Webb County Main Fire Station & Administration Building

For Webb County

Addendum No. 5 NOV. 3, 2015

All interested parties to the project above identified are hereby notified of the following revisions to the Construction Documents. These changes shall take precedence over all previous relevant declarations and drawings found in the Construction Documents. Unless otherwise noted all work described herein or attached shall comply with all the requirements found in and/or referred to in the Construction Documents. All other work affected by this revision not mentioned herein shall be modified to accommodate these revisions. Those modifications shall comply with the design intent, all the requirements found in and/or referred to in the Construction Documents, and shall be executed in coordination with the Architect. This Addendum must be attached to the inside front cover of your set of specifications.

PRE-PROPOSAL CONFERENCE:
There will be an additional Pre-Proposal Conference November 10th 2015 at 11am in the Webb County Engineering Department, 1620 Santa Ursula 2nd Floor, Laredo Texas, 78040.

REPLACE SHEETS:

Exhibit A-Geo-Technical:

Geo-Technical report found in specifications shall be replaced with Exhibit A.

Exhibited B-Drawing Replacement Sheet B:

Due to a change in the site location and a reorientation of the building, the entire plan set will be replaced via this addendum. Note that the building and all of it's components including structural, mechanical, electrical, and plumbing have only been mirrored to better make use of the site. Any changes beyond that reorientation have been clouded and noted.

Index Update:

SHEET	DRAWING NAME	DATED	ACTION
T1	PROJECT TITLE SHEET	11/2/15	REPLACE
A-0.1	CODE REVIEW	11/2/15	REPLACE
C1.0	DEMOLITION		REMOVE FROM SET
C2.0	SITE PLAN	11/2/15	REPLACE
C3.0	GRADING & SWPP PLAN	11/2/15	REPLACE
C4.0	UTILITIES	11/2/15	REPLACE
A-100	SITE/LANDSCAPING PLAN	11/2/15	REPLACE
A-101	SITE MARQUEE-ALTERNATE #1	11/2/15	REPLACE
A-102	SITE DETAILS	11/2/15	REPLACE
A-200	FLOOR PLAN	11/2/15	REPLACE
A-201	FLOOR PLAN - MEZZANINE	11/2/15	REPLACE
A-202	SPECIAL SYSTEMS & EQUIPMENT	11/2/15	REPLACE
A-203	FURNITURE PLAN	11/2/15	REPLACE
A-204	FINISHES PLAN	11/2/15	REPLACE
A-205	ROOF PLAN	11/2/15	REPLACE
A-300	REFLECTED CEILING PLAN	11/2/15	REPLACE
A-400	DOOR & STORE FRONT SCHEDULES /TYPES	11/2/15	REPLACE
A-401	JAMB/HEADER/SILL DETAILS DOORS	11/2/15	REPLACE
A-500	NORTH & EAST ELEVATIONS	11/2/15	REPLACE
A-501	SOUTH & WEST ELEVATIONS	11/2/15	REPLACE

Webb County Main Fire Station & Administration Building

For Webb County

Addendum No. 5 NOV. 3, 2015

SHEET	DRAWING NAME	DATED	ACTION
A-600	BUILDING SECTIONS	11/2/15	REPLACE
A-601	WALL SECTIONS	11/2/15	REPLACE
A-602	WALL SECTIONS @ CANOPY	11/2/15	REPLACE
A-700	PARTIALLY ENLARGED FLOOR PLANS	11/2/15	REPLACE
A-800	ACCESSORIES TYPES & SCHEDULES	11/2/15	REPLACE
A-801	INTERIOR ELEVATIONS	11/2/15	REPLACE
A-900	HOSE TOWER DETAILS	11/2/15	REPLACE
A-901	FLOOR PLAN DETAILS	11/2/15	REPLACE
A-902	STANDING SEAM MTL ROOF DETAILS	11/2/15	REPLACE
S-1.1	GENERAL NOTES AND TYP. FND. DETAILS	11/2/15	REPLACE
S-1.2	TYP. CMU WALL DETAILS	11/2/15	REPLACE
S-1.3	TYP. METAL STUDS DETAILS	11/2/15	REPLACE
S-2	FOUNDATION PLAN	11/2/15	REPLACE
S-3	ROOF FRAMING PLAN	11/2/15	REPLACE
SD-1	FOUNDATION DETAILS	11/2/15	REPLACE
SD-2	ROOF FRAMING DETAILS	11/2/15	REPLACE
M1	MECHANICAL FLOOR PLAN	11/2/15	REPLACE
M2	MECHANICAL SCHEDULES	11/2/15	REPLACE
M3	MECHANICAL DETAILS	11/2/15	REPLACE
E0.1	ELECTRICA SITE PLAN	11/2/15	REPLACE
E1.1	ELECTRICAL LIGHTING FLOOR PLAN	11/2/15	REPLACE
E2.1	ELECTRICAL POWER FLOOR PLAN	11/2/15	REPLACE
E3.1	SPECIAL SYSTEMS PLAN	11/2/15	REPLACE
E4.1	SCHEDULES & ONE LINE	11/2/15	REPLACE
E5.1	ELECTRICAL DETAILS	11/2/15	REPLACE
E5.2	ELECTRICAL DETAILS	11/2/15	REPLACE
P1.0	PLUMBING SITE PLAN	11/2/15	REPLACE
P1.1	PLUMBING DWV PLAN	11/2/15	REPLACE
P1.2	PLUMBING WATER PLAN	11/2/15	REPLACE
P1.3	PLUMBING ROOF PLAN	11/2/15	REPLACE
P2.1	PLUMBING FIXTURE SCHEDULES	11/2/15	REPLACE
P3.1	PLUMBING RISER DIAGRAMS	11/2/15	REPLACE
P4.1	PLUMBING DETAILS	11/2/15	REPLACE

NOTE:

1. Copies of the plans and specifications may be reviewed and downloaded free of charge via the link: http://www.webbcounty.com/PurchasingAgent/PublicNoticeRFP/
2. Upon request, copies may be obtained at a fee of $150.00 for each set of documents. To do so, provide a written request to monica@hickeypena.com. Please allow 24 hours for your plans to be ready for pick up.

Hickey Peña Architects

Mario A. Peña, AIA

REGISTERED ARCHITECT MARIO A. PEÑA 20580 STATE OF TEXAS

DIGITALLY SIGNED: 10/22/2015

GEOTECHNICAL ENGINEERING STUDY

WEBB COUNTY MAIN FIRE STATION

CONDUCTED FOR:

HICKEY | PEÑA
ARCHITECTS

Laredo, Webb County, Texas 78043

2015

PREPARED BY:

CASTLE
ENGINEERING & TESTING, LLC

1216 SANTA MARIA AVENUE

LAREDO, TEXAS 78040

TBPE REGISTRATION No. F-10341

October 19, 2015

Mr. Mario A. Peña, A.I.A.
Principal/Owner
Hickey-Peña Architects, LLC
919 Victoria Street
Laredo, Texas 78040

CASTLE
ENGINEERING & TESTING, LLC

Re: Geotechnical Engineering Study
Webb County Main Fire Station
7210 E. Saunders Street
Laredo, Webb County, Texas
CET Project No.: 15G047A

Dear Mr. Peña:

Castle Engineering & Testing, LLC (CET) has completed a geotechnical engineering exploration report for the proposed **Webb County New Main Fire Station** to be located at 7210 East Saunders Street in Laredo, Webb County, Texas.

We appreciate the opportunity to assist in this phase of the project, and we look forward for the opportunity to provide additional geotechnical and construction material testing services as the project progresses.

Please feel free to call us if you have any questions regarding this report or if we may be of further service.

Respectfully,

Castle Engineering & Testing, LLC

Jesse P. Rodriguez, P.E.
President

STATE OF TEXAS
JESSE P. RODRIGUEZ
57352
LICENSED
PROFESSIONAL ENGINEER
19. Oct. 15.

JPR/lg-15G047A

Copies Submitted: (3) Hickey-Peña Architects, LLC; Mr. Mario A. Peña, A.I.A.

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APPENDIX

1. INTRODUCTION

1.1 Authorization and Scope

Mr. Mario A. Peña, A.I.A., Principal/Owner of Hickey-Peña Architects, LLC, authorized this geotechnical engineering study over the phone on October 14, 2015. The purposes of this study were to determine and evaluate the stratification and engineering properties of the site subsurface soils and to develop geotechnical engineering recommendations and guidelines to be used in the design of foundations, new pavement parking areas, preparation of the pavement subgrade, and other related ancillary items to be included in the construction documents for this project.

CET Scope of Services for this project consists of the following:

1. Drilling test borings at selected and accessible locations within the project site limits to determine and evaluate the stratification and engineering properties of the site subsurface soils and to determine groundwater conditions.

2. Perform the proper geotechnical laboratory tests on selected recovered samples to evaluate the physical engineering properties of the strata encountered.

3. Engineering analysis to develop geotechnical engineering design recommendations with respect to:

    - Foundation Design,
    - Pavement Design recommendations,
    - Construction Guidelines, and
    - Site, Subgrade, and Fill Preparation.

1.2 Project Description

Based on the information provided to us by Hickey-Peña Architects, LLC, we understand that plans are underway to develop the Webb County Main Fire Station Building construction design documents. The proposed Improvements consist of:

- New Fire Station;
- New Parking Areas; and
- Site improvements in grading, drainage and utilities.

The structures may consist of pre-engineered metal frames with in-laid CMU wall sections and various exterior finishes, all supported by shallow or deep foundation systems. The roof system will be metal decking supported by steel roof joists, which will be supported on either interior concrete or steel pipe columns. Flexible and rigid materials will be considered for the final design pavement sections.

1.3 Climate

Laredo is located in a climatic zone described as hot during summer when temperatures tend to be in the 90's and cool during winter when temperatures tend to be below the 50's. The climatological data presented below was obtained from Weather Underground; average monthly temperatures for Laredo in degrees Fahrenheit and total monthly precipitation amounts in inches for the periods of 2013, 2014 and part of 2015 are shown below:

Table No. 1- Average Monthly Temperatures and Precipitation for 2013

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Temp. (º F)	60	66	71	76	81	88	88	90	83	78	64	56
Actual Precip. (in.)	0.44	0.31	0.00	1.74	2.41	2.01	2.44	0.23	3.35	3.81	0.15	1.24
Average Precip. (in.)	0.02	0.01	0.00	0.07	0.09	0.07	2.44	0.23	3.35	0.15	0.01	0.05

Table No. 2- Average Monthly Temperatures and Precipitation for 2014

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Temp. (º F)	55	61	66	78	81	90	90	91	83	79	62	60
Actual Precip. (in.)	0.01	0.08	0.96	0.03	3.71	0.14	1.13	0.18	5.51	0.48	1.81	0.94
Average Precip. (in.)	0.00	0.00	0.04	0.00	0.15	0.01	0.04	0.01	0.19	0.02	0.08	0.04

Table No. 3- Average Monthly Temperatures and Precipitation for 2015

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Temp. (º F)	53	58	64	75	77	85	89	90	86	83*	---	---
Actual Precip. (in.)	0.59	0.29	2.58	4.48	0.04	1.13	0.06	0.03	1.19	0.00*	---	---
Average Precip. (in.)	0.02	0.01	0.09	0.20	0.01	0.05	0.00	0.00	0.04	0.00*	---	---

* The data for the month of October is only available until the date when the report is signed.

1.4 Geology

The Laredo Sheet (1976) of the Geologic Atlas of Texas published by the Bureau of Economic Geology of the University of Texas at Austin has mapped the Laredo Formation within the Eocene Period of Tertiary Geologic Age at the project location. The Laredo Formation generally consists of sandstone and clay; thick sandstone members in upper and lower part, very fine to fine grained, in part glauconitic, micaceous, ferruginous, cross bedded, dominantly red and brown; clay in middle, weathers orange-yellow; dark-gray limestone concretions common, some fossiliferous; marine mega fossils abundant. The thickness of this formation is about 620 feet.

2. FIELD AND LABORATORY TESTING

2.1 Field Testing

The project site was explored by drilling a total of four (4) soil test borings to depths varying from five (5) to fifteen (15) feet in depth and within the proposed areas to receive the improvements. The field investigation included a reconnaissance of the project site, drilling of borings, performing standard penetration tests (SPT) and obtaining disturbed split-barrel samples, and auger samples. Soil samples were obtained at selected intervals in the soil test borings. A split-spoon sampler is a 2-inch O.D. tube that is driven into the soil to be sampled that can be split open lengthwise for easy removal and visual inspection of the soil obtained. Disturbed soil samples were obtained in general accordance with ASTM D-1586 (Penetration Test and Split-Barrel Sampling of Soils).

The results of the standard penetration test indicate the relative density and comparative consistency of the soils, and thereby provide a basis for estimating the relative strength and compressibility of the soil profile components.

2.2 Laboratory Testing

Laboratory tests were carried out in a number of selected soil samples in order to acquire necessary soil engineering preparation with regards to the physical and mechanical properties of the soil layers and further on to evaluate and determine the parameters required for the engineering recommendations. Atterberg limits, moisture content and percent fines tests were performed to assist in classifying the soils and to provide indicators of soil strength and behavior. All phases of the laboratory-testing program were performed in general accordance with the applicable ASTM Specifications.

A summary of the laboratory test results is presented in the Appendix. The samples collected will be stored for 30 days from the date of issue of this report, and then disposed of unless otherwise instructed in writing by the client.

3. SITE AND SUBSURFACE CONDITIONS

3.1 Site Conditions

The project site is between the existing Webb County Fire Department facility at the south and the Webb County Medical Examiner at north, located at 7210 E. Saunders Street. During our field exploration operations, CET personnel observed and noted the following general site conditions:

- The current locations has a variation of elevations, and varies from five (5) to eight (8) feet, sloping toward the west; and
- The existing landscaping consists of trees and natural grass.

3.2 Subsurface Conditions

The subsurface conditions encountered are shown in the boring logs found in the Appendix. The subsurface soil mixtures encountered, consists of sandy lean clay (CL), the soil mixtures encountered are competent soils for support of the proposed improvements. At various bore hole locations, hard cemented layers of the soil mixture were encountered, some as shallow

as five (5) to six and a half (6.5) feet below the surface and others at the lower depths drilled. The soils are underlain by any of the following: sandstone, siltstone, and various cemented sedimentary rock in most borings drilled. The results of our field exploration and laboratory testing indicate that the soil mixtures vary from low-expansive to moderate expansive potential.

Table No. 4 - Major Strata

Stratum	Location	Depth, feet*	Description and Classification
I	B1 – B4	Various Depths	SANDY, LEAN CLAY (CL); light pale brown, brownish yellow.

* The depths and thicknesses of the strata presented are based on information at the borehole locations and variations outside of the ranges of depth and thickness could occur between borehole locations.

The site soil has been evaluated by performing field and laboratory tests on the subsurface samples recovered during the drilling operations. The types of tests conducted on the subsurface samples are listed in the Appendix. The results of the tests are tabulated on the Logs of Borings, which are also provided in the Appendix. Field tests and the laboratory testing program were directed towards evaluating the shear strength, moisture content, volume change characteristics, and plasticity of the subsurface strata for this project. The Symbol Key and Unified Soil Classification System and Terms Sheets, which define the terms and descriptive symbols used on each boring log, are also presented in the Appendix.

3.3 Groundwater

Groundwater was not encountered during the drilling operations. It is noted that groundwater levels will fluctuate with seasonal climatic variations; however, groundwater should not be a factor affecting design or construction at this site. Groundwater levels could be significantly higher after a major rainfall or in rainy season. *As such, the water table must be checked immediately prior to construction to assess its effect on dewatering and other construction activities.*

4. EVALUATION

4.1 General

All recommendations are based on knowledge of the area; however, the project design team should specify actual construction requirements. The final selection of foundation types and depths should be based on considerations of several factors, such as: 1) function of the structure, 2) soil strength properties, expansive properties, and settlement characteristics of subsurface materials; 3) the magnitude of applied structural loads; and 4) foundation construction costs.

4.2 Potential Vertical Rise (PVR)

Potential vertical soil movements have been estimated using the Texas Department of Transportation method TEX-124-E, Potential Vertical Rise (PVR). This method utilizes the soils in-situ moisture conditions and plasticity characteristics within the active zone. It is estimated that depth of the active zone at this site is approximately 15 feet. *Based on the borings drilled at the site, our laboratory analyses indicate that the PVR at this site is* ***less than one and one-third (1-1/3) inch*** *in its present condition.* A sustained surcharge load of

one (1) pound per square inch is assumed to be supplied by the floor and sustained live load in the PVR calculations. It is noted that the PVR estimates are provided as an indicator of the severity of potential soil movements at this site and are not intended as a prediction of actual soil foundation movements.

5. RECOMMENDATIONS

5.1 Site Preparation

The final grade elevation proposed for the proposed improvements was not provided to us; however, all final site grades must provide effective drainage that remains in conformance with existing drainage patterns during and after construction.
Site preparation should consist of the following:

1. Strip vegetation and loose topsoil, if any, containing significant organic material from the proposed construction area prior to build any foundation or installation of base material.
2. The exposed subgrade surfaces should then be proof rolled with a loaded heavy earthwork piece of machinery such as a motorized articulated scraper or dump truck to detect soft or loose zones, followed by proper soil replacement, as necessary to achieve the desired final grade elevations.
3. The subgrade should then be scarified to at least eight (8) inches; moisture conditioned between minus two (-2) to plus three (+3) percentage points of the optimum moisture and compacted to a minimum of 95 percent of the maximum dry density determined in accordance with ASTM D-698 (Standard Proctor).
4. Structural fill may consist of inorganic silty clays or sandy clays with a Liquid Limit (LL) of less than 35 and a Plasticity Index (PI) between seven (7) and fifteen (15). The fill should be placed in compacted lifts not to exceed six (6) inches in thickness, moisture conditioned between minus two (-2) to plus three (+3) percentage points of the optimum moisture and compacted to a minimum of 95 percent of the maximum dry density determined in accordance with ASTM D-698 (Standard Proctor).

Particular attention should be given to maintaining the proper moisture content during compaction and to prevent the fill from drying before subsequent lifts are placed.

5.2 IBC Considerations

Chapter 18 of the International Building Code (IBC) provides additional requirements that impact the design of foundations. Section 1802 addresses foundations and soils investigations, sub-section 1802.3 addresses soil classification and specifically expansive soils (1802.3 & 1805.8). Highly expansive clay was not encountered; however the IBC should be consulted for the final foundation design.

5.3 Design Parameters

Foundation Design Criteria

Principal column and wall loads for the Webb County Main Fire Station and Administration Building structures may be supported on individual or continuous spread footings in combination with a structural fill slab-on-grade and be founded within the low plasticity clays at a minimum depth of at least thirty-six (36) inches below the existing ground surface, found

at time of our drilling operations. The spread footings and slab beams may be designed with an end bearing pressure in combination with the associated skin friction values as depicted in the following paragraph. This bearing pressure is based on a factor of safety against bearing capacity failure of approximately three (3).

The proposed building foundation improvements may be founded on natural soils at the three to five (3 - 5) foot depths and be designed for a bearing pressure based on total loads per Table 5.

Table No. 5 – Continuous Spread Footings

Spread or Continuous Footing	3' Depth	4' Depth	5' Depth
1' Width	3800 psf/lft	4500 psf/lft	6000 psf/lft

Slab-on-fill supported foundation systems may be utilized provided the building pad select fill and supporting subgrade is properly prepared and moisture conditioned. The stiffened beams should be founded a minimum of ***36 inches below*** finish floor grade and the foundation system be on a **supporting subgrade of 24 inches** of properly prepared, compacted, and moisture conditioned structural fill. The fill supported foundation may be designed for a bearing capacity of **3.0 kips per square foot (ksf)** based on total loads, , or a dead load plus long term live load net bearing pressure of **2,000 psf**, whichever results in a larger bearing surface.

When establishing final grade around the structures, we recommend the following:

1. Elevation of ground surface adjacent to the foundation should be a minimum of at least six (6) inches below finished floor.
2. The slope of the ground surface away from the structure should be a minimum of five (5) percent for a distance of at least ten (10) feet.
3. A two (2) feet wide mow band or a six (6) inches thick clay soil mat barrier around the foundation perimeter can also be installed to mitigate moisture changes affecting the foundation performance.

These recommendations are for proper development of bearing capacity for the continuous beam sections of the foundation system and to reduce the potential for water to migrate beneath the slab foundation. These recommendations are not based on structural considerations. Grade beam depths for both the exterior and interior grade beams may need to be greater than recommended herein for structural considerations and should be properly evaluated and designed by the structural engineer. The grade beams or slab portions may be thickened and widened to serve as spread footings at concentrated load areas.

CET has no detailed design information regarding the structured materials proposed; therefore, we still recommend that some interior beams be installed that meet the minimum requirements per an acceptable method for calculating structural loads, deflections and design stresses. Final foundation design considerations must be based on final structural considerations per the project structural engineer.

The footings can provide some uplift resistance for those structures subjected to wind or other induced structural loading. The uplift resistance of a spread footing may be computed using the effective weight of the soil above the spread footing along with the weight of the spread

footing and structure. A soil unit weight of 100 pcf may be assumed for the select fill placed above the footing, provided that the select fill is properly compacted as recommended in this report. If the footing foundations are over excavated and formed, the backfill around the foundation sides should be achieved with compacted select fill, lean concrete, compacted cement stabilized sand (two sacks cement to one cubic yard of sand) or flowable fill. The fill should be placed in compacted lifts not to exceed six (6) inches in thickness, moisture conditioned between minus two (-2) to plus three (+3) percentage points of the optimum moisture and compacted to a minimum of 95 percent of the maximum dry density determined in accordance with ASTM D-698 (Standard Proctor). Reinforcing steel should be placed and the foundation poured the same day of excavation.

For foundations designed and constructed in accordance with the recommendations in this report and under static loading conditions, total post-construction foundation settlement is expected to be less than about one (1) inch. Post-construction differential settlement is expected to be about half of the total settlement. Settlement of the footings can be reduced to the smallest amount compatible with the general method of construction. In general, the foundation will be considered satisfactory if it does not transmit pressures to the subsoil that exceed the safe load or that will cause excessive settlement.

5.4 Lateral Analysis

Presented in the Table below are the recommended soil parameters, which may be used for the lateral load analysis.

Table No. 6 – Lateral Load Soil Parameters

Depth*, (ft)	Friction Angle** (deg)	Rankine Active Earth Pressure, K (a)	Rankine Passive Earth Pressure, K (p)
0 - 10	30	0.33	3.00

* Based on existing surface at time of drilling operations
**Estimated value

Passive Earth Pressure, K(p)	Depth	Equivalent Fluid Pressure
16.2 k/f	10 feet with respect to existing natural ground	53 psf

5.5 Vapor Retarder Membrane/Vapor Barrier

Subsurface moisture and moisture vapor naturally migrate upward through the soil and, where the soil is covered by a building, this subsurface moisture will collect. To reduce the impact of this subsurface moisture and the potential impact of introduced moisture (such as landscape irrigation or plumbing leaks) the current industry standard is to place a vapor retarder membrane on the compacted granular layer. This membrane typically consists of polyvinyl plastic sheeting at least 10 mills in thickness. It should be noted that although capillary break and vapor barrier systems are currently the industry standard, this system may not be completely effective in preventing floor slab moisture problems. These systems will not "moisture proof" the mat/slab nor will it assure mat/slab moisture transmission rates will meet floor-covering manufacturer standards. The design and construction of such

systems are dependent on the proposed use and design of the proposed building and all elements of building design and function should be considered in the mat/slab foundation design. Building design and construction may have a greater role in perceived moisture problems or inadequate ventilation may result in excessive moisture in a building and affect indoor air quality.

The structural engineer is often faced with the decision to use a vapor barrier or a vapor retarder. ACI 302.1 has recently provided a flowchart to assist the designer in making this controversial decision. The structural designer must decide if the mat/slab will have a vapor sensitive floor treatment above or simple concrete finish to determine if the vapor barrier goes below the slab, the slab dry granular base, or perhaps no vapor barrier is required at all.

5.6 Flatwork

For any flatwork outside of the building areas which will be sensitive to movement, subgrade preparation as discussed above should be strongly considered to reduce differential movements between the flatwork and the adjacent structure. If subgrade preparation as given above for structures is not implemented in the exterior flatwork areas, those areas may be susceptible to post construction movements. If these areas do heave, it could result in reversed grading with surface runoff and drainage flowing towards the structure.

5.7 Selection and Placement of Fill

Select fill soils may be required to achieve the proposed site grades. All imported or on-site non expansive select fill soils should be nearly-free of organic or other deleterious debris, essentially non-plastic, and less than two and one-half (2.5) inches in maximum dimension. Coarse-grained soils are preferred for fill; however, most fine-grained soils can be used advantageously if attention is given to drainage, compaction requirements, moisture and density control.

Well-graded mixtures of crushed stone, clayey gravel; caliche and small quantities of cobbles, rock fragments, and/or clayey soils are generally acceptable for use as select fill. The clayey gravel should meet the gradation criteria for Item 247, Type “B”, Grade 3 as specified in the 2014 TxDOT Standard Specifications manual. The crushed stone should meet the gradation criteria for Item 247, Type “A”, Grades 1-2 as specified in the 2014 TxDOT Standard Specifications manual. The fill material should meet the PI requirements presented in this section. *On-site soils should be clean of all debris and meet the requirements of select fill material presented in this report.*

The fill should be placed in compacted lifts not to exceed six (6) inches in thickness, moisture conditioned between minus two (-2) to plus three (+3) percentage points of the optimum moisture and compacted to a minimum of 95 percent of the maximum dry density determined in accordance with ASTM D-698 (Standard Proctor).

5.8 Utility Trench Excavation and Backfill

It appears that excavation for utility trenches can be readily made with a conventional excavator in either native soil or compacted imported fill. If trenches are extended deeper than five (5) feet or are allowed to dry out, the excavations may become unstable and should be evaluated to verify their stability prior to occupation by construction personnel. Shoring or sloping of any deep trench walls may be necessary to protect personnel and provide

temporary stability. All excavations should comply with current OSHA safety requirements for soils (Federal Register 29 CFR, Part 1926).

During wet weather, runoff water should be prevented from entering excavations. Water should be collected and disposed of outside the construction and the construction limits. Heavy construction equipment, excavated soil, and vehicular traffic should not be allowed within a distance of at least one-third (⅓) the slope height from the top of any excavation.

We recommend all backfill be placed in compacted lifts not to exceed six (6) inches in thickness, moisture conditioned between minus two (-2) to plus three (+3) percentage points of the optimum moisture and compacted to a minimum of 95 percent of the maximum dry density determined in accordance with ASTM D-698 (Standard Proctor).Jetting and flooding should not be permitted. Poor compaction in utility trench backfill may cause excessive settlements resulting in damage to the pavement structural section or other overlying improvements. Compaction of trench backfill outside of improvement areas should be a minimum of 90 percent relative compaction.

Another fast and economical backfill alternative is the use of flowable Controlled Low Strength Material (CLSM) mixtures due to the saving of labor and time over placing and compacting soil or granular materials. If it is anticipated or specified that the flowable lean-mix backfill may be excavated at some point in the future the strength must be much lower than the 1,200 psi which the American Concrete Institute (ACI) uses as the upper limit for CLSM. The late-age strength of removable CLSM materials should be in the range of 30 to 150 psi as measured by compressive strength in cylinders. Controlled Low Strength Material (CLSM) is defined in ACI 229R and TxDOT Item 401.

6. PAVEMENT DESIGN CRITERIA

6.1 Pavement Structural Design

The proposed pavement sections are based on a CBR of 3.2; the final pavement design section should be reviewed by the project design team in consultation with the owner during development of the final plans. The pavement thickness designs are shown in the Appendix and are summarized below.

Table No. 7 – Flexible Pavement Design

Component	Thickness, in.
HMAC, Type “C” or “D”	2.0
Flexible Base/Caliche	10.0
Modified Subgrade or Geogrid	---
Moisture Conditioned Subgrade	8.0

Table No. 8 - Rigid Pavement Design Alternatives

Component	Thickness, in.
Reinforced Concrete	6.0
Modified Subgrade	---
Moisture Conditioned Subgrade	8.0

6.2 Selection and Placement of Pavement Materials

Presented below are selection and preparation guidelines for various materials that may be used to construct the pavement sections.

6.2.1 Hot Mix Asphaltic Concrete (HMAC)

We recommend that the asphaltic concrete surface course should meet 2014 TxDOT Standard Specifications Item 341 and Item SS3224 (2011), Type “C” or “D” and its specific criteria for the Job Mix Formula (JMF). The Super Pave Gyratory, design number of revolutions (N_{des}) for the asphaltic mix should be in accordance with TEX-241-F. The Performance Graded (PG) binders should be at least PG 64-22 for the light traffic, or should be at least PG 70-22 for the truck areas and high traffic volume. These binders provide 98 percent reliability against rutting and 98 percent reliability against low temperature thermal cracking to accommodate slow moving, to prevent rutting because of the turning movements and stop and go traffic.

The mix should be compacted to between 91 and 95 percent of the maximum theoretical density as measured by TEX-207-F and TEX-227-F. The asphalt cement content by percent of total mixture weight should fall within a tolerance of ± 0.3 percent asphalt cement from the specific mix. Aggregates known for stripping should not be used unless measures are taken to address this concern. Typically, this includes the use of an anti-strip agent. The mix should have at least 70 percent strength retention when tested in accordance with TEX 531-C.

6.2.2 Asphalt Stabilized Base (HMAC) Type “A” or “B”

The Asphalt Stabilized Base (HMAC) Type “A” or “B” materials should meet the specification requirements of 2014 TxDOT Standard Specifications manual, Item 341 Type “A” Coarse Base or Type “B” Fine Base. Every two (2) inches of flexible base/caliche material may be replaced with one (1) inch of HMAC Type “A” or “B”.

6.2.3 Reinforced Concrete

Reinforced concrete should have a minimum 28-day design compressive strength of 4,000 psi. The concrete should be properly cured in accordance with American Concrete Institute (ACI) recommended procedures and vehicular traffic should not be allowed for at least three (3) days (light traffic) or seven (7) days (heavy traffic).

6.2.4 Flexible Base

Base material may be composed of crushed stone base meeting all of the requirements of 2014 TxDOT Standard Specifications manual Item 247, Type "A", Grades 1-2. As an alternate to the Type "A" base material, caliche should meet the requirements for Item 247, Type "B", Grade 3 as specified in the 2014 TxDOT Standard Specifications manual. *In addition the percent passing No. 200 sieve should not exceed 20 percent.*

The base should be compacted to at least 95 percent of the maximum dry density as determined by the modified moisture-density relationship (ASTM D-1557) at moisture contents ranging between minus two (-2) and plus three (+3) percentage points of the optimum moisture content

6.2.5 Moisture Conditioned Subgrade

The subgrade should be scarified to a depth of at least eight (8) inches and moisture conditioned at moisture contents ranging between minus two (-2) to plus three (+3) percentage points of the optimum moisture content. The subgrade should then be compacted to at least 95 percent of the maximum dry density determined in accordance with ASTM D-698. *The subgrade should be moisture conditioned just prior to fill placement in order that the subgrade maintains its compaction moisture levels and does not dry out.*

Pavement areas should be stripped of vegetation, debris and loose topsoil, and the exposed subgrade should be proof rolled with appropriate construction equipment weighing at least 15 tons. The purpose of this recommendation is to check the subgrade for weak or soft areas prior to fill placement and compaction. This operation should be observed and evaluated by qualified geotechnical personnel experienced in earthwork operations.

If weak or soft areas are evidenced during proof rolling operations, the soil in the subject area should be removed to expose competent subgrade soils in both horizontal and vertical limits. The excavated soils, provided they are not contaminated with deleterious materials, or clean imported fill soils can be used to restore grade at these isolated areas; any imported fill should meet the requirements for select fill. Placement and compaction of the soils should be as discussed below.

7. GENERAL REMARKS

7.1 Construction Services

We recommend that **Castle Engineering & Testing, LLC** be retained to provide construction materials testing services during grading and foundation construction activities. This is to observe compliance with the plans, specifications, and geotechnical recommendations and to allow design changes if the subsurface conditions differ from those anticipated before construction.

7.2 Limitations

The evaluation and recommendations submitted in this report are based, in part, upon the information obtained from the soil borings drilled. The nature and extent of variations in the soil conditions between or beyond the borings and excavations may not become evident until actual construction.

The transition lines shown on the boring logs are approximate and the actual transitions may be gradual. If changes in nature or design of the project are planned, the conclusions and recommendations in this report should be reviewed by the soils engineer and if necessary, modified. Soil samples not altered by laboratory testing will be retained for a period of 30 days and then, unless we are directed otherwise, will be discarded.

This report has been prepared for the exclusive use of **Hickey-Peña Architects, LLC** and their design team for specific application to the proposed **Webb County Main Fire Station** in Laredo, Webb County, Texas, according to accepted foundation-engineering practices. No other warranty, expressed or implied, is made.

APPENDIX

Vicinity Map

Boring Location Plan

Boring Logs

The Symbol Key Sheet

Unified Soil Classification System and Terms Sheet

Field and Laboratory Testing Procedures

Pavement Design (AASTHO 1993 Method)

Flexible Pavement Nomograph

CASTLE
ENGINEERING & TESTING, LLC
1818 SANTA MARIA - LAREDO, TEXAS 78040
PHONE 956.727.8600 - FAX 956.727.8604
TBPE F-4041

PROJECT

WEBB COUNTY MAIN FIRE STATION

LAREDO, TEXAS

SHEET TITLE

VICINITY MAP

Date
10/15/2015
Prepared for:
Hickey-Peña Architects
Project No.
14G047A
Designed By:
Jesse P. Rodriguez, P.E.

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PHONE 956.727.8600 - FAX 956.727.8604
TBPE F-4041

PROJECT

WEBB COUNTY MAIN FIRE STATION

LAREDO, TEXAS

SHEET TITLE

BORE LOCATIONS

Date
10/15/2015
Prepared for:
Hickey-Peña Architects
Project No.
14G047A
Designed By:
Jesse P. Rodriguez, P.E.

LOG OF BORING B-1

PROJECT: Webb County Main Fire Station
LOCATION: 7210 E. Saunders Street
CLIENT: Hickey-Peña Architects, LLC

PROJECT NUMBER: 15G047A
DATE(S) DRILLED: 10/14/15
SURFACE ELEVATION: N/A

DRILLING METHOD(S):
Straight Flight

GROUNDWATER INFORMATION:
Subsurface water was not encountered during or after completion of drilling operations.

SOIL SYMBOL	DEPTH (FT)	SAMPLES	N: BLOWS/FT P: TONS/SQ FT R: RQD %	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT (LL)	ATTERBERG LIMITS: PLASTIC LIMIT (PL)	ATTERBERG LIMITS: PLASTICITY INDEX (PI)	DRY DENSITY POUNDS/CU.FT	COMPRESSIVE STRENGTH (TONS/SQ FT)	FAILURE STRAIN (%)	CONFINING PRESSURE (POUNDS/SQ IN)	MINUS NO. 200 SIEVE (%)	DESCRIPTION OF STRATUM
			N = 23	12	38	20	18					57	-SANDY LEAN CLAY (CL); Ligth Pale Brown
			N = 51	11	38	22	16					77	-SANDY LEAN CLAY (CL); Very Pale Brown
	5		N = 82/3"	12									
			N = 50/2"	13									
			N = Ref 50/2"	10	31	20	11					75	-SANDY LEAN CLAY (CL); White
	10												
			N = Ref 50/3"	11									
	15												Boring Terminated at 15 Feet

REMARKS:
The borehole was backfilled with cuttings upon completion of the drilling operations.

CASTLE
ENGINEERING & TESTING, LLC

LOG OF BORING - CASTLE.GDT - 10/16/15 14:22 - N:\GEOTECHNICAL\GINT FILE\GINT\PROJECTS\15G047A.GPJ

LOG OF BORING B-2

PROJECT: Webb County Main Fire Station
LOCATION: 7210 E. Saunders Street
CLIENT: Hickey-Peña Architects, LLC

PROJECT NUMBER: 15G047A
DATE(S) DRILLED: 10/14/15
SURFACE ELEVATION: N/A

DRILLING METHOD(S):
Straight Flight

GROUNDWATER INFORMATION:
Subsurface water was not encountered during or after completion of drilling operations.

SOIL SYMBOL	DEPTH (FT)	SAMPLES	N: BLOWS/FT P: TONS/SQ FT R: RQD %	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT (LL)	PLASTIC LIMIT (PL)	PLASTICITY INDEX (PI)	DRY DENSITY POUNDS/CU.FT	COMPRESSIVE STRENGTH (TONS/SQ FT)	FAILURE STRAIN (%)	CONFINING PRESSURE (POUNDS/SQ IN)	MINUS NO. 200 SIEVE (%)	DESCRIPTION OF STRATUM
			N = 23	10	35	19	16					84	-SANDY LEAN CLAY (CL); Pale Brown
			N = 33	12	39	17	22					60	-SANDY LEAN CLAY (CL); Pale Brown
	5		N = 39	11									
			N = 70	11	39	18	21					67	-SANDY LEAN CLAY (CL); Brownish Yellow
			N = 50/2.5"	11									
	10												
			N = Ref 50/5"	15									
	15												Boring Terminated at 15 Feet

REMARKS:
The borehole was backfilled with cuttings upon completion of the drilling operations.

CASTLE
ENGINEERING & TESTING, LLC

LOG OF BORING B-3

PROJECT: Webb County Main Fire Station
LOCATION: 7210 E. Saunders Street
CLIENT: Hickey-Peña Architects, LLC

PROJECT NUMBER: 15G047A
DATE(S) DRILLED: 10/14/15
SURFACE ELEVATION: N/A

DRILLING METHOD(S):
Straight Flight

GROUNDWATER INFORMATION:
Subsurface water was not encountered during or after completion of drilling operations.

SOIL SYMBOL	DEPTH (FT)	SAMPLES	N: BLOWS/FT P: TONS/SQ FT R: RQD %	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT (LL)	ATTERBERG LIMITS: PLASTIC LIMIT (PL)	ATTERBERG LIMITS: PLASTICITY INDEX (PI)	DRY DENSITY POUNDS/CU.FT	COMPRESSIVE STRENGTH (TONS/SQ FT)	FAILURE STRAIN (%)	CONFINING PRESSURE (POUNDS/SQ IN)	MINUS NO. 200 SIEVE (%)	DESCRIPTION OF STRATUM
			N = 14	12	40	19	21					56	-SANDY LEAN CLAY (CL); Pale Brown
			N = 46	13	38	22	16					81	-SANDY LEAN CLAY (CL); Pale Brown
	5												Boring Terminated at 5 Feet

REMARKS:
The borehole was backfilled with cuttings upon completion of the drilling operations.

CASTLE
ENGINEERING & TESTING, LLC

LOG OF BORING B-4

PROJECT: Webb County Main Fire Station
LOCATION: 7210 E. Saunders Street
CLIENT: Hickey-Peña Architects, LLC

PROJECT NUMBER: 15G047A
DATE(S) DRILLED: 10/14/15
SURFACE ELEVATION: N/A

DRILLING METHOD(S):
Straight Flight

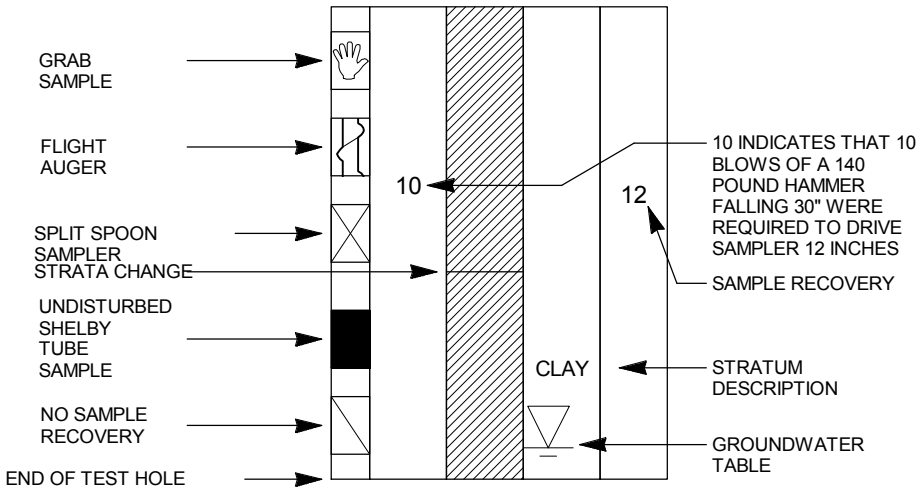
GROUNDWATER INFORMATION:
Subsurface water was not encountered during or after completion of drilling operations.

SOIL SYMBOL	DEPTH (FT)	SAMPLES	N: BLOWS/FT P: TONS/SQ FT R: RQD %	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT (LL)	ATTERBERG LIMITS: PLASTIC LIMIT (PL)	ATTERBERG LIMITS: PLASTICITY INDEX (PI)	DRY DENSITY POUNDS/CU.FT	COMPRESSIVE STRENGTH (TONS/SQ FT)	FAILURE STRAIN (%)	CONFINING PRESSURE (POUNDS/SQ IN)	MINUS NO. 200 SIEVE (%)	DESCRIPTION OF STRATUM
			N = 15	14	35	19	16					58	-SANDY LEAN CLAY (CL); Pale Brown
			N = 34	12									
	5												Boring Terminated at 5 Feet

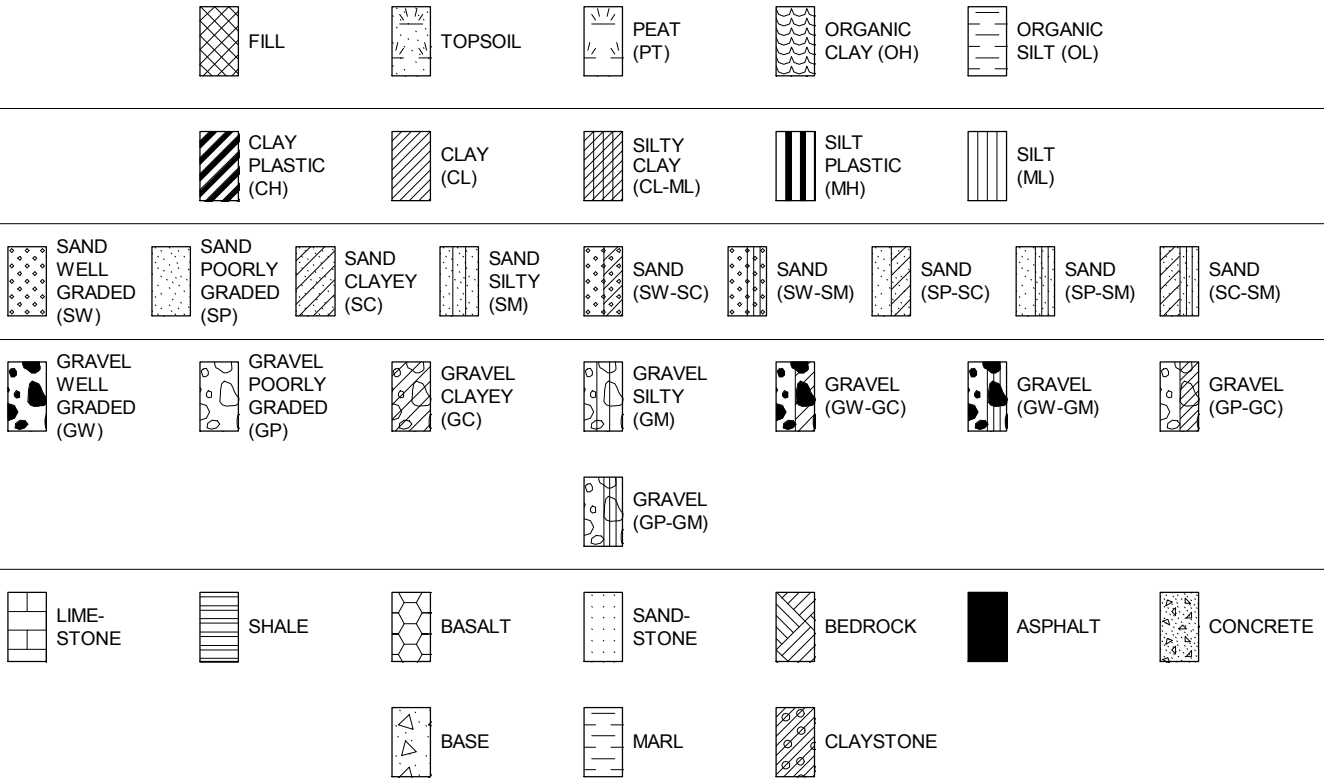
REMARKS:
The borehole was backfilled with cuttings upon completion of the drilling operations.

