# 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 ASAPPROVED 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 FORM 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 INCOMPLIANCE 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 CONTACTOR 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 INSTRUCTIONS NOTE: AT THE COMPLETION OF CONSTRUCTION, A FINAL REPORT OF REQUIRED SPECIAL INSPECTIONS (PREPARED BY THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE) CONFIRMS THAT THE LISTED REQUIRED SPECIAL INSPECTIONS HAVE BEEN CONDUCTED AND COMPLETED WILL 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. GOVERNING CODE AND FIRE DEPARTMENT, FIELD INSPECTORS SHALL DICTATE SIZE, TYPE, QUANTITY AND LOCATIONS OF BOTH TEMPORARY AND PERMANENT PORTABLE FIRE EXTINGUISHERS.
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. G.C. SHALL PROVIDE PORTABLE FIRE EXTINGUISHERS DURING CONSTRUCTION. FINAL LOCATIONS SHALL BE DETERMINED DURING FINAL INSPECTION PER IBC 2021 WITH NFPA 10.

CAMP BOW WOW

# 1450 N. Business IH 35
# New Braunfels, TX 78130

# PERMIT SET



## DESIGN TEAM

**CLIENT**

**WETA-DAWGS NEW BRAUNFELS, LLC**
24014 La Tapiceria
San Antonio, Texas 78261
TEL: TBD
Contact: Mr. Frank Wetegrove
EMAIL: frankdwtx@gmail.com

**ARCHITECT**

**OPEN STUDIO ARCHITECTURE**
6122 DeZavala Rd.
San Antonio, TX 78249
TEL: 210.417.4307
Contact: Jaime Galindo
EMAIL: jaime.g@openstudio-usa.com

**STRUCTURAL ENGINEER**

**ALPHA CONSULTING ENGINEERS**
8023 Vantage Drive, Suite 1101
San Antonio, TX 78230
TEL: 210.227.3647
CONTACT: Thomas Hamer
EMAIL: t.hamer@alphaengtx.com

**M.E.P. ENGINEER**

**RGM ENGINEERING**
6243 IH 10 West, Suite 501
San Antonio, TX 78201
TEL: 210.299.4522
CONTACT: Frank Cuellar
EMAIL: frank@rgmengineering.net

**UNDER SEPARATE CONTRACT WITH OWNER**

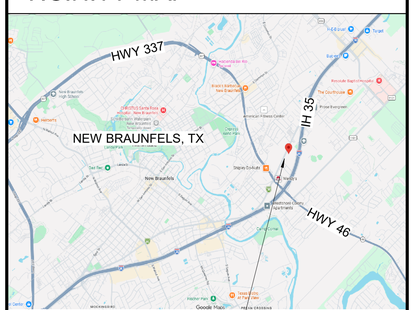
**CIVIL ENGINEER**

**KLOVE ENGINEERING**
22610 US Highway 281 N., Ste 204
San Antonio, TX 78258
TEL: 210.485.5683
CONTACT: Kevin Love
EMAIL: klove@kloveengineering.com

**LANDSCAPE ARCHITECT**

**HORIZON LANDSCAPE**
16414 San Pedro Av., Suite 630
San Antonio, TX 78232
TEL: 210.831.8564
CONTACT: Jon Robinson
EMAIL: jrobinson@horizondesign-sa.com

## VICINITY MAP




PROJECT LOCATION

N
True

## LOCATION MAP




PROJECT LOCATION

N
True

## INDEX OF DRAWINGS


| NUMBER | NAME |
|---|---|
| **00 GENERAL** | |
| G101 | COVER SHEET |
| G102 | CODE ANALYSIS |
| G103 | SPL. INSPECTIONS LTR, COM CHECK & ARTICULATION CALCS |
| G104 | 3D VIEWS |
| G105 | ACCESSIBILITY STANDARDS |
| G106 | RESPONSIBILITY MATRIX |
| **01 CIVIL** | |
| C0.0 | COVER SHEET AND NOTES |
| C1.0 | EXISTING CONDITION AND DEMOLITION PLAN |
| C2.0 | STORM WATER POLLUTION PREVENTION PLAN |
| C3.0 | CIVIL SITE AND DIMENSIONAL CONTROL PLAN |
| C3.1 | SITE PAVING PLAN |
| C4.0 | UTILITY PLAN |
| C4.1 | UTILITY NOTES AND DETAILS |
| C5.0 | GRADING PLAN |
| C5.1 | DETENTION POND PLAN |
| C5.2 | STORM WATER QUALITY PLAN |
| C6.0 | FIRE PROTECTION PLAN |
| C7.0 | SITE DETAILS |
| **02 LANDSCAPE** | |
| .TP1.0 | TREE PRESERVATION PLAN |
| L1.0 | LANDSCAPE PLANTING PLAN |
| L2.0 | LANDSCAPE SPECIFICATIONS |
| **03 IRRIGATION** | |
| LI1.0 | IRRIGATION NOTES AND LEGEND |
| LI1.1 | IRRIGATION PLAN |
| LI1.2 | IRRIGATION DETAILS |
| LI1.3 | IRRIGATION DETAILS |
| **05 ARCHITECTURAL** | |
| A001 | ARCHITECTURAL SITE DETAILS |
| A101 | FLOOR PLAN |
| A102 | DIMENSIONAL FLOOR PLAN |
| A103 | ENLARGED PLANS AND ELEVATIONS |
| A104 | ENLARGED PLANS AND ELEVATIONS |
| A105 | ENLARGED PLANS AND ELEVATIONS |
| A106 | INTERIOR ELEVATIONS & DETAILS |
| A110 | REFLECTED CEILING PLAN |
| A120 | RESTROOM PLANS & ELEVATIONS |
| A130 | PARTITION TYPES |
| A140 | PLAN DETAILS |
| A150 | ROOF PLAN |
| A201 | ELEVATIONS |
| A301 | BUILDING SECTIONS |
| A410 | INTERIOR MILLWORK DETAILS |
| A501 | WALL SECTIONS |
| A502 | WALL SECTIONS |
| A503 | WALL SECTIONS |
| A504 | WALL SECTIONS |
| A601 | DOOR & WINDOW SCHEDULES |
| A610 | ROOM FINISH SCHEDULES |
| A701 | SECTION DETAILS |
| A801 | FENCE DETAILS |
| **06 STRUCTURAL** | |
| S101 | STRUCTURAL NOTES |
| S102 | SPECIAL INSPECTIONS |
| S200 | SITE PLAN |
| S201 | FOUNDATION FRAMING PLAN |
| S201.1 | ENLARGED PLAN |
| S202 | ROOF FRAMING PLAN |
| S203 | DUMPSTER ENCLOSURE PLAN, SECTIONS & DETAILS |
| S301 | TYPICAL FOUNDATION DETAILS |
| S302 | SECTIONS AND DETAILS |
| S303 | SECTIONS AND DETAILS |
| S401 | SECTIONS AND DETAILS |
| **07 MEP** | |
| .MEP101 | MEP SITE PLAN |
| M100 | MECHANICAL SYMBOLS AND ABBREVIATIONS |
| M101 | MECHANICAL FLOOR PLAN |
| M201 | MECHANICAL SCHEDULES |
| M301 | MECHANICAL DETAILS |
| M401 | MECHANICAL SPECIFICATIONS |
| **08 ELECTRICAL** | |
| E100 | ELECTRICAL SYMBOLS & ABBREVIATIONS |
| E101 | ELECTRICAL LIGHTING FLOOR PLAN |
| E102 | ELECTRICAL POWER FLOOR PLAN |
| E103 | ELECTRICAL SPECIAL SYSTEMS PLAN |
| E201 | ELECTRICAL ONE LINE RISER |
| E301 | ELECTRICAL PANELBOARD SCHEDULES |
| E401 | ELECTRICAL DETAILS |
| E501 | ELECTRICAL SPECIFICATIONS |
| **09 PLUMBING** | |
| P100 | PLUMBING SYMBOLS & ABBREVIATIONS |
| P101 | PLUMBING FLOOR PLAN |
| P102 | ENLARGED PARTIAL PLANS |
| P103 | GAS PIPING PLAN |
| P201 | PLUMBING SCHEDULES AND DETAILS |
| P301 | PLUMBING SPECIFICATIONS |



Open studio architecture
6122 De Zavala Road
San Antonio, Texas 78249
Tel: 210.417.4307
www.openstudio-usa.com


REGISTERED ARCHITECT JAIME GALINDO 17837 STATE OF TEXAS

07.24.26

| Revisions | | |
|---|---|---|
| Number | Description | Date |


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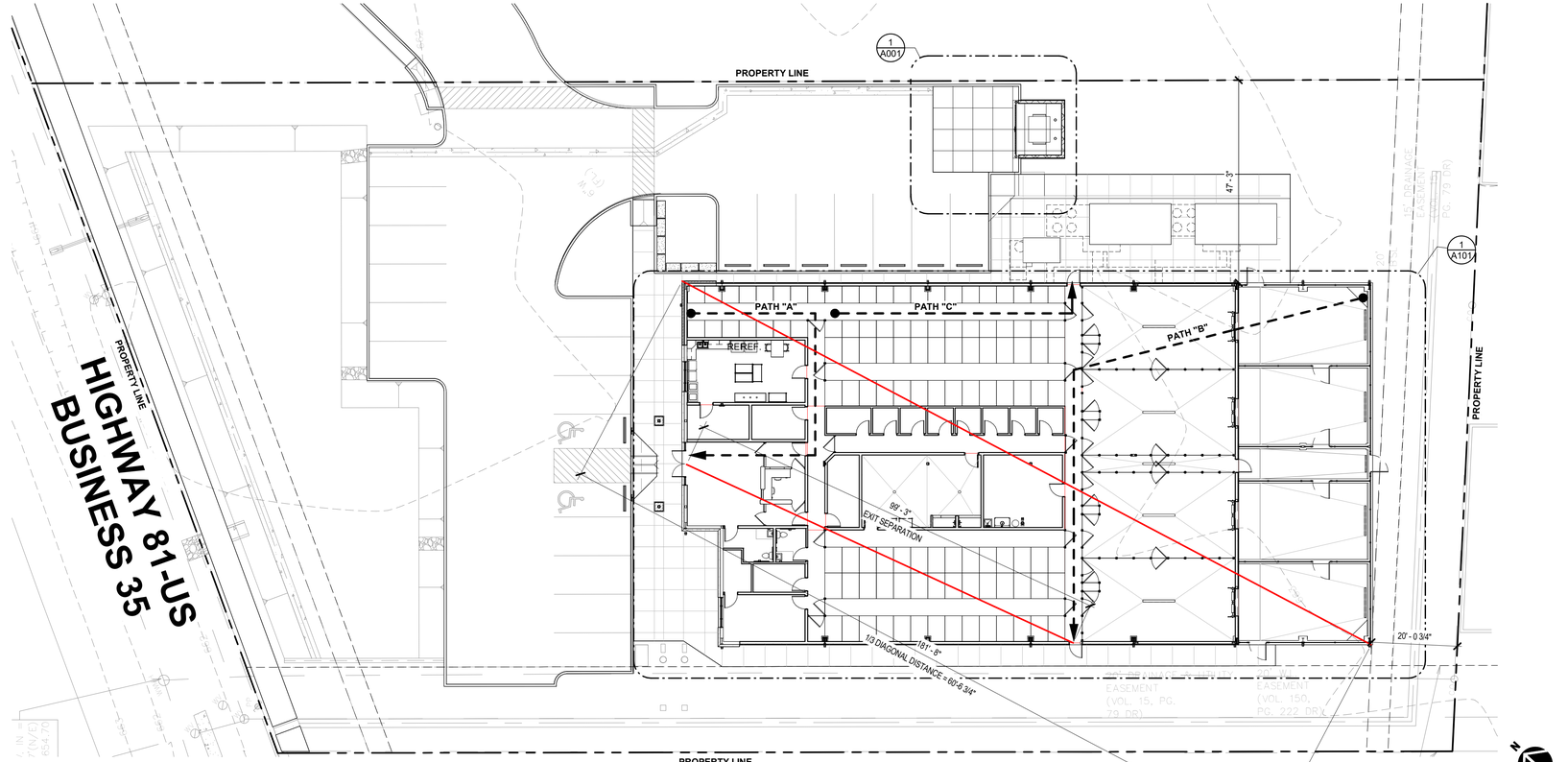
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CAMP BOW WOW

1450 N. Business IH 35
New Braunfels, TX 78130

project #: 25.165
date: 07.24.26
drawn by: JE
checked by: JG
drawing title: **COVER SHEET**
drawing number: **G101**

| OCCUPANT LOAD SUMMARY | | | | | |
|---|---|---|---|---|---|
| ROOM NUMBER | ROOM NAME | OCCUPANCY | AREA | OCCUPANCY FACTOR | OCCUPANCY LOAD |
| 100 | LOBBY | BUSINESS | 373 SF | 100 | 4 |
| 101 | RECEPTION | BUSINESS | 80 SF | 100 | 1 |
| 101-A | CHECK - IN | BUSINESS | 57 SF | 100 | 1 |
| 101-B | CHECK-OUT | BUSINESS | 61 SF | 100 | 1 |
| 102 | STORAGE | ACCESSORY | 128 SF | 300 | 1 |
| 103 | OFFICE | BUSINESS | 109 SF | 100 | 2 |
| 104 | BREAK/PREP ROOM | BUSINESS | 423 SF | 100 | 5 |
| 105 | RESTROOM #2 | N/A | 63 SF | | |
| 106 | RESTROOM #1 | N/A | 89 SF | | |
| 107 | DATA | ACCESSORY | 69 SF | 300 | 1 |
| 108 | CLOSET | ACCESSORY | 90 SF | 300 | 1 |
| 109 | MANAGER OFFICE | BUSINESS | 232 SF | 100 | 3 |
| 110 | GO HOME/STORAGE ROOM | BUSINESS | 138 SF | 100 | 2 |
| 111 | GROOM ROOM | BUSINESS | 463 SF | 100 | 5 |
| 112 | UTILITY ROOM | ACCESSORY | 332 SF | 300 | 2 |
| 113 | ENRICHMENT ROOM | N/A | 69 SF | | |
| 114 | SUITE #1 | N/A | 41 SF | | |
| 115 | SUITE #2 | N/A | 41 SF | | |
| 116 | SUITE #3 | N/A | 41 SF | | |
| 117 | SUITE #4 | N/A | 41 SF | | |
| 118 | SUITE #5 | N/A | 41 SF | | |
| 119 | SUITE #6 | N/A | 41 SF | | |
| 120 | SUITE #7 | N/A | 41 SF | | |
| 121 | BOARDING AREA 2 | N/A | 2,076 SF | | |
| 122 | HALLWAY | ACCESSORY | 370 SF | 300 | 2 |
| 123 | BOARDING AREA 1 | N/A | 1,604 SF | | |
| 124 | INDOOR PLAY YARD 1 | N/A | 714 SF | | |
| 125 | INDOOR PLAY YARD 2 | N/A | 721 SF | | |
| 126 | INDOOR RUN | | 145 SF | | |
| 127 | INDOOR PLAY YARD 3 | N/A | 722 SF | | |
| 128 | INDOOR PLAY YARD 4 | N/A | 714 SF | | |
| 129 | OUTDOOR PLAY YARD 1 | N/A | 600 SF | | |
| 130 | OUTDOOR PLAY YARD 2 | N/A | 582 SF | | |
| 131 | OUTDOOR RUN | | 248 SF | | |
| 132 | OUTDOOR PLAY YARD 3 | N/A | 583 SF | | |
| 133 | OUTDOOR PLAY YARD 4 | N/A | 593 SF | | |
| | | | 12,735 SF | | 31 |




1 **CODE SITE PLAN**
SCALE: 1/16" = 1'-0"

# CODE ANALYSIS

**DESCRIPTION:**

ONE-STORY FULLY-SPRINKLERED P.E.M.B. BUILDING & FINISH - OUT AND ASSOCIATED SITE WORK FOR DOG KENNEL AND DAYCARE.

**ZONING**..... C-3

**TOTAL BUILDING AREA**..... 10,675 S.F. W / 2,620 S.F. COVERED PLAYGROUND

**APPLICABLE CODES**

BUILDING CODE..... 2021 IBC
FIRE CODE..... 2021 IFC
MECHANICAL CODE..... 2021 IMC
PLUMBING CODE..... 2021 IPC
ELECTRICAL CODE..... 2020 NEC
ENERGY CODE..... 2021 IECC

**ALLOWABLE AREA (FULLY SPRINKLERED SM):**
<PER IBC CHAPTER 5>

OCCUPANCY..... B (BUSINESS)
CONSTRUCTION TYPE..... II-B FULLY SPRINKLERED
MAX. HEIGHT ALLOWED..... 75' - 0"
MAX. HEIGHT ON PROJECT..... 19' - 0"
MAX. STORIES ALLOWED..... 4
STORIES ON PROJECT..... 1
MAXIMUM AREA..... 92,000 S.F.
AREA OF PROJECT..... TOTAL AREA 13,295 S.F. (COMPLIES)

**EXIT CALCULATIONS:**
PER IBC CHAPTER 10

TOTAL OCCUPANTS..... 52 (SEE OCCUPANT LOAD SCHEDULE)

EXIT WIDTH REQUIRED ..... (52 x 0.2) = 10.4"
EXIT WIDTH PROVIDED..... 108"
MIN. NUMBER OF EXITS
(PER IBC TABLE 1006.2.1)..... 2
NUMBER OF EXITS PROVIDED..... 3

EXIT WIDTH REQUIRED ..... (52 x 0.2) = 10.4"
EXIT WIDTH PROVIDED..... 144"
MIN. NUMBER OF EXITS
(PER TABLE 1006.3.3)..... 2
NUMBER OF EXITS PROVIDED..... 12

EXIT ACCESS TRAVEL DISTANCE..... 250'-0"
(PER IBC TABLE 1017.2)
MAXIMUM DEAD END PASSAGE..... 50'-0"

| Path of Egress Travel | |
|---|---|
| PATH "A" | 91' - 7" |
| PATH "B" | 132' - 9" |
| PATH "C" | 62' - 10" |

**PLUMBING FIXTURE CALCULATIONS:**

PER IPC TABLE 403.1: BUSINESS:
# OF OCCUPANTS: 31 (16 MEN AND 16 WOMEN)
WC

MALE (1 PER 25 FOR 1ST 50) ..... 1 WC REQUIRED - 1 WC PROVIDED
FEMALE (1 PER 25 FOR 1ST 50) ..... 1 WC REQUIRED - 1 WC PROVIDED

LAVATORY
LAVATORY (1 PER 80 FOR 1ST 80).....1 REQUIRED - 2 PROVIDED

DRINKING FOUNTAIN
D/F REQUIRED (1 PER 100).....1 REQUIRED - 0 PROVIDED
(WATER IS AVAILABLE IN THE BREAK ROOM)

SERVICE SINK
S/S REQUIRED..... 1 REQUIRED - 1 PROVIDED

**TDLR #TABS2026025036**


Open studio architecture
6122 De Zavala Road
San Antonio, Texas 78249
Tel: 210.417.4307
www.openstudio-usa.com


REGISTERED ARCHITECT
JAMES T. EARP
17837
STATE OF TEXAS
07.24.26

| Revisions | | |
|---|---|---|
| Number | Description | Date |


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**CAMP BOW WOW**

1450 N. Business IH 35
New Braunfels, TX 78130

project #: 25.165
date: 07.24.26
drawn by: JE
checked by: JG
drawing title:
**CODE ANALYSIS**

drawing number:
**G102**

# IECC COMCHECK REPORT

**COMcheck Software Version COMcheckWeb**

## Envelope Compliance Certificate

### Project Information

| | |
|---|---|
| Energy Code: | 2021 IECC |
| Project Title: | CAMP BOW WOW |
| Location: | New Braunfels, Texas |
| Climate Zone: | 2a |
| Project Type: | New Construction |
| Vertical Glazing / Wall Area: | 5% |

Construction Site:
1450 N. Business IH 35
New Braunfels, Texas 78130

Owner/Agent:
Mr. Frank Wetegrove
WETA-DAWGS NEW BRAUNFELS, LLC
24014 La Tapiceria
San Antonio, Texas 78261
tbd
frankdwtx@gmail.com

Designer/Contractor:
Jaime Galindo
Open Studio Architecture
6122 DeZavala Rd.
San Antonio, Texas 78249
210-417-4307
jaime.g@openstudio-usa.com

### Additional Efficiency Package(s)

Credits: 10.0 Required 10.0 Proposed
Dedicated outdoor air, 3.0 credit
Energy monitoring, 5.0 credit
Fault detection and diagnostics system, 2.0 credit

| Building Area | Floor Area |
|---|---|
| 1-Retail : Nonresidential | 13669 |

### Envelope Assemblies

| Assembly | Gross Area or Perimeter | Cavity R-Value | Cont. R-Value | Proposed U-Factor | Budget U-Factor[a] |
|---|---|---|---|---|---|
| Floor: Unheated Slab-On-Grade, [Bldg. Use 1 - Retail] (c) | 429 | --- | --- | 0.730 | 0.730 |
| Roof: Insulation Entirely Above Deck, 3-Year-Aged Solar Reflectance Index = 93.00 (d), [Bldg. Use 1 - Retail] | 13358 | --- | 25.0 | 0.039 | 0.039 |
| NORTH | | | | | |
| Ext. Wall: Steel-Framed, 16in. o.c., [Bldg. Use 1 - Retail] | 2506 | 19.0 | 5.0 | 0.071 | 0.077 |
| Window: Metal Frame: Fixed, Perf. Specs.: Product ID ID SOLARBAN 90 "Clear + Clear", SHGC 0.23, PF 0.20, [Bldg. Use 1 - Retail] (b) | 20 | --- | --- | 0.290 | 0.450 |
| Window: Metal Frame: Fixed, Perf. Specs.: Product ID ID SOLARBAN 90 "Clear + Clear", SHGC 0.23, PF 0.20, [Bldg. Use 1 - Retail] (b) | 20 | --- | --- | 0.290 | 0.450 |
| Window: Metal Frame: Fixed, Perf. Specs.: Product ID ID SOLARBAN 90 "Clear + Clear", SHGC 0.23, PF 0.20, [Bldg. Use 1 - Retail] (b) | 20 | --- | --- | 0.290 | 0.450 |
| Window: Metal Frame: Fixed, Perf. Specs.: Product ID ID SOLARBAN 90 "Clear + Clear", SHGC 0.23, PF 0.20, [Bldg. Use 1 - Retail] (b) | 20 | --- | --- | 0.290 | 0.450 |
| EAST | | | | | |
| Ext. Wall: Steel-Framed, 16in. o.c., [Bldg. Use 1 - Retail] | 1488 | 19.0 | 5.0 | 0.071 | 0.077 |



| Assembly | Gross Area or Perimeter | Cavity R-Value | Cont. R-Value | Proposed U-Factor | Budget U-Factor[a] |
|---|---|---|---|---|---|
| Window: Metal Frame: Fixed, Perf. Specs.: Product ID ID SOLARBAN 90 "Clear + Clear", SHGC 0.23, PF 0.20, [Bldg. Use 1 - Retail] (b) | 35 | --- | --- | 0.290 | 0.450 |
| Window: Metal Frame: Fixed, Perf. Specs.: Product ID ID SOLARBAN 90 "Clear + Clear", SHGC 0.23, PF 0.80, [Bldg. Use 1 - Retail] (b) | 90 | --- | --- | 0.290 | 0.450 |
| Window: Metal Frame: Fixed, Perf. Specs.: Product ID ID SOLARBAN 90 "Clear + Clear", SHGC 0.23, PF 0.20, [Bldg. Use 1 - Retail] (b) | 35 | --- | --- | 0.290 | 0.450 |
| Door: Glass (over 50% glazing): Metal Frame, Entrance Door, Perf. Specs.: Product ID ID SOLARBAN 90 "Clear + Clear", SHGC 0.23, PF 0.80, [Bldg. Use 1 - Retail] (b) | 42 | --- | --- | 0.290 | 0.770 |
| SOUTH | | | | | |
| Ext. Wall: Steel-Framed, 16in. o.c., [Bldg. Use 1 - Retail] | 2506 | 19.0 | 5.0 | 0.071 | 0.077 |
| Window: Metal Frame: Fixed, Perf. Specs.: Product ID ID SOLARBAN 90 "Clear + Clear", SHGC 0.23, PF 0.20, [Bldg. Use 1 - Retail] (b) | 20 | --- | --- | 0.290 | 0.450 |
| Window: Metal Frame: Fixed, Perf. Specs.: Product ID ID SOLARBAN 90 "Clear + Clear", SHGC 0.23, PF 0.20, [Bldg. Use 1 - Retail] (b) | 20 | --- | --- | 0.290 | 0.450 |
| Window: Metal Frame: Fixed, Perf. Specs.: Product ID ID SOLARBAN 90 "Clear + Clear", SHGC 0.23, PF 0.20, [Bldg. Use 1 - Retail] (b) | 20 | --- | --- | 0.290 | 0.450 |
| Window: Metal Frame: Fixed, Perf. Specs.: Product ID ID SOLARBAN 90 "Clear + Clear", SHGC 0.23, PF 0.15, [Bldg. Use 1 - Retail] (b) | 20 | --- | --- | 0.290 | 0.450 |
| Door: Uninsulated Single-Layer Metal, Swinging, [Bldg. Use 1 - Retail] | 24 | --- | --- | 0.350 | 0.370 |
| WEST | | | | | |
| Ext. Wall: Steel-Framed, 16in. o.c., [Bldg. Use 1 - Retail] | 1482 | 19.0 | 5.0 | 0.071 | 0.077 |
| Door: Uninsulated Single-Layer Metal, Garage door 14% glazing, [Bldg. Use 1 - Retail] | 45 | --- | --- | 0.350 | 0.310 |
| Door: Uninsulated Single-Layer Metal, Garage door 14% glazing, [Bldg. Use 1 - Retail] | 45 | --- | --- | 0.350 | 0.310 |
| Door: Uninsulated Single-Layer Metal, Garage door 14% glazing, [Bldg. Use 1 - Retail] | 45 | --- | --- | 0.350 | 0.310 |
| Door: Uninsulated Single-Layer Metal, Garage door 14% glazing, [Bldg. Use 1 - Retail] | 45 | --- | --- | 0.350 | 0.310 |

(a) Budget U-factors are used for software baseline calculations ONLY, and are not code requirements.
(b) Fenestration product performance must be certified in accordance with NFRC and requires supporting documentation.
(c) Slab-On-Grade proposed and budget U-factors shown in table are F-factors.
(d) High albedo roof requirement options: 1) 3-year aged solar reflectance index >= 55.0 thermal emittance >= 0.75, 2) 3-year aged solar reflectance index >= 64.0, 3) Initial year aged solar reflectance >= 0.70 thermal emittance >= 0.75, 4) Initial year aged solar reflectance index >= 82.0.

**Envelope PASSES: Design 7% better than code**

### Envelope Compliance Statement

*Compliance Statement:* The proposed envelope design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed envelope systems have been designed to meet the 2021 IECC requirements in *COMcheck* Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Name - Title Signature Date



# SPECIAL INSPECTIONS LETTER

March 23, 2026

**WETA-DAWGS NEW BRAUNFELS, LLC**
Mr. Frank Wetegrove
24014 La Tapiceria
San Antonio, Texas 78261
TEL: TBD
EMAIL: frankdwtx@amail.com

**Determination of Required Special Inspections Section 1704**

Project: **CAMP BOW WOW**
1450 N. Business IH 35
New Braunfels, TX 78130

Section 1705 of the ***International Building Code*** has been reviewed. A list of required special inspections for this project is provided as follows:

| 2021 IBC Sections | Type of Special Inspections and Extent | Applicable | Not Applicable | Qualifications of Special Inspector & Frequency of Inspections |
|---|---|---|---|---|
| 1705.1.1 | Special Cases | ☐ | ☒ | |
| 1705.2 | Steel Construction | ☒ | ☐ | Re: Struct. Dwgs. |
| 1705.3 | Concrete Construction | ☒ | ☐ | Re: Struct. Dwgs. |
| 1705.4 | Masonry Construction | ☐ | ☒ | |
| 1705.5 | Wood Construction | ☐ | ☒ | |
| 1705.6 | Soils | ☒ | ☐ | Re: Struct. Dwgs. |
| 1705.7 | Driven Deep Foundations | ☐ | ☒ | |
| 1705.8 | Cast-In-Place Deep Foundations | ☐ | ☒ | |
| 1705.9 | Helical Pile Foundations | ☐ | ☒ | |
| 1705.10 | Fabricated Items | ☒ | ☐ | Re: Struct. Dwgs. |
| 1705.11 | Special Inspections / Wind Resist. | ☐ | ☒ | |
| 1705.12 | Special Inspections / Seismic Resist. | ☐ | ☒ | |
| 1705.13 | Testing for seismic | ☐ | ☒ | |
| 1705.14 | Sprayed fire-resistant materials | ☐ | ☒ | |
| 1705.15 | Mastic & Intumescent fire-resistant coatings | ☐ | ☒ | |
| 1705.16 | Exterior insulation and finish systems (EIFS) | ☐ | ☒ | |
| 1705.17 | Fire-resistant penetrations and joints | ☐ | ☒ | |
| 1705.18 | Testing for smoke control (see IB 185) | | | |
| 1706 | Design Strengths of Materials | ☐ | ☒ | |
| 1707 | Alternative Test Procedures | ☐ | ☒ | |
| 1708 | In-situ Load tests | ☐ | ☒ | |
| 1709 | Preconstruction Load Tests | ☐ | ☒ | |

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San Antonio, Texas 78249
T.210.417.4307
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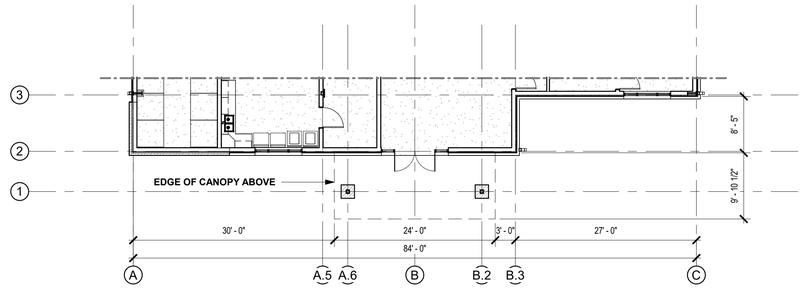
At the completion of construction, a final report written by the Registered Design Professional in Responsible Charge that documents all the special inspections required will be submitted to the building official, via the Owner. It is our understanding that a Certificate of Occupancy will not be issued by the City of New Braunfels until this final report is received, indicating that there are no remaining deficiencies.

Respectfully,

**Open studio architecture, PLLC**
Greg T. Shue, AIA

cc: General Contractor

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6122 De Zavala Road
San Antonio, Texas 78249
T.210.417.4307
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**BUILDING ARTICULATION REQUIREMENTS**
**THE EAST FACADE IS THE ONLY ONE FACING A PUBLIC STREET.**

**BUILDING AVERAGE HEIGHT: 15'-0" + 19'-3 3/4" / 2 = 17'-1 7/8"**

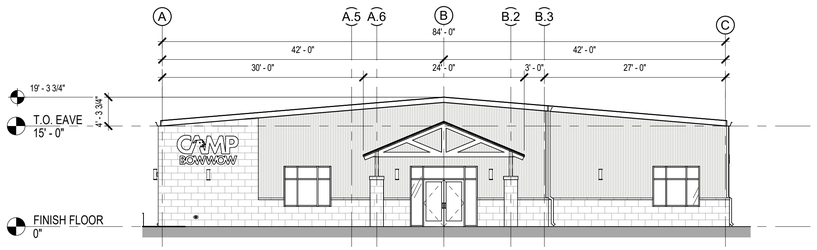
**HORIZONTAL (DEPTH) ARTICULATION:**
MAX. DISTANCE BETWEEN OFFSETS: **NO MORE THAN 3 X AVERAGE HEIGHT**
17'-1 7/8" X 3 = **51'-5 5/8" MAX.**
**30'-0" MAX. PROVIDED**

MIN. DEPTH OF OFFSET: **MINIMUM 15% OF AVERAGE BUILDING HEIGHT.**
17'-1 7/8" X 0.15 = **2'-6 7/8" MIN.**
MIN. DEPTH OF OFFSET PROVIDED: **8'-5"**

MIN. LENGTH OF OFFSETS: **MINIMUM 10% OF ENTIRE FACADE.**
84'-0" X 0.10 = **8'-4 3/4" MIN.**
MIN. DEPTH OF OFFSET PROVIDED: **8'-5"**

## 1 HORIZONTAL ARTICULATION CALCULATIONS

SCALE: 3/32" = 1'-0"




**BUILDING ARTICULATION REQUIREMENTS**
**THE EAST FACADE IS THE ONLY ONE FACING A PUBLIC STREET.**

**BUILDING AVERAGE HEIGHT: 15'-0" + 19'-3 3/4" / 2 = 17'-1 7/8"**

**VERTICAL (HEIGHT) ARTICULATION:**
MAX. DISTANCE BETWEEN ELEVATION CHANGE: **NO MORE THAN 3 X AVERAGE HEIGHT**
17'-1 7/8" X 3 = **51'-5 5/8" MAX.**
**42'-0" MAX. PROVIDED**

MIN. HEIGHT OF ELEVATION CHANGE: **MINIMUM 15% OF AVERAGE BUILDING HEIGHT.**
17'-1 7/8" X 0.15 = **2'-6 7/8" MIN.**
MIN. HEIGHT OF ELEVATION CHANGE PROVIDED: **4'-3 3/4"**

MIN. LENGTH OF ELEVATION CHANGE: **MINIMUM 10% OF ENTIRE FACADE.**
84'-0" X 0.10 = **8'-4 3/4" MIN.**
MIN. DEPTH OF OFFSET PROVIDED: **42'-0"**

## 2 VERTICAL ARTICULATION CALCULATIONS

SCALE: 3/32" = 1'-0"

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REGISTERED ARCHITECT GREGORY T. SHUE 17837 STATE OF TEXAS
07.24.26

| Revisions | | |
|---|---|---|
| Number | Description | Date |

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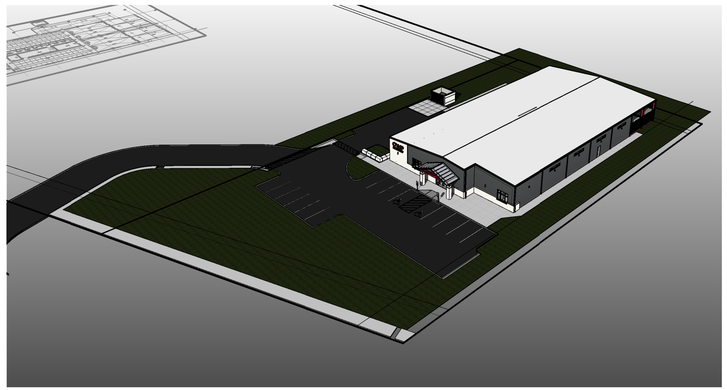
**CAMP BOW WOW**
1450 N. Business IH 35
New Braunfels, TX 78130

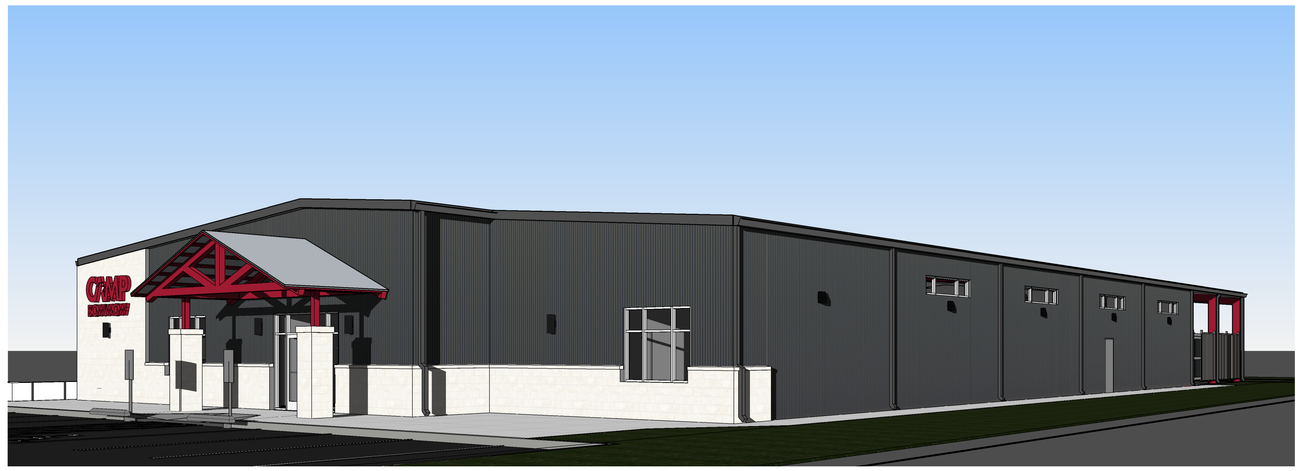
project #: 25.165
date: 07.24.26
drawn by: JE/JG
checked by: JG
drawing title: **SPL. INSPECTIONS LTR, COM CHECK & ARTICULATION CALCS**
drawing number: **G103**

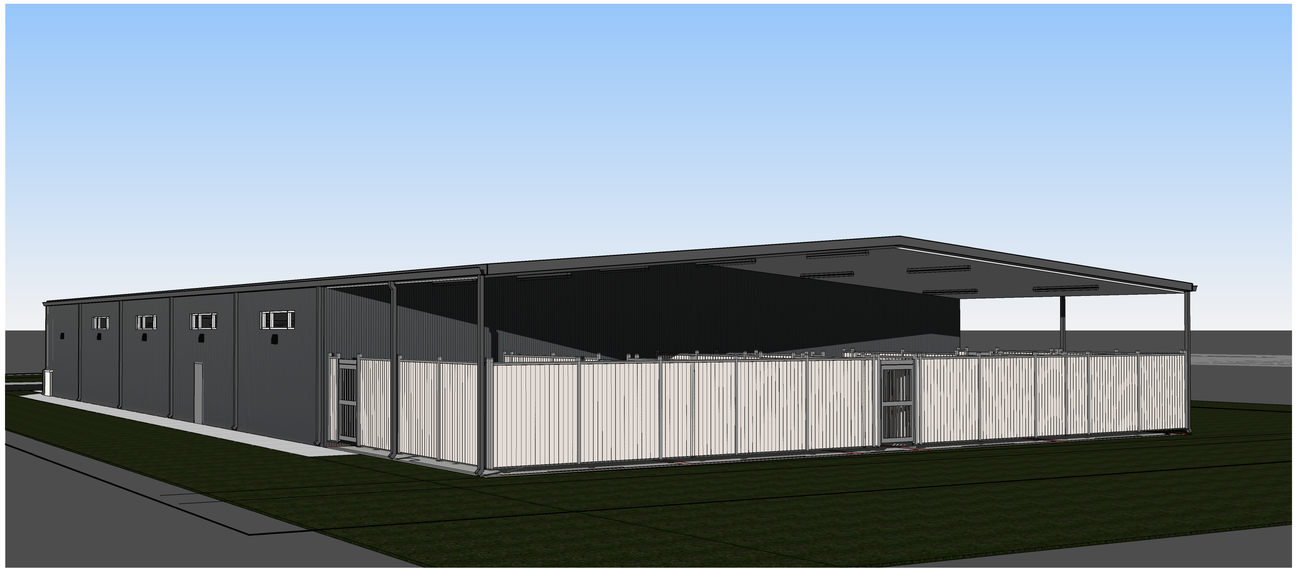










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San Antonio, Texas 78249
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REGISTERED ARCHITECT
DAVID T. SHAW
17837
STATE OF TEXAS

07.24.26

| Revisions | | |
|---|---|---|
| Number | Description | Date |

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**CAMP BOW WOW**

1450 N. Business IH 35
New Braunfels, TX 78130

project #: 25.165
date: 07.24.26
drawn by: JE
checked by: JG
drawing title: **3D VIEWS**
drawing number: **G104**

# GENERAL ACCESSIBILITY NOTES

1. **DOOR HARDWARE:** DOORS SHALL HAVE LEVER-OPERATED MECHANISM, PUSH TYPE MECHANISMS, OR U-SHAPED HANDLES.

   HANDLE PULLS, LATCHES, LOCKS AND OTHER OPERATING DEVICES ON ACCESSIBLE DOORS SHALL HAVE A SHAPE THAT IS EASY TO GRASP WITH ONE HAND AND DOES NOT REQUIRE TIGHT GRASPING, TIGHT PINCHING, OR TWISTING OF THE WRIST TO OPERATE.

   MOUNTING HEIGHT: HARDWARE REQUIRED FOR ACCESSIBLE DOOR PASSAGE SHALL BE MOUNTED NO HIGHER THAN 48"ABOVE FINISHED FLOOR.

   CLOSER OPERATION: THE SWEEP PERIOD OF A CLOSER SHALL BE ADJUSTED SO THAT FROM AN OPEN POSITION OF 70 DEGREES, THE DOOR WILL TAKE AT LEAST 3 SECONDS TO MOVE TO A POINT 3" FROM THE LATCH, MEASURED TO THE LEADING EDGE OF THE DOOR.

   THE MAXIMUM FORCE FOR PUSHING OR PULLING OPEN A DOOR SHALL BE AS FOLLOWS:
   - (A) EXTERIOR HINGED DOOR: NO REPLACEMENT
   - (B) INTERIOR HINGED DOORS: 5 LBF
   - (C) SLIDING OR FOLDING DOORS: 5 LBF

2. CONTROLS AND OPERATING MECHANISM:
   HEIGHT: SWITCHES, THERMOSTATS, CONTROLS, DISPENSERS, RECEPTACLES, AND THE HIGHEST OPERABLE EQUIPMENT SHALL BE PLACED NO HIGHER THAN 48"ABOVE THE FLOOR.
   EXCEPTION: THESE REQUIREMENTS DO NOT APPLY WHERE THE USE OF SPECIAL EQUIPMENT DICTATES OTHERWISE OR WHERE ELECTRICAL AND COMMUNICATIONS SYSTEMS RECEPTACLES ARE NOT NORMALLY INTENDED FOR THE USE BY BUILDING OCCUPANTS.

   FLUSH CONTROLS SHALL BE HAND OPERATED OR AUTOMATIC. CONTROLS FOR FLUSH VALVES SHALL BE MOUNTED ON THE WIDE SIDE OF THE TOILET AREAS NO MORE THAN 44" ABOVE THE FLOOR.

   OPERATION: CONTROLS AND OPERATING MECHANISM SHALL BE OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING, OR GREATER THAN 5 LBF.

3. **GRAB BARS:**
   THE OUTSIDE DIAMETER OR WIDTH OF THE GRIPPING SURFACES OF A HANDRAIL OR GRAB SHALL BE 1-1/4" TO 1-1/2", OR THE SHAPE SHALL PROVIDE AN EQUIVALENT GRIPPING SURFACE.

   IF HANDRAILS OR GRAB BARS ARE MOUNTED ADJACENT TO A WALL, THE SPACE BETWEEN THE WALL AND THE GRAB BAR SHALL BE 1-1/2".

   BENDING STRESS IN A GRAB BAR OR SEAT INDUCED BY THE MAXIMUM BENDING MOMENT FROM THE APPLICATION OF 250 LBF. SHALL BE LESS THAN THE ALLOWABLE STRESS FOR THE MATERIAL OF THE GRAB BAR OR SEAT.

   SHEAR STRESS INDUCED A GRAB BAR OR SEAT BY THE APPLICATION OF 250 LBF. SHALL BE LESS THAN THE ALLOWABLE SHEAR STRESS FOR THE MATERIAL OF THE GRAB BAR OR SEAT.

   SHEAR STRESS INDUCED IN A FASTENER OR MOUNTING DEVICE FROM THE APPLICATION OF 250 LBF. SHALL BE LESS THAN THE ALLOWABLE LATERAL LOAD OF EITHER THE FASTENER OR MOUNTING DEVICE OR THE SUPPORTING STRUCTURE WHICHEVER IS THE SMALLER ALLOWABLE LOAD.

   TENSILE FORCE INDUCED IN A FASTENER BY A DIRECT TENSION FORCE OF 250 LBF PLUS THE MAXIMUM MOMENT FROM THE APPLICATION OF 250 LBF. SHALL BE LESS THAN THE ALLOWABLE WITHDRAWAL LOAD BETWEEN THE FASTENER AND THE SUPPORTING STRUCTURE.

   ROTATION OF GRAB BARS WITHIN THEIR FITTINGS IS NOT ACCEPTABLE.

   SHARP OR ABRASIVE ELEMENTS ARE NOT ACCEPTABLE FOR A HANDRAIL OR GRAB BAR OR ANY WALL OR OTHER SURFACE ADJACENT TO ITS EDGES.

4. **SIGNAGE:**
   THE WIDTH-TO-HEIGHT RATIO OF LETTERS AND NUMBERS ON SIGNS SHALL HAVE BETWEEN 3:5 AND 1:1 AND A STROKE -WIDTH-TO-HEIGHT RATIO BETWEEN 1:5 AND 1:10 USING AN UPPER-CASE "X" FOR MEASUREMENT/ LOWER CASE LETTERS ARE PERMITTED.

   OVERHEAD SIGN CHARACTERS AND NUMBERS SHALL BE SIZED ACCORDING TO THE VIEWING DISTANCE FROM WHICH THEY ARE TO READ. FOR SUSPENDED OR PROJECTED OVERHEAD SIGNS, THE MINIMUM CHARACTER HEIGHT IS 3".

   BRAILLE CHARACTERS AND PICTORIAL SYMBOL SIGNS (PICTOGRAMS) SHALL BE RAISED 1/32", UPPER CASE, SAN SERIF OR SIMPLE SERIF TYPE AND SHALL BE ACCOMPANIED WITH GRADE 2 BRAILLE. RAISED CHARACTERS SHALL BE AT LEAST 5/8" HIGH, BUT NO HIGHER THAN 2". PICTOGRAMS SHALL BE ACCOMPANIED BY THE EQUIVALENT VERBAL DESCRIPTION PLACED DIRECTLY BELOW THE PICTOGRAM. THE BORDER DIMENSION OF THE PICTOGRAM SHALL BE 6" MINIMUM IN HEIGHT.

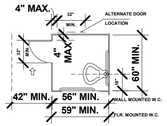
   FINISH: THE CHARACTERS AND BACKGROUND OF SIGNS SHALL BE EGGSHELL, MATTE, OR OTHER NON GLARE-FINISH. CHARACTERS AND SYMBOLS SHALL CONTRAST WITH THEIR BACKGROUND.

   PERMANENT IDENTIFICATION SIGNS PROVIDED FOR ROOM AND SPACES, SIGN SHALL BE INSTALLED ON THE WALL ADJACENT TO THE LATCH SIDE OF THE DOOR. WHERE THERE IS NO WALL SPACE TO THE LATCH SIDE OF THE DOOR, INCLUDING AT DOUBLE LEAF DOORS, SIGNS SHALL BE PLACED ON THE NEAREST ADJACENT WALL. MOUNTING HEIGHT SHALL BE 60" ABOVE FINISH FLOOR TO THE CENTERLINE OF THE SIGN.

   MOUNTING LOCATION FOR REACH SIGNAGE SHALL BE SO THAT A PERSON MAY APPROACH WITHIN 3" OF SIGNAGE WITHOUT ENCOUNTERING PROTRUDING OBJECTS OR STANDING WITHIN THE SWING OF A DOOR.

# ACCESSIBILITY STANDARDS

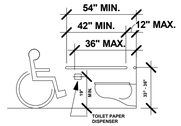
*** REFER TO SPECIAL ACCESSIBILITY REQUIREMENTS NOTES. ***



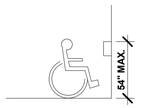

**STANDARD STALL**




**GRAB BAR**
**REAR WALLS**



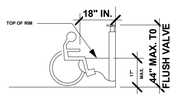

**GRAB BAR**
**SIDE WALLS**



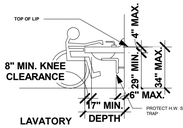

**DISPENSERS, CONTROLS, SWITCHES**
**SIDE APPROACH**



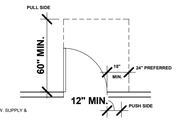

**DISPENSERS, CONTROLS, SWITCHES**
**FRONT APPROACH**



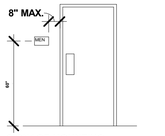

**ELONGATED RIM**
**URINAL**



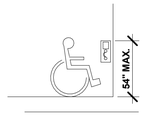

**LAVATORY**
**FRONT APPROACH**



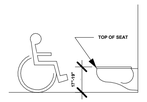

**SWINGING DOOR**
**FRONT APPROACH**



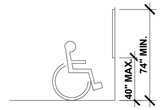

**SIGNAGE MOUNTING**



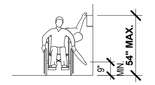

**PUBLIC TELEPHONE-**
**SIDE APPROACH**
(FRONT APPROACH SAME DIMENSIONS AS COLUMN 1)



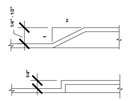

**WATER CLOSET**



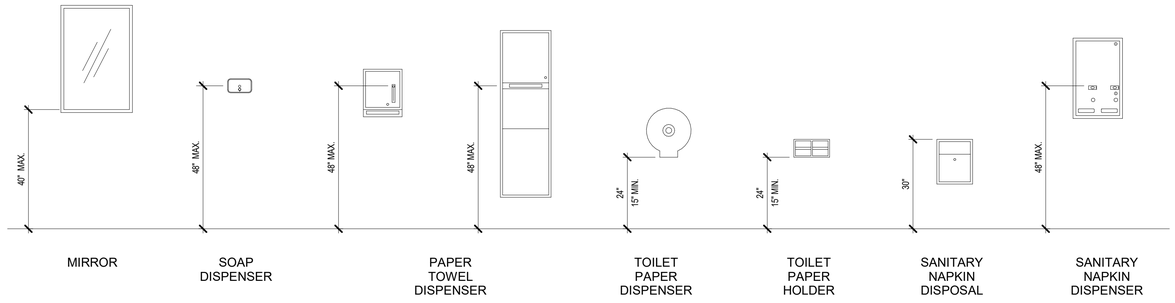

**MIRRORS**




**DISPENSERS, CONTROLS, AND SWITCHES**
**SIDE APPROACH**

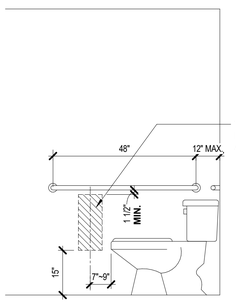



**CHANGES IN LEVEL**

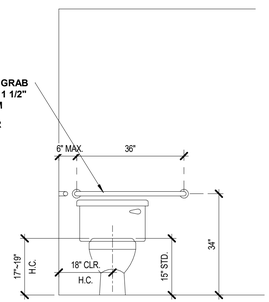



## TYPICAL TOILET ACCESSORIES MOUNTING HEIGHTS

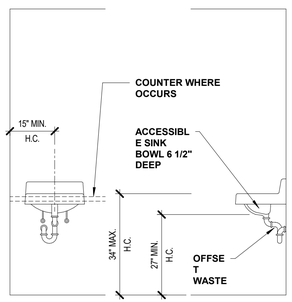
ALL MOUNTING HEIGHTS ARE BASED ON THE 9TH GRADE AND OVER HEIGHTS. REFERENCE A0.2 AND A0.3 FOR ALL OTHER REQUIREMENTS.




WATER CLOSET
SIDE WALL

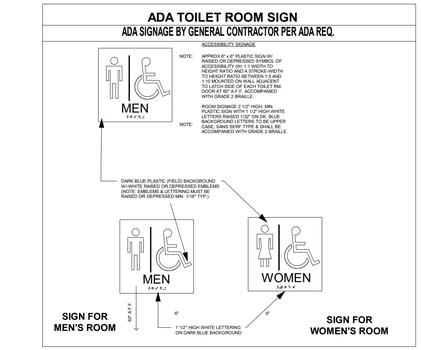



WATER CLOSET
BACK WALL




LAVATORY OR
VANITY SINK

## TYPICAL PLUMBING FIXTURES AND ACCESSORIES MOUNTING HEIGHTS





Open studio architecture

6122 De Zavala Road
San Antonio, Texas 78249
Tel: 210.417.4307
www.openstudio-usa.com


REGISTERED ARCHITECT JOSEPH T. ENGLE 17837 STATE OF TEXAS

07.24.26

| Revisions | | |
|---|---|---|
| Number | Description | Date |


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**CAMP BOW WOW**

1450 N. Business IH 35
New Braunfels, TX 78130

project #: 25.165
date: 07.24.26
drawn by: JE
checked by: JG
drawing title: **ACCESSIBILITY STANDARDS**
drawing number: **G105**

LEGEND: L = LANDLORD V = OWNER'S VENDOR O = OWNER/FRANCHISEE C = CONTRACTOR EX = EXISTING TO REMAIN

ALL MATERIALS WITH A MANUFACTURER/CONTACT LISTED MUST BE ORDERED WITH A PURCHASE ORDER BY THE GENERAL CONTRACTOR WITHIN 1 WEEK OF CONTRACT BEING AWARDED BY OWNER

| DESCRIPTION | EX | FURNISHED BY | | | | INSTALLED BY | | | | MANUFACTURER/CONTACT | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 01000 GENERAL REQUIREMENTS | L | V | C | O | L | V | C | O | | | |
| SUPERVISION | | | | O | | | | O | | | |
| TEMPORARY TOILETS | | | | O | | | | O | | | |
| GENERAL CLEANING | | | | O | | | | O | | | |
| DUMPSTERS | | | | O | | | | O | | | |
| LIFT RENTAL | | | | O | | | | O | | | |
| SPECIAL EQUIPMENT RENTAL | | | | O | | | | O | | | |
| FORKLIFT WITH 6FT FORK | | | | O | | | | O | | | |
| BUILDING PERMIT | | | | O | | | | O | | | |
| USE TAXES | | | | O | | | | O | | | |
| INSURANCE PER AIA 101 | | | | O | | | | O | | | |
| 02000 SITE CONSTRUCTION | L | V | C | O | L | V | C | O | | | |
| SITE WORK | | | | O | | | | O | | | |
| DEMOLITION | | | | O | | | | O | | | |
| BUILDING PAD | | | | O | | | | O | | | |
| UTILITIES | | | | O | | | | O | | | |
| STORM WATER | | | | O | | | | O | | | |
| TRENCH DRAIN-OPY | | | | O | | | | O | | | |
| GRAVEL BASE | | | | | | | | | | | |
| EXTERIOR PVC FENCE (GC) RECEIVED | | | | O | | | | O | | | |
| EXTERIOR FENCE INSTALLED LABOR | | | | O | | | | O | | | |
| LANDSCAPING | | | | | | | | | | | |
| 03000 CONCRETE | L | V | C | O | L | V | C | O | | | |
| SAW CUT CONCRETE SLAB | | | | O | | | | O | | | |
| POUR BACK | | | | O | | | | O | | | |
| SLAB ON GRADE | | | | | | | | | | | |
| PAVEMENT | | | | | | | | | | | |
| EXTERIOR CURBS | | | | | | | | | | | |
| INTERIOR CURBS | | | | | | | | | | | |
| CONCRETE RAMP | | | | | | | | | | | |
| CONCRETE STAIRS | | | | | | | | | | | |
| 04000 MASONRY | L | V | C | O | L | V | C | O | | | |
| EXTERIOR WALLS | | | | | | | | | | | |
| INTERIOR WALLS | | | | | | | | | | | |
| | | | | | | | | | | | |
| NEW OPENINGS - OPY | | | | | | | | | | | |
| INFILLS | | | | | | | | | | | |
| COLUMNS | | | | | | | | | | | |
| 05000 METAL | L | V | C | O | L | V | C | O | | | |
| 1/2 WALL REINFORCING | | | | O | | | | O | | | |
| PIPE BOLLARDS | | | | O | | | | O | | | |
| MISC STEEL | | | | O | | | | O | | | |
| PRE-ENGINEERED | | | | O | | | | O | | | |
| STRUCTURAL STEEL-RTUS | | | | O | | | | O | | | |
| STAIRS | | | | O | | | | O | | | |
| 06000 WOOD AND PLASTICS | L | V | C | O | L | V | C | O | | | |
| BLOCKING / BACKING | | | | O | | | | O | | | |
| WOOD CEILING | | | | O | | | | O | | | |
| WOOD FRAMING | | | | O | | | | O | | | |
| EXTERIOR LANDING | | | | O | | | | O | | | |
| STAIRS | | | | | | | | | | | |
| MEZZANINE | | | | | | | | | | | |
| 07000 THERMAL & MOISTURE | L | V | C | O | L | V | C | O | | | |
| INTERIOR WALL INSULATION | | | | O | | | | O | | | |
| EXTERIOR WALL INSULATION | | | | O | | | | O | | | |
| CEILING INSULATION (BOH) | | | | O | | | | O | | | |
| ROOF DECK INSULATION | | | | O | | | | O | | | |
| SEALANTS AND CAULKING | | | | O | | | | O | | | |
| NEW ROOF | | | | O | | | | O | | | |
| ROOF CURBS / REPAIRS | | | | O | | | | O | | | |
| ROOF REPAIRS | | | | O | | | | O | | | |
| DUMPSTER AREA ROOF | | | | O | | | | O | | | |
| STUCCO | | | | O | | | | O | | | |
| 08000 DOORS AND WINDOWS | L | V | C | O | L | V | C | O | | | |
| INTERIOR DOORS / FRAMES / HARDWARE | | | O | | | | O | | | GLASSMAN OF LOUISIANA L L C: ALI HICKMAN (504)277-7060 ali@glassmanofla.com | INTERIOR DOORS TO BE INSTALLED BY GLASSMAN OF LA |
| EXTERIOR DOORS / FRAMES / HARDWARE | | | | | | | | | | | |
| STORE FRONT ENTRANCE DOOR ASSEMBLY | | | | | | | | | | | |
| INTERIOR / EXTERIOR DOOR WINDOWS | | | | | | | | | | | |
| DETEX V40XEE | | | | O | | | | O | | | |
| GLAZING/WINDOWS | | | | O | | | | O | | | |
| WINDOW FILM | | | | O | | | | O | | | |
| SPANDREL GLASS | | | | O | | | | O | | | |
| OVERHEAD GARAGE DOORS | | | | O | | | | O | | | |
| 09000 FINISHES | L | V | C | O | L | V | C | O | | | |
| DRYWALL | | | | O | | | | O | | | |
| TAPE AND FINISH | | | | O | | | | O | | | |
| ACOUSTICAL CEILINGS | | | O | | | | | O | | cbw@hjcinc.com | **PREFERRED VENDOR WITH NEGOTIATED PRICING |
| TURF | | | O | | | | | O | | NOAH MANG | **PREFERRED VENDOR WITH NEGOTIATED PRICING |
| 3000 GRIT POLISHED CONCRETE | | | | O | | | | O | | | |
| FRP | | | | O | | | | O | | | |
| SEALED CONCRETE | | | | O | | | | O | | | |
| BLUE PLASTIC SHIPLAP PANELS | | | O | | | | | O | | MIKE SORLIE | **PREFERRED VENDOR WITH NEGOTIATED PRICING |
| CDB (TREX) BASE | | | | O | | | | O | | | |
| RESILIENT BASE | | | | | O | | | O | | SHAW/PATCRAFT - LISA WOOD 706-532-7506 lisa.wood@shawinc.com | **PREFERRED VENDOR WITH NEGOTIATED PRICING |
| PAINTING INTERIOR | | | | O | | | | O | | | |
| PAINTING EXTERIOR | | | | | | | | | | | |
| | | | | | | | | | | | |
| LVP | | | | | O | | | O | | SHAW/PATCRAFT - LISA WOOD 706-532-7506 lisa.wood@shawinc.com | **PREFERRED VENDOR WITH NEGOTIATED PRICING |

LEGEND: L = LANDLORD V = OWNER'S VENDOR O = OWNER/FRANCHISEE C = CONTRACTOR EX = EXISTING TO REMAIN

ALL MATERIALS WITH A MANUFACTURER/CONTACT LISTED MUST BE ORDERED WITH A PURCHASE ORDER BY THE GENERAL CONTRACTOR WITHIN 1 WEEK OF CONTRACT BEING AWARDED BY OWNER

| DESCRIPTION | EX | PROCURED BY | | | | INSTALLED BY | | | | MANUFACTURER/CONTACT | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 10000 SPECIAL TIES | L | V | C | O | L | V | C | O | | | |
| RESTROOM ACCESSORIES | | | | O | | | | O | | | |
| FIRE EXTINGUISHERS | | | | O | | | | O | | | |
| DOG CABIN | | | O | | | | | O | | COLE CARSON | |
| INTERIOR FENCE | | | O | | | | | O | | SID GERMAN | |
| EXTERIOR FENCE | | | O | | | | | O | | SID GERMAN | |
| APPLIANCES - DISHWASHER | | | | O | | | | O | | CBW@HJCINC.COM | **PREFERRED VENDOR WITH NEGOTIATED PRICING |
| APPLIANCES - REFRIGERATOR | | | | O | | | | O | | CBW@HJCINC.COM | **PREFERRED VENDOR WITH NEGOTIATED PRICING |
| APPLIANCES - WASHER DRYER | | | | O | | | | O | | CBW@HJCINC.COM | **PREFERRED VENDOR WITH NEGOTIATED PRICING |
| ADA RESTROOM SIGNAGE | | | | O | | | | O | | | |
| VINYL WINDOW SIGNAGE | | | O | | | | O | | | | |
| VINYL WALL TURF GRAPHICS | | | O | | | | O | | | | |
| " JOY LIVES HERE" ACRYLIC SIGN | | | O | | | | | O | | | |
| CBW PVC SIGNAGE | | | O | | | | | O | | | |
| 11000 FURNISHINGS | L | V | C | O | L | V | C | O | | | |
| LOBBY DESK | | | | O | | | | O | | RICKY HOGAN -KAEMARK | **PREFERRED VENDOR WITH NEGOTIATED PRICING |
| PUPPY PLAYGROUND EQUIPMENT | | | O | | | | O | | | MARY BESSETTE | |
| CABIN COTS | | | O | | | | O | | | CAITLIN ROBERTSON | |
| LEASH HOLDERS / MARKER AND NOTEBOARDS | | | O | | | | | O | | CBW@HJCINC.COM | **PREFERRED VENDOR WITH NEGOTIATED PRICING |
| | | | | | | | | | | | |
| 11000 EQUIPMENT | L | V | C | O | L | V | C | O | | | |
| SECURITY EQUIPMENT | | | O | | | | O | | | | |
| TELEVISION EQUIPMENT | | | O | | | | | O | | | |
| COMPUTER SERVER | | | O | | | | | O | | JUSTIN BUPP | |
| IT EQUIPMENT / COMPUTER CABLING | | | O | | | | | O | | JUSTIN BUPP | |
| TANKLESS WATER HEATER | | | O | | | | | O | | JAKE ALEXANDER | |
| | | | | | | | | | | | |
| 13000 SPECIAL CONSTRUCTION | L | V | C | O | L | V | C | O | | | |
| RELOCATE SPRINKLER HEADS | | | | O | | | | O | | | |
| NEW SPRINKLER SYSTEM | | | | O | | | | O | | | |
| 15000 MECHANICAL | | | | | | | | | | | |
| HVAC CONTROLS | | | | O | | | | O | | | |
| HVAC | | | O | | | | | O | | MATT MCNAIR | **PREFERRED VENDOR WITH NEGOTIATED PRICING |
| DUCTWORK | | | | O | | | | O | | | |
| 16000 ELECTRICAL | | | | | | | | | | | |
| LIGHTING FIXTURES | | | | O | | | | O | | MCCAY GREEN (772) 485-0561 | **PREFERRED VENDOR WITH NEGOTIATED PRICING |
| ELECTRICAL WIRES/ CONDUIT/ BOXES | | | | O | | | | O | | | |
| ELECTRICAL PANELS | | | | O | | | | O | | | |
| NETWORK CABLING | | | | O | | | | O | | | |
| INTERNET SERVICE PROVIDER | | | O | | | | O | | | | |
| 16000 ELECTRONICS | | | | | | | | | | | |
| FIRE ALARM | | | | O | | | | O | | | |
| SECURITY ALARM | | | | O | | | | O | | | |
| KNOX BOX | | | | O | | | | O | | | |


Open studio architecture
6122 De Zavala Road
San Antonio, TX 78249
Tel: 210.417.4307
www.openstudio-usa.com


REGISTERED ARCHITECT — CHRISTOPHER T. SHAW — 17837 — STATE OF TEXAS

07.24.26

Revisions

| Number | Description | Date |
|---|---|---|


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**CAMP BOW WOW**

1450 N. Business IH 35
New Braunfels, TX 78130

project #: 25.165

date: 07.24.26

drawn by: Author

checked by: Checker

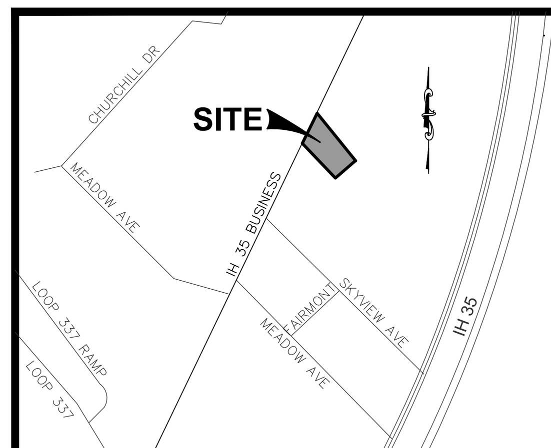
drawing title:

**RESPONSIBILITY MATRIX**

drawing number:

**G106**

# CIVIL CONSTRUCTION DOCUMENTS FOR
# CAMP BOW WOW-NEW BRAUNFELS
## 1450 N. BUSINESS 35, NEW BRAUNFELS, TEXAS 78130




**LOCATION MAP**
NOT TO SCALE


**OWNER/DEVELOPER :** CAMP BOW WOW SAN ANTONIO
24014 LA TAPICERIA
SAN ANTONIO, TEXAS 78261
OFFICE: 210-391-0348
EMAIL: frankdwtx@gmail.com
ATTN: FRANK WETEGROVE

**CIVIL ENGINEER :** KLOVE ENGINEERING, LLC
22610 US HIGHWAY 281 N., STE 204
SAN ANTONIO, TEXAS 78258
OFFICE: (210) 485-5683
WWW.KLOVEENGINEERING.COM
ATTN.: ALEJANDRA SANTOS
ASANTOS@KLOVEENGINEERING.COM

**ARCHITECT :** OPEN STUDIO ARCHITECTURE, PLLC
6122 DE ZAVALA ROAD
SAN ANTONIO, TEXAS 78249
OFFICE: (210) 417-4307
ATTN: JAIME GALINDO
JAIME.G@OPENSTUDIO-USA.COM


**PROJECT ADDRESS :** 1450 N. BUSINESS 35
NEW BRAUNFELS, TX 78130

## SHEET INDEX


| | |
|---|---|
| COVER SHEET | C0.0 |
| TXDOT GENERAL NOTES | C0.1 |
| EXISTING CONDITIONS AND DEMOLITION PLAN | C1.0 |
| STORM WATER POLLUTION PREVENTION PLAN | C2.0 |
| CIVIL SITE AND DIMENSIONAL CONTROL PLAN | C3.0 |
| SITE PAVING PLAN | C3.1 |
| UTILITY PLAN | C4.0 |
| UTILITY NOTES AND DETAILS | C4.1 |
| GRADING PLAN | C5.0 |
| DETENTION POND PLAN | C5.1 |
| STORM WATER QUALITY PLAN | C5.2 |
| FIRE PROTECTION PLAN | C6.0 |
| SITE DETAILS | C7.0 |


## GEOTECHNICAL REPORT

A GEOTECHNICAL REPORT WAS NOT PROVIDED AT TIME OF CONSTRUCTION DRAWINGS. KLOVE ENGINEERING, LLC STRONGLY RECOMMENDS THAT A GEOTECHNICAL REPORT BE PROVIDED FOR THIS SITE FOR PAVEMENT AND FOUNDATION DESIGN. PAVEMENT DESIGN BY OTHERS.

## SURVEYOR NOTE

SURVEY WAS PROVIDED BY D.A. MAWYER LAND SURVEYING, INC. KLOVE ENGINEERING, LLC. SHALL NOT BE RESPONSIBLE FOR IT'S CONTENT AND/OR ACCURACY. FOR QUESTIONS REGARDING THE SURVEY, CONTACT DREW MAWYER, R.P.L.S. #5348 AT (210) 325-0858.

## LEGAL DESCRIPTION

BEING A 1.110 ACRE TRACT OF LAND, OUT OF LOT 1D-1 OF THE BEATRICE KNOX SUBDIVISION ADDITION TO THE CITY OF NEW BRAUNFELS, TEXAS, AS RECORDED IN VOLUME 15, PAGE 79 OF THE PLAT RECORDS OF COMAL COUNTY, TEXAS; ESTABLISHING LOT 1D-5 AND 1D-6

## BENCHMARKS

BENCHMARKS WERE NOT SET AT THE TIME OF SURVEY. CONTRACTOR SHALL HAVE A LICENSED SURVEYOR ESTABLISH BENCHMARKS PRIOR TO CONSTRUCTION.

**REVISIONS:**

## GENERAL NOTES:

1. THE CONTRACTOR SHALL ENSURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS APPROVED BY ALL OF THE PERMITTING AUTHORITIES.
2. ALL CONSTRUCTION WITHIN THE PUBLIC RIGHT-OF-WAY OR EASEMENT SHALL CONFORM TO THE STANDARD SPECIFICATIONS AND DRAWINGS OF THE CITY, COUNTY, TXDOT OR PUBLIC UTILITY COMPANY (IF APPLICABLE).
3. PRIOR TO CONSTRUCTION, THE CONTRACTOR IS REQUIRED TO CALL IN FOR ALL UTILITY LOCATIONS.
4. ALL CONSTRUCTION OPERATIONS SHALL BE ACCOMPLISHED IN ACCORDANCE WITH APPLICABLE REGULATIONS OF THE U.S. OCCUPATIONAL HEALTH AND SAFETY ADMINISTRATION (OSHA).
5. NECESSARY BARRICADES, SUFFICIENT LIGHTS, SIGNS, AND OTHER TRAFFIC CONTROL METHODS AS MAY BE NECESSARY FOR THE PROTECTION AND SAFETY OF THE PUBLIC, SHALL BE PROVIDED BY THE CONTRACTOR IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND MAINTAINED AT ALL TIMES (24 HRS. PER DAY IF REQUIRED) DURING THE CONSTRUCTION PROCESS. ANY TRAFFIC CONTROL OR PHASING REQUIRED TO PROPERLY CONSTRUCT THE PROJECT IS REQUIRED TO BE IN THE CONTRACTOR'S BID. NO ADDITIONAL PAYMENT/CHANGE ORDERS WILL BE APPROVED AFTER THE CONTRACT HAS BEEN AWARDED.
6. THE INFORMATION CONTAINED WITHIN THESE DRAWINGS SPECIFICALLY RELATED TO EXISTING UTILITIES, TOPOGRAPHY, CONTOURS, HYDROGRAPHY, OR SUBSURFACE CONDITIONS IS FURNISHED SOLELY AS THE BEST INFORMATION AVAILABLE AT THE TIME THESE DRAWINGS WERE PRODUCED, ITS ACCURACY IS NOT GUARANTEED AND ITS USE IN NO WAY RELIEVES THE CONTRACTOR OF ANY RESPONSIBILITY FOR DAMAGES DUE TO ANY INACCURACIES.
7. THE LOCATION AND ELEVATION OF ALL IMPROVEMENTS TO BE CONSTRUCTED, SHALL BE CONFIRMED BY FIELD MEASUREMENTS PRIOR TO CONSTRUCTION. THE CONTRACTOR IS TO MAKE EXPLORATORY EXCAVATIONS AND LOCATE EXISTING UNDERGROUND UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING ALL THE NECESSARY ARRANGEMENTS WITH THE RESPECTIVE UTILITY COMPANIES. GRAVITY LINE CONSTRUCTION IS REQUIRED TO BE VERIFIED AT CONNECTION POINT THEN CONSTRUCTED UPSTREAM.
8. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING EXISTING FACILITIES FROM DAMAGE AND COST OF REPAIR TO EXISTING FACILITIES AND IMPROVEMENTS AS A RESULT OF CONTRACTOR'S WORK. THE CONTRACTOR SHALL NOTIFY ALL UTILITY OFFICES PRIOR TO STARTING WORK AND SHALL COORDINATE THEIR WORK WITH THE UTILITY OFFICES.
9. DURING CONSTRUCTION, THE OWNER WILL CONTRACT WITH A GEOTECHNICAL LAB TO PROVIDE MATERIALS TESTING DURING THE CONSTRUCTION. TESTING FREQUENCIES AND TYPES SHOULD BE SPECIFIED WITHIN THE GEOTECH REPORT AND STRICTLY ADHERED TO. IF THIS INFORMATION IS NOT INCLUDED IN THE GEOTECH REPORT, AN REQUEST FOR INFORMATION IS REQUIRED TO BE SENT TO THE GEOTECHNICAL ENGINEER OF RECORD. ANY RE-TESTS REQUIRED DUE TO CONTRACTOR PERFORMANCE SHALL BE PAID FOR BY THE CONTRACTOR.
10. THE CONTRACTOR SHALL KEEP AND LEAVE THE AREA NEAT AND CLEAN DURING CONSTRUCTION. DEBRIS SHALL NOT BE BURIED OR DUMPED ANYWHERE WITHIN THE LIMITS OF THE PROJECT. ALL DEBRIS, CONSTRUCTION MATERIALS, CONTRACTOR'S BUILDINGS OR EQUIPMENT, LOGS, STUMPS, BOULDERS, OR ANY OTHER EXTRANEOUS MATERIAL DEPOSITED DURING CONSTRUCTION SHALL BE DISPOSED OFFSITE PROMPTLY IN COMPLIANCE WITH APPLICABLE REGULATIONS.
11. ANY EXISTING PAVEMENT, CURBS AND/OR SIDEWALKS DAMAGED OR REMOVED WILL BE REPAIRED BY THE CONTRACTOR AT THEIR EXPENSE.
12. ALL UNDERGROUND FACILITIES SHALL BE CONSTRUCTED, CONNECTED AND TESTED PRIOR TO THE CONSTRUCTION OF SURFACE IMPROVEMENTS, SUCH AS SIDEWALKS, CURBS, GUTTERS AND PAVING.
13. ALL SURVEY MONUMENTS DISTURBED DURING CONSTRUCTION SHALL BE REPLACED BY A LICENSED SURVEYOR AND PAID FOR BY THE CONTRACTOR.
14. THE CONTRACTOR SHALL KEEP THE APPROVED SET OF PLANS ON SITE AT ALL TIMES. THE CONTRACTOR SHALL REDLINE THE ACTUAL LOCATIONS AND DIMENSIONS (VERTICAL AND HORIZONTAL) OF UTILITIES, STRUCTURES, SERVICES, AND OTHER DETAILS DEFERRING FROM OR NOT SHOWN ON THE ORIGINAL DRAWINGS. UPON COMPLETION OF THE WORK, THE CONTRACTOR SHALL SUBMIT AS-BUILT DRAWINGS TO THE OWNER.
15. THE CONTRACTOR SHALL RESTORE AND REVEGETATE ALL DISTURBED AREAS NOT COVERED BY THE SITE CIVIL AND/OR LANDSCAPE PLANS. NO SEPARATE PAY APPLICATIONS WILL BE APPROVED OR PAID BY THE OWNER.
16. CONTRACTOR SHALL MAKE REQUIRED SUBMITTALS AT LEAST 14 DAYS PRIOR TO USE.
17. LANDSCAPE, IRRIGATION AND/OR TREE PRESERVATION PLANS TAKE PRECEDENCE OVER THE DEMOLITION PLAN CONTAINED IN THESE CONSTRUCTION DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT THE CITY APPROVED TREE PRESERVATION PLANS ARE UTILIZED FOR ANY TREE REMOVAL. IF A CONFLICT EXISTS, CALL KLOVE ENGINEERING, LLC FOR CLARIFICATION.

## STORM WATER POLLUTION PREVENTION NOTES:

1. PRIOR TO CONSTRUCTION, MAKE CERTAIN THE NOTICE OF INTENT (NOI) OR CONSTRUCTION SITE NOTICE (CSN) HAS BEEN FILED AND POSTED ONSITE FOR PUBLIC VIEWING AND THE TPDES REPORT AND SWPPP ARE AVAILABLE AT THE TRAILER.
2. INSTALL STORM WATER POLLUTION PREVENTION CONTROLS PRIOR TO ANY SITE PREPARATION WORK (CLEARING, GRUBBING, EXCAVATION).
3. THE PLACEMENT OF STORM WATER POLLUTION PREVENTION CONTROLS SHALL BE IN ACCORDANCE WITH THE APPROVED STORM WATER POLLUTION PREVENTION CONTROL PLAN.
4. A PRE-CONSTRUCTION CONFERENCE SHALL BE HELD ON-SITE WITH THE CONTRACTOR AND ENGINEER AFTER INSTALLATION OF THE STORM WATER POLLUTION PREVENTION CONTROLS AND PRIOR TO BEGINNING ANY SITE PREPARATION WORK.
5. ANY MAJOR VARIATION IN MATERIALS OR LOCATIONS OF CONTROLS OR FENCES FROM THOSE SHOWN ON THE APPROVED PLANS WILL REQUIRE A REVISION AND MUST BE APPROVED BY THE ENGINEER AS APPROPRIATE. MINOR CHANGES TO BE MADE AS FIELD REVISIONS TO THE STORM WATER POLLUTION PREVENTION CONTROL PLAN MAY BE REQUIRED BY THE ENGINEER DURING THE COURSE OF CONSTRUCTION TO CORRECT CONTROL INADEQUACIES.
6. THE CONTRACTOR IS REQUIRED TO INSPECT THE CONTROLS AND FENCES AT INTERVALS OF AT LEAST ONCE EVERY TWO (2) WEEKS AND IMMEDIATELY AFTER SIGNIFICANT RAINFALL EVENTS TO INSURE THAT THEY ARE FUNCTIONING PROPERLY. THE PERSON(S) RESPONSIBLE FOR MAINTENANCE OF CONTROLS AND FENCES SHALL IMMEDIATELY MAKE ANY NECESSARY REPAIRS TO DAMAGED AREAS. SILT ACCUMULATION AT CONTROLS MUST BE REMOVED WHEN THE DEPTH REACHES SIX (6) INCHES.
7. PRIOR TO FINAL ACCEPTANCE BY THE CITY, HAUL ROADS AND WATERWAY CROSSINGS CONSTRUCTED FOR TEMPORARY CONTRACTOR ACCESS MUST BE REMOVED, ACCUMULATED SEDIMENT REMOVED FROM THE WATERWAY AND THE AREA RESTORED TO THE ORIGINAL GRADE AND REVEGETATED. ALL LAND CLEARING DEBRIS SHALL BE DISPOSED OF PROPERLY.
8. WHERE SILT FENCE CANNOT BE PROPERLY INSTALLED USE TRIANGULAR FILTRATION DIKE OR HAY BALES.
9. SOIL DISTURBANCES SHALL BE MINIMIZED BY EXPOSING ONLY THE SMALLEST PRACTICAL AREA OF LAND REQUIRED FOR THE CLEARING AND GRADING ACTIVITY AND FOR THE CONSTRUCTION ACTIVITY, FOR THE SHORTEST PRACTICAL PERIOD OF TIME.
10. STABILIZATION MEASURES WILL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, AND EXCEPT AS PROVIDED BELOW, WILL BE INITIATED NO MORE THAN FOURTEEN (14) DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED.
11. WHERE CONSTRUCTION ACTIVITY ON A PORTION OF THE SITE IS TEMPORARILY CEASED, AND EARTH DISTURBING ACTIVITIES WILL BE RESUMED WITHIN TWENTY-ONE (21) DAYS, TEMPORARY STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF SITE.
12. TRAFFIC LEAVING THE CONSTRUCTION SITE WILL EXIT THROUGH A STABILIZED CONSTRUCTION EXIT AS LOCATED ON THE PLANS. WHEN SOILS HAVE COLLECTED ON THE STABILIZED VEHICULAR EXIT TO AN EXTENT WHICH REDUCES ITS INTENDED EFFECTIVENESS, THE SURFACE WILL BE CLEANED AND REESTABLISHED FOR THE INTENDED PURPOSE.
13. MUD/DIRT INADVERTENTLY TRACKED OFF-SITE AND ONTO PUBLIC STREETS SHALL BE REMOVED IMMEDIATELY.
14. PERMANENT EROSION CONTROL:
ALL DISTURBED AREAS SHALL BE RESTORED AS NOTED BELOW.

(A) A MINIMUM OF FOUR INCHES OF TOPSOIL SHALL BE PLACED IN ALL DRAINAGE CHANNELS (EXCEPT ROCK) AND BETWEEN THE CURB AND RIGHT-OF-WAY LINE.

(B) THE SEEDING FOR PERMANENT EROSION CONTROL SHALL BE APPLIED OVER AREAS DISTURBED BY CONSTRUCTION AS FOLLOWS UNLESS SPECIFIED OTHERWISE BY THE PROJECT'S LANDSCAPE PLAN:

BROADCAST SEEDING:

I. FROM SEPTEMBER 15 TO MARCH 1, SEEDING SHALL BE WITH A COMBINATION OF 2 POUNDS PER 1000 SF OF UNHULLED BERMUDA AND 7 POUNDS PER 1000 SF OF WINTER RYE WITH A PURITY OF 95% WITH 90% GERMINATION.

II. FROM MARCH 2 TO SEPTEMBER 14, SEEDING SHALL BE WITH HULLED BERMUDA AT A RATE OF 2 POUNDS PER 1000 SF WITH A PURITY OF 95% WITH 85% GERMINATION.

(C) FERTILIZER SHALL BE A PELLETED OR GRANULAR SLOW RELEASE WITH AN ANALYSIS OF 15- 15-15 TO BE APPLIED ONCE AT PLANTING AND ONCE DURING THE PERIOD OF ESTABLISHMENT AT A RATE OF 1 POUND PER 1000 SF.

(D) MULCH TYPE USED SHALL BE HAY, STRAW OR MULCH APPLIED AT A RATE OF 45 POUNDS PER 1000 SF.

HYDRAULIC SEEDING:

I. FROM SEPTEMBER 15 TO MARCH 1, SEEDING SHALL BE WITH A COMBINATION OF 1 POUND PER 1000 SF OF UNHULLED BERMUDA AND 7 POUNDS PER 1000 SF OF WINTER RYE WITH A PURITY OF 95% WITH 90% GERMINATION.

II. FROM MARCH 2 TO SEPTEMBER 14, SEEDING SHALL BE WITH HULLED BERMUDA AT A RATE OF 1 POUND PER 1000 SF WITH A PURITY OF 95% WITH 85% GERMINATION.

(E) FERTILIZER SHALL BE A WATER SOLUBLE FERTILIZER WITH AN ANALYSIS OF 15-15-15 AT A RATE OF 1.5 POUNDS PER 1000 SF.

(F) MULCH TYPE USED SHALL BE HAY, STRAW OR MULCH APPLIED AT A RATE OF 45 POUNDS PER 1000 SF, WITH SOIL TACKIFIER AT A RATE OF 1.4 POUNDS PER 1000 SF.

(G) THE PLANTED AREA SHALL BE IRRIGATED OR SPRINKLED IN A MANNER THAT WILL NOT ERODE THE TOPSOIL, BUT WILL SUFFICIENTLY SOAK THE SOIL TO A DEPTH OF SIX INCHES. THE IRRIGATION SHALL OCCUR AT TEN-DAY INTERVALS DURING THE FIRST TWO MONTHS RAINFALL OCCURRENCES OF 1/2 INCH OR MORE SHALL POSTPONE THE WATERING SCHEDULE FOR ONE WEEK. (COORDINATE WITH IRRIGATION PLAN)

(H) RESTORATION SHALL BE ACCEPTABLE WHEN THE GRASS HAS GROWN AT LEAST 1 1/2 INCHES HIGH WITH 95% COVERAGE, PROVIDED NO BARE SPOTS LARGER THAN 16 SQUARE FEET EXIST.

(I) SEEDING SHALL APPLY TO ALL AREAS WITHIN DISTURBED PROJECT AREA NOT COVERED BY PAVEMENT, BUILDING PAD OR PROJECT LANDSCAPING PLANS INCLUDING RIGHT-OF-WAYS AND OFFSITE EASEMENTS.

(J) AT LEAST TWO SEEDINGS SHOULD OCCUR DURING PROJECT. THEY SHOULD OCCUR WITHIN 14 DAYS AFTER PONDS ARE GRADED AND PRIOR TO BY FINAL PUNCH LIST

15. THE EPA GENERAL PERMIT REQUIRES THAT A TEMPORARY OR PERMANENT SEDIMENT BASIN BE INSTALLED IN ANY DRAINAGE LOCATION WHERE MORE THAN 10 ACRES IN THE UPSTREAM DRAINAGE ARE DISTURBED AT ONE TIME. THE SEDIMENT BASIN MUST PROVIDE AT LEAST 3,600 CUBIC FEET OF STORAGE FOR EVERY ACRE OF LAND, WHICH IT DRAINS.
16. CONTRACTOR'S FILING OF NOTICE OF TERMINATION (NOT) SHALL OCCUR UPON PROJECT OWNER'S ACCEPTANCE OF REVEGETATION.
17. KLOVE ENGINEERING, LLC. (THE "CONSULTANT") CONFIRMS TO THE PROJECTS OWNER THAT CONSULTANT HAS PREPARED THESE PLANS IN ACCORDANCE WITH THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES).

## STORM WATER POLLUTION PREVENTION PLAN / TPDES:

FURNISH AND INSTALL TEMPORARY AND PERMANENT STORM WATER POLLUTION PREVENTION CONTROL MEASURES SHOWN IN THE PLANS. CONSTRUCT IMPROVEMENTS IN COMPLIANCE WITH THE INTENT OF SUCH POLLUTION CONTROL MEASURES, TPDES PERMITS, OR OTHER LOCAL WATERWAY DEVELOPMENT PERMITS.

EXECUTION:

1. CONTRACTOR IS RESPONSIBLE FOR ALL POLLUTION PREVENTION MEASURES SHOWN IN THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP).
2. SUBMIT A STORM WATER TPDES GENERAL PERMIT NOTICE OF INTENT (NOI) AT LEAST TWO DAYS PRIOR TO START OF CONSTRUCTION TO THE APPROPRIATE AGENCY SHOWN
3. POST SIGNED AND COMPLETED NOI POSTING NOTICE OR CONSTRUCTION SITE NOTICE (CSN) AT CONSTRUCTION ENTRANCE FOR PUBLIC VIEWING, AND KEEP A COPY OF THE SWPPP AT THE JOB SITE AT ALL TIMES.
4. INSTALL AND MAINTAIN POLLUTION CONTROL MEASURES IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS AND WITH PROJECT SPECIFICATIONS.
5. INSTALL EROSION CONTROL MEASURES AND CONSTRUCTION ENTRANCES AS SHOWN IN THE SWPPP PRIOR TO BEGINNING CONSTRUCTION. POLLUTION CONTROL MEASURES SHALL BE REPAIRED, REESTABLISHED, ADJUSTED OR REINSTALLED WITH EACH SUBSEQUENT PHASE OF CONSTRUCTION IN ACCORDANCE WITH THE SWPPP.
6. CONTRACTOR IS RESPONSIBLE FOR ANY SEDIMENT THAT ESCAPES THE CONSTRUCTION SITE, AND SHALL REMOVE THE ACCUMULATION OF OFF-SITE SEDIMENT PROMPTLY
7. MAINTAIN SEDIMENT TRAPS OR SEDIMENTATION BASINS.
8. OFF-SITE MATERIAL STORAGE AREAS USED SOLELY BY THE PROJECT ARE CONSIDERED PART OF THE PROJECT.
9. MAINTAIN RECORDS OF PROJECT MILESTONE DATES AND FIELD CHANGES AS REQUIRED BY THE SWPPP.
10. INSPECT POLLUTION CONTROL MEASURES EVERY 14 DAYS AND WITHIN 24 HOURS AFTER A STORM EVENT GREATER THAN 0.5 INCHES OF RAINFALL. AN INSPECTION REPORT SHALL BE RECORDED AS REQUIRED BY THE SWPPP.
11. DEFICIENCIES NOTED DURING THE INSPECTION WILL BE CORRECTED AND DOCUMENTED WITHIN SEVEN CALENDAR DAYS OR BEFORE THE NEXT ANTICIPATED STORM EVENT.

## SITE CLEARING:

CONDUCT SITE CLEARING OPERATIONS TO THE EXTENT SHOWN ON THE DRAWINGS, INCLUDING BUT NOT LIMITED TO: REMOVAL OF TREES AND OTHER VEGETATION, TOPSOIL STRIPPING, CLEARING AND GRUBBING, AND REMOVAL ALL IMPROVEMENTS ABOVE OR BELOW GRADE. REFER TO THE GEOTECHNICAL REPORT FOR THIS PROJECT FOR ADDITIONAL SITE PREPARATION REQUIREMENTS.

EXECUTION:

1. SITE CLEARING OPERATIONS SHALL NOT DAMAGE OR INTERFERE WITH THE PUBLIC USE OF ROADS, WALKS, ADJACENT LAND OR FACILITIES AND EXISTING IMPROVEMENTS INTENDED TO REMAIN.
2. EXISTING TREES TO REMAIN SHALL BE PROTECTED IN COMPLIANCE WITH - LANDSCAPE PLANS. LANDSCAPE AND ANY TREE PRESERVATION PLAN SHALL TAKE PRECEDENCE OVER THE CIVIL DEMOLITION PLAN. IF DISCREPANCY IS FOUND, CONTRACTOR SHALL CONTACT ENGINEER TO REVISE THE DEMOLITION PLAN.
3. CONTRACTOR SHALL REMOVE TREES, SHRUBS, GRASS AND OTHER VEGETATION, IMPROVEMENTS OR OBSTRUCTIONS INTERFERING WITH THE INSTALLATION OF NEW CONSTRUCTION OR AS SHOWN ON PLANS. CLEARING OPERATIONS SHALL INCLUDE REMOVAL OF STUMPS AND ROOTS.
4. CONTRACTOR SHALL STRIP TOPSOIL IN A MANNER APPROPRIATE TO SEGREGATE FROM UNDERLYING SUBSOIL. TOPSOIL STRIPPING NEAR TREES INTENDED TO REMAIN SHALL BE COMPLETED IN COMPLIANCE LANDSCAPE PLANS.
5. SPOIL SHALL BE STORED ONLY IN AREAS SHOWN ON THE PLANS AND SHALL BE MAINTAINED IN ACCORDANCE WITH APPLICABLE POLLUTION PREVENTION PLANS OR PERMITS.
6. WASTE MATERIAL OR EXCESS TOPSOIL GENERATED AS A RESULT OF CLEARING AND GRADING OPERATIONS SHALL BECOME THE PROPERTY OF THE CONTRACTOR. APPROPRIATE DISPOSAL OF ALL SPOIL MATERIAL SHALL BE AT THE CONTRACTOR'S EXPENSE. BURNING ON THE OWNER'S PROPERTY IS NOT PERMITTED.

## DEMOLITION NOTES:

FOLLOWING APPROPRIATE SAFETY PROCEDURES, DEMOLISH EXISTING FACILITIES AS SHOWN ON THE PLANS. PROTECTION OF PUBLIC AND PRIVATE PROPERTY AND SAFE DISPOSITION OF SPOIL MATERIAL IS INCLUDED IN THIS ITEM. EXECUTION:

1. CONTRACTOR SHALL SUBMIT FOR APPROVAL TO GOVERNMENTAL AGENCIES AND THE OWNER A DEMOLITION PLAN INCLUDING BUT NOT LIMITED TO THE FOLLOWING:

A. METHODS, EQUIPMENT AND SEQUENCE OF OPERATION.
B. CREDENTIALS OF INDIVIDUALS PERFORMING DEMOLITION OPERATIONS, INCLUDING SUBCONTRACTORS.
C. SAFETY MEASURES TO PROTECT WORKERS, PERSONNEL AND THE PUBLIC.
D. SAFETY MEASURES TO PROTECT ADJACENT PROPERTIES, LANDSCAPING, IMPROVEMENTS TO REMAIN OR PUBLIC RIGHTS OF WAY.
E. ASBESTOS OR OTHER HAZARDOUS MATERIAL ABATEMENT PLAN.
F. STORAGE, REMOVAL AND DISPOSITION OF SPOIL MATERIAL.
G. EROSION CONTROL MEASURES, INCLUDING TPDES PROCEDURES AND REGULATIONS.
H. POLLUTION AND AIR QUALITY CONTROL MEASURES (DUST CONTROL, ETC.).
I. HEALTH DEPARTMENT NOTICE.
J. UTILITY COORDINATION WITH ALL AFFECTED UTILITIES, INCLUDING LOCATION OF FACILITIES, PROTECTION DURING DEMOLITION, DAMAGE REPAIRS AND DISRUPTION OF SERVICE.

2. THE USE OF EXPLOSIVES WILL NOT BE PERMITTED.
3. THE PROJECT SITE SHALL BE CLEANED DAILY. DEBRIS, RUBBISH AND CONTRACTORS SALVAGED MATERIAL SHALL BE REMOVED PROMPTLY.
4. ALL SPOIL MATERIAL REMAINING AFTER OWNER SALVAGE IS COMPLETE AND RESULTING FROM DEMOLITION OPERATIONS BECOMES THE PROPERTY OF THE CONTRACTOR. APPROPRIATE DISPOSAL OF SPOIL MATERIAL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AT HIS OWN EXPENSE. OWNER WILL PROVIDE LIST OF ITEMS TO BE SALVAGED.

## EARTHWORK:

PREPARE SUBGRADE BY EXCAVATION OR EMBANKMENT FOR BUILDING SLABS, WALKS AND PAVEMENTS. EXCAVATION AND BACKFILL FOR UNDERGROUND UTILITIES AND DRAINAGE FILL COURSE FOR SUPPORT OF BUILDING SLABS ARE INCLUDED IN THIS ITEM.

EXECUTION:

1. ALL EXCAVATION, BACKFILL AND COMPACTION SHALL BE PERFORMED AS SHOWN IN THE PLANS AND GEOTECHNICAL REPORT FOR THE SITE.
2. EXCESS MATERIAL RESULTING FROM EXCAVATION OPERATIONS IS THE PROPERTY OF THE CONTRACTOR. APPROPRIATE DISPOSAL SHALL BE AT THE CONTRACTOR'S EXPENSE.
3. ALL EXCAVATION SHALL BE PERFORMED AS DIRECTED IN THE PLANS AND IN COMPLIANCE WITH OSHA STANDARDS
4. OWNER WILL ENGAGE AT THE OWNER'S COST SOIL TESTING AND INSPECTION SERVICE IN ACCORDANCE WITH MATERIAL TESTING SPECIFICATION TO VERIFY COMPLIANCE WITH THE PLANS & SPECIFICATIONS. REPLACEMENT AND RETESTING OF DEFICIENT WORK SHALL BE DONE BY CONTRACTOR AT NO ADDITIONAL COMPENSATION.
5. DATA ON SUBSURFACE CONDITIONS IS AVAILABLE TO THE CONTRACTOR. THE OWNER MAKES NO WARRANTY AS TO THE CORRECTNESS OF THESE REPORTS. THE CONTRACTOR MAY, AT HIS OWN EXPENSE, PERFORM ADDITIONAL TEST BORINGS.
6. CONTRACTOR IS RESPONSIBLE FOR COORDINATION WITH ALL AFFECTED UTILITY COMPANIES. THIS SHALL INCLUDE LOCATION OF FACILITIES, PROTECTION DURING CONSTRUCTION, DAMAGE REPAIRS AND DISRUPTION OF SERVICE.
7. THE EXCAVATION IS UNCLASSIFIED, AND CONTRACTOR SHALL PERFORM EXCAVATION TO THE ELEVATIONS INDICATED IN THE PLANS, REGARDLESS OF CHARACTER OF MATERIAL, WITH NO ADDITIONAL COMPENSATION FROM THE OWNER.
8. CONTRACTOR IS RESPONSIBLE FOR PROVIDING BARRICADES REQUIRED TO WARN AND/OR PREVENT ACCESS TO CONSTRUCTION AREA.
9. CONTRACTOR IS RESPONSIBLE FOR PROTECTING ADJACENT FACILITIES FROM DAMAGE.
10. EARTHWORK SHALL BE PERFORMED IN COMPLIANCE WITH LANDSCAPE ARCHITECT'S PLANS FOR LANDSCAPE PROTECTION REVEGETATION, ETC.
11. OVER-EXCAVATION IS NONCOMPENSABLE, AND SHALL BE BACKFILLED AND COMPACTED AS DIRECTED BY THE ENGINEER AT NO ADDITIONAL COST TO THE OWNER.
12. CONTRACTOR SHALL PROVIDE ALL LABOR AND EQUIPMENT NECESSARY TO PROPERLY DEWATER EXCAVATION AREAS AS REQUIRED.
13. EXCAVATED MATERIAL SHALL BE STOCKPILED WHERE DIRECTED BY THE OWNER. STOCKPILE SHALL BE MAINTAINED IN COMPLIANCE WITH ALL RELEVANT POLLUTION PREVENTION PLANS.
14. EARTHWORK SHALL BE PERFORMED TO THE SPECIFICATIONS SHOWN IN THE GEOTECHNICAL REPORT BY **[GEOTECH ENGINEER]**.
15. TRENCHES SHALL BE BACKFILLED ONLY AFTER INSPECTION AND APPROVAL OF THE TESTING LAB. BACKFILL MATERIAL AND PROCEDURES FOR TRENCHES SHALL BE IN COMPLIANCE WITH THE TEXAS DEPARTMENT OF TRANSPORTATION 2004 STANDARD SPECIFICATION FOR CONSTRUCTION OF HIGHWAYS, STREETS AND BRIDGES, ITEM 400 - EXCAVATION AND BACKFILL FOR STRUCTURES

## GRADING NOTES:

1. 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. MINOR ADJUSTMENT TO FINISH GRADE TO ACCOMPLISH SPOT DRAINAGE IS ACCEPTABLE, IF NECESSARY, UPON PRIOR APPROVAL OF THE ENGINEER.
2. ALL GRADES WITHIN LANDSCAPE AREAS ARE TO BE 3:1 MAXIMUM SLOPE ANY DIRECTION UNLESS OTHERWISE SPECIFIED ON THE PLANS. NO ADDITIONAL PAY WILL BE APPROVED FOR GRADING BACK OF ANY AREAS IN THE FIELD GREATER THAN 3:1.
3. REFER TO SITE PLAN FOR HORIZONTAL DIMENSIONS.
4. UNLESS NOTED OTHERWISE, ALL PARKING LOT GRADES ARE TO INVERT OF GUTTER. ADD 0.5' TO GUTTER GRADE FOR TOP OF CURB GRADE EXCEPT WHERE CURB IS FLUSH WITH GUTTER OR INVERT.
5. SITE PREPARATION AND GRADING, FOUNDATION EXCAVATION AND FILL SHALL BE PERFORMED IN ACCORDANCE WITH THE GEOTECHNICAL INVESTIGATION REPORT.
6. PAVING INSTALLED SHALL BE FLUSH AT ANY JUNCTURE WITH EXISTING PAVING.
7. ALL FILL MATERIAL PROVIDED SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACING AND COMPACTING.
8. ALL FILL MATERIAL AT PAVING AREAS SHALL BE COMPACTED TO 95% OF DRY DENSITY AND 85% OF DRY DENSITY AT ALL LANDSCAPE AREAS.
9. ALL SLOPES STEEPER THAN 3:1 SHALL BE OVERLAID WITH CURLEX BLANKET AND SYSTEM ANCHORED PER MANUFACTURERS RECOMMENDATIONS.
10. ALL AREAS DISTURBED SHALL BE RESTORED AND GRADED TO DRAIN.
11. ALL GRADES AND CONTOURS SHOWN ARE FINAL, TOP OF FINISHED SURFACE ELEVATIONS UNLESS OTHERWISE NOTED. CONTRACTOR SHALL SUBTRACT THICKNESS OF PAVEMENT, BASE, TOP SOIL, SOD, ETC. TO ACHIEVE SUBGRADE ELEVATIONS.
12. CONTRACTOR SHALL CONSTRUCT TO OBTAIN GRADES SHOWN HEREON ±ONE-HUNDREDTH (±0.01) FEET.
13. CONTRACTOR IS TO BUILD ANY AND ALL DOWNSTREAM DRAINAGE INFRASTRUCTURE SUCH AS UNDERGROUND STORM SEWER AND/OR CHANNEL/S, SHOWN ON THE PLANS PRIOR TO CHANGING THE FLOW PATTERNS (GRADING) OF THE SUBJECT SITE/PROJECT. THIS IS TO PROTECT DOWNSTREAM PROPERTIES FROM ANY POTENTIAL FLOODING OR DAMAGE AS A RESULT OF CONCENTRATING FLOW AND/OR CHANGING POINTS OF DISCHARGE ONTO DOWNSTREAM PROPERTIES. IF FOR ANY REASON THIS CANNOT BE DONE, CONTACT THIS OFFICE IMMEDIATELY PRIOR TO ANY CONSTRUCTION TO OBTAIN A TEMPORARY SOLUTION AND/OR REMEDIATION UNTIL SUCH TIME AS THE DOWNSTREAM INFRASTRUCTURE IS COMPLETED AND FUNCTIONING AS INTENDED.

## SITE PLAN NOTES:

1. ALL ON-SITE CONSTRUCTION SHALL BE IN ACCORDANCE WITH CURRENT PROJECT OWNER'S SPECIFICATIONS.
2. ALL CONSTRUCTION IN CITY AND/OR RIGHT-OF-WAYS AND/OR EASEMENTS SHALL BE IN ACCORDANCE WITH THE CITY OF NEW BRAUNFELS STANDARD SPECIFICATIONS. ALL OTHER BUILDINGS AND SITE WORK SHALL BE IN ACCORDANCE WITH ALL APPLICABLE BUILDING CODES, CITY OF NEW BRAUNFELS ORDINANCES, SPECIFICATIONS CONTAINED WITHIN THESE PLANS AND SPECIFICATIONS PROVIDED BY ARCHITECT.
3. PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL MAKE CERTAIN THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS AS APPROVED BY ALL OF THE PERMITTING AUTHORITIES.
4. THE CONTRACTOR SHALL GIVE THE CITY A MINIMUM OF 48 HOURS NOTICE BEFORE BEGINNING EACH PHASE OF CONSTRUCTION.
5. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES DURING THE CONSTRUCTION OF THIS PROJECT. IF CONTRACTOR FINDS A DISCREPANCY WITH THE TOPOGRAPHIC INFORMATION ON THESE PLANS, HE/SHE SHALL CONTACT THE CONSTRUCTION MANAGER/SUPERVISOR AND CIVIL ENGINEER IMMEDIATELY.
6. CONTRACTOR SHALL PROTECT ALL BENCHMARKS AND PROPERTY MONUMENTATION AND SHALL REPLACE OR REPAIR, AT HIS OWN EXPENSE, BENCHMARKS AND MONUMENTATION DISTURBED DURING CONSTRUCTION.
7. IF CONTRACTOR RELOCATES OR SETS NEW BENCHMARKS, THE VERTICAL ELEVATIONS OF THE BENCHMARKS SHALL BE SET TO A TOLERANCE OF .01'.
8. ALL DIMENSIONS SHOWN ARE TO FACE OF CURB, BUILDING FACE OF BRICK, STONE AND FACE OF WALLS. UNLESS OTHERWISE NOTED.
9. REFER TO ARCHITECTURAL PLANS FOR DETAILED BUILDING DIMENSIONS.
10. ALL CURB RADII SHALL BE 3.0' UNLESS OTHERWISE NOTED.
11. THE AMERICANS WITH DISABILITIES ACT (ADA) GUIDELINES, BOTH FEDERAL AND STATE ARE TO BE INCORPORATED IN ALL CONSTRUCTION DOCUMENTS. IF ANY CRITERIA CANNOT BE MET THEN CIVIL ENGINEER AND/OR PROJECTS OWNER IS TO BE ALERTED OF THE CONDITION AND INFORMED OF THE MEASURES THAT WOULD BE NECESSARY TO BE IN CONFORMANCE.
12. GENERAL CONTRACTOR IS RESPONSIBLE TO MEET CITY FLAT WORK MANUAL REQUIREMENTS. ALL PEDESTRIAN CURB RAMPS TO BE TEXTURED AND STAINED PER A.D.A./TAS REQUIREMENTS.
13. CONTRACTOR IS RESPONSIBLE FOR VERIFYING EXISTING UTILITIES, PAVEMENT AND STRUCTURES WITHIN OR AROUND THE PROPOSED BUILDING PAD LIMITS OF CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR REMOVAL, RELOCATION AND COORDINATION OF THESE EXISTING UTILITIES, PAVEMENT AND STRUCTURES. CONTRACTOR SHALL CONTACT ENGINEER IF A CONFLICT IS FOUND.
14. PUMPING RUNOFF OR RAINWATER FROM AN AREA OF EXCAVATION SHALL NOT BE AN EXTRA PAY ITEM.
15. WHERE STOP BARS ARE SHOWN, A STOP SIGN SHALL BE INSTALLED AS SHOWN ON SITE PLAN DETAILS UNLESS NOTED OTHERWISE.

## CONCRETE PAVEMENT NOTES:

1. DESIGN MIX SUBMITTALS SHALL BE PROVIDED FOR REVIEW AT LEAST 14 DAYS PRIOR TO PLACEMENT.
2. DO NOT UNLOAD OR USE ANY HEAVY CONSTRUCTION EQUIPMENT ON NEW CONCRETE FOR AT LEAST 7 DAYS AFTER CONCRETE IS POURED.
3. JOINTS SHALL BE PLACED IN ANY PROPOSED CONCRETE PAVEMENT AND CURBING AS RECOMMENDED IN THE GEOTECHNICAL STUDY FOR THIS SITE AND/OR JOINT LAYOUT.
4. CONTRACTOR IS RESPONSIBLE FOR COORDINATING WORK SUCH THAT UTILITIES ARE INSTALLED PRIOR TO PAVEMENT BASE BEING INSTALLED OR ELSE LOCATE AND PLACE LINES FOR PROPOSED UNDERGROUND UTILITIES.
5. ALL CONCRETE WORK SHALL CONFORM TO ALL APPLICABLE REQUIREMENTS OF ACI 330. FLY ASH CAN BE USED IN MIX DESIGNS WHERE SUITABLE.
6. ALL CONCRETE PAVING AND FLATWORK SHALL BE CURED IN CONFORMANCE WITH AMERICAN CONCRETE PAVEMENT ASSOCIATION GUIDELINES.
7. THESE PLANS REPRESENT PAVING DESIGN AS RECOMMENDED BY **[GEOTECH ENGINEER]**.

A. RECORD AIR TEMPERATURE & MIX TEMPERATURE AT TIME OF LAYDOWN.
B. GEO-TECH ENGINEER OF RECORD TO MAKE MIN. OF TWO SITE VISITS.

## PORTLAND CEMENT CONCRETE PAVING:

FURNISH AND INSTALL THE PORTLAND CEMENT CONCRETE PAVING AND PREPARED BASE COURSE TO THE EXTENT SHOWN ON THE DRAWINGS. THESE AREAS INCLUDE CURBS, GUTTERS, WALKS AND PAVING AGGREGATE.

EXECUTION:

1. ALL CONCRETE ITEMS SHALL COMPLY WITH THE REQUIREMENTS OF APPLICABLE DIVISION 3 SECTIONS FOR CONCRETE MIX DESIGN, SAMPLING AND TESTING, CURING AND QUALITY CONTROL, AND AS HEREIN SPECIFIED.
2. UNLESS OTHERWISE SHOWN ON THE PLANS, RECOMMENDED BY THE GEOTECHNICAL ENGINEER OR APPROVED BY THE ENGINEER, CONCRETE AREAS SHALL COMPLY WITH THE FOLLOWING ITEMS WITHIN THE TEXAS DEPARTMENT OF TRANSPORTATION 2004 STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS AND BRIDGES:

* ITEM 247 - FLEXIBLE BASE
* ITEM 360 - CONCRETE PAVING
* ITEM 421 - PORTLAND CEMENT CONCRETE
* ITEM 529 - CONCRETE CURBS, GUTTER AND COMBINED CURB AND GUTTER
* ITEM 531 - SIDEWALKS

3. UNLESS OTHERWISE SHOWN ON THE PLANS OR RECOMMENDED BY THE GEOTECHNICAL ENGINEER, DESIGN MIX SHALL PRODUCE NORMAL-WEIGHT CONCRETE WITH THE FOLLOWING PROPERTIES:

A. COMPRESSIVE STRENGTH: 3,000 PSI FOR CONCRETE PAVEMENTS, MINIMUM AT 28 DAYS
B. ALL REINFORCEMENT TO HAVE A TENSILE STRENGTH OF 10 KSI.
C. SLUMP: MAXIMUM OF 5"
D. AIR CONTENT: 4%±1%
E. ALL EXPOSED CONCRETE CORNERS TO BE CHAMFERED 1".

4. FORMS WILL BE SET TO GRADE LINES WITHIN THE FOLLOWING TOLERANCES:

A. TOP OF FORMS NOT MORE THAN 1/8" IN 10'.
B. VERTICAL FACE ON LONGITUDINAL AXIS, NOT MORE THAN 1/4" IN 10'.

5. LOCATE, PLACE AND SUPPORT REINFORCEMENT AS SPECIFIED IN THE GEOTECHNICAL REPORT AND IN COMPLIANCE WITH TXDOT ITEM 440.
6. PRE-POUR INSPECTION BY THE GEOTECH LAB IS REQUIRED PRIOR TO FINAL PLACEMENT OF CONCRETE.
7. AUTOMATIC MACHINE MAY BE USED FOR CURB AND GUTTER PLACEMENT. IF MACHINE PLACEMENT IS USED, CONTRACTOR SHALL SUBMIT REVISED MIX DESIGN AND LABORATORY TEST RESULTS THAT MEET OR EXCEED MINIMUMS SPECIFIED. MACHINE PLACED CURBS MUST MEET THE CROSS SECTION, LINES, GRADES, FINISH AND JOINTING SPECIFIED, OR SHALL BE REMOVED AND REPLACED WITH FORMED CONCRETE AS SPECIFIED.
8. AFTER COMPLETION OF FLOATING AND TROWELING WHEN EXCESS MOISTURE OR SURFACE SHEEN HAS DISAPPEARED, BROOM FINISH BY DRAWING A FINE-HAIR BROOM ACROSS CONCRETE SURFACE PERPENDICULAR TO THE LINE OF TRAFFIC. REPEAT OPERATION IF REQUIRED TO PROVIDE A TEXTURE ACCEPTABLE TO THE OWNER OR DESIGNATED REPRESENTATIVE.
9. CONTRACTOR SHALL PROTECT CONCRETE FROM DAMAGE UNTIL ACCEPTANCE OF WORK. VEHICULAR TRAFFIC SHALL BE PROHIBITED FOR AT LEAST 7 DAYS AFTER PLACEMENT. BROKEN OR DEFECTIVE CONCRETE WILL BE REPAIRED OR REPLACED AS DIRECTED BY THE ENGINEER.
10. DRILL TEST CORES WHERE DIRECTED BY THE ENGINEER, WHEN NECESSARY TO DETERMINE MAGNITUDE OF CRACKS OR DEFECTIVE AREAS. TESTING WILL BE IN ACCORDANCE WITH THE MATERIAL TESTING SPECIFICATION.
11. CONCRETE PAVED AREAS SHALL BE MAINTAINED BY THE CONTRACTOR SUCH THAT AT FINAL INSPECTION, CONCRETE SHALL BE FREE OF STAINS, DISCOLORATIONS, DIRT AND OTHER FOREIGN MATERIAL.

## PAVEMENT MARKINGS:

FURNISH AND INSTALL PAVEMENT MARKINGS OF THE TYPE AND SIZE SHOWN ON THE PLANS AND AS REQUIRED FOR COMPLIANCE WITH GOVERNING CODES. IF NO GOVERNING CODES APPLY, THEN USE TXDOT STANDARDS.

EXECUTION:

1. CONTRACTOR SHALL CLEAN PAVEMENT OF GREASE, DIRT, OIL, SAND, GRAVEL OR OTHER FOREIGN MATERIALS PRIOR TO APPLYING MARKINGS AS RECOMMENDED BY PAINT MANUFACTURER.
2. PAVEMENT MARKINGS SHALL BE APPLIED BY MACHINE AT A RATE OF ONE (1) GALLON/100 SQUARE FEET.
3. PAVEMENT MARKINGS SHALL NOT BE APPLIED DURING PERIODS OF EXCESS HUMIDITY OR PAVEMENT TEMPERATURES BELOW 50 DEGREES F.
4. MINIMUM LINE WIDTH IS 4 INCHES. PAVEMENT MARKINGS MUST COMPLY WITH LOCAL FIRE STANDARDS AND CURRENT ACCESSIBILITY CODE.
5. A MINIMUM OF TWO COATS SHALL BE REQUIRED. WAIT 30 DAYS AFTER PAVEMENT INSTALLATION BEFORE APPLYING THE SECOND COAT OF PAVEMENT MARKINGS.
6. CLOSE AREAS TO TRAFFIC FOR DURATION OF DRYING TIME, WHICH SHALL BE NO LESS THAN THE MINIMUM RECOMMENDED BY THE PAINT MANUFACTURER.
7. TRAFFIC PAINT SHALL BE SHERWIN WILLIAMS PRO-MAR TRAFFIC PAINT OR APPROVED EQUAL - COLOR AS SPECIFIED ON PLANS.

## STORM SEWER NOTES:

1. THE LOCATION OF UNDERGROUND UTILITIES SHOWN ON THIS PLAN ARE BASED ON FIELD SURVEYS AND LOCAL UTILITY COMPANY RECORDS. IT SHALL BE THE CONTRACTOR'S FULL RESPONSIBILITY TO CONTACT THE VARIOUS UTILITY COMPANIES TO LOCATE THEIR UTILITIES PRIOR TO STARTING CONSTRUCTION. (SEE SITE INFORMATION SHEET FOR UTILITY CONTACTS)
2. VERIFY ALL EXISTING INVERTS AND RIM ELEVATIONS PRIOR TO CONSTRUCTION. CONTACT ENGINEER WITH ANY DISCREPANCIES.
3. COMPLETE OR COORDINATE ADJUSTMENT OF OTHER UTILITIES IN ORDER TO CONSTRUCT STORM SEWER TO ELEVATIONS PROVIDED.
4. THE FOLLOWING STORM SEWER PIPES ARE ALLOWABLE (WITH MANUFACTURER'S SPECS FOR BACKFILL FOLLOWED):

A. 12" THRU 48" RCP, D-LOAD DESIGN
B. 6" THRU 12" PVC, SDR 35 OR SCH. 40
C. 12" THRU 18" GALVANIZED CORRUGATED METAL (2-2/3"x 1/2" CORRUGATED)
D. 12" THRU 48" "ULTRAFLO" SPIRAL RIB PIPE (AASHTO M-36 TYPE I.R. WITH GALVANIZED STEEL AS PER AASHTO M-218)
E. 6" THRU 36", HDPE

NOTE:

A. OPTIONS C & D SHALL NOT BE USED ALONG COASTAL REGIONS OR AREAS WHERE THE EXISTING SOILS ARE CORROSIVE.
B. THE ABOVE SHALL BE FOLLOWED UNLESS PIPES ARE TO BE INSTALLED IN PUBLIC ROW OR EASEMENT. IF PIPE IS PART OF PUBLIC SYSTEM, PIPE MATERIAL SHALL FOLLOW REQUIREMENTS OF AUTHORITY HAVING JURISDICTION.
C. MANNING'S "N" VALVE SHALL BE 0.013 OR LESS.

5. ALL STORM SEWER INLETS/STRUCTURES SHALL BE PRE-CAST UNLESS APPROVED OTHERWISE.
6. GRATE INLETS LOCATED IN THE PEDESTRIAN ACCESS ROUTE OR HIGH TRAFFIC AREAS SHALL BE ADA COMPLIANT.
7. GROUT/FORM BOTTOM OF MANHOLE OR INLET TO PROVIDE FOR SMOOTH FLOW OF WATER.

## WATER DISTRIBUTION AND WASTEWATER COLLECTION SYSTEMS:

FURNISH AND INSTALL THE FIRE LINE, DOMESTIC WATER LINE AND WASTEWATER COLLECTION SYSTEM AND ALL RELATED APPURTENANCES FROM THE PUBLIC MAIN TO THE BUILDING PAD(S) AS SHOWN ON THE PLANS, INCLUDING BUT NOT LIMITED TO ALL PIPING, FITTINGS, VAULTS, VALVES, METERS, MANHOLES AND JUNCTION BOXES REQUIRED. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL TAP PERMITS FROM THE APPLICABLE UTILITY COMPANY.

EXECUTION:

1. INSTALLATION OF WASTEWATER LINES SHALL BEGIN AT THE TAP TO THE PUBLIC WASTEWATER SYSTEM AND PROGRESS UPSTREAM. WATER AND WASTEWATER LINES SHALL BE EXTENDED TO SERVICE ENTRANCE INTO BUILDING(S). CONTRACTOR SHALL PROVIDE A WATERTIGHT SLEEVE IN FOUNDATION FOR WATER LINE.
2. CONTRACTOR IS RESPONSIBLE FOR TAP AT PUBLIC MAIN AND ALL LINES, FITTINGS AND APPURTENANCES SHOWN ON PLANS OR REQUIRED BY THE LOCAL UTILITY COMPANY.
3. ALL MATERIALS, INSTALLATION, INSPECTION AND TESTING OF WATER METER AND RELATED PIPING AND APPURTENANCES SHALL CONFORM TO UPC STANDARDS, NFPA STANDARDS, AWWA STANDARDS, TCEQ STANDARDS, AND THE APPLICABLE LOCAL UTILITY COMPANY REGULATIONS.
4. TRENCH EXCAVATION SHALL BE PERFORMED AND BACKFILL MATERIAL AND PROCEDURES SHALL BE IN COMPLIANCE WITH THE TEXAS DEPARTMENT OF TRANSPORTATION 2004 STANDARD SPECIFICATION FOR CONSTRUCTION OF HIGHWAYS, STREETS AND BRIDGES, ITEM 400 - EXCAVATION AND BACKFILL FOR STRUCTURES.
5. CONTRACTOR SHALL INSTALL ALL SEWER LINES FIRST THEN WATER LINES WHEN POSSIBLE. NO CHANGE ORDERS WILL BE ACCEPTED AS A RESULT OF WATER LINE AND SEWER LINE CONFLICTS WHEN THE WATER LINE WAS INSTALLED FIRST.

## WATER AND WASTEWATER UTILITY NOTES:

1. ALL WORK SHALL CONFORM WITH NEW BRAUNFELS UTILITY (NBU).
2. NOTIFY NBU AT LEAST 48 HOURS PRIOR TO STARTING CONSTRUCTION WITHIN ANY PUBLIC R.O.W. OR EASEMENT. DISRUPTION OF SERVICES SHALL BE COORDINATED WITH THE OWNER AND UTILITY COMPANY.
3. ALL PRIVATE WATER AND WASTEWATER LINES WILL COMPLY WITH THE INTERNATIONAL PLUMBING CODE 2018.
4. ALL WATER PIPE 4" AND LARGER SHALL BE CLASS 200 PVC C900 DR18 OR DUCTILE IRON (D.I.) CLASS 50 (IRRIGATION LINES AND DOMESTIC SERVICE LINES SHOULD BE SDR-21 RATED PIPE). ALL WATER PIPE LESS THAN 4" SHALL BE COPPER OR SCH. 80 PVC.
5. ALL PUBLIC MAIN WASTEWATER PIPE SHALL BE SDR 26 PVC., OR PRESSURE RATED PIPE WHERE REQUIRED. SERVICE LATERALS SHALL BE SDR 26 PVC.
6. INSTALL MECHANICAL JOINT (M.J.) FITTINGS ON DUCTILE IRON (D.I.) PIPE OR RING TIGHT JOINTS ON PVC C900 DR14 PIPE.
7. ALL THRUST BLOCKING SHALL BE INSTALLED IN ACCORDANCE WITH THE CITY STANDARDS. IF CITY STANDARD IS NOT AVAILABLE, USE DETAIL PROVIDED. WHERE THRUST BLOCKING IS NOT POSSIBLE, RESTRAINED JOINTS SHALL BE INSTALLED.
8. ALL WATER MAINS SHALL BE BURIED MIN. 3'. PRIVATE SERVICES LINES ARE TO BE 2' MINIMUM BELOW FINISHED GRADE.
9. WHERE THE MINIMUM 9 FOOT SEPARATION DISTANCE BETWEEN WASTEWATER LINES AND WATER LINES/MAINS CANNOT BE MAINTAINED, THE INSTALLATION OF WASTEWATER LINES SHALL BE IN STRICT ACCORDANCE WITH TCEQ. THE WASTEWATER LINES SHALL BE CONSTRUCTED OF CAST IRON, DUCTILE IRON, OR PVC MEETING THE ASTM SPECIFICATIONS FOR BOTH PIPES AND JOINTS OF 150 PSI AND SHALL BE IN ACCORDANCE WITH 30TAC 217.53 (D)(3)(A)(1). CONCRETE ENCASE ALL WATER LINES THAT CROSS WITHIN 1.5 FEET OF WASTEWATER LINE.
10. FOR PRESSURE TAPS, FURNISH, INSTALL AND AIR TEST THE SLEEVE AND VALVE. CONCRETE BLOCKING SHALL BE PLACED BEHIND AND UNDER ALL TAP SLEEVES TWENTY-FOUR (24) HOURS PRIOR TO MAKING THE WET TAP.
11. SEE MECHANICAL PLANS FOR EXACT LOCATION OF WATER AND WASTEWATER CONNECTIONS TO BUILDINGS.
12. ALL BACKFLOW DEVICES WILL CARRY A MANUFACTURER RATING NOT TO EXCEED A 7 P.S.I. PRESSURE DROP THROUGH BACKFLOW DEVICE. ABOVE GROUND BACKFLOW ASSEMBLIES AND DEVICES SHALL BE INSULATED USING JACKET OR ENCLOSURE TO PROTECT FROM FREEZING .
13. PROTECT EXISTING STRUCTURES FROM DAMAGE DURING CONSTRUCTION. PRIOR TO THE FINAL ACCEPTANCE OF THE PUBLIC MAINS EXISTING STRUCTURES WILL BE INSPECTED FOR DAMAGE AND THE CONTRACTOR WILL BE RESPONSIBLE FOR REPAIRING ANY DAMAGE.
14. EXTEND/LOWER ALL EXISTING AND PROPOSED UTILITY MANHOLES, BOXES, COVERS, ETC. TO PROPOSED FINISH GRADE, UNLESS APPROVED OTHERWISE.
15. ALL MAINS SHALL BE TESTED BY THE CONTRACTOR AS REQUIRED BY AUTHORITIES. THE ENGINEER OR INSPECTOR SHALL BE PRESENT DURING THE TEST.
16. ALL WATER MAINS SHALL BE CHLORINATED AS REQUIRED BY AUTHORITIES.
17. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.181, NBU MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.
18. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH ALL NECESSARY UTILITY COMPANIES FOR PROVIDING TEMPORARY UTILITY SERVICES DURING CONSTRUCTION. THE CONTRACTOR SHALL PAY FOR ALL TEMPORARY UTILITY SERVICES.

## NBU NOTES

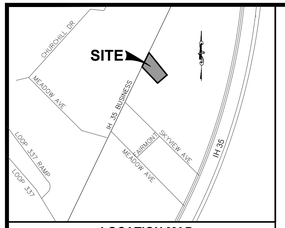
1. ALL RESPONSABILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER OF RECORD. IN ACCEPTING THESE PLANS, NEW BRAUNFELS UTILITIES MUST RELY UPON THE ADEQUACY OF THE WORK OF THE ENGINEER OF RECORD.
2. THE ENGINEER OF RECORD ACKNOWLEDGES THAT ALL PROPOSED WATER OR WASTEWATER IMPROVEMENTS MUST COMPLY WITH CRITERIA FROM THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY, THE CITY OF NEW BRAUNFELS, NBU W&WW DESIGN CRITERIA, ANY OTHER GOVERNING ENTITY ORDINANCES OR CODES, AND SOUND ENGINEERING JUDGEMENT.
3. THE ENGINEER OF RECORD ACKNOWLEDGES THAT THE POINT DELIVERY FOR THE NBU WATER SYSTEM IS THE MAIN SIDE OF THE SERVICE/LATERAL/LEAD FROM THE COSTUME'S METER BACKFLOW PREVENTER, OR EASEMENT EDGE. THE COSTUMER IS RESPONSIBLE FOR THE DESIGN, PERMITTING, CONSTRUCTION, OPERATION AND MAINTENANCE BEYOND THE POINT OF DELIVERY AND HAS SOLE CONTROL AND SUPERVISION OVER THE IT'S INSTALLATION.
4. THE ENGINEER OF RECORD ACKNOWLEDGES THAT THE POINT OF DELIVERY FOR A NBU WASTEWATER SYSTEM IS THE MAIN SIDE OF THE SERVICE LATERAL FROM THE COSTUMER'S CLEAN OUT OR PROPERTY LINE, WHICHEVER IS NEARER. THE COSTUMER IS RESPONSIBLE FOR THE DESIGN, CONSTRUCTION, OPERATION AND MAINTENANCE BEYOND THE POINT OF DELIVERY AND HAS SOLE CONTROL AND SUPERVISION OVER ITS INSTALLATION.
5. WATER IS A PRECIOUS COMMODITY IN THE STATE OF TEXAS AND NEW BRAUNFELS UTILITIES (NBU) IS PASSIONATE ABOUT PROTECTION THE LOCAL RESOURCE. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ACQUIRING A FIRE HYDRANT METER SO THAT ALL WATER USED FOR CONSTRUCTION OR TESTING PURPOSES IS PROPERLY ACCOUNTED FOR. NBU WILL NOT TOLERATE ANY WATER THEFT, REGARDLESS OF THE AMOUNT. IF WATER THEFT IS DISCOVERED, THE CONTRACTOR SHALL BE SUBJECT TO MONETARY PENALTIES, CRIMINAL CHARGES, AND STOPPAGE OF ALL CONSTRUCTION ACTIVITIES RELATED TO THE PROJECT. COSTS ASSOCIATED WITH ANY WORK STOPPAGE RESULTING FROM WATER THEFT SHALL BE AT THE FULL EXPENSE OF THE CONTRACTOR.


