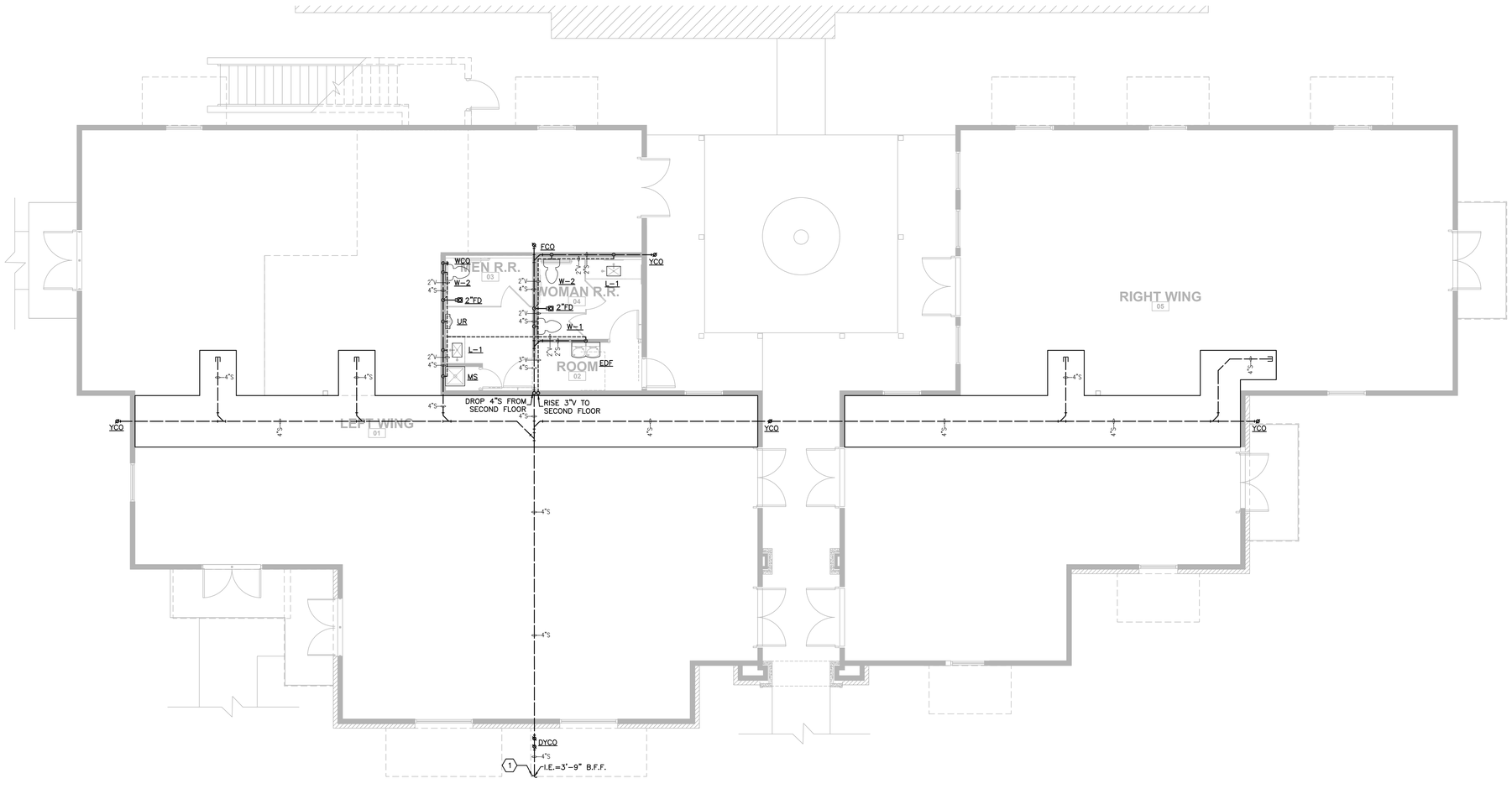


2 PLUMBING PLAN - WASTE & VENT- SECOND FLOOR STORAGE
3/16" = 1'-0"



1 PLUMBING PLAN - WASTE & VENT - FIRST FLOOR
3/16" = 1'-0"

KEYED NOTES:

1. REFER TO CIVIL SITE UTILITY PLAN FOR CONTINUATION. CONTRACTOR TO BE RESPONSIBLE FOR COORDINATION, VERIFICATION, AND CONNECTION OF ALL UTILITIES TO SITE UTILITY STUB OUTS.
2. VENT THRU ROOF. RE: 2/P300.