CASTLE
ENGINEERING & TESTING, LLC

SYMBOL KEY SHEET



MATERIAL SYMBOLS



STANDARD PENETRATION TEST (ASTM D 1586) DRIVING RECORD

Note: Driving is limited to 50 blows per interval, or 25 blows for 0.25 inch advancement, whichever controls. This is done to avoid damaging sampling tools

Blows Per Foot	Description
25	Sampler was seated 6 inches, then 25 blows were required to advance the sampler 12 inches.
50/4"	Sampler was seated 6 inches, then 50 blows were required to advance the sampler 4 inches.
ref/2"	Sampler could only be driven 2 inches of the 6 inch seating penetration before the 50 blow limit was reached.

SAMPLER SYMBOLS

Project Name: South Texas Auto Builder
Project Number: 15G052

Figure No. 1

SYMBOL KEY SHEET - CASTLE.GDT - 10/19/15 09:50 - N:\GEOTECHNICAL\GINT FILE\GINT\PROJECTS\15G047A.GPJ

UNIFIED SOIL CLASSIFICATION SYSTEM AND TERMS

TERMS DESCRIBING CONSISTENCY OR CONDITION

COARSE-GRAINED SOILS (major portions retained on No. 200 sieve): includes (1) clean gravel and sands and (2) silty or clayey gravels and sands. Condition is rated according to relative density as determined by laboratory tests or standard penetration resistance tests.

Descriptive Terms	Relative Density	SPT Blow Count
Very loose	0 to 15 %	< 4
Loose	15 to 35 %	4 to 10
Medium dense	35 to 65 %	10 to 30
Dense	65 to 85 %	30 to 50
Very dense	85 to 100 %	> 50

FINE-GRAINED SOILS (major portions passing on No. 200 sieve): includes (1) inorganic and organic silts and clays, (2) gravelly, sandy, or silty clays, and (3) clayey silts. Consistency is rated according to shearing strength, as indicated by penetrometer readings, SPT blow count, or unconfined compression tests.

Descriptive Terms	Unconfined Compressive Strength kPa	SPT Blow Count
Very soft	< 25	< 2
Soft	25 to 50	2 to 4
Medium stiff	50 to 100	4 to 8
Stiff	100 to 200	8 to 15
Very stiff	200 to 400	15 to 30
Hard	> 400	> 30

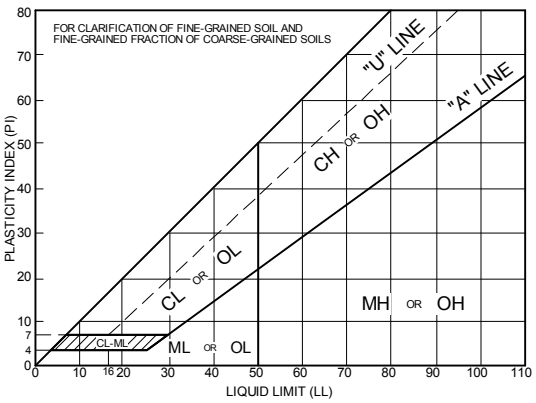
GENERAL NOTES

1. Classifications are based on the United Soil Classification System and include consistency, moisture, and color. Field descriptions have been modified to reflect results of laboratory tests where deemed appropriate.

2. Surface elevations are based on topographic maps and estimated locations.

3. Descriptions on these boring logs apply only at the specific boring locations and at the time the borings were made. They are not guaranteed to be representative of subsurface conditions at other locations or times.

Major Divisions			Group Symbols	Typical Names	Laboratory Classification Criteria	
Coarse-Grained soils (More than half the material is larger than No. 200 sieve size)	Gravels (More than half of coarse fraction is larger than No. 4 sieve size)	Clean gravel (Little or no fines)	GW	Well-graded gravels, gravel-sand mixtures, little or no fines	Determine percentages of sand and gravel from grain size curve. Depending on percentage of fines (fraction smaller than No. 200 sieve) coarse-grained soils are classified as follows: Less than 5 percent..... GW, GP, SW, SP; More than 12 percent..... GM, GC, SM, SC; 6 to 12 percent..... Borderline case4s requiring dual symbols**	$C_U = \frac{D_{60}}{D_{10}}$ greater than 4; $C_C = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ between 1 and 3
			GP	Poorly-graded gravels, gravel-sand mixtures, little or no fines		Not meeting all gradation requirements for GW
		Gravel with fines (Appreciable amount of fines)	GM* d u	Silty gravels, gravel-sand-silt mixtures		Atterberg limits below "A" line or P.I. less than 4 — Above "A" line with P.I. between 4 and 7 are borderline cases requiring use of dual symbols
			GC	Clayey gravels, gravel-sand-silt mixtures		Atterberg limits above "A" line or P.I. greater than 7
	Sands (More than half of coarse fraction is smaller than No. 4 sieve size)	Clean sands (Little or no fines)	SW	Well-graded sands, gravelly sands, little or no fines		$C_U = \frac{D_{60}}{D_{10}}$ greater than 6; $C_C = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ between 1 and 3
			SP	Poorly-graded sands, gravelly sands, little or no fines		Not meeting all gradation requirements for SW
		Sands with fines (Appreciable amount of fines)	SM* d u	Silty sands, sand-silt mixtures		Atterberg limits below "A" line or P.I. less than 4 — Above "A" line with P.I. between 4 and 7 are borderline cases requiring use of dual symbols
			SC	Clayey sands, sand-clay mixtures		Atterberg limits above "A" line or P.I. greater than 7
Fine-Grained soils (More than half the material is smaller than No. 200 sieve size)	Silts and Clays (Liquid limit less than 60)		ML	Inorganic silts and very fine sands, rock floor, silty or clayey fine sands or clayey silts with slight plasticity		
			CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays		
			OL	Organic silts and organic silty clays of low plasticity		
	Silts and Clays (Liquid limit greater than 60)		MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, organic silts		
			CH	Inorganic clays of high plasticity, fat clays		
			OH	Organic clays of medium to high plasticity, organic silts		
	Highly Organic Soils		Pt	Peat and other highly organic soils		



Plasticity Chart

Material	Sieve sizes	mm	Sieve
Silt or clay	< #200	< 0.074	
Sand: Fine	#200 to #40	0.074 to 0.42	
Sand: Medium	#40 to #10	0.42 to 2.00	
Sand: Coarse	#10 to #4	2.00 to 4.76	
Gravel: Fine		4.76 to 19.1	#4 to 3/4 in.
Gravel: Coarse		19.1 to 76.2	3/4 in. to 3 in.
Cobble		76.2 to 304.8	3 in. to 12 in.
Boulders		304.8 to 914.4	12 in. to 36 in.

* Division of GM and SM groups into subdivisions of d and u are for roads and airfields only. Subdivision is based on Atterberg Limits: suffix d used when L.L. is 23 or less and the P.I. is 6 or less; the suffix is used when L.L. is greater than 26.

** Borderline classifications used for soils possessing characteristics of two groups are designated by combinations of groups symbols. For example; GW-GC, well-graded gravel-sand mixture with clay binder.

Project Name: South Texas Auto Rebuilders
Project Number: 15G052

FIELD AND LABORATORY TESTING PROCEDURES

FIELD TESTING

A. Boring Procedure Between Samples

The borehole is extended downward, between samples by continuous flight, hollow or stem augers or by rotary drilling techniques using bentonite drilling fluid or water.

B. Penetration Test and Split-Barrel Sampling of Soils (ASTM D-1586)

This sampling method consists of driving a 2-inch outside diameter split barrel sampler using a 140 pound hammer freely falling through a distance of 30 inches. The sampler is first seated 6 inches into the material to be sampled and then driven an additional 12 inches. The number of blows required to drive the sampler the final 12 inches is known as the Standard Penetration Resistance. Recovered samples are first classified as to color and texture by the field logger. Later, in the laboratory, the field logger's classification is reviewed by the soils engineer who examines each sample.

C. Thin-Walled Tube Geotechnical Sampling of Soils (ASTM D-1587)

This method consists of pushing thin walled steel tubes, usually 3 inches in diameter, into the soils to be sampled using hydraulic or other means. Cohesive soils are usually to be sampled in this manner and relatively undisturbed samples are recovered.

D. Soil Investigation and Sampling by Auger Borings (ASTM D-1452)

This method consists of augering a hole and removing representative soil samples from the auger flight or bit at 5 foot intervals or with each change in the substrata. Disturbed samples are obtained and this method is, therefore, limited to situations where it is satisfactory to determine the approximate subsurface profile.

E. Diamond Core Drilling for Site Investigation (ASTM D-2113)

This method consists of advancing a hole into hard strata by rotating a single or double tube core barrel equipped with a cutting bit. Diamond, tungsten carbide, or other cutting agents may be used for the bit. Wash water is used to remove the cuttings and to cool the bit. Normally, a 2 inch outside diameter by 1⅝ inch inside diameter (NX) coring bit is used unless otherwise noted. The rock or hard material recovered within the core barrel is examined in the field and in the laboratory and the cores are stored in partitioned boxes. The core recovery is the length of the material recovered and is expressed as a percentage of the total distance penetrated.

F. Visual – Manual Soil Classification Procedure (ASTM D-2488)

This procedure is a visual – manual soil classification methodology for the description of soil for engineering purposes when precise soil classification is not required.

LABORATORY TESTING

A. Atterberg Limits: Liquid Limit (LL), Plastic Limit (PL) and Plasticity Index (PI) of Soils (ASTM D-4318 or TEX 104-E, 105-E and 106-E)

Atterberg Limits determine the soil's plasticity characteristics. The soil's Plasticity Index (PI) is representative of this characteristic and is the difference between the Liquid Limit (LL) and the Plastic Limit (PL). The LL is the moisture content at which the soil will flow as a heavy viscous fluid. The PL is the moisture content at which the soil begins to lose its plasticity. The test results are presented on the boring logs adjacent to the appropriate sampling information.

B. Particle Size Analysis of Soils (ASTM D-422 or TEX 110-E)

Grain size analysis tests are performed to determine the particle size and distribution of the samples tested. The grain size distribution of the soils coarser than the Standard No. 200 sieve was determined by passing the sample through a standard set of nested sieves.

C. Laboratory Determination of Water (Moisture) Content of Soil and Rock (ASTM D-2216 or TEX 103-E)

The moisture content of soil is defined as the ratio, expressed as a percentage, of the weight of water in a given soil mass to the weight of solid particles. It is determined by measuring the wet and oven dry weights of a soil sample. The test results are presented on the boring logs.

D. Unconfined Compressive Strength of Cohesive Soil (ASTM D-2166)

The unconfined compressive strength of soil is determined by placing a section of an undisturbed sample into a loading frame and applying an axial load until the sample fails in shear. The test results are presented on the boring logs adjacent to the appropriate sampling information.

E. California Bearing Ratio (CBR) of Lab Compacted Soils (ASTM D-1883)

The CBR test is performed by compacting soil in a six inch diameter mold at the desired density, soaking the sample for four days under a surcharge load approximating the pavement weight and then testing the soils in punching shear. A two inch diameter piston is forced into the soil to determine the resistance to penetration. The CBR is the ratio if the actual load required to produce 0.1 inches of penetration to that producing the same penetration in a standard crushed stone.

F. Swell Test (ASTM D-4546)

The swell test is performed by confining a one inch thick specimen in a 2½ diameter stainless steel ring and loading the specimen to the approximate overburden pressure. The test specimen is then inundated with distilled water and allowed to swell for 48 hours. The volumetric swell is measured as a percentage of the total volume and is converted mathematically to linear swell.

G. Compaction Tests (ASTM D-698, D-1557, TEX 113-E and TEX 114-E)

The compaction test is performed by compacting soil in a steel mold at varying moisture contents. Layers are compacted using a hammer weight and number of blows per layer which vary with the different test procedures, ASTM D-698, D-1557, TEX 113-E and TEX 114-E. The data is plotted and the maximum unit weight and moisture content determined. The test results are given in the appendix with a notation of the test method used.

H. Classification of Soils for Engineering Purposes (Unified Soil Classification System, ASTM D-2487)

This standard describes a system for classifying mineral and organic-mineral soils for engineering purposes based on laboratory determination of particle size characteristics, liquid limit, and plasticity index shall be used when precise classification is required.

I. Amount of Material in Soils Finer Than the No. 200 (75µm) Sieve (ASTM D-1140)

There are two tests methods to cover determination of the amount of material finer than the No. 200 (75 µm) sieve by washing. Method A – Test specimen is not dispersed prior to wash sieving. Method B – Test specimen is dispersed by soaking in water containing a deflocculating agent prior to wash sieving.

Pavement Design
(AASHTO 1993 Method)

CASTLE Engineering and Testing, LLC
1216 Santa Maria Avenue
Laredo, Texas 78040
Phone 956.727.3530
Fax 956.727.3384
TBPE Firm No. F-10341

Design Parameters

City of Laredo Pavement Standards

Street Classification	Calculated 18-Kip ESAL	Reliability Level	Minimum Pavement SN	Maximum Pavement SN	Initial Serviceability Index (p0)	Terminal Serviceability Index (pt)	Standard Deviation (S0)
Parking Lot	50,000	R-70	1.98	3.18	4.2	2.0	0.45

Design Inputs

		Asphalt		Concrete	
Subgrade Support	CBR=	3.2			
	Mr=	4800	psi	120	pci
Reliability		70	%	70	%
Standard Deviation	So=	0.45		0.35	
Initial Serviceability	Po=	4.2		4.5	
Terminal Serviceability	Pt=	2.0		2.0	
Design Serviceability Loss	ΔPSI=	2.0		2.0	

Design Structural Number (Based on Empirical Equation for Flexible Pavements and Nomogram)= **2.17**

Calculated Asphalt Pavement Section

Calculated SN, based on Layer Thickness

	Layer Coefficient	Drainage Factor	Layer Thickness (in)	Individual SN
AC Surface and Binder (a1*D1)=	0.44	0.0	**2**	0.88
Aggregate Base (a2*D2*M2)=	0.11	1.2	**10.0**	1.32
Subgrade (a3*D3*M3)=	0.08	1.0	**0.0**	0.00
			Structural Number =	**2.20**

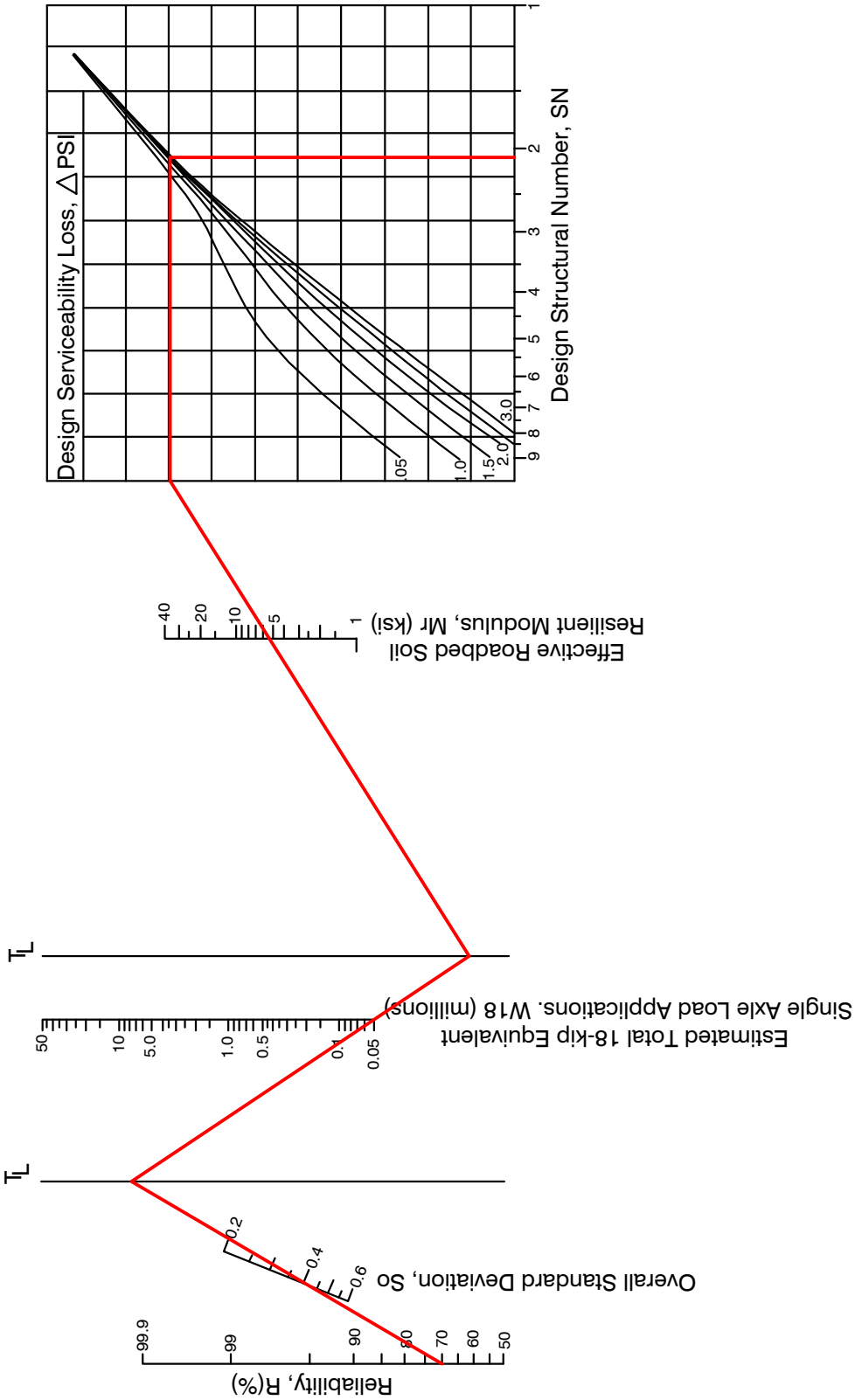
Calculated Concrete Pavement Section

Concrete Compressive Strength=	3,500	psi
Modulus of Elasticity of Concrete=	3,370	ksi
Modulus of Rupture of Concrete=	530	
Load Transfer ("J" Factor)=	4.0	
Drainage Coefficient=	1.2	
Concrete Pavement Thickness=	**6.0**	**in.**
Moisture Conditioned Subgrade=	**8.0**	**in.**

STATE OF TEXAS
JESSE P. RODRIGUEZ
57352
LICENSED
PROFESSIONAL ENGINEER
19. OCT. 15.

Project:	Webb County Main Fire Station
Project No.:	15G047A
Location:	Laredo, Webb County, Texas
Date:	10/17/2015

Review By:



CASTLE
ENGINEERING & TESTING, LLC
1318 SANTA MARIA - LAREDO, TEXAS 78040
PHONE 956.727.8580 - FAX 956.727.8584
TBPE F-4044

PROJECT

WEBB COUNTY MAIN FIRE STATION

LAREDO, TEXAS

SHEET TITLE

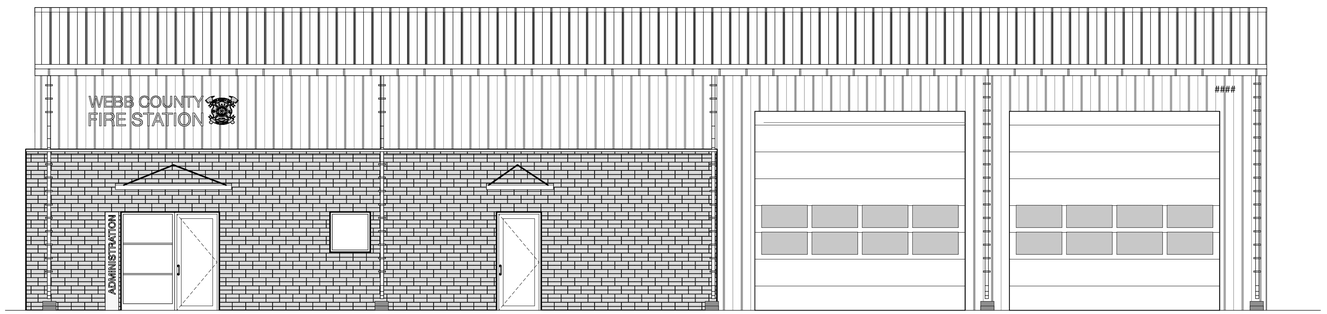
NOMOGRAPH

Date
10/16/2015
Prepared for:
Hickey-Peña Architects
Project No.
14G047A
Designed By:
Jesse P. Rodriguez, P.E.

WEBB COUNTY MAIN FIRE STATION AND ADMINISTRATION BUILDING
for
WEBB COUNTY/TEXAS

ABBREVIATIONS

ABV	ABOVE	INSUL	INSULATION
A/C	AIR CONDITIONING	INT	INTERIOR
ACOUS	ACOUSTICAL (AL)	JAN	JANITOR
AD	AREA DRAIN	JT	JOINT
AFF	ABOVE FINISH FLOOR	JST	JOIST
ALT	ALTERNATE	LAM	LAMINATED
ALUM	ALUMINUM	LAV	LAVATORY
ANOD	ANODIZED	LP	LOW POINT
AP	ACCESS PANEL	MAX	MAXIMUM
APPROX	APPROXIMATE	MB	MARKER BOARD
AVC	AUDIO VISUAL CONSOLE	MECH	MECHANICAL
BD	BOARD	MTL	METAL
BLDG	BUILDING	MT	METAL THRESHOLD
BLKG	BLOCKING	MFR	MANUFACTURE (OR)
BM	BEAM	MIN	MINIMUM
BRG	BEARING	MIR	MIRROR
BRJ	BRICK RELIEF JOINT	MISC	MISCELLANEOUS
BRZ	BRONZE	ML	MODULE LINE/MTL LATH
BYO	BY OWNER	MO	MASONRY OPENING
CAB	CABINET	MOD	MODULE (AR)
CAR, CPT	CARPET	MONO	MONOLITHIC
CB	CATCH BASIN	MP	MASONRY PARTITION
CEM	CEMENT	MWP	MEMBRANE WATER PROOFING
CER	CERAMIC	NIC	NOT IN CONTACT
CHBD	CHALKBOARD	NTS	NOT TO SCALE
CJ	CONTROL JOINT	OC	ON CENTER
CLG	CEILING	OD	OUTSIDE DIAMETER
CMU	CONCRETE MASONRY UNIT	OV	OVERHEAD
CLO	CLOSET	OPNG	OPENING
CO	CASED OPENING	OPP	OPPOSITE
COL	COLUMN	O/	ON TOP OF OR OVER
CONC	CONCRETE	PL	PLATE
CONT	CONTINUOUS	PLAS	PLASTER
CONTR	CONTRACT (OR)	PLAM	PLASTIC LAMINATE
CT	CARPET TILE	PLYWD	PLYWOOD
DET	DETAIL	PS	PROJECTION SCREEN
DECOMP	DECOMPOSED	PTD	PAINTED
DF	DRYWALL FURRING	PTN	PARTITION
DIM	DIMENSION	PORC	PORCELAIN
DIAM	DIAMETER	R	RISER
DN	DOWN	R/A	RETURN AIR
DP	DRYWALL PARTITION	RD	ROOF DRAIN
DR	DOOR	RE:(REF	REFERENCE
DWG	DRAWING	REINF	REINFORCE
EA	EACH	RM	ROOM
EDF	ELECTRIC DRINKING FOUNTAIN	REQ'D	REQUIRED
EJ	EXPANSION JOINT	SCHED	SCHEDULE (D)
EL	ELEVATION	SF	SAND FINISH
ELEC	ELECTRICAL	SHLVS	SHELVES
ELEV	ELEVATOR OR ELEVATION	SHT	SHEET
EP	ELECTRICAL PANEL	SIM	SIMILAR
EQ	EQUAL	SK	SINK
EQUIP	EQUIPMENT	SM	SMOOTH
EX	EXISTING	SPEC	SPECIFICATIONS/ SPECIFIED
EXP	EXPANSION	SQ	SQUARE
EXT	EXTERIOR	SS	SERVICE SINK
FD	FLOOR DRAIN	STL	STEEL
FEC	FIRE EXTINGUISHER CAB	STD	STANDARD
FHC	FIRE HOSE CABINET	STOR	STORAGE
FIN	FINISH(ED)	STRUCT	STRUCTURE (AL)
FL	FLOOR	SUSP	SUSPENDED
FM	FLOOR MAT	T	TREAD
FR	FRAME	TA	TOILET ACCESSORY
FURR	FURRED(IND)	TB	TACKBOARD
FTVM	FUTURE T.V. MONITOR	TC	TEACHER CLOSET
GA	GAGE/GAUGE	TEMP	TEMPERED
GALV	GALVANIZED	THK	THICK
GC	GENERAL CONTRACTOR	TKBD	TACKBOARD
GL	GLASS	TRANS	TRANSPARENT
GR	GROUND ROD ACCESS BOX	TVM	T.V. MONITOR
GST	GLAZED CERAMIC TILE	TBP	T.V. PROJECTOR
GYP	GYPSUM	TYP	TYPICAL
GWB	GYPSUM WALL BOARD	U	URINAL
HC	HANDICAP	UNFIN	UNFINISHED
HDW	HARDWARE	UNO	UNLESS NOTED OTHERWISE
HM	HOLLOW METAL	UV	UNDERFLOOR VENT
HORIZ	HORIZONTAL	VERT	VERTICAL
HP	HIGH POINT	VC	VALVE CABINET
HT	HEIGHT	VIN	VINYL
ID	INSIDE DIAMETER	VP	VISION PANEL
INSUL	INSULATION	WC	WATER CLOSET
INT	INTERIOR	WD	WOOD
		WDW	WINDOW
		WP	WATERPROOFING
		W/	WITH
		W/O	WITHOUT



SHEET	DRAWING NAME	ADDENDUM 5
T1	PROJECT TITLE SHEET	REPLACE
A-0.1	CODE REVIEW	REPLACE
C1.0	DEMOLITION	DELETE
C2.0	SITE PLAN	REPLACE
C3.0	GRADING & SWPP PLAN	REPLACE
C4.0	UTILITIES	REPLACE
A-100	SITE/LANDSCAPING PLAN	REPLACE
A-101	SITE MARQUEE-ALTERNATE #1	REPLACE
A-102	SITE DETAILS	REPLACE
A-200	FLOOR PLAN	REPLACE
A-201	FLOOR PLAN - MEZZANINE	REPLACE
A-202	SPECIAL SYSTEMS & EQUIPMENT	REPLACE
A-203	FURNITURE PLAN	REPLACE
A-204	FINISHES PLAN	REPLACE
A-205	ROOF PLAN	REPLACE
A-300	REFLECTED CEILING PLAN	REPLACE
A-400	DOOR & STORE FRONT SCHEDULES /TYPES	REPLACE
A-401	JAMB/HEADER/SILL DETAILS DOORS	REPLACE
A-500	NORTH & EAST ELEVATIONS	REPLACE
A-501	SOUTH & WEST ELEVATIONS	REPLACE
A-600	BUILDING SECTIONS	REPLACE
A-601	WALL SECTIONS	REPLACE
A-602	WALL SECTIONS @ CANOPY	REPLACE
A-700	PARTIALLY ENLARGED FLOOR PLANS	REPLACE
A-800	ACCESSORIES TYPES & SCHEDULES	REPLACE
A-801	INTERIOR ELEVATIONS	REPLACE
A-900	HOSE TOWER DETAILS	REPLACE
A-901	FLOOR PLAN DETAILS	REPLACE
A-902	STANDING SEAM MTL ROOF DETAILS	REPLACE
S-1.1	GENERAL NOTES AND TYP. FND. DETAILS	REPLACE
S-1.2	TYP. CMU WALL DETAILS	REPLACE
S-1.3	TYP. METAL STUDS DETAILS	REPLACE
S-2	FOUNDATION PLAN	REPLACE
S-3	ROOF FRAMING PLAN	REPLACE
SD-1	FOUNDATION DETAILS	REPLACE
SD-2	ROOF FRAMING DETAILS	REPLACE
M1	MECHANICAL FLOOR PLAN	REPLACE
M2	MECHANICAL SCHEDULES	REPLACE
M3	MECHANICAL DETAILS	REPLACE
E0.1	ELECTRICAL SITE PLAN	REPLACE
E1.1	ELECTRICAL LIGHTING FLOOR PLAN	REPLACE
E2.1	ELECTRICAL POWER FLOOR PLAN	REPLACE
E3.1	SPECIAL SYSTEMS PLAN	REPLACE
E4.1	SCHEDULES & ONE LINE	REPLACE
E5.1	ELECTRICAL DETAILS	REPLACE
E5.2	ELECTRICAL DETAILS	REPLACE
P1.0	PLUMBING SITE PLAN	REPLACE
P1.1	PLUMBING DWV PLAN	REPLACE
P1.2	PLUMBING WATER PLAN	REPLACE
P1.3	PLUMBING ROOF PLAN	REPLACE
P2.1	PLUMBING FIXTURE SCHEDULES	REPLACE
P3.1	PLUMBING RISER DIAGRAMS	REPLACE
P4.1	PLUMBING DETAILS	REPLACE

OWNER:
WEBB COUNTY
1620 SANTA URSULA, 2ND FLOOR
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956-523-4055
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MEP:
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5656 S STAPLES, SUITE 360
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361-852-2727
CONTACT: JOHN RODRIGUEZ

STRUCTURAL ENGINEER:
SYNERGY STRUCTURAL ENGINEERING, INC.
6909 SPRINGFIELD AVE. SUITE: 105
LAREDO, TX 78041
956-753-5860
CONTACT: VICTOR DE ANDA

CIVIL ENGINEER:
PEUA CONSULTING L.L.C.
109 E DEL MAR BLVD #5
LAREDO, TX 78041
210-621-5797
CONTACT: OSCAR CASTILLO P.E.

WEBB COUNTY ENGINEERING DEPARTMENT:

APPROVED
WEBB COUNTY _____DATE:_____
LUIS PEREZ GARCIA III, P.E., C.F.M.

LOCATION MAP

HICKEY|PEÑA ARCHITECTS
919 Victoria
Laredo, TX 78040
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F: 815.846.1546
hickeypena.com

REGISTERED ARCHITECT MARIO A. PEÑA STATE OF TEXAS
DIGITALLY SIGNED ON 11/02/15

WEBB COUNTY/TEXAS
WEBB COUNTY MAIN FIRE STATION AND ADMINISTRATION BUILDING
7210 E. SAUNDERS – HWY 59 (UNITS A&B)
LAREDO, TEXAS 78045

CONSULTANT

PROJECT TITLE SHEET

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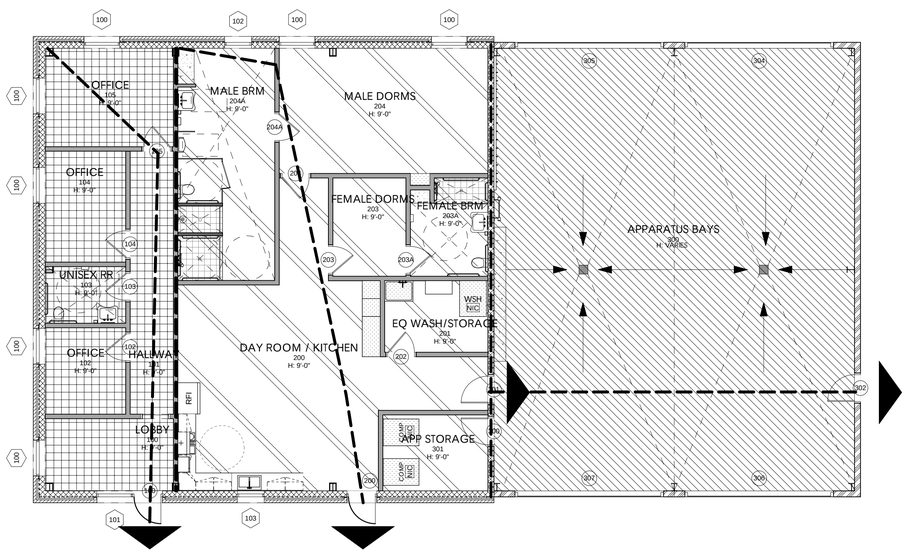
REVISIONS:
ADDENDUM 5
DATE: 11/02/15

SHEET NO.:
T1
JOB NO.: 1312



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

APPLICABLE CODE: 2012 INTERNATIONAL BUILDING CODE REVIEW SUMMARY

TOTAL GROSS BUILDING AREA..... 4771 SQ FT

OCCUPANCY CLASSIFICATION
RESIDENTIAL/ADMINISTRATION BUILDING AS PER SECTIONS 304., 310.3, AND 311.2.....
MIXED USE B, R1, & S1

ALLOWABLE BUILDING HEIGHTS AND AREAS AS PER TABLE 503
TYPE II B = 16,000 S.F. PER FLOOR
AS PER SECTION 506
$A=\{A_t+(A_t \times L_t) + (A_t \times L_t)\}$
$A=\{A_t+(A_t \times L_t) + (A_t \times L_t)\} = 60{,}000$ SF PER FLOOR

TOTAL OCCUPANT LOAD..... 106 OCCUPANTS

CONSTRUCTION TYPE.....TYPE II
AS PER TABLE 601 SECTION 602.4

FIRE SPRINKLER SYSTEM .....SPRINKLED

AS PER SECTION 903.2.1.3 OF IBC CODE, THE BUILDING IS NOT REQUIRED TO BE SPRINKLED.
AS PER CITY OF LAREDO FIRE CODE AMENDMENT, THE BUILDING IS REQUIRED TO BE SPRINKLED

FIRE SEPARATION ..... ½ HR RATING
AS PER SECTION 708.3 R1

EGRESS WIDTH .....57.6"
AS PER SECTION 1005.3.2
288 OCCUPANTS X 0.2IN = 69.2"

FIRE CORRIDOR REQUIREMENTS..... 0 HOUR
AS PER TABLE 1018.1

FIRE ALARM REQUIREMENT..... PROVIDED
AS PER SECTION 907.2
PROVIDED AS AN ACCESSORY TO AUTOMATIC SPRINKLERS

FIRE EXTINGUISHERS..... CLASS "A"
AS PER ABLE 906.3
MAX TRAVEL DISTANCE =75'
MAX S.F. = 11,250 S.F.

PLUMBING FIXTURES
A_M 29 OCCUPANTS / 125 = 0.232 MALE WATER CLOSET
A_F 29 OCCUPANTS / 125 = 0.232 FEMALE WATER CLOSET
B_M 8.5 OCCUPANTS / 25 = 0.34 MALE WATER CLOSET
B_F 8.5 OCCUPANTS / 25 = 0.34 FEMALE WATER CLOSET
ADMINISTRATION AREA REQUIRED TOTAL= 1 FEMALE AND 1 MALE
S & R_M 11 OCCUPANTS / 10 = 2 MALE WATER CLOSET - (4 PROVIDED)
S & R_F 2 OCCUPANTS / 10 = 1 FEMALE WATER CLOSET -(1 PROVIDED)
109 OCCUPANTS / 500 = 1 DRINKING FOUNTAIN
MAX TRAVEL DISTANCE = 500' AS PER 2902.3.2

FUNCTION OF SPACE OCCUPANT LOADS AND LEGEND
AS PER TABLE 1004.1.2

ACCESSORY STORAGE AND MECH AREAS..... 290 SQ FT / 300 = 1 OCCUPANTS

APPARATUS AREAS1 ..... 1,996 SQ FT = 15 OCCUPANTS
AS PER SECTION 1004.1.2 EXCEPTION: WHERE APPROVED BY THE BUILDING OFFICIAL, THE ACTUAL NUMBER OF OCCUPANTS FOR WHOM EACH OCCUPIED SPACE, FLOOR OR BUILDING IS DESIGNED, ALTHOUGH LESS THAN THOSE DETERMINED BY CALCULATION, SHALL BE PERMITTED TO BE USED IN THE DETERMINATION OF THE DESIGN OCCUPANT LOAD.

BUSINESS AREAS (OFFICES) B..... 712 SQ FT/ 50= 14 OCCUPANTS

RESIDENTIAL R1..... 1,716 SQ FT/ 200 = 9 OCCUPANTS

TOTAL..... 39 OCCUPANTS

½ FIRE RATE WALL
EGRSS DIRECTION LENGTH
EGRESS PATH EXIT DOOR

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REGISTERED ARCHITECT MARIO A. PEÑA STATE OF TEXAS 2416
DIGITALLY SIGNED ON 11/02/15

WEBB COUNTY/TEXAS
WEBB COUNTY MAIN FIRE STATION
AND ADMINISTRATION BUILDING
7210 E. SAUNDERS – HWY 59 (UNITS A&B)
LAREDO, TEXAS 78045

CONSULTANT

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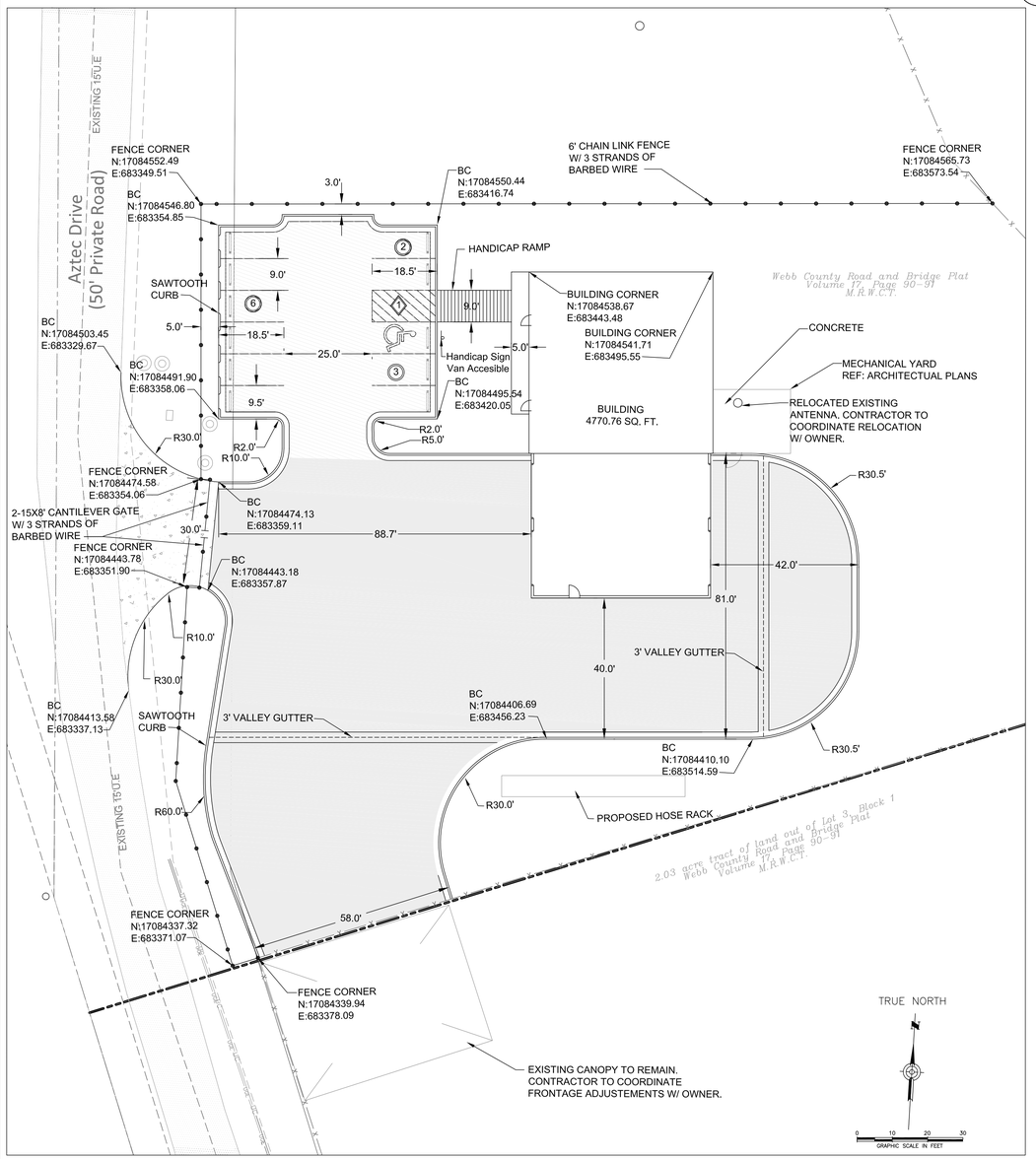
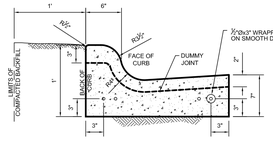
REVISIONS:
ADDENDUM 5
DATE: 11/02/15

CODE REVIEW

SHEET NO.:
A-0.1
JOB NO.: 1312

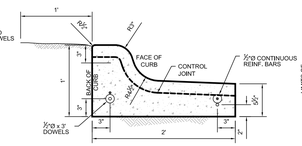


1 PLAN - SITE PLAN
SCALE: 1" = 20'

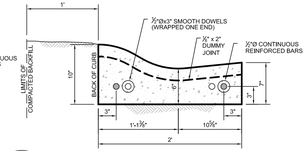


2 TYPE "A" CURB & GUTTER
SCALE: NOT TO SCALE

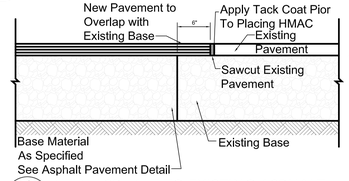
&



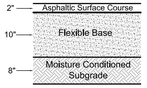
TYPE "A" REVERSE CURB & GUTTER
SCALE: NOT TO SCALE



3 TYPE "B" ROLL OVER CURB & GUTTER
SCALE: NOT TO SCALE



4 NEW ASPHALT TO EXISTING ASPHALT
SCALE: NOT TO SCALE



RAMP NOTES:
1. SIDEWALKS ARE TO BE CONSTRUCTED AS PER PLAN SPECIFICATIONS AGAINST THE BACK CURB, EXCEPT WHERE A DETOUR AROUND A NON RE-LOCATABLE OBJECT IS REQUIRED
2. SIDEWALKS ARE TO BE CONSTRUCTED 4-INCHES THICK WITH 6"X6" D5.0xD5.0 W.W.F. REINFORCEMENT.
3. CONCRETE SHALL BE CLASS "A" (3000 PSI)
4. ONE-HALF (½) INCH THICK MINIMUM, PRE-FORMED BITUMINOUS EXPANSION JOINT MATERIAL SET ¼" BELOW FINISHED SURFACE, SHALL BE INSTALLED AT EXPANSION JOINTS
5. DOWELS SHALL BE PLAIN BARS AND SHALL HAVE ONE-HALF (½) THE BAR WRAPPED WITH 2 LAYERS OF ROOFING FELT
6. 6" x 6" No. 6 WIRE MESH SHALL BE USED AS REINFORCEMENT (ALT. 2 LAYER 6" x 6" No. 10 ACCEPTABLE)
7. THE FINISH SHALL BE SEMI-SMOOTH WITH A STIFF BROOM OR BRUSH FINISH
8. CONTRACTION JOINTS SHALL BE SCORED AT SPACING EQUAL TO WIDTH OF SIDEWALK
9. EXPANSION JOINT AT MAX. 80' WITH FOUR 18" SMOOTH DOWEL AND ½" MIN. PRE-FORMED BITUMINOUS EXPANSION JOINT MATERIAL
10. USE FULL DEPTH FORMS TO THE DIMENSIONS SPECIFIED

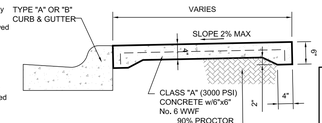
REINFORCED CONCRETE
Reinforced concrete should have a minimum 28-day design compressive strength of 4,000 psi. The concrete should be properly cured in accordance with American Concrete Institute (ACI) recommended procedures and vehicular traffic should not be allowed for at least three (3) days (light traffic) or seven (7) days (heavy traffic).

MOISTURE CONDITIONED SUBGRADE
The subgrade should be scarified to a depth of at least eight (8) inches and moisture conditioned at moisture contents ranging between minus two (-2) to plus three (+3) percentage points of the optimum moisture content. The subgrade should then be compacted to at least 95 percent of the maximum dry density determined in accordance with ASTM D-698. *The subgrade should be moisture conditioned just prior to fill placement in order that the subgrade maintains its compaction moisture levels and does not dry out.*

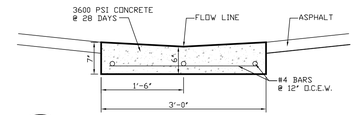
FLEXIBLE BASE COURSE
Base material may be composed of crushed stone base meeting all of the requirements of 2014 TxDOT Standard Specification manual item 247, Type "A", Grades 1 - 2. As an alternate to the Type "A" base material, caliche should meet the requirements for item 247, Type "B", Grade 3 as specified in the 2014 TxDOT Standard Specifications manual. In addition the percentage passing No.200 sieve should not exceed 20 percent.
The base should be compacted to at least 95 percent of the maximum dry density as determined by the modified moisture-density relationship (ASTM D-1557) at moisture contents ranging between minus two (-2) and plus three (+3) percentage points of the optimum moisture content.