KLOVE ENGINEERING
*Site Development Engineering Services*
Firm No. 11042
www.kloveengineering.com (210) 485-5683

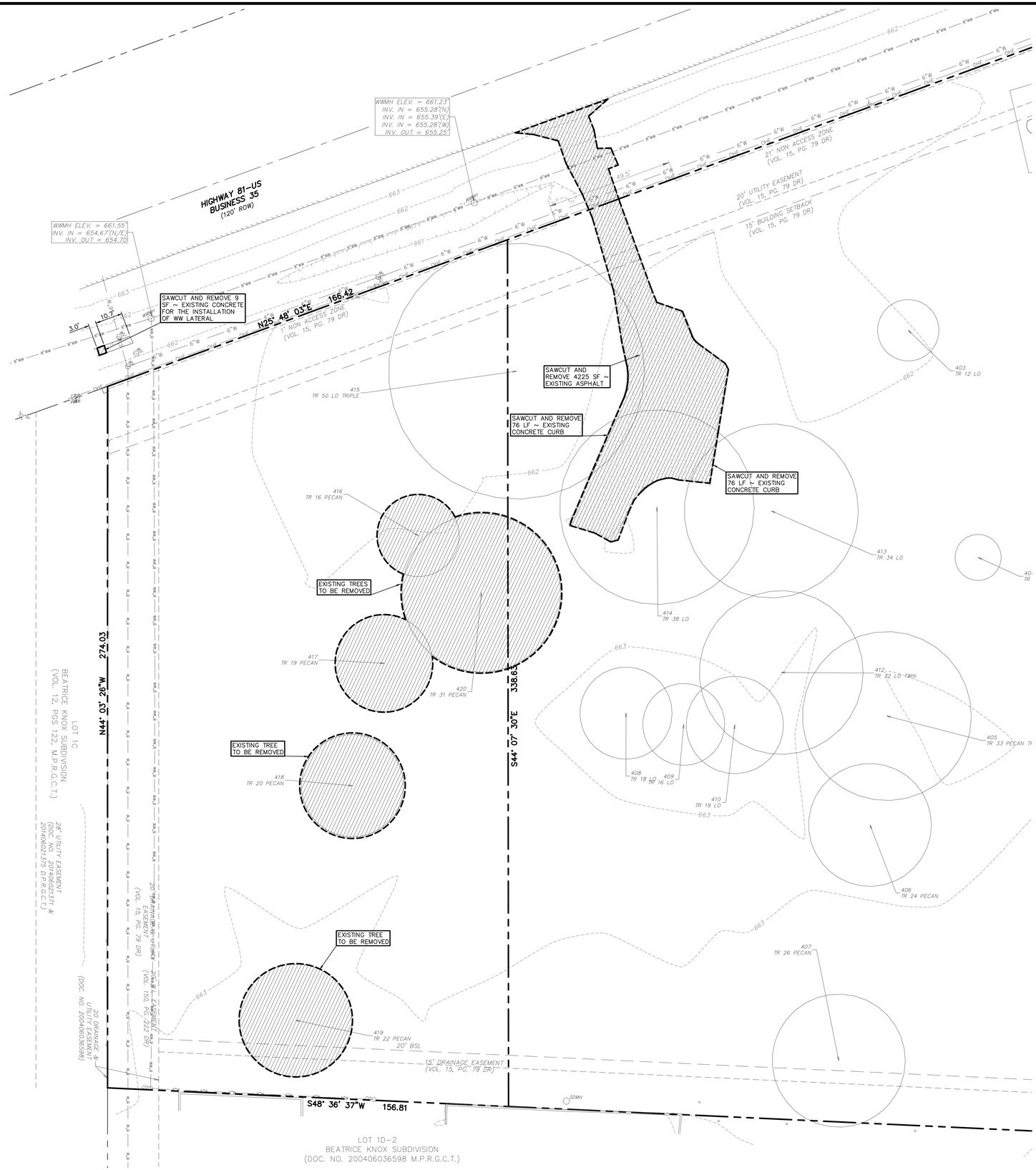
**SUBMITTED BY:**
07/07/2026
**KEVIN W. LOVE, P.E.** DATE
KLOVE ENGINEERING, LLC.
22610 US HIGHWAY 281 N., STE. 204
SAN ANTONIO, TEXAS 78258
PHONE: (210) 485-5683
WWW.KLOVEENGINEERING.COM

STATE OF TEXAS
KEVIN WILLIAM LOVE
93563
LICENSED
PROFESSIONAL ENGINEER


**C0.0**




**LOCATION MAP**
NOT TO SCALE




SCALE: 1"=20'
20 10 0 20

## LEGEND

| EXISTING | PROPOSED | DESCRIPTION |
|---|---|---|
| | | PROPERTY (R.O.W.) LINE/ SUBDIVISION BOUNDARY |
| | | ADJACENT PROPERTY |
| (XXX) | | RECORD INFORMATION |
| | | BENCHMARK |
| LP☼ | ☼ | LIGHT POLE |
| PP | | POWER POLE |
| | | DOWN GUY |
| T | | TRANSFORMER (SIZE VARIES) |
| | | FIRE HYDRANT |
| | | WATER VALVE |
| | | WATER METER |
| | WM | WATER METER VAULT |
| WTRMH | | WATER MANHOLE |
| | | TELEPHONE RISER |
| | | CABLE TV RISER |
| | | ELECTRIC BOX |
| | | ELECTRIC METER |
| | | GAS VALVE |
| | | GAS METER |
| TCB | TCB | TRAFFIC CONTROL BOX |
| TSP | TSP | TRAFFIC SIGNAL POST |
| GMKR | | UNDERGROUND GAS LINE MARKER |
| | | GREASE TRAP (SIZE VARIES) |
| SD | SD | STORMDRAIN LINE |
| W | XX"W | WATER LINE |
| FIRE | XX"FL | FIRE LINE |
| WW | XX"WW | WASTEWATER LINE |
| GAS | GAS | GAS LINE |
| OHE | OHE | OVERHEAD ELECTRIC (PRIMARY) |
| UGE | UGE | UNDERGROUND ELECTRIC (PRIMARY) |
| OHS | OHS | OVERHEAD ELECTRIC (SECONDARY) |
| UGS | UGS | UNDERGROUND ELECTRIC (SECONDARY) |
| UGT | UGT | UNDERGROUND TELEPHONE |
| UGC | UGC | UNDERGROUND CABLE |
| WWMH | WWMH | WASTEWATER MANHOLE (SIZE VARIES) |
| SDMH | SDMH | STORMDRAIN MANHOLE (SIZE VARIES) |
| TMH | TMH | TELEPHONE MANHOLE (SIZE VARIES) |
| | | FIRE DEPARTMENT CONNECTION |
| CO | CO | WASTEWATER CLEANOUT |
| | | CURB |
| | | HEADER CURB |
| | | SAWTOOTH CURB |
| | | RETAINING WALL |
| | | CHAINLINK FENCE |
| | | CONCRETE SIDEWALKS |
| 678 | 678 | CONTOUR |
| | | DIRECTION OF FLOW |
| | ×785.00TC | SPOT ELEVATION/TOP OF CURB |
| ×785.50 | ×785.00 | SPOT ELEVATION |
| | | SWALE |
| | | CONCRETE PAVEMENT |
| | | ASPHALT PAVEMENT |
| | | AREA TO BE REMOVED |

## NOTES:

1. PROJECT TREE PRESERVATION PLANS (IF APPLICABLE) APPROVED BY THE CITY DICTATE WHICH TREES ARE TO BE REMOVED OR REMAIN. IF THE PROJECT TREE PRESERVATION PLAN CONFLICTS WITH INFORMATION CONTAINED IN THESE PLANS, CONTRACTOR IS TO CONTACT OUR OFFICE AND THE PROJECT LANDSCAPE ARCHITECT OF RECORD IMMEDIATELY.
2. SURVEY PROVIDED BY D.A. MAWYER LAND SURVEYING, INC. KLOVE ENGINEERING, LLC SHALL NOT BE RESPONSIBLE FOR IT'S CONTENT AND/OR ACCURACY. FOR QUESTIONS REGARDING THE SURVEY, CONTACT DREW MAWYER, RPLS #5348 AT (210) 325-0858.

## BENCHMARKS

BENCHMARKS WERE NOT SET AT THE TIME OF SURVEY. CONTRACTOR SHALL HAVE A LICENSED SURVEYOR ESTABLISH BENCHMARKS PRIOR TO CONSTRUCTION.

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

811 Know what's below. Call before you dig.

Date: Jul 16, 2026, 10:00am
File: K:\PROJECTS\1478-01 Camp Bow Wow, NB\Drawings\C1.0 Existing Conditions.dwg


KLOVE ENGINEERING
Site Development Engineering Services
Firm No. 11042
www.kloveengineering.com (210) 485-5683


STATE OF TEXAS
KEVIN WILLIAM LOVE
93563
LICENSED PROFESSIONAL ENGINEER
07/07/26

| DATE | |
|---|---|
| REVISIONS: | |

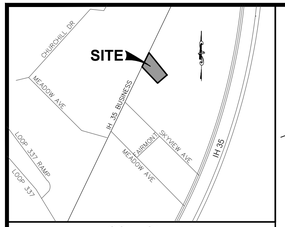
OWNER:
CAMP BOW SAN ANTONIO
2401-A LA TAPATIERA
SAN ANTONIO, TEXAS 78261

# CAMP BOW WOW-NEW BRAUNFELS

1450 N. BUSINESS 35
NEW BRAUNFELS, TX 78130

EXISTING CONDITION AND DEMOLITION PLAN

| | |
|---|---|
| DESIGNED BY: | AS |
| DRAWN BY: | RQ |
| SCALE: | 1"=20' |
| DATE: | 06-16-26 |
| SHEET NO. | C1.0 |

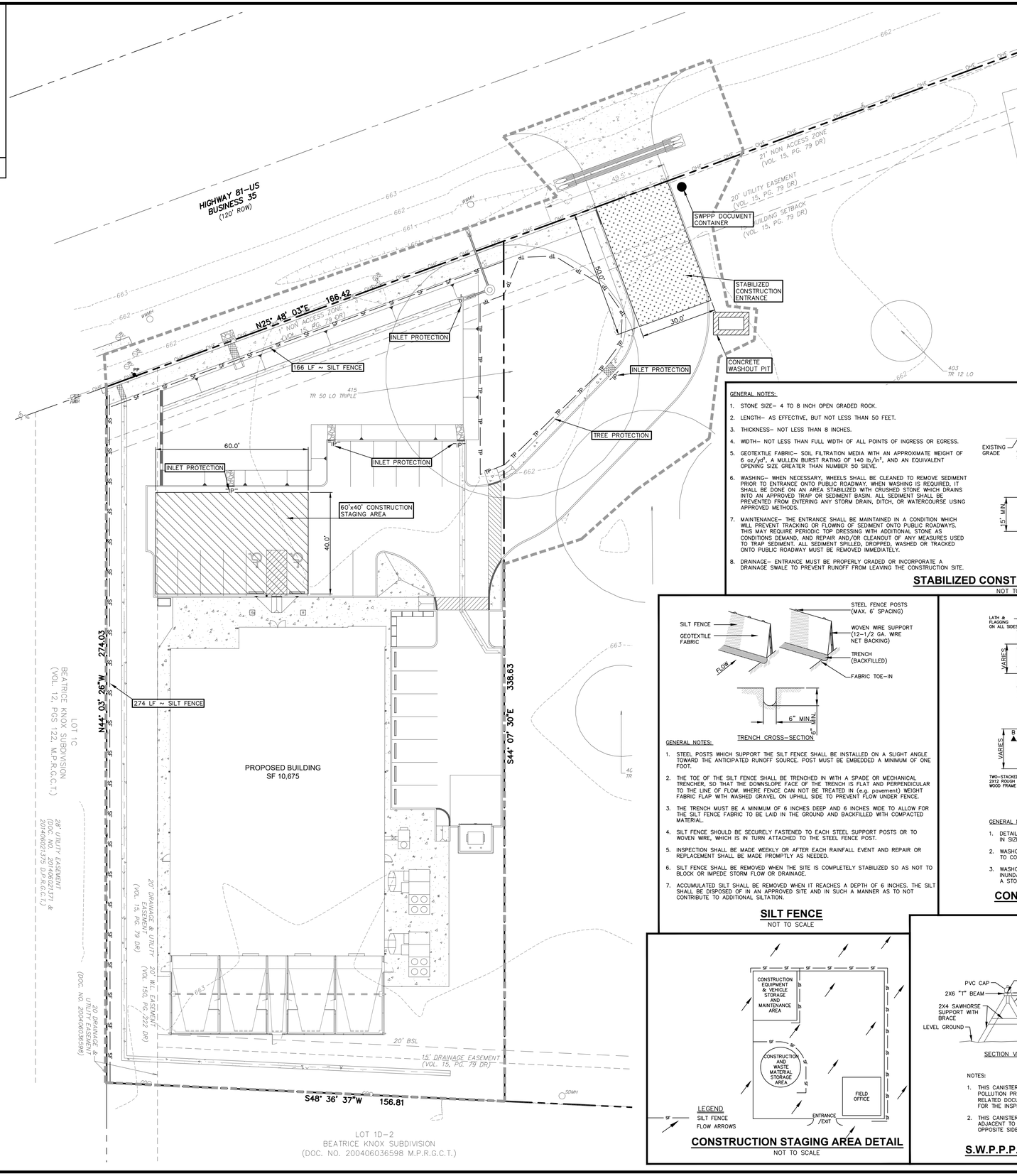



**LOCATION MAP**
NOT TO SCALE

## NOTES TO CONTRACTOR:

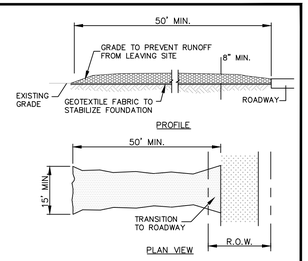
1. THE LOCATIONS OF THE STABILIZED CONST. ENTRANCE, STAGING AREA AND CONC. WASHOUT PIT MAY BE CHANGED, IF NECESSARY ANY CHANGES TO THESE LOCATIONS MAY BE REDLINED BY THE CONTRACTOR AND KEPT ONSITE WITH THE TPDES.
2. THE FLOODPLAIN IS TO BE STAKED ON SITE. (IF APPLICABLE)
3. THE FLOODPLAIN PERMIT (IF APPLICABLE) AND/OR STORM WATER QUALITY PERMIT APPROVAL LETTER IS TO BE POSTED AT THE ENTRANCE OF THE SITE.
4. PERMIT TO BE TERMINATED WITH A FINAL INSPECTION PERFORMED BY A BEXAR COUNTY STORM WATER QUALITY INSPECTOR BY APPOINTMENT. (IF APPLICABLE)
5. SILT FENCE SHOWN IS TO BE PLACED ON PROPERTY LINE AND NOT TO ENCROACH ONTO ADJACENT OWNERS PROPERTY.

SCALE: 1"=20'
20 10 0 20




### GENERAL NOTES:

1. STONE SIZE– 4 TO 8 INCH OPEN GRADED ROCK.
2. LENGTH– AS EFFECTIVE, BUT NOT LESS THAN 50 FEET.
3. THICKNESS– NOT LESS THAN 8 INCHES.
4. WIDTH– NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS OR EGRESS.
5. GEOTEXTILE FABRIC– 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 NUMBER 50 SIEVE.
6. WASHING– WHEN NECESSARY, WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC ROADWAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE WHICH DRAINS INTO AN APPROVED TRAP OR SEDIMENT BASIN. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH, OR WATERCOURSE USING APPROVED METHODS.
7. MAINTENANCE– THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC ROADWAYS. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND, AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC ROADWAY MUST BE REMOVED IMMEDIATELY.
8. DRAINAGE– ENTRANCE MUST BE PROPERLY GRADED OR INCORPORATE A DRAINAGE SWALE TO PREVENT RUNOFF FROM LEAVING THE CONSTRUCTION SITE.




## STABILIZED CONSTRUCTION ENTRANCE
NOT TO SCALE

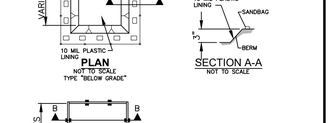



TRENCH CROSS-SECTION

### GENERAL NOTES:

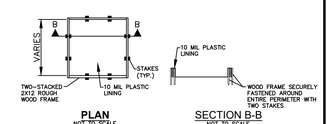
1. STEEL POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF ONE FOOT.
2. THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWNSLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. WHERE FENCE CAN NOT BE TREATED IN (e.g. pavement) WEIGHT FABRIC FLAP WITH WASHED GRAVEL ON UPHILL SIDE TO PREVENT FLOW UNDER FENCE.
3. 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.
4. SILT FENCE SHOULD BE SECURELY FASTENED TO EACH STEEL SUPPORT POSTS OR TO WOVEN WIRE, WHICH IS IN TURN ATTACHED TO THE STEEL FENCE POST.
5. INSPECTION SHALL BE MADE WEEKLY OR AFTER EACH RAINFALL EVENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
6. SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.
7. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 6 INCHES. THE SILT SHALL BE DISPOSED OF IN AN APPROVED SITE AND IN SUCH A MANNER AS TO NOT CONTRIBUTE TO ADDITIONAL SILTATION.

## SILT FENCE
NOT TO SCALE




PLAN
NOT TO SCALE
TYPE "BELOW GRADE"

SECTION A-A
NOT TO SCALE




PLAN
NOT TO SCALE
TYPE "ABOVE GRADE"

SECTION B-B
NOT TO SCALE

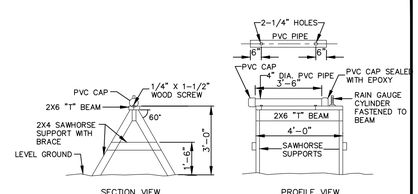
### GENERAL NOTES:

1. DETAIL 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 NOR WITHIN 50 FEET OF A STORM DRAIN OR OPEN DITCH.

## CONCRETE TRUCK WASHOUT PIT
NOT TO SCALE



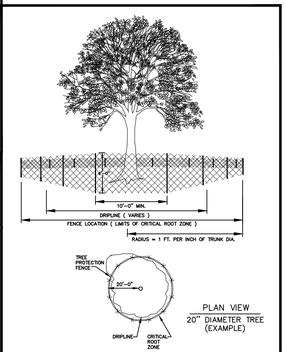

## CONSTRUCTION STAGING AREA DETAIL
NOT TO SCALE




NOTES:

1. THIS CANISTER SHALL BE USED TO STORE ALL STORMWATER POLLUTION PREVENTION PLAN (SWPPP) AND ALL OTHER RELATED DOCUMENTS SO THAT THEY ARE AVAILABLE ON SITE FOR THE INSPECTOR.
2. THIS CANISTER SHALL BE LOCATED ON SOLID LEVEL GROUND ADJACENT TO THE CONSTRUCTION ENTRANCE AND ON THE OPPOSITE SIDE OF THE TRUCK WASH OUT PIT.

## S.W.P.P.P. DOCUMENT CONTAINER
NOT TO SCALE




## TREE PROTECTION CONSTRUCTION FENCE
NOT TO SCALE

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

## LEGEND

| EXISTING | PROPOSED | DESCRIPTION |
|---|---|---|
| | | PROPERTY (R.O.W.) LINE/ SUBDIVISION BOUNDARY |
| | | ADJACENT PROPERTY |
| (XXX) | | RECORD INFORMATION |
| | | BENCHMARK |
| LP☼ | ☼ | LIGHT POLE |
| PP○ | ● | POWER POLE |
| | ← | DOWN GUY |
| T | T | TRANSFORMER (SIZE VARIES) |
| | | FIRE HYDRANT |
| | | WATER VALVE |
| | | WATER METER |
| | WM | WATER METER VAULT |
| WTRMH○ | | WATER MANHOLE |
| | | TELEPHONE RISER |
| | | CABLE TV RISER |
| | | ELECTRIC BOX |
| | | ELECTRIC METER |
| | | GAS VALVE |
| | | GAS METER |
| TCB□ | TCB■ | TRAFFIC CONTROL BOX |
| TSP ° | TSP • | TRAFFIC SIGNAL POST |
| GMKR ◇ | | UNDERGROUND GAS LINE MARKER |
| | | GREASE TRAP (SIZE VARIES) |
| SD | | STORMDRAIN LINE |
| W | XX"W | WATER LINE |
| FIRE | XX"FL | FIRE LINE |
| WW | XX"WW | WASTEWATER LINE |
| GAS | GAS | GAS LINE |
| OHE | OHE | OVERHEAD ELECTRIC (PRIMARY) |
| UGE | UGE | UNDERGROUND ELECTRIC (PRIMARY) |
| | OHS | OVERHEAD ELECTRIC (SECONDARY) |
| UGS | UGS | UNDERGROUND ELECTRIC (SECONDARY) |
| UGT | UGT | UNDERGROUND TELEPHONE |
| UGC | UGC | UNDERGROUND CABLE |
| WWMH○ | WWMH ⦿ | WASTEWATER MANHOLE (SIZE VARIES) |
| SDMH○ | SDMH ⦿ | STORMDRAIN MANHOLE (SIZE VARIES) |
| TMH○ | TMH ⦿ | TELEPHONE MANHOLE (SIZE VARIES) |
| | | FIRE DEPARTMENT CONNECTION |
| CO ° | CO • | WASTEWATER CLEANOUT |
| | | CURB |
| | | HEADER CURB |
| | | SAWTOOTH CURB |
| | | RETAINING WALL |
| // // | | CHAINLINK FENCE |
| | | CONCRETE SIDEWALKS |
| 678 | 678 | CONTOUR |
| | | DIRECTION OF FLOW |
| | ×785.00TC | SPOT ELEVATION/TOP OF CURB |
| ×785.50 | ×785.00 | SPOT ELEVATION |
| | | SWALE |
| | | CONCRETE PAVEMENT |
| | | ASPHALT PAVEMENT |
| | TP | TREE PROTECTION |
| | SF | SILT FENCE |
| | IP | INLET PROTECTION |
| | | LIMITS OF CONSTRUCTION |
| | | STABILIZED CONSTRUCTION ENTRANCE |
| | | CONCRETE WASHOUT PIT |

811 Know what's below. Call before you dig.

Date: Jul 16, 2026, 10:00am
User: KEVIN.LOVE
File: C:\KLE\PROJECTS\14 LA TAPICERIA\Comp Bow Wow NEW\Drawings\C2.0_SWPPP.dwg


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Firm No. 11042
www.kloveengineering.com
(210) 485-5683


STATE OF TEXAS
KEVIN WILLIAM LOVE
93563
LICENSED PROFESSIONAL ENGINEER
07/07/26

DATE

REVISIONS:

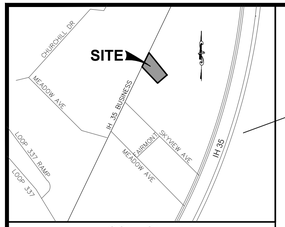
OWNER:
CAMP BOW BOW SAN ANTONIO
2401-A LA TAPICERIA
SAN ANTONIO, TEXAS 78261

# CAMP BOW WOW-NEW BRAUNFELS

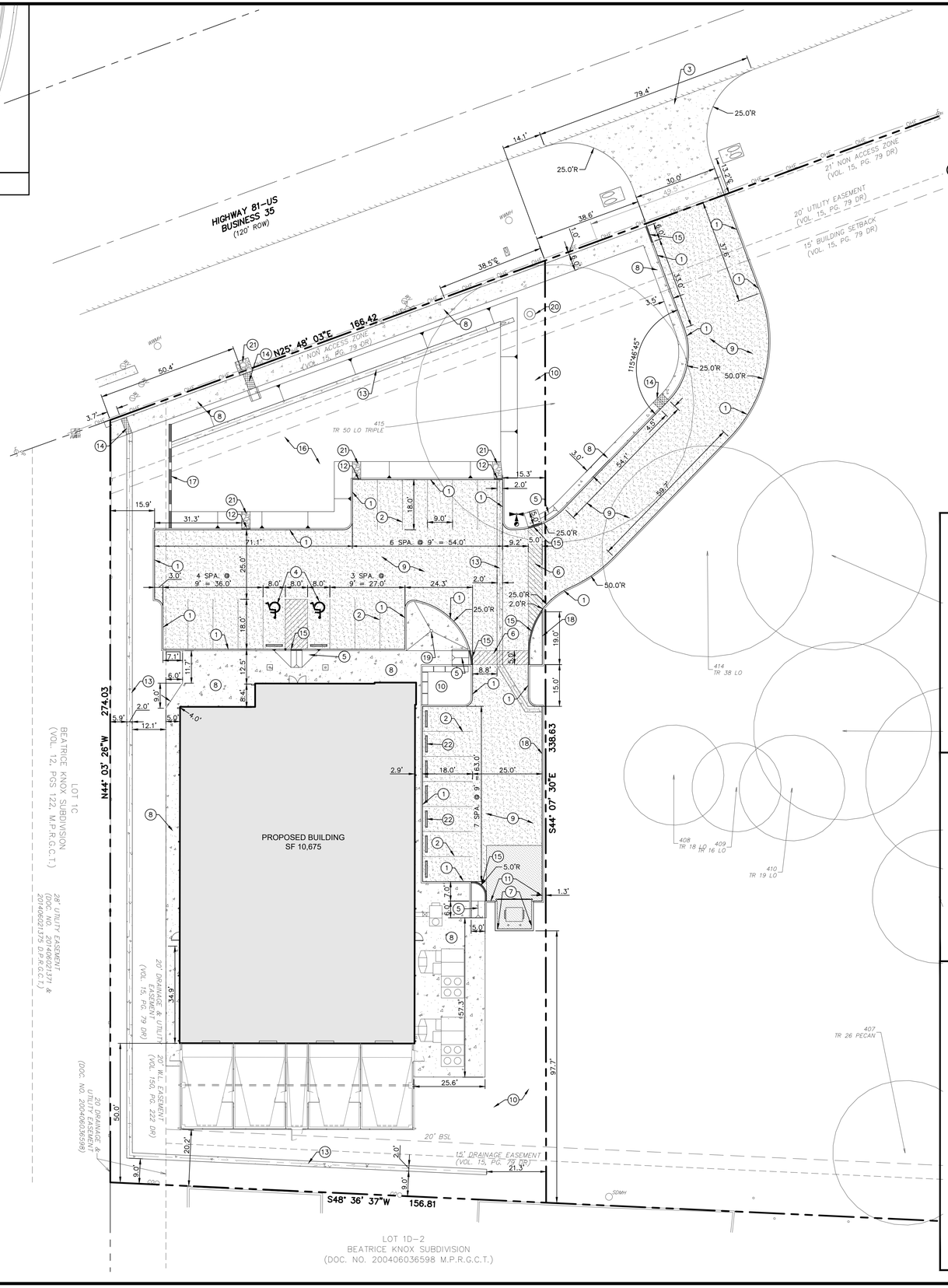
1450 N. BUSINESS 35
NEW BRAUNFELS, TX 78130

STORM WATER POLLUTION PREVENTION PLAN

DESIGNED BY: AS
DRAWN BY: RQ
SCALE: 1"=20'
DATE: 06-16-26
SHEET NO.
**C2.0**




**LOCATION MAP**
NOT TO SCALE




## SITE PLAN NOTES:

1. ALL CURB RADIUS DIMENSIONS ARE TO FACE OF CURB. CONTRACTOR TO VERIFY ALL PLAN DIMENSIONS PRIOR TO CONSTRUCTION.
2. ALL SIDEWALKS SHALL HAVE 2% MAX CROSS SLOPE.
3. BUILDING AND PARKING ARE PARALLEL TO THE WEST PROPERTY LINE (N44°03'26"W).
4. ALL CURB RADII ARE 3' UNLESS OTHERWISE NOTED.
5. DRIVE APPROACHES AND SIDEWALKS SHALL COMPLY WITH TEXAS ACCESSIBILITY STANDARDS AND CURRENT CITY OF NEW BRAUNFELS DESIGN STANDARDS.

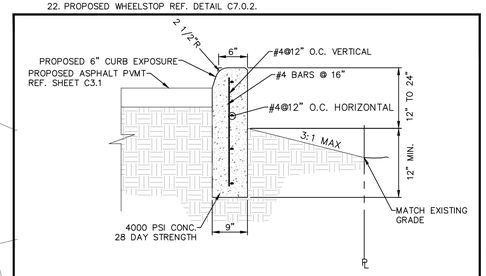
PARKING SUMMARY TABLE

| | |
|---|---|
| BUILDING USE | PET CARE |
| GROSS FLOOR AREA (FT.$^2$) | 10,687 SF |
| PARKING STORAGE STANDARDS | |
| PARKING RATIO | 1 PER 500 SF |
| PROPOSED PARKING | 20 |
| HANDI-CAPPED (ADA) | |
| REQUIRED REGULAR H.C. PARKING | 1 |
| REQUIRED VAN ACCESSIBLE PARKING | 1 |
| PROPOSED H.C. PARKING | 2 |

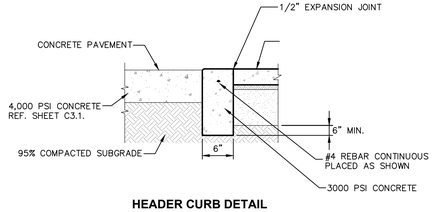
SCALE: 1"=20'
20 10 0 20

## (#) KEY NOTES

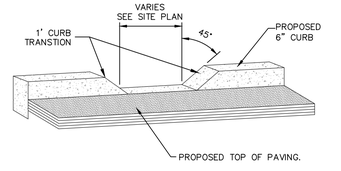
1. PROPOSED 6" CONCRETE CURB (TYPICAL) REF. DETAIL C7.0.3.
2. PROPOSED 4" WHITE WIDE PARKING STRIPE (TYPICAL).
3. PROPOSED CONCRETE DRIVEWAY. REF. DETAIL C7.0.5.
4. PROPOSED HANDICAP PARKING. REF. DETAIL C7.0.6.
5. PROPOSED CURB RAMP (TYPICAL) REF. DETAIL C7.0.9.
6. PROPOSED PAINTED CROSSWALK STRIPING. REF. DETAIL C7.0.8.
7. PROPOSED CONCRETE DUMPSTER ENCLOSURE REF. ARCH PLANS.
8. PROPOSED CONCRETE SIDEWALK REF. DETAIL C7.0.1.
9. PROPOSED ASPHALT PAVEMENT. REF. SHEET C3.1.
10. LANDSCAPING. REF. LANDSCAPE PLANS
11. PROPOSED 6" CONCRETE INTEGRAL CURB. REF. DETAIL THIS SHEET.
12. PROPOSED 3' WIDE CURB CUT. REF. DETAIL THIS SHEET
13. PROPOSED 2' WIDE CONCRETE SWALE.
14. PROPOSED SIDEWALK DRAIN.
15. PROPOSED HEADER CURB. REF. DETAIL THIS SHEET.
16. PROPOSED POND. REF. SHEET C5.1
17. PROPOSED RETAINING WALL. REF. TO SHEET C5.0 FOR DETAIL.
18. PROPOSED EXTENDED CURB. REF. DETAIL THIS SHEET.
19. RECESSED CONCRETE ISLAND WITH DRAIN AND OWNER PROVIDED ARTIFICIAL TRUF. SYSTEM.
20. PROPOSED WATER QUALITY BASIN. REF. SHEET C5.2. FOR DETAIL.
21. PROPOSED ROCK RUBBLE. REF. SHEET C5.1 FOR DETAIL.
22. PROPOSED WHEELSTOP REF. DETAIL C7.0.2.



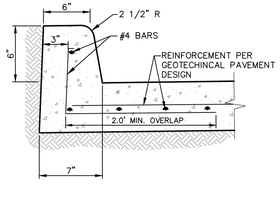

**EXTENDED CURB DETAIL (ASPHALT)**
NOT TO SCALE




**HEADER CURB DETAIL**
NOT TO SCALE

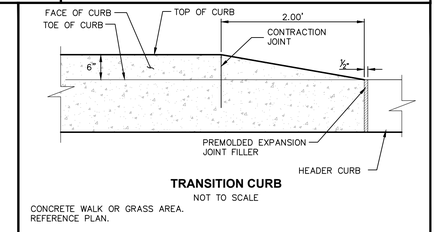



**CONCRETE CURB CUT**
NOT TO SCALE




NOTES:
1. INSTALL 1/2" PREMOLDED EXPANSION JOINT MATERIAL AT 40.0' INTERVALS & AT BEGINNING & END OF ALL CURB RETURNS & DRIVE APPROACHES.
2. INSTALL 5/8"ø x 2.0' LONG, SMOOTH DOWEL BARS AT ALL EXPANSION JOINTS & AT BEGINNING & END OF ALL CURB RETURNS. EXTEND BARS 1.0' INTO EACH SIDE OF JOINT & WRAP ONE END W/30 LBS FELT, 1.25' LONG.
3. ALL CURB TO BE 3000 PSI CONCRETE.

**6" INTEGRAL CONCRETE CURB (AT DUMPSTER)**
NOT TO SCALE




**TRANSITION CURB**
NOT TO SCALE
CONCRETE WALK OR GRASS AREA.
REFERENCE PLAN.

**LEGEND**

| EXISTING | PROPOSED | DESCRIPTION |
|---|---|---|
| | | PROPERTY (R.O.W.) LINE/ SUBDIVISION BOUNDARY |
| | | ADJACENT PROPERTY |
| (XXX) | | RECORD INFORMATION |
| | | BENCHMARK |
| LP☼ | | LIGHT POLE |
| PP | | POWER POLE |
| | | DOWN GUY |
| T | | TRANSFORMER (SIZE VARIES) |
| | | FIRE HYDRANT |
| | | WATER VALVE |
| | WM | WATER METER |
| | WM | WATER METER VAULT |
| WTRMH | | WATER MANHOLE |
| | | TELEPHONE RISER |
| | | CABLE TV RISER |
| | | ELECTRIC BOX |
| | | ELECTRIC METER |
| | | GAS VALVE |
| | | GAS METER |
| TCB | TCB | TRAFFIC CONTROL BOX |
| TSP | TSP | TRAFFIC SIGNAL POST |
| GMCB | | UNDERGROUND GAS LINE MARKER |
| | | GREASE TRAP (SIZE VARIES) |
| SD | | STORMDRAIN LINE |
| W | XX"W | WATER LINE |
| FIRE | XX"FL | FIRE LINE |
| WW | XX"WW | WASTEWATER LINE |
| GAS | GAS | GAS LINE |
| OHE | OHE | OVERHEAD ELECTRIC (PRIMARY) |
| UGE | UGE | UNDERGROUND ELECTRIC (PRIMARY) |
| | OHS | OVERHEAD ELECTRIC (SECONDARY) |
| UGS | UGS | UNDERGROUND ELECTRIC (SECONDARY) |
| UGT | UGT | UNDERGROUND TELEPHONE |
| UGC | UGC | UNDERGROUND CABLE |
| WWMH | WWMH | WASTEWATER MANHOLE (SIZE VARIES) |
| SDMH | SDMH | STORMDRAIN MANHOLE (SIZE VARIES) |
| TMH | TMH | TELEPHONE MANHOLE (SIZE VARIES) |
| | | FIRE DEPARTMENT CONNECTION |
| CO | CO | WASTEWATER CLEANOUT |
| | | CURB |
| | | HEADER CURB |
| | | SAWTOOTH CURB |
| | | RETAINING WALL |
| // // | | CHAINLINK FENCE |
| | | CONCRETE SIDEWALKS |
| 678 | 678 | CONTOUR |
| | | DIRECTION OF FLOW |
| | ×785.00TC | SPOT ELEVATION/TOP OF CURB |
| ×785.50 | ×785.00 | SPOT ELEVATION |
| | | SWALE |
| | | CONCRETE PAVEMENT |
| | | ASPHALT PAVEMENT |

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

Know what's below. Call before you dig.

Date: Jul 16, 2026, 10:00am
File: K:\PROJECTS\126-01 Camp Bow Wow NB\Drawings\C3.0 Site Plan.dwg


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(210) 485-5683


STATE OF TEXAS
KEVIN WILLIAM LOVE
93563
LICENSED
PROFESSIONAL ENGINEER
07/07/26

DATE

REVISIONS:

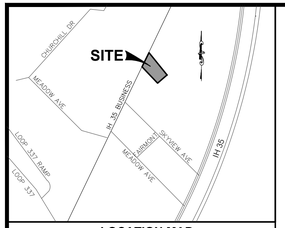
OWNER:
CAMP BOW BOW SAN ANTONIO
24014 LA TAPICERIA
SAN ANTONIO, TEXAS 78261

# CAMP BOW WOW-NEW BRAUNFELS

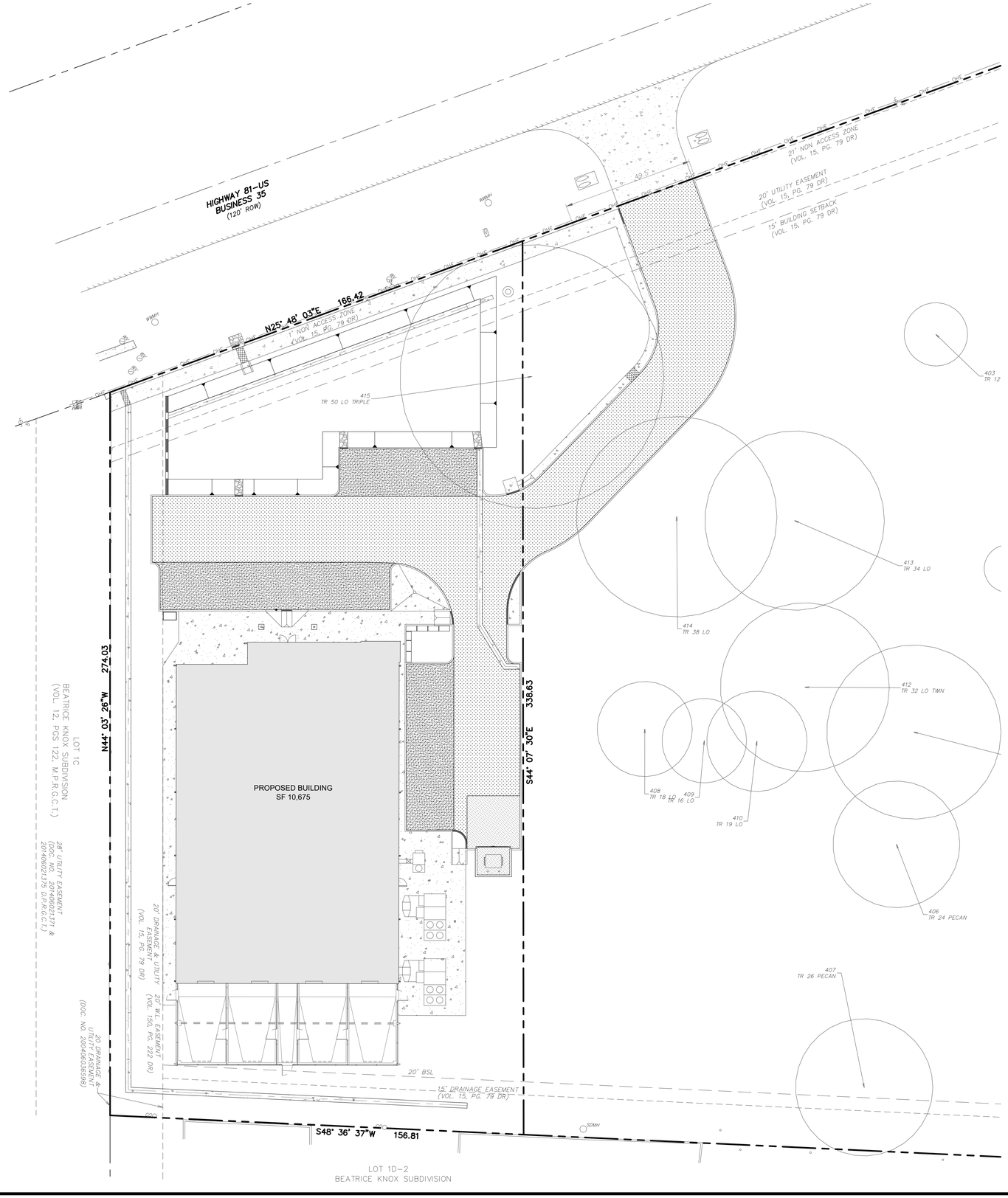
1450 N. BUSINESS 35
NEW BRAUNFELS, TX 78130

CIVIL SITE AND DIMENSIONAL CONTROL PLAN

| | |
|---|---|
| DESIGNED BY: | AS |
| DRAWN BY: | RQ |
| SCALE: | 1"=20' |
| DATE: | 06-16-26 |
| SHEET NO. | C3.0 |




**LOCATION MAP**
NOT TO SCALE

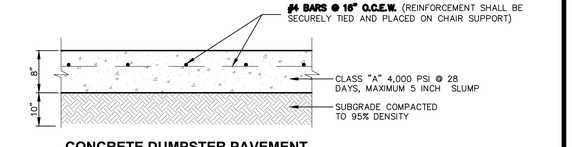



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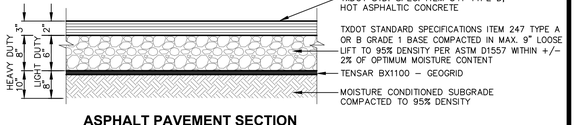
| LEGEND | |
|---|---|
| PROPOSED | DESCRIPTION |
| | DUMPSTER AREA CONCRETE |
| | LIGHT DUTY ASPHALT |
| | HEAVY DUTY ASPHALT |
| | EXISTING ASPHALT PAVEMENT |

PAVEMENT NOTES:

1. PAVEMENT SECTION(S) FOR REFERENCE PURPOSES ONLY. CONTRACTOR SHOULD CONSULT THE LATEST APPLICABLE GEOTECHNICAL INVESTIGATION BY MEG ENGINEERS.




**CONCRETE DUMPSTER PAVEMENT**
NOT TO SCALE




**ASPHALT PAVEMENT SECTION**
NOT TO SCALE

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

811 Know what's below. Call before you dig.

Date: Jul 16, 2026, 10:00am
Files: K:_PROJECTS\178-01 Camp Bow Wow MB\Drawings\C3.1 Site Paving Plan.dwg


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KEVIN WILLIAM LOVE
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07/07/26

DATE
REVISIONS:

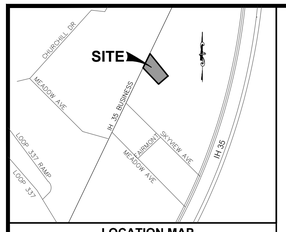
OWNER:
CAMP BOW SAN ANTONIO
2401 LA TAPATERIA
SAN ANTONIO, TEXAS 78251

# CAMP BOW WOW-NEW BRAUNFELS

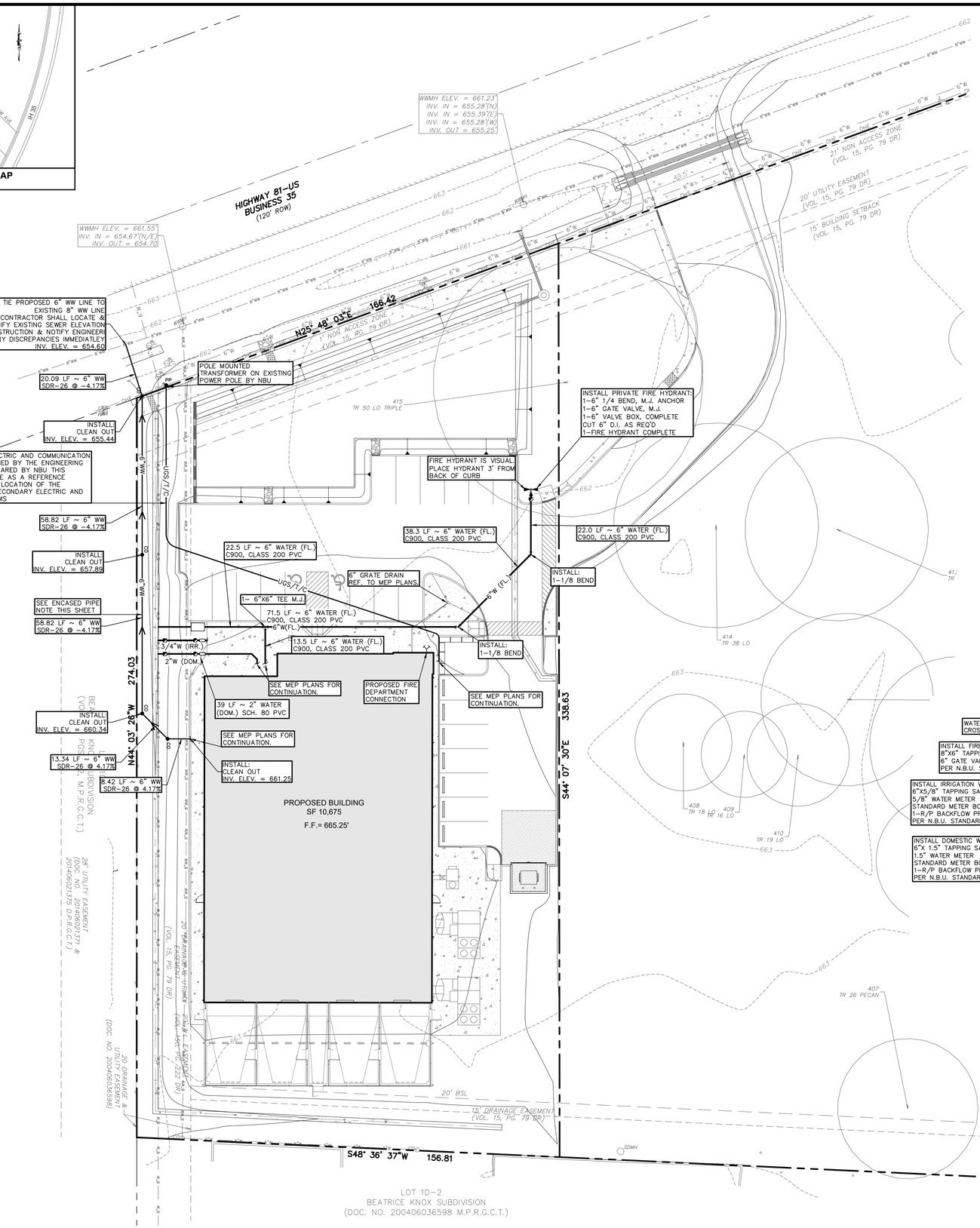
1450 N. BUSINESS 35
NEW BRAUNFELS, TX 78130

SITE PAVING PLAN

| | |
|---|---|
| DESIGNED BY: | AS |
| DRAWN BY: | RQ |
| SCALE: | 1"=20' |
| DATE: | 06-16-26 |
| SHEET NO. | C3.1 |




**LOCATION MAP**
NOT TO SCALE

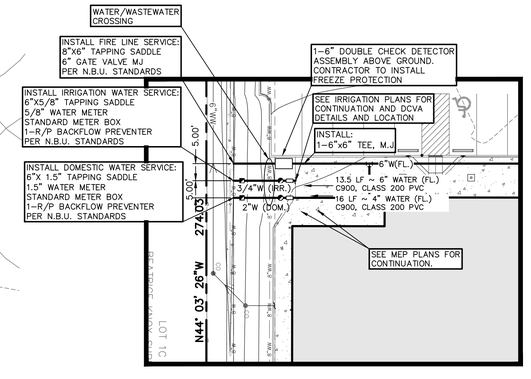


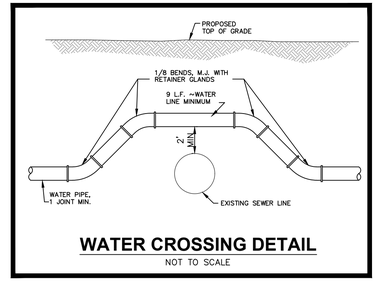

## NBU GENERAL NOTES

1. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THE PROJECT SHALL BE APPROVED BY NEW BRAUNFELS UTILITIES AND COMPLY WITH THE CURRENT "NEW BRAUNFELS UTILITIES WATER SYSTEMS CONNECTION/CONSTRUCTION POLICY".
2. CONTRACTOR SHALL NOT PROCEED WITH ANY PIPE INSTALLATION WORK UNTIL THEY OBTAIN A COPY OF THE PLANS FROM THE CONSULTANT OR ENGINEER AND NOTIFY NBU WATER SYSTEMS ENGINEERING AT 830-608-8971 WITH AT LEAST TWO (2) WORKING DAYS (48 HOURS) NOTICE. WORK COMPLETED BY THE CONTRACTOR, WHICH HAS NOT RECEIVED A NOTICE TO PROCEED FROM NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING WILL BE SUBJECT TO REMOVAL AND REPLACEMENT BY AND AT THE EXPENSE OF THE CONTRACTOR.
3. THE DEVELOPER DEDICATES THE WATER / WASTEWATER MAINS UPON COMPLETION BY THE CONTRACTOR AND ACCEPTANCE BY THE NEW BRAUNFELS UTILITIES WATER SYSTEM. NBU WILL OWN AND MAINTAIN SAID WATER / WASTEWATER MAINS WHICH ARE LOCATED WITHIN PLATTED UTILITY EASEMENTS OR PUBLIC ROW OF PROPOSED DEVELOPMENTS. (AS APPLICABLE).
4. CONTRACTOR AGREES TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNERS AND THE ENGINEER AND HIS EMPLOYEES, PARTNERS OFFICERS, DIRECTORS, OR CONSULTANTS HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF THE WORK ON THIS PROJECT, EXCEPTING FROM LIABILITY ARISING FROM SOLE NEGLIGENCE OF THE OWNER OR ENGINEER, ENGINEER'S DIRECTORS, OFFICERS, EMPLOYEES, OR CONSULTANTS.
5. CONTRACTOR TO CONTACT THE ENGINEER-OF-RECORD (EOR) FOR ANY FIELD CHANGES. ANY REVISIONS OR CHANGES TO THE APPROVED CONSTRUCTION PLANS WILL REQUIRE ADDITIONAL APPROVAL BY NBU IN WRITING.
6. CONTRACTOR AND / OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING TO ITS ORIGINAL OR BETTER CONDITION, ANY DAMAGE TO EXISTING FENCES, CURBS, STREETS, DRIVEWAYS, LANDSCAPING AND STRUCTURES, AND EXISTING UTILITIES (NOT ADJUSTED ON PLANS). COST OF RESTORATION, IF ANY, SHALL BE THE CONTRACTOR'S ENTIRE EXPENSE.
8. THE CONTRACTOR SHALL AVOID CUTTING ROOTS LARGER THAN ONE (1) INCH IN DIAMETER WHEN EXCAVATING NEAR EXISTING TREES. EXCAVATION IN VICINITY OF TREES SHALL PROCEED WITH CAUTION.
9. CONTRACTOR SHALL PROCURE ALL PERMITS AND LICENSES, PAY ALL CHARGES, FEES AND TAXES AND GIVE ALL NOTICES NECESSARY AND INCIDENTAL TO THE DUE AND LAWFUL PROSECUTION OF THE WORK.
10. NO EXTRA PAYMENT SHALL BE ALLOWED FOR WORK CALLED FOR ON THE PLANS BUT NOT INCLUDED ON THE BID SCHEDULE. THIS INCIDENTAL WORK WILL BE REQUIRED AND SHALL BE INCLUDED UNDER THE PAY ITEM TO WHICH IT RELATES.
11. CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ALL WASTE MATERIALS UPON PROJECT COMPLETION. THE CONTRACTOR SHALL NOT PERMANENTLY PLACE ANY WASTE MATERIALS IN THE 100-YEAR FLOOD PLAIN WITHOUT FIRST OBTAINING AN APPROVED FLOOD PLAIN DEVELOPMENT PERMIT. NBU GENERAL NOTES APPENDIX/APPENDIX B APPROVED 12/09/03; REV 1/01/24 PAGE 2 OF 3
12. THE CONTRACTOR SHALL NOT PLACE ANY MATERIALS ON THE RECHARGE ZONE OF THE EDWARDS AQUIFER WITHOUT AN APPROVED WATER POLLUTION ABATEMENT PLAN FROM THE TCEQ 31 TAC 313.4 AND 31 TAC 313.9.
13. BARRICADES AND WARNING SIGNS SHALL CONFORM TO THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES"(TMUTCD) AND SHALL BE LOCATED TO PROVIDE MAXIMUM PROTECTION TO THE PUBLIC AS WELL AS CONSTRUCTION PERSONNEL AND EQUIPMENT WHILE PROVIDING CONTINUOUS TRAFFIC FLOW AT ALL TIMES DURING CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL DEVICES DURING CONSTRUCTION.
14. CONTRACTOR IS REQUIRED TO VERIFY PROJECT ELEVATIONS. THE TERM "MATCH EXISTING" SHALL BE UNDERSTOOD TO SIGNIFY BOTH HORIZONTAL AND VERTICAL ALIGNMENT.
15. THE LOCATION OF UTILITIES, EITHER UNDERGROUND OR OVERHEAD, SHOWN WITHIN THE RIGHT OF WAY ARE APPROXIMATE AND SHALL BE VERIFIED BY THE CONTRACTOR BEFORE BEGINNING CONSTRUCTION OPERATIONS.
16. OSHA REGULATIONS PROHIBIT OPERATIONS THAT WILL BRING PERSONS OR EQUIPMENT WITHIN 10 FEET OF AN ENERGIZED LINE. WHERE WORKMEN AND/OR EQUIPMENT MUST WORK CLOSE TO AN ENERGIZED ELECTRICAL LINE, THE CONTRACTOR SHALL NOTIFY THE ELECTRICAL POWER COMPANY INVOLVED AND MAKE WHATEVER ADJUSTMENTS NECESSARY TO ENSURE THE SAFETY OF THOSE WORKMEN.
17. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE UTILITY SERVICE LINES AS REQUIRED FOR CONSTRUCTION. CONTRACTOR'S SHALL CALL THE ONE CALL SYSTEM FOR WATER/WASTEWATER LOCATION.
18. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192 (8), GAS COMPANIES MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.
19. THE CONTRACTOR IS FULLY RESPONSIBLE FOR THE TRAFFIC CONTROL AND WILL BE RESPONSIBLE FOR FURNISHING ALL TRAFFIC CONTROL DEVICES, AND FLAGGERS. THE CONSTRUCTION METHODS SHALL BE CONDUCTED TO PROVIDE THE LEAST POSSIBLE INTERFERENCE TO TRAFFIC. THE CONTINUOUS MOVEMENT OF THE TRAFFIC IN ONE DIRECTION, AT MINIMUM, SHALL BE MAINTAINED AT ALL TIMES. THE CONTRACTOR SHALL CLEAN UP AND REMOVE FROM THE WORK AREA ANY LOOSE MATERIAL RESULTING FROM CONTRACT OPERATIONS AT THE END OF EACH WORKDAY.
20. PRIOR TO ORDERING MATERIALS TO BE USED IN CONSTRUCTION, CONTRACTOR SHALL PROVIDE THE ENGINEER WITH FOUR (4) COPIES OF THE SOURCE, TYPE, GRADATION, MATERIAL SPECIFICATION DATA AND / OR SHOP DRAWINGS, AS APPLICABLE, TO SATISFY THE REQUIREMENTS OF THE FOLLOWING ITEMS AND ALL MATERIAL ITEM

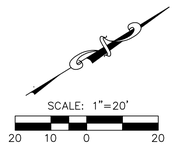
## BENCHMARKS

BENCHMARKS WERE NOT SET AT THE TIME OF SURVEY. CONTRACTOR SHALL HAVE A LICENSED SURVEYOR ESTABLISH BENCHMARKS PRIOR TO CONSTRUCTION.




**WATER CROSSING DETAIL**
NOT TO SCALE

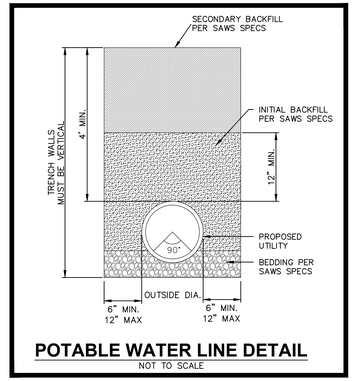



## LEGEND

| EXISTING | PROPOSED | DESCRIPTION |
|---|---|---|
| | | PROPERTY (R.O.W.) LINE/ SUBDIVISION BOUNDARY |
| | | ADJACENT PROPERTY |
| (XXX) | | RECORD INFORMATION |
| | | BENCHMARK |
| LP☼ | ☼ | LIGHT POLE |
| PP-T | | POWER POLE |
| | | DOWN GUY |
| T | | TRANSFORMER (SIZE VARIES) |
| | | FIRE HYDRANT |
| | | WATER VALVE |
| | | WATER METER |
| | WM | WATER METER VAULT |
| WTRMH | | WATER MANHOLE |
| | | TELEPHONE RISER |
| | | CABLE TV RISER |
| | | ELECTRIC BOX |
| | | ELECTRIC METER |
| | | GAS VALVE |
| | | GAS METER |
| TCB | TCB | TRAFFIC CONTROL BOX |
| TSP | TSP | TRAFFIC SIGNAL POST |
| | | UNDERGROUND GAS LINE MARKER |
| | | GREASE TRAP (SIZE VARIES) |
| SD | | STORMDRAIN LINE |
| W | XX"W | WATER LINE |
| FIRE | XX"FL | FIRE LINE |
| WW | XX"WW | WASTEWATER LINE |
| GAS | GAS | GAS LINE |
| OHE | OHE | OVERHEAD ELECTRIC (PRIMARY) |
| UGE | UGE | UNDERGROUND ELECTRIC (PRIMARY) |
| OHS | OHS | OVERHEAD ELECTRIC (SECONDARY) |
| UGS | UGS | UNDERGROUND ELECTRIC (SECONDARY) |
| UGT | UGT | UNDERGROUND TELEPHONE |
| UGC | UGC | UNDERGROUND CABLE |
| WWMH | WWMH | WASTEWATER MANHOLE (SIZE VARIES) |
| SDMH | SDMH | STORMDRAIN MANHOLE (SIZE VARIES) |
| TMH | TMH | TELEPHONE MANHOLE (SIZE VARIES) |
| | | FIRE DEPARTMENT CONNECTION |
| CO | CO | WASTEWATER CLEANOUT |
| | | CURB |
| | | HEADER CURB |
| | | SAWTOOTH CURB |
| | | RETAINING WALL |
| // // | | CHAINLINK FENCE |
| | | CONCRETE SIDEWALKS |
| 678 | 678 | CONTOUR |
| | | DIRECTION OF FLOW |
| | x785.00TC | SPOT ELEVATION/TOP OF CURB |
| x785.50 | x785.00 | SPOT ELEVATION |
| | | SWALE |
| | | CONCRETE PAVEMENT |
| | | ASPHALT PAVEMENT |

## ENCASED WW PIPE NOTES:

1. CONTRACTOR SHALL PROVIDE CONCRETE ENCASEMENT FOR THE ENTIRE PROPOSED 6-INCH SDR PIPE IN ACCORDANCE WITH 30 TAC §217.53(D)(3) (WATER AND WASTEWATER SEPARATION).




**POTABLE WATER LINE DETAIL**
NOT TO SCALE

### 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 AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) WITHIN THE PROJECT AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS PROGRAMS AND/OR PROCEDURES. THE CONTRACTOR'S IMPLEMENTATION OF THE SYSTEM'S PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLIES WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATION. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

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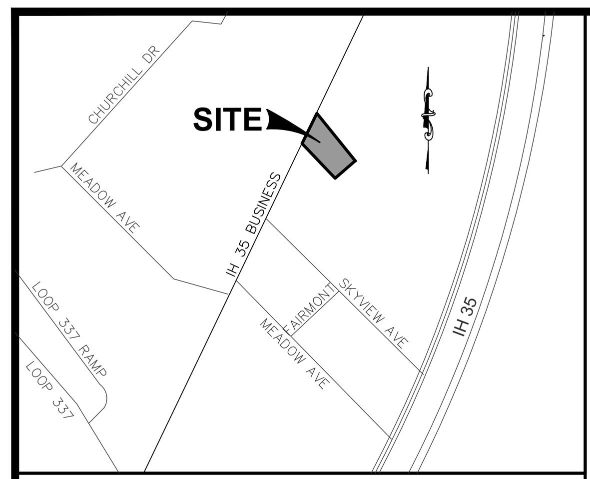
OWNER:
CAMP BOW BOW SAN ANTONIO
2401-A LA TAPICERIA
SAN ANTONIO, TEXAS 78261

# CAMP BOW WOW-NEW BRAUNFELS

1450 N. BUSINESS 35
NEW BRAUNFELS, TX 78130

UTILITY PLAN

| | |
|---|---|
| DESIGNED BY: | AS |
| DRAWN BY: | RQ |
| SCALE: | 1"=20' |
| DATE: | 06-16-26 |
| SHEET NO. | C4.0 |




**LOCATION MAP**
NOT TO SCALE

## NBU WATER NOTES

1. THE CONTRACTOR SHALL MAINTAIN SERVICE TO EXISTING WASTEWATER SYSTEM AT ALL TIMES DURING CONSTRUCTION.
2. A MINIMUM OF 8"WASTEWATER PIPE AND FITTINGS (P.V.C. SDR-26, ASTM, D-3034, D-3212, F-477) ARE REQUIRED ON NEW INSTALLATION.
3. ALL RESIDENTIAL WASTEWATER SERVICE LATERALS SHALL BE EXTENDED TO THE PROPERTY LINE AND A CLEANOUT SHALL BE INSTALLED AT THE PROPERTY LINE. SERVICES TO LOTS WILL EXTEND FOUR (4) FEET PAST THE UNDERGROUND ELECTRIC CONDUIT IF ELECTRIC IS INSTALLED IN THE FRONT EASEMENT. ALL SEWER CLEANOUTS THAT LEAD TO NBU MAINS SHALL BE INSTALLED WITH A PROTECTIVE UTILITY SHROUD AND PIVOTING MARKER POLE DURING TIME OF CONSTRUCTION.
4. PIPE BEDDING OF WASTEWATER LINES SHALL BE MANUFACTURED SAND OR PEA GRAVEL AS PER NBU SPECIFICATIONS.
5. SECONDARY BACKFILL OF WASTEWATER LINES SHALL GENERALLY CONSIST OF MATERIALS REMOVED FROM THE TRENCH AND SHALL BE FREE FROM BRUSH, DEBRIS AND TRASH, NO ROCKS OR STONES HAVING ANY DIMENSION LARGER THAN 6 INCHES AT THE LARGEST DIMENSION.
6. ALL WASTEWATER PIPES SHALL HAVE COMPRESSION OR MECHANICAL JOINTS AS PER 30 TAC §217.53 (C) (2).
7. FOR WASTEWATER LINES LESS THAN 24"IN DIAMETER, SELECT INITIAL BACKFILL MATERIAL SHALL BE PLACED IN TWO LIFTS.
   A. THE FIRST LIFT SHALL BE SPREAD UNIFORMLY AND SIMULTANEOUSLY ON EACH SIDE AND UNDER THE SHOULDERS OF THE PIPE TO THE MID POINT OR SPRING LINE OF THE PIPE.
   B. THE SECOND LIFT SHALL BE PLACED TO A DEPTH AS SHOWN ON THE PIPE BACKFILL DETAIL. FOR PIPES LARGER THAN 24", 12"MAXIMUM LIFTS SHALL BE USED.
8. ALL MANHOLES MUST BE WATER TIGHT, EITHER MONOLITHIC, CAST-IN-PLACE CONCRETE STRUCTURES OR PREFABRICATED MANHOLES SPECIFICALLY APPROVED BY NBU. THE MANHOLES SHALL HAVE WATER-TIGHT RINGS AND COVERS. WHEREVER THEY ARE WITHIN THE 100 YEAR FLOODPLAIN, THE MANHOLE COVERS SHALL BE BOLTED. EVERY THIRD MANHOLE IN SEQUENCE SHALL HAVE AN ALTERNATE MEANS OF VENTING. 30 TAC §213.5 (C) (3) (A) AND 30 TAC §217.55 (O).
9. ALL MANHOLES SHALL BE CONSTRUCTED SO THAT THE TOP OF THE RING IS TWO INCHES (2") ABOVE SURROUNDING GROUND EXCEPT WHEN LOCATED IN PAVED AREA. IN PAVED AREAS, THE MANHOLE RING SHALL BE FLUSH WITH PAVEMENT.
10. ALL NEW MANHOLES, UNLESS APPROVED BY NBU ENGINEERING, ARE TO HAVE COVERS WITH 32"OPENINGS.
11. WASTEWATER PIPE CONNECTIONS TO PRE-CAST MANHOLES WILL BE COMPRESSION JOINTS OR MECHANICAL "BOOT TYPE"JOINT AS APPROVED BY NBU.
12. WASTEWATER LINES SHALL BE TESTED FROM MANHOLE TO MANHOLE.
13. IN AREAS WHERE A NEW WASTEWATER MANHOLE IS TO BE CONSTRUCTED OVER AN EXISTING WASTEWATER SYSTEM, IT SHALL BE THE CONTACTOR'S RESPONSIBILITY TO TEST THE EXISTING MANHOLES BEFORE CONSTRUCTION. AFTER THE PROPOSED MANHOLE(S) HAS BEEN BUILT, THE CONTRACTOR SHALL RE-TEST THE EXISTING SYSTEM TO THE SATISFACTION OF THE CONSTRUCTION INSPECTOR. (NO SEPARATE PAY ITEM).
14. WHERE THE MINIMUM 9 FOOT SEPARATION DISTANCE BETWEEN WASTEWATER LINES AND WATER LINES / MAINS CANNOT BE MAINTAINED, THE INSTALLATION OF WASTEWATER LINES SHALL BE IN STRICT ACCORDANCE WITH TCEQ. THE WASTEWATER LINE SHALL BE CONSTRUCTED OF CAST IRON, DUCTILE IRON OR PVC MEETING THE ASTM SPECIFICATION FOR BOTH PIPES AND JOINTS OF 150 PSI AND SHALL BE IN ACCORDANCE WITH 30 TAC §217.53 (D) (3) (A) (I).
15. NO TESTING WILL BE PERFORMED PRIOR TO 30 DAYS FROM COMPLETE INSTALLATION OF THE WASTEWATER LINES. THE FOLLOWING SEQUENCE WILL BE STRICTLY ADHERED TO:
    A. PULL MANDREL
    B. PERFORM AIR TEST
    C. CLEANING OF ANY DEBRIS
    D. FLUSHING OF SYSTEM
    E. TV INSPECTION (WITHIN 72 HOURS OF FLUSHING)
16. A MINIMUM OF 3 FEET OF COVER IS TO BE MAINTAINED OVER THE WASTEWATER MAIN AND LATERALS AT SUBGRADE, OTHERWISE CONCRETE ENCASEMENT WILL BE REQUIRED.
17. WASTEWATER MAIN CONNECTIONS MADE DIRECTLY TO EXISTING MANHOLES WILL REQUIRE SUCCESSFUL TESTING OF THE MANHOLE IN ACCORDANCE WITH NBU CONNECTION & CONSTRUCTION POLICY MANUAL.
18. TCEQ AND EPA REQUIRE EROSION AND SEDIMENTATION CONTROL FOR CONSTRUCTION OF WASTEWATER COLLECTION SYSTEMS. DEVELOPER OR AUTHORIZED REPRESENTATIVE SHALL PROVIDE EROSION AND SEDIMENTATION CONTROL AS NOTES ON THE PROJECT'S PLAN AND PROFILE SHEETS. ALL TEMPORARY EROSION AND SEDIMENTATION CONTROLS SHALL BE REMOVED BY THE CONTRACTOR AT FINAL ACCEPTANCE OF THE PROJECT BY NBU WATER SYSTEMS.
19. ALL MANHOLES NOT WITHIN PAVED STREETS SHALL HAVE LOCKING CONCRETE COLLAR TO SECURE RING AND COVER TO MANHOLE CONE PER NBU DETAIL DRAWING #329.
20. ALL MANHOLES OVER THE EDWARDS AQUIFER RECHARGE ZONE SHALL HAVE LOCKING CONCRETE COLLAR TO SECURE RING AND COVER TO MANHOLE CONE PER NBU DETAIL DRAWING #329.

## NBU WATER NOTES

1. ALL WATER MAINS SHALL BE AWWA C900 (CLASS 150 OR GREATER).
2. WATER SERVICES SHALL BE SINGLE 1"COPPER TUBING.
3. WATER LINE IS TO BE CONSTRUCTED IN ACCORDANCE WITH THE NBU SYSTEMS CONNECTION & CONSTRUCTION POLICY.
4. WATER MAIN SHALL HAVE A MINIMUM OF 42 INCHES OF COVER, OTHERWISE CONCRETE ENCASEMENT WILL BE REQUIRED.
5. EACH UNIT IN A DUPLEX, TRIPLEX, FOURPLEX, OR CONDOMINIUM SHALL BE PROVIDED WITH AN INDIVIDUAL WATER METER. A MASTER METER CAN BE CONSIDERED FOR SEPARATE BUILDINGS, HOWEVER, THOSE BUILDINGS MUST BE PLUMBED TO ALLOW SEPARATE METERS FOR FUTURE CONSIDERATION.
6. CONTRACTOR WILL KEEP THE AREA ON TOP OF AND AROUND THE WATER METER BOX FREE OF ALL OBJECTS AND DEBRIS.
7. INITIAL BACKFILL OF WATER LINES SHALL BE MANUFACTURED SAND OR PEA GRAVEL AS PER NBU SYSTEMS CONNECTION & CONSTRUCTION POLICY.
8. SECONDARY BACKFILL OF WATER LINES SHALL GENERALLY CONSIST OF MATERIAL REMOVED FROM THE TRENCH AND SHALL BE FREE FROM BRUSH, DEBRIS AND TRASH OR STONES HAVING ANY DIMENSION LARGER THAN 6"INCHES AT THE LARGEST DIMENSION.
9. HYDROSTATIC TESTING IS DONE FROM VALVE TO VALVE.
10. NO METER BOXES TO BE SET IN DRIVEWAYS OR SIDEWALKS. ANY METER BOXES SET IN DRIVEWAYS OR SIDEWALKS WILL BE RELOCATED AT CONTRACTOR'S AND/OR DEVELOPER'S EXPENSE.
11. METER BOXES MUST BE SET AT THE PROPOSED GRADE. ANY METER BOXES THAT ARE NOT SET AT THE FINAL GRADE WILL BE ADJUSTED AT CONTRACTOR'S AND/OR DEVELOPER'S EXPENSE.
12. ACCEPTABLE METER BOXES ARE D13-BAMR AND D15-BAMR. NEW RESIDENTIAL LOTS ARE REQUIRED TO USE THE D15-BAMR METER BOXES (DOUBLE AMR). COMMERCIAL LOTS SHOULD CHOOSE WHICH BOX APPLIES TO THE DOMESTIC AND/OR IRRIGATION METER LAYOUT.
13. THRUST BLOCKS WILL NOT BE ALLOWED ON THE SYSTEM WITHOUT SPECIAL APPROVAL. JOINTS WILL BE RESTRAINED WITH RESTRAINING SYSTEMS APPROVED BY NBU AND RESTRAINT LENGTH SHALL BE SUBMITTED TO NBU AT THE TIME OF PLAN SUBMITTAL.
14. CONTRACTOR SHALL PLACE TRACER WIRE ON TOP OF THE WATER MAINS. TRACER WIRE SHOULD RUN FROM VALVE TO VALVE AND EXIT AT THE VALVE BOX. THE TRACER WIRE SHOULD BE ATTACHED TO THE TOP OF THE PIPE USING TAPE. EXCESS WIRE SHOULD BE LEFT WITHIN VALVE BOXES TO BE PLACED WITHIN LID OF COVER.
15. WATER QUALITY SHALL BE PROTECTED WITH APPROPRIATE BACKFLOW PREVENTION ASSEMBLIES INSTALLED ON ALL IRRIGATION SYSTEMS, FIRE SUPPRESSION SYSTEMS AND MULTI-UNIT COMPLEXES ALONG WITH MULTI-LEVEL PROPERTIES ON THE DOMESTIC METER CONTAINMENT. NBU CAN ASSIST WITH THE DECISION ON APPROPRIATE BACKFLOW ASSEMBLIES ON A CASE BY CASE BASIS. CONTACT NBU BACKFLOW PREVENTION SPECIALIST FOR MORE DETAILS. EMAIL QUESTIONS TO CROSSCONNECTION@NBUTEXAS.COM.
16. ALL BACKFLOW PREVENTION ASSEMBLIES SHALL BE TESTED UPON INSTALLATION AND REPORT SENT TO NBU VIA THE ONLINE TRACKING SYSTEM, CONTACT NBU BACKFLOW PREVENTION SPECIALIST FOR MORE DETAILS. EMAIL QUESTIONS TO CROSSCONNECTION@NBUTEXAS.COM
17. ALL RESIDENTIAL AND COMMERCIAL PROPERTIES SHALL HAVE A CUSTOMER SERVICE INSPECTION CERTIFICATE (CSI INSPECTION) COMPLETED UPON COMPLETION OF THE BUILDING OR HOME STRUCTURE. CONTACT NBU BACKFLOW PREVENTION SPECIALIST FOR MORE DETAILS. EMAIL QUESTIONS TO CROSSCONNECTION@NBUTEXAS.COM

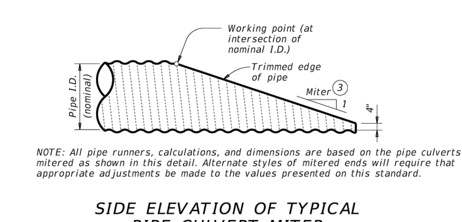
## NBU GENERAL NOTES

1. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THE PROJECT SHALL BE APPROVED BY NEW BRAUNFELS UTILITIES AND COMPLY WITH THE CURRENT "NEW BRAUNFELS UTILITIES WATER SYSTEMS CONNECTION/CONSTRUCTION POLICY".
2. CONTRACTOR SHALL NOT PROCEED WITH ANY PIPE INSTALLATION WORK UNTIL THEY OBTAIN A COPY OF THE PLANS FROM THE CONSULTANT OR ENGINEER AND NOTIFY NBU WATER SYSTEMS ENGINEERING AT 830-608-8971 WITH AT LEAST TWO (2) WORKING DAYS (48 HOURS) NOTICE. WORK COMPLETED BY THE CONTRACTOR, WHICH HAS NOT RECEIVED A NOTICE TO PROCEED FROM NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING WILL BE SUBJECT TO REMOVAL AND REPLACEMENT BY AND AT THE EXPENSE OF THE CONTRACTOR.
3. THE DEVELOPER DEDICATES THE WATER / WASTEWATER MAINS UPON COMPLETION BY THE CONTRACTOR AND ACCEPTANCE BY THE NEW BRAUNFELS UTILITIES WATER SYSTEM. NBU WILL OWN AND MAINTAIN SAID WATER / WASTEWATER MAINS WHICH ARE LOCATED WITHIN PLATTED UTILITY EASEMENTS OR PUBLIC ROW OF PROPOSED DEVELOPMENTS. (AS APPLICABLE).
4. CONTRACTOR AGREES TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNERS AND THE ENGINEER AND HIS EMPLOYEES, PARTNERS OFFICERS, DIRECTORS, OR CONSULTANTS HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF THE WORK ON THIS PROJECT, EXCEPTING FROM LIABILITY ARISING FROM SOLE NEGLIGENCE OF THE OWNER OR ENGINEER, ENGINEER'S DIRECTORS, OFFICERS, EMPLOYEES, OR CONSULTANTS.
5. CONTRACTOR TO CONTACT THE ENGINEER-OF-RECORD (EOR) FOR ANY FIELD CHANGES. ANY REVISIONS OR CHANGES TO THE APPROVED CONSTRUCTION PLANS WILL REQUIRE ADDITIONAL APPROVAL BY NBU IN WRITING.
6. CONTRACTOR AND / OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING TO ITS ORIGINAL OR BETTER CONDITION, ANY DAMAGE TO EXISTING FENCES, CURBS, STREETS, DRIVEWAYS, LANDSCAPING AND STRUCTURES, AND EXISTING UTILITIES (NOT ADJUSTED ON PLANS). COST OF RESTORATION, IF ANY, SHALL BE THE CONTRACTOR'S ENTIRE EXPENSE.
8. THE CONTRACTOR SHALL AVOID CUTTING ROOTS LARGER THAN ONE (1) INCH IN DIAMETER WHEN EXCAVATING NEAR EXISTING TREES. EXCAVATION IN VICINITY OF TREES SHALL PROCEED WITH CAUTION.
9. CONTRACTOR SHALL PROCURE ALL PERMITS AND LICENSES, PAY ALL CHARGES, FEES AND TAXES AND GIVE ALL NOTICES NECESSARY AND INCIDENTAL TO THE DUE AND LAWFUL PROSECUTION OF THE WORK.
10. NO EXTRA PAYMENT SHALL BE ALLOWED FOR WORK CALLED FOR ON THE PLANS BUT NOT INCLUDED ON THE BID SCHEDULE. THIS INCIDENTAL WORK WILL BE REQUIRED AND SHALL BE INCLUDED UNDER THE PAY ITEM TO WHICH IT RELATES.
11. CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ALL WASTE MATERIALS UPON PROJECT COMPLETION. THE CONTRACTOR SHALL NOT PERMANENTLY PLACE ANY WASTE MATERIALS IN THE 100-YEAR FLOOD PLAIN WITHOUT FIRST OBTAINING AN APPROVED FLOOD PLAIN DEVELOPMENT PERMIT. NBU GENERAL NOTES APPENDIX/APPENDIX B APPROVED 12/09/03; REV 1/01/24 PAGE 2 OF 3
12. THE CONTRACTOR SHALL NOT PLACE ANY MATERIALS ON THE RECHARGE ZONE OF THE EDWARDS AQUIFER WITHOUT AN APPROVED WATER POLLUTION ABATEMENT PLAN FROM THE TCEQ 31 TAC 313.4 AND 31 TAC 313.9.
13. BARRICADES AND WARNING SIGNS SHALL CONFORM TO THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES"(TMUTCD) AND SHALL BE LOCATED TO PROVIDE MAXIMUM PROTECTION TO THE PUBLIC AS WELL AS CONSTRUCTION PERSONNEL AND EQUIPMENT WHILE PROVIDING CONTINUOUS TRAFFIC FLOW AT ALL TIMES DURING CONSTRUCTION. THE
CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL DEVICES DURING CONSTRUCTION.
14. CONTRACTOR IS REQUIRED TO VERIFY PROJECT ELEVATIONS. THE TERM "MATCH EXISTING"SHALL BE UNDERSTOOD TO SIGNIFY BOTH HORIZONTAL AND VERTICAL ALIGNMENT.
15. THE LOCATION OF UTILITIES, EITHER UNDERGROUND OR OVERHEAD, SHOWN WITHIN THE RIGHT OF WAY ARE APPROXIMATE AND SHALL BE VERIFIED BY THE CONTRACTOR BEFORE BEGINNING CONSTRUCTION OPERATIONS.
16. OSHA REGULATIONS PROHIBIT OPERATIONS THAT WILL BRING PERSONS OR EQUIPMENT WITHIN 10 FEET OF AN ENERGIZED LINE. WHERE WORKMEN AND/OR EQUIPMENT MUST WORK CLOSE TO AN ENERGIZED ELECTRICAL LINE, THE CONTRACTOR SHALL NOTIFY THE ELECTRICAL POWER COMPANY INVOLVED AND MAKE WHATEVER ADJUSTMENTS NECESSARY TO ENSURE THE SAFETY OF THOSE WORKMEN.
17. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE UTILITY SERVICE LINES AS REQUIRED FOR CONSTRUCTION. CONTRACTORS SHALL CALL THE ONE CALL SYSTEM FOR WATER/WASTEWATER LOCATION.
18. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192 (8), GAS COMPANIES MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.
19. THE CONTRACTOR IS FULLY RESPONSIBLE FOR THE TRAFFIC CONTROL AND WILL BE RESPONSIBLE FOR FURNISHING ALL TRAFFIC CONTROL DEVICES, AND FLAGGERS. THE CONSTRUCTION METHODS SHALL BE CONDUCTED TO PROVIDE THE LEAST POSSIBLE INTERFERENCE TO TRAFFIC. THE CONTINUOUS MOVEMENT OF THE TRAFFIC IN ONE DIRECTION, AT MINIMUM, SHALL BE MAINTAINED AT ALL TIMES. THE CONTRACTOR SHALL CLEAN UP AND REMOVE FROM THE WORK AREA ANY LOOSE MATERIAL RESULTING FROM CONTRACT OPERATIONS AT THE END OF EACH WORKDAY.
20. PRIOR TO ORDERING MATERIALS TO BE USED IN CONSTRUCTION, CONTRACTOR SHALL PROVIDE THE ENGINEER WITH FOUR (4) COPIES OF THE SOURCE, TYPE, GRADATION, MATERIAL SPECIFICATION DATA AND / OR SHOP DRAWINGS, AS APPLICABLE, TO SATISFY THE REQUIREMENTS OF THE FOLLOWING ITEMS AND ALL MATERIAL ITEM

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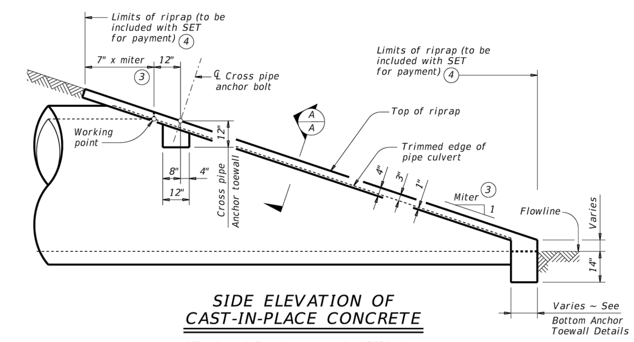
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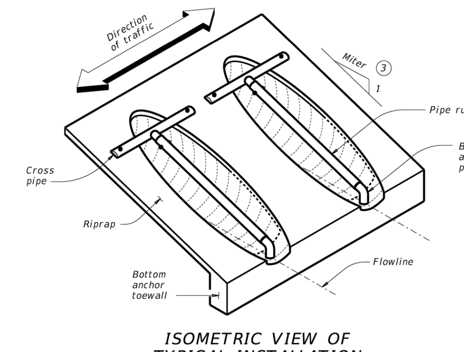



NOTE: All pipe runners, calculations, and dimensions are based on the pipe culverts mitered as shown in this detail. Alternate styles of mitered ends will require that appropriate adjustments be made to the values presented on this standard.

**SIDE ELEVATION OF TYPICAL PIPE CULVERT MITER**
(Showing corrugated metal pipe (CMP) culvert. Details of reinforced concrete pipe (RCP) culvert are similar.)




**SIDE ELEVATION OF CAST-IN-PLACE CONCRETE**
(Showing reinforced concrete pipe (RCP) culvert. Details of corrugated metal pipe (CMP) culvert are similar. Pipe runners not shown for clarity)




**ISOMETRIC VIEW OF TYPICAL INSTALLATION**
(Showing installation with no skew.)

### CROSS PIPE LENGTHS AND PIPE RUNNER LENGTHS ①②

| Nominal Culvert I.D. | Pipe Culvert Spa ~ G | Cross Pipe Length | Pipe Runner Length: 3:1 Side Slope 0° Skew | 3:1 15° Skew | 3:1 30° Skew | 3:1 45° Skew | 4:1 Side Slope 0° Skew | 4:1 15° Skew | 4:1 30° Skew | 4:1 45° Skew | 6:1 Side Slope 0° Skew | 6:1 15° Skew | 6:1 30° Skew | 6:1 45° Skew |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24" | 1' - 7" | 3' - 5" | N/A | N/A | N/A | 5' - 10" | N/A | N/A | N/A | 8' - 1" | N/A | N/A | N/A | 12' - 9" |
| 27" | 1' - 8" | 3' - 8" | N/A | N/A | 5' - 5" | 6' - 11" | N/A | N/A | 7' - 7" | 9' - 7" | N/A | N/A | 11' - 11" | 14' - 11" |
| 30" | 1' - 10" | 3' - 11" | N/A | N/A | 6' - 4" | 8' - 0" | N/A | N/A | 8' - 9" | 11' - 0" | N/A | N/A | 13' - 8" | 17' - 0" |
| 33" | 1' - 11" | 4' - 2" | 6' - 2" | 6' - 5" | 7' - 3" | 9' - 1" | 8' - 6" | 8' - 10" | 10' - 0" | 12' - 5" | 13' - 3" | 13' - 9" | 15' - 5" | 19' - 2" |
| 36" | 2' - 1" | 4' - 5" | 6' - 11" | 7' - 3" | 8' - 2" | 10' - 2" | 9' - 6" | 9' - 11" | 11' - 2" | 13' - 10" | 14' - 9" | 15' - 3" | 17' - 2" | 21' - 3" |
| 42" | 2' - 4" | 4' - 11" | 8' - 6" | 8' - 10" | 9' - 11" | 12' - 4" | 11' - 7" | 12' - 0" | 13' - 6" | 16' - 8" | 17' - 9" | 18' - 5" | 20' - 8" | 25' - 7" |
| 48" | 2' - 7" | 5' - 5" | 10' - 1" | 10' - 5" | 11' - 9" | N/A | 13' - 7" | 14' - 2" | 15' - 10" | N/A | 20' - 9" | 21' - 6" | 24' - 2" | N/A |
| 54" | 3' - 0" | 5' - 11" | 11' - 8" | 12' - 1" | N/A | N/A | 15' - 8" | 16' - 3" | N/A | N/A | 23' - 10" | 24' - 8" | N/A | N/A |
| 60" | 3' - 3" | 6' - 5" | 13' - 3" | N/A | N/A | N/A | 17' - 9" | N/A | N/A | N/A | 26' - 10" | N/A | N/A | N/A |

### TYPICAL PIPE CULVERT MITERS ③

| Side Slope | 0° Skew | 15° Skew | 30° Skew | 45° Skew |
|---|---|---|---|---|
| 3:1 | 3:1 | 3.106:1 | 3.464:1 | 4.243:1 |
| 4:1 | 4:1 | 4.141:1 | 4.619:1 | 5.657:1 |
| 6:1 | 6:1 | 6.212:1 | 6.928:1 | 8.485:1 |

### CONDITIONS WHERE PIPE RUNNERS ARE NOT REQUIRED ②

| Nominal Culvert I.D. | Single Pipe Culvert | Multiple Pipe Culverts |
|---|---|---|
| 12" thru 21" | Skews thru 45° | Skews thru 45° |
| 24" | Skews thru 45° | Skews thru 30° |
| 27" | Skews thru 30° | Skews thru 15° |
| 30" | Skews thru 15° | Skews thru 15° |
| 33" | Skews thru 15° | Always required |
| 36" | Normal (no skew) | Always required |
| 42" thru 60" | Always required | Always required |

### STANDARD PIPE SIZES AND MAX PIPE RUNNER LENGTHS ①

| Pipe Size | Pipe O.D. | Pipe I.D. | Max Pipe Runner Length |
|---|---|---|---|
| 2" STD | 2.375" | 2.067" | N/A |
| 3" STD | 3.500" | 3.068" | 10' - 0" |
| 4" STD | 4.500" | 4.026" | 19' - 8" |
| 5" STD | 5.563" | 5.047" | 34' - 2" |

### ESTIMATED CONCRETE RIPRAP QUANTITIES (CY) ⑤

| Nominal Culvert I.D. | 3:1 Side Slope 0° Skew | 3:1 15° Skew | 3:1 30° Skew | 3:1 45° Skew | 4:1 Side Slope 0° Skew | 4:1 15° Skew | 4:1 30° Skew | 4:1 45° Skew | 6:1 Side Slope 0° Skew | 6:1 15° Skew | 6:1 30° Skew | 6:1 45° Skew |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12" | 0.4 | 0.4 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.6 | 0.7 | 0.7 | 0.7 | 0.8 |
| 15" | 0.5 | 0.5 | 0.5 | 0.6 | 0.6 | 0.6 | 0.6 | 0.7 | 0.7 | 0.7 | 0.8 | 0.9 |
| 18" | 0.5 | 0.5 | 0.6 | 0.6 | 0.6 | 0.7 | 0.7 | 0.8 | 0.8 | 0.8 | 0.9 | 1.0 |
| 21" | 0.6 | 0.6 | 0.6 | 0.7 | 0.7 | 0.7 | 0.8 | 0.9 | 0.9 | 0.9 | 1.0 | 1.2 |
| 24" | 0.6 | 0.7 | 0.7 | 0.8 | 0.8 | 0.8 | 0.8 | 1.0 | 1.0 | 1.0 | 1.1 | 1.3 |
| 27" | 0.7 | 0.7 | 0.8 | 0.9 | 0.8 | 0.9 | 0.9 | 1.1 | 1.1 | 1.1 | 1.2 | 1.4 |
| 30" | 0.8 | 0.8 | 0.8 | 0.9 | 0.9 | 0.9 | 1.0 | 1.2 | 1.2 | 1.2 | 1.3 | 1.6 |
| 33" | 0.8 | 0.8 | 0.9 | 1.0 | 1.0 | 1.0 | 1.1 | 1.3 | 1.3 | 1.4 | 1.5 | 1.7 |
| 36" | 0.9 | 0.9 | 0.9 | 1.1 | 1.1 | 1.1 | 1.2 | 1.4 | 1.4 | 1.5 | 1.6 | 1.8 |
| 42" | 1.0 | 1.0 | 1.1 | 1.3 | 1.2 | 1.3 | 1.3 | 1.6 | 1.6 | 1.7 | 1.8 | 2.1 |
| 48" | 1.1 | 1.1 | 1.2 | N/A | 1.4 | 1.4 | 1.5 | N/A | 1.9 | 1.9 | 2.1 | N/A |
| 54" | 1.3 | 1.3 | N/A | N/A | 1.6 | 1.6 | N/A | N/A | 2.1 | 2.1 | N/A | N/A |
| 60" | 1.4 | N/A | N/A | N/A | 1.7 | N/A | N/A | N/A | 2.3 | N/A | N/A | N/A |

① Provide pipe runner of the size shown in the tables. Provide cross pipe of the same size as the pipe runner. Provide cross pipe stub out and bottom anchor pipe of the next smaller size pipe as shown in the Standard Pipe Sizes and Max Pipe Runner Lengths table.

② This standard allows for the placement of only one pipe runner across each culvert pipe opening. In order to limit the clear opening to be traversed by an errant vehicle, the following conditions must be met:

For 60" culvert pipes, the skew must not exceed 0°.
For 54" culvert pipes, the skew must not exceed 15°.
For 48" culvert pipes, the skew must not exceed 30°.
For all culvert pipe sizes 42" and less, the skew must not exceed 45°.

If the above conditions cannot be met, the designer should consider using a safety end treatment with flared wings. For further information, refer to the TxDOT Roadway Design Manual.

③ Miter = slope of mitered end of pipe culvert.

④ Riprap placed beyond the limits shown will be paid for as concrete riprap in accordance with Item 432, "Riprap."

⑤ Quantities shown are for one end of one reinforced concrete pipe (RCP) culvert. For multiple pipe culverts or for corrugated metal pipe (CMP) culverts, quantities will need to be adjusted. Riprap quantities are for Contractor's information only.

SHEET 1 OF 2

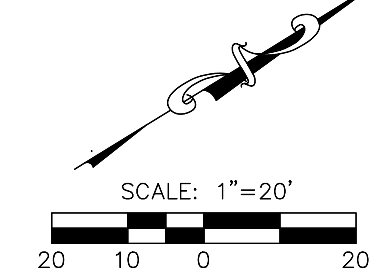
Texas Department of Transportation | Bridge Division Standard

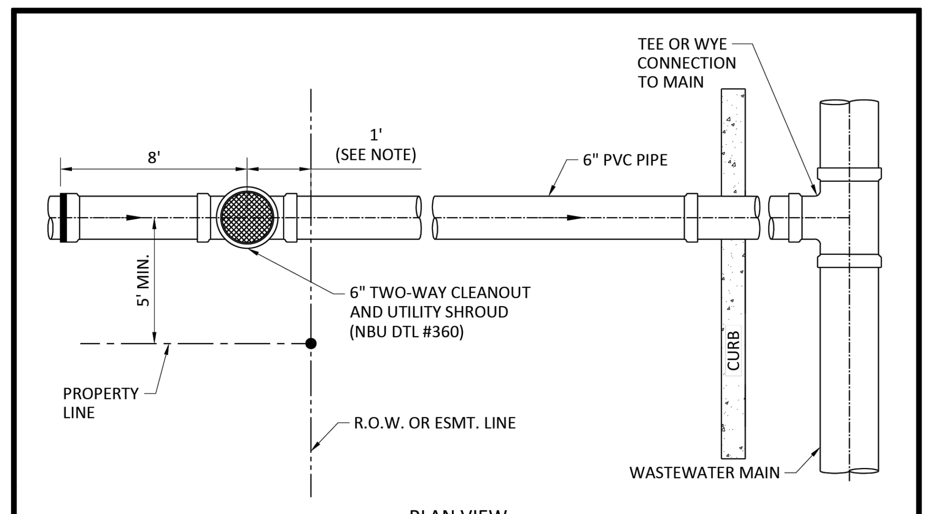
**SAFETY END TREATMENT**
FOR 12" DIA TO 60" DIA PIPE CULVERTS
TYPE II ~ CROSS DRAINAGE

**SETP-CD**

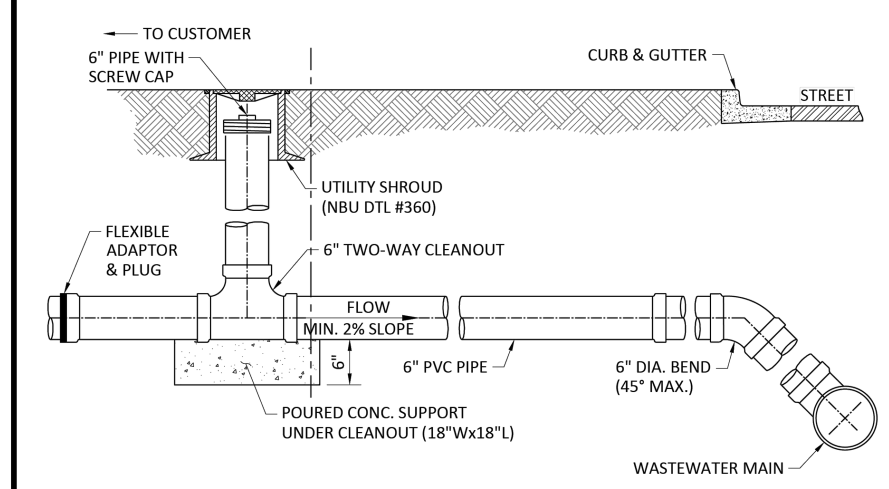
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©TxDOT February 2020 | CONT | SECT | JOB | HIGHWAY
REVISIONS | DIST | COUNTY | SHEET NO.

DATE:
FILE:



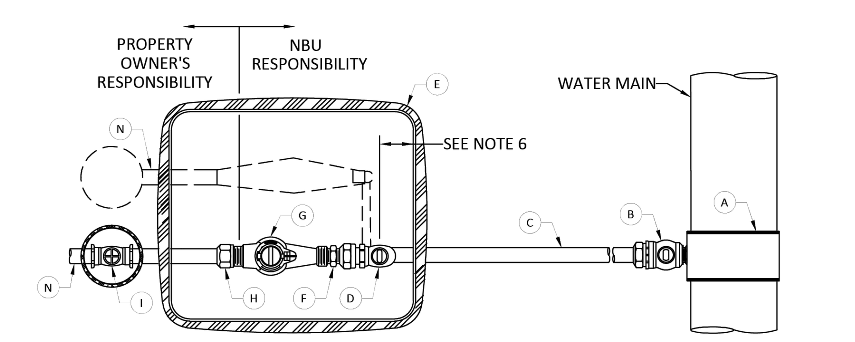

PLAN VIEW



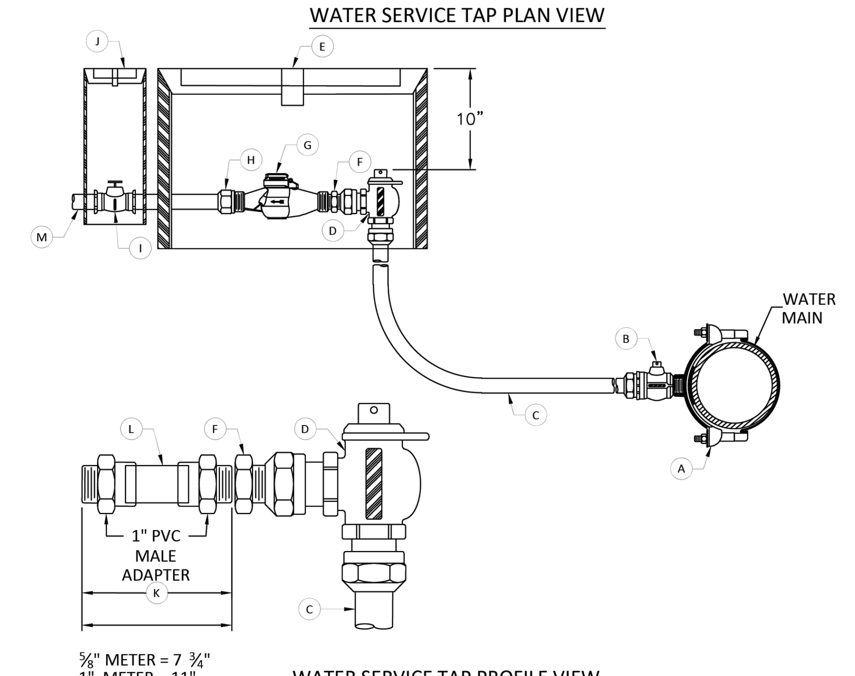

PROFILE VIEW

NBU® NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING

| DRAWN BY: EWL | STANDARD DRAWING: SINGLE WASTWATER SERVICE CONNECTION DETAIL | | | |
|---|---|---|---|---|
| APPROVED BY: A. WILLARD | | | | |
| DRAWING DATE: 2/1/24 | UPDATED: | SCALE: N.T.S. | SHEET: 1 OF 2 | DRAWING NO. 302 |



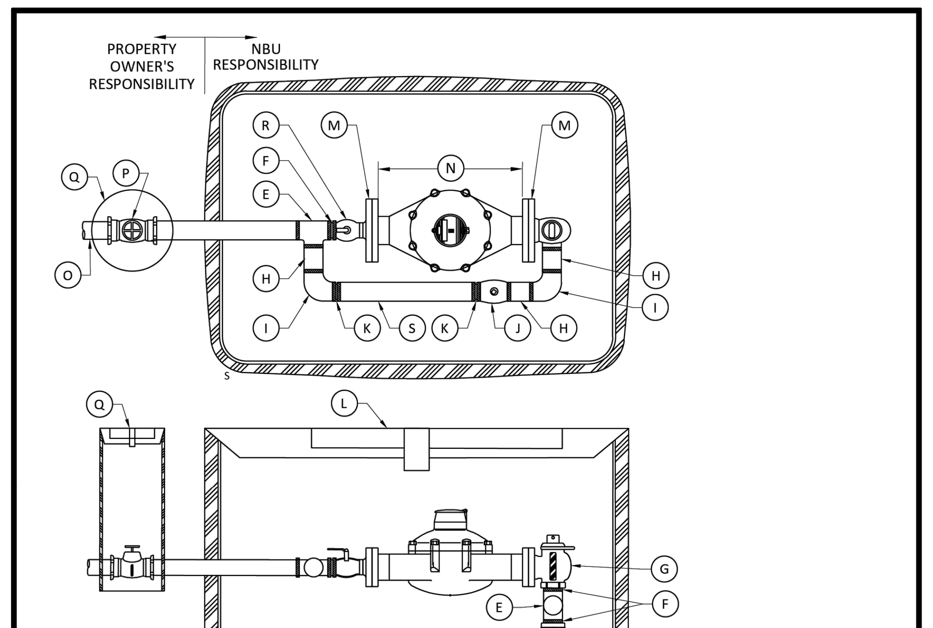

WATER SERVICE TAP PLAN VIEW




WATER SERVICE TAP PROFILE VIEW

NBU® NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING

| DRAWN BY: EWL | STANDARD DRAWING: STANDARD INSTALLATION DETAIL FOR 5/8" & 1" METER | | | |
|---|---|---|---|---|
| APPROVED BY: A. WILLARD | | | | |
| DRAWING DATE: 2/1/24 | UPDATED: | SCALE: N.T.S. | SHEET: 1 OF 2 | DRAWING NO. 202 |




NOTES:

1. WATER SERVICE PIPE SHALL BE BLUE POLYETHYLENE PIPE, COPPER TUBING SIZE (CTS), MEETING THE REQUIREMENTS OF AWWA C901 AND NSF 61 CERTIFIED FOR USE WITH POTABLE DRINKING WATER.
2. SERVICE SADDLE SHALL BE WRAPPED COMPLETELY WITH 8 MIL POLYETHYLENE FILM.
3. TOP OF BOXES TO BE 1" ABOVE GROUND.
4. ALL 1-1/2" AND 2" METERS SHALL BE INSTALLED ON SEPARATE SERVICE CONNECTIONS.
5. PIPING AND TUBING IN STREET RIGHT-OF-WAY SHALL BE BEDDED IN GRANULAR MATERIALS AS REQUIRED BY SPECIFICATIONS; BACKFILL ABOVE GRANULAR BEDDING AS REQUIRED BY SPECIFICATIONS.
6. METER BOX LOCATIONS SHALL BE AS PER DETAILS 402 THROUGH 409, UTILITY LAYOUTS.
7. METER BOXES SHALL NOT BE PLACED IN SIDEWALKS, DRIVEWAYS, PARKING AREAS, OR VEHICULAR TRAFFIC AREAS.
8. ANGLE STOP PLACED A MAXIMUM OF 4" FROM BACK OF BOX THAT FACES CURB.
9. SERVICES FOR NON-RESIDENTIAL CUSTOMERS OR IRRIGATION USES SHALL BE EQUIPPED WITH A BACKFLOW PREVENTION ASSEMBLY AS REQUIRED BY THE BACKFLOW PREVENTION POLICY. BYPASS NOT PERMITTED ON SERVICES THAT ARE IRRIGATION ONLY.

NBU® NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING

| DRAWN BY: EWL | STANDARD DRAWING: STANDARD INSTALLATION DETAIL FOR 1-1/2" & 2" METER INSTALLATION SHOWING BYPASS | | | |
|---|---|---|---|---|
| APPROVED BY: A. WILLARD | | | | |
| DRAWING DATE: 8-17-21 | UPDATED: 2024-07-01 | SCALE: N.T.S. | SHEET: 1 OF 2 | DRAWING NO. 203 |

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

KLove ENGINEERING
Site Development Engineering Services
Firm No. 11042
www.kloveengineering.com
(210) 485-5683

STATE OF TEXAS
KEVIN WILLIAM LOVE
93563
LICENSED PROFESSIONAL ENGINEER
07/07/26

DATE
REVISIONS:

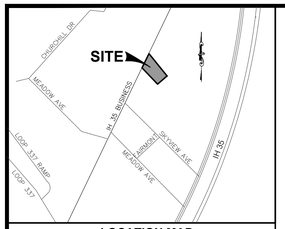
OWNER:
CAMP BOW BOW SAN ANTONIO
24014 LA TAPICERIA
SAN ANTONIO, TEXAS 78261

# CAMP BOW WOW-NEW BRAUNFELS

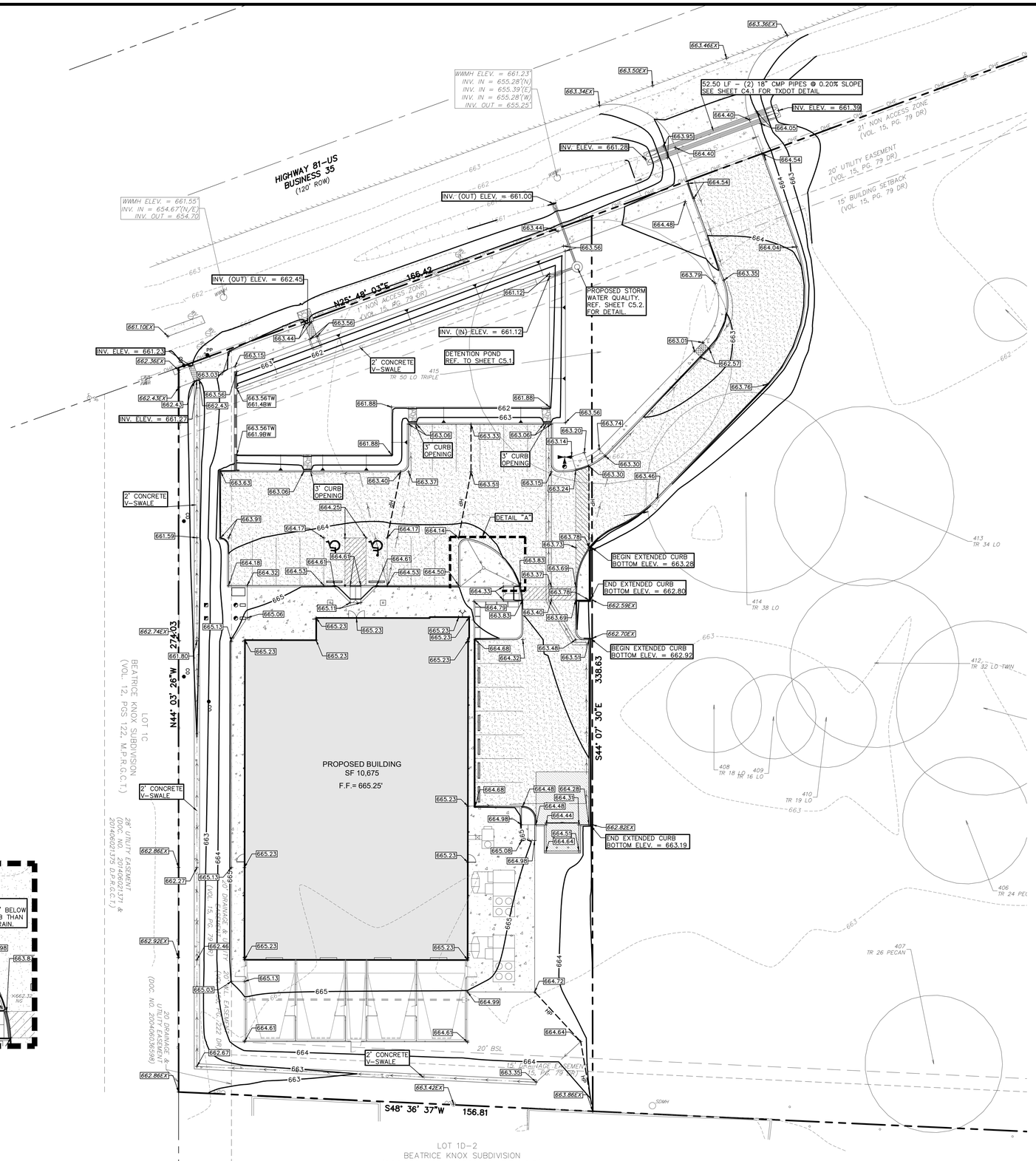
1450 N. BUSINESS 35
NEW BRAUNFELS, TX 78130

## UTILITY NOTES AND DETAILS

| | |
|---|---|
| DESIGNED BY: | AS |
| DRAWN BY: | RQ |
| SCALE: | 1"=20' |
| DATE: | 06-16-26 |
| SHEET NO. | C4.1 |



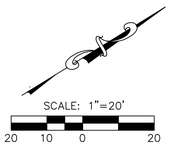

**LOCATION MAP**
NOT TO SCALE







**DETAIL "A"**
NOT TO SCALE




**LEGEND**

| EXISTING | PROPOSED | DESCRIPTION |
|---|---|---|
| 678 | 678 | CONTOUR |
| x785.50 | | SPOT ELEVATION |
| | 785.50<br>785.00 | SPOT ELEVATION/TOP OF CURB<br>SPOT ELEVATION/GUTTER |
| | 785.00 | SPOT ELEVATION/GUTTER |
| | 785.00TW | SPOT ELEVATION/TOP OF WALL |
| | 785.00BW | SPOT ELEVATION/BOTTOM OF WALL |
| | 785.00BT | SPOT ELEVATION/BEGIN CURB TRANSITION |
| | 785.00ET | SPOT ELEVATION/END CURB TRANSITION |
| | HP | HIGHPOINT |
| | | SWALE |
| | | FLOW ARROW |

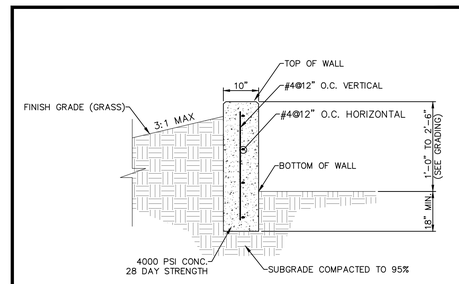
**GRADING NOTE:**

1. UNLESS NOTED OTHERWISE, ALL PARKING LOT GRADES ARE TO INVERT OF GUTTER. ADD 0.5' TO GUTTER GRADE FOR TOP OF CURB GRADE EXCEPT WHERE CURB IS FLUSH WITH INVERT.

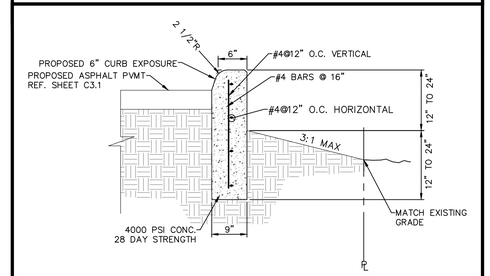
2. CONTRACTOR SHALL VERIFY EXISTING TOPOGRAPHIC INFORMATION SHOWN ON THESE PLANS WITH THE BENCHMARKS SHOWN ON THESE PLANS PRIOR (I.E. LEVEL LOOP AND SPOT CHECK GRADES) TO ANY EARTHWORK OR GRAVITY UTILITY LINES. IF A DISCREPANCY IS FOUND NOTIFY OUR OFFICE IMMEDIATELY.

## BENCHMARKS

BENCHMARKS WERE NOT SET AT THE TIME OF SURVEY. CONTRACTOR SHALL HAVE A LICENSED SURVEYOR ESTABLISH BENCHMARKS PRIOR TO CONSTRUCTION.




**RETAINING WALL SECTION**
NOT TO SCALE




**EXTENDED CURB DETAIL (ASPHALT)**
NOT TO SCALE

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

811 Know what's below. Call before you dig.

Date: Jul 16, 2026, 10:00am
Files: K:\PROJECTS\1478-01 Camp Bow Wow NB\Drawings\C5.0 Grading Plan.dwg


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STATE OF TEXAS
KEVIN WILLIAM LOVE
93563
LICENSED
PROFESSIONAL ENGINEER
07/07/26

DATE

REVISIONS:

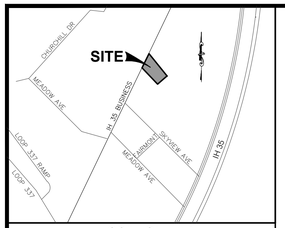
OWNER:
CAMP BOW BOW SAN ANTONIO
LLC
2401 LA TAPONERA
SAN ANTONIO, TEXAS 78261

# CAMP BOW WOW-NEW BRAUNFELS

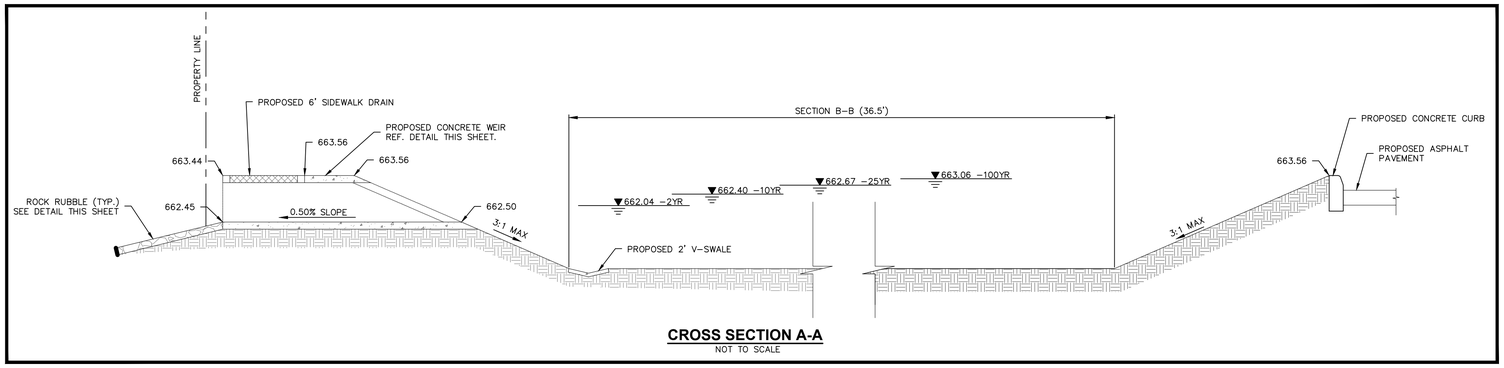
1450 N. BUSINESS 35
NEW BRAUNFELS, TX 78130

GRADING PLAN

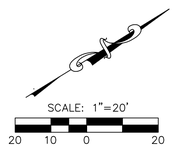
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|---|---|
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| DRAWN BY: | RQ |
| SCALE: | 1"=20' |
| DATE: | 06-16-26 |
| SHEET NO. | C5.0 |

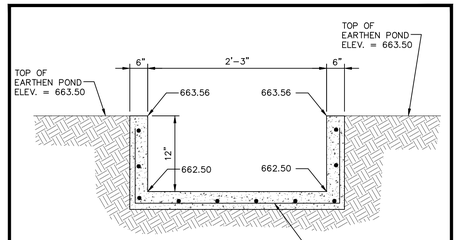



**LOCATION MAP**
NOT TO SCALE

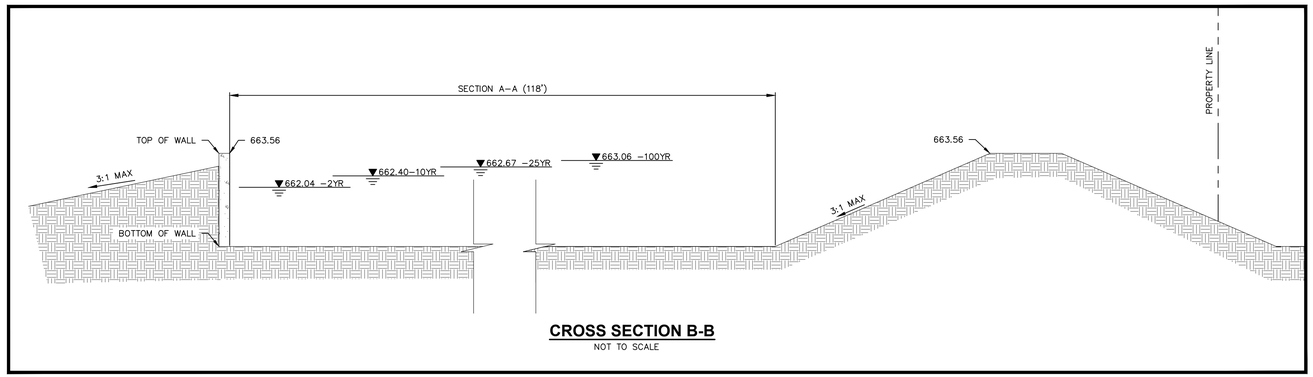



**CROSS SECTION A-A**
NOT TO SCALE

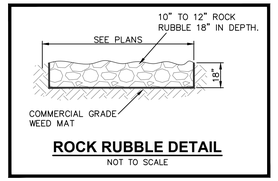


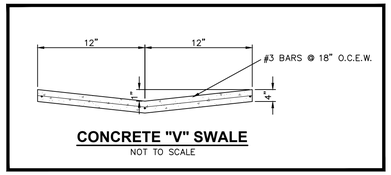

**CROSS SECTION D-D**
NOT TO SCALE



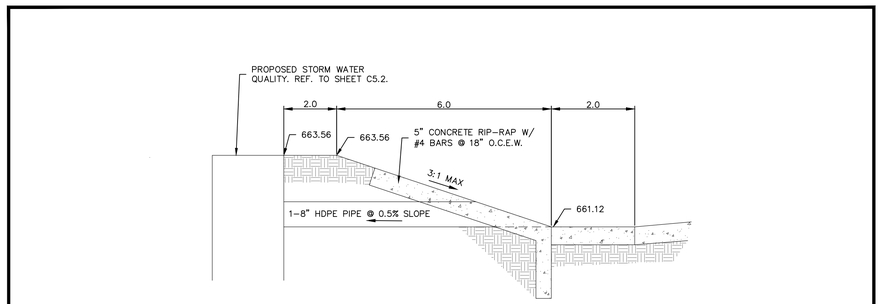

**CROSS SECTION B-B**
NOT TO SCALE




**ROCK RUBBLE DETAIL**
NOT TO SCALE




**CONCRETE "V" SWALE**
NOT TO SCALE




**CROSS SECTION C-C**
NOT TO SCALE

| STAGE STORAGE TABLE | | | | | | |
|---|---|---|---|---|---|---|
| ELEV | AREA (sq. ft.) | DEPTH (ft) | AVG END INC. VOL. (cu. ft.) | AVG END TOTAL VOL. (cu. ft.) | CONIC INC. VOL. (cu. ft.) | CONIC TOTAL VOL. (cu. ft.) |
| 661.120 | 10.00 | N/A | N/A | 0.00 | N/A | 0.00 |
| 661.500 | 2,070.42 | 0.380 | 395.28 | 395.28 | 281.75 | 281.75 |
| 662.000 | 4,833.19 | 0.500 | 1725.90 | 2121.18 | 1677.83 | 1959.57 |
| 663.000 | 5,831.42 | 1.000 | 5332.30 | 7453.49 | 5324.50 | 7284.07 |
| 663.560 | 6,403.69 | 0.560 | 3425.83 | 10879.32 | 3424.58 | 10708.65 |

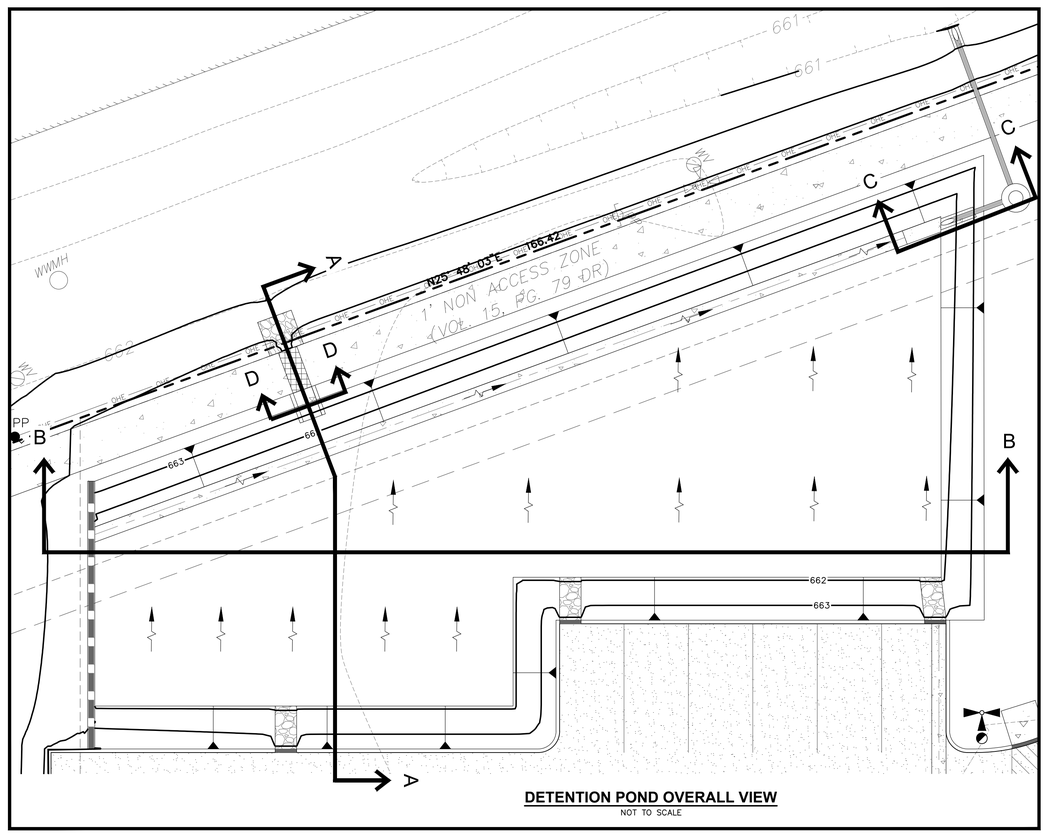
**GRADING NOTE:**

1. UNLESS NOTED OTHERWISE, ALL PARKING LOT GRADES ARE TO INVERT OF GUTTER. ADD 0.5' TO GUTTER GRADE FOR TOP OF CURB GRADE EXCEPT WHERE CURB IS FLUSH WITH INVERT.

2. CONTRACTOR SHALL VERIFY EXISTING TOPOGRAPHIC INFORMATION SHOWN ON THESE PLANS WITH THE BENCHMARKS SHOWN ON THESE PLANS PRIOR (I.E. LEVEL LOOP AND SPOT CHECK GRADES) TO ANY EARTHWORK OR GRAVITY UTILITY LINES. IF A DISCREPANCY IS FOUND NOTIFY OUR OFFICE IMMEDIATELY.

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

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**DETENTION POND OVERALL VIEW**
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STATE OF TEXAS
KEVIN WILLIAM LOVE
93563
LICENSED
PROFESSIONAL ENGINEER
07/07/26

DATE

REVISIONS:

OWNER:
CAMP BOW BOW SAN ANTONIO
2401 LA TAPICERA
SAN ANTONIO, TEXAS 78261

# CAMP BOW WOW-NEW BRAUNFELS

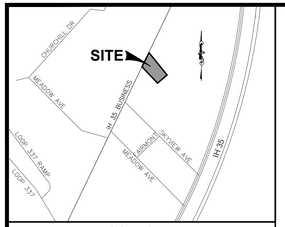
1450 N. BUSINESS 35
NEW BRAUNFELS, TX 78130

DETENTION POND PLAN

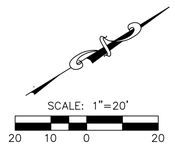
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| DRAWN BY: | RQ |
| SCALE: | 1"=20' |
| DATE: | 06-16-26 |

SHEET NO.
**C5.1**


Date: Jul 16, 2026, 10:01am
User: K:\PROJECTS\1476.01 Camp Bow Wow NB\Drawings\C5.1 Detention Pond Plan.dwg

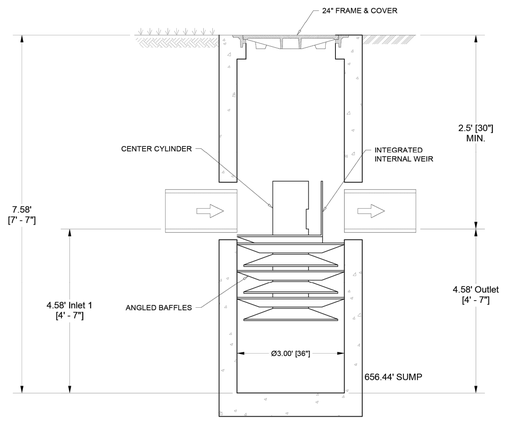



**LOCATION MAP**
NOT TO SCALE




# ARCADIA AR3

| | | | | Pond |
|---|---|---|---|---|
| OK-110 MAXIMUM TREATMENT RATE | | | | 1.55 CFS |
| BYPASS RATE | 5.16 CFS | RIM ELEVATION ± | | 664.02' |
| | **DIAMETER** | **ANGLE** | **TYPE** | **INVERT** |
| INLET 1 | 8" | 235° | PVC | 661.02' |
| INLET 2 | - | - | - | - |
| INLET 3 | - | - | - | - |
| OUTLET | 15" | 0° | PVC | 661.02' |
| SUMP ELEVATION | | | | 656.44' |



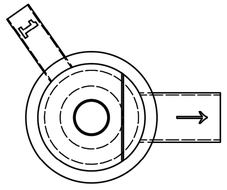

**PROFILE VIEW**
NTS

**PRODUCT SPECIFICATIONS**

- THE STORMWATER TREATMENT UNIT SHALL BE AN INLINE UNIT CAPABLE OF CONVEYING 100% OF THE DESIGN PEAK FLOW. IF PEAK FLOW RATES EXCEED MAXIMUM HYDRAULIC RATE, THE UNIT SHALL BE INSTALLED OFFLINE.
- THE ARCADIA UNIT SHALL BE DESIGNED TO REMOVE AT LEAST 80% OF THE SUSPENDED SOLIDS ON AN ANNUAL AGGREGATE REMOVAL BASIS. SAID REMOVAL SHALL BE BASED ON FULL-SCALE THIRD PARTY VERIFIED TESTING USING OK-110 MEDIA GRADATION OR EQUIVALENT AND 300 MG/L INFLUENT CONCENTRATION. FULL SCALE TESTING SHALL HAVE INCLUDED SEDIMENT CAPTURE BASED ON ACTUAL TOTAL MASS COLLECTED BY THE STORMWATER TREATMENT UNIT.

  -OR -

  THE ARCADIA UNIT SHALL BE DESIGNED TO REMOVE AT LEAST 50% OF TSS USING A MEDIA MIX WITH D50=75 MICRON AND 200 MG/L INFLUENT CONCENTRATION PER CURRENT NJDEP/NJCAT HDS PROTOCOL.



**PLAN VIEW**
NTS

**NOTES:**

- ENGINEER / CONTRACTOR TO CONFIRM PIPE MATERIALS AND APPLICABLE ADAPTERS.
- CONTRACTOR IS RESPONSIBLE FOR MATERIAL AND LABOR TO BRING CASTINGS TO FINISHED GRADE.
- CONTRACTOR TO MEASURE HEIGHT OF STRUCTURE TO ENSURE THAT DEPTH OF EXCAVATION IS CORRECT.
- UNIT SHALL CONFORM TO HS20-44 LOAD RATINGS.

Camp Bow Wow
New Braunfels, TX
DATE: May 29, 2020
DRAWING #: -
DRAWN:
CHECKED:

| DATE | DWN | CHK |
|---|---|---|
| 12/1/2025 | JLM | JLM |

THIS DRAWING WAS PREPARED BASED ON INFORMATION PROVIDED TO ADS/STORMTECH UNDER THE DIRECTION OF THE PROJECT'S ENGINEER OF RECORD TO DATE. IT IS NOT INTENDED FOR USE AS A CONSTRUCTION DRAWING. IT IS THE ULTIMATE RESPONSIBILITY OF THE EOR TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS.

**ARCADIA**
Stormwater Separator

ADS
4640 TRUEMAN BLVD
HILLIARD, OH 43026

SHEET 1 OF 1

Kove ENGINEERING
Site Development Engineering Services
Firm No. 11042
www.kloveengineering.com (210) 485-5683

STATE OF TEXAS
KEVIN WILLIAM LOVE
93563
LICENSED
PROFESSIONAL ENGINEER
07/07/26

DATE

REVISIONS:

OWNER:
CAMP BOW BOW SAN ANTONIO
2400 H.A. TAPATIERA
SAN ANTONIO, TEXAS 78261

# CAMP BOW WOW-NEW BRAUNFELS

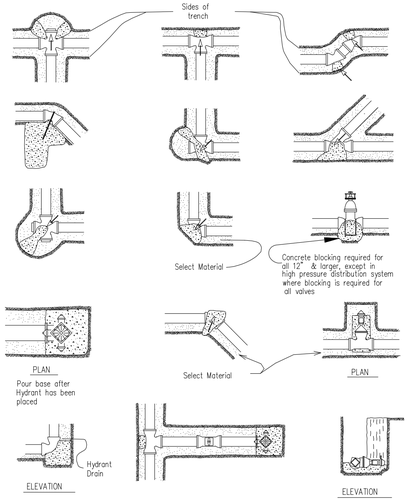
1450 N. BUSINESS 35
NEW BRAUNFELS, TX 78130

STORM WATER QUALITY PLAN

DESIGNED BY: AS
DRAWN BY: RQ
SCALE: 1"=20'
DATE: 06-16-26
SHEET NO.
**C5.2**

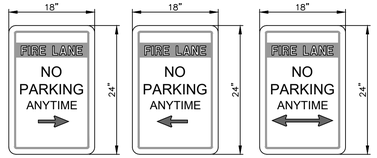
Know what's below. Call before you dig.

Date: Jul 16, 2026, 10:01am
Doc: K:\PROJECTS\1478-01 Camp Bow Wow NB\Drawings\C5.2 Water Quality Plan.dwg




## CONCRETE THRUST BLOCK DETAILS-WATER MAINS

NOT TO SCALE

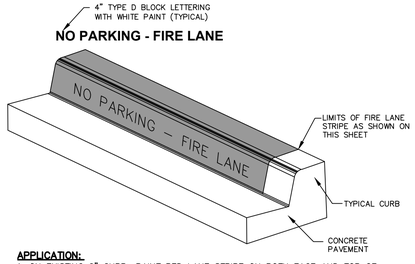



**NOTES:**

1. LETTERS AND BORDER IN RED ON WHITE BACKGROUND.
2. STANDARD SIZE OF SIGN SHALL BE 18"x24" AS SPECIFIED BY THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS (R7-35)
3. FIRE PLAN REVIEWER OR FIRE INSPECTOR WILL MAP OUT THE LOCATIONS AND NUMBER OF SIGNS REQUIRED.
4. BOTTOM OF EDGE OF THE SIGN MUST BE AT LEAST SEVEN (7) FEET ABOVE GRADE WHERE THE SIGN IS INSTALLED AND AT LEAST TWO (2) FEET FROM THE BACK OF CURB.