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Drawn By: HM3
drawing title: PLUMBING PLAN
drawing number: **P100**

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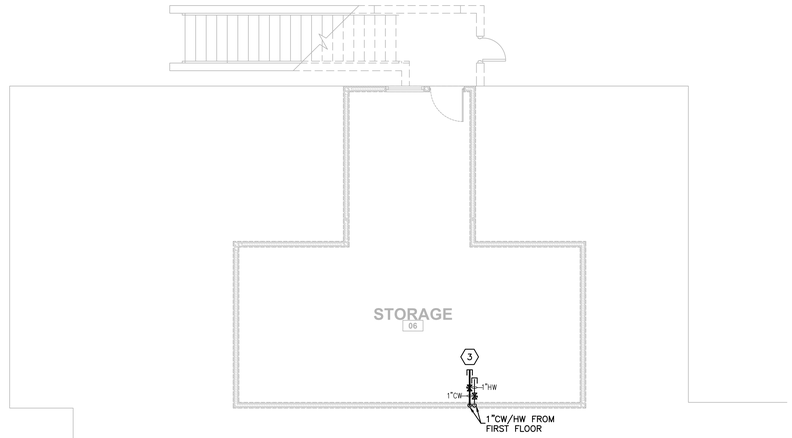


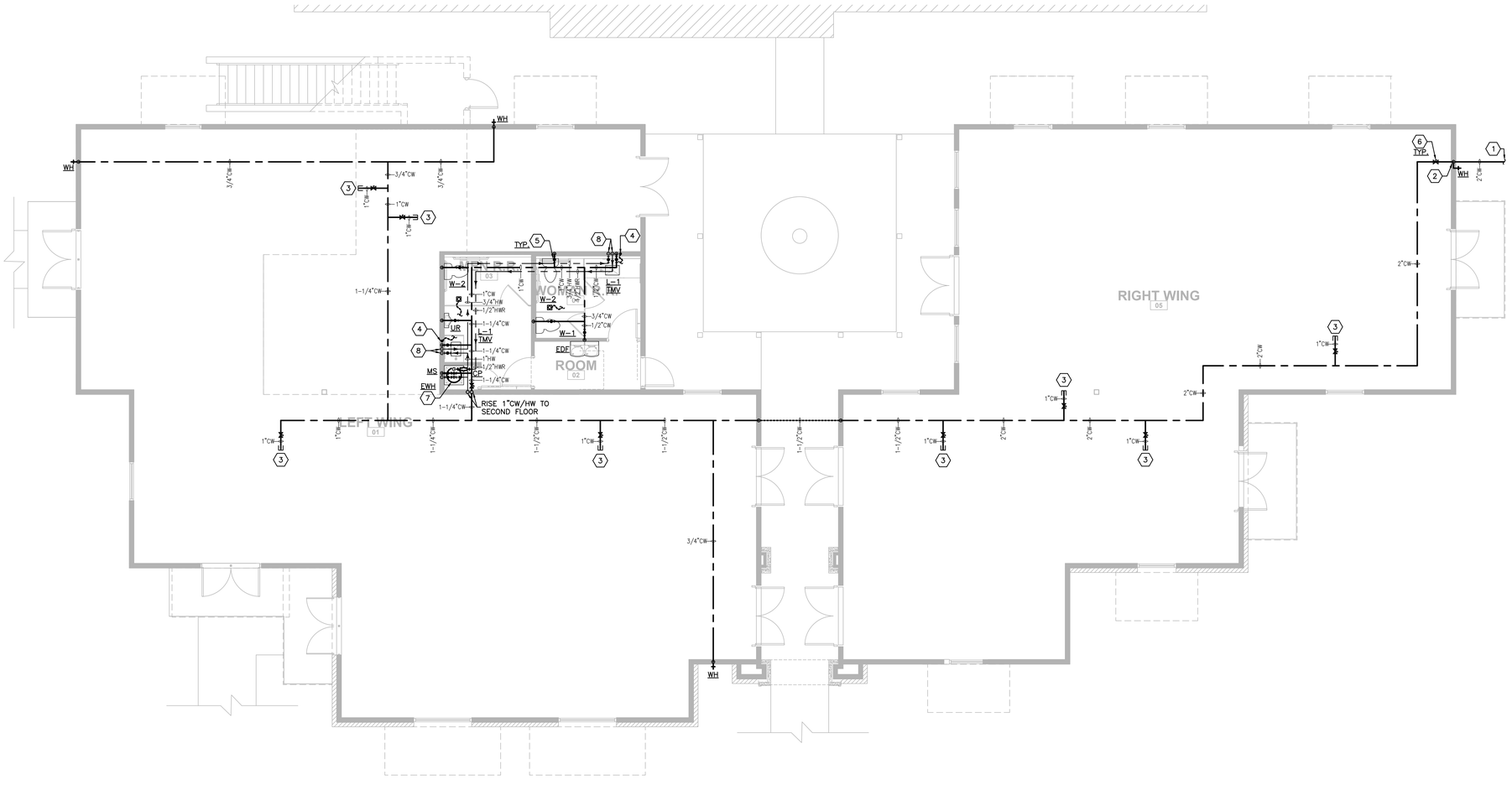
2 PLUMBING PLAN - DOMESTIC WATER- SECOND FLOOR STORAGE
3/16" = 1'-0"