HOT MIX ASPHALTIC CONCRETE (HMAC)
We recommend that the asphaltic concrete surface course should meet 2014 TxDOT Standard Specificiations Item 341 and Item SS 3224 (2011), Type "C" or "D" and its specific criteria for the Job Mix Formula (JMF). The Super Pave Gyratory, design number of revolutions (Nesv) for the asphaltic mix should be in accordance with TEX-241-F. The Performance Graded (PG) binders should be PG 64-22 for the traffic light, or should be at least PG 70-22 for the truck areaas and high traffic volume. These binders provide 98 percent reliability against rutting and 98 percent reliability against low temperature thermal cracking to accommodate slow moving, to prevent rutting because of the turning movements and stop and go traffic.
The mix should be compacted to between 91 and 95 percent of the maximum theoretical density as measured by TEX-207-F and TEX-227-F. The asphalt cement content by percent of total mixture weight should fall within a tolerance of ± 0.3 percent asphalt cement from the specific mix. Aggregates known for stripping should not be used unless measures are taken to address this concern. Typically, this includes the use of an anti-strip agent. The mix should have at least 70 percent strength retention when tested in accordance with TEX-531-C.

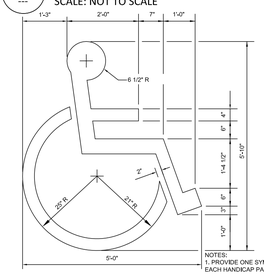
NOTE TO THE CONTRACTOR
Contractor to refer to Geotechnical Engineering Study Pavement Design for Webb County Main Fire Station and Administration Building, Laredo, Texas prepared on, October 19, 2015 by Castle Engineering & Testing LLC Report No. 15G047A.



7 TYPICAL SIDEWALK SECTION
SCALE: NOT TO SCALE

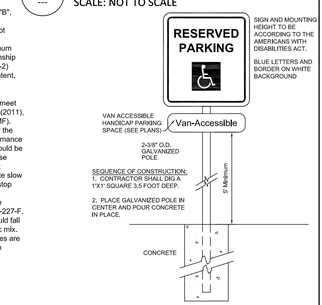


5 3' CONCRETE VALLEY GUTTER
SCALE: NOT TO SCALE



NOTES:
1. PROVIDE ONE SYMBOL FOR EACH HANDICAP PARKING SPACE.
2. BLUE SQUARE AROUND WHITE EMBLEM. VERIFY WITH ARCHITECT.

6 CONCRETE PAVEMENT SECTIONS
SCALE: NOT TO SCALE



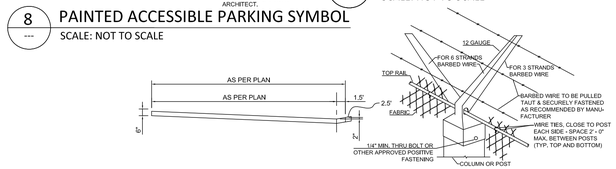
SIGN AND MOUNTING HEIGHT TO BE ACCORDING TO THE AMERICANS WITH DISABILITIES ACT.

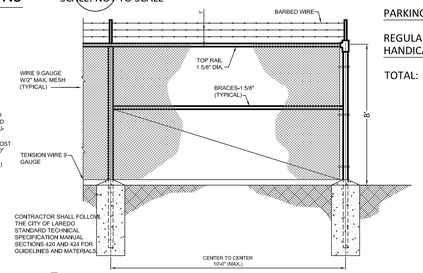
BLUE LETTERS AND BORDER ON WHITE BACKGROUND

SEQUENCE OF CONSTRUCTION:
1. CONTRACTOR SHALL DIG A 1'X1' SQUARE 3.5 FOOT DEEP.
2. PLACE GALVANIZED POLE IN CENTER AND POUR CONCRETE IN PLACE.

9 HANDICAP PARKING SIGN
SCALE: NOT TO SCALE

8 PAINTED ACCESSIBLE PARKING SYMBOL
SCALE: NOT TO SCALE

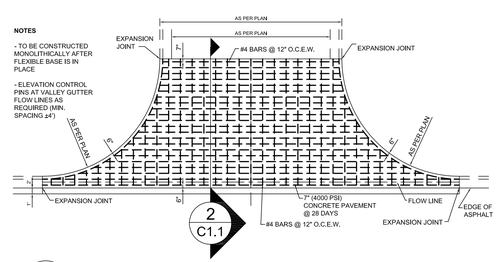




11 TYPICAL CHAIN LINK FENCE
SCALE: NOT TO SCALE

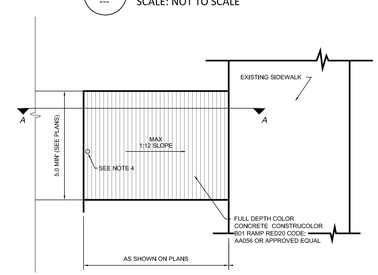
PARKING SPACES COUNT

REGULAR	10
HANDICAP	1
TOTAL:	11



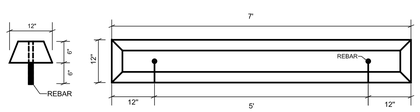
NOTES
- TO BE CONSTRUCTED MONOLITHICALLY AFTER FLEXIBLE BASE IS IN PLACE
- ELEVATION CONTROL PINS AT VALLEY GUTTER FLOW LINES AS REQUIRED (MIN. SPACING ±4')

10 TYPICAL CONCRETE CURB AND VALLEY GUTTER
SCALE: 1" = 10'



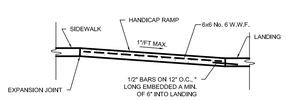
RAMP NOTES

1. FULL DEPTH COLORED CONCRETE SHALL BE USED AT ALL RAMPS AS INDICATED ON DETAILS. THE CONCRETE SHALL BE MIXED INTO THE PAINT PRIOR TO POURING. THE COLOR SHALL BE TERRACOTA RED. A FINISH TEXTURE IN COMPLIANCE WITH TDRL REQUIREMENTS SHALL BE USED AT ALL RAMPS.
2. THE LOCATION OF THE CONCRETE ACCESS RAMP MAYBE SHIFTED FROM THE PROPOSED LOCATION DUE TO UNFORESEEN EXISTING CONDITIONS WITH ENGINEER APPROVAL.
3. THE MATERIAL USED TO PROVIDE CONTRAST SHALL BE AN INTEGRAL PART OF THE WALKING SURFACE. DETECTABLE WARNING USED ON INTERIOR SURFACES SHALL DIFFER FROM ADJOINING WALKING SURFACES IN RESILIENCY OR SOUND-ON-CANE CONTACT.
4. THE FINISH SURFACE OF THE CONCRETE ACCESS RAMP IS TO BE GROOVED AS SHOWN ON THE DETAIL WITH AN 3/4" WIDE BY 1/4" DEEP GROOVE SPACED 2" ON CENTER. THE SURFACE SHALL BE ROUGHENED WITH NO LESS THAN A BROOM FLUSH TO PREVENT SLIPPING AND TO DIFFERENTIATE ITS TEXTURE FROM THAT OF THE STANDARD SIDEWALK.



SECTION VIEW PLAN VIEW

12 TYPICAL WHEEL STOP
SCALE: NOT TO SCALE



SECTION "A-A" (TYP.)
SCALE: 1" = 2'

13 TYPICAL SINGLE ACCESS HC RAMP
SCALE: NOT TO SCALE

NOTES:

1. ALL DIMENSIONS ARE TO THE BACK OF CURB UNLESS STATED OTHERWISE ON THE PLANS.

2. PROPERTY LINES INFORMATION TAKEN FROM SURVEY MAP COMPLETED ON SEPTEMBER 16, 2015 BY BLUE TOP LAND SURVEYING (956) 724-8423.

3. CONTRACTOR SHALL ADJUST ACCESSIBLE ROUTE BETWEEN BUILDING AND ROW TO COMPLY WITH ADA REQUIREMENTS.

4. ALL PAVEMENT STRIPING SHALL BE 4" WIDE SOLID YELLOW PAINT STRIPE, UNLESS NOTED OTHERWISE.

5. ALL THE EXISTING REGULATORY TRAFFIC SIGNS MUST BE MAINTAINED DISPLAYED AT ALL TIMES.

CALL BEFORE YOU DIG!
TEXAS ONE CALL PARTICIPANTS REQUIRE 48 HOURS NOTICE BEFORE YOU DIG, DRILL, OR BLAST-STOP, CALL!

TEXAS ONE CALL SYSTEM	1-800-245-4545
AT&T	AT 1-800-828-5127
THE LONE STAR NOTIFICATION CENTER	1-800-669-8344
TEXAS EXCAVATION SAFETY SYSTEM	1-800-344-8377

LEGEND

- EXISTING PROPERTY BOUNDARY
- EXISTING RIGHT-OF-WAY LINE
- EXISTING LOT LINE
- EXISTING BUILDING SETBACK
- EXISTING OVERHEAD ELECTRICAL LINE
- EXISTING FIRE HYDRANT
- EXISTING FIRE HYDRANT
- EXISTING POWER POLE
- EXISTING SIGN
- EXISTING CHAIN LINK FENCE
- PROPOSED BOUNDARY LINE
- PROPOSED BUILDING SETBACK
- PROPOSED FIRE LANE STRIPING
- PROPOSED TYPE "A" CURB AND GUTTER
- PROPOSED WHEEL STOP
- PROPOSED SIGN
- PROPOSED CONCRETE PAVEMENT
- NEW ASPHALT
- EXISTING ASPHALT
- BLK BLOCK
- BC BACK OF CURB
- (1) DESIGNATION NUMBER OF REGULAR PARKING SPACES
- (2) DESIGNATION NUMBER OF HANDICAP PARKING SPACES

HICKEY|PEÑA ARCHITECTS
919 Victoria
Laredo, TX 78040
P 956.722.8186
F 815.846.1546
hickeypena.com

STATE OF TEXAS
OSCAR CASTILLO
95620
LICENSED PROFESSIONAL ENGINEER
11/02/15

WEBB COUNTY/TEXAS
WEBB COUNTY MAIN FIRE ADMINISTRATION BUILDING

7210 E. SAUNDERS - HWY 59 (UNITS A & B)
LAREDO, TEXAS 78045

CONSULTANT

peña consulting llc
Registration Number F-14954
600 San Bernardo, Suite 902
Laredo, Texas 78040
(956) 6433-2205 tel.

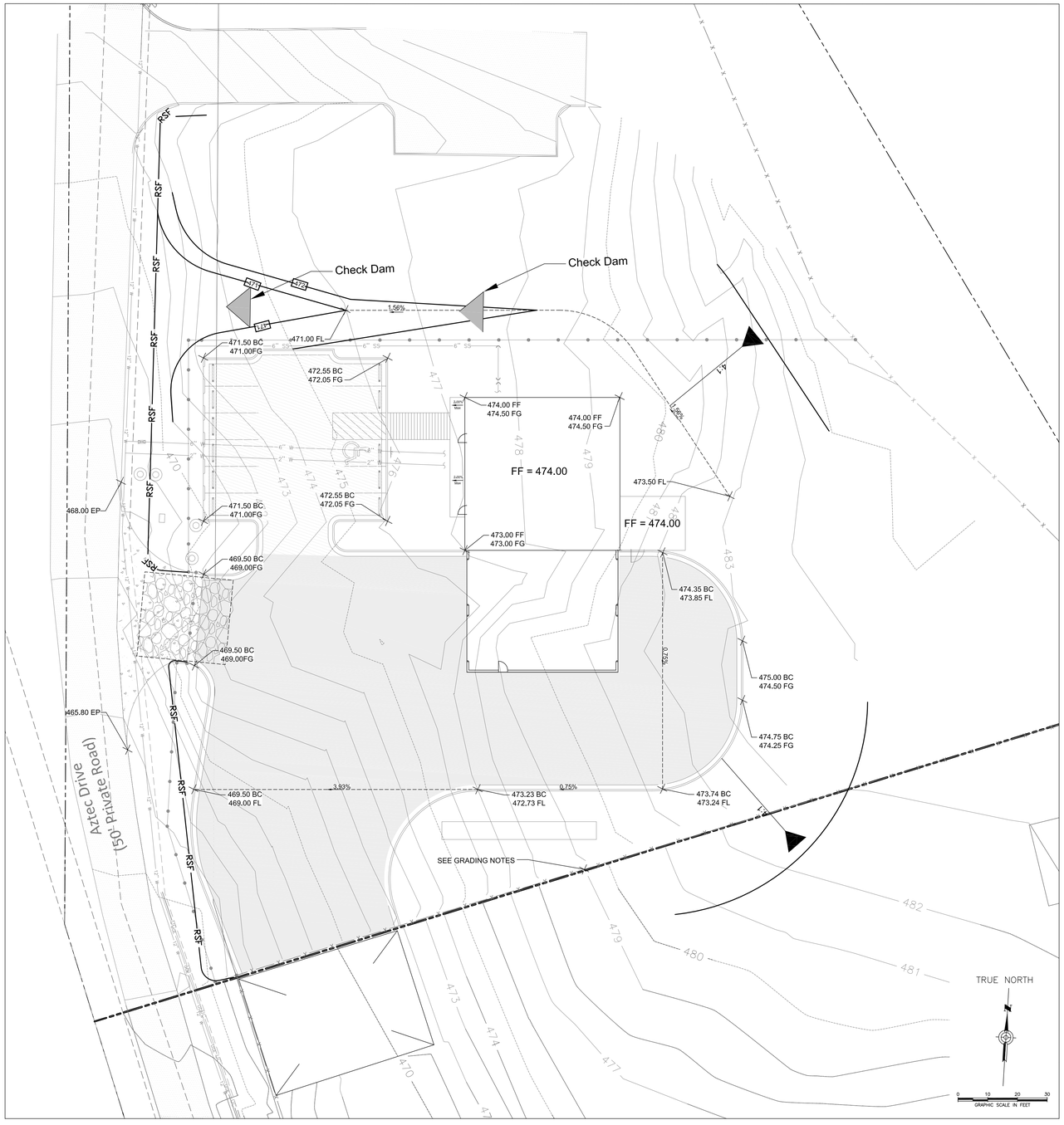
Webb County Texas
Webb County Main Fire Station and Administration Building
Laredo, Texas

DATE: 10/30/15
REVISIONS:
11/02/15 ADDENDUM 5

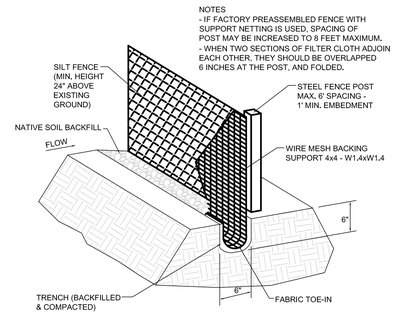
SITE PLAN

SHEET NO.:
C2.0

JOB NO.: 2014.008



1 PLAN - GRADING & SWPP PLAN
SCALE: 1" = 20'



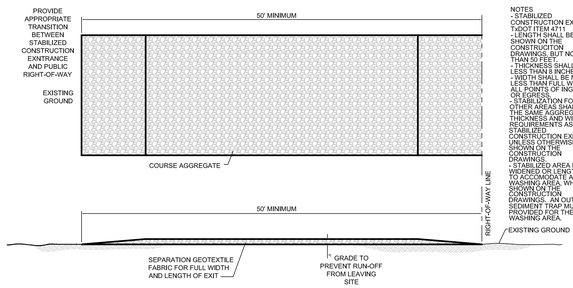
2 REINFORCED SILT FENCE
SCALE: NOT TO SCALE

LEGEND

OH	EXISTING OVERHEAD LINE
G	EXISTING GAS LINE
UBC	EXISTING AT&T LINE
8" W	EXISTING WATER LINE
SS	EXISTING SANITARY SEWER
	EXISTING WATER SERVICE
	EXISTING SS SERVICE
SS	PROPOSED SANITARY SEWER
WL	PROPOSED WATER LINE
	EXISTING CONTOUR
	EXISTING HALF-CONTOUR
435	PROPOSED CONTOUR
RSF	PROPOSED REINFORCED SILT FENCE
	PROPOSED ROCK RIP-RAP
	PROPOSED BOUNDARY
	PROPOSED RIGHT OF WAY
	FLOW ARROW
	EXISTING FIRE HYDRANT
	EXISTING POWER POLE
	EXISTING MANHOLE
	EXISTING TRAFFIC SIGN
	EXISTING WATER VALVE
	EXISTING BOLLARD
	EXISTING FOUNTAIN FAUCET
	EXISTING TRAFFIC LIGHT
	EXISTING CONCRETE

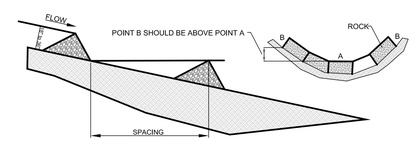
LEGEND

TC:	Top of Curb
FL:	Flow Line
TW:	Top of Retaining Wall
TS:	Top of Sidewalk
FG:	Finish Grade
FF:	Finish Floor
EP:	Edge of Pavement
	Flow Line Path
	Grade Change
	Flow Arrow
	Existing Contour
	Existing Half-Contour



NOTES
- STABILIZED CONSTRUCTION EXIT: TxDOT ITEM 4711
- LENGTH SHALL BE AS SHOWN ON THE CONSTRUCTION DRAWINGS, BUT NOT LESS THAN 50 FEET.
- THICKNESS SHALL BE NOT LESS THAN 8 INCHES.
- WIDTH SHALL BE NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS AND EGRESS.
- STABILIZATION FOR OTHER AREAS SHALL HAVE THE SAME AGGREGATE THICKNESS AND WIDTH REQUIREMENTS AS THE STABILIZED CONSTRUCTION EXIT, UNLESS OTHERWISE SHOWN ON THE CONSTRUCTION DRAWINGS.
- STABILIZED AREA MAY BE REQUIRED TO BE LENGTHENED TO ACCOMODATE A TRUCK WASHING AREA, WHEN SHOWN ON THE CONSTRUCTION DRAWINGS. A CULVERT OUTLET SEDIMENT TRAP MUST BE PROVIDED FOR THE TRUCK WASHING AREA.

TYPICAL STABILIZED CONSTRUCTION EXIT
SCALE: NOT TO SCALE



4 CHECK DAM
SCALE: NOT TO SCALE

CALL BEFORE YOU DIG!
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TEXAS ONE CALL SYSTEM 1-800-245-4545
AT&T AT 1-800-828-5127
THE LONE STAR NOTIFICATION CENTER 1-800-669-8344
TEXAS EXCAVATION SAFETY SYSTEM 1-800-344-8377

STORMWATER POLLUTION PREVENTION NOTES:

Permit Filing
Contractor must complete and file TCEQ forms as required by the General Permit No. TXR150000 associated with construction activity coverage under the TPDES General Permit for storm water discharges associated with construction activity in compliance with EPA requirements.

Sequence of Construction
The general order of activities will be as follows:
1. Clear and grub for perimeter control (silt fences).
2. Install all perimeter controls, downstream of any construction activity.
3. Install construction entrances and exits to be used while working in the area at the locations shown on the plan, or as approved by the Engineer.
4. General site grading; stabilize disturbed areas and stockpiles within seven (7) days.
5. General project construction; site grading, excavation, and filling construction of amenities.
6. When all construction is complete and is stabilized and approved by the Project Engineer, remove temporary structural controls and regrade any areas disturbed by their removal.

Storm Water Management
Storm water drainage will be through curb and gutter flow, into an underground storm drainage system, that connects to the City Drainage System.

General Notes
1. Contractor shall follow the requirements for temporary and permanent erosion control as outlined on the plans and specifications.
2. A copy of the storm water pollution prevention plan (SWPPP) shall be kept on the construction site at all times.
3. Silt fence and gravel entrances must be installed prior to proceeding with any construction.
4. After inlets are installed, they shall be protected by either silt fence or gravel filter (as detailed) until the completion of the project, and maintained until the project site is stabilized.
5. Gravel entrance as shown may be relocated if approved by the Engineer.

TRENCH EXCAVATION PROTECTION
CONTRACTOR AND/OR CONTRACTORS INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) WITHIN THE PROJECT WORK AREA IN ORDER TO DEVELOP THE CONTRACTOR'S PLANS TO IMPLEMENT THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR'S PLANS SHALL PROVIDE FOR ADEQUATE TRENCH SAFETY SYSTEMS THAT COMPLY WITH MINIMUM OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR OF CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL DEVELOP AND IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

GRADING NOTES:

1. ALL PROPOSED SLOPES SHALL BE 4:1 OR FLATTER UNLESS APPROVED BY ENGINEER.
2. CONTRACTOR SHALL TEMPORARILY RELOCATE EXISTING SOUTH CHAIN LINK FENCE FOR GRADING PURPOSES AND REPLACE CHAIN LINK FENCE IN ORIGINAL PLACE.
3. CONTRACTOR SHALL COORDINATE CHAIN LINK FENCE TEMPORARY RELOCATION WITH ENGINEER AND OWNER PRIOR TO START ANY CONSTRUCTION.
4. CONTRACTOR SHALL SEED OR SOD SLOPES TO ACHIEVE A 70% VEGETATION PRIOR TO FINALIZE PROJECT
5. CONTRACTOR IS RESPONSIBLE OF THE DISPOSAL OF ALL EXCESS MATERIAL

HICKEY|PEÑA ARCHITECTS
919 Victoria
Laredo, TX 78040
P. 956.722.8186
F. 815.846.1546
hickeypena.com

STATE OF TEXAS
OSCAR CASTILLO
95620
LICENSED PROFESSIONAL ENGINEER
7/02/15

WEBB COUNTY/TEXAS
WEBB COUNTY MAIN FIRE
ADMINISTRATION BUILDING
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LAREDO, TEXAS 78045

peuci consulting llc
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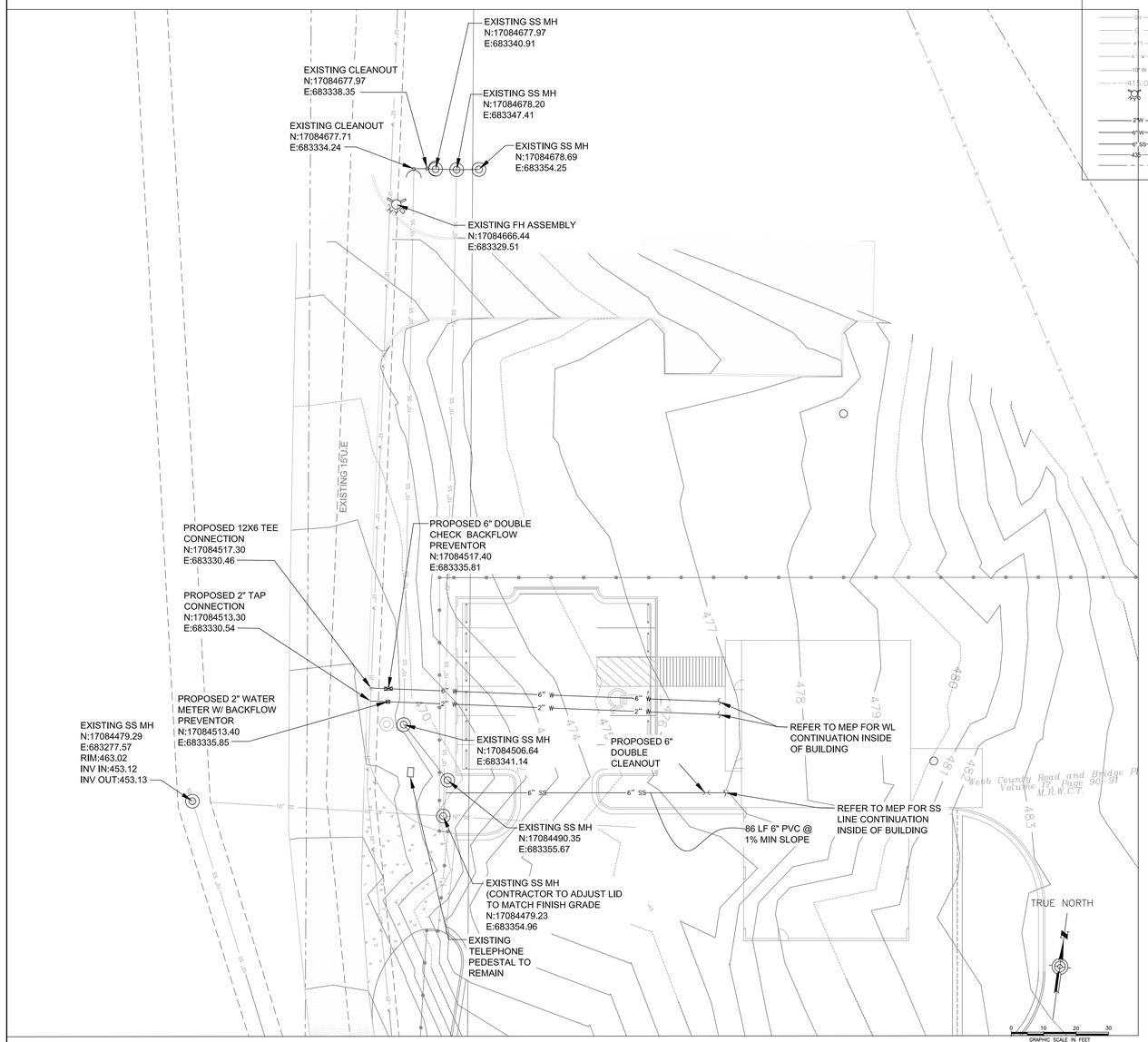
Laredo, Texas 78040
(956) 6433-2205 tel.

GRADING & SWPP PLAN

Webb County Texas
Webb County Main Fire Station and Administration Building
Laredo, Texas

DATE: 10/30/15
REVISIONS:
11/02/15
ADDENDUM 5

SHEET NO.:
C3.0
JOB NO.: 2014.008

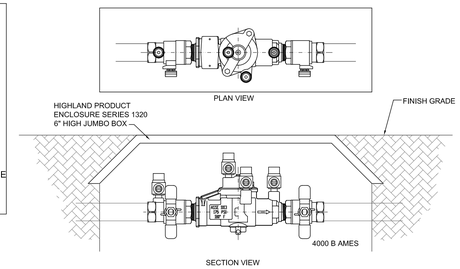


1 - PLAN - UTILITIES PLAN
SCALE: 1" = 20'

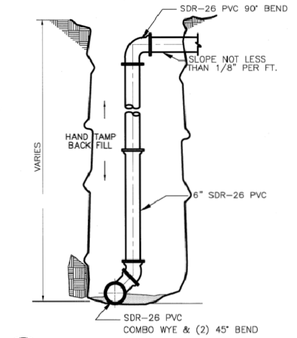
LEGEND

- EXISTING OVERHEAD LINE
- EXISTING GAS LINE
- EXISTING AT&T LINE
- EXISTING WATER LINE
- EXISTING SANITARY SEWER
- EXISTING CONTOUR
- EXISTING FIRE HYDRANT
- EXISTING TRAFFIC LIGHT
- PROPOSED 2" WATER LINE
- PROPOSED 6" WATER LINE
- PROPOSED 6" SANITARY SEWER LINE
- PROPOSED CONTOUR
- PROPOSED BOUNDARY LINE

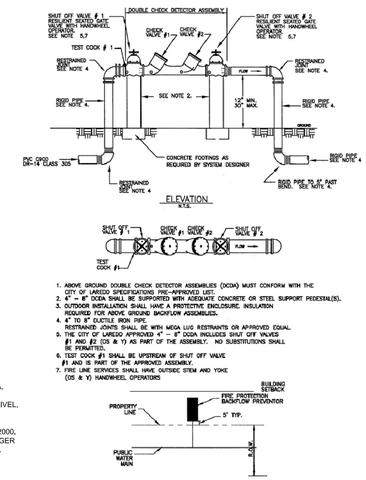
CONTACTS
1. AEP CONTACT: LINO VILLARREAL OFFICE 956-721-3029 FAX 956-727-2144
2. AT&T CONTACT: LILY B. FARIAS, OFFICE: 956-727-6748, FAX: 956-727-6809.
3. CENTERPOINT ENERGY CONTACT: ROEL PEÑA, OFFICE: 956-723-6352.
4. TIME WARNER CABLE CONTACT: JAVIER EZQUIVEL, OFFICE: 956-235-6318.
5. LAREDO WATER UTILITIES DEPARTMENT CONTACT: MARCO GUTIERREZ, OFFICE: 956-721-2000.
6. CITY OF LAREDO PUBLIC RIGHT OF WAY MANAGER CONTACT: SANTOS REYES, OFFICE: 956-794-1625.
7. CITY OF LAREDO TRAFFIC DEPARTMENT (SIGN RELOCATIONS) CONTACT: PETE PAREDES 956-286-6983



1 - BACKFLOW PREVENTOR
SCALE: NOT TO SCALE

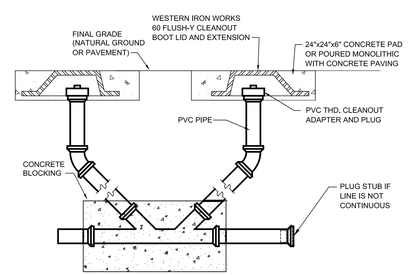


2 - STACKED BRANCH SEWER SERVICE
SCALE: NOT TO SCALE



1. ABOVE GROUND DOUBLE CHECK DETECTOR ASSEMBLIES (DCDA) MUST CONFORM WITH THE CITY OF LAREDO SPECIFICATIONS PRE-APPROVED LIST.
2. 4" — 8" DCDA SHALL BE SUPPORTED WITH ADEQUATE CONCRETE OR STEEL SUPPORT PEDESTAL(S).
3. OUTDOOR INSTALLATION SHALL HAVE A PROTECTIVE ENCLOSURE, INSULATION REQUIRED FOR ABOVE GROUND BACKFLOW ASSEMBLIES.
4. 4" TO 8" DUCTILE IRON PIPE. RESTRAINED JOINTS SHALL BE WITH MEGA LUG RESTRAINTS OR APPROVED EQUAL.
5. THE CITY OF LAREDO APPROVED 4" — 8" DCDA INCLUDES SHUT OFF VALVES #1 AND #2 (CS & Y) AS PART OF THE ASSEMBLY. NO SUBSTITUTIONS SHALL BE PERMITTED.
6. TEST COCK #1 SHALL BE UPSTREAM OF SHUT OFF VALVE #1 AND IS PART OF THE APPROVED ASSEMBLY.
7. FIRE LINE SERVICES SHALL HAVE OUTSIDE STEM AND YOKE (OS & Y) HANDWHEEL OPERATORS

3 - 6" DOUBLE CHECK DETECTOR ASSEMBLY
SCALE: NOT TO SCALE



4 - DOUBLE CLEANOUT
SCALE: NOT TO SCALE

NOTES:
1. REFER TO MEP PLANS FOR WATER AND SS SERVICE CONNECTIONS BETWEEN R.O.W. AND BUILDING.

2. SITE CONTRACTOR TO COORDINATE WITH MEP CONTRACTOR(S) FOR ALL UTILITY CONNECTIONS INCLUDING BUT NOT LIMITED TO GAS, TELEPHONE COMMUNICATION, AND POWER PRIOR TO STARTING CONSTRUCTION.

UTILITIES, GENERAL NOTES

1. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AND STRUCTURES AS SHOWN ON THESE PLANS IS BASED ON RECORDS FROM VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE, MEASUREMENTS TAKEN ON THE FIELD. THIS INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANY, ANY GOVERNING PERMITTING AUTHORITY, AND "DIG TEST" AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK TO REQUEST EXACT FIELD LOCATION OF UTILITIES INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIAL ACTION TAKEN BEFORE PROCEEDING WITH THE WORK. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLAN PER THE APPROPRIATE REMEDIAL ACTION AGREED UPON BY THE ENGINEER.

2. A MINIMUM OF 10-FOOT HORIZONTAL CLEARANCE SHALL BE MAINTAINED BETWEEN SANITARY SEWER MAINS AND WATER MAINS. WHENEVER CONDITIONS PREVENT A LATERAL SEPARATION OF 10 FEET TO A WATER MAIN, THE WATER MAIN SHALL BE LAID IN A SEPARATE TRENCH AND THE ELEVATION OF THE CROWN OF THE SEWER SHALL BE AT LEAST 18 INCHES BELOW THE INVERT OF THE WATER MAIN.

3. ALL WATER MAIN AND SEWER MAIN APPURTENANCES, MATERIALS, METHODS OF INSTALLATION AND TESTING REQUIREMENTS, SHALL MEET OR EXCEED THE CITY OF LAREDO, STANDARD TECHNICAL SPECIFICATION MANUAL.

4. THE CONTRACTOR SHALL REQUEST ALL UTILITIES LINE LOCATION BEFORE PERFORMING ANY EXCAVATION, AND SECURE A R.O.W. PERMIT FOR ALL PROPOSED PROJECT IMPROVEMENTS.

5. ALL EXISTING VALVES, FIRE HYDRANTS, WATER SERVICES, METER BOXES, MANHOLES, CLEAN OUTS, SHALL BE ADJUSTED TO NEW FINISH GRADE ON THE R.O.W.

6. THE CONTRACTOR SHALL PROTECT AND/OR CAP OFF ALL EXISTING ON-SITE UTILITY SERVICES DESIGNATED ON THESE DRAWINGS. SERVICES SHALL BE CAPPED OFF WHERE SAME ENTER THE PERIMETER OF THE PROPERTY LINE.

7. WHERE A STATE OR LOCAL MUNICIPAL STANDARD DETAIL DUPLICATES A DETAIL SHOWN IN THE PLANS, THE MORE STRINGENT DETAIL, AS DETERMINED BY THE REVIEWING AGENCY, SHALL APPLY.

8. CONTRACTOR SHALL RELOCATE BENCHMARKS AS NECESSARY.

9. CONTRACTOR IS RESPONSIBLE FOR VERIFYING AND LOCATING ALL EXISTING UTILITY LINES AND COORDINATING ALL RELOCATIONS AND REMOVALS WITH EACH UTILITY COMPANY. CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES CAUSED BY FAILURE TO LOCATE AND PRESERVE UNDERGROUND UTILITIES.

10. REFER TO MEP PLANS FOR THE UTILITY TRENCHING DETAIL FOR ALL UTILITIES WITH IN THE SITE.

11. THE BACKFLOW PREVENTION FOR ANY PROPOSED IRRIGATION SYSTEM SHALL BE A RPBA ASSEMBLY AMES 4000 SS OR APPROVED EQUAL.

12. ALL PROPOSED IMPROVEMENTS SHALL FOLLOW THE CITY OF LAREDO STANDARD TECHNICAL SPECIFICATION MANUAL.

WATER

1. DOMESTIC WATER SERVICE SHALL BE INSTALLED WITH APPROPRIATELY SIZED GATE VALVE(S), AND FITTINGS AS PER CITY OF LAREDO REQUIREMENTS.

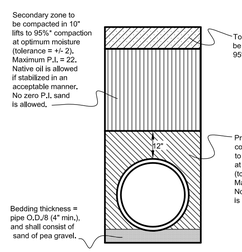
2. DUCTILE IRON PIPE OR CONCRETE ENCASEMENT IS REQUIRED AT ALL STORM SEWER CROSSINGS.

3. WATER LINES SHALL BE ROUTED AROUND STORM DRAIN INLETS WITH A MINIMUM OF 12" CLEARANCE.

4. ALL BACK FLOW PREVENTORS SHALL MEET OR EXCEED REQUIREMENTS FROM THE CITY OF LAREDO WATER UTILITIES DEPARTMENT.

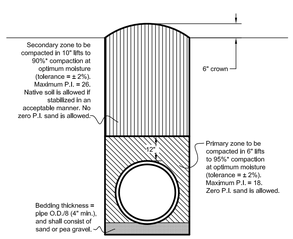
SEWER

1. ALL SANITARY SEWER PIPE SHALL BE SDR-26 PVC (ASTM D-3034) OR (ASTM F 789) FOLLOWING SECTION 202, PVC SEWER PIPE OF THE CITY OF LAREDO, STANDARD TECHNICAL SPECIFICATION MANUAL.



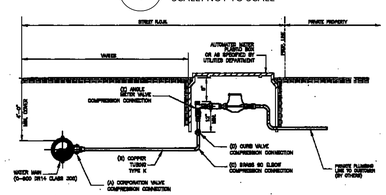
*Note: All compaction testing shall be performed as per TEX-113-E. All backfill material shall be free of rocks in excess of 3" in any direction.

5 - UTILITY TRENCH CONDITION "A" WITHIN PAVED AREAS
SCALE: NOT TO SCALE



*Note: All compaction testing shall be performed as per TEX-113-E. All backfill material shall be free of rocks in excess of 3" in any direction.

6 - UTILITY TRENCH CONDITION "B" WITHIN THE R.O.W. OUTSIDE OF PAVED AREA
SCALE: NOT TO SCALE



TYPICAL SINGLE WATER SERVICE INSTALLATION
TYPICAL 1-1/2"" AND 2"
N.T.S

	DESCRIPTION					
TAP SIZE	(A)	(B)	(C)	(D)	(E)
1-1/2"	1-1/2"	1-1/2"	1-1/2"	1-1/2"	1-1/2"
2"	2"	2"	2"	2"	2"

7 - 2" SINGLE WATER SERVICE
SCALE: NOT TO SCALE

CALL BEFORE YOU DIG!
TEXAS ONE CALL PARTICIPANTS REQUEST 48 HOURS NOTICE BEFORE YOU DIG, DRILL, OR BLAST-STOP, CALL!

TEXAS ONE CALL SYSTEM 1-800-245-4545
AT&T AT 1-800-828-5127
THE LONE STAR NOTIFICATION CENTER 1-800-669-8344
TEXAS EXCAVATION SAFETY SYSTEM 1-800-344-8377

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STATE OF TEXAS
OSCAR CASTILLO
95620
LICENSED PROFESSIONAL ENGINEER
11/02/15

WEBB COUNTY/TEXAS
WEBB COUNTY MAIN FIRE ADMINISTRATION BUILDING
7210 E. SAUNDERS - HWY 59 (UNITS A & B)
LAREDO, TEXAS 78045

CONSULTANT

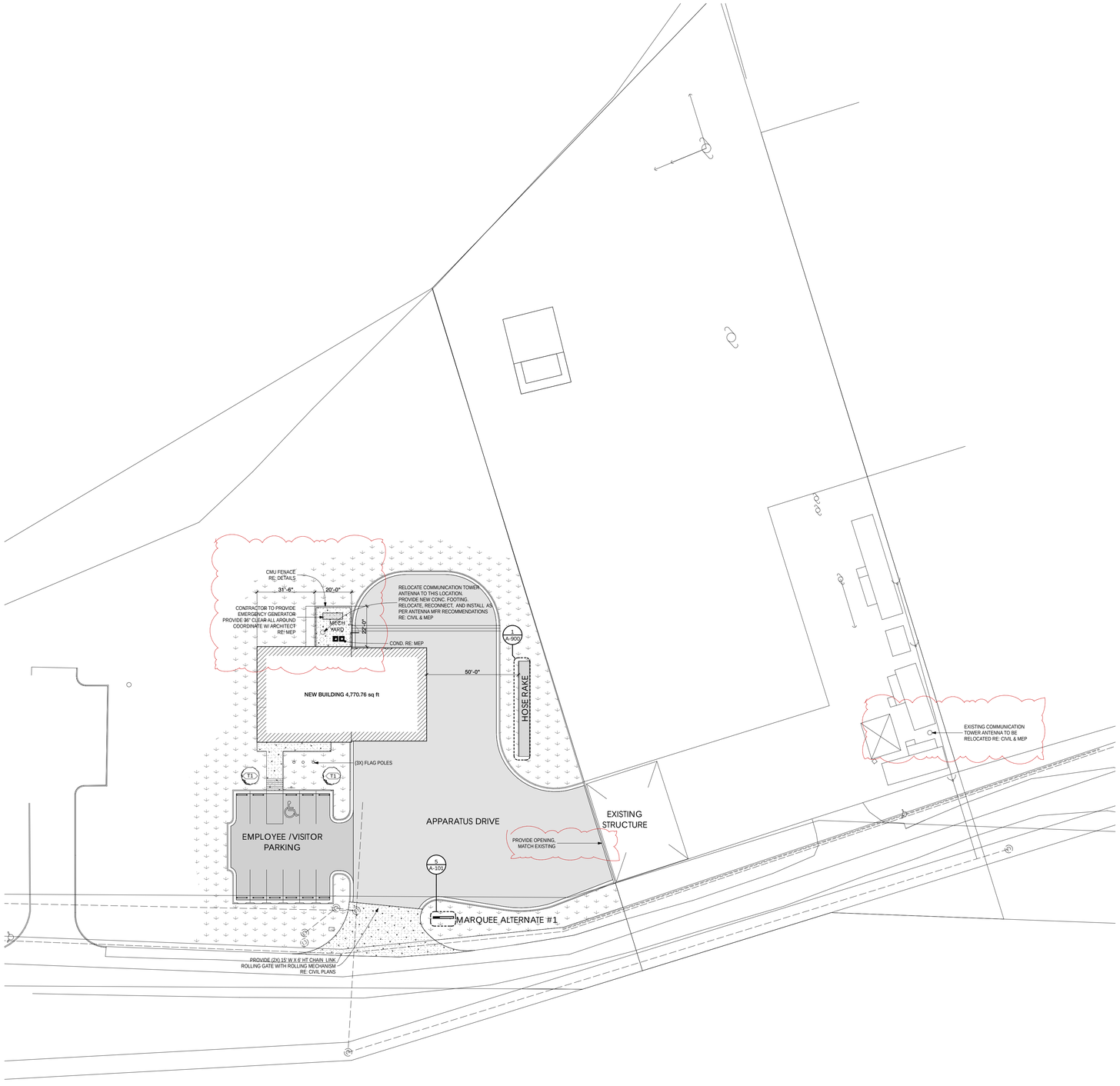
peuca consulting llc
Registration Number F-14954
600 San Bernardo, Suite 902
Laredo, Texas 78040
(956) 6433-2205 tel.