## FIRE LANE SIGN DETAIL

NOT TO SCALE

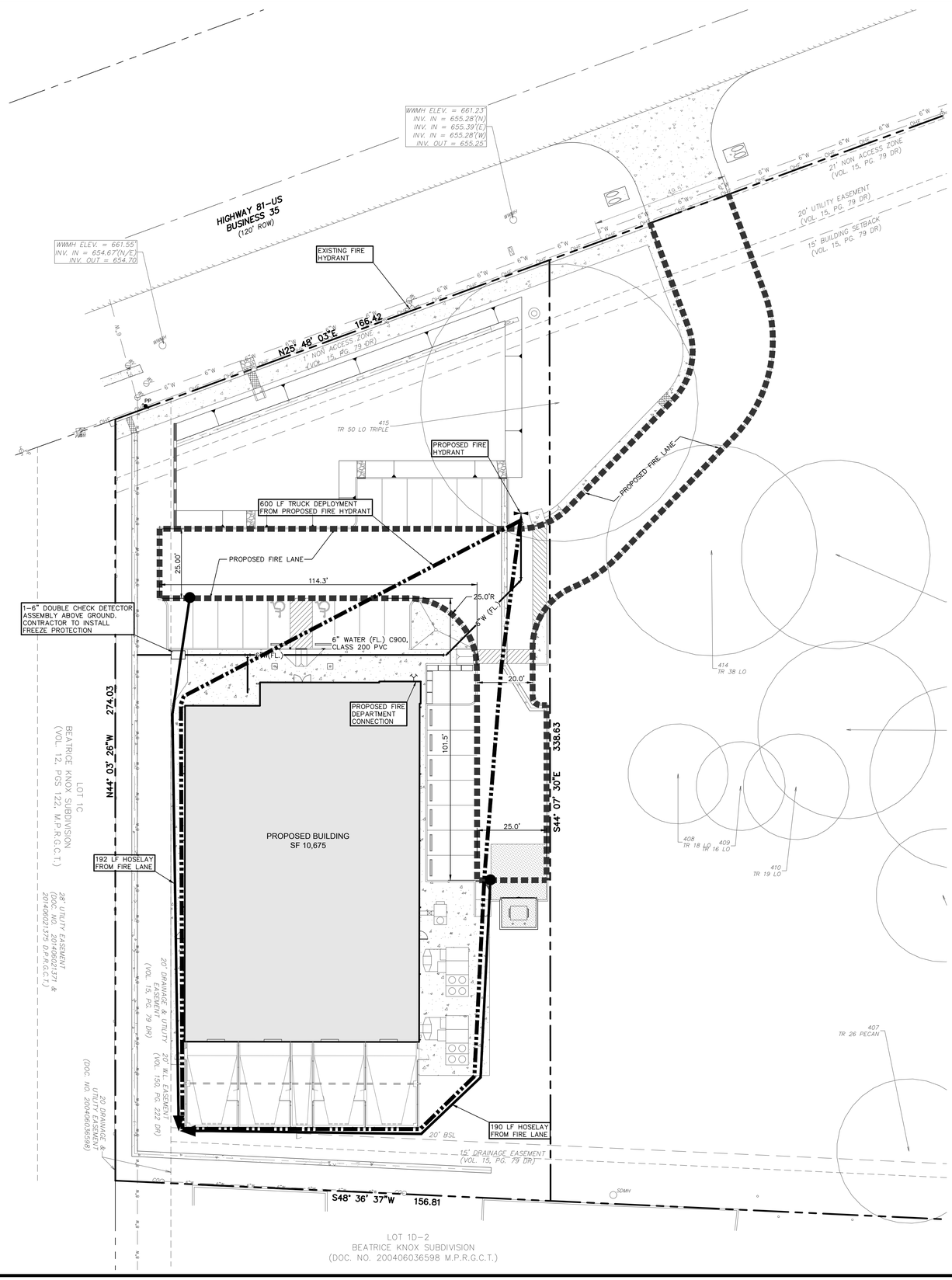



**APPLICATION:**

1. ON EXISTING 6" CURB: PAINT RED LANE STRIPE ON BOTH FACE AND TOP OF CURB PAINT WHITE LETTERS ON FACE OF CURB ONLY
2. WHERE NO CURB EXIST: PAINT A 6" WIDE RED STRIPE LOCATED 1.0' OFF EDGE OF PAVEMENT WITH 4" WHITE LETTER IN RED STRIPE.
3. SEE SITE PLAN FOR CURB TYPES AND LOCATIONS
4. NO MORE THAN 25 FEET SPACING BETWEEN WORDING.

## TYPICAL FIRE LANE MARKING DETAIL

NOT TO SCALE




SCALE: 1"=20'

20 10 0 20

## LEGEND

| EXISTING | PROPOSED | DESCRIPTION |
|---|---|---|
| | | PROPERTY (R.O.W.) LINE/ SUBDIVISION BOUNDARY |
| | | ADJACENT PROPERTY |
| (XXX) | | RECORD INFORMATION |
| | | BENCHMARK |
| LP | | LIGHT POLE |
| PP | | POWER POLE |
| | | DOWN GUY |
| T | | TRANSFORMER (SIZE VARIES) |
| | | FIRE HYDRANT |
| | | WATER VALVE |
| | | WATER METER |
| | WM | WATER METER VAULT |
| WTRMH | | WATER MANHOLE |
| | | TELEPHONE RISER |
| | | CABLE TV RISER |
| | | ELECTRIC BOX |
| | | ELECTRIC METER |
| | | GAS VALVE |
| | | GAS METER |
| TCB | TCB | TRAFFIC CONTROL BOX |
| TSP | TSP | TRAFFIC SIGNAL POST |
| GMKR | | UNDERGROUND GAS LINE MARKER |
| | | GREASE TRAP (SIZE VARIES) |
| SD | | STORMDRAIN LINE |
| W | XX"W | WATER LINE |
| FIRE | XX"FL | FIRE LINE |
| WW | XX"WW | WASTEWATER LINE |
| GAS | GAS | GAS LINE |
| OHE | OHE | OVERHEAD ELECTRIC (PRIMARY) |
| UGE | UGE | UNDERGROUND ELECTRIC (PRIMARY) |
| OHS | OHS | OVERHEAD ELECTRIC (SECONDARY) |
| UGS | UGS | UNDERGROUND ELECTRIC (SECONDARY) |
| UGT | UGT | UNDERGROUND TELEPHONE |
| UGC | UGC | UNDERGROUND CABLE |
| WWMH | WWMH | WASTEWATER MANHOLE (SIZE VARIES) |
| SDMH | SDMH | STORMDRAIN MANHOLE (SIZE VARIES) |
| TMH | TMH | TELEPHONE MANHOLE (SIZE VARIES) |
| | | FIRE DEPARTMENT CONNECTION |
| CO | CO | WASTEWATER CLEANOUT |
| | | CURB |
| | | HEADER CURB |
| | | SAWTOOTH CURB |
| | | RETAINING WALL |
| | | CHAINLINK FENCE |
| | | CONCRETE SIDEWALKS |
| 678 | 678 | CONTOUR |
| | | DIRECTION OF FLOW |
| | X785.00TC | SPOT ELEVATION/TOP OF CURB |
| X785.50 | X785.00 | SPOT ELEVATION |
| | | SWALE |
| | | CONCRETE PAVEMENT |
| | | ASPHALT PAVEMENT |
| | | HOSEPULL FROM HYDRANT |
| | | HOSEPULL FROM FIRELANE |
| | | FIRELANE |

## FIRE HYDRANT TABLE

| | |
|---|---|
| TYPE OF CONSTRUCTION | IIB |
| REQUIRED FLOW | 2,250 |
| NUMBER OF REQUIRED HYDRANTS | 2 |

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

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Date: Jul 16, 2026, 10:01am
File: K:\PROJECTS\14-Proj Camp Bow Wow NB\Drawings\C6.0 Fire Protection.dwg


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STATE OF TEXAS
KEVIN WILLIAM LOVE
93563
LICENSED
PROFESSIONAL ENGINEER
07/07/26

DATE

REVISIONS:

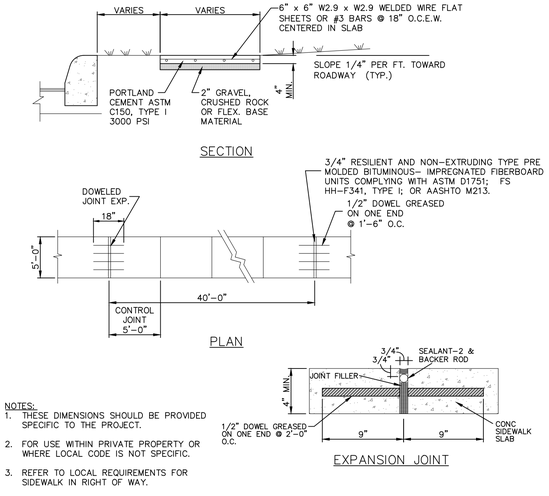
OWNER:
CAMP BOW SAN ANTONIO
2401A LA TAPICERIA
SAN ANTONIO, TEXAS 78261

# CAMP BOW WOW-NEW BRAUNFELS

1450 N. BUSINESS 35
NEW BRAUNFELS, TX 78130

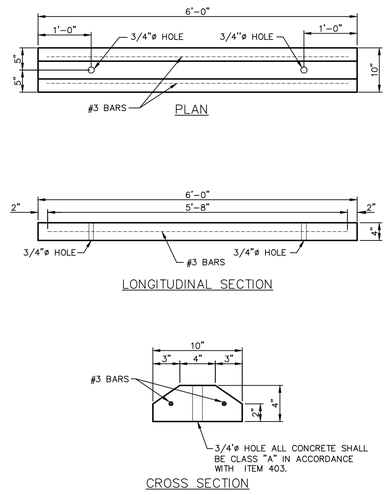
FIRE PROTECTION PLAN

| | |
|---|---|
| DESIGNED BY: | AS |
| DRAWN BY: | RQ |
| SCALE: | 1"=20' |
| DATE: | 06-16-26 |
| SHEET NO. | C6.0 |

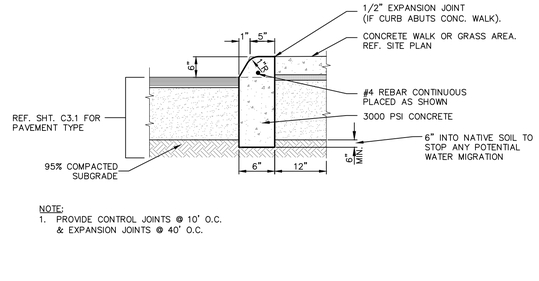



NOTES:
1. THESE DIMENSIONS SHOULD BE PROVIDED SPECIFIC TO THE PROJECT.
2. FOR USE WITHIN PRIVATE PROPERTY OR WHERE LOCAL CODE IS NOT SPECIFIC.
3. REFER TO LOCAL REQUIREMENTS FOR SIDEWALK IN RIGHT OF WAY.

**C7.0.1 CONCRETE SIDEWALK DETAIL**
NOT TO SCALE

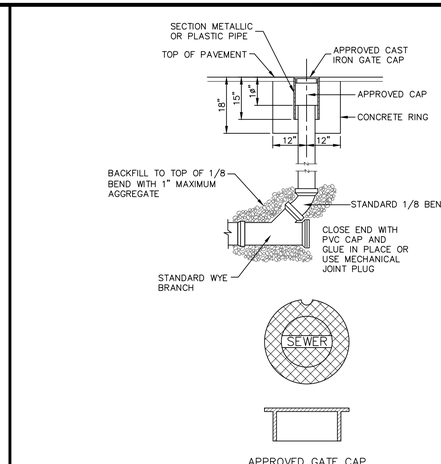



**C7.0.2 WHEEL STOP DETAIL**
NOT TO SCALE

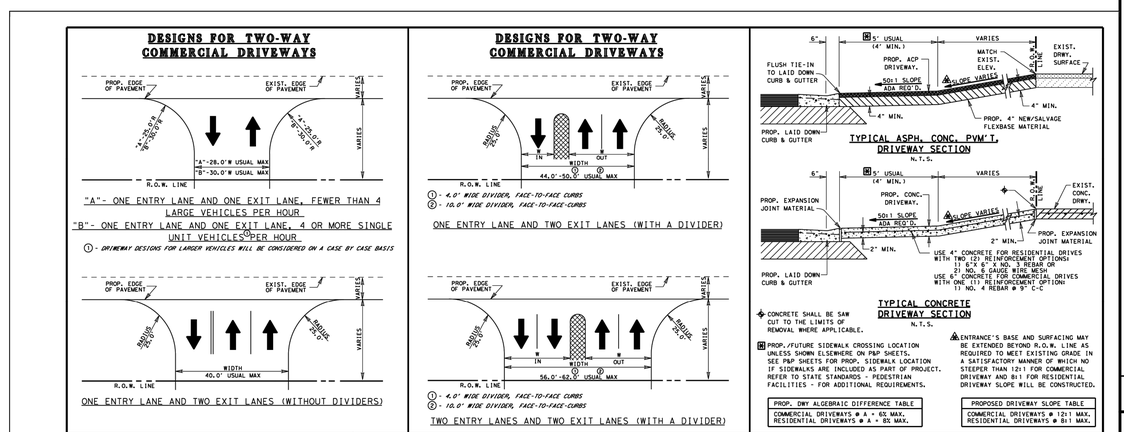



NOTE:
1. PROVIDE CONTROL JOINTS @ 10' O.C. & EXPANSION JOINTS @ 40' O.C.

**C7.0.3 CONCRETE CURB**
NOT TO SCALE




**C7.0.4 CLEAN-OUT DETAIL**
NOT TO SCALE




LF EQUIVALENT TABLE FOR PAYMENT LIMITS OF 2' VALLEY GUTTER

| LF OF VALLEY GUTTER= W + X1 + X2 | |
|---|---|
| WHERE X1 AND X2 MAY VARY DEPENDING ON RADIUS | |
| Prop. Driveway Radius | X1 or X2 (Sq Ft Area / 2') Equivalent LF Length |
| 5' | 1 |
| 8' | 2 |
| 10' | 4 |
| 12' | 6 |
| 15' | 9 |
| 18' | 12 |
| 20' | 15 |
| 22' | 18 |
| 25' | 24 |
| 28' | 30 |
| 30' | 34 |

SEE DRIVEWAY TABLE FOR LIMITS OF LAID DOWN CURB TO BE PAID FOR AS CURB AND GUTTER

**DRIVEWAY TYPES**

TX RR-1
EXIST. PRIVATE OR COMMERCIAL DRIVEWAYS TO BE CONSTRUCTED AS SHOWN WITH 4" NEW AND/OR SALVAGE FLEX. BASE, PRIMED AND SURFACED WITH 1"(HMA-D PG 64-22 SAC B MEETING ITEM 340)

CONCRETE (RESIDENTIAL)
EXIST. PRIVATE DRIVEWAYS TO BE CONSTRUCTED AS SHOWN WITH 4" CONCRETE. TO BE PAID FOR BY THE SQ.YD.

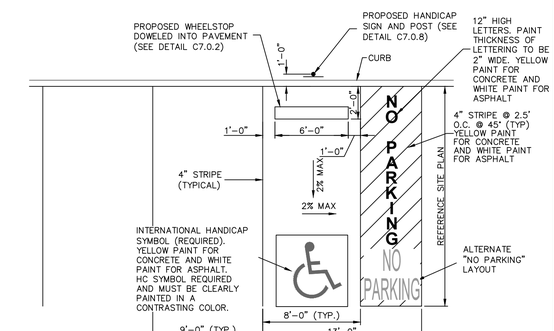
CONCRETE (COMMERCIAL)
EXIST. BUSINESS DRIVEWAYS TO BE CONSTRUCTED AS SHOWN WITH 6" CONCRETE. TO BE PAID FOR BY THE SQ.YD.

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TEXAS DEPARTMENT OF TRANSPORTATION
DRIVEWAY DETAILS PRIVATE (RESIDENTIAL-COMMERCIAL)
REV. 08/22 DRIVEWAY2.DCN

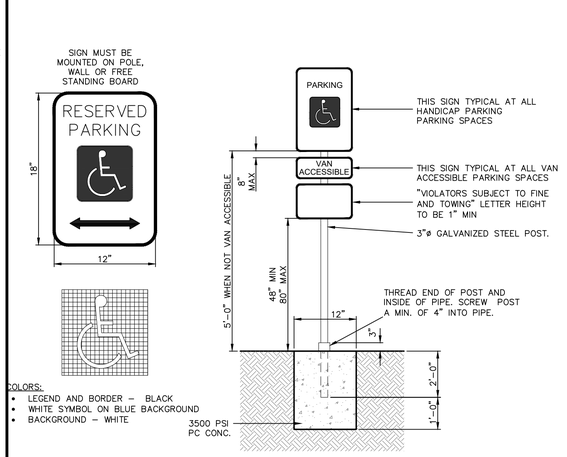
| CONT. | SECT. | JOB | HIGHWAY NO. |
|---|---|---|---|
| STATE | DIST. | COUNTY | |
| TEXAS | 21 | | |

**C7.0.5 TXDOT DRIVEWAY DETAIL**
NOT TO SCALE

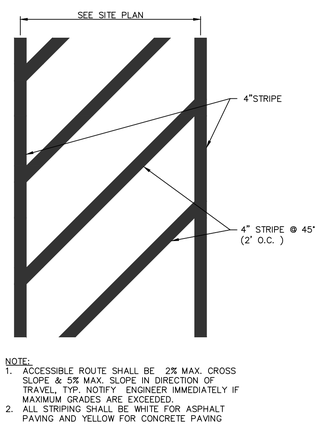



NOTES:
1. ALL WALKWAYS, RAMPS AND HANDICAP PARKING SIGNAGE, ETC. SHALL MEET CURRENT ADA & TAS RULES.
2. 2% MAXIMUM SLOPE IN ALL DIRECTIONS IN AREAS OF HANDICAP PARKING SPACES.
3. UPON COMPLETION OF CONSTRUCTION OF THE SITE AND BUILDING, OWNER MUST SCHEDULE AN INSPECTION FOR TAS COMPLIANCE.

**C7.0.6 HANDICAP PARKING STALL DETAIL**
NOT TO SCALE

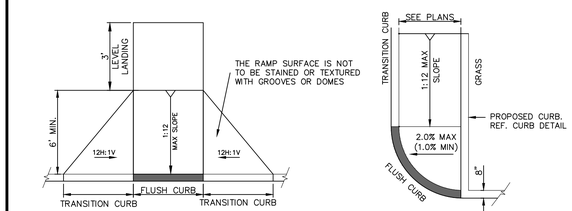



**C7.0.7 HANDICAP SIGN DETAIL**
NOT TO SCALE




NOTE:
1. ACCESSIBLE ROUTE SHALL BE 2% MAX. CROSS SLOPE & 5% MAX. SLOPE IN DIRECTION OF TRAVEL, TYP. NOTIFY ENGINEER IMMEDIATELY IF MAXIMUM GRADES ARE EXCEEDED.
2. ALL STRIPING SHALL BE WHITE FOR ASPHALT PAVING AND YELLOW FOR CONCRETE PAVING

**C7.0.8 CROSSWALK STRIPING DETAIL**
NOT TO SCALE




NOTE:
1. ALL RAMPS SHALL MEET ADA AND TAS STANDARD CRITERIA.
2. CONCRETE DESIGN AND THICKNESS PER SIDEWALK DETAIL.
3. CURB RAMPS WITHOUT WINGS SHALL ONLY BE USED WHERE PEDESTRIANS WOULD NOT NORMALLY WALK PERPENDICULAR ACROSS THE RAMP.
4. FLUSH CURB NEEDED IF PAVING IS ASPHALT. IF PAVING IS CONCRETE THEN THERE IS NO NEED FOR A FLUSH CURB ONLY CONCRETE PAVING

**C7.0.9 CURB RAMP DETAIL**
NOT TO SCALE


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LICENSED PROFESSIONAL ENGINEER
07/07/26

DATE
REVISIONS:

OWNER:
CAMP BOW BOW SAN ANTONIO
24015 LA TAPICERIA
SAN ANTONIO, TEXAS 78261

**CAMP BOW WOW-NEW BRAUNFELS**
1450 N. BUSINESS 35
NEW BRAUNFELS, TX 78130
SITE DETAILS

DESIGNED BY: AS
DRAWN BY: RQ
SCALE: 1"=20'
DATE: 06-16-26
SHEET NO.
**C7.0**


Date: Jul 16, 2026, 10:01am
User: KENDOCS1
File: G:\Projects\1478-01 Camp Bow Wow NB\Drawings\C7.0 Site Details.dwg

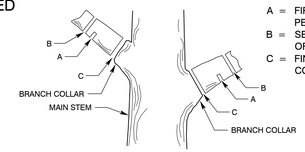
## EXISTING TREE LEGEND

007 = EXISTING PROTECTED TREE TO BE REMOVED

007 = EXISTING EXEMPT TREE TO BE REMOVED

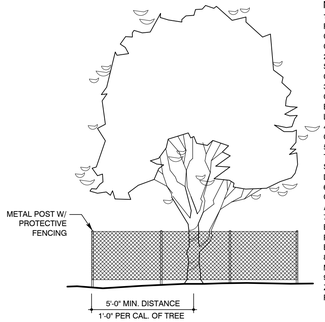
007 = EXISTING OFF-SITE TREE

PRUNING NOTES:
1. ALL PRUNING IS TO BE DONE BY A LICENSED ARBORIST UNDER THE FIELD DIRECTION OF THE OWNER AND/OR LANDSCAPE ARCHITECT.
2. WHERE FEASIBLE, PRUNE TREES BEFORE COMMENCEMENT OF CONSTRUCTION.
3. PAINT ALL WOUNDS ON OAK TREES WITHIN 30 MINUTES OF PRUNING.




A = FIRST CUT. TO PREVENT BARK FROM PEELING WHEN THE BRANCH FALLS.
B = SECOND CUT. TO REDUCE THE WEIGHT OF THE BRANCH.
C = FINAL CUT. ALLOW FOR A HEALING COLLAR BUT DO NOT LEAVE A STUB.

## TREE PRUNING DETAIL
NOT TO SCALE




## TREE PROTECTION DETAIL
NOT TO SCALE

NOTES:
1. LANDSCAPE SUBCONTRACTOR TO PROVIDE PRUNING AND FERTILIZATION FOR ALL EXISTING TREES TO BE PRESERVED BY A CITY OF SAN ANTONIO TREE MAINTENANCE LICENSED AND I.S.A CERTIFIED ARBORIST.
2. APPLY APPROVED SLOW-RELEASE FERTILIZER INJECTED INTO SOIL BEFORE CONSTRUCTION COMMENCES AND AGAIN AFTER CONSTRUCTION IS COMPLETE.
3. ALL PRUNING OF EXISTING TREES MUST COMPLY WITH THE CITY OF SAN ANTONIO'S APPROVED PRUNING DETAIL AND IS TO BE DONE UNDER THE FIELD DIRECTION OF THE OWNER AND/OR LANDSCAPE ARCHITECT.
4. PROTECTIVE FENCING MUST BE IN PLACE BEFORE ANY CONSTRUCTION ACTIVITIES MAY COMMENCE.
5. PROTECTIVE FENCING TO BE A MIN. 4'-0" HT. EXTENDING FROM TRUNK 12" PER CALIPER INCH OF TREE (MINIMUM 5'-0" ON ONE SIDE ONLY). THE OPTIMUM DISTANCE IS TO INSTALL FENCE DIRECTLY BENEATH DRIPLINE OF TREE AS SHOWN.
6. PROTECTIVE FENCING TO BE STAKED IN FIELD BY CONTRACTOR AND APPROVED BY OWNER AND/OR LANDSCAPE ARCHITECT.
7. DURING CONSTRUCTION, NO EXCESS SOIL, FILL MATERIAL, EQUIPMENT, LIQUIDS, OR CONSTRUCTION DEBRIS SHALL BE PLACED WITHIN THE PROTECTIVE FENCING, NOR SHALL ANY SOIL BE REMOVED FROM WITHIN THE FENCING.
8. APPLY COARSE GROUND OR SHREDDED ORGANIC BARK MULCH TO 6" DEPTH @ ALL EXISTING TREES TO BE PRESERVED.
9. THE PROPOSED FINISH GRADE WITHIN THE ROOT PROTECTION ZONE ("RPZ") OF ANY TREE TO BE PRESERVED SHALL NOT BE RAISED OR LOWERED MORE THEN THREE (3) INCHES.

## EXISTING TREE PRESERVATION AND REMOVAL NOTES:

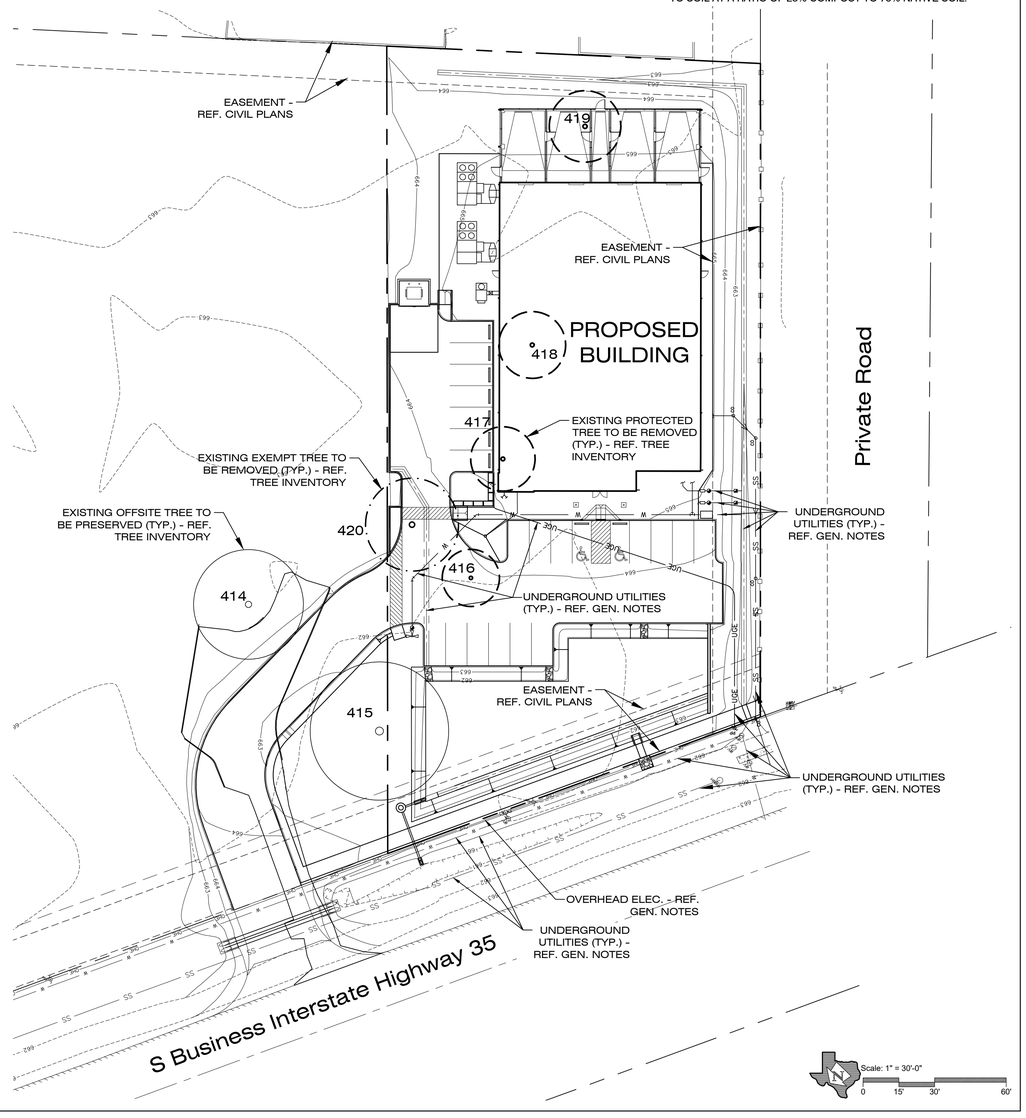
1. UNLESS OTHERWISE SPECIFICALLY INDICATED, THIS DOCUMENT SHOWS ONLY EXISTING PROTECTED-SIZE TREES AS DEFINED BY THE CITY OF SAN ANTONIO UNIFIED DEVELOPMENT CODE (THE "UDC") IN EFFECT ON THE DATE HEREOF.
2. CONTRACTOR IS SOLELY RESPONSIBLE FOR INSPECTING THE PROJECT SITE AND DETERMINING FOR HIMSELF IF OTHER EXISTING TREES, SHRUBS, OR VEGETATION ARE PRESENT WHICH MUST BE REMOVED IN ORDER TO CONSTRUCT THE IMPROVEMENTS PROPOSED HEREBY.
3. BY ACT OF SUBMITTING A BID TO REMOVE THE EXISTING TREES SHOWN ON THIS PLAN, CONTRACTOR WARRANTS THAT HE (A) HAS PERSONALLY VISITED THE PROJECT SITE, (B) HAS INVESTIGATED THE EXISTING CONDITIONS SUFFICIENTLY TO DETERMINE WHAT, IF ANY, ADDITIONAL EXISTING TREES, SHRUBS, AND VEGETATION MUST BE REMOVED IN ORDER TO CONSTRUCT THE IMPROVEMENTS PROPOSED HEREBY, AND (C) HAS A CLEAR UNDERSTANDING OF THE TERMS "PROTECTED TREE, SIGNIFICANT TREE, HERITAGE TREE, AND FLOOD PLAIN, AND OF ANY OTHER CITY GUIDELINES, STANDARDS, AND REQUIREMENTS WHICH MAY IMPACT REMOVAL OF THE EXISTING TREES DEPICTED ON THIS PLAN.
4. IN THE EVENT CONTRACTOR ENCOUNTERS ADDITIONAL EXISTING TREES, SHRUBS, AND VEGETATION NOT SHOWN ON THIS PLAN, BUT WHICH MUST REASONABLY BE REMOVED IN ORDER TO CONSTRUCT THE IMPROVEMENTS PROPOSED HEREBY, CONTRACTOR SHALL REMOVE THE ADDITIONAL EXISTING TREES, SHRUBS, AND VEGETATION AT NO ADDITIONAL COST TO THE OWNER, SUBJECT TO ANY APPLICABLE REQUIREMENTS, GUIDELINES, STIPULATIONS, OR APPROVALS ENFORCED BY THE CITY OF SAN ANTONIO.
5. ALL NEW TREES SHALL BE PLANTED IN SOIL THAT IS SUITABLE FOR ESTABLISHING AND SUSTAINING THE PLANTINGS. IN ADDITION TO CONTAINING SUITABLE PARTICLE SIZE AND DEPTH OF SOIL ZONE, THE SOIL MUST CONTAIN SUFFICIENT ORGANICE MATTER AND NUTRIENTS. TESTING AND CONFIRMATION BY A LANDSCAPE ARCHITECT OR A TEXAS LICENSED SOIL TESTING LAB SHALL BE COMPLETED TO ENSURE THE SUITS ARE SUITABLE. IN LIEU OF CONFIRMATION BY A LANDSCAPE ARCHITECT OR A TEXAS LICENSED SOIL TESTING LAB, AMEND SOIL WITH COMPOST BY ADDING 3" OF COMPOST BLENDED INTO EVERY ONE (1) FOOT OF SOIL DEPTH. FOR COMPLETE SOIL REPLACEMENT, ADD COMPOST TO SOIL AT A RATIO OF 25% COMPOST TO 75% NATIVE SOIL.

## EXISTING PROTECTED TREE INVENTORY

April 10, 2026

| TAG # | SPECIES | SIZE CALIPER INCH | PROTECTED PRESERVED | PROTECTED REMOVED | HERITAGE PRESERVED | HERITAGE REMOVED | EXEMPT | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 414 | LIVE OAK | 38 | | | | | 38 | Offsite; Preserved |
| 415 | LIVE OAK | 50 | | | | | 50 | Offsite; Preserved |
| 416 | PECAN | 16 | | 16 | | | | |
| 417 | PECAN | 19 | | 19 | | | | |
| 418 | PECAN | 20 | | 20 | | | | |
| 419 | PECAN | 22 | | 22 | | | | |
| 420 | PECAN | 31 | | | | | 31 | Dead; Removed |
| **TOTALS** | | **196** | **0** | **77** | **0** | **0** | **119** | |

| **TREE PRESERVATION SUMMARY** | |
|---|---|
| TOTAL CAL. INCHES ON-SITE: | 196 |
| Total Cal. Inches Exempt: | 119 |
| PROTECTED CAL. INCHES ON-SITE: | 77 |
| Protected Cal. Inches Preserved: | 0 |
| Protected Cal. Inches Removed | 77 |
| HERITAGE CAL. INCHES ON-SITE: | 0 |
| Heritage Cal. Inches Preserved: | 0 |
| Heritage Cal. Inches Removed: | 0 |
| TOTAL CAL. INCHES REMOVED: | 77 |
| Half of Total Aggregate Value | **50%** |
| **TOTAL EXCESS / (MITIGATION)** | (39) |





Open studio architecture
6122 DeZavala Rd.
San Antonio, Texas 78249
Tel: 210.417.4307
www.openstudio-usa.com


REGISTERED LANDSCAPE ARCHITECT JASON ROBINSON 2375 STATE OF TEXAS
7.15.26

| Revisions | | |
|---|---|---|
| Number | Description | Date |


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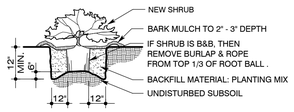

**CAMP BOW WOW**

N. Elliot Know Blvd.
New Braunfels, TX

project #: 26.001
date: 07 / 15 / 26
drawn by: jh
checked by: jr
drawing title: **TREE PRESERVATION PLAN**
drawing number:

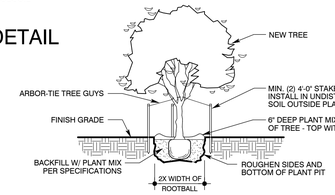
# TP1.0

| BOULDER SCHEDULE | | | |
|---|---|---|---|
| SYM. | SPECIFICATION | SIZE | QTY. |
| A | MOSSROCK BOULDER | 5' x 3' x 3' | 1 |
| B | MOSSROCK BOULDER | 4' x 3' x 2' | 1 |




## SHRUB PLANTING DETAIL

NEW SHRUBS
1/8" = 1'-0"




## TREE PLANTING DETAIL

NEW TREES
1/8" = 1'-0"

| PLANT SCHEDULE | | | | | | | SIZE = CALIPER OR SPREAD |
|---|---|---|---|---|---|---|---|
| SYM. | SCIENTIFIC NAME | COMMON NAME | HGT. | SIZE | CONDITION | REMARKS | |
| **TREES** | | | | | | | |
| MG | Magnolia grandiflora 'Little Gem' | MAGNOLIA | - | 3" CAL. | B and B | DECIDUOUS / SINGLE STEM | |
| PM | Platanus mexicana | MEXICAN SYCAMORE | - | 3" CAL. | B and B | DECIDUOUS / SINGLE STEM | |
| TM | Taxodium mucronatum | MONTEZUMA CYPRESS | - | 3" CAL. | B and B | DECIDUOUS / SINGLE STEM | |
| UC | Ulmus crassifolia | CEDAR ELM | - | 3" CAL. | B and B | DECIDUOUS / SINGLE STEM | |
| **SHRUBS** | | | | | | | |
| AA | Agave americana | CENTURY PLANT | - | 5 GAL. | | ACCENT / PLANT AS SHOWN | |
| LMY | Lantana montevidensis 'New Gold' | 'NEW GOLD' LANTANA | - | 1 GAL. | | PERENNIAL / PLANT AT 30" O.C. | |
| ML | Muhlenbergia lindheimeri | DEER GRASS | - | 5 GAL. | | ACCENT / PLANT AS SHOWN | |
| SG | Salvia greggii | RED SALVIA | - | 3 GAL. | | EVERGREEN / PLANT AT 30" O.C. | |
| SL | Salvia leucantha | MEXICAN BUSH SAGE | - | 5 GAL. | | EVERGREEN / PLANT AT 3'-0" O.C. | |
| **GROUNDCOVERS AND GRASSES** | | | | | | | |
| | Cynodon dactylon '419' | '419' HYBRID BERMUDAGRASS | - | | SOLID SOD | SEE SPECIFICATIONS | |
| | Cynodon dactylon 'Blackjack' | 'BLACKJACK' BERMUDAGRASS | - | | HYDROMULCH | SEE SPECIFICATIONS | |
| | | DECOMPOSED GRANITE | - | | | APPLY TO 3" COMPACTED DEPTH OVER SUBGRADE W/ GEO-TEXTILE WEED BARRIER AND PRE-EMERGENT HERBICIDE. FILL UNDER ADJACENT SHRUBS. | |
| | | 3" - 4" 'TEXAS BLEND' RIVER ROCK | - | | | APPLY TO 4" DEPTH OVER COMPACTED SUBGRADE W/ GEO-TEXTILE WEED BARRIER AND PRE-EMERGENT HERBICIDE. FILL UNDER ADJACENT SHRUBS. | |

### GENERAL NOTES:

1. REFER TO SPECIFICATIONS FOR ALL CONTRACT PLANTING.
2. INSTALL APPROVED IMPORTED PLANTING MIX TO MIN. DEPTH OF 6" IN ALL AREAS SCHEDULED AS LANDSCAPE PLANTING AREAS.
3. INSTALL APPROVED IMPORTED TOPSOIL TO 4" DEPTH IN ALL TURFGRASS AREAS.
4. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL QUANTITIES IN THE FIELD PRIOR TO INSTALLATION AND MUST REPORT ANY DEVIATION IN SITE CONDITIONS TO THE LANDSCAPE ARCHITECT BEFORE PROCEEDING WITH WORK IN THE AFFECTED AREA.
5. WHERE SHOWN ON THESE PLANS, UTILITY INFORMATION IS PROVIDED FOR REFERENCE ONLY. REF. CIVIL AND MEP PLANS FOR ALL UTILITY INFORMATION.
6. VERIFY LOCATION AND DEPTH OF ALL EXISTING AND PROPOSED UTITILIES PRIOR TO ANY EXCAVATION. IN THE EVENT POTENTIAL CONFLICT(S) OCCUR BETWEEN UTILITIES AND LANDSCAPE IMPROVEMENTS, IMMEDIATELY CEASE WORK IN THE AFFECTED AREA, REPORT THE CONFLICT(S) TO THE OWNER'S REPRESENTATIVE, AND DO NOT PROCEED UNTIL RECEIPT OF SPECIFIC WRITTEN DIRECTION.

### URBAN DEER NOTES:

1. AT THE TIME THESE DOCUMENTS WERE PREPARED THE LANDSCAPE ARCHITECT WAS NOT AWARE OF A LOCAL URBAN DEER POPULATION.
2. IN THE EVENT AN URBAN DEER POPULATION IS DISCOVERED, CONTRACTOR IS SOLELY RESPONSIBLE FOR PROTECTING ALL NEWLY-INSTALLED PLANTS THROUGH THE 30-DAY MAINTENANCE PERIOD.
3. APPLY "LIQUID FENCE" (OR APPROVED EQUAL) TO ALL PLANTS AS NEEDED TO DISCOURAGE BROWSING BY DEER.
4. ANY NEWLY-INSTALLED PLANTS EATEN OR BROWSED BY DEER PRIOR TO THE EXPIRATION OF THE 30-DAY MAINTENANCE PERIOD SHALL BE REPLACED BY THE CONTRACTOR AT NO COST TO THE OWNER.

### OVERHEAD ELECTRIC NOTES:

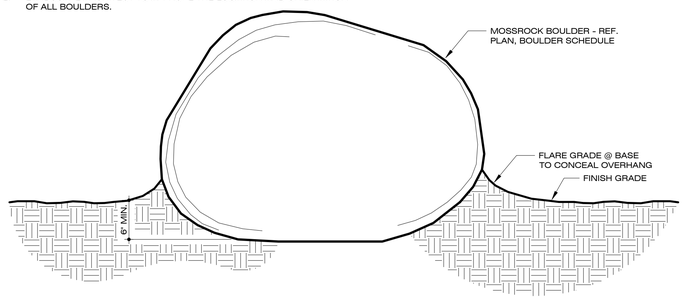
1. ALL PROPOSED LARGE SPECIES TREES (AS DEFINED BY THE UNIFIED DEVELOPMENT CODE IN EFFECT HEREOF) SHALL BE PLANTED NO CLOSER THAN 20' TO ALL OVERHEAD ELECTRIC UTILITY LINES.
2. CONTRACTOR IS SOLELY RESPONSIBLE FOR FIELD LOCATING ALL OVERHEAD ELECTRIC UTILITY LINES AND ENSURING THAT NO LARGE SPECIES TREES ARE PLANTED WITHIN 20' OF ANY OVERHEAD ELECTRIC UTILITY LINES.
3. WHERE CITY INSPECTORS FIND ANY PROPOSED LARGE SPECIES TREES TO BE IN VIOLATION OF PROXIMITY TO OVERHEAD ELECTRIC UTILITY LINES, THE CONTRACTOR SHALL RELOCATE TREES AT NO ADDITIONAL COST TO THE OWNER.

### COMPOST NOTES:

1. ALL NEW TREES SHALL BE PLANTED IN SOIL THAT IS SUITABLE FOR ESTABLISHING AND SUSTAINING THE PLANTINGS. IN ADDITION TO CONTAINING SUITABLE PARTICLE SIZE AND DEPTH OF SOIL ZONE, THE SOIL MUST CONTAIN SUFFICIENT ORGANICE MATTER AND NUTRIENTS.
2. TESTING AND CONFIRMATION BY A LANDSCAPE ARCHITECT OR A TEXAS LICENSED SOIL TESTING LAB SHALL BE COMPLETED TO ENSURE THE SUITS ARE SUITABLE.
3. IN LIEU OF CONFIRMATION BY A LANDSCAPE ARCHITECT OR A TEXAS LICENSED SOIL TESTING LAB, AMEND SOIL WITH COMPOST BY ADDING 3" OF COMPOST BLENDED INTO EVERY ONE (1) FOOT OF SOIL DEPTH.
4. FOR COMPLETE SOIL REPLACEMENT, ADD COMPOST TO SOIL AT A RATIO OF 25% COMPOST TO 75% NATIVE SOIL.

### MOSSROCK BOULDER NOTES:

1. PRIOR TO ORDERING OR DELIVERING MATERIALS TO THE PROJECT SITE, SUBMIT FOR OWNER'S REVIEW AND APPROVAL THE FOLLOWING:
   A. PROPOSED LOCAL SOURCE FOR BOULDERS
   B. FULL COLOR DIGITAL PHOTOS OF PROPOSED BOULDERS
2. LANDSCAPE ARCHITECT TO APPROVE THE LOCATION AND ORIENTATION OF ALL BOULDERS.




## MOSSROCK BOULDER 1

SCALE: 1" = 1'-0"

### LANDSCAPE ORDINANCE COMPLIANCE

**1. STREET FRONTAGE LANDSCAPE BUFFER**
PROVIDED AS REQUIRED

**2. STREET FRONTAGE TREES AND SHRUBS**
NOT REQUIRED DUE TO PARKING LOT NOT BEING ADJACENT OR WITHIN 50 FEET OF THE PUBLIC STREET RIGHT-OF-WAY

**3. PARKING LOT SHADING**
(1) TREE PER (14) PARKING SPACES
TOTAL PARKING SPACES = 22 / 14 PARKING SPACES = 2 TREES REQUIRED
TOTAL PARKING TREES PROVIDED= 2 TREES PROVIDED

**4. TURF**
TOTAL PARKING LOT LANDSCAPE AREA 1470 SF X 30% = 441 SF MAXIMUM
TOTAL PARKING LOT SOD PROVIDED: 0 SF (0%)

**5. RESIDENTIAL BUFFER**
NOT REQUIRED

TREE MITIGATION SUMMARY

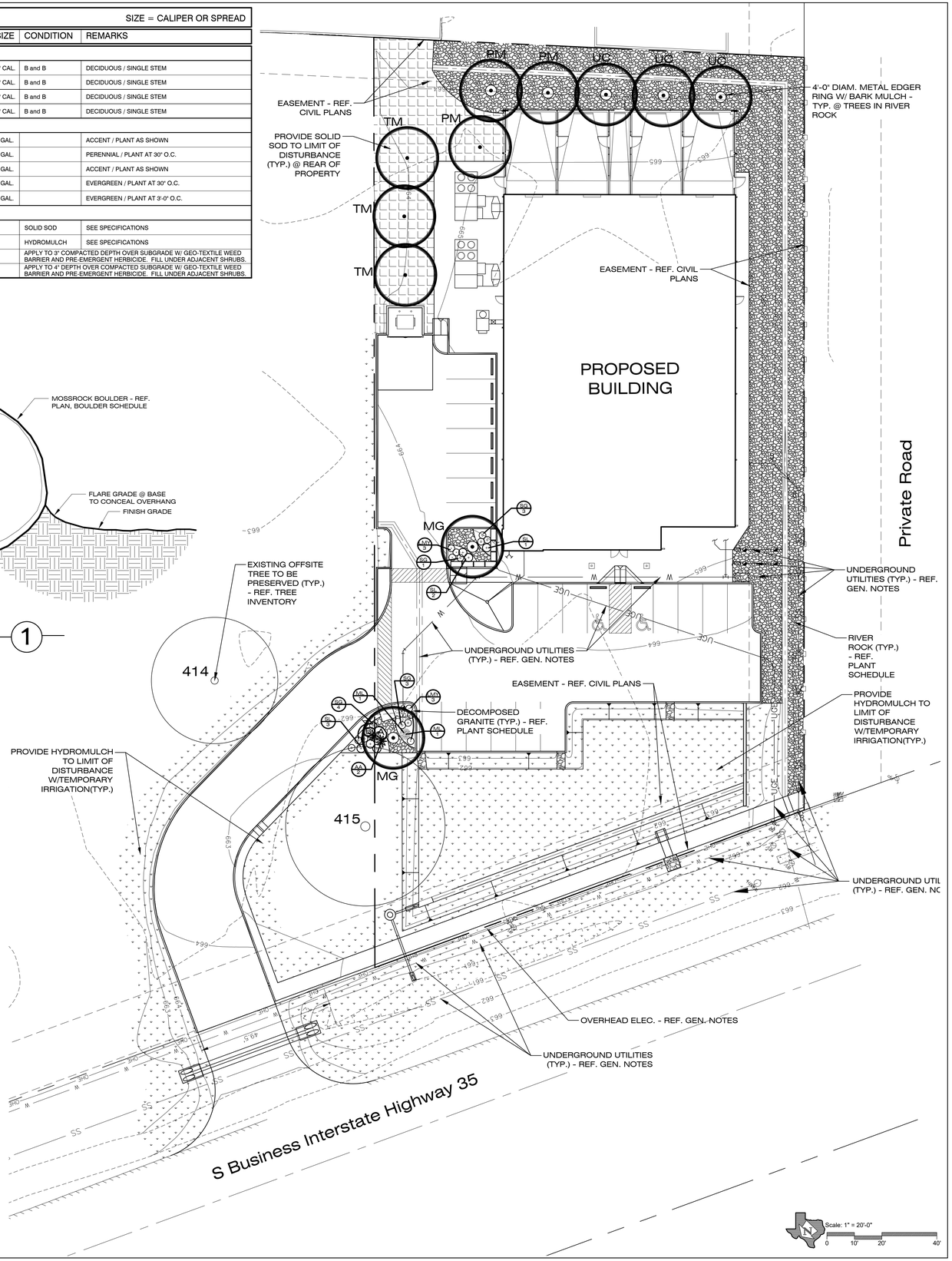
**MITIGATION REQUIRED PER TREE INVENTORY: 39.0 Cal. Inches**

MITIGATION PROVIDED:

FULL CREDIT NEW TREES:

(3) 3" MONTEZUMA CYPRESS: 9 Cal. Inches
(3) 3" MEXICAN SYCAMORES: 9 Cal. Inches
(3) 3" CEDAR ELMS: 9 Cal. Inches

**TOTAL MITIGATION PROVIDED: 27.0 Cal. Inches**
**NET MITIGATION REQUIRED: 12 Cal. Inches**
x $175 per Cal. Inch (Protected): $2100 Due to City Tree Mitigation Fund





Open studio architecture
6122 DeZavala Rd.
San Antonio, Texas 78249
Tel: 210.417.4307
www.openstudio-usa.com


REGISTERED LANDSCAPE ARCHITECT
JON ROBINSON
2375
STATE OF TEXAS
7.15.26

| Revisions | | |
|---|---|---|
| Number | Description | Date |


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**CAMP BOW WOW**

N. Elliot Know Blvd.
New Braunfels, TX

project #: 26.001
date: 07 / 15 / 26
drawn by: jh
checked by: jr
drawing title: **LANDSCAPE PLANTING PLAN**
drawing number: **L1.0**

PART 1 - GENERAL

1.1 Work Included
A. Place and spread topsoil and planting mix.
B. Install edging at planter areas.
C. Excavate and prepare plant pits.
D. Place plants in pits and backfill with planting mix.
E. Prune plants.
F. Apply mulch to planter areas.
G. Install solid sod, hydromulch, or seed mix.
H. Guarantee plants.
I. Inspect plants during the Guarantee Period.

1.2 Reference Standards
A. Nomenclature and size. All plants must be true to name and size in conformance with the following standards:
B. American Joint Committee on Horticultural Nomenclature, 1942 ed. of Standardized Plant Names (Mount Pleasant Press, J. Horace McFarland Co., Harrisburg PA)
C. American Standard of Nursery Stock, 1973 ed. (American Association of Nurserymen, Inc., Washington DC)

1.3 Submittals
A. Submit weed control program in accordance with Sec. 01300
1. Indicate chemicals to be employed, manufacturer's printed instructions as to dilution and application, solution strength, application method, rates, and frequency, and frequency of manual weeding.
2. Submit chemical manufacturer's written certificate that material proposed for use meets local, state, and federal regulations for the type of material proposed and that the material is not toxic to humans and animals if applied per the manufacturer's written instructions.
B. Submit topsoil sample (min. 1-gal. bag) in accordance with Sec. 01300
1. Indicate topsoil supplier source.
2. Provide laboratory test results indicating compliance w/ topsoil composition requirements.
C. Submit planting mix sample (min. 1-gal. bag) in accordance with Sec. 01300
1. Indicate planting mix supplier source.
2. Provide laboratory test results indicating compliance w/ planting mixl composition requirements
D. Submit bark mulch sample (min. 1-gal. bag) in accordance with Sec. 01300
1. Indicate bark mulch supplier source.
E. Submit decomposed granite sample (min. 1-gal. bag) in accordance with Sec. 01300
1. Indicate decomposed granite supplier source.
F. Submit river rock sample (min. 1-gal. bag) in accordance with Sec. 01300
1. Indicate river rock supplier source.
F. Submit irrigation system product data in accordance with Sec. 01300.
1. Provide manufacturers' cut sheets indicating compliance with all equipment specified in the Irrigation Plans

1.4 Product Delivery, Storage, and Handling
D. Handle and store all materials in such a manner as to prevent damage.

1.5 Existing Conditions
A. Prior to commencement of work, investigate the site, locate and identify all existing underground utilities that may conflict with the installation of the work described in the contract documents, and notify the Landscape Architect of the conflict and do not proceed with construction in the affected area without specific direction.
B. Protect identified utilities from damage during installation.

1.6 Guarantee
A. All plants will be guaranteed against defects, including death and unsatisfactory growth, for a period of 12 months following the date of Substantial Completion. If replacement plants are installed, they will be guaranteed for an additional 12 months following their installation.

1.7 Responsibilities of Owner and Contractor
A. The Contractor will provide monthly inspections of the project during construction and the guarantee period and immediately provide to the Owner and the Landscape Architect a written report identifying any irregularities which affect the guarantee.
B. The Contractor will monitor any construction, whether conducted by other trades or the Owner's employees, adjacent to new and existing plants. The Contractor will identify and document any damage to the plants and immediately notify the Landscape Architect of same. The Contractor will replace any damaged plants at no expense to the Owner. Any reimbursement from other trades or contractors shall be the sole responsibility of the Contractor.
C. The Contractor will remove and replace all dead plants.
D. The Contractor will ensure all plants are installed in an upright position and to proper finish grade and will reset any plants not installed accordingly.
E. The Contractor will have the sole responsibility for ensuring that all plants are maintained and watered adequately.

1.8 Final Inspection
A. At the conclusion of the guarantee period, the Landscape Architect will inspect the planting to assess the final acceptance of the installation. Only plants that are alive and healthy will be accepted. The Contractor will replace any plants that are dead or, in the sole opinion of the Landscape Architect, in an unhealthy or unsightly condition or have lost their natural form due to dead or removed branches. The Contractor will bear the cost of replacing any plants.

1.9 Quality Assurance
A. Before entering into a contract with any subcontractor, the General Contractor will investigate the proposed subcontractor's reputation and ability to perform the work and determine whether the subcontractor is stable, reputable, and skilled in this area of work. The General Contractor will require and review a minimum of the following submittals:
1. Experience. The subcontractor will be a single firm specializing in landscape installation with a minimum 5 years documented experience. Documentation will demonstrate a minimum 10 installations of equal or greater size. The subcontractor will furnish the name, address, and telephone number for both the General Contractor and Owner on these projects, as well as the contract price, the company name under which the work was performed, and completion date.
2. Personnel. The subcontractor will provide a list of the project manager and foreman proposed to complete the work, their years of experience in the industry, any formal training, and years of service with the current company. If a separate irrigation subcontractor is to be used, the same information will be provided.
3. Business Expertise. The subcontractor will submit a current audited financial statement, current insurance certificate, contact information for their insurance company, bonding capacity and bonding company, and contact information for their bonding company.
B. Should the subcontractor selected by the General Contractor default on the contract, fail to complete the work in conformance with the Contract Documents, or enter into bankruptcy, the Owner will pay the Landscape Architect as an additional service for any additional work occasioned by the subcontractor's default

PART 2 - PRODUCTS

2.1 Materials
A. Topsoil. Provided by the landscape subcontractor from local sources, sandy loam which is fertile, friable, surface soil. Topsoil will be free of rocks, stones, subsoil, building debris, weeds, grass, clay lumps, and other materials which would be detrimental to turfgrass growth. Topsoil composition will be not less than 7% nor more than 12% clay and not more than 12% silt.
B. Planting Mix. Plant mix composition will be 35% compost, 33% red sand, 16% composted topsoil, and 16% pine bark mulch.
C. Commercial Fertilizer. Complete fertilizer of neutral character, with some elements derived from organic sources and containing available plant nutrients in the following percentages:
1. For trees and shrubs - Woodace Top Dress Special (20-4-11, 8 - 9 month formula) at a rate of 5 to 10 lbs. per 100 SF.
2. For lawns - Min. 1 lb. of actual nitrogen per 100 SF of lawn area, min. 4% phosphoric acid, and min. 2% potassium. Provide nitrogen in a form that will be available to turfgrass during the initial period of growth and in a minimum 50% organic form.

2.2 Plant Materials
A. The drawings contain a complete list of plant species, quantities, sizes, and other requirements. In the event that discrepancies occur between the quantities of plants indicated on the plant list and as indicated on the drawings, the plant quantities shown on the drawings will be given precedence.
B. No substitutions of plants will be permitted without express prior written authorization by the Landscape Architect.
C. All plants will comply with state and federal inspection and diseases infestation laws.
D. All plants will be typical of their species or variety, with normal, well-developed branches and vigorous root systems.
E. All plants will be healthy and vigorous, free from defects, disfiguration, knots, abrasions, sunscald, diseases, insect eggs or larvae, borers, and all other forms of diseases or infestations.
F. All plants will be nursery stock. Any plants gathered from native stands must be kept under nursery conditions for a minimum of 1 full growing season, must be free from all foreign plants and weeds, and must meet all other requirements of the Contract Documents.
G. Container-grown plants must exhibit development of fibrous roots and have a root mass that will retain its shape when removed from the container. Plants grown in smaller containers must have root growth sufficient to reach the sides of the container. Root-bound container-grown plants will be rejected.
H. Container sizes of a large grade than listed in the American Standard for Nursery Stock (ASNS) shall be determined by the volume of the root ball specified in the ASNS for plants of the same size.
I. All bare root plants must have a heavy, fibrous root system and dormant buds at the time of planting.
J. All plants must have average height and spread proportions and branching habit in accordance with the appropriate sections of the ASNS.
K. All plants which have girdled roots, stem, or major branch, have deformities of the stem or major branch, lack symmetrical growth habits, have dead or defoliated portions, or have any defect, injury, or conditions which in the sole opinion of the Landscape Architect renders them unsuitable, will be rejected.
L. Balled and burlapped plants must have a solid ball of earth of minimum specified size held securely in place by burlap and stout rope. Oversized or exceptionally heavy plants will be accepted provided the size of the root ball or spread of the roots is increased proportionally. Root balls must be tight, unbroken, and free of weed or foreign plant growth. Root balls shall have the following depth-to-diameter ratios: root ball diameters of less than 20" = minimum depth of 75% of the diameter; root ball diameters of 20" to 30" = minimum depth of 2/3 of the diameter; root ball diameters over 30" = minimum depth of 60% of the diameter.
M. Plants delivered as a single unit of 25 or less of the same size, species, and variety must be clearly marked and tagged. Plants delivered in large quantities of more than 25 must be segregated as to variety, grade, and size, and 1 plant in each 25 plants, or fraction thereof, of each size, species, and variety, must be tagged.
N. Plants stored under temporary conditions will be the responsibility of the Contractor and must be protected at all times from extreme weather conditions by insulating the root balls with sawdust, soil, mulch, or other approved measure. Plants stored on paved areas must be separated from the pavement with an insulating layer.
O. Protecting stored plants from theft or vandalism will be the sole responsibility of the Contractor. Any stolen plants will be replaced at no cost to the Owner.

2.3 Miscellaneous Materials
A. Mulch. Shredded native mulch applied to a depth of 4" beneath all new trees and 4" beneath all shrubs.
B. Stakes. Sound new hardwood, treated softwood, or redwood stakes, free of knot holes and other defects, or metal stakes. Provide wire ties and guys of 2-strand, twisted, pliable galvanized iron wire, minimum 12-gauge, with zinc-coated turnbuckles. Provide minimum ½" diameter rubber or plastic hose, cut to required lengths and of uniform color, material, and size, to protect tree trunks and branches from damage by wires. All new trees are to be staked.
C. Anti-Dessicant: Emulsion type, film-forming agent designed to permit transpiration but retard excessive loss of moisture from plants. Deliver in manufacturer's full identified containers and mix in accordance with manufacturer's instructions.
D. Plastic trunk protectors: Provide ArborGard+, AG 9-4+ by Deep Root Partners, L.P. (or equal), (1-800-458-7668) to protect new trees from damage by string trimmers and mowers.

PART 3 - EXECUTION

3.1 Inspection
A. Inspect existing site conditions and progress of other trades before commencing landscape installation.
B. Verify that construction has progressed to a point at which the landscape will not be adversely affected by subsequent construction and that existing conditions are acceptable for landscape installation.
C. Report adverse conditions to the Landscape Architect and do not proceed with the work until adverse conditions have been rectified.
D. Commencement of the landscape installation will constitute acceptance of the site conditions without qualification.

3.2 Preparation of Subsoil
A. Inspect subsoil for the presence of objectionable materials such as rocks (2" diameter and greater), concrete waste, building debris, weeds, grass, and other material that would be detrimental to the growth of plants and turfgrass. Protect existing underground improvements from damage.
B. Cultivate the subsoil to a depth of 3" or, if the subsoil is compacted due to heavy equipment traffic or storage, cultivate to a depth of 6".

3.3 Spreading Topsoil
A. See lawn installation for topsoil spreading procedures in turfgrass areas.
B. Spread topsoil and planting mix to required finish grades. Fill turfgrass areas with topsoil to a minimum depth of 4 "
C. Cultivate with a mechanical tiller to break up clods and cultivate by hand in inaccessible areas. Rake until the surface is smooth.

D. Remove from the site any foreign or objectionable material collected during cultivation.
E. Grade to eliminate rough spots and low spots where ponding may occur, maintaining smooth and uniform grades that will encourage positive drainage. Continue to grade the topsoil until it is firm and settled with a smooth surface, watering, drying, and re-grading as necessary.
F. The landscape Contractor is solely responsible for ensuring positive drainage regardless of the condition of the subgrade. If extreme pr objectionable conditions exist, notify the Landscape Architect before proceeding.
G. Mix the specified soil amendments and fertilizers with topsoil at the specified rates. Do not mix fertilizers unless planting will follow the spreading of topsoil or planting mix within 48 hours.
H. All planting areas must be prepared so that they remain free of debris and weeds until planting occurs.
I. Weed control in the planting areas will consist of killing all weeds and maintaining a weed-free condition in accordance with the weed control program until completion of the project.
J. Protect adjacent plants from damage due to overspray of weed control chemicals.

3.4 Planting
A. The Contractor will begin planting when other work divisions such as topsoil spreading have progressed sufficiently to permit planting.
B. Planting will occur where it is shown on the Contract Documents unless obstruction overhead or underground are encountered or where changes in construction have been made. Prior to the excavation of shrub or tree pits, the Contractor will locate and identify all underground utility lines, electrical cables, irrigation lines, and conduits. If such obstructions are found, promptly notify the Landscape Architect and do not proceed without clear direction.
C. No planting pits will be excavated until the proposed locations and plant sizes have been reviewed and approved by the Landscape Architect. Each plant will be planted in an individual pit dug with straight vertical sides. All plants will be set such that their original soil level is equal to the ultimate finish grade. No filling will be done around the trunks and stems. All ropes, wires, staves, etc., will be removed from the sides and top of the root ball and removed from the pit before filling. Burlap will be properly cut and removed from the sides of the root ball. When a depth is specified for the plant pit, it will be construed as the depth below adjacent finish grade. Excess excavation from plant pits shall be either used elsewhere or removed from the site entirely.
D. The Landscape Architect will review and approve the location and orientation of all plants prior to excavation of their pits. All trees will be planted in pits a minimum 24" greater in diameter than the container size or spread of their roots. In the event that solid rock is encountered in the bottom of the pit, break up and loosen the sides and bottom of the pit so that water will drain effectively. The pit will be a minimum of 9" deeper than the depth of the root ball and will have a crown from the middle to the sides in order to direct drainage away from the root ball. Place planting mix in the bottom of the pit and tamp down to prevent settling. Backfill the pits with planting mix in layers no greater than 9" and tamp down to avoid settling. Provide enough planting mix to bring to finish grade and form a saucer with a minimum 4" lip around the perimeter of the tree's root ball so water will pond and soak into the root ball.
E. Stake trees immediately after planting, then remove the stakes after one (1) year.
F. If deciduous trees are planted in full-leaf, spray with anti-dessicant to provide an adequate film over the trunk, branches, stems, and foliage.
G. Shrubs will be planted in pits a minimum of 12" greater in width than the diameter of the root ball or container. In the event that solid rock is encountered in the bottom of the pit, break up and loosen the sides and bottom of the pit so that water will drain effectively. The depth of the pit will be sufficient to accommodate the root ball and to set the plant at finish grade. Backfill the pit with planting mix, tamp down and settle thoroughly, bring to finish grade, and form a slight saucer to hold additional water and soak the root ball. After planting has been approved, apply bark mulch to a depth of 2" around all plants in the planting area.
H. All ground cover material will be planted as follows:
1. One gallon material will be planted the same as one gallon shrubs.
2. 4" pot material will be planted in pits the same size as or larger than the root system, then firmly tamped by hand and watered in using a fine spray.
3. Where settlement occurs, backfill with additional planting mix to cover exposed roots and to bring to finish grade.
4. After planting has been reviewed and approved, apply decomposed granite to a compacted depth of 2".
5. Thoroughly water each plant using a root stimulator solution (Green Light or equal) mixed according to the manufacturer's recommendations.
6. Neatly prune and/or clip each plant as necessary to preserve the natural character. Conduct all pruning with sharp, clean tools and clip bruised or broken branches with a clean cut. Paint pruning cuts 2" in diameter and larger with an approved tree wound paint.
7. Apply water as required to keep the mulch damp at all times during germination and initial growth period or as directed by the Landscape Architect.

3.5 Lawn Installation
A. Do not commence lawn installation until after the irrigation system has been completely installed and is operational.
B. Do not commence any lawn installation until the Landscape Architect has reviewed and approved all areas prepared for sodding.

3.6 Sodded Lawns
A. Prior to spreading topsoil and in all areas to receive lawn, cultivate the subsoil to a minimum depth of 4". Cultivation may be conducted by disc, spring tooth harrow, rototiller, or similar mechanical means, and should be done in a direction perpendicular to the natural flow of water.
B. After the topsoil has been spread, mechanically till the area to a depth of 4", then roll rake and drag to remove all large clods, rocks, debris, and litter over 1" in diameter. Dispose of clutter at an off-site location.
C. Using a lightweight, water-filled roller, roll the raked topsoil in two (2) opposite directions.
D. Rake the rolled topsoil to a smooth, level surface, removing ridges and filling depressions. Remove all remaining rocks and debris over 1" in diameter.
E. Hold the finish grade 1-1/2" below adjacent curbs, sidewalks, paving, and other hard surfaces.
F. Apply the fertilizer at a rate of 2 lbs. per 1000 SF.
G. Rake the fertilizer into the surface soil at a depth of ½" to 1".
H. Roll the fertilized topsoil in one (1) direction, water lightly of the surface soil is dry, then allow to dry.
I. Lay the sod within 24 hours of stripping. Working from plywood boards to avoid disturbing the topsoil or sod, but the ends and sides of sod strips without overlapping, stagger strips to offset joints in adjacent courses, and tamp or roll lightly to ensure good contact with the surface soil. Sift topsoil into minor cracks between sod pieces, then remove excess from the top. Do not lay dormant sod.
J. On slopes in excess of 20% (5:1), anchor sod with wooden stakes.
K. Water sod thoroughly with a fine spray immediately after application.
L. Erect a barrier of stakes and ropes around the perimeter of the sodded areas and post warning signs to deter foot traffic.
M. Water as necessary to keep the sod damp at all times through germination and initial growth period.

3.7 Hydromulch
A. Seed
1. Fresh, clean, new-crop seed, meeting USDA rules and regulations under the Federal Seed Act and Texas Seed Law for purity and germination.
2. Free of objectionable foreign material.
3. Treated with approved fungicide by a commercial or state laboratory not more than 6 months prior to the date of planting.
4. Wet, moldy, or damaged seed will not be accepted.
5. Seed Mixture:
i. If planting occurs between May 15 and September 1, provide Sultan bermudagrass seed at 2 lbs. PLS per 1000 SF of seeded area.
ii. If planting occurs between September 2 and May 14, provide Gulf annual ryegrass seed at 8 lbs. PLS per 1000 SF of seeded area. Return to jobsite between May 15 and May 30 after all ryegrass has died, till the hydromulch area, and re-apply the hydromulch with Sultan bermudagrass seed at 2 lbs. PLS per 1000 SF of seeded area.
iii. If planting in shaded areas between September 2 and May 14, provide Hound Dog Fescue seed at 3 lbs. PLS per 1000 SF of seeded area.
B. Accessories
1. Fertilizer: Commercial lawn fertilizer, water soluble, 50% slow release.
2. Water: Clean, fresh, and free from foreign substances or material.
3. Glue agent: Contractor's standard type, non-detrimental to seed.
4. Wood mulching agent: Contractor's standard type, non-detrimental to seed.
5. Stakes: Softwood lumber, chisel pointed.
6. String: Organic fiber.
C. Hydromulching Slurry Mix
1. Mix specified seed, fertilizer, and wood mulching agent in water, using equipment specifically designed for hydroseed application. Continue mixing until blended uniformly into a homogenous slurry suitable for hydraulic application.
2. Proportion slurry mix as follows:
i. Wood mulching agent: 45 lbs. per 1000 SF of seeded area
ii. Water soluble fertilizer: 5 lbs. per 1000 of seeded area
iii. Glue agent: 1 lb. per 1000 SF of seeded area
iv. Seed
D. Subsoil Preparation
1. Remove from subsoil all objectionable material such as concrete waste, building debris, rubbish, weeds, grass, stumps, and rocks greater than 1" in diameter.
2. Protect existing underground improvements.
3. Cultivate to a depth of 3" in areas to receive topsoil. If subsoil is compacted due to equipment traffic or storage, cultivate to a depth of 6".
E. Topsoil Spreading
1. Spread topsoil at minimum specified depth to required finish grade.
2. Cultivate topsoil with a mechanical tiller to break up clods. In areas inaccessible by tiller, cultivate by hand.
3. Rake until topsoil surface is smooth.
4. Remove from the site any objectionable materials collected during cultivation.
5. Fine grade to eliminate rough and low spots where ponding or marcelling would occur. Maintain smooth, uniform grades, working topsoil, watering, drying, and re-grading as necessary to produce a firm, smooth, and settled soil profile.
6. The landscape subcontractor shall be responsible for assuring positive drainage regardless of the subgrade condition. If extreme or objectionable subgrade conditions exist, notify the Landscape Architect prior to spreading topsoil.
7. Mix the specified soil amendments and fertilizer with topsoil at rates specified. Do not mix fertilizers if hydromulch will not be applied within 3 days.
8. Maintain all prepared planting areas free of weeds and debris.
9. Planting area weed control shall consist of removing all existing weeds and maintaining a weed-free condition in accordance with the approved weed control plan until project completion.
10. Protect adjacent vegetation from damage due to overspray or misplaced application of weed control chemicals. Replace all plants mistakenly treated with weed control chemicals at no cost to the Owner.

F. Hydroseeding
1. Examination
i. Verify that the topsoil profile has been prepared in accordance with this Section and is ready to receive the planting.
ii. Apply seeded slurry with a hydraulic seeder evenly in 2 intersecting directions.
iii. Identify seeded areas with stakes and string around the entire perimeter. Space stakes at max. 15 feet O.C. and set string height to 12" above adjacent finish grade.

G. Cleaning
1. Maintain the construction, storage, and planting areas free from the accumulation of waste materials and rubbish.
2. Clean all paved areas that become soiled during landscape installation. Remove dirt, planting materials, and debris.
3. Clean in accordance with Sections 01500 and 01700.

3.8 Cultivation and Cleanup
A. Upon completion of the planting, all excess material shall be removed and disposed of at a location off-site. Bring the finish grade in planter areas to a uniform grade, 1-1/2" below all adjacent paving or hard surfaces. Loosen the soil surrounding each individual plant to a distance of three (3) feet around each new tree and large shrub and 12" around each new small shrub and ground cover.

3.9 Maintenance and Restoration
A. The Contractor will ensure adequate and proper care of all plants and work done on this project until final acceptance, but in no case less than 30 days following Substantial Completion. This will include keeping all plants in a healthy growing condition by watering, cultivating, pruning, and spraying, keeping the planting areas free from insect infestation, weeds and grass, litter, and debris, and retaining the finish grade in a neat and uniform manner. Plant crowns, runners, and branches will be kept free of mulch at all times.
B. Protect all lawn areas from vehicle and pedestrian traffic.
C. Repair all sod areas damaged by any cause prior to final acceptance.
D. The lawn establishment period will begin immediately after the lawn planting area has been accepted by the Landscape Architect, will extend for a minimum of 30 days or until the end of the contract, and will consist of caring for all lawn areas within the project limits of work.
E. During the lawn establishment period, the Contractor will be responsible for ensuring healthy growth of the turfgrass. This responsibility includes all labor and materials necessary keep the project in a presentable condition, including, but not limited to, litter removal, mowing, trimming, weed control, removal of grass clipping, edging, and any necessary re-sodding and repair.
F. During the lawn establishment period the Contractor will as often as conditions dictate mow the turfgrass to a cutting height of 1-1/2". The turfgrass shall never exceed 3" in height and all clipping will be removed from the site.
G. During the months of March through September, the Contractor will edge at least once every month or as directed by the Landscape Architect.
H. During the months of March through September, the Contractor will apply water to sodded areas at an even rate of 1" of water per week, although the Landscape Architect may change this rate as conditions warrant.
I. Final acceptance of the lawn areas will be based on he presence of a uniform stand of grass at a uniform grade at the time of final inspection. Areas 24" square and large that are bare, have a poor stand of grass, or have an finish grade that is not uniform will be at the Contractor's expense re-graded, re-sodded, and fertilized as specified herein.
J. Upon completion of the initial planting, the Landscape Architect will make an inspection of all plantings and notify the Contractor in writing of any replacements or corrective actions necessary to meet the provisions of the Contract Documents. The Contract will then replace all the rejected or missing plants and perform the specified corrective measures.
K. All replacement plants will be of the same species, size, and quality. All rejected plants will be replaced within 30 days of notification.

3.10 Acceptance
A. Upon receipt of a written request from the Contractor at least seven (7) prior, the Landscape Architect will inspect the planting and maintenance to determine its completion and the beginning of the guarantee period. All plants must be alive and healthy in order for the installation to be considered complete. Where inspected work does not comply with the requirements of the Contract Documents, replace rejected work and continue to perform the specified maintenance until the Landscape Architect re-inspects the work and finds it acceptable. Remove rejected plants and materials from the site.

END OF SECTION

Open studio architecture
6122 DeZavala Rd.
San Antonio, Texas 78249
Tel: 210.417.4307
www.openstudio-usa.com

REGISTERED LANDSCAPE ARCHITECT
JON ROBINSON
2375
STATE OF TEXAS
7.15.26

| Revisions | | |
|---|---|---|
| Number | Description | Date |

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**CAMP BOW WOW**

N. Elliot Know Blvd.
New Braunfels, TX

project #: 26.001
date: 07 / 15 / 26
drawn by: jh
checked by: jr

drawing title:
**LANDSCAPE SPECIFICATIONS**

drawing number:
**L2.0**

| PRESSURE REQUIREMENT CALCULATIONS @ ZONE No. 01 | |
|---|---|
| DESIGN STATISTICS FOR CALCULATIONS | |
| Total Zone Flow: | 9.4 g.p.m. |
| Electric Valve Size: | 1.0" |
| Static Pressure Less 10% (static @ 65 psi): | 58.5 p.s.i. |
| ACCUMULATIVE LOSSES FROM CITY MAIN TO FURTHEST HEAD | |
| Sprinkler head requirement: | 30 p.s.i. |
| Zone Pipe/Fitting Loss: | 0.77 p.s.i. |
| 1" Electric Valve Loss: | 3.0 p.s.i. |
| Elevation Net Loss (+- FT.): | n/a |
| System Mainline Loss (1.5" Sch-40 Mainline): | 0.98 p.s.i. |
| Backflow Preventer Loss ( 1" ): | 12.0 p.s.i. |
| Water Meter Loss ( 3/4" ): | 1.6 p.s.i. |
| Master Electric Valve Loss ( 1" ): | 3.0 p.s.i. |
| Type K Copper Service Loss: | |
| Total Net Loss: | 21.34 p.s.i. |
| Design Pressure: | 51.34 p.s.i. |

Notes: System requires a minimum of 52 psi static pressure for system to operate properly. Irrigation Contractor shall conduct on site pressure test to verify site pressure prior to starting work. Contractor shall notify Owner's Representative of pressure deficiencies or any other on site problems that may alter the effectiveness of the system. Pipe has been size to insure that velocity does not exceed 5 FPS. do not change pipe size in the field without consulting system designer.

# 5 CRITICAL LOSS CHART

FARTHEST ZONE

| PRESSURE REQUIREMENT CALCULATIONS @ ZONE No. 03 | |
|---|---|
| DESIGN STATISTICS FOR CALCULATIONS | |
| Total Zone Flow: | 18.0 g.p.m. |
| Electric Valve Size: | 1.0" |
| Static Pressure Less 10% (static @ 65 psi): | 58.5 p.s.i. |
| ACCUMULATIVE LOSSES FROM CITY MAIN TO FURTHEST HEAD | |
| Sprinkler head requirement: | 30 p.s.i. |
| Zone Pipe/Fitting Loss: | 0.95 p.s.i. |
| 1" Electric Valve Loss: | 3.0 p.s.i. |
| Elevation Net Loss (+- FT.): | n/a |
| System Mainline Loss (1.5" Sch-40 Mainline): | 2.44 p.s.i. |
| Backflow Preventer Loss ( 1" ): | 12.0 p.s.i. |
| Water Meter Loss ( 3/4" ): | 5.2 p.s.i. |
| Master Electric Valve Loss ( 1" ): | 3.0 p.s.i. |
| Type K Copper Service Loss: | |
| Total Net Loss: | 26.59 p.s.i. |
| Design Pressure: | 56.59 p.s.i. |

Notes: System requires a minimum of 57 psi static pressure for system to operate properly. Irrigation Contractor shall conduct on site pressure test to verify site pressure prior to starting work. Contractor shall notify Owner's Representative of pressure deficiencies or any other on site problems that may alter the effectiveness of the system. Pipe has been size to insure that velocity does not exceed 5 FPS. do not change pipe size in the field without consulting system designer.

# 4 CRITICAL LOSS CHART

LARGEST ZONE

TYPICAL WEEKLY SCHEDULE BASED ON PRECIPITATION RATE

| Precipitation Rate (in/hr) | | Water Desired (in/wk) | Time/Cycle (min) | No. of Zones | Total Time * Min. | Hrs. |
|---|---|---|---|---|---|---|
| Turf Rotor Zone | .64 | .80 | | | | |
| MP Rotator Spray | .44 | .80 | 107.0 | 2 | 214 | 3.6 |
| Turf Drip Zones | .85 | .80 | | | | |
| Drip Zones | .55 | .80 | 88.0 | 1 | 88 | 1.5 |
| Tree Bubblers | 3.87 | .80 | 12.0 | 2 | 24 | 0.4 |
| Total System Hours of Operation Per Week | | | | | | 5.5 |

* IT WILL BE NECESSARY TO WATER MULTIPLE ZONES AT ONE TIME TO MEET WATERING WINDOW . A TYPICAL SCHEDULE WOULD ALLOW WATERING TO OCCUR TWO TIMES PER WEEK. TOTAL WATERING TIME WOULD BE DIVIDED BY THE NUMBER OF WATERING DAYS. THIS SCHEDULE IS DESIGNED FOR SUMMER WATER USAGE AND ESTABLISHMENT OF NEW PLANTING.

# 3 VALVE SCHEDULE

1. IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING HIMSELF FAMILIAR WITH THE SPECIFICATIONS AND ALL SUBMITTAL REQUIREMENTS. IT IS THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO NOTIFY THE OWNER'S REPRESENTATIVE FOR SITE INSPECTIONS AS SPECIFIED IN THE SPECIFICATIONS. FAILURE TO NOTIFY THE OWNER'S REPRESENTATIVE DOES NOT RELIEVE THE CONTRACTOR FROM INSPECTION APPROVAL AND WILL REQUIRE THE CONTRACTOR TO UNCOVER WORK AS REQUIRED FOR APPROVAL AT THE COST OF THE CONTRACTOR. IRRIGATION CONTRACTOR IS TO INFORM OWNER'S REPRESENTATIVE OF THE START DATE OF WORK.
2. THE IRRIGATION CONTRACTOR IS REQUIRED BY LAW TO NOTIFY TEXAS ONE CALL (800-245-4545) 72 HOURS PRIOR TO ANY EXCAVATION. IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING HIMSELF FAMILIAR WITH ALL UNDERGROUND UTILITIES, PIPES AND STRUCTURES. IRRIGATION CONTRACTOR SHALL TAKE SOLE RESPONSIBILITY FOR ANY COST INCURRED DUE TO DAMAGE OF SAID UTILITIES WHETHER OR NOT TEXAS ONE CALL IS NOTIFIED.
3. DO NOT WILLFULLY PROCEED WITH CONSTRUCTION AS DESIGNED WITHOUT VERIFYING ACTUAL ON-SITE WATER PRESSURE FROM THE SOURCE. DO NOT WILLFULLY PROCEED WITH CONSTRUCTION AS DESIGNED WHEN IT IS OBVIOUS THAT UNKNOWN OBSTRUCTIONS AND/OR GRADE DIFFERENCES EXIST THAT MAY NOT HAVE BEEN KNOWN DURING DESIGN. SUCH CONDITIONS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE. THE IRRIGATION CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ALL NECESSARY REVISIONS DUE TO FAILURE TO GIVE SUCH NOTIFICATION.
4. IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE FOR ANY COORDINATION WITH OTHER CONTRACTORS AS REQUIRED TO ACCOMPLISH IRRIGATION INSTALLATION.
5. DUE TO SCALE OF DRAWINGS, IT IS NOT POSSIBLE TO INDICATE ALL OFFSETS, FITTINGS SLEEVES, ETC., WHICH MAY BE REQUIRED. IRRIGATION CONTRACTOR SHALL CAREFULLY INVESTIGATE THE STRUCTURAL AND FINISHED CONDITIONS AFFECTING ALL OF HIS WORK AND PLAN HIS WORK ACCORDINGLY, FURNISHING SUCH FITTINGS, ETC., AS MAY BE REQUIRED TO MEET SUCH CONDITIONS. DRAWINGS ARE GENERALLY DIAGRAMMATIC AND INDICATIVE OF THE WORK TO BE INSTALLED. THE WORK SHALL BE INSTALLED IN SUCH A MANNER AS TO AVOID CONFLICTS BETWEEN IRRIGATION SYSTEM, PLANTING AND ARCHITECTURAL FEATURES. THIS DESIGN IS DIAGRAMMATIC. ALL PIPING, VALVES, ETC., SHOWN WITHIN PAVED AREAS IS FOR DESIGN CLARIFICATION ONLY AND SHALL BE INSTALLED IN PLANTING AREAS AND WITHIN PROPERTY LINES.
6. DURING INSTALLATION IT IS THE IRRIGATION CONTRACTOR'S RESPONSIBILITY TO COORDINATE PIPING WITH THE LANDSCAPE SUBCONTRACTOR TO AVOID CONFLICT WITH PROPOSED PLANTING. IT WILL BE THE RESPONSIBILITY OF THE IRRIGATION SUBCONTRACTOR TO MOVE PIPING TO ALLOW PROPER PLACEMENT OF PLANT MATERIAL. THE IRRIGATION CONTRACTOR SHALL MAKE MINOR ADJUSTMENTS TO ENSURE PROPER COVERAGE AT NO ADDITIONAL COST TO THE OWNER.
7. NO MACHINE TRENCHING IS TO BE DONE WITHIN THE DRIPLINE OF EXISTING TREES. TRENCHING IS TO BE DONE BY HAND, AIR-SPADE OR BY TUNNELING UNDER ROOT SYSTEM BY METHOD APPROVED BY LANDSCAPE ARCHITECT. PIPING LAYOUT IS DIAGRAMMATIC AND PIPING SHALL BE ROUTED AROUND EXISTING TREES AS POSSIBLE TO AVOID DAMAGE TO THE ROOT SYSTEMS. DO NOT CUT ANY ROOT OVER 3/4" DIAMETER UNLESS APPROVAL FROM THE LANDSCAPE ARCHITECT IS FIRST OBTAINED. ANY CUTS MADE SHALL BE CLEAN AND WITHOUT FRAYED ENDS.
8. IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE FOR SLEEVES AND CHASES WHEREVER PIPING OR CONDUIT PASSES, UNDER ALL PAVING, THROUGH WALLS, ETC. ALL SLEEVE LOCATIONS MAY NOT BE SHOWN ON PLAN, COORDINATE WITH ARCHITECTURAL AND CIVIL DRAWINGS, GENERAL CONTRACTOR AND OTHER SUBCONTRACTORS AS REQUIRED. ALL SLEEVE AND CHASE LOCATIONS ARE NOT NOTED ON PLAN. ALL SLEEVES 4" OR LESS SHALL BE SCH-40 PVC, ALL SLEEVES 6" OR GREATER SHALL BE CLASS-200 PVC. ALL SLEEVES TO BE SIZED TWICE THE DIAMETER OF PIPE OR COMBINATION OF PIPES ENCLOSED WITHIN THE SLEEVE.
9. CONFIRM STATIC WATER PRESSURE AT LEAST 7 DAYS BEFORE BEGINNING WORK. IF STATIC WATER PRESSURE IS LESS THAN STATED IN PRESSURE CALCULATIONS DO NOT PROCEED UNTIL DIRECTED SO BY THE LANDSCAPE ARCHITECT. IF ACTUAL SITE STATIC PRESSURE EXCEEDS DESIGN PRESSURE BY 15 P.S.I. IN ANY ZONE, A PRESSURE REDUCING VALVE SHALL BE INSTALLED. REFER TO DETAILS FOR MODEL.
10. ADJUSTABLE FLOW CONTROLS SHALL BE REQUIRED ON CIRCUIT REMOTE CONTROL VALVE. PRESSURE AT ANY POINT WITHIN A ZONE SHALL NOT VARY BY MORE THAN 10% FROM THE DESIGN SPRINKLER OPERATING PRESSURE. SEE SPECIFICATIONS FOR TESTING.
11. THE CONTRACTOR SHALL BE A REGISTERED LICENSED IRRIGATOR IN THE STATE OF TEXAS. CONTRACTOR MUST CONFORM TO ALL CODES AS STATED IN SECTION 344 OF THE TEXAS WATER CODE AS OUTLINED BY TCEQ.
12. OBTAIN COVERAGE TEST APPROVAL FROM OWNER'S REPRESENTATIVE PRIOR TO PLANTING, SODDING OR SEEDING.
13. ALL UNDESIGNATED END LATERAL PIPING SHALL BE ½" IN SPRAY ZONES AND ¾" IN ROTOR ZONES.
14. SPRINKLER HEAD SPACING SHALL NOT EXCEED 50% OF SPRAY DIAMETER BASED ON MANUFACTURERS OPERATING SPECIFICATIONS. SPRINKLER HEAD SPACING SHALL BE DESIGNED FOR HEAD-TO-HEAD COVERAGE OR HEADS SHALL BE SPACED AS PER MANUFACTURER'S RECOMMENDATIONS AND ADJUSTED FOR PREVAILING WINDS. THE SYSTEM SHALL BE DESIGNED SO THAT IRRIGATION IS NOT APPLIED TO VEHICULAR TRAFFIC LANES, OTHER PAVEMENT OR STRUCTURES.
15. ALL ROTORS SHALL BE LOCATED 12" FROM PAVEMENT, CURBS OR EDGE OF STRUCTURE, ALL SPRAY HEADS SHALL BE LOCATED 6" FROM PAVEMENT, CURBS OR EDGE OF STRUCTURE.
16. VALVE AND CIRCUITS SHALL BE SEPARATED BASED ON WATER USE, SO THAT TURF AREAS ARE WATERED SEPARATELY FROM SHRUB AND GROUND COVER AREAS. IRRIGATION HEADS IN THE TURF AREAS WILL BE VALVED SEPARATELY FROM SHRUB AND/OR GROUND COVER AREAS. IT IS RECOMMENDED THAT SEASONAL COLOR AREAS BE WATERED SEPARATELY. UNDER NO CIRCUMSTANCES ARE ZONE TYPES TO BE COMBINED I.E. ROTARY HEADS WITH SPRAYS, TURF AREAS WITH PLANTING BEDS.
17. IT IS THE CONTRACTORS RESPONSIBILITY TO CONFIRM STATIC PRESSURE ON SITE PRIOR TO STARTING WORK. REFER TO NOTES #9 AND #10.
18. IT IS THE IRRIGATION CONTRACTOR'S RESPONSIBILITY TO SECURE ALL REQUIRED PERMITS AND PAY ALL ASSOCIATED FEES UNLESS OTHERWISE NOTED. ALL LOCAL CODES SHALL PREVAIL OVER ANY DISCREPANCIES CONTAINED IN THESE DOCUMENTS.
19. UNSLEEVED PIPES MAY BE SHOWN UNDER PAVEMENT FOR GRAPHIC CLARITY. INSTALL PIPES IN ADJACENT SLEEVES WITHIN LANDSCAPE AREAS.
20. 120 VAC ELECTRICAL POWER SOURCE AT CONTROLLER LOCATION SHALL BE PROVIDED BY OTHERS. THE IRRIGATION CONTRACTOR SHALL MAKE THE FINAL CONNECTION FROM THE ELECTRICAL SOURCE TO THE CONTROLLER WITH A HARDWIRE CONNECTION APPROVED AND INSTALLED BY A LICENSED ELECTRICIAN.
21. SPRINKLER HEADS SHALL HAVE MATCHED PRECIPITATION RATES WITHIN EACH CONTROL VALVE CIRCUIT.
22. SERVICEABLE CHECK VALVES SHALL BE REQUIRED ADJACENT TO PAVED AREAS WHERE ELEVATION DIFFERENCES MAY CAUSE LOW HEAD DRAINAGE.
23. ALL AUTOMATIC IRRIGATION SYSTEMS SHALL BE EQUIPPED WITH A CONTROLLER CAPABLE OF DUAL OR MULTIPLE PROGRAMMING. CONTROLLERS SHALL HAVE MULTIPLE CYCLE START CAPACITY AND A FLEXIBLE CALENDAR PROGRAM, INCLUDING THE CAPABILITY OF BEING SET TO WATER EVERY FIVE DAYS. ALL AUTOMATIC IRRIGATION SYSTEMS SHALL BE EQUIPPED WITH A RAIN SENSOR SHUT-OFF DEVICE.
24. ALL IRRIGATION WIRES SHALL BE UL LISTED FOR DIRECT UNDERGROUND BURIAL AND SHALL BE SIZED PER THE MANUFACTURER'S RECOMMENDATIONS. 3M-DBY WATERPROOF CONNECTORS TO BE USED ON ALL WIRE CONNECTIONS. SUBMIT SAMPLE TO LANDSCAPE ARCHITECT.
25. ALL IRRIGATION HEADS SHALL BE ADJUSTED TO MINIMIZE OVER-SPRAY ONTO ALL IMPERVIOUS SURFACES.
26. ALL PIPE CONNECTIONS SHALL BE PRIMED WITH AN APPROVED COLOR PRIMER BEFORE BEING CHEMICAL WELDED.
27. AFTER AWARD OF CONTRACT AND BEFORE ANY IRRIGATION SYSTEM MATERIALS ARE ORDERED FROM SUPPLIERS OR DELIVERED TO THE JOB SITE, SUBMIT TO THE OWNER A COMPLETE LIST OF ALL IRRIGATION SYSTEM MATERIALS, OR PROCESSES PROPOSED TO BE FURNISHED AND INSTALLED AS PART OF THIS CONTRACT. THE LANDSCAPE ARCHITECT OR OWNER'S AUTHORIZED REPRESENTATIVE WILL ALLOW NO SUBSTITUTIONS WITHOUT PRIOR WRITTEN ACCEPTANCE. MANUFACTURER'S WARRANTIES SHALL NOT RELIEVE THE CONTRACTOR OF HIS LIABILITY UNDER THE GUARANTEE. SUCH WARRANTIES SHALL ONLY SUPPLEMENT THE GUARANTEE.
29. ALL TEMPORARY IRRIGATION SHALL BE DESIGNED PRIOR TO INSTALLATION BY A STATE OF TEXAS LICENSED IRRIGATOR. THE DESIGN IS TO BE SUBMITTED FOR APPROVAL PRIOR TO COMMENCING INSTALLATION OF THE TEMPORARY SYSTEM.
30. IRRIGATION CLOSEOUT DOCUMENTS SHALL INCLUDE A WATER BUDGET. A LAMINATED COPY OF THE WATER BUDGET SHALL BE PERMANENTLY INSTALLED INSIDE THE IRRIGATION CONTROLLER DOOR.

A. CHART CONTAINING ZONE NUMBER, PRECIPITATION RATE AND GPM.
B. LOCATION OF EMERGENCY IRRIGATION SYSTEM SHUT-OFF VALVE.

# 2 CONSTRUCTION NOTES

W — DEDICATED IRRIGATION WATER METER - 3/4", BY CIVIL ENGINEER

RP — REDUCED PRESSURE ZONE ASSEMBLY - 1" FEBCO, MODEL 860 PER LOCAL CODES

MV — MASTER VALVE - 1" HUNTER NORMALLY CLOSED VALVE, MODEL ICV-101G

C — CONTROLLER - HUNTER PRO-C, FINAL LOCATION IS TO BE DETERMINED AFTER CONSULTING WITH OWNERS REPRESENTATIVE

WS — WEATHER SENSOR - HUNTER SOLAR-SYNC RAIN/FREEZE SENSOR, FINAL LOCATION IS TO BE DETERMINED AFTER CONSULTING WITH OWNERS REPRESENTATIVE

SHUT OFF VALVE - SCH 80 BALL VALVE, SIZE PER LINE

REMOTE CONTROL VALVE - HUNTER ICV, SIZE AS INDICATED

DRIP CONTROL ZONE KIT - NETAFIM, REFERENCE DETAILS

QUICK COUPLING VALVE - SUPERIOR QB33NP07 WITH QB33K07 KEY

MP ROTATOR NOZZLE 90°-210°; SIZE AS SPECIFIED ON PLAN.

MP ROTATOR NOZZLE 210°-270°; SIZE AS SPECIFIED ON PLAN.

MP ROTATOR NOZZLE 360°; SIZE AS SPECIFIED ON PLAN.

MP ROTATOR STRIP NOZZLE; PATTERN AS SPECIFIED ON PLAN.

M — MP ROTATOR; M35=M3500, M3=MP3000, M2=MP2000, M1=MP1000, M8=M800SR, MC=MP CORNER, MR=RIGHT CORNER STRIP, ML=LEFT CORNER STRIP, MS=SIDE STRIP

NOTE: ALL MP ROTATOR SPRAY HEADS ARE TO BE HUNTER PROS-06-PRS30-CV SPRAY BODY; PROVIDE CHECK VALVE AT LOW HEADS

BBL — TREE BUBBLER ASSEMBLY - SINGLE BUBBLER ON 6" POP-UP

2-BBL — TREE BUBBLER ASSEMBLY - TWO BUBBLERS ON 6" POP-UPS

# — ZONE IDENTIFICATION
#"/## — ZONE SIZE IN GALLONS PER MINUTE
ZONE VALVE SIZE

# — ZONE IDENTIFICATION
#"/## — ZONE SIZE IN GALLONS PER MINUTE
HATCH PATTERN INDICATES BED/TURF AREAS TO BE INCLUDED THIS ZONE
ZONE VALVE SIZE, REFERENCE DETAILS

DRIPLINE; NETAFIM TLHCVXR7-18 FOR SURFACE PLANTING BEDS, ROWS SPACED AT 18 INCHES
NETAFIM TLHCVXR7-12 FOR SURFACE PLANTING BEDS WITH SLOPES GREATER THAN 3:1
NETAFIM TLHCVXR5-12 FOR SUBSURFACE TURF, ROWS SPACED AT 12 INCHES
DRIP SUPPLY LINE, SCH 40 PVC, SIZE PER PLAN.
TREE ZONE I.D.

MAIN LINE - PVC PIPE, SCH-40, SIZE AS INDICATED ON PLANS

1-1/2" — LATERAL LINE - PVC PIPE, CLASS 200 SDR 21, SIZE AS INDICATED ON PLANS . DO NOT DEVIATE ON SIZING WITHOUT CONSULTING WITH PROJECT DESIGNER.

SLEEVE - PVC PIPE, SCH-40, USE TWO (2) SIZES LARGER THAN SPRINKLER PIPE WITHIN, VALVE WIRING MAY BE RUN IN THE SAME SLEEVES

GENERAL NOTE: REFER TO SHEET LI 2.1 to LI 2.2 FOR DETAILS

FIELD LOCATE BY STAKING, THE CONTROLLER, WATER METER, BACKFLOW DEVICE, MASTER VALVE AND FLOW SENSOR FOR APPROVAL BY LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.

# 1 LEGEND

STATEMENT OF IRRIGATION DESIGN STANDARDS CONFORMITY:
This plan is complete and conforms to the design and installation parameters of the irrigation design and equipment standards set out by the City of New Braunfels, Texas and TCEQ (Texas Commission on Environmental Quality).

Wade O. Radlet TX LI # 22397

SPECIAL NOTES:
1. THE IRRIGATION CONTRACTOR SHALL COMPLY WITH ALL LOCAL AND STATE MANDATED IRRIGATION ORDINANCES AND CODES AND WILL SECURE ALL REQUIRED PERMITS.
2. ALL WIRES, CONTROL VALVES, AND PRESSURIZED WATER SUPPLY LINES SHALL NOT BE LOCATED WITHIN THE EXISTING ROW OR OUTSIDE PROPERTY BOUNDARIES.

"Irrigation in Texas is regulated by the Texas Commission on Environmental Quality (TCEQ), MC-178, PO Box 13087, Austin, Texas 78711-3087 TCEQ's website is: www.tceq.state.tx.us"

811.


Open studio architecture
6122 DeZavala Rd.
San Antonio, Texas 78249
Tel: 210.417.4307
www.openstudio-usa.com


STATE OF TEXAS — WADE O. RADLET — 22397 — LICENSED IRRIGATOR — 07.15.26

| Revisions | | |
|---|---|---|
| Number | Description | Date |

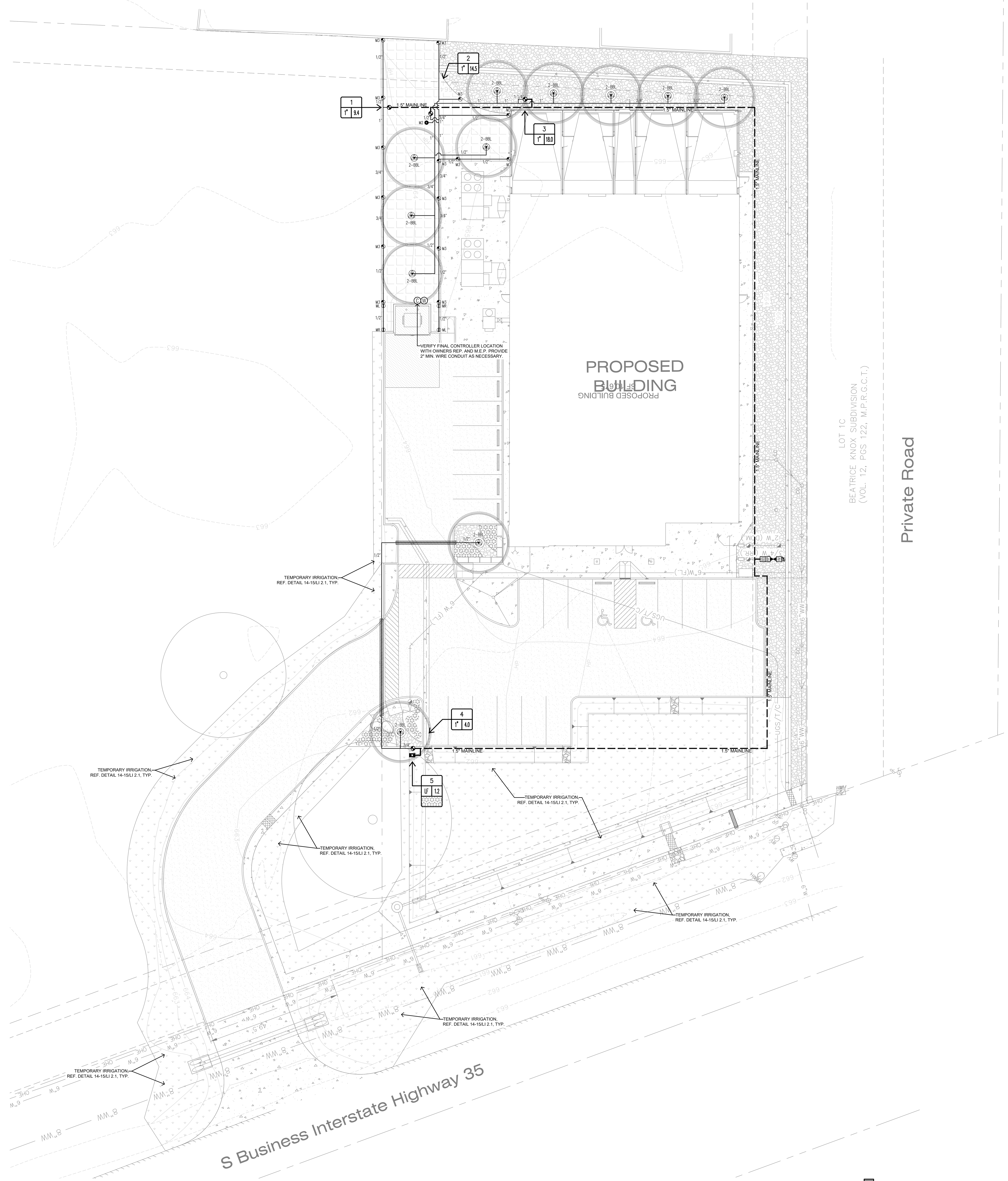

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**CAMP BOW WOW**

N. Elliot Know Blvd.
New Braunfels, TX

project #: 26.001
date: 07 / 15 / 26
drawn by: LH
checked by: WR
drawing title: **IRRIGATION NOTES AND LEGEND**
drawing number: **LI1.0**




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San Antonio, Texas 78249
Tel: 210.417.4307
www.openstudio-usa.com

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WADE O. RADLET
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07.15.26

| Revisions | | |
|---|---|---|
| Number | Description | Date |

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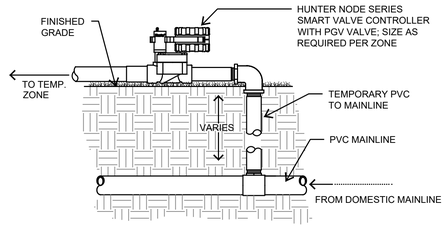
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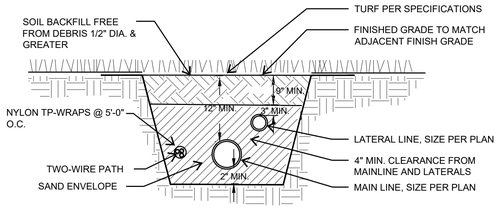
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date: 07 / 15 / 26
drawn by: LH
checked by: WR
drawing title:
**IRRIGATION PLAN**

drawing number:
**LI1.1**

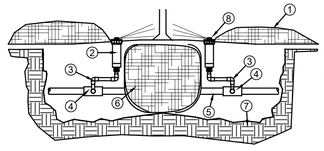



# 15 TEMPORARY IRRIGATION NODE

NOTE:
1. MAINLINE DEPTH MAY VARY BETWEEN 12" AND 24" WITH 12" MIN. AT TOP OF PIPE
2. LATERAL DEPTH MAY VARY BETWEEN 12" AND 18" WITH 12" MIN.
3. SAND ENVELOPE SHALL BE INSTALLED IF ROCK IS PRESENT

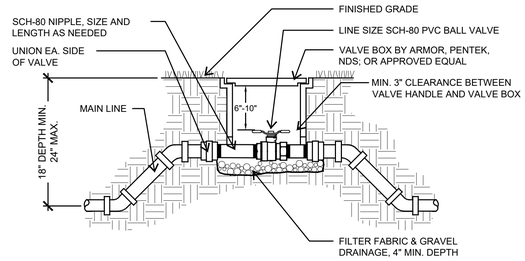



# 12 TRENCH PROFILE

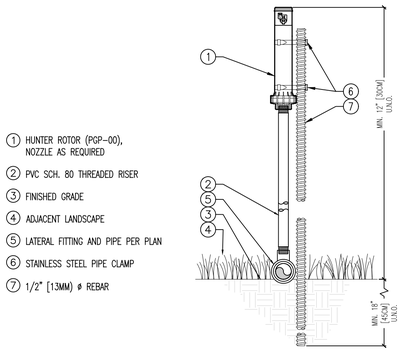



1. FINISH GRADE/TOP OF MULCH
2. HUNTER PROS-06-CV
3. SWING JOINT ASSEMBLY; HUNTER SJ-712
4. PVC SCH-40 TEE OR ELL
5. PVC LATERAL PIPE
6. PLANT ROOT BALL
7. UNDISTURBED SOIL
8. PLACE POP-UP BUBBLER DIRECTLY AT THE EDGE OF THE ROOTBALL. ENSURE THAT THE STREAM BUBBLER SPRAYS DIRECTLY ONTO THE ROOTBALL TO WET THOROUGHLY.

# 8 TREE BUBBLER ASSEMBLY- SECTION



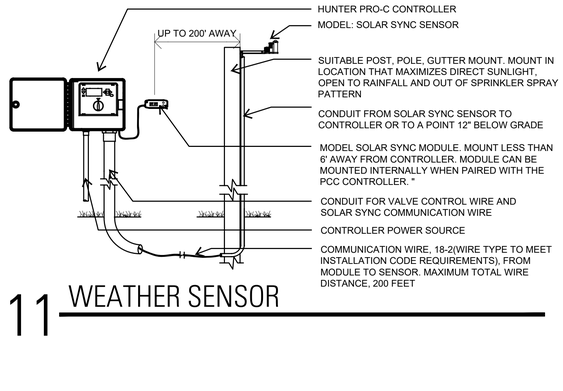

# 4 MANUAL ISOLATION VALVE



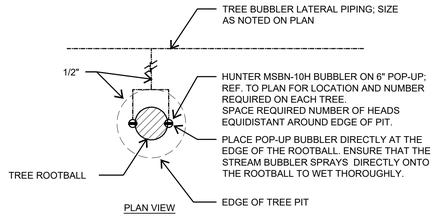

1. HUNTER ROTOR (PGP-00), NOZZLE AS REQUIRED
2. PVC SCH. 80 THREADED RISER
3. FINISHED GRADE
4. ADJACENT LANDSCAPE
5. LATERAL FITTING AND PIPE PER PLAN
6. STAINLESS STEEL PIPE CLAMP
7. 1/2" [13MM) ø REBAR

NOTE
1. TEMPORARY IRRIGATION SYSTEMS MUST BE INSTALLED BY A LICENSED IRRIGATOR OR AN IRRIGATION TECHNICIAN UNDER THE SUPERVISION OF A LICENSED IRRIGATOR.
2. TEMPORARY IRRIGATION SYSTEMS MUST MEET THE BACKFLOW PREVENTION REQUIREMENTS IN SUBCHAPTER E OF THIS CHAPTER (RELATING TO BACKFLOW PREVENTION AND CROSS-CONNECTIONS).
3. TEMPORARY IRRIGATION SYSTEMS MUST BE INSTALLED IN ACCORDANCE WITH ALL LOCAL AND STATE CODES
4. TEMPORARY IRRIGATION SYSTEMS MUST HAVE ESTABLISHED A DEFINITE END DATE AT WHICH TIME THE TEMPORARY IRRIGATION SYSTEM MUST BE REMOVED.
5. ALL COVERAGE SHALL BE HEAD TO HEAD.
6. SYSTEM SHALL BE DESIGNED TO AVOID ANY OVERSPRAY ONTO SIDEWALKS AND STREETS.
7. TEMPORARY IRRIGATION SYSTEM ZONE VALVES SHALL BE HUNTER NODE CONTROLLER VALVES. CONTRACTOR SHALL CLUSTER VALVE LOCATIONS WHERE POSSIBLE TO COMBINE ZONES ON MULTIPLE VALVE CONTROLLERS (NODE-200, NODE-400, ETC...)
8. NO PIPING SHALL BE RUN WITHIN THE PROTECTION ZONE OF EXISTING TREES UNLESS APPROVED BY LANDSCAPE ARCHITECT.
9. CONTRACTOR SHALL VERIFY ON-SITE AND BY CONSULTING WITH LANDSCAPE ARCHITECT AREAS THAT WILL REQUIRE TEMPORARY IRRIGATION PRIOR TO DESIGN AND INSTALLATION OF SYSTEM.
10. USE #4 X 24" REBAR ROD WITH "J" HOOKED RADIUS AT ONE END TO HOLD PIPE SECURELY IN PLACE. INSTALL AT INTERVALS OF 10 FEET.

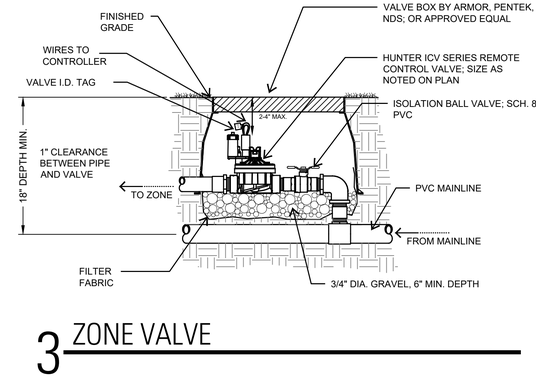
# 14 TEMPORARY IRRIGATION ROTOR



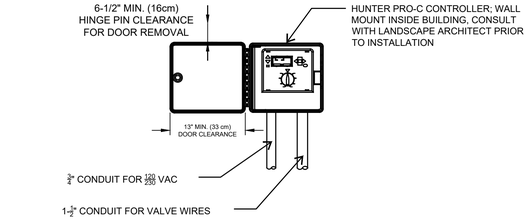

# 11 WEATHER SENSOR




# 7 TREE BUBBLER ASSEMBLY- PLAN

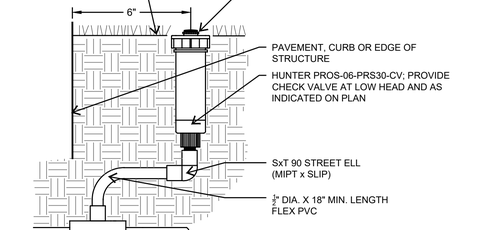



# 3 ZONE VALVE

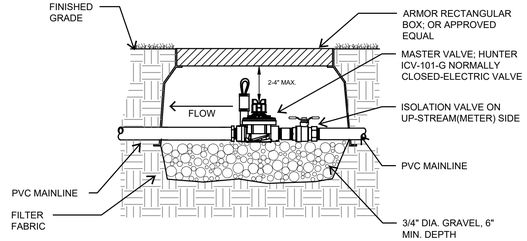



NOTES:
1. All electrical work to comply with applicable codes.
2. Provide remote control unit per spec.

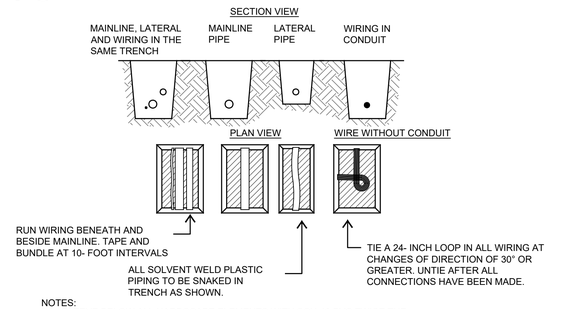
# 10 IRRIGATION CONTROLLER




# 6 MP ROTATOR

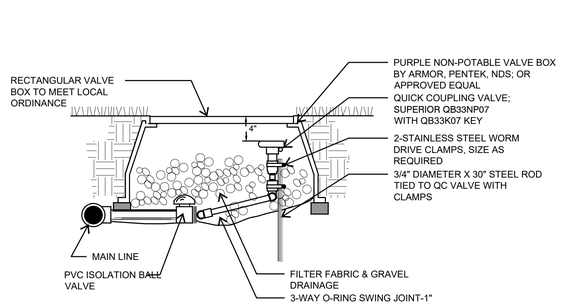



# 2 MASTER VALVE

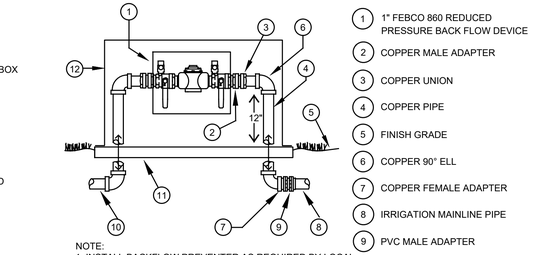



NOTES:
1. SLEEVE BELOW ALL HARDSCAPE ELEMENTS WITH SCH-40 PVC TWICE THE DIAMETER OF THE PIPE OR WIRE BUNDLE WITHIN
2. FOR PIPE AND WIRE BURIAL DEPTHS SEE TRENCH PROFILE DETAIL

# 9 IRRIGATION TRENCH



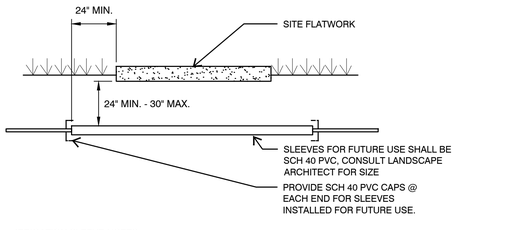

# 5 QUICK COUPLER VALVE




1. 1" FEBCO 860 REDUCED PRESSURE BACK FLOW DEVICE
2. COPPER MALE ADAPTER
3. COPPER UNION
4. COPPER PIPE
5. FINISH GRADE
6. COPPER 90° ELL
7. COPPER FEMALE ADAPTER
8. IRRIGATION MAINLINE PIPE
9. PVC MALE ADAPTER
10. POINT-OF-CONNECTION
11. 3" THICK CONCRETE PAD SET 1" ABOVE GRADE
12. BACK FLOW SECURITY CAGE REFER TO DTL. 8/LI 2.2

NOTE:
1. INSTALL BACKFLOW PREVENTER AS REQUIRED BY LOCAL CODES AND HEALTH DEPARTMENT. VERIFY LOCAL REQUIREMENTS PRIOR TO INSTALLATION.
2. PROVIDE FREEZE PROTECTION.

# 1 BACKFLOW DEVICE




IRRIGATION SLEEVE NOTES:
1. PIPING AND CONTROL WIRES SHALL BE INSTALLED IN SEPARATE SLEEVES UNDER PAVING. REFER TO IRRIGATION SLEEVE PLAN FOR SIZE AND LOCATION.
2. SLEEVE ELEVATION SHALL BE TWENTY-FOUR (24") INCHES BELOW TOP OF PAVEMENT.
3. SLEEVES SHALL EXTEND ONE (1') FOOT BEYOND THE EDGE OF PAVEMENT AND BE STAKED FOR LOCATION.
4. ALL SLEEVES 4" OR LESS, SHALL BE SCH-40 PVC, ALL SLEEVES GREATER THAN 4" SHALL BE CLASS-200 SDR-21. SLEEVES SHALL BE CAPPED ON BOTH ENDS AND SIZED A MIN. OF TWO (2) TIMES THE DIAMETER OF THE PIPE INSIDE THE SLEEVE.
5. SLEEVE LOCATIONS SHALL BE MARKED ONTO THE TOP OF CURB WITH A SAW-CUT OF TWO PARALLEL LINES THAT ARE TWO (2') INCHES LONG AND ONE (1") INCH APART ON BOTH SIDES OF THE STREET OR CROSSING.
6. THE CONTRACTOR RESPONSIBLE FOR INSTALLATION OF SLEEVES SHALL ALSO BE RESPONSIBLE TO LOCATE ANY SLEEVE WHICH CANNOT BE FOUND DURING THE INSTALLATION OF THE IRRIGATION SYSTEM.

# 13 IRRIGATION SLEEVE

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**CAMP BOW WOW**

N. Elliot Know Blvd.
New Braunfels, TX

project #: 26.001
date: 07 / 15 / 26
drawn by: LH
checked by: WR
drawing title: **IRRIGATION DETAILS**
drawing number: **LI2.1**

1.) DRIP LINE SHALL BE BURIED 3" TO 5" BELOW FINISHED SOIL GRADE IN PLANTING BEDS AFTER PLANTING AND BEFORE MULCH AND 4" TO 6" BELOW FINISHED GRADE IN TURF AREAS.
2.) STAGGER EMITTER SPACING IN PARALLEL ROWS TO CREATE TRIANGULAR WETTING PATTERN.
3.) ALL DRIP LINE SHALL BE SECURED USING SOIL STAPLES AS SUPPLIED BY THE MANUFACTURER SPACED A MAX. OF 3' ON CENTER.
4.) DRIP LATERALS SHOWN ON THE PLANS ARE USED TO INDICATE ZONING SIZES AND RELATIONSHIPS. INSTALLATION OF DRIP ZONES SHALL FOLLOW ONE OF THE TWO METHODS DESCRIBED IN DTLS. 2-3/LI 2.2. AND NETAFIM'S RECOMMENDED INSTALLATION SPECIFICATIONS.
5.) NETAFIM HCVXR SERIES DRIP LINE SHALL BE USED AS FOLLOWS;
TURF AREAS; TLHCVXR5-12, ROWS SPACED AT 12 INCHES
BED AREAS; TLHCVXR7-18, ROWS SPACED AT 18 INCHES
BED AREAS WITH SLOPE 3:1 OR MORE; TLHCVXR7-12
6.) WHEN CONFLICTS OCCUR BETWEEN THESE DRAWINGS AND THE MANUFACTURER'S SPECIFICATIONS DEFER TO THE MANUFACTURER'S RECOMMENDED SPECIFICATIONS.
7.) EACH DRIP ZONE SHALL HAVE A DRIP SYSTEM OPERATION INDICATOR, AS MANUFACTURED BY NETAFIM. INSTALL PER NETAFIM RECOMMENDATIONS.

PROPER SIZING OF SUPPLY AND EXHAUST HEADERS
(17MM HCVXR SERIES DRIPLINE)

| TOTAL ZONE FLOW | PIPE SIZE |
|---|---|
| UP TO 5 GPM | 1/2" SCH 40 PVC or 1/2" CLASS 315 PVC |
| 5.1 TO 8 GPM | 3/4" CLASS 200 PVC |
| 8.1 TO 13 GPM | 1" CLASS 200 PVC |
| 13.1 TO 22 GPM | 1-1/4" CLASS 200 PVC |
| 22.1 TO 31 GPM | 1-1/2" CLASS 200 PVC |

NOTE: A 45 PSI PRESSURE REGULATOR IS RECOMMENDED TO OBTAIN MAXIMUM RUN LENGTHS AND MAXIMIZE ZONE SIZE WHEN INSTALLING HCVXR SERIES DRIPLINE.

# 10 DRIP DESIGN NOTES

**POWDERCOATED UNITS**

Pre-powdercoat Treatment Process
Clean GuardShack™ unit with a S-44 alkaline cleaner, overflow rinse, apply an AC-8115 iron phosphate treatment, overflow rinse and finish with a #198 sealer rinse to prevent rusting and improve adhesion.

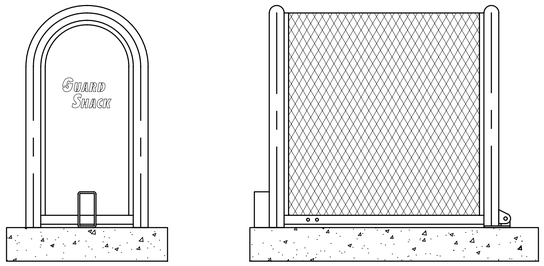
Powdercoat Treatment Process
Units shall be preheated and coated by electrostatic application of 2.0 to 3.5 mil thickness on all surfaces. Powder shall be RAL 1019 Woodlands Tan or TCI 8810-6058 Forest Green or approved equal Impact Resistance Finish 160 inch pounds direct 160 inch pounds reverse, per ASTM D-2794 specs. Gloss Finish >85, per ASTM D-523. Adhesion to be rated excellent when tested to ASTM D-3359 standards.

**GUARDSHACK™ GENERAL SPECIFICATIONS**

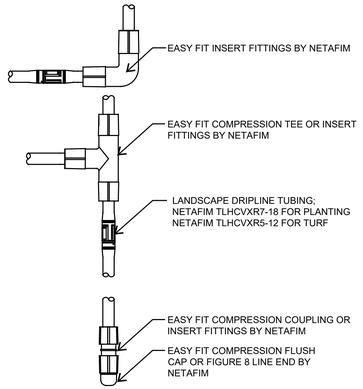
- All pipe shall be 1 ¼" schedule 40 A.S.T.M. A-53 Grade A- Electric Weld pipe.
- Angle Iron shall be 1" x 1" x 1/8" steel.
- Stainless steel units shall be 1 ¼" schedule 10 A.S.T. M. A-312 304 S.S.
- Expanded metal shall be ½" spacing x # 13 GA flattened diamond pattern steel.
- All hinges shall have hidden/internal mounting points.
- All stainless steel shall be sandblasted after fabrication to remove burrs, flashing and sharp edges.
- There shall be no exposed ends of expanded metal on the outside of the enclosure.
- Welding shall be a minimum of ¼" long welds on 4" spacing.
- One Lock Shield Bracket on hinged units shall be welded on end opposite hinges.
- Hardware kits provided for mounting enclosures.
- On 304 S.S. units, all hinges, exposed hardware, and brackets shall be 304 S.S.
- All hardware shall be securely attached to enclosures. See HK-200 for hardware specifications.
- All enclosures shall withstand a minimum of 200 lbs. per square foot without any permanent deflection or distortion.
- 3/8" spacing between angle iron framework of enclosure and slab to prevent rusting. Only pipe ends to touch slab.

**STANDARD GUARDSHACK™ SIZES INTERNAL DIMENSIONS**

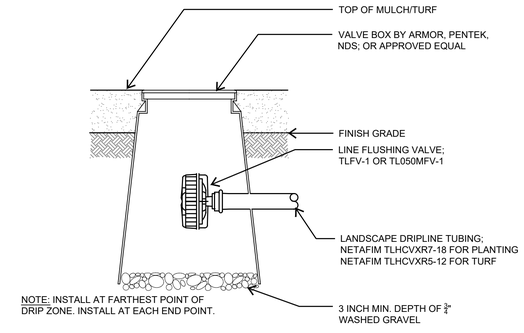
| | | |
|---|---|---|
| **GS - 3** | **10" W x 24" H x 40" L** | **HINGED** |
| **GS - 4** | **16" W x 30" H x 46" L** | **HINGED** |




# 8 BACKFLOW SECURITY CAGE

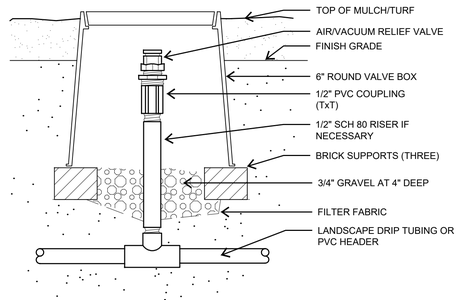



# 6 DRIPLINE FITTINGS



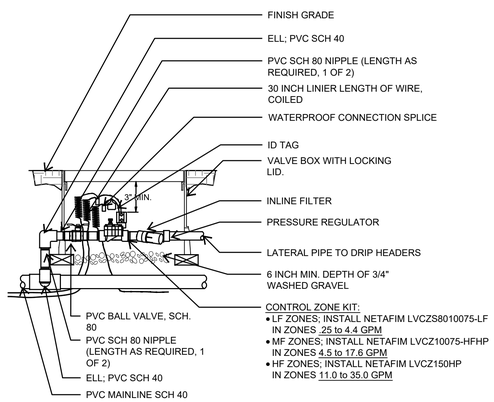

NOTE: INSTALL AT FARTHEST POINT OF DRIP ZONE. INSTALL AT EACH END POINT.

# 5 DRIPLINE FLUSH VALVE

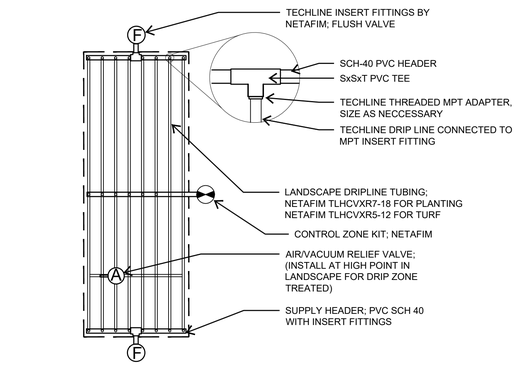



NOTE: INSTALL AT HIGH POINT OF DRIP ZONE. IF MORE THAN TWO HIGH POINTS IN A ZONE, INSTALL AT EACH HIGH POINT.

# 4 AIR RELIEF VALVE



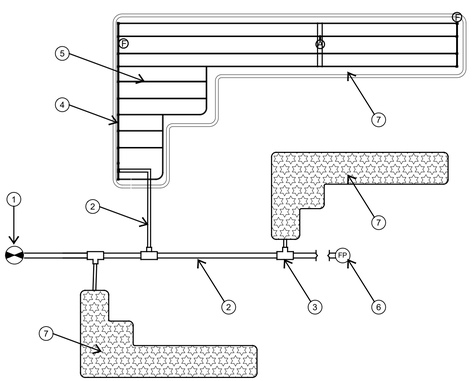

# 1 CONTROL ZONE KIT



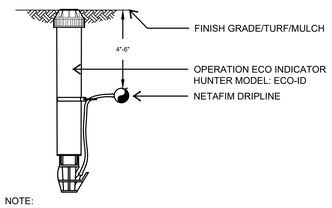

# 3 DRIPLINE INSTALLATION (CENTER FEED)




# 2 DRIPLINE INSTALLATION (END FEED)




# 9 DRIP HATCH LAYOUT




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.