PIPE SIZING CHART

2021 IPC					
FIXTURE TYPE	QUANTITY	FIXTURE UNITS		TOTALS	
		DRAIN	CW	DRAIN	CW
RESTROOMS	1	18	21.5	18	21.5
SHELL SPACE	8	8	16	64	128
				TOTAL	
				82	149.5
			GPM	-	55
			SIZE	4"	2"
			VELOCITY	-	8 F/S

PIPE SIZING CHART - RESTROOMS

2021 IPC										
FIXTURE TYPE	QUANTITY	FIXTURE UNITS				TOTALS				
		DRAIN	CW	HW	TOTAL CW	DRAIN	CW	HW	TOTAL CW
LAVATORY	2	2	1.5	1.5	2	4	3	3	4
WATER CLOSET (T)	3	4	5	0	5	12	15	0	15
URINAL (F)	1	2	5	0	5	2	5	0	5
						TOTAL FU			
						18	23	3	24
				GPM			20.5	6.5	21.5
				SIZE		4"	1-1/4"	1"	1-1/4"
				VELOCITY			8 F/S	5 F/S	8 F/S



1 PLUMBING PLAN - DOMESTIC WATER
3/16" = 1'-0"

KEYED NOTES:

1. REFER TO CIVIL SITE UTILITY PLAN FOR CONTINUATION. CONTRACTOR TO BE RESPONSIBLE FOR COORDINATION, VERIFICATION, AND CONNECTION OF ALL UTILITIES TO SITE UTILITY STUB OUTS.
2. DOMESTIC WATER SERVICE ENTRY. RE: 1/P.300.
3. DCW FOR FUTURE TENANT SPACE.
4. PROVIDE TRAP PRIMER, TP, ¾" SOFT TYPE "K" COPPER TRAP PRIMER PIPE INSIDE A POLY SLEEVE RE: 3/P.300.
5. WATER HAMMER ARRESTOR. PROVIDE ACCESS PANEL WHERE LOCATED IN AN INACCESSIBLE WALL/CEILING. PANEL SHALL BE 12"X12" PAINTED TO MATCH WALL/CEILING.
6. BALL VALVE. PROVIDE ACCESS PANEL WHERE LOCATED IN AN INACCESSIBLE WALL/CEILING. PANEL SHALL BE 12"X12" PAINTED TO MATCH WALL/CEILING. PROVIDE MARKING OF VALVE LOCATION ALONG THE WALL/CEILING TILE.
7. INSTALL WATER HEATER ABOVE MOP SINK. RE: 4/P.300.
8. HOT WATER DROP IN WALL TO FIXTURE AND RISE. RE: 9/P.300.

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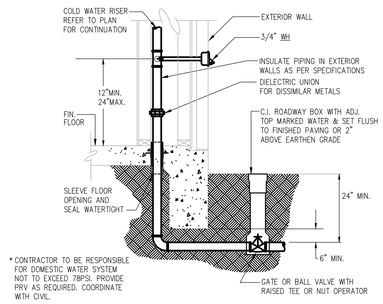
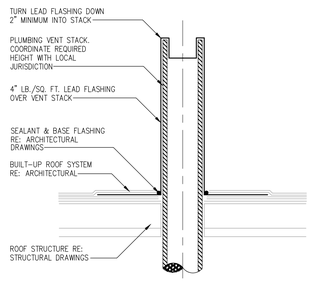
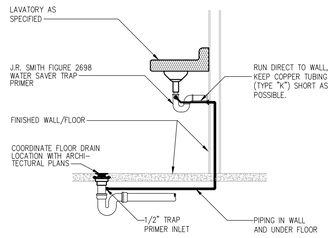
Drawn By: HM3
drawing title: PLUMBING PLAN
drawing number: **P200**