Webb County Texas
Webb County Main Fire Station and Administration Building
Laredo, Texas

DATE: 10/30/15
REVISIONS:
11/02/15
ADDENDUM 5

UTILITIES

SHEET NO.:
C4.0
JOB NO.: 2014.008



1 SITE PLAN
SCALE: 1" = 30'

SITE PLAN LEGEND

- 8' HT CHAIN LINK FENCE
- PROPERTY LINE
- BUILDING SETBACK
- HYDRO-SEED BERMUDA GRASS 4"TOP SOIL FREE OF DEBRIS THRU OUT AREAS SHOWN
- CONCRETE
- VISITER PARKING LOT ASPHALT RE: CIVIL
- APPARATUS DRIVE ASPHALT RE: CIVIL
- EXISTING TERRAIN
- TT LIVE OAK 5" MIN. RADIUS, MULTI-TRUNK

PROJECT GENERAL NOTES:

1. CONTRACTOR TO REMOVE ANY ABANDONED UTILITY LINES THROUGHOUT SITE.
2. ALL EXISTING TRAFFIC SIGNAGE TO REMAIN; PROTECT DURING DEMOLITION OPERATIONS. IF DAMAGED BY DEMOLITION OPERATIONS, REPLACE AS REQUIRED BY THE CITY OF LAREDO, TEXAS.
3. PROVIDE BARRICADES/ FENCING AT LIMITS OF WORK AREA TO PREVENT UNAUTHORIZED ACCESS TO WORK SITE.
4. CONTRACTOR TO CONNECT ALL NECESSARY TEMPORARY AND PERMANENT UTILITIES AT CONTRACTOR'S EXPENSE.
5. ALL PROPOSED "EQUAL" SUBSTITUTIONS FOR PRODUCTS CALLED OUT BY BRAND OR MFR. MUST BE SUBMITTED FOR APPROVAL TO ARCHITECT AT LEAST 7 DAYS PRIOR TO BID OPENING.
7. CONTRACTOR SHALL IDENTIFY THE LOCATION OF ALL EXISTING UNDER GROUND LINES & STRUCTURES PRIOR TO ANY EXCAVATION.
8. CONTRACTOR TO ISOLATE ANY NEW CONSTRUCTION FROM EXISTING UNDERGROUND UTILITIES AS PER THE AFFECTED UTILITY OWNER'S INSTRUCTIONS. IF MODIFICATIONS TO NEW UNDERGROUND STRUCTURES ARE REQUIRED, CONTRACTOR TO SUBMIT MODIFICATIONS FOR APPROVAL BY ARCHITECT/ENGINEER.
9. CONTRACTOR TO PAINT ALL EXPOSED CONDUITS AND STRUCTURAL STEEL, COORDINATE WITH ARCHITECT FOR COLOR.
10. ALL EXISTING OFF-SITE IMPROVEMENTS, PUBLIC STREETS, CURVE AND GUTTER, SIDEWALKS, SIGNAGE, UTILITIES, ETC. TO REMAIN; PROTECT DURING DEMOLITION OPERATIONS. IF DAMAGED, REPAIR AS REQUIRED BY AUTHORITY HAVING JURISDICTION.
11. SEE CIVIL PLANS FOR ELEVATIONS, EXISTING CONDITIONS COORDINATION, AND EXTERIOR IMPROVEMENTS CONSTRUCTION DETAILS AND CONTROL JOINTS REQ.
12. COORDINATE WITH MEP LOCATIONS AND TYPES OF LIGHT POLES.
13. IF CONTRACTOR ENCOUNTERS ANYTHING THAT IT CONSIDERS TO IMPACT THE COST OF CONSTRUCTION AND/OR SCOPE OF WORK, HE/SHE SHALL NOTIFY THE OWNER IMMEDIATELY AND PRIOR TO THE EXECUTION OF ANY ADDITIONAL WORK. FAILURE TO DO SO DEEMS THE CONTRACTOR RESPONSIBLE FOR THE COST OF SUCH WORK.
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17. THERE SHALL BE NO DEVIATIONS FROM THESE CONSTRUCTION DOCUMENTS WITHOUT PRIOR WRITTEN APPROVAL FROM ARCHITECT AND CONSULTANTS, IF APPLICABLE. APPROVAL BY THE CITY INSPECTOR DOES NOT CONSTITUTE AUTHORITY TO DEVIATE FROM THE CONSTRUCTION DOCUMENTS. THE ARCHITECT SHALL BE NOTIFIED IMMEDIATELY BY THE CONTRACTOR SHOULD ANY DISCREPANCY OR OTHER QUESTIONS ARISE PERTAINING TO THE CONSTRUCTION DOCUMENTS PRIOR TO START OF WORK.
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21. CONTRACTOR SHALL PROVIDE ALL LABOR + MATERIALS + TRANSPORTATION SERVICE + EQUIPMENT REQUIRED FOR THE EXECUTION + COMPLETION OF WORK SHOWN IN THE CONSTRUCTION DOCUMENTS OR REQUIRED BY GOVERNING CODES.
22. CONTRACTOR SHALL VERIFY ALL DRAWING DIMENSIONS + CONDITIONS AT THE JOB SITE WITH ACTUAL FIELD CONDITIONS PRIOR TO THE START OF CONSTRUCTION. INSPECT RELATED WORK + ADJACENT SURFACES + PROTECT ANY ADJOINING PROPERTIES FROM ANY DAMAGE CAUSED BY THE CONSTRUCTION.
23. MATERIALS + WORKMANSHIP SHALL CONFORM TO THE BUILDING CODES + ALL APPLICABLE ORDINANCES. ALL MATERIALS USED ON THE JOB SHALL BE NEW, UNUSED (UNLESS NOTED OTHERWISE), CLEAN + FREE FROM DEFECTS.
24. IF CONTRACTOR REQUIRES AN ONSITE SECURE STORAGE YARD DURING CONSTRUCTION, CONTRACTOR MAY ADD, AT ITS EXPENSE, SUCH YARD IN THE AREA DESIGNATED IN THE SITE PLAN. COORDINATE WITH OWNER IF ALTERNATE LOCATION IS NEEDED.

LANDSCAPE NOTES:

1. PROVIDE 4" OF TOPSOIL AT ALL PLANTERS, ISLANDS, AND GRASSY AREAS. RE: SPEC

2. ALL AREAS FOR PLANTING AND TREES LICENSED DESIGNED FULLY AUTOMATIC IRRIGATION SYSTEM TO PROVIDE 100% COVERAGE.

3. EVERY TREE SHALL HAVE BUBBLER WITH PROPER PLANTING SET-UP.

4. PROVIDE FOR ARCHITECT'S REVIEW AND APPROVAL, COMPLETE SHOP DRAWINGS, CUT SHEETS AND DETAILED LAYOUT OF PROPOSED LINE SYSTEM. SYSTEM SHALL BE DESIGNED FOR COMMERCIAL APPLICATIONS.

5. PROVIDE AN IRRIGATION WATER METER AND PAY ALL FEES, FOR PERMIT, METERS AND DEMAND AS PER CITY REQUIREMENTS.

6. REFER TO THE CIVIL DRAWINGS FOR NEW SERVICE LINES PROPOSED FOR PROJECT, COORDINATE EARLY ON, WITH UTILITY CONTRACTOR FOR PROPOSED LOCATIONS FOR TAPS TO ALLOW EASY CONNECTIONS AT END OF PROJECT.

7. PROVIDE PROFESSIONAL LANDSCAPING PLASTIC EDGING (COMMERCIAL GRADE) @EDGES OF DIFFERING PLANTING MATERIALS, INCLUDING BUT NOT LIMITED TO HYDRO-SEED BERMUDA GRASS, DECOMPOSED GRANITE, CONCRETE, AND RIVER ROCK. FINAL GRADE TO BE FREE OF DEBRIS AND HAVE A SOIL M COMPOSITION AS RECOMMENDED BY HYDRO-SEED PROVIDER.

10. COORDINATE W/ ARCHITECT FOR FINAL LOCATION OF LANDSCAPING LIGHTS.

11. ALL PLANTS TO BE PRESENTED ON SITE PRIOR TO PLANTING FOR FINAL LOCATION APPROVAL BY ARCHITECT.

12. FINAL GRADE TO BE FREE OF DEBRIS AND HAVE A SOIL COMPOSITION AS RECOMMENDED BY PLANT PROVIDER.

13. COMPACT ALL NEW & EX SOIL AS REQUIRED BY STRUCTURAL DWGS.

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REGISTERED ARCHITECT MARIO A. PEÑA 20100 STATE OF TEXAS
DIGITALLY SIGNED ON 11/02/15

WEBB COUNTY/TEXAS
WEBB COUNTY MAIN FIRE STATION
AND ADMINISTRATION BUILDING
7210 E. SAUNDERS – HWY 59 (UNITS A&B)
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CONSULTANT

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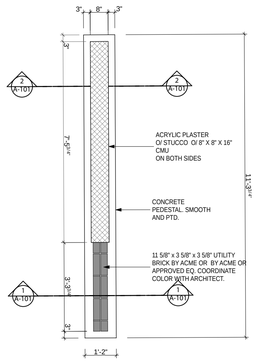
REVISIONS:
ADDENDUM 5
DATE: 11/02/15

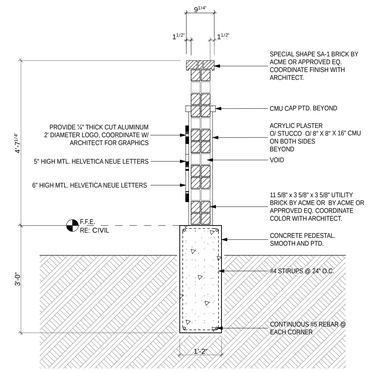
SITE/LANDSCAPING PLAN

SHEET NO.:
A-100
JOB NO.: 1312



5 SITE MARQUEE FLOOR PLAN

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

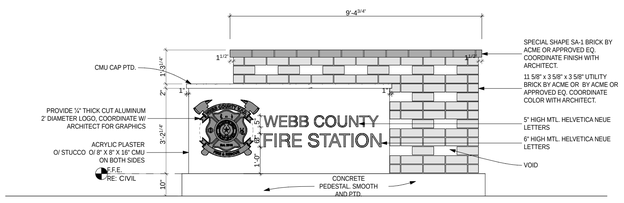


1 MARQUEE SECTION

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

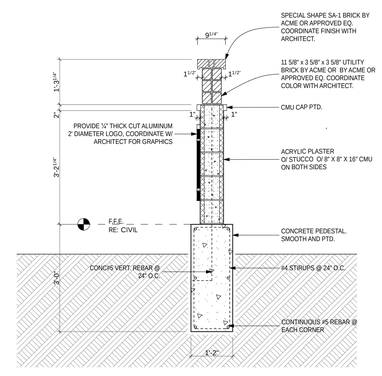
MARQUEE NOTES

1. ACRYLIC PLASTER FINISH SHALL MATCH BUILDING STUCCO FACADE COORDINATE W/ ARCHITECT
2. ALL EXPOSED CONC. TO BE SMOOTH AND PAINTED. MATCH FINISH COLOR TO BUILDING STUCCO FACADE.
3. COORDINATE BRICK COLOR W/ ARCHITECT



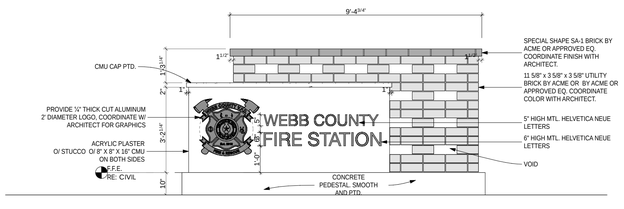
3 SITE MARQUEE ELEVATION

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



2 MARQUEE SECTION 2

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



4 SITE MARQUEE ELEVATION

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

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REGISTERED ARCHITECT MARIO A. PEÑA 24104 STATE OF TEXAS

DIGITALLY SIGNED ON 11/02/15

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SITE MARQUEE-ALTERNATE #1

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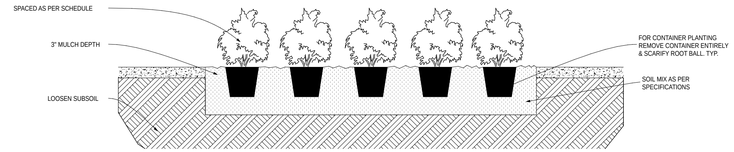
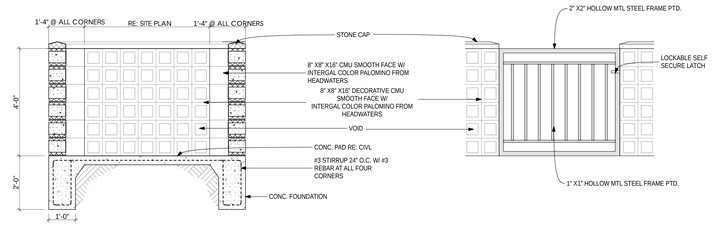
REVISIONS:
ADDENDUM 5
DATE: 11/02/15

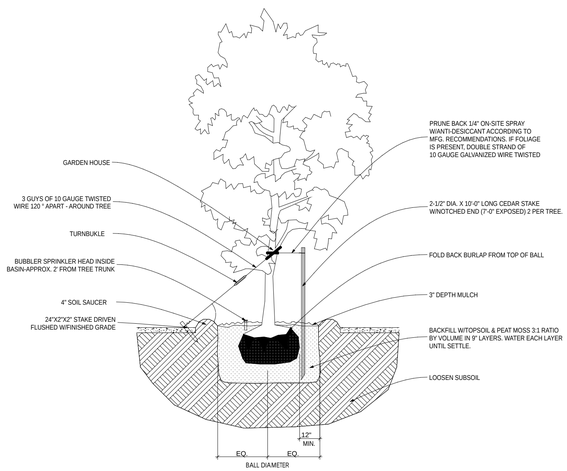
SHEET NO.:
A-101
JOB NO.: 1312



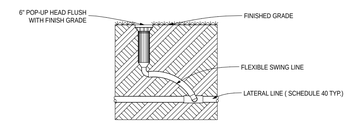
1 TYP. SHRUB PLANTING DETAIL
SCALE: 1" = 1'-0"



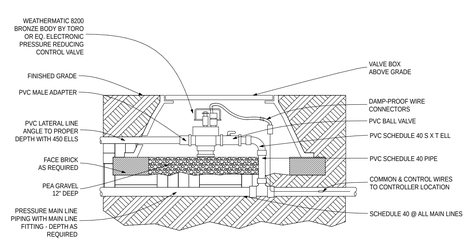
2 TYP. CMU WALL @ MECHANICAL YARD
SCALE: 3/8" = 1'-0"



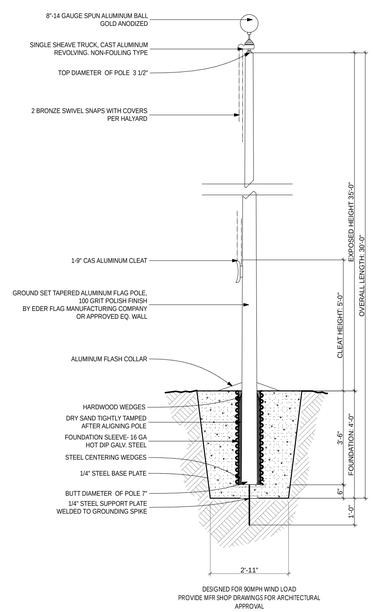
3 TYP. TREE PLANTING DETAIL
SCALE: 1" = 1'-0"



5 TYP. SPRINKLER HEAD DETAIL
SCALE: 1" = 1'-0"



4 TYP. CONTROL VALVE DETAIL
SCALE: 1" = 1'-0"



6 FLAG POLE DETAIL
SCALE: 3/8" = 1'-0"

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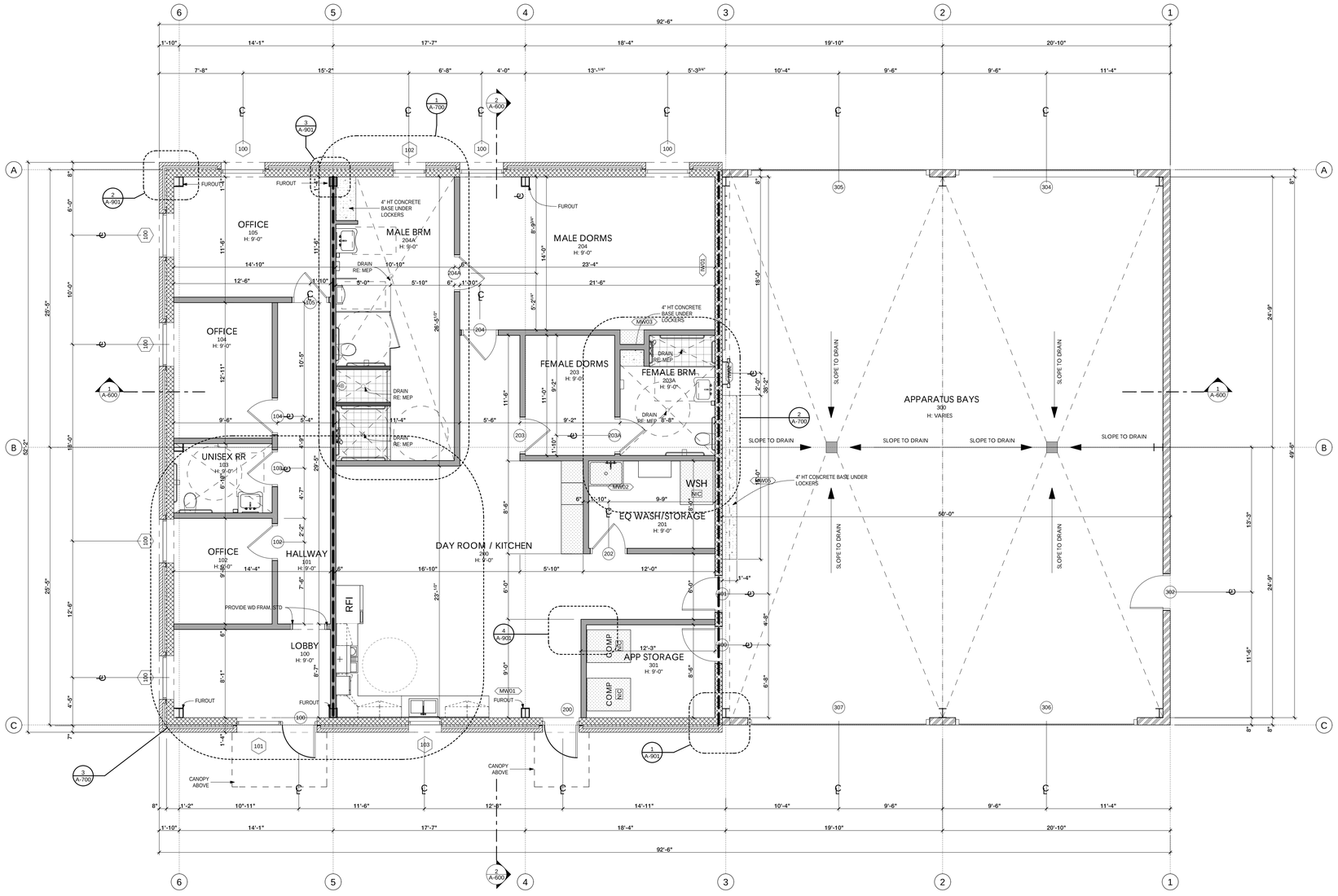
REVISIONS:
ADDENDUM 5
DATE: 11/02/15

SITE DETAILS

SHEET NO.:
A-102
JOB NO.: 1312



1 FIRST FLOOR

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

MILLWORK & MTL WORK SCHEDULE		
ID	DESCRIPTION	INTERIOR ELEV.
IW01	HANGING MLT RACK	A-800
IW02	OSHA COMPLIANT METAL LADDER W/ SLIP RESISTANT BARS	A-800
MW01	WALL MOUNTED KITCHEN CABINETS	A-801
MW02	FIXED WORKSTATION AND STORAGE FOR EMERGENCY RADIO STATION	A-801
MW03	SHELVES @ MALE DORMS	A-801
MW05	SHELVES @ MALE DORMS @ EQ WASH & STORAGE CONTRACTOR TO PROVIDE BRACKET MOUNTED 18" DEEP X 3' LONG SHELF W/ FIVE SLOT MOP AND BROOM HOLDER	A-801

MILLWORK NOTES:

1. PLASTIC LAMINATE FINISH ON ALL EXPOSED COUNTER TOP SURFACES
2. PAINT ALL WD. SURFACES AS PER SPECS.
3. CABINET CONSTRUCTION TO BE 3/4" PLYWOOD AT TOP, BOTTOM & SIDES W/ 1/4" PLYWOOD BACK
4. COORDINATE W/ ARCHITECT FOR PLASTIC LAM. FINISH
5. ALL CABINETS TO BE ADA COMPLIANT, PROVIDED & INSTALLED BY CONTRACTOR.
6. ALL SHELVES, DRAWER FRONTS, & DOOR FRONTS TO BE CABINET GRADE WOOD PAINTED AS PER SPECS
7. APPLY SOLID WD. EDGE MOLDING @ ALL EXPOSED PLYWD. EDGES.

FLOOR PLAN LEGEND

- 1/2 HOUR FIRE RATED WALL
- OVERHEAD ELEMENT
- MTL. WALL PANELS, DESIGNER SERIES-FLAT BY MBCI OR APPROVED EQUAL INSTALL AS PER MFR RECOMMENDATIONS O/ DAMPPROOFING
- O/ VINYL BACK INSULATION 0-19 8" X 8" X 16" CMU PTD. W/ MASONRY WALL INSULATION FORM F.F.E. UP TO DECK
- 11 5/8" x 3 5/8" x 3 5/8" UTILITY BRICK BY ACME OR APPROVED EQ. COORDINATE COLOR WITH ARCHITECT. O/ 2" RIGID INSULATION O/DAMP-PROOFING O/ 8" X 8" X 16" CMU
- 5/8" GYP BD TAPE, FLOAT, TEXT, & PTD ON 6" MTL STUD WALL
- 5/8" GYP BD TAPE, FLOAT, TEXT, & PTD ON 4" MTL STUD WALL
- DWG. NO. / SHEET NO. — SECTION MARKER
- DWG. NO. / SHEET NO. — ELEVATION MARKER
- ROOM NAME / ROOM NO. / TYPE / ROOM HT — ROOM MARKERS
- GRID
- STOREFRONT MARKER
- MW## — MILLWORK MARKER
- IW## — METAL WORK
- DOOR MARKER
- DETAIL MARKER

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19. ALLOWANCES HAVE BEEN PROVIDED FOR MATERIALS NOT YET SPECIFIED BY THE ARCHITECT. REFER TO ALLOWANCE SCHEDULE FOR ALLOWANCE INFORMATION. ITEMS PAYBLE BY ALLOWANCE ACCOUNTS INCLUDE ONLY THE MATERIALS LISTED. TRANSPORTATION OF THESE ITEMS, TAXES, AND STORAGE. ACCESSORIES AND ADHESIVES REQUIRED FOR INSTALLATION ARE NOT PAYABLE FROM THE ALLOWANCE AMOUNT.
20. IN PREPARING THEIR PROPOSAL, THE CONTRACTOR IS PRESUMED TO HAVE VISITED THE SITE, EVALUATED EXISTING CONDITIONS AFFECTING THE WORK TO BE PERFORMED. CAREFULLY EXAMINED THE CONSTRUCTION DOCUMENTS + DETERMINED TO THEIR SATISFACTION THE MEANS + METHODS OF REMOVAL + STORAGE OF MATERIAL. THE SEQUENCING OF CONSTRUCTION OPERATIONS + THE PROBLEMS HERETO. NO ALLOWANCE WILL BE MADE SUBSEQUENTLY TO THE CONTRACTOR FOR ANY ERROR THROUGH NEGLIGENCE IN OBSERVING THE SITE CONDITIONS.
21. CONTRACTOR SHALL PROVIDE ALL LABOR + MATERIALS + TRANSPORTATION SERVICE + EQUIPMENT REQUIRED FOR THE EXECUTION + COMPLETION OF WORK SHOWN IN THE CONSTRUCTION DOCUMENTS OR REQUIRED BY GOVERNING CODES.
22. CONTRACTOR SHALL VERIFY ALL DRAWING DIMENSIONS + CONDITIONS AT THE JOB SITE WITH ACTUAL FIELD CONDITIONS PRIOR TO THE START OF CONSTRUCTION. INSPECT RELATED WORK + ADJACENT SURFACES + PROTECT ANY ADJOINING PROPERTIES FROM ANY DAMAGE CAUSED BY THE CONSTRUCTION.
23. MATERIALS + WORKMANSHIP SHALL CONFORM TO THE BUILDING CODES + ALL APPLICABLE ORDINANCES. ALL MATERIALS USED ON THE JOB SHALL BE NEW, UNUSED (UNLESS NOTED OTHERWISE), CLEAN + FREE FROM DEFECTS.
24. IF CONTRACTOR REQUIRES AN ONSITE SECURE STORAGE YARD DURING CONSTRUCTION, CONTRACTOR MAY ADD, AT ITS EXPENSE, SUCH YARD IN THE AREA DESIGNATED IN THE SITE PLAN. COORDINATE WITH OWNER IF ALTERNATE LOCATION IS NEEDED.

CMU GENERAL NOTES:

1. PROVIDE WEEP HOLES @ 36 OC AT ALL BRICK LUGS AND EXTERIOR LINTELS. WEEP HOLES TO CONTINUE THROUGH EFS SYSTEM
2. ALL INTERIOR EXPOSED CMU WALL CORNERS TO HAVE FACTORY-MADE 1" RADIUS BULLNOSE CMU.

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REGISTERED ARCHITECT — MARIO A. PEÑA — STATE OF TEXAS
DIGITALLY SIGNED ON 11/02/15

WEBB COUNTY/TEXAS
WEBB COUNTY MAIN FIRE STATION AND ADMINISTRATION BUILDING
7210 E. SAUNDERS – HWY 59 (UNITS A&B)
LAREDO, TEXAS 78045

CONSULTANT

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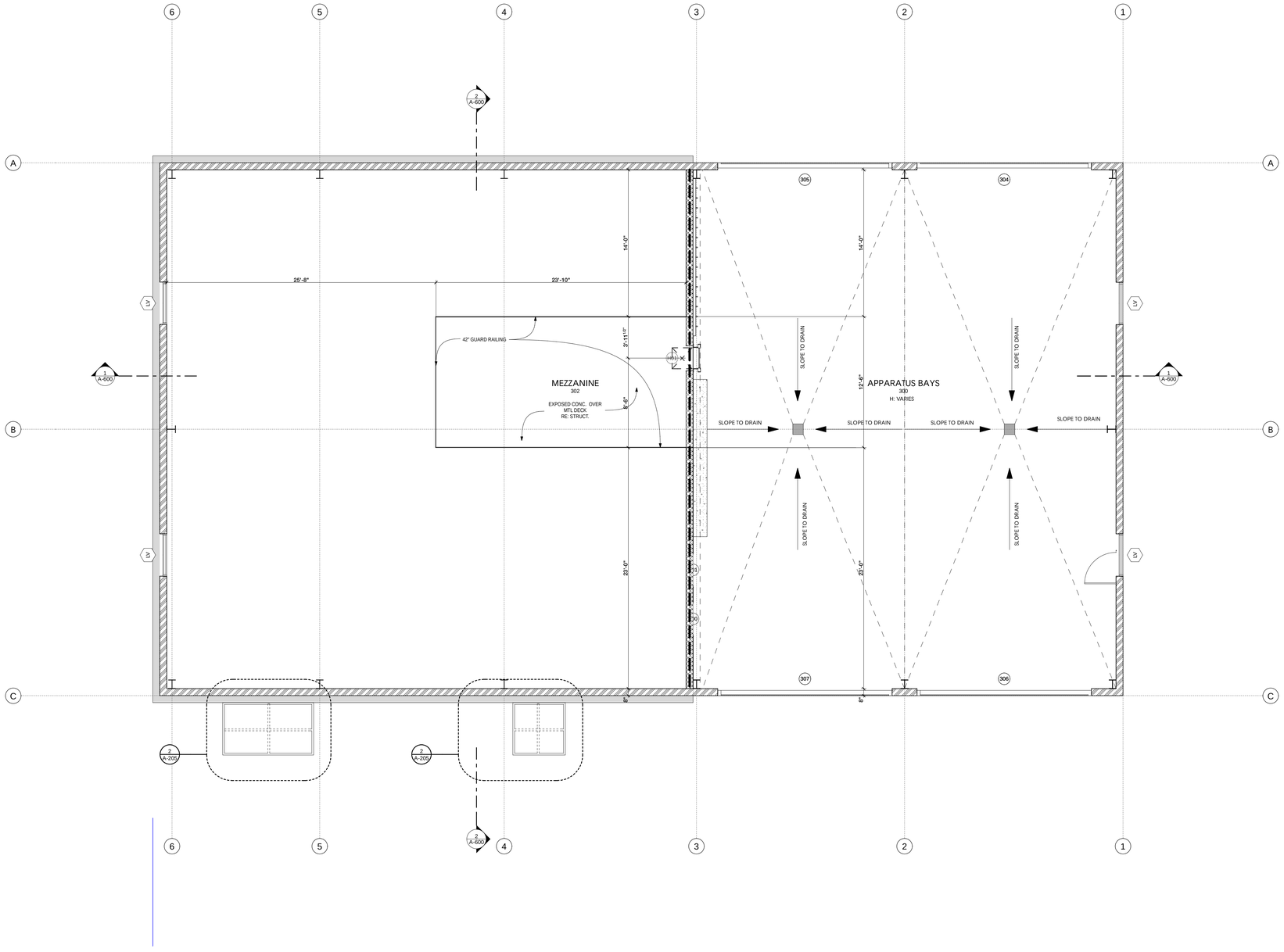
DATE: 11/02/15

FLOOR PLAN

SHEET NO.:
A-200
JOB NO.: 1312



1 MEZZANINE FLOOR PLAN

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

FLOOR PLAN LEGEND

- 1/2 HOUR FIRE RATED WALL
- OVERHEAD ELEMENT
- MTL. WALL PANELS, DESIGNER SERIES-FLAT BY MBCI OR APPROVED EQUAL INSTALL AS PER MFR RECOMMENDATIONS O/ DAMPPROOFING O/ VINYL BACK INSULATION R-19 8" X 8" X 16" CMU PTD. W/ MASONRY WALL INSULATION FORM F.F.E. UP TO DECK
- 11 5/8" x 3 5/8" x 3 5/8" UTILITY BRICK BY ACME OR APPROVED EQ. COORDINATE COLOR WITH ARCHITECT. O/ 2" RIGID INSULATION O/DAMP-PROOFING O/ 8" X 8" X 16" CMU
- 5/8" GYP BD TAPE, FLOAT, TEXT, & PTD ON 6" MTL STUD WALL
- 5/8" GYP BD TAPE, FLOAT, TEXT, & PTD ON 4" MTL STUD WALL
- DWG. NO. / SHEET NO. — SECTION MARKER
- DWG. NO. / SHEET NO. — ELEVATION MARKER
- ROOM NAME / ROOM NO. / TYPE / ROOM HT — ROOM MARKERS
- GRID
- STOREFRONT MARKER
- MW## — MILLWORK MARKER
- IW## — METAL WORK
- DOOR MARKER
- DETAIL MARKER

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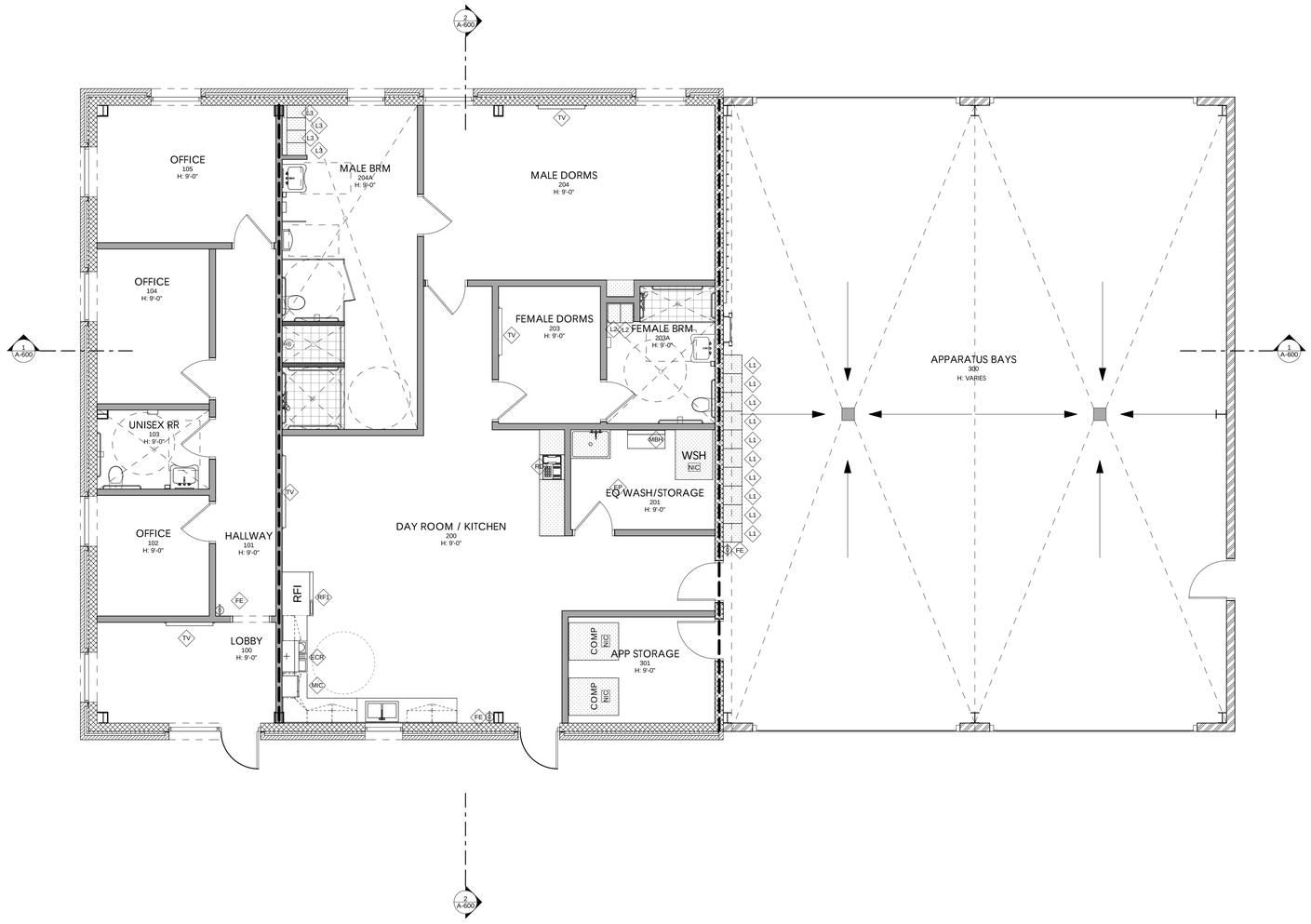
FLOOR PLAN - MEZZANINE

SHEET NO.:
A-201
JOB NO.: 1312



2 SPECIAL SYSTEM PLAN

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

SPECIAL SYSTEMS & EQUIPMENT						
GROUP TYPE	ID	ITEM NAME	QTY	NOTES AND REMARKS	PROVIDED BY	INSTALLED BY
LOCKERS	L3	12"X 18" X 72" FOUR TIER LOCKER, TUFFTEC INDUSTRIAL LOCKERS BY SCRANTON PRODUCTS OR APPROVED EQ.	4	CONTRACTOR TO ASSEMBLE AND INSTALL AS PER MFR RECOMMENDATIONS. LOCKERS SHALL INCLUDE: HORIZONTAL VENTING STYLE/SLOPE TOP/ PADLOCK/ METAL J-HOOK/END PANELS AND LEVELER PLATE	CONTRACTOR	CONTRACTOR TO ASSEMBLE AND INSTALL AS PER MFR RECOMMENDATIONS.
LOCKERS	L2	12"X 18" X 72"DOUBLE TIER LOCKER, TUFFTEC INDUSTRIAL LOCKERS BY SCRANTON PRODUCTS OR APPROVED EQ.	2	CONTRACTOR TO ASSEMBLE AND INSTALL AS PER MFR RECOMMENDATIONS. LOCKERS SHALL INCLUDE: HORIZONTAL VENTING STYLE/SLOPE TOP/ PADLOCK/ METAL J-HOOK/END PANELS AND LEVELER PLATE	CONTRACTOR	CONTRACTOR TO ASSEMBLE AND INSTALL AS PER MFR RECOMMENDATIONS.
LOCKERS	L1	18"X 18" X 72"SINGLE TIER LOCKER, TUFFTEC EMERGENCY LOCKERS W/ DOOR BY SCRANTON PRODUCTS OR APPROVED EQ.	10	LOCKERS SHALL INCLUDE: HORIZONTAL VENTING STYLE/ SLOPE TOP/ PADLOCK/ METAL J-HOOK/END PANELS AND LEVELER PLATE	CONTRACTOR	CONTRACTOR TO ASSEMBLE AND INSTALL AS PER MFR RECOMMENDATIONS.
FIRE EXTINGUISHER	FE	FIRE EXTINGUISHER	3		CONTRACTOR	CONTRACTOR
EQUIPMENT	TV	TELEVISION	4		OWNER	CONTRACTOR TO RELOCATE EXISTING EQUIPMENT AND INSTALL MOUNTING BRACKETS.
EQUIPMENT	RF1	24.6 CU. FT. REFRIGERATOR IN STAINLESS STEEL/MODEL #CZS25TSE BY GE APPLIANCES OR APPROVED EQ.	1			
EQUIPMENT	RD	HAND RADIO STATION	1	RE: INTERIOR ELEVATION FOR CONTRACTOR TO PROVIDE CONNECTIONS FOR SYSTEM, AS SPECIFIED IN INTERIOR ELEVATION	OWNER	CONTRACTOR TO RELOCATE EXISTING EQUIPMENT: PORTIBLE RADIO, RADIO CHARGER, BATTERY CHARGER, AND PORTABLE RADIOS
EQUIPMENT	MIC	1.1 CU. FT. MID-SIZE COUNTER TOP MICROWAVE - STAINLESS STEEL MODEL # MG11H2020CT BY SAMSUNG OR APPROVED EQ.	1		CONTRACTOR	CONTRACTOR
EQUIPMENT	EP	EMPERGENCY CALL IN PHONE	1		CONTRACTOR	CONTRACTOR
EQUIPMENT	ECR	ADA COMPLIANT ELECTRIC CONVECTION RANGE W/BACKGUARD ACCESSORY - STAINLESS-STEEL MODEL # JS630SFSS BY GE APPLIANCES OR APPROVED EQ.	1		CONTRACTOR	CONTACTOR
ACCESSORIES	MBH	MOP AND BROOM HOLDER W/ SHELF(MODEL B-224 X 36 BY BOBRICK OR EQ.	1		CONTRACTOR	CONTRACTOR

GENERAL SYSTEMS NOTES

1. CONTRACTOR TO PROVIDE DATA CONDUITS FOR ALL DEVICES SHOWN PLUS ALL OTHER DEVICES, ACCESSORIES AND EQUIPMENT SHOWN ELSEWHERE. ALL CONDUITS SHALL BE INSTALLED AS PER MEP RECOMMENDATIONS.

2.REFER TO PLANS FOR LOCATION OF ALL SYSTEM PANELS. COORDINATE LOCATIONS OF ALL PANELS BETWEEN ELECTRICIAN, AND INDIVIDUAL SYSTEM PROVIDERS/INSTALLERS. SCHEDULE A PRE-INSTALLATION MEETING WITH ALL SYSTEM PROVIDERS/INSTALLERS PRESENT PRIOR TO COMMENCEMENT OF ELECTRICAL AND CONDUIT WORK FOR SYSTEM PANELS.

3. THE WORK CALLED FOR IN THIS PLAN SHALL BE COMPLEMENTARY AND/OR IN ADDITION TO ANY WORK FOUND ELSEWHERE IN THE CONSTRUCTION DOCUMENTS.

4. ALL PROVIDERS FOR TURNKEY SYSTEMS ARE REQUIRED TO RESPOND TO SERVICE AND WARRANTY REPAIR ORDERS WITHIN 48 HOURS.

CAMERA SURVEILLANCE SYSTEM NOTES

1.CONTRACTOR TO PROVIDE ALL DATA DROPS FOR CAMARA AND SURVEILLANCE SYSTEM

2. CONTRACTOR TO PROVIDE ALL CONDUITS AND ACCESSORIES AT EACH DEVICE SHOWN HEREIN AS PER MEP RECOMMENDATIONS AND POWER AS PER MEP RECOMMENDATIONS.

3. EQUIPMENT TO BE PROVIDED BY OWNER.

COMMUNICATIONS, COMPUTER, & DATA SYSTEM NOTES

1. SYSTEM DEVICES, EQUIPMENT AND DATA WIRING TO BE PROVIDED BY OWNER.

2. CONTRACTOR TO PROVIDE ALL CONDUITS, POWER, AND ACCESSORIES AS PER MEP RECOMMENDATIONS AND PLANS.

INTRUSION DETECTION SYSTEM NOTES (IDS)

1. CONTRACTOR SHALL PROVIDE A TURNKEY, FULLY FUNCTIONING IDS BY DIGITAL MONITORING PRODUCTS, INC.
2500 N. PARTNERSHIP BLVD.
SPRINGFIELD, MO 65803
PHONE: 800.641.4282.
SUBSTITUTIONS SHALL ONLY BE CONSIDERED AT LEAST 10 DAYS PRIOR TO BID DUE DATE.

2. PROVIDE INTRUSION DETECTION DEVICES AT ALL EXTERIOR OPENINGS AND "GLASS BREAK" DETECTION DEVICES FOR ALL EXTERIOR GLASS ASSEMBLIES AND WINDOWS.

3. PROVIDE MOTION DETECTION DEVICES TO COVER ALL ENTRANCES, HALLWAYS, WAREHOUSE, STAGING AREA, WORKSHOPS.

4. POVIDE OVER LAPING MOTION DETECTION DEVICES AT THE APPARATUS BAYS A MINIMUM OF 4 MOTION DETECTION DEVICES SHALL BE PROVIDED.

AUTOMATIC FIRE SUPPRESSION SYSTEM & ALARM

1. CONTRACTOR TO FURNISH A FULLY AUTOMATIC FIRE SPRINKLER SYSTEM WITH INTEGRATED ALARM DESIGNED AND INSTALLED BY A PROVIDER LICENSED TO DO SO IN THE STATE OF TEXAS.

2. PROVIDE LICENSED PROVIDER'S PLAN FOR FIRE SPRINKLER SYSTEM FOR REVIEW PRIOR TO COMMENCEMENT OF THE WORK.

3. SYSTEM DESIGN SHALL COMPLY WITH ALL APPLICABLE CODES AND ORDINANCES. CONTRACTOR TO COORDINATE FIRE ALARM REQUIREMENTS WITH FIRE ALARM INSTALLER AND ANY OTHER TRADES IMPACTED BY THE INSTALLATION OF ALARM SYSTEM AND SPRINKLER SYSTEM. REFER TO MEP PLANS FOR FURTHER INSTRUCTIONS AND SPECIFICATIONS.

4. PROVIDE ALL CIVIL PORTIONS OF THE SPRINKLER SYSTEM. BACK FLOOR PREVENTED, VALVES AND SPRINKLER SYSTEM SHALL BE PART OF ALTERNATE #1.

COMPRESSED AIR SYSTEM

1. CONTRACTOR TO PROVIDE HIGH PRESSURE LINES. RE: MEP AND SPECS FOR ALL DESIGN CRITERIA.

2. COORDINATE WITH OWNER EARLY ON TO VERIFY FINAL LOCATION OF LINE DROPS.

3. OWNER TO PROVIDE COMPRESSORS

COMMUNICATION SYSTEM

1. SYSTEM DEVICES AND DATA WIRING TO BE PROVIDED BY OWNER.

2. CONTRACTOR TO PROVIDE ALL POWER AND CONDUITS AS PER MEP PLANS.

3. CONTRACTOR TO PROVIDE 50 FT POLE, RE: MEP.

EMPLOYEE TIME TRACKING SYSTEM

1. SYSTEM DEVICES AND DATA WIRING TO BE PROVIDED BY OWNER.

2. CONTRACTOR TO PROVIDE ALL CONDUITS AND ACCESSORES AT EACH DEVICE SHOWN HEREIN AS PER MEP RECOMMENDATIONS AND POWER AS PER MEP PLANS.

IT SYSTEM

1. CONTRACTOR TO PROVIDE DATA DROPS.

FIRE EMERGENCY ALERT SYSTEM

1. SYSTEM PROVIDED BY OWNER.

2. CONTRACTOR TO PROVIDE CONDUITS AND POWER

AUDIO AND VIDEO SYSTEM

1.CONTRACTOR TO PROVIDE ALL DATA DROPS FOR SYSTEM

2. CONTRACTOR TO PROVIDE ALL CONDUITS AND ACCESSORES AT EACH DEVICE SHOWN HEREIN AS PER MEP RECOMMENDATIONS AND POWER AS PER MEP RECOMMENDATIONS.