# 7 OPERATION INDICATOR

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6122 DeZavala Rd.
San Antonio, Texas 78249
Tel: 210.417.4307
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STATE OF TEXAS
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REGISTERED LANDSCAPE ARCHITECT
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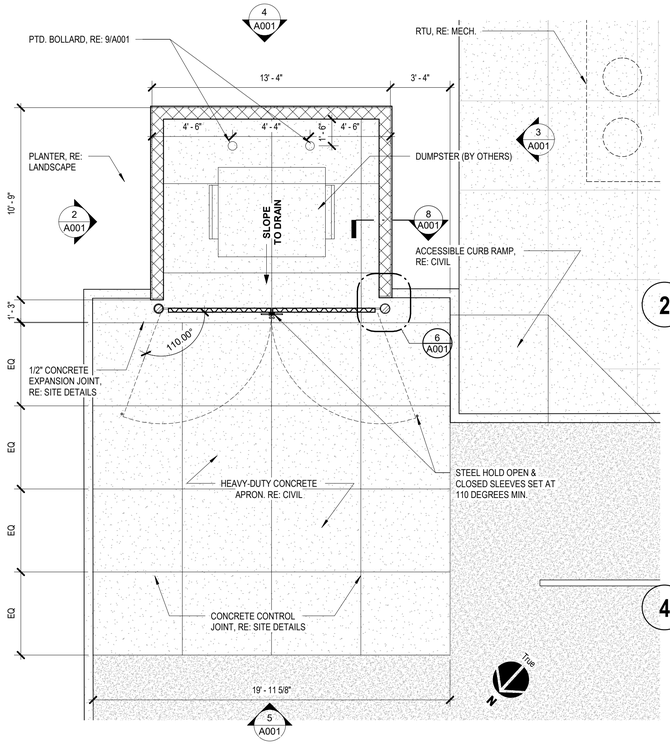
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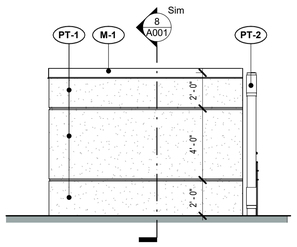
**CAMP BOW WOW**

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New Braunfels, TX

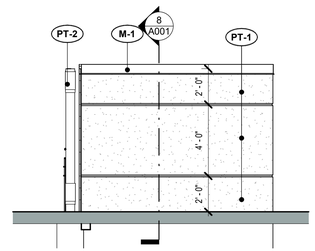
project #: 26.001
date: 07 / 15 / 26
drawn by: LH
checked by: WR
drawing title: **IRRIGATION DETAILS**
drawing number: **LI2.2**



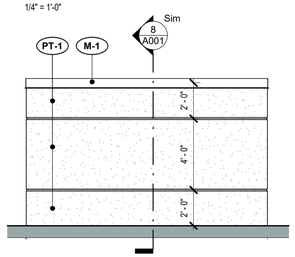

## 1 DUMPSTER ENCLOSURE PLAN
SCALE: 1/4" = 1'-0"



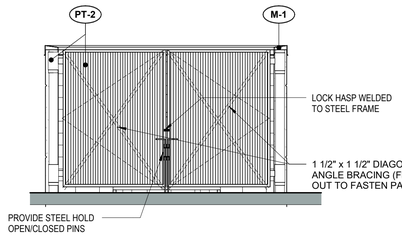

## 2 ENCLOSURE - EAST ELEVATION
SCALE: 1/4" = 1'-0"



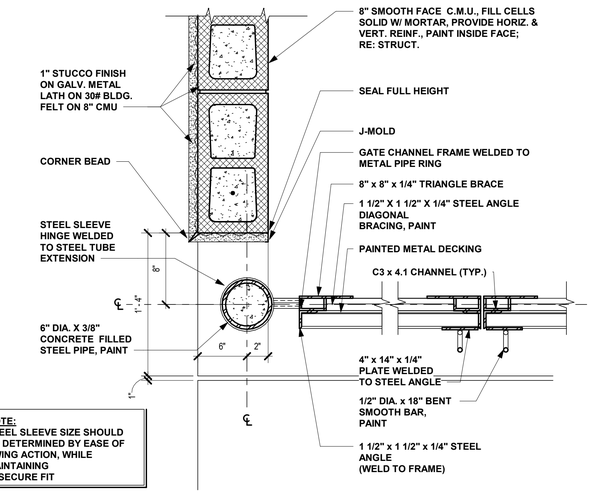

## 3 ENCLOSURE WEST ELEVATION
SCALE: 1/4" = 1'-0"




## 4 ENCLOSURE - SOUTH ELEVATION
SCALE: 1/4" = 1'-0"

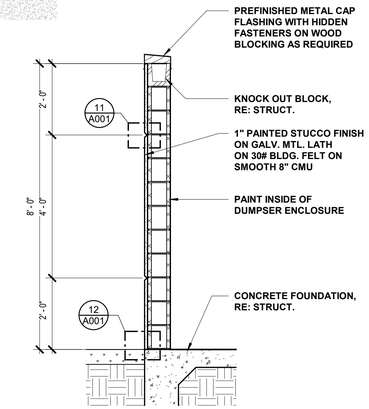



## 5 ENCLOSURE NORTH ELEVATION
SCALE: 1/4" = 1'-0"

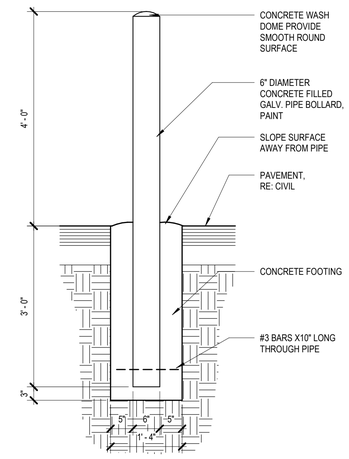



**NOTE:**
**STEEL SLEEVE SIZE SHOULD BE DETERMINED BY EASE OF SWING ACTION, WHILE MAINTAINING A SECURE FIT**

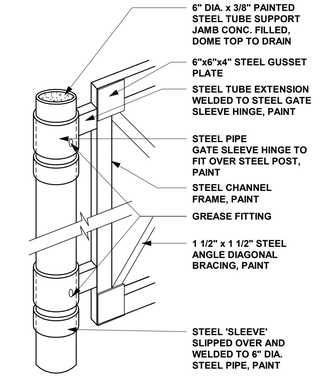
## 6 DUMPSTER GATE DETAIL - CMU
SCALE: 1 1/2" = 1'-0"



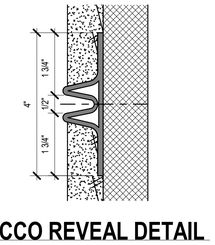

## 8 DUMPSTER ENCLOSURE SECTION
SCALE: 1/2" = 1'-0"



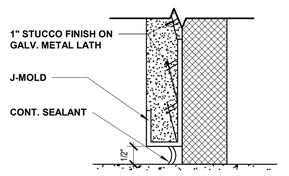

## 9 PIPE BOLLARD DETAIL
SCALE: 3/4" = 1'-0"



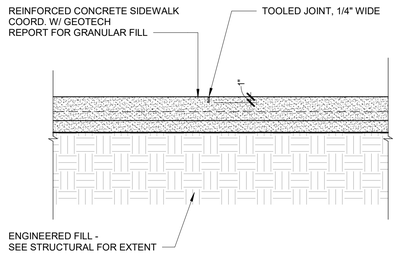

## 10 GATE HINGE DETAIL
SCALE: 1 1/2" = 1'-0"



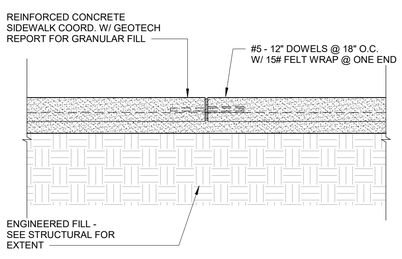

## 11 STUCCO REVEAL DETAIL
SCALE: 6" = 1'-0"



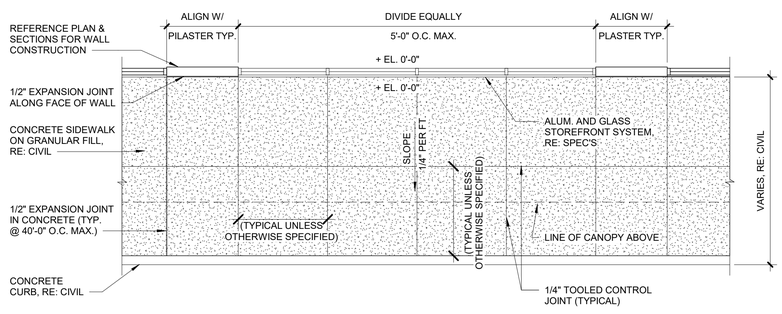

## 12 STUCCO SILL DETAIL
SCALE: 6" = 1'-0"




## 7 SIDEWALK C.J. DETAIL
SCALE: 1" = 1'-0"




## 13 SIDEWALK E.J. DETAIL
SCALE: 1" = 1'-0"




## 14 TYPICAL SIDEWALK DETAIL
SCALE: 1/4" = 1'-0"


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REGISTERED ARCHITECT — DARED T. SHAW — 17837 — STATE OF TEXAS

07.24.26

| Revisions | | |
|---|---|---|
| Number | Description | Date |


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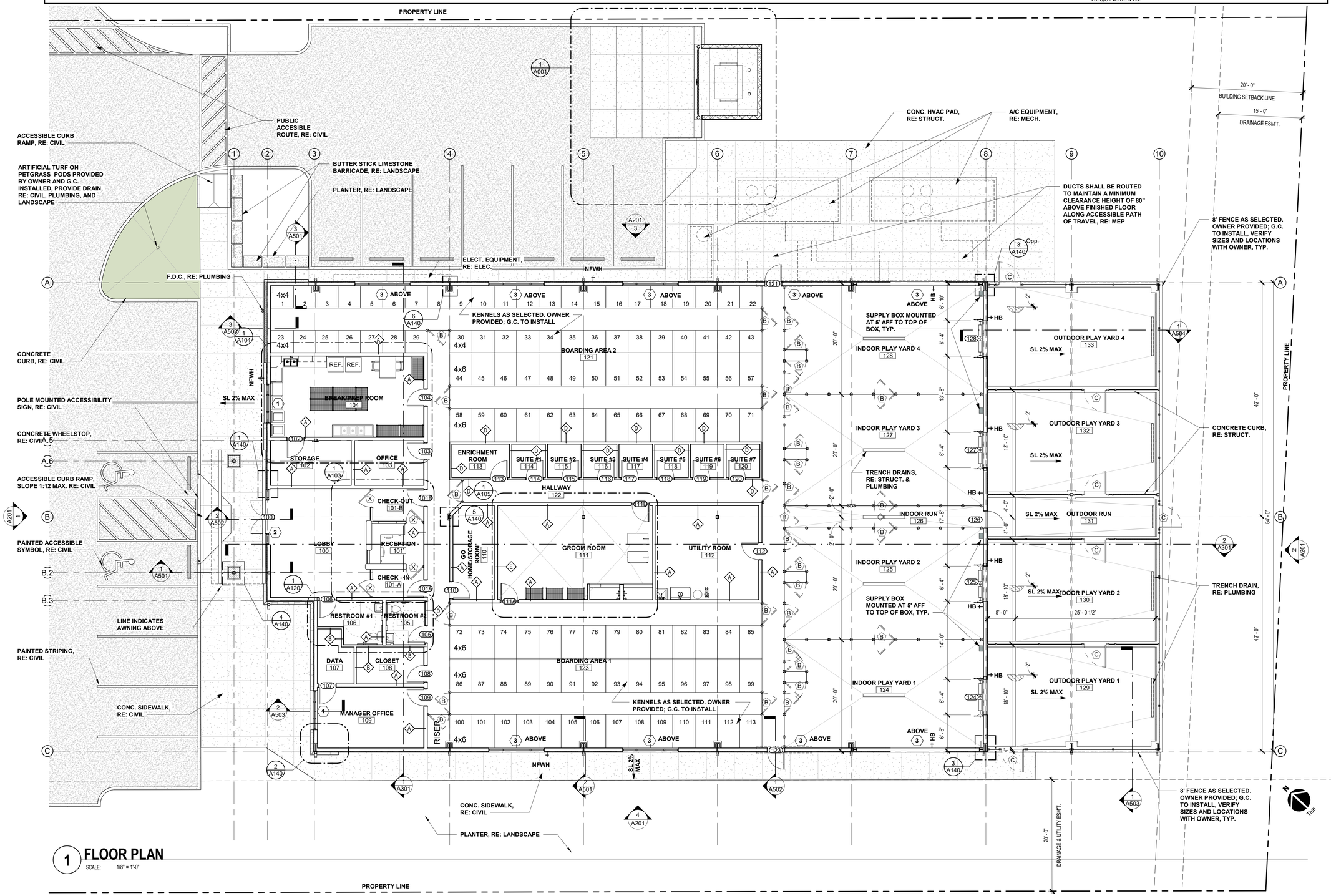

**CAMP BOW WOW**

1450 N. Business IH 35
New Braunfels, TX 78130

project #: 25.165
date: 07.24.26
drawn by: JE
checked by: JG
drawing title: **ARCHITECTURAL SITE DETAILS**
drawing number: **A001**

CONSTRUCTION NOTES

1. CONTRACTOR SHALL VISIT PROJECT SITE TO FAMILIARIZE THEMSELVES WITH THE SCOPE OF WORK, AND TO FIELD VERIFY EXISTING CONDITIONS PRIOR TO BIDDING. ANY AMBIGUOUS ITEMS OR DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT IN WRITING PRIOR TO SUBMTTING PROPOSAL.
2. THE CONTRACTOR IS TO COMPLY WITH FEDERAL, STATE AND LOCAL CODE REQUIREMENTS. ADDITIONALLY, THE CONTRACTOR IS TO COMPLETE TEXAS HEALTH DEPARTMENT NOTIFICATIONS AND SUBMIT FORMS AND REQUIRED INFORMATION TO MEET "TEXAS COMMISSION OF ENVIRONMENTAL QUALITY" (TECH) REQUIREMENTS PRIOR TO START OF PROJECT.
3. DO NOT SCALE DRAWINGS. IF DIMENSIONS ARE IN QUESTION, OBTAIN CLARIFICATION FROM THE ARCHITECT BEFORE CONTINUING THE WORK.
4. NOTIFY ARCHITECT OF ANY VARIATION REQUIRED IN THE DIMENSIONS NOTED FOR INSTALLATION OF EQUIPMENT BEFORE CONTINUING WITH THE WORK.
5. VERIFY DIMENSIONS BEFORE ORDERING MATERIALS AND PROCEEDING WITH THE WORK.
6. FLOOR PLAN(S) DIMENSIONS ARE TO THE CENTER LINE OF COLUMNS, FACE OF CONCRETE OF MASONRY WALLS AND FACE OF METAL STUDS, UNLESS NOTED OTHERWISE.
7. PROVIDE BLOCKING AS REQUIRED FOR PROPER SUPPORT OF WALL AND CEILING MOUNTED EQUIPMENT.
8. COORDINATE ROOF PENETRATIONS WITH M.E.P. PENETRATIONS SHALL BE FLASHED TO MEET "SMACNA" DETAIL REQUIREMENTS.
9. SHOULD THE CONTRACTOR SUSPECT THAT HAZARDOUS MATERIALS ARE PRESENT, IMMEDIATELY NOTIFY OWNER TO ARRANGE FOR PROPER REMOVAL OF ANY AND ALL HAZARDOUS MATERIALS.
10. REFER TO M.E.P. DRAWINGS FOR ADDITIONAL NOTES AND INSTRUCTIONS.
11. CONTRACTOR SHALL REMOVE DELETERIOUS MATERIALS AND DEBRIS FROM PROJECT SITE ON A DAILY BASIS, AND DISPOSE OF ITEMS IN ACCORDANCE WITH APPLICABLE LOCAL, STATE AND FEDERAL CODE REQUIREMENTS.




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


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REGISTERED ARCHITECT · DARED T. SHAW · 17837 · STATE OF TEXAS

07.24.26

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# CAMP BOW WOW

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New Braunfels, TX 78130

| | |
|---|---|
| project #: | 25.165 |
| date: | 07.24.26 |
| drawn by: | JE |
| checked by: | JG |

drawing title:

**FLOOR PLAN**

drawing number:

**A101**

**FENCE TYPES:**

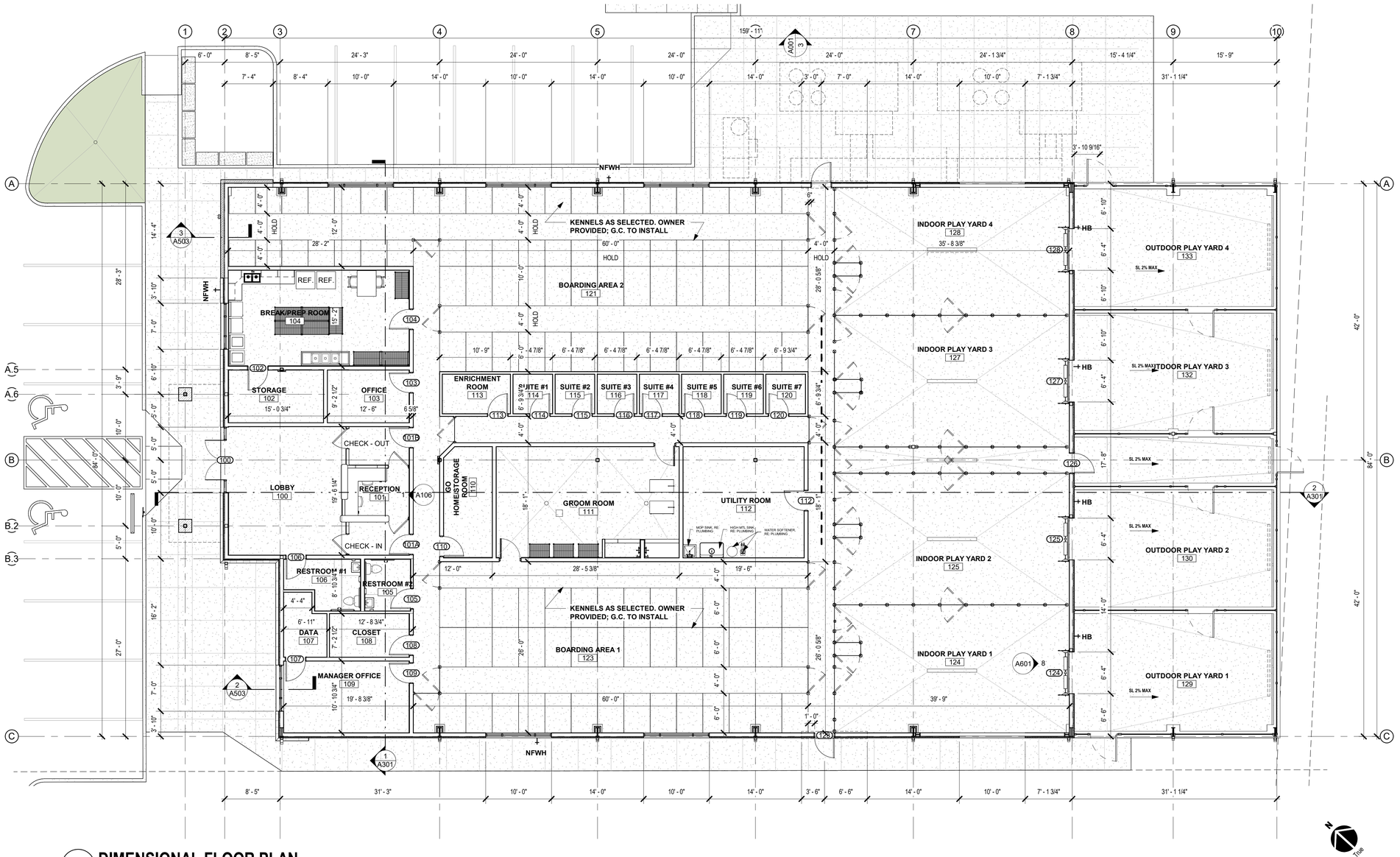
1. INDOOR PLAY AREA INTERIOR FENCE: 6' - 0" x 5' - 0" HIGH HDPE GATOR WALL AND GATES. SEE SHEET A801.
2. OUTDOOR INTERNAL FENCE: 7' - 0" PVC VINYL FENCE. SEE SHEET A801.
3. OUTDOOR FENCE: 8' - 0" HIGH PVC VINYL FENCE. SEE SHEET A801.

*ALL FENCE TO BE PROVIDED BY OWNER AND INSTALLED BY GENERAL CONTRACTOR, TYP.

**KENNEL DESIGN:**

CABINS:

SMALL DOGS CABIN: 4' W x 4' L x 6' H
LARGE DOGS CABIN: 4' W x 6' L x 6' H




## 1 DIMENSIONAL FLOOR PLAN

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


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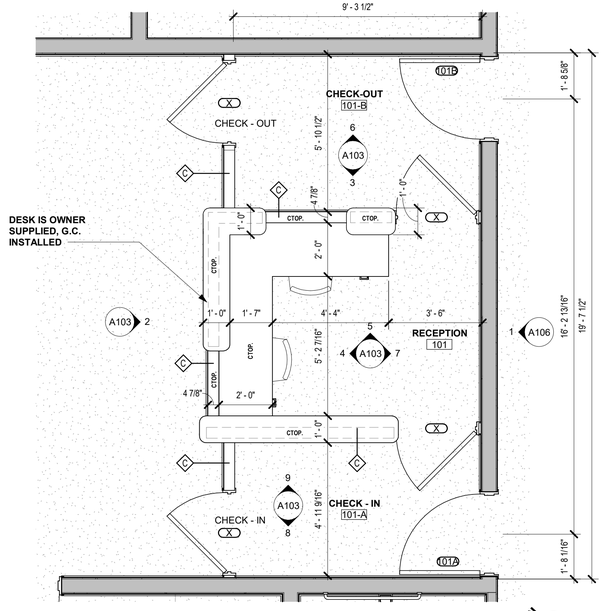
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|---|---|
| project #: | 25.165 |
| date: | 07.24.26 |
| drawn by: | JE |
| checked by: | JG |

drawing title:

**DIMENSIONAL FLOOR PLAN**

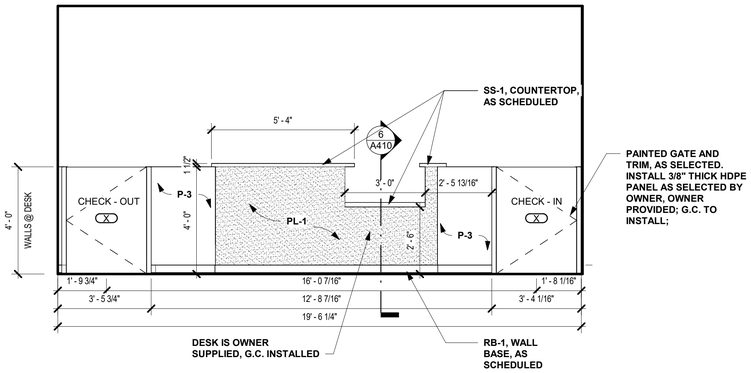
drawing number:

**A102**



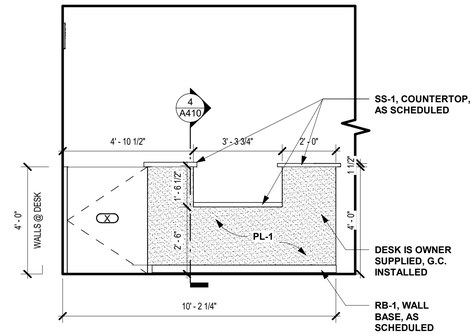

## 1 ENLARGED RECEPTION FLOOR PLAN

SCALE: 3/8" = 1'-0"



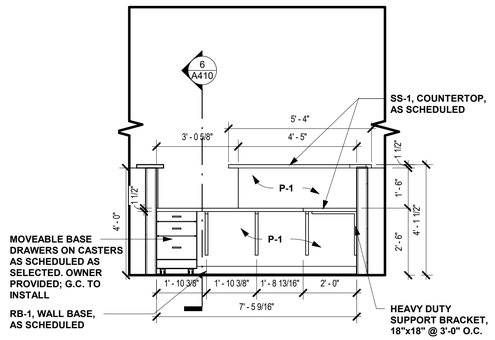

## 2 RECEPTION - FRONT ELEV.

SCALE: 3/8" = 1'-0"



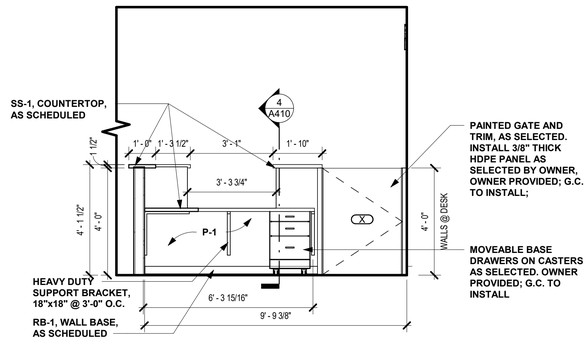

## 3 RECEPTION - SIDE ELEV.

SCALE: 3/8" = 1'-0"



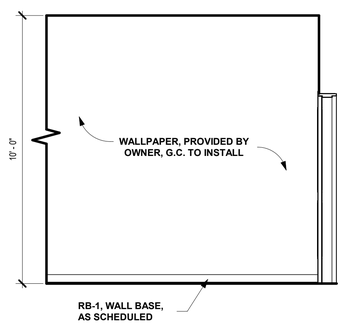

## 4 RECEPTION - BACK ELEV.

SCALE: 3/8" = 1'-0"



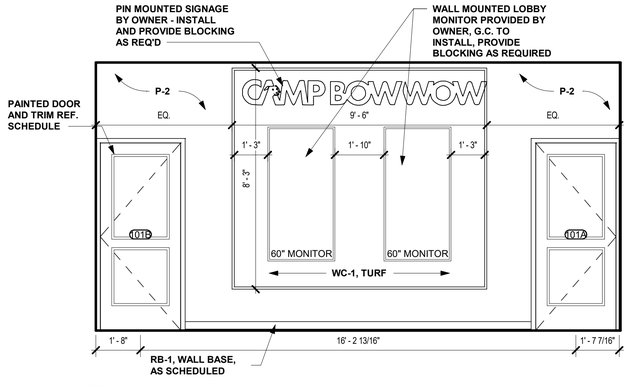

## 5 RECEPTION - SIDE ELEV.

SCALE: 3/8" = 1'-0"



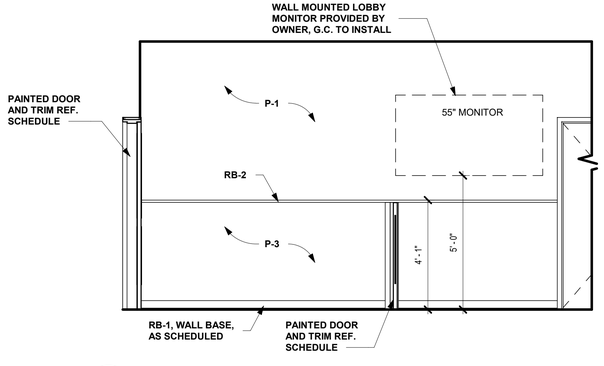

## 6 RECEPTION ELEV. 1

SCALE: 3/8" = 1'-0"



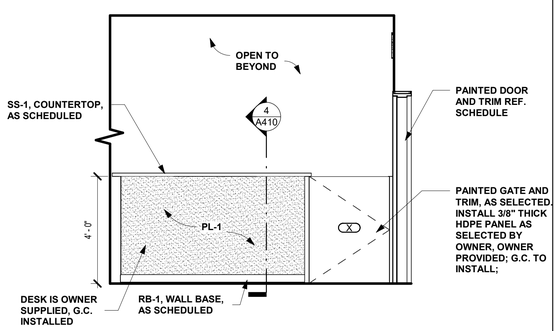

## 7 RECEPTION ELEV. 2

SCALE: 3/8" = 1'-0"




## 8 RECEPTION ELEV. 3

SCALE: 3/8" = 1'-0"




## 9 RECEPTION ELEV. 4

SCALE: 3/8" = 1'-0"


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07.24.26

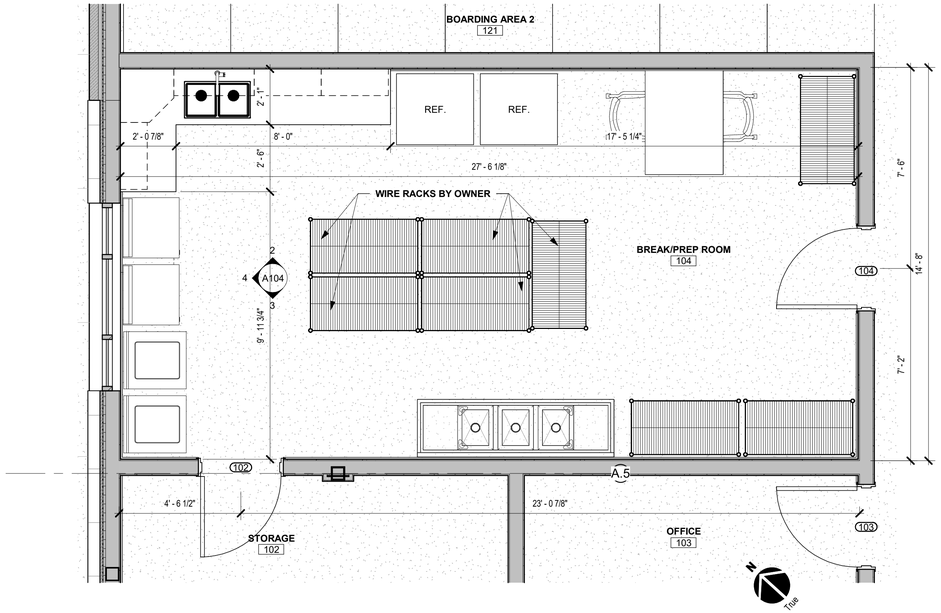
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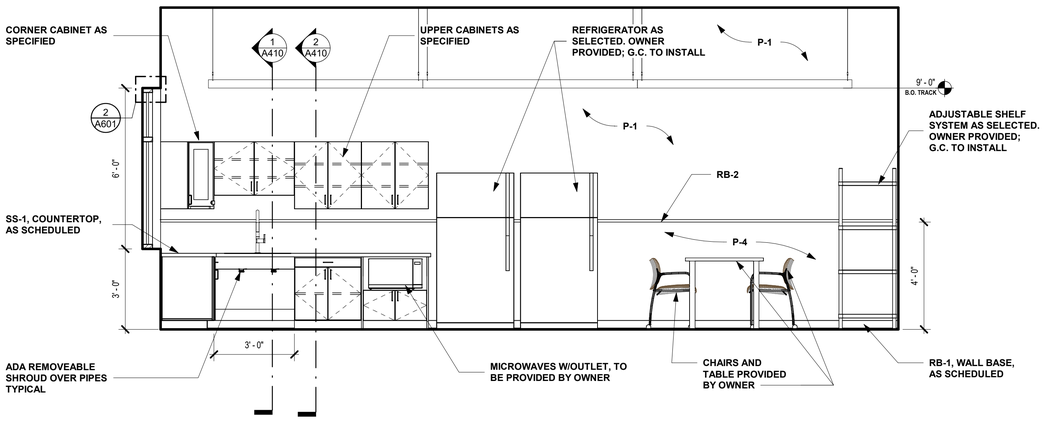
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New Braunfels, TX 78130

project #: 25.165
date: 07.24.26
drawn by: JE
checked by: JG
drawing title: **ENLARGED PLANS AND ELEVATIONS**
drawing number: **A103**



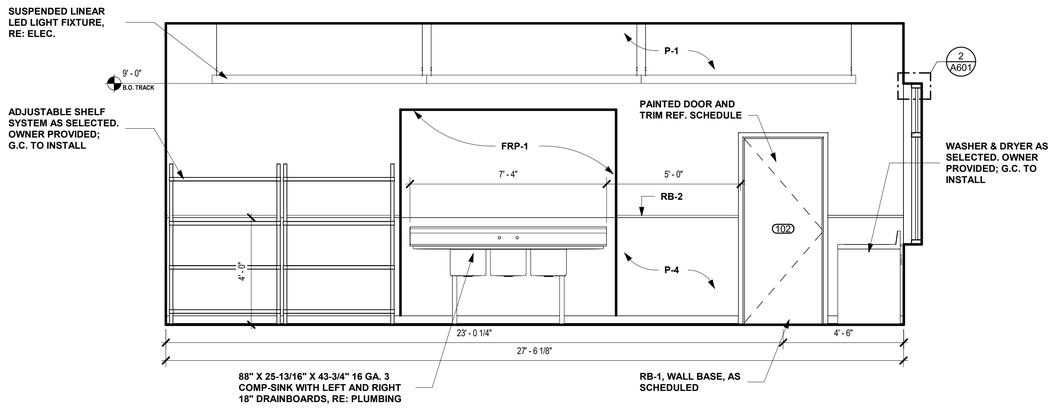

## 1 ENLARGED BREAK/PREP ROOM FLOOR PLAN

SCALE: 3/8" = 1'-0"



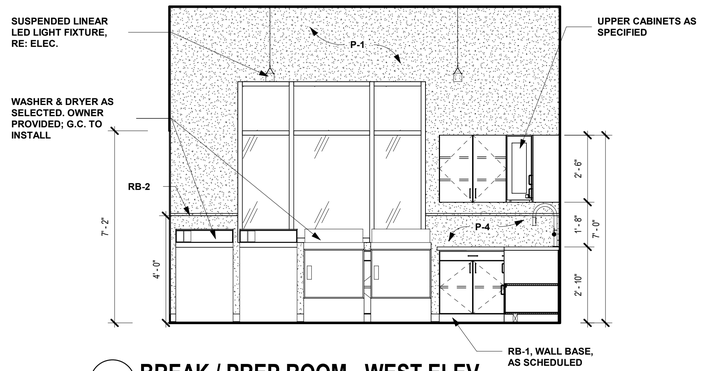

## 2 BREAK / PREP ROOM - NORTH ELEV.

SCALE: 3/8" = 1'-0"




## 3 BREAK / PREP ROOM - SOUTH ELEV.

SCALE: 3/8" = 1'-0"




## 4 BREAK / PREP ROOM - WEST ELEV.

SCALE: 3/8" = 1'-0"

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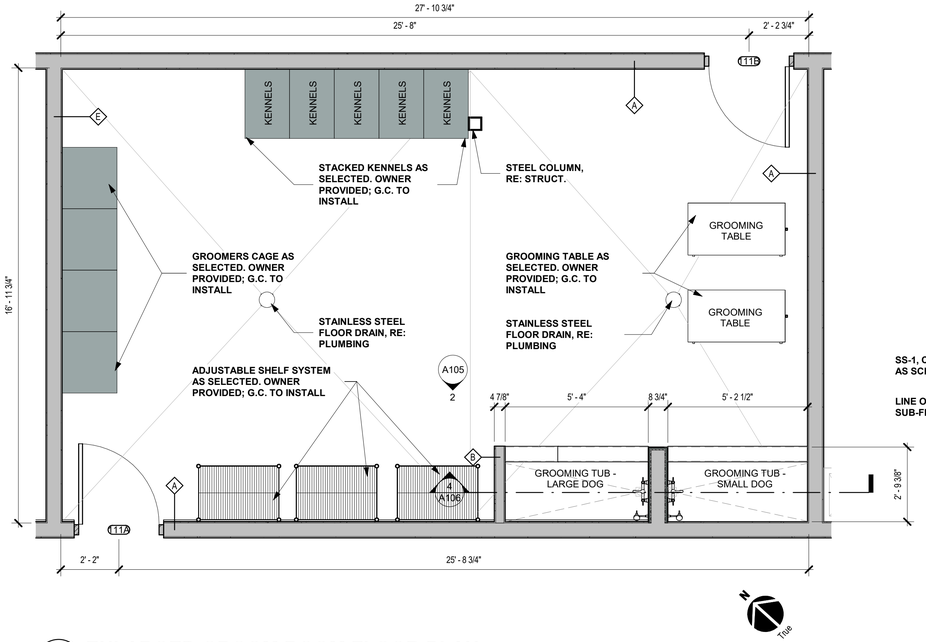
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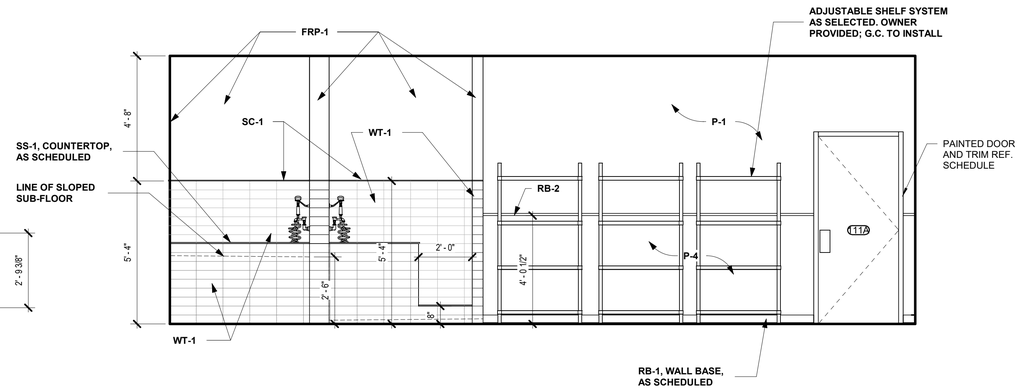
1450 N. Business IH 35
New Braunfels, TX 78130

project #: 25.165
date: 07.24.26
drawn by: JE
checked by: JG
drawing title: ENLARGED PLANS AND ELEVATIONS
drawing number: A104




## 1 ENLARGED GROOM ROOM FLOOR PLAN

SCALE: 3/8" = 1'-0"




## 2 GROOM ROOM ELEVATION

SCALE: 3/8" = 1'-0"


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Revisions

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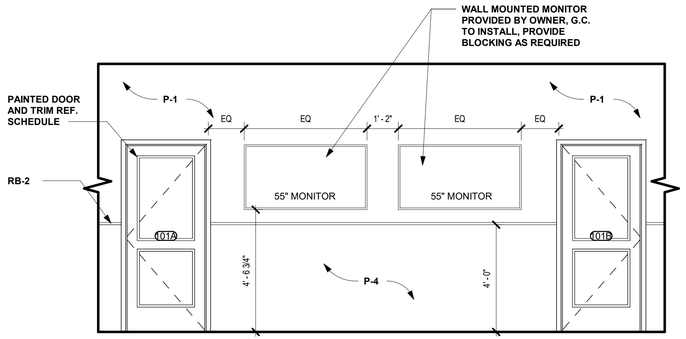

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**CAMP BOW WOW**

1450 N. Business IH 35
New Braunfels, TX 78130

project #: 25.165
date: 07.24.26
drawn by: JE
checked by: JG
drawing title: **ENLARGED PLANS AND ELEVATIONS**
drawing number: **A105**

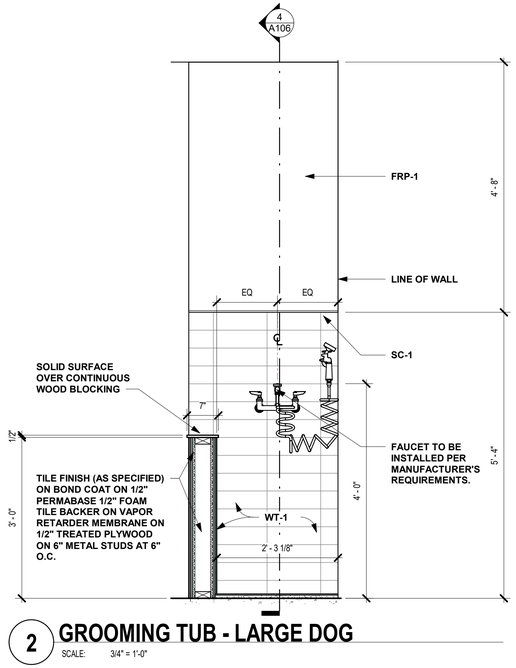



## 1 ELEVATION - DIGITAL WHITE BOARDS

SCALE: 3/8" = 1'-0"

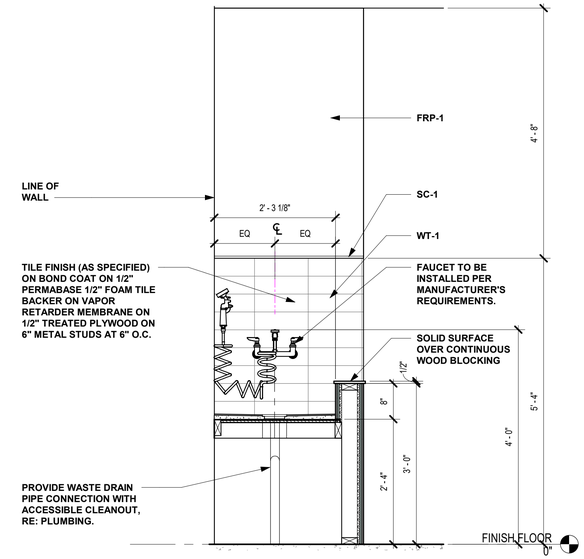
**NOTES FOR GROOMING TUBS:**

1. PROVIDE CONTINUOUS WATERPROOFING MEMBRANE AT ALL WET WALLS, HORIZONTAL SURFACES, AND TRANSITIONS.
2. PROVIDE WATER-RESISTANT BACKER BOARD AT ALL WALLS RECEIVING FRP PANELS.
3. PROVIDE FRP-1 PANELS OVER APPROVED WATER-RESISTANT SUBSTRATE.
4. SEAL ALL FRP JOINTS, CORNERS, PENETRATIONS, AND TRANSITIONS WITH MANUFACTURER-APPROVED SEALANT.
5. PROVIDE SUPPORT FRAMING AND SUBSTRATE WITH MINIMUM 1/4" PER FOOT SLOPE TOWARD FLOOR DRAIN.
6. PROVIDE MINIMUM 1/2" PLYWOOD SUBSTRATE WHERE REQUIRED.
7. PROVIDE PERMABASE CEMENT BOARD OR APPROVED EQUAL AT TILE/FRP BACKER LOCATIONS.
8. PROVIDE FLOOR DRAIN WITH REMOVABLE HAIR STRAINER. COORDINATE LOCATION WITH PLUMBING CONTRACTOR.
9. PROVIDE TILE AND GROUT FINISH WHERE INDICATED.
10. PROVIDE ACCESS PANEL WHERE REQUIRED FOR PLUMBING MAINTENANCE.
11. COORDINATE ALL PLUMBING ROUGH-INS AND EQUIPMENT CONNECTIONS WITH MEP DRAWINGS.
12. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS IN FIELD PRIOR TO CONSTRUCTION.
13. ALL DIMENSIONS AND INSTALLATION REQUIREMENTS SHALL BE COORDINATED WITH SELECTED EQUIPMENT MANUFACTURER PRIOR TO INSTALLATION.



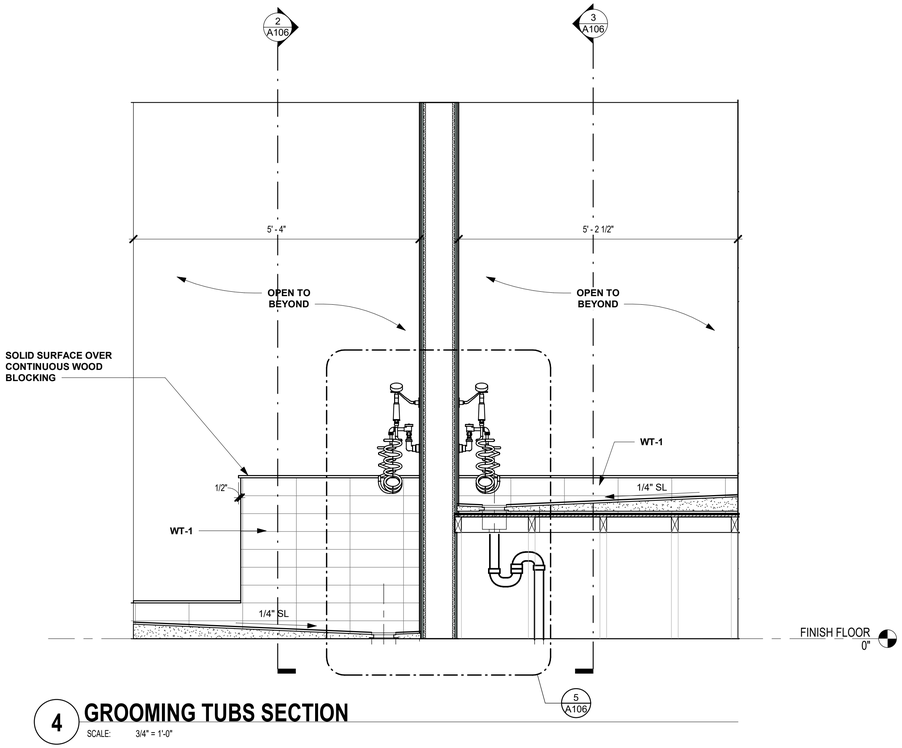

## 2 GROOMING TUB - LARGE DOG

SCALE: 3/4" = 1'-0"



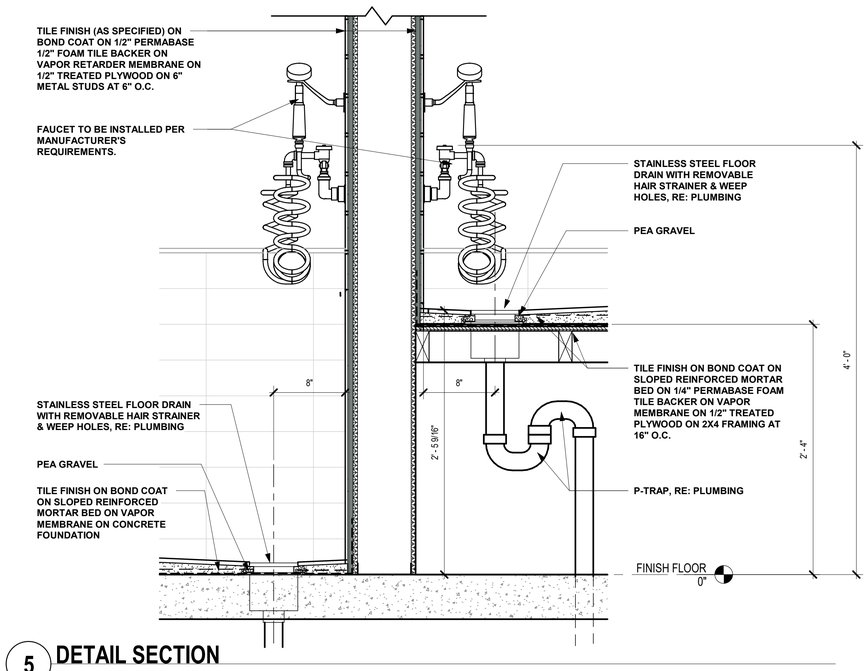

## 3 GROOMING TUB - SMALL DOG

SCALE: 3/4" = 1'-0"




## 4 GROOMING TUBS SECTION

SCALE: 3/4" = 1'-0"




## 5 DETAIL SECTION

SCALE: 1 1/2" = 1'-0"

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07.24.26

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# CAMP BOW WOW

1450 N. Business IH 35
New Braunfels, TX 78130

project #: 25.165
date: 07.24.26
drawn by: JE
checked by: JG
drawing title: **INTERIOR ELEVATIONS & DETAILS**
drawing number: **A106**

## RCP - GENERAL NOTES:

1. ALL CEILING HEIGHTS ARE FROM TOP OF FINISH FLOOR TO UNDERSIDE CEILING OR LIGHT FIXTURE-TYP. U.N.O.
2. LATERAL BRACING FOR SUSPENDED CEILING MUST BE PROVIDED BY CEILING CONTRACTOR, ADDITIONAL HANGER AND SAFETY WIRES FOR LIGHT FIXTURES, DUCTWORK, SPEAKERS, ETC. TO BE RESPONSIBILITY OF THE CEILING CONTRACTOR.
3. THE G.C. TO VERIFY W/LL, METHOD OF ATTACHMENT FOR ALL ITEMS ANCHORED TO, OR SUSPENDED FROM EXISTING STRUCTURE.
4. ARCH. DRAWINGS DETERMINE THE LOCATION OF LUMINAIRES & SUPERSEDE ALL OTHERS, TYO. U.N.O. - REFER TO ELECT. DRAWINGS FOR EXACT FIXTURE TYPE & QUANTITIES PROVIDED.
5. REFER TO MECHANICAL DRAWINGS FOR EXPOSED LOCATIONS OF DIFFUSERS & SUSPENDED MECHANICAL DUCTWORK DISTRIBUTION SYSTEM.
6. PROVIDE ADEQUATE CLEARANCES FOR FIXTURES, DUCTS, CEILINGS, AND RELATED PERTINENT ITEMS NECESSARY TO MANTAIN SPECIFIC HEIGHTS ABOVE FINISH FLOOR.
7. THE G.C. TO PROVIDE NECESSARY BLOCKING AND BRACING FOR FIXTURE INSTALLATION AND ALL ELECTRICAL COMPONENTS TO COMPLETE THE FINAL INSTALLATION OF ALL FIXTURES - COORDINATE WITH FIXTURE SUPPLIER.
8. COORDINATE ANY NEW ROOF PENETRATIONS WITH LANDLORD AND LANDLORD'S ROOF CONTRACTOR.
9. DIMENSIONS ARE FROM FACE OF GYP. BD. TYP, U.N.O.
10. COORDINATE ADDITIONAL CEILING ACCESS DOORS W/ PROJECT MANAGER AS REQUESTED BY CEILING TILES.
11. ATTACH ALL LIGHT FIXTURES TO BUILDING STRUCTURE OR CEILING GRID. DO NOT ATTACH LIGHT FIXTURE TO CEILING TILES.
12. LIGHTS TO BE INSTALLED LOWER THAN CEILING FANS TYPICIAL.

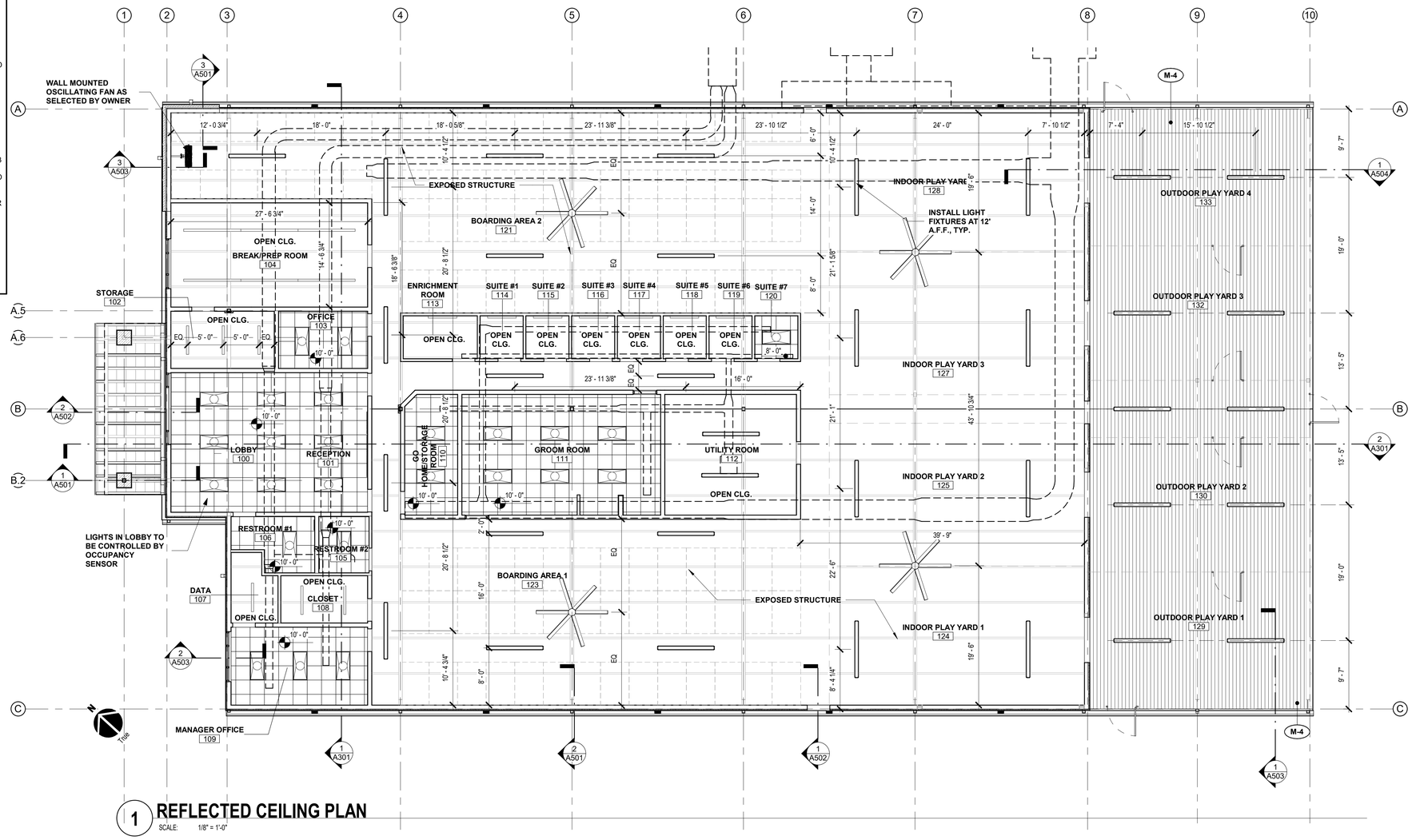
## KEY NOTES:

1. WEB CAM SERVER & MONITOR LOCATIONS - REQUIRES DUPLEX OUTLET AND 2X4 J-BOX FOR DATA CABLE FOR EACH MONITOR. DATA CABLE PROVIDED BY OTHERS.
2. PUPDATE SPEAKER LOCATIONS - MOUNT AT 108" O.C. A.F.F. - REQUIRES CABLE RUN BACK TO SERVER LOCATION BY OTHERS.
3. WEB CAM LOCATIONS - MOUNT AT 108"+ O.C. A.F.F. BY OTHERS.
4. TV / MONITOR LOCATIONS LOBBY / OFFICE / PREP ROOM / TRAINING ROOM - MIN. 42" TV / MONITOR, MOUNT AT 72" O.C. A.F.F. - REQUIRES BLOCKING, DUPLEX OUTLET & 2x4 J-BOX AT 72" A.F.F. CENTERED BEHIND TV/MONITOR. LUXURY SUITES-NO LARGER THAN 32" TV/MONITOR, MOUNT @ 80" O.C. A.F.F.-REQUIRES BLOCKING, DUPLEX OUTLET & 2x4 J-BOX FOR (2) SVGA PORTS @ 80" O.C. A.F.F. CENTERED BEHIND TV/MONITOR. DIGITAL WHITEBOARD TV/MONITORS - TWO (2) 55" TV/MONITORS, MOUNT AT 90" O.C. A.F.F. -REQUIRES BLOCKING, TWO (2) DUPLEX RECEPTACLES, AND ONE (1) 2X4 J-BOX FOR ETHERNET CABLE; SEE ELECTRICAL DRAWINGS FOR MOUNTING HEIGHTS AND LOCATIONS OF RECEPTACLES AND J-BOX. PROVIDE CONDUIT W/PULL STRING TO J-BOXES WITH STUBOUT JUST ABOV ACOUSTICAL CEILING.
5. PUPDATE SYSTEM MONITOR LOCATIONS - MOUNT MONITOR AT 108" O.C. A.F.F. - REQUIRES BLOCKING AND DUPLEX OUTLET AT 108" AF.F.
6. PUPDATE DOOR CHIME.
7. INSTALL IRONTON TRIPLE OUTLET CORD REEL #49666 40' 14AWG 12 / 3 SJT 15 AMP CORD w/ WALL MOUNTING BRACKET. MOUNT CORD REEL AT 108" A.F.F. RECEPTACLE SERVING CORD REEL SHALL BE MOUNTED AT 108" A.F.F. AND SHALL BE GFCI TYPE. GC TO PROVIDE BLOCKING FOR EACH CORD REEL.
8. PROVIDE NEW WHITE VINYL SOUND BATT INSULATION BLANKET OVER ENTIRE EXPOSED CEILING IN BACK OF HOUSE BOARDING AND INDOOR PLAY YARD AREAS. ELECTRICAL DRAWINGS FOR MOUNTING HEIGHTS AND R-VALUE MUST MEET SOUND AND ENERGY CODE FOR STATE AND LOCAL MUNICIPALITY.

NOTE:
-WEBCAMERA, TV/MONITOR SYSTEM AND SVGA CABLES PROVIDED AND INSTALLED BY OTHERS. GENERAL CONTRACTOR TO PROVIDE BLOCKING AND RECEPTACLES AS REQUIRED.

## RCP LEGEND

- 2x2 ACOUSTICAL GRID CEILING
- GYP. BD. CEILING
- 2x4 LED LIGHT FIXTURE
- 8' LONG INDUSTRIAL WET LISTED LINEAR LIGHT FIXTURE (SUSPENDED ON INTERIOR AND SURFACE MOUNTED ON EXTERIOR)
- 8' LONG DIRECT SUSPENDED LINEAR LIGHT FIXTURE
- 4' LONG DIRECT SUSPENDED LINEAR LIGHT FIXTURE
- HVLS FAN AS SELECTED BY OWNER




1 REFLECTED CEILING PLAN
SCALE: 1/8" = 1'-0"


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07.24.26

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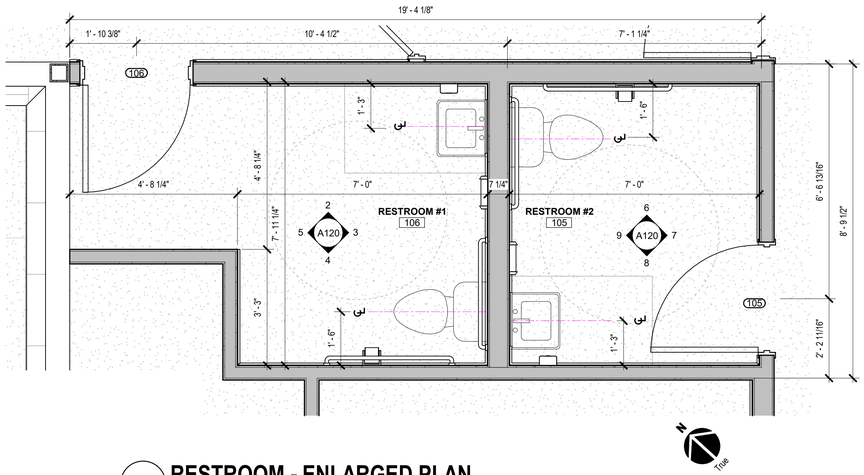

**CAMP BOW WOW**

1450 N. Business IH 35
New Braunfels, TX 78130

| | |
|---|---|
| project #: | 25.165 |
| date: | 07.24.26 |
| drawn by: | JE |
| checked by: | JG |

drawing title:
**REFLECTED CEILING PLAN**

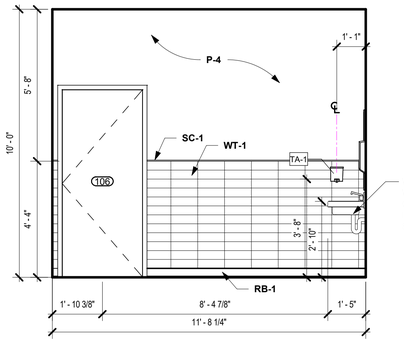
drawing number:
**A110**




## 1 RESTROOM - ENLARGED PLAN

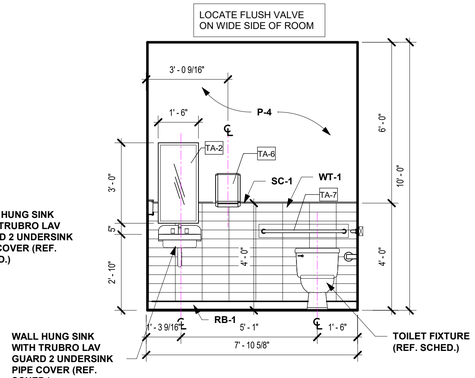
SCALE: 1/2" = 1'-0"

| TOILET ACCESSORIES SCHEDULE | | | | |
|---|---|---|---|---|
| No. | Description | Manufacturer | Model | Comments |
| | | | | |
| TA-1 | HAND SOAP DISPENSER | BOBRICK OR EQUAL | B-2111 | 48" MAX A.F.F. TO CENTER OF DISPENSER |
| TA-2 | MIRROR WITH S.S. FRAME | BOBRICK OR EQUAL | B-165 2436 | 40" A.F.F. TO BOTTOM OF REFLECT. SURFACE |
| TA-6 | PAPER TOWEL DISPENSER | BOBRICK OR EQUAL | B-262 | REF. G103 FOR ADA STANDARDS |
| TA-7 | GRAB BARS - (1) 42" and (1) 36" S.S. | BOBRICK OR EQUAL | B-6806 SERIES | 34" A.F.F. TO CENTER OF GRAB BAR |
| TA-8 | TOILET PAPER DISPENSER - SINGLE | BOBRICK OR EQUAL | B-4388 | 14" TO 19" FROM A.F.F TO BOTTOM OF DISPENSER |



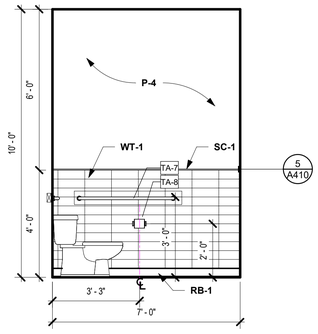

## 2 RR 105 - EAST ELEV.

SCALE: 3/8" = 1'-0"



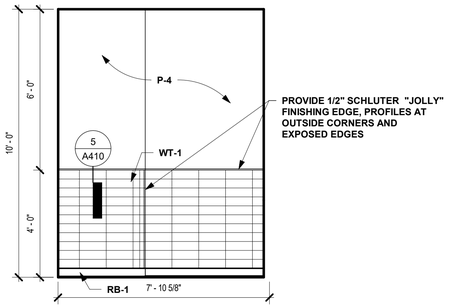

## 3 RR 105 - SOUTH ELEV.

SCALE: 3/8" = 1'-0"



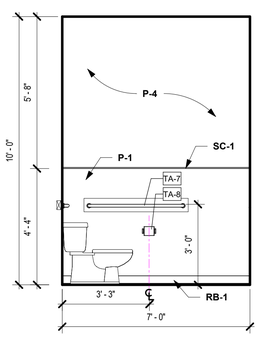

## 4 RR 105 - WEST ELEV.

SCALE: 3/8" = 1'-0"



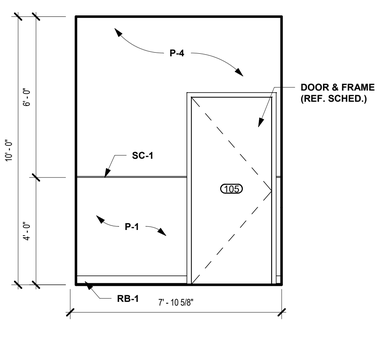

## 5 RR 105 - NORTH ELEV.

SCALE: 3/8" = 1'-0"



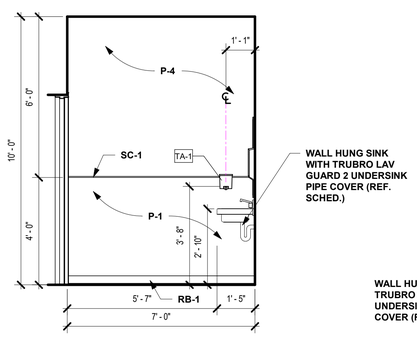

## 6 RR 106 - EAST ELEV.

SCALE: 3/8" = 1'-0"



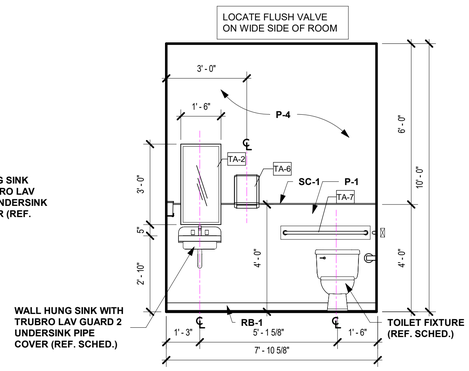

## 7 RR 106 - SOUTH ELEV.

SCALE: 3/8" = 1'-0"




## 8 RR 107 - WEST ELEV.

SCALE: 3/8" = 1'-0"




## 9 RR 107 - NORTH ELEV.

SCALE: 3/8" = 1'-0"


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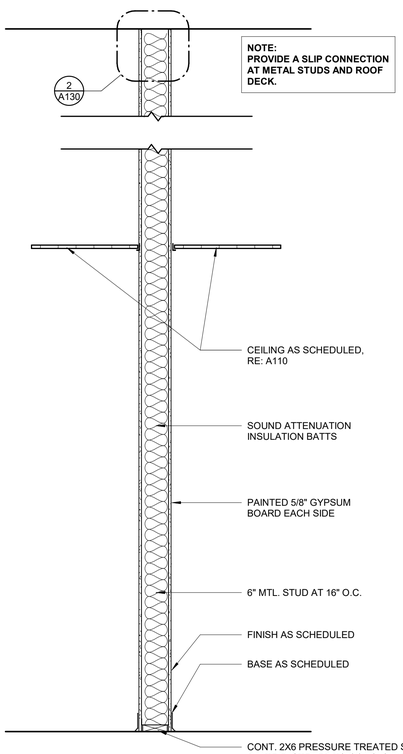
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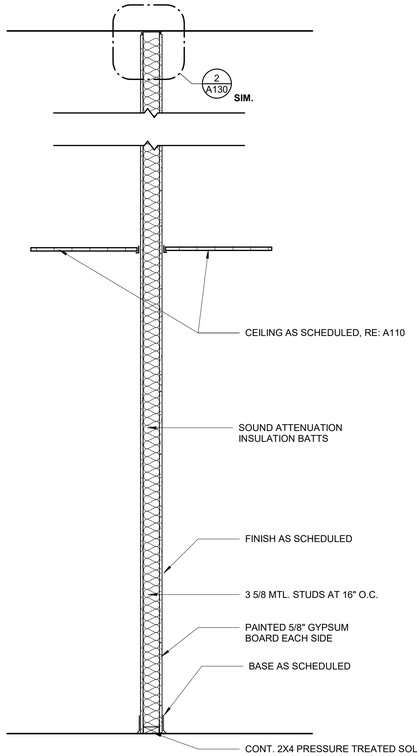
project #: 25.165
date: 07.24.26
drawn by: JE
checked by: JG
drawing title: **RESTROOM PLANS & ELEVATIONS**
drawing number: **A120**




## A PARTITION TYPE

WITH SOUND INSULATION BATTS, NO RATING

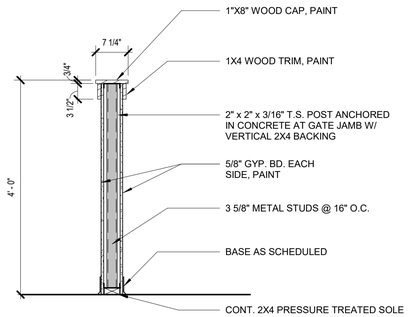
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## B PARTITION TYPE

SOUND INSULATION BATTS, NO RATING

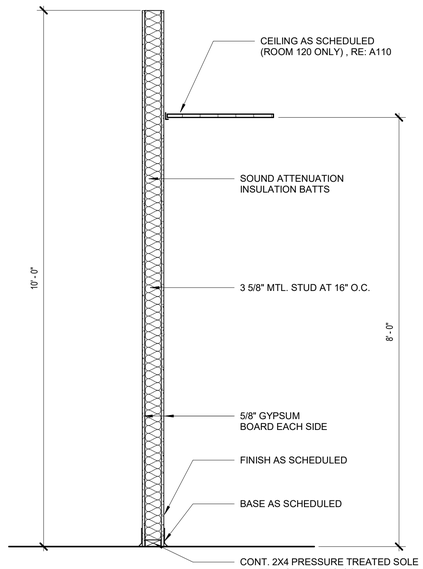
SCALE: 1/2" - 1'-0"




## C PARTITION TYPE

**LOW WALL**

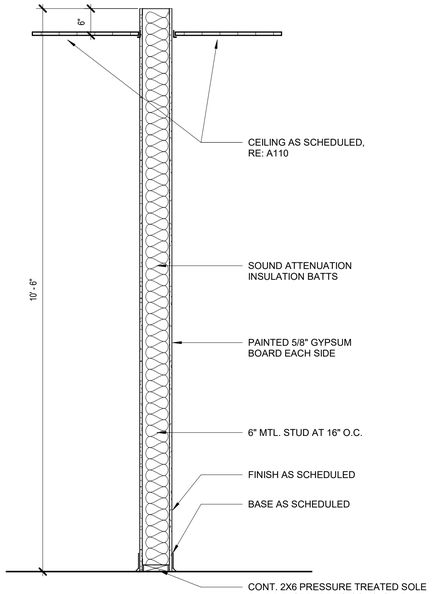
**SCALE: 1/2" = 1'-0"**




## D PARTITION TYPE

WITH SOUND INSULATION BATTS, NO RATING

SCALE: 1/2" - 1'-0"



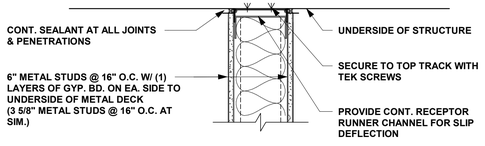

## E PARTITION TYPE

WITH SOUND INSULATION BATTS, NO RATING

SCALE: 1/2" - 1'-0"

## 1 PARTITION TYPES

SCALE: 3/4" = 1'-0"




## 2 SLIP DEFLECTION DETAIL

SCALE: 1 1/2" = 1'-0"

## PARITION TYPE GENERAL NOTES:

1. ALL DRYWALL CONSTRUCTION SHALL BE THICKNESS OF 5/8", UNLESS NOTED OTHERWISE.
2. EVERY WALL SHOWN ON THE PLAN(S) SHALL BE ONE OF THE WALL TYPES SHOWN: WHETHER KEYED ON THE PLAN(S) OR NOT. IF WALL DOES NOT HAVE A KEY, PROVIDE A WALL TYPE TO MATCH ADJACENT OR NEAREST KEY.
3. SEE ROOM FINISH SCHEDULE FOR FINISHES.
4. SEALL ALL GAPS AND PENETRATIONS IN FIRE RATED WALLS WITH FIRE RATED BLANKETS AND/OR SEALANTS.
5. ALL EXPOSED WALLS THAT ARE PERPENDICULAR TO ROOF DECK SHOULD BE SEALED TIGHT TO UNDERSIDE OF DECK.
6. ALL SOUND WALLS TO RECEIVE SEALANT AROUND CRACKS, GAPS , EDGES AT FLOOR, CEILING AND JUNCTION BOXES.
7. WHERE WALLS ARE CALLED TO EXTEND TO UNDERSIDE OF DECK, ALIGN WALL(S) WITH STRUCTURE ABOVE AND/OR WRAP STRUCTURE WITH DRYWALL.
8. SEAL ALL GAPS, CRACKS AND PENETRATIONS THROUGHOUT WALLS.
9. ALL LOAD BEARING STUDS TO BE 14 GAUGE.
10. FOR HEIGHTS OF WALLS SEE BUILDING SECTIONS AND/OR ELEVATIONS.
11. PROVIDE 1/2" CEMENTITIOUS BACKER BOARD IN LIEU OF 5/8" GYPSUM BOARD AT WALLS BEHIND ALL CERAMIC TILE.
12. SEE SPECIFICATIONS OR NOTES FOR GUAGES OF NON-LOAD BEARING WALLS.
13. ALL 5/8" TYPE 'X' GYPSUM BOARD SHALL BE, COATED INORGANIC GLASS MAT-FACED, WATER-RESISTENT TREATED GYPSUM CORE WALLBOARD.

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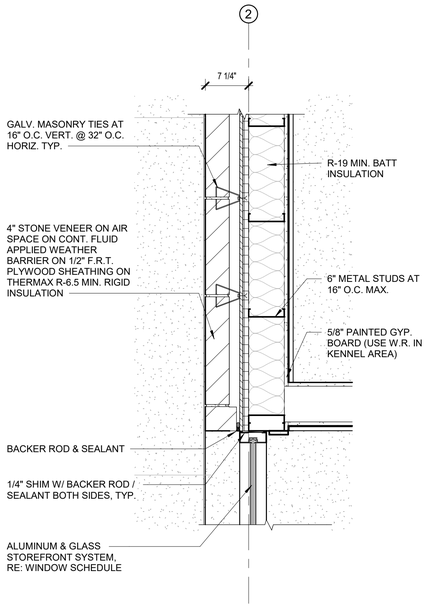
**CAMP BOW WOW**

1450 N. Business IH 35
New Braunfels, TX 78130

project #: 25.165
date: 07.24.26
drawn by: JE
checked by: JG
drawing title: **PARTITION TYPES**

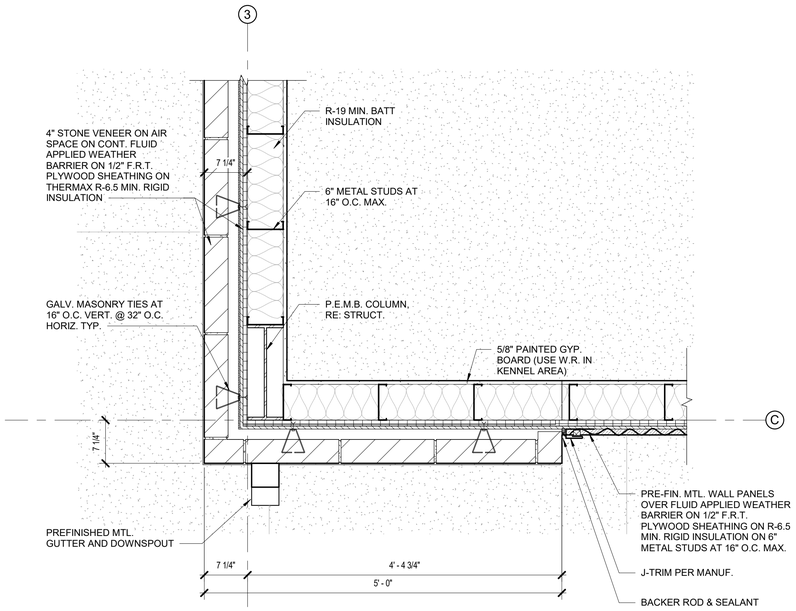
drawing number:

**A130**



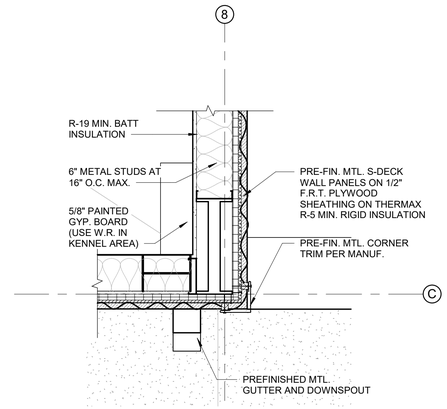

## 1 PLAN DETAIL

SCALE: 1" = 1'-0"



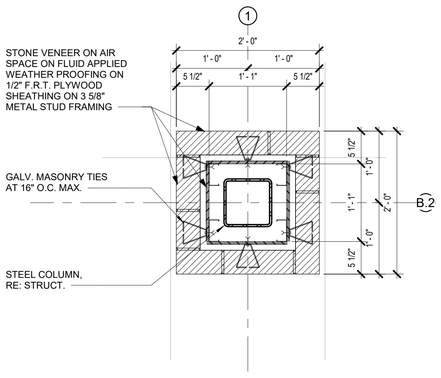

## 2 PLAN DETAIL

SCALE: 1" = 1'-0"



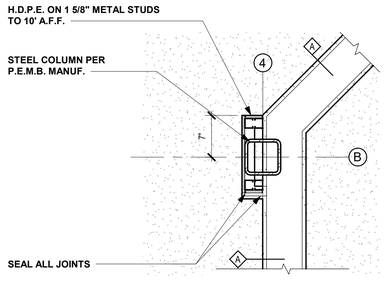

## 3 PLAN DETAIL

SCALE: 1" = 1'-0"



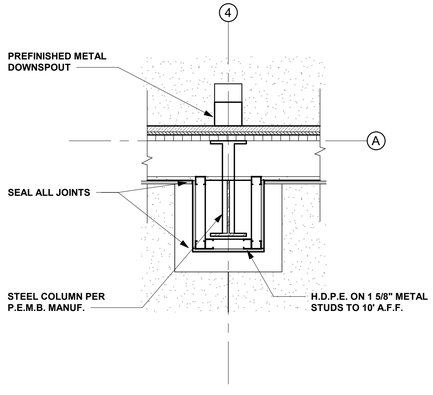

## 4 PLAN DETAIL

SCALE: 1" = 1'-0"




## 5 COLUMN PLAN DETAIL

SCALE: 1" = 1'-0"




## 6 PLAN DETAIL AT PEMB FRAME

SCALE: 1" = 1'-0"

### PLAN DETAILS NOTES

1. CONTRACTOR SHALL CROSS-REFERENCE STRUCTURAL COMPONENT DIMENSIONS WITH STRUCTURAL DRAWINGS AND NOTIFY ARCHITECT OF DISCREPANCIES PRIOR TO INSTALLATION.
2. PROVIDE MINIMUM OF 3/8" JOINT WITH BACKER ROD AND SEALANT BETWEEN DISSIMILAR MATERIALS.

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07.24.26

| Revisions | | |
|---|---|---|
| Number | Description | Date |

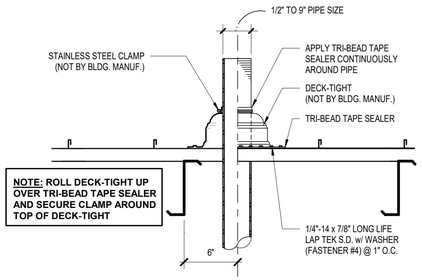
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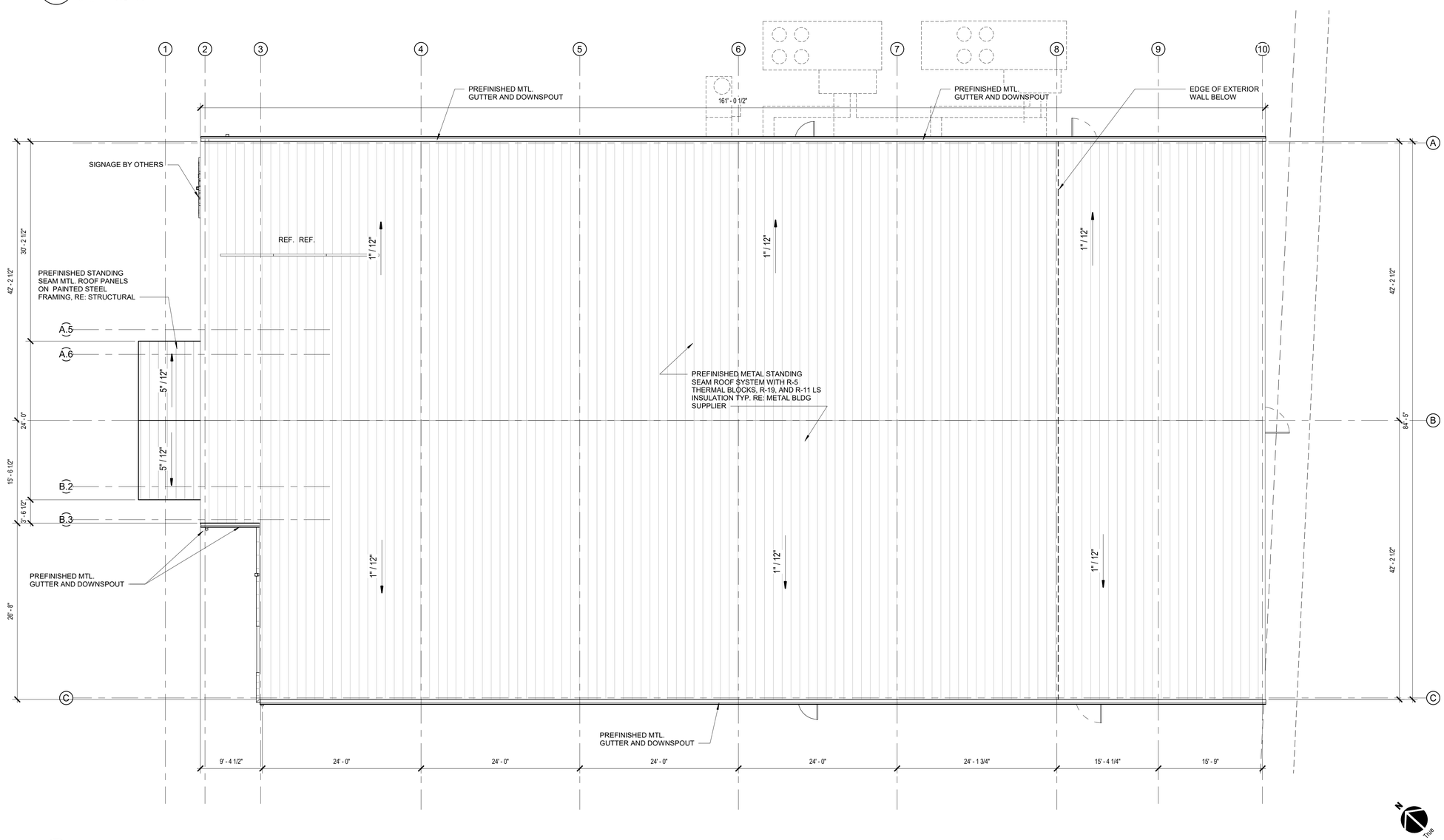
project #: 25.165
date: 07.24.26
drawn by: JE
checked by: JG
drawing title: PLAN DETAILS

drawing number: **A140**




## 2 TYP. THRU-ROOF PENETRATION DTL

SCALE: 1 1/2" = 1'-0"




## 1 ROOF PLAN

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

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# CAMP BOW WOW

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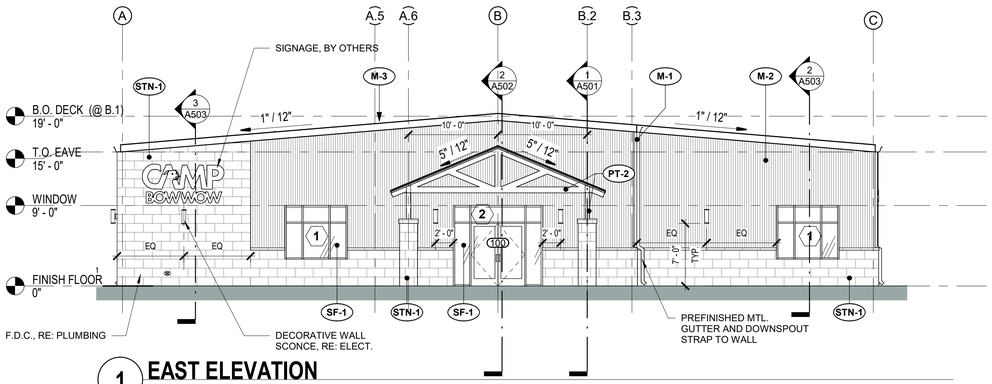
| | |
|---|---|
| project #: | 25.165 |
| date: | 07.24.26 |
| drawn by: | JE |
| checked by: | JG |

drawing title:

**ROOF PLAN**

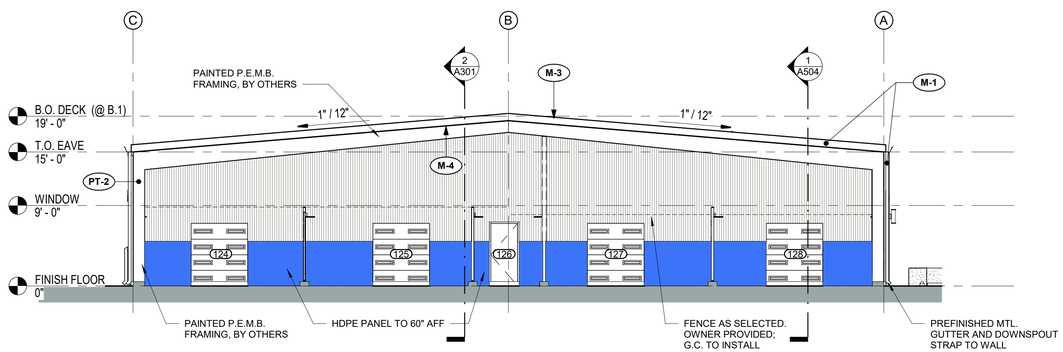
drawing number:

**A150**



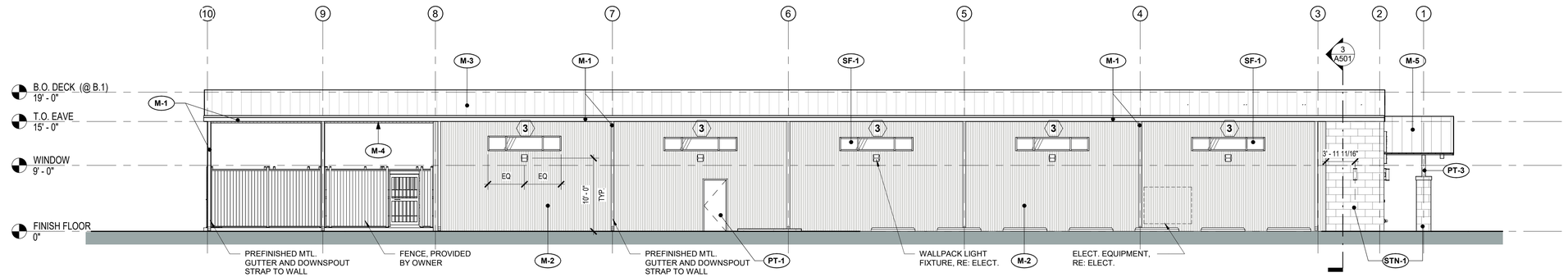

## 1 EAST ELEVATION

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



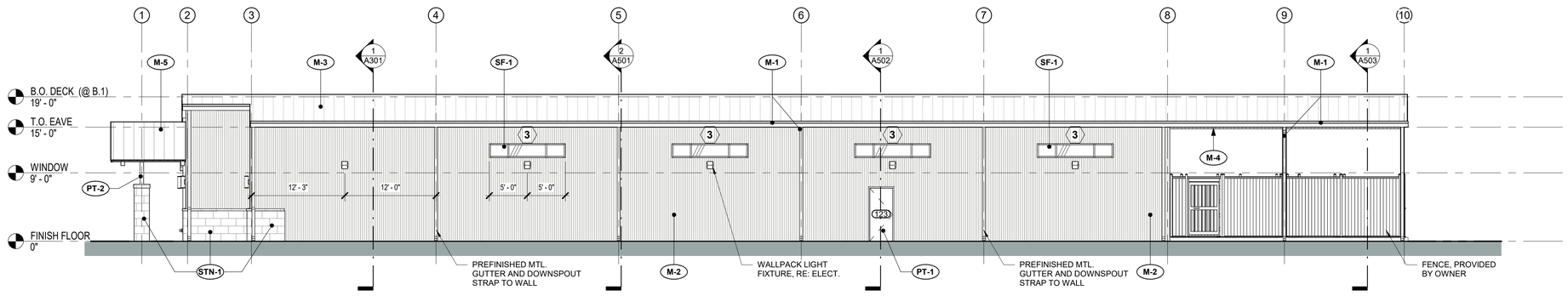

## 2 WEST ELEVATION

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




## 3 NORTH ELEVATION

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




## 4 SOUTH ELEVATION

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

**ELEVATION STRUCTURAL STEEL PAINT SPECIFICTATION:**

PREPARATION AND APPLICATION:

1. CLEAN SUBSTRATES OF SUBSTANCES THAT COULD IMPAIR BOND OF PAINTS INCLUDING DIRT, OIL, GREASE, DUST, MILL SCALE, RUST, AND INCOMPATIBLE PAINTS AND ENCAPSULANTS.
2. REMOVE INCOMPATIBLE PRIMERS AND REPRIME SUBSTRATE WITH COMPATIBLE PRIMERS AS REQUIRED TO PDRODUCE PAINT SYSTEMS INDICATED.
3. APPLY PAINTS TO PRODUCE SURFACE FILMS WITHOUT CLOUDINESS, SPOTTING, HOLIDAYS, LAPS, BRUSH MARKS, ROLLER TRACKING, RUNS, SAGS, ROPINESS, OR OTHER SURFACE IMPERFECTIONS/ CUT IN SHARP LINES AND COLOR BREAKS.
4. PROTECT WORK OF OTHER TRADES AGAINST DAMAGE FROM PAINT APPLICATION, CORRECT DAMAGE TO WORK OF OTHERTRADES BY ARCHITECT AND LEAVE IN AN UNDAMAGED CONDITION.
5. AT COMPLETION OF CONSTRUCTION ACTIVITIES OF OTHER TRADES, TOUCH UP AND RESTORE DAMAGED OR DEFACED PAINTED SURFACES

**ELEVATION GENERAL NOTES:**

1. LIGHT FIXTURE FINISH TO BE SELECTED BY ARCHITECT FROM MANUFACTURER'S FULL LINE OF COLORS & FINISHES.
2. MOCK-UP TO BE PROVIDED ON SOUTH FACING SOUTHERN DIRECTION. ALL FINISHES TO BE ERECTED ON MOCK-UP FOR REVIEW AND APPROVAL BY ARCHITECT AND OWNER PRIOR TO APPLYING ONTO BUILDING.
3. PAINT ALL UTILITY PANELS TO MATCH ADJACENT SURFACES.

## COLOR/MATERIAL SCHEDULE

**MASONRY**

| | |
|---|---|
| STN-1 | SMOOTH CUT LIME STONE VENEER, 4" x 12" x 24" |

**PAINT**

| | |
|---|---|
| PT-1 | SHERWIN WILLIAMS, #SW9565 "FORGED STEEL" - (HOLLOW METAL DOORS & FRAMES) |
| PT-2 | MATCH PAINT TO: PANTONE PMS 201, R:158, G:27, B:50 - (EXPOSED STEEL) |

**METAL**

| | |
|---|---|
| M-1 | METAL CAP FLASHING, TRIM, GUTTER & DOWNSPOUTS; BERRIDGE "CHARCOAL" |
| M-2 | PRE-FIN. MTL. S-DECK PANEL, BERRIDGE "CHARCOAL GREY", VERTICAL (OR EQUAL) |
| M-3 | PRE-FIN. MTL. STANDING SEAM METAL ROOF PANEL PER P.E.M.B. MANUFACTURER, BERRIDGE 24 GA. MIN., COLOR: "SHASTA WHITE" (OR EQUAL) |
| M-4 | PRE-FIN. MTL. SOFFIT PANEL, BERRIDGE L-PANEL, 11 5/8" COVERAGE WITH ONE GROOVE, 24 GA. MIN., COLOR: "CHARCOAL GREY" (OR EQUAL) |
| M-5 | PRE-FIN. MTL. STANDING SEAM METAL ROOF PANEL PER P.E.M.B. MANUFACTURER, BERRIDGE 24 GA. MIN., COLOR: "ZINC COTE" (OR EQUAL) |
| SF-1 | ALUMINUM & GLASS STOREFRONT SYSTEM, TUBELITE SERIES E14000 (OR EQUAL), CLEAR ANODIZED |

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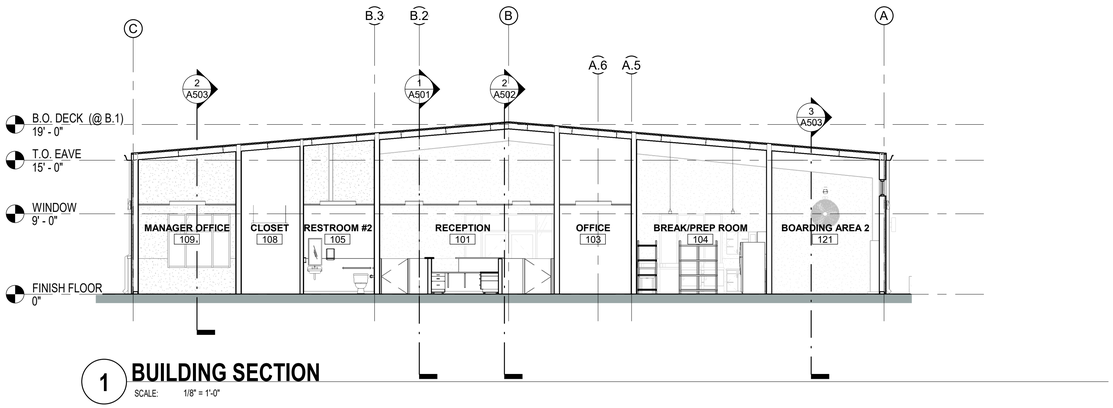
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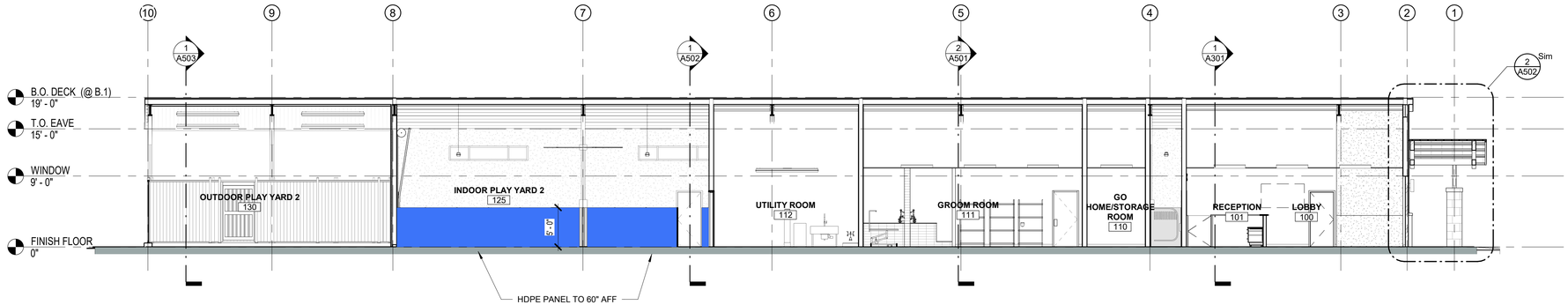
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project #: 25.165
date: 07.24.26
drawn by: JE
checked by: JG
drawing title: **ELEVATIONS**
drawing number: **A201**




## 1 BUILDING SECTION

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




## 2 BUILDING SECTION

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

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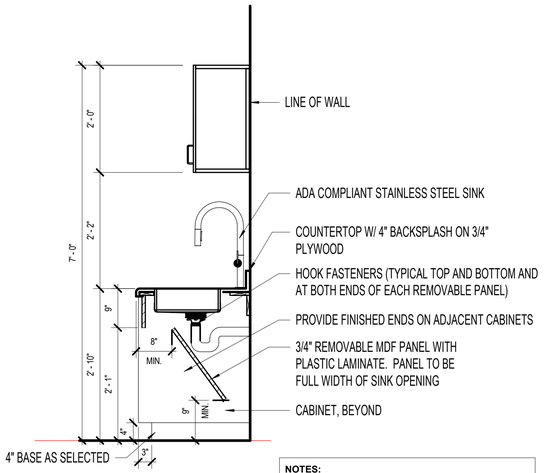
**CAMP BOW WOW**

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project #: 25.165
date: 07.24.26
drawn by: JE
checked by: JG
drawing title: **BUILDING SECTIONS**
drawing number: **A301**

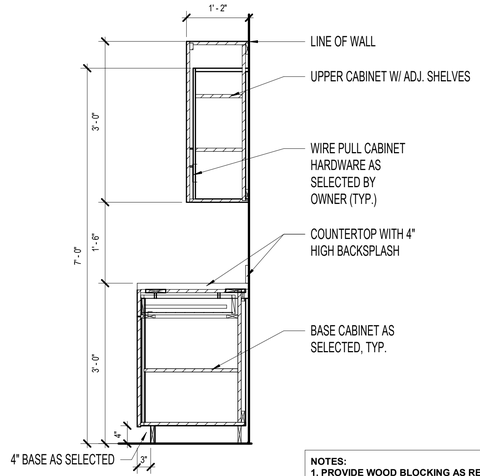
## MILLWORK GENERAL NOTES:

1. PROVIDE CLEAR SEALED SELECT WHITE MAPLE ON ALL EXPOSED SURFACES AND EDGES OF CASEWORK, ENDS, ETC.. UNLESS NOTED OTHERWISE.
2. PROVIDE PLASTIC LAMINATE ON COUNTERTOPS. UNLESS NOTED OTHERWISE.
3. ALL PLASTIC LAMINATE COUNTERTOPS TO HAVE PLASTIC LAMINATE ON ALL EXPOSED SURFACES AND EDGES UNLESS NOTED OTHERWISE. PLASTIC LAMINATE COLOR AND PATTERN TO BE SELECTED BY THE ARCHITECT.
4. EXPOSED WALL UNDER COUNTER(S) TO RECEIVE FINISH AS SCHEDULED.
5. ARCHITECT TO SELECT ALL COLORS AND PATTERNS.
6. ALL SHELVES IN CABINETS AND BOOK CASES SHALL BE ADJUSTABLE. UNLESS NOTED OTHERWISE.
7. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS PRIOR TO FABRICATING MILLWORK TO ASSURE PROPER FIT WITH AS-BUILT CONDITIONS.
8. CONTRACTOR TO VERIFY WITH OWNER EXACT SIZE OF ALL EQUIPMENT FURNISHED BY OWNER FOR PROPER FIT WITH CONTRACTOR SUPPLIED MILLWORK & CASEWORK.
9. MODIFY MILLWORK/CASEWORK AS REQUIRED FOR COLUMN BUMPOUT(S) AND FURRING TO CONCEAL CONDUITS, PIPES, ETC. REF: ARCHITECTURAL, STRUCTURAL, STRUCTURAL AND M.E.P. DRAWINGS FOR POTENTIAL LOCATIONS.
10. CONTRACTOR SHALL VERIFY ALL DIMENSIONS TO INSURE A PROPER FIT PRIOR TO MANUFACTURING ANY MILLWORK.
11. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS OF ALL MILLWORK TO BE REVIEWED BY THE ARCHITECT.
12. REFER TO SHEET A0.2 AND A0.3 FOR A.D.A. COMPLIANCE, DETAILS, NOTES AND MOUTING HEIGHTS.
13. ALL ADJUSTABLE SHELVING TO BE A/C 3/4" MAPLE PLYWOOD SHELVING WITH HARDWOOD EDGES AND 1/4" PLYWOOD BACKING. VERTICALS TO BE 3/4" PLYWOOD WITH HARDWOOD EDGING OR 3/4" PLYWOOD BACK-TO-BACK WITH 1"x2" TRIM, DEPENDING ON CONSTRUCTION METHOD PROPOSED. ALL STANDARDS FOR ADJUSTABLE SHELVING SHALL BE RECESSED WITH STANDARDS THAT ARE BACK-TO-BACK ON ONE PLYWOOD TO BE ALTERNATELY LAPPED BY 1". METAL SHELF STANDARDS ARE KV 255 & 256.
14. ALL FIXED SHELVING SHALL BE A/C 3/4" MAPLE PLYWOOD WITH HARDWOOD EDGES. ALL HORIZONTAL AND VERTICAL SURFACES SHOULD MEET IN CLEAN, WELL CRAFTED DADO JOINTS. GLUE AND/OR INVISIBLE TOE NAIL AT ALL SPLICES.
15. PROVIDE LOCKS AT CABINETS AS NOTED OR REFER TO SPECIFICATIONS.
16. PROVIDE ALL PULLS, HINGES, K-V STANDARDS, SLIDES AND MISC. HARDWARE ON ALL MILLWORK AND CASEWORK. REFER TO SPECIFICATIONS.
17. PROVIDE TREATED WOOD BLOCKING IN WALLS WHERE REQUIRED TO SUPPORT MILLWORK.



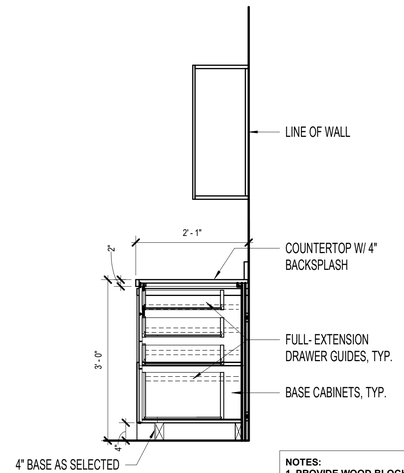

**NOTES:**
1. PROVIDE WOOD BLOCKING AS REQUIRED.
2. ALL HARDWARE TO BE SELECTED BY OWNER.

## 1 BREAK ROOM ADA SINK
SCALE: 3/4" = 1'-0"



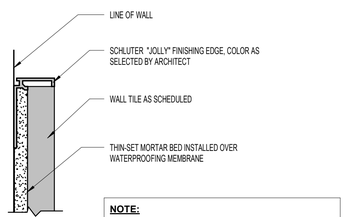

**NOTES:**
1. PROVIDE WOOD BLOCKING AS REQUIRED
2. PROVIDE SELF EDGE ALONG EXPOSED EDGES (FRONT AND SIDES) OF COUNTERTOP.

## 2 BASE & UPPER CABINET
SCALE: 3/4" = 1'-0"




**NOTES:**
1. PROVIDE WOOD BLOCKING AS REQUIRED
2. PROVIDE SELF EDGE ALONG EXPOSED EDGES (FRONT AND SIDES) OF COUNTERTOP.

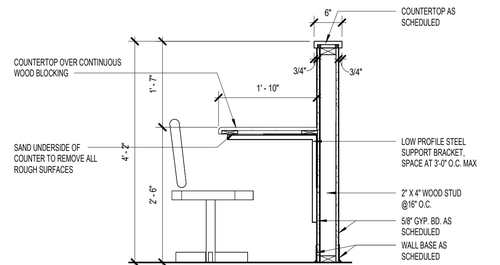
## 3 4 DRAWER BASE AND UPPER CABINET
SCALE: 3/4" = 1'-0"




**NOTE:**

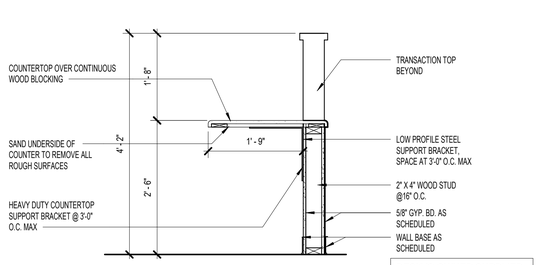
**1. PROVIDE SCHLUTER PROFILE AT EDGES IN RESTROOMS AND ALL AREAS INDICATED ON DRAWINGS**

## 5 SCHLUTER DETAIL
SCALE: 12" = 1'-0"




**DESK IS OWNER SUPPLIED, G.C. INSTALLED**

## 4 MA COUNTERTOP
SCALE: 3/4" = 1'-0"




**DESK IS OWNER SUPPLIED, G.C. INSTALLED**

## 6 O.R. RECEPTION - ADA COUNTER
SCALE: 3/4" = 1'-0"


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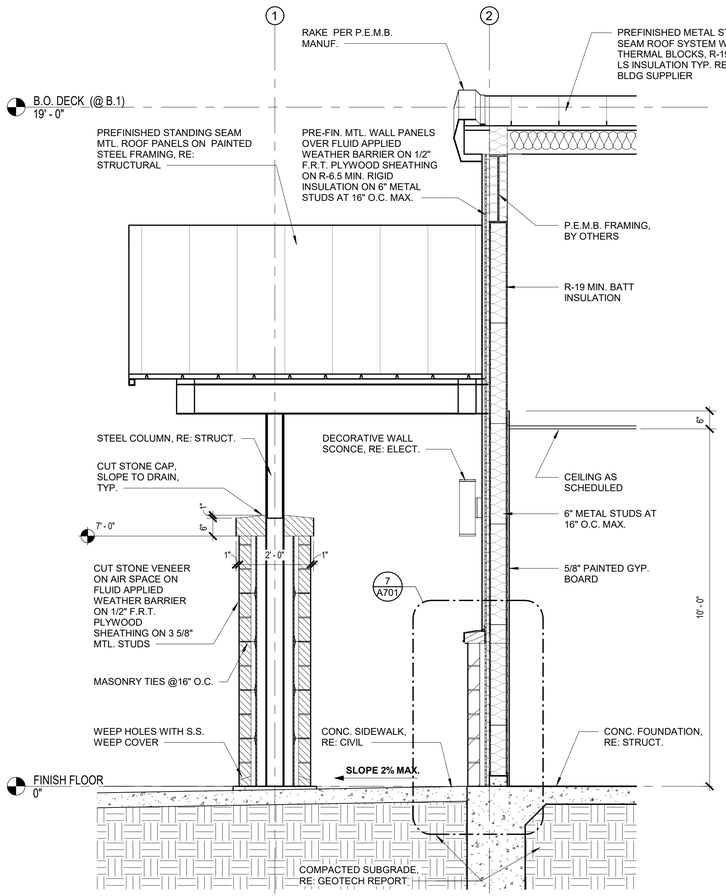

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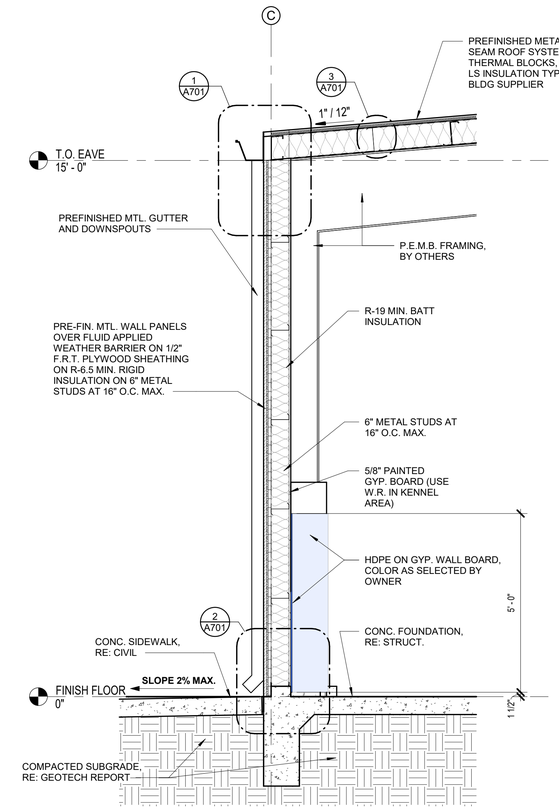
project #: 25.165
date: 07.24.26
drawn by: JE
checked by: JG
drawing title: **INTERIOR MILLWORK DETAILS**
drawing number: **A410**

## WALL SECTION NOTES

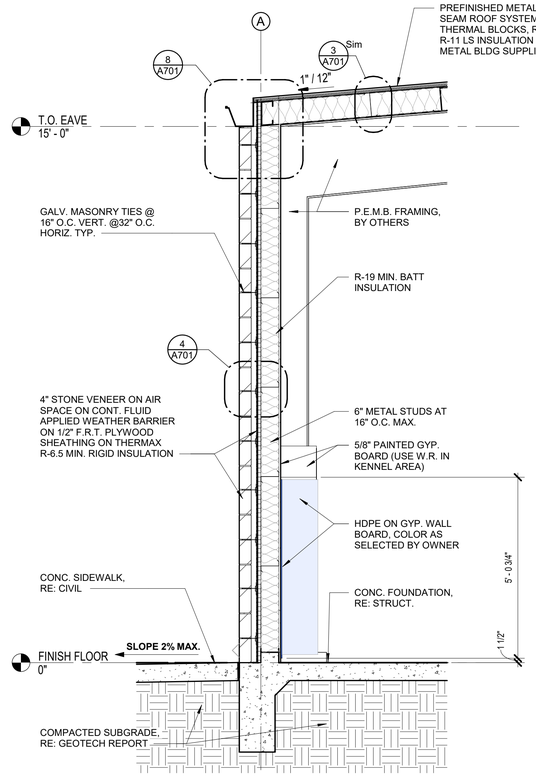
1. AT ALL REFERENCES TO ALUMINUM SUB-SILL, PROVIDE ALUMINUM SUB-SILL WITH END DAMS. TURN END DAMS UP A MINIMUM OF 6".
2. AT PERIMETER JOINT BETWEEN ALUMINUM FRAMES AND DISSIMILAR MATERIALS, PROVIDE MINIMU OF 3/8" JOINT WITH BACKER ROD AND SEALANT.
3. CONTRACTOR SHALL CROSS-REFERENCE STRUCTURAL COMPONENT DIMENSIONS WITH STRUCTURAL DRAWINGS AND NOTIFY ARCHITECT OF DISCREPANCIES PRIOR TO INSTALLATION.
4. ALL EXPOSED METALS (INTERIOR AND EXTERIOR), EXCEPT GALVANIZED AND PRE-FINISHED ITEMS, SHALL BE FINISH PAINTED - COLOR SELECTED BY ARCHITECT.
5. EXPOSED CONCRETE WALLS, COLUMNS AND BEAMS TO HAVE "RUBBED OR THOROSEAL" FINISH - COLOR SELECTED BY ARCHITECT.
6. SEE INTERIOR ELEVATIONS FOR MATERIALS FINISH TRANSITION AT EACH ROOM.
7. REFER TO ROOF PLAN, ROOF DETAILS A150 FOR TYPICAL ROOF AND FLASHING DETAILS.
8. REFERENCE FINISH SCHEDULES FOR SPECIAL FINISHES AT DECORATIVE INTERIOR WALLS.
9. REFERENCE EXTERIOR ELEVATIONS FOR VENEER FINISH PATTERNS.




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




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




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


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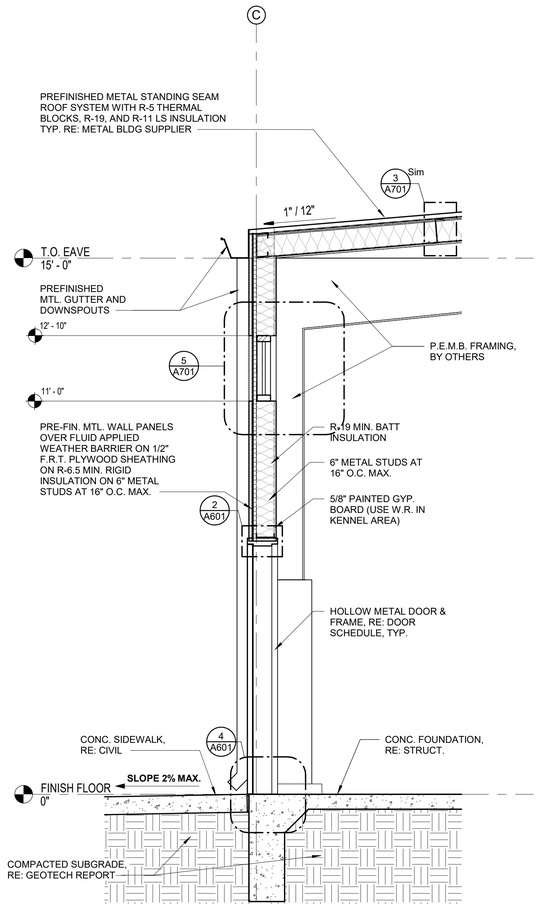

**CAMP BOW WOW**

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New Braunfels, TX 78130

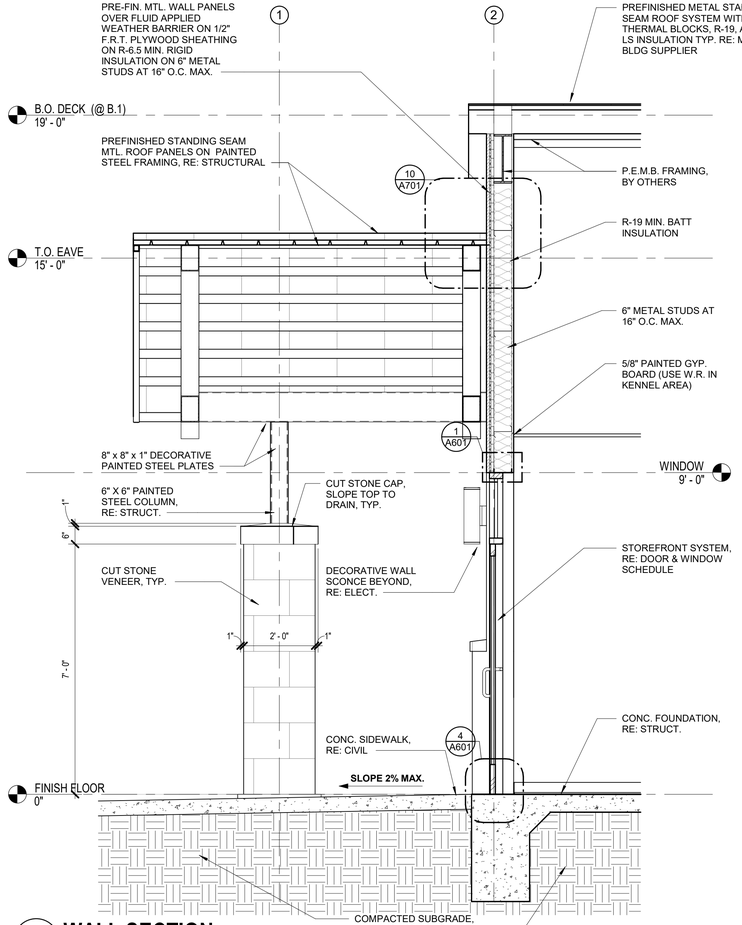
project #: 25.165
date: 07.24.26
drawn by: JE
checked by: JG
drawing title: **WALL SECTIONS**

drawing number:

**A501**




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




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

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San Antonio, Texas 78249
Tel: 210.417.4307
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REGISTERED ARCHITECT
DAVID T. SHARP
17837
STATE OF TEXAS

07.24.26

| Revisions | | |
|---|---|---|
| Number | Description | Date |

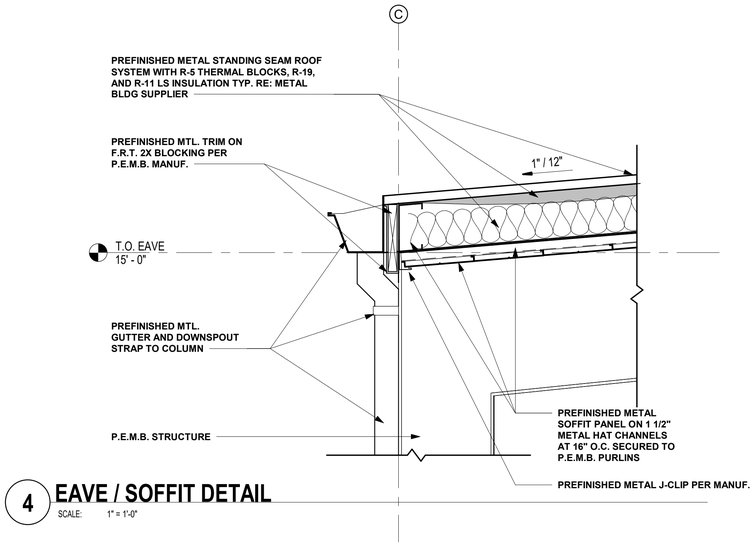
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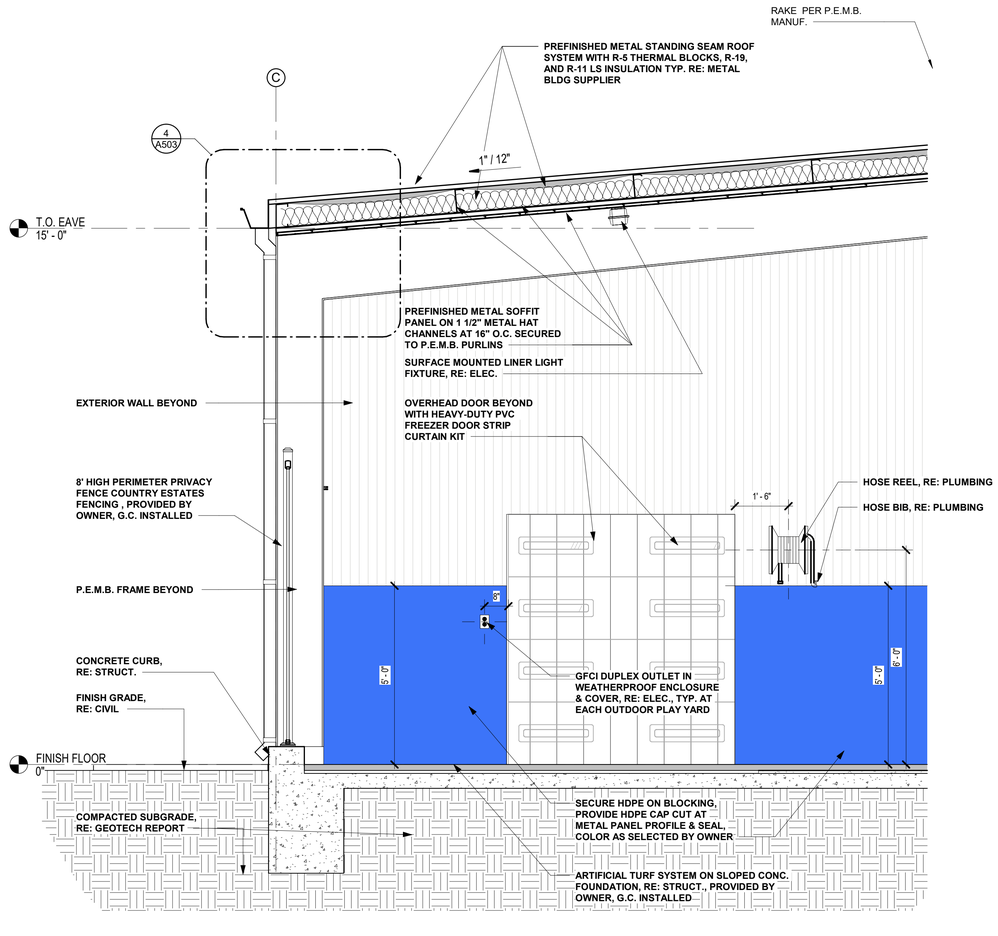
project #: 25.165
date: 07.24.26
drawn by: JE
checked by: JG
drawing title: **WALL SECTIONS**

drawing number: **A502**



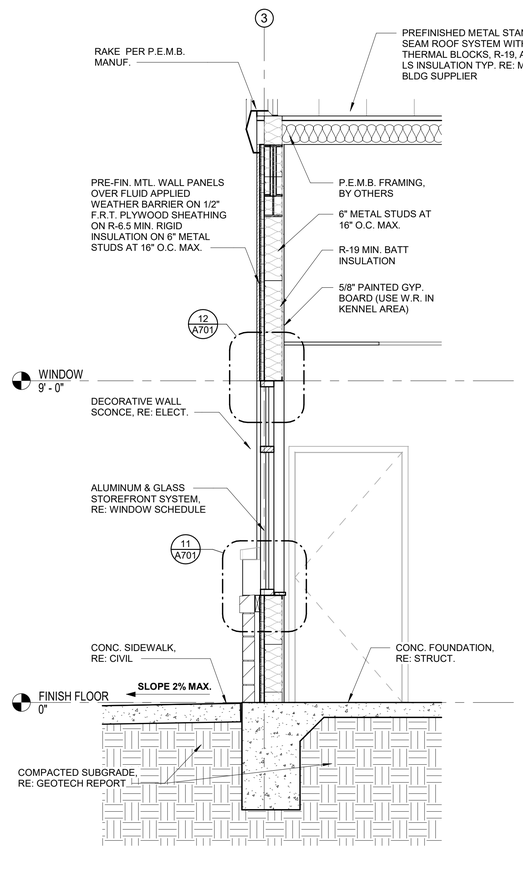

## 4 EAVE / SOFFIT DETAIL

SCALE: 1" = 1'-0"



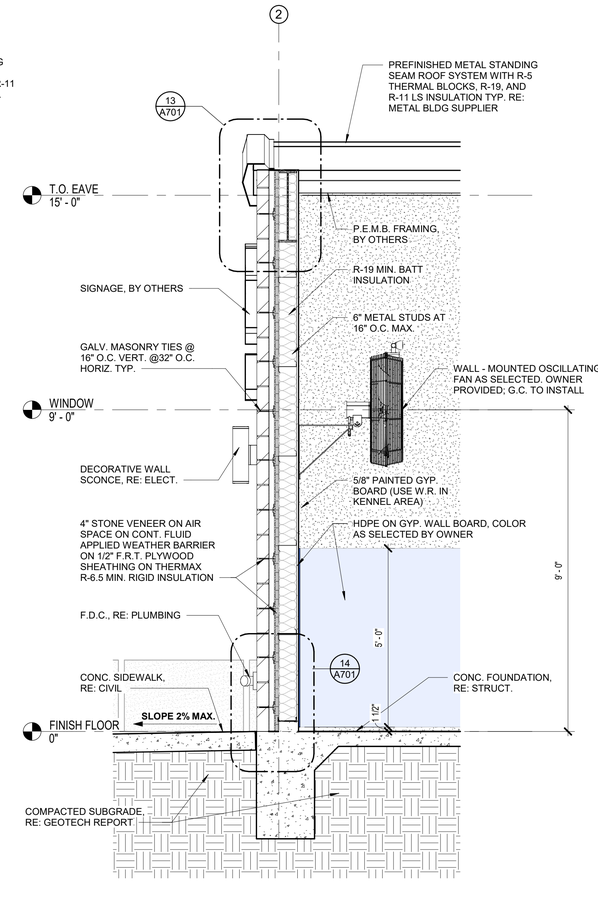

## 1 WALL SECTION

SCALE: 1/2" = 1'-0"




## 2 WALL SECTION

SCALE: 1/2" = 1'-0"




## 3 WALL SECTION

SCALE: 1/2" = 1'-0"

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17837
STATE OF TEXAS

07.24.26

| Revisions | | |
|---|---|---|
| Number | Description | Date |

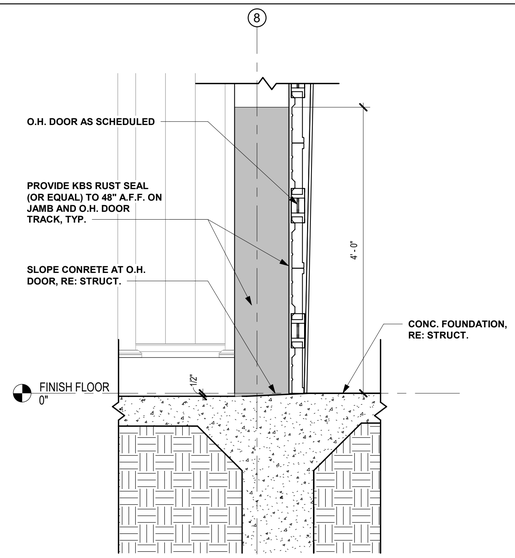
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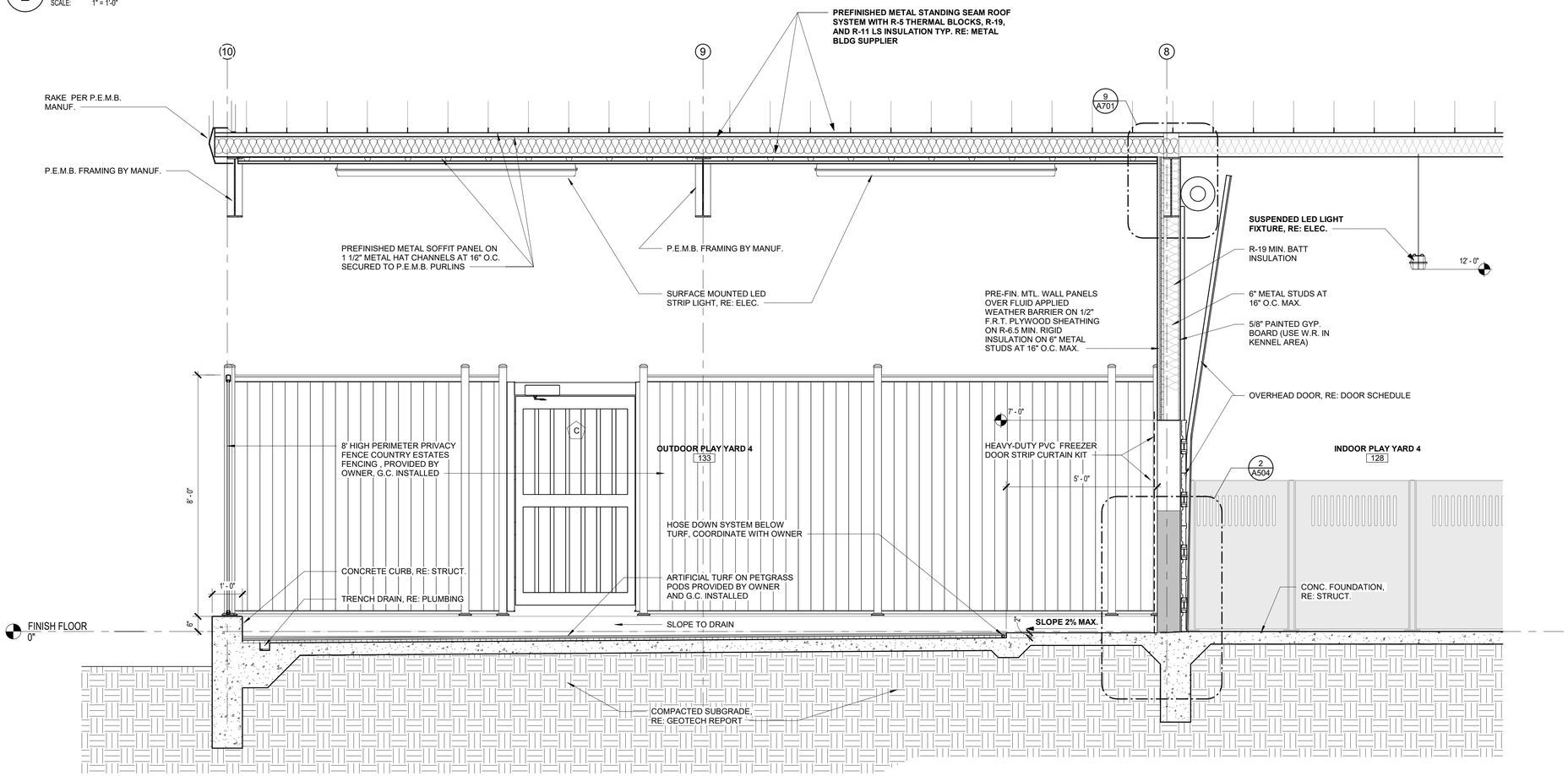
project #: 25.165
date: 07.24.26
drawn by: JE
checked by: JG
drawing title: **WALL SECTIONS**

drawing number: **A503**




## 2 O.H. DOOR SILL DETAIL

SCALE: 1" = 1'-0"




## 1 WALL SECTION

SCALE: 1/2" = 1'-0"

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17837
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Revisions

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|---|---|---|

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# CAMP BOW WOW

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New Braunfels, TX 78130

project #: 25.165
date: 07.24.26
drawn by: JE
checked by: JG
drawing title: WALL SECTIONS

drawing number:

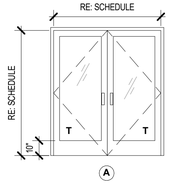
# A504

## DOOR SCHEDULE

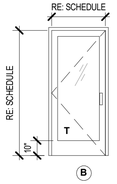
| DOOR NO. | DOOR PANEL SIZE WIDTH | HEIGHT | THICKNESS | MATERIAL | FINISH | DOOR TYPE | HARDWARE | FRAME MATERIAL | FRAME FINISH | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|
| 100 | 6' - 0" | 7' - 0" | 1 3/4" | ALUM. | ANOD. | A | 6 | ALUM. | ANOD. | INSULATED GLAZING, HD THRESHOLD, HD SEALS, ADAAG CLOSER, DEADBOLT-FULL |
| 101A | 3' - 0" | 7' - 0" | 1 3/4" | SCWD | PLAM | D | 1 | FRP | PF | |
| 101B | 3' - 0" | 7' - 0" | 1 3/4" | SCWD | PLAM | D | 1 | FRP | PF | 16" x 34" WINDOW IN UPPER SECTION OF DOOR WITH 1/4" TEMPERED SAFETY GLASS-BRONZE FRAME-LITE KIT. |
| 102 | 3' - 0" | 7' - 0" | 1 3/4" | SCWD | PLAM | C | 4 | FRP | PF | |
| 103 | 3' - 0" | 7' - 0" | 1 3/4" | SCWD | PLAM | C | 4 | FRP | PF | OFFICE LOCK SET MASTER KEY TO THIS DOOR-SEPARATE KEY. INSTALL SOUND DEADING THRESHOLD AND FULL ACOUSTICAL SEALS |
| 104 | 3' - 0" | 7' - 0" | 1 3/4" | SCWD | PLAM | D | 1 | FRP | PF | 16" x 34" WINDOW IN UPPER SECTION OF DOOR WITH 1/4" TEMPERED SAFETY GLASS-BRONZE FRAME-LITE KIT. |
| 105 | 3' - 0" | 7' - 0" | 1 3/4" | SCWD | PLAM | C | 2 | FRP | PF | |
| 106 | 3' - 0" | 7' - 0" | 1 3/4" | SCWD | PLAM | C | 2 | FRP | PF | |
| 107 | 3' - 0" | 7' - 0" | 1 3/4" | SCWD | PLAM | C | 4 | FRP | PF | OFFICE LOCK SET MASTER KEY TO THIS DOOR-SEPARATE KEY. INSTALL SOUND DEADING THRESHOLD AND FULL ACOUSTICAL SEALS |
| 108 | 3' - 0" | 7' - 0" | 1 3/4" | SCWD | PLAM | C | 4 | FRP | PF | OFFICE LOCK SET MASTER KEY TO THIS DOOR-SEPARATE KEY. INSTALL SOUND DEADING THRESHOLD AND FULL ACOUSTICAL SEALS |
| 109 | 3' - 0" | 7' - 0" | 1 3/4" | SCWD | PLAM | C | 4 | FRP | PF | OFFICE LOCK SET MASTER KEY TO THIS DOOR-SEPARATE KEY. INSTALL SOUND DEADING THRESHOLD AND FULL ACOUSTICAL SEALS |
| 110 | 3' - 0" | 7' - 0" | 1 3/4" | SCWD | PLAM | C | 1 | FRP | PF | 16" x 34" WINDOW IN UPPER SECTION OF DOOR WITH 1/4" TEMPERED SAFETY GLASS-BRONZE FRAME-LITE KIT. |
| 111A | 3' - 0" | 7' - 0" | 1 3/4" | ALUM. | ANOD. | B | 6 | ALUM. | ANOD. | |
| 111B | 3' - 0" | 7' - 0" | 1 3/4" | ALUM. | ANOD. | B | 6 | ALUM. | ANOD. | |
| 112 | 3' - 0" | 7' - 0" | 1 3/4" | SCWD | PLAM | C | 4 | FRP | PF | |
| 113 | 3' - 0" | 7' - 0" | 1 3/4" | SCWD | PLAM | E | 6 | FRP | PF | 24" x 64" WINDOW IN DOOR WITH 1/4" IMPACT SAFETY RATED WIRE GLASS WITH BRONZE FRAME-LITE KIT |
| 114 | 3' - 0" | 7' - 0" | 1 3/4" | SCWD | PLAM | E | 6 | FRP | PF | 24" x 64" WINDOW IN DOOR WITH 1/4" IMPACT SAFETY RATED WIRE GLASS WITH BRONZE FRAME-LITE KIT |
| 115 | 3' - 0" | 7' - 0" | 1 3/4" | SCWD | PLAM | E | 6 | FRP | PF | 24" x 64" WINDOW IN DOOR WITH 1/4" IMPACT SAFETY RATED WIRE GLASS WITH BRONZE FRAME-LITE KIT |
| 116 | 3' - 0" | 7' - 0" | 1 3/4" | SCWD | PLAM | E | 6 | FRP | PF | 24" x 64" WINDOW IN DOOR WITH 1/4" IMPACT SAFETY RATED WIRE GLASS WITH BRONZE FRAME-LITE KIT |
| 117 | 3' - 0" | 7' - 0" | 1 3/4" | SCWD | PLAM | E | 6 | FRP | PF | 24" x 64" WINDOW IN DOOR WITH 1/4" IMPACT SAFETY RATED WIRE GLASS WITH BRONZE FRAME-LITE KIT |
| 118 | 3' - 0" | 7' - 0" | 1 3/4" | SCWD | PLAM | E | 6 | FRP | PF | 24" x 64" WINDOW IN DOOR WITH 1/4" IMPACT SAFETY RATED WIRE GLASS WITH BRONZE FRAME-LITE KIT |
| 119 | 3' - 0" | 7' - 0" | 1 3/4" | SCWD | PLAM | E | 6 | FRP | PF | 24" x 64" WINDOW IN DOOR WITH 1/4" IMPACT SAFETY RATED WIRE GLASS WITH BRONZE FRAME-LITE KIT |
| 120 | 3' - 0" | 7' - 0" | 1 3/4" | SCWD | PLAM | E | 6 | FRP | PF | 24" x 64" WINDOW IN DOOR WITH 1/4" IMPACT SAFETY RATED WIRE GLASS WITH BRONZE FRAME-LITE KIT |
| 121 | 3' - 0" | 7' - 0" | 1 3/4" | HM | PAINT | G | 5 | HM | PAINT | |
| 123 | 3' - 0" | 7' - 0" | 1 3/4" | HM | PAINT | G | 5 | HM | PAINT | |
| 124 | 6' - 4" | 7' - 0" | 2" | | | F | MANUF. | | | PREFINISHED GREY - DOOR AS SELECTED BY OWNER |
| 125 | 6' - 4" | 7' - 0" | 2" | | | F | MANUF. | | | PREFINISHED GREY - DOOR AS SELECTED BY OWNER |
| 126 | 3' - 0" | 7' - 0" | 1 3/4" | HM | PAINT | G | | HM | PAINT | |
| 127 | 6' - 4" | 7' - 0" | 2" | | | F | MANUF. | | | PREFINISHED GREY - DOOR AS SELECTED BY OWNER |
| 128 | 6' - 4" | 7' - 0" | 2" | | | F | MANUF. | | | PREFINISHED GREY - DOOR AS SELECTED BY OWNER |

## DOOR GENERAL NOTES

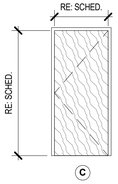
1. ALL HARDWARE SHALL BE FURNISHED AND INSTALLED BY THE GENERAL CONTRACTOR UNLESS NOTED OTHERWISE.
2. ALL HARDWARE FINISHES SHALL BE US26D, UNLESS NOTED OTHERWISE.
3. DOORS TO BE KEYED AS DIRECTED BY OWNER.
4. HOLLOW METAL FRAMES SHALL BE 16 GA. STEEL.
5. ALL DOORS SHALL HAVE ADA APPROVED TYPE HARDWARE (VERIFY IN FIELD).
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 (VERIFY IN FIELD).
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 LEADING EDGE OF THE DOOR. MAXIMUM OPENING FORCE OF DOORS SHALL BE 5 LBF.
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 OF 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 FITTING WITH NO OPENING GREATER THAN 1/4" WHEN CLOSED.
13. DOOR WAYS 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.
15. ALL STOREFRONT DOOR GLAZING TO MATCH ADJACENT STOREFRONT SYSTEM GLAZING
16. INTERIOR DOOR TO BE KNOCK DOWN FRP FRAMES, EXTERIOR DOORS TO BE WELDED FRP FRAMES
17. GENERAL CONTRACTOR TO PROVIDE EXTERIOR HOLLOW METAL DOOR, FRAME, AND MATERIALS TO MEET CODE REQUIREMENTS, INCLUDING, BUT NOT LIMITED TO, WIND LOADS, PROTECTION OF OPENINGS, WIND-BORNE DEBRIS PROTECTION, AND IMPACT RESISTANCE. GENERAL CONTRACTOR TO PROVIDE TEXAS PRODUCT INDICATING COMPLIANCE WITH 2020 INTERNATIONAL BUILDING CODE



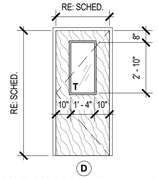

PAIR OF ALUMINUM & GLASS STOREFRONT DOORS, NARROW STILE, WITH ALUMINUM FRAME, CLEAR ANODIZED



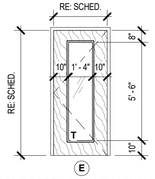

SINGLE ALUMINUM & GLASS STOREFRONT DOOR, NARROW STILE, WITH ALUMINUM FRAME, CLEAR ANODIZED



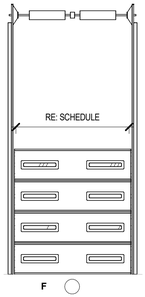

SOLID CORE DOOR WITH LAMINATE VENEER AND PREFINISHED F.R.P. FRAME



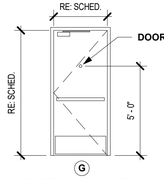

SOLID CORE DOOR WITH LAMINATE VENEER AND PREFINISHED F.R.P. FRAME, 1/4" IMPACT SAFETY RATED WIRE GLASS WITH BRONZE FRAME - LITE KIT




SOLID CORE DOOR WITH LAMINATE VENEER AND PREFINISHED F.R.P. FRAME, 1/4" IMPACT SAFETY RATED WIRE GLASS WITH BRONZE FRAME - LITE KIT




TEXDOOR, LTD INSULATED VERTICAL-LIFT TRACK BREAKAWAY OVERHEAD DOOR WITH 24" X 6" VISION LITES (AS SELECTED BY OWNER)




PAINTED HOLLOW METAL DOOR & FRAME

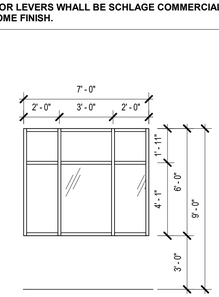
## DOOR TYPES

SCALE: 1/4" = 1'-0"

| HARDWARE GROUP NO. 01 | HARDWARE GROUP NO. 03 | HARDWARE GROUP NO. 05 |
|---|---|---|
| PROVIDE DOOR(S) WITH THE FOLLOWING:<br>1 PASSAGE LEVER (ADA COMPLIANT)<br>1 1/2 PR BUTTS<br>1 CLOSER (ADA COMPLIANT)<br>1 WALL MOUNTER DOORSTOP<br>3 SILENCERS<br>(1) 6" x 34" KICKPLATE<br>INSULATED<br>HD THRESHOLD & SEATS | NOT USED | PROVIDE DOOR(S) WITH THE FOLLOWING:<br>1 DELAYED EGRESS RIM EXIT DEVICE WITH MORTISE CYLINDER (ADA COMPLIANT) - DETEX V40XEE<br>1 1/2 PR BUTTS<br>1 CLOSER (ADA COMPLIANT)<br>WEATHER STRIPPING<br>DOOR SHOE AND RAIN DRIP<br>THRESHOLD<br>SECURITY LATCH GUARD PLATE<br>(1) 6" x 34" KICKPLATE |
| **HARDWARE GROUP NO. 02** | **HARDWARE GROUP NO. 04** | **HARDWARE GROUP NO. 06** |
| PROVIDE DOOR(S) WITH THE FOLLOWING:<br>1 LEVER PRIVACY LOCKSET (ADA COMPLIANT)<br>1 1/2 PR BUTTS<br>3 SILENCERS<br>1 WALL MOUNTER DOORSTOP<br>1 CLOSER (ADA COMPLIANT)<br>(1) 6" x 34" KICKPLATE | PROVIDE DOOR(S) WITH THE FOLLOWING:<br>1 LEVER ENTRANCE / OFFICE LOCK (ADA COMPLIANT)<br>1 1/2 PR BUTTS<br>1 WALL MOUNTER DOORSTOP<br>(1) 6" x 34" KICKPLATE | PROVIDE DOOR(S) WITH THE FOLLOWING:<br>DEADLOCK DEADBOLT BY KEY OUTSIDE ONLY - THUMB TURN INSIDE OFFSET DUAL DOOR PULLS<br>HD CLOSER<br>HD THRESHOLD<br>HD SEALS<br>HD HINGES |

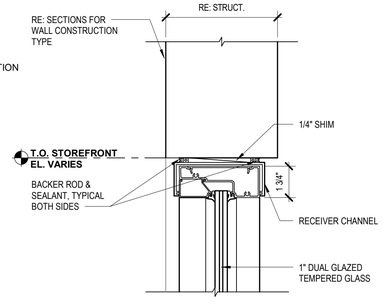
**HARDWARE GENERAL NOTES:**
1. ALL DOOR HARDWARE TO RECEIVE BUILDING STANDARD ADA COMPLIANT LEVER SETS.- U.N.O.
2. PROVIDE SILENCERS ON ALL DOOR FRAMES THROUGHOUT THE ENTIRE SPACE.
3. ALL NEW DOOR CLOSERS SHALL BE ADA COMPLIANT. CLOSERS SHALL TAKE 3 SECONDS TO OPERATE FROM AN OPEN POSITION OF 70' TO A POINT 3' FROM THE LATCH.
4. RE-KEY ALL NEW AND EXISTING LOCK SETS TO NEW OWNER MASTER.
5. OFFICE DOOR LOCKSET SHALL BE A SEPARATE KEY.
6. ALL HARDWARE DOOR LEVERS WHALL BE SCHLAGE COMMERCIAL AL SERIES OR EQUIAL-STAIN CHROME FINISH.