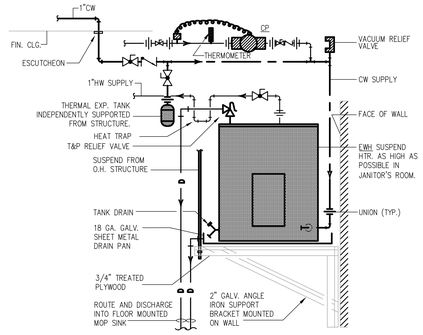
1 WATER PIPE ENTRY DETAIL
NTS



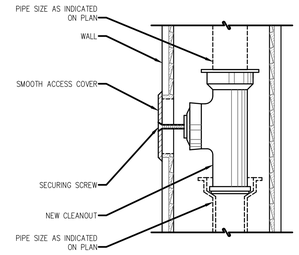
2 VENT THRU ROOF
NTS



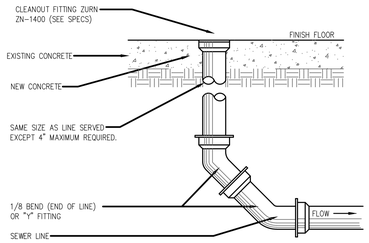
3 TRAP PRIMER DETAIL
NTS



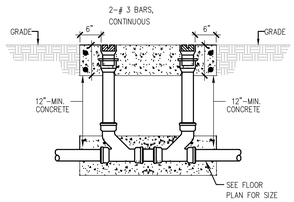
4 ELECTRIC WATER HEATER DETAIL
NTS



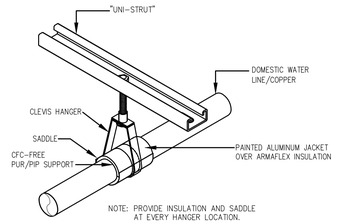
5 WALL CLEANOUT
NTS



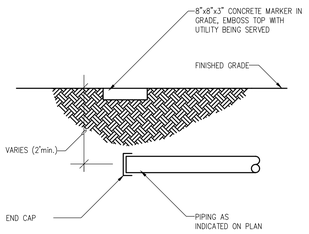
6 FLOOR CLEANOUT DETAIL
NTS



7 TWO-WAY YARD CLEAN-OUT
NTS

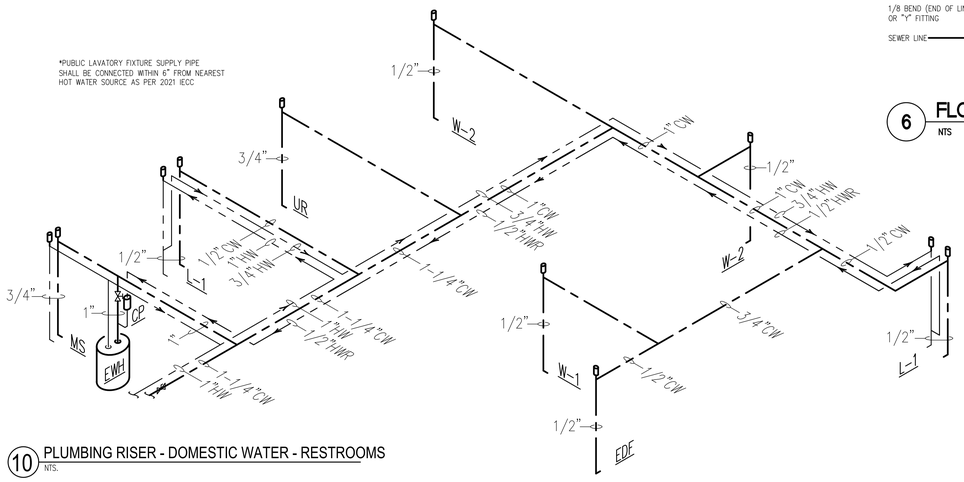


8 WATER PIPING SUPPORT DETAIL
NTS

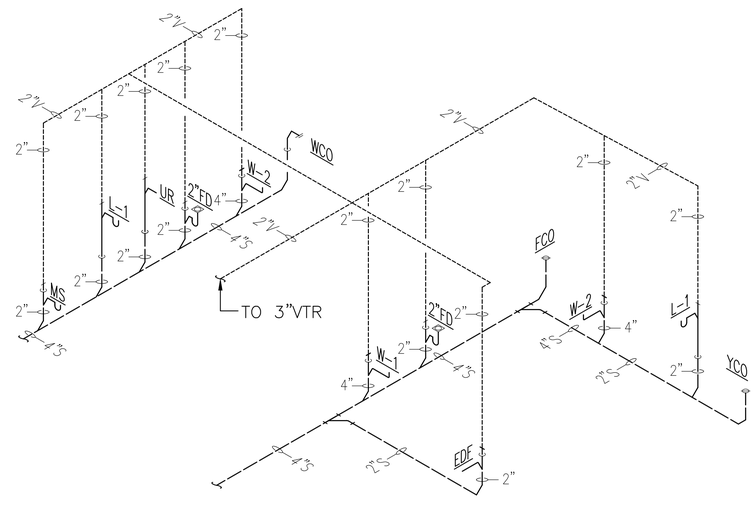


9 CAP AND STAKE DETAIL
NTS

*PUBLIC LAVATORY FIXTURE SUPPLY PIPE
SHALL BE CONNECTED WITHIN 6" FROM NEAREST
HOT WATER SOURCE AS PER 2021 IECC



10 PLUMBING RISER - DOMESTIC WATER - RESTROOMS
NTS.


2"V
2"
2"
2"