3. EQUIPMENT TO BE PROVIDED BY OWNER.

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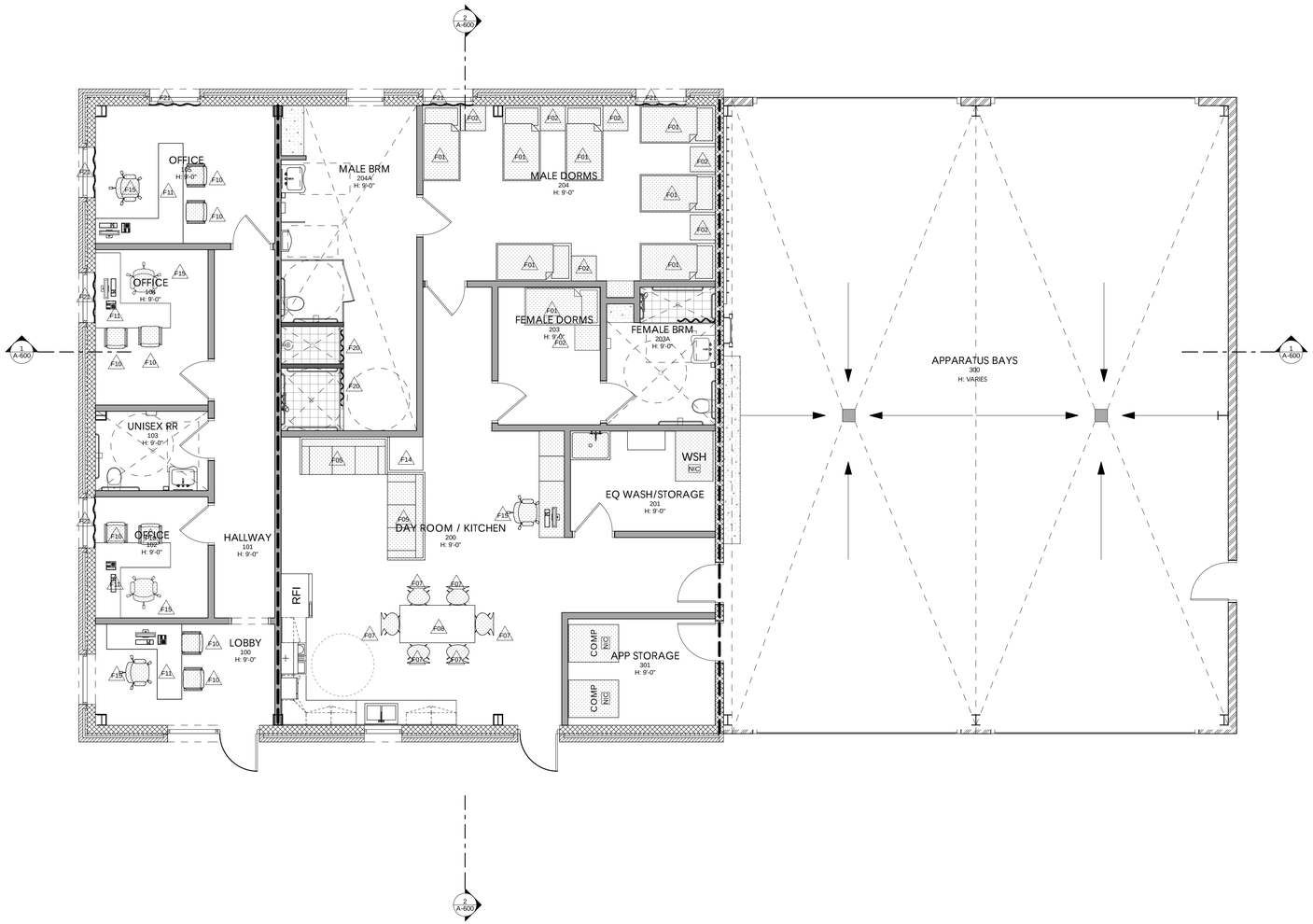
ADDENDUM 5
DATE: 11/02/15

SHEET NO.:
A-202
JOB NO.: 1312



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

FURNITURE LEGEND		
ID	ITEM NAME	QTY
F01	BEDS BUNKS	8
F02	NIGHT STAND	7
F05	SOFA	2
F07	DINING CHAIR	6
F08	DINNING TABLE	1
F10	OFFICE CHAIR	8
F11	L SHAPED DESK WITH FILE DRAWERS AND UPPER STORAGE	4
F14	SIDE TABLE	1
F15	TASK CHAIR	5
F20	SHOWER CURTAINS	3
F21	MINI BLINDS	6

FURNITURE NOTES:

1. U.N.O. FURNITURE BY OTHERS
2. U.N.O. FITNESS EQUIPMENT BY OWNER

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FURNITURE PLAN

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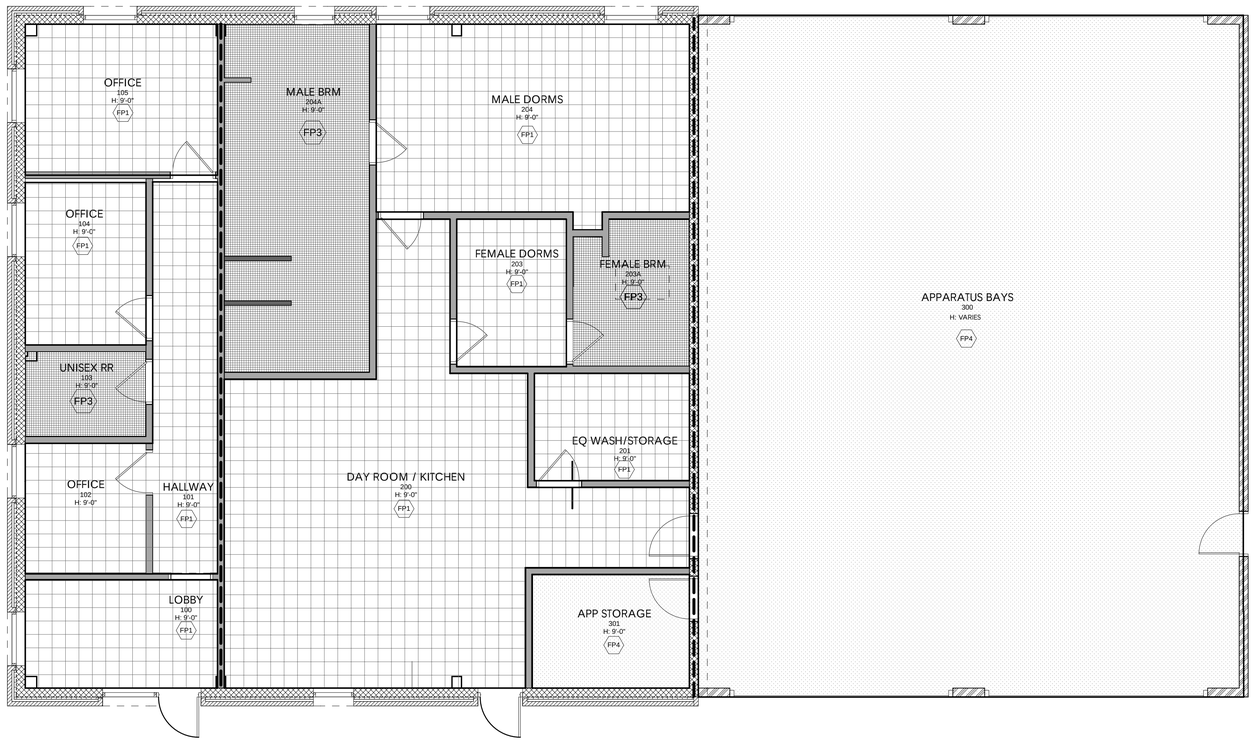
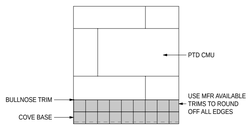
ADDENDUM 5
DATE: 11/02/15

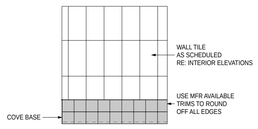
SHEET NO.:
A-203
JOB NO.: 1312



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



2 COVE BASE DETAIL
SCALE: 1" = 1'-0"



3 COVE BASE DETAIL
SCALE: 1" = 1'-0"

ROOM FINISH							
ZONE	RM NO.	RM NAME PER PLAN	BASE	FLOOR	CEILING TYPE	HT	WALL
A	100	LOBBY	4" VINYL BASE	VCT	24" X 48" A.C.T.	9'-0"	PAINTED CMU & GYP BD TEXT, TAPE, FLOAT, AND EPOXY PAINT
A	101	HALLWAY	4" VINYL BASE	VCT	24" X 48" A.C.T.	9'-0"	PAINTED CMU & GYP BD TEXT, TAPE, FLOAT, AND EPOXY PAINT
A	102	OFFICE	4" VINYL BASE	VCT	24" X 48" A.C.T.	9'-0"	PAINTED CMU & GYP BD TEXT, TAPE, FLOAT, AND EPOXY PAINT
A	103	UNISEX RR	4" COVE BASE	PORCELAIN TILE	MOISTURE RESISTANT GYP BD TEXT, TAPE, FLOAT, AND EPOXY PAINT	9'-0"	EPOXY PAINTED CMU & WALL TILE
A	104	OFFICE	4" VINYL BASE	VCT	24" X 48" A.C.T.	9'-0"	PAINTED CMU & GYP BD TEXT, TAPE, FLOAT, AND EPOXY PAINT
A	105	OFFICE	4" VINYL BASE	VCT	24" X 48" A.C.T.	9'-0"	PAINTED CMU & GYP BD TEXT, TAPE, FLOAT, AND EPOXY PAINT
B	200	DAY ROOM / KITCHEN	4" VINYL BASE	VCT	24" X 48" A.C.T.	9'-0"	PAINTED CMU & GYP BD TEXT, TAPE, FLOAT, AND EPOXY PAINT
B	201	EQ WASH/ STORAGE	4" VINYL BASE	VCT	24" X 48" A.C.T.	9'-0"	EPOXY PAINTED CMU & GYP BD TEXT, TAPE, FLOAT, AND EPOXY PAINT
B	203	FEMALE DORMS	4" VINYL BASE	VCT	24" X 48" A.C.T.	9'-0"	PAINTED CMU & GYP BD TEXT, TAPE, FLOAT, AND EPOXY PAINT
B	203A	FEMALE BRM	4" COVE BASE	PORCELAIN TILE	MOISTURE RESISTANT GYP BD TEXT, TAPE, FLOAT, AND EPOXY PAINT	9'-0"	EPOXY PAINTED CMU & WALL TILE
B	204	MALE DORMS	4" VINYL BASE	VCT	24" X 48" A.C.T.	9'-0"	PAINTED CMU & GYP BD TEXT, TAPE, FLOAT, AND EPOXY PAINT
B	204A	MALE BRM	4" COVE BASE	PORCELAIN TILE	MOISTURE RESISTANT GYP BD TEXT, TAPE, FLOAT, AND EPOXY PAINT	9'-0"	EPOXY PAINTED CMU & WALL TILE
C	300	APPARATUS BAYS	--	EXPOSED CONC.	EXPOSED STRUCTURE PTD	9'-0"	PAINTED CMU & EXPOSED STRUCTURE SHALL BE PAINTED
C	301	APP STORAGE	4" VINYL BASE	EXPOSED CONC.	MOISTURE RESISTANT GYP BD TEXT, TAPE, FLOAT, AND EPOXY PAINT	9'-0"	PAINTED CMU & GYP BD TEXT, TAPE, FLOAT, AND EPOXY PAINT
C	302	MEZZANINE	--	EXPOSED CONC.	EXPOSED STRUCTURE PTD	9'-0"	EXPOSED STRUCTURAL

FLOOR FINISH LEGEND		
ID	FINISH	SYMBOL
FP1	12" x 12" VCT TILE BY ARMSTRONG OR APPROVED EQ, COORDINATE FINISH W/ ARCHITECT	
FP3	2" x 2" MOSAIC PORCELAIN TILE -CC PORCELAIN / TAUPE BY ROCA TILE GROUP OR APPROVED EQ.	
FP4	LUMA-HARD MICRO-LITHIUM PERMANENT CONC. HARDENER, SEALER, AND DENSIFIER. APPLY SEALER PRIOR TO COMMENCEMENT OF ALL OTHER WORK TO BE DONE ON BLDG. SLAB.	

IMPORTANT FINISHES NOTES:

1. COORDINATE W/ ARCHITECT ALL FINISHES, TYPES, PATTERNS, AND SIZES.
2. PROVIDE LATICRETE BLUE 92 ANTI-FRACTURE MEMBRANE OR EQUAL WHERE PORCELAIN TILE MFR RECOMMENDS.
3. EXPOSED CONC FLOORS: PROVIDE LUMA-HARD MICRO-LITHIUM PERMANENT CONC. HARDENER, SEALER, AND DENSIFIER. APPLY SEALER PRIOR TO COMMENCEMENT OF ALL OTHER WORK TO BE DONE ON BLDG. SLAB.
4. PROVIDE A.D.A. COMPLIANT ALUMINUM TRANSITIONAL STRIPS AT ALL FLOOR MATERIAL TRANSITIONS.
5. CHIP-OUT CONCRETE & RE-LEVEL SLAB AS REQUIRED WHEREVER NEW PORCELAIN TILE IS INSTALLED @ EXISTING BUILDING.
6. ALL INTERIOR WALLS TO BE PAINTED SW 7647 CRUSHED ICE BY SHERWIN WILLIAMS
7. ALL 4" VINYLE BASE TO BE COTTON W BY JOHNSONITE OR APPROVED EQ.
8. ALL 4" COVE BASE TO BE 2" x 2" MOSAIC PORCELAIN TILE COVE BASE -CC PORCELAIN / TAUPE BY ROCA TILE GROUP OR APPROVED EQ. RE: DETAILS A-2/203 & A-3/203.
9. PAINT ALL STRUCTURAL COLUMNS YELLOW 5'-0" FROM FFE.
11. ALL EXPOSED METAL TO BE PAINTED SW7016 MINDFUL GRAY.
12. ALL GYB BD CEILING TO BE PAINTED SW 7647 CRUSHED ICE BY SHERWIN WILLIAMS
13. ALL WOOD STAIN TO BE SW 3133-B RUSTIC GRAY BY SHERWIN WILLIAMS
14. ALL PLASTIC LAMINATE DOORS TO BE 7960K-18 STUDIO TEAK BY WILSON-ART
15. ALL PLASTIC LAMINATE COUNTERTOPS TO BE CARBON MESH FINE VELVET TEXTURE 4880-38 BY WILSON-ART.
16. RE: INTERIOR ELEVATIONS FOR SPECIFIED FINISHES

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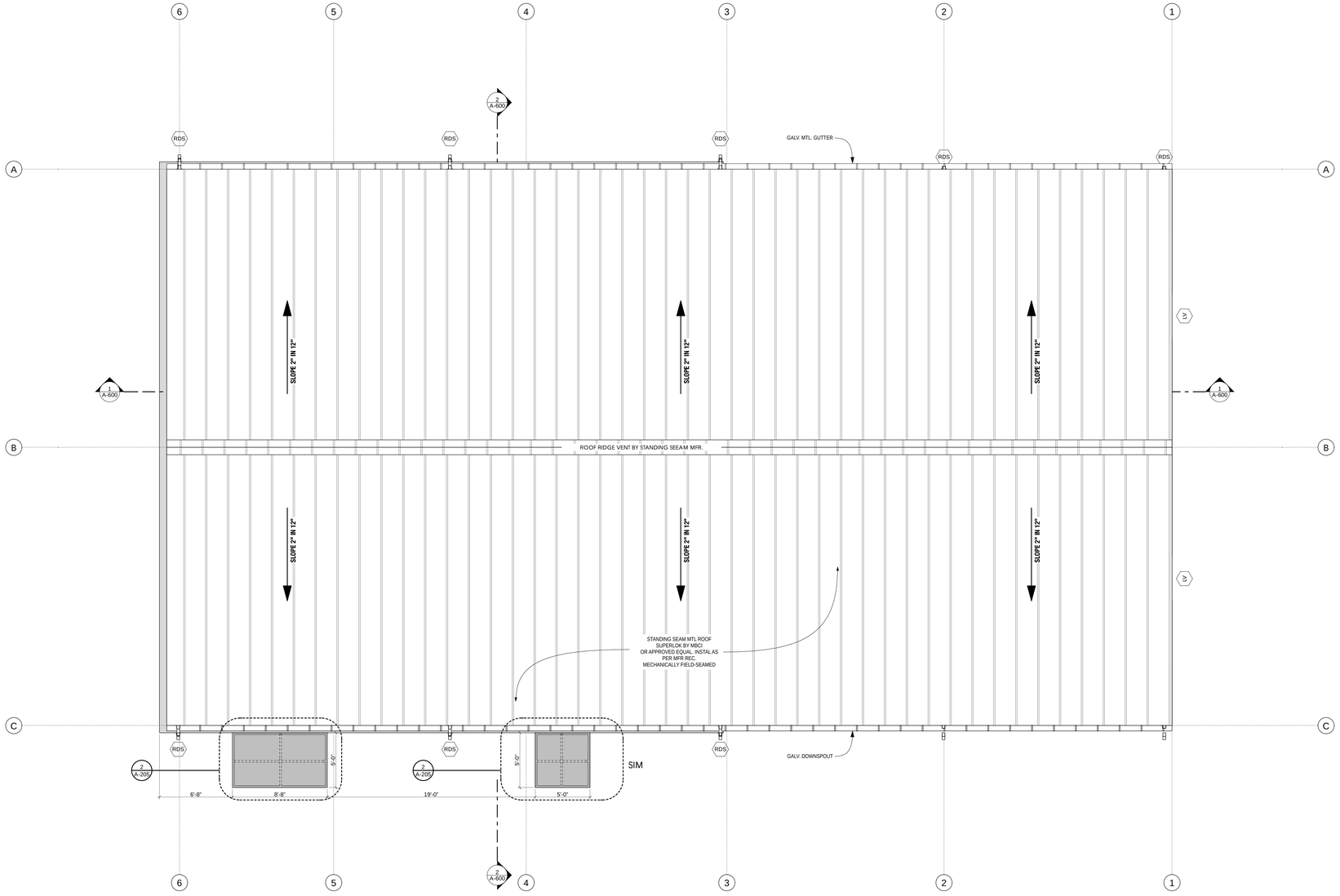
ADDENDUM 5
DATE: 11/02/15

FINISHES PLAN

SHEET NO.:
A-204
JOB NO.: 1312



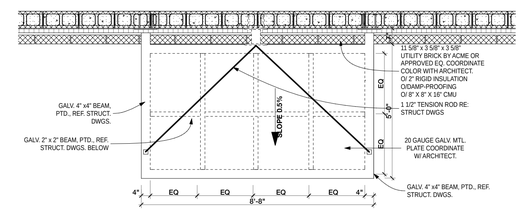
1 ROOF PLAN
SCALE: 3/16" = 1'-0"

ROOF PLAN LEGEND

- CANOPY RE DETAIL
- STANDING SEAM MTL ROOF SUPERLOK BY MBCI OR APPROVED EQUAL. INSTAL AS PER MFR REC. MECHANICALLY FIELD-SEAMED
- GALC. MTL COPING
- RDS — GALV. DOWNSPOUT PROVIDE CONC. SPLASH BLOCK
- 6" GALV. MTL. GUTTER

ROOF NOTES

1. SEE DIVISION 7 SPEC. FOR DAMPROOFING INSTRUCTIONS AND PRODUCTS.
2. CONTRACTOR TO ALLOW FOR DAMPROOFING INSPECTIONS PRIOR TO COVERING DAMPROOFING SYSTEM.
3. PROVIDE ALL DETAILS, CONNECTIONS, ANCHORS, & PARTS AS PER MFR. RECOMMENDATIONS
4. DOWNSPOUT -CONNECT TO UNDERGROUND STORM COLLECTION RE: CIVIL
5. CONTRACTOR TO PROVIDE GALV. METAL COPING AT ALL PARAPET WALLS U.O.N.
6. SEE DIVISION 7 SPEC. FOR DAMPROOFING INSTRUCTIONS AND PRODUCTS.
7. CONTRACTOR TO ALLOW FOR DAMPROOFING INSPECTIONS PRIOR TO COVERING DAMPROOFING SYSTEM.
8. ALL GUTTERS, FLASHING, DOWNSPOUTS , AND METAL COPING TO BE FINISHED WITH A KYNAR COLOR FINISH COORDINATE WITH ARCHITECT.



2 CANOPY DETAIL
SCALE: 3/8" = 1'-0"

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REGISTERED ARCHITECT MARIO A. PEÑA 24107 STATE OF TEXAS
DIGITALLY SIGNED ON 11/02/15

WEBB COUNTY/TEXAS
WEBB COUNTY MAIN FIRE STATION AND ADMINISTRATION BUILDING
7210 E. SAUNDERS – HWY 59 (UNITS A&B)
LAREDO, TEXAS 78045

CONSULTANT

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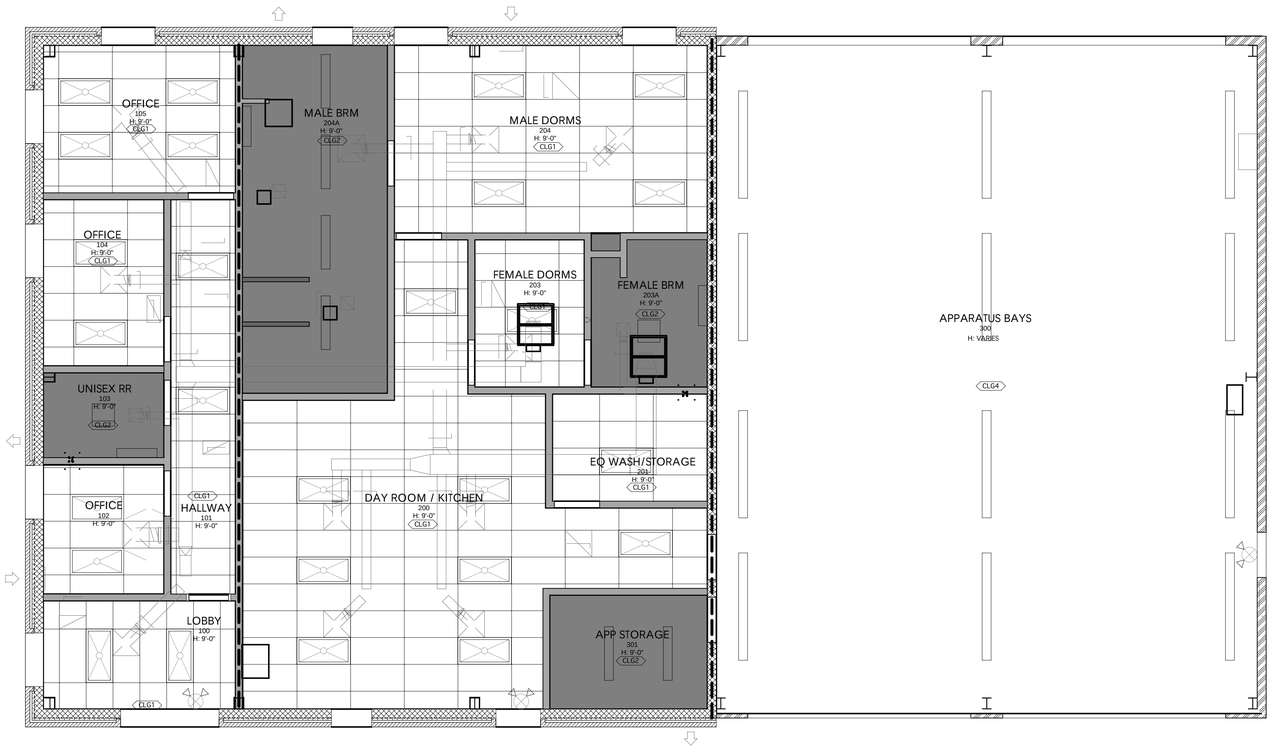
REVISIONS:
ADDENDUM 5
DATE: 11/02/15

ROOF PLAN

SHEET NO.:
A-205
JOB NO.: 1312

RCP LEGEND		
SYMBOLE	ID	TYPE
	CLG1	24" X 48" A.C.T.
	CLG2	⅝" MOISTURE RESISTANT GYP BD PTD TAPE, FLAT, TEXT, PTD
	CLG4	EXPOSED STRUCTURE PTD

RE: MEP FOR ALL LIGHTING SPECIFICATIONS



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

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WEBB COUNTY MAIN FIRE STATION
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REFLECTED CEILING PLAN

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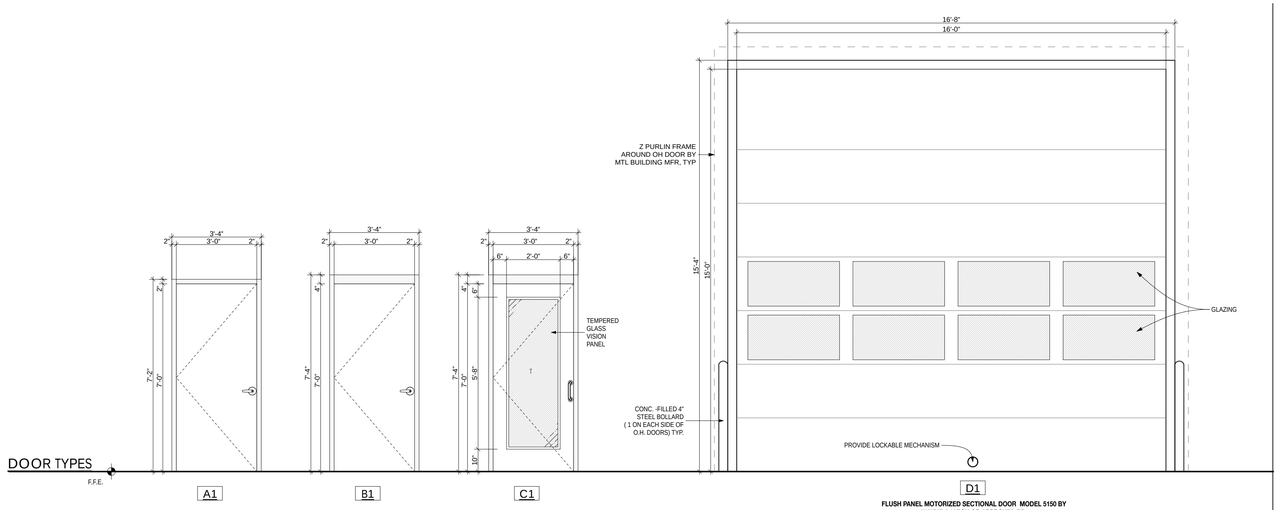
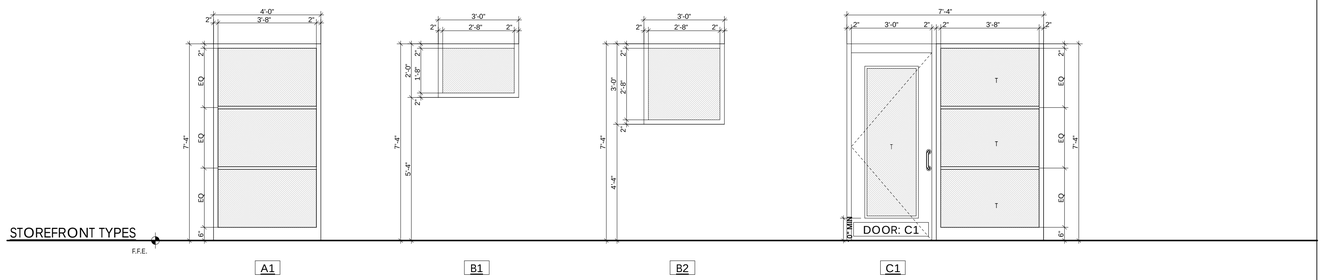
SHEET NO.:
A-300
JOB NO.: 1312

DOOR SCHEDULE											
ID	TYPE	WIDTH	HEIGHT	CONST. TYPE / FINISH	FRAME MATERIAL	GLAZING	HEADER DETAIL A-401	JAMB DETAIL A-401	THRESHOLD A-401	FIRE RATING	INT. / EXT.
100	C1	3'-0"	7'-2"	ALUM STOREFRONT	ALUM STOREFRONT	TEMPERED GLASS	AS PER STOREFRONT MFR	AS PER STOREFRONT MFR	AS PER STOREFRONT MFR	NONE	EXT
102	A1	3'-0"	7'-0"	SOLID CORE PLAM	HOLLOW MTL./PTD	--	CH	CJ	T2	NONE	INT
103	A1	3'-0"	7'-0"	SOLID CORE PLAM	HOLLOW MTL./PTD	--	CH	CJ	T2	NONE	INT
104	A1	3'-0"	7'-0"	SOLID CORE PLAM	HOLLOW MTL./PTD	--	CH	CJ	T2	NONE	INT
105	A1	3'-0"	7'-0"	SOLID CORE PLAM	HOLLOW MTL./PTD	--	CH	CJ	T2	NONE	INT
200	C1	3'-0"	7'-2"	ALUM STOREFRONT	ALUM STOREFRONT	TEMPERED GLASS	AS PER STOREFRONT MFR	AS PER STOREFRONT MFR	AS PER STOREFRONT MFR	NONE	EXT
202	A1	3'-0"	7'-0"	SOLID CORE PLAM	HOLLOW MTL./PTD	--	CH	CJ	T2	NONE	INT
203	A1	3'-0"	7'-0"	SOLID CORE PLAM	HOLLOW MTL./PTD	--	CH	CJ	T2	NONE	INT
203A	A1	3'-0"	7'-0"	SOLID CORE PLAM	HOLLOW MTL./PTD	--	CH	CJ	T2	NONE	INT
204	A1	3'-0"	7'-0"	SOLID CORE PLAM	HOLLOW MTL./PTD	--	CH	CJ	T2	NONE	INT
204A	A1	3'-0"	7'-0"	SOLID CORE PLAM	HOLLOW MTL./PTD	--	CH	CJ	T2	NONE	INT
300	B1	3'-0"	7'-0"	HOLLOW MTL PTD	HOLLOW MTL./PTD.	--	BH	BJ	T1	1 1/2 HR	EXT
301	B1	3'-0"	7'-0"	HOLLOW MTL PTD	HOLLOW MTL./PTD.	--	BH	BJ	T1	1 1/2 HR	EXT
302	B1	3'-0"	7'-0"	HOLLOW MTL PTD	HOLLOW MTL./PTD.	--	AS PER MFR	AS PER MFR	AS PER MFR	NONE	EXT
304	D1	16'-0"	15'-0"	24 GAUGE OVERHEAD DOOR RE: SPECS	RE: SPECS	--	AS PER MFR	AS PER MFR	AS PER FMR	NONE	EXT
305	D1	16'-0"	15'-0"	24 GAUGE OVERHEAD DOOR RE: SPECS	RE: SPECS	--	AS PER MFR	AS PER MFR	AS PER FMR	NONE	EXT
306	D1	16'-0"	15'-0"	24 GAUGE OVERHEAD DOOR RE: SPECS	RE: SPECS	--	AS PER MFR	AS PER MFR	AS PER FMR	NONE	EXT
307	D1	16'-0"	15'-0"	24 GAUGE OVERHEAD DOOR RE: SPECS	RE: SPECS	--	AS PER MFR	AS PER MFR	AS PER FMR	NONE	EXT
H01		2'-0"	2'-0"	FD SERIES - 2 HOUR FIRE-RATED INSULATED, FLUSH ACCESS PANELS FOR WALLS BY ACTIVAR INC. CONSTRUCTION PRODUCTS GROUP OR APPORVED EQ.	N/A		AS PER MFR	AS PER MFR	AS PER MFR	1 1/2 HR	

STOREFRONT SCHEDULE						
ID	TYPE	MATERIAL/ FINISH	JAMB A-402	HEADER A-402	SILL A-402	NOTES/REMARKS
100	A1	ALUMINUM	1H	1J	S1	
101	C1	ALUMINUM	1H	1J	S1	
102	B1	ALUMINUM	1H	1J	S2	
103	B2	ALUMINUM	1H	1J	S3	





DOOR NOTES:

1. PROVIDE ACCESSIBLE HARDWARE THAT IS T.A.S/ A.D.A. COMPLIANT.

2. MAXIMUM EFFORT TO OPERATE INTERIOR NON-FIRE RATED DOORS SHALL NOT EXCEED FIVE (5) POUNDS, PUSH OR PULL.

3. HARDWARE FOR PAIRS OF DOORS IS FOR EACH LEAF, UNLESS NOTED.

4. ALL METAL DOORS AND FRAMES TO BE A FACTORY PRIMED AND FIELD PAINTED. APPLY PAINT VIA SPRAY GUN APPROVED BY PAINT SUPPLIER.

5. RE. TO SPECS FOR HARDWARE SCHEDULE

6. T= TEMPERED GLASS

7. FIRE RATING INDICATES REQUIRED RATING FOR ENTIRE OPENING COMPONENTS INCLUDING DOOR, FRAME, HARDWARE, ETC.

STORE FRONT NOTES:

1. PROVIDE MINI BLINDS WHERE NOTED (RE. SPECS) AND VERIFY ALL DIMENSIONS ON SITE.

2. ALL GLASS SHALL MEET A MAX. U-VALUE OF OF .50 AT ALL VERTICAL FENESTRATIONS U.N.O. SKYLIGHT GLASS SHALL SHALL MEET A MAX U-VALUE OF .65 U.N.O. ALL GLASS SHALL MEET A MAX. SHADING COEFFICIENT OF VALUE OF .25

3. ALL STOREFRONTS, CURTAIN WALLS, WINDOWS AND DOORS TO THE EXTERIOR SHALL COMPLY WITH IBC CODE 2012 FOR WIND LOADS.

4. PROVIDER TO VERIFY ALL STOREFRONT AND CURTAIN WALL DIMENSIONS ON SITE

IMPORTANT GLAZING NOTE:

1. ON SOUTH AND WEST FACING WINDOWS, CURTAIN WALLS AND STOREFRONTS: 1" INSULATED GLASS SHALL HAVE TI 36 AGC FLAT GLASS TREATMENT ON INSIDE SURFACE OF EXTERIOR PANE

T = TEMPERED
S = SPANDREL GLASS
O = OPAQUE GLASS

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DOOR & STORE FRONT SCHEDULES /TYPES

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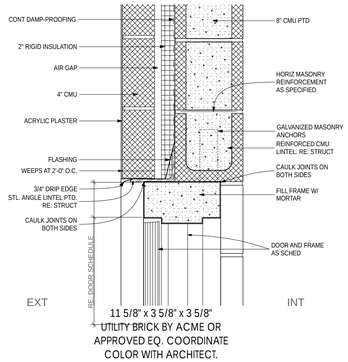
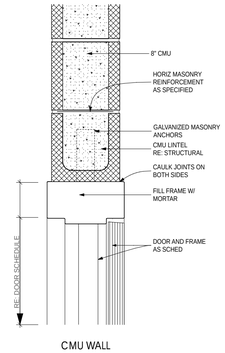
REVISIONS:
ADDENDUM 5
DATE: 11/02/15

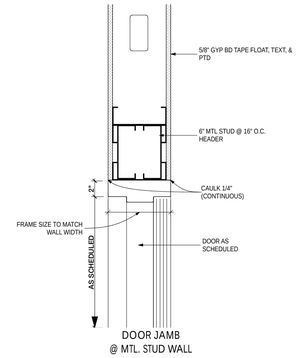
SHEET NO.:
A-400
JOB NO.: 1312



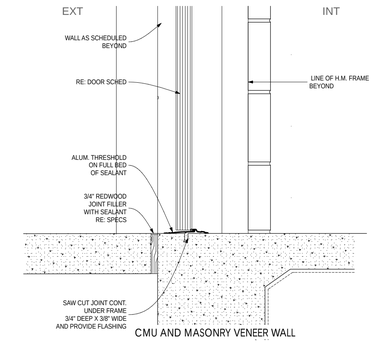
AH DOOR HEADER
SCALE: 1 1/2"= 1'-0"



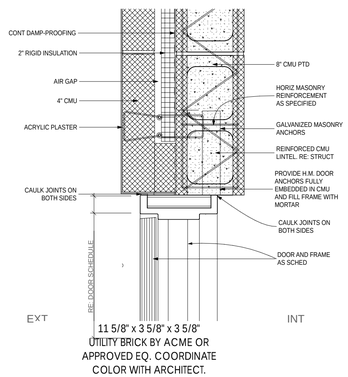
BH DOOR HEADER
SCALE: 1 1/2"= 1'-0"



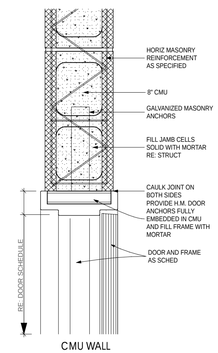
CH DOOR HEADER
SCALE: 1 1/2"= 1'-0"



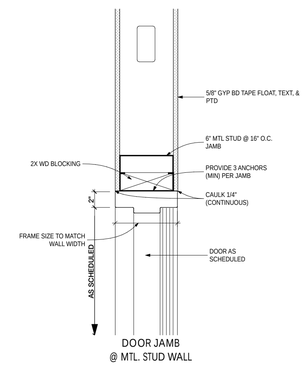
T1 DOOR THRESHOLD
SCALE: 1 1/2"= 1'-0"



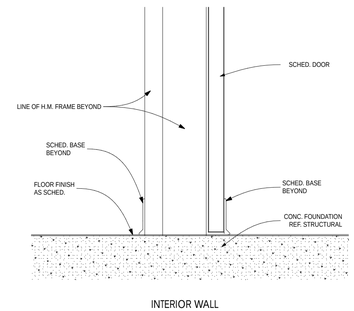
AJ DOOR JAMB
SCALE: 1 1/2"= 1'-0"



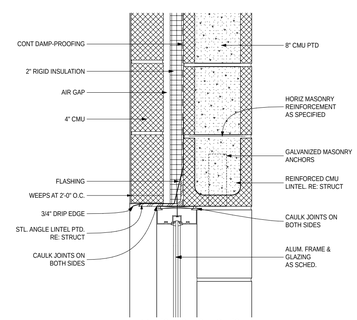
BJ DOOR JAMB
SCALE: 1 1/2"= 1'-0"



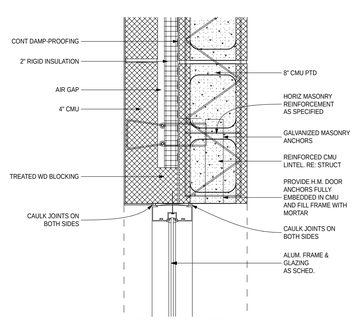
CJ DOOR JAMB
SCALE: 1 1/2"= 1'-0"



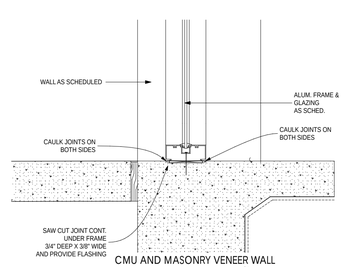
T2 DOOR THRESHOLD
SCALE: 1 1/2"= 1'-0"



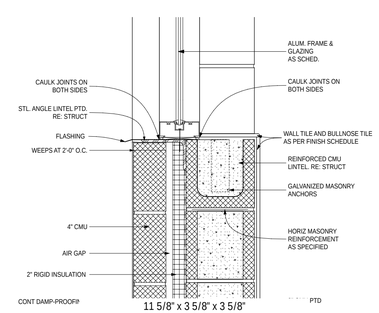
1H WINDOW HEADER
SCALE: 1 1/2"= 1'-0"



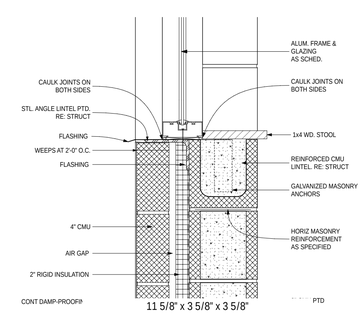
1J WINDOW JAMB
SCALE: 1 1/2"= 1'-0"



S1 WINDOW SILL
SCALE: 1 1/2"= 1'-0"



S2 WINDOW SILL
SCALE: 1 1/2"= 1'-0"



S3 WINDOW SILL
SCALE: 1 1/2"= 1'-0"

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REGISTERED ARCHITECT MARIO A. PEÑA 20110 STATE OF TEXAS
DIGITALLY SIGNED ON 11/02/15

WEBB COUNTY/TEXAS
WEBB COUNTY MAIN FIRE STATION AND ADMINISTRATION BUILDING
7210 E. SAUNDERS – HWY 59 (UNITS A&B)
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JAMB/HEADER/SILL DETAILS DOORS

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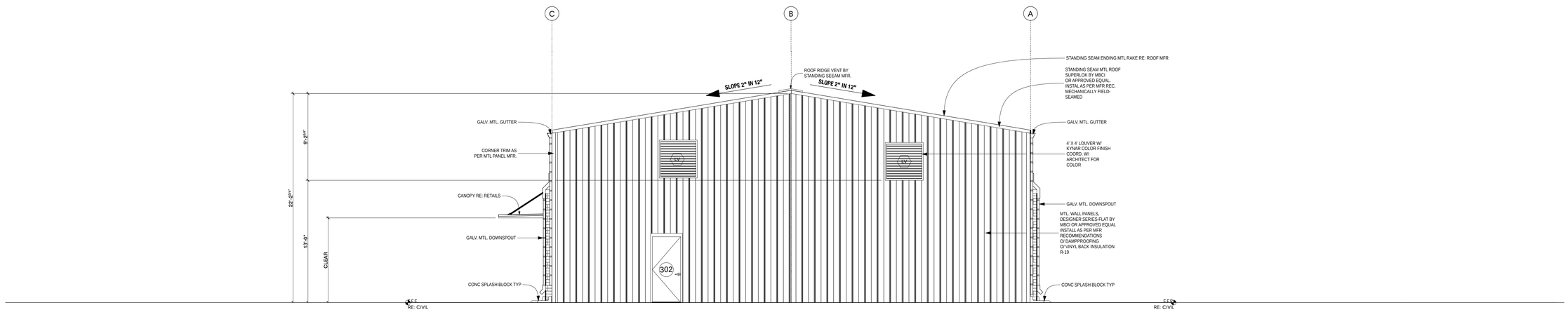
REVISIONS:
ADDENDUM 5
DATE: 11/02/15

SHEET NO.:
A-401
JOB NO.: 1312



1 NORTH ELEVATION

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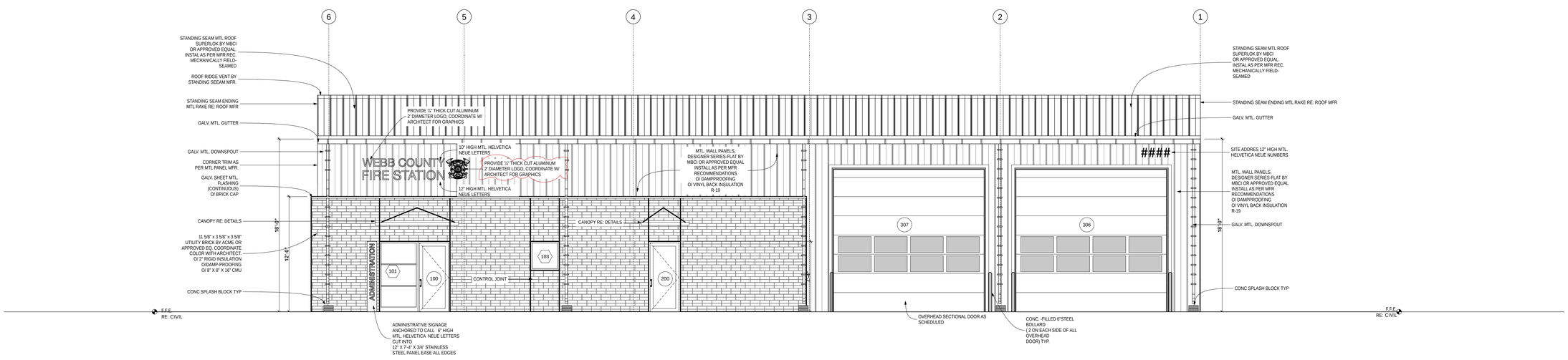

2 EAST ELEVATION

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

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NORTH & EAST ELEVATIONS

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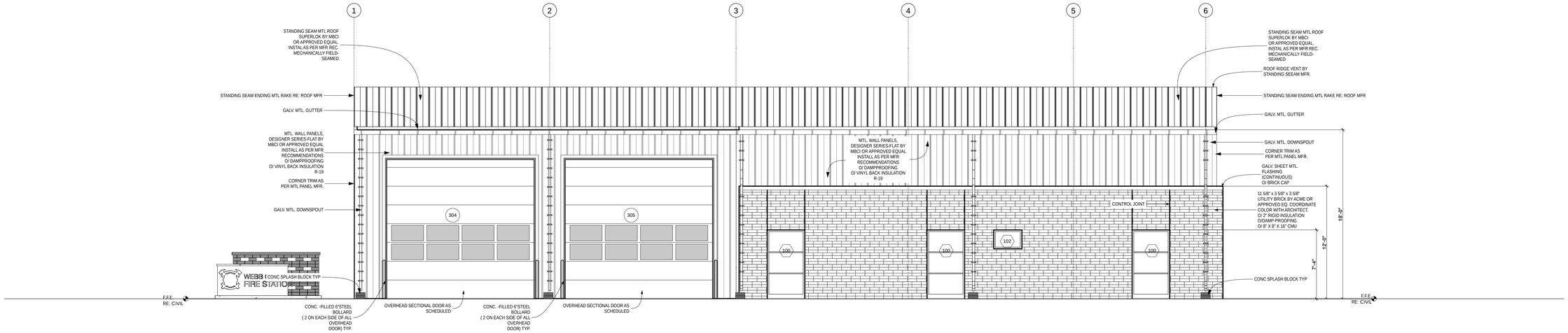
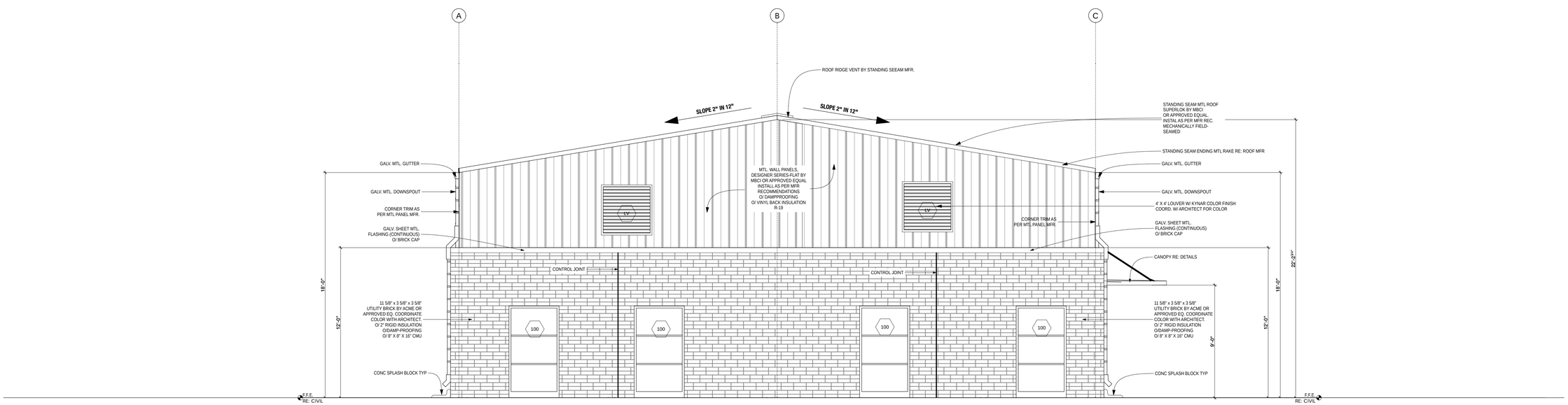
ADDENDUM 5
DATE: 11/02/15