**NOTE:**
1. REFERENCE DOOR & WINDOW GENERAL NOTES FOR FURTHER INFORMATION.
2. T = TEMPERED SAFETY GLAZING
3. ALL STORE FRONT MULLIONS TO BE CLEAR ANODIZED
4. ALL GLAZING TO BE 1" GLASS UNITS VITRO SOLORBAN 90 CLEAR + CLEAR, SHGC: 0.23, U-VALUE: 0.28



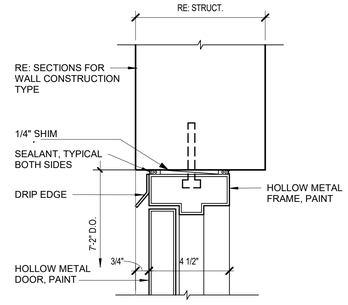

## WINDOW TYPES

SCALE: 1/4" = 1'-0"



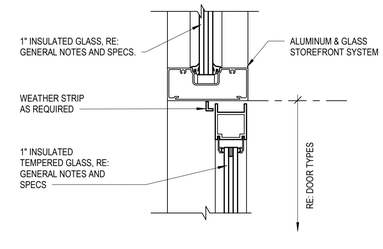

### 1 WINDOW HEAD/JAMB

SCALE: 3" = 1'-0"



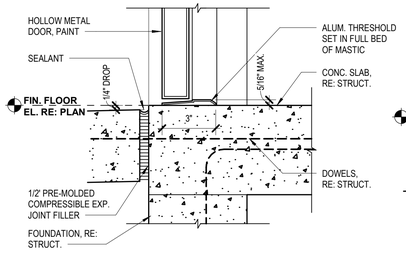

### 2 HOLLOW METAL DOOR HEAD/JAMB

SCALE: 3" = 1'-0"



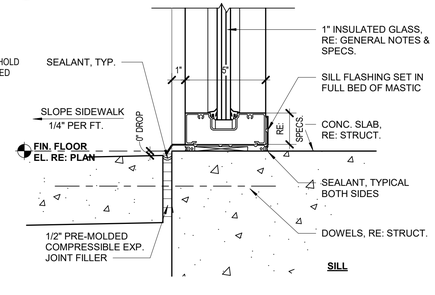

### 3 STOREFRONT HEAD / JAMB

SCALE: 3" = 1'-0"



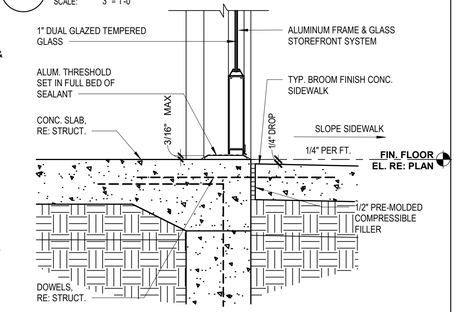

### 4 HOLLOW METAL DOOR SILL

SCALE: 3" = 1'-0"




### 5 WINDOW SILL DETAIL

SCALE: 3" = 1'-0"




### 6 STOREFRONT THRESHOLD

SCALE: 3" = 1'-0"


Open studio architecture
6122 De Zavala Road
San Antonio, Texas 78249
Tel: 210.417.4307
www.openstudio-usa.com


REGISTERED ARCHITECT · DARED T. SAGE · 17837 · STATE OF TEXAS

07.24.26

| Revisions | | |
|---|---|---|
| Number | Description | Date |


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**CAMP BOW WOW**

1450 N. Business IH 35
New Braunfels, TX 78130

project #: 25.165
date: 07.24.26
drawn by: JE
checked by: JG
drawing title: **DOOR & WINDOW SCHEDULES**

drawing number: **A601**

## ROOM FINISH SCHEDULE

| RM. NO. | ROOM NAME | NO ELECTRIC RECEPTACLES BELOW 60" | GATE | BASE | CEILING | FLOORS | WALLS | NOTES |
|---|---|---|---|---|---|---|---|---|
| 100 | LOBBY | - | | RB-1 | ACT | WGV - 1 | P-1 / P-3 | |
| 101 | RECEPTION | - | A | RB-1 | ACT | WGV - 1 | P-2 / P-3 | |
| 101-A | CHECK - IN | X | A | RB-1 | ACT | WGV - 1 | P-1 / P3 | INSTALL BACKING IN WALLS FROM 48" TO 60" AFF FOR OWNER PROVDED LEASH HOLDERS |
| 101-B | CHECK-OUT | X | A | CURB | ACT | WGV - 1 | P-1 / P3 | INSTALL BACKING IN WALLS FROM 48" TO 60" AFF FOR OWNER PROVDED LEASH HOLDERS |
| 102 | STORAGE | - | - | RB-1 | OPEN | SC | P-4 | |
| 103 | OFFICE | - | - | RB-1 | ACT | WGV - 1 | P-4 | |
| 104 | BREAK/PREP ROOM | - | - | RB-1 | OPEN | WGV - 2 | P-1 / P-4 | WHITE FRP-1 TO 48" A.F.F. IN WET AREAS, V.I.F. AND INSTALL 1/2" SCHLUTER "JOLLY" FINISHING EDGE, PROFILES AT OUTSIDE CORNERS AND EXPOSED EDGES |
| 105 | RESTROOM #2 | - | - | RB-1 | ACT-2 | WGV - 1 | P-4 / WT-1 | INSTALL 1/2" SCHLUTER "JOLLY" FINISHING EDGE, PROFILES AT OUTSIDE CORNERS AND EXPOSED EDGES |
| 106 | RESTROOM #1 | - | - | RB-1 | ACT-2 | WGV - 1 | P-4 / WT-1 | INSTALL 1/2" SCHLUTER "JOLLY" FINISHING EDGE, PROFILES AT OUTSIDE CORNERS AND EXPOSED EDGES |
| 107 | DATA | - | - | RB-1 | OPEN | SC | P-4 | |
| 108 | CLOSET | - | - | RB-1 | OPEN | SC | P-4 | |
| 109 | MANAGER OFFICE | - | - | RB-1 | ACT | WGV - 1 | P-4 | |
| 110 | GO HOME/STORAGE ROOM | X | - | RB-1 | ACT | SC | P-1 / P-4 | |
| 111 | GROOM ROOM | X | - | RB-1 | ACT-2 | SC | P-1 / P-4 | WHITE FRP-1 TO 48" A.F.F. IN WET AREAS, V.I.F. AND INSTALL 1/2" SCHLUTER "JOLLY" FINISHING EDGE, PROFILES AT OUTSIDE CORNERS AND EXPOSED EDGES |
| 112 | UTILITY ROOM | - | - | RB-1 | OPEN | SC | P4 | WHITE FRP-1 TO 48" A.F.F. IN WET AREAS, V.I.F. AND INSTALL 1/2" SCHLUTER "JOLLY" FINISHING EDGE, PROFILES AT OUTSIDE CORNERS AND EXPOSED EDGES |
| 113 | ENRICHMENT ROOM | X | - | RB-1 | OPEN | FT-1 | P-1 / P-4 | |
| 114 | SUITE #1 | X | - | RB-1 | OPEN | FT-1 | P-1 / P-4 | |
| 115 | SUITE #2 | X | - | RB-1 | OPEN | FT-1 | P-1 / P-4 | |
| 116 | SUITE #3 | X | - | RB-1 | OPEN | FT-1 | P-1 / P-4 | |
| 117 | SUITE #4 | X | - | RB-1 | OPEN | FT-1 | P-1 / P-4 | |
| 118 | SUITE #5 | X | - | RB-1 | OPEN | FT-1 | P-1 / P-4 | |
| 119 | SUITE #6 | X | - | RB-1 | OPEN | FT-1 | P-1 / P-4 | |
| 120 | SUITE #7 | X | - | RB-1 | ACT | FT-1 | P-1 / P-4 | |
| 121 | BOARDING AREA 2 | X | - | CURB | OPEN | SC | P2 / P4 | |
| 122 | HALLWAY | X | - | RB-1 | OPEN | SC | P2 / P4 | |
| 123 | BOARDING AREA 1 | X | - | CURB | OPEN | SC | P2 / P4 | |
| 124 | INDOOR PLAY YARD 1 | X | B | CURB | OPEN | SC | P2 / P4 | INSTALL 60" RDI BLUE PLASTIC PANELS ON WALLS |
| 125 | INDOOR PLAY YARD 2 | X | B | CURB | OPEN | SC | P2 / P4 | INSTALL 60" RDI BLUE PLASTIC PANELS ON WALLS |
| 126 | INDOOR RUN | X | B | CURB | OPEN | SC | - | |
| 127 | INDOOR PLAY YARD 3 | X | B | CURB | OPEN | SC | P2 / P4 | INSTALL 60" RDI BLUE PLASTIC PANELS ON WALLS |
| 128 | INDOOR PLAY YARD 4 | X | B | CURB | OPEN | SC | P2 / P4 | INSTALL 60" RDI BLUE PLASTIC PANELS ON WALLS |
| 129 | OUTDOOR PLAY YARD 1 | X | C | CURB | SOFFIT PANEL | SC / TURF | - | |
| 130 | OUTDOOR PLAY YARD 2 | X | C | CURB | SOFFIT PANEL | SC / TURF | - | |
| 131 | OUTDOOR RUN | X | C | CURB | SOFFIT PANEL | SC / TURF | - | |
| 132 | OUTDOOR PLAY YARD 3 | X | C | CURB | SOFFIT PANEL | SC / TURF | - | |
| 133 | OUTDOOR PLAY YARD 4 | X | C | CURB | SOFFIT PANEL | SC / TURF | - | |

## FINISH SCHEDULE:

| TAG | DESCRIPTION | NOTES |
|---|---|---|
| ACT | ACOUSTICAL CEILING TILE | 2' x 2' LAYOUT- 15/16" WHITE GRID WITH 5/8" THICK SQUARE LAY IN STANDARD FISSURE TILE |
| ACT-2 | ACOUSTICAL CEILING TILE - WASHABLE | VINYL FACED - GYP CORE - SMOOTH FINISH WHITE |
| P-1 | PAINT (SHERWIN WILLIAMS - SNOW WHITE #9541) | WALLS PER FINISH SCHEDULE |
| P-2 | PAINT (SHERWIN WILLIAMS - BLUE SKY #0063) | WALLS PER FINISH SCHEDULE |
| P-3 | PAINT PMS 201, PER OWNER | WALLS PER FINISH SCHEDULE |
| P-4 | PAINT (SHERWIN WILLIAMS - COLONIAL GRAY #2832) | WALLS PER FINISH SCHEDULE |
| P-5 | PAINT (SHERWIN WILLIAMS - BREVITY BROWN # 6068 DTM - INDUSTRIAL ENAMEL SEMI - GLOSS) | HM DOOR TRIM AND SLABS |
| WGV-1 | WOOD GRAIN VINYL FLOORING | INTERFACE - STEADY STRIDE WOODGRAINS - COLOR: B00102 BRISTLE - SIZE: 12.5cm x 1m |
| WGV-2 | VINYL FLOORING | INTERFACE - RAW MATERIALS 3.0 mm - SIZE: 25 cm x 1 m - COLOR: C02404 CRIMSON |
| FT-1 | FLOOR TILE | DALTILE - VOLUME 1.0 - COLOR: VAPOR VL63 MATTE |
| SC | SEALED CONCRETE | 3000 GRIT POLISHED CONCRETE (*SEE ALTERNATE FLOORING SPEC) |
| RB-1 | RUBBER BASE | 4" ROPPE RUBBER BASE - COLOR: 100 BLACK |
| RB-2 | RUBBER MOLDING | 1" MOLDING - COLOR: 100 BLACK |
| SS-1 | COUNTERTOP SOLID SURFACE | SOLID SURFACE, WILSONART - D3545L - COLOR: DESIGNER WHITE |
| WT-1 | WALL TILE | MANISCALCO, LISO TYPE 4" x 12" - COLOR: OCRE |
| PL-1 | PLASTIC LAMINATE | WILSONART, PLASTIC LAMINATE, COLOR: POLISHED CONCRETE |
| FRP-1 | FIBER REINFORCED PANEL | MARLITE FRP, WHITE, CLASSIC II/C RATING, PEBBLE FINISH W/ PVC TRIM |
| SC-1 | SCHLUTER | 1/2" SCHLUTER "JOLLY" FINISHING EDGE. |
| WC-1 | TURF FOREVER LAWN WALLCOVERING | |

## 3000 GRIT POLISHED CONCRETE FLOOR SPECS:

SCOPE OF WORK:

1. FILL CONSTRUCTION JOINTS WITH JOINT FILLER
2. BEGIN CONCRETE GRINDING WITH 30 GRIT RESIN-BOND DIAMONDS
3. FOLLOWED BY TWO ADDITIONAL METAL-BOND DIAMOND PASSES
4. APPLY CONCRETE HARDENER / SEALER @400 SF / GAL.
5. BEGIN POLISHING CONCRETE WITH FOUR RESIN - BOND DIAMOND PASSES
6. APPLY FINAL COAT OF GUARD @1000 SF / GAL.
7. FINAL POLISH WITH 3000 GRIT RESIN-BOND POLISHING PADS
8. CLEAN WORK AREA AFTER COMPLETION

## ALTERNATE FLOORING SPEC #1:

G.C. TO PROVIDE AN ALTERNATE PRICE FOR SHERWIN WILLIAMS HYBI-FLEX AQ FLOORING AND VERTICAL SYSTEM UP TO 24" A.F.F. IN THE BOARDING AREAS, SUITES, HALLWAYS, INDOOR PLAY AREAS, GO HOME/STORAGE ROOM, AND GROOM ROOM. COLOR TO BE SELECTED BY OWNER.

REFER TO MANUFACTURER FOR INSTALLATION REQUIREMENTS

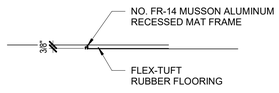
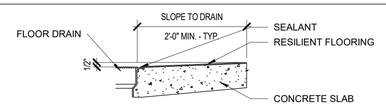
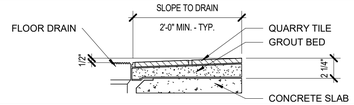
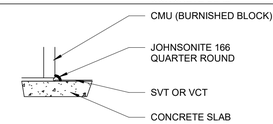
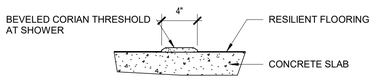
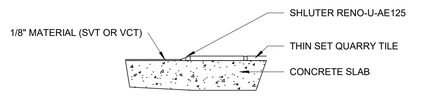
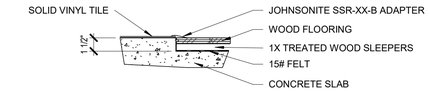
Sherwin-Williams High Performance Flooring, Hybri-Flex AQ (self leveling broadcast colored quartz), epoxy resin broadcast and aliphatic resinous topcoat seamless flooring system.

1. System Materials:
   a. Topping: Sherwin-Williams Poly-Crete SL resin, SL hardener and SL aggregate.
   b. The quartz aggregate shall be Sherwin-Williams Q28 colored quartz.
   c. Broadcast coat: Resuflor Glaze resin and hardener.
   d. Topcoat: Sherwin-Williams Accelera resin and hardener.
   e. *Optional primer: See Application Guide.*
2. Patch Materials
   a. Shallow Fill and Patching: Use Sherwin-Williams Poly-Crete MD (up to ¼ inch).
   b. Deep Fill and Sloping Material (over ¼ inch): Use Sherwin-Williams Poly-Crete WR.

## ALTERNATE FLOORING SPEC #2:

G.C. TO PROVIDE AN ALTERNATE PRICE FOR RUBBER FLOORING IN THE GROOM ROOM #111.
MANUFACTURER AND COLOR TO BE SELECTED BY OWNER.

## FLOOR TRANSITION LEGEND

| CONDITION | FLOOR TRANSITION LEGEND |
|---|---|
| SVT TO MF? | USE JOHNSONITE VINYL FEATURE STRIP FS-XX-DW2 |
| SVT TO CARPET, MF? | USE JOHNSONITE TRANSITION CTA-XX-DD |
| SVT/VCT TO CONCRETE | USE JOHNSONITE TRANSITION SSR-XX-B |
| SVT TO RF? AND MF? | USE JOHNSONITE TRANSITION CTA-XX-A |
| SVT/VCT TO RESILIENT FLOOR | USE JOHNSONITE TRANSITION SLT-XX-B |
| RECESSED RUBBER TILE TO CONCRETE |   |
| RESILIENT FLOOR AT FLOOR DRAIN |   |
| QUARRY TILE AT FLOOR DRAIN |   |
| COMPOSITE BASE |   |
| SHOWER THRESHOLD |   |
| QUARRY TILE TO SVT OR VCT |   |
| SVT TO WOOD (MF?) |   |


Open studio architecture

6122 De Zavala Road
San Antonio, Texas 78249
Tel: 210.417.4307
www.openstudio-usa.com


REGISTERED ARCHITECT — DAVID T. SHAW — 17863 — STATE OF TEXAS

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|---|---|---|
| Number | Description | Date |


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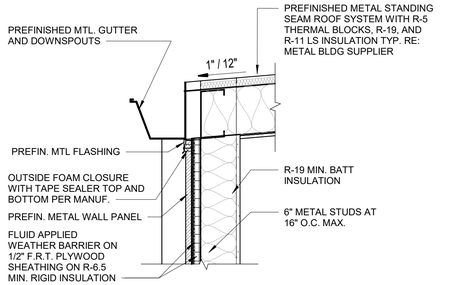
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**CAMP BOW WOW**

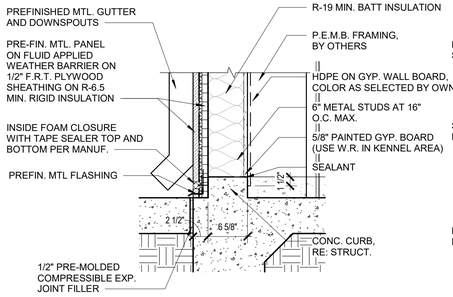
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project #: 25.165
date: 07.24.26
drawn by: JC/VS
checked by: JG
drawing title: **ROOM FINISH SCHEDULES**

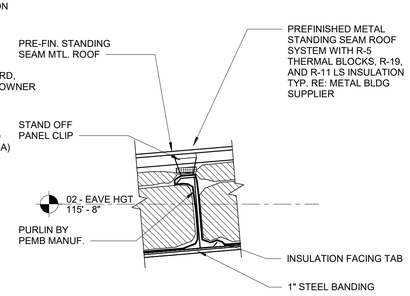
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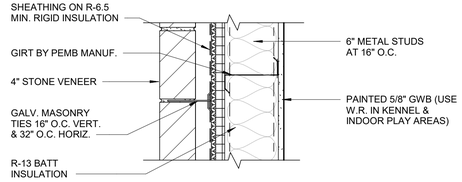

## 1 SECTION DETAIL
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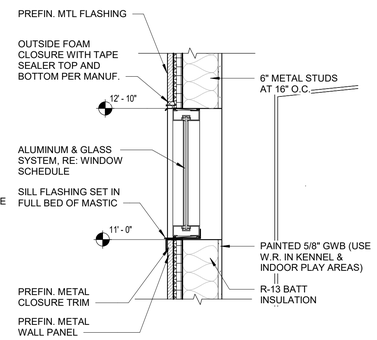

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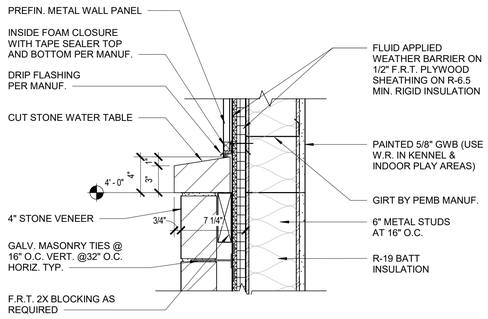

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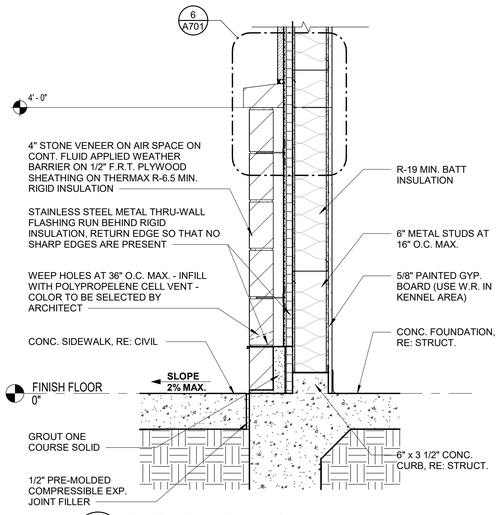

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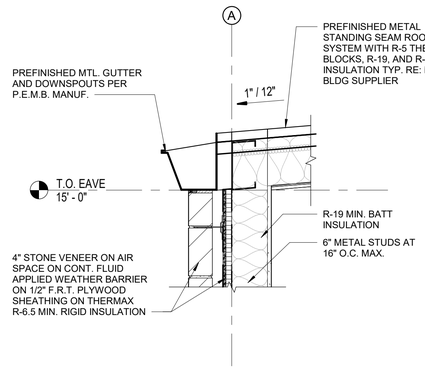

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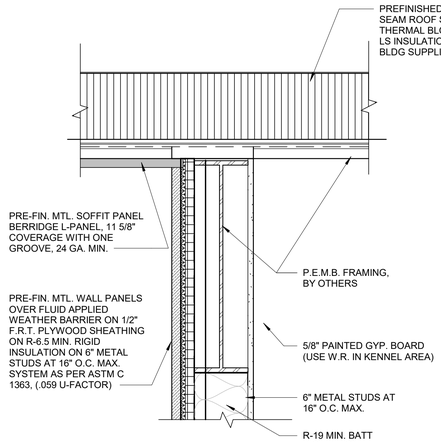

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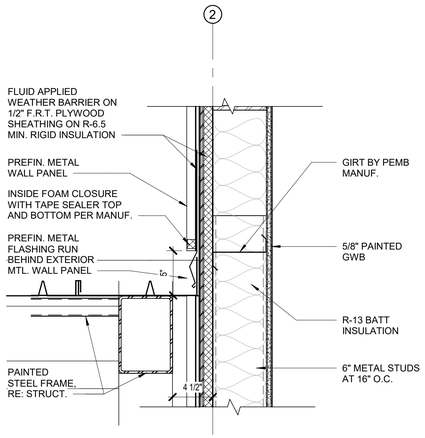

## 7 SECTION DETAIL
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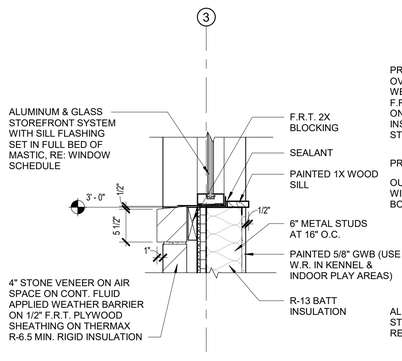

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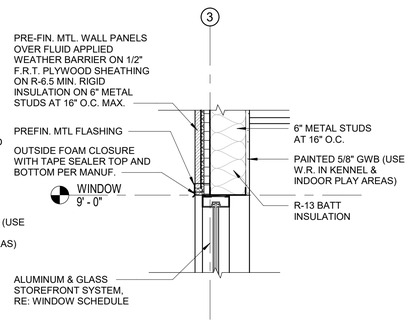

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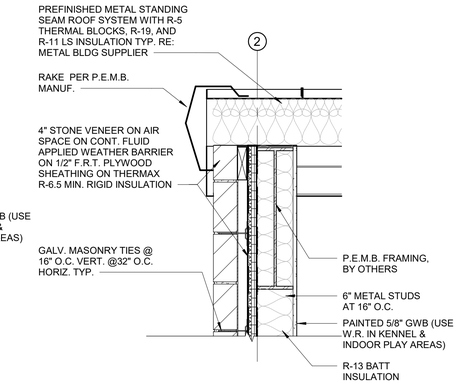

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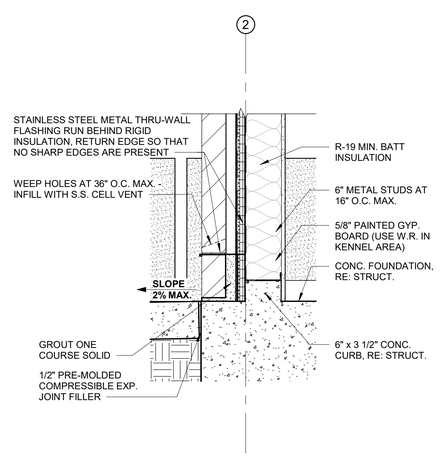

## 11 SECTION DETAIL
SCALE: 1" = 1'-0"




## 12 SECTION DETAIL
SCALE: 1" = 1'-0"




## 13 SECTION DETAIL
SCALE: 1" = 1'-0"




## 14 SECTION DETAIL
SCALE: 1" = 1'-0"

Open studio architecture
6122 De Zavala Road
San Antonio, Texas 78249
Tel: 210.417.4307
www.openstudio-usa.com

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07.24.26

| Revisions | | |
|---|---|---|
| Number | Description | Date |

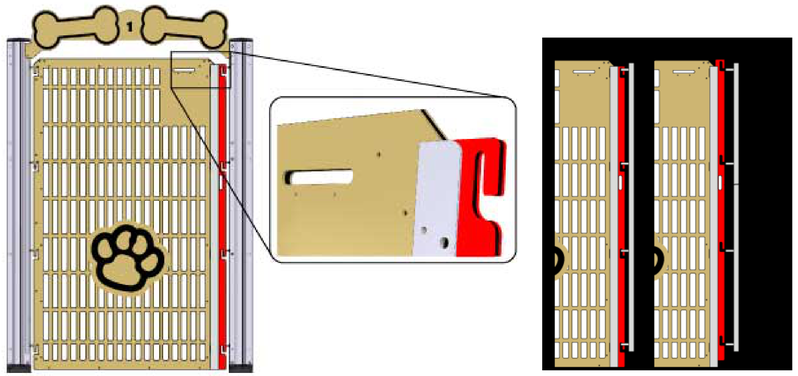
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**CAMP BOW WOW**

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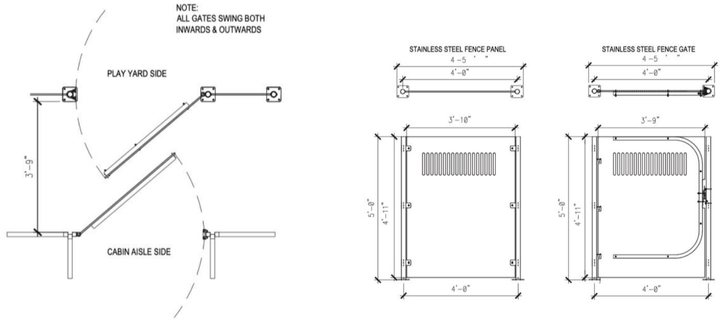
project #: 25.165
date: 07.24.26
drawn by: JC/VS
checked by: JG
drawing title: **SECTION DETAILS**

drawing number: **A701**



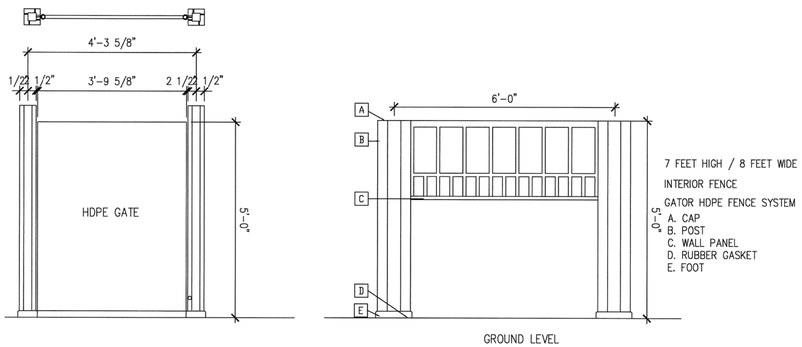
## GATOR KENNEL GATE PANELS (BY OTHERS)

SCALE: N.T.S.




## INDOOR PLAY YARD FENCE DETAILS

SCALE: N.T.S.







7 FEET HIGH / 8 FEET WIDE
INTERIOR FENCE
GATOR HDPE FENCE SYSTEM
A. CAP
B. POST
C. WALL PANEL
D. RUBBER GASKET
E. FOOT

GROUND LEVEL

## GATOR HDPE PANEL (BY OTHERS)

SCALE: N.T.S.

7 FEET HIGH / 8 FEET WIDE
INTERIOR FENCE
–COUNTRY ESTATES MANTAUK
–COLOR: ALMOND

NOTE:
GAP BETWEEN BOTTOM OF FENCE PANEL & GRADE SHALL NOT EXCEED 3". STEP FENCE PANELS AS REQUIRED TO FOLLOW GRADE.

A. TOP RAIL

B. TOP PICKETS

C. MIDDLE RAIL

D. BOTTOM PICKETS

E. BOTTOM RAIL

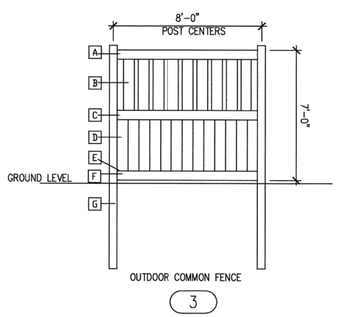
F. KICK PLATE

G. POST

NOTE:
SCREWS ADDED TO SECTIONS FOR SECURING EVERYOTHER VERTICAL INTO THE RAILS AS IN 6" HVHZ RATED STYLE

OBTAIN FENCE MATERIALS FROM COUNTRY ESTATES

CONTACT SID GERMAN AT:
P: (225) 324–7070
E: SG@CEFENCE.COM



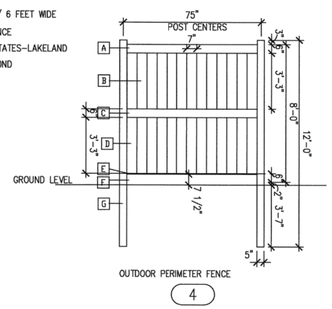

OUTDOOR COMMON FENCE

3

NOTE:
REFER TO SPECIFICATIONS FOR MORE INFORMATION ON FENCING

NOTE:
CONTRACTOR IS RESPONSIBLE FOR QUOTING AND INSTALLING FENCE TO MEET OR EXCEED THE WIND RATING REQUIREMENTS THE MANUFACTURER RECOMMENDS WHERE THE INSTALLATION IS TO OCCUR.

8 FEET HIGH / 6 FEET WIDE
PERIMETER FENCE
–COUNTRY ESTATES–LAKELAND
–COLOR: ALMOND

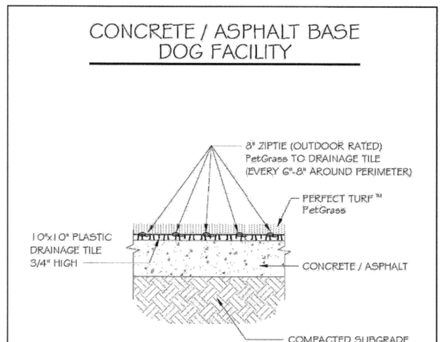



OUTDOOR PERIMETER FENCE

4

## 8 ' PVC FENCE (BY OTHERS)

SCALE: N.T.S.




Perfect Turf

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Contact: 888-796-8873 or visit perfectturfinc.com for additional information

NOT TO SCALE

DF1

## TURF DRAINAGE DETAIL

SCALE: N.T.S.

### GENERAL NOTES:

1. ALL PRODUCTS ARE RECOMMENDED PER CAMP BOW WOW'S SPECIFICATIONS. ANY EQUAL OR ALTERNATIVES MUST BE PRESENTED TO CAMP BOW WOW FOR APPROVAL AND PRIOR TO PURCHASING AND INSTALLATION.

### GATE SCHEDULE:

| GATES | SIZE | QUANTITY | NOTES |
|---|---|---|---|
| X | 3'-0" x 4'-0" | 4 V.I.F. | OWNER PROVIDED - CONTRACTOR INSTALLED |
| B | 4'-0" x 5'-0" | 33 V.I.F. | OWNER PROVIDED - CONTRACTOR INSTALLED |
| C | 4'-0" x 8'-0" | 4 V.I.F. | OWNER PROVIDED - CONTRACTOR INSTALLED |

Open studio architecture
6122 De Zavala Road
San Antonio, Texas 78249
Tel: 210.417.4307
www.openstudio-usa.com

REGISTERED ARCHITECT
DAVID T. SHAW
17837
STATE OF TEXAS

07.24.26

Revisions

| Number | Description | Date |
|---|---|---|

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**CAMP BOW WOW**

1450 N. Business IH 35
New Braunfels, TX 78130

project #: 25.165
date: 07.24.26
drawn by: JE
checked by: JG
drawing title: **FENCE DETAILS**

drawing number:

**A801**

# STRUCTURAL NOTES

## GENERAL:

1. BUILDING CODE: IBC 2021 EDITION WITH NEW BRAUNFELS AMENDMENT.

2. THE DETAILS DESIGNATED AS "TYPICAL DETAILS", APPLY GENERALLY TO THE DRAWINGS IN ALL AREAS WHERE CONDITIONS ARE SIMILAR TO THOSE DESCRIBED IN DETAILS.

3. THE CONTRACTOR SHALL VERIFY AND COORDINATE REQUIREMENTS OF OTHER TRADES (ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, ETC.) WITH THE STRUCTURAL DOCUMENTS PRIOR TO FABRICATION OR INSTALLATION OF ANY STRUCTURAL MEMBERS.

4. THE CONTRACTOR AND FABRICATOR SHALL VERIFY ALL QUANTITIES, DIMENSIONS AND CONDITIONS THOROUGHLY WITH THE CONTRACT DOCUMENTS AND THEN NOTIFY THE ARCHITECT/ENGINEER OF ANY DISCREPANCIES OR INCONSISTENCIES BEFORE SUBMITTING SHOP DRAWINGS AND PROCEEDING WITH THE WORK. DO NOT SCALE DRAWINGS FOR DIMENSIONS.

5. COMPLETED SHOP DRAWINGS SHALL BE PROVIDED, AS SPECIFIED, FOR ALL FABRICATED ITEMS AND SHALL BE REVIEWED BY THE CONTRACTOR PRIOR TO FABRICATION. STRUCTURAL DRAWINGS SHALL NOT BE REPRODUCED FOR SHOP DRAWINGS. USE OF STRUCTURAL DRAWINGS WITHOUT PERMISSION IS GROUNDS FOR REJECTION OF SHOP DRAWINGS. THE STRUCTURAL ENGINEER WILL REVIEW SHOP DRAWINGS FOR THE LIMITED PURPOSE OF CHECKING FOR CONFORMANCE WITH INFORMATION GIVEN AND THE DESIGN CONCEPT EXPRESSED IN THE CONTRACT DOCUMENTS. AS A MINIMUM, THE FOLLOWING SHOP DRAWINGS SHALL BE SUBMITTED **AS WELL AS SHOP DRAWINGS LISTED IN THE DEFERRED SUBMITTAL SECTION OF THESE NOTES**:

   a. CONCRETE MIX DESIGN FOR EACH TYPE OF CONCRETE TO BE USED.
   b. CONCRETE REINFORCING STEEL SHOP DRAWINGS INCLUDING PLACEMENT DRAWINGS, CUT SHEETS, AND MILL REPORTS.
   c. STRUCTURAL STEEL SHOP DRAWINGS, MILL REPORTS, AND CALCULATIONS.
   d. METAL DECK DRAWINGS.
   e. PRE-ENGINEERED STEEL FRAMED STRUCTURES (CONTRACTOR SHALL SUBMIT TO THE CITY PRIOR TO CERTIFICATE OF OCCUPANCY)

6. SHOP DRAWINGS NOT PREVIOUSLY REVIEWED BY THE CONTRACTOR SHALL BE RETURNED WITHOUT REVIEW BY STRUCTURAL ENGINEER. STRUCTURAL ENGINEER DOES NOT BEAR ANY RESPONSIBILITY TO THE STRUCTURAL MEMBERS BUILT WITHOUT APPROVED SHOP DRAWINGS.

7. CONTRACTOR SHALL INSPECT JOB FOR COMPLETION BEFORE SCHEDULING ANY OBSERVATION BY THE ENGINEER.

8. SEE ARCH'L. AND MEP DRAWINGS FOR LOCATIONS AND SIZES OF SLAB OPENINGS, SLEEVES, INSERTS, ANCHORS AND BOLTS REQUIRED BY VARIOUS TRADES.

9. ALL PLUMBING CONDUITS AT FOUNDATION SHOULD HAVE FLEXIBLE CONNECTIONS TO SUSTAIN A MAXIMUM DIFFERENTIAL MOVEMENT OF 1 INCH.

10. THE FOUNDATION HAS BEEN DESIGNED TO RESIST DESIGN LOADS ONLY AS A COMPLETED STRUCTURE. CONTRACTOR SHALL CONSIDER ALL CONSTRUCTION LOADS APPLIED TO THE PARTIALLY COMPLETED STRUCTURE UNTIL ALL PERMANENT CONNECTIONS ARE MADE, AND ENCLOSED PERMANENTLY AS PER CONSTRUCTION DOCUMENTS. TEMPORARY BRACING SHALL BE PROVIDED BY THE CONTRACTOR IN ALL DIRECTIONS. WHEN REQUIRED, BY THE CONSTRUCTION DOCUMENTS OR THE STRUCTURAL ENGINEER, CONTRACTOR SHALL PROVIDE CALCULATIONS SEALED BY A LICENSED STRUCTURAL ENGINEER IN THE STATE OF TEXAS WHICH VERIFY THE MEANS OF STRUCTURALLY MAINTAINING THE INTEGRITY OF THE COMPLETED PORTION OF THE STRUCTURE.

11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CHECKING THE ADEQUACY OF THE STRUCTURE TO SUPPORT ALL CONSTRUCTION LOADS. THE STRUCTURAL ENGINEER IS NOT RESPONSIBLE TO DESIGN OR CHECK THE STRUCTURE FOR CONSTRUCTION ACTIVITIES.

12. THE ENGINEER SHALL NOT HAVE CONTROL OF, AND SHALL NOT BE RESPONSIBLE FOR, CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, OR PROCEDURES, FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK, FOR THE ACTS OR OMISSIONS OF THE CONTRACTOR, SUBCONTRACTOR, OR ANY OTHER PERSONS PERFORMING ANY OF THE WORK, OR FOR THE FAILURE OF ANY OF THEM TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

13. PERIODIC SITE OBSERVATIONS BY FIELD REPRESENTATIVES OF ALPHA CONSULTING ENGINEERS, INC. ARE SOLELY FOR THE PURPOSE OF DETERMINING IF THE WORK OF THE CONTRACTOR IS PROCEEDING IN ACCORDANCE WITH THE STRUCTURAL CONTRACT DOCUMENTS. THESE LIMITED SITE OBSERVATIONS ARE NOT INTENDED TO BE A CHECK OF THE QUALITY OR QUANTITY OF THE WORK, BUT RATHER PERIODIC IN AN EFFORT TO INFORM THE OWNER OF DEFECTS AND DEFICIENCIES IN THE WORK OF THE CONTRACTOR.

14. ASSUMPTIONS HAVE BEEN MADE BY THIS OFFICE REGARDING EXISTING CONDITIONS. ACTUAL CONDITIONS MAY VARY FROM THOSE ASSUMED. FIELD VERIFICATION OF EXISTING CONDITIONS MAY BE REQUIRED TO PROVIDE ADEQUATE SHOP DRAWINGS. THE CONTRACTOR IS TO COORDINATE EFFORTS AS REQUIRED AND IS TO REPORT ANY DISCREPANCIES REGARDING THE EXISTING CONDITIONS TO THE ENGINEER FOR POSSIBLE MODIFICATIONS NEEDED TO THE CONTRACT DRAWINGS.

15. THE CONTRACTOR SHALL RETAIN THE SERVICES OF A REGISTERED PROFESSIONAL ENGINEER, LICENSED IN TEXAS, TO VERIFY THAT THE EXISTING STRUCTURAL FRAMING IS CAPABLE OF SUPPORTING NEW MECHANICAL EQUIPMENT PRIOR TO INSTALLATION. THE CONTRACTOR SHALL ALSO PROVIDE NECESSARY FRAMING AS REQUIRED TO SUPPORT THE NEW MECHANICAL EQUIPMENT BETWEEN EXISTING STRUCTURAL FRAMING AND TO REINFORCE EXISTING STRUCTURAL FRAMING IF REQUIRED BY THE ENGINEER OF RECORD.

16. PROVIDE CONTROL JOINTS AT 15'-0" ON CENTER MAXIMUM FOR ALL BRITTLE FINISHES, UNLESS NOTED OTHERWISE BY ARCHITECT.

17. IF CONFLICT EXISTS BETWEEN DRAWINGS, NOTES, AND SPECIFICATIONS, THE STRICTEST REQUIREMENTS SHALL GOVERN.

## SCHEDULE OF FIELD VISITS BY ENGINEER:

1. THE STRUCTURAL ENGINEER OR THEIR REPRESENTATIVE SHALL HAVE THE OPPORTUNITY TO VIEW STRUCTURAL ELEMENTS OF THE BUILDING DURING THE CONSTRUCTION PHASE, SO THAT A FINAL LETTER OF COMPLIANCE CAN BE PROVIDED TO THE OWNER AND/OR BUILDING AUTHORITY.

2. PRIOR TO THE BEGINNING OF CONSTRUCTION, THE CONTRACTOR SHALL ARRANGE A MEETING WITH THE STRUCTURAL ENGINEER TO SET UP A SCHEDULE FOR THE FOLLOWING OBSERVATIONS, NOT TO EXCEED THE SPECIFIED NUMBER OF VISITS:

   a. CONCRETE: FOR EACH CONCRETE POUR UNLESS NOTED OTHERWISE BY THE ENGINEER. SEE NOTE 5 OF CONCRETE AND CONCRETE REINFORCEMENT - ONE VISIT.

   b. STRUCTURAL STEEL: BEFORE CONNECTIONS AND STRUCTURAL MEMBERS ARE HIDDEN BY INSTALLATION OF ARCHITECTURAL FINISHES - ONE VISIT.

   c. NOTIFY ARCHITECT AT LEAST 48 HOURS BEFORE EACH SITE OBSERVATION IS REQUIRED TO ALLOW TIME FOR ARRANGEMENTS TO BE MADE WITH ENGINEER FOR SITE OBSERVATION.

3. THESE VISITS ARE THE REQUIREMENTS OF THE STRUCTURAL ENGINEER AND DOES NOT INCLUDE OR WAIVE THE RESPONSIBILITY FOR THE SPECIAL INSPECTIONS REQUIRED BY CHAPTER 17 OF THE INTERNATIONAL BUILDING CODE. SPECIAL INSPECTION SHALL BE PERFORMED BY THE SPECIAL INSPECTOR WHO SHALL BE HIRED BY OWNER TO MEET CHAPTER 17 OF IBC.

## DEFERRED DESIGN SUBMITTAL:

1. SUBMITTALS LISTED IN DD-2 ARE TO BE DESIGNED, DETAILED, SIGNED AND SEALED BY A LICENSED PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF TEXAS. SEE PLANS AND SPECIFICATIONS FOR DESIGN REQUIREMENTS OF THESE ELEMENTS.

2.

| ITEM | RESPONSIBLE FOR SHOP DRAWING REVIEW | RESPONSIBLE FOR INSPECTION |
|---|---|---|
| PRE-ENGINEERED BLDG. | STRUCTURAL ENGINEER | SPECIAL INSPECTOR |
| LIGHT GAGE METAL STUDS | STRUCTURAL ENGINEER AND BUILDING INSPECTOR | BUILDING INSPECTOR |

## BUILDING PAD PREPARATION:

A SUBSURFACE SOIL STUDY WAS PREPARED BY MEG ENGINEERS. THEIR REPORT/PROJECT NUMBER FOR THIS SITE IS 07-26-20114 AND WAS COMPLETED ON JULY 2, 2026. THIS GEOTECHNICAL REPORT AND ITS ADDENDUMS WAS USED IN THE DESIGN OF THE STRUCTURES FOUNDATION. THE CONTRACTOR SHALL OBTAIN A COPY OF THIS REPORT PRIOR TO THE BEGINNING OF ANY FOUNDATION WORK. IN CASE OF CONFLICT BETWEEN THESE NOTES AND THE GEOTECHNICAL REPORT, THE GEOTECHNICAL REPORT SHALL GOVERN.

1. PROVIDE TEMPORARY PROVISION FOR DRAINAGE OF THE BUILDING PAD AREA DURING CONSTRUCTION AND PERMANENT DRAINAGE AWAY FROM BUILDING AFTER CONSTRUCTION.

2. AT THE ENTIRE AREA OCCUPIED BY THE BUILDING (AND FOR A DISTANCE OF MIN. 5.0 FT. OUTSIDE OF THE BUILDING), REMOVE ALL ORGANIC AND OTHER DELETERIOUS MATERIALS. DO NOT USE FOR UNDERFLOOR FILL. REMOVE SOIL PER GEOTECHNICAL REPORT TO ACHIEVE THE PVR MENTIONED IN BUILDING PAD PREPARATION NOTE 10. EXPOSED SUBGRADE SHALL BE RELATIVELY LEVEL.

3. THE EXPOSED SUBGRADE SHALL BE SCARIFIED AND COMPACTED PER THE GEOTECHNICAL REPORT MENTIONED ABOVE.

4. BRING THE BUILDING PAD TO UNDERSIDE OF SLAB WITH SELECT STRUCTURAL FILL AS SPECIFIED PER THE GEOTECHNICAL REPORT TO ACHIEVE A MAX. PVR LISTED IN BUILDING PAD PREPARATION NOTE 10.

5. PERFORM ALL EARTHWORK DESCRIBED ABOVE BEFORE TRENCHING FOR GRADE BEAMS, MEP ITEMS, OR UTILITY LINES.

6. EXCAVATE BEAM TRENCHES TO MEET PLANNED DIMENSIONS. PRIOR TO PLACEMENT OF CONCRETE, HAND COMPACT BOTTOM OF BEAM TRENCHES PER THE GEOTECHNICAL REPORT STANDING WATER SHOULD NOT BE PERMITTED IN THE BEAM TRENCHES AFTER FINAL COMPACTION AND BEFORE PLACEMENT OF CONCRETE. REMOVE ALL LOOSE MATERIALS AND UNSUITABLE SOILS DUE TO RAINFALL OR BY DESICCATION.

7. PLACE A VAPOR RETARDER WITH THE FOLLOWING REQUIREMENTS PER CONSTRUCTION DOCUMENTS:
   o 15 MIL, CLASS A WITH A MAXIMUM WATER VAPOR PERMEANCE 0.009 PERMS SHALL BE PLACED UNDER MOISTURE SENSITIVE FLOOR COVERINGS.

   PROVIDE A SMOOTH SUBGRADE TO PREVENT PROTRUSIONS THAT MAY CAUSE DAMAGE OR RUPTURE FILM. LAY FILM ON SUBGRADE INCLUDING BEAM AND FOOTING SOFFITS AND SIDES OF BEAMS AND FOOTINGS USING WIDEST PRACTICAL WIDTHS. LAP EDGES OF RETARDER A MIN. OF 6", OR AS REQUIRED BY MANUFACTURER, WITH TOP LAP PLACED IN DIRECTION OF CONCRETE FLOW AND TAPE ALL JOINTS. CUT FILM AROUND PIPES AND ROUGH-INS AND SEAL CUTS WITH PRESSURE SENSITIVE TAPE.

8. AT AREAS OUTSIDE THE BUILDING LINE, SLOPE THE TOP SURFACE OF FILL A MIN. 5% FOR A DISTANCE OF 10 FEET TO MATCH FINISH GRADE SLOPE AND HOLD DOWN A MINIMUM OF 10 INCHES BELOW FINISH FLOOR LINE, GUTTER DOWNSPOUTS EXTEND AT LEAST THREE (3) FEET PAST THE EDGE OF BUILDING, UNLESS NOTED OTHERWISE ON THE CIVIL ENGINEERS CONSTRUCTION DOCUMENTS.

9. THE OWNER IS TO EMPLOY AN INDEPENDENT TESTING LABORATORY TO TAKE DENSITY TESTS FOR SUBGRADE & EACH LIFT OF SELECT FILL TO MEET THE REQUIREMENTS FOR SPECIAL INSPECTIONS.

10. THE FOLLOWING DESIGN PARAMETERS WHERE USED TO DESIGN THE FOUNDATION
    o SOIL BEARING CAPACITY (FOOTINGS) - 2100 PSF.
    o SOIL BEARING CAPACITY (GRADE BEAMS) - 1800 PSF.
    o MAX. PVR FOR SLAB ON GROUND IS TO BE 1"

11. IF UTILITY TRENCHES ARE REQUIRED, WE RECOMMEND THAT MEASURES BE TAKEN TO PROHIBIT TRANSMITTING WATER UNDER THE BUILDING PAD. REFERENCE GEOTECHNICAL REPORT OR CONTACT GEOTECHNICAL ENGINEER FOR BACKFILL REQUIREMENTS.

## PRE-ENGINEERED SUPERSTRUCTURE:

1. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND SITE CONDITIONS PRIOR TO DESIGN, FABRICATION OR ERECTION OF PRE-ENGINEERED BUILDING.

2. ENGINEER OF RECORD (E.O.R.) DISCLAIMS ANY RESPONSIBILITY FOR THE DESIGN OF PRE-ENGINEERED METAL BUILDING. PRE-ENGINEERED METAL BUILDING SHALL BE DESIGNED AND SEALED BY A REGISTERED ENGINEER LICENSED IN THE STATE OF TEXAS AND HAVING THREE (3) OR MORE YEARS EXPERIENCE IN THE DESIGN OF THE TYPE OF BUILDING INDICATED ON THE CONTRACT DOCUMENTS.

3. THE METAL BUILDING AND COMPONENTS SHALL COMPLY WITH LOCAL CODES MINIMUM, REQUIREMENTS SHALL BE AS FOLLOWS:

   BUILDING DRIFT
   WITH METAL SIDING H/180
   WITH MASONRY VENEER H/300

   WIND GIRT DEFLECTION
   METAL SIDING L/180
   STUCCO L/360
   MASONRY VENEER L/600

   ROOF LIMITS - RAFTERS
   LIVE, SNOW, SERVICE WIND, TOTAL GRAVITY L/180
   ROOF LIMITS - PURLINS
   LIVE, SNOW, SERVICE WIND, TOTAL GRAVITY L/240

4. THE METAL BUILDING AND COMPONENTS SHALL BE DESIGNED TO CARRY THEIR OWN WEIGHT (INCLUDING DECK, ROOFING, INSULATION), WEIGHT OF MASONRY, SUPERIMPOSED DEAD LOADS, LIVE LOADS, AND WIND LOADS FROM ALL DIRECTIONS AND INCLUDING ALL MECHANICAL, ELECTRICAL AND ARCHITECTURAL LOADS. VERIFY ALL LOADS WITH MECHANICAL, ELECTRICAL AND ARCHITECTURAL PLANS. MINIMUM SUPERIMPOSED DEAD LOADING SHALL BE **12 PSF** FOR CEILING, DUCT WORK, LIGHTS, FIRE SPRINKLER, FUTURE LOADING, ETC.

5. DESIGN OF MEMBERS FOR ALL FRAMED OPENINGS SHALL BE PROVIDED AS PART OF THE METAL BUILDING DESIGN.

6. THE CONTRACTOR SHALL PROVIDE (E.O.R.) WITH DOCUMENTATION INDICATING DESIGN LOADS, DESIGN ASSUMPTIONS, INTENT AND CRITERIA USED PRIOR TO FABRICATION OF METAL BUILDING AND COMPONENTS.

7. QUANTITIES AND DIAMETER OF THE ANCHOR RODS FOR THE CONNECTION OF THE PRE-ENGINEERED BUILDING FRAMES AND END WALL COLUMNS TO THE FOUNDATION SHALL BE FURNISHED BY THE PRE ENGINEERED METAL BUILDING'S ENGINEER. SEE DETAIL 9 / S301 FOR REQUIRED EMBEDMENT AND HOOK INTO THE FOUNDATION. THE CONTRACTOR SHALL COORDINATE THE CONNECTION OF THE BUILDING FRAME WITH THE SUPPLIER AND (E.O.R.) PRIOR TO CONSTRUCTION.

8. THIS FOUNDATION HAS BEEN DESIGNED USING THE ESTIMATED REACTIONS FROM THE PRE-ENGINEERED BUILDING COMPONENTS AND IS FOR BID PURPOSE ONLY. THE CONTRACTOR SHALL SUBMIT BASE CONNECTION DETAILS AND REACTIONS OF THE BUILDING FRAMES TO (E.O.R.) PRIOR TO CONSTRUCTION SO THE DESIGN ASSUMPTIONS AND FOUNDATION CONNECTIONS CAN BE VERIFIED. ALL COLUMNS SHALL BE DESIGNED WITH PINNED BASES. FOUNDATION HAS NOT BEEN DESIGNED TO RESIST ANY APPLIED MOMENT.

9. ANY ADDITIONAL COST OF FOUNDATION WORK REQUIRED BY REVISIONS OF THE FOUNDATION DESIGN AFTER PRE-ENGINEERED BUILDING REACTIONS AND DETAILS ARE SUBMITTED SHALL NOT BE THE RESPONSIBILITY OF (E.O.R.) AND SHALL BE INCLUDED IN CONTRACTOR'S BID.

10. THE EXTERIOR OR INTERIOR WALLS SHALL NOT BE USED AS BRACING BY THE METAL BUILDING. THIS APPLIES TO MAIN FORCE RESISTANCE SYSTEMS AS WELL AS MEMBERS SUPPORTING COMPONENTS.

11. REFER TO THE ARCHITECTURAL/STRUCTURAL PLANS FOR MAXIMUM SIZES OF COLUMNS, AND LOCATIONS OF SPECIAL STRAIGHT LEG COLUMNS. ALL COLUMNS SHALL BE DESIGNED TO FIT IN FURROUTS AS DETAILED ON ARCH'L. DRAWINGS. INCREASE THICKNESS OF PLATES IF REQUIRED BY DESIGN.

12. AS PART OF THE PRE-ENGINEERED METAL BUILDING (PEMB) SCOPE OF SERVICES DESCRIBED ON THE DRAWINGS AND THIS SECTION OF THE SPECIFICATIONS, THE PEMB MANUFACTURER SHALL OBSERVE ALL FINAL FRAMING PRIOR TO COVERING THE STRUCTURE WITH FINISHES AND PROVIDE A FINAL LETTER OF COMPLIANCE BASED ON THE CONSTRUCTION DOCUMENTS FOR THE SUPERSTRUCTURE. SAID LETTER SHALL HAVE ATTACHED THE SEAL OF THE ENGINEER REGISTERED IN THE STATE OF TEXAS. THIS LETTER SHALL BE INCLUDED IN THE CLOSE OUT DOCUMENTS.

13. METAL BUILDING SHOP DRAWINGS SHALL USE GRID DESIGNATIONS ESTABLISHED ON THE CONTRACT DOCUMENTS.

## CONCRETE AND CONCRETE REINFORCEMENT:

1. STRUCTURAL CONCRETE SHALL BE IN ACCORDANCE WITH THE CODE APPLICABLE EDITION OF "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE (ACI 318)", THE AMERICAN CONCRETE INSTITUTE.

2. STRUCTURAL CONCRETE SHALL BE PLACED PER ACI 301 "SPECIFICATIONS FOR CONCRETE CONSTRUCTION". THE CONTRACTOR TO FOLLOW RECOMMENDATIONS IN THIS ACI STANDARD UNLESS NOTED OTHERWISE ON CONSTRUCTION DOCUMENTS.

3. CONCRETE REINFORCEMENT SHALL BE NEW DOMESTIC DEFORMED BILLET STEEL CONFORMING TO ASTM A615 GRADE 60. THE WELDABLE REBARS SHALL CONFORM TO ASTM A706, GR. 60 AND WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185, GRADE 70.

4. DETAIL REINFORCING BARS AND PROVIDE BAR SUPPORTS AND SPACERS IN ACCORDANCE WITH ACI 315 AND CRSI (PLACING REINFORCING BARS) PRIOR TO PLACING CONCRETE.

5. PLACEMENT OF ALL REINFORCING STEEL SHALL BE OBSERVED BY THE ENGINEER'S REPRESENTATIVE AND/OR SPECIAL INSPECTOR PRIOR TO CONCRETE PLACEMENT UNLESS APPROVED OTHERWISE.

6. ALL CONCRETE SHALL BE NORMAL WEIGHT STONE AGGREGATE CONCRETE UNLESS NOTED OTHERWISE. AGGREGATE SHALL MEET ASTM C33 REQUIREMENTS, AND SHALL BE 3/4" TO 1 1/2" NOMINAL AGGREGATE SIZE. CONCRETE ON METAL DECK IS TO UTILIZE 3/4" MAXIMUM AGGREGATE. PROVIDE ADMIXTURES AS REQUIRED TO IMPROVE WORKABILITY. THE CONTRACTOR SHALL COORDINATE SLUMP REQUIREMENTS UNLESS NOTED OTHERWISE IN STRUCTURAL DOCUMENTS. ALL CONCRETE SHALL BE CURED FOR A MINIMUM OF 7 DAYS USING MOIST CURING PROCEDURES, OR CURING COMPOUNDS WHICH WILL NOT INTERFERE WITH THE BONDING OF FINISH TILE FLOORS. NO FLY ASH SHALL BE USED AT ARCHITECTURALLY EXPOSED CONCRETE WITHOUT PRIOR APPROVAL FROM ARCHITECT. THE FLYASH CONTENT SHALL NOT EXCEED THE PERCENTAGE OF CEMENTITIOUS MATERIALS SHOWN BELOW. IN ADDITION TO ABOVE THE CONCRETE SHALL MEET THE FOLLOWING REQUIREMENTS:

| DESCRIPTION OF USE | f'c | MAX W/C | FLYASH CONTENT | SLUMP |
|---|---|---|---|---|
| SLAB-ON-GRADE/FOOTINGS | 3,000 PSI | 0.55 | 25% MAX | AS NEEDED |
| DRILLED PIERS | 3,000 PSI | 0.55 | 50% MAX | 6" +/- 1" |

7. PLASTIC CONCRETE TEMPERATURE SHALL NOT EXCEED 93 DEGREES AT THE TIME OF PLACEMENT. INTERNAL CONCRETE TEMPERATURES SHALL NOT EXCEED 155 DEGREES AT ANY TIME WITH THE MAXIMUM DIFFERENTIAL TEMPERATURE BETWEEN THE SURFACE AND THE CORE BEING 35 DEGREES AT ANY TIME DURING THE FIRST 7 DAYS.

8. PROVIDE A SET OF CYLINDERS IN ACCORDANCE WITH ASTM C 31 TO BE TAKEN BY AN INDEPENDENT TESTING LAB AT THE FREQUENCY SPECIFIED IN ACI 318 AND THE GOVERNING BUILDING CODE WITH LOCAL AMENDMENTS. COMPRESSION TEST RESULTS SHALL BE REPORTED TO THE ENGINEER WITHIN 24 HOURS.

9. NO SUBSEQUENT CONSTRUCTION WILL BE ALLOWED UNTIL CONCRETE HAS REACHED 75% OF DESIGN STRENGTH.

10. PORTLAND CEMENT SHALL CONFORM TO ASTM - C595, TYPE IL.

11. NO WELDING OF REINFORCING BARS OR TORCHING TO BEND REINFORCING BARS SHALL BE ALLOWED WITHOUT THE SPECIFIC APPROVAL OF THE STRUCTURAL ENGINEER.

12. CONCRETE COVER SHOULD BE AS FOLLOWS:

    a. FOOTINGS AND OTHER PRINCIPAL STRUCTURAL MEMBERS IN WHICH CONCRETE IS CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH - 3 INCHES.

    b. WHERE CONCRETE SURFACES, AFTER REMOVAL OF FORMS, ARE EXPOSED TO WEATHER OR EARTH:

       1. BARS 3/4" AND LARGER IN DIAMETER........................................ 2 INCHES
       2. BARS SMALLER THAN 5/8" IN DIAMETER.................................... 1 1/2 INCHES

    c. WHERE SURFACES ARE NOT DIRECTLY EXPOSED TO WEATHER OR EARTH:

       1. SLAB ON GRADE (FROM TOP OF SLAB)......................................1 1/2 INCHES
       2. BEAMS, COLUMNS
          PRIMARY REINF., TIES, STIRRUPS, SPIRALS.................................1 1/2 INCHES

13. MECHANICAL AND ELECTRICAL CONDUIT CAN NOT BE PLACED IN BEAMS PARALLEL TO BEAM REINFORCING. PROVIDE A MINIMUM OF 1 1/2" CLEAR BETWEEN CONDUIT AND PARALLEL REINFORCING. DO NOT "BUNDLE" CONDUITS. CONDUITS SHALL BE PLACED IN THE MIDDLE ONE THIRD OF THE SLAB THICKNESS OR BEAM DEPTH.

14. SET AND BUILD INTO FORM WORK ANCHORAGE DEVICES AND OTHER EMBEDDED ITEMS REQUIRED FOR OTHER WORK THAT IS ATTACHED TO OR SUPPORTED BY CAST-IN-PLACE CONCRETE. REBAR PROJECTING FROM CONCRETE SHALL BE SECURED IN PLACE PRIOR TO PLACING CONCRETE.

15. IF NOT SHOWN ON PLAN, THE CONTRACTOR SHALL SUBMIT A PROPOSED CONSTRUCTION JOINT LAYOUT FOR REVIEW.

16. UNLESS NOTED OTHERWISE PROVIDE ACI STD 90 DEG HOOK INTO THE SUPPORT AT THE END OF THE REINFORCING.

## STRUCTURAL STEEL:

1. STRUCTURAL STEEL SHALL CONFORM TO THE LATEST EDITION OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION, AISC 360, "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS".

2. WELDING: CODE APPLICABLE EDITION OF THE STRUCTURAL WELDING CODE - STEEL, AMERICAN WELDING SOCIETY (AWS D1.1 AND AWS D1.3).

3. STEEL SHALL MEET THE FOLLOWING REQUIREMENTS:

| ELEMENT | ASTM | COMMENT |
|---|---|---|
| ANGLES | A572 | Fy=50 KSI |
| PLATES/FLAT BAR | A572 | Fy=50 KSI |
| HSS SQ / RECTANGLE | A500 Gr. C | Fy=50 KSI |
| BOLTS | F3125 | U.N.O. |
| ANCHOR BOLTS | F1554 Gr. 55 | U.N.O. |

4. STEEL SHALL BE CLEANED PER SSPC-SP2. STEEL SHALL BE PAINTED WITH ONE SHOP COAT OF RED OXIDE PRIMER, MINIMUM OF 1.5 MILS (DRY FILM THICKNESS). DO NOT PAINT STRUCTURAL STEEL AND ANCHOR RODS THAT ARE TO BE EMBEDDED IN CONCRETE OR TO RECEIVE FIREPROOFING.

5. WELDING SHALL BE PERFORMED BY WELDERS HOLDING VALID CERTIFICATES, IN ACCORDANCE WITH SECTION 4 OF THE AWSD1.1 "STRUCTURAL WELDING CODE-STEEL", AND HAVING CURRENT EXPERIENCE IN THE TYPE OF WELDS AS SHOWN ON THE DRAWINGS. ALL WELDS SHALL BE PERFORMED USING E70XX SERIES LOW HYDROGEN RODS. ALL WELDS SHALL BE VISUALLY INSPECTED IN ACCORDANCE WITH SECTIONS 6.5 AND 6.9 OF THE AWSD1.1 "STRUCTURAL WELDING CODE-STEEL". VISUAL INSPECTIONS OF WELDS SHALL BE PERFORMED BY AN INDEPENDENT TESTING AGENCY. UNLESS NOTED OTHERWISE ON THE PLANS, ALL SHOP FABRICATED OR FIELD ASSEMBLED ADJOINING STEEL MEMBERS SHALL BE CONNECTED USING CONTINUOUS, ALL AROUND/BOTH SIDES OF MEMBER FILLET WELDS IN ACCORDANCE WITH THE MINIMUM SIZE FILLET WELD SHOWN ON THE TABLE BELOW. UNLESS NOTED OTHERWISE ON THE PLANS, THE CONTRACTOR MAY SHOP WELD OR FIELD WELD AT THEIR DISCRETION.

**MINIMUM SIZE OF FILLET WELDS**

| MATERIAL THICKNESS OF THINNER PART JOINED, IN | MINIMUM SIZE OF FILLET WELD, IN. |
|---|---|
| TO 1/4 INCLUSIVE | 3/16 |
| OVER 1/4 TO 1/2 | 1/4 |
| OVER 1/2 TO 3/4 | 5/16 |
| OVER 3/4 | 3/8 |
| LEG DIMENSION OF FILLET WELDS. SINGLE PASS WELDS MUST BE USED. | |

6. THE CONTRACTOR SHALL REVIEW SHOP AND FIELD WELD REQUIREMENTS FOR COMPATIBILITY WITH THE CONSTRUCTION SEQUENCE. PROPOSED REVISIONS FROM SHOP TO FIELD WELDS OR FROM FIELD TO SHOP WELDS SHALL BE IDENTIFIED BY THE CONTRACTOR ON THE SHOP DRAWINGS.

7. GROUT SHALL BE A MIN. OF 5,000 PSI NON-SHRINK, NON-METALLIC GROUT OR EQUIVALENT. INSTALL GROUT UNDER BEARING PLATES BEFORE FRAMING MEMBER IS INSTALLED. AT COLUMNS, INSTALL GROUT UNDER BASE PLATES AFTER COLUMN HAS BEEN PLUMBED BUT PRIOR TO FLOOR OR ROOF INSTALLATION.

8. ROLLED MEMBER SIZES / THICKNESSES INDICATED ON THE STRUCTURAL DRAWINGS ARE REQUIRED MINIMUMS TO MEET STRENGTH AND DEFLECTION REQUIREMENTS. MEMBER THICKNESSES CAN BE INCREASED AS REQUIRED TO ACCOMMODATE ROLLING FABRICATION REQUIREMENTS AT NO ADDITIONAL COST TO THE OWNER OR DESIGN TEAM MEMBERS.

9. CONTRACTOR SHALL NOTIFY STRUCTURAL ENGINEER IN WRITING OF FABRICATION OR ERECTION ERRORS AND RECEIVE WRITTEN APPROVAL BEFORE TAKING CORRECTIVE ACTION INVOLVING MODIFICATIONS TO STRUCTURAL MEMBERS OR FRAMING.

10. ALL HSS TUBE MEMBERS SHALL BE HAVE A CAP PLATE AT OPEN ENDS.

## DESIGN CRITERIA:

1. DEAD LOAD DESIGN CRITERIA:
   A. INCLUDES ALL OF THE SELF WEIGHT OF STRUCTURAL ELEMENTS AND MASONRY ITEMS SHOWN ON STRUCTURAL DRAWINGS.

   B. MINIMUM SUPERIMPOSED LOADS INCLUDE THE FOLLOWING:
   GROUND FLOOR
   FLOORING 3 PSF
   COLLATERAL 5 PSF
   ROOF
   INSULATION/ROOFING 5 PSF
   COLLATERAL 5 PSF
   CEILINGS 2 PSF
   SPRINKLERS 3 PSF

   C. DEAD LOADS FOR MECHANICAL UNITS ARE BASED ON THE WEIGHTS OF EQUIPMENT, AS INDICATED ON THE STRUCTURAL DRAWINGS (INCLUDING THE WEIGHT OF CONCRETE PADS, WHERE INDICATED). ANY CHANGES IN TYPE, SIZE, LOCATION OR NUMBER OF PIECES OF EQUIPMENT SHOULD BE REPORTED TO THE ARCHITECT FOR VERIFICATION OF THE ADEQUACY OF SUPPORTING MEMBERS PRIOR TO THE PLACEMENT OF SUCH EQUIPMENT.

2. MINIMUM UNIFORM DESIGN LIVE LOADING IS AS FOLLOWS:

| OCCUPANCY OR USE | UNIFORM LOAD | CONCENTRATED LOAD |
|---|---|---|
| ROOF | 20 PSF | N/A |
| FOUNDATION | 125 PSF | 1,000 LB |

3. UNLESS SPECIFICALLY NOTED, THERE ARE NO PROVISIONS FOR FUTURE FLOORS, ROOFS OR OTHER LOADS. FLOOR/ROOF LIVE LOADING MAY BE REDUCED OVER THE IBC AND ASCE GUIDELINES. CONCENTRATED LIVE LOAD ARE OVER A 2'-6"x2'-6" AREA AND DO NOT ACT CONCURRENT WITH UNIFORM LIVE LOADS.

4. STRUCTURE RISK CATEGORY II

5. SNOW LOAD:
   GROUND SNOW LOAD, Pg 5 PSF
   GROUND SNOW LOAD, $P_{g(ASD)}$ 3.5 PSF

6. ROOF RAIN LOAD:
   RAIN INTENSITY $_{15\ MINUTES}$ 9.53 IN/HR

7. FLOOD DESIGN CRITERIA: N/A
   FLOOD DESIGN CLASS
   ELEVATION OF LOWEST FLOOR
   ELEVATION OF DRY FLOOD PROOFED

8. EARTHQUAKE DESIGN DATA:
   SEISMIC IMPORTANCE FACTOR $I_e$ 1.0
   MAPPED SPECTRAL RESPONSE ACCELERATIONS:
   Ss 0.13g
   S1 0.03g
   SITE CLASS "C"
   SPECTRAL RESPONSE COEFFICIENTS
   Sds 0.13g
   Sd1 0.04g
   SEISMIC DESIGN CATEGORY "A"
   BASIC SEISMIC FORCE RESISTING SYSTEM - STRUCTURAL STEEL SYSTEM NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE
   DESIGN BASE SHEAR, V N/A
   SEISMIC RESPONSE COEFFICIENT, $C_s$ N/A
   RESPONSE MODIFICATION COEFFICIENT, R N/A
   ANALYSIS PROCEDURE N/A

9. WIND AND TORNADO DESIGN DATA:
   BASIC WIND SPEED, V 109 MPH
   ALLOWABLE STRESS WIND SPEED, $V_{ASD}$ 84 MPH
   TORNADO WIND SPEED, $V_t$ N/A
   EXPOSURE CATEGORY "B"
   EFFECTIVE PLAN AREA, $A_e$ 15,000 $FT^2$
   INTERNAL PRESSURE COEFFICIENT +/- 0.18

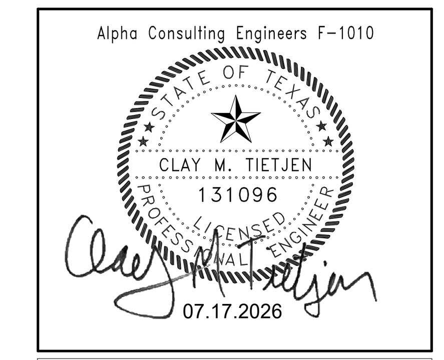
**WIND SPEED COMPONENTS AND CLADDING (ENCLOSED BUILDING)**

| ROOF PRESSURES | | | | WALL PRESSURES | | |
|---|---|---|---|---|---|---|
| | TRIBUTARY AREA (PSF) | | | | TRIBUTARY AREA (PSF) | |
| ZONE | 10 SQ. FT. | 100 SQ. FT. | | ZONE | 10 SQ. FT. | 500 SQ. FT. |
| 1 | +16.0, -28.0 | +16.0, -21.9 | | 4 | +16.1, -17.4 | +16.0, -16.0 |
| 1' | +16.0, -16.1 | +16.0, -16.1 | | 5 | +16.1, -21.5 | +16.0, -16.0 |
| 2 | +16.0, -37.0 | +16.0, -29.1 | | | | |
| 3 | +16.0, -50.4 | +16.0, -34.6 | | | | |

NOTE:
1. REFER TO ASCE 7-16 FOR DEFINITION OF "a" DIMENSION. a=6.3FT

Alpha Consulting Engineers
8023 Vantage Drive
Suite 1101, San Antonio, TX 78230
O 210.227.3647
Alpha Project No.S26013
F-1010

Open studio architecture
6122 DeZavala Road
San Antonio, Texas 78249
Tel: 210.417.4307
www.openstudio-usa.com




| Revisions | | |
|---|---|---|
| Number | Description | Date |

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**CAMP BOW WOW**

1450 N. Business IH35
New Braunfels, TX 78130

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drawn by: GG/PD
checked by: TCH
drawing title: **STRUCTURAL NOTES**
drawing number: **S101**

ABBREVIATIONS

& - AND
@ - AT
CL - CENTERLINE
X° - DEGREE
Ø - DIAMETER
# - NUMBER/POUND
A.B. - ANCHOR BOLT
AESS - ARCHITECTURALLY EXPOSED STRUCTURAL STEEL
APPROX. - APPROXIMATE
ARCH. - ARCHITECT/ARCHITECTURAL
ADH. - ADHESIVE
ALT. - ALTERNATE
B.P. - BASE PLATE
B.L. - BUILDING LINE
B.U.R. - BUILT-UP ROOF
BM - BEAM
B.W. - BOTH WAYS
BOT. - BOTTOM
BLDG. - BUILDING
BSMT. - BASEMENT
BRG. - BEARING
BTWN. - BETWEEN
CANT. - CANTILEVER
C.I.P. - CAST-IN-PLACE
CLG. - CEILING
CLR. - CLEAR
CMU - CONCRETE MASONRY UNITS
COL. - COLUMN
CONC. - CONCRETE
CONTR. - CONTRACTOR
C.J. - CONSTRUCTION JOINT
CONN. - CONNECTION
CONST. - CONSTRUCTION
CONT. - CONTINUOUS
D.E. - DECK EDGE
DEMO. - DEMOLITION
DIA. - DIAMETER
DIAG. - DIAGONAL
DIM. - DIMENSION
D.L. - DEAD LOAD
DBL. - DOUBLE
DN. - DOWN
DWL. - DOWEL
DWG. - DRAWING
EA. - EACH
E.F. - EACH FACE
E.H. - EAVE HEIGHT
E.J. - EXPANSION JOINT
EL. - ELEVATION
ELEV. - ELEVATOR
EQ. - EQUAL
EQUIP. - EQUIPMENT
E.W. - EACH WAY
EXT. - EXISTING
EXP. - EXPANSION
EXT. - EXTERIOR
FDN. - FOUNDATION
F.D. - FLOOR DRAIN
F.S. - FAR SIDE
FIN. - FINISH
FLD - FIELD
FLR. - FLOOR
FT. - FOOT OR FEET
FTG. - FOOTING
F.V. - FIELD VERIFY
GA. - GAGE
GALV. - GALVANIZED
GR. - GRADE
HK. - HOOK
HORIZ. - HORIZONTAL
HCA - HEADED CONCRETE ANCHOR
H.S. - HIGH STRENGTH

I.D. - INSIDE DIAMETER
IN. - INCH
INV. - INVERTED
INT. - INTERIOR
JST. - JOIST
JT. - JOINT
K - KIP (THOUSAND POUNDS)
L - ANGLE
LBS. - POUNDS
L.D.H. - LONG DIMENSION HORIZONTAL
LF - LINEAR FOOT
LLH - LONG LEG HORIZONTAL
LG. - LONG
LLV - LONG LEG VERTICAL
MAX. - MAXIMUM
MECH. - MECHANICAL
MEZZ. - MEZZANINE
MFR. - MANUFACTURER
MID. - MIDDLE
MIN. - MINIMUM
MISC. - MISCELLANEOUS
MAS. - MASONRY
NS - NEAR SIDE
NOM. - NOMINAL
N.T.S. - NOT TO SCALE
O.C. - ON CENTER
O.D. - OUTSIDE DIAMETER
O.H. - OPPOSITE HAND
OPNG. - OPENING
OPP. - OPPOSITE
P/C - PRECAST
PREFAB. - PREFABRICATED
PSF - POUND PER SQUARE FOOT
PSI - POUND PER SQUARE INCH
PL. - PLATE
R - RISER
RAD. - RADIUS
R.D. - ROOF DRAIN
REF. - REFERENCE
REINF. - REINFORCING/REINFORCED
REQ'D. - REQUIRED
SPA. - SPACES/SPACING
SCHED. - SCHEDULE
SECT. - SECTION
SHT. - SHEET/SHEATHING
SIM. - SIMILAR
SPEC. - SPECIFICATION
SL. - SLOPE
SSS - STANDARD STRUCTURAL STEEL
STIFF. - STIFFENERS
STIR. - STIRRUPS
SQ. - SQUARE
STD. - STANDARD
STL. - STEEL
STR. - STAIR
STRUCT. - STRUCTURE/STRUCTURAL
SYM. - SYMMETRICAL
T. - TREAD
T&B - TOP AND BOTTOM
THK. - THICK/THICKNESS
T.O.C. - TOP OF CONCRETE
T.O.J. - TOP OF JOIST
T.O.S. - TOP OF STEEL
T.O.W. - TOP OF WALL
TYP. - TYPICAL
U.N.O. - UNLESS NOTED OTHERWISE
VERT. - VERTICAL
W/ - WITH
W.P. - WORK POINT
W.W.F. - WELDED WIRE FABRIC

# SPECIAL INSPECTIONS

## STRUCTURAL SPECIAL INSPECTIONS NOTES:

1. SPECIAL INSPECTION WORK IS NOT INCLUDED IN THE STRUCTURAL ENGINEER'S SCOPE OF SERVICES. THE OWNER WILL ENGAGE A TESTING AGENCY TO CONDUCT SPECIAL TESTS AND INSPECTIONS REQUIRED BY AUTHORITIES HAVING JURISDICTION AS THE RESPONSIBILITY OF THE OWNER. ALL INSPECTION REPORTS SHALL BE COPIED TO THE STRUCTURAL ENGINEER, AND A FINAL LETTER OF COMPLIANCE SHALL BE PROVIDED BY THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE (TYPICALLY ARCHITECT) TO THE OWNER OR BUILDING AUTHORITY.

   SPECIAL INSPECTION SHALL INCLUDE:

   - o SITE PREPARATION
   - o PIER FOUNDATION (NOT REQUIRED)
   - o CONCRETE
   - o WOOD (NOT REQUIRED)
   - o OPEN WEB STEEL JOISTS AND JOISTS GIRDERS (NOT REQUIRED)
   - o WELDING OF STRUCTURAL STEEL
   - o STEEL ELEMENTS OF COMPOSITE CONSTRUCTION (NOT REQUIRED)
   - o BOLTING OF STRUCTURAL STEEL
   - o STEEL CONSTRUCTION OTHER THAN STRUCTURAL STEEL (NOT REQUIRED)
   - o MASONRY I (NOT REQUIRED)
   - o MASONRY II (NOT REQUIRED)

2. INSPECTOR QUALIFICATIONS: QUALIFICATIONS LISTED IN THE TESTING & INSPECTION REQUIREMENTS TABLES ARE RECOMMENDATIONS OF THE LOCAL MEMBERS OF THE TEXAS COUNCIL OF ENGINEERING LABORATORIES. IT IS ALSO RECOMMENDED THAT THE SPECIAL INSPECTORS SHOULD BE EMPLOYED BY AN AGENCY ACCREDITED BY ANY NATIONALLY RECOGNIZED ACCREDITING BODY SUCH AS AASHTO, A2LA, NVLAP, ICC ETC.

3. DEFINITIONS:
   ACI - AMERICAN CONCRETE INSTITUTE
   ADSC-IAFD - ADSC: THE INTERNATIONAL ASSOCIATION OF FOUNDATION DRILLING
   AISC - AMERICAN INSTITUTE OF STEEL CONSTRUCTION
   ASNT - AMERICAN SOCIETY FOR NONDESTRUCTIVE TESTING
   ASTM - AMERICAN SOCIETY FOR TESTING MATERIALS
   AWS - AMERICAN WELDING SOCIETY
   CWI - CERTIFIED WELDING INSPECTOR
   CRSI - CONCRETE REINFORCING STEEL INSTITUTE
   IBC - INTERNATIONAL BUILDING CODE
   PCI - PRECAST/PRESTRESSED CONCRETE INSTITUTE
   PTI - POST-TENSIONING INSTITUTE

4. THE SPECIAL INSPECTOR CANNOT BE AN EMPLOYEE OF THE CONTRACTOR.

5. WHERE STRUCTURAL MEMBERS AND ASSEMBLIES ARE SHOP FABRICATED, THE SPECIAL INSPECTOR SHALL VERIFY THAT THE FABRICATOR MAINTAINS DETAILED FABRICATION AND QUALITY CONTROL PROCEDURES THAT PROVIDE A BASIS FOR INSPECTION CONTROL OF THE WORKMANSHIP AND THE FABRICATOR'S ABILITY TO CONFORM TO THE CONSTRUCTION DOCUMENTS AND REFERENCED STANDARDS, UNLESS THE FABRICATOR IS REGISTERED AND APPROVED TO PERFORM SUCH WORK WITHOUT SPECIAL INSPECTION. EXCEPTION: SPECIAL INSPECTIONS SHALL NOT BE REQUIRED WHERE THE WORK IS PERFORMED ON THE PREMISES OF A FABRICATOR THAT IS ENROLLED IN A NATIONALLY ACCEPTED INSPECTIONS PROGRAM ACCEPTABLE TO THE REGISTERED DESIGN PROFESSIONAL IN CHARGE. AT THE COMPLETION OF FABRICATION, THE APPROVED FABRICATOR SHALL SUBMIT A CERTIFICATE OF COMPLIANCE TO THE BUILDING OFFICIAL UPON REQUEST AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE STATING THAT THE WORK WAS PERFORMED IN ACCORDANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS.

**TESTING AND INSPECTION REQUIREMENTS FOR CONCRETE CONSTRUCTION (IBC 1705)**

| Required Verification and Inspection<br>CONCRETE CONSTRUCTION | Frequency of Verification and Inspection | Inspector Qualifications |
|---|---|---|
| 1. Inspect reinforcing steel, including prestressing tendons and placement. | Periodic | As required by building official |
| 2. Reinforcing bar welding: | | As required by building official |
| a. Verify weldability of reinforcing bars other an ASTM A 706 | Periodic | |
| b. Inspect single-pass welds, maximum 5/16" | Periodic | |
| c. Inspect all other welds | Continuous | |
| 3. Inspect anchors cast in concrete | Periodic | As required by building official |
| 4. Inspection anchors post-installed in hardened concrete members. | | As required by building official |
| a. Adhesive anchors installed in horizontal or upward inclined orientations to resist sustained tension loads. | Continuous | |
| b. Mechanical anchors and adhesives anchors not defined in part 4a | Periodic | |
| 5. Verifying use of required design mix. | Periodic | As required by building official |
| 6. Prior to concrete placement, fabricate specimens for strength tests, perform slump and air content tests and determine the temperature of the concrete. | Continuous | As required by building official |
| 7. Inspection of concrete and shotcrete placement for proper application techniques. | Continuous | As required by building official |
| 8. Verify maintenance of specified curing temperature and techniques. | Periodic | As required by building official |
| 9. Inspection of prestressed concrete: | | As required by building official |
| a. Application of prestressing forces. | Continuous | |
| b. Grouting of bonded prestressing tendons | Continuous | |
| 10. Inspect erection of precast concrete members. | Periodic | As required by building official |
| 11. Verify in-situ concrete strength, prior to stressing of tendons in post tensioned concrete and prior to removal of shores and forms from beams and structural slabs. | Periodic | As required by building official |
| 12. Inspect formwork for shape, location and dimensions of the concrete member being formed. | Periodic | As required by building official |

**VERIFICATION AND SPECIAL INSPECTION TASKS FOR WELDING OF STRUCTURAL STEEL[1] (AISC 360)**

| Required Verification and Inspection<br>WELDING OF STRUCTURAL STEEL | Frequency of Verification and Inspection | Inspector Qualifications |
|---|---|---|
| 1. Inspection tasks prior to welding: | | As required by building official |
| a. Welding procedure specifications (WPSs) available. | Continuous | |
| b. Manufacturer certifications for welding consumables available. | Continuous | |
| c. Material identification (type/grade)[2] | Periodic | |
| d. Welder identification system[2,4] | Periodic | |
| e. Fit-up of groove weld (including joint geometry)[2]<br>1) Joint preparation.<br>2) Dimensions (alignment, root opening, root face, bevel)<br>3) Cleanliness (condition of steel surfaces)<br>4) Tacking (tack weld quality and location)<br>5) Backing type and fit (if applicable) | Continuous | |
| f. Configuration and finish of access holes[2] | Periodic | |
| g. Fit-up of fillet welds[2]<br>1) Dimensions (alignment, gaps at root)<br>2) Cleanliness (condition of steel surfaces)<br>3) Tacking (tack weld quality and location) | Periodic | |
| h. Welder qualifications records and continuity records. | Periodic | |
| 2. Inspection tasks during welding: | | As required by building official |
| a. Placement and installation of steel headed stud anchors. | Continuous | |
| b. Control and handling of welding consumables[2]<br>1) Packaging<br>2) Exposure control | Periodic | |
| c. No welding over cracked tack welds[2] | Periodic | |
| d. Environmental conditions<br>1) Wind speed within limits<br>2) Precipitation and temperature | Periodic | |
| e. WPS followed[2]<br>1) Settings on weld equipment<br>2) Travel speed<br>3) Selected welding materials<br>4) Shielding gas type/flow rate<br>5) Preheat applied<br>6) Interpass temperature maintained (min./max.)<br>7) Proper position (F, V, H, OH) | Periodic | |
| f. Welding Techniques[2]<br>1) Interpass and final cleaning<br>2) Each pass within profile limitations<br>3) Each pass meets quality requirements. | Periodic | |
| 3. Inspection tasks after welding: | | As required by building official |
| a. Welds cleaned | Periodic | |
| b. Size, length and location of welds | Continuous | |
| c. Welds meet visual acceptance criteria<br>1) Crack Prohibition<br>2) Weld/base-metal fusion<br>3) Crater cross section<br>4) Weld profiles<br>5) Weld size<br>6) Undercut<br>7) Porosity | Continuous | |
| d. Arc strikes | Continuous | |
| e. k-area[3] | Continuous | |
| f. Weld access holes in rolled heavy shapes and built-up heavy shapes[b] | Continuous | |
| g. Backing removed and weld tabs removed (if required) | Continuous | |
| h. Repair activities | Continuous | |
| i. Document acceptance or rejection of welded joint or member [4] | Continuous | |
| j. No prohibited welds have been added without the approval of the engineer of record | Periodic | |

1. Inspection tasks noted in this table are the responsibility of the Special Inspector or Quality Assurance Inspector (QAI). The fabricator and erector are responsible for all inspection tasks indicated in AISC 360 Section N5 and assigned to the Quality Control Inspector (QCI)

2. Inspection tasks may be coordinated with the fabricator or erector's Quality Control Inspector (QCI) where indicated with this footnote. All other tasks shall be performed by the Special Inspector.

3. When welding of doubler plates, continuity plates or stiffeners has been performed in the k-area, visually inspect the web k-area for cracks within 3 in. (75 mm) of the weld.

4. The fabricator or erector, as applicable, shall maintain a system by which a welder who has welded a joint or member can be identified. Die stamping of members subjected to fatigue shall be prohibited unless approved by the engineer of record.

**VERIFICATION AND SPECIAL INSPECTION TASKS FOR BOLTING STRUCTURAL STEEL[1] (AISC 360)**

| Required Verification and Inspection | Frequency of Verification and Inspection | Inspector Qualifications |
|---|---|---|
| 1. Inspection tasks prior to bolting: | | As required by building official |
| a. Manufacturer's certifications available for fastener materials | Continuous | |
| b. Fasteners marked in accordance with ASTM requirements | Periodic | |
| c. Correct fasteners selected for the joint detail (grade, type, bolt length if threads are to be excluded from shear plane) | Periodic | |
| d. Correct bolting procedure selected for joint detail[2] | Periodic | |
| e. Connecting elements, including the appropriate faying surface condition and hole preparation, if specified, meet applicable requirements. | Periodic | |
| f. Pre-installation verification testing by installation personnel observed and documented for fastener assemblies and methods used | Continuous | |
| g. Protected storage provided for bolts, nuts, washers and other fastener components | Periodic | |
| 2. Inspection tasks during bolting: | | As required by building official |
| a. Fastener assemblies placed in all holes, washers, and nuts are positioned as required[2] | Periodic | |
| b. Joint brought to the snug-tight condition prior to the pretensioning operation[2] | Periodic | |
| c. Fastener component not turned by the wrench prevented from rotating.[2] | Periodic | |
| d. Fasteners are pretensioned in accordance with the RCSC Specification, progressing systematically from the most rigid point toward the free edges | Periodic | |
| | | |
| 3. Inspection tasks after bolting: | | As required by building official |
| a. Document acceptance or rejection of bolted connections | Continuous | |

1. Inspection tasks noted in this table are the responsibility of the Special Inspector or Quality Assurance Inspector (QAI). The fabricator and erector are responsible for all inspection tasks indicated in AISC 360 Section N5 and assigned to the Quality Control Inspector (QCI)

2. Inspection tasks may be coordinated with the fabricator or erector's Quality Control Inspector (QCI) where indicated with this footnote. All other tasks shall be performed by the Special Inspector.

**TESTING AND INSPECTION REQUIREMENTS FOR SITE PREPARATION FOR SOIL SUPPORTED FOUNDATIONS (IBC 1705)**

| Required Verification and Inspection | Frequency of Verification and Inspection | Inspector Qualifications |
|---|---|---|
| 1. Verify materials below shallow foundations are adequate to achieve the design bearing capacity. | Periodic | As required by building official |
| 2. Verify excavations are extended to proper depth and have reached proper material. | Periodic | As required by building official |
| 3. Perform classification and testing of compacted fill materials. | Periodic | As required by building official |
| 4. During fill placement, verify use of proper materials and procedures in accordance with the provisions of the approved geotechnical report. Verify densities and lift thickness during placement and compaction of compacted fill. | Continuous | As required by building official |
| 5. Prior to placement of compacted fill, observe subgrade and verify that site has been prepared properly. | Periodic | As required by building official |
| 6. Chemical Injection: Quality controlled testing and evaluation prior and subsequent to injection shall be performed by the Geotechnical Engineer to determine the effectiveness of the chemical injection process. The Geotechnical Engineer or his representative shall monitor the injection process to verify area coverage, injection depth and to review and monitor the swell test results. | Periodic | As required by building official |


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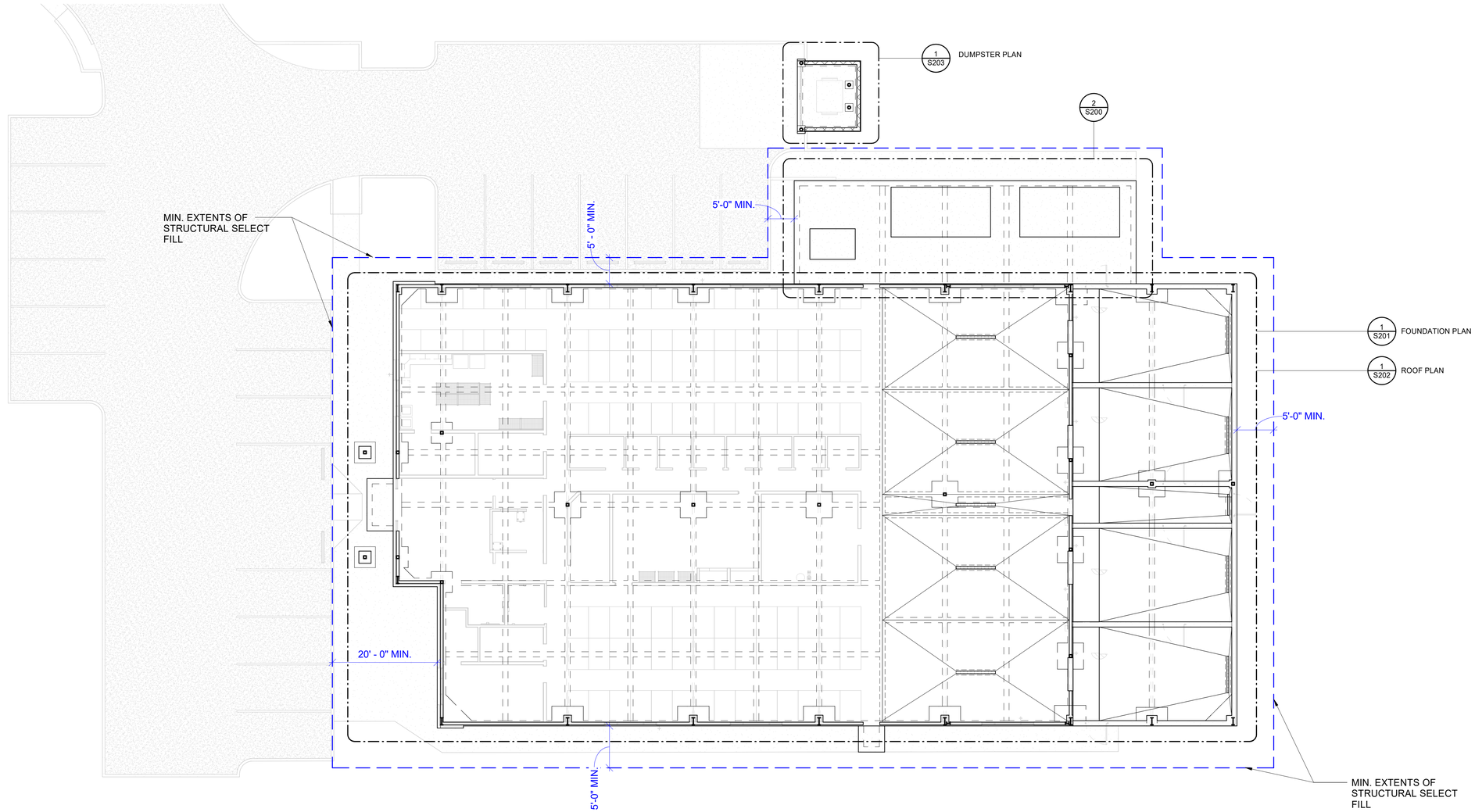

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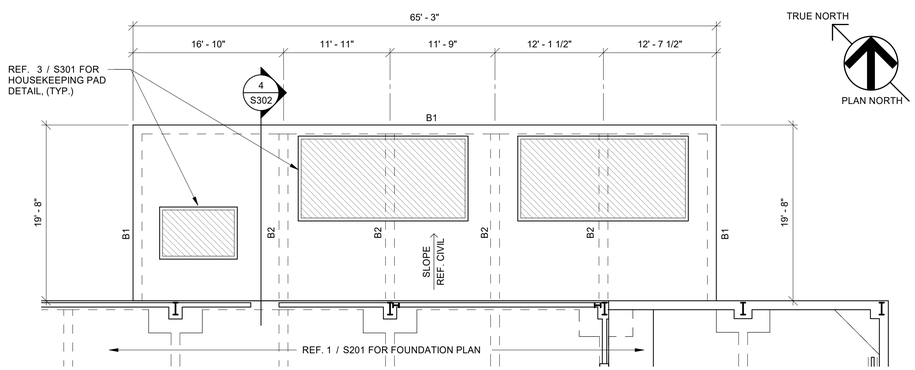

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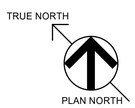
project #: 25.165
date: 07.17.2026
drawn by: GG / PD
checked by: TCH
drawing title: SPECIAL INSPECTIONS
drawing number: S102




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




2 FOUNDATION PLAN - HVAC PAD
SCALE : 1/8" = 1'-0"




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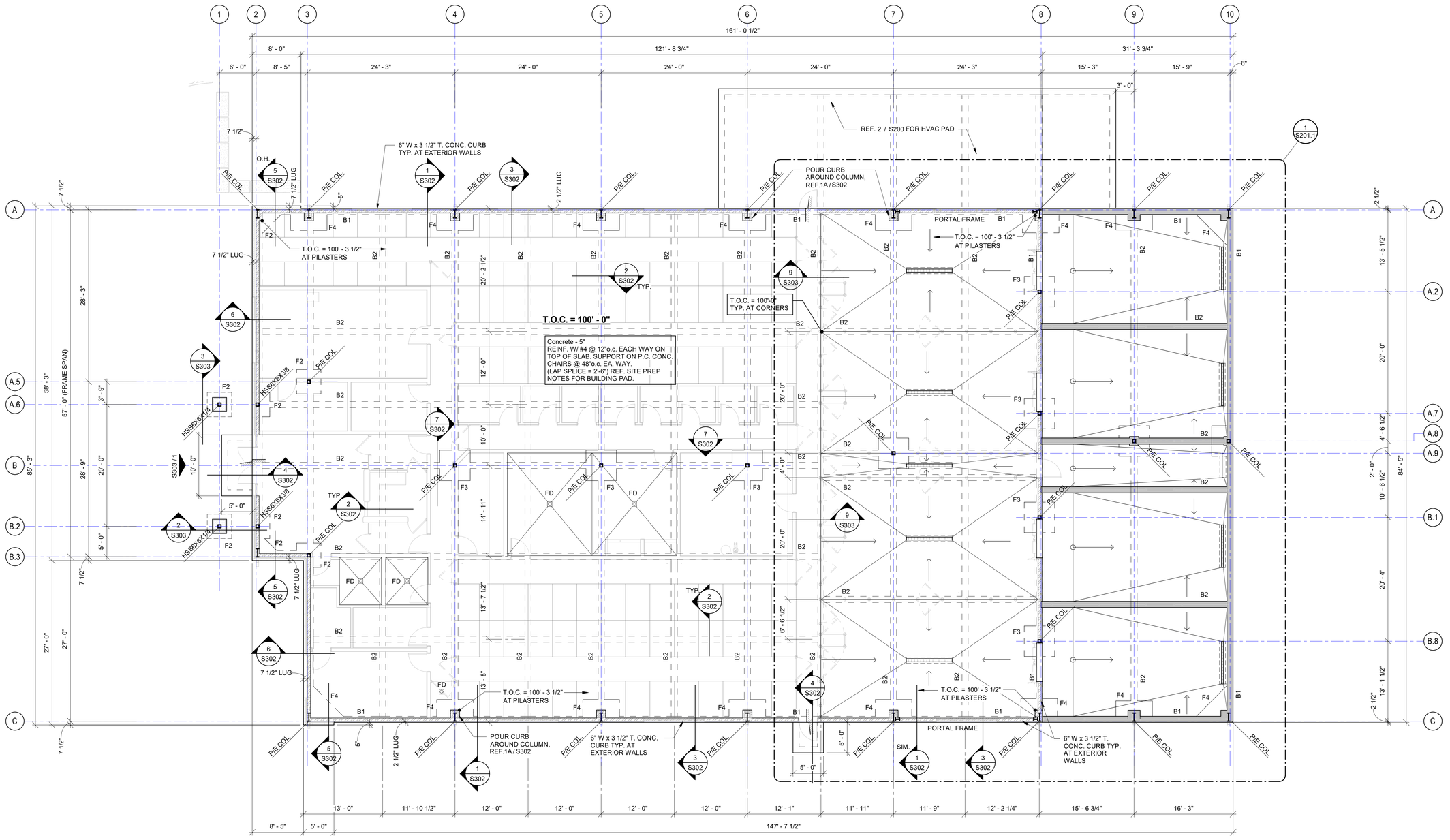
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project #: 25.165
date: 07.17.2026
drawn by: GG/PD
checked by: TCH
drawing title: **SITE PLAN**
drawing number: **S200**

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TRUE NORTH

PLAN NORTH

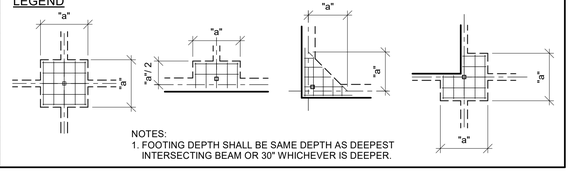
## 1 FOUNDATION FRAMING PLAN

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

## FOOTING SCHEDULE

| TYPE | " a " | REINFORCING |
|---|---|---|
| F1 | 3'-0" | 4 - # 5 E.W. |
| F2 | 4'-0" | 4 - # 5 E.W. |
| F3 | 5'-0" | 5 - # 5 E.W. |
| F4 | 6'-0" | 5 - # 5 E.W. |
| F5 | 6'-6" | 6 - # 5 E.W. |
| F6 | 7'-0" | 6 - # 5 E.W. |
| F7 | 7'-6" | 7 - # 5 E.W. |
| F8 | 8'-0" | 7 - # 5 E.W. |
| F9 | 8'-6" | 7 - # 5 E.W. |
| F10 | 9'-0" | 7 - # 5 E.W. |

LEGEND




NOTES:
1. FOOTING DEPTH SHALL BE SAME DEPTH AS DEEPEST INTERSECTING BEAM OR 30" WHICHEVER IS DEEPER.

## CONCRETE GRADE BEAM SCHEDULE

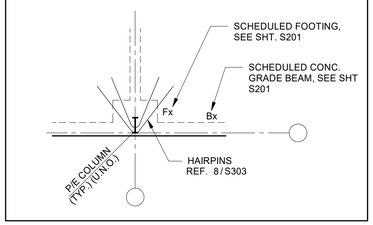
| MK | "W" | "D" (MIN.) | REINFORCING | REMARKS |
|---|---|---|---|---|
| B1 | 12" | 36" | 2 - #7 TOP AND BOTTOM , #3 STIRRUPS @ 18"o.c. | TYP. EXT. BEAM, (U.N.O.) |
| B2 | 12" | 30" | 2 - #7 TOP AND BOTTOM , #3 STIRRUPS @ 18"o.c. | TYP. INT. BEAM, (U.N.O.) |

NOTES:
EXTERIOR SCHEDULED CONCRETE BEAM DEPTHS ARE MINIMUM. INCREASE EXTERIOR DEPTH TO MAINTAIN A MINIMUM OF 18" BELOW FINAL EXTERIOR GRADE.

ADD CONTINUOUS #3@12"o.c. HORIZONTAL BARS AT EA. FACE AND #3 STIRRUPS @ 12"o.c. WHEN BEAM DEPTH BECOMES DEEPER THAN 36" DUE TO LOWER FINAL GRADE (TYPICAL).

PROVIDE 40 BAR DIAMETER LAPS AT ALL SPLICES IN CONTINUOUS TOP AND BOTTOM BARS AT GRADE BEAMS.

FOUNDATION LEGEND:




FOUNDATION PLAN NOTES:

1. REF. ARCH'L/MEP FOR FLOOR DRAINS AND SLAB SLOPES TO DRAINS.
2. REF. ARCH'L FOR TOOLED JOINTS AT ALL EXTERIOR SLABS.
3. SEE SHEET S201 FOR CONCRETE BEAM SCHEDULE.
4. SEE DETAIL 1 / S301 FOR TYPICAL CORNER BARS.
5. SEE DETAIL 6 / S301 FOR TYPICAL GRADE BEAM AND REINFORCING REQUIREMENTS AT PLUMBING PENETRATIONS THROUGH GRADE BEAMS.
6. COLUMN REACTIONS FROM PRE-ENGINEERED BUILDING HAVE BEEN ASSUMED PRIOR TO CONSTRUCTION OF FOUNDATION , SUBMIT REACTIONS SO FOUNDATION DESIGN CAN BE VERIFIED.
7. VERIFY COLUMN LOCATIONS W/ APPROVED METAL BUILDING SHOP DRAWINGS PRIOR TO FOUNDATION CONSTRUCTION.
8. REFER TO DETAIL 12 / S301 FOR LIGHT POLE FOUNDATION.


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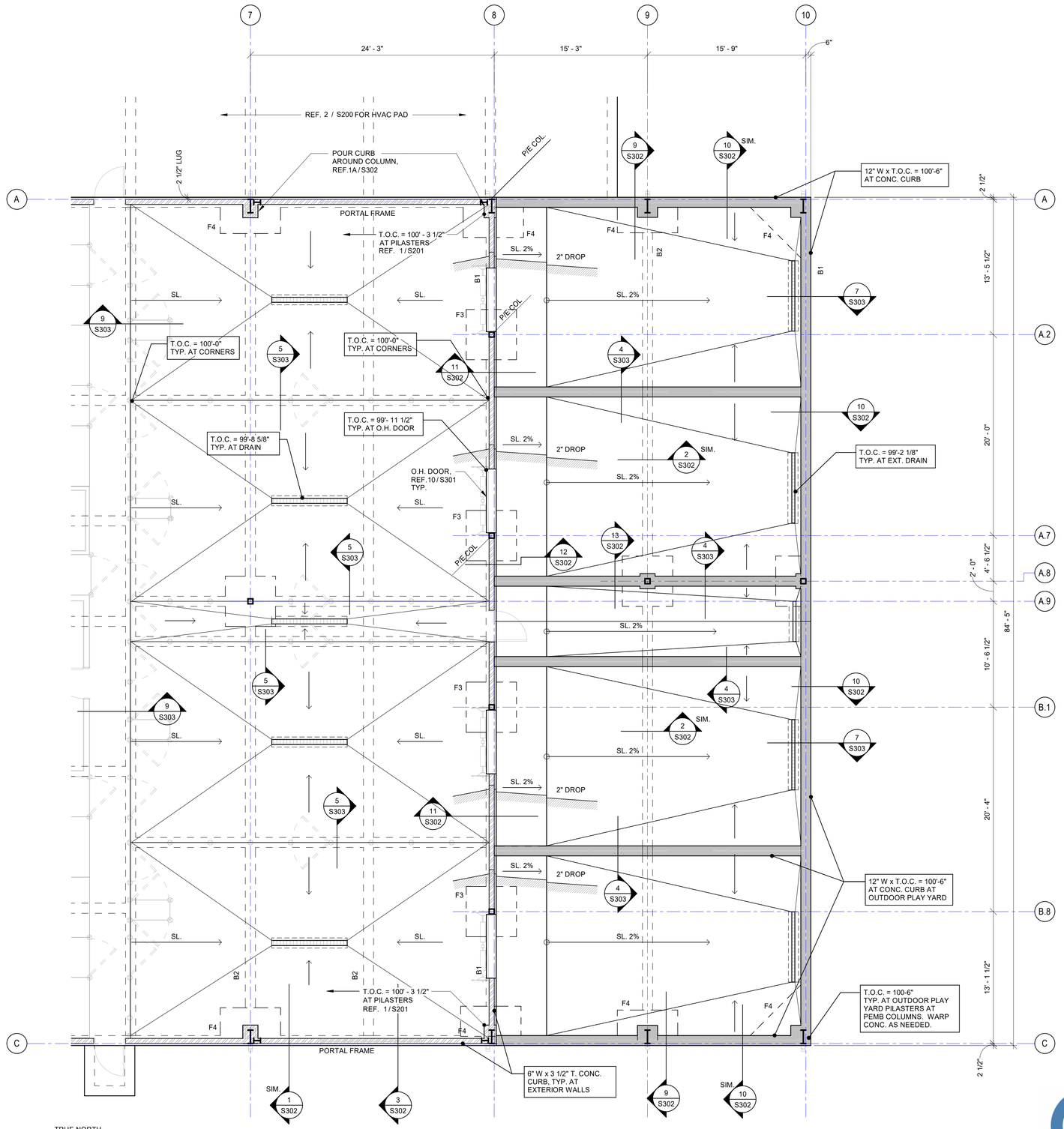
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project #: 25.165
date: 07.17.2026
drawn by: GG/PD
checked by: TCH
drawing title: **FOUNDATION FRAMING PLAN**
drawing number: **S201**


Alpha Consulting Engineers
8023 Vantage Drive
Suite 1101, San Antonio, TX 78230
O 210.227.3647
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TRUE NORTH

PLAN NORTH

1 ENLARGED FOUNDATION PLAN - INDOOR/OUTDOOR PLAY YARD

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


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Suite 1101, San Antonio, TX 78230
O 210.227.3647
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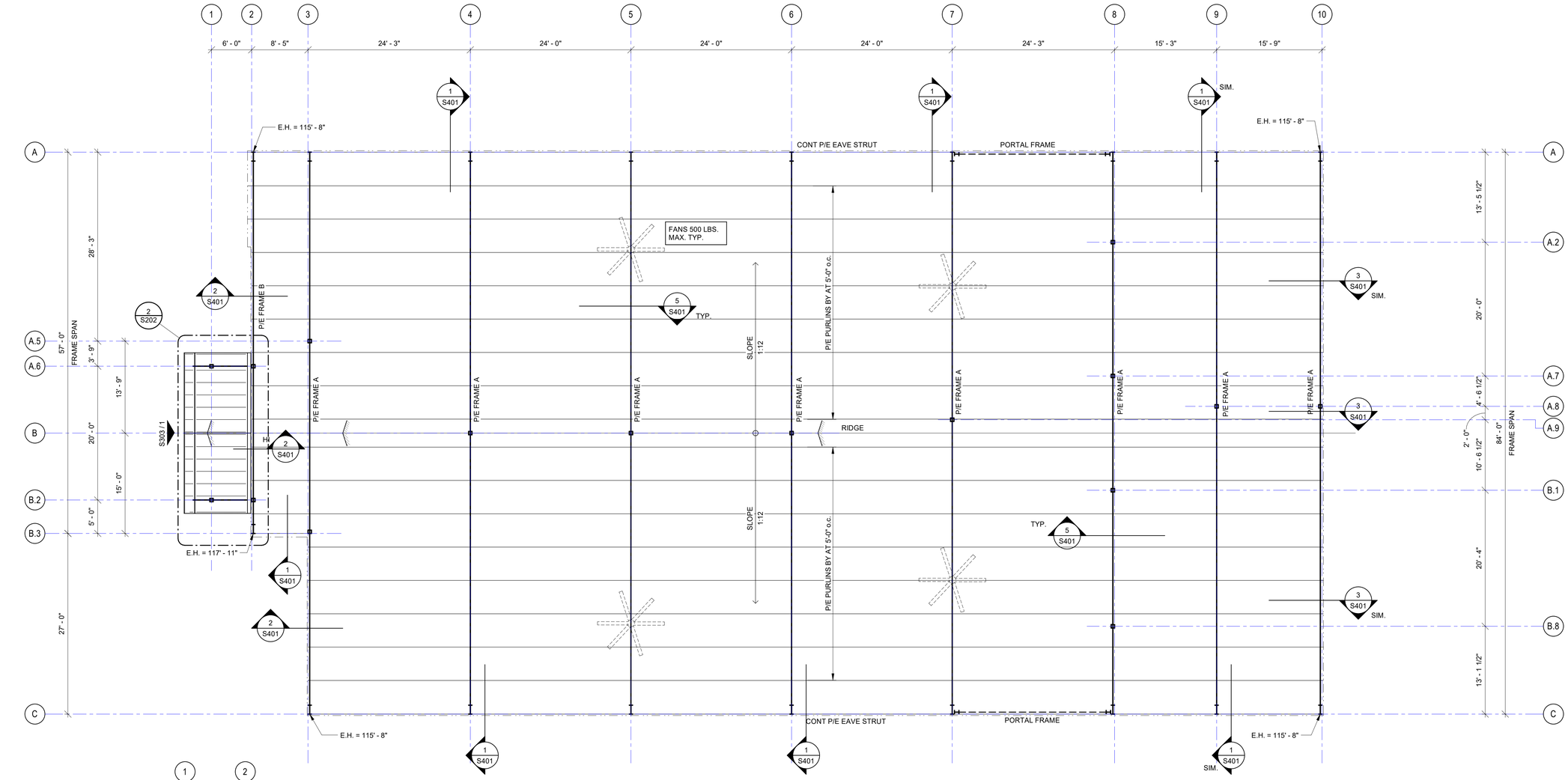

# CAMP BOW WOW

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project #: 25.165
date: 07.17.2026
drawn by: GG/PD
checked by: TCH
drawing title: **ENLARGED PLAN**

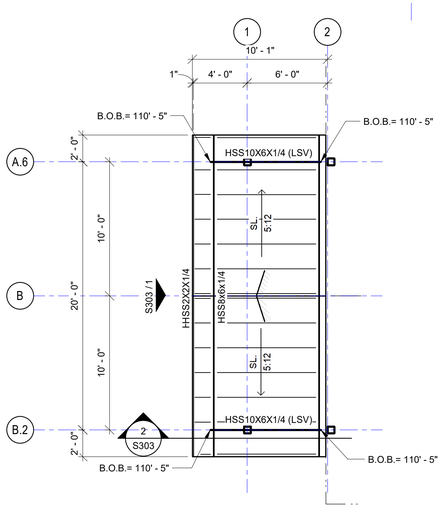
drawing number:

# S201.1




## 1 ROOF FRAMING PLAN

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




## 2 ENLARGED PLAN - MAIN ENTRANCE

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

TRUE NORTH

PLAN NORTH

PRE-ENGINEERED METAL BUILDING ROOF FRAMING PLAN:

1. VERIFY COLUMN LOCATIONS W/ APPROVED METAL BUILDING SHOP DRAWINGS PRIOR TO FOUNDATION CONSTRUCTION.
2. THIS PLAN SHOWS MINIMUM FRAMING REQUIRED-P/E BUILDING DESIGNER/SUPPLIER SHALL VERIFY ALL REQUIREMENTS W/ ARCHITECTURAL DRAWINGS AND PROVIDE ALL FRAMING AS REQUIRED TO MEET LOCAL BUILDING CODES.
3. **E.H.** - DENOTES TOP OF PRE-ENGINEERED METAL BUILDING FRAME ELEVATION AT EAVE HEIGHT, REF. ARCH. SEE SECTIONS AND ELEVATIONS FOR LOCATION OF WORK POINTS. REFER TO FIG. "A".

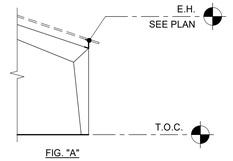



FIG. "A"

4. ADD'L FRAMING IS REQUIRED AROUND WINDOWS. REF. ARCH'L FOR WINDOW LOCATIONS, SIZE AND ELEVATIONS.


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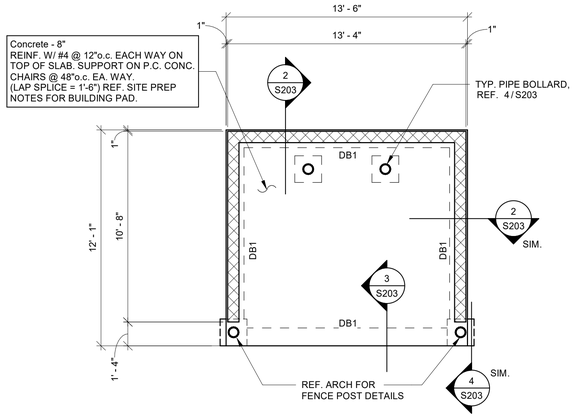
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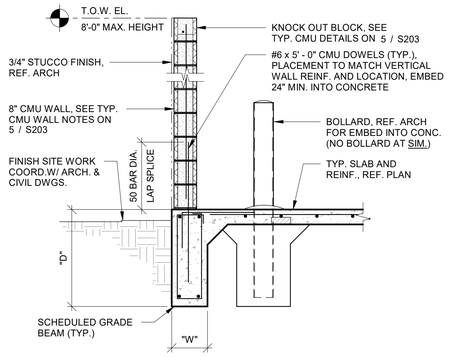
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drawn by: GG/PD
checked by: TCH
drawing title: **ROOF FRAMING PLAN**
drawing number: **S202**


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## 1 DUMPSTER ENCLOSURE FOUNDATION FRAMING PLAN

SCALE : 1/4" = 1'-0"




## 2 SECTION

SCALE : 1/2" = 1'-0"

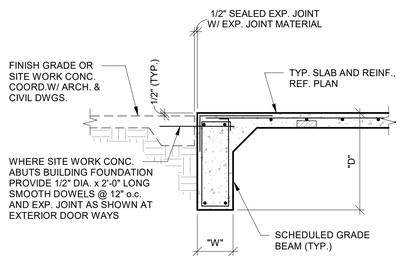
### DUMPSTER - CONC. GRADE BEAM SCHED.

| MK | "W" | "D" (MIN.) | REINFORCING | REMARKS |
|---|---|---|---|---|
| DB1 | 12" | 36" | 2 - #7 TOP AND BOTTOM , #3 STIRRUPS @ 18"o.c. | |

NOTES:
EXTERIOR SCHEDULED CONCRETE BEAM DEPTHS ARE MINIMUM. INCREASE EXTERIOR DEPTH TO MAINTAIN A MINIMUM OF 18" BELOW FINAL EXTERIOR GRADE.

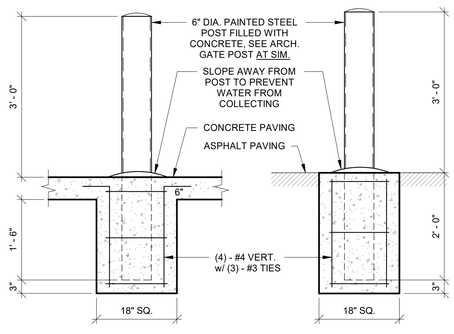
ADD CONTINUOUS #3@12"o.c. HORIZONTAL BARS AT EA. FACE AND #3 STIRRUPS @ 12"o.c. WHEN BEAM DEPTH BECOMES DEEPER THAN 36" DUE TO LOWER FINAL GRADE (TYPICAL).

PROVIDE 40 BAR DIAMETER LAPS AT ALL SPLICES IN CONTINUOUS TOP AND BOTTOM BARS AT GRADE BEAMS.



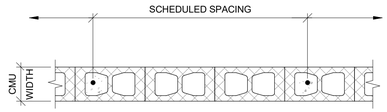

## 3 SECTION

SCALE : 1/2" = 1'-0"




## 4 TYPICAL BOLLARD DETAIL

SCALE : 3/4" = 1'-0"




## TYPICAL CMU WALL REINFORCING DETAIL

### CMU WALL REINFORCING SCHEDULE

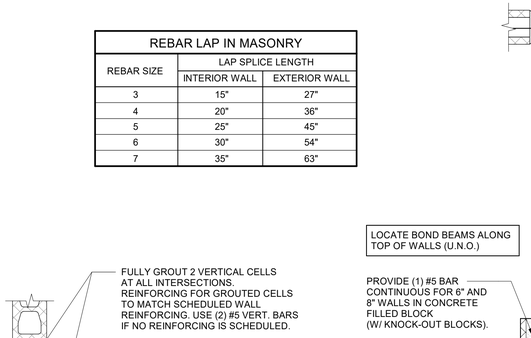
| PLAN AREA | CMU BLOCK WIDTH | MIN. REINFORCING |
|---|---|---|
| DUMPSTER ENCLOSURE | 8" CMU SCREEN WALL | (1) #6 VERT. @ 24"o.c. |
| | | |

NOTES:

1. DEFLECTION LIMIT = L/600.
2. REFER TO SECTIONS AND DETAILS FOR ADDITIONAL REINFORCING REQUIREMENTS THAT MAYBE REQUIRED AT TYPICAL CONDITIONS.

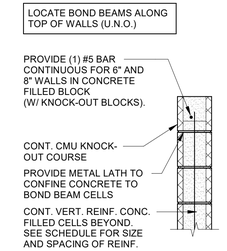
### REBAR LAP IN MASONRY

| REBAR SIZE | LAP SPLICE LENGTH | |
|---|---|---|
| | INTERIOR WALL | EXTERIOR WALL |
| 3 | 15" | 27" |
| 4 | 20" | 36" |
| 5 | 25" | 45" |
| 6 | 30" | 54" |
| 7 | 35" | 63" |

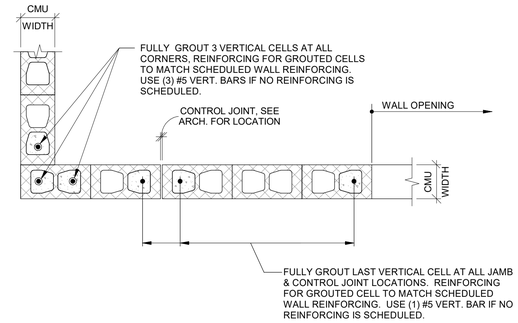



## TYPICAL CMU WALL REINF. AT INTERSECTING WALLS

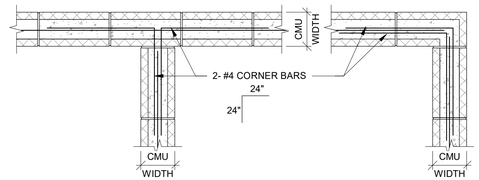
LOCATE BOND BEAMS ALONG TOP OF WALLS (U.N.O.)




## TYP. CONT. CMU KNOCK-OUT COURSE AT TOP OF WALL AND BOTTOM OF OPENINGS

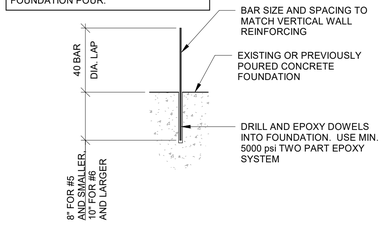



## TYPICAL CMU WALL REINF. AT CONTROL JOINT, CORNER, DOOR OR WINDOW JAMB

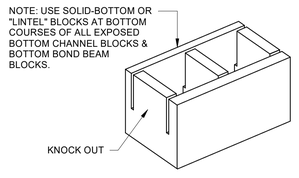



## TYP. 8" BOND BEAM CORNER BARS

NOTE: DETAIL DOES NOT APPLY WHERE DOWELS ARE DETAILED TO HAVE ACI 90 DEGREE BENDS. AT THESE LOCATIONS DOWELS SHALL BE CAST IN THE FOUNDATION POUR.




## CONTRACTORS OPTION TO DRILL & SET CMU WALL DOWELS




## TYPICAL CMU KNOCK-OUT BLOCK AT ALL BOND BEAMS

## 5 TYPICAL CONCRETE MASONRY UNIT DETAILS, SCHEDULES AND NOTES

SCALE : 3/4" = 1'-0"

**CMU WALL NOTES:**

1. REINFORCED CONCRETE MASONRY WALLS SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE CODE APPLICABLE EDITIONS OF THE AMERICAN CONCRETE INSTITUTE "BUILDING CODE REQUIREMENTS OF MASONRY STRUCTURES" (TMS 402). THE "SPECIFICATION FOR MASONRY STRUCTURES" (TMS 602) AND ASSOCIATED COMMENTARIES FOR THE ABOVE.
2. UNLESS NOTED OTHERWISE, ALL CONCRETE MASONRY UNITS (CMU) SHALL HAVE A SPECIFIED MINIMUM COMPRESSIVE STRENGTH OF 1900 PSI WITH A MAXIMUM LINEAR SHRINKAGE OF 0.06% CONFORMING TO ASTM C90 TYPE I, WEIGHING NOT MORE THAN 105 PCF DRY.
3. ALL MORTAR SHALL BE ASTM C-270 TYPE "N" MORTAR MIXED BY PROPORTION METHOD.
4. ALL CMU WALLS SHALL BE LAID WITH FULL MORTAR COVERAGE ON HORIZONTAL AND VERTICAL FACE SHELLS, AND ALL WEBS.
5. MASONRY UNITS SHALL BE DRY WHEN LAID. EACH UNIT SHALL BE ADJUSTED TO FINAL POSITION IN THE WALL WHILE MORTAR IS STILL SOFT AND PLASTIC. ANY UNIT DISTURBED AFTER MORTAR HAS STIFFENED SHALL BE REMOVED AND RELAYED WITH FRESH MORTAR. VERTICAL CELLS TO BE REINFORCED AND/OR FILLED WITH GROUT SHALL BE ALIGNED TO PROVIDE A CONTINUOUS UNOBSTRUCTED OPENING OF THE FULL CELL DIMENSIONS. CHASES SHALL BE BUILT IN AND NOT CUT IN. CHASES SHALL BE PLUMB AND SHALL BE MINIMUM, ONE UNIT LENGTH FROM JAMBS OF OPENINGS. ANCHORS, WALL PLUGS, ACCESSORIES AND OTHER ITEMS TO BE BUILT IN SHALL BE INSTALLED AS THE MASONRY WORK PROGRESSES. ALL CUTTING AND FITTING OF MASONRY, INCLUDING THAT REQUIRED TO ACCOMMODATE WORK OF OTHER SECTIONS SHALL BE DONE BY MASONRY MECHANICS WITH MASONRY SAWS.
6. GROUT FOR FILLED CELLS, LINTELS AND BOND BEAM SHALL BE A MIXTURE OF CEMENT, SAND, AND PEA GRAVEL PROPORTION AND GROUT SHALL CONFORM TO ASTM C-476. (2,000 PSI MIN.)
7. REINFORCE ALL CONCRETE MASONRY UNITS WITH TRUSS TYPE HOT DIP GALVANIZED COLD-DRAWN STEEL CONFORMING TO ANS1/ASTM A82, 3/16 INCH SIDE RODS WITH 3/16 INCH CROSS TIES SPACED AT 16" o.c. OVERLAP 6" @ SPLICE.
8. ALL VERTICAL STEEL SHALL BE POSITIONED IN WALL USING "REBAR POSITIONERS" BY AA WIRE PRODUCTS CO. OR REVIEWED EQUAL.
9. PROVIDE CLEANOUTS AT BOTTOM OF EACH REINFORCED CELL IN ACCORDANCE WITH THE SPECIFICATIONS.
10. ALL MASONRY REINFORCEMENT SHALL BE NEW DOMESTIC DEFORMED BILLET STEEL, CONFORMING TO ASTM A615, GRADE 60, EXCEPT WELDABLE REBARS ASTM A706, GR 60. REFER TO THE ADJACENT TABLE FOR REBAR LAP IN MASONRY.

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6122 DeZavala Road
San Antonio, Texas 78249
Tel: 210.417.4307
www.openstudio-usa.com

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CLAY M. TIETJEN
131096
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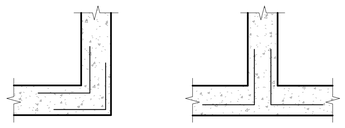
project #: 25.165
date: 07.17.2026
drawn by: GG/PD
checked by: TCH
drawing title:

**DUMPSTER ENCLOSURE PLAN, SECTIONS & DETAILS**

drawing number:

**S203**

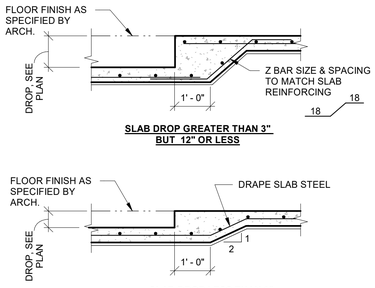
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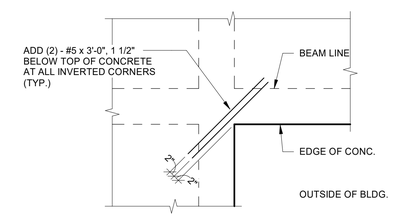


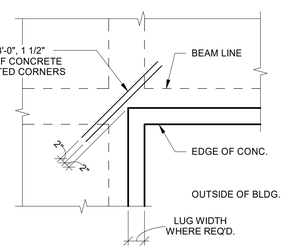

PROVIDE CORNER BARS AT ALL EXTERIOR CORNERS OF GRADE SUPPORTED BEAMS AND AT ENDS OF ALL INTERIOR GRADE BEAMS. BARS SHALL BE SAME SIZE AS BEAM REINFORCING AND SHALL LAP 40 BAR DIAMETERS WITH BEAM REINFORCING. GRADE BEAM AND SLAB REINFORCEMENT SHALL BE CONTINUOUS WITH 40 BAR DIAMETER (NOT LESS THAN 18 INCHES) LAP AT ALL SPLICES.

## 1 TYPICAL CORNER BAR DETAIL AT GRADE SUPPORTED FOUNDATION

SCALE : 1/2" = 1'-0"

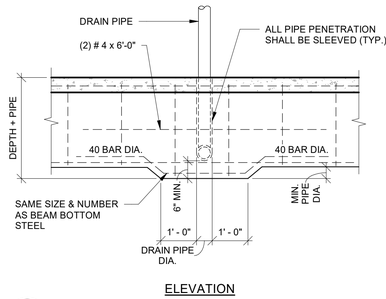


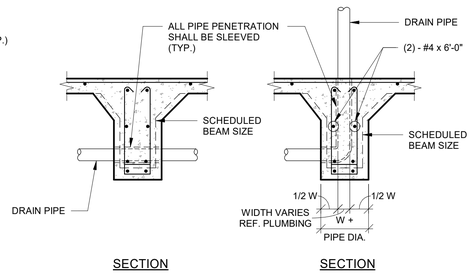




## 2 TYP. REINFORCING DETAIL AT INVERTED CORNER

SCALE : 1/2" = 1'-0"

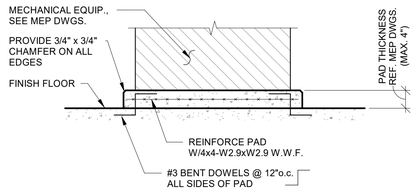


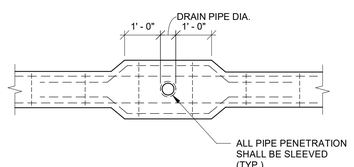




NOTE: VERIFY DIMENSIONS AND LOCATION OF PADS WITH MEP DWGS.

## 3 TYPICAL HOUSEKEEPING PAD

SCALE : 1/2" = 1'-0"



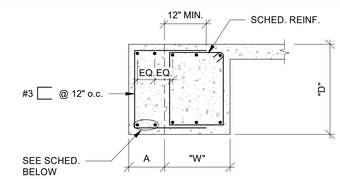




FOR PIPES SLEEVES LARGER THAN 4" O.D.

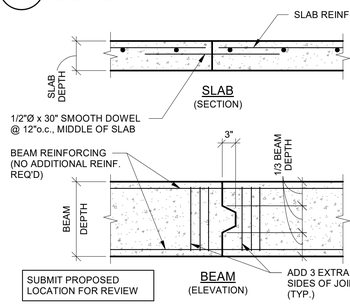
ADJACENT PIPE PENETRATIONS SHALL HAVE A MINIMUM CLEARANCE OF THE LARGER PIPE SLEEVE DIAMETER BETWEEN THEM.

## 4 TYP. DETAIL FOR WIDENED BEAMS / JOISTS

SCALE : 1/2" = 1'-0"




| | |
|---|---|
| A ≤ 12" | (1) #5 TOP AND BOTTOM |
| 12" < A ≤ 24" | (2) #5 TOP AND BOTTOM |
| 24" < A ≤ 36" | (3) #5 TOP AND BOTTOM |




## 5 TYPICAL SLAB DROP DETAIL

SCALE : 1/2" = 1'-0"







## 6 TYPICAL BEAM PENETRATION DETAIL

SCALE : 1/2" = 1'-0"










### PRE-ENGINEERED METAL BUILDING ANCHOR ROD SCHEDULE

| ROD DIAMETER SEE NOTE #1 | MINIMUM EMBEDMENT INTO CONC. FOUNDATION SEE NOTE #2 | MINIMUM EDGE DISTANCE SEE NOTE #3 |
|---|---|---|
| 1/2" DIA. | 12" | 4" |
| 5/8" DIA. | 14" | 4" |
| 3/4" DIA. | 12" | 5" |
| 7/8" DIA. | 15" | 6 1/2" |
| 1" DIA. | 18" | 7" |
| 1 1/4" DIA. | 24" | 8" |
| LARGER THAN 1 1/4" | NOTIFY ENGINEER | NOTIFY ENGINEER |

NOTES:

1. THE SIZE AND NUMBER OF RODS SHALL BE SPECIFIED BY BUILDING ENGINEER FOR THE FORCES TRANSFERRED TO THE FOUNDATION FROM THE METAL BUILDING AND SUBMITTED FOR REVIEW PRIOR TO THE CONSTRUCTION OF THE FOUNDATION.
2. IF THE DETAILED FOUNDATION DOES NOT ALLOW FOR THE SCHEDULED EMBEDMENT A GREATER NUMBER OF SMALLER RODS SHALL BE SPECIFIED BY THE BLDG. ENGINEER OR THE FOUNDATION ENGINEER SHALL BE NOTIFIED SO THE FOUNDATION DESIGN CAN BE REVISED.
3. ALL COLUMN BASEPLATES SHALL BE DETAILED TO PROVIDE THE SCHEDULED MINIMUM, EDGE DISTANCE AND SPACING. THIS MAY REQUIRE AN OFFSET BASEPLATE FROM THE CENTERLINE OF THE COLUMN. THE BUILDING DESIGNER SHALL COORDINATE WITH THE FOUNDATION DRAWINGS AND ARCHITECTURAL PLAN AND SUBMIT ANCHOR ROD AND BASEPLATE DETAILS FOR REVIEW PRIOR TO THE CONSTRUCTION OF THE FOUNDATION.
4. "J" BOLTS SHALL NOT BE USED ON PEMB FRAME COLUMNS AND/OR PORTAL FRAMES.

## 7 TYPICAL VERTICAL CONSTRUCTION JOINT DETAIL

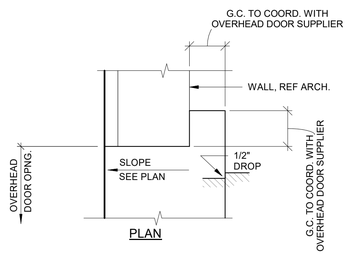
SCALE : 3/4" = 1'-0"

## 8 TYPICAL CONCRETE CURB DETAILS

SCALE : 3/4" = 1'-0"

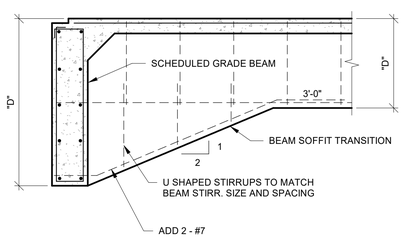
## 9 TYPICAL DETAIL FOR PRE-ENGINEERED BLDG. - ANCHOR RODS

SCALE : 1" = 1'-0"



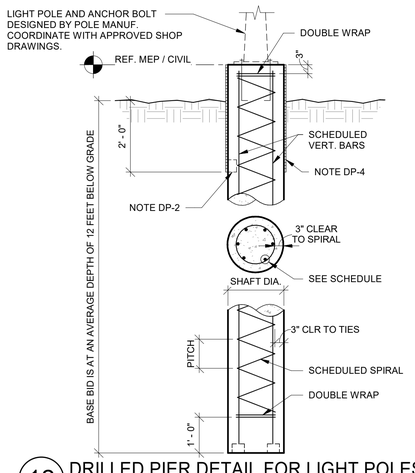

## 10 PLAN DETAIL AT INTERIOR OVERHEAD DOORS

SCALE : 1 1/2" = 1'-0"




## 11 TYP. BEAM TRANSITION DETAIL

SCALE : 1/2" = 1'-0"




### DRILLED PIER NOTES

DP-1 CENTER PIER UNDER LIGHT POLE, REF. ARCH'L / MEP FOR LOCATION.

DP-2 CENTER CAGE IN HOLE WITH 3 CONC. SPACER BLOCKS EVERY 8 FT. SUPPORT CAGE ON 3 CONC. SEAT BLOCKS.

DP-3 DO NOT RAISE CAGE OFF FTG. BOTTOM.

DP-4 EXTEND PIER SHAFTS & REINF. TO PROPER ELEVATION USING FIBERFORM ABOVE WORKING GRADE. USE FIBERFORM TO AN ELEVATION 2'-0" BELOW WORKING GRADE AT TIME OF DRILLING.

DP-5 REF. ARCH'L / MEP AND CIVIL FOR LOCATIONS.

### DRILLED PIER REINFORCING SCHEDULE

| DIAM. | VERT. BARS | SPIRAL |
|---|---|---|
| 24" | 6 -# 8 | #3 @ 12" |
| | | |

## 12 DRILLED PIER DETAIL FOR LIGHT POLES

SCALE : 1/2" = 1'-0"

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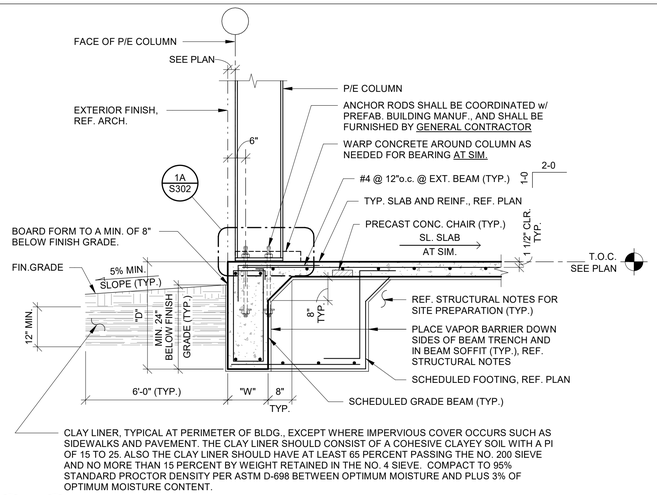
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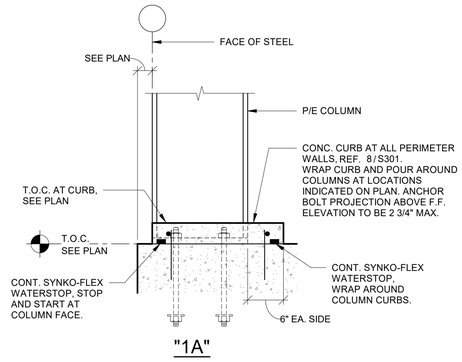
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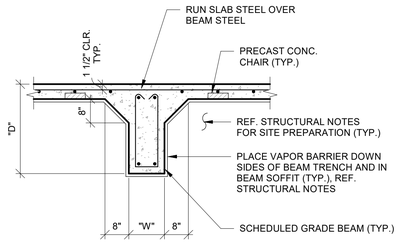
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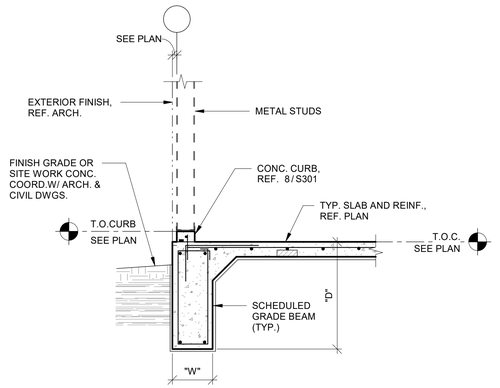
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date: 07.17.2026
drawn by: GG/PD
checked by: TCH
drawing title: **TYPICAL FOUNDATION DETAILS**
drawing number: **S301**

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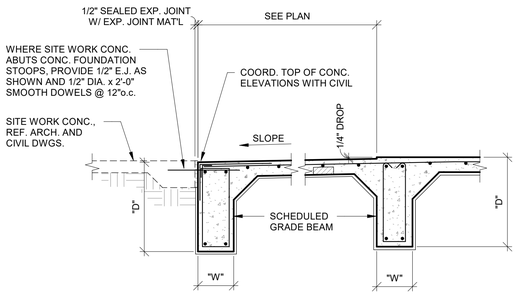



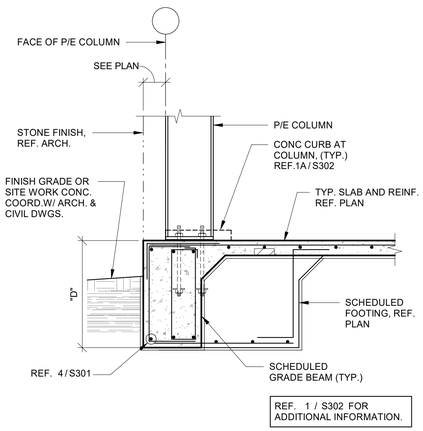

REF. 1 / S302 FOR ADDITIONAL INFORMATION.

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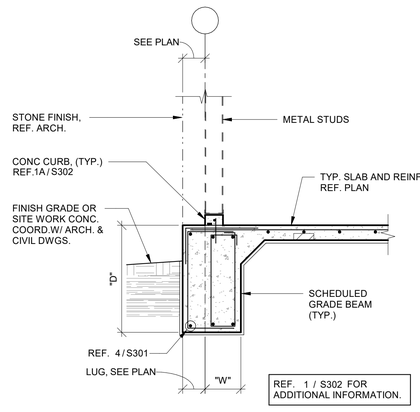
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## 3 SECTION
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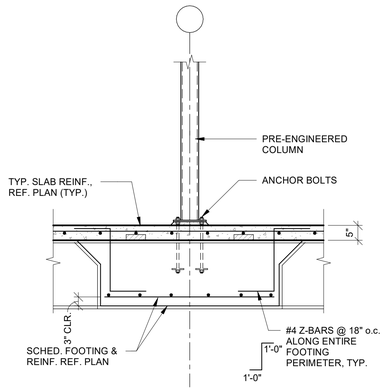


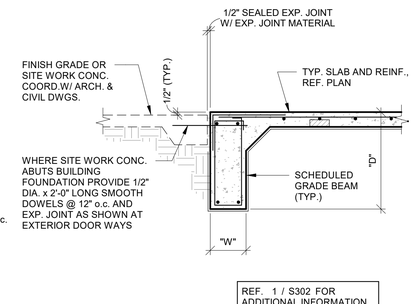




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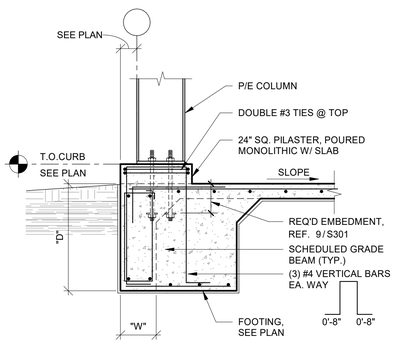
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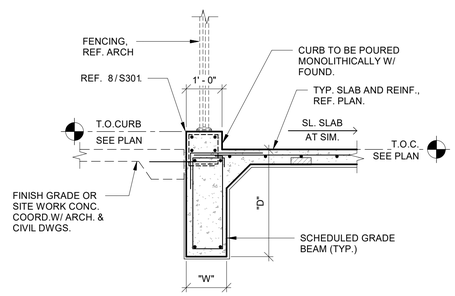
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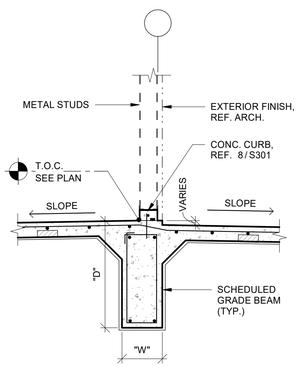
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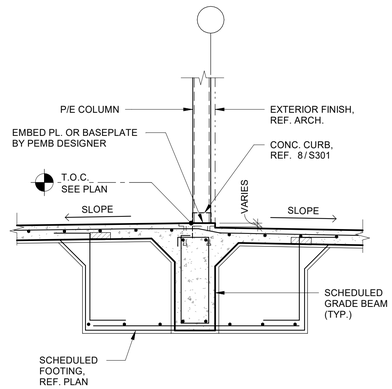
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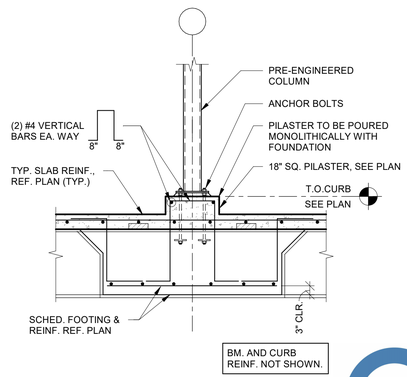
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SCALE : 1/2" = 1'-0"




BM. AND CURB REINF. NOT SHOWN.

## 9 SECTION
SCALE : 1/2" = 1'-0"

## 10 SECTION
SCALE : 1/2" = 1'-0"

## 11 SECTION
SCALE : 1/2" = 1'-0"

## 12 SECTION
SCALE : 1/2" = 1'-0"

## 13 SECTION
SCALE : 1/2" = 1'-0"

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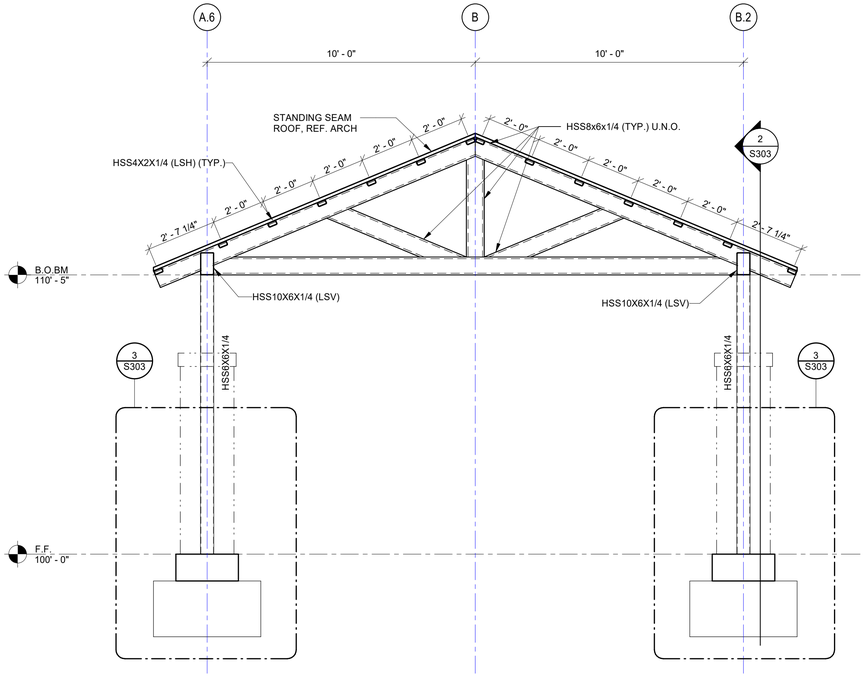
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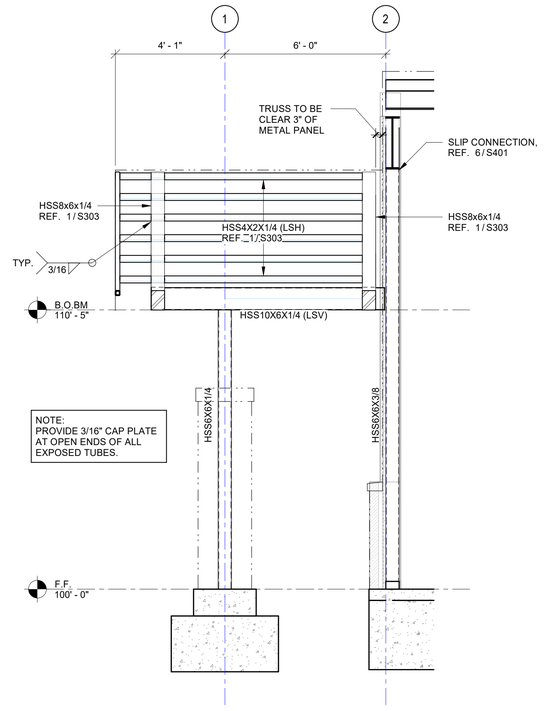
**SECTIONS AND DETAILS**

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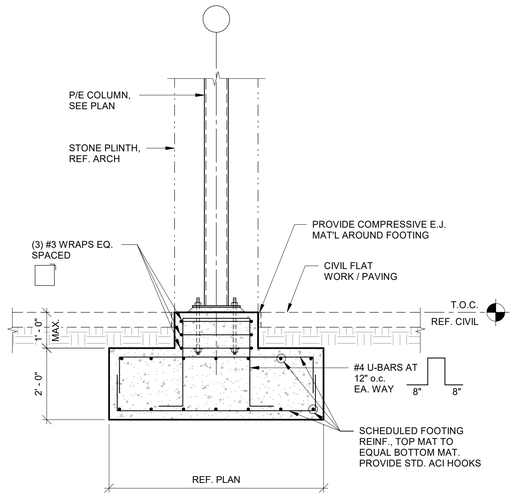
**S302**



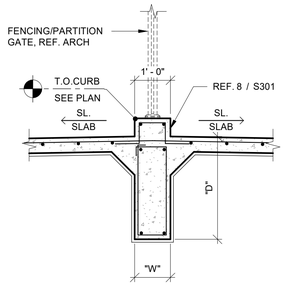

1 ELEVATION
SCALE : 3/8" = 1'-0"



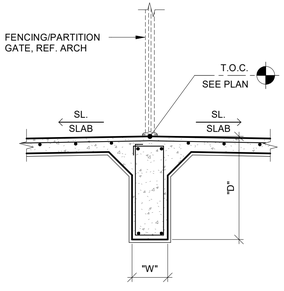

2 SECTION
SCALE : 3/8" = 1'-0"



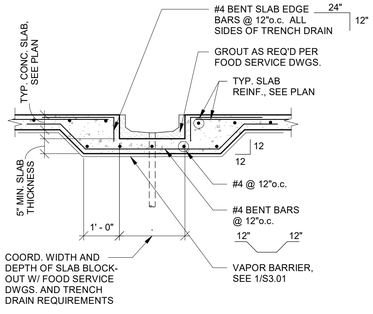

3 SECTION
SCALE : 1/2" = 1'-0"



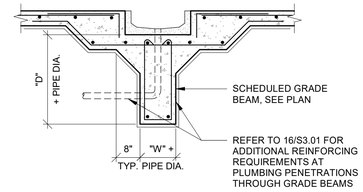

4 SECTION
SCALE : 1/2" = 1'-0"



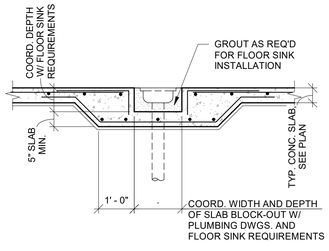

5 SECTION
SCALE : 1/2" = 1'-0"




"6A"
TRENCH DRAIN

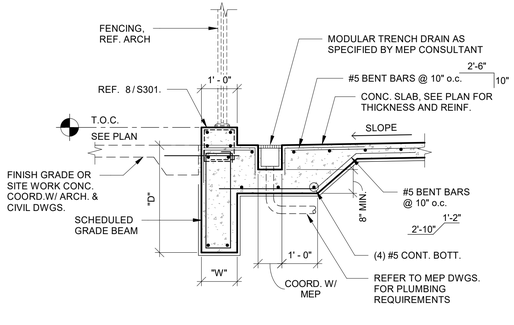



"6B"
TRENCH DRAIN THRU BEAM

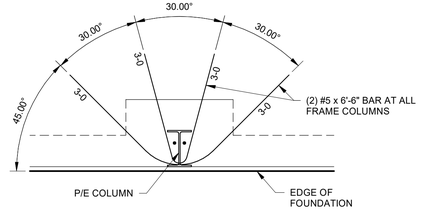



"6C"
FLOOR SINK

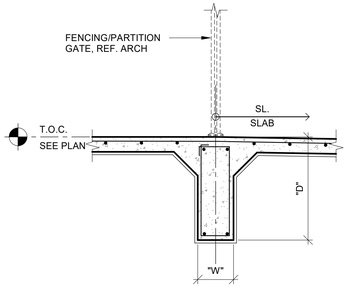
6 TRENCH DRAIN & FLOOR SINK DETAILS
SCALE : 1/2" = 1'-0"




7 SECTION
SCALE : 1/2" = 1'-0"




8 HAIRPIN DETAIL
SCALE : 1/2" = 1'-0"




9 SECTION
SCALE : 1/2" = 1'-0"

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6122 DeZavala Road
San Antonio, Texas 78249
Tel: 210.417.4307
www.openstudio-usa.com

Alpha Consulting Engineers F-1010
STATE OF TEXAS
CLAY M. TIETJEN
131096
LICENSED PROFESSIONAL ENGINEER
07.17.2026

| Revisions | | |
|---|---|---|
| Number | Description | Date |

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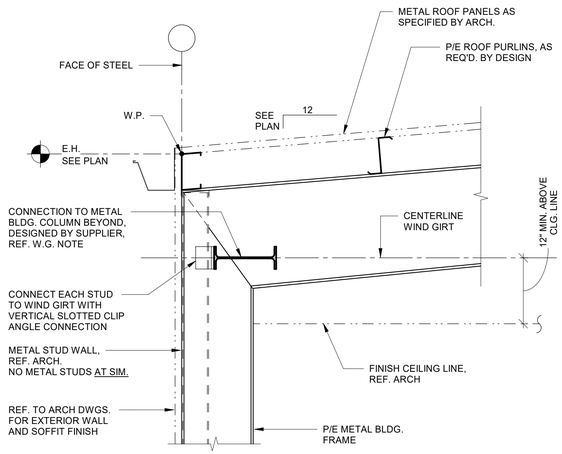
project #: 25.165
date: 07.17.2026
drawn by: GG/PD
checked by: TCH
drawing title:

**SECTIONS AND DETAILS**

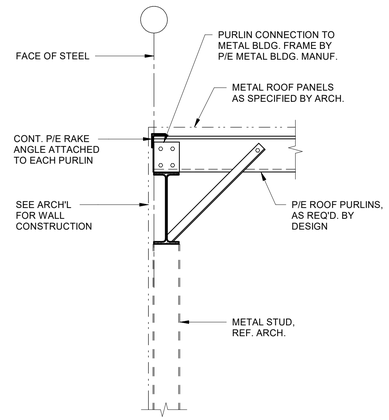
drawing number:

**S303**

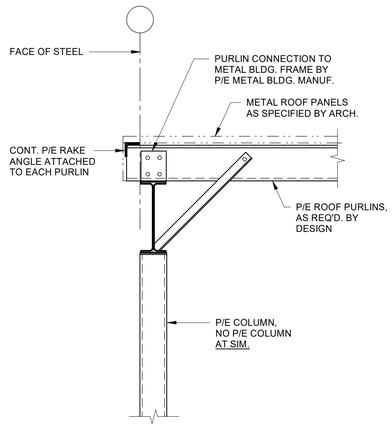
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Alpha Project No.S26013
F-1010



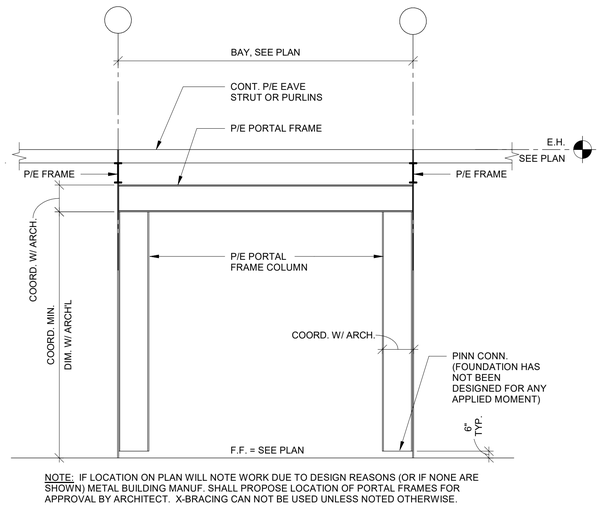

1 SECTION
SCALE : 3/4" = 1'-0"




2 SECTION
SCALE : 3/4" = 1'-0"

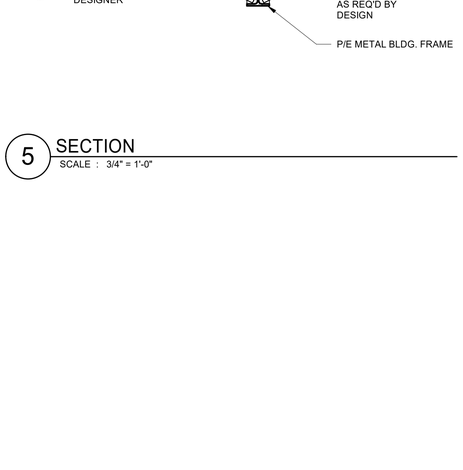



3 SECTION
SCALE : 3/4" = 1'-0"

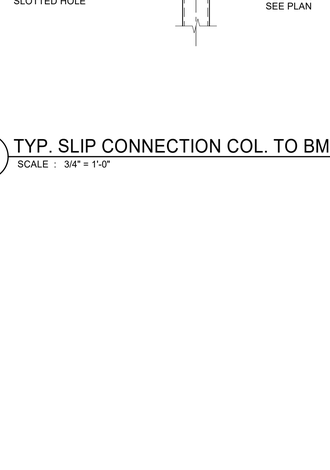



NOTE: IF LOCATION ON PLAN WILL NOTE WORK DUE TO DESIGN REASONS (OR IF NONE ARE SHOWN) METAL BUILDING MANUF. SHALL PROPOSE LOCATION OF PORTAL FRAMES FOR APPROVAL BY ARCHITECT. X-BRACING CAN NOT BE USED UNLESS NOTED OTHERWISE.

4 TYPICAL PORTAL FRAME ELEVATION
SCALE : 3/16" = 1'-0"




5 SECTION
SCALE : 3/4" = 1'-0"




6 TYP. SLIP CONNECTION COL. TO BM.
SCALE : 3/4" = 1'-0"

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6122 DeZavala Road
San Antonio, Texas 78249
Tel: 210.417.4307
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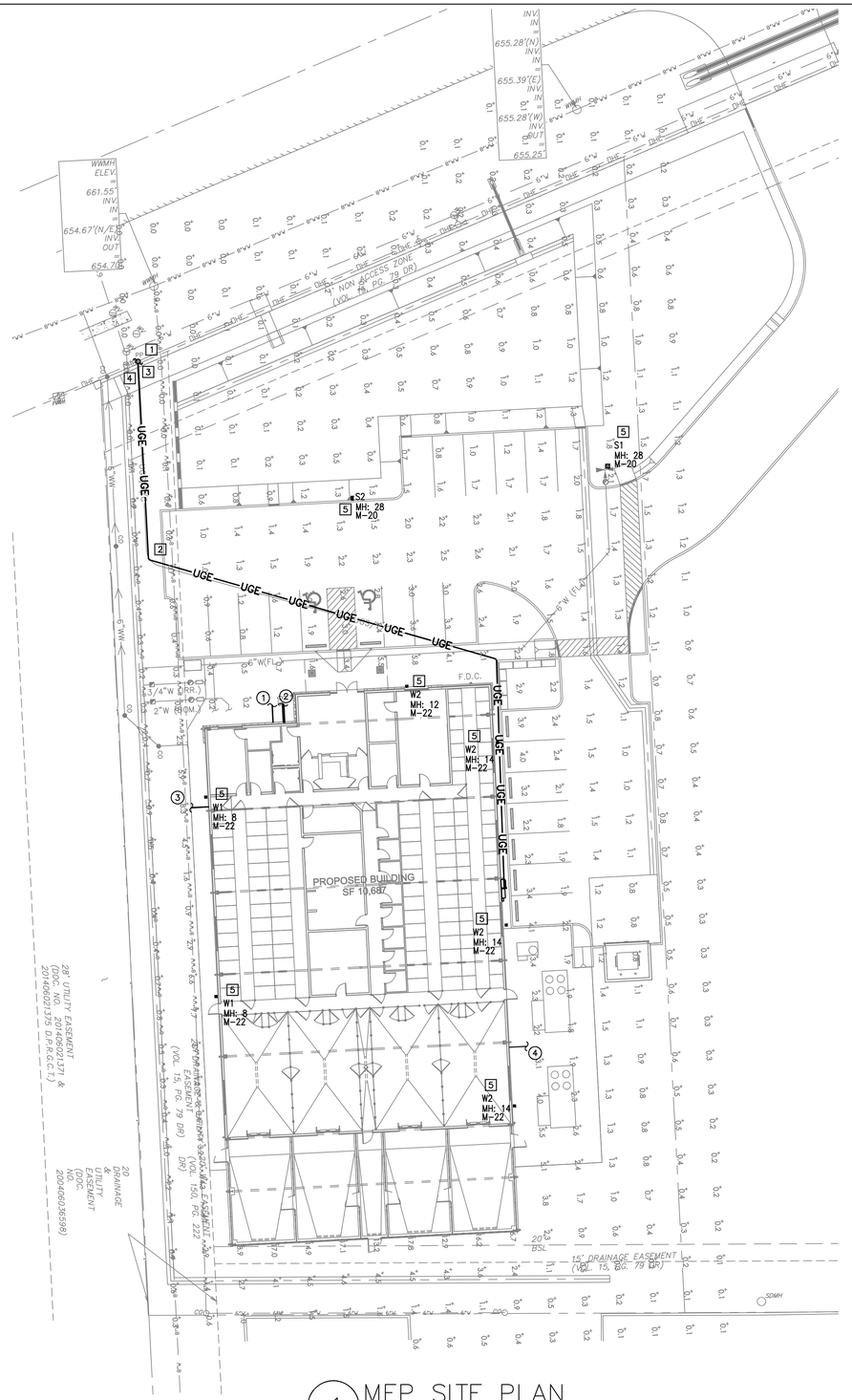
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project #: 25.165
date: 07.17.2026
drawn by: GG/PD
checked by: TCH
drawing title:
**SECTIONS AND DETAILS**
drawing number:
**S401**

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Suite 1101, San Antonio, TX 78230
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Alpha Project No.S26013
F-1010




1 MEP SITE PLAN
SCALE: 1"= 20'-0"

## ELECTRICAL KEYED NOTES:

1. NEW PROPOSED POLE, COORDINATE WITH UTILITY COMPANY.
2. UNDERGROUND SERVICE FEEDERS, REF. ONE-LINE DIAGRAM.
3. 1-4" E.C. WITH PULL-STRING TO CATV ENCLOSURE.
4. 1-4" E.C. WITH PULL-STRING TO TELEPHONE ENCLOSURE.
5. ROUTE THRU PHOTOCELL. EXTERIOR TIME SWITCH CONTROL SHALL HAVE A CLOCK CAPABLE OF BEING PROGRAMMED FOR NOT FEW THAN 7 DAYS, 2) EXTERIOR TIME SWITCH CONTROL SHALL BE CAPABLE OF BEING SET FOR 7 DIFFERENT DAYS TYPES PER WEEK. 3) EXTERIOR TIME SWITCH CONTROL SHALL INCORPORATED AND AUTOMATIC HOLIDAY SETBACK FEATURE. 4) THEY SHALL HAVE PROGRAM BACKUP CAPABILITIES THAT PREVENT THE LOSS OF PROGRAM AND TIME SETTING FOR A PERIOD OF NOT LESS THAN 10 HOURS IN THE EVENT THAT POWER IN INTERRUPTED PER IECC SEC C405.2.7.4.

## PLUMBING GENERAL NOTES:

1. FIELD COORDINATE WITH ALL OTHER TRADES.
2. ANIMAL WASTE PIPING 2" AND SMALLER TO BE INSTALLED AT A 2% SLOPE AND SANITARY SEWER PIPING 3" AND LARGER TO BE INSTALLED AT A 1% SLOPE.
3. SANITARY SEWER PIPING 2" AND SMALLER TO BE INSTALLED AT A 2% SLOPE AND SANITARY SEWER PIPING 3" AND LARGER TO BE INSTALLED AT A 1% SLOPE.

## PLUMBING KEYED NOTES:

1. 1-1/2" INCOMING COLD WATER MAIN. REFER TO CIVIL PLANS FOR CONTINUATION.
2. 4" WASTE LINE EXITING THE BUILDING AT -7.43'B.F.F. REFER TO CIVIL PLANS FOR CONTINUATION.
3. 6" INCOMING FIRE MAIN. REFER TO CIVIL PLANS FOR CONTINUATION.
4. INCOMING HIGH PRESSURE GAS MAIN. REFER TO CIVIL PLANS FOR CONTINUATION.


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6122 DeZavala Rd.
San Antonio, Texas 78249
Tel: 210.417.4307
www.openstudio-usa.com


**90% REVIEW SET**

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SAN ANTONIO, TX 78229
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**CAMP BOW WOW**

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project #: 26-028
date: 07-21-2026
drawn by: RGM
checked by: RGM
drawing title: **MEP SITE PLAN**
drawing number: **MEP101**

# MECHANICAL SYMBOLS AND ABBREVIATIONS

## A

| | |
|---|---|
| ABV | ABOVE |
| A/C | AIR CONDITIONING |
| ACCH | AIR COOLED CHILLER |
| ACCU | AIR COOLED CONDENSING UNIT |
| AD | ACCESS DOOR, AREA DRAIN |
| ADJ | ADJUSTABLE |
| AF | AIR FILTER |
| AFC | ABOVE FINISHED CEILING |
| AFF | ABOVE FINISHED FLOOR |
| AHU | AIR HANDLING UNIT |
| AMB | AMBIENT |
| APD | AIR PRESSURE DROP |
| ARI | AMERICAN REFRIGERANT INSTITUTE |
| ARCH | ARCHITECT, ARCHITECTURAL |
| ASHRAE | AMERICAN SOCIETY OF HEATING AND REFRIGERATION ENGINEERS |
| ASME | AMERICAN SOCIETY OF MECHANICAL ENGINEERS |
| ASTM | AMERICAN SOCIETY OF TESTING AND MATERIALS |
| AVG | AVERAGE |
| AWS | AMERICAN WELDING SOCIETY |
| AUX | AUXILIARY |

## B

| | |
|---|---|
| B/C | BACK OF CURB |
| BF | BELOW FLOOR |
| BFF | BELOW FINISHED FLOOR |
| BLDG | BUILDING |
| BOD | BOTTOM OF DUCT |
| BOF | BOTTOM OF FOOTING |
| BOS | BOTTOM OF STRUCTURE |
| BTU | BRITISH THERMAL UNIT |

## C

| | |
|---|---|
| C | CELSIUS |
| CAB | CABINET |
| CD | CONDENSATE DRAIN LINE |
| CFM | CUBIC FEET PER MINUTE |
| CFS | CUBIC FEET PER SECOND |
| CH | CHILLER |
| CHP | CHILLED WATER PUMP |
| CHR | CHILLED WATER RETURN |
| CHWS | CHILLED WATER SUPPLY |
| CHWR | CHILLED WATER RETURN |
| CI | CAST IRON |
| CL | CENTERLINE |
| CLG | CEILING |
| CMU | CONCRETE MASONRY UNIT |
| COL | COLUMN |
| COMP | COMPRESSOR |
| COND | CONDENSER |
| CONTR | CONTROLLER |
| CRAC | COMPUTER ROOM A/C UNIT |
| CT | COOLING TOWER |
| CW | COLD WATER |
| CWP | CONDENSER WATER PUMP |
| CWR | CONDENSER WATER RETURN |
| CWS | CONDENSER WATER SUPPLY |

## D

| | |
|---|---|
| DB | DRY BULB |
| DDC | DIRECT DIGITAL CONTROL |
| DTL | DETAIL |
| DIA | DIAMETER |
| DIFF | DIFFUSER |
| DIM | DIMENSION |
| DN | DOWN |
| DPR | DAMPER |
| DS | DOWNSPOUT, DUCTLESS SPLIT |
| DSCU | DUCTLESS SPLIT CONDENSING UNIT |
| DWH | DOMESTIC WATER HEATER |
| DWP | DOMESTIC WATER PUMP |

## E

| | |
|---|---|
| EA | EACH |
| EAT | ENTERING AIR TEMPERATURE |
| EDB | ENTERING DRY BULB |
| EDH | ELECTRIC DUCT HEATER |
| EF | EXHAUST FAN |
| EFF | EFFICIENCY |
| ENGR | ENGINEER |
| EQ | EQUAL |
| EQUIP | EQUIPTMENT |
| ESP | EXTERNAL STATIC PRESSURE |
| ETR | EXISTING TO REMAIN |
| EVAP | EVAPORATOR |
| EWB | ENTERING WET BULB |
| EXT | EXTERNAL |
| EXTG | EXISTING |

## F

| | |
|---|---|
| F | FAHRENHEIT |
| FBO | FURNISHED BY OTHERS |
| FCU | FAN COIL UNIT |
| FD | FIRE DAMPER |
| FLEX | FLEXIBLE |
| FLR | FLOOR |
| FP | FAN POWERED MIXING BOX |
| FRZR | FREEZER |
| FT | FOOT, FEET |
| FUT | FUTURE |

## G

| | |
|---|---|
| GA | GAUGE |
| GALV | GALVANIZED |
| GC | GENERAL CONTRACTOR, GRADE CLEANOUT |
| GH | GRAVITY HOOD |
| GPD | GALLONS PER DAY |
| GPH | GALLONS PER HOUR |
| GPM | GALLONS PER MINUTE |
| GSH | GRAND SENSIBLE HEAT |
| GTH | GRAND TOTAL HEAT |

## H

| | |
|---|---|
| HE | HEAT EXCHANGER |
| HP | HORSEPOWER, HALON PANEL |
| HPU | HEAT PUMP UNIT |
| HKP | HOUSEKEEPING PAD |
| HSC | HORIZONTAL SPLIT CASE |
| HT | HEIGHT |
| HTG | HEATING |
| HTR | HEATER |
| HZ | HERTZ |

## I

| | |
|---|---|
| ID | INSIDE DIAMETER |
| IN | INCH |
| INSUL | INSULATION |
| INT | INTERNAL, INTERIOR |

## J

## K

## L

| | |
|---|---|
| LAT | LEAVING AIR TEMPERATURE |
| LF | LINEAR FEET |
| LP | LOW PRESSURE |
| LVL | LEVEL |
| LWB | LEAVING WET BULB |

## M

| | |
|---|---|
| MAT | MIXED AIR TEMPERATURE |
| MAX | MAXIMUM |
| MBH | THOUSAND OF BTU'S |
| MC | MECHANICAL CONTRACTOR |
| MECH | MECHANICAL |
| MFR | MANUFACTURER |
| MH | MANHOLE |
| MIN | MINIMUM |
| MP | MEDIUM PRESSURE |
| MTD | MOUNTED |
| MUA | MAKE-UP AIR |
| MVD | MANUAL VOLUME DAMPER |

## N

| | |
|---|---|
| N.C. | NOISE CRITERIA |
| NFPA | NATIONAL FIRE PROTECTION ASSOCIATION |
| NIC | NOT IN CONTRACT |
| N.O. | NORMALLY OPEN |
| NO. | NUMBER |
| NTS | NOT TO SCALE |

## O

| | |
|---|---|
| OA | OUTSIDE AIR |
| OAHU | OUTSIDE AIR HANDLING UNIT |
| OBD | OPPOSED BLADE DAMPER |
| OC | ON CENTER |
| OD | OUTSIDE DIAMETER, OVERFLOW DRAIN |
| OFCU | OUTSIDE AIR FAN COIL UNIT |

## P

| | |
|---|---|
| PC | PLUMBING CONTRACTOR |
| PD | PRESSURE DROP, PLANTER DRAIN |
| PNTH | PENTHOUSE |
| PPM | PART PER MILLION |
| PRI | PRIMARY |
| PSF | POUNDS PER SQUARE FOOT |
| PSI | POUNDS PER SQUARE INCH |
| PSIG | POUNDS PER SQUARE INCH GAUGE |

## Q

| | |
|---|---|
| QTY | QUANITY |

## R

| | |
|---|---|
| RA | RETURN AIR |
| RAD | REFRIGERATED AIR DRYER |
| RF | RETURN AIR FAN |
| RAG | RETURN AIR GRILL |
| RAT | RETURN AIR TEMPERATURE |
| RCP | REFLECTED CEILING PLAN |
| RD | ROOF DRAIN |
| RE | REFERENCE,REFER |
| RECIRC | RECIRCULATE |
| REFR | REFRIGERATOR |
| REV | REVISION, REVISE |
| RH | RELATIVE HUMIDITY |
| RHG | REFRIGERANT HOT GAS |
| RL | REFRIGERANT LIQUID |
| RM | ROOM, REFRIGERATION MACHINE |
| RPM | REVOLUTIONS PER MINUTE |
| RS | REFRIGERANT SUCTION |
| RTU | ROOFTOP UNIT |

## S

| | |
|---|---|
| S | STEAM |
| SA | SUPPLY AIR |
| SF | SUPPLY AIR FAN |
| SAG | SUPPLY AIR GRILLE |
| SAR | SUPPLY AIR REGISTER |
| SEC | SECONDARY |
| SECT | SECTION |
| SENS | SENSIBLE |
| SF | SQUARE FEET |
| SM | SHEETMETAL |
| SP | STATIC PRESSURE |
| SPEC | SPECIFICATION |
| SQ | SQUARE |
| SS | STEAM SUPPLY |
| SR | STEAM RETURN |
| STD | STANDARD |
| SURF | SURFACE |
| SUSP | SUSPEND |

## T

| | |
|---|---|
| TC | TEMPERATURE CONTROL |
| TCC | TEMPERATURE CONROL COMPRESSOR |
| TF | TRANSFER FAN |
| TSP | TOTAL STATIC PRESSURE |
| TSTAT | THERMOSTAT |
| TYP | TYPICAL |

## U

| | |
|---|---|
| UC | UNDER CUT DOOR |
| UG | UNDERGROUND |
| UH | UNIT HEATER |
| UNO | UNLESS NOTED OTHERWISE |
| U/F | UNDERFLOOR |

## V

| | |
|---|---|
| VAV | VARIABLE AIR VOLUME |
| VD | VOLUME DAMPER |
| VEL | VELOCITY |
| VERT | VERTICAL |

## W

| | |
|---|---|
| W | WASTE, WIDTH |
| W/ | WITH |
| W/O | WITHOUT |
| WB | WET BULB |

## Y

## Z

| | |
|---|---|
| Z | ZONE |

## HVAC SYMBOLS

| | |
|---|---|
| | RETURN GRILLE WITH SQUARE DUCT NECK CONNECTION |
| | RETURN AIR DIFFUSER |
| | 4-WAY SUPPLY DIFFUSER UNLESS OTHERWISE NOTED ON PLANS |
| | EXHAUST AIR DIFFUSER |
| | EXHAUST DUCT UP |
| | EXHAUST DUCT DOWN |
| | RETURN DUCT UP |
| | RETURN DUCT DOWN |
| | SUPPLY DUCT UP |
| | SUPPLY DUCT DOWN |
| XX-X | EQUIPMENT TAG |
| X , 12"ø 600 | DIFFUSER KEY: TYPE / NECK CFM |
| T | THERMOSTAT / TEMPERATURE SENSOR (MOUNT 48" A.F.F.) |
| H | HUMIDISTAT (MOUNT 48" A.F.F.) |
| S | TEMPERATURE SENSOR (MOUNT 48" A.F.F.) |
| P | PRESSURIZATION SENSOR |
| | POINT OF CONNECTION, NEW AND EXISTING |
| | EXISTING DUCTWORK TO REMAIN |
| | EXISTING DUCTWORK TO BE REMOVED |
| 12/10 | NEW DUCTWORK, WIDTH / HEIGHT |
| | ELBOW WITH TURNING VANES |
| | DUCT TRANSITION, SINGLE AND DOUBLE LINE |
| | FLEXIBLE CONNECTION |
| | FLEXIBLE DUCT CONNECTION TO AIR DIFFUSER |
| | FLEXIBLE DUCT |
| | SQUARE TO ROUND DUCT TRANSITION |
| | RECTANGULAR DUCT WITH EXTERNAL INSULATION |
| | ROUND DUCT WITH EXTERNAL INSULATION |
| | BALANCING DAMPER |
| | BRANCH TAP WITH DAMPER |
| | ROUND DUCT DOWN |
| | ROUND DUCT UP |
| SD D | DUCT MOUNTED SMOKE DETECTOR |
| T S | REMOTE TEMPERATURE SENSOR |
| FD | FIRE DAMPER |
| VD | OPPOSED BLADE VOLUME DAMPER |
| FSD | FIRE/SMOKE DAMPER |
| M | MOTORIZED DAMPER |
| VFD | VARIABLE FREQUENCY DRIVE |
| AD | ACCESS DOOR |
| U | UNDER CUT DOOR |
| DL | LOUVERED DOOR |
| XX/XX SD | SPLITTER DAMPER |

## MECHANICAL SYMBOLS

| | |
|---|---|
| CD | EXISTING CONDENSATE DRAIN PIPING TO REMAIN. |
| CD | DEMO CONDENSATE DRAIN PIPING TO BE REMOVED |
| CD | NEW CONDENSATE DRAIN PIPING |
| R | EXISTING REFRIGERANT PIPING TO REMAIN. |
| R | DEMO REFRIGERANT PIPING TO BE REMOVED. |
| R | NEW REFRIGERANT PIPING. |
| | EXISTING DUCTWORK TO REMAIN. |
| | EXISTING DUCTWORK TO BE REMOVED. |
| | NEW DUCTWORK. |
| CHWS | CHILLED WATER SUPPLY PIPE TO REMAIN. |
| CHWS | EXISTING CHILLED WATER SUPPLY PIPE TO BE REMOVED |
| CHWS | NEW CHILLED WATER SUPPLY PIPE. |
| CHWR | CHILLED WATER RETURN PIPE TO REMAIN. |
| CHWR | EXISTING CHILLED WATER RETURN PIPE TO BE REMOVED. |
| CHWR | NEW CHILLED WATER RETURN PIPE. |
| SS | STEAM SUPPLY TO REMAIN |
| SS | EXISTING STEAM SUPPLY PIPE TO BE REMOVED. |
| SS | NEW STEAM SUPPLY PIPE. |
| SR | STEAM RETURN TO REMAIN |
| SR | EXISTING STEAM RETURN PIPE TO BE REMOVED. |
| SR | NEW STEAM RETURN PIPE. |
| | EXISTING AIR DEVICE TO REMAIN. |
| | EXISTING AIR DEVICE TO BE REMOVED. |
| | NEW AIR DEVICE. |


Open studio architecture
6122 DeZavala Rd.
San Antonio, Texas 78249
Tel: 210.417.4307
www.openstudio-usa.com


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7550 IH 10 W, SUITE 350
San Antonio, TX 78229
www.rgmengineering.net
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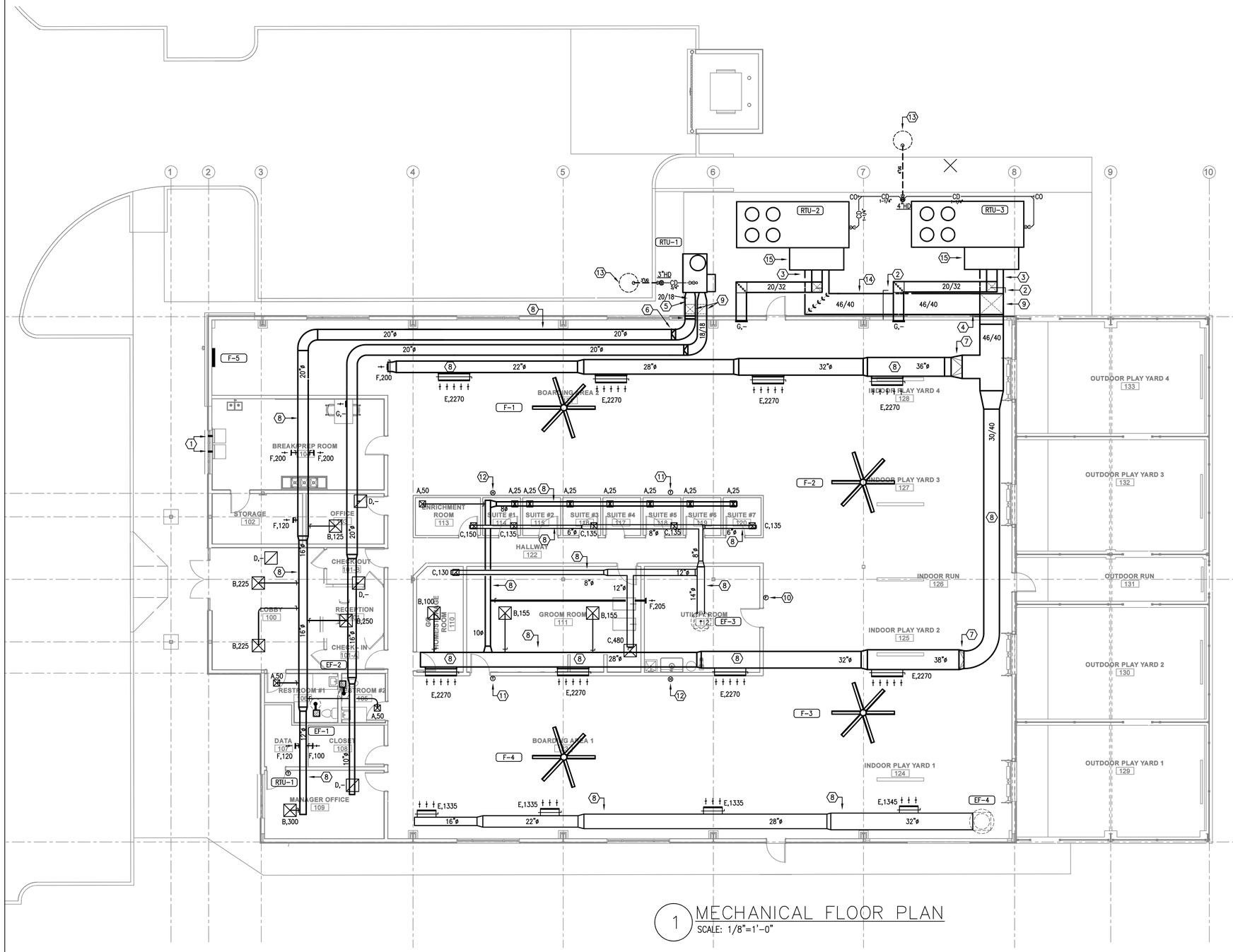

**CAMP BOW WOW**
1450 N. BUSINESS 35
NEW BRAUNFELS, TX 78130

project #: 26-028
date: 07-21-2026
drawn by: RGM
checked by: RGM
drawing title:

**MECHANICAL SYMBOLS AND ABBREVIATIONS**

drawing number:

**M100**




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

## MECHANICAL GENERAL NOTES:

1. ALL MECHANICAL EQUIPMENT SHALL BE 10'-0" MIN. FROM EDGE OF ROOF.
2. CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR FOR ALL ELECTRICAL POWER REQUIREMENTS.
3. THE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL LOCATION OF EQUIPMENT, DUCTS, AND GRILLES, ETC. IT IS THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS THAT COMPLETE MECHANICAL SYSTEMS BE FURNISHED, INSTALLED, TESTED AND READY FOR OPERATION WHETHER EVERY ITEM OF EQUIPMENT, ACCESSORY, DEVICE, ETC. IS SHOWN. REFERENCE SHALL BE MADE TO THE FULL DRAWING PACKAGE INCLUDING ARCHITECTURAL, STRUCTURAL, ELECTRICAL, AND PLUMBING DRAWINGS FOR COORDINATION AND POTENTIAL CONFLICTS. THE MECHANICAL SUBCONTRACTOR SHALL, WITHOUT EXTRA CHARGE, MAKE REASONABLE MODIFICATIONS IN THE LAYOUT AS NEEDED TO PREVENT CONFLICTS WITH OTHER TRADES, OR FOR PROPER EXECUTION OF THE WORK. FIELD VERIFY ALL DIMENSIONS BEFORE FABRICATING DUCTWORK.
4. DUCT DIMENSIONS INDICATED ON DRAWINGS ARE CLEAN INSIDE AIR STREAM DIMENSIONS.
5. NEW A/C EQUIPMENT SHALL BE CLEANED AFTER THE FINISHING OF DRYWALL AND PRIOR TO THE RELEASE OF BUILDING TO OWNER. MECHANICAL CONTRACTOR TO PROVIDE ALL DOCUMENTATION WITH DATE AND TIME OF UNIT CLEANING AND CONSTRUCTION FILTER REPLACED WITH NEW.
6. ALL UNITS GREATER THAN 2,000 CFM REQUIRE A DUCT MOUNTED SMOKE DETECTOR. VERIFY CURRENT ADOPTED STATE AND LOCAL CODE REQUIREMENTS FOR MOUNTING LOCATION OF SMOKE DETECTOR.
7. EQUIPMENT SIZES, DIMENSIONS, AND REQUIRED CONNECTIONS SHALL BE VERIFIED WITH THE MANUFACTURER DRAWINGS AND CUTSHEETS BEFORE FABRICATING OF DUCTWORK, PIPING, OR POURING OF HOUSEKEEPING PADS.
8. ALL DUCTWORK AND ASSOCIATED ACCESSORIES SHALL BE CONSTRUCTED TO MEET THE LATEST SMACNA STANDARDS FOR LOW, MEDIUM, AND HIGH PRESSURE DUCTWORK.
9. MECHANICAL CONTRACTOR SHALL COORDINATE EXACT LOCATIONS OF ALL OUTSIDE AIR INTAKES TO MAINTAIN 10 FEET DISTANCE BETWEEN OUTSIDE AIR INTAKES AND ANY EXHAUST AIR OUTLET, FLUES, OR PLUMBING VENTS. COORDINATE WITH PLUMBING CONTRACTOR AND OTHER TRADES.
10. COORDINATE LOCATIONS OF ROOF OPENINGS WITH ARCHITECT AND STRUCTURAL ENGINEER.
11. FIRE/SMOKE DAMPERS SHALL BE INSTALLED AT ALL DUCT PENETRATIONS OF FIRE/SMOKE RATED WALLS.
12. PROVIDE VOLUME DAMPERS AT ALL SUPPLY, RETURN, AND EXHAUST BRANCH LINES AS ESTABLISHED BY THE LATEST EDITION OF SMACNA DUCT CONSTRUCTION MANUAL AND MECHANICAL DETAILS ON SHEET M3.1.
13. ALL DUCTWORK SHALL BE CONSTRUCTED OF A MINIMUM OF 26 GAUGE GALVANIZED STEEL OR GREATER OF U.S. STANDARD SHEET METAL A GAUGE ONE HOUR RATED, UNLESS NOTED OTHERWISE ON THE DRAWINGS.
14. INSTALL SLIP SHEETS UNDER ALL BLOCKING USED ON THE ROOF.
15. LABELS FOR RTU'S MUST INCLUDE SUITE NUMBER.
16. TENANT SHALL VERIFY EXACT LOCATION AND SUPPORT OF ROOFTOP MOUNTED EQUIPMENT WITHIN THE BUILDING'S MECHANICAL LOADING ZONE. IF THE TENANT'S EQUIPMENT WILL BE OUTSIDE OF THE MECHANICAL LOADING ZONE, THE TENANT'S STRUCTURAL ENGINEER SHALL DESIGN, AND TENANT SHALL DESIGN/INSTALL ALL ADDITIONAL STRUCTURAL SUPPORT REQUIRED. TENANT WILL PROVIDE THE ENGINEER WITH EXACT WEIGHTS AND LOCATIONS OF ALL EQUIPMENT FOR THE ENGINEER'S RECOMMENDATIONS, REVIEW, AND APPROVAL.
17. COORDINATE ROOF TOP UNIT LOCATIONS WITH PLUMBING TO ENSURE THAT SANITARY VENTS THRU ROOF (VTR'S) ARE LOCATED NOT LESS THAN 15' OF THE RTUS' INTAKE OPENINGS.
15. ENSURE THAT DUCT CONSTRUCTION AND SEALING STANDARDS COMPLY WITH IECC SECTION C.403.12.2.
16. ENSURE THAT THERMOSTAT SELECTIONS COMPLY WITH IECC SECTION C403.4.
17. PIPING INSULATION EXPOSED TO THE WEATHER SHALL BE PROTECTED FROM DAMAGE, INCLUDING THAT CAUSE BY SUNLIGHT, MOISTURE, EQUIPMENT MAINTENANCE AND WIND, AND SHALL PROVIDE SHIELDING FROM SOLAR RADIATION THAT CAN CAUSE DEGRADATION OF THE MATERIAL. ADHESIVE TAPE SHALL NOT BE PERMITTED.
18. PIPING SERVING AS PART OF THE HEATING OR COOLING SYSTEM SHALL BE THERMALLY INSULATED IN ACCORDANCE WITH SECTION AND TABLE C403.12.3 OF THE IECC UNLESS EXEMPTIONS PROVIDED THEREIN APPLY.

## (#) KEYED MECHANICAL NOTES:

1. ROUTE 4" DRYER EXHAUST DUCT THRU WALL. TERMINATE WITH WALL CAP.
2. PROVIDE BACKDRAFT DAMPER SIZED FOR 0.05 INWC.
3. TRANSITION FROM SUPPLY DUCT OPENING SIZES TO A SINGLE 45X45 DUCT.
4. CONNECT 45X40 HORIZONTAL DUCT TO 32X20 VERTICAL DUCT DIRECTLY AFTER THE ELBOW TURN IS COMPLETE.
5. TRANSITION FROM SUPPLY DUCT OPENING SIZE TO 20X18 VERTICAL DUCT.
6. TRANSITION FROM 20X18 TO 20"ø.
7. TRANSITION FROM 32X30 TO 36"ø.
8. PROVIDE DOUBLE-WALLED RECTANGULAR DUCT WITH PAINT GRIP FINISH. COORDINATE FINAL COLOR WITH GENERAL CONTRACTOR.
9. DUCT TO PENETRATE WALL AS HIGH AS POSSIBLE. PENETRATION SHALL BE AIR AND WATER TIGHT. PROVIDE SUPPORTS FOR OUTDOOR DUCTS EVERY 2 FEET AND ALONG WALL AT VERTICAL RISE.
10. PROVIDE AND INSTALL WALL MOUNTED HVLS CONTROLLER AT ADA COMPLIANT HEIGHT.
11. PROVIDE AND INSTALL 24/7 PROGRAMMABLE THERMOSTAT MOUNTED AT ADA COMPLIANT HEIGHT. PROVIDE LOCKABLE ENCLOSURE. REFER TO SCHEDULES FOR SEQUENCE PROGRAMMING.
12. PROVIDE AND INSTALL 24/7 PROGRAMMABLE HUMIDISTAT MOUNTED AT ADA COMPLIANT HEIGHT. REFER TO SCHEDULES FOR SEQUENCE PROGRAMMING.
13. CONTRACTOR SHALL ROUTE THE CONDENSATE DRAIN AS INDICATED ON PLAN TO HUB DRAIN. ROUTE 3" AND 4" SCH 40 PVC WASTE LINE TO DRY WELL(36" ROUND x 24" DEEP CONCRETE PIPE FILLED WITH PEA GRAVEL. PROVIDE A TRAPPED CONDENSATE DRAIN, MAINTAIN THE REQUIRED MINIMUM SLOPE ACCORDING TO IMC 307.2.1. COORDINATE INSTALLATION WITH THE PLUMBING CONTRACTOR.
14. KEEP DUCT LOW TO THE GROUND FOR AS FAR AS POSSIBLE BEFORE CONNECTING.
15. TRANSITION FROM 20/32 RETURN DUCT TO RETURN DUCT OPENING SIZES.


Open studio architecture
6122 DeZavala Rd.
San Antonio, Texas 78249
Tel: 210.417.4307
www.openstudio-usa.com
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7550 IH 10 W, SUITE 350
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www.rgmengineering.net
phone: 210.299.4522
fax: 210.299.4525


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**MECHANICAL FLOOR PLAN**
drawing number:
**M101**

## HVLS FAN SCHEDULE

| MARK | F-1 | F-2 | F-3 | F-4 | F-5 |
|---|---|---|---|---|---|
| SERVES | BOARDING AREA 2 | INDOOR PLAY YARD 3 | INDOOR PLAY YARD 2 | BOARDING AREA 1 | UPPER LEFT CORRIDOR |
| AIRFOILS | 6 | 6 | 6 | 6 | 3 |
| DIAMETER ( FT ) | 7 | 7 | 7 | 7 | 3 |
| MAXIMUM SPEED ( RPM ) | 101 | 101 | 101 | 101 | 80 |
| WEIGHT ( LBS ) | 27 | 27 | 27 | 27 | 44 |
| MANUFACTURER | BAF | BAF | BAF | BAF | MISTAK |
| MODEL NO. | MAMMOTH MMI-84 OR EQUIVALENT | MAMMOTH MMI-84 OR EQUIVALENT | MAMMOTH MMI-84 OR EQUIVALENT | MAMMOTH MMI-84 OR EQUIVALENT | MT-FJDC-90 OR EQUIVALENT |
| NOTES | 1, 2, 3, 4, 5 | 1, 2, 3, 4, 5 | 1, 2, 3, 4, 5 | 1, 2, 3, 4, 5 | 1, 2, 3, 4, 5 |

NOTES:
1. PROVIDE GEARLESS DIRECT DRIVE MOTOR.
2. PROVIDE 50,000-HOUR WARRANTY.
3. PROVIDE DIGITAL WALL CONTROLLER WITH INDEPENDED FAN CONTROL.
4. PROVIDE FAN RATED FOR WASH-DOWN DUTY.
5. PROIVDE FIREMAN OVERIDE CONTROL.

## EXHAUST FAN SCHEDULE

| MARK | EF-1 | EF-2 | EF-3 | EF-4 |
|---|---|---|---|---|
| SERVES | MENS RR | WOMENS RR | GROOM ROOM, UTILTIY ROOM, SUITES, ROOM ENRICHMENT | KENNEL |
| CFM | 75 | 75 | 1,300 | 5,350 |
| E.S.P. (IN W.G.) | 0.3 | 0.3 | 0.3 | 0.5 |
| TYPE | CEILING | CEILING | ROOF | ROOF |
| DIRECT/BELT DRIVE | DIRECT | DIRECT | DIRECT | DIRECT |
| FAN RPM | | | | |
| CONTROL TYPE | LIGHT SWITCH | LIGHT SWITCH | CONSTANT VOLUME | CONSTANT VOLUME |
| MOTOR HORSEPOWER (HP) | 1/4 | 1/4 | 1/4 | |
| VOLTS/PHASE/HERTZ | 115/1/60 | 115/1/60 | 115/1/60 | 115/1/60 |
| SONES | | | | |
| WEIGHT (LBS) | | | | |
| MANUFACTURER | GREENHECK | GREENHECK | GREENHECK | GREENHECK |
| MODEL NO. | | | | |
| NOTES | 1 | 1 | 1, 2, 3, 4 | 1, 2, 3, 4 |

NOTES:
1. PROVIDE FAN MOUNTED SPEED CONTROL.
2. PROVIDE ROOF CURB.
3. PROVIDE BAROMETRIC DAMPER COOK MODEL BD-100-PB OR EQUIVALENT.
4. INTERLOCK FAN WITH RTU-1 AND RTU-2.

## DESIGN OUTDOOR AIR BALANCE SCHEDULE

| EQUIPMENT | | EXHAUST AIR ( CFM ) | OUTSIDE AIR ( CFM ) |
|---|---|---|---|
| INTAKE | EXHAUST | | |
| | EF-1 | 75 | |
| | EF-2 | 75 | |
| | EF-3 | 1300 | |
| | EF-4 | 5350 | |
| RTU-1 | | | 400 |
| RTU-2 & RTU-3 | | | 7900 |
| | | TOTAL EXHAUST AIR ( CFM ) | TOTAL REPLACEMENT AIR ( CFM ) |
| | | 6800 | 8300 |
| | | NET EXFILTRATION ( CFM ) | |
| | | 1500 | |
| DOES TOTAL REPLACEMENT AIR FLOW RATE MEET OR EXCEED THE EXHAUST AIR FLOW RATE? | | YES | |

NOTES:
1. THIS SCHEDULE IS TO SHOW COMPLIANCE WITH 403 "MECHANICAL VENTILATION" OF THE 2024 IMC.

## RTU 2 & 3 SEQUENCE OF OPERATION

SINGLE ZONE VAV RTU 2 & 3 SHALL OPERATE INDEPENDENTLY AS A 100% REDUNDANT SYSTEM. T-STAT AND HUMID-STAT LOCATED IN BOARDING AREA 1 & 2 SHALL AVERAGE FOR THE OPERATION OF THE LEAD RTU OPERATION. ON A MONTHLY BASIS LEAD RTU SHALL BE THE LAG RTU TO MAINTAIN EQUAL USE. RTU SHALL HAVE WEB AND MOBILE PHONE BASED MONITORING CAPABILITIES.

## ROOFTOP UNIT SCHEDULE

R454b

| DESIGNATION | RTU-1 | **RTU-2** | **RTU-3** |
|---|---|---|---|
| MODEL NUMBER | 50FE-A06A2M5-3A0A0 | 48K4BJ50-5E6A1B0A0 | 48K4BJ50-5E6A1B0A0 |
| MANUFACTURER | CARRIER | CARRIER | CARRIER |
| NOMINAL TONS | 5 | 50 | 50 |
| SERVES | ADMINISTRATION | KENNEL | KENNEL |
| EFFIFICENCY ( SEER2 / SEER ) | 13.40 / 14.0 | - | - |
| EFFIFICENCY ( IEER / SEER ) | - | 9.8 / 13.1 | 9.8 / 13.1 |
| | COOLING PERFORMANCE | | |
| SUPPLY AIR CFM | 1,965 | 19,000 | 19,000 |
| OUTSIDE AIR CFM | 400 | 7900 | 7900 |
| EXTERNAL STATIC PRESSURE ( INWC ) | 0.50 | 1.25 | 1.25 |
| SUPPLY FAN MOTOR SIZE ( HP ) | 0.71 | 30 | 30 |
| ENTERING TEMPERATURE ( DEG-F DB) | 77.4 | 86.3 | 86.3 |
| ENTERING TEMPERATURE ( DEG-F WB) | 65.1 | 66.0 | 66.0 |
| LEAVING TEMPERATURE ( DEG-F DB) | 57.6 | 57.3 | 57.3 |
| LEAVING TEMPERATURE ( DEG-F WB) | 55.9 | 56.8 | 56.8 |
| AMBIENT SUMMER TEMPERATURE ( DEG-F DB ) | 105 | 105 | 105 |
| GROSS TOTAL CAPACITY ( MBH ) | 55.5 | 543.4 | 543.4 |
| GROSS SENSIBLE CAPACITY ( MBH ) | 42.1 | 312.8 | 312.8 |
| HEATING PERFORMANCE | | | |
| ENTERING TEMPERATURE ( DEG-F DB) | 66.3 | 46.0 | 46.0 |
| LEAVING TEMPERATURE ( DEG-F DB) | 86 | 79 | 79 |
| AMBIENT WINTER TEMPERATURE ( DEG-F DB ) | 25 | 25 | 25 |
| SUPPLY AIR ( CFM ) | 1,965 | 19,000 | 19,000 |
| INPUT HEATING CAPACITY ( KW ) RTU- | 12 KW ELECTRIC | 800 MBH | 800 MBH |
| POWER | | | |
| VOLTAGE ( V / PH / HZ ) | 460 / 3 / 60 | 460 / 3 / 60 | 460 / 3 / 60 |
| MCA ( AMPS ) | 24.0 | 132.0 | 132.0 |
| MOCP ( AMPS ) | 25 | 150 | 150 |
| | | | |
| BASE UNIT WEIGHT ( LBS ) | 606 | 5,476 | 5,476 |

NOTES:
1. 5-YEAR COMPRESSOR WARRANTY.
2. CONDENSER COIL HAIL GUARDS.
3. FOIL-FACED INSULATION.
4. FACTORY INSTALLED HIGH AND LOW PRESSURE CUTOUT SWITCHES.
5. 2" THROWAWAY FILTERS.
6. FACTORY-INSTALLED NON-CORROSIVE, DUAL SLOPED CONDENSATE DRAIN PAN.
7. FACTORY INSTALLED EXPANSION VALVE.
8. SINGLE SIDE SERVICE CONNECTIONS.
9. 0-100% MODULATING DUAL ENTHALPY ECONOMIZER WITH BAROMETRIC RELIEF.
10. STANDARD 14" KNOCKDOWN FACTORY ROOF CURB.
11. PROVIDE 7-DAY PROGRAMMABLE TOUCHSCREEN THERMOSTAT.
12. PHASE MONITORING PROTECTION, I.E. PHASE LOSS, PHASE IMBALANCE, OR PHASE REVERSAL.
13. PROVIDE HUMIDIMIZER HUMIDITY SENSORS
14. INDOOR 25HP MOTOR WITH VFD.

## AIR DEVICE SCHEDULE

| MARK | MANUFACTURER | MODEL | TYPE | AIR FLOW ( CFM ) | NECK SIZE ( IN ) | MAX STATIC PRESSURE DROP ( INWC ) | MAX NOISE CRITERIA ( NC ) | REMARKS | NOTES |
|---|---|---|---|---|---|---|---|---|---|
| A | TITUS | OMNI | SUPPLY | 25 - 135 | 6 | 0.025 | 26 | 12" X 12", ALUMINUM CONSTRUCTION | 1, 2, 3 |
| | | | | 140 - 245 | 8 | 0.038 | | | |
| B | TITUS | OMNI | SUPPLY | 25 - 135 | 6 | 0.017 | 26 | 24" X 24", ALUMINUM CONSTRUCTION | 1, 2, 3 |
| | | | | 140 - 245 | 8 | 0.018 | | | |
| | | | | 250 - 375 | 10 | 0.020 | | | |
| | | | | 380 - 650 | 12 | 0.020 | | | |
| C | TITUS | 50F | RETURN / EXHAUST | 0 - 500 | 24 X 12 | 0.060 | 20 | 24" X 12" EGG CRATE GRILLE, 1/2" GRATING | 1, 2, 3 |
| D | TITUS | 50F | RETURN / EXHAUST | 0 - 1200 | 24 X 24 | 0.112 | 25 | 24" X 24" EGG CRATE GRILLE, 1/2" GRATING. | 1, 2, 3 |
| E | TITUS | 350ZFL | RETURN / EXHAUST | 0 - 1375 | 30 X 12 | 0.051 | 20 | 30" X 12" ALUMINUM LOUVERED GRILLE, 3/4" SPACING, 0-DEG DEFLECTION, BLADES PARALLEL TO LONG DIMENSION | 1, 2, 3 |
| F | TITUS | 300FL | SUPPLY | 0 - 355 | 10 X 10 | 0.089 | 20 | 10" X 10" ALUMINUM DOUBLE DEFLECTION SUPPLY GRILLE, 3/4" BLADE SPACING, FRONT BLADES PARALLEL OT LONG DIMENSION | 1, 2, 3 |
| G | PRICE | 610 | RETURN | 205 - 415 | 14 X 8 | 0.022 | 20 | 16" X 10", LOUVERED GRILLE, 1/2" SPACING. | 1, 2, 3 |
| | | | | 540 - 1080 | 18 X 16 | 0.022 | 20 | 20" X 18", LOUVERED GRILLE, 1/2" SPACING. | |
| | | | | 1880 - 5000 | 32 X 20 | 0.022 | 35 | 34" X 22", LOUVERED GRILLE, 1/2" SPACING. | |

NOTES:
1. PROVIDE STANDARD WHITE FINISH FOR ALL AIR DEVICES UNLESS NOTED OTHERWISE ON PLAN.
2. PROVIDE FRAME FOR MOUNTING AIR DEVICE IN LAY-IN GRID CEILING UNLESS REFLECTED CEILING PLAN INDICATES HARD CEILING. IN AREAS WITH HARD CEILINGS, PROVIDE FRAMES FOR SURFACE MOUNTING.
3. UNLESS OTHERWISE NOTED, BRANCH DUCTS SERVING AIR DEVICES SHALL BE SAME SIZE AS NECK OF AIR DEVICE.


Open studio architecture
6122 DeZavala Rd.
San Antonio, Texas 78249
Tel: 210.417.4307
www.openstudio-usa.com


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TEXAS REGISTERED ENGINEERING FIRM F-10487
7550 IH 10 W, SUITE 350
San Antonio, TX 78229
www.rgmengineering.net
phone: 210.299.4522
fax: 210.299.4525

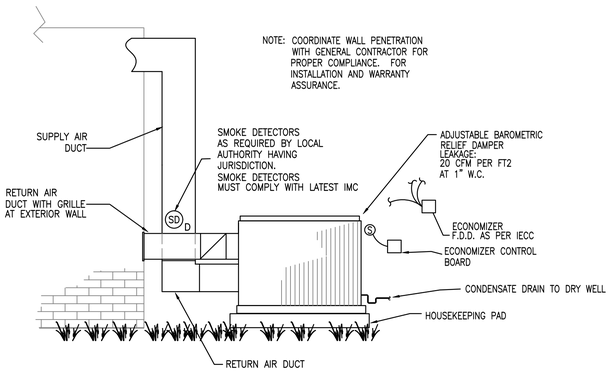

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NEW BRAUNFELS, TX 78130

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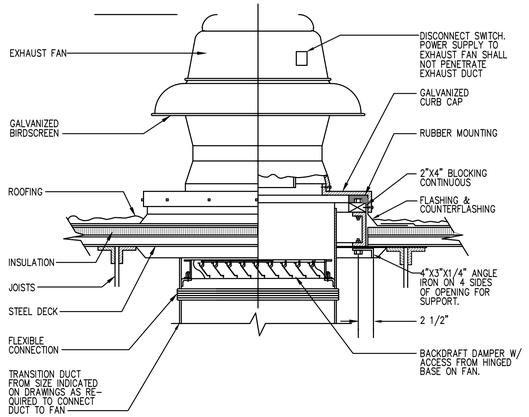
**MECHANICAL SCHEDULES**

drawing number:

**M201**

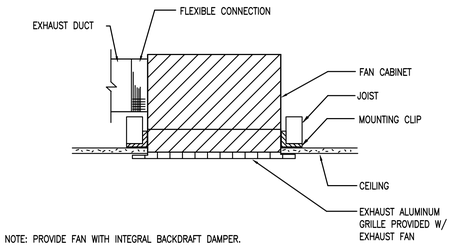



## 1 ROOFTOP UNIT GROUND MOUNTING DETAIL
SCALE: NOT TO SCALE



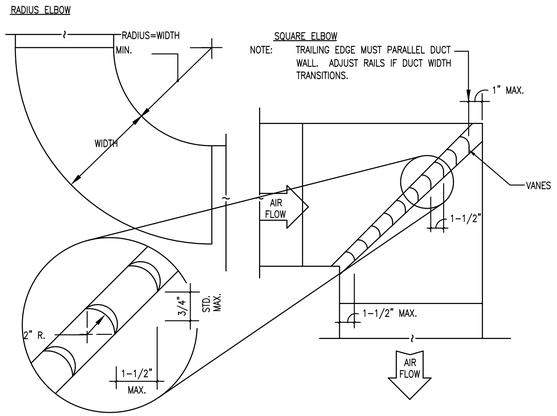

## 2 ROOF EXHAUST FAN DETAIL
SCALE: NOT TO SCALE

NOTE: COORDINATE ROOF PENETRATION WITH ROOFING CONTRACTOR FOR PROPER COMPLIANCE. FOR INSTALLATION AND WARRANTY ASSURANCE.



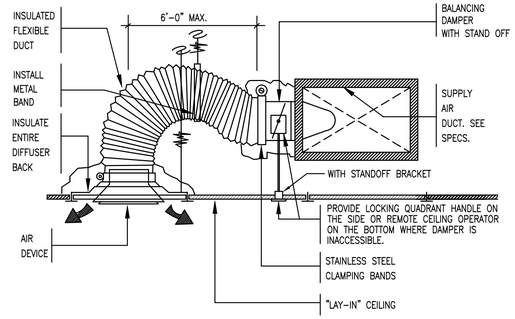

NOTE: PROVIDE FAN WITH INTEGRAL BACKDRAFT DAMPER.

## 3 CEILING MOUNTED FAN DETAIL
SCALE: NOT TO SCALE

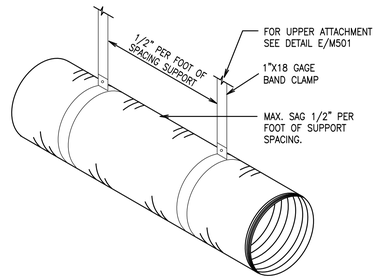



## 4 TYP. DUCT ELBOW
SCALE: NOT TO SCALE

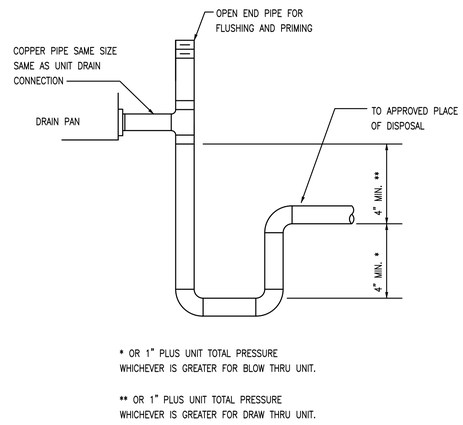
MAXIMUM ALLOWABLE LENGTH OF FLEX DUCT RUNOUTS TO SUPPLY DIFFUSERS = 6'-0". FLEX DUCT IS NOT ALLOWED ON EXHAUST. RETURN, AND EXPOSED DUCTWORK.




## 5 FLEXIBLE DUCT AND TAP DETAIL
SCALE: NOT TO SCALE



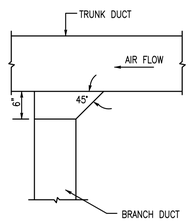

## 6 FLEXIBLE DUCT SUPPORT DETAIL
SCALE: NOT TO SCALE




* OR 1" PLUS UNIT TOTAL PRESSURE WHICHEVER IS GREATER FOR BLOW THRU UNIT.

** OR 1" PLUS UNIT TOTAL PRESSURE WHICHEVER IS GREATER FOR DRAW THRU UNIT.

## 7 CONDENSATE DRAIN TRAP DETAIL
SCALE: NOT TO SCALE




## 8 DUCT BRANCH DETAIL
SCALE: NOT TO SCALE

Open studio architecture
6122 DeZavala Rd.
San Antonio, Texas 78249
Tel: 210.417.4307
www.openstudio-usa.com

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY
ROGER G. MENDEZ, P.E. 93809
ON 07/21.20 26

STATE OF TEXAS
ROGER G. MENDEZ
93809
REGISTERED PROFESSIONAL ENGINEER

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| Revisions | | |
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| Number | Description | Date |

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RGM ENGINEERING
TEXAS REGISTERED ENGINEERING FIRM F-10487
7550 IH 10 W, SUITE 350
SAN ANTONIO, TX 78229
WWW.RGMENGINEERING.NET
PHONE: 210.299.4522
FAX: 210.299.4525

**CAMP BOW WOW**
1450 N. BUSINESS 35
NEW BRAUNFELS, TX 78130

project #: 26-028
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**MECHANICAL DETAILS**

drawing number:

**M301**

## HEATING, VENTILATION AND AIR CONDITIONING SPECIFICATIONS
DIVISION 15 – MECHANICAL
SECTION – 15700

### 15700.01 GENERAL

A. PROVISIONS OF THE GENERAL CONDITIONS AND SUPPLEMENTARY GENERAL CONDITIONS, WHETHER ATTACHED HERETO OR NOT, SHALL GOVERN ALL WORK UNDER THIS SECTION.

B. ALL WORK COVERED UNDER THE FOLLOWING HVAC SPECIFICATIONS AND CONTRACT DRAWINGS IS TO BE PROVIDED AND INSTALLED BY AND IS TO BE THE RESPONSIBILITY OF THE HVAC CONTRACTOR, HERE IN REFERRED TO AS THE CONTRACTOR.

C. WHERE MANUFACTURERS' NAMES, CATALOG NUMBERS, OR TRADE NAMES APPEAR IN THE SPECIFICATIONS, IT IS NOT THE INTENT TO RESTRICT OR ELIMINATE COMPETITION, BUT MERELY TO ESTABLISH QUALITY OF MATERIAL REQUIRED. WHERE THE WORDS "OR APPROVED EQUAL" APPEAR THE "EQUAL" ITEM MUST CONFORM TO THE REQUIREMENTS OF THE SPECIFICATIONS AND MUST BE SUBMITTED WITH COMPLETE INFORMATION TO THE ENGINEER FOR APPROVAL. IT IS IMPORTANT TO NOTE THAT ALL COSTS OF ADDITIONAL WORK REQUIRED OF OTHER TRADES CAUSED BY A SUBSTITUTION OF EQUIPMENT AND/OR MATERIALS SHALL BE BORNE BY THE CONTRACTOR.

D. FOR FURTHER DETAILS OF THE INSTALLATION REQUIREMENTS, REFER TO THE FIXTURE PLANS, REFRIGERATION SCHEDULES, FLOOR PLANS, PLUMBING PLANS, ELECTRIC PLANS, AIR CONDITIONING, HEATING AND VENTILATION PLANS, MANUFACTURER'S INSTALLATION INSTRUCTIONS AND ALL APPLICABLE CODES AND ORDINANCES.

E. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL REQUIRED COMPONENTS AND ACCESSORIES NECESSARY TO FACILITATE A COMPLETE INSTALLATION, INCLUDING ALL LABOR REQUIRED TO COMPLETE THE INSTALLATION AND PERFORM THE SERVICE COVERED BY THIS SPECIFICATION. THE CONTRACTOR IS RESPONSIBLE FOR UNLOADING, ASSEMBLING, AND INSTALLING ALL HVAC EQUIPMENT AND RELATED ITEMS UNLESS OTHERWISE SPECIFIED.

F. THE CONTRACTOR SHALL FAMILIARIZE THEMSELF WITH THE PROJECT AND SHALL COOPERATE WITH OTHER CONTRACTORS DOING WORK IN THE BUILDING. IF ANY CONFLICT, INTERFERENCE OR DISCREPANCIES COME TO THE ATTENTION OF THE CONTRACTOR, HE SHALL NOTIFY THE ENGINEER IMMEDIATELY, BEFORE PROCEEDING ANY FURTHER WITH THE INSTALLATION.

G. NO ADDITIONAL PAYMENT OVER AND ABOVE THE CONTRACT PRICE WILL BE MADE UNLESS THE CONTRACTOR RECEIVES A WRITTEN ORDER BY THE OWNER OR HIS REPRESENTATIVE FOR THE ADDITIONAL WORK.

H. PRIOR TO SUBMITTING THE PROPOSALS, THE CONTRACTOR SHALL EXAMINE ALL DRAWINGS, SPECIFICATIONS, AND OTHER AVAILABLE ESTIMATING DATA, AND SHALL BECOME FULLY INFORMED AS TO THE EXTENT AND CHARACTER OF THE WORK REQUIRED, AND IT'S RELATION TO THE OTHER WORK IN THIS PROJECT. NO CONSIDERATION WILL BE GIVEN FOR ANY ALLEGED MISUNDERSTANDING OF THE MATERIALS TO BE FURNISHED OR WORK TO BE DONE; IT SHALL BE CLEARLY UNDERSTOOD THAT THE SUBMISSION OF A PROPOSAL INDICATES A COMPLETE UNDERSTANDING OF AND AGREEMENT TO ALL THE ITEMS AND CONDITIONS SPECIFIED HEREIN, OR INDICATED ON THE DRAWINGS.

I. PLANS AND SPECIFICATIONS ARE COMPLEMENTARY TO EACH OTHER, ANY DISCREPANCIES INDICATED ON DIFFERENT DRAWINGS, OR BETWEEN DRAWINGS AND SPECIFICATIONS, OR BETWEEN DRAWINGS AND ACTUAL FIELD CONDITIONS, OR ERRORS SHOWN ON EITHER DRAWINGS OR SPECIFICATIONS SHALL BE PROMPTLY BROUGHT TO THE ATTENTION OF RGM ENGINEERING AND ASSOCIATES, INC. FOR DECISION PRIOR TO BID SUBMISSION.

J. COMPLY WITH THE LATEST APPLICABLE REQUIREMENTS OF THE IMC, IECC, NFPA AND THE LOCAL INSPECTION AUTHORITY WHO SHALL HAVE FINAL JURISDICTION. COMPLY ALSO WITH ALL REQUIREMENTS OF AMENDMENTS TO THE CODES FROM AUTHORITY HAVING JURISDICTION.

### 15700.02 DESIGN CONDITIONS

A. OUTDOOR DESIGN CONDITIONS ARE TO CONFORM TO VALUES FOR THE SPECIFIC LOCATION AS OUTLINED IN ASHRAE HANDBOOK FUNDAMENTALS VOLUME, LISTED IN CHAPTER 26 TABLE 1A, FROM COLUMNS OF 99.6% VALUES FOR HEATING AND 0.4% VALUES FOR COOLING.

B. INDOOR DESIGN TEMPERATURES FOR MAIN SALES AREA ARE INDICATED ON THE PLANS. ALL OTHER HEATED AND COOLED AREAS ARE TO MAINTAIN 70 DEG. F. HEATING AND 75 DEG. F. COOLING DURING OCCUPIED HOURS AT PUBLISHED OUTDOOR CONDITIONS. UNOCCUPIED REQUIREMENTS SHALL BE IN ACCORDANCE WITH INTERNATIONAL CODE SETBACK REQUIREMENTS.

C. INDOOR DESIGN RELATIVE HUMIDITY SHALL NOT EXCEED 30 PERCENT FOR HEATING. THE ACTUAL DESIGN RELATIVE HUMIDITY FOR COOLING SHALL BE WITHIN THE COMFORT ENVELOPE AS DEFINED IN ASHRAE 55, LISTED IN APPENDIX A, AND SELECTED FOR THE MINIMUM SYSTEM ENERGY USE FOR AIR CONDITIONING AND VENTILATION AND IN ACCORDANCE WITH THE OPERATING REQUIREMENTS OF THE DISPLAY FIXTURES, WHICH SHALL NOT EXCEED 55% RH.

### 15700.03 SCOPE OF WORK

A. THE CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, EQUIPMENT, RIGGING, APPLIANCES, TOOLS AND ACCESSORIES REQUIRED TO PROVIDE, INSTALL, CONNECT, AND TEST THE COMPLETE HEATING, VENTILATING AND AIR CONDITIONING SYSTEM AND ASSOCIATED EQUIPMENT IN ACCORDANCE WITH THESE SPECIFICATIONS AND THE APPLICABLE DRAWINGS.

B. THE HVAC CONTRACTOR SHALL GIVE ALL NECESSARY NOTICES, OBTAIN ALL PERMITS AND PAY ALL TAXES, FEES AND OTHER COSTS IN CONNECTION WITH HIS WORK. THE CONTRACTOR SHALL FILE ALL NECESSARY APPROVALS OF ALL DEPARTMENTS HAVING JURISDICTION, AND OBTAIN ALL REQUIRED CERTIFICATES OF INSPECTION FOR HIS WORK AND DELIVER SAME TO THE ARCHITECT BEFORE REQUEST FOR ACCEPTANCE AND FINAL PAYMENT FOR THE WORK. THE CONTRACTOR SHALL INCLUDE IN HIS SCOPE OF WORK, WITHOUT EXTRA COST TO THE OWNER, ALL LABOR, MATERIALS, SERVICES, APPARATUS, DRAWINGS (IN ADDITION TO CONTRACT DRAWINGS AND DOCUMENTS), IN ORDER TO COMPLY WITH ALL APPLICABLE CODES, LAWS, ORDINANCES, RULES AND REGULATIONS.

C. ALL MATERIALS FURNISHED AND ALL WORK INSTALLED SHALL BE IN STRICT ACCORDANCE WITH THE REQUIREMENTS OF THE OWNER AND ALL APPLICABLE CODES AND REGULATIONS, INCLUDING BUT NOT LIMITED TO THE LATEST APPLICABLE EDITIONS OF THE ASHRAE GUIDE AND DATA BOOK, UL, ASME, NEMA, IBR, AMCA, NEC, NFPA, IEEE, OSHA, SMACNA, UNIFORM BUILDING AND MECHANICAL CODES.

D. IN ADDITION, THE CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE THAT ALL HVAC WORK IS PROVIDED AND INSTALLED IN STRICT ACCORDANCE WITH STATE AND LOCAL CODE SEISMIC RESTRAINT REQUIREMENTS.

E. SCOPE OF WORK SHALL INCLUDE, BUT NOT BE LIMITED TO:

* ROOFTOP HVAC UNITS
* EXHAUST FANS
* SHEET METAL WORK AND INSULATION
* AIR DEVICES INCLUDING DIFFUSERS, REGISTERS AND GRILLES
* SYSTEM TEST AND BALANCE
* WARRANTY FOR ONE YEAR

### 15700.04 CONTRACT DRAWINGS

A. THE DRAWINGS ARE INTENDED TO SHOW THE GENERAL ARRANGEMENT AND THE EXTENT OF THE WORK TO BE DONE, HOWEVER, THE EXACT LOCATION AND ARRANGEMENT OF ALL PARTS SHALL BE DETERMINED AS THE WORK PROGRESSES.

B. THE LOCATIONS OF ALL PIPING, DUCTS AND EQUIPMENT AS SHOWN ON THE PLANS ARE APPROXIMATELY CORRECT, BUT THEY ARE SUBJECT TO SUCH MODIFICATIONS AS MAY BE NECESSARY AT THE TIME OF INSTALLATION TO MEET ANY CONDITIONS. SUCH CHANGES SHALL BE IMMEDIATELY REVIEWED WITH THE ENGINEER AND INSTITUTED BY THIS CONTRACTOR WITHOUT EXTRA COST.

C. THE LOCATIONS OF ALL PARTS AND EQUIPMENT SHALL BE COORDINATED WITH THE WORK OF ALL OTHER TRADES PRIOR TO SUBMITTING SHOP DRAWINGS FOR FABRICATION AND EQUIPMENT PURCHASE APPROVALS.

### 15700.05 SHOP DRAWING REVIEWS AND APPROVALS

A. ALL DETAILED EQUIPMENT CUTS, SHOP DRAWINGS, SUBSTITUTIONS, CHANGES, ETC. MUST BE SUBMITTED TO ARCHITECT, ENGINEER AND OWNER REPRESENTATIVE FOR FINAL REVIEW AND APPROVAL PRIOR TO PURCHASING, FABRICATING OR INSTALLING ANY PORTION OF THE HVAC CONTRACT.

B. SHOP DRAWINGS MUST SHOW ALL HVAC COMPONENTS WITH DUCTWORK DRAWN IN DOUBLE LINE, AT A SCALE OF 1/4" = 1'-0". THESE DRAWINGS MUST BE FULLY DETAILED, DIMENSIONED AND COORDINATED, INDICATING ALL OTHER TRADES AND DISCIPLINES.

C. FURNISH TO THE ARCHITECT/ENGINEER FOR REVIEW, SIX(6) COPIES OF SUCH EQUIPMENT SUBMITTALS AND SETTING DRAWINGS OR DIAGRAMS AS MAY BE REQUIRED FOR THE PROPER EXECUTION OF THE WORK. PROVIDE THREE (3) SETS OF DRAWINGS FOR ALL SHEET METAL WORK TO ARCHITECT/ENGINEER FOR USE IN REVIEW PROCESS.

D. CONTRACTORS MAY MAKE NECESSARY ADJUSTMENTS TO SUIT CONDITIONS AND IN ORDER TO COMPLY WITH THE GUARANTEE OF PERFORMANCE OF THE SYSTEMS. APPROVALS MUST BE OBTAINED FROM THE ARCHITECT/ENGINEER BEFORE PROCEEDING WITH THE INSTALLATION CHANGES.

E. APPROVALS MUST ALSO BE OBTAINED FROM LOCAL AND STATE AUTHORITIES, INSURANCE UNDERWRITERS, OR OTHER AGENCIES HAVING JURISDICTION.

F. ALL WIRING DIAGRAMS OF THERMOSTATS, DAMPERS, INTERLOCKS ETC. SHALL BE INCLUDED ON SHOP DRAWINGS OR IF SUBMITTED SEPARATELY, SIX COPIES SHALL BE PROVIDED PRIOR TO ANY INSTALLATION OF THE HVAC CONTRACT.

G. UPON OWNER REQUEST, CONTRACTOR IS TO SUBMIT ACCURATE AS-BUILT SHOP DRAWINGS IN DIGITAL FORMAT REFLECTING ALL CHANGES TO THE MECHANICAL PLANS PRIOR TO REQUESTING FINAL PAYMENT.

### 15700.06 DETAILS OF EQUIPMENT

A. SUBMIT FOR APPROVAL SIX (6) COPIES OF THE MANUFACTURER'S DETAILED CERTIFIED DIMENSIONAL DRAWINGS OF ALL EQUIPMENT.

### 15700.07 SUBSTITUTIONS

A. AS NOTED ON THE PLANS AND DESCRIBED ON THE SCHEDULES, SUBSTITUTIONS MUST SATISFY ALL REQUIREMENTS AND MUST BE APPROVED BY THE ARCHITECT/ENGINEER.

### 15700.08 MATERIALS AND LABOR

A. ALL MATERIALS SHALL BE NEW AND MUST MEET THE STANDARDS AS STIPULATED IN THE LATEST EDITION OF ASHRAE GUIDE AND DATA BOOK.

B. GOOD WORKMANSHIP AND LABOR SHALL BE PERFORMED BY QUALIFIED MECHANICS AND MUST COMPLY WITH ASHRAE STANDARDS.

### 15700.09 ORDINANCES, SERVICES, PERMITS AND FEES

A. AS REQUIRED FOR THE PROPER INSTALLATION, ALL WORK SHALL BE PROVIDED BY THE CONTRACTOR IN FULL ACCORDANCE WITH THE REQUIREMENTS OF ALL LOCAL, STATE AND NATIONAL BUREAUS, BOARD OF FIRE UNDERWRITERS AND AUTHORITIES HAVING JURISDICTION, WITHOUT ADDITIONAL EXPENSE TO THE OWNER.

B. CONTRACTOR SHALL PAY FOR AND OBTAIN ALL NECESSARY PERMITS PRIOR TO WORK COMMENCEMENT.

C. CONTRACTOR SHALL PREPARE, AT HIS EXPENSE, ANY AND ALL SHOP DRAWINGS AS REQUIRED TO OBTAIN PERMITS AND APPROVALS.

D. THESE DOCUMENTS SHALL BE SIGNED AND SEALED BY A DULY LICENSED ENGINEER AS REQUIRED BY THE AUTHORITIES HAVING JURISDICTION.

### 15700.10 CHASES, CUTTING, PATCHING, ETC.

A. ALL CHASES, ROOF OPENINGS, CUTTING AND PATCHING SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FURNISH FULL INFORMATION REGARDING SIZE AND LOCATIONS, AND DETAILS OF ALL REQUIRED OPENINGS, CHASES OR OTHER PROVISIONS FOR THIS WORK TO THE GENERAL CONTRACTOR.

B. SHOULD ANY CUTTING AND PATCHING BE NECESSARY AS A RESULT OF FAILURE TO FURNISH SUCH INFORMATION IN A TIMELY MANNER, IT WILL THEN BE DONE BY THE GENERAL CONTRACTOR AT THE EXPENSE OF THE CONTRACTOR.

### 15700.11 TEMPORARY LIGHT AND POWER

A. THE ELECTRICAL CONTRACTOR ARRANGES FOR, INSTALLS AND MAINTAINS TEMPORARY LIGHT AND POWER AS DESCRIBED IN THE ELECTRICAL SPECIFICATIONS.

B. IT WILL BE THE DUTY OF THE CONTRACTOR TO ACQUAINT HIMSELF WITH THE LIMITATIONS OF THIS SERVICE BY THE ELECTRICAL CONTRACTOR, AND TO PLAN HIS WORK ACCORDINGLY.

### 15700.12 TEMPORARY HEAT

A. TEMPORARY HEAT FOR CONSTRUCTION PURPOSES AND FOR DRYING OUT THE BUILDING SHALL BE PROVIDED WHEN ORDERED BY THE GENERAL CONTRACTOR AND COSTS THEREOF WILL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.

B. REFER TO THE GENERAL CONDITIONS WHEREIN TEMPORARY HEAT IS PROVIDED BY THE GENERAL CONTRACTOR AT HIS EXPENSE.

C. THE USE OF THE PERMANENT HEATING SYSTEM FOR TEMPORARY HEAT IS AT THE DIRECTION AND EXPENSE OF THE GENERAL CONTRACTOR AND SHALL NOT OBLIGATE THE OWNERS IN ANY MANNER WHATEVER.

### 15700.13 ELECTRICAL WORK

A. THE ELECTRICAL CONTRACTOR SHALL FURNISH ALL LABOR AND MATERIALS FOR POWER WIRING AND CONNECTIONS OF ALL EQUIPMENT AND CONTROLS. THE CONTRACTOR SHALL PROVIDE CONTROL COMPONENTS AND WIRING DIAGRAMS FOR ALL HVAC EQUIPMENT TO ELECTRICAL CONTRACTOR AS REQUIRED. THE ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL ALL CONTROL WIRING, AND THE CONTRACTOR SHALL SUPERVISE ITS INSTALLATION WHEN REQUESTED.

B. THE DELIVERY OF ALL CONTROL COMPONENTS SHALL BE SCHEDULED SO AS NOT TO DELAY THE PROJECT. THE CONTRACTOR SHALL RECEIVE A SIGNED, DATED RECEIPT OF ALL ITEMS DELIVERED TO ELECTRICAL CONTRACTOR.

C. FUSED DISCONNECT SWITCHES WHERE REQUIRED, WILL BE FURNISHED BY THE HVAC CONTRACTOR UNLESS SPECIFICALLY NOTED TO BE SUPPLIED BY THE ELECTRICAL CONTRACTOR. WEATHERPROOF FUSED DISCONNECTS SHALL BE FURNISHED FOR ALL OUTDOOR AND WET, INDOOR APPLICATIONS.

D. HVAC CONTRACTOR SHALL PROVIDE ALL MOTOR STARTERS AS FOLLOWS: MOTORS 1/2 HP AND LARGER SHALL BE PROVIDED WITH COMBINATION UNFUSED LINE SWITCH AND CROSS-THE-LINE MAGNETIC STARTERS WITH START-STOP PUSH BUTTONS AND PILOT LIGHTS UNLESS AUTOMATIC CONTROL IS REQUIRED. IN THIS CASE, STARTERS ARE TO BE PROVIDED WITH H.O.A. SELECTOR SWITCH AND CONTROL TRANSFORMER. ALL MOTORS BELOW 1/2 HP WHICH ARE NOT AUTOMATICALLY CONTROLLED SHALL BE PROVIDED WITH MANUALLY OPERATED STARTERS. ALL STARTERS SHALL BE BUILT AND RATED IN ACCORDANCE WITH NEMA AND AIEE STANDARDS. ALL STARTERS TO INCLUDE THERMAL OVERLOAD RELAYS AND HEATERS PROPERLY SIZED TO PROTECT MOTOR. ALL POLY-PHASE MOTORS SHALL BE PROVIDED WITH PHASE PROTECTION.

E. THE CONTRACTOR TO VERIFY ALL ELECTRICAL POWER ON JOB SITE PRIOR TO ORDERING NEW EQUIPMENT.

F. THE CONTRACTOR SHALL PROVIDE ALL SMOKE DETECTORS FOR EMERGENCY SHUTDOWN TO COMPLY TO THE LATEST STATE & NFPA 90A CODES.

### 15700.14 LABELING

A. ALL CONTROL DEVICES SHALL BE CLEARLY LABELED WITH PLASTIC NAME PLATES WITH NUMBERS AND LETTERS NO LESS THAN 3/8" IN HEIGHT. A FRAMED PERMANENT OPERATING WIRING DIAGRAM SHALL BE LOCATED NEAR EACH SYSTEM SO THAT OPERATION OF THAT SYSTEM IS READILY AVAILABLE AT ALL TIMES. INTERNAL WIRING DIAGRAM OF INDIVIDUAL RELAYS, SHALL ALL BE LOCATED IN THEIR RESPECTIVE BOXES.

### 15700.15 SCHEDULING REQUIREMENTS

A. THE CONTRACTOR SHALL PERFORM HIS WORK IN THE BUILDING WHEN AND AS DIRECTED, AND GENERALLY IN ACCORDANCE WITH THE SEQUENCE OF CONSTRUCTION AND OPERATION OF THE BUILDING, SO AS TO CAUSE THE LEAST POSSIBLE INCONVENIENCE AND DISTURBANCE TO THE OTHER TRADES, OWNER AND OCCUPANTS.

B. CONSULT WITH THE GENERAL CONTRACTOR FOR SEQUENCE OF CONSTRUCTION PRIOR TO SUBMITTING BID. SOME OR ALL OF THIS WORK MAY BE PERFORMED IN PHASES OR ON AN OVERTIME SCHEDULE. BID SHALL INCLUDE ALL SUCH PREMIUM TIME COSTS AND SHALL ELIMINATE ANY SUBSEQUENT REQUESTS FOR EXTRA COMPENSATION.

### 15700.16 COORDINATION

A. ALL WORK SHALL BE COORDINATED WITH THE STRUCTURAL, MECHANICAL, ELECTRICAL, PLUMBING, ARCHITECTURAL, FIRE PROTECTION AND LIGHTING DRAWINGS APPLYING TO THIS PROJECT PRIOR TO SUBMITTING SHOP DRAWINGS FOR FABRICATION APPROVAL.

B. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH ALL INVOLVED PARTIES AND PREPARE A SHOP DRAWING WHICH WILL ACCURATELY LOCATE AND DIMENSION ALL REQUIRED ROOF OPENINGS, CURBS AND SUPPORT PLATFORMS BASED UPON APPROVED EQUIPMENT SUBMITTALS.

C. ALL DIFFUSERS AND CEILING RETURNS SHALL BE COORDINATED WITH LIGHTING, SPEAKERS, SPRINKLER HEADS, ETC. IN FIELD WITH OWNER, TENANT AND ARCHITECT.

### 15700.17 RIGGING

A. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE RIGGING, HOISTING AND FASTENING INTO PLACE ALL EQUIPMENT UNDER THIS CONTRACT AND SHALL COORDINATE WITH THE GENERAL CONTRACTOR REGARDING THE LOCATION OF ALL EQUIPMENT WITHIN, OUTSIDE AND ON TOP OF THE BUILDING TO INSURE PROPER ACCESS, SAFETY AND PROTECTION OF PEOPLE AND BUILDING SYSTEMS.

B. WHERE EQUIPMENT MUST BE MOVED OVER THE ROOF, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REINFORCING AND PROTECTING THE ROOF STRUCTURE AS REQUIRED TO AVOID OVERLOADING. SUCH SITUATIONS MUST BE APPROVED BY THE ARCHITECT AND STRUCTURAL ENGINEER PRIOR TO MOVING EQUIPMENT.

### 5700.18 ROOF PROTECTION

A. WHEN WORKING ON THE FINISHED ROOF, THE CONTRACTOR MUST PROVIDE PLYWOOD SHEETS TO PROTECT ROOFING AND MUST TAKE ALL PRECAUTIONS TO AVOID DAMAGING THE ROOF. NO OPENINGS SHALL BE CUT IN THE ROOF AFTER THE ROOFING HAS BEEN COMPLETED UNLESS THEY ARE INSTALLED BY THE ROOFING CONTRACTOR, PAID FOR BY THE CONTRACTOR AND COORDINATED WITH THE GENERAL CONTRACTOR.

### 15700.20 FLASHING & CURBS

A. ALL DUCTS AND PIPING PASSING THROUGH THE ROOF SHALL BE FITTED WITH INSULATED CURBS, FLASHING COLLARS, RINGS OR SIMILAR DEVICES TO PROVIDE WATERTIGHT PROTECTION.

B. PROVIDE PRE-FAB CURBS AROUND ALL ROOF OPENINGS AND FLASHINGS TO MAKE WATERTIGHT OPENINGS. INCLUDE PITCH COLLARS AROUND ALL OPENINGS WHICH DO NOT HAVE CURBS. ALL CURBS TO SET ON ROOF STEEL, NOT DECKING AND ALL EQUIPMENT TO BE SET LEVEL. THE CONTRACTORS SHALL PROVIDE TAPERED CURBS AS REQUIRED.

C. FLASHINGS AND CURB WORK SHALL ALL BE INSTALLED IN COORDINATION WITH THE WORK OF THE ROOFING AND GENERAL CONTRACTORS.

D. FURNISH AND INSTALL PATE EQUIPMENT SUPPORTS FOR ROOF MOUNTED CONDENSING UNITS, UTILITY TYPE FANS, CHILLERS, ETC. ALL EQUIPMENT SUPPORTS SHALL BE PROPERLY SECURED TO BUILDING STRUCTURE. PROVIDE FLASHING AND COUNTER FLASHING TO MAKE WATERTIGHT CONSTRUCTION.

### 15700.21 FIRE RATED CONSTRUCTION

A. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY FROM THE ARCHITECTURAL PLANS, AREAS IN THE BUILDING WHICH HAVE BEEN DESIGNATED AS HAVING A FIRE RATING AND PROVIDE AND INSTALL THE NECESSARY FIRE DAMPERS WITH ACCESS DOORS. IF ANY DISCREPANCY EXISTS BETWEEN THE INDICATED AND REQUIRED FIRE DAMPER REQUIREMENTS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO BID DATE.

B. THE CONTRACTOR MUST PROVIDE ALL FIRE RATED, DAMPERS, DIFFUSERS, GRILLES, REGISTERS, FIRE LINKS, ETC., IN ORDER TO COMPLY WITH ALL APPLICABLE CODES FOR FIRE RATED CONSTRUCTION, EVEN IF NOT EXPLICITLY SHOWN ON DRAWINGS.

### 15700.22 TEST & INSPECTIONS

A. THE CONTRACTOR SHALL PERFORM TESTS AND INSPECTIONS TO THE COMPLETE DUCT INSTALLATION FOR ANY LEAKS, DEFECTS OR DEFICIENCIES. ALL SUCH DEFICIENCIES DISCOVERED AS A RESULT OF THE TESTS, SHALL BE IMMEDIATELY REPAIRED.

B. THE CONTRACTOR SHALL MAKE ALL NECESSARY ADJUSTMENTS AND CORRECTIONS TO THE HEATING, VENTILATING AND AIR CONDITIONING SYSTEMS FOR THE PURPOSE OF EQUALIZING THE FLOW OF AIR. ANY DAMPERS, DEFLECTORS OR DIFFUSERS NECESSARY TO BRING ABOUT THIS ADJUSTMENT, WHETHER SPECIFICALLY SHOWN AND SPECIFIED OR NOT, SHALL BE PROVIDED BY THE CONTRACTOR.

C. EQUIPMENT AND SYSTEMS WHICH NORMALLY OPERATE DURING CERTAIN SEASONS OF THE YEAR SHALL BE TESTED DURING THE APPROPRIATE SEASON. TESTS SHALL BE PERFORMED ON INDIVIDUAL EQUIPMENT, SYSTEMS, AND THEIR RESPECTIVE CONTROLS.

D. WHENEVER THE EQUIPMENT OR SYSTEM UNDER TEST IS INTERRELATED WITH, AND DEPENDS UPON THE OPERATION OF OTHER EQUIPMENT, SYSTEMS AND CONTROLS FOR PROPER OPERATION, THE LATTER SHALL BE OPERATED SIMULTANEOUSLY WITH THE EQUIPMENT OR SYSTEM BEING TESTED.

E. AIR LEAKAGE TEST -- THE COMPLETE AIR HANDLING SYSTEMS, ALL VENTILATING EXHAUST SYSTEMS, INCLUDING ALL CONVENTIONAL SUPPLY AND RETURN DUCTWORK SHALL BE TESTED. LEAKAGE SHALL NOT EXCEED 5% OF RATED CFM AT RATED PRESSURE. ALL THE AIR LEAKS FOUND SHALL BE CORRECTED WITHIN ACCEPTABLE MARGIN.

F. THE CONTRACTOR SHALL DEMONSTRATE THAT ALL EQUIPMENT AND APPARATUS FULFILLS THE REQUIREMENTS OF THE SPECIFICATIONS.

G. ALL WORK PROVIDED UNDER THE CONTRACT SHALL OPERATE WITHOUT ANY OBJECTIONABLE NOISE OR VIBRATION. SHOULD OPERATION OF ANY ONE OR MORE OF THE SYSTEMS PRODUCE NOISE, OR VIBRATION, WHICH IS IN THE OPINION OF THE ENGINEER OBJECTIONABLE, THE CONTRACTOR SHALL AT HIS OWN EXPENSE MAKE CHANGES IN EQUIPMENT, ETC., AND DO ALL WORK NECESSARY TO ELIMINATE THE OBJECTIONABLE NOISE OR VIBRATION.

### 15700.23 OPERATING INSTRUCTIONS

A. THREE COPIES OF THE OPERATING INSTRUCTIONS, SEQUENCE OF OPERATIONS AND CONTROL DIAGRAMS FOR THE HEATING, VENTILATING AND AIR CONDITIONING SYSTEM SHALL BE GIVEN TO THE OWNER, TOGETHER WITH MAINTENANCE SCHEDULING AND SERVICE DATA.

### 15700.24 OPERATIONS

A. THE HVAC CONTRACTOR SHALL HAVE COMPETENT MECHANICAL PERSONNEL PRESENT TO OWNER PROPER OPERATION OF ALL EQUIPMENT.

### 15700.25 BALANCING

A. NEBB CERTIFIED BALANCING CONTRACTOR MUST BE A COMPANY WHICH IS INDEPENDENT OF THE MECHANICAL CONTRACTOR AND BE APPROVED FOR USE BY THE ENGINEER PRIOR TO BALANCING THE SYSTEM.

B. BALANCE THE HEATING AND COOLING SYSTEMS TO PROVIDE UNIFORM TEMPERATURES IN ALL HEATED OR COOLED AREAS AND ROOMS.

C. BALANCE NEW AIR SYSTEMS TO QUANTITIES INDICATED AND FURNISH TO OWNER A REPORT INDICATING FAN PERFORMANCE, DIFFUSER, REGISTER AND GRILLE SIZES, LOCATIONS, CFM VALUES, DX COIL BYPASS VALUES, OUTSIDE AIR CFM QUANTITIES, MOTOR HP, RATED AMP, ACTUAL AMP, RATED VOLTAGE, ACTUAL VOLTAGE ETC.

D. THE CONTRACTOR SHALL SUBMIT BALANCE REPORT PRIOR TO FINAL ACCEPTANCE.

### 15700.26 WARRANTY

A. THE CONTRACTOR SHALL WARRANTY IN WRITING ALL MATERIALS AND WORKMANSHIP FOR THE PERIOD OF ONE(1) YEAR FROM DATE OF FINAL ACCEPTANCE BY OWNER. THIS SHALL INCLUDE AN AGREEMENT TO REPAIR AND MAKE GOOD OR REPLACE AT NO COST TO OWNER ANY AND ALL DEFECTS OF HIS WORK, EQUIPMENT, APPARATUS, OR MATERIALS DURING THAT PERIOD, WHICH ARISE FROM INCORRECT WORKMANSHIP, IMPERFECT OR INFERIOR MATERIALS, OR DEFECTIVE EQUIPMENT. THIS WARRANTY SHALL INCLUDE REPLACEMENT OF ALL PARTS OR BASIC COMPONENTS AS REQUIRED INCLUDING LABOR.

B. ALL NEW COMPRESSORS TO BE PROVIDED WITH A TOTAL OF FIVE(5) YEARS WARRANTY PERIOD, LABOR AND PARTS FOR FIRST YEAR, AND PARTS FOR REMAINING FOUR(4) YEARS.

C. WHEN SPECIAL GUARANTEES COVERING INSTALLATION, OPERATION OR PERFORMANCE OF ANY SYSTEMS OR APPLIANCES FURNISHED UNDER THE HVAC CONTRACT ARE HEREIN REQUIRED, THE FULL RESPONSIBILITY FOR FULFILLMENT OF SUCH GUARANTEES MUST BE ASSUMED BY THE HVAC CONTRACTOR, WHO SHALL OBTAIN WRITTEN GUARANTEES IN TRIPLICATE FROM ANY AND ALL SUBCONTRACTORS WITH TWO (2) COPIES TO BE FILED WITH THE ARCHITECT PRIOR TO FINAL ACCEPTANCE.

D. CERTAIN EQUIPMENT HAVE BEEN SPECIFIED WITH STAINLESS STEEL HEAT EXCHANGERS. IF APPROVED ALTERNATES OR A DESIGN CHANGE ON THE SPECIFIED EQUIPMENT RENDERS THIS OPTION UNAVAILABLE THEN AN EQUIVALENT WARRANTY SHALL BE PROVIDED WITH THE STANDARD HEAT EXCHANGER.

### 15700.27 FINAL APPROVAL

A. UPON WRITTEN APPROVAL NOTIFICATION BY THE CONTRACTOR THAT HIS WORK IS COMPLETED AND READY FOR ACCEPTANCE, ALL REQUIRED INSPECTIONS AND TESTS SHALL BE PERFORMED BY THE CONTRACTOR, AS DIRECTED BY, AND IN THE PRESENCE OF THE OWNER. IF FAILURE TO COMPLY WITH THE CONTRACT REQUIREMENTS ARE DISCOVERED, THE HVAC CONTRACTOR SHALL AT ONCE REMEDY ALL DEFECTS AND SHORTCOMINGS AND PERFORM ANY ADDITIONAL REQUIRED TESTS AT HIS EXPENSE.

### 15700.28 FILTER CHANGES

A. HVAC CONTRACTOR MUST NOT OPERATE ANY HVAC UNITS WITHOUT FILTERS INSTALLED DURING CONSTRUCTION SEQUENCE.

B. FILTERS MUST BE CHANGED TWO (2) WEEKS PRIOR TO FINAL BALANCING OF THE SYSTEM. THIS FILTER CHANGE MUST BE WITNESSED BY A REPRESENTATIVE OF THE OWNER.

### 15700.29 MISCELLANEOUS

A. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ALL OF HIS DEBRIS.

B. THE CONTRACTOR SHALL FIELD VERIFY PROJECT REQUIREMENTS, AND EXISTING CONDITIONS PRIOR TO BID SUBMISSION.

C. THE CONTRACTOR SHALL PROVIDE SUFFICIENT FIREPROOF TARPAULINS, AND COVER ALL EQUIPMENT IN WORK AREA WITH SAME DURING WORK OPERATIONS.

D. DO NOT SCALE FROM THE DRAWINGS; FOLLOW WRITTEN DIMENSIONS WHERE GIVEN AND FIELD VERIFY ALL DIMENSIONS WHERE NECESSARY.

E. REFER TO CONTRACT DRAWINGS FOR GENERAL HVAC NOTES.

### 15700.30 SHEET METAL WORK

A. FURNISH AND INSTALL ALL SHEET METAL DUCTWORK, PLENUMS, GOOSENECKS, AND ALL ITEMS OF METAL WORK AS NECESSARY TO COMPLETE THE VARIOUS AIR CONDITIONING, VENTILATING AND HEATING SYSTEMS OF THE BUILDING SO THEY ARE READY FOR SATISFACTORY OPERATION. WHILE THE INSTALLATION SHOULD ADHERE TO THE PLANS AND SPECIFICATIONS AS MUCH AS POSSIBLE, THE CONTRACTOR SHALL BE ENTITLED TO MODIFY THE RUNS AND SIZES OF THE DUCTWORK AND TO MAKE OFFSETS, WHERE NECESSARY TO ACCOMMODATE BUILDING CONDITIONS, ONLY AFTER RECEIPT OF WRITTEN APPROVAL FROM THE ENGINEER. ALL SUCH CHANGES OR OFFSETS SHALL BE INDICATED IN THE "AS-BUILT" DRAWINGS SUBMITTED AT THE END OF THE JOB.

B. PROVIDE DEFLECTOR FINS, TURNING VANES, PLENUMS, FIRE DAMPERS, AIR INTAKES, EXHAUST DUCTS, GOOSENECKS AND ALL ITEMS OF METAL WORK, AS REQUIRED.

C. DUCTWORK SHALL BE CONSTRUCTED ACCORDING TO THE "EQUIPMENT HANDBOOK" PUBLISHED BY ASHRAE AND "HVAC DUCT CONSTRUCTION STANDARDS" PUBLISHED BY SMACNA.

D. SHEET METAL GAUGES, TRANSVERSE JOINTS, LONGITUDINAL SEAMS AND INTERMEDIATE REINFORCING MUST BE IN CONFORMANCE WITH SMACNA STANDARDS AS FOLLOWS:

1) LOW PRESSURE DUCTS PER SMACNA TABLE 2" W.G.
2) MEDIUM PRESSURE DUCTS PER SMACNA TABLE 4" W.G.
3) HIGH PRESSURE DUCTS PER SMACNA TABLE 6" W.G.

E. ALL DUCTWORK SHALL BE CONSTRUCTED OF A MINIMUM OF 26 GAUGE GALVANIZED STEEL OR GREATER OF U.S. STANDARD SHEET METAL GAUGE ONE HOUR FIRE RATED, UNLESS NOTED OTHERWISE ON THE DRAWINGS.

F. ALL CHANGES IN DIRECTION, HORIZONTAL OR VERTICAL, SHALL BE SHAPED TO PERMIT THE EASIEST POSSIBLE AIR FLOW, USING CENTERLINE RADIUS OF 1-1/2 X WIDTH. FOR ALL CASES WHERE 90 DEGREE SQUARE ELBOWS ARE USED, APPROVED DOUBLE THICKNESS TURNING VANES SHALL BE USED. HVAC CONTRACTOR TO SUBMIT DETAILS FOR APPROVAL.