SHEET NO.:
A-500
JOB NO.: 1312



1 WEST ELEVATION

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



2 SOUTH ELEVATION

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

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REGISTERED ARCHITECT MARIO A. PEÑA STATE OF TEXAS 20106

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SOUTH & WEST ELEVATIONS

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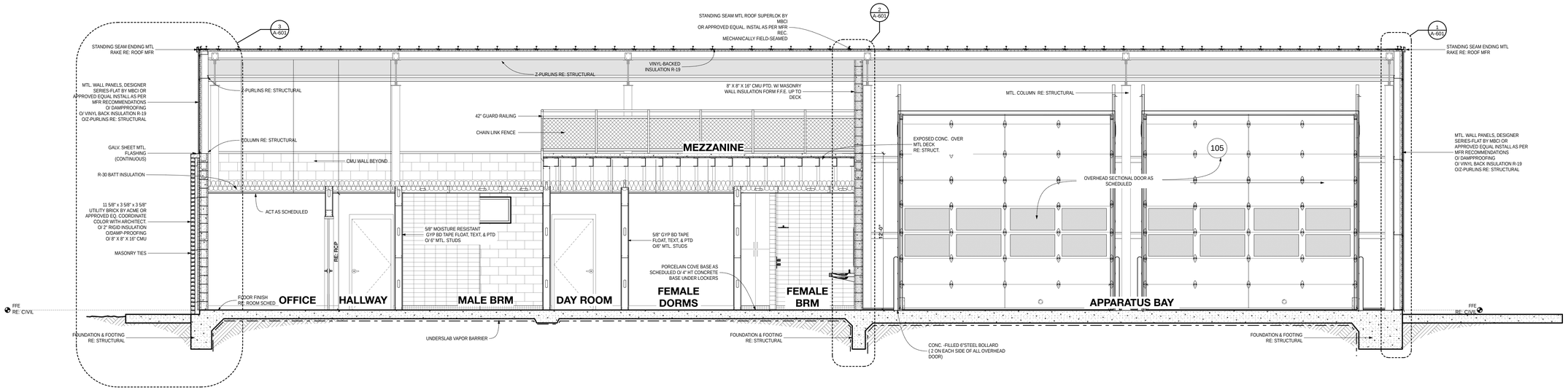
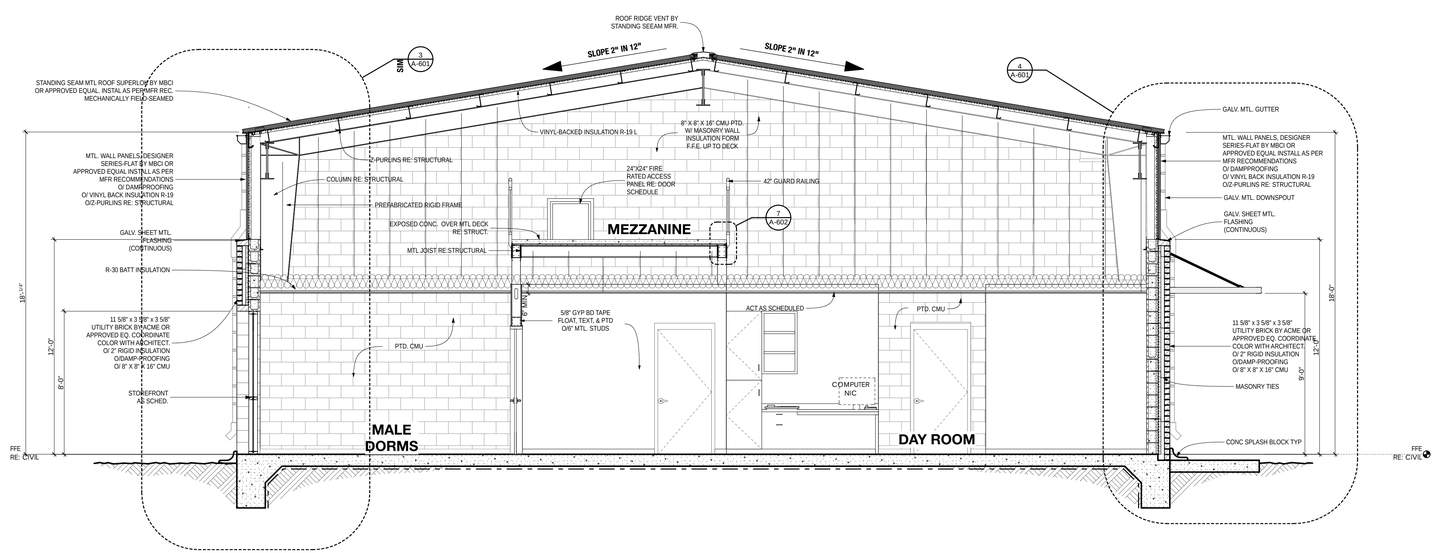
ADDENDUM 5
DATE: 11/02/15

SHEET NO.:
A-501
JOB NO.: 1312



1 BUILDING CROSS SECTION

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



2 BUILDING SECTION @ DORM & MEZZANINE

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

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BUILDING SECTIONS

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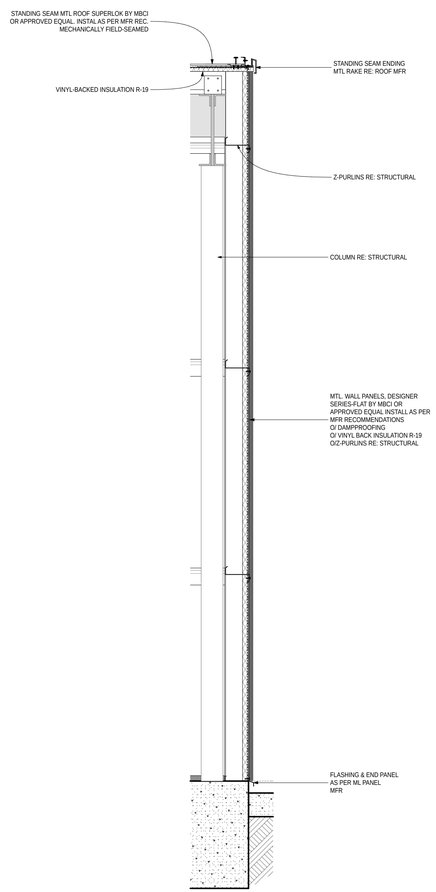
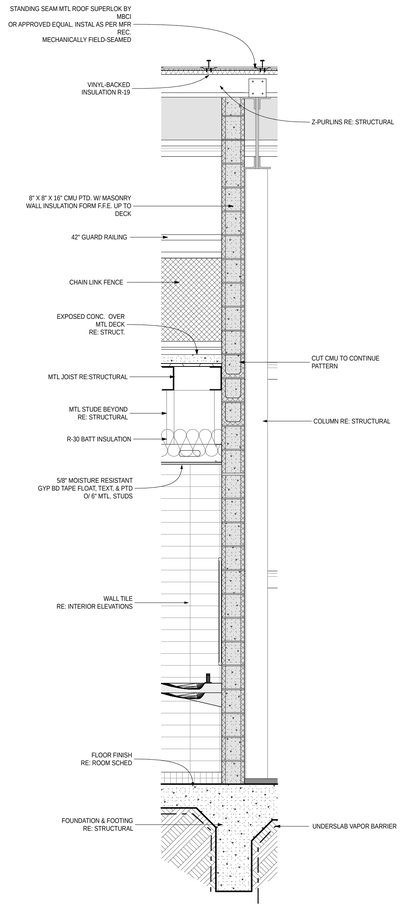
REVISIONS:
ADDENDUM 5
DATE: 11/02/15

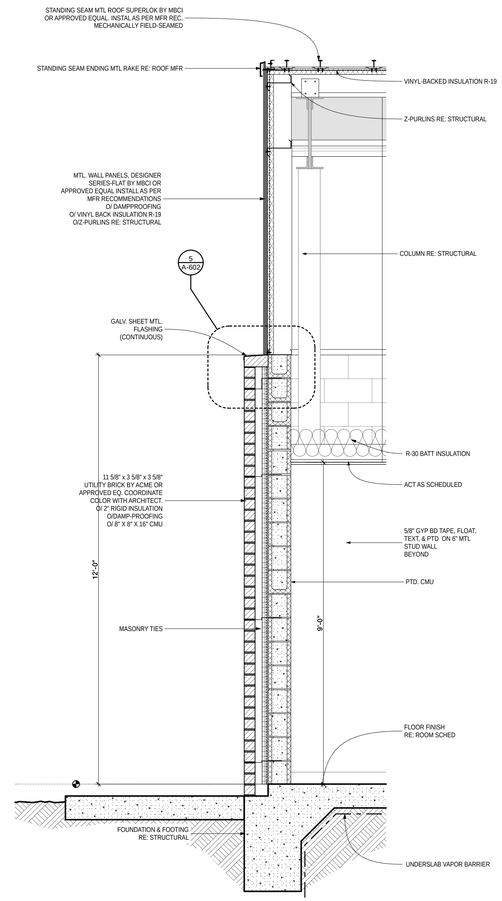
SHEET NO.:
A-600
JOB NO.: 1312



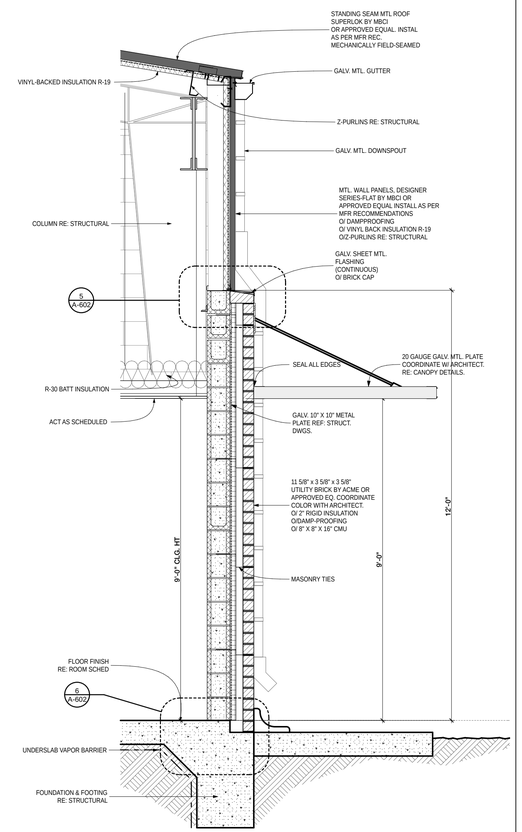
1 TYP. WALL SECTION @ APPARATUS
SCALE: 1/2" = 1'-0"



2 TYP. WALL SECTION @ APPARATUS/ADMIN AREA
SCALE: 1/2" = 1'-0"



3 TYP. WALL SECTION @ ADMIN AREA
SCALE: 1/2" = 1'-0"



4 TYP. WALL SECTION @ DORMS AND ADMIN AREA
SCALE: 1/2" = 1'-0"

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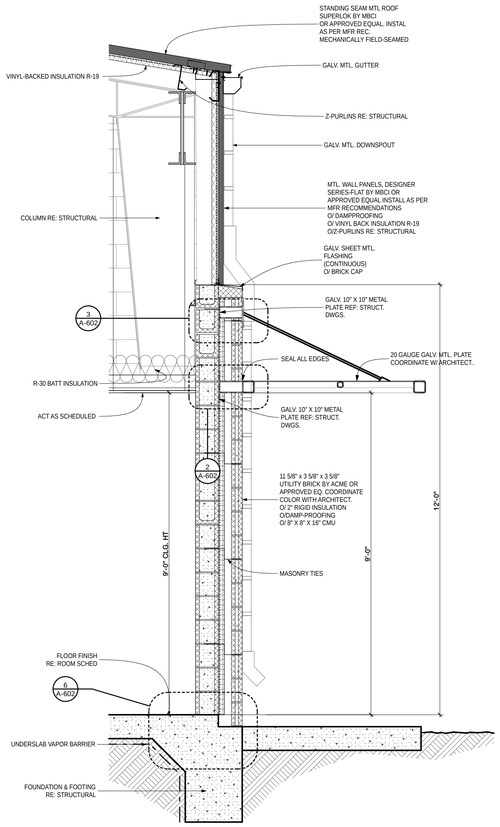
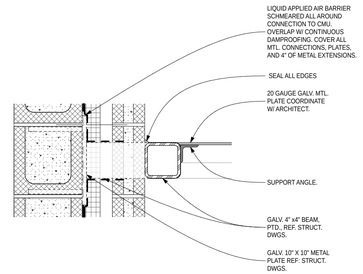
REVISIONS:
ADDENDUM 5
DATE: 11/02/15

WALL SECTIONS

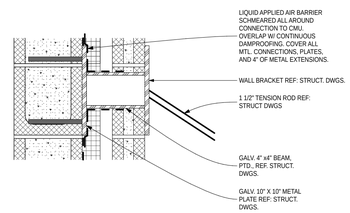
SHEET NO.:
A-601
JOB NO.: 1312



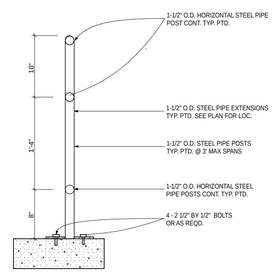
1 TYP. WALL SECTION @ DORMS AND ADMIN AREA
SCALE: 1/2" = 1'-0"



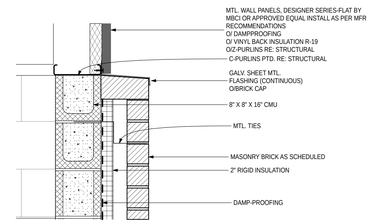
2 TYP. WALL SECTION @ CANOPY
SCALE: 1 1/2"= 1'-0"



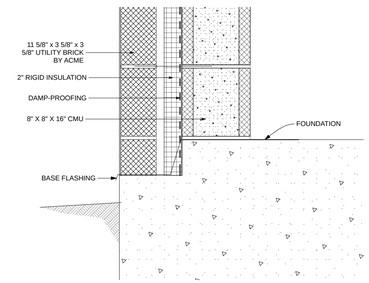
3 TYP. WALL SECTION @ CANOPY
SCALE: 1 1/2"= 1'-0"



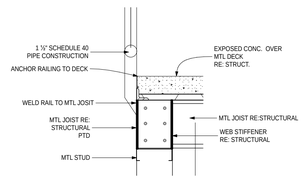
4 TYP. RAILING DETAIL
SCALE: 1" = 1'-0"



5 TYP. WALL DEATIL
SCALE: 1" = 1'-0"



6 TYP. WALL DETAIL
SCALE: 1 1/2"= 1'-0"



7 PRELIMINARY SITE PLAN
SCALE: 1" = 1'-0"

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WALL SECTIONS @ CANOPY

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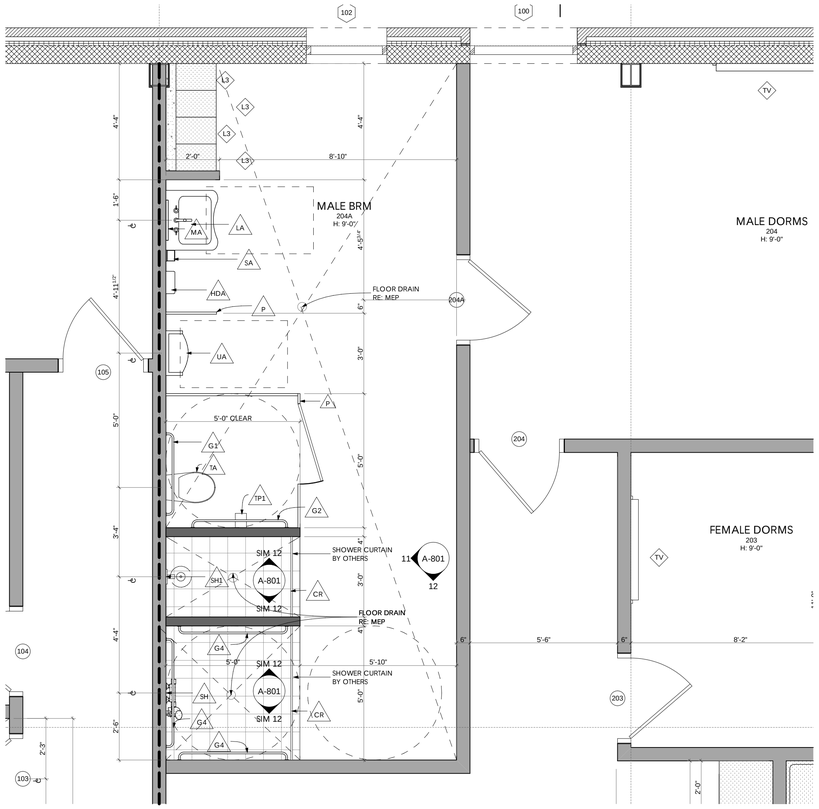
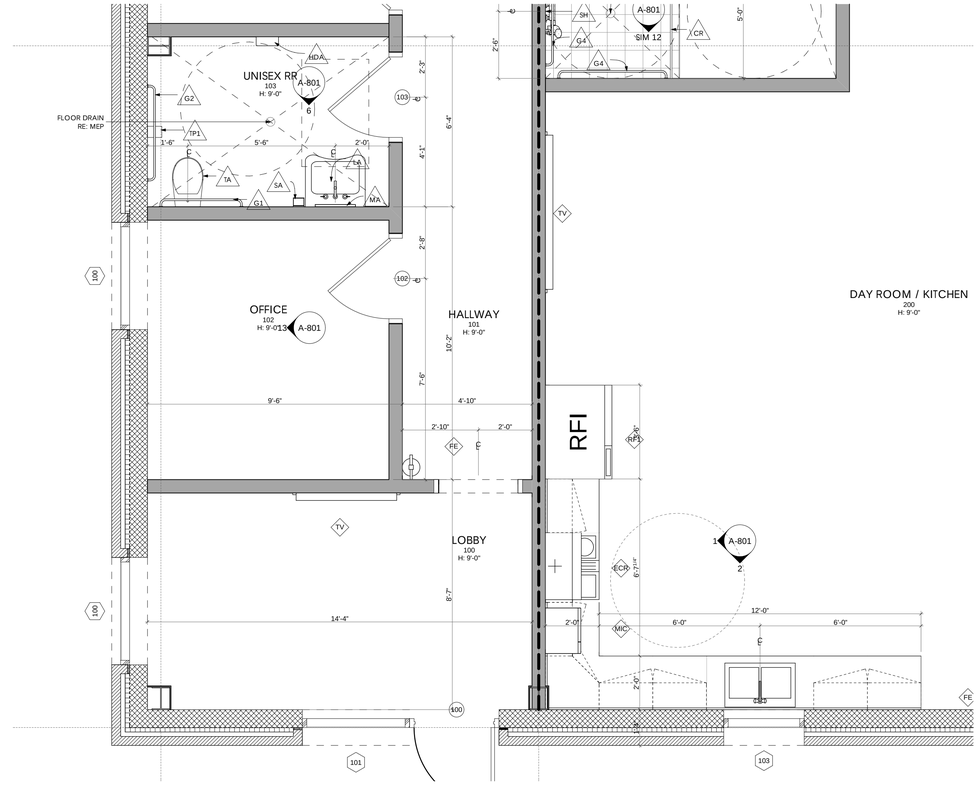
JOB NO.: 1312



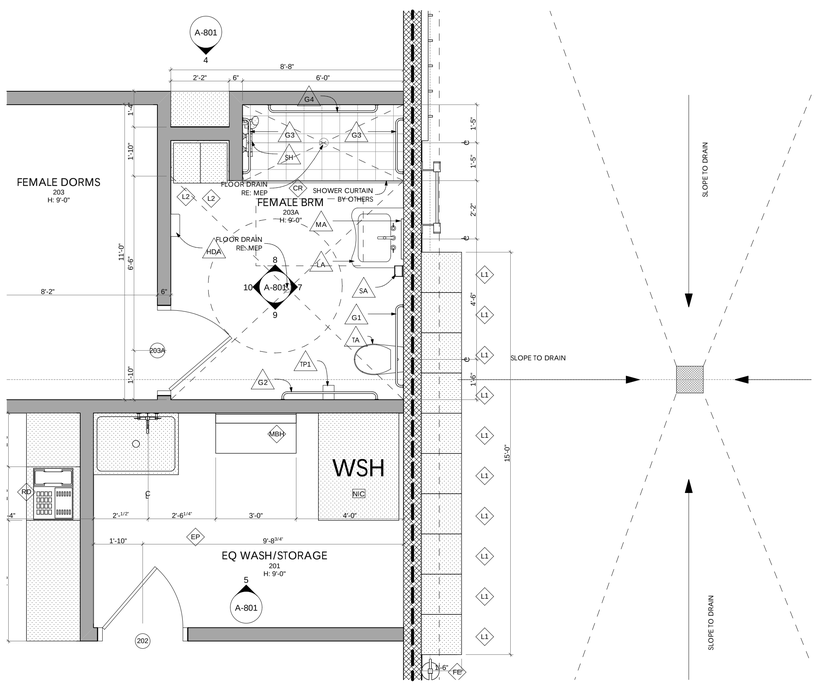
1 PARTIALLY ENLARGED FLOOR PLAN - MALE BRM

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



3 PARTIALLY ENLARGED FLOOR PLAN - KITCHEN

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



2 PARTIALLY ENLARGED FLOOR PLAN - FEMALE BRM

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

ACCESSORIES & FIXTURE DESIGNATIONS SCHEDULE

ID	ITEM	NOTES
G1	HORIZONTAL GRAB BAR (B-6806.99 x 36 BY BORIC OR EQ.)	RE. TO TOILET CLASSIFICATION FOR MOUNTING HEIGHT
G2	HORIZONTAL GRAB BAR (B-6806.99 x 42 BY BORIC OR EQ.)	RE. TO TOILET CLASSIFICATION FOR MOUNTING HEIGHT
G3	HORIZONTAL 2 WALL SHOWER GRAB BAR (B-6806 X 24 BY BORIC OR EQ.)	RE. TO TOILET CLASSIFICATION FOR MOUNTING HEIGHT
G4	HORIZONTAL 2 WALL SHOWER GRAB BAR (B-6806 X 48 BY BORIC OR EQ.)	RE. TO TOILET CLASSIFICATION FOR MOUNTING HEIGHT
HDA	HAND DRYER: ADULT EXTREME AIR HAND DRYER MODEL GXT9-SS WITH RECESS KIT	DIMENSION IS TO THE CENTER OF CONTROL. 4" MAX. DEPTH OVERALL
LA	LAVATORY RE: MEP.	
MA	MIRROR 18"X36" MIRROR (MODEL B-165 1836 BY BORIC OR EQ.)	
MS	MOP SINK RE: MEP.	
SN	SANITARY NAPKIN DISPOSAL MODEL B-270 BY BORIC OR EQ.)	TO BE MOUNTED NEXT TO AND AT SAME HEIGHT AS PAPER TOWEL DISPENSER
SH	ADA COMPLIANT SHOWER-HEAD AS PER MEP.	
SH1	SHOWER-HEAD AS PER MEP.	
SA	SOAP DISPENSER: ADULT (MODEL 91180 BY KIMBERLY-CLARK OR EQ.)	
TA	TOILET: ADULT AS PER MEP.	
TP1	TOILET PAPER HOLDER (STD) MODEL 09602 BY KIMBERLY-CLARK OR EQ.)	RE. TO TOILET CLASSIFICATION FOR MOUNTING HEIGHT
TP2	TOILET PAPER HOLDER (ADA) MODEL B-2888 BY BORIC OR EQ.)	RE. TO TOILET CLASSIFICATION FOR MOUNTING HEIGHT
P	TOILET PARTITION	RE. SPECS
UA	URINAL: ADULT AS PER MEP.	
CR	CURTAIN ROD W/ S.S. HOOKS FOR CURTAIN MODEL B-207 BY BORIC OR EQ.	

GENERAL NOTES:

1. REFER TO M.E.P. SECTION FOR ALL PLUMBING FIXTURES
2. ALL RESTROOM ACCESSORIES TO BE STAINLESS STEEL
3. ALL BATHROOM ACCESSORIES ARE TO BE ADA COMPLIANT, PROVIDED & INSTALLED BY CONTRACTOR. RE: SPECS.
4. PROVIDE ADEQUATE BLOCKING AT ALL ACCESSORIES MOUNTING LOCATIONS.
5. PROVIDE ADA COMPLIANT "LAV-GAURDS" AT ALL EXPOSED PLUMBING COMPONENTS UNDER LAVATORIES.

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PARTIALLY ENLARGED FLOOR PLANS

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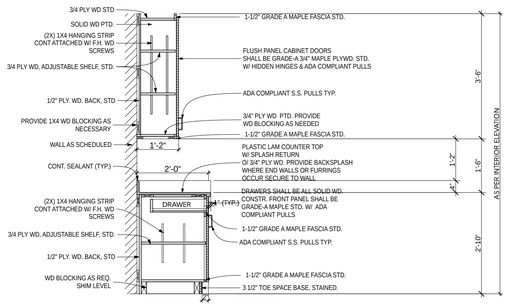
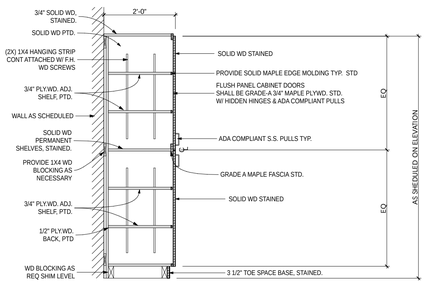
A-700
JOB NO.: 1312



1 TYP. MILLWORK SECTION

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



2 TYP. MILLWORK SECTION

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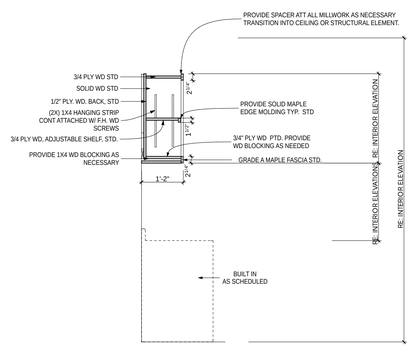
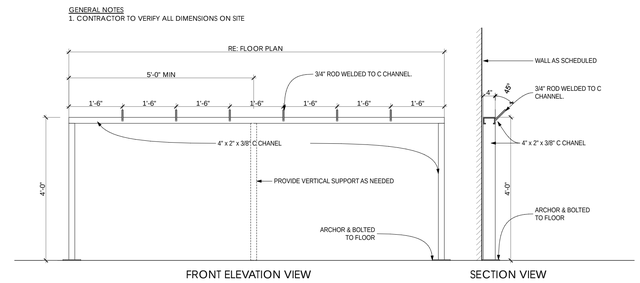


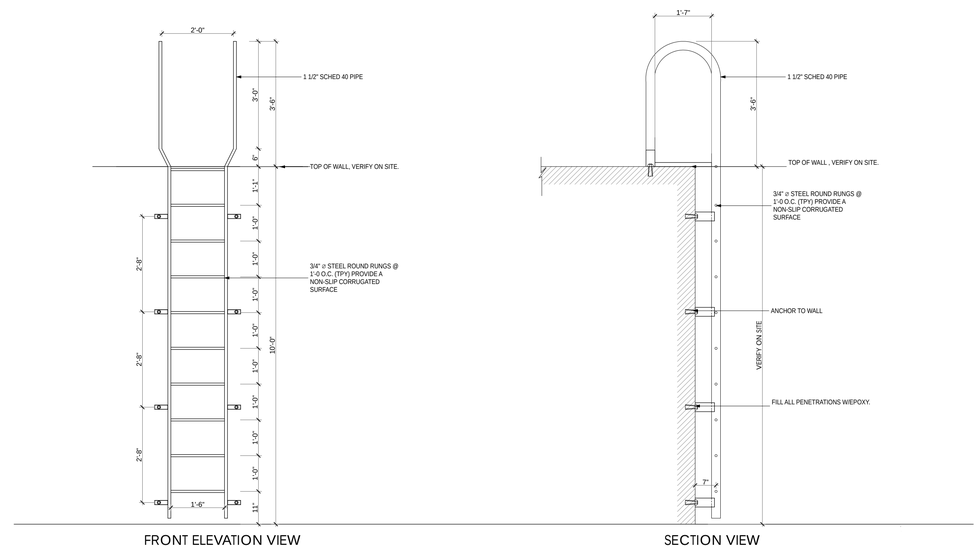
3 TYP. MILLWORK SECTION

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



4 IW01- HANGERS IN APPARATUS

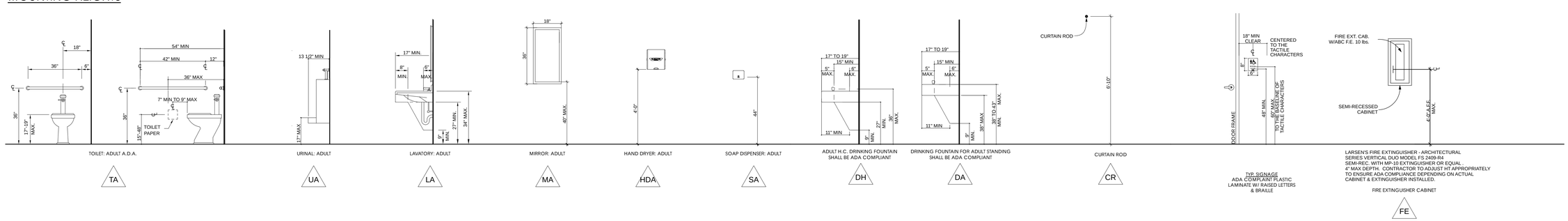
SCALE: 1/2" = 1'-0"



5 IW02-OSHA COMPLIANT STAIRS

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

MOUNTING HEIGHTS



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ACCESSORIES TYPES & SCHEDULES

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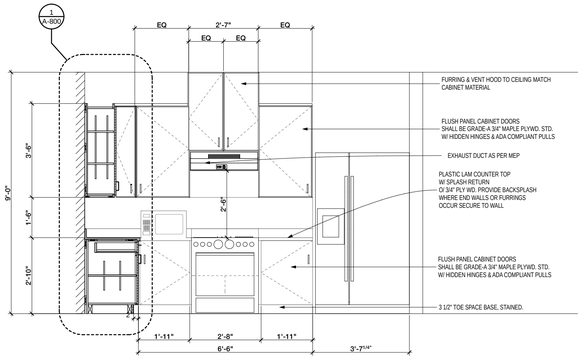
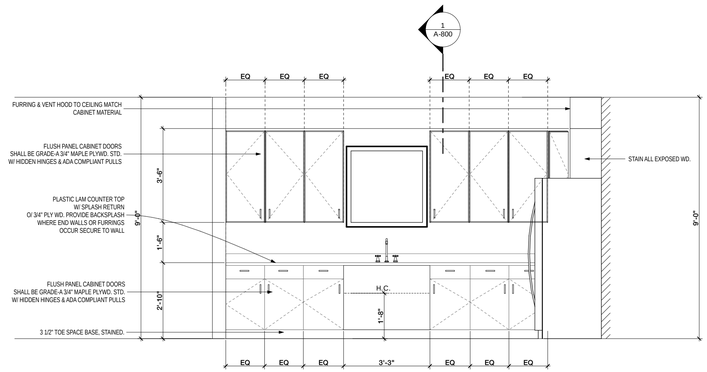
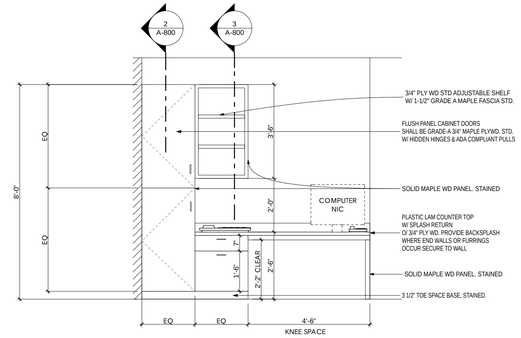


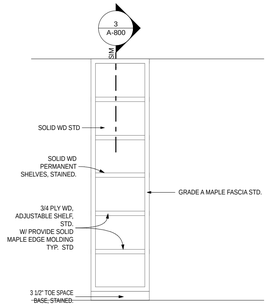
1 MW01: MILLWORK @ KITCHEN
SCALE: 3/8" = 1'-0"



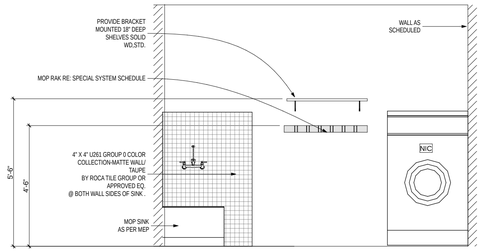
2 MW01: MILLWORK @ KITCHEN
SCALE: 3/8" = 1'-0"



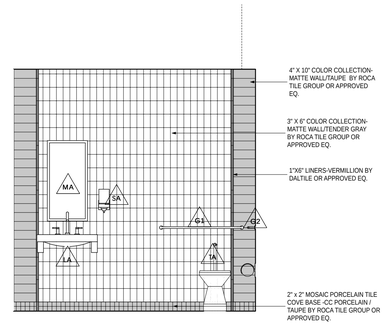
3 MW02: MILLWORK @ DAY ROOM
SCALE: 3/8" = 1'-0"



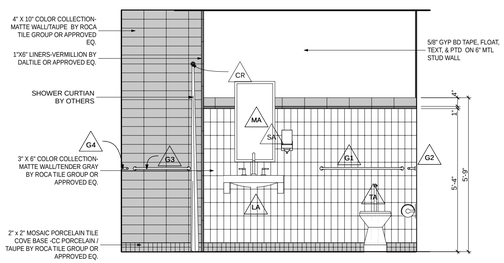
4 MW03: MILLWORK @ MALE DORMS
SCALE: 3/8" = 1'-0"



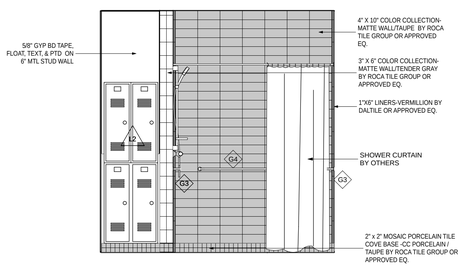
5 MW05: MILLWORK @ EQ WASH/STORAGE
SCALE: 3/8" = 1'-0"



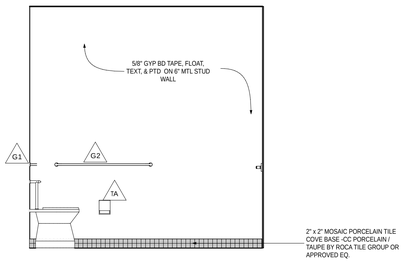
6 INTERIOR ELEVATION @ UNISEX RR
SCALE: 3/8" = 1'-0"



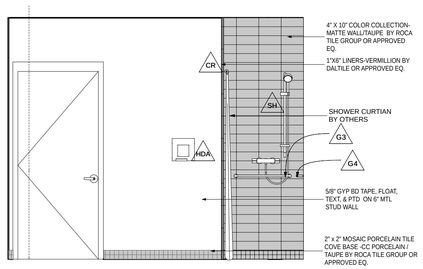
7 INTERIOR ELELV. @ FEMALE BRM
SCALE: 3/8" = 1'-0"



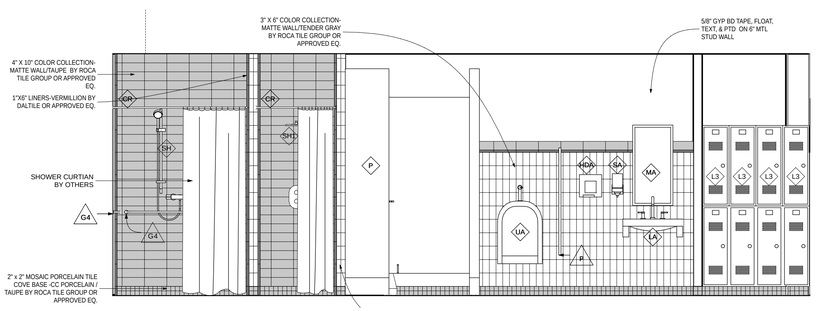
8 INTERIOR ELELV. @ FEMALE BRM
SCALE: 3/8" = 1'-0"



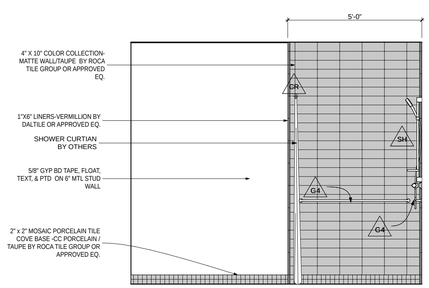
9 INTERIOR ELELV. @ FEMALE BRM
SCALE: 3/8" = 1'-0"



10 INTERIOR ELELV. @ FEMALE BRM
SCALE: 3/8" = 1'-0"



11 INTERIOR ELEVATION @ MALE BRM
SCALE: 3/8" = 1'-0"



12 INTERIOR ELEVATION @ MALE BRM
SCALE: 3/8" = 1'-0"

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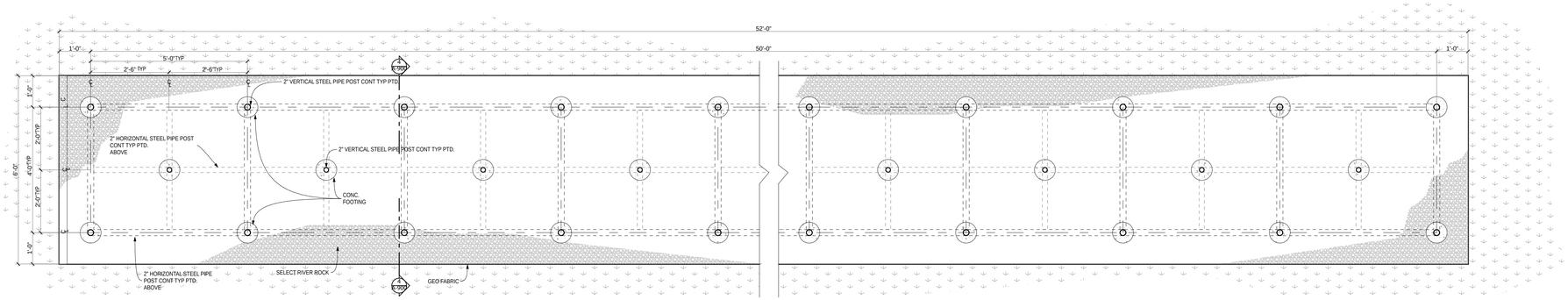
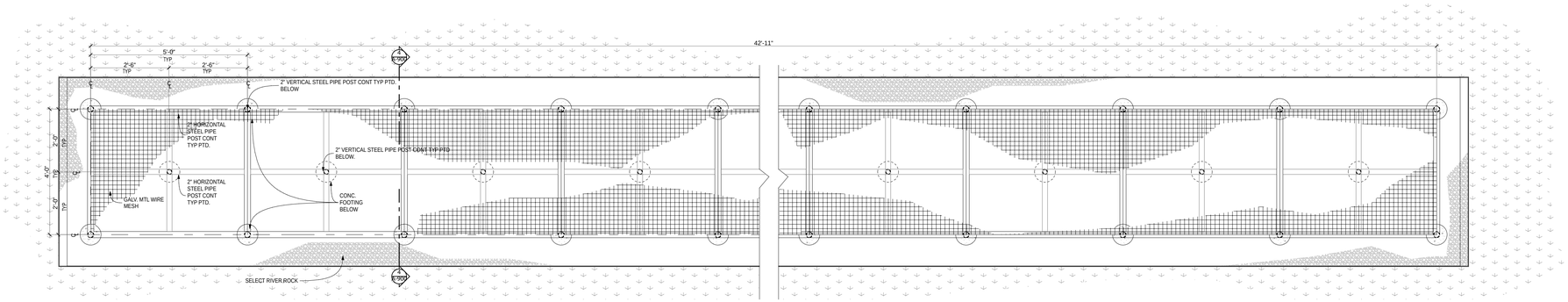


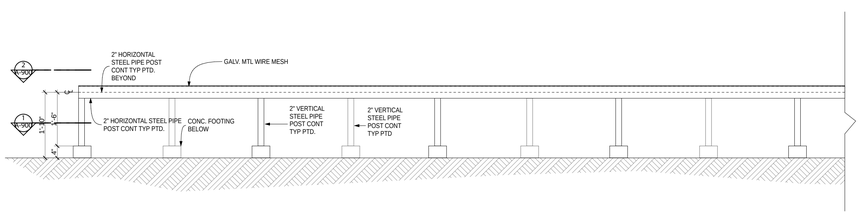
1 HOSE DRYING RACK LOWER PLAN VIEW

NOT TO SCALE



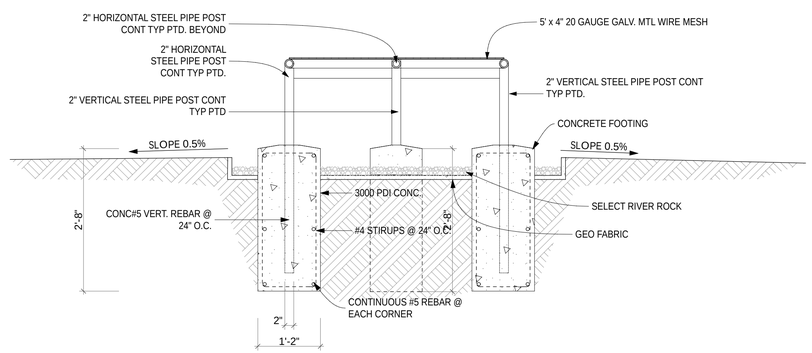
2 HOSE DRYING RACK UPPER PLAN VIEW

NOT TO SCALE



3 PRELIMINARY DRYING SITE PLAN

NOT TO SCALE



4 HOSE DRYING RACK SECTION

NOT TO SCALE

GENERAL NOTES

1.- CONTRACTOR TO CONFIRM ALL DIMENSIONS ON SITE.

2.-CONTRACTOR TO COMPLY WITH ALL OF OSHAS REQUIREMENTS.