G. ALL DUCTWORK SHALL BE BUILT WITH APPROVED JOINTS AND SEAMS SMOOTH ON THE INSIDE WITH LAPS MADE IN THE DIRECTION OF THE AIR FLOW AND NO FLANGES PROJECTING INTO THE AIR STREAM. OUTSIDE SEAMS AND JOINTS SHOULD BE AS NEAR TO AIR TIGHT AS POSSIBLE WITH A NEAT FINISH. THE CONTRACTOR TO CAULK ALL JOINTS WHICH ARE NOT MECHANICALLY TIGHT.

H. VOLUME DAMPERS AS SHOWN ON DRAWINGS AND AS REQUIRED FOR PROPER OPERATION, SHALL BE INSTALLED IN THE VARIOUS BRANCHES FOR USE IN BALANCING THE SYSTEM. VOLUME DAMPERS SHALL BE OF MULTI-OPPOSED BLADE CONSTRUCTION FOR ALL DUCTS OVER 12" IN DEPTH. ALL VOLUME DAMPERS TO BE OF THE LOCKING QUADRANT TYPE WITH APPROVED LOCKING DEVICES MOUNTED OUTSIDE OF THE DUCT IN AN ACCESSIBLE PLACE.

I. FIRE DAMPERS – WHERE DUCTWORK PIERCES FIRE RATED WALLS, SHAFTS, STOPPING OR FLOORS TYPE B, UL LISTED FIRE DAMPERS SHOULD BE INSTALLED. FIRE DAMPERS SHALL BE AS MANUFACTURED BY AIR BALANCE INC., RUSKIN, OR APPROVED EQUAL. REFER TO THE DRAWINGS FOR SPECIFIC INSTALLATION REQUIREMENTS.

J. ACCESS DOORS SHALL BE PROVIDED IN THE SHEET METAL DUCTWORK WHERE REQUIRED FOR INSPECTION, AUTOMATIC CONTROL DAMPERS, FIRE DAMPERS, FILTERS, OR ANY OTHER APPARATUS CONCEALED BEHIND SHEET METAL WORK. ACCESS DOORS IN INSULATED DUCT SHALL BE DOUBLE PANEL AND INSULATED. ALL ACCESS DOORS TO BE SECURED WITH HEAVY DUTY WINDOW TYPE LATCHES, COMPLETE WITH GASKETS AND FRAMES.

K. ALL DUCTWORK AND PIPING TO BE LOCATED ABOVE THE CEILING SPACE UNLESS OTHERWISE NOTED.

L. ALL SUPPLY AND EXHAUST DUCTWORK SHALL BE HUNG FROM THE TOP OF STRUCTURAL MEMBERS.

M. WHEN USED, ALL GREASE HOOD EXHAUST DUCT SHALL BE WELDED STEEL WITH CURRENT FIRE RATED INSULATION, PROVIDE FIRE RATED ACCESS PANELS WHERE REQUIRED.

### 15700.31 FLEXIBLE CONNECTIONS

A. THE INTAKE AND DISCHARGE COLLARS OF ALL IN-LINE FANS, AIR CONDITIONING UNITS AND HEATERS SHALL BE PROVIDED WITH APPROVED FLEXIBLE CONNECTIONS TO ELIMINATE VIBRATION IN THE DUCTWORK. USE 10 OZ. DOUBLE WOVEN CANVAS CONNECTIONS AND INSTALL IN CLOSE PROXIMITY TO THE HVAC EQUIPMENT.

### 15700.32 FLEXIBLE DUCTWORK

A. USE UL LISTED, STANDARD 181, CLASS 1 AIR DUCT MATERIAL WITH FLAME SPREAD NO HIGHER THAN 25, AND SMOKE DEVELOPMENT NO HIGHER THAN 50.

B. ALL FLEXIBLE DUCTWORK MUST BE INSULATED.

C. FLEXIBLE DUCTWORK IS USED TO ALLOW FOR FLEXIBILITY IN FINAL LOCATION OF DIFFUSERS, GRILLES, AND REGISTERS. LENGTH IS NOT TO EXCEED LINEAR MEASURE OF 5'-0". EXTEND SHEET METAL DUCT WITHIN 5'-0" OF AIR DEVICE FOR COMPLIANCE. FLEXIBLE DUCTWORK IS NOT ALLOWED FOR USE IN ANY PART OF RETURN OR EXHAUST AIR SYSTEMS. FLEXIBLE DUCTS SHALL NOT PASS THROUGH FIRE RATED CONSTRUCTION.

D. FLEXIBLE DUCTWORK IS TO BE INSTALLED WITH GOOD WORKMANSHIP, SUPPORTED 24" ON CERTAIN TO MAINTAIN FULL CROSS SECTIONAL AREA THROUGHOUT.

### 15700.33 DUCT INSULATION

A. ON ALL CONCEALED SUPPLY DUCTWORK, FURNISH AND INSTALL OWENS CORNING FOIL FACED, FIBERGLASS DUCTWRAP WITH AN INSTALLED INSULATING VALUE OF R-6. INSULATION SHALL BE ATTACHED TO SHEET METAL DUCTS BY MEANS OF WIRE, BANDS OR SIMILAR FASTENING. ALL JOINTS AND GAPS IN THE APPLIED INSULATION SHALL BE FILLED WITH MASTIC TO A THICKNESS OF THE APPLIED INSULATION. THIS SHALL APPLY TO ALL HEATING AND COOLING DUCTS, UNLESS OTHERWISE NOTED ON THE PLANS.

B. INTERNALLY LINE ALL EXPOSED SUPPLY DUCTS. FURNISH AND INSTALL NOT LESS THAN 1-1/2" ULTRA LINER, WITH A THERMAL EFFICIENCY OF (.24). APPLY TO METAL WITH ADHESIVE AND FURTHER SECURE WITH WELDED PINS AND SPEED WASHERS 12" O.C. ENSURE THAT IMPRINTED SURFACE FACES AIR STREAM. FURTHERMORE, INSTALL 2" WIDE SHEET METAL NOSING ON LEADING EDGES OF LINER TO PREVENT THE LINER FROM BEING PICKED UP BY AIR FLOW.

C. INSULATION SHALL BE CUT SLIGHTLY LONGER THAN CIRCUMFERENCE OF DUCT TO ENSURE FULL THICKNESS AT CORNERS. INSULATION SHALL BE ADHERED TO DUCT WITH FIRE RESISTANT ADHESIVE, FOSTER 30-33 OR APPROVED EQUAL, APPLIED TO DUCT IN 4" WIDE BRUSH STRIPS, ON 12" CENTERS. INSULATION SHALL BE FURTHER SECURED WITH LOOPS OF #12 WIDTH GAUGE GALVANIZED STEEL WIRE ON 12" CENTERS.

D. DUCT INSULATION SHALL HAVE A VAPOR BARRIER FACING TYPE FSK (.001 ALUMINUM FOIL, GLASS SCRIM, KRAFT) LAMINATE, APPLIED OVER THE INSULATION. ALL JOINTS SHALL BE SEALED WITH 2" SIDE VAPOR BARRIER TAPE SEALED WITH FOSTER 30-33 OR EQUAL.

E. ALL FLEXIBLE DUCTWORK SHALL BE INSULATED.

F. ALL ROUND DUCTWORK SHALL BE INSULATED WITH FIBERGLASS DUCTWRAP.

G. ALL SHEET METAL DUCTWORK LOCATED OUTDOORS SHALL BE EXTERNALLY LINED WITH 1" THICK OWENS CORNING 800 FR DUCT BOARD STAPLED EVERY 2" WITH HEAT SENSITIVE FOIL TAPE COVERING AT ALL JOINTS. USE MECHANICAL DUCT, FASTENERS 2'-0" ON CENTER ALONG CENTER LINE OF EACH SIDE OF DUCT. COAT DUCT BOARD WITH MARATHON INDUSTRIES IC 550 WHITE MASTIC IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

H. INTERNALLY LINE ALL DUCTS FROM UNIT SUPPLY AND RETURN CONNECTIONS TO 10'-0" FROM UNIT TO MINIMIZE NOISE. FURNISH AND INSTALL NOT LESS THAN 1" ULTRA LINER, WITH A THERMAL EFFICIENCY OF (.24). APPLY TO METAL WITH ADHESIVE AND FURTHER SECURE WITH WELDED PINS AND SPEED WASHERS 12" O.C. ENSURE THAT IMPRINTED SURFACE FACES AIR STREAM. FURTHERMORE, INSTALL 2" WIDE SHEET METAL NOSING ON LEADING EDGES OF LINER TO PREVENT THE LINER FROM BEING PICKED UP BY AIR FLOW.

### 15700.36 CONDENSATE CONNECTIONS

A. ALL INTERIOR HVAC EQUIPMENT CONDENSATE DRAINS ARE TO BE BY CONTRACTOR.

B. THE CONTRACTOR TO SUPPLY AND INSTALL TRAPPED CONDENSATE TRAPS AND DRAINS TO NEAREST APPROVED PLUMBING SYSTEM FOR ALL HVAC EQUIPMENT.

### 15700.37 AIR CONDITIONING UNITS

ROOFTOP UNITS

A. FURNISH AND INSTALL "PACKAGED TYPE" EQUIPMENT AS SHOWN ON THE SCHEDULES. REFER TO EQUIPMENT SCHEDULE FOR MANUFACTURER. ALL REFRIGERATION SYSTEM COMPONENTS SHALL BE COMPLETELY FACTORY ASSEMBLED AND SHIPPED FULLY CHARGED ON A COMMON BASE. ALL UNITS TO BE FACTORY TESTED, COMPLETELY WIRED, WEATHER PROOFED FOR ROOFTOP USE, PROVIDED WITH FILTERS AND OF CAPACITIES AS SHOWN ON THE SCHEDULES.

B. COMPRESSORS SHALL BE ACCESSIBLE HERMETIC TYPE, EXCEPT FOR UNITS UNDER 15 H.P., WITH CRANK CASE HEATER, OIL SIGHT GLASS AND OIL CHARGE CONNECTION. COMPRESSORS ARE TO BE SPRING ISOLATOR MOUNTED. COMPRESSORS TO HAVE 5 (1 AND 4) YEAR WARRANTY.

C. EVAPORATOR COIL SHALL BE CONSTRUCTED OF SEAMLESS COPPER TUBING WITH RIPPLED AND CORRUGATED ALUMINUM FINS. COIL TO BE FED BY THERMAL EXPANSION VALVE AND ORIFICE TYPE DISTRIBUTOR.

D. SUPPLY FAN TO BE FORWARD CURVE, CENTRIFUGAL DESIGN, STATICALLY AND DYNAMICALLY BALANCED FOR QUIET OPERATION. BEARINGS TO BE SELF ALIGNING, LUBRICATABLE BALL TYPE WITH EXTENDED LUBRICATION LINES. COMPLETE FAN ASSEMBLY SHALL BE ISOLATED FROM UNIT.

E. PROVIDE DIFFERENTIAL ENTHALPY CONTROLLED ECONOMIZERS WITH BAROMETRIC RELIEF WHEN SPECIFIED ON SCHEDULES.

F. REFRIGERATION CYCLES MUST BE SUCH THAT AT 40 DEG.F. AMBIENT OR ABOVE, WHEN THE THERMOSTATS CALL FOR COOLING, THE COMPRESSOR WILL START AND REMAIN IN OPERATION UNTIL THE THERMOSTAT IS SATISFIED. PROVIDE TWO STAGES CONTROL OF COOLING WITH TWO CIRCUIT COOLING COIL WHEN SPECIFIED ON SCHEDULES.

G. FILTERS SHALL BE 1" FIBERGLASS FARR-AIR THROWAWAY OR APPROVED EQUAL WITH MEDIA CONTAINED IN A RIGID FRAME HAVING SUPPORTING MESH ACROSS BOTH ENTERING AND LEAVING FACES OF THE MEDIA. REFER TO SCHEDULES FOR ANY SPECIAL FILTER REQUIREMENT.

H. ALL CONTROLS TO BE FACTORY WIRED AND ENCLOSED IN A WEATHER-PROOF CABINET. FURNISH AS STANDARD ALL MOTOR STARTERS AND FUSING FOR SINGLE POINT CONNECTION WITH CONTROL TRANSFORMER, HIGH PRESSURE CUT OUT AND FAN CYCLING HEAD PRESSURE CONTROL, LOW PRESSURE CUT OUT, SINGLE PUMP DOWN, FREEZESTAT, OIL PRESSURE SWITCH, AND THERMOSTATS WITH AUTOMATIC SUMMER WINTER CHANGEOVER.

I. REFRIGERATION PIPING SHALL BE COMPLETELY FACTORY INSTALLED. EACH CIRCUIT TO HAVE FILTER AND SIGHT GLASS, MOISTURE INDICATOR, AND SOLENOID VALVE FOR 15 TON UNITS AND UP.

J. ALL CONDITIONED SECTIONS SHALL BE INSULATED WITH 1-INCH FOIL FACED GLASS FIBER.

K. ROOF CURBS SHALL BE PROVIDED FOR ALL UNITS UNLESS STRUCTURAL PLATFORM ABOVE ROOF IS PROVIDED. CURB TO BE MINIMUM OF 14 INCHES IN HEIGHT 12 GAUGE CONTINUOUS GALVANIZED STEEL. PROVIDE GASKETS FOR MOUNTING BETWEEN UNIT BASE AND CURB. CURB TO SET DIRECTLY ON ROOF STEEL WITH REQUIRED ADJUSTMENTS FOR ROOF PITCH TO PROVIDE A LEVEL UNIT WHEN SET. REFER TO SECTION 15160 FOR SEISMIC RESTRAINT REQUIREMENTS.

L. SEE HVAC DRAWINGS FOR EXACT UNIT SPECIFICATIONS.

### 15700.38 SUPPORTS

A. ALL SUPPORTS AND HANGERS FOR EQUIPMENT TO BE INSTALLED UNDER THIS CONTRACT, SHALL BE PROVIDED BY THE CONTRACTOR. WHERE EXCESSIVE LOADING REQUIRES PROPER DISTRIBUTION OF THE WEIGHT, PROPER SUPPORTS MUST BE PROVIDED, SUBJECT TO THE ARCHITECT'S APPROVAL. ALL SUPPORTS SHALL BE OF STRUCTURAL STEEL.

B. NO SUPPORTING MEMBERS MAY BE LAID UPON THE COMPLETED ROOFING. IF ADDITIONAL UNPREDICTED SUPPORTS ARE REQUIRED, THEN THEY MUST BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE BONDING COMPANY AT THE EXPENSE OF THE CONTRACTOR.

C. CHECK ROOFTOP SUPPORTS WHICH ARE PROVIDED BY OTHERS, AND MAKE ADJUSTMENTS AS REQUIRED FOR THE PROVIDED EQUIPMENT. VERIFY ALL DIMENSIONS OF SUPPORTS AND OPENINGS WITH ARCHITECT AND GENERAL CONTRACTOR BASED UPON APPROVED SUBMITTALS.

D. INTERIOR UNITS MUST BE HUNG FROM THE ROOF STEEL AND THE TOP CHORD ONLY OF STEEL JOISTS USING PROPER VIBRATION ISOLATORS.

### 15700.39 EXHAUST FANS & INTAKE DUCTS

A. FURNISH AND INSTALL WHERE SHOWN ON THE PLANS, COOK, GREENHECK, PENN OR EQUAL EXHAUST FANS OF TYPE AND SIZE AS INDICATED. FANS SHALL BE EQUIPPED WITH HOUSINGS WEATHER-STRIPPED FOR WALL MOUNTING OR WITH A BASE FOR ROOF MOUNTING AND FLASHING.

B. ALL FANS SHALL BE EQUIPPED WITH THE ACCESSORIES AS OUTLINED ON THE DRAWINGS AND SCHEDULES.

C. ROOF AND WALL OPENINGS, IF NOT PROVIDED IN THE STRUCTURAL FRAMING, MUST BE CUT AND FRAMED BY THE CONTRACTOR.

D. PROVIDE ALL COMBUSTION AIR INTAKES AS SHOWN ON THE PLANS. FOR ROOF INTAKE, PROVIDE GOOSENECK WITH BIRD SCREEN.

E. FLUES AND EXHAUST FANS SHALL BE INSTALLED A MINIMUM OF 10 FEET AWAY FROM FRESH AIR INTAKE.

F. ALL MULTI PHASE FANS 1 HP. AND HIGHER SHALL BE PROVIDED WITH A SOFT STARTER.

### 15700.41 UNIT HEATERS (NOT APPLICABLE)

A. FOR GAS UNIT HEATERS, REFER TO SECTION 15700.42 FOR FLUE SPECIFICATIONS. INSTALL IN ACCORDANCE WITH THE REQUIREMENTS OF THE MANUFACTURERS OF THAT EQUIPMENT, AND LOCAL AUTHORITIES, AS SHOWN ON THE PLANS.

B. FOR ELECTRIC UNIT HEATERS, INSTALL IN ACCORDANCE WITH THE REQUIREMENTS OF THE MANUFACTURERS OF THAT EQUIPMENT, AND LOCAL AUTHORITIES, AS SHOWN ON THE PLANS.

### 15700.42 FLUES

A. PROVIDE AND INSTALL TYPE B GAS VENT, METALBESTOS GALVANIZED DOUBLE WALL ROUND VENT, OR APPROVED EQUAL, INSULATED FLUES WITH NON DRAFT CAP FOR ALL GAS APPLIANCES. INSTALL IN ACCORDANCE WITH THE REQUIREMENTS OF THE MANUFACTURERS OF THAT EQUIPMENT, AND LOCAL AUTHORITIES, AS SHOWN ON THE PLANS.

B. FLUES SHALL BE INSTALLED WITH CLEARANCES OF NOT LESS THAN THAT INDICATED BY THE BUREAU OF COMBUSTIBLE, FIRE INSURANCE RATING ORGANIZATION. FLUE SHALL BE PROPERLY FLASHED TO ROOF WITH HOOD ETC. THE CONTRACTOR SHALL PROVIDE FLASHINGS TO THE ROOFING CONTRACTOR WHO WILL SET AND FLASH AS REQUIRED.

C. ALL FLUES UNDER POSITIVE PRESSURE SHALL BE OF GAS TIGHT CONSTRUCTION.

D. FLUES SHALL BE INSTALLED A MINIMUM OF 10 FEET AWAY FROM FRESH AIR INTAKE.

### 15700.44 AIR DEVICES

A. PROVIDE WHERE SHOWN ON DRAWINGS AND INDICATED ON SCHEDULES, ALL DIFFUSERS, GRILLES AND REGISTERS OF SIZES INDICATED. ALL DIFFUSERS, GRILLES AND REGISTERS SHALL BE MANUFACTURED BY TITUS, CARNES, NAILOR OR PRICE.

B. SUPPLY REGISTERS SHALL BE ADJUSTABLE, DOUBLE DEFLECTION TYPE WITH OPPOSED BLADE DAMPERS.

### 15700.46 VIBRATION ELIMINATORS

A. APPROVED VIBRATION ELIMINATORS SHALL BE PROVIDED FOR ALL VIBRATING EQUIPMENT INCLUDING MOTORS, COMPRESSORS, AIR CONDITIONING UNITS, ETC.

### 15700.47 CONTROLS

A. PROVIDE FACTORY CONTROLS AS INDICATED ON DRAWINGS FOR ALL UNITS.

B. MISCELLANEOUS CONTROLS -- PROVIDE SMOKE DETECTORS AND ALL NECESSARY SWITCHES, SENSORS, RELAYS TO TO ENSURE A COMPLETE AND OPERABLE SYSTEM, IN COMPLIANCE WITH ALL CODE REQUIREMENTS.

C. REFER TO HVAC DRAWINGS FOR CONTROLS TO BE PROVIDED FOR REMAINING AND MISCELLANEOUS HVAC EQUIPMENT.

GENERAL NOTE: IF CONFLICT EXISTS BETWEEN THESE SPECIFICATION AND THE CONTRACT, CODES, UFC OR REGULATION THE MOST STRINGENT REQUIREMENT(S) SHALL PREVAIL.

END OF HVAC SPECIFICATIONS

OR GREATER, 1 HOUR FIRE RATED,


Open studio architecture

6122 DeZavala Rd.
San Antonio, Texas 78249
Tel: 210.417.4307
www.openstudio-usa.com


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ROGER G. MENDEZ, P.E. 93809
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RGM ENGINEERING
TEXAS REGISTERED ENGINEERING FIRM
F-10487
7550 IH 10 W, SUITE 350
San Antonio, TX 78229
www.rgmengineering.net
phone: 210.299.4522
fax: 210.299.4525


**CAMP BOW WOW**
1450 N. BUSINESS 35
NEW BRAUNFELS, TX 78130

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**MECHANICAL SPECIFICATIONS**

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# SYMBOLS & ABBREVIATIONS

## CIRCUITS

- CONDUIT CONCEALED IN WALL OR CEILING WITH PHASE, NEUTRAL AND GROUND CONDUCTOR UNLESS OTHERWISE NOTED
- SWITCH LEG
- CONDUIT UNDERGROUND / UNDER SLAB
- HOME RUN TO PANEL. CIRCUIT NUMBERS, PHASE, NEUTRAL AND GROUND CONDUCTORS INDICATED. ALL CONDUCTORS TO BE #12 EXCEPT WHERE NOTED. CONDUIT TO BE 1/2" OR AS NOTED ON PLANS AND SPECIFICATIONS.
- (SC) SPLIT CIRCUIT

## EQUIPMENT

- MOTOR, HP AS INDICATED
- CONTROLLER TO BE FURNISHED UNDER DIVISION 15
- VFD VARIABLE FREQUENCY DRIVE CONTROLLER FURNISHED UNDER DIVISION 15
- DISCONNECT SWITCH
- COMBINATION MOTOR STARTER/DISCONNECT SWITCH
- IC INTERCOM J BOX, WALL MOUNTED AT HEIGHT INDICATED ON DRAWINGS
- IC INTERCOM J BOX, CEILING MOUNTED
- J JUNCTION BOX, CEILING MOUNTED
- J JUNCTION BOX, WALL MOUNTED
- PB PULL BOX
- PC PULL CORD
- S SPEAKER, CEILING MOUNTED
- EQUIPMENT CONNECTION
- PC PHOTOCELL ON ROOF
- PANELBOARD (SURFACE MOUNTED)
- PANELBOARD (RECESSED MOUNTED)
- SWBD SWITCHBOARD OR DISTRIBUTION BOARD
- PLYWOOD TELEPHONE BACKBOARD
- DUCT TYPE SMOKE DETECTOR WITH SAMPLING TUBES FURNISHED AND INSTALLED BY MECHANICAL CONTRACTOR, WIRED BY ELECTRICAL CONTRACTOR.

## RECEPTACLES

- GROUND CONNECTION.
- 20 AMP SIMPLEX RECEPTACLE, +16" OR AS NOTED.
- 20 AMP DUPLEX RECEPTACLE, +16" OR AS NOTED.
- WP,GFCI 20 AMP GROUND FAULT DUPLEX RECEPTACLE, +16" OR AS NOTED.
- AC 20 AMP DUPLEX RECEPTACLE MOUNTED 6" ABOVE COUNTER TOP OR AS NOTED ON ARCHITECTURAL DRAWINGS.
- T TAMPER RESISTANT DUPLEX RECEPTACLE, +16" OR AS NOTED.
- 20 AMP QUAD PLEX RECEPTACLE, +16" OR AS NOTED.
- GROUND FAULT DUPLEX RECEPTACLE, +16" OR AS NOTED.
- RECEPTACLE ON EMERGENCY CIRCUIT (COLOR RED)
- 20 AMP FLOOR MOUNTED DUPLEX RECEPTACLE
- 20 AMP CEILING MOUNTED DUPLEX RECEPTACLE
- 120V, 1PH EQUIPMENT CONNECTION RECEPTACLE, +16" OR AS NOTED
- 208V, 1PH EQUIPMENT CONNECTION RECEPTACLE, +16" OR AS NOTED
- 208V, 3PH EQUIPMENT CONNECTION RECEPTACLE, +16" OR AS NOTED
- 480V, 1PH EQUIPMENT CONNECTION RECEPTACLE, +16" OR AS NOTED
- 480V, 3PH EQUIPMENT CONNECTION RECEPTACLE, +16" OR AS NOTED
- T THERMOSTAT PROVIDED BY MECHANICAL CONTRACTOR. ELECTRICAL CONTRACTOR TO PROVIDE JUNCTION BOX AND CONDUIT.
- T.V. OUTLET
- DATA OUTLET. PROVIDE 4"X4" J-BOX WITH SINGLE GANG RING AND 1" CONDUIT AND PULLSTRING STUBBED ABOVE CEILING, +16" OR AS NOTED.
- PHONE OUTLET. PROVIDE 4"X4" J-BOX WITH SINGLE GANG RING AND 1" CONDUIT AND PULLSTRING STUBBED ABOVE CEILING, +16" OR AS NOTED.
- TELE/DATA JACK

## LIGHTING

- HID SITE LIGHTING FIXTURE MOUNTED ON A POLE
- INCANDESCENT, FLUORESCENT OR HID FIXTURE, RECESSED FIXTURE
- DOWNLIGHT
- INCANDESCENT, FLUORESCENT OR HID FIXTURE, WALL MOUNTED
- FLUSH MOUNT FIXTURE
- PENDANT FIXTURE
- WALL SCONCE FIXTURE
- WALL PACK
- X FLUORESCENT 2x4 FIXTURE, CEILING OR SURFACE MOUNTED,
- X FLUORESCENT 2x4 FIXTURE, WITH EMERGENCY BATTERY PACK
- X FLUORESCENT 2x2 FIXTURE, CEILING OR SURFACE MOUNTED,
- X FLUORESCENT 2x2 FIXTURE, WITH EMERGENCY BATTERY PACK
- X FLUORESCENT 1x4 FIXTURE
- X FLUORESCENT 1x4 FIXTURE, WITH EMERGENCY BATTERY PACK
- FLUORESCENT STRIP FIXTURE
- FLUORESCENT STRIP FIXTURE, WITH EMERGENCY BATTER PACK
- EXIT LIGHT, DIRECTION ARROWS AS INDICATED
- EXIT LIGHT, DIRECTION ARROWS AS INDICATED
- EMERGENCY LIGHT
- MS MOTION SENSOR, WALL OR POLE MOUNTED
- $ SINGLE POLE LINE VOLTAGE TOGGLE SWITCH, 48" OR AS NOTED.
- $x SINGLE POLE LINE VOLTAGE TOGGLE SWITCH, SUBSCRIPT INDICATES ASSOCIATED CIRCUITRY
- $3 THREE-WAY SWITCHED, 48" OR AS NOTED.
- $DS DIMMER SWITCH- LINE VOLTAGE
- $DC DIMMER CONTROL- LOW VOLTAGE
- $P PILOT LIGHT
- $OD OCCUPANCY/DIMMER CONTROL- LOW VOLTAGE
- $OS OCCUPANCY SWITCH- LINE VOLTAGE
- $OC OCCUPANCY CONTROL- LOW VOLTAGE
- $M,$MT MANUAL MOTOR STARTER (T=THERMAL OVERLOAD SIZED FOR MOTOR)
- $V VACANCY SWITCH- LINE VOLTAGE
- OS OCCUPANCY SENSOR- CEILING MOUNTED LINE VOLTAGE
- OC OCCUPANCY CONTROL- CEILING MOUNTED LOW VOLTAGE
- $T PROGRAMMABLE 7-DAY TIMER WALL SWITCH - INTERMATIC E1600 SERIES OR EQUAL BY OTHERS
- DS DAYLIGHT SENSOR- CEILING MOUNTED LOW VOLTAGE
- $F FAN SPEED CONTROL SWITCH

## SPECIAL SYSTEMS

- SD D DUCT MOUNTED SMOKE DETECTOR
- SD CEILING MOUNTED SMOKE DETECTOR
- B DOOR LOCK RELEASE BUTTON
- BL BEACON LIGHT
- DL DOOR LOCKS
- AV AUDIO/VISUAL FIRE ALARM
- AV AUDIO/VISUAL FIRE ALARM, CEILING
- V VISUAL FIRE ALARM
- A AUDIO FIRE ALARM
- F FIRE PULL STATION
- F FIRE PULL STATION HORN
- H HORN
- C CAMERA
- NC NURSE CALL STATION
- FACP FIRE ALARM CONTROL PANEL
- ANN FIRE ALARM ANNUNCIATOR

## DEMOLITION

- CONDUIT, EQUIPMENT, DEVICE TO BE DEMOLISHED.
- (LIGHT SHADE) EXISTING TO REMAIN.

## ABBREVIATIONS

| | |
|---|---|
| ABV | ABOVE |
| AC | ABOVE COUNTER |
| A/C | AIR CONDITIONED |
| AD | ACCESS DOOR |
| A.F. | ARC FAULT |
| AFF | ABOVE FINISHED FLOOR |
| AFG | ABOVE FINISHED GRADE |
| AHU | AIR HANDLING UNIT |
| AIC | AMPERE INTERRUPTING CAPACITY |
| AMCA | AIR MOVING AND CONDITIONING ASSOCIATION, INC. |
| AMP | AMPERE(S) |
| & | AND |
| AP | ACCESS PANEL |
| APPROX | APPROXIMATE |
| ARCH | ARCHITECTURAL |
| @ | AT |
| AV | AUTOMATIC AIR VENT ASSEMBLY |
| AUX | AUXILIARY |
| BLDG | BUILDING |
| C | CONDUIT |
| CA | COMPRESSED AIR |
| CATV | CABLE TELEVISION |
| CB | CIRCUIT BREAKER |
| CI | CAST IRON |
| CLG | CEILING |
| CKT | CIRCUIT |
| CO | CLEANOUT |
| COND | CONDENSATE |
| CONN | CONNECTION |
| CONT | CONTINUATION |
| CU | CONDENSING UNIT |
| CU | COPPER |
| ℄ | CENTER LINE |
| D | DRAIN |
| DB | DRY BULB |
| DIA | DIAMETER |
| DIST | DISTRIBUTION |
| DN | DOWN |
| DWGS | DRAWINGS |
| (e) | EXISTING |
| EA | EACH |
| EAT | ENTERING AIR TEMPERATURE |
| EF | EXHAUST FAN |
| ELEV | ELEVATION |
| ELEC | ELECTRICAL |
| EG | EXHAUST GRILLE |
| EGC | EQUIPMENT GROUNDING CONDUCTOR |
| ENT | ENTERING |
| EQUIP | EQUIPMENT |
| ER | EXHAUST REGISTER |
| ESP | EXTERNAL STATIC PRESSURE |
| EWT | ENTERING WATER TEMP. |
| EXH | EXHAUST |
| EXIST | EXISTING |
| F | DEGREES FAHRENHEIT |
| FD | FIRE DAMPER |
| FLEX | FLEXIBLE |
| FLG | FLANGE |
| FLR | FLOOR |
| FPM | FEET PER MINUTE |
| FT | FEET, FOOT |
| GAL | GALLON |
| GALV | GALVANIZED |
| GEC | GROUNDING EQUIPMENT CONDUCTOR |
| GFCI | GROUND FAULT CIRCUIT INTERRUPTER |
| GND | GROUND |
| GPM | GALLONS PER MINUTE |
| HP | HORSEPOWER |
| HZ | HERTZ |
| IC | INTERCOM |
| IE | INVERT ELEVATION |
| IG | ISOLATED GROUND |
| IN | INCHES |
| INC | INCANDESCENT |
| IN WG | INCHES OF WATER |
| INSUL | INSULATION |
| JB | JUNCTION BOX |
| KVA | KILOVOLT AMPERE |
| KW | KILOWATT |
| LAT | LEAVING AIR TEMPERATURE |
| LB | POUND |
| LPA | LINE PRESSURE ALARM |
| LVR | LOUVER |
| MA | MEDICAL AIR |
| MAX | MAXIMUM |
| MD | MANUAL DAMPER |
| MECH | MECHANICAL |
| MH | MOUNTING HEIGHT |
| MIN | MINIMUM |
| MLO | MAIN LUGS ONLY |
| MTG | MOUNTING |
| MV | MEDICAL VACUUM |
| NA | NOT APPLICABLE |
| NC | NORMALLY CLOSED |
| NIC | NOT IN CONTRACT |
| NO | NORMALLY OPEN |
| NTS | NOT TO SCALE |
| $N_2$ | NITROGEN |
| $O_2$ | OXYGEN |
| OA | OUTSIDE AIR |
| OAH | OUTSIDE AIR INTAKE HOOD |
| OBD | OPPOSED BLADE DAMPER |
| OC | ON CENTER |
| OFCI | OWNER FURNISHED CONTRACTOR INSTALLED |
| OH | OVERHEAD |
| OS&Y | OUTSIDE SCREW & YOKE GATE VALVE |
| P | PUMP |
| P-2 | PLBG. FIXTURE DESIGNATION |
| PCT | PERCENT (%) |
| PLBG | PLUMBING |
| PNL | PANELBOARD |
| PRESS | PRESSURE |
| PRV | PRESSURE REDUCING VALVE |
| PSIG | POUNDS PER SQUARE INCH GAS |
| PWR | POWER |
| RA | RETURN AIR |
| RE:4P6 | REFER TO DETAIL 4 DRAWING P-6 |
| REQ'D | REQUIRED |
| RET | RETURN |
| RF | RELIEF FAN |
| RG | RETURN GRILLE |
| RH | RELATIVE HUMIDITY |
| RHD | RELIEF HOOD |
| RPM | REVOLUTIONS PER MINUTE |
| SA | SUPPLY AIR |
| SC | SPLIT CIRCUIT |
| SD | SMOKE DAMPER |
| SEC | SECOND |
| SF | SUPPLY FAN |
| SMACNA | SHEET METAL AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION |
| SP | STATIC PRESSURE |
| SPEC | SPECIFICATION |
| STD | STANDARD |
| STL | STEEL |
| SU | STUB UP FROM FLOOR |
| SW | SWITCH |
| SWBD | SWITCHBOARD |
| T | TELEPHONE |
| TEMP | TEMPERATURE |
| TXV | THERMOSTATIC EXPANSION VALVE |
| TV | TELEVISION |
| TYP | TYPICAL |
| UF | UNDER FLOOR |
| UGSE | UNDERGROUND SECONDAY ELECTRIC |
| UL | UNDERWRITERS LABORATORIES |
| UPE | UNDERGROUND PRIMARY ELECTRIC |
| UON | UNLESS OTHERWISE NOTED |
| V | VACUUM |
| V | VOLT(S) |
| VB | VALVE BOX |
| VEL | VELOCITY |
| VENT | VENTILATE |
| VFD | VARIABLE FREQUENCY DRIVE |
| VOL | VOLUME |
| VTR | VENT THRU ROOF |
| W | WIRE |
| W/ | WITH |
| W/O | WITHOUT |
| W.A.G.E. | WASTE ANESTHESIA GAS EVACUATION |
| WB | WET BULB |
| WP | WEATHERPROOF |
| Y.C.O. | YARD CLEANOUT |
| ZVB | ZONE VALVE BOX |
| 1P | ONE POLE |
| 2P | TWO POLE |
| 3P | THREE POLE |
| ø | PHASE |
| +44 | HEIGHT ABOVE FLOOR TO CENTER LINE OF OUTLET BOX |


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6122 DeZavala Rd.
San Antonio, Texas 78249
Tel: 210.417.4307
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7550 IH 10 W, SUITE 350
San Antonio, TX 78229
www.rgmengineering.net
phone: 210.299.4522
fax: 210.299.4525

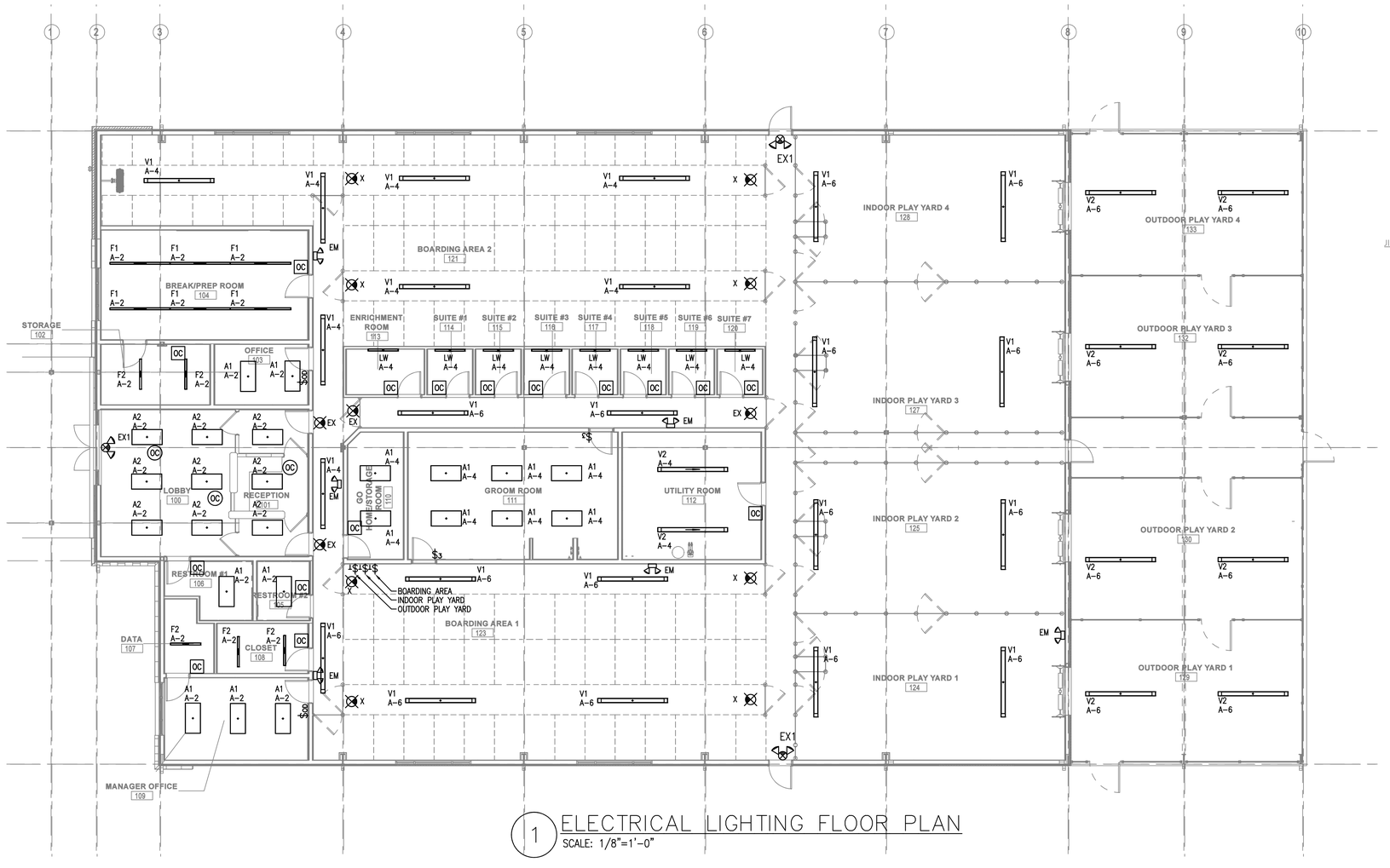

**CAMP BOW WOW**
1450 N. BUSINESS 35
NEW BRAUNFELS, TX 78130

project #: 26-028
date: 07-21-2026
drawn by: RGM
checked by: RGM
drawing title:

**ELECTRICAL SYMBOLS AND ABBREVIATIONS**

drawing number:

**E100**




1 ELECTRICAL LIGHTING FLOOR PLAN
SCALE: 1/8"=1'-0"

## LEGEND:

| | |
|---|---|
| $D | 0-10V DIMMER SWITCH, GREENGATE OR EQUAL |
| $T | PROGRAMMABLE 7-DAY TIMER WALL SWITCH – INTERMATIC E1600 SERIES OR EQUAL BY OTHERS |
| $OD | WALL SENSOR/DIMMING SWITCH COMBINATION. |
| VS | VACANCY SENSOR, MANUAL- ON/SENSOR OFF AFTER MAX. 20 MINUTES GREENGATE "ONW-D" OR EQUAL |
| OC | OCCUPANCY SENSOR, SENSOR- ON/OFF GREENGATE "ONW-D" OR EQUAL |
| VS | CEILING MOUNTED VACANCY SENSOR, GREENGATE "VAC-DT" |
| OC | CEILING MOUNTED OCCUPANCY SENSOR, GREENGATE "OAC-DT" |

## LIGHTING GENERAL NOTES:

1. SWITCH LOCATIONS SHALL BE VERIFIED BY ARCHITECT PRIOR TO CLOSING OF WALLS
2. EMERGENCY LIGHT FIXTURES AND EXIT SIGNS SHALL HAVE THEIR BATTERY UNIT CONNECTED TO THE NORMAL AREA LIGHTING CIRCUIT AHEAD OF ANY LOCAL SWITCHES. IN ACCORDANCE WITH NEC 700.12(F)(2)(3).
3. LIGHTING CONTROLS SHALL COMPLY WITH IECC 2021.
4. ALL AREAS CONTROLLED BY OCCUPANCY SENSORS SHALL BE DIMMABLE.
5. EXCEPT FOR CORRIDORS AND RESTROOMS, AREAS CONTROLLED BY OCCUPANCY SENSORS SHALL TURN ON TO 50% LIGHTING LEVEL. FURTHER INCREASE IN LIGHT LEVELS SHALL BE AVAILABLE AT THE AREA WALL CONTROL.
6. CORRIDORS AND RESTROOMS SHALL BE PROGRAMMED TO TURN ON TO AN APPROPRIATE LEVEL BETWEEN 50% AND 100%.
7. EACH AREA SHALL BE EQUIPPED WITH A LOCAL ROOM DIMMING/RELAY CONTROLLER WITH LOW VOLTAGE WIRING TO THE LOCAL AREA WALL CONTROL.

## LIGHTING FUNCTIONAL TESTING/PLAN:

THE CONTRACTOR SHALL COMPLETE THE TASKS BELOW TO COMMISSION THE LIGHTING CONTROL SYSTEM AND SUBMIT WRITTEN DOCUMENTATION DETAILING THE TASKS BELOW. FOR EACH TASK, LIST THE DATE PERFORMED, PERSON COMPLETING THE TASK, THE INITIAL SETTING/CONDITION, ACTIONS PERFORMED, AND FINAL SETTING CONDITION. SUBMIT DOCUMENTATION TO THE PROJECT MANAGER/ARCHITECT AT OR BEFORE SUBSTANTIAL COMPLETION TO FACILITATE OBTAINING THE CERTIFICATE OF OCCUPANCY.

1. ENSURE ALL LIGHTING FIXTURES HAVE THE PROPER LAMPS INSTALLED AND ARE FUCTIONAL.
2. TEST ALL EXIT SIGNS, EMERGENCY LIGHTING FIXTURES, AND EMERGENCY BALLASTS FURNISHED INTEGRAL TO FIXTURES.
3. VERIFY EXTERIOR LIGHTING CONTROLLERS ARE WORKING AND THE PHOTOCELL OVERRIDE IS WORKING. SET EXTERIOR LIGHTING CONTROLLER TIME SEQUENCE PER OWNER'S INSTRUCTIONS.
4. ENSURE ALL OCCUPANCY SENSORS HAVE BEEN INSTALLED AND ARE OPERATIONAL.
5. ENSURE ALL WALLBOX DIMMING AND SCENE DIMMING CONTROLLERS ARE INSTALLED AND OPERATIONAL.
6. VERIFY THE FOLLOWING:
   - 6.1 SENSORS HAVE BEEN LOCATED AND AIMED PER THE MANUFACTURER'S RECCOMENDATIONS.
   - 6.2 STATUS INDICATORS ON DEVICES ARE OPERATIONAL AND CORRECT.
   - 6.3 DEVICES CONTROL LIGHTING FIXTURES AS INDICATED ON DRAWINGS.
   - 6.4 TIME DELAYS HAVE BEEN SET AS PER THE OWNER'S INSTRUCTIONS.
   - 6.5 MOVEMENT IN ADJACENT AREAS AND/OR CYCLING OF HVAC SYSTEMS DOES NOT FALSE TRIGGER SENSORS.

## LIGHT CONTROL NOTES:

1. OCCUPANCY SENSORS SHALL COMPLY WITH IECC SEC. C405.2.1.1: 1) THEY SHALL AUTOMATICALLY TURN OFF LIGHTS WITHIN 20 MINUTES AFTER ALL OCCUPANTS HAVE LEFT THE SPACE. 2) THEY SHALL BE MANUAL ON OR CONTROLLED TO AUTOMATICALLY TURN ON THE LIGHTING TO NOT MORE THAN 50% POWER. 3) THEY SHALL INCORPORATE A MANUAL CONTROL TO ALLOW OCCUPANTS TO TURN OFF LIGHTS.
2. LIGHTS SHALL BE AUTOMATICALLY TURNED OFF WHEN DAYLIGHT IS PRESENT AND SATISFIES THE LIGHTING NEEDS PER IECC SEC C405.2.7.1

## KEYED LIGHT NOTES:

1. PROVIDE OCCUPANCY SENSOR WITH MANUAL OVERRIDE.
2. LIGHTING CONTROL IN OPEN OFFICE SHALL COMPLY WITH WITH SECTION 2021 IECC C405.2.1.3. PROVIDE 2 ZONES FOR LIGHTING CONTROL.
3. ROUTE THRU PHOTOCELL. EXTERIOR TIME SWITCH CONTROL SHALL HAVE A CLOCK CAPABLE OF BEING PROGRAMMED FOR NOT FEW THAN 7 DAYS. 2) EXTERIOR TIME SWITCH CONTROL SHALL BE CAPABLE OF BEING SET FOR 7 DIFFERENT DAYS TYPES PER WEEK. 3) EXTERIOR TIME SWITCH CONTROL SHALL INCORPORATED AND AUTOMATIC HOLIDAY SETBACK FEATURE. 4) THEY SHALL HAVE PROGRAM BACKUP CAPABILITIES THAT PREVENT THE LOSS OF PROGRAM AND TIME SETTING FOR A PERIOD OF NOT LESS THAN 10 HOURS IN THE EVENT THAT POWER IN INTERRUPTED PER IECC SEC C405.2.7.4.


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6122 DeZavala Rd.
San Antonio, Texas 78249
Tel: 210.417.4307
www.openstudio-usa.com


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www.rgmengineering.net
phone: 210.299.4522
fax: 210.299.4525

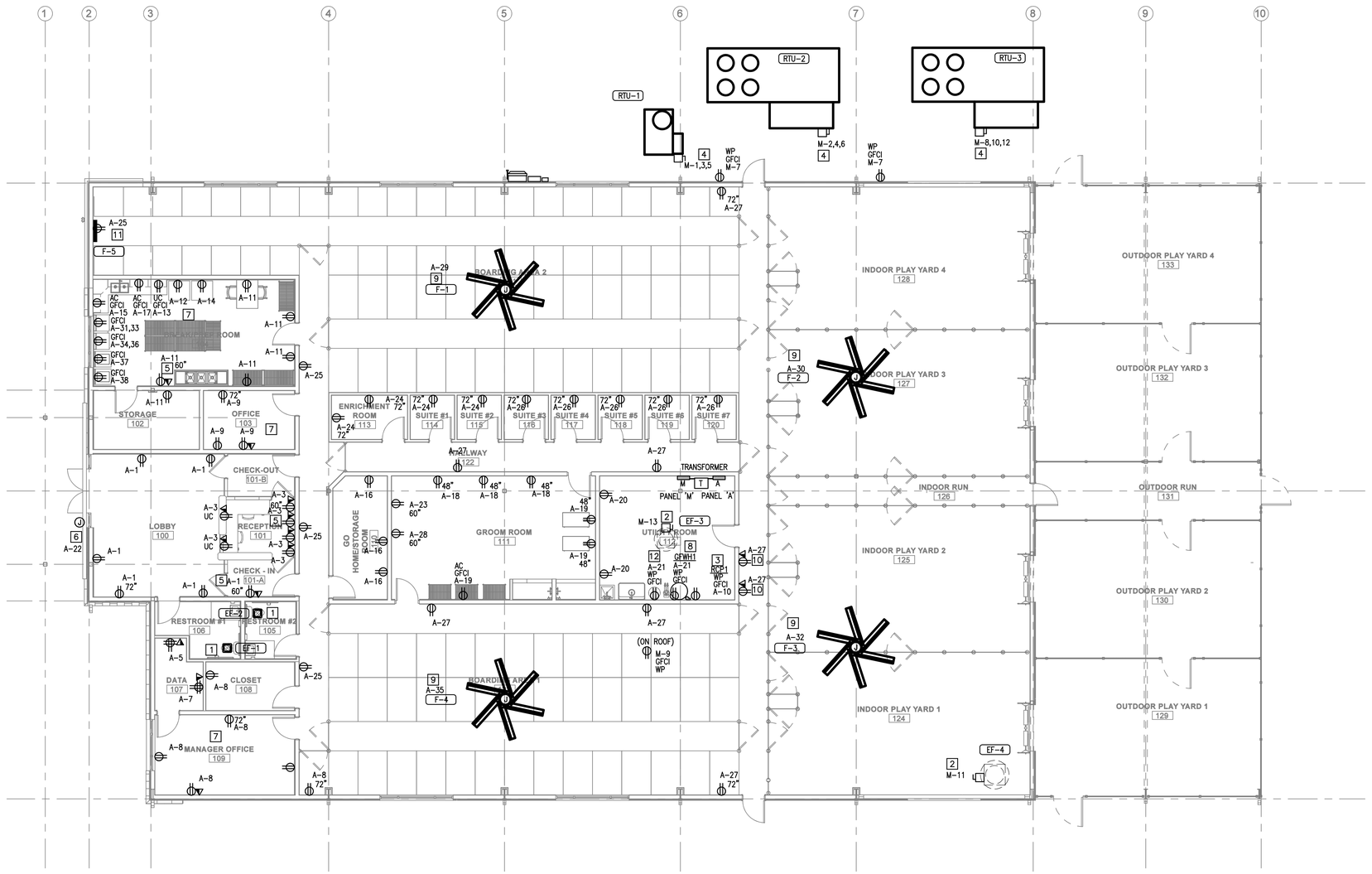

**CAMP BOW WOW**
1450 N. BUSINESS 35
NEW BRAUNFELS, TX 78130

project #: 26-028
date: 07-21-2026
drawn by: RGM
checked by: RGM
drawing title:

**ELECTRICAL LIGHTING FLOOR PLAN**

drawing number:

**E101**




1 ELECTRICAL POWER FLOOR PLAN
SCALE: 1/8"=1'-0"

## KEYED POWER NOTES:

1. CONNECT EXHAUST FAN TO UNSWITCHED HOT LEG OF LIGHTING CIRCUIT.
2. 30A/NF/1P/NE1/HD DISCONNECT SWITCH.
3. VERIFY LOCATION OF RECEPTACLE FOR RECIRCULATING PUMP WITH PLUMBING CONTRACTOR PRIOR TO ROUGH-IN.
4. 100A/NF/3P/NE3R/HD DISCONNECT SWITCH.
5. COORDINATE TV HEIGHT WITH OWNER.
6. J-BOX FOR SIGN ROUTE THRU PHOTOCELL. COORDINATE EXACT LOCATION WITH OWNER.
7. PROVIDE SPLIT-CIRCUIT RECEPTACLES (CONTROLLED OUTLET ON TOP) IN THIS ROOM. RECEPTACLES WILL BE CONTROLLED BY OCCUPANCY SENSOR. AUTOMATIC CONTROLLED RECEPTACLES ARE FOR 50% OF THE OUTLETS.
8. VERIFY LOCATION OF RECEPTACLE FOR GFWH1 WITH PLUMBING CONTRACTOR PRIOR TO ROUGH-IN.
9. J-BOX FOR HVLS FAN. COORDINATE WITH ARCHITECT FOR EXACT LOCATION.
10. COORDINATE TV MONITORS LOCATION WITH OWNER. HEIGHT ABOUT 8' AND 11'A.F.F COORDINATE WITH OWNER.
11. COORDINATE RECEPTACLE LOCATION WITH OWNER. HEIGHT ABOUT 72'A.F.F COORDINATE WITH OWNER REPRESENTATIVE.
12. VERIFY LOCATION OF RECEPTACLE FOR WATER SOFTENER WITH PLUMBING CONTRACTOR PRIOR TO ROUGH-IN.

## GENERAL POWER NOTES:

1. PROVIDE TAMPER-RESISTAN RECEPTACLES PER 2023 NEC 406.12 AND CH 10 406.12(9), (10). ALL 15 AND 20A, 125 AND 250 VOLT NONLOCKING-TYPE RECEPTACLES IN
   1.1. BUSINESS OFFICES, CORRIDORS, WAITING ROOMS AND THE LIKE IN CLINICS, MEDICAL AND DENTAL OFFICES, AND OUTPATIENT FACILITIES.
2. PER NEC 210.8B ALL SINGLE-PHASE RECEPTACLES RATED 150 VOLTS TO GROUND OR LESS, 50 AMPERES OR LESS AND THREE PHASE RECEPTACLES RATED 150 VOLTS TO GROUND OR LESS, 100 AMPERES OR LESS INSTALLED IN THE FOLLOWING LOCATIONS SHALL HAVE GROUND-FAULT CIRCUIT-INTERRUPTER PROTECTION FOR PERSONNEL IN BATHROOMS, KITCHENS, ROOFTOPS, INDOOR WET LOCATIONS AND RECEPTACLES LOCATED 6 FT. FROM TOP INSIDE EDGE OF THE BOWL SINK.
3. ANY AND ALL SUSPENDED ITEMS SHALL BE DONE UTILIZING UNISTRUT. ITEMS SHALL NOT BE ATTACHED TO STRUCTURE OR METAL DECK DIRECTLY.
4. ANY AND ALL ROOF PENETRATION SHALL BE COORDINATED WITH AND CONSTRUCTED BY THE LANDLORD'S ROOFING CONTRACTOR.
5. PROVIDE SLAB POUR-BACK DETAIL ADDRESSING EXISTING LEAVE-PUT AND TRENCHING OF EXISTING SLAB FOR UTILITY INSTALLATION. SLAB THICKNESS AND STEEL REINFORCING SHALL MATCH EXISTING. 15-MIL. VAPIR BARRIER TO MATCH EXISTING AND OVERLAP BY 12-INCHES MINIMUM ALL DIRECTIONS, NO EXCEPTIONS.
6. ANY AND ALL PENETRATIONS INTO FIRE RATED DEMISING PARTITIONS SHALL BE FIRE CAULKED AND SEALED ACCORDING TO JURISDICTIONAL AND BUILDING CODE REQUIREMENTS.
7. ALL WIRING SHALL BE INSTALLED IN EMT CONDUIT OR MC CABLE. FLEXIBLE CONDUIT MAY BE USED AT INTERIOR JUNCTION BOXES FOR CLOSE EQUIPMENT CONNECTIONS ONLY. CARLON PVC TYPE SCH 40 HEAVY WALL CONDUIT WITH GROUND WIRE MAY BE USED BELOW_FLOOR SLAB OR UNDERGROUND IN LIEU OF RIGID, THREADED, GALVANIZED CONDUIT. PVC SCH. 40 CONDUIT SHALL NOT BE RUN IN OR ABOVE FLOOR SLAB, OR IN TILT WALL PANELS. PVC CONDUIT SHALL TERMINATE BELOW FLOOR SLAB WITH RIGID, THREADED METAL CONDUIT ADAPTER. CONDUIT ABOVE SLAB SHALL BE METAL.
8. PROVIDE A JUNCTION BOX AT THE STOREFRONT WALL ABOVE THE CEILING OR CANOPY SOFFIT FOR SIGNAGE INSTALLATION.
9. INSTALL ELECTRIC METER DIRECTLY ADJACENT TO ANY EXISTING METER, USING AS LITTLE SPACE ON THE GUTTER AS POSSIBLE. IF THERE ARE NO EXISTING METERS ON THE GUTTER, INSTALL THE METER AS FAR TO ONE SIDE ON THE GUTTER AS POSSIBLE (LEAVING MAXIMUM ROOM FOR FUTURE METERS).
10. ALL EXTERIOR INSTALLED ITEMS TO BE PAINTED TO MATCH THE EXTERIOR OF THE BUILDING


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San Antonio, Texas 78249
Tel: 210.417.4307
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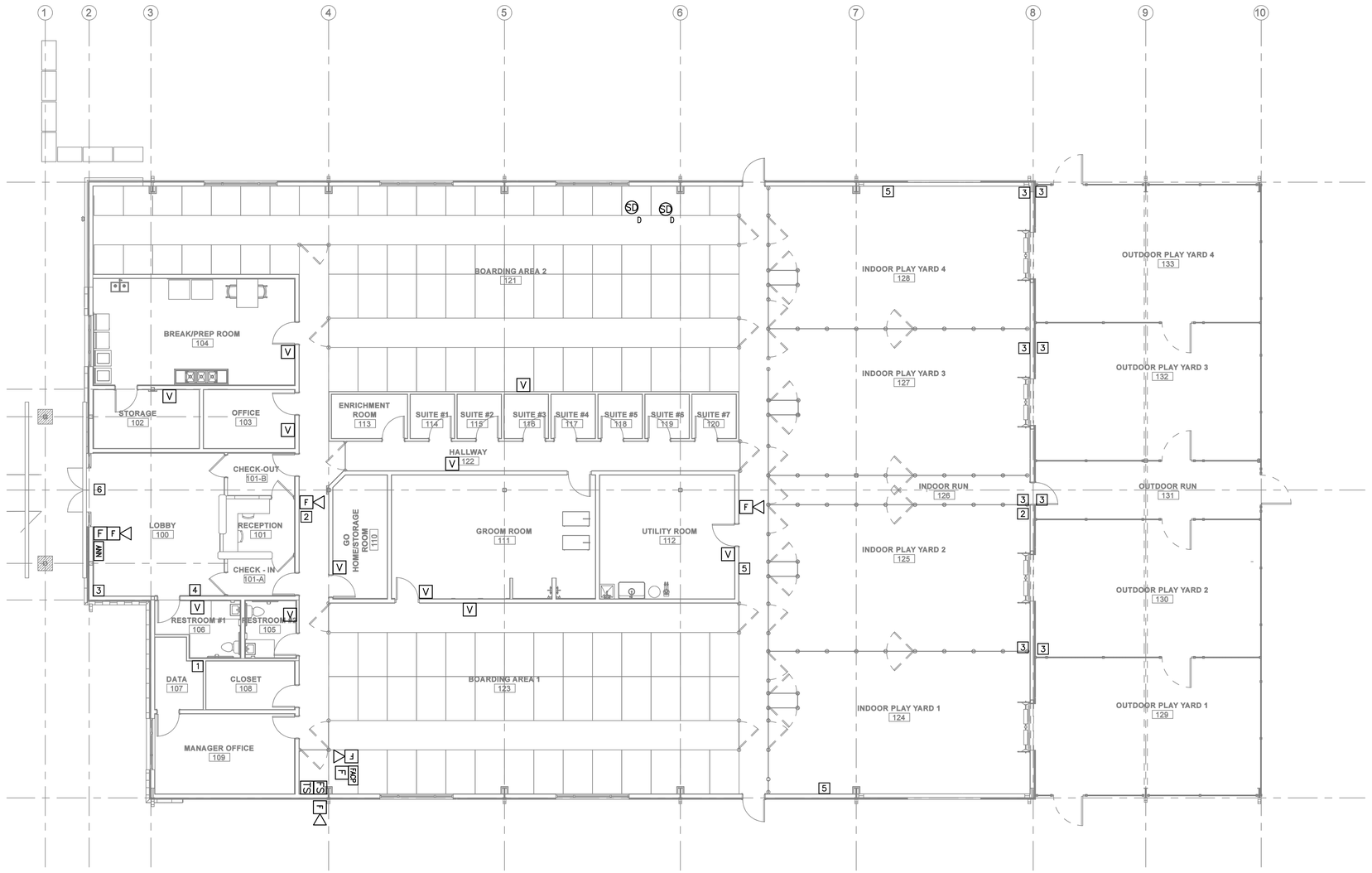

**CAMP BOW WOW**
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NEW BRAUNFELS, TX 78130

project #: 26-028
date: 07-21-2026
drawn by: RGM
checked by: RGM
drawing title:

**ELECTRICAL POWER FLOOR PLAN**

drawing number:

# E102




1 ELECTRICAL SPECIAL SYSTEMS PLAN

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

## KEYED POWER NOTES:

1. WEB CAM SERVER/DOGGY UP LOCATION.
2. DOGGY UP SPEAKER LOCATION AT 96" A.F.F.
3. WEB CAM LOCATION AT 72" A.F.F.
4. LOBBY MONITOR LOCATION AT 60" TO THE BOTTOM OF MONITOR.
5. MESSAGING SYSTEM MONITOR LOCATION AT 96" A.F.F.
6. DOGGY UP DOOR CHIME.

WEB CAM / DOGGY UP SYSTEM PROVIDED BY OTHERS. CONTRACTOR TO PROVIDE POWER PER POWER PLAN AND REQUIRED WALL ROUGH-IN INDICTED HERE. FIELD COORDINATE WITH OWNER'S VENDOR FOR EXACT LOCATION ROUGH-IN REQUIREMENTS PRIOR TO ROUGH-IN.

## GENERAL POWER NOTES:

1. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS AT THE JOB SITE BEFORE COMMENCING ANY PHASE OF THE WORK. ADJUSTMENTS FOR FIT AND COORDINATION SHALL BE MADE AT NO ADDITIONAL COST TO THE OWNER. NOTIFY ENGINEER OF ANY CONFLICTS, DISCREPANCIES OR OMISSIONS PRIOR TO COMMENCEMENT OF THE CONTRACT WORK.
2. CONTRACTOR SHALL REVIEW ALL ARCHITECTURAL CIVIL, MECHANICAL & STRUCTURAL DRAWINGS AND SPECIFICATIONS FOR ANY ADDITIONAL REQUIREMENTS.
3. CONTRACTOR SHALL COORDINATE HIS WORK WITH OTHER TRADES.
4. ALL CONDUIT SHALL BE AS STRAIGHT AS POSSIBLE AND PARALLEL OR PERPENDICULAR TO BUILDING LINES.
5. ALL WORK SHALL COMPLY WITH CURRENTLY ADOPTED VERSION OF NATIONAL ELECTRICAL CODE.
6. SEAL ALL WALL, ROOF, AND FLOOR PENETRATION WITH UL LISTED FIRE SEALANT.
7. ALL CONDUIT SHALL BE ROUTED CONCEALED WITHIN WALLS AND/OR ABOVE CEILINGS. WHERE APPLICABLE.
8. REFER TO DETAIL #1/SHEET 5.1 FOR EXACT MOUNTING HEIGHTS OF ALL DEVICES.


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RGM ENGINEERING
TEXAS REGISTERED ENGINEERING FIRM
F-10487
7550 IH 10 W, SUITE 350
San Antonio, TX 78229
www.rgmengineering.net
phone: 210.299.4522
fax: 210.299.4525


**CAMP BOW WOW**

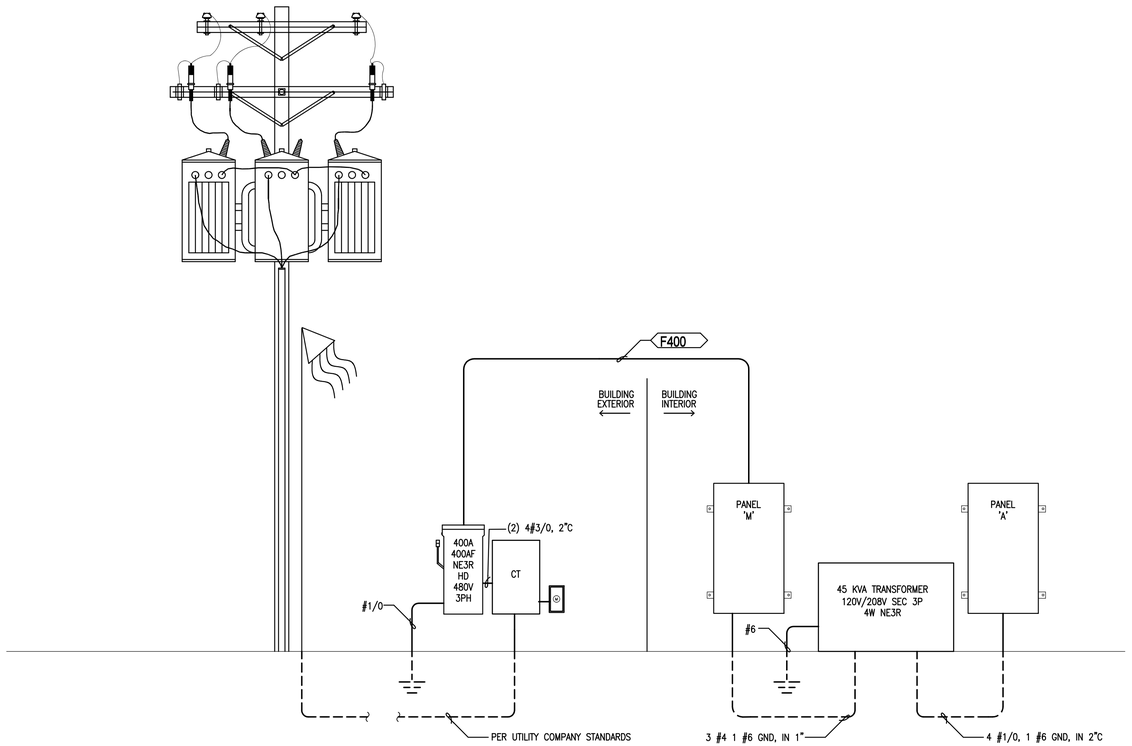
1450 N. BUSINESS 35
NEW BRAUNFELS, TX 78130

project #: 26-028
date: 07-21-2026
drawn by: RGM
checked by: RGM
drawing title:

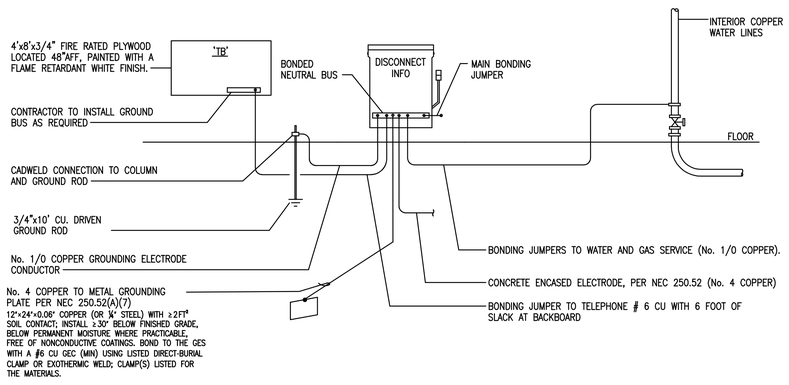
**ELECTRICAL SPECIAL SYSTEMS PLAN**

drawing number:

# E103




1 ONE-LINE RISER DIAGRAM
SCALE: NOT TO SCALE




2 ELECTRICAL SYSTEM GROUNDING DETAIL
NOT TO SCALE

## ELECTRICAL LOAD ANALYSIS

PROJECT:
ADDRESS:
CITY/STATE:
VOLTAGE: 480
VOLTAGE TO GND 277
PHASE 3
WIRE 4

SQUARE FOOTAGE: 10738

| TYPE OF LOAD DESCRIPTION | TYPE LOAD REF. NO. | CONN LOAD (KVA) | | NEC DEMAND FACTOR | DEMAND LOAD (KVA) | DEMAND LOAD (AMPS) | KEYED NOTES |
|---|---|---|---|---|---|---|---|
| 1. RECEPTACLES | 1 | 10.6 | x | SEE NOTE | 10.3 | 12.4 | 1 |
| 2. LIGHTING (VA/Sq.FT) | 2 | 11.8 | x | 125% | 14.8 | 17.8 | 2 |
| 2a. LIGHTING (CONNECT) | 2 | 3.0 | x | 125% | 3.8 | 7.8 | 2 |
| 3. AIR CONDITIONING | 3 | 260.6 | x | 100% | 260.6 | 313.3 | 3 |
| 4. ELECTRIC HEATING | 4 | 0.0 | x | 100% | 0.0 | 0.0 | 4 |
| 5. MOTORS | 5 | 23.8 | x | 100% | 23.8 | 28.6 | 5 |
| 6 WATER HEATING | 6 | 0.0 | x | 100% | 0.0 | 0.0 | 6 |
| 7. ELEVATORS | 7 | 0.0 | x | 100% | 0.0 | 0.0 | 7 |
| 8. KITCHEN EQUIPMENT | 8 | 2.2 | x | 80% | 1.7 | 2.1 | 8 |
| 9. MISCELLANEOUS | 9 | 0.0 | x | 100% | 0.0 | 0.0 | 9 |
| 10. EXTERIOR LIGHTING | 10 | 3.2 | x | 125% | 4.0 | 4.8 | 10 |
| TOTALS = | | 315.1 | | | 318.9 | 386.8 | |

| LOAD ANALYSIS NOTES | NEC REFERENCE | DEMAND LOAD SUMMARY (KVA) | | (AMPS) |
|---|---|---|---|---|
| NOTE 1 | PER NEC TABLE 220.44 | DEMAND LOAD | 318.9 | 383.5 |
| NOTE 2 | PER NEC TABLE 220.12 | LARGEST MTR | 0.0 | 0.0 |
| NOTE 3 | PER NEC 220.60 & ARTICLE 440 | ADD -LTG. VA/SF | | |
| NOTE 4 | PER NEC 220.60 | (SEE NOTE 10) | 0.0 | 0.0 |
| NOTE 5 | PER NEC TABLE 430.22(E), 430.24, 430.26 | SUB-TOTAL | 318.9 | 383.5 |
| NOTE 6 | PER NEC ARTICLE 422 | | | |
| NOTE 7 | PER NEC TABLE 430.22(E), 430.26, & 620.13, 14, 15. | | | |
| NOTE 8 | PER NEC TABLE 220.56 | TOTAL LOAD | 318.9 | 383.5 |
| NOTE 9 | NO NOTES- DEMAND FACTOR AT 100% | THE NEW ELECTRICAL SERVICE ENTRANCE | | |
| NOTE 10 | NO NOTES- DEMAND FACTOR AT 100% | WILL BE SIZED AT AMPS. ALLOWING | | |
| LOAD ANALYSIS COMPUTATIONS PER NEC 2023 | | FOR A AMP SPARE CAPACITY. | | |

BRANCH CIRCUIT AND SERVICE CONDUCTOR SIZING SCHEDULE

| BRANCH CIRCUIT/FEEDER IDENTIFICATION | OVERCURRENT DEVICE | PHASE AND NEUTRAL CONDUCTORS (AWG/kcmil) | EQUIPMENT GROUNDING CONDUCTOR(S) (AWG/kcmil) | GROUNDING ELECTRODE CONDUCTOR (AWG/kcmil) | CONDUIT |
|---|---|---|---|---|---|
| F20 | 20 | 12 | 12 | --- | 1/2" |
| F25 | 25 | 10 | 10 | --- | 1/2" |
| F30 | 30 | 10 | 10 | --- | 1/2" |
| F35 | 35 | 8 | 10 | --- | 1" |
| F40 | 40 | 8 | 10 | --- | 1" |
| F45 | 45 | 8 | 10 | --- | 1" |
| F50 | 50 | 8 | 10 | 8 | 1" |
| F60 | 60 | 6 | 10 | 8 | 1" |
| F70 | 70 | 4 | 8 | 8 | 1-1/4" |
| F80 | 80 | 4 | 8 | 8 | 1-1/4" |
| F90 | 90 | 2 | 8 | 8 | 1-1/4" |
| F100 | 100 | 2 | 8 | 8 | 1-1/4" |
| F125 | 125 | 1/0 | 6 | 6 | 2" |
| F150 | 150 | 1/0 | 6 | 6 | 2" |
| F175 | 175 | 2/0 | 6 | 4 | 2" |
| F200 | 200 | 3/0 | 6 | 4 | 2" |
| F225 | 225 | 4/0 | 4 | 2 | 2-1/2" |
| F250 | 250 | 250 kcmil | 4 | 2 | 2-1/2" |
| F300 | 300 | 350 kcmil | 4 | 2 | 3" |
| F350 | 350 | 500 kcmil | 2 | 1/0 | 4" |
| F400 | 400 | (2) 3/0 | (2) 2 | 1/0 | (2) 2-1/2" |
| F450 | 450 | (2) 4/0 | (2) 2 | 1/0 | (2) 2-1/2" |
| F500 | 500 | (2) 250 kcmil | (2) 2 | 1/0 | (2) 2-1/2" |
| F600 | 600 | (2) 350 kcmil | (2) 1/0 | 2/0 | (2) 3" |
| F700 | 700 | (2) 500 kcmil | (2) 1/0 | 2/0 | (2) 4" |
| F800 | 800 | (3) 300 kcmil | (3) 1/0 | 2/0 | (3) 3" |
| F1000 | 1000 | (3) 400 kcmil | (3) 2/0 | 3/0 | (3) 3" |
| F1200 | 1200 | (4) 350 kcmil | (4) 3/0 | 3/0 | (4) 3" |
| F1600 | 1600 | (5) 400 kcmil | (5) 4/0 | 3/0 | (5) 3" |
| F2000 | 2000 | (6) 400 kcmil | (6) 250 kcmil | 3/0 | (6) 3" |
| F2500 | 2500 | (7) 500 kcmil | (7) 350 kcmil | 3/0 | (7) 4" |
| F3000 | 3000 | (8) 500 kcmil | (8) 400 kcmil | 3/0 | (8) 4" |
| F4000 | 4000 | (11) 500 kcmil | (11) 500 kcmil | 3/0 | (11) 4" |

NOTES:

1. WHERE BRANCH CIRCUIT OR FEEDER IS NOT DESIGNATED ON THE DRAWINGS, BRANCH CIRCUIT OR FEEDER SHALL BE SIZED TO MATCH THE OVERCURRENT DEVICE LISTED ABOVE.
2. GROUNDING ELECTRODE CONDUCTORS FOR SEPARATELY DERIVED SYSTEMS SHALL BE SELECTED BASED ON THE SECONDARY FEEDER OVERCURRENT DEVICE RATING.

Open studio architecture
6122 DeZavala Rd.
San Antonio, Texas 78249
Tel: 210.417.4307
www.openstudio-usa.com

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY
ROGER G. MENDEZ, P.E. 93809
on 07/21/2026

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| Revisions | | |
|---|---|---|
| Number | Description | Date |

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RGM ENGINEERING
TEXAS REGISTERED ENGINEERING FIRM F-10487
7550 IH 10 W, SUITE 350
San Antonio, TX 78229
www.rgmengineering.net
phone: 210.299.4522
fax: 210.299.4525

**CAMP BOW WOW**
1450 N. BUSINESS 35
NEW BRAUNFELS, TX 78130

project #: 26-028
date: 07-21-2026
drawn by: RGM
checked by: RGM
drawing title:

**ELECTRICAL ONE LINE RISER**

drawing number:

**E201**

## PANELBOARD SCHEDULE

PANEL: M
PROJECT: CAMP BOW-WOW
FED FROM
VOLTAGE: 480 277
PH/WIRE: 3 4W
SUB-FEED LUGS:
CONDUIT/CONDUCTORS:

MOUNTING: SURFACE
TYPE: NEMA1
BUSSING: COPPER
MLO:
MAIN C.B.: 400A
A.I.C. RATING:
KEY NOTES:

**NOTE:** ALL BRANCH CIRCUITS SHALL BE RUN IN EMT CONDUIT FROM PANEL TO DEVICE. WHERE CONDUIT SIZE IS NOT INDICATED E.C. MAY COMBINE SIMILAR TYPE CIRCUITS IN LARGER CONDUIT NOT TO EXCEED 40% FILL PER TABLES AND PER TABLE 310.15 (B) (2) (a) FOR CONDUCTOR DERATING WHERE APPLICABLE. ALL OTHER BR. CKTS WITH #12 OR #10 CU. SHALL BE RUN IN 3/4"C.

| CIRCUIT DESCRIPTION | CONDUIT SIZE | COND. SIZE (AWG) | NEUT SIZE (AWG) | E.G.C SIZE (AWG) | TYPE LOAD | LOAD VA | CKT BKR | CKT # | CKT # | CKT BKR | LOAD VA | TYPE LOAD | CONDUIT SIZE | COND. SIZE (AWG) | NEUT SIZE (AWG) | E.G.C. SIZE (AWG) | CIRCUIT DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | #12 | | | 3 | 6651 | | 1 | 2 | | 36581 | 3 | | #1/0 | | | |
| RTU-1 | 1/2" | #12 | | #12 | 3 | 6651 | 25/3 | 3 | 4 | 150/3 | 36581 | 3 | 2" | #1/0 | | #6 | RTU-2 |
| | | #12 | | | 3 | 6651 | | 5 | 6 | | 36581 | 3 | | #1/0 | | | |
| | | | | | | 14260 | | 7 | 8 | | 36581 | 3 | | #1/0 | | | |
| PANEL 'A' VIA TRANSFORMER | | | | | | 15740 | 70/3 | 9 | 10 | 150/3 | 36581 | 3 | 2" | #1/0 | | #6 | RTU-3 |
| | | | | | | 12740 | | 11 | 12 | | 36581 | 3 | | #1/0 | | | |
| SPARE | | | | | | | 20/1 | 13 | 14 | 20/1 | | | | | | | SPARE |
| SPARE | | | | | | | 20/1 | 15 | 16 | 20/1 | | | | | | | SPARE |
| SPARE | | | | | | | 20/1 | 17 | 18 | 20/1 | | | | | | | SPARE |
| | | | | | | | | 19 | 20 | | | | | | | | |
| | | | | | | | | 21 | 22 | | | | | | | | |
| | | | | | | | | 23 | 24 | | | | | | | | |

| CONNECTED LOADS SUMMARY | VA/PH | AMPS/PH |
|---|---|---|
| PHASE 'A' | 94073 | 340 |
| PHASE 'B' | 95553 | 345 |
| PHASE 'C' | 92553 | 334 |
| TOTALS | 282179 | 339 |

| PANELBOARD LOAD ANALYSIS | KVA | AMPS |
|---|---|---|
| 1. TOTAL NEC DEMAND LOAD | 283.01 | 340.3 |
| 2. ADD LARGEST MOTOR (25% ) | 7.04 | 8.5 |
| 3. ADD LIGHTINEG PER VA/SF (SEE NOTE 2 | 0.00 | 0.0 |
| 4. SUB-TOTAL LOAD | 290.05 | 348.8 |
| 5. NOT USED. | | |
| 6. TOTAL NEC LOAD WITH FUTURE LOAD | 290.05 | 348.8 |

**LOAD ANALYSIS NOTES AND PANELBOARD TYPICAL NOTES:**
1. REFER TO THE TYPICAL LOAD ANALYSIS NOTES ON THIS DRAWING SHEET.
2. REFER TO THE TYPICAL PANELBOARD KEYED NOTES ON THIS DRAWING SHEET.

**PANELBOARD LOAD COMPUTATIONS - LOAD SUMMARY**

| TYPE | LOAD DESCRIPTION | SUB FEED | KVA | D.F. | DEMAND LOAD (KVA) |
|---|---|---|---|---|---|
| 1 | 1. RECEPTACLES | 10.58 | 10.58 | NOTE 1 | 10.3 |
| 2 | 2. LIGHTING | 3.00 | 3.00 | 125% | 3.8 |
| 3 | 3. AIR CONDITIONING | 0.00 | 239.44 | 100% | 239.4 |
| 4 | 4. ELECTRIC HEATING | 0.00 | 0.00 | 100% | 0.0 |
| 5 | 5. MOTORS | 23.80 | 23.80 | 100% | 23.8 |
| 6 | 6. ELECT WATER HTG. | 0.00 | 0.00 | 100% | 0.0 |
| 7 | 7. ELEVATOR | 0.00 | 0.00 | 100% | 0.0 |
| 8 | 8. KITCHEN EQUIP. | 2.16 | 2.16 | 80% | 1.7 |
| 9 | 9. MISCELANEOUS | 0.00 | 0.00 | 100% | 0.0 |
| 10 | 10.EXT. LIGHTING | 3.20 | 3.20 | 125% | 4.0 |
| | TOTAL KVA | 42.74 | 282.18 | | 283.01 |
| | TOTAL AMPERES | 51.4 | 339.3 | | 340.3 |

## PANELBOARD SCHEDULE

PANEL: A
PROJECT: CAMP BOW-WOW
FED FROM
VOLTAGE: 208 120
PH/WIRE: 3 4W
SUB-FEED LUGS:
CONDUIT/CONDUCTORS:

MOUNTING: SURFACE
TYPE: NEMA1
BUSSING: COPPER
MLO:
MAIN C.B.: 150A
A.I.C. RATING:
KEY NOTES:

**NOTE:** ALL BRANCH CIRCUITS SHALL BE RUN IN EMT CONDUIT FROM PANEL TO DEVICE. WHERE CONDUIT SIZE IS NOT INDICATED E.C. MAY COMBINE SIMILAR TYPE CIRCUITS IN LARGER CONDUIT NOT TO EXCEED 40% FILL PER TABLES AND PER TABLE 310.15 (B) (2) (a) FOR CONDUCTOR DERATING WHERE APPLICABLE. ALL OTHER BR. CKTS WITH #12 OR #10 CU. SHALL BE RUN IN 3/4"C.

| CIRCUIT DESCRIPTION | CONDUIT SIZE | COND. SIZE (AWG) | NEUT SIZE (AWG) | E.G.C SIZE (AWG) | TYPE LOAD | LOAD VA | CKT BKR | CKT # | CKT # | CKT BKR | LOAD VA | TYPE LOAD | CONDUIT SIZE | COND. SIZE (AWG) | NEUT SIZE (AWG) | E.G.C SIZE (AWG) | CIRCUIT DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LOBBY | 1/2" | #12 | #12 | #12 | 1 | 720 | 20/1 | 1 | 2 | 20/1 | 1000 | 2 | 1/2" | #12 | #12 | #12 | LIGHTS |
| RECEPTION | 1/2" | #12 | #12 | #12 | 1 | 1200 | 20/1 | 3 | 4 | 20/1 | 1000 | 2 | 1/2" | #12 | #12 | #12 | LIGHTS |
| DATA | 1/2" | #12 | #12 | #12 | 1 | 360 | 20/1 | 5 | 6 | 20/1 | 1000 | 2 | 1/2" | #12 | #12 | #12 | LIGHTS |
| DATA | 1/2" | #12 | #12 | #12 | 1 | 360 | 20/1 | 7 | 8 | 20/1 | 660 | 1 | 1/2" | #12 | #12 | #12 | MANAGERS OFFICE |
| OFFICE | 1/2" | #12 | #12 | #12 | 1 | 660 | 20/1 | 9 | 10 | 20/1 | 600 | 5 | 1/2" | #12 | #12 | #12 | RCP1 |
| BREAKROOM/STORAGE RCPT | 1/2" | #12 | #12 | #12 | 1 | 540 | 20/1 | 11 | 12 | 20/1 | 900 | 5 | 1/2" | #12 | #12 | #12 | FRIDGE |
| MICROWAVE | 1/2" | #12 | #12 | #12 | 8 | 1200 | 20/1 | 13 | 14 | 20/1 | 900 | 5 | 1/2" | #12 | #12 | #12 | FRIDGE |
| COFFEE MAKER | 1/2" | #12 | #12 | #12 | 8 | 960 | 20/1 | 15 | 16 | 20/1 | 540 | 1 | 1/2" | #12 | #12 | #12 | GO HOME/STORAGE RM RCPT |
| BREAKROOM RCPT | 1/2" | #12 | #12 | #12 | 1 | 360 | 20/1 | 17 | 18 | 20/1 | 360 | 1 | 1/2" | #12 | #12 | #12 | GROOM ROOM |
| GROOM ROOM | 1/2" | #12 | #12 | #12 | 1 | 360 | 20/1 | 19 | 20 | 20/1 | 720 | 1 | 1/2" | #12 | #12 | #12 | UTILITY ROOM |
| GFWH1 | 1/2" | #12 | #12 | #12 | 1 | 500 | 20/1 | 21 | 22 | 20/1 | 1200 | 10 | 1/2" | #12 | #12 | #12 | SIGNAGE |
| BLOWER | 1/2" | #12 | #12 | #12 | 5 | 1000 | 20/1 | 23 | 24 | 20/1 | 720 | 1 | 1/2" | #12 | #12 | #12 | RM #114/115/116 RCPT |
| HALLWAY RCPT | 1/2" | #12 | #12 | #12 | 1 | 540 | 20/1 | 25 | 26 | 20/1 | 900 | 1 | 1/2" | #12 | #12 | #12 | RM #117/118/119/120/122 RCPT |
| HALLWAY RCPT | 1/2" | #12 | #12 | #12 | 1 | 720 | 20/1 | 27 | 28 | 20/1 | 1000 | 5 | 1/2" | #12 | #12 | #12 | BLOWER |
| HVLS FAN | 1/2" | #12 | #12 | #12 | 5 | 1000 | 20/1 | 29 | 30 | 20/1 | 1000 | 5 | 1/2" | #12 | #12 | #12 | HVLS FAN |
| DRYER | 3/4" | #8 | #8 | #10 | 5 | 3000 | 40/2 | 31 | 32 | 20/1 | 1000 | 5 | 1/2" | #12 | #12 | #12 | HVLS FAN |
| | | #6 | | | 5 | 3000 | | 33 | 34 | 40/2 | 3000 | 5 | 3/4" | #8 | #8 | #10 | DRYER |
| HVLS FAN | 1/2" | #12 | #12 | #12 | 5 | 1000 | 20/1 | 35 | 36 | | 3000 | 5 | | #8 | | | |
| WASHER | 1/2" | #12 | #12 | #12 | 5 | 1200 | 20/1 | 37 | 38 | 20/1 | 1200 | 5 | 1/2" | #12 | #12 | #12 | WASHER |
| OUTSIDE RCPT | 1/2" | #12 | #12 | #12 | 1 | 360 | 20/1 | 39 | 40 | 20/1 | 1000 | 10 | 3/4" | #10 | #10 | #12 | SITE LIGHTING |
| EF-4 | 1/2" | #12 | #12 | #12 | 5 | 500 | 20/1 | 41 | 42 | 20/1 | 1000 | 10 | 3/4" | #10 | #10 | #12 | EXTERIOR LIGHTING |
| EF-3 | 1/2" | #12 | #12 | #12 | 5 | 500 | 20/1 | 43 | 44 | 20/1 | | | | | | | SPARE |
| SPARE | | | | | | | 20/1 | 45 | 46 | 20/1 | | | | | | | SPARE |
| SPARE | | | | | | | 20/1 | 47 | 48 | 20/1 | | | | | | | SPARE |
| SPARE | | | | | | | 20/1 | 49 | 50 | | | | | | | | |
| | | | | | | | | 51 | 52 | | | | | | | | |
| | | | | | | | | 53 | 54 | | | | | | | | |
| | | | | | | | | 55 | 56 | | | | | | | | |
| | | | | | | | | 57 | 58 | | | | | | | | |
| | | | | | | | | 59 | 60 | | | | | | | | |

| CONNECTED LOADS SUMMARY | VA/PH | AMPS/PH |
|---|---|---|
| PHASE 'A' | 14260 | 119 |
| PHASE 'B' | 15740 | 131 |
| PHASE 'C' | 12740 | 106 |
| TOTALS | 42740 | 119 |

| PANELBOARD LOAD ANALYSIS | KVA | AMPS |
|---|---|---|
| 1. TOTAL NEC DEMAND LOAD | 43.57 | 120.9 |
| 2. ADD LARGEST MOTOR (25% ) | 0.00 | 0.0 |
| 3. ADD LIGHTINEG PER VA/SF (SEE NOTE 2 | 0.00 | 0.0 |
| 4. SUB-TOTAL LOAD | 43.57 | 120.9 |
| 5. NOT USED. | | |
| 6. TOTAL NEC LOAD WITH FUTURE LOAD | 43.57 | 120.9 |

**LOAD ANALYSIS NOTES AND PANELBOARD TYPICAL NOTES:**
1. REFER TO THE TYPICAL LOAD ANALYSIS NOTES ON THIS DRAWING SHEET.
2. REFER TO THE TYPICAL PANELBOARD KEYED NOTES ON THIS DRAWING SHEET.

**PANELBOARD LOAD COMPUTATIONS - LOAD SUMMARY**

| TYPE | LOAD DESCRIPTION | SUB FEED | KVA | D.F. | DEMAND LOAD (KVA) |
|---|---|---|---|---|---|
| 1 | 1. RECEPTACLES | 0.00 | 10.58 | NOTE 1 | 10.3 |
| 2 | 2. LIGHTING | 0.00 | 3.00 | 125% | 3.8 |
| 3 | 3. AIR CONDITIONING | 0.00 | 0.00 | 100% | 0.0 |
| 4 | 4. ELECTRIC HEATING | 0.00 | 0.00 | 100% | 0.0 |
| 5 | 5. MOTORS | 0.00 | 23.80 | 100% | 23.8 |
| 6 | 6. ELECT WATER HTG. | 0.00 | 0.00 | 100% | 0.0 |
| 7 | 7. ELEVATOR | 0.00 | 0.00 | 100% | 0.0 |
| 8 | 8. KITCHEN EQUIP. | 0.00 | 2.16 | 80% | 1.7 |
| 9 | 9. MISCELANEOUS | 0.00 | 0.00 | 100% | 0.0 |
| 10 | 10.EXT. LIGHTING | 0.00 | 3.20 | 125% | 4.0 |
| | TOTAL KVA | 0.00 | 42.74 | | 43.57 |
| | TOTAL AMPERES | 0.0 | 118.6 | | 120.9 |

## LIGHT FIXTURE SCHEDULE

| TYP | MANUFACTUR | MODEL | MOUNTING | FIXTURE VA | VOLTAGE | LUMENS | TEMP | DIMMING | DESCRIPTION | NOTES | B-U-G RATING |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A1 | COOPER | # 24CZ2-50-UNV-L840-CD1-U | RECESSED | 40 | UNV | 5049 | 4000K | 0-10V | 2X4 CENTER BASKET TROFFER, 5000 LUMEN | | |
| A2 | COOPER | # 24CZ2-35-UNV-L840-CD1-U | RECESSED | 27 | UNV | 3633 | 4000K | 0-10V | 2X4 CENTER BASKET TROFFER, 3500 LUMEN | | |
| F1 | COOPER | # 8TSNX-62SL-LW-UNV-L840-CD1-U-AYC-CHAIN/SET-U-CLC-SNLED-EXT-B | SUSPENDED BOTTOM OF FIXTURE @10' A.F.F. | 39 | UNV | 5864 | 4000K | 0-10V | 8' STRIPLIGHT, WIDE LENS, CHAIN SET, ROW ALINGER | CONFIRM MOUNTING HEIGHTS | |
| F2 | COOPER | # 4SNX-51SL-LW-UNV-L840-CD1-U-AYC-CHAIN/SET-U | SUSPENDED BOTTOM OF FIXTURE @10' A.F.F. | 35 | UNV | 4803 | 4000K | 0-10V | 4' STRIPLIGHT, WIDE LENS, CHAIN SET | CONFIRM MOUNTING HEIGHTS | |
| LW | EXTANT | # HTGDU-3W-TD-4-DHL-MEODF-UML-MEOCW-40-VU-D-(FINISH)-SW | INTERIOR WALL BOTTOM OF FIXTURE @9' A.F.F. | 56 | UNV | 6240 | 4000K | 0-10V | 3" WALL MOUNT LINEAR, DIRECT/INDIRECT | CONFIRM MOUNTING HEIGHTS, FINISH | |
| S1 | COOPER<br>VALMONT | # GALN-SA4B-740-U-5WQ-(FINISH)<br># DS330-400Q250-D1-(FINISH)-FBC-AB | POLE | 147 | UNV | 24151 | 4000K | 0-10V | AREA LIGHT, TYPE V WIDE<br>25' POLE, 36" CONCRETE BASE | CONFIRM POLE HEIGHTS, FINISH | |
| S2 | COOPER<br>VALMONT | # GALN-SA2B-740-U-T3-(FINISH)-HSS<br># DS330-400Q250-D1-(FINISH)-FBC-AB | POLE | 74 | UNV | 9344 | 4000K | 0-10V | AREA LIGHT, TYPE III, HOUSE SIDE SHIELD<br>25' POLE, 36" CONCRETE BASE | CONFIRM POLE HEIGHTS, FINISH | |
| V1 | COOPER | # 8VT2-LD5-22-DR100-UNV-L840-WL-U VT2-Chain/Set-U | SUSPENDED BOTTOM OF FIXTURE @12' A.F.F. | 165 | UNV | 22000 | 4000K | 0-10V | 8' VAPORTITE, 22000 LUMEN | | |
| V2 | COOPER | # 8VT2-LD5-12-DR100-UNV-L840-WL-U VT2-Chain/Set-U | SURFACE | 100 | UNV | 12000 | 4000K | 0-10V | 8' VAPORTITE, 12000 LUMEN | | |
| W1 | PIL | # QW-M-30-C/EW-(FINISH)-4K-UNV-010V | EXTERIOR WALL @7'-0" A.F.G. | 30 | UNV | 3084 | 4000K | 0-10V | WALL SCONCE, DOWN ONLY | CONFIRM FINISH | |
| W2 | COOPER | # AXCS3A-(FINISH) | EXTERIOR WALL @10'-0" A.F.G. | 23 | UNV | 3551 | 4000K | 0-10V | FULL-CUTOFF WALL PACK | CONFIRM FINISH | |
| X | COOPER | # APC7RG | UNIVERSAL | - | UNV | - | - | - | EXIT SIGN | CONFIRM COLOR | |
| EM | COOPER | # AP2SQLED30 | UNIVERSAL | - | UNV | - | - | - | EMERGENCY EGRESS | | |
| EX1 | COOPER | # APCH7RG | UNIVERSAL | - | UNV | - | - | - | EXIT SIGN COMBO, REMOTE HEADS | CONFIRM COLOR | |

NOTES: 1. ALL FIXTURES SHALL BE SPEC GRADE UNLESS OTHERWISE NOTED.
2. ALL TOGGLE SWITCHES TO BE MOUNTED AT HEIGHTS TO COMPLY WITH ADA GUIDELINES UNLESS OTHERWISE NOTED.
3. LIGHTING FIXTURES SHALL BE COORDINATED WITH THE CEILING TYPE PRIOR TO ORDERING. ALL FIXTURES SHALL BE SUPPLIED WITH APPROVED MOUNTING DEVICES, HANGERS, MOUNTING FRAMES, AND TRIM FOR PROPER INSTALLATION IN THE CEILING OR SOFFIT SYSTEM BEING PROVIDED ON THIS PROJECT REGARDLESS OF THE CATALOG NUMBER. REFER TO ARCHITECTURAL REFLECTIVE CEILING PLAN/ELEVATIONS FOR ADDITIONAL MOUNTING INFORMATION.
4. ALL FIXTURES THAT HAVE A "E" SUFFIX ARE BATTERY BACK-UP. (EXAMPLE 'C1E'). ALL EMERGENCY BATTERY PACKS TO BE 1100 LUMEN FULL OUTPUT.
5. PROVIDE REMOTE BATTERY PACKS FOR FIXTURES IN HARD OR NON-ACCESSIBLE CEILINGS. MOUNT PACKS OVER ACCESSIBLE SPACES. REMOTE MOUNT DRIVERS/BATTERY PACKS ABOVE ACCESSIBLE CEILINGS FOR FIXTURES IN THE TOP OF STAIRWELLS.
6. ALL REMOTE BATTERY PACKS AND DRIVERS TO BE MOUNTED ON PLYWOOD BACKBOARD SECURED TO METAL WALL CHANNEL RACK. DO NOT MOUNT DIRECTLY TO WALL. GROUP TOGETHER.


Open studio architecture
6122 DeZavala Rd.
San Antonio, Texas 78249
Tel: 210.417.4307
www.openstudio-usa.com


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ROGER G. MENDEZ, P.E. 93809
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RGM ENGINEERING
TEXAS REGISTERED ENGINEERING FIRM F-10487
7550 IH 10 W, SUITE 350
San Antonio, TX 78229
www.rgmengineering.net
phone: 210.299.4522
fax: 210.299.4525

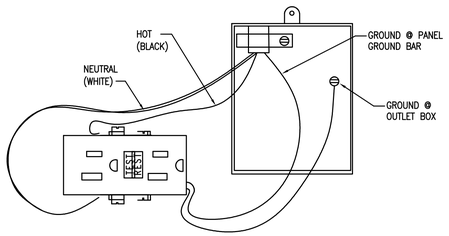

**CAMP BOW WOW**
1450 N. BUSINESS 35
NEW BRAUNFELS, TX 78130

project #: 26-028
date: 07-21-2026
drawn by: RGM
checked by: RGM
drawing title:

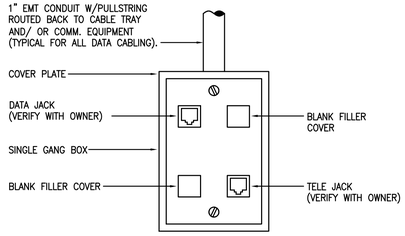
**ELECTRICAL PANELBOARD SCHEDULES**

drawing number:

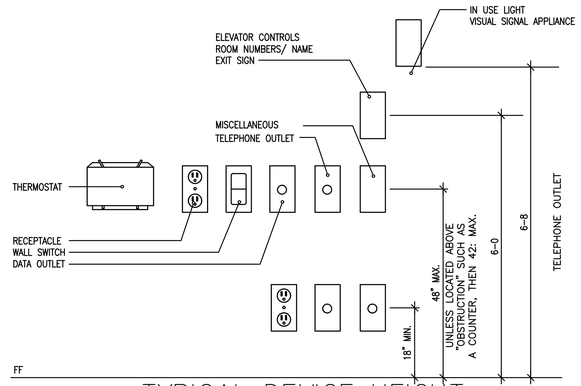
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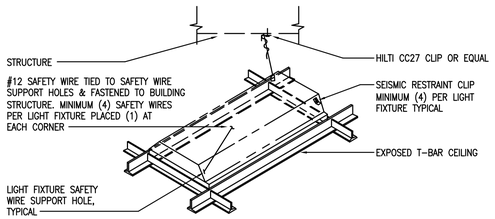

1 ABOVE COUNTER G.F.C.I. INSTALLATION DETAIL
NOT TO SCALE




2 TYPICAL COMM. OUTLET DETAIL
NOT TO SCALE

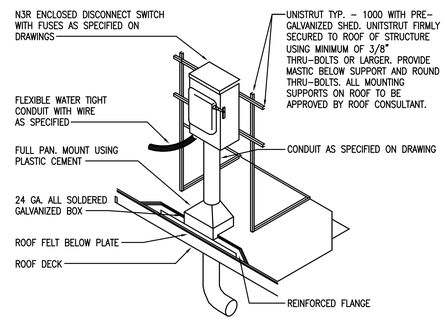



3 TYPICAL DEVICE HEIGHT REQUIREMENTS DIAGRAM
NOT TO SCALE

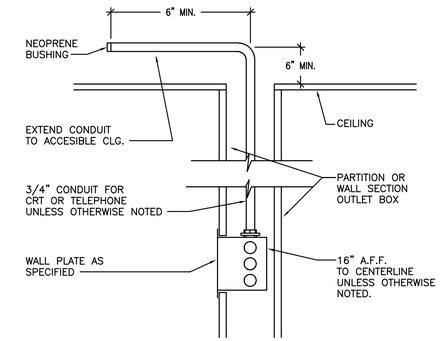



NOTES:
1. ALL WIRES ARE TO BE TAUT WITH A MINIMUM OF 3 TIGHT TURNS AROUND SELF – TYPICAL.
2. THIS DETAIL IS FOR REFERENCE ONLY. MOUNTING LOCATIONS MAY REQUIRE ADDITIONAL STRUCTURAL SUPPORT WHICH SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR DURING INSTALLATION.

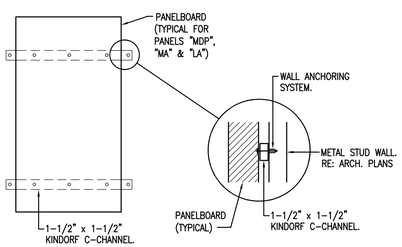
4 LIGHTING FIXTURE SUPPORT DETAIL
NOT TO SCALE



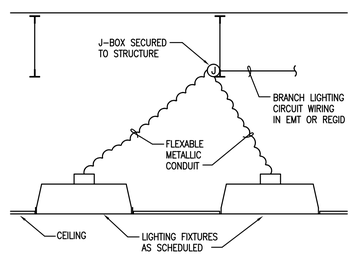

5 ROOFTOP MOUNTED DISCONNECT SWITCH
NOT TO SCALE



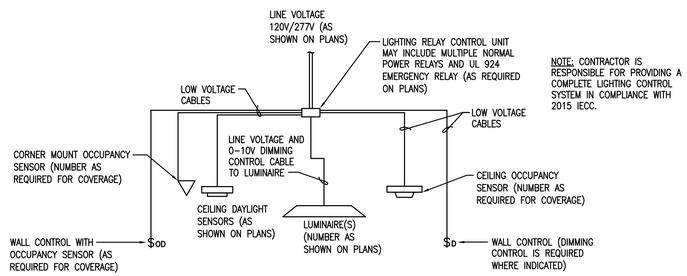

6 TYPICAL TELEPHONE OUTLET DETAIL
NOT TO SCALE




7 TYPICAL PANELBOARD WALL SURFACE MOUNTING DETAIL
NOT TO SCALE




8 LIGHTING FIXTURE WIRING DETAIL
NOT TO SCALE




9 LIGHTING CONTROL SYSTEM DETAIL–TYPICAL RELAY CONTROL SCHEMATIC
NOT TO SCALE

Open studio architecture
6122 DeZavala Rd.
San Antonio, Texas 78249
Tel: 210.417.4307
www.openstudio-usa.com

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7550 IH 10 W, SUITE 350
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**ELECTRICAL DETAILS**

drawing number:

**E401**

ELECTRICAL SPECIFICATIONS
DIVISION 16 – ELECTRIC

16100.02 DRAWINGS AND SPECIFICATIONS

A. DRAWINGS AND SPECIFICATIONS ARE COMPLEMENTARY TO EACH OTHER, AND WHAT IS CALLED FOR ONE, SHALL BE AS IF CALLED FOR BY BOTH.

B. ELECTRICAL DRAWINGS ARE DIAGRAMMATIC AND INDICATE GENERAL DESIGN, LAYOUT, AND ARRANGEMENT OF EQUIPMENT AND VARIOUS SYSTEMS. HOWEVER, BEING DIAGRAMMATIC THE DRAWINGS DO NOT NECESSARILY SHOW ALL DETAILS SUCH AS JUNCTION BOXES, PULL BOXES, WIRING, ETC. NECESSARY FOR A COMPLETE AND OPERABLE SYSTEM.

C. STUDY AND REVIEW ALL CONTRACT DOCUMENTS, INCLUDING DRAWINGS AND SPECIFICATIONS FOR ARCHITECTURAL, STRUCTURAL, MECHANICAL, AND OTHER PORTIONS OF THE WORK TO AVERT POSSIBLE INSTALLATION CONFLICTS. ADJUST ELECTRICAL WORK TO CONFORM TO ALL CONDITIONS INDICATED THEREIN. SHOULD CONFLICTS ARISE WHICH REQUIRE CHANGES IN THE CONTRACT DOCUMENTS, NOTIFY THE ARCHITECT AND OWNER. SECURE WRITTEN APPROVAL AND AGREEMENT ON NECESSARY ADJUSTMENTS BEFORE THE BIDDING.

D. DISCREPANCIES BETWEEN DRAWINGS, BETWEEN DRAWINGS AND SPECIFICATIONS, OR BETWEEN DRAWINGS AND ACTUAL FIELD CONDITIONS, OR ERRORS ON EITHER DRAWINGS OR SPECIFICATIONS SHALL BE PROMPTLY BROUGHT TO THE ATTENTION OF RGM ENGINEERING FOR A DECISION BEFORE THE SPECIFIC BIDDING.

16100.05 PERMITS, FEES, TAXES AND ROYALTIES

A. ARRANGE AND PAY FOR ALL NECESSARY PERMITS, FEES, TAXES, AND ROYALTIES IN CONNECTION WITH ELECTRICAL WORK.

16100.06 CODES AND REGULATIONS

A. COMPLY WITH THE LATEST APPLICABLE REQUIREMENTS OF THE NEC, NESC, OSHA, NFPA AND THE LOCAL ELECTRICAL INSPECTION AUTHORITY WHO SHALL HAVE FINAL JURISDICTION. COMPLY ALSO WITH ALL REQUIREMENTS OF LOCAL UTILITY AND TELEPHONE COMPANIES.

REPORT TO THE ENGINEER PRIOR TO SUBMITTING BIDS, ANY PART OR PORTION OF THE ELECTRICAL DESIGN WHICH DOES NOT CONFORM TO THE REQUIREMENTS OF THE APPLICABLE LOCAL OR STATE CODES OR REQUIREMENTS OF LOCAL UTILITY OR TELEPHONE COMPANIES, OTHERWISE BE HELD RESPONSIBLE TO PROVIDE INSTALLATION WHICH WILL COMPLY WITH THESE CODES AND REGULATIONS.

APPLICABLE CODES AND ORDINANCES AND LOCAL INTERPRETATIONS ARE TO TAKE PRECEDENCE WHEN THEY CONFLICT WITH, OR ARE MORE STRINGENT THAN THE ELECTRICAL DESIGN. DRAWINGS AND SPECIFICATIONS TAKE PRECEDENCE WHERE DESIGN IS MORE STRINGENT THAN CODES AND ORDINANCES.

16100.07 STANDARDS

A. MATERIALS AND INSTALLATION SHALL ALSO CONFORM TO LATEST STANDARDS AND PRACTICES OF THE INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS (IEEE), THE NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA), INSULATED POWER CABLE ENGINEERS ASSOCIATION (IPCEA), AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI), AMERICAN SOCIETY OF TESTING MATERIALS (ASTM), AND THE NATIONAL BUREAU OF STANDARDS.

B. THE FOREGOING RULES, STANDARDS AND REGULATIONS SHALL NOT RELIEVE THE CONTRACTOR FROM FURNISHING AND INSTALLING HIGHER GRADES OF MATERIALS AND WORKMANSHIP WHICH ARE SPECIFIED HEREIN OR INDICATED ON DRAWINGS.

16100.09 PRODUCT DATA AND SUBMITTALS

A. FURNISH PRODUCT DATA AND SUBMITTALS FOR REVIEW BY THE CONSULTING ENGINEER AND OWNER PRIOR TO INSTALLATION.

B. FURNISH DETAILED AND DIMENSIONED PRODUCT DATA, SUBMITTALS, AND SHOP DRAWINGS FOR ALL ELECTRICAL DISTRIBUTION EQUIPMENT, LIGHTING FIXTURES AND LAMPS, SPECIAL EQUIPMENT, SPECIAL SYSTEMS AND SPECIAL APPARATUS WHICH ARE TO BE PROVIDED FOR INSTALLATION IN THIS WORK.

C. INCLUDE CATALOG CUTS, DIMENSIONAL AND OPERATING DATA, WIRING DIAGRAMS FOR SPECIAL SYSTEMS, AND SUCH OTHER DATA AS MAY BE REQUIRED BY RGM ENGINEERING AND OWNER. SUBMIT SAMPLES OF EQUIPMENT WHEN REQUESTED BY THE CONSULTING ENGINEER AND OWNER.

D. SUBMITTALS SHALL BE PROVIDED IN 3–RING HARD BACK BINDERS.

16100.10 MINOR DEVIATIONS AND CHANGES

A. FURNISH AND INSTALL ENTIRE ELECTRICAL INSTALLATIONS AS DESIGNED AND IN ACCORDANCE WITH CONTRACT DRAWINGS AND SPECIFICATIONS. MINOR DEVIATIONS NECESSITATED BY FIELD CONDITIONS OR EQUIPMENT BEING SUPPLIED MAY BE MADE UPON APPROVAL OF RGM ENGINEERING AND OWNER. CHANGES IN DESIGN AND INSTALLATION SHALL BE DONE IN THE MANNER PROVIDED FOR IN THE GENERAL CONDITIONS.

16100.11 CUTTING AND REPAIRING

A. PROVIDE ALL CUTTING, PATCHING CHANNELING, CORE DRILLING, ETC., IN BUILDING STRUCTURE NECESSARY FOR ELECTRICAL WORK. LOCATE HOLES TO BE DRILLED, OUTLETS, ETC., COORDINATE WORK WITH ALL OTHER TRADES ON THE JOB, AND MAKE ARRANGEMENTS FOR NECESSARY OPENINGS AND CHASES. SEAL ALL HOLES CUT FOR WIRING RUNS. NO CUTTING, CHANNELING, CORE DRILLING, ETC., SHALL BE DONE WITHOUT PRIOR APPROVAL OF THE ARCHITECT. MAKE NECESSARY REPAIRS TO FINISHED BUILDING WHERE PATCHING ON REFINISHING IS NECESSARY DUE TO ELECTRIC WORK. ACTUAL WORK INVOLVED IN THESE REPAIRS SHALL BE DONE BY SKILLED CRAFTSMEN IN THE TRADES INVOLVED.

16100.12 MATERIALS

A. FURNISH AND INSTALL ALL MATERIAL, EQUIPMENT, AND DEVICES WHICH ARE NEW, FIRST QUALITY, BEAR THE LISTED LABEL OF THE UNDERWRITERS LABORATORIES, INC. AND WHICH ARE ACCEPTED BY RGM ENGINEERING FOR INSTALLATION IN THIS PROJECT. REPLACE, IN A MANNER ACCEPTED BY THE CONSULTING ENGINEER AND PAY FOR ALL EQUIPMENT OR MATERIALS DAMAGED IN THE COURSE OF INSTALLATION OR TESTING.

BASIC BID SHALL INCLUDE MANUFACTURERS AND CATALOG NUMBERS AS SHOWN IN THESE SPECIFICATIONS, OR ON THE DRAWINGS WITH NO EQUALS, UNLESS SPECIFICALLY INDICATED. SPECIFIED MATERIALS, EQUIPMENT, AND DEVICES SHALL BE FURNISHED AND INSTALLED UNDER THE CONTRACT UNLESS CHANGED BY MUTUAL AGREEMENT BETWEEN CONTRACTOR AND THE CONSULTING ENGINEER.

SUBSTITUTE EQUIPMENT OF OTHER MANUFACTURERS WHICH IS EQUIVALENT TO OR SUPERIOR THAN THAT SPECIFIED MAY BE PROPOSED. HOWEVER, SUCH SUBSTITUTIONS MUST BE ACCEPTED IN WRITING BY THE CONSULTING ENGINEER PRIOR TO BIDDING.

IF SUBSTITUTIONS ARE NOT REQUESTED OR GRANTED, THE SPECIFIED MATERIALS AND EQUIPMENT MUST BE INSTALLED. THE DECISION OF RGM ENGINEERING REGARDING SUBSTITUTIONS SHALL BE FINAL. IT SHALL BE THE ELECTRICAL CONTRACTORS RESPONSIBILITY UNDER THIS SECTION OF THE SPECIFICATION TO NOTIFY ALL CREATED TRADES OF THE ACCEPTED SUBSTITUTIONS AND TO ASSUME FULL RESPONSIBILITY FOR ALL COSTS CAUSED AS A RESULT OF THE SUBSTITUTION. PRIOR TO START OF WORK, SUBMIT TO THE ENGINEER A COMPLETE LIST OF TYPES, MATERIALS, AND EQUIPMENT AND MANUFACTURERS OF THESE ITEMS WHICH ARE TO BE FURNISHED FOR THIS WORK.

B. COPPER WIRE MUST BE USED. ALUMINUM WIRE WILL NOT BE ACCEPTED.

C. EQUIPMENT AND MATERIALS MUST COMPLY WITH THE REQUIREMENTS OF THE UTILITY COMPANY, AND WHERE REQUIRED, SHALL BE SUBMITTED TO THEM FOR THEIR APPROVAL.

16100.15 GUARANTEE

A. FURNISH TO OWNER A FORMAL GUARANTEE COVERING ENTIRE ELECTRICAL SYSTEM, TO BE FREE FROM DEFECTIVE MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE YEAR AFTER DATE OF ACCEPTANCE OF INSTALLATION BY OWNER. DURING THIS PERIOD, PROVIDE ALL LABOR AND NEW MATERIALS WHERE REQUIRED, TO REPAIR OR REPLACE ALL DEFECTS TO THE SATISFACTION OF OWNER AT NO ADDITIONAL COST.

16100.16 FINAL ACCEPTANCE AND WORK CLOSE–OUT

A. CONTRACTOR SHALL INSPECT THE ENTIRE ELECTRICAL INSTALLATION TO ASSURE THAT ALL WORK IS COMPLETED AND ALL SYSTEMS ARE COMPLETELY OPERATIONAL BEFORE CALLING FOR A FINAL ACCEPTANCE OF THE WORK. ALL CERTIFICATES INCLUDING ACCEPTANCE OF LOCAL INSPECTION AUTHORITY MUST BE PRESENTED AT THAT TIME.

16100.19 CLEANING AND PAINTING

A. IN GENERAL, EXCEPT WHERE SPECIFIED OTHERWISE HEREIN, FINISH PAINTING OF CONDUITS, BOXES, POLES, AND EQUIPMENT WHERE SPECIFIED TO BE DONE IN FIELD, SHALL BE DONE BY OTHER TRADES UNDER ANOTHER SECTION OF THE SPECIFICATIONS. PROTECT ELECTRICAL APPARATUS, CABINETS, BOXES AND ALL OTHER EQUIPMENT NORMALLY FURNISHED ON THE JOB WITH FACTORY APPLIED FINISH, EITHER PAINTED OR GALVANIZED, DURING STORAGE AND INSTALLATION. CLEAR ALL ELECTRICAL EQUIPMENT SUCH AS LIGHTING FIXTURES, LAMPS, SWITCHBOARDS, PANELBOARDS, TRANSFORMERS, ETC., OF CONSTRUCTION DIRT, DRILL CHIPS, DEBRIS, DUST PAINT SMEARS, ETC., BEFORE COMPLETION OF WORK. CLEAN OR TOUCH–UP AND REPAINT ALL SCARS BLEMISHES, RUST SPOTS, ETC., TO ORIGINAL STATE OF FINISH.

16100.20 TRENCHING AND BACKFILL

A. PROVIDE ALL TRENCHING AND BACKFILLING REQUIRED FOR ELECTRICAL WORK.

16100.21 SCOPE OF WORK

A. WORK UNDER THIS CONTRACT COMPRISES THE PROVIDING OF ALL LABOR, MATERIAL, EQUIPMENT, TRANSPORTATION, SCAFFOLDING, RIGGING, TOOLS AND RELATED ITEMS AND SUBCONTRACT WORK FOR A COMPLETE OPERATING ELECTRICAL SYSTEM AND INCLUDES BUT IS NOT LIMITED TO:

- TRENCHING AND BACKFILL.
- TEMPORARY LIGHT AND POWER.
- CUTTING AND PATCHING.
- SHOP DRAWINGS.
- TESTING AND ADJUSTMENTS.
- CLEANING AND PAINTING.
- ELECTRICAL SERVICE CONDUITS.
- LOW VOLTAGE FEEDERS
- LIGHT AND POWER DISTRIBUTION PANELS.
- LIGHTING BRANCH CIRCUIT WIRING.
- CONNECTIONS TO EQUIPMENT FURNISHED BY OTHERS.
- LIGHTING FIXTURES AND LAMPS.
- TELEPHONE SYSTEM AS INDICATED ON PLANS.

B. ITEMS MENTIONED IN THE ABOVE SCHEDULE ARE LISTED FOR THE PURPOSE OF DESCRIBING BASIC SPECIFICATION CONTENTS AND SHALL NOT BE CONSTRUED AS RELIEVING THE CONTRACTOR FROM EXECUTING ANY WORK DESCRIBED THROUGHOUT THE SPECIFICATION OR INDICATED ON DRAWINGS BECAUSE OF ITS DETAILED OMISSION IN THIS SCHEDULE.

16100.22 SHOP DRAWINGS AND MANUFACTURER'S SUPERVISION REQUIRED

A. PROVIDE SHOP DRAWINGS FOR THE FOLLOWING, PRIOR TO FABRICATION, INCLUDING ALL ACCESSORIES AND MANUFACTURER'S SUPERVISION WHERE INDICATED:

PANELS
- MOLDED CASE CIRCUIT BREAKERS.
- LIGHTING FIXTURES AND LAMPS.
- CABLE TRAYS
- SECURITY SYSTEM
- FIRE ALARM

16100.23 GROUNDING

A. PROVIDE ALL ELECTRICAL SYSTEM GROUNDING IN ACCORDANCE WITH THE NEC AND ANY STATE AND LOCAL CODE REQUIREMENTS, EVEN IF NOT SHOWN ON THE DRAWINGS. INCLUDE ADDITIONAL GROUNDING CONDUCTORS IN NON–METALLIC RACEWAYS, EVEN THOUGH THE DRAWINGS SHOW ONLY CIRCUIT AND/OR NEUTRAL CONDUCTORS.

B. RECEPTACLES WHICH DO NOT HAVE THEIR MOUNTING YOKES CONNECTED TO RECEPTACLE GROUNDING POINT SHALL BE GROUNDED WITH A GREEN INSULATED GROUNDING JUMPER CONNECTED TO OUTLET BOX. PROVIDE A SEPARATE GROUND CONDUCTOR WITH BRANCH CIRCUIT WIRING WHEN INDICATED ON DRAWINGS OR WHEN REQUIRED BY CODE.

C. GROUND CABLES SHALL BE CONTINUOUS WITHOUT JOINTS OR SPLICES THROUGH ITS LENGTH. IF BARE GROUND CONDUCTORS ARE RUN THROUGH METALLIC CONDUIT, THEY BE SECURELY BONDED TO EACH CONDUIT AT THE ENTRANCE AND EXIT. ALL CONNECTIONS TO EQUIPMENT OR CONDUIT SHALL BE MADE WITH APPROVED TYPE OF SOLDERLESS CONNECTOR, AND SAME SHALL BE THOROUGHLY CLEANED AND BRIGHT BEFORE CONNECTION IS MADE SO AS TO ENSURE A GOOD METAL CONTACT. CONNECTIONS WHICH WILL BE INACCESSIBLE AFTER COMPLETION OF PROJECT SHALL BE MADE BY THE CADWELD OR THERMO WELD PROCESS.

D. GROUNDING CONNECTIONS: UTILIZE BURNDY "THERMOWELD" PROCESS FOR ALL CABLE–TO–CABLE, CABLE–TO–STEEL, AND CABLE–TO–GROUND ROD CONNECTIONS.

E. WHEN THE MAXIMUM RESISTANCE TO GROUND SPECIFIED ABOVE CANNOT BE ACHIEVED, THE CONTRACTOR SHALL INCREASE THE LENGTH AND QUANTITY OF GROUND RODS TO ACHIEVE THIS RESISTANCE REQUIRED. WHERE INCREASED, QUANTITY AND LENGTH OF GROUND RODS DO NOT PRODUCE THE MAXIMUM SPECIFIED RESISTANCE, SOIL TREATMENT AROUND GROUND RODS SHALL BE PROVIDED.

F. SOIL TREATMENT TO REDUCE GROUND RESISTANCE AROUND COPPER WELD GROUND RODS SHALL BE PROVIDED AS FOLLOWS:

1. EXCAVATE CIRCULAR TRENCH AROUND EACH ELECTRODE AND 2'–6" BELOW TOP OF ELECTRODE. FILL WITH 100 POUNDS OF MAGNESIUM SULFATE.

2. SEPARATE ELECTRODE FROM CHEMICAL TO 18" RADIUS WITH STONEFREE EARTH BACKFILL. USE EXTREME CARE TO AVOID DIRECT CHEMICAL CONTACT WITH THE ELECTRODE.

16100.24 WIRING – GENERAL

A. ALL BRANCH CIRCUIT WIRING RUN WITHIN THE BUILDING AND NOT EXPOSED TO MOISTURE, SHALL BE INSTALLED IN ELECTRO–METALLIC TUBING AND RUN CONCEALED IN NEW WALLS, CEILINGS AND/OR SLABS, BUT EXPOSED ON EXISTING SURFACES WHERE CONDUITS CANNOT BE CONCEALED.

B. ALL BRANCH CIRCUIT WIRING RUN OUTSIDE OF THE BUILDING AND EXPOSED TO MOISTURE SHALL BE INSTALLED IN RIGID INTERMEDIATE GALVANIZED CONDUIT AND RUN CONCEALED IN NEW CONSTRUCTION, BUT EXPOSED ON EXISTING CONSTRUCTION.

C. ALL ELECTRIC AND TELEPHONE SERVICE SHALL BE IN RIGID METALLIC CONDUIT. SLOPE CONDUIT AWAY FROM BUILDING A MINIMUM OF 3" IN 100'.

D. ALL RACEWAYS UNDER ROADS, WALKS OR OTHER PAVED AREAS SHALL BE RIGID GALVANIZED CONDUIT.

E. ALL UNDERGROUND WIRING OUTSIDE BUILDING AND UTILITY COMPANY SERVICES, SHALL BE IN RIGID NON–METALLIC CONDUIT SCHEDULE–40 (UNLESS NOTED OTHERWISE ON DRAWINGS) AND SHALL BE ENCASED IN CONCRETE, BURIED BELOW THE FROST LINE.

F. RIGID NON–METALLIC CONDUIT SHALL BE ALLOWED IN STRUCTURAL SLABS, UNLESS DISAPPROVED BY THE STRUCTURAL ENGINEERS.

G. INSTALL RACEWAYS FROM BOX–TO–BOX OR TERMINATIONS AS SHOWN ON THE DRAWINGS OR AS REQUIRED TO AFFECT CIRCUITING DESCRIBED WITH CIRCUIT NUMBERS ADJACENT TO EQUIPMENT. GROUPING HOME RUNS OR COMBINING WIRES IN COMMON RACEWAYS WILL BE ALLOWED, WITH A MAXIMUM OF FOUR SINGLE POLE BRANCH CIRCUITS IN A RACEWAY. INCREASE WIRE SIZES AND RACEWAYS WHERE REQUIRED TO AVOID LOSS OR AMPACITY AS REQUIRED BY NATIONAL ELECTRICAL CODE.

H. PROVIDE 'OZ' OR EQUAL CONDUIT SEALS FOR ALL RACEWAYS, WIRES OR CABLES PASSING THROUGH FOUNDATIONS, FLOORS, WALLS, FOOTINGS, COOLER AND FREEZER WALLS.

I. ALL UNDERGROUND WIRING AND RACEWAYS SHALL BE A MINIMUM OF 24" BELOW FINISHED GRADE EXCEPT WIRING OVER 600 VOLTS WHICH SHALL BE 30" BELOW FINISHED GRADE, UNLESS NOTED OTHERWISE. WIRING IN SLAB SHALL BE INSTALLED IN SCHEDULE 40 RIGID NON METALLIC CONDUIT.

16100.25 CONDUITS AND RACEWAYS

A. ALL CONDUITS SHALL BE 1/2" MINIMUM TRADE SIZE DIAMETER, UNLESS SPECIFIED OTHERWISE.

B. ALL RIGID STEEL CONDUITS SHALL HAVE THREADS PAINTED WITH THOMAS AND BETTS COPPER SHIELD WHERE CONDUIT IS EXPOSED TO WEATHER OR DAMPNESS.

C. RIGID NON–METALLIC CONDUIT SHALL BE INSTALLED IN ACCORDANCE WITH ARTICLE 347 OF THE NATIONAL ELECTRICAL CODE. NO SECTION OR LENGTH OF CONDUIT SHALL BE EXPOSED. ALL ELBOWS SHALL BE RIGID GALVANIZED TO AVOID CUTTING WITH PULL WIRES AND TAPES. CONDUIT SHALL BE PROTECTED FROM LIGHT DURING STORAGE AND INSTALLATION.

D. RACEWAYS SHALL BE CAPPED WITH BUSHINGS DURING CONSTRUCTION AND SWABBED CLEAN BEFORE DRAWING IN WIRE.

E. CONDUITS SHALL BE CUT SQUARE AND REAMED AND ALL TERMINALS SHALL BE MADE UP TIGHT.

F. RIGID CONDUIT SYSTEM SHALL BE MADE UP WITH THREADED FITTINGS AND COUPLINGS.

G. EXPOSED RACEWAYS SHALL RUN PARALLEL TO OR AT RIGHT ANGLES TO SURFACES WIRED OVER AND SHALL BE PROVIDED WITH FITTINGS OR STANDARD MANUFACTURED ELBOWS.

H. SUPPORTS ON ALL RACEWAYS SHALL RUN PARALLEL TO OR AT RIGHT ANGLES TO SURFACES WIRED OVER AND SHALL BE SPACED AT A MAXIMUM OF 10'. SUPPORTS ON RACEWAYS LARGER THAN 2" SHALL BE SPACED AT A MAXIMUM OF 6'.

I. FASTENINGS SHALL BE LAD SHIELDS, RAW PLUGS, WOOD SCREWS, LAG BOLTS, BEAM CLAMPS OR TOGGLE BOLTS. NO WOODEN PLUGS WILL BE PERMITTED. NO NAILS WILL BE PERMITTED.

J. CONDUITS AND HANGERS SHALL BE INSTALLED IN A MANNER NOT TO INTERFERE WITH THE WORK OF OTHER TRADES. THIS SHALL INCLUDE TRAPEZE HANGERS TO STRADDLE DUCTS, PIPES OR OTHER OBSTRUCTIONS, WHERE NECESSARY. NO PERFORATED STRAP IRON WILL BE PERMITTED.

K. PROVIDE A CONDUIT EXPANSION FITTING WHEREVER RUN CROSSES AND EXPANSION JOINT IN THE STRUCTURE, AND WHERE CONDUIT IS ATTACHED TO SEPARATE STRUCTURES. EXPANSION FITTING SHALL BE "OZ' TYPE "AX," THOMAS AND BETTS, STEEL CITY OR APPROVED EQUAL.

L. RIGID NON–METALLIC CONDUIT SHALL BE POLYVINYL CHLORIDE SCHEDULE–40 HEAVY WALL, MADE BY CARLON OR APPROVED EQUAL.

M. SURFACE METAL RACEWAY SHALL BE WIREMOLD, KINDORF OR APPROVED EQUAL.

N. RIGID CONDUIT BUSHINGS SHALL BE IMPACT RESISTANT PLASTIC INSULATING TYPE, AS MADE BY THOMAS & BETTS, APPLETON, STEEL CITY OR APPROVED EQUAL.

O. ELECTRO–METALLIC TUBING SHALL BE REPUBLIC, ETP, NATIONAL OR APPROVED EQUAL WITH SCREW–TYPE FITTINGS.

P. ALL STEEL CONDUITS IN DIRECT CONTACT WITH EARTH SHALL BE PAINTED WITH TWO(2) COATS OF BLACK ASPHALT, PRIOR TO INSTALLATION.

Q. PROVIDE A CONTINUOUS RED PLASTIC STRIP 1'–0" ABOVE TOP OF ALL UNDERGROUND RACEWAYS.

R. CONDUIT SUPPORTS AND HANGERS SHALL BE GALVANIZED BY STEEL CITY, KINDORF OR EQUAL.

16100.27 PULL OR JUNCTION BOXES AND WIRING TROUGHS

A. FURNISH AND INSTALL PULL OR JUNCTION BOXES WHERE INDICATED OR WHERE NECESSARY TO FACILITATE PULLING OF CONDUCTORS. ALL BOXES SHALL BE SIZED ACCORDING TO NEC REQUIREMENTS.

B. BOXES SHALL BE FORMED OF HOT DIPPED GALVANIZED SHEET STEEL EXCEPT WHERE SPECIFIED OTHERWISE.

C. BOXES INSTALLED IN WET AREAS OR WHERE EXPOSED TO WEATHER SHALL BE GALVANIZED WITH CAST BOLTED COVERS.

E. ALL COVERS ON BOXES AND TROUGHS SHALL BE SCREW COVER TYPE, OR COMBINATION HINGED AND SCREWED TYPE.

16100.28 WIRES AND CABLES – 600 VOLT INSULATION

A. WIRE AND CABLE SHALL BE COPPER AND SHALL HAVE CURRENT CARRYING CAPACITY NOT LESS THAN INDICATED AND SHALL CONFIRM TO UL STANDARDS. CONDUCTOR SIZES SHALL BE AS INDICATED ON THE DRAWINGS AND SHALL NOT BE LESS THAN NO. 12 AWG FOR POWER AND LIGHTING WORK UNLESS OTHERWISE INDICATED OR SPECIFIED. ALL NO. 8 B&S GAUGE WIRE AND LARGER SHALL BE STRANDED UNLESS OTHERWISE NOTED ON DRAWINGS. VOLTAGE RATING OF CONDUCTORS WHICH OPERATE AT 600 VOLTS AND BELOW SHALL BE 600 VOLTS. TYPE THWN INSULATION SHALL BE USED FOR ALL SIZES OF WIRE WITH XHHW USED FOR RISERS, UNLESS OTHERWISE NOTED. RECESSED LIGHTING FIXTURES IN HUNG CEILINGS SHALL BE SUPPLIED WITH TYPE AF INSULATED WIRE IN FLEXIBLE METAL CONDUIT, IN LENGTHS NOT EXCEEDING 6 FEET, FROM ADJACENT JUNCTION BOX. TYPE THHN INSULATED WIRE MAY BE USED FOR BRANCH CIRCUIT WIRING, PROVIDING THE AMPACITIES AT WHICH IT IS EMPLOYED ARE BASED ON THE ALLOWABLE AMPACITY OF 75?C. WIRE.

B. CABLES IN HIGH TEMPERATURE AREAS SHALL HAVE AN INSULATION TYPE SUITABLE FOR THE TEMPERATURE CABLES USED IN SPACES FOR ENVIRONMENTAL AIR SHALL CONFORM WITH APPLICABLE NEC REQUIREMENTS.

16100.29 WIRE SPLICING AND TERMINATING OF 600 VOLT CONDUCTORS

A. SPLICES OF WIRES UP TO 3 #8 CONDUCTORS SHALL BE MADE WITH PRESSURE TYPE CONNECTORS. WIRE NUTS OR SCREW CAPS WILL NOT BE PERMITTED. SPLICES ABOVE THIS SIZE SHALL BE MADE WITH APPROVED MECHANICAL CONNECTORS, SCOTCHFILL AND SCOTCH #88 VINYL TAPE.

B. SPLICES IN CABLES #6 GAUGE AND LARGER SHALL BE MADE WITH CAST SLEEVE TYPE CONNECTORS WITH SET SCREWS, SCOTCHFILL AND SCOTCH #88 VINYL TAPE.

C. COPPER CONDUCTOR TERMINATIONS SHALL BE MADE WITH MECHANICAL, SET SCREW, PRESSED COPPER LUGS. TWO(2) BOLT LUGS SHALL BE USED IF NECESSARY, TO OBTAIN SUFFICIENT CONTACT SURFACE OR 200 AMPERES PER SQUARE INCH CAPACITY TO MAINTAIN RIGIDITY IN TERMINATING LARGE CABLES.

D. SMALL WIRE SPLICES SHALL BE MADE WITH THOMAS AND BETTS WIRE NUTS OR APPROVED EQUAL CONNECTORS.

E. LARGE WIRE SPLICES SHALL BE MADE WITH "OZ" TYPE XW AND "OZ" TYPE XTP, OR APPROVED EQUAL CONNECTORS.

F. TERMINAL LUGS SHALL BE PRESSED COPPER SCREW LUGS AS MADE BY MAC OR EQUAL.

16100.30 WIRING DEVICES AND PLATES

A. PROVIDE AT EVERY INDICATED OUTLET THE PROPER DEVICES AND PLATES AS SPECIFIED HEREIN OR ON THE DRAWINGS. WHERE MORE THAN ONE DEVICE IS INDICATED IN ONE LOCATION, THEY SHALL BE GANGED TOGETHER IN ONE BOX AND UNDER ONE PLATE AS REQUIRED.

B. DEVICES LISTED ARE TO ESTABLISH TYPE, COLOR, OPERATION AND CAPACITY. MANUFACTURERS SHALL BE HUBBELL, PASS AND SEYMOUR, OR ARROW HART.

C. COLOR TO BE CHOSEN BY ARCHITECTS.

16100.32 LAMPS AND FIXTURES

A. PROVIDE FIXTURES AS SHOWN ON THE FIXTURE SCHEDULE AND DESCRIBED BELOW. THE FIXTURES SHALL BE SUPPLIED COMPLETE WITH LAMPS AND ANY AUXILIARY DEVICES NECESSARY FOR THEIR FUNCTION. FIXTURES SHALL BE SECURELY FASTENED TO THE CEILING STRUCTURE, AS WELL AS THE OUTLET BOX WHERE NECESSARY TO MAINTAIN PROPER ALIGNMENT.

B. HID BALLAST SHALL BE HIGH POWER FACTOR TYPE.

C. FIXTURES SHALL BE DESIGNED AND APPLIED SUCH THAT THE BALLAST/FIXTURE COMBINATION WITH ALL UNITS IN–PLACE IN THE ROOM OR SPACE SHALL HAVE AN INAUDIBLE SOUND.

D. FIXTURE/BALLAST COMBINATION SHALL BE DESIGNED TO LIMIT MAXIMUM BALLAST CASE TEMPERATURE TO 90 DEG.C.

E. LIGHTING FIXTURES SHALL CONFORM TO ARTICLES 410 AND 300–22 OF THE NEC.

F. FOR THE SIGNS, PROVIDE CONNECTIONS WITH WATERPROOF JUNCTION BOXES OR AS SPECIFIED ON THE PLANS.

G. ALL EXTERIOR LIGHTING FIXTURES WHERE EXPOSED TO WEATHER SHALL BE UL TESTED FOR WET LOCATIONS. OUTDOOR CANOPY LIGHTING FIXTURES SHALL BE UL LISTED FOR DAMP LOCATIONS.

E. EXTERIOR LIGHTING FIXTURES SHALL BE CONTROLLED BY A PHTOCELL–ON/ TIMER–OFF SCHEME. CONTRACTOR TO PROVIDE ALL MATERIALS, CONTACTORS, AND HARDWARE AS REQUIRED.

16100.33 TELEPHONE CONDUIT SYSTEM

A. PROVIDE A COMPLETE TELEPHONE SYSTEM AS INDICATED ON THE PLANS WITH OUTLET BOXES, PLATES AND CABINETS FOR THE INSTALLATION OF TELEPHONE AND WIRING BY THE TELEPHONE COMPANY.

B. ALL RACEWAYS, CABINETS, OUTLETS, ETC., AND THE METHOD OF INSTALLATION SHALL COMPLY WITH THE REGULATIONS AND REQUIREMENTS OF THE TELEPHONE COMPANY.

16100.36 SERVICE AND CURRENT CHARACTERISTICS

A. ELECTRICAL SERVICE SHALL BE BROUGHT IN OVERHEAD OR UNDERGROUND BY THIS CONTRACTOR FROM THE UTILITY COMPANY POLE TO THE PAD OR POLE MOUNTED TRANSFORMER AND TO THE MAIN FUSED SWITCHBOARD LOCATED AS SHOWN ON THE DRAWINGS. ELECTRICAL CONTRACTOR TO COORDINATE ALL NECESSARY REQUIREMENTS WITH THE UTILITY COMPANY.

B. SERVICE SHALL BE THREE PHASE, FOUR WIRE, 120/208 VOLTS OR AS SHOWN ON PLANS.

16100.38 SAFETY AND DISCONNECT SWITCHES

A. BASE NAMED MANUFACTURER – SQUARE 'D'.

B. UNLESS NOTED OTHERWISE, ALL OTHER SWITCHES SHALL SQUARE 'D' HEAVY DUTY CLASS 3110.

C. ALL DISCONNECT SWITCHES SHALL BE LOCKABLE IN THE "ON" OR "OFF" POSITION.

D. OTHER ACCEPTABLE MANUFACTURERS – GENERAL ELECTRIC, WESTINGHOUSE, CUTLER–HAMMER.

16100.42 MOLDED CASE CIRCUIT BREAKERS

A. BASED NAMED MANUFACTURER – "G.E."

B. CIRCUIT BREAKERS SHALL BE OF THE MOLDED CASE BOLTED IN TYPE CONSISTING OF THE NUMBER OF POLES AND AMPERE RATINGS AS NOTED ON THE DRAWINGS.

C. CIRCUIT BREAKERS SHALL BE OF THE INDICATING TYPE PROVIDING "ON," "OFF," AND "TRIPPED" POSITIONS OF THE OPERATING HANDLE. WHEN THE BREAKER IS TRIPPED, THE HANDLE SHALL ASSUME A POSITION BETWEEN "ON" AND "OFF" POSITIONS. BREAKERS SHALL BE OF THE QUICK–MAKE QUICK–BREAK TYPE WITH INVERSE TIME CHARACTERISTICS SECURED THROUGH THE USE OF A BI–METALLIC AND A MAGNETIC TRIPPING ELEMENT.

D. TWO AND THREE POLE BREAKERS SHALL BE THE COMMON TRIP TYPE. HANDLE EXTENSIONS PROVIDING COMMON MANUAL OPERATION WILL NOT BE ACCEPTABLE.

16100.43 LIGHTING AND POWER PANELS

A. BASED NAME MANUFACTURER – "G.E."

B. THE LIGHTING PANELBOARDS SHALL BE FOR THE DEAD FRONT, AUTOMATIC MOLDED CASE CIRCUIT BREAKER TYPE.

C. CABINETS SHALL BE CODE GAUGE WITH MINIMUM 4" SIDE, TOP, AND BOTTOM GUTTERS AND A MINIMUM OF 20" WIDE. PROVIDE SUBFEED LUGS AND A MINIMUM OF 8" TOP, BOTTOM AND SIDE GUTTERS FOR FEEDER TAPS WITHIN PANELBOARDS AND WHEN FEEDERS ARE INSTALLED IN SIDE GUTTERS.

D. THE PANELS SHALL BE FACTORY ASSEMBLED COMPLETE WITH BREAKERS. ANY CIRCUIT BREAKER SHALL BE CAPABLE OF REPLACEMENT WITHOUT DISTURBING ANY OTHER BREAKER, THE MAIN BUS BARS OR BRANCH WIRE CONNECTORS. THE PANELS SHALL BE CAPABLE OF HAVING BRANCH CIRCUITS ADDED WITHOUT ADDITIONAL MACHINING, DRILLING, OR TAPPING. BRANCH CIRCUITS SHALL BE SEQUENCED PHASED ON THE MAIN BUS CARRYING CAPACITY SHALL BE DETERMINED ON A BASIS OF NOT MORE THAN 750 AMPERES PER SQUARE INCH OF CROSS SECTIONAL AREA FOR ALUMINUM BUSES.

E. THE PANELS SHALL BE ARRANGED FOR 3 PHASE, 4 WIRE, 120/208 VOLT SERVICE AS REQUIRED.

F. CIRCUIT BREAKERS SHALL BE AS SPECIFIED IN "MOLDED CASE CIRCUIT BREAKER" SECTION OF THE H. ALL PANELS SHALL BE PROVIDED WITH A COMPLETE TYPE–WRITTEN DIRECTORY OF ALL CONNECTED AND SPECIFICATIONS. MINIMUM INTERRUPTING CAPACITY – 120/208 VOLT SYSTEMS TO BE COORDINATED WITH LOCAL UTILITY COMPANIES SO AS TO INTERRUPT THE AVAILABLE FAULT CURRENT.

G. OTHER ACCEPTABLE MANUFACTURERS – SIEMENS ITE, WESTINGHOUSE, GENERAL ELECTRICAL, CUTLER–HAMMER.

H. THE PANELS SHALL BE LOCATED AND SIZED AS INDICATED ON PRINTS AND CONNECTED AS SHOWN ON THE RISER DIAGRAM.

16100.48 TEMPORARY LIGHT AND POWER

A. THE ELECTRICAL CONTRACTOR SHALL PROVIDE, MAINTAIN, AND OPERATE A SUITABLE TEMPORARY ELECTRIC DISTRIBUTION SYSTEM FOR LIGHT AND POWER.

B. ALL NECESSARY MATERIALS, I.E., PANELBOARDS, SWITCHES, FUSES, CABLES, RECEPTACLE OUTLETS, SUPPORTS AND OVER CURRENT PROTECTION, INCLUDING GROUND FAULT CIRCUIT INTERRUPTERS, 15 AMP. SINGLE–PHASE RECEPTACLES, 30 AMP SINGLE–PHASE OUTLETS, AND ALL OTHER ACCESSORIES REQUIRED FOR THE TEMPORARY DISTRIBUTION SYSTEM SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR.

C. ALL NECESSARY LABOR AND MATERIALS REQUIRED FOR THE INSTALLATION AND MAINTENANCE AND SUBSEQUENT REMOVAL OF THE TEMPORARY DISTRIBUTION SYSTEM, INCLUDING ALL FUSES AND LAMPS SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR.

D. ALL NECESSARY SLEEVES AND SUPPORTS, AS MAY BE REQUIRED FOR THE TEMPORARY DISTRIBUTION SYSTEM SHALL BE PROVIDED BY ELECTRICAL CONTRACTOR.

E. MINIMUM TEMPORARY LIGHTING WITHIN ALL PORTIONS OF THE BUILDING SHALL BE BASED UPON A LIGHTING INTENSITY OF TEN(10) FOOT CANDLES THROUGHOUT. PROPERLY GUARDED LEFT HAND THREADED LAMPS FOR MEETING OSHA REQUIREMENTS AND THE FOLLOWING MINIMUM LAMPING REQUIREMENTS SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR:

ROOMS OR SPACES 100 SQ. FT. TO 250 SQ. FT., NOT LESS THAN TWO(2) 100–WATT LAMPS.
ROOMS OR SPACES OVER 250 SQ. FT. AND UNDER 500 SQ. FT., NOT LESS THAN FOUR(4) 100–WATT LAMPS.

ROOMS OR SPACES OVER 500 SQ. FT., NOT LESS THAN TWO(2) 200–WATT LAMPS OVER 1,000 SQ. FT. OR FRACTION THEREOF.

ALL WIRING, OUTLETS AND LAMPS AS REQUIRED SHALL BE PROVIDED TO CREATE PROPER ADEQUATE LIGHTING IN STAIRS, CORRIDORS AND PASSAGES.

FOR SECURITY REASONS, LIGHTING IN STAIRS, CORRIDORS AND PASSAGES SHALL REMAIN ENERGIZED CONSTANTLY, 24 HOURS OF EACH DAY.

THE ELECTRICAL CONTRACTOR SHALL MAINTAIN HIGHER LIGHTING INTENSITIES AS NECESSARY, IN AREAS WHERE CONCRETE FINISHING AND WORK OF SIMILAR NATURE IS IN PROGRESS, AT NO ADDITIONAL COST TO THE CONTRACTOR.

F. MINIMUM TEMPORARY POWER WITHIN ALL BUILDINGS PROVIDED BY ELECTRICAL CONTRACTOR FOR ELECTRICALLY OPERATED SMALL TOOLS SHALL BE BASED ON A MINIMUM OF 0.50 WATTS PER SQUARE FOOT. ALL POWER OUTLETS SHALL BE PROPERLY GROUNDED CONFORMING TO NEC AND RULES AND REGULATIONS PRESCRIBED BY OSHA, AS WELL AS ALL OTHER AGENCIES HAVING JURISDICTION WITHIN LOCALE. WHEN SUCH CODES OR REGULATIONS ARE INCONSISTENT, THE MORE STRINGENT SHALL PREVAIL.

G. ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL FEEDERS AND LIGHTING/POWER DISTRIBUTION CENTERS OF SUFFICIENT CAPACITY FOR THE REQUIREMENTS OF THE ENTIRE BUILDING, WITH SUFFICIENT NUMBER OF OUTLETS AT SUCH CONVENIENT LOCATIONS SO THAT GROUNDED EXTENSION CORDS OF NOT OVER 100 FEET IN LENGTH WILL REACH ALL WORK AREAS REQUIRING TEMPORARY POWER OR LIGHT. FEEDERS AND BRANCH CIRCUITS SHALL BE EXTENDED TO KEEP PACE WITH CONSTRUCTION.

16289 SURGE PROTECTION DEVICE

A. GENERAL

B. SURGE PROTECTION DEVICE (SPD) SHALL BE UL1449 4th EDITION LISTED AND LABELED "TYPE 1" OR "TYPE 2" LISTED PER NEC ART 285.23 AND 285.24, AND UL1283 COMPLIMENTARY LISTED.

C. THE SPD SHALL HAVE A WARRANTY OF NOT LESS THAN 10 YEARS FROM ORIGINAL DATE OF SHIPMENT. AFTER PROPER INSTALLATION, THE WARRANTY SHALL NOT BE PRO–RATED AND SHALL COVER MANUFACTURING DEFECTS, WORKMANSHIP OR ANY END–OF–LIFE ELECTRICAL EVENT INCLUDING LIGHTNING.

D. PRODUCTS

E. APPROVED MANUFACTURERS FOR SERVICE ENTRANCE, AND BRANCH PANELS ARE,
1. THOR SYSTEMS TSR PRODUCT, AND TSN PRODUCT
2. CURRENT TECHNOLOGY SL3 PRODUCT, TG3 PRODUCT
3. ASCO 460 ( ON SERVICE ENTRANCE) AND ASCO 430 ( ON DISTRIBUTION OR BRANCH PANELS)

F. SSCR OR AIC: THE SPD SHALL HAVE A MINIMUM SCCR RATING OF 100K AIC OR GREATER THAN THAT OF THE CONNECTED SWITCHGEAR OR PANEL THAT IS BEING PROTECTED.

G. SERVICE ENTRANCE SPD'S SHALL HAVE A NOMINAL DISCHARGE RATING (IN) OF 20KA PER UL96A 12TH EDITION.

H. THE UL1449 4th EDITION VOLTAGE PROTECTION RATING (VPR) SHALL NOT BE MORE THAN INDICATED ON THE FOLLOWING CHART, AND THE PER MODE SURGE CURRENT RATING SHALL NOT BE LESS THAN INDICATED ON THE SAME FOLLOWING CHART UNLESS THE RISER, ONE LINE OR PANEL SCHEDULE INDICATES OTHERWISE.

| PANEL AMPERAGE | SURGE CURRENT RATING PER MODE | UL1449–4th EDITION VPR 208Y/120V / 408Y/277V | MODES OF PROTECTION |
|---|---|---|---|
| ≥2500 AMPS | 300,000 AMPS | 800V / 1200 | L–N, L–G, N–G |
| 1200 – 2000 AMPS | 250,000 AMPS | 800V / 1200 | L–N, L–G, N–G |
| 600 – 1000 AMPS | 200,000 AMPS | 800V / 1200 | L–N, L–G, N–G |
| 250 – 400 AMPS | 150,000 AMPS | 800V / 1200 | L–N, L–G, N–G |
| 125 – 225 AMPS | 100,000 AMPS | 800V / 1200 | L–N, L–G, N–G |
| ≤100 AMPS | 50,000 AMPS | 800V / 1200 | L–N, L–G, N–G |

I. THE SPD INTEGRAL MONITORING SHALL BE LED STATUS INDICATORS, AND DRY CONTACTS. THE SERVICE ENTRANCE DEVICES SHALL HAVE LED STATUS INDICATORS, DRY CONTACTS, A SURGE EVENT COUNTER WITH RE–SET, AND AUDIBLE ALARM WITH SILENCE SWITCH.

J. ENCLOSURE: THE SPD SHALL HAVE A NEMA RATING OF NEMA–4 OR A NEMA RATING EQUAL OR GREATER THAN THE CONNECTED SWITCHGEAR OR PANEL THAT IS BEING PROTECTED.

K. EXECUTION

L. SPD SHALL BE MOUNTED EXTERNAL THE SWITCHBOARD(S), DISTRIBUTION PANEL(S), BRANCH PANEL(S) AND/OR LOAD CENTER(S), PER MANUFACTURERS INSTALLATION INSTRUCTIONS, LOCAL CODES, NEC ART.110.3B AND ART.285, AND IEEE 1100–2005 SECTION 8.4.2.5.

M. THE SPD CONNECTIVITY SHALL BE VIA A DEDICATED 3–POLE BREAKER, SIZED PER THE SPD MANUFACTURERS INSTALLATION INSTRUCTIONS. TYPE 2 PER NEC2008 ART.285.24, AND LOW–Z WIRE PROVIDED BY SPD MANUFACTURER.

16541 – FIRE ALARM SYSTEM (IF REQUIRED)

16541.5 PERFORMANCE REQUIREMENTS

A. COMPLY WITH NFPA 72.

B. FIRE ALARM SIGNAL INITIATION SHALL BE BY ONE OR MORE OF THE FOLLOWING DEVICES:
1. MANUAL STATIONS.
2. HEAT DETECTORS.
3. SMOKE DETECTORS.

C. FIRE ALARM SIGNAL SHALL INITIATE THE FOLLOWING ACTIONS:
1. ALARM NOTIFICATION APPLIANCES SHALL OPERATE CONTINUOUSLY.
2. IDENTIFY ALARM AT THE FACP
3. DE–ENERGIZE ELECTROMAGNETIC DOOR HOLDERS
4. TRANSMIT AN ALARM SIGNAL TO THE REMOTE ALARM RECEIVING STATION.
5. UNLOCK ELECTRIC DOOR LOCKS IN DESIGNATED EGRESS PATHS.
6. RELEASE FIRE AND SMOKE DOORS HELD OPEN BY MAGNETIC DOOR HOLDERS.
7. SWITCH HEATING, VENTILATING, AND AIR–CONDITIONING EQUIPMENT CONTROLS TO FIRE ALARM MODE.
8. CLOSE SMOKE DAMPERS IN AIR DUCTS OF SYSTEM SERVING ZONE QHERE ALARM WAS INITIATED

D. SYSTEM TROUBLE SIGNAL INITIATION SHALL BE BY ONE OR MORE OF THE FOLLOWING DEVICES OR ACTIONS:
1. OPEN CIRCUITS, SHORTS AND GROUNDS OF WIRING FOR INITIATING DEVICE, SIGNALING LINE, AND NOTIFICATION–APPLIANCE CIRCUITS.
2. OPENING, TAMPERING, OR REMOVAL OF ALARM–INITIATING AND SUPERVISORY SIGNAL–INITIATING DEVICES.
3. LOSS OF PRIMARY POWER AT THE FACP.
4. GROUND OR DINGLE BREAK IN FACP INTERNAL CIRCUITS.
5. ABNORMAL AC VOLTAGE AT THE FACP.
6. A BREAK IN STANDBY BATTERY CIRCUITRY.
7. FAILURE OF BATTERY CHARGING.

E. SYSTEM TROUBLE AND SUPERVISORY SIGNAL ACTIONS: RING TROUBLE BELL AND ANNUNCIATE AT THE FACP.

F. IT IS THE INTENTION OF THE DESIGN DOCUMENTS TO HAVE A COMPLETE FIRE ALARM SYSTEM WITHIN THE PROJECT SCOPE OF WORK IN FULL COMPLIANCE WITH NFPA 72 AND ANY AND ALL OTHER APPLICABLE CODES AND /OR AS DIRECTED BY THE AUTHORITY HAVING JURISDICTION. AS PART OF HIS BID CONTRACTOR IS TO INCLUDE ALL ALARM INITIATING DEVICES, ALARM NOTIFICATION APPLIANCES, CONTROL UNITS, FIRE SAFETY CONTROL DEVICES, ANNUCIATORS, POWER SUPPLIES, AND WIRING REQUIRED TO MEET COMPLIANCE. NO ALLOWANCE SHALL BE MADE BECAUSE CONTRACTOR HAS NOT INCLUDED ALL REQUIRED MATERIALS FOR FULL COMPLIANCE.

16541.6 SUBMITTALS

A. SHOP DRAWINGS
1. SHOP DRAWINGS SHALL BE PREPARED BY PERSONS WITH THE FOLLOWING QUALIFICATIONS:
I. TRAINED AND CERTIFIED BY MANUFACTURER IN FIRE ALARM SYSTEM DESIGN.
II. FIRE ALARM CERTIFIED BY NICET, MINIMUM LEVEL III.
2. SYSTEM RISER DIAGRAM WITH DEVICE ADDRESSES, CONDUIT SIZES, AND CABLE AND WIRE TYPES AND SIZES.
3. FLOOR PLANS: INDICATE FINAL OUTLET LOCATIONS SHOWING ADDRESS OF EACH ADDRESSABLE DEVICE. SHOW SIZE AND ROUTE OF CABLE AND CONDUITS.

B.QUALIFICATION DATA: FOR INSTALLER

16541.7 QUALITY ASSURANCE

A. INSTALLER QUALIFICAITONS: PERSONNEL SHALL BE TRAINED AND CERTIFIED BY MANUFACTURER FOR INSTALLATION OF UNITS REQUIRED FOR THIS PROJECT. PERSONNELL CERTIFIED BY NICET AS FIRE ALARM LEVEL II.

16541.10 EXTRA MATERIALS

A. FURNISH EXTRA MATERIALS DESCRIBED BELOW THAT MATCH PRODUCTS INSTALLED AND THAT ARE PACKAGED WITH PROTECTIVE COVERING FOR STORAGE AND IDENTIFIED WITH LABELS DESCRIBING CONTENTS. PART MAY BE PROVIDED INSTALLED PER THE OWNERS REPRESENTATIVE.
1. AUDIBLE AND VISUAL NOTIFICATION APPLIANCES: THREE OF EACH TYPE INSTALLED.

B. CONTRACTOR SHALL INCLUDE AS PART OF HIS BID, THE BELOW LISTED DEVICES. PRICE SHALL INCLUDE ALL INSTALLATION, CONNECTIONS TO APPROPRIATE ZONES, ANY SOFTWARE PROGRAMMING, HARDWARE, ETC. REQUIRED FOR DEVICES TO BE A FUNCTIONING PART OF FIRE ALARM SYSTEM. ANY UNUSED DEVICES SHALL BE TURNED OVER TO OWNER AS SPARE PARTS.
1. ___5_____ CEILING MOUNTED SMOKE DETECTORS (IF SYSTEM REQUIRES)
2. ___3_____ MANUAL PULL STATIONS
3. ___3_____ AUDIO/VISUAL ALARM UNITS
4. ___3_____ VISUAL ALARM UNITS
5. ___2_____ DUCT DETECTORS

16541.11 MANUFACTURERS

A. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
1. FACP AND EQUIPMENT
I. EDWARDS SYSTEMS TECHNOLOGY INC.
II. NOTIFIER; A GE–HONEYWELL COMPANY.
III. SIEMENS BUILDING TECHNOLOGIES, INC.; A CERBERUS DIVISION.
IV. SILENT KNIGHT; A GE–HONEYWELL COMPANY.
V. SIMPLEXGRINNELL LP; A TYCO INTERNATIONAL COMPANY.

16541.12 FACP

A. GENERAL DESCRIPTION:
1. SYSTEM IS TO BE A NEW SYSTEM.

B. ELEVATOR CONTROLS: HEAT DETECTOR OPERATION SHUTS DOWN ELEVATOR POWER BY OPERATING A SHUNT TRIP IN A CIRCUIT BREAKER FEEDING THE ELEVATOR.

16541.14 MANUAL FIRE ALARM BOXES

A. DESCRIPTION: UL 38 LISTED; FINISHED IN RED WITH MOLDED, RAISED–LETTER OPERATING INSTRUCTIONS IN CONTRASTING COLOR.
1. SINGLE–ACTION MECHANISM, PULL–LEVER TYPE. WITH INTEGRAL ADDRESSABLE MODULE, ARRANGE TO COMMUNICATE MANUAL–STATION STATUS (NORMAL, ALARM, OR TROUBLE) TO FACP.

16541.15 SYSTEM SMOKE DETECTORS

A. GENERAL DESCRIPTION:
1. UL 268 LISTED, OPERATING A 24–V DC, NOMINAL.
2. INTEGRAL ADDRESSABLE MODULE: ARRANGED TO COMMUNICATE DETECTOR STATUS (NORMAL, ALARM, OR TROUBLE) TO FACP.

B. PHOTOELECTRIC SMOKE DETECTOR:
1. SENSOR: LED OR INFRARED LIGHT SOURCE WITH MATCHING SILICON–CELL RECEIVER.

C. IONIZATION SMOKE DETECTOR
1. SENSOR: RESPONSIVE TO BOTH VISIBLE AND INVISIBLE PRODUCTS OF COMBUSTION. SELF COMPENSATING FOR CHANGES IN ENVIRONMENTAL CONDITIONS.

16541.17 HEAT DETECTORS

A. GENERAL: UL 521 LISTED.

B. HEAT DETECTOR, COMBINATION TYPE: ACUATED BY EITHER A FIXTURE TEMPERATURE OF 135 DEG F (57 DEG C) OR RATE–OF–RISE OF TEMPERATURE THAT EXCEEDS 15 DEG F (8 DEG C) PER MINUTE, UNLESS OTHERWISE INDICATED.

16541.19 NOTIFICATION APPLIANCES

A. DESCRIPTION: EQUIPPED FOR MOUNTING AS INDICATED AND WITH SCREW TERMINALS FOR SYSTEM CONNECTIONS.
1. COMBINATION DEVICES: FACTORY–INTEGRATED AUDIBLE AND VISIBLE DEVICES IN A SINGLE–MOUNTING ASSEMBLY.

B. HORNS: ELECTRIC–VIBRATING–POLARIZED TYPE, 24–V DC; WITH PROVISION FOR HOUSING THE OPERATING MECHANISM BEHIND GRILLE. HORNS SHALL PRODUCE A SOUND–PRESSURE LEVEL OF 90dBA MEASURED 10 FEET (3M) FROM HORN.

C. VISIBLE ALARM DEVICES: XENON STOBE LIGHTS LISTED UNDER UL 1971, WITH CLEAR OR NOMINAL WHITE POLYCARBONATE LENS MOUNTED ON AN ALUMINUM FACEPLATE. THE WORK "FIRE" IS ENGRAVED IN MINIMUM 1–INCHO (25–MM–) HIGH LETTERS ON THE LENS.

16541.21 EXECUTION

A. HVAC: LOCATE DETECTORS NOT CLOSER THAN 3 FEET (1M) FROM AIR–SUPPLY DIFFUSER OR RETURN–AIR OPENING.

16541.22 WIRING INSTALLATION

A. INSTALL WIRING ACCORDING TO THE FOLLOWING:
1. NECA 1.
2. TIA/EIA 568–A.

B. WIRING METHOD: INSTALL WIRING IN METAL RACEWAY ACCORDING TO DIVISION 16 SECTION "RACEWAYS AND BOXES."
1. FIRE ALARM CIRCUITS AND EQUIPMENT CONTROL WIRING ASSOCIATED WITH THE FIRE ALARM SYSTEM SHALL BE INSTALLED IN A DEDICATED RACEWAY SYSTEM. THIS SYSTEM SHALL NOT BE USED FOR ANY OTHER WIRE OR CABLE.

16541.25 FIELD QUALITY CONTROL

A. MANUFACTURER'S FIELD SERVICE: ENGAGE A FACTORY AUTHORIZED SERVICE REPRESENTATIVE TO INSPECT[TEST AND ADJUST] FIELD–ASSEMBLED COMPONENTS AND EQUIPMENT INSTALLATION, INCLUDING CONNECTIONS[, AND TO ASSIST IN FIELD TESTING]. REPORT RESULTS IN WRITING.

END OF ELECTRICAL SPECIFICATIONS

Open studio architecture
6122 DeZavala Rd.
San Antonio, Texas 78249
Tel: 210.417.4307
www.openstudio-usa.com

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ROGER G. MENDEZ, P.E. 93809
on 07/21 ,2026

STATE OF TEXAS
ROGER G. MENDEZ
93809
REGISTERED PROFESSIONAL ENGINEER

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RGM ENGINEERING
TEXAS REGISTERED ENGINEERING FIRM
F–10487
7550 IH 10 W, SUITE 350
San Antonio, TX 78229
www.rgmengineering.net
phone: 210.299.4522
fax: 210.299.4525

**CAMP BOW WOW**
1450 N. BUSINESS 35
NEW BRAUNFELS, TX 78130

project #: 26-028
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drawing title: **ELECTRICAL SPECIFICATIONS**
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**E501**

# PLUMBING SYMBOLS AND ABBREVIATIONS

## A

| | |
|---|---|
| A | AIR (COMPRESSED) |
| ABV | ABOVE |
| AC | ABOVE CEILING |
| AD | ACCESS DOOR, AREA DRAIN |
| ADJ | ADJUSTABLE |
| AFC | ABOVE FINISHED CEILING |
| AFF | ABOVE FINISHED FLOOR |
| AFG | ABOVE FINISHED GRADE |
| AHU | AIR HANDLING UNIT |
| AL | ALUMINUM |
| AP | ACCESS PANEL |
| APD | AIR PRESSURE DROP |
| ARCH | ARCHITECT, ARCHITECTURAL |
| AS | AIR SEPARATOR |
| AV | ACID VENT, AIR VENT |
| AVG | AVERAGE |
| AW | ACID WASTE |
| AWS | AMERICAN WELDING SOCIETY |
| AUX | AUXILIARY |

## B

| | |
|---|---|
| B | BOILER |
| BC | BELOW COUNTER |
| BF | BELOW FLOOR |
| BFF | BELOW FINISHED FLOOR |
| BFV | BUTTERFLY VALVE |
| BH | BOX HYDRANT |
| BLDG | BUILDING |
| BM | BENCHMARK |
| BOP | BOTTOM OF PIPE |
| BOS | BOTTOM OF STRUCTURE |
| BT | BATH TUB, BREAK TANK |
| BTU | BRITISH THERMAL UNIT |
| BV | BALL VALVE |
| BWV | BACK WATER VALVE |

## C

| | |
|---|---|
| C° | CELSIUS DEGREES |
| CB | CATCH BASIN |
| CD | CONDENSATE DRAIN LINE |
| CFM | CUBIC FEET PER MINUTE |
| CFS | CUBIC FEET PER SECOND |
| CI | CAST IRON |
| CIRC | CIRCULATING |
| CL | CENTERLINE |
| CLG | CEILING |
| CLR | CLEAR |
| CMP | CORRIGATED METAL PIPE |
| CMU | CONCRETE MASONRY UNIT |
| CPI | CAST IRON PIPE INSTITUTE |
| CPVC | CHLORINATED POLYVINYL CHLORIDE |
| CO | CLEAN OUT |
| COL | COLUMN |
| COMB | COMBINATION |
| CON | CONVERTER |
| CONN | CONNECTION |
| CONT | CONTINOUS,CONTINUATION |
| CT | COOLING TOWER |
| CTR | CENTER |
| CU | COPPER |
| CW | COLD WATER |

## D

| | |
|---|---|
| D | DRAIN |
| DESIG | DESIGNATION |
| DTL | DETAIL |
| DF | DRINKING FOUNTAIN |
| DIA | DIAMETER |
| DIM | DIMENSION |
| DISC | DISCONNECT |
| DN | DOWN |
| DSCU | DUCTLESS SPLIT CONDENSING UNIT |
| DW | DISHWASHER |
| DWG | DRAWING |
| DWH | DOMESTIC WATER HEATER |
| DWP | DOMESTIC WATER PUMP |
| DX | DIRECT EXPANSION |

## E

| | |
|---|---|
| EA | EACH |
| EC | ELECTRICAL CONTRACTOR |
| EDF | ELECTRIC DRINKING FOUNTAIN |
| EJ | EXPANSION JOINT |
| EL | ELEVATION |
| ELEV | ELEVATOR |
| EMERG | EMERGENCY |
| ENCL | ENCLOSURE |
| EQ | EQUAL |
| EQUIP | EQUIPTMENT |
| ES | EMERGENCY SHOWER |
| ESP | EXTERNAL STATIC PRESSURE |
| ET | EXPANSION TANK |
| ETR | EXISTING TO REMAIN |
| EVAP | EVAPORATOR |
| EWT | ENTERING WATER TEMPERATURE |
| EXT | EXTERNAL |
| EXTG | EXISTING |

## F

| | |
|---|---|
| F° | FAHRENHEIT DEGREES |
| FBO | FURNISHED BY OTHERS |
| FCO | FLOOR CLEAN OUT |
| FCS | FLOOR CONTROL STATON |
| FD | FLOOR DRAIN |
| FDS | FIRE DEPARTMENT SIAMESE |
| FDV | FIRE DEPARTMENT VALVE |
| FH | FIRE HYDRANT |
| FHC | FIRE HOSE CABINET |
| FHR | FIRE HOSE RACK |
| FIN | FINISHED |
| FIXT | FIXTURE |
| FL | FLOW LINES |
| FLR | FLOOR |
| FRZR | FREEZER |
| FS | FLOOR SINK |
| FSK | FLOOR SINK |
| FT | FOOT, FEET |
| FUT | FUTURE |

## G

| | |
|---|---|
| G | GAS |
| GA | GAUGE |
| GAL | GALLON |
| GALV | GALVANIZED |
| GC | GENERAL CONTRACTOR, GRADE CLEANOUT |
| GV | GATE VALVE |
| GLV | GLOBE VALVE |
| GND | GROUND |
| GPD | GALLONS PER DAY |
| GPH | GALLONS PER HOUR |
| GPM | GALLONS PER MINUTE |
| GSH | GRAND SENSIBLE HEAT |
| GTH | GRAND TOTAL HEAT |
| GVAC | GREASE VENT ABOVE CEILING |

## H

| | |
|---|---|
| H | HUMIDIFIER |
| HB | HOSE BIBB |
| HD | HUB DRAIN |
| HE | HEAT EXCHANGER |
| HORIZ | HORIZONTAL |
| HP | HORSEPOWER, HALON PANEL |
| HPU | HEAT PUMP UNIT |
| HKP | HOUSEKEEPING PAD |
| HSC | HORIZONTAL SPLIT CASE |
| HSTAT | HUMIDISTAT |
| HT | HEIGHT |
| HTR | HEATER |
| HW | HOT WATER |
| HWC | HOT WATER CIRCULATOR |
| HWP | HEATING WATER PUMP |
| HWR | HOT WATER RETURN |
| HWS | HOT WATER SUPPLY |

## I

| | |
|---|---|
| IE | INVERT ELEVATION |
| IH | INFRARED HEATER |
| IN | INCH |
| INT | INTERNAL, INTERIOR |
| IW | INDIRECT WASTE |

## J

| | |
|---|---|
| JB | JUCTION BOX |
| JP | JOCKEY PUMP |

## K

| | |
|---|---|
| KEC | KITCHEN EQUIPTMENT CONTRACTOR |

## L

| | |
|---|---|
| L | LENGTH, LAVATORY |
| LAV | LAVATORY |
| LF | LINEAR FEET |
| LP | LOW PRESSURE |
| LRA | LOCKED ROTOR AMPS |
| LVL | LEVEL |
| LWCO | LOW WATER CUT OFF |
| LWT | LEAVING WATER TEMPERATURE |

## M

| | |
|---|---|
| MAX | MAXIMUM |
| MBH | THOUSAND OF BTU'S |
| MC | MECHANICAL CONTRACTOR |
| MECH | MECHANICAL |
| MFR | MANUFACTURER |
| MH | MANHOLE |
| MI | MALLEABLE IRON |
| MIN | MINIMUM |
| MP | MEDIUM PRESSURE |
| MS | MOP SINK |
| MTD | MOUNTED |

## N

| | |
|---|---|
| NFPA | NATIONAL FIRE PROTECTION ASSOCIATION |
| NIC | NOT IN CONTRACT |
| N.O. | NORMALLY OPEN |
| NC | NORMALLY CLOSED |
| NO. | NUMBER |
| NTS | NOT TO SCALE |

## O

| | |
|---|---|
| OC | ON CENTER |
| OD | OUTSIDE DIAMETER, OVERFLOW DRAIN |
| OPG | OPENING |
| OS&Y | OPEN STEM AND YOLK |

## P

| | |
|---|---|
| P | PUMP |
| PC | PLUMBING CONTRACTOR |
| PCR | PUMPED CONDENSATE RETURN |
| PD | PRESSURE DROP, PLANTER DRAIN |
| PH | PHASE, POST HYDRANT |
| PIV | POST INDICATOR VALVE |
| PLBG | PLUMBING |
| PNEU | PNEUMATIC |
| PNTH | PENTHOUSE |
| PP | POLYPROPYLENE |
| PPM | PART PER MILLION |
| PRI | PRIMARY |
| PRS | PRESSURE REDUCING STATION |
| PRV | PRESSURE REDUCING VALVE |
| PSF | POUNDS PER SQUARE FOOT |
| PSI | POUNDS PER SQUARE INCH |
| PSIG | POUNDS PER SQUARE INCH GAUGE |
| PT | PLUMBING TRIM |
| PV | PLUG VALVE |
| PVC | POLYVINYL CHLORIDE |

## Q

| | |
|---|---|
| QTY | QUANITY |

## R

| | |
|---|---|
| RCP | REFLECTED CEILING PLAN |
| RD | ROOF DRAIN |
| RE | REFERENCE,REFER |
| RED | REDUCER |
| REINF | REINFORCING |
| REQD | REQUIRED |
| REV | REVISION, REVISE |
| RPM | REVOLUTIONS PER MINUTE |
| RV | RELIEF VALVE |

## S

| | |
|---|---|
| S | STEAM |
| SAN | SANITARY SEWER |
| SC | STEAM CONDENSATE |
| SCHED | SCHEDULED |
| SCR | SILICON CONTROLLED RECTIFIER |
| SD | STORM DRAIN |
| SE | SEWAGE EJECTOR |
| SEC | SECONDARY |
| SECT | SECTION |
| SENS | SENSIBLE |
| SF | SQUARE FEET |
| SFCS | SPRINKLER FLOOR CONTROL STATION |
| SH | SHOWER |
| SIM | SIMILAR |
| SK | SINK |
| SP | SUMP PUMP, STATIC PRESSURE |
| SPEC | SPECIFICATION |
| SPR | SPRINKLER |
| SQ | SQUARE |
| SS | SANITARY SEWAGE |
| SSD | SUBSURFACE DRAIN |
| SSUF | SANITARY SEWER UNDER FLOOR |
| SSSC | SOLID STATE SPEED CONTROL |
| STD | STANDARD |
| STL | STEEL |
| STR | STRAINER |
| SURF | SURFACE |
| SUSP | SUSPEND |
| SV | SANITARY VENT |
| SW | SOFT WATER |

## T

| | |
|---|---|
| TC | TEMPERATURE CONTROL |
| TD | TRENCH DRAIN |
| TDH | TOTAL DYNAMIC HEAD |
| TH BLK | THRUST BLOCK |
| TP | TRAP PRIMER |
| TPD | TRAP PRIMER DEVICE |
| TYP | TYPICAL |

## U

| | |
|---|---|
| U | URINAL |
| UG | UNDERGROUND |
| UH | UNIT HEATER |
| UL | UNDERWRITERS LABORATORIES, INC. |
| UNO | UNLESS NOTED OTHERWISE |
| UF | UNDERFLOOR |
| US | UNDERSLAB |

## V

| | |
|---|---|
| V | VENT |
| VAC | VENT ABOVE CEILING |
| VCP | VITRIFIED CLAY PIPE |
| VFD | VARIABLE FREQUENCY DRIVE |
| VIB | VALVE IN BOX |
| VOV | VALVE ON VERTICAL |
| VP | VACUUM PUMP |
| VTR | VENT THRU ROOF |
| VUF | VENT UNDER FLOOR |
| VUG | VENT UNDER GROUND |

## W

| | |
|---|---|
| WC | WATER CLOSET |
| WCO | WALL CLEANOUT |
| WH | WALL HYDRANT |
| WM | WATER METER |
| WP | WEATHERPROOF |
| WPD | WATER PRESSURE DROP |
| WWF | WELDED WIRE FABRIC |
| WT | WATERTIGHT, WEIGHT |

## Y

## Z

## PLUMBING PIPING SYMBOLS

| | |
|---|---|
| SS | SANITARY SEWER/WASTE PIPING |
| – | COLD WATER SUPPLY PIPING |
| – – | HOT WATER SUPPLY PIPING |
| – – – | HOT WATER RETURN PIPING |
| - - - - - - | VENT/REVENT PIPING |
| O | OXYGEN |
| G | GAS PIPING |
| A | AIR PIPING |
| FW | FILTER WATER |
| F | FIRE LINE |
| CD | CONDENSATE DRAIN |
| CWS | CONDENSER WATER SUPPLY |
| CWR | CONDENSER WATER RETURN |
| V | VACUUM |
| N2O | NITROUS OXIDE |
| 140° | HOT WATER 140° |
| 160° | HOT WATER 160° |
| 180° | HOT WATER 180° |
| GW | GREASE WASTE |
| RD | ROOF DRAIN PIPING |
| | DRAIN PIPING |
| RHG | REFRIGERANT HOT GAS LINE |
| RS | REFRIGERANT SUCTION LINE |
| RL | REFRIGERANT LIQUID LINE |
| S (30#) | STEAM (PSIG) |
| SC | STEAM CONDENSATE |
| OF | OVERFLOW DRAIN |
| AW | ACID WASTE |
| AV | ACID VENT |
| FS | FIRE SPRINKLER |
| TP | TRAP PRIMER |
| SS | EXISTING SANITARY SEWER/WASTE PIPING |
| – | EXISTING COLD WATER SUPPLY PIPING |
| – – | EXISTING HOT WATER SUPPLY PIPING |
| – – – | EXISTING HOT WATER RETURN PIPING |
| - - - - - - | EXISTING VENT / REVENT PIPING |
| O | EXISTING OXYGEN |
| G | EXISTING GAS PIPING |
| A | EXISTING AIR PIPING |
| FW | EXISTING FILTER WATER |
| F | EXISTING FIRE LINE |
| CD | EXISTING CONDENSATE DRAIN |
| CHWS | EXISTING CHILLED WATER SUPPLY |
| CHWR | EXISTING CHILLED WATER RETURN |
| CWS | EXISTING CONDENSER WATER SUPPLY |
| CWR | EXISTING CONDENSER WATER RETURN |
| V | EXISTING VACUUM |
| N2O | EXISTING NITROUS OXIDE |
| 140° | EXISTING HOT WATER 140° |
| 160° | EXISTING HOT WATER 160° |
| 180° | EXISTING HOT WATER 180° |
| GT | EXISTING GREASE WASTE |
| | EXISTING ROOF DRAIN PIPING |
| | EXISTING DRAIN PIPING |

## PLUMBING VALVES

- BALL VALVE
- BEND VALVE
- BUCK VALVE
- BUTT VALVE
- CHECK VALVE
- GLOBE VALVE
- GATE VALVE
- GATE VALVE
- HOOK VALVE
- HOOK VALVE
- PLUG VALVE
- PLUG VALVE
- SHUT VALVE
- SHUT VALVE
- SHUT VALVE
- SQUARE VALVE
- UNION VALVE
- VALVE IN DROP
- YOKE VALVE
- 2-WAY VALVE
- 3-WAY ARC VALVE
- 3-WAY SQUARE VALVE

## PLUMBING FITTINGS

- BIBB
- CAP
- DRAIN
- DRAIN WITH DROP
- DROP
- FLOW DIRECTION
- FLANGE
- ELBOW FITTING
- TEE FITTING
- FCO FLOOR CLEANOUT
- YCO YARD CLEANOUT
- FLOOR DRAIN (SIZE & TYPE NOTED IN SPECIFICATION)
- HD HUB DRAIN


Open studio architecture
6122 DeZavala Rd.
San Antonio, Texas 78249
Tel: 210.417.4307
www.openstudio-usa.com


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RGM ENGINEERING
TEXAS REGISTERED ENGINEERING FIRM F-10487
7550 IH 10 W, SUITE 350
SAN ANTONIO, TX 78229
WWW.RGMENGINEERING.NET
PHONE: 210.299.4522
FAX: 210.299.4525


**CAMP BOW WOW**

1450 N. BUSINESS 35
NEW BRAUNFELS, TX 78130

project #: 26-028

date: 07-21-2026

drawn by: RGM

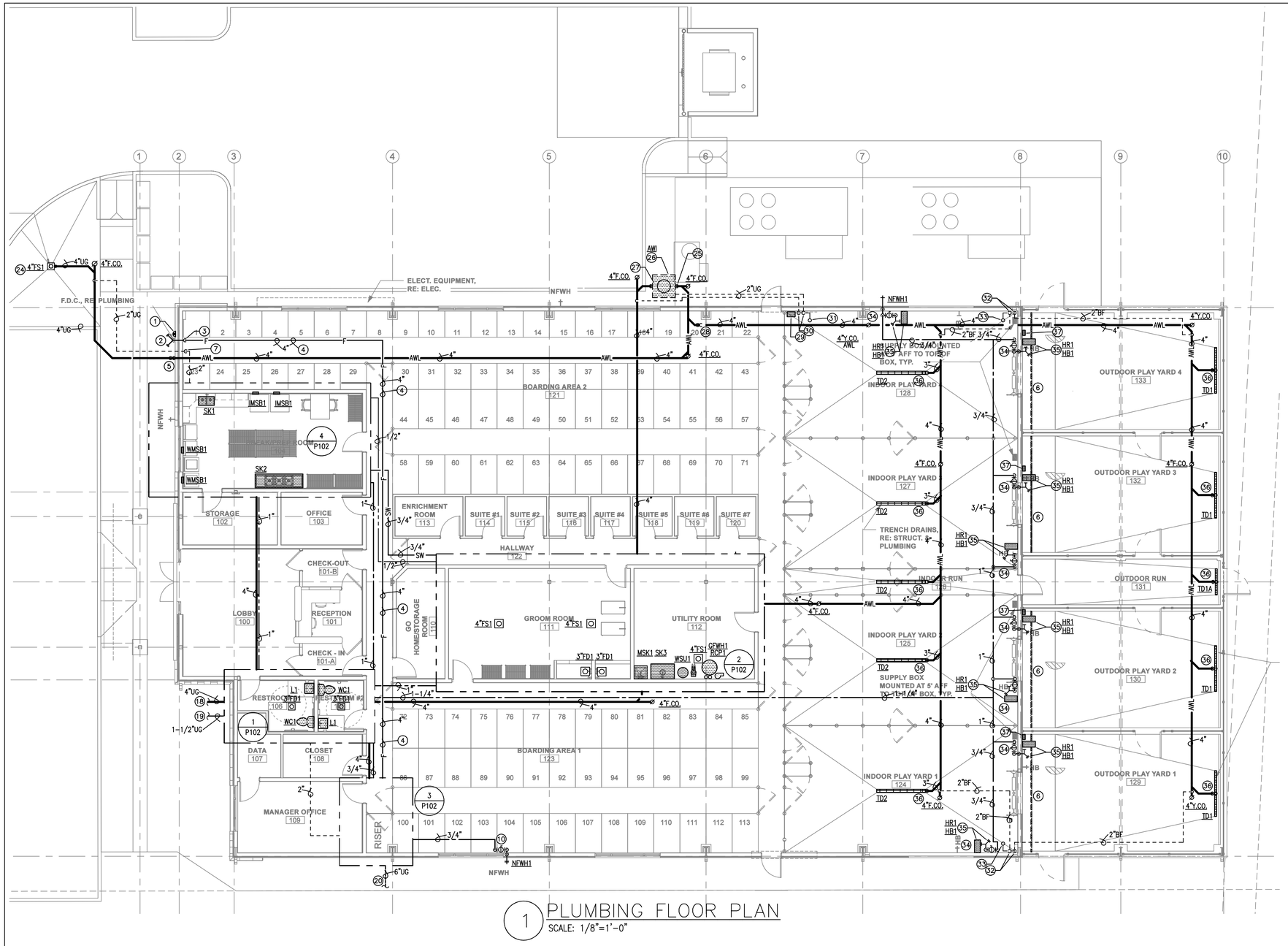
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**PLUMBING SYMBOLS AND ABBREVIATIONS**

drawing number:

**P100**




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

## PLUMBING GENERAL NOTES:

1. FIELD COORDINATE WITH ALL OTHER TRADES.
2. SANITARY SEWER PIPING 2" AND SMALLER TO BE INSTALLED AT A 2% SLOPE AND SANITARY SEWER PIPING 3" AND LARGER TO BE INSTALLED AT A 1% SLOPE.
3. ANIMAL WASTE PIPING 2" AND SMALLER TO BE INSTALLED AT A 2% SLOPE AND SANITARY SEWER PIPING 3" AND LARGER TO BE INSTALLED AT A 1% SLOPE.
4. PROVIDE A THERMOSTATIC MIXING VALVE SYMMONS MODEL #7-225-CK UNDER LAVATORIES/SINKS. PROVIDE DELIVERY TEMPERATURE OF 108°.
5. FIELD COORDINATE THAT ALL NEW VENTS THRU ROOF ARE 10' AWAY FROM ALL OUTSIDE AIR INTAKES.
6. HOT/COLD WATER PIPING INSTALLED ABOVE CEILING; VENT PIPING TO BE INSTALLED ABOVE CEILING; WASTE PIPING TO BE INSTALLED BELOW FLOOR.

## PLUMBING KEYED NOTES:

1. ELECTRIC WATER MOTOR ALARM GONG.
2. SIAMESE FIRE DEPARTMENT CONNECTION.
3. 4" FIRE LINE FROM SIAMESE FIRE DEPARTMENT CONNECTION.
4. INSTALL AS HIGH AS POSSIBLE.
5. DROP TO -4.0'B.F.F.
6. 1" PERFORATED PVC WATER DISTRIBUTION PIPE BELOW FLOOR.
7. 2" VENT FROM BELOW. INSTALL WITH LINE SIZE CLEANOUT PER CODE.
8. NOT USED.
9. NOT USED.
10. NOT USED.
11. NOT USED.
12. NOT USED.
13. NOT USED.
14. NOT USED.
15. NOT USED.
16. NOT USED.
17. NOT USED.
18. 4" WASTE LINE EXITING THE BUILDING AT -7.43'B.F.F. REFER TO MEP SITE PLAN FOR CONTINUATION.
19. 1-1/2" INCOMING WATER MAIN. REFER TO MEP SITE PLAN FOR CONTINUATION.
20. 6" INCOMING FIRE MAIN. REFER TO MEP SITE PLAN FOR CONTINUATION.
21. NOT USED.
22. NOT USED.
23. NOT USED.
24. ZURN MODEL #ZN415SC CAST IRON BODY WITH 4" BOTTOM OUTLET, INVERTIBLE MEMBRANE CLAMP, ADJUSTABLE COLLAR WITH SEEPAGE SLOTS, "TYPE SC" POLISHED BRONZE TOP STRAINER WITH FLASHING CLAMP DEVICE, ADJUSTABLE STRAINER TOP WITH SOLID SCORIATED HINGED LIGHT DUTY COVER. FIELD COORDINATE FINAL INSTALLATION.
25. ENTER AT -6.14'B.F.F.
26. ANIMAL WASTE SOLIDS INTERCEPTOR TO BE A PARK MODEL #ZT-080 PRE-FAB DIRECT BURIAL WITH A FLOW RATE OF 80.0GPM AND A SERVICE ALERT PANEL. INSTALLATION SHALL FOLLOW THE MANUFACTURERS' LISTED INSTRUCTIONS.
27. EXIT AT -6.14'B.F.F.
28. DROP TO MEET INVERT ELEVATION OF 4" ANIMAL WASTE LINE.
29. ANIMAL WASTE INTERCEPTOR "SERVICE ALERT PANEL". MOUNT AT 48"A.F.F.
30. 2-2" ANIMAL WASTE INTERCEPTOR RELIEF VENTS FROM BELOW. INSTALL WITH LINE SIZE CLEANOUT PER CODE.
31. 2" ANIMAL WASTE INTERCEPTOR VENT THRU ROOF.
32. 2-2" VENTS FROM BELOW. INSTALL WITH LINE SIZE CLEANOUT PER CODE.
33. 2" VENT UP THRU ROOF.
34. 3/4" COLD WATER DOWN. INSTALL SHUT-OFF VALVE AT 48"A.F.F.
35. ELEY MODEL #1041 WALL MOUNTED HOSE REEL(HR1) ASSEMBLED FOR PARALLEL CONFIGURATION. MOUNT CENTERLINE OF REEL AT 60" A.F.F. PROVIDE WITH 50' OF 3/4" HOSE; WATTS CAST BRASS HOSE BIBB MODEL #SC8-2(HB1). MOUNT ADJACENT TO HOSE REEL. PROVIDE A 2-WAY HEAVY DUTY BRASS GARDEN HOSE SPLITTER WITH 304 STAINLESS STEEL LONG HANDLES; ONE END TO SUPPLY THE HOSE REEL AND ONE END TO RUN SUPPLY TO THE WALL MOUNTED TIMER.
36. 3" BOTTOM WASTE OUTLET.
37. PROVIDE 1/2" COLD WATER SUPPLY TO RAINPOINT 1 OUTPUT PORT ADJUSTABLE DIGITAL HOSE END TIMER MODEL #ITV105 OR OWNER APPROVED EQUAL. MOUNT AT 48"A.F.F. ROUTE 1/2" COLD WATER SUPPLY TO 1" PVC PERFORATED WATER SUPPLY PIPE BELOW FLOOR.


Open studio architecture
6122 DeZavala Rd.
San Antonio, Texas 78249
Tel: 210.417.4307
www.openstudio-usa.com


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7550 IH 10 W, SUITE 350
SAN ANTONIO, TX 78229
WWW.RGMENGINEERING.NET
PHONE: 210.299.4522
FAX: 210.299.4525


**CAMP BOW WOW**

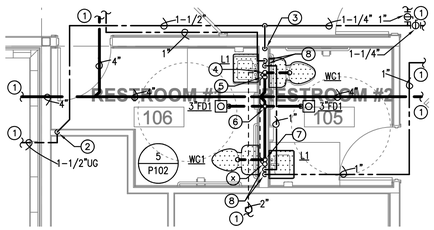
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project #: 26-028
date: 07-21-2026
drawn by: RGM
checked by: RGM
drawing title:

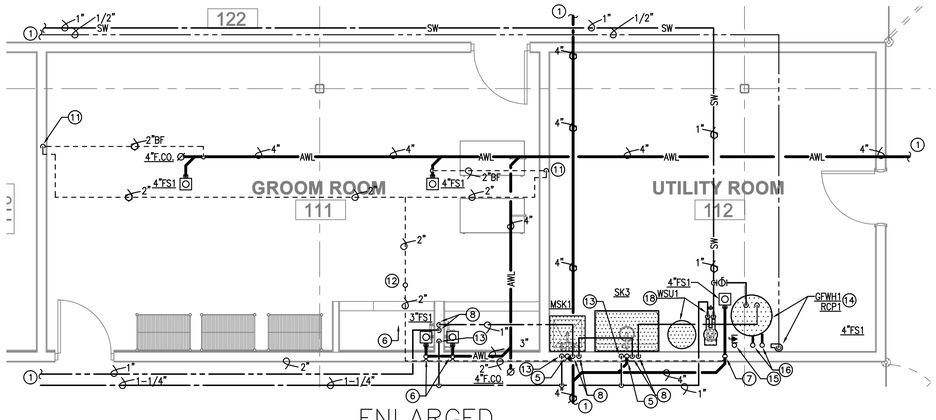
**PLUMBING FLOOR PLAN**

drawing number:

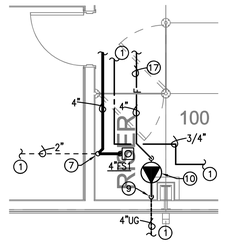
**P101**



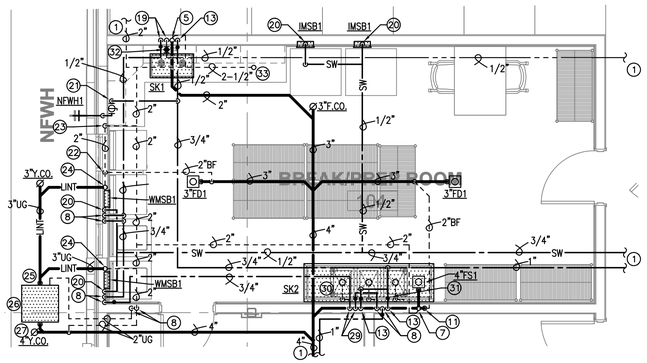

1 ENLARGED PARTIAL PLAN
SCALE: 1/4"=1'-0"



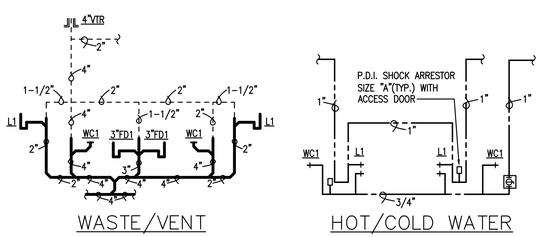

2 ENLARGED PARTIAL PLAN
SCALE: 1/4"=1'-0"



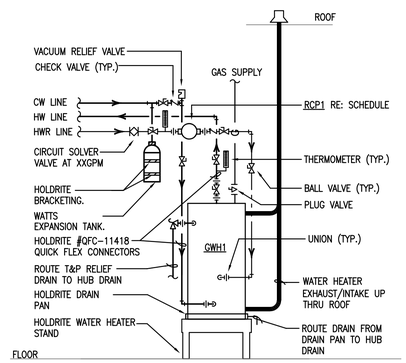

3 ENLARGED PARTIAL PLAN
SCALE: 1/4"=1'-0"




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




5 PLUMBING RISER DIAGRAM
SCALE: NOT TO SCALE




6 WATER HEATER DETAIL
SCALE: NOT TO SCALE

## PLUMBING GENERAL NOTES:

1. FIELD COORDINATE WITH ALL OTHER TRADES.
2. SANITARY SEWER PIPING 2" AND SMALLER TO BE INSTALLED AT A 2% SLOPE AND SANITARY SEWER PIPING 3" AND LARGER TO BE INSTALLED AT A 1% SLOPE.
3. ANIMAL WASTE PIPING 2" AND SMALLER TO BE INSTALLED AT A 2% SLOPE AND SANITARY SEWER PIPING 3" AND LARGER TO BE INSTALLED AT A 1% SLOPE.
4. PROVIDE A THERMOSTATIC MIXING VALVE SYMMONS MODEL #7-225-CK UNDER LAVATORIES/SINKS. PROVIDE DELIVERY TEMPERATURE OF 108°.
5. FIELD COORDINATE THAT ALL NEW VENTS THRU ROOF ARE 10' AWAY FROM ALL OUTSIDE AIR INTAKES.
6. HOT/COLD WATER PIPING INSTALLED ABOVE CEILING; VENT PIPING TO BE INSTALLED ABOVE CEILING; WASTE PIPING TO BE INSTALLED BELOW FLOOR.

## PLUMBING KEYED NOTES:

(1) REFER TO 1/P101 FOR CONTINUATION.

(2) 1-1/2" COLD WATER FROM BELOW. PROVIDE LINE SIZE SHUT-OFF VALVE IN THE VERTICAL. PROVIDE ACCESS ON THE RESTROOM SIDE.

(3) 1" COLD WATER DOWN.

(4) 4" WASTE DOWN; 4" VENT UP THRU ROOF.

(5) 2" WASTE DOWN; 1-1/2" VENT UP.

(6) 3" WASTE DOWN; 1-1/2" VENT UP.

(7) 4" WASTE DOWN; 2" VENT UP.

(8) 1" HOT WATER DOWN; 1" HOT WATER FROM BELOW.

(9) 4" FIRE MAIN FROM BELOW.

(10) WET AUTOMATIC FIRE SPRINKLER VALVE ASSEMBLY.

(11) 2" VENT FROM BELOW. PROVIDE WITH LINE SIZE CLEANOUT PER CODE.

(12) 2" VENT UP THRU ROOF.

(13) 1/2" COLD WATER DOWN.

(14) 1" HOT WATER/1" SOFT WATER TO/FROM GFWH1.

(15) GAS SUPPLY LINE FROM ABOVE.

(16) GAS FIRED WATER HEATER EXHAUST/INTAKE KIT AS MANUFACTURED BY A.O. SMITH. PIPE SIZES, MATERIALS AND INSTALLATION MUST BE AS LISTED BY A.O. SMITH.

(17) MOUNT AS HIGH AS POSSIBLE.

(18) 1" COLD WATER/1" SOFT WATER TO/FROM WSU1. UNIT TO BE A HEAT & TREAT MODEL #HT42-0150-10, SIMPLEX, 1" SERVICE, 3" DRAIN, 20GPM CONTINUOUS FLOW/26GPM PEAK FLOW, 5.0P CU. FT. RESIN, 8.0GPM BACKWASH FLOW RATE.

(19) 1/2" HOT WATER DOWN; 1/2" HOT WATER RETURN FROM BELOW.

(20) 1/2" SOFT WATER DOWN.

(21) 3/4" COLD WATER DOWN. LOCATE SHUT-OFF VALVE A MAXIMUM DISTANCE OF 6" ABOVE CEILING.

(22) 2" VENT FROM BELOW ROUTE BELOW WINDOW. INSTALL WITH LINE SIZE CLEANOUT PER CODE.

(23) 2" VENT UP.

(24) 2" WASTE RUN-OUT TO WMSB1; 3" WASTE DOWN OFF-SET ABOVE FLOOR TO AVOID PERIMETER BEAM(WASTE LINE TO EXIT AT -4.0'B.F.F.); 2" VENT UP. ROUTE VENT LINE ABOVE FLOOR AND BELOW WINDOW.

(25) ENTER AT -4.19'B.F.F.

(26) ZURN MODEL #Z1185 SIZE 7, 3" INLET/OUTLET; 70GPM FLOW RATE; PREFABRICATED ACID RESISTANT STEEL. PROVIDE WITH LIFTING HANDLE.

(27) EXIT AT -4.19'B.F.F.

(28) 2-2" LINT TRAP RELIEF VENTS FROM BELOW. INSTALL WITH LINE SIZE CLEANOUT PER CODE.

(29) 1" HOT WATER DOWN; 3/4" HOT WATER FROM BELOW.

(30) ROUTE 3 COMPARTMENT SINK INDIRECT WASTE PIPING TO FLOOR SINK.

(31) P.D.I. WATER HAMMER ARRESTOR SIZE "A" TYPICAL.

(32) 1/2" CIRCUIT SOLVER VALVE SET FOR A FLOW RATE OF 2.0GPM.

(33) 2-1/2" VENT UP THRU ROOF.


Open studio architecture
6122 DeZavala Rd.
San Antonio, Texas 78249
Tel: 210.417.4307
www.openstudio-usa.com


90% REVIEW SET

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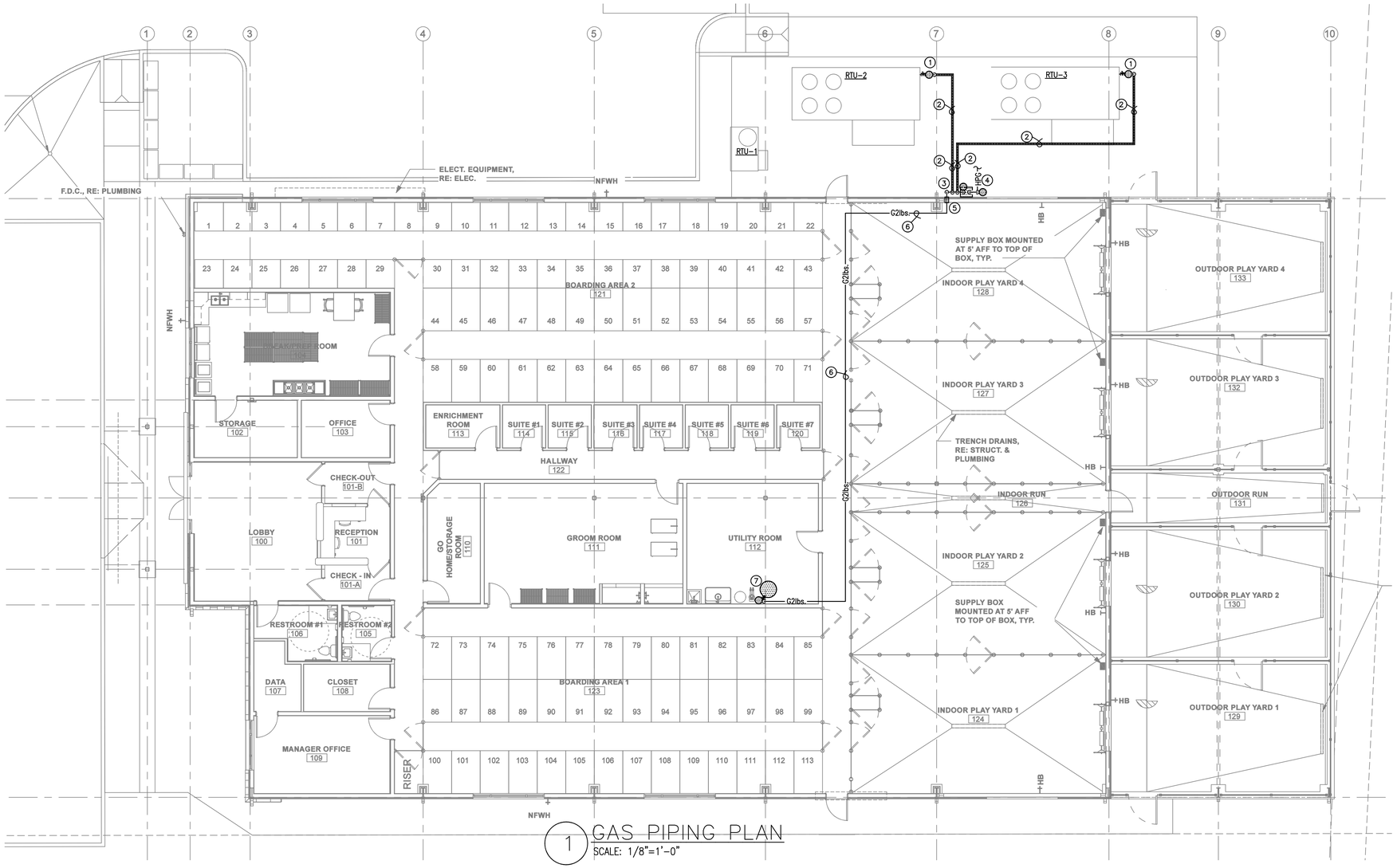
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checked by: RGM
drawing title:

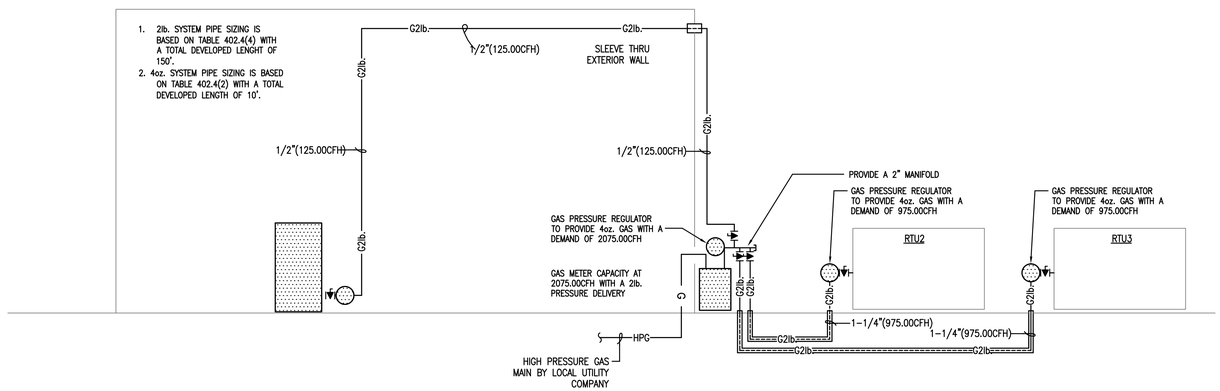
**ENLARGED PARTIAL PLANS**

drawing number:

**P102**




## 1 GAS PIPING PLAN
SCALE: 1/8"=1'-0"




## 2 GAS PIPE SIZING SCHEMATIC
SCALE: NOT TO SCALE

## PLUMBING GENERAL NOTES:

1. FIELD COORDINATE WITH ALL OTHER TRADES.
2. GAS PIPING INSTALLATION AND SUPPORT SPACING SHALL COMPLY WITH THE 2021 IFGC.

## PLUMBING KEYED NOTES:

1. VENT-LESS GAS PRESSURE REGULATOR TO PROVIDE 4oz. GAS SUPPLY WITH A DEMAND OF 975.00CFH.
2. INSTALL 2lb. LINE IN A VENTED SLEEVE. FIELD COORDINATE FINAL ROUTING WITH STRUCTURAL FOUNDATION MEMBERS.
3. 2lb. GAS SYSTEM MANIFOLD.
4. GAS METER ASSEMBLY BY LOCAL UTILITY COMPANY. PROVIDE 2lb. SERVICE WITH A DEMAND OF 2075.00CFH
5. SLEEVE THRU WALL AND PROVIDE INSECT SCREEN BOTH SIDE.
6. INSTALL GAS LINE AS HIGH AS POSSIBLE.
7. VENT-LESS GAS PRESSURE REGULATOR TO PROVIDE 4OZ. GAS SUPPLY WITH A DEMAND OF 125.00CFH.

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6122 DeZavala Rd.
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Tel: 210.417.4307
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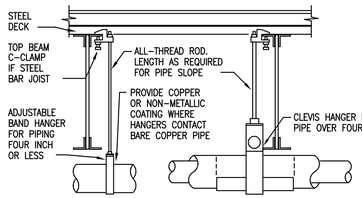
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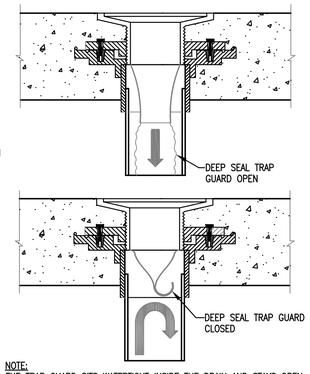
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project #: 26-028
date: 07-21-2026
drawn by: RGM
checked by: RGM
drawing title: **GAS PIPING PLAN**
drawing number: **P103**



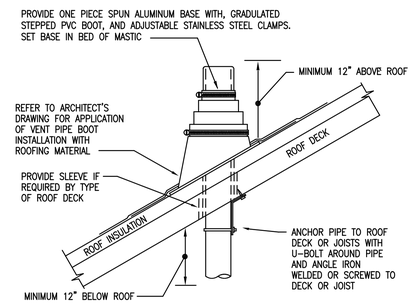

PROVIDE UPPER ATTACHMENT AS REQUIRED FOR CASES NOT SHOWN HERE. DO NOT INSTALL HANGER INSIDE INSULATION OR OTHERWISE PENETRATE VAPOR BARRIER. DO NOT HANG ONE PIPE FROM ANOTHER EXCEPT IN CHASES. TRAPEZE HANGERS MAY BE USED FOR MULTIPLE PARALLEL PIPES. HANGER SPACING FOR PIPE SIZE: COPPER: 4"=12' 3"=11' 2-1/2"=10' 2"=9' 1-1/2"=8' 1-1/4"=7' 1"=6' 3/4"=6' 1/2"=5'. CAST IRON: 10' AND ONE NEAR ALL JOINTS. STEEL: 4"=14' 3"=12' 2-1/2"=11' 2"=10' 1-1/2"=9' 1"=7' 3/4"=6' 1/2"=5'. LOCATE HANGERS AS CLOSE AS POSSIBLE TO TURNS AND TEES OF PIPE. PROVIDE SUPPLEMENTARY STEEL STRUTS BETWEEN JOISTS IF REQUIRED.LOCATE HANGERS TO TAKE LOAD OFF OF EQUIPMENT CONNECTIONS. ANCHOR WATER PIPE AGAINST SWAYING DUE TO CHANGES IN WATER VELOCITY. PROVIDE SEISMIC BRACING IF/AS REQUIRED BY LOCAL AUTHORITIES. CHAINS OR PERFORATED STRAP IRON OR STEEL IS NOT ACCEPTABLE. REFER TO CODES FOR FURTHER INFORMATION.

1 PIPE HANGER DETAIL
SCALE: NOT TO SCALE




NOTE:
THE TRAP GUARD SITS WATERTIGHT INSIDE THE DRAIN AND STAYS OPEN WHEN WATER IS FLOWING, BUT CLOSES WHEN THE WATER STOPS. WHEN THE TRAP GUARD IS CLOSED IT SUCCESSFULLY RESISTS ANY EMISSION OF SEWER GAS, EVEN IF THAT GAS IS UNDER SIGNIFICANT PRESSURE. IT USES A FLEXIBLE TUBE MADE OF SPACE AGE, ELASTOMERIC TM MATERIAL THAT IS TREATED TO ROLL UP WHEN WATER IS NOT PASSING THROUGH BUT IS FLEXIBLE ENOUGH TO OPEN AND PERMIT WATER FLOW, FROM AN INTERMITTENT DRIP TO FIRE-HOSE TYPE FLOWS.

2 TRAP GUARD DETAIL
SCALE: NOT TO SCALE




REFER TO PLANS FOR VTR PIPE SIZES AND LOCATIONS. LOCATE VTR MINIMUM TEN FEET HORIZONTAL OR THREE FEET VERTICAL ABOVE ANY BUILDING OPENING OR FRESH AIR INTAKE, AND ONE FOOT FROM ANY VERTICAL SURFACE. PROVIDE 1" FIBERGLASS INSULATION WITH ALL- SERVICE JACKET ON VENT PIPE INSIDE BUILDING WITHIN SIX FEET OF VENT THRU ROOF LOCATION. VERIFY FLASHING AND CONTERFLASHING WITH ROOFING CONTRACTOR.

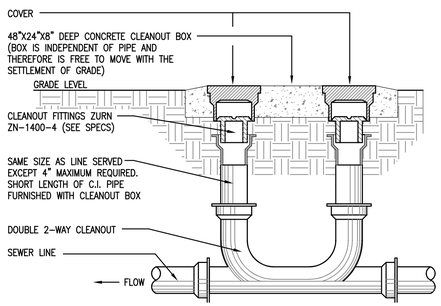
3 VENT THRU ROOF DETAIL
SCALE: NOT TO SCALE



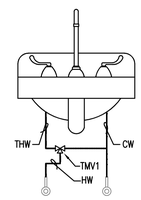

4 FLOOR CLEANOUT DETAIL
NO SCALE




5 YARD CLEANOUT DETAIL
NO SCALE




6 DOUBLE YARD CLEANOUT DETAIL
NO SCALE




LAVATORY/SINK INDICATED IS SCHEMATIC IN NATURE.
REFER TO PLUMBING FIXTURE SCHEDULE FOR CORRECT LAVATORY/SINK TYPE SPECIFICATION

*TMV1: THERMOSTATIC MIXING VALVE SYMMONS MODEL #7-225-CK OR APPROVED EQUAL. PROVIDE DELIVERY TEMPERATURE OF 108°

7 THERMOSTATIC MIXING VALVE DETAIL
SCALE: NOT TO SCALE

## WATER HEATER SCHEDULE

| MARK | STORAGE GALLONS | RECOVERY GALLONS PER HOUR | TEMP. RISE | FUEL | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | GAS | ELECTRICAL | | | | | |
| | | | | CFH | VOLT | PHASE | HERTZ | *KW | UEF | |
| GFWH1 | 60.00 | 278.00 | 50 | 125.00 | 115 | 1 | 60 | – | .92 | A.O. SMITH #BTH-120 |

## RECIRCULATION PUMP SCHEDULE

| MARK | DESCRIPTION | GPM | TOTAL HEAD (FT.) | HP | ELECTRICAL VOLTS/PHASE/Hz | MANUFACTURER & MODEL |
|---|---|---|---|---|---|---|
| RCP1 | RECIRCULATION PUMP | 4.0 | 10.5 | 1/12 | 115/1/60 | GRUNDFOS MODEL #UP15-18 BS PUMP WITH BRONZE IMPELLER. |

1. PROVIDE WITH AQUASTAT ON AT 115°F AND OFF AT 120°F AND CODE APPROVED TIMER CLOCK( TIME CLOCK TO BE SET FOR "ON" 2 HOURS PRIOR TO FACILITY OPENING TIME AND "OFF 2 HOURS AFTER FACILITY CLOSING TIME.
2. MAXIMUM HOT WATER TEMPERATURE ENTERING COLD WATER PIPING TO BE 104°.

## PLUMBING FIXTURE SCHEDULE

| MARK | ITEM | MANUFACTURER | MODEL NO | UTILITIES | | | | NOTES |
|---|---|---|---|---|---|---|---|---|
| | | | | CW | HW | W | VT | |
| WC1 | WATER CLOSET (FLOOR MOUNTED, TANK TYPE) (ADA) | ZURN | BOWL: ZURN MODEL #Z5555-K, ECOVANTAGE 1.28 GPF, ELONGATED, ADA HEIGHT, HIGH EFFICIENCY TOILET, ADA/COMFORT HEIGHT, SIPHON JET TOILET, VITREOUS CHINA<br>TOILET SEAT: ZURN MODEL #Z5956SS-EL-STS, ELONGATED, EXTRA HEAVY DUTY, WHITE, OPEN FRONT TOILET SEAT, LESS COVER WITH SELF SUSTAINING STAINLESS STEEL CHECK HINGE<br>ACCESSORY: ZURN MODEL #Z5972-COMB, CLOSET BOLT/WAX RING KIT<br>ACCESSORY: ZURN MODEL #Z8800CR-PC, STANDARD STOP CLOSET SUPPLY KIT (CONNECTION 3/8" IPS X 3/8" OD) | 3/4" | = | 4" | 2" | *HANDLE TO BE ON THE "WIDE" SIDE OF THE STALL<br>NONE |
| L1 | LAVATORY (WALL HUNG) (ADA) | ZURN | LAVATORY: ZURN MODEL #Z5344, 20"X18" WALL HUNG, CONCEALED ARM CARRIER, 4" CENTER FAUCET HOLE<br>FAUCET: ZURN MODEL #Z8128V4-XL-3F, RIGID SPOUT, 4" WRIST BLADE HANDLES AND .5GPM FLOW RATE<br>DRAIN: ZURN MODEL #Z8746-PC ADA GRID STRAINER<br>P-TRAP: ZURN MODEL #Z8700-8B-PC – 1-1/4" CAST BRASS P-TRAP WITH CLEANOUT<br>SUPPLY STOP: ZURN MODEL #Z8800-XL-LRLK-8860-12-PC – -XL LEAD FREE LOOSE KEY STOP LAVATORY SUPPLY KIT (CONNECTIONS 3/8" IPS X 3/8" OD) WITH BRAIDED STAINLESS STEEL SUPPLIES<br>INSULATION KIT: ZURN MODEL #Z8946-3-NT, ONE TRAP KIT, TWO SUPPLY STOP PROTECTORS AND ONE OFFSET DRAIN PROTECTOR<br>CARRIER: ZURN MODEL #Z1231-EZ CONCEALED ARM CARRIER SYSTEM (PROVIDE SUFFIX -D FOR BACK TO BACK SYSTEM APPLICATION) | 1/2" | 1/2" | 2" | 1-1/2" | |
| SK1 | SINK (DOUBLE COMPARTMENT COUNTERTOP)(ADA) | ELKAY<br>ZURN | SINK: ELKAY MODEL #LRAD3319, 33"X19-1/2"X6-1/2" ADA SINK WITH 3 HOLE PUNCH<br>FAUCET: ZURN MODEL #Z812B4-XL, 2.2GPM, SWING SPOUT, 4" WRISTBLADE HANDLES<br>DRAIN: ELKAY MODEL #LKAD35, STAINLESS STEEL BODY, STRAINER BASKET WITH RUBBER STOPPER<br>CONTINUOUS WASTE FITTING: ELKAY MODEL #LK53<br>P-TRAP: ZURN #Z8700-8B-PC – 1-1/4" CAST BRASS P-TRAP WITH CLEANOUT<br>SUPPLY LINE: ZURN #Z8800-XL-LRLK-8860-12-PC – LEAD FREE LOOSE KEY STOP LAVATORY SUPPLY KIT WITH BRAIDED STAINLESS STEEL SUPPLIES<br>TRAP WRAP: ZURN #Z8946-3-NT – ADA COMBINATION OFFSET TRAP AND SUPPLY WRAP PROTECTOR KIT.<br>*TRAP WRAP ONLY REQUIRED IF FRONT OF SINK IS EXPOSED | 1/2" | 1/2" | 2" | 1-1/2" | |
| SK2 | SINK (3 COMPATRTMENT) | ELKAY<br>ZURN | SINK: ELKAY MODEL #WNSF8345LR4 3 COMP SKULLERY SINK<br>FAUCET: ELKAY MODEL #LK940TS08L2H(PROVIDE 2), 2.2GPM,<br>DRAIN: ELKAY MODEL #LK25RT(PROVIDE 3)<br>CONTINUOUS WASTE FITTING: ELKAY MODEL #LK53<br>P-TRAP: ZURN #Z8700-8B-PC – 1-1/4" CAST BRASS P-TRAP WITH CLEANOUT<br>SUPPLY LINE: ZURN #Z8800-XL-LRLK-8860-12-PC – LEAD FREE LOOSE KEY STOP LAVATORY SUPPLY KIT WITH BRAIDED STAINLESS STEEL SUPPLIES | 1/2" | 1/2" | 2" | 1-1/2" | NONE |
| SK3 | UTILITY SINK (3 COMPATRTMENT) | FIAT<br>ZURN | SINK: FIAT MODEL #FL-1 FLOOR MOUNTE SERV-A-SINK<br>FAUCET: ZURN MODEL #Z812B4-XL-3F, RIGID SPOUT, 4" WRIST BLADE HANDLES AND .5GPM FLOW RATE<br>P-TRAP: ZURN #Z8700-8B-PC – 1-1/4" CAST BRASS P-TRAP WITH CLEANOUT<br>SUPPLY LINE: ZURN #Z8800-XL-LRLK-8860-12-PC – LEAD FREE LOOSE KEY STOP LAVATORY SUPPLY KIT WITH BRAIDED STAINLESS STEEL SUPPLIES | 1/2" | 1/2" | 2" | 1-1/2" | NONE |
| MSK1 | MOP SINK | STERN WILLIAMS | BASIN: STERN WILLIAMS MODEL #SBC-1402 "CORNARO", 24"X24"X12-1/2" MOLDED STONE MOP SERVICE BASIN<br>FAUCET: STERN WILLIAMS MODEL #T-15-VB, POLISHED CHROME FINISH, INTEGRAL STOPS, LEVER HANDLES, SPRING CHECKS, SPOUT WITH BUCKET HOOK, 3/4" HOSE THREAD END, VACUUM BREAKER, ADJUSTABLE TOP BRACE AND INLETS ON 8" CENETERS<br>HOSE/WALL BRACKET: STERN WILLIAMS MODEL #T-35<br>STAINLESS STEEL MOP HANGER: STERN WILLIAMS MODEL #T-40<br>SILAPRENE SEALANT: STERN WILLIAMS MODEL #C-10 | 1/2" | 1/2" | 3" | 1-1/2" | NONE |
| WHA | WATER HAMMER ARRESTOR | ZURN | WATER HAMMER ARRESTOR: ZURN MODEL #Z1700 STAINLESS STEEL | – | – | – | – | NONE |
| IMSB1 | ICE MAKER SUPPLY BOX | IPS CORP. | IPS CORPORATION MODEL #AB9700HA, 1/4 TURN VALVE, LEAD FREE WATER HAMMER ARRESTOR AND 1/2" SWEAT CONNECTION | 1/2" | – | – | – | NONE |
| WMSB | WASHING MACHINE SUPPLY BOX | IPS CORP. | IPS CORPORATION MODEL #W4700 HA, 1/4 TURN VALVES, LEAD FREE WATER HAMMER ARRESTOR AND 1/2" SWEAT CONNECTIONS | 1/2" | 1/2" | 2" | 1-1/2" | NONE |
| FD1 | FLOOR DRAIN | ZURN | ZURN: #FROSCPC CAST IRON FLOOR DRAIN WITH ROUND CHROME-PLATED TOP AND ROUGH-IN COVER. | – | – | REFER TO FLOOR PLAN FOR CONTINUATION | | NONE |
| FS1 | FLOOR SINK | ZURN | ZURN: #Z1751 SANI-FLOR RECEPTOR WITH 8" SUMP DEPTH | – | – | | | NONE |
| FCO | FLOOR CLEANOUT | ZURN | MODEL #Z1400 CAST IRON BODY WITH ROUND ADJUSTABLE NICKEL BRONZE COVER, GASKET SEAL, ABS PLUG AND WITH CARPET MARKER WHERE REQUIRED. | – | – | | | NONE |
| NFWH | WALL HYDRANT | WOODFORD | WALL HYDRANT: WOODFORD MODEL 65, FREEZELESS, AUTOMATIC DRAINING, ANTI-SIPHON VACUUM BREAKER, P INLET, STANDARD CHROME FINISH. | 3/4" | – | – | – | NONE |

*PLUMBING FIXTURE FLOW RATES TO COMPLY WITH TABLE 604.4 OF THE 2021 IPC
**REFER TO PLUMBING KEYED NOTE #35 ON P101 PLUMBING FLOOR PLAN FOR SPECIFICATION INFORMATION ON ITEMS HB1 AND HR1.

## TABLE C403.12.3[C]

| FLUID OPERATING TEMPERATURE RANGE AND USAGE (°F) | MINIMUM PIPE INSULATION THICKNESS (in inches)[G] | | | | | | |
|---|---|---|---|---|---|---|---|
| | INSULATION CONDUCTIVITY | | NOMINAL PIPE OR TUBE SIZE (inches) | | | | |
| | Conductivity BTU * in/(ht * ft² * °F) | Mean Rating Temperature, °F | <1 | 1 to 1-1/2 | 1-1/2 to < 4 | 4 to < 8 | ≥ 8 |
| > 350 | 0.32–0.34 | 250 | 4.5 | 5.0 | 5.0 | 5.0 | 5.0 |
| 251–350 | 0.29–0.32 | 200 | 3.0 | 4.0 | 4.5 | 4.5 | 4.5 |
| 201–250 | 0.27–0.30 | 150 | 2.5 | 2.5 | 2.5 | 3.0 | 3.0 |
| 141–200 | 0.25–0.29 | 125 | 1.5 | 1.5 | 2.0 | 2.0 | 2.0 |
| 105–140 | 0.21–0.28 | 100 | 1.0 | 1.0 | 1.5 | 1.5 | 1.5 |
| 40–60 | 0.21–0.27 | 75 | 0.5 | 0.5 | 1.0 | 1.0 | 1.0 |
| <40 | 0.20–0.26 | 50 | 0.5 | 1.0 | 1.0 | 1.0 | 1.5 |

Open studio architecture
6122 DeZavala Rd.
San Antonio, Texas 78249
Tel: 210.417.4307
www.openstudio-usa.com
THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY
ROGER G. MENDEZ, P.E. 93809
ON 07/21/20_26

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ROGER G. MENDEZ
93809
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Revisions

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RGM ENGINEERING
TEXAS REGISTERED ENGINEERING FIRM F-10487
7550 IH 10 W, SUITE 350
SAN ANTONIO, TX 78229
WWW.RGMENGINEERING.NET
PHONE: 210.299.4522
FAX: 210.299.4525

CAMP BOW WOW
1450 N. BUSINESS 35
NEW BRAUNFELS, TX 78130

project #: 26-028
date: 07-21-2026
drawn by: RGM
checked by: RGM
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P201

# SECTION 15050 – BASIC PLUMBING MATERIALS AND METHODS

PART 1 – GENERAL

1.1 SUMMARY

A. THIS SECTION INCLUDES THE FOLLOWING:
   1. PIPING INSTALLATION INSTRUCTIONS COMMON TO MOST PIPING SYSTEMS.

PART 2 – EXECUTION

2.1 PIPING SYSTEMS – COMMON REQUIREMENTS

A. INSTALL PIPING INDICATED TO BE EXPOSED AND PIPING IN EQUIPMENT ROOMS AND SERVICE AREAS AT RIGHT ANGLES OR PARALLEL TO BUILDING WALLS. DIAGONAL RUNS ARE PROHIBITED UNLESS SPECIFICALLY INDICATED OTHERWISE.
B. INSTALL PIPING ABOVE ACCESSIBLE CEILINGS TO ALLOW SUFFICIENT SPACE FOR CEILING PANEL REMOVAL.
C. INSTALL PIPING AT INDICATED SLOPES.
D. INSTALL PIPING FREE OF SAGS AND BENDS.
E. INSTALL FITTINGS FOR CHANGES IN DIRECTION AND BRANCH CONNECTIONS.
F. INSTALL PIPING TO ALLOW APPLICATION OF INSULATION.
G. INSTALL ESCUTCHEONS FOR PENETRATIONS OF WALLS, CEILINGS, AND FLOORS.
H. INSTALL SLEEVES FOR PIPES PASSING THROUGH CONCRETE AND MASONRY WALLS, GYPSUM-BOARD PARTITIONS, AND CONCRETE FLOOR AND ROOF SLABS.

2.2 PIPING CONNECTIONS

A. MAKE CONNECTIONS ACCORDING TO THE FOLLOWING, UNLESS OTHERWISE INDICATED:
   1. INSTALL UNIONS, IN PIPING NPS 2 AND SMALLER, ADJACENT TO EACH VALVE AND AT FINAL CONNECTION TO EACH PIECE OF EQUIPMENT.
   2. INSTALL FLANGES, IN PIPING NPS 2-1/2 AND LARGER, ADJACENT TO FLANGED VALVES AND AT FINAL CONNECTION TO EACH PIECE OF EQUIPMENT.
   3. WET PIPING SYSTEMS: INSTALL DIELECTRIC COUPLING AND NIPPLE FITTINGS TO CONNECT PIPING MATERIALS OF DISSIMILAR METALS.

# SECTION 15060 – HANGERS AND SUPPORTS

PART 1 – GENERAL

1.1 SUMMARY

A. THIS SECTION INCLUDES HANGERS AND SUPPORTS FOR MECHANICAL SYSTEM PIPING AND EQUIPMENT.

PART 2 – EXECUTION

2.1 PIPING HANGERS

A. PIPE HANGERS USED ARE TO BE MANUFACTURED AND INSTALLED ACCORDING TO SPECIFICATIONS SP-58-1975 (PIPE HANGERS AND SUPPORTS – MATERIALS, DESIGN AND MANUFACTURE) AND SP-89-1978 (PIPE HANGERS AND SUPPORTS – FABRICATION AND INSTALLATION PRACTICES) OF THE MANUFACTURERS STANDARDIZATION SOCIETY (MSS).
B. PIPE HANGER SELECTION AND APPLICATION WILL FOLLOW RECOMMENDATIONS OF MSS SP-69-1976 (PIPE HANGERS AND SUPPORTS – SELECTION AND APPLICATION).
C. HANGERS USED DIRECTLY ON COPPER PIPE WILL BE COPPER OR CADMIUM PLATED. ALL OTHER HANGERS AND CHANNELS, ANGLES, AND SUPPORTING STEEL SHALL BE CARBON STEEL WITH A BLACK FINISH. TWO (2) OR MORE PIPES RUNNING PARALLEL MAY BE SUPPORTED ON TRAPEZE HANGERS.
D. HANGERS SHALL BE LOCATED AT WITHIN 2' OF EACH CHANGE OF DIRECTION.
E. WHERE INDIVIDUAL HANGERS ARE USED OUTSIDE OF INSULATION, APPLY A 9-INCH LENGTH OF 15 LB. DENSITY URETHANE INSULATION OR FOAMLESS TO PIPE AT POINT OF HANGING. PLACE HANGERS OUTSIDE OF INSULATION WITH A INSULATION SHIELD OF GALVANIZED METAL EXTENDING NOT LESS THAN 6" ON BOTH SIDES OF THE SUPPORT BEARING AREA, COVERING A MINIMUM OF HALF OF THE PIPE CIRCUMFERENCE. SHIELD TO BE MADE 12" IN LENGTH AND A MINIMUM OF 20 GAUGE OF GALVANIZED MEAL. AS AN OPTION, PIPE SHALL BE PROTECTED AT THE POINT OF SUPPORT BY A 360-DEGREE INSERT OF HIGH DENSITY, 100 PSI, WATERPROOFED CALCIUM SILICATE, ENCASED IN 360-DEGREE SHEET METAL SHIELD. INSERT TO BE SAME THICKNESS AS ADJOINING PIPE INSULATION.
F. TRAPEZE HANGERS – SUSPEND PIPING INSTALLED ON TRAPEZE HANGERS FROM CONCRETE INSETS OR APPROVED STRUCTURAL CLIPS. CONSTRUCT TRAPEZE HANGERS OF ANGLE IRON, UNISTRUT CHANNELS OR OTHER STRUCTURAL SHAPES WITH FLAT SURFACES FOR POINT OF SUPPORT.
G. HANGERS IN GENERAL – INSTALL ALL PIPING SO THAT IT WILL BE FREE TO EXPAND AND CONTRACT WITHOUT CREATING UNDUE STRESSES IN PIPING SYSTEM.

2.2 ADJUSTING

A. HANGER ADJUSTMENT: ADJUST HANGERS TO DISTRIBUTE LOADS EQUALLY ON ATTACHMENTS AND TO ACHIEVE INDICATED SLOPE OF PIPE.

# SECTION 15075 – PLUMBING IDENTIFICATION

PART 1 – GENERAL

1.1 SUMMARY

A. THIS SECTION INCLUDES THE FOLLOWING MECHANICAL IDENTIFICATION MATERIALS AND THEIR INSTALLATION:

2.1 PIPING IDENTIFICATION DEVICES

A. PROVIDE "OPTI-CODE" PIPE MARKERS AND BRASS VALVE TAGS AS MANUFACTURED BY SETON NAMEPLATE CORPORATION OR AN APPROVED EQUAL. PIPE MARKERS SHALL BE SPACED 20'-0" ON CENTER AND 10'-0" FROM ALL 90 DEGREE ELBOWS.

# SECTION 15083 – PIPE INSULATION

PART 1 – GENERAL

1.1 SUMMARY

A. THIS SECTION INCLUDES SEMI-RIGID AND FLEXIBLE PIPING INSULATION, INSULATING CEMENTS, FIELD-APPLIED JACKETS, ACCESSORIES AND ATTACHMENTS, AND SEALING COMPOUNDS.

1.2 QUALITY ASSURANCE

A. FIRE-TEST-RESPONSE CHARACTERISTICS: PROVIDE PRODUCTS WITH FLAME-SPREAD AND SMOKE-DEVELOPED CAPABILITIES OF 25 AND 50 FOR PVC PIPING IN RETURN AIR PLENUMS, RESPECTIVELY, ACCORDING TO ASTM E 84 BY A TESTING AGENCY ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION.

PART 2 – PRODUCTS

2.1 PIPE INSULATION MATERIALS

A. PROVIDE PIPING INSULATION OF MOLDED FIBERGLASS. THE INSULATION WILL BE USED FOR WATER PIPING INCLUDING HOT WATER SUPPLY LINES SUBJECT TO FREEZING OR CONDENSATION, CONDENSATE DRAINS, AND HORIZONTAL PORTIONS OF WASTE LINES ABOVE GRADE WHICH RECEIVE CONDENSATE FROM AIR HANDLING UNITS.

PART 3 – EXECUTION

3.1 PIPES

A. APPLY INSULATION TO CLEAN, DRY PIPE. BUTT SEGMENTS FIRMLY TOGETHER. WHERE PIPING IS INTERRUPTED BY FITTINGS, FLANGES, VALVES, OR HANGERS, AND AT INTERVALS NOT TO EXCEED 25 FEET ON STRAIGHT RUNS, FORM AN ISOLATING SEAL BETWEEN INSULATION AND PIPE BY LIBERAL APPLICATION OF ADHESIVE TO EXPOSED JOINT FACES AND ALONG 4 INCHES OF PIPE. ALL TURNS AND BENDS SHALL BE FITTED WITH PREMOLDED FITTING COVERS. MITERING OF THESE COMPONENTS SHALL NOT BE ACCEPTABLE.

3.2 FLANGES

A. AT FLANGES, SEAL OFF INSULATION WITH BF 30-35 VAPOR BARRIER MASTIC. APPLY ADDED LAYERS OF INSULATION AT LEAST 2 INCHES WIDE AND OF THE REQUIRED THICKNESS TO MAKE THE OUTSIDE DIAMETER OF THE INSULATION EQUAL TO THE OUTSIDE DIAMETER OF THE FLANGES. VAPOR SEAL EACH LAYER COMPLETELY AND INDEPENDENTLY WITH ADHESIVE. APPLY A FINAL RING OF INSULATION OF FULL THICKNESS AND LONG ENOUGH TO COVER THE BUILT-UP SECTION.

3.3 VALVES AND FITTINGS

A. SEAL OFF THE PIPE INSULATION AT VALVES AND FITTINGS, WITH BF 30-35 VAPOR BARRIER MASTIC. COVER VALVES AND FITTINGS WITH MOLDED OR MITERED FITTING COVERS AND VAPOR SEAL AS SPECIFIED FOR FLANGES.
B. CARRY THE INSULATION ON THE VALVE BONNET FULL THICKNESS TO THE PACKING NUT OR TO THE STUFFING BOX. MAKE THE TOP OF THE INSULATION BOX PARALLEL TO THE VALVE WHEEL, TO FORM A SQUARE CORNER AT THE INTERSECTION WITH THE BONNET COVERING.
C. OMIT INSULATION AT SCREWED UNIONS AND AT VALVES SMALLER THAN 1".

3.4 PIPE INSULATION APPLICATION SCHEDULE

A. INSULATING MATERIALS AND METHODS OF APPLICATION ARE BASED ON KNAUF ASJ/SSL-11 PRODUCTS. OTHERS WILL BE ACCEPTABLE PROVIDED THEY ARE EQUAL IN INSULATING COEFFICIENTS AND HAVE SIMILAR PERMEABILITY OF VAPOR BARRIER JACKETS.

# SECTION 15110 – VALVES

PART 1 – GENERAL

1.1 SUMMARY

A. THIS SECTION INCLUDES GENERAL-DUTY VALVES:

1.2 SUBMITTALS

A. PRODUCT DATA: FOR EACH TYPE OF VALVE INDICATED. INCLUDE BODY, SEATING, AND TRIM MATERIALS, VALVE DESIGN, PRESSURE AND TEMPERATURE CLASSIFICATIONS, END CONNECTIONS, ARRANGEMENT, DIMENSIONS, AND REQUIRED CLEARANCES. INCLUDE LIST INDICATING VALVE AND ITS APPLICATION. INCLUDE RATED CAPACITIES, FURNISHED SPECIALTIES, AND ACCESSORIES.

PART 2 – EXECUTION

2.1 VALVE APPLICATIONS

A. WATER PIPING CONTROL AND SERVICE VALVES SHALL BE PROVIDED BY THIS CONTRACTOR WHERE REQUIRED TO ADEQUATELY CONTROL AND ISOLATE THE VARIOUS WATER PIPING SYSTEMS. VALVES SHALL BE AS MANUFACTURED BY NIBCO, CRANE, STOCKHAM, JOMAR, JENKINS, KENNEDY, WALWORTH OR GRINNELL AND EQUAL TO NIBCO NUMBERS AS STATED BELOW:
   1. THE MAIN SHUT-OFF VALVE, INSIDE THE BUILDING ON THE WATER SUPPLY WILL BE A GATE VALVE. PROVIDE THE VALVE EQUAL TO NIBCO SOLDER JOINT, 125 LB. BRONZE GATE WITH RISING STEM AND DOUBLE-DISC. THIS VALVE SHALL BE SELECTED AT ONE FULL PIPE SIZE LARGER THAN THAT SPECIFIED ON THE PLAN.
   2. ALL OTHER VALVES THROUGHOUT THE WATER PIPING SHALL BE EQUAL TO NIBCO S-585-70 SOLDER JOINT, 125 LB., AND BRASS BALL VALVES WITH FULL PORT OPENINGS.
   3. CHECK VALVES SHALL BE EQUAL TO NIBCO, 600 SERIES, SPRING CHECK WITH BRONZE BODY.
   4. TEMPERATURE AND PRESSURE RELIEF VALVES SHALL BE ASME RATED WATTS VALVE OR APPROVED EQUAL.

# SECTION 15140 – WATER PIPING

PART 1 – GENERAL

1.1 SUMMARY

A. THIS SECTION INCLUDES WATER PIPING INSIDE THE BUILDING.

PART 2 – PRODUCTS

2.1 PIPING MATERIALS

A. WATER PIPING LOCATED BELOW THE BUILDING SLAB, CAN BE ASTM B 88, TYPE "K" SOFT ANNEALED COPPER WATER PIPE. FITTINGS TO BE ASTM B 16.18, CAST BRONZE, ASTM B 16.22 WROUGHT COPPER ALLOY OR ASTM B 16.26 CAST BRONZE FOR FLARED FITTINGS. FITTINGS TO BE SWEAT SOLDERED OR FLARED. NO JOINTS SHALL BE PERMITTED IN PRESSURE WATER PIPE BELOW SLAB ON GRADE. ALL SUCH PIPING MUST BE BROUGHT UP ABOVE FINISHED FLOOR LINE A MINIMUM OF 12" BEFORE JOINING. EXCEPTION MAY BE TAKEN WHEN PIPE IS FULLY ENCLOSED IN PRESSURE RATED SLEEVE AND PRE-APPROVED BY THE ARCHITECT/ENGINEER.
B. WATER PIPING LOCATED BELOW THE BUILDING SLAB, CAN BE PEX PIPING AND FITTINGS CERTIFIED FOR BELOW SLAB INSTALLATION.
C. WATER PIPING LOCATED ABOVE THE BUILDING SLAB, CAN BE ASTM B 88 TYPE "L" HARD DRAWN COMMERCIAL COPPER WATER PIPE. FIITINGS TO BE ASME B 16.18, CAST BRONZE OR ASTM B 16.22 WROUGHT COPPER ALLOY. JOINTS TO BE ASTM B 32 SOLDER.
D. WATER PIPING LOCATED ABOVE THE BUILDING SLAB, CAN BE PEX PIPING AND FITTINGS CERTIFIED FOR ABOVE BUILDING SLAB.
E. DIELECTRIC INSULATING COUPLINGS SHALL BE PROVIDED BETWEEN FERROUS AND COPPER PIPING SYSTEMS.

PART 3 – EXECUTION

3.1 EXCAVATION

A. TRENCHES FOR ALL UNDERGROUND PIPING SYSTEMS SHALL BE EXCAVATED TO THE REQUIRED DEPTHS. IN THE CASE OF SEWER LINES, THE BOTTOM OF THE TRENCHES SHALL BE GRADED TO SECURE THE NECESSARY FALL. NEVER ALLOW THE SEWER LINES TO COME IN CONTACT WITH UNDERGROUND REFRIGERANT PIPING. SANITARY SEWER LINES OUTSIDE THE BUILDING SHOULD BE KEPT AS DEEP AS PRACTICABLE WITH A MINIMUM COVER OF 12". PROVIDE CLEAN WASHED SAND FILL 6" BELOW, ON TOP AND BOTH SIDES OF THE LINES, TAMPED TO MAXIMUM COMPACTION INSIDE THE TRENCH LOCATED INSIDE OR OUTSIDE THE BUILDING.
B. ALL TRENCH EXCAVATION REQUIRED ON THIS PROJECT SHALL BE ACCOMPLISHED AS REQUIRED BY THE PROVISIONS AS PART 1926, SUBPART P-EXCAVATIONS, TRENCHING AND SHORING OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATIONS STANDARD AND INTERPRETATIONS.

3.2 JOINT CONSTRUCTION

A. SOLDERED JOINTS: USE ASTM B 813, WATER-FLUSHABLE, LEAD-FREE FLUX, ASTM B 32, LEAD-FREE-ALLOY SOLDER, AND ASTM B 828 PROCEDURE, UNLESS OTHERWISE INDICATED.

3.3 HANGER AND SUPPORT INSTALLATION

A. PIPE HANGER AND SUPPORT DEVICES ARE SPECIFIED IN DIVISION 15 SECTION "HANGERS AND SUPPORTS."

3.4 FIELD QUALITY CONTROL

A. INSPECT WATER PIPING AS FOLLOWS:
   1. DO NOT ENCLOSE, COVER, OR PUT PIPING INTO OPERATION UNTIL IT HAS BEEN INSPECTED AND APPROVED BY AUTHORITIES HAVING JURISDICTION.
   2. REINSPECTION: IF AUTHORITIES HAVING JURISDICTION FIND THAT PIPING WILL NOT PASS TEST OR INSPECTION, MAKE REQUIRED CORRECTIONS AND ARRANGE FOR REINSPECTION.

B. TEST WATER PIPING AS FOLLOWS:
   1. LEAVE NEW, ALTERED, EXTENDED, OR REPLACED WATER PIPING UNCOVERED AND UNCONCEALED UNTIL IT HAS BEEN TESTED AND APPROVED. EXPOSE WORK THAT WAS COVERED OR CONCEALED BEFORE IT WAS TESTED.
   2. WATER PIPING SYSTEMS: WATER PIPING SYSTEMS SHALL BE PROPERLY TESTED TO A HYDROSTATIC PRESSURE OF ONE HUNDRED AND FIFTY POUNDS (150 PSI) PER SQUARE INCH GAUGE FOR A PERIOD OF NOT LESS THAN EIGHT HOURS. DURING THIS TEST PERIOD, ALL LEAKS IN PIPE, FITTINGS AND ACCESSORIES, IN THE PARTICULAR PIPING SYSTEM, WHICH IS BEING TESTED, SHALL BE STOPPED AND THE HYDROSTATIC TEST SHALL AGAIN BE APPLIED. THIS PROCEDURE SHALL BE REPEATED FOR AN ENTIRE EIGHT-HOUR PERIOD AND NO LEAKS CAN BE FOUND WHILE THE SYSTEM BEING TESTED IS SUBJECTED TO THE PRESSURE MENTIONED ABOVE.
   3. REPAIR LEAKS AND DEFECTS WITH NEW MATERIALS AND RETEST PIPING OR PORTION THEREOF UNTIL SATISFACTORY RESULTS ARE OBTAINED.

3.5 CLEANING

A. THE ENTIRE WATER PIPING SYSTEM UPON COMPLETION SHALL BE STERILIZED WITH A SOLUTION CONTAINING NOT LESS THAN 50 PARTS PER MILLION OF CHLORINE. THE STERILIZATION SOLUTION SHALL BE ALLOWED TO REMAIN IN THE SYSTEM FOR A PERIOD OF TWENTY-FOUR (24) HOURS, DURING WHICH TIME ALL VALVES AND FAUCETS SHALL BE OPENED AND CLOSED SEVERAL TIMES. AFTER STERILIZATION, THE SOLUTION SHALL BE FLUSHED FROM THE SYSTEM WITH CLEAN WATER UNTIL THE RESIDUAL CHLORINE CONTENT IS NOT GREATER THAN 0.2 PARTS PER MILLION.

3.6 FINAL SYSTEM PRESSURE DELIVERY

A. VERIFY INCOMING SYSTEM PRESSURE AND PROVIDE A PRESSURE REDUCING VALVE WITH FULL SIZE BY-PASS WHEN PRESSURE EXCEEDS 80PSI. SET PRV FOR A 60PSI SETTING.

# SECTION 15150 – SANITARY WASTE AND VENT PIPING

PART 1 – GENERAL

1.1 SUMMARY

A. THIS SECTION INCLUDES THE FOLLOWING SOIL AND WASTE, SANITARY DRAINAGE AND VENT PIPING
B. DO NOT ENCLOSE, COVER, OR PUT PIPING INTO OPERATION UNTIL IT IS INSPECTED AND APPROVED BY AUTHORITIES HAVING JURISDICTION. INSIDE THE BUILDING:
   1. PIPE, TUBE, AND FITTINGS.
   2. SPECIAL PIPE FITTINGS.

PART 2 – PRODUCTS

2.1 PIPING MATERIALS

A. SANITARY WASTE, ANIMAL WASTE, AND VENT PIPING WITHIN THE BUILDING BELOW GRADE TO BE:
   1. PVC, ASTM D 1785/D 2729 SCHEDULE 40; INSTALLED PER ASTM D 2321; SOLVENT WELD WITH ASTM D 2564 SOLVENT CEMENT, INSTALLED PER THE REQUIREMENTS OF ASTM D 2855 JOINTS.
B. SANITARY WASTE, ANIMAL WASTE AND VENT PIPING WITHIN THE BUILDING ABOVE GRADE TO BE:
   1. PVC, ASTM D 1785/D 2665 SCHEDULE 40; PVC FITTINGS ASTM D 3311/D 2665 DRAINAGE PATTERN, WITH BELL AND SPIGOT ENDS TO BE FURNISHED BY THE SAME MANUFACTURER AS PIPE OR APPROVED EQUAL; ASTM D 2855, SOLVENT WELD WITH ASTM D 2564 SOLVENT CEMENT JOINTS.

PART 3 – EXECUTION

3.1 PIPING INSTALLATION

A. DURING INSTALLATION, NOTIFY AUTHORITIES HAVING JURISDICTION AT LEAST 24 HOURS BEFORE INSPECTION MUST BE MADE. PERFORM TESTS SPECIFIED BELOW IN PRESENCE OF AUTHORITIES HAVING JURISDICTION.

3.2 HANGER AND SUPPORT INSTALLATION

A. PIPE HANGERS AND SUPPORTS ARE SPECIFIED IN DIVISION 15 SECTION "HANGERS AND SUPPORTS."

3.3 FIELD QUALITY CONTROL

A. HORIZONTAL WASTE AND SOIL PIPE 2 1/2" AND SMALLER SHALL BE GIVEN A GRADE OF 1/4" PER FOOT AND PIPING 3" AND LARGER SHALL BE GRADED AT 1/8" PER FOOT.
B. REINSPECTION: IF AUTHORITIES HAVING JURISDICTION FIND THAT PIPING WILL NOT PASS TEST OR INSPECTION, MAKE REQUIRED CORRECTIONS AND ARRANGE FOR REINSPECTION.
C. SANITARY DRAINS: PIPES SHALL HAVE ALL OUTLETS TEMPORARILY PLUGGED. THE PIPES SHALL BE FILLED WITH WATER TESTING THE SYSTEM IN SECTION SUCH THAT NO SECTION SHALL BE TESTED WITH LESS THAN 10-FOOT (10') HEAD OF WATER. IF AFTER TWENTY-FOUR (24) HOURS, THE LEVEL OF THE WATER HAS BEEN LOWERED BY LEAKAGE, THE LEAKS MUST BE FOUND AND STOPPED BY THIS CONTRACTOR, AND THE WATER LEVEL SHALL AGAIN BE RAISED AND THE TEST REPEATED UNTIL AFTER TWENTY-FOUR HOUR RETENTION PERIOD THERE SHALL BE NO PERCEPTIBLE LOWERING OF THE WATER LEVEL OF THE SYSTEM BEING TESTED.

3.4 CLEANING

A. CLEAN INTERIOR OF PIPING. REMOVE DIRT AND DEBRIS AS WORK PROGRESSES.
B. PROTECT DRAINS DURING REMAINDER OF CONSTRUCTION PERIOD TO AVOID CLOGGING WITH DIRT AND DEBRIS AND TO PREVENT DAMAGE FROM TRAFFIC AND CONSTRUCTION WORK.
C. PLACE PLUGS IN ENDS OF UNCOMPLETED PIPING AT END OF DAY AND WHEN WORK STOPS.

# SECTION 15411 – NATURAL GAS PIPING SYSTEMS

PART 1 – GENERAL

1.1 SUMMARY

A. REFER TO SECTION 15050 BASIC MATERILAS AND METHODS.

PART 2 – PRODUCTS

2.1 PIPING MATERIALS

A. ALL GAS PIPING ABOVE GROUND SHALL BE SCHEDULE 40 STEEL AS MANUFACTURED BY NATIONAL TUBE, REPUBLIC, YOUNGSTOWN OR APPROVED EQUAL.
B. ALL SCREWED FITTINGS SHALL BE CRANE OR APPROVED EQUAL, CLASS 150 MALLEABLE IRON. SCREW JOINTS SHALL BE MADE UP WITH GRAPHITE AND OIL OR TEFLON TAPE. SCREWED THREADS SHALL BE IN ACCORDANCE WITH AMERICAN PIPE THREAD STANDARDS.
C. GAS VALVES SHALL BE U.L. LISTED AS FOLLOWS: BALL VALVES SHALL BE NIBCO T585-70-UL FOR 1/4" TO 1" AND T580-70-UL FOR 1-1/4" TO 3". PLUG VALVES SHALL BE DEZURICK SERIES 425 OR 435 ECCENTRIC VALVES WITH RS 49 PLUG SEALS.
D. GAS PRESSURE REGULATORS SHALL BE CAPABLE OF REDUCING 2 PSI PRESSURE GAS TO 11"W.C PRESSURE GAS AT CAPACITIES REQUIRED BY GAS DEMAND. INSTALL PER A.G.A. BULLETIN 90. REGULATORS SHALL BE AS MANUFACTURED BY ROCKWELL, FISHER-GOVERNOR OR APPROVED EQUAL.

PART 3 – EXECUTION

A. ALL GAS PIPING SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS AND PRINTED INSTALLATION INSTRUCTIONS.
B. PROVIDE LEVER HANDLE GAS VALVE, DRIP LEG AND UNION TO EACH PIECE OF EQUIPMENT AND WHERE INDICATED. INCLUDE ROOF ISOLATION PADS TO BE PLACED UNDER MAPA SUPPORTS. ISOLATION PADS SHALL BE 1/2" 100% RECYCLED BLACK.
C. PIPING LOCATED ON ROOF SHALL HAVE A PIPE SUPPORT BASE THAT SHALL COMBINE UV PROTECTED 33% FIBERGLASS REINFORCED 6/6 NYLON; ADJUSTABLE STAINLESS STEEL THREADED ROD, BASE FOR PIPE SUPPORT SHALL HAVE A FLAT SOLID LOWER SURFACE WITH NEOPRENE ROOF PAD ADHERED TO BOTTOM OF SURFACE. SPACE SUPPORTS FOR EVEN DISTRIBUTION TYPICALLY 6 FEET TO 10 FEET APART. COORDINATE EXACT SUPPORT LOCATIONS WITH OTHER EQUIPMENT ON ROOF. ASSEMBLY SHALL INCLUDE A HARD RUBBER ROLLER ASSEMBLY CAPABLE OF PROVIDING IMPACT RESISTANCE TO PREVENT DAMAGE TO ROOF OR SUPPORT DURING PIPE INSTALLATION. PRODUCT SHALL BE AS FOLLOWS FOR 3" PIPE AND SMALLER: MAPA PRODUCTS MS-4(MAX. LOAD 140 lbs.). TO PROVIDE ADDITIONAL PROTECTION TO THE ROOF, SUPPORT ASSEMBLY SHALL RUBBER DESIGN HEAVY DUTY WALK PADS, SIZED AND PROVIDED BY MAPA PRODUCTS. ADDITIONAL SUPPORTS WILL BE REQUIRED AT EACH CHANGE OF DIRECTION.

PART 4 – TESTING

A. ALL GAS SYSTEM PIPING SHALL BE SUBJECTED TO A PNEUMATIC TEST PRESSURE OF 60 PSIG FOR NOT LESS THAN 24 HOURS UPON COMPLETION OF ALL ROUGH-IN WORK. WHILE THE SYSTEMS ARE SUBJECTED TO THIS AIR PRESSURE TEST, ALL JOINTS SHALL HAVE A SOAPY WATER SOLUTION APPLIED AND JOINTS OBSERVED FOR LEAKS.

# SECTION 15430 – PLUMBING SPECIALTIES

PART 1 – GENERAL

1.1 SUMMARY

A. THIS SECTION INCLUDES PLUMBING SPECIALTIES:

1.2 SUBMITTALS

A. PRODUCT DATA: INCLUDE RATED CAPACITIES AND INDICATE MATERIALS, FINISHES, DIMENSIONS, REQUIRED CLEARANCES, AND METHODS OF ASSEMBLY OF COMPONENTS, AND PIPING AND WIRING CONNECTIONS FOR THE FOLLOWING:
   1. WATER HAMMER ARRESTERS, AIR VENTS, AND TRAP SEAL PRIMER VALVES AND SYSTEMS.
   2. COMPLY WITH NSF 61, "DRINKING WATER SYSTEM COMPONENTS--HEALTH EFFECTS, SECTIONS 1 THROUGH 9," FOR POTABLE WATER PLUMBING SPECIALTIES.

# SECTION 15440 – PLUMBING FIXTURES

PART 1 – GENERAL

1.1 SUMMARY

A. THIS SECTION INCLUDES PLUMBING FIXTURES:

1.2 SUBMITTALS

A. FIXTURES AND ASSOCIATED TRIM: MANUFACTURER'S PRODUCT DATA SHOWING DIEMNSIONS, CERTIFICATIONS, MATERIALS AND INSTALLATION INSTRUCTIONS.

1.3 QUALITY ASSURANCE

A. ALL PLUMBING FIXTURES AND TRIM SHALL BE MANUFACTURED IN THE UNITED STATES.

1.4 PLUMBING FIXTURES:

A. REFER TO PLUMBING FIXTURE SCHEDULE.

PART 2 – EXECUTION

2.1 INSTALLATION

A. REFER TO DIVISION 15 SECTION "BASIC MECHANICAL MATERIALS AND METHODS" FOR PIPING JOINING MATERIALS, JOINT CONSTRUCTION, AND BASIC INSTALLATION REQUIREMENTS.
B. CLEAN-OUTS: THE SIZES OF CLEAN-OUTS SHALL BE IDENTICAL WITH THE SIZE OF THE SOIL OR WASTE LINES IN WHICH THEY ARE PLACED, EXCEPT WHERE CLEAN-OUTS LARGER THAN FOUR INCHES (4") IN DIAMETER WILL NOT BE REQUIRED. CLEAN-OUTS SHALL BE INSTALLED AS INDICATED ON PLANS. ALL CLEAN-OUTS LOCATED IN EXTERIOR LOCATIONS SHALL BE ENCASED IN 24" X 24" X 6" CONCRETE PAD UNLESS INSTALLED IN A CONCRETE WALK, DRIVE OR OTHER CONCRETE AREAS. ALL CLEAN-OUTS INSTALLED IN WALLS OR OTHER PAINTED SURFACES SHALL BE OF A TYPE FURNISHED IN PRIME COAT TO BE PAINTED ON THE JOB TO MATCH THE SURFACE IN WHICH THEY ARE INSTALLED. ALL COVER PLATES ON CLEAN-OUTS SHALL BE ATTACHED WITH VANDAL-PROOF SCREWS.
C. CLEAN-OUTS SHALL BE BY MIFAB OR APPROVED EQUAL.
D. WHERE COPPER PIPE PASSES THROUGH SHEET METAL STUDS, USE PVC INSERTS FROM "PLASTIC ODDITIES" TO ISOLATE PIPE FROM THE STUDS. ALSO USE IPC APPROVED TYPE ISOLATION TAPE AROUND THE CIRCUMFERENCE OF ALL COPPER WATER TUBING, WHERE STEEL PIPE SUPPORTS AND STEEL PIPE DAMPS WOULD COME IN CONTACT WITH COPPER TUBING. INSTALL TWO TO THREE WRAPS AT EACH PIPE SUPPORT.
E. INSTALL ESCUTCHEONS AT WALL, FLOOR, AND CEILING PENETRATIONS IN EXPOSED FINISHED LOCATIONS AND WITHIN CABINETS AND MILLWORK. USE DEEP-PATTERN ESCUTCHEONS IF REQUIRED TO CONCEAL PROTRUDING PIPE FITTINGS.

# SECTION 15325 – FIRE PROTECTION SPRINKLER SYSTEM

PART 1 – GENERAL

1.1 SUMMARY

A. THIS SECTION INCLUDES A NEW WET PIPE SPRINKLER SYSTEM:
B. PROVIDE SYSTEM DESIGN, INSTALLATION & CERTIFICATION.
C. THE BUILDING WILL BE SERVED BY A NEW WET PIPE SYSTEM.

1.2 SYSTEM DESCRIPTION

A. PROVIDE COVERAGE FOR THE ENTIRE SPACE AS REQUIRED BY THE LATEST NFPA.
B. DETERMINE VOLUME AND INCOMING PRESSURE FROM WATER SUPPLY.
C. PROVIDE INTERFACE SYSTEM WITH BUILDING FIRE DETECTION AND ALARM SYSTEM AS REQUIRED.

1.3 SUBMITTALS

A. PRELIMINARY SHOP DRAWINGS: PRIOR TO DETAILED SUBMISSION, SUBMIT PRELIMINARY LAYOUT OF FINISHED CEILING AREAS INDICATING ONLY HEAD LOCATIONS COORDINATED WITH CEILING INSTALLATION.
B. SHOP DRAWINGS: IF REQUIRED PROVIDE HYDRAULIC CALCULATION. PROVIDE DETAILED PIPE LAYOUT, HANGERS AND SUPPORTS, COMPONENTS & ACCESSORIES. INDICATE SYSTEM CONTROLS.
C. PRODUCT DATA: PROVIDE DATA ON SPRINKLER HEADS, VALVES, AND SPECIALTIES, INCLUDING MANUFACTURES CATALOG INFORMATION. SUBMIT PERFORMANCE RATINGS ROUGH-IN DETAILS, WEIGHTS, SUPPORT REQUIREMENTS AND PIPING CONNECTIONS.
D. SUBMIT REQUIRED DATA TO AUTHORITY HAVING JURISDICTION FOR APPROVAL PRIOR TO SUBMISSION TO ARCHITECT/ENGINEER. SUBMIT PROOF OF APPROVAL TO ARCHITECT/ENGINEER.

1.4 PROJECT RECORD DOCUMENTS

A. RECORD ACTUAL LOCATIONS OF PIPING, SPRINKLER HEADS AND DEVIATIONS OF PIPING. INDICATE DRAIN AND TEST LOCATIONS.
B. MAINTENANCE DATA: INCLUDE COMPONENTS OF SYSTEM, SERVICING REQUIREMENTS, RECORD DRAWINGS, INSPECTION DATA, REPLACEMENT PART NUMBERS AND AVAILABILITY, LOCATION AND NUMBERS OF SERVICE AGENCY.
C. SUBMIT REQUIRED DATA TO AUTHORITY HAVING JURISDICTION FOR APPROVAL PRIOR TO SUBMISSION TO ARCHITECT/ENGINEER. SUBMIT PROOF OF APPROVAL TO ARCHITECT/ENGINEER.

1.5 QUALIITY ASSURANCE

A. PERFORM WORK IN ACCORDANCE LATEST ADOPTED CODES, NFPA 13, INTERNATIONAL FIRE CODE, FIRE MARSHALS OFFICE AND LOCAL AMENDMENTS.
B. EQUIPMENT AND COMPONENTS SHALL BEAR UL AND FM LABEL OR MARKING.
C. ALL ELECTRICAL SHALL COMPLY WITH DIVISION 16.

1.6 QUALIFICATIONS

A. INSTALLER SHALL BE A COMPANY LICENSED BY THE STATE OF TEXAS SPECIALIZING IN PERFORMING WORK OF THIS SECTION WITH A MINIMUM OF THREE YEARS EXPERIENCE.

1.7 REGULATORY REQUIREMENTS

A. DESIGN AND INSTALLATION SHALL BEAR STAMP OF APPROVAL OF THE AUTHORITY HAVING JURISDICTION.

1.8 DELIVERY, STORAGE AND HANDLING

A. DELIVER, STORE AND PROTECT PRODUCTS AS REQUIRED.

1.9 EXTRA MATERIALS

A. PROVIDE HEADS UNDER PROVISIONS OF NFPA 13.
B. PROVIDE SUITABLE WRENCHES FOR EACH TYPE OF HEAD.
C. IF REQUIRED, PROVIDE METAL STORAGE CABINET FOR SPRINKLER HEADS.

PART 2 – PRODUCTS

2.1 SPRINKLER HEADS

A. MANUFACTURER
   A. CENTRAL.
   B. GEM.
   C. VIKING.
   HEAD TYPES
   A. CHROME-PLATED SEMI-RECESSED HEADS IN THE UPRIGHT POSITION TO PROVIDE COVERAGE FOR ENTIRE INTERIOR SHELL AREA, WITH MAXIMUM SPACING. PROVIDE WITH SWING JOINT FITTING.

PART 3 – EXECUTION

3.1 PREPARATION

A. COORDINATE WORK WITH ALL DISCIPLINES.

3.2 INSTALLATION

A. INSTALL HEADS PER MANUFACTURERS INSTURCTIONS.
B. INSTALL PIPING TO MINIMIZE CONFLICTS WITH OTHER WORK.
C. INSTALL HEADS AS CLOSE AS POSSIBLE TO CENTER OF CEILING TILES.

Open studio architecture
6122 DeZavala Rd.
San Antonio, Texas 78249
Tel: 210.417.4307
www.openstudio-usa.com

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STATE OF TEXAS ROGER G. MENDEZ 93809 REGISTERED PROFESSIONAL ENGINEER

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RGM ENGINEERING
TEXAS REGISTERED ENGINEERING FIRM F-10487
7550 IH 10 W, SUITE 350
SAN ANTONIO, TX 78229
WWW.RGMENGINEERING.NET
PHONE: 210.299.4522
FAX: 210.299.4525

**CAMP BOW WOW**

1450 N. BUSINESS 35
NEW BRAUNFELS, TX 78130

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