3. ALL METAL TO BE GALVANIZED

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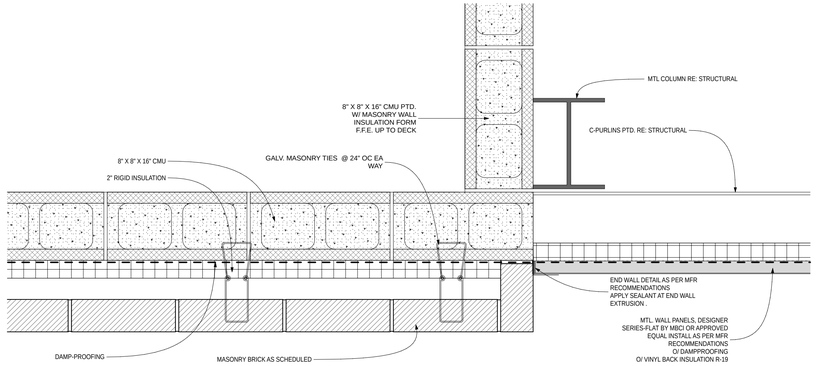
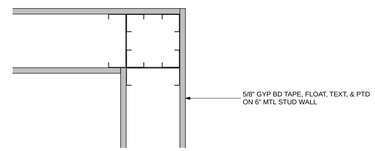
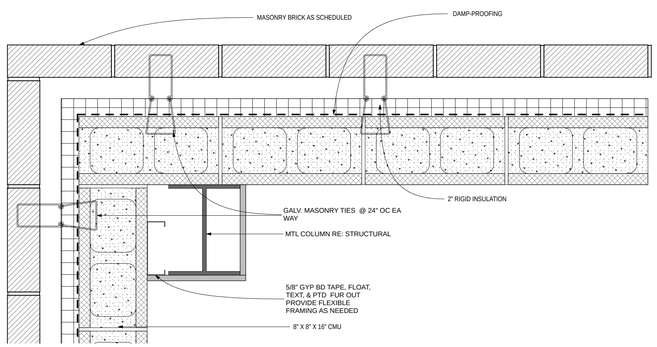


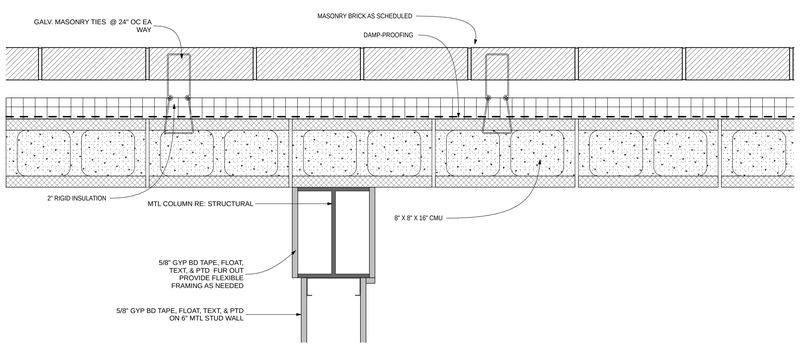
1 TYP. FLOOR PLAN DETAIL
SCALE: 1 1/2"= 1'-0"



4 TYP. FLOOR PLAN DETAIL
SCALE: 1 1/2"= 1'-0"



2 TYP. FLOOR PLAN DETAIL
SCALE: 1 1/2"= 1'-0"



3 TYP. FLOOR PLAN DETAIL
SCALE: 1 1/2"= 1'-0"

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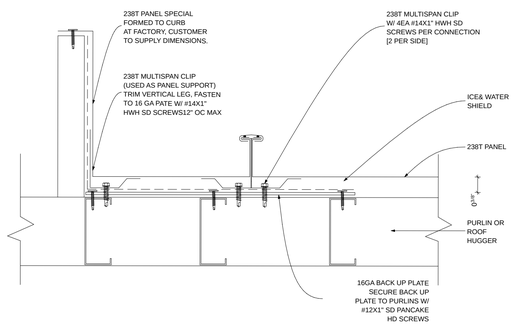
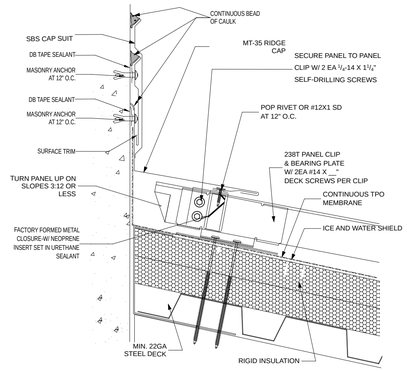
A-901
JOB NO.: 1312



1 TYP MTL ROOF DETAIL
SCALE: 3" = 1'-0"



2 TYP. ROOF DETAIL
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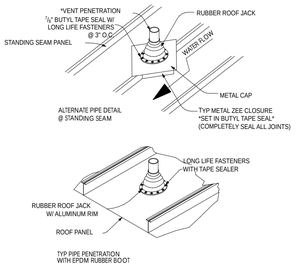

3 PIPE DETAILS
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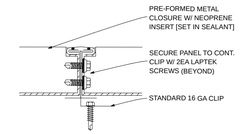
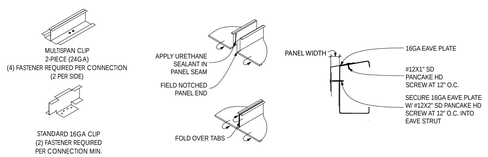
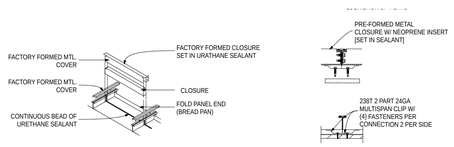


4 TYP MTL ROOF DETAIL
SCALE: 3" = 1'-0"

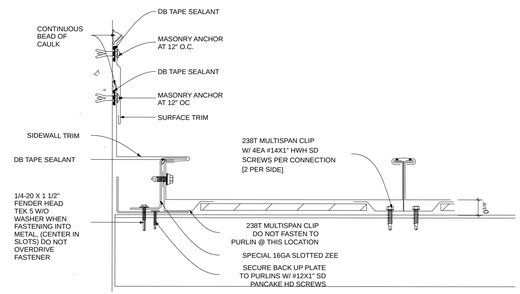


238T STANDING SEAM PANEL FLOATING EAVE-OVER PURLINS W/GUTTER DETAIL

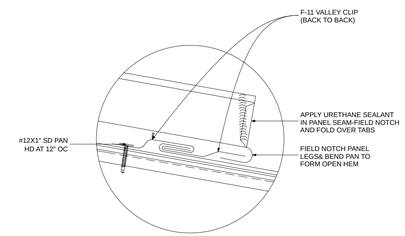


238T STANDING SEAM PANEL W/ FIXED RIDGE OVER PURLINS W/CONT. CLIP DETAILS

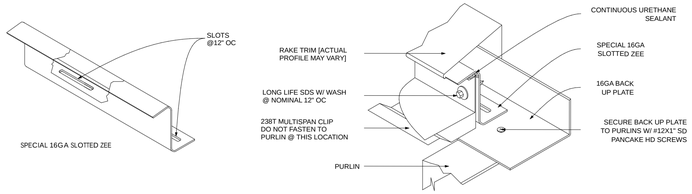
5 TYP MTL ROOF DETAIL
SCALE: 1" = 1'-0"



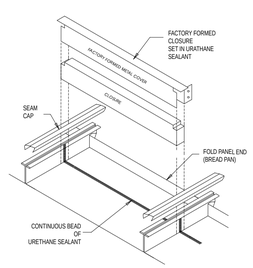
6 TYP MTL ROOF DETAIL
SCALE: 3" = 1'-0"



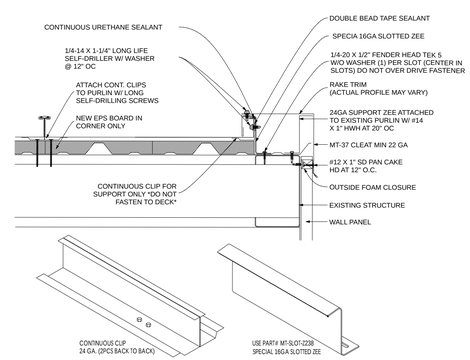
7 TYP MTL ROOF DETAILS
SCALE: 3" = 1'-0"



8 TYP MTL ROOF DETAILS
SCALE: 3" = 1'-0"



9 TYP MTL ROOF DETAIL
SCALE: 3" = 1'-0"



NOTE:

1. FASTENERS SHOWN IN THIS DETAIL MAY NOT BE THE FASTENERS USED FOR THIS PROJECT. BE SURE TO USE FASTENERS SPECIFIC FOR THIS ROOF APPLICATION. FASTENERS SHOWN ARE A REPRESENTATION OF WHAT MAY BE REQUIRED.

2. ARCHITECTURAL BUILDING COMPONENTS MUST FURNISH SLOTTED RAKE ANGLE ON ALL PROJECTS INVOLVING A WEATHER-TIGHTNESS WARRANTY.

10 FLOATING RAKE-OVER PURINS W/ RETRO CLIP
SCALE: 1 1/2"= 1'-0"

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DIGITALLY SIGNED ON 11/02/15

WEBB COUNTY/TEXAS
WEBB COUNTY MAIN FIRE STATION AND ADMINISTRATION BUILDING
7210 E. SAUNDERS – HWY 59 (UNITS A&B)
LAREDO, TEXAS 78045

CONSULTANT

STANDING SEAM MTL ROOF DETAILS

THESE DRAWINGS AND SPECIFICATIONS ARE AND SHALL REMAIN THE PROPERTY OF THE ARCHITECT. THEY ARE NOT TO BE REPRODUCED, PATCHED OR ALTERED IN ANY WAY WITHOUT PRIOR APPROVAL FROM AND WITH APPROPRIATE COMPENSATION TO THE ARCHITECT.
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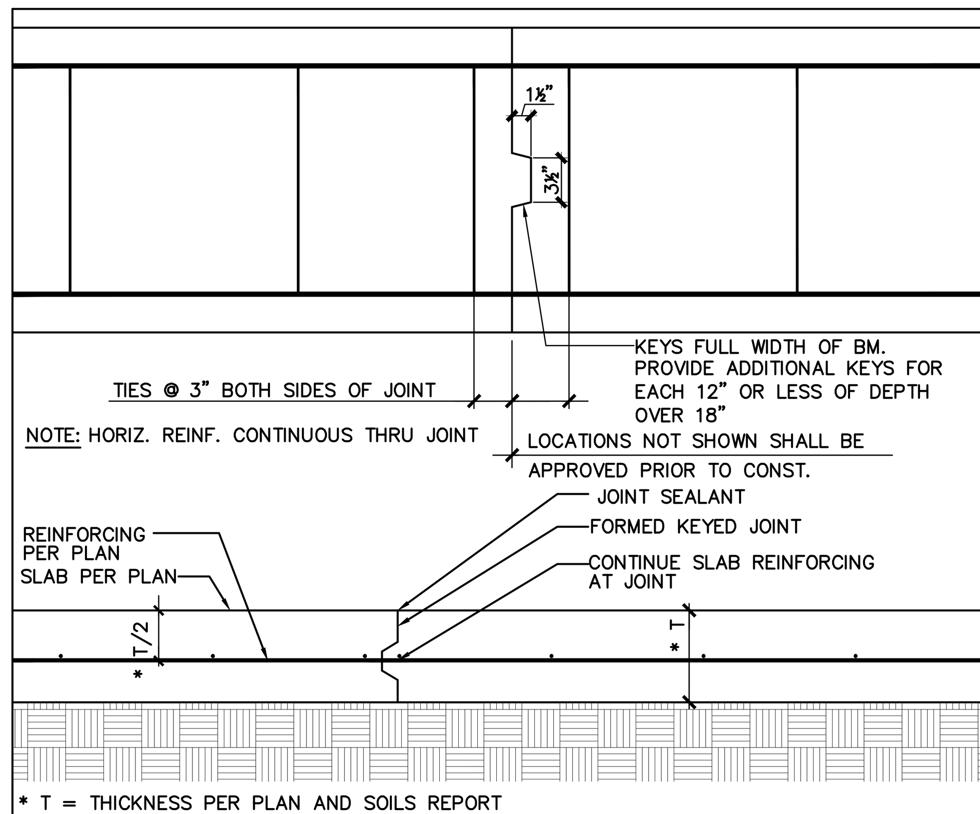
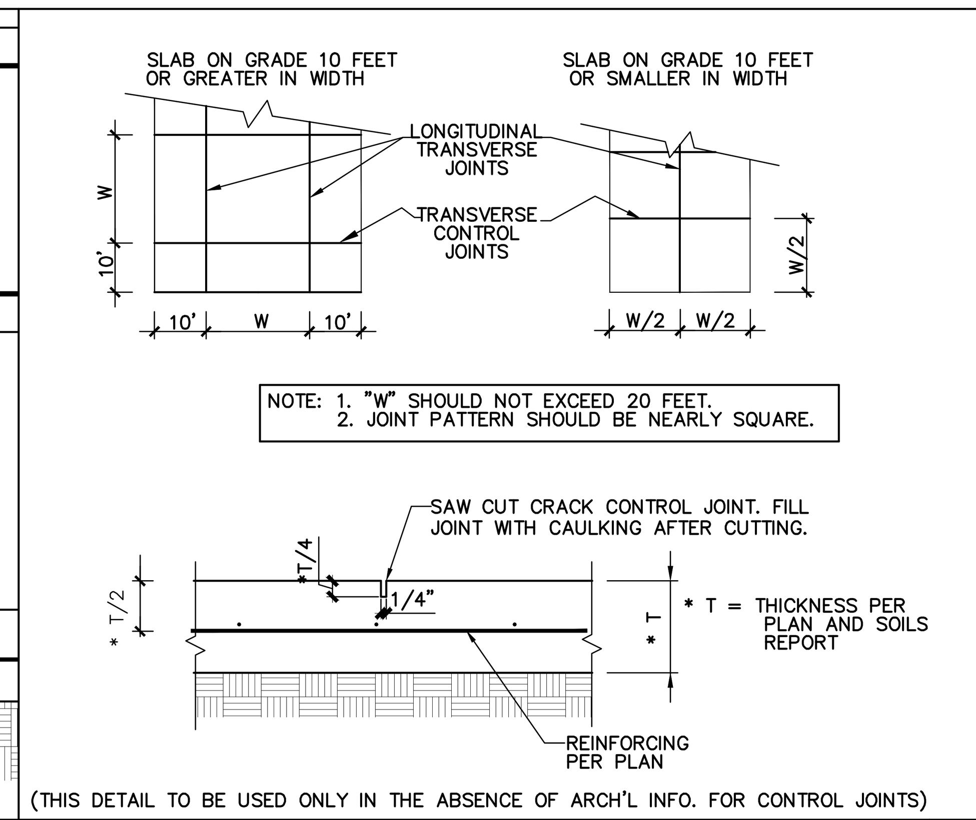
REVISIONS:
ADDENDUM 5
DATE: 11/02/15

SHEET NO.:
A-902
JOB NO.: 1312

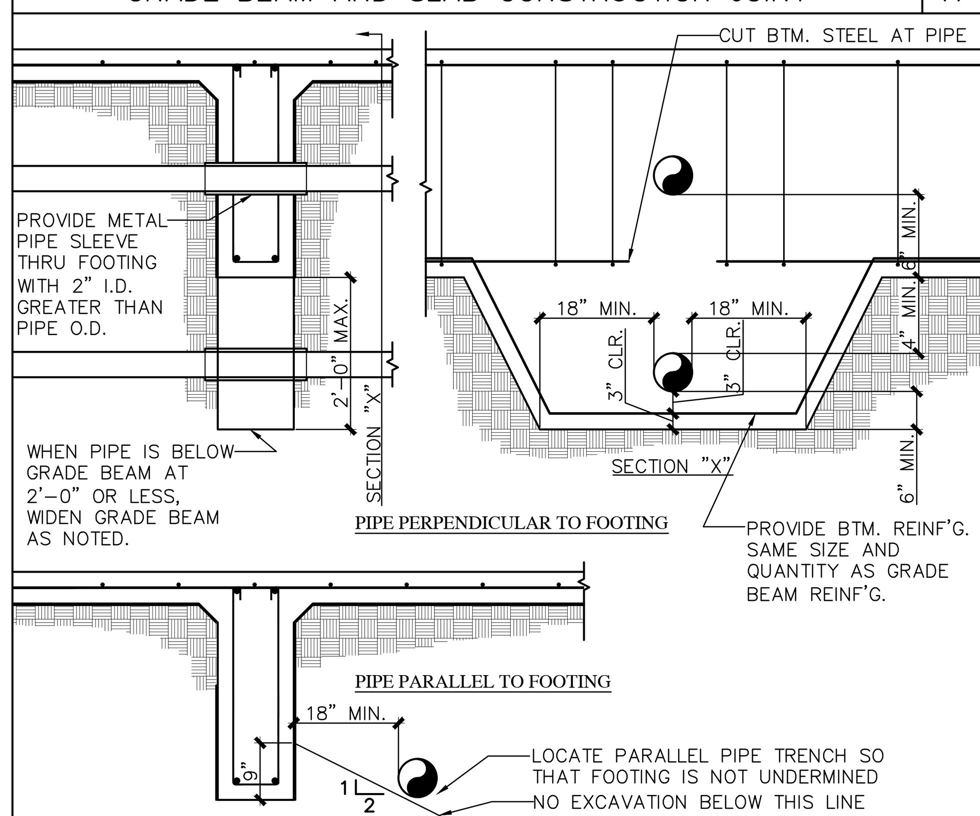


GRADE BEAM AND SLAB CONSTRUCTION JOINT | 17

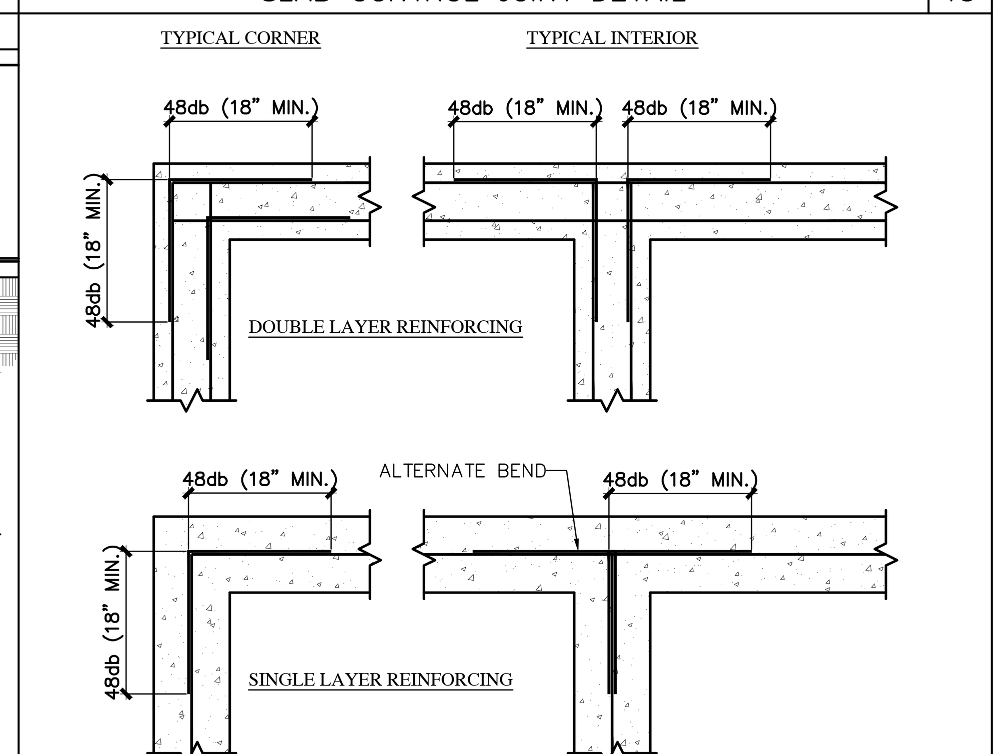


(THIS DETAIL TO BE USED ONLY IN THE ABSENCE OF ARCH'L INFO. FOR CONTROL JOINTS)

SLAB CONTROL JOINT DETAIL | 13



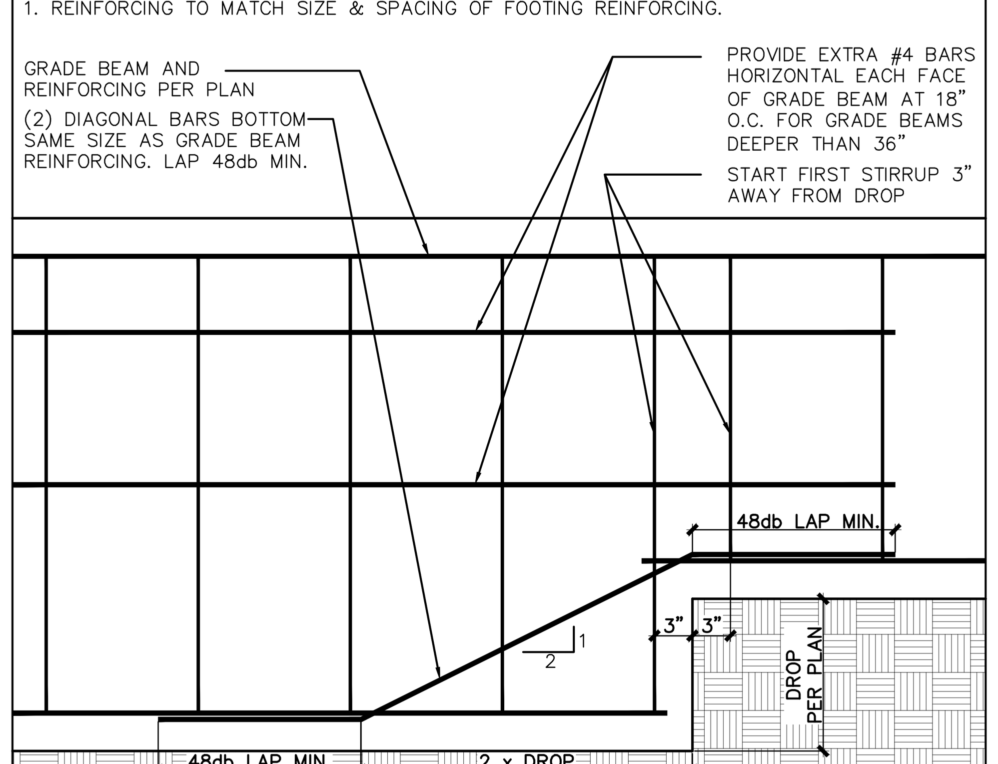
DETAIL OF PIPING SLEEVE AT FOOTING | 18



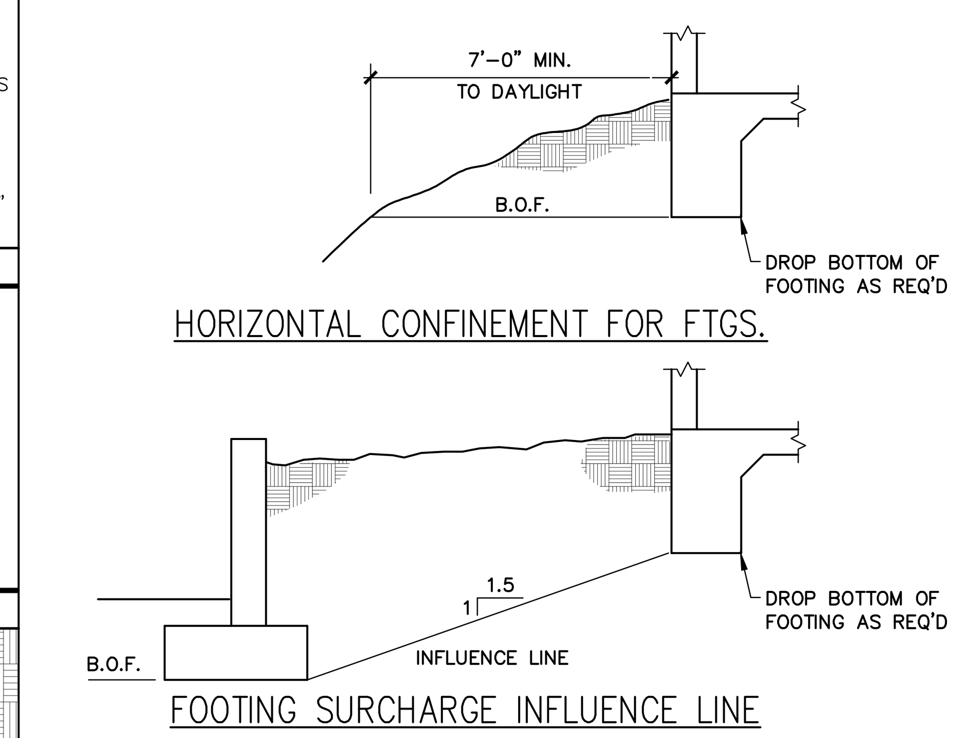
NOTES:
1. THESE CONDITIONS TO APPLY TO PERIMETER AND INTERIOR GRADE BEAM.

TYP. REINFORCING AT INT. OF CONCRETE FOOTINGS | 14

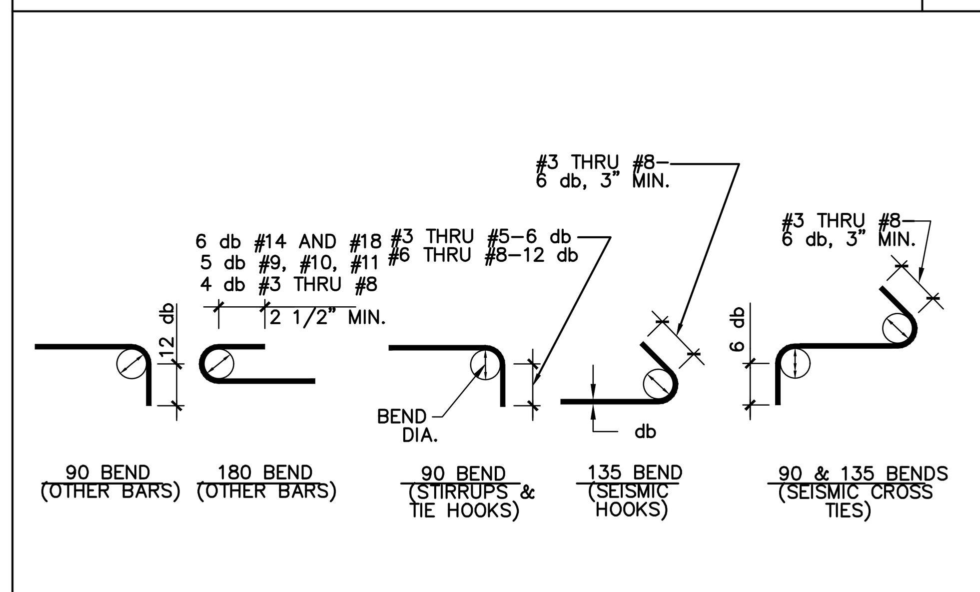
NOTES:
1. REINFORCING TO MATCH SIZE & SPACING OF FOOTING REINFORCING.



TYPICAL STEPPED FOOTING | 19

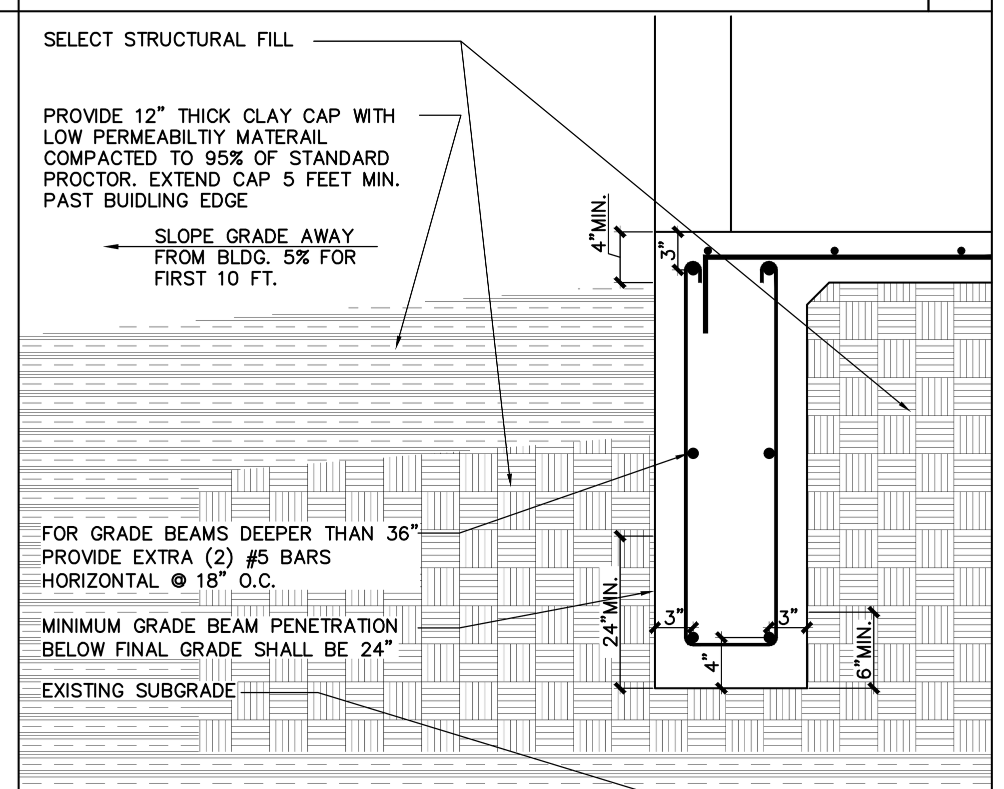


FOOTINGS | 15



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

BARS DIAMETER OF BENDS | 20



MINIMUM GRADING AT PERIMETER GRADE BEAMS | 16

I. STEEL STUDS/JOIST

1. MATERIALS:
2. A. STUDS AND TRACKS: 16 AND 18 GAGE STUDS: ASTM A446 GRADE D, Fy = 50 KSI.
SPECIFICATIONS: WELDING PERSONNEL AND PROCEDURES ARE TO BE QUALIFIED PER AWS. DESIGN, FABRICATION AND ERECTION TO BE GOVERNED BY LATEST REVISIONS OF:
A. AISC SPECIFICATION OF THE DESIGN OF COLD FORMED STEEL STRUCTURAL MEMBERS.
B. STRUCTURAL WELDING CODE, AWS D1.3 OF THE AMERICAN WELDING SOCIETY.
PROPERTIES:
A. LIGHTGAGE FRAMING MEMBER SIZES INDICATED ON DRAWINGS SHALL MEET THE FOLLOWING MINIMUM REQUIREMENTS:

DESIGNATION	MEMBER DEPTH	FLANGE WIDTH	GAGE	Ix (IN4)	USE	SPACING OF STUDS	MAXIMUM HEIGHT
362S137–33	3–5/8"	1–3/8"	20	0.484	INTERIOR	16" O.C.	16'–10"
362S137–43	3–5/8"	1–3/8"	18	0.617	INTERIOR	16" O.C.	18'–3"
600S137–33	6"	1–3/8"	20	1.597	INTERIOR	16" O.C.	24'–10"
600S200–54	6"	2"	16	3.321	EXTERIOR	16" O.C.	15'–6"
600S200–68	6"	2"	14	4.099	EXTERIOR	16" O.C.	19'–9"
600S200–97	6"	2"	12	5.655	EXTERIOR	16" O.C.	22'–0"

ALL JOISTS TO BE MANUFACTURED BY DIETRICH INDUSTRIES OR EQUIVALENT EQUAL

3. CONNECTIONS:
A. ALL CONNECTIONS TO BE FIELD BOLTED.
4. FINISH:
A. ALL MATERIALS TO BE GALVANIZED COATED IN ACCORDANCE WITH ASTM A525 G–60.
B. TOUCH UP FIELD WELDS WITH ZINC RICH PAINT.
5. MISCELLANEOUS:
A. SUBMIT SHOP DRAWINGS FOR APPROVAL PRIOR TO FABRICATION.
B. ALL STUDS USED FOR EXTERIOR WALL FRAMING SHALL BE 6" STEEL STUDS, MINIMUM 16 GAGE AT 16" O.C. MAXIMUM, U.N.O. ON PLAN.
C. ALL STUD MEMBERS AND THEIR CONNECTIONS SHALL BE DESIGNED BY THE FABRICATOR FOR A HORIZONTAL WIND LOAD OF AS NOTED IN SECTION B. PROVIDE CALCULATIONS STAMPED BY A REGISTERED STRUCTRAL ENGINEER IN THE STATE OF TEXAS.
D. DEFLECTION LIMIT = L/240 (EXCEPT L/360 AT INTERIOR PLASTER APPLICATION).
E. OPENINGS 10'–0" OR LESS IN WIDTH SHALL BE FRAMED WITH LIGHTGAGE FRAMING MEMBERS. HEADS OR OPENINGS SHALL CONSIST OF STUD OR JOIST SECTIONS SUFFICIENT TO CARRY THE WEIGHT OF THE WALL ABOVE. JAMB SECTIONS SHALL CONSIST OF HEAVIER GAGE STUDS, MULTIPLE STUDS, OR BOTH, AS REQUIRED TO CARRY THE WIND LOAD OF THE ADJACENT OPENING.
F. ALL FIELD CUTTING TO BE PERFORMED WITH A SAW.
G. WELD SIZE TO BE 3/32" WITH AWS TYPE 6013 OR 7014 ROD.
H. TRACKS TO BE SECURELY ANCHORED TO SUPPORTING STRUCTURE WITH WELD AT EACH SIDE OF TRACKS OR POWER DRIVEN FASTENERS.
I. PROVIDE CONTINUOUS HORIZONTAL BRIDGING AT 4'–0" O.C. MAXIMUM FOR WALLS.
J. PROVIDE DOUBLE STUDS UNDER BEAM AND LINTEL BEARING, UNLESS SHOWN OTHERWISE.
K. BRIDGING FOR ROOF JOISTS SHALL BE AT 8'–0" OR MAXIMUM BETWEEN SUPPORTS.

J. WELDING:

1. REFERENCES:
A. AWS D1.1–86 – "STRUCTURAL WELDING CODE – STEEL"
B. AWS D1.3–81 – "STRUCTURAL WELDING CODE – SHEET STEEL"
ALL WELDING BY AWS QUALIFIED OPERATORS.

K. PRE-MANUFACTURED SUPERSTRUCTURE

1. PRE–ENGINEERED METAL BUILDING SHALL BE DESIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF TEXAS AND HAVING THREE (3) OR MORE YEARS EXPERIENCE IN THE DESIGN OF THE TYPE OF THE BUILDING INDICATED ON THE CONTRACT DOCUMENTS.
2. THE METAL BUILDING AND COMPONENTS SHALL BE DESIGNED TO CARRY ITS OWN WEIGHT PLUS ALL SUPERIMPOSED DEAD AND LIVE LOADS INCLUDING WIND LOADS FROM ALL DIRECTIONS AND INCLUDING ALL MECHANICAL, ELECTRICAL AND ARCHITECTURAL LOADS. VERIFY ALL LOADS WITH MECHANICAL, ELECTRICAL AND ARCHITECTURAL PLANS.

PROVIDE A COLLATERAL DEAD LOAD OF 5 PSF FOR WAREHOUSE AREA & 10 PSF FOR OFFICE AREA.

3. VERIFY ALL DIMENSIONS AND SITE CONDITIONS PRIOR TO DESIGN, FABRICATION OR ERECTION OF PRE–ENGINEERED BUILDINGS.
4. PRE–ENGINEERED BUILDING FRAMES AND THE CONNECTION OF SAME TO THE FOUNDATION IS TO BE DESIGNED BY OTHERS AND IS NOT THE RESPONSIBILITY OF THE ENGINEER OF RECORD CONTRACTOR SHALL COORDINATE THE CONNECTION OF THE BUILDING FRAME WITH THE SUPPLIER PRIOR TO CONSTRUCTION.
5. THIS FOUNDATION HAS BEEN DESIGNED USING ASSUMED REACTIONS FROM THE PRE–ENGINEERED BUILDING COMPONENTS AND IS FOR BID PURPOSES ONLY. THE CONTRACTOR SHALL SUBMIT BASE CONNECTION DETAILS (SIZE AND THICKNESS BASE PLATE AND DIAMETER AND LENGTH OF ANCHOR BOLTS) AND REACTIONS OF THE BUILDING FRAMES TO THE ENGINEER OF RECORD PRIOR TO CONSTRUCTION SO THE DESIGN ASSUMPTIONS CAN BE VERIFIED.
6. METAL BUILDING SUPPLIER SHALL PROVIDE AND SUBMIT FOR REVIEW ALL DESIGN CALCULATIONS AND DRAWINGS. ALLOW TWO (2) WEEKS FOR REVIEW OF SHOP DRAWINGS.
7. ANY ADDITIONAL COST OF FOUNDATION WORK REQUIRED BY REVISIONS OF THE FOUNDATION DESIGN AFTER PRE–ENGINEERED BUILDING REACTIONS ARE SUBMITTED SHALL BE BY OTHERS.
8. METAL ROOF DOES NOT PROVIDE LATERAL BRACING FOR THE PURLINS, BRIDGING SHALL BE DESIGNED AND SUPPLIED BY THE PURLIN MANUFACTURER.
9. REFER TO MECHANICAL DRAWINGS FOR ROOF SUPPORTED HVAC UNITS AND PROVIDE SUPPORT FOR ADDITIONAL LOADS AS REQUIRED.
10. MAXIMUM PURLIN SPACING SHALL BE 5'–0" O.C. WITH A MAXIMUM

ALLOWABLE DEFLECTION OF :	DL + LL	LL
SUPPORTING BRITTLE FINISH :	240	360
SUPPORTING FLEXIBLE FINISH :	180	240

11. PRE–ENGINEERED BUILDING MANUFACTURER SHALL PROVIDE ADDITIONAL FRAMING REQUIRED TO SUPPORT THE WEIGHT OF AND TO PROVIDE PROPER SERVICEABILITY OF SUSPENDED MECHANICAL UNITS, MECHANICAL DUCTWORK, LIGHT FIXTURES, AND ALL OTHER SUSPENDED ITEMS.
12. METAL BUILDING MANUFACTURES IS RESPONSIBLE FOR DESIGNING PURLINS AND THEIR CONNECTIONS WITH RAFTERS FOR LATERAL LOAD SUPPORT OF CMU WALLS (IF APPLICABLE).
13. DETAILS SHALL BE INCLUDED WHICH CLEARLY DETAIL RIGID FRAME BASE, HAUNCH, RIDGE PLATE CONNECTIONS AND OTHER MEMBER–TO–MEMBER CONNECTIONS.
14. WIND LOAD DESIGN SHALL INDICATE METHOD OF TRANSFERRING FORCES TO;
A. ENDWALL WIND LOAD TO SIDE WALL FOUNDATIONS.
B. AT END BAY SIDE WALL WIND LOAD TO ENDWALL FOUNDATIONS, CALCULATIONS SHALL SHOW HOW WIND LOAD IS TRANSFERRED TO EAVE STRUT.
15. PORTAL MOMENT FRAMES SHALL BE USED TO RESIST HORIZONTAL WIND FORCES. DESIGN OF ALL CONNECTIONS SHALL BE CLEARLY INDICATED.
16. DESIGN OF HORIZONTAL CROSS–BRACING IN PLANE OF ROOF FRAMING SHALL BE COMPLETE AND SHALL INDICATE METHOD OF TRANSFERRING TRIBUTARY WIND LOAD TO RIGID FRAMES OR THE SIDE WALL PORTAL FRAMES.
17. ALL COLUMN BASE PLATES SHALL BE SET AND GROUTED UNDER FOR FULL CONTACT BEARING.
18. ALL BASES FOR THE COLUMNS SHALL BE "PINNED" AND NOT ASSUMED AS FIXED. NO MOMENT FORCES SHALL BE TRANSFERRED INTO THE BUILDING FOUNDATION.
19. PROVIDE BUILDING CROSS SECTIONS AND ELEVATIONS WHICH CLEARLY SHOW THE PRIMARY STRUCTURAL RIGID MOMENT FRAME, PORTAL MOMENT FRAME, END WALL POST AND BEAMS, INTERIOR COLUMNS, AND OTHER STRUCTURAL MEMBERS THAT ARE TO BE USED ON THE SUBMITTED BUILDING. SIZE OF ALL STANDARD AISC MEMBERS AND OF ALL WEB AND FLANGE SECTIONS USED IN BUILT UP MEMBER SHALL BE NOTED AS WELL AS ALL BOLTS AND WELDING.
20. THE METAL BUILDING AND COMPONENTS SHALL BE DESIGNED AS PER IBC 2012 UNLESS LOCAL CODES REQUIRE STRICTER LIMITATIONS. MINIMUM REQUIREMENTS SHALL BE AS FOLLOWS:

BASIC WIND SPEED	SEE SECTION B
BUILDING DRIFT	
WITH METAL SIDING	H/180
WITH MASONRY VENEER	H/360
GIRT DEFLECTION	
METAL SIDING	H/180
MASONRY VENEER	H/360

21. DESIGN AND MEMBERS FOR FRAMED OPENINGS SHALL BE PROVIDE AS PART OF THE METAL BUILDING DESIGN
22. MAX. COLUMN SIZES TO BE DETERMINED BY THE PRE–MANUF. BUILDING SUPPLIER AND SHALL BE ABLE TO FIT IN THE AREAS OR FUR–OUTS THE ARCHITECT HAS PROVIDED.

E. MASONRY

1. MATERIALS:
A. CONCRETE BLOCK: LIGHTWEIGHT ASTM C90 (HOLLOW) ASTM C145 (SOLID) f'm=1,900 PSI
B. MORTAR: ASTM C270 TYPE S, MINIMUM COMPRESSIVE STRENGTH: 1,800 PSI (PROPERTY SPECIFICATIONS) MORTAR TITE AS MANUFACTURED BY ADDIMENT.
C. BOND BEAM AND CORE FILL: ASTM C476, COARSE TYPE f'c=2,000 PSI
D. JOINT REINFORCING: MILL GALVANIZED FINISH, 9 GAGE MINIMUM SIDE WIRES AND CROSS WIRES (LADUR TYPE) (DUR–O–WALL).
E. BAR REINFORCING: ASTM A615, GRADE 60 (UNLESS NOTED OTHERWISE).
2. REINFORCED MASONRY, WHERE VERTICAL BARS ARE TO BE GROUTED INTO CORES, THE FOLLOWING REQUIREMENTS APPLY:
A. PROVIDE DOWELS FROM WALL, SAME SIZE AND SPACING AS WALL BARS. LAP 48 DIAMETERS MINIMUM WITH WALL BAR.
B. PROVIDE A CONTINUOUS VERTICAL CAVITY, AT LEAST 2" X 3" IN SIZE, FREE OF MORTAR DROPPINGS.
C. PROVIDE REBAR ALIGNMENT DEVICES AT A MAXIMUM SPACING OF 96 BAR DIAMETERS (MINIMUM OF 2 PER BAR).
D. AT SPLICES IN VERTICAL BARS, PROVIDE MECHANICAL COUPLERS OR 48 DIAMETER LAP.
E. ALL REINFORCEMENT MUST BE INSTALLED AND SECURELY ANCHORED IN PLACE PRIOR TO PLACEMENT OF GROUT.
F. MAXIMUM HEIGHT OF GROUT LIFT = 4'–0". UNLESS HIGH LIFT GROUTING PROCEDURES ARE EMPLOYED IN ACCORDANCE WITH ASI 530–99
3. MISCELLANEOUS:
A. FILL CORE SOLID AROUND ANCHOR BOLTS.
B. PROVIDE 100% SOLID BLOCKS OR SOLIDLY FILLED HOLLOW BLOCKS AT ALL EXPANSION BOLT LOCATIONS.
C. SET WELD PLATES IN BOND BEAMS AFTER THE GROUT IS PLACED, BUT WHILE IT IS STILL PLASTIC.
D. HOLLOW MASONRY UNITS TO BE LAID WITH FULL MORTAR COVERAGE ON HORIZONTAL AND VERTICAL FACE SHELLS. WEBS SHALL ALSO BE BEDDED IN ALL COURSES OF PIERS, COLUMNS, AND PILASTERS, AND IN THE STARTING COURSE ON FOOTINGS, AND WHEN ADJACENT TO CELLS OR CAVITIES TO BE REINFORCED OR FILLED WITH CONCRETE OR GROUT. SOLID UNITS TO BE LAID WITH FULL HEAD AND BED JOINTS.
E. PROVIDE JOINT REINFORCING AT 16 INCHES, EXCEPT AS NOTED.
F. LAP JOINT REINFORCING 6 INCHES FOR STANDARD, 15 INCHES FOR HEAVY WEIGHT.
G. VERTICAL CONTROL JOINTS SHALL BE PROVIDED FULL JHEIGHT OF MASONRY WALLS AS LOCATED ON THE DRAWINGS. THE JOINT SHALL BE PROVIDED AS A CONTINUOUS HEAD JOINT WITH MORTAR RAKED BACK 3/4" AT BOTH FACES AND 50% OF THE HORIZONTAL JOINT REINFORCING CUT AT THE JOINT. BOND BEAM REINFORCING AND GROUT SHALL CONTINUE THROUGH THE JOINT. AFTER THE MORTAR IS SET, THE JOINT SHALL BE CAULKED WITH A FLEXIBLE MASTIC.
H. FILL ALL VOIDS AND CELLS WITHIN 12" EITHER SIDE OF CENTERLINE OF BEAM AND/OR COLUMN BEARING LOCATIONS WITH A #4 REINFORCING BAR AND GROUT U.N.O.

F. LINTELS:

1. PROVIDE LINTELS OVER ALL OPENINGS IN WALLS. REFER TO ARCHITECTURAL AND HVAC DRAWINGS FOR LOCATION, NUMBER AND SIZES OF OPENINGS NOT SHOWN ON STRUCTRAL SHEETS.

G. STRUCTURAL STEEL

1. MATERIALS:
A. STRUCTURAL STEEL:
W SECTIONS ASTM– A992
HSS SECTIONS ASTM– A500 GRADE B
ALL OTHER SECTIONS ASTM– A36
HIGH STRENGTH BOLTS: ASTM A325 OR A490
ANCHOR BOLTS: ASTM A307 OR A36:
ELECTRODES: SERIES E70
STRUCTURAL PIPES: ASTM A53 OR A501, FY = 42 KSI
EXPANSION BOLTS: HILTI "KWIK BOLTS" OR APPROVED EQUAL.
2. SPECIFICATIONS: WELDING PERSONNEL AND PROCEDURES ARE TO BE QUALIFIED PER AWS D1.1. UNLESS SPECIFICALLY SHOWN OTHERWISE, DESIGN, FABRICATION AND ERECTION TO BE GOVERNED BY
A. AISC SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS LATEST EDITION.
B. AISC CODE OF STANDARD PRACTICE LATEST EDITION.
C. STRUCTURAL WELDING CODE, AWS D1.1–88 OF THE AMERICAN WELDING SOCIETY.
D. SPECIFICATIONS FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS
3. CONNECTIONS:
A. CONNECTIONS TO BE DESIGNED BY THE FABRICATOR TO DEVELOP FULL STRENGTH OF MEMBER. FOLLOW INSTRUCTIONS ON DRAWINGS FOR GENERAL ARRANGEMENT OR PARTICULAR DETAILS. FIELD CONNECTIONS TO BE BOLTED. SHOP CONNECTIONS TO BE WELDED OR BOLTED.
B. FULL PENETRATION AND PARTIAL PENETRATION FIELD WELDS IN MATERIAL OVER 5/16 INCH THICK SHALL BE SUBJECT TO NON–DESTRUCTIVE TESTING (OTHER THAN VISUAL INSPECTION) BY AN INDEPENDENT LABORATORY.
C. ALL BOLTS IN BRACED FRAMES AND BOLTS IN SHEAR CONNECTIONS USED IN CONJUNCTION WITH FULL PENETRATION FLANGE WELDS SHALL BE SLIP CRITICAL (FRICTION) TYPE.
4. PAINT:
A. DO NOT PAINT ANY STEEL WHICH WILL BE CONCEALED FROM VIEW. PAINT ALL VISIBLE STEEL GRAY.
5. GALVANIZING: ALL SHELF ANGLES, LINTELS IN EXTERIOR WALLS, AND ALL EXTERIOR STEEL EXPOSED TO THE ELEMENTS SHALL BE GALVANIZED.
6. MISCELLANEOUS:
A. PROVIDE HOLES FOR OTHERS. IF OPENING IS NOT SHOWN ON THE STRUCTURAL DRAWINGS, OBTAIN PRIOR APPROVAL.
B. STEEL SUPPORTING OR CONNECTED TO HVAC AND OTHER EQUIPMENT AND ROOF OPENINGS AS SHOWN ON THE DRAWINGS IS SHOWN FOR BIDDING PURPOSES ONLY. CONTRACTOR SHALL RECONCILE EXACT SIZE AND LOCATION BEFORE PROCEEDING WITH HIS WORK.
C. GROUT UNDER BEARING PLATES, BASE PLATES, AND SETTING PLATES TO BE NON–SHRINKING TYPE.
D. STEEL BELOW GRADE TO BE PROTECTED BY A MINIMUM OF 3 INCHES OF CONCRETE.
E. PROVIDE 1/4 INCH THICK SETTING PLATES FOR ALL BEAMS BEARING ON MASONRY WHICH DO NOT REQUIRE A BEARING PLATE.
F. PROVIDE SHOP WELDED ANCHORS FOR ATTACHMENTS OF MASONRY. SPACING TO BE 16 INCHES ON COLUMNS AND BEAMS.
G. PROVIDE HEAVY WASHER AT ALL ANCHOR BOLTS.
H. FINISH ENDS OF ALL COLUMNS, STIFFENERS AND ALL OTHER MEMBERS IN DIRECT BEARING.
I. PROVIDE BOLT HOLES FOR JOISTS BOLTED TO BEAMS AND ATTACHMENT FOR JOINING EXTENDED JOIST BOTTOM CHORDS.
J. MINIMUM BEAM BEARING ON MASONRY = 8 INCHES UNLESS NOTED OTHERWISE.
L. EMBEDMENT LENGTH OF EXPANSION BOLTS INTO SOLID MASONRY OR CONCRETE SHALL BE AS FOLLOWS:
1/2 INCH DIAMETER BOLTS --- 3 1/2 INCHES EMBEDMENT
3/4 INCH DIAMETER BOLTS --- 5 INCHES EMBEDMENT

H. STEEL DECK

1. REFERENCE: STEEL DECK INSTITUTE: "DESIGN MANUAL FOR COMPOSITE DECKS, FORM DECKS AND ROOF DECKS: LATEST EDITION."
2. DECK SHALL AS NOTED ON PLANS WITH G60 GALVANIZED FINISH.
3. DECK ENDS MAY BE EITHER BUTTED OR LAPPED OVER SUPPORTS. ON JOIST FRAMING, APPROPRIATE END LAP SHALL OCCUR OVER A TOP CHORD ANGLE FOR PROPER ANCHORAGES.
4. UNLESS NOTED OTHERWISE, ATTACH METAL DECK TO STRUCTURAL STEEL WITH #12 TEK SCREWS AT 6" O.C. AT PERIMETER AND 12" O.C. AT INTERMEDIATE SUPPORTS. FASTEN SIDE LAPS WITH #12 TEK SCREWS AT 6" O.C.

REINFORCEMENT TENSION LAPS AND EMBEDMENT
(fy=60,000 PSI f'c=3,000 PSI)

BAR SIZE	BAR DIA. (IN)	EMBEDMENT AND CLASS A LAP (IN)				CLASS B LAP (IN)			
		TOP BAR		OTHER BARS		TOP BAR		OTHER BARS	
		CASE 1	CASE 2	CASE 1	CASE 2	CASE 1	CASE 2	CASE 1	CASE 2
#3	3/8	22	32	14	25	28	42	22	32
#4	1/2	29	43	22	33	37	56	29	43
#5	5/8	36	54	28	41	47	74	36	54
#6	3/4	43	64	33	50	56	84	43	64
#7	7/8	63	94	48	72	81	122	63	94
#8	1	72	107	55	82	93	134	72	107
#9	1–1/8	81	121	62	93	105	157	81	121
#10	1–1/4	91	136	70	105	118	177	91	136
#11	1–3/8	101	151	78	116	131	196	101	151

NOTES:
1. TABLE REPRESENTS LENGTHS OF TENSION DEVELOPMENT LENGTHS AND TENSION LAP SPLICES LENGTHS BASED ON AC1 318–08 SECTION 12.2.2.
2. CLASS A LAP LENGTHS APPLY WHEN BARS LAPS ARE STAGGERED TO LAP HALF THE BARS AT THE SAME LOCATION OR WHEN BARS ARE LAPPED AT A LOCATION WHERE THE REINFORCEMENT AREA PROVIDED IS AT LEAST TWICE THAT REQUIRED.
3. CLASS B LAP LENGTHS APPLY WHEN ALL BARS ARE SPLICED AT A LOCATION OF MAXIMUM STRESS IN THE BARS.
4. CASE 1 LENGTHS APPLY TO BEAMS AND COLUMNS WITH CONCRETE COVER EQUAL OR GREATER THAN THE BAR DIAMETER, CLEAR BAR SPACING EQUAL OR GREATER THAN THE BAR DIAMETER AND WITH STIRRUPS OR TIES NOT LESS THAN THE CODE MINIMUM THROUGHOUT THE LENGTH IN THE TABLE, AND FOR OTHER ELEMENTS WITH CONCRETE COVER EQUAL OR GREATER THAN THE BAR DIAMETER AND CLEAR SPACING EQUAL OR GREATER THAN TWO TIMES THE BAR DIAMETER.
5. CASE 2 LENGTHS APPLY TO BEAMS AND COLUMNS WITH CONCRETE COVER LESS THAN THE BAR DIAMETER, AND CLEAR BAR SPACING LESS THAN THE BAR DIAMETER, AND FOR OTHER ELEMENTS WITH CONCRETE COVER LESS THAN THE BAR DIAMETER AND CLEAR BAR SPACING LESS THAN TWO TIMES THE BAR DIAMETER.
6. TOP BARS ARE HORIZONTAL REINFORCEMENT PLACED SO THAT MORE THAN 12 INCHES OF CONCRETE IS CAST BELOW THE REINFORCEMENT.
7. MULTIPLY LENGTHS SHOWN BY 0.87 FOR 4000 PSI CONCRETE.
8. MULTIPLY LENGTHS SHOWN BY 1.3 FOR LIGHTWEIGHT AGGREGATE CONCRETE.
9. MULTIPLY LENGTHS SHOWN BY 1.3 FOR EPOXY–COATED BARS.

A. GENERAL

1. THE STRUCTURE IS DESIGNED TO BE SELF–SUPPORTING AND STABLE AFTER THE BUILDING IS FULLY COMPLETED. IT IS SOLELY THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE ERECTION PROCEDURE AND SEQUENCE AND TO INSURE THE SAFETY OF THE BUILDING AND ITS COMPONENT PARTS DURING ERECTION. THIS INCLUDES THE ADDITION OF WHATEVER SHORING, SHEETING, TEMPORARY BRACING, GUYS OR TIE DOWNS WHICH MIGHT BE NECESSARY. SUCH MATERIAL SHALL REMAIN THE CONTRACTOR'S PROPERTY AFTER THE COMPLETION OF THE PROJECT.
2. IT IS SOLELY THE CONTRACTOR'S RESPONSIBILITY TO FOLLOW ALL APPLICABLE SAFETY CODES AND REGULATIONS DURING ALL PHASES OF CONSTRUCTION.
3. EQUIPMENT FRAMING LOADS, OPENINGS AND STRUCTURE IN ANY WAY RELATED TO HVAC, PLUMBING, OR ELECTRICAL REQUIREMENTS ARE SHOWN FOR BIDDING PURPOSES ONLY. CONTRACTOR SHALL OBTAIN APPROVAL OF THE INVOLVED TRADES BEFORE PROCEEDING WITH SUCH PORTION OF THE WORK. EXCESS COST RELATED TO VARIATION IN THESE REQUIREMENTS TO BE BORNE BY THE APPROPRIATE CONTRACTOR.
4. SHOULD ANY OF THE DETAILED INSTRUCTIONS SHOWN ON THE PLANS CONFLICT WITH THESE STRUCTURAL NOTES, THE SPECIFICATIONS, OR WITH EACH OTHER, THE STRICTEST PROVISION SHALL GOVERN.

B. ENGINEERING DESIGN CRITERIA

BUILDING CODE: INTERNATIONAL BUILDING CODE (IBC) 2012.
SECTION 1603: CONSTRUCTION DOCUMENTS
1603.1.1 FLOOR LIVE LOAD:

A. CLASSROOMS	40 PSF
B. PUBLIC AREAS	100 PSF
C. RESTROOMS, OFFICES	50 PSF
D. CORRIDORS	100 PSF
E. STACK ROOMS	150 PSF
F. MECHANICAL ROOMS	150 PSF

1603.1.2 ROOF LIVE LOAD:
A. MINIMUM ROOF LIVE LOAD = 20 PSF
1603.1.3 ROOF SNOW LOAD:
A. FLAT ROOF SNOW LOAD, Pf= 0 PSF
B. SNOW EXPOSURE FACTOR, Ce= 0.9
C. SNOW LOAD IMPORTANCE FACTOR, I= 1.0
D. THERMAL FACTOR, Ct= 1.0
1603.1.4 WIND DESIGN DATA:
A. ULTIMATE WIND SPEED (3–SECOND GUST), Vult = 120 MPH
NOMINAL DESIGN WIND SPEED (3–SECOND GUST), Vasd = 90 MPH
B. RISK CATEGORY= III
C. WIND EXPOSURE= C
D. INTERNAL PRESSURE COEFFICIENT, GCpi = +/– 0.18
E. COMPONENTS AND CLADDING NET DESIGN WIND PRESSURE (PSF):

ZONE	1	2	3	4	5
	+10.5	+10.5	+10.5	+25.9	+25.9
	–25.9	–43.5	–65.5	–28.1	–34.7

1603.1.5 EARTHQUAKE DESIGN DATA:
A. RISK CATEGORY = III
B. SEISMIC IMPORTANCE FACTOR, Ie = 1.25
C. MAPPED SPECTRAL RESPONSE ACCELERATION, Ss=0.071g AND S1=0.018g
D. SITE CLASS= D
E. SPECTRAL RESPONSE COEFFICIENTS, Sds=0.073g AND Sd1=0.029g
F. SEISMIC DESIGN CATEGORY= A
G. BASIC SEISMIC–FORCE–RESISTING SYSTEM(S)= ORDINARY REINFORCED MASONRY SHEAR WALLS
H. DESIGN BASE SHEAR=
I. SEISMIC RESPONSE COEFFICIENT(S), Cs= XXXXg
J. RESPONSE MODIFICATION FACTOR(S), R= 3.5
K. ANALYSIS PROCEDURE USED= EQUIVALENT LATERAL FORCE PROCEDURE
1603.1.6 GEOTECHNICAL INFORMATION:
A. ALLOWABLE SOIL BEARING CAPACITY= 3,000 PSF TOTAL LOAD ON SELECT FILL
1603.1.7 FLOOD DESIGN DATA:
A. NOT APPLICABLE.
1603.1.8 SPECIAL LOADS:
A. NOT APPLICABLE.
1603.1.9 SYSTEMS AND COMPONENTS REQUIRING SPECIAL INSPECTIONS FOR SEISMIC RESISTANCE:
A. NOT APPLICABLE.

C. GENERAL NOTES FOR SITE PREPARATION

1. REFER TO CIVIL AND ARCHITECTURAL PLANS FOR FINISH FLOOR ELEVATION.
2. BUILDING AREAS TO SUPPORT SELECT FILL SHOULD BE STRIPPED OF ALL EXISTING VEGETATION AND TOPSOIL EXTENDING AT LEAST 3 FT BEYOND BUILDING PERIMETER.
3. NOT USED.
4. SCARIFY THE SUBGRADE AT LEAST (8) EIGHT INCHES AND MOISTURE CONDITION BETWEEN MINUS TWO (–2) TO PLUS THREE (+3) PERCENTAGE POINTS OF THE OPTIMUM MOISTURE CONTENT AND COMPACTED TO A MINUMUM OF 95% OF THE MAXIMUM DRY DENSITY DETERMINED IN ACCORDANCE WITH ASTM D698 (STD. PROCTOR)
5. STRUCTURAL FILL SHALL CONSISTS OF INORGANIC SILTY CLAYS OR SANDY CLAYS WITH A LIQUID LIMIT (LL) OF LESS THAN 35 AND A PLASTICITY INDEX (PI) BETWEEN SEVEN (7) AND FIFTEEN (15). THE FILL SHOULD BE PLACED IN COMPACTED LIFTS NOT TO EXCEED SIX (6) INCHES IN THICKNESS, MOISTURE CONDITIONED BETWEEN MINUS TWO (–2) TO PLUS THREE (+3) PERCENTAGE POINTS OF THE OPTIMUM MOISTURE AND COMPACTED TO A MINIMUM OF 95% OF THE MAXIMUM DRY DENSITY DETERMINED IN ACCORDANCE WITH ASTM D698 (STD. PROCTOR).
6. REFER TO GEOTECHNICAL ENGINEERING REPORT PREPARED BY CASTLE ENGINEERING AND TESTING, LLC PROJECT NUMBER 15G047A DATED OCTOBER 19, 2015.
7. THE SOILS ENGINEER SHALL BE THE OWNERS REPRESENTATIVE TO CONTROL THE PLACEMENT OF COMPACTED FILL. THE SOILS ENGINEER SHALL APPROVE THE SUBGRADE PREPARATION, THE FILL MATERIALS, THE METHOD OF PLACEMENT AND COMPACTION, AND SHALL GIVE WRITTEN APPROVAL OF THE COMPLETED FILL.
8. PROVIDE DENSITY TESTING ON THE SUBGRADE SOILS AND THE SELECT FILL AT EVERY LIFT AND FOR EACH 2,500 SF OF SLAB AREA, OR A MINIMUM OF 3 DENSITY TEST PER TESTING INTERVAL, WHICHEVER IS GREATER. ANY AREAS NOT MEETING THE REQUIRED COMPACTION SHOULD BE RECOMPACTED AND RETESTED UNTIL COMPLIANCE IS MET.
9. OBSERVATION OF REINFORCEMENT PLACEMENT WILL NEED TO BE PROVIDED BY SYNERGY STRUCTURAL ENGINEERING, INC. BEFORE CONCRETE POUR. THE FOLLOWING ITEMS WILL NEED TO BE PROVIDED BY CONTRACTOR AND/OR OWNER BEFORE REBAR OBSERVATION:
A. COMPACTION REPORTS OF SUBGRADE AND SUBSEQUENT LIFTS PERFORMED BY AN APPROVED TESTING LABORATORY.
B. COMPACTION AND INSPECTION REPORTS BY AN APPROVED TESTING LABORATORY FOR THE BACKFILLING OF THE TRENCHES OF PLUMBING OR ELECTRICAL LINES.
**FAILING TO PROVIDE COMPACTION REPORTS WILL VOID ANY WARRANTIES AND/OR LIABILITIES DESCRIBED IN THESE PLANS AND/OR PROPOSAL–AGREEMENT BETWEEN OWNER/CONTRACTOR AND SYNERGY STRUCTURAL ENGINEERING, INC.

D. REINFORCED CONCRETE

1. MATERIALS:
A. SPECIFICATIONS: IN GENERAL, COMPLY WITH ACI 301–LATEST EDITION "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS."
B. STRUCTURAL CONCRETE

CONCRETE TYPE	DESIGN STRENGTH	MAXIMUM SLUMP	MAXIMUM AGGREGATE	MAXIMUM W/C RATIO AIR ENTR.	MAXIMUM W/C RATIO NO AIR ENTR.
FOUNDATION	3000 PSI	5"	1–1/2"	0.5	0.6
RETAINING WALL	3000 PSI	5"	1–1/2"	0.5	0.6
COLUMNS ELEV. BEAMS	4000 PSI	5"	1–1/2"	0.5	0.6
DECK FILL	3500 PSI	4"	3/4"	0.4	0.5

* ALL MIXES SHALL HAVE A MINIMUM OF 5 SACKS OF CEMENT PER CUBIC YARD REGARDLESS OF STRENGTH OBTAINED.
C. ALL DEFORMED REINFORCING BARS (ASTM A 615): FY = 60,000
D. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A165–85. (SHEET FORM, NOT ROLLED)
2. FIELD MANUAL: PROVIDE AT LEAST ONE COPY OF THE ACI FIELD REFERENCE MANUAL, SP–15, IN THE FIELD OFFICE AT ALL TIMES.
3. CONTINGENCIES:
A. PROVIDE SUPPORTS AS REQUIRED TO MAINTAIN ALIGNMENT OF SCHEDULED REINFORCING. SUCH SUPPORTS ARE TO BE REFLECTED IN THE BID.
4. FOOTINGS:
A. DOWELS IN FOOTINGS TO MATCH VERTICAL WALL REINFORCING.
B. PROVIDE LEAN CONCRETE (CLASS IV) UNDER FOUNDATIONS FOR ACCIDENTAL OVER–EXCAVATION, SOFT SPOTS AND TRENCHES.
5. SPLICES: UNLESS NOTED OTHERWISE, LAP SPLICES AND EMBEDMENTS SHALL BE AS SHOWN ON TABLE BELOW.
6. CONSTRUCTION JOINTS:
A. CONSTRUCTION JOINTS PERMITTED ONLY WHERE SHOWN OR AS APPROVED BY THE STRUCTURAL ENGINEER. ALL CONSTRUCTION JOINTS ARE TO BE KEYED. KEYWAYS SHALL BE 1–1/2 INCHES DEEP X 1/3 MEMBER THICKNESS.
7. CONCRETE COVER: UNLESS NOTED OTHERWISE, DETAIL REINFORCING TO PROVIDE CONCRETE COVER AS FOLLOWS:

A. CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH:	3 IN.
B. CONCRETE EXPOSED TO EARTH OR WEATHER: #5 BARS AND SMALLER	1 1/2 IN.
OTHERS	2 IN.
C. CONCRETE NOT EXPOSED TO EARTH OR WEATHER: SLABS, WALLS, AND #11 BARS & SMALLER	3/4 IN.
OTHERS	1 1/2 IN.

GENERAL NOTES | 4

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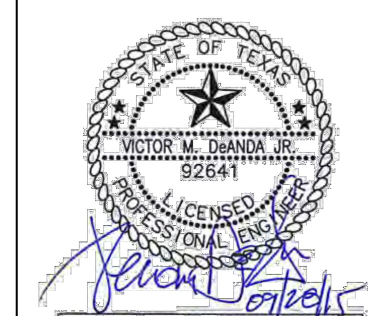

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GENERAL NOTES AND TYP. FND. DETAILS

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DATE: 9/28/2015
REVISIONS:
ADDENDUM #5
11/02/2015

SHEET NO.:
S-1.1
JOB NO.: SSE-13-139.1

CMU LINTEL SCHEDULE

TYPICAL CMU LINTELS AT NON-BEARING WALLS

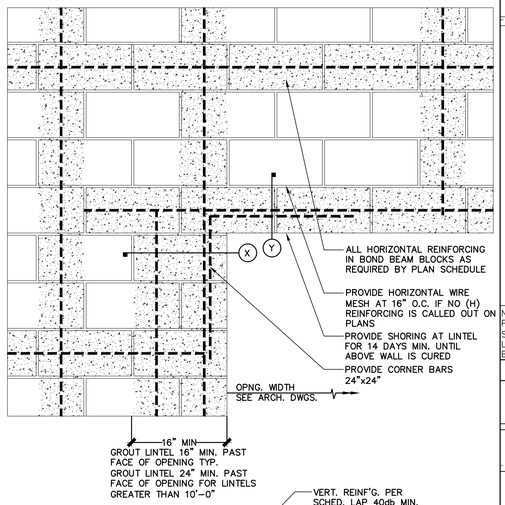
MARK	MAX. CLEAR SPAN	BLOCK WIDTH (IN)	LINTEL DEPTH (IN.)	HORIZONTAL REINFORCING	SHEAR STIRRUPS	REMARKS
LN1	3'-4"	6	8	(1) #5		
LN2	6'-8"	6	16	(1) #5 T&B		
LN3	3'-4"	8	8	(1) #5		
LN4	6'-8"	8	16	(2) #5 T&B		
LN5	8'-0"	8	24	(2) #5 T&B		
LN6	10'-0"	8	24	(2) #6 T&B		
LN7	3'-4"	12	8	(2) #5		
LN8	6'-8"	12	16	(2) #5 T&B		
LN9	8'-0"	12	24	(2) #5 T&B		
LN10	10'-0"	12	24	(2) #6 T&B		

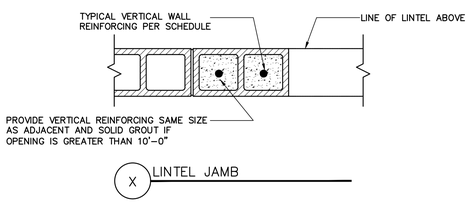
TYPICAL CMU LINTELS AT BEARING WALLS

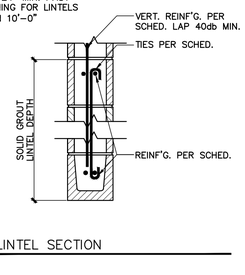
MARK	MAX. CLEAR SPAN	BLOCK WIDTH (IN)	LINTEL DEPTH (IN.)	HORIZONTAL REINFORCING	SHEAR STIRRUPS	REMARKS
LN11	3'-4"	8	16	(2) #5 T&B	#3 @ 8" O.C.	
LN12	6'-8"	8	16	(2) #5 T&B	#3 @ 8" O.C.	
LN13	8'-0"	8	24	(2) #5 T&B	#3 @ 8" O.C.	
LN14	10'-0"	8	32	(2) #5 EA.	#3 @ 8" O.C.	
LN15	12'-0"	8	40	(2) #5 EA.	#3 @ 8" O.C.	SPECIAL INSPECTION
LN16	14'-0"	8	48	(2) #5 EA.	#3 @ 8" O.C.	SPECIAL INSPECTION
LN17	3'-4"	12	8	(2) #5		
LN18	6'-8"	12	16	(2) #5 T&B		
LN19	8'-0"	12	24	(2) #6 T&B		
LN20	10'-0"	12	32	(4) #6 T&B		2 BARS IN 2 COURSES
LN21	12'-0"	12	40	(4) #6 T&B		2 BARS IN 2 COURSES
LN22	20'-0"	12	48	(4) #6 T&B		2 BARS IN 2 COURSES

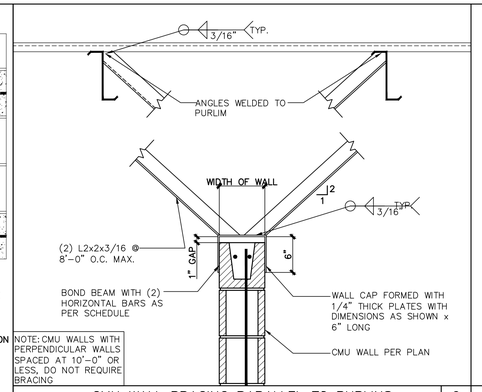
NOTES:
(1) LOCATE FIRST STIRRUP AT 1/2 OF THE REQUIRED SPACING AWAY FROM THE FACE OF WALL SUPPORT. (I.E.: AT 8" O.C. SPACING, LOCATE 1ST STIRRUP NOT FURTHER THAN 4" FROM THE FACE OF WALL).
(2) SPECIAL INSPECTION REQUIRED BY STRUCTURAL ENGINEER OF RECORD AS NOTED ON ON SCHEDULE.
(3) SOLID GROUT FULL DEPTH OF LINTEL AND AT LEAST 8" PAST OPENING FOR LINTELS LESS THAN 8'-0" LONG AND 16" PAST OPENING FOR LINTEL LONGER THAN 8'-0".

CMU LINTEL SCHEDULE | 14

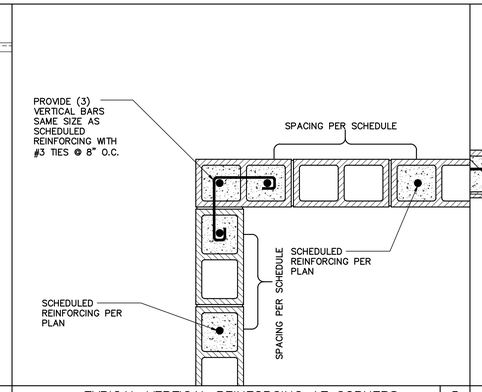




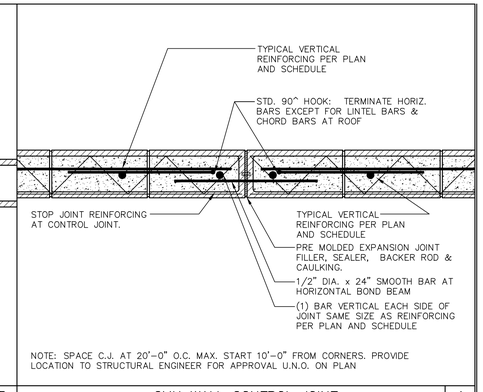




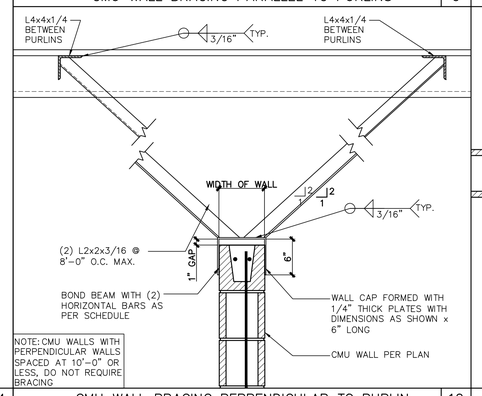
CMU WALL BRACING PARALLEL TO PURLINS | 9



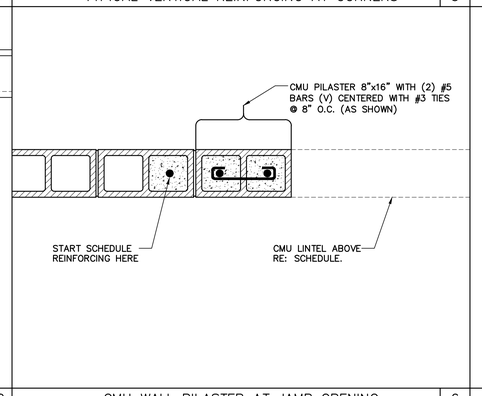
TYPICAL VERTICAL REINFORCING AT CORNERS | 5



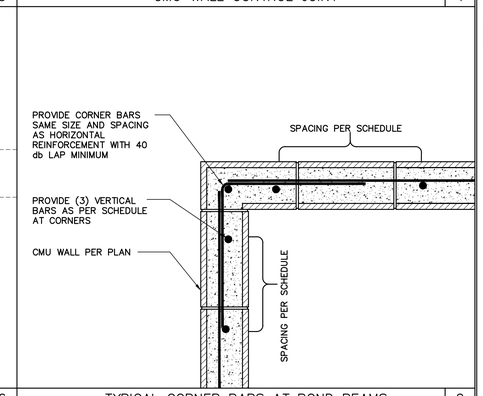
CMU WALL CONTROL JOINT | 1



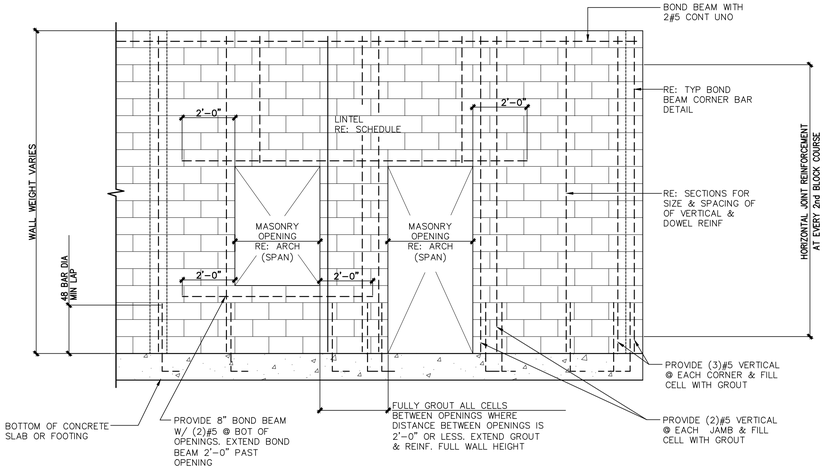
CMU WALL BRACING PERPENDICULAR TO PURLIN | 10



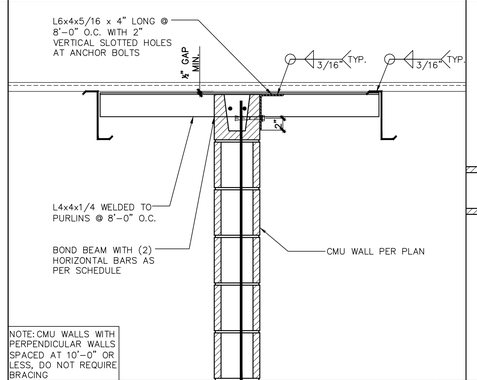
CMU WALL PILASTER AT JAMB OPENING | 6



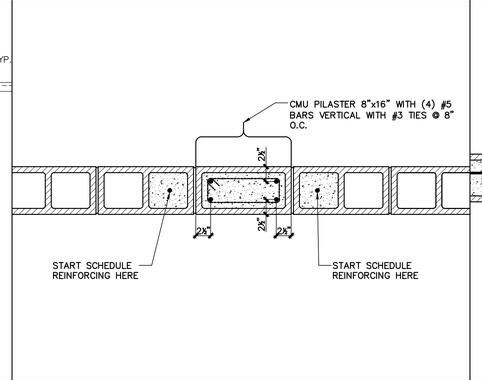
TYPICAL CORNER BARS AT BOND BEAMS | 2



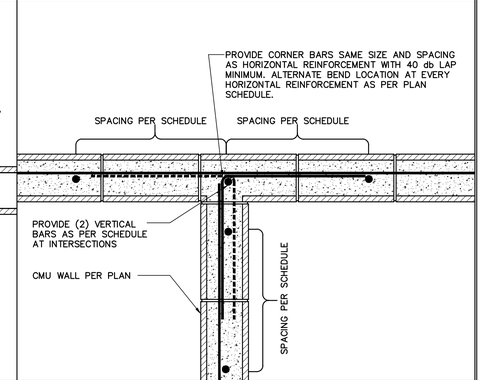
TYPICAL CMU WALL CONSTRUCTION | 16



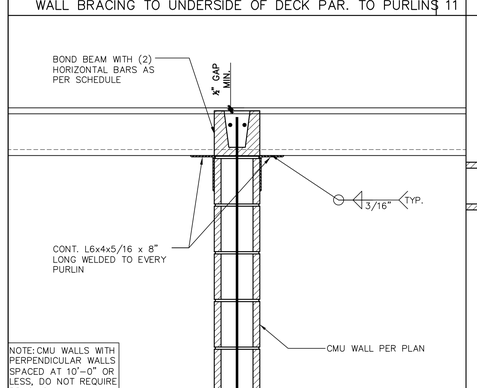
WALL BRACING TO UNDERSIDE OF DECK PAR. TO PURLINS | 11



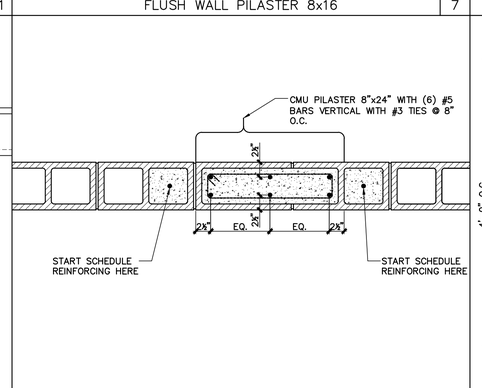
FLUSH WALL PILASTER 8x16 | 7



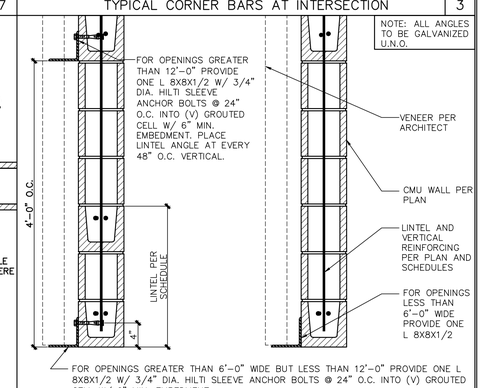
TYPICAL CORNER BARS AT INTERSECTION | 3



WALL BRACING TO UNDERSIDE OF DECK PERP. TO PURLINS | 12



FLUSH WALL PILASTER 8x24 | 8



LINTEL ANGLE AT OPENINGS | 4

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TYPICAL CMU WALL DETAILS

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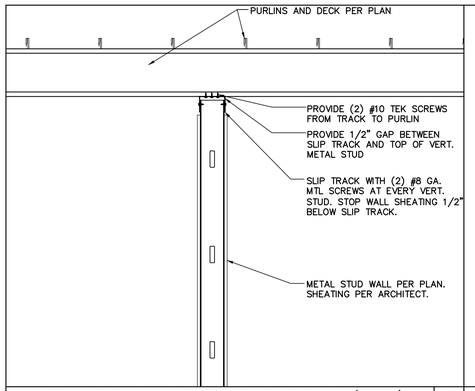
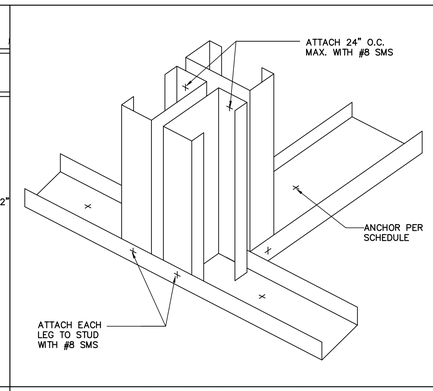
DATE: 9/28/2015
REVISIONS:
ADDENDUM #5
11/02/2015

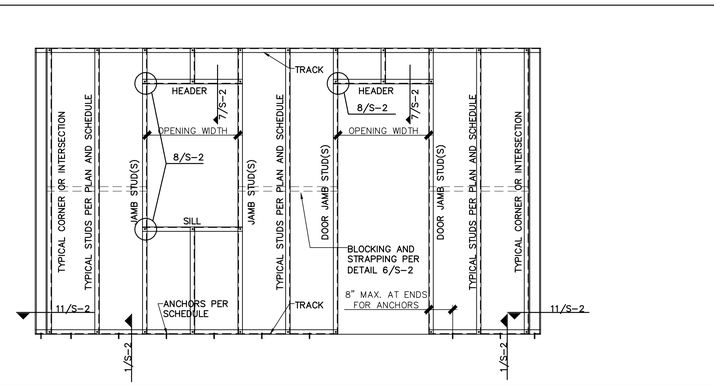
SHEET NO.:
S-1.2
JOB NO.: SSE-13-139.1



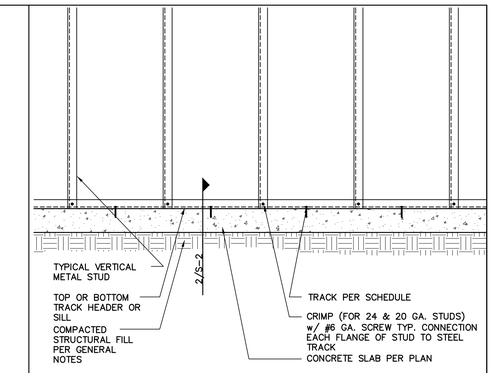
METAL STUD WALL CONNECTION TO PURLINS (PERP.) 17



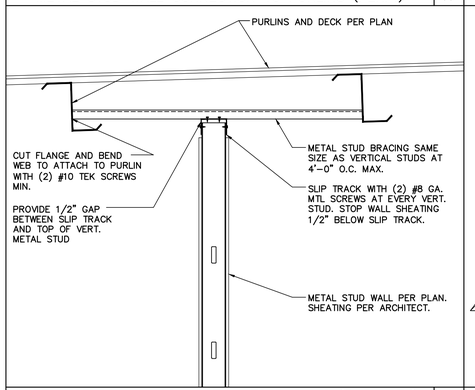
TYPICAL INTERSECTION 13



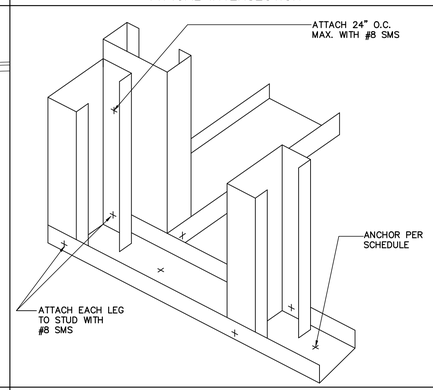
STEEL STUD BEARING AND NON-BEARING WALL ELEVATION 5



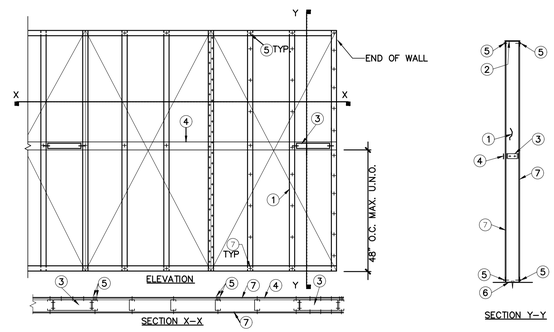
MTL STUD TO TRACK AT TOP OR BOTTOM OF WALL 1



METAL STUD WALL CONNECTION TO PURLINS (PARALLEL) 18



TYPICAL CORNER 14

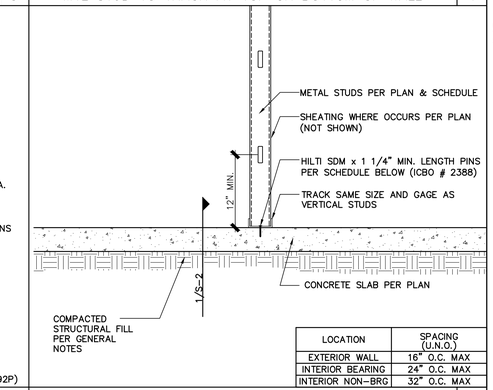


KEYED NOTES

1. MTL STUD PER PLAN
2. CONTINUOUS TRACK. GAGE TO MATCH STUD GAGE.
3. 25ga SLD BLKG W/ WEB BENT & ATTACHED TO STUD W/(2) #6ga SCREWS TO OCCUR AT EACH END OF WALL AND AT 8' O.C. MAX.
4. 20ga x 2" CONT. STRAP W/ 1 – #6ga MTL. SCREW @ EA. STUD & 3 EA. BLK.
5. 6ga DRYWALL SCREW EA. SIDE, STUD TO TRACK
6. 18ga CONT. TRACK W/HILTI SDM x 1 1/4: MIN. LENGTH PINS @ SPACING PER SCHED. (ICBO #2388). SEE DET. 2/S-2.
7. WALL SHEATING PER ARCHITECT.

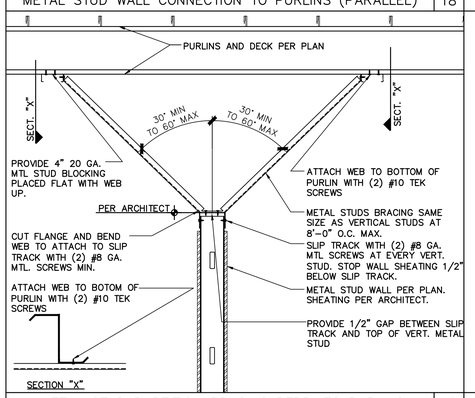
(PER ICBO # 2392P)

TYPICAL PLYWOOD SHEARWALL ON METAL STUDS 6

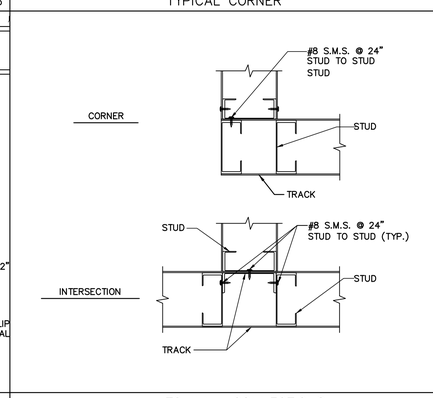


LOCATION	SPACING (U.N.O.)
EXTERIOR WALL	16" O.C. MAX
INTERIOR BEARING	24" O.C. MAX
INTERIOR NON-BRG	32" O.C. MAX

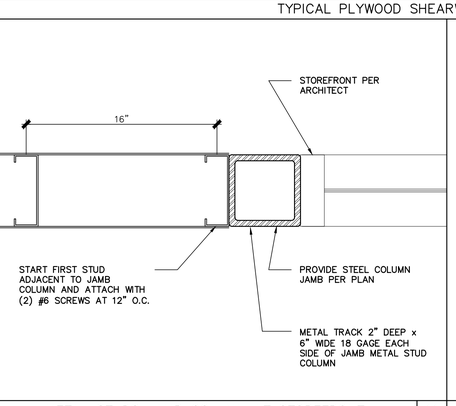
METAL STUD AT CONCRETE SLAB-ON-GRADE 2



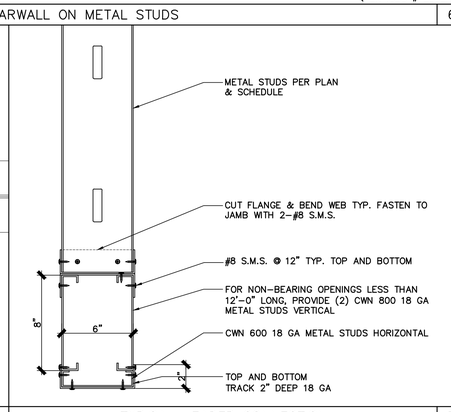
METAL STUD PARTITION BRACING PERP. TO PURLINS 19



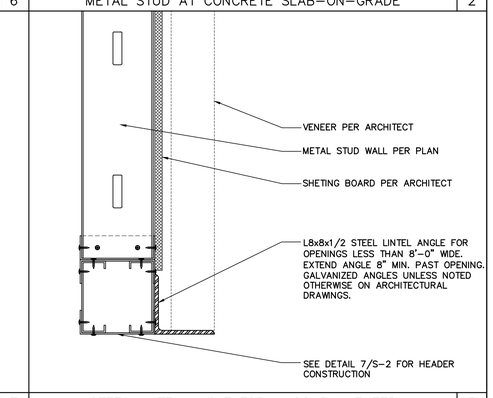
WALL TO WALL CONNECTIONS 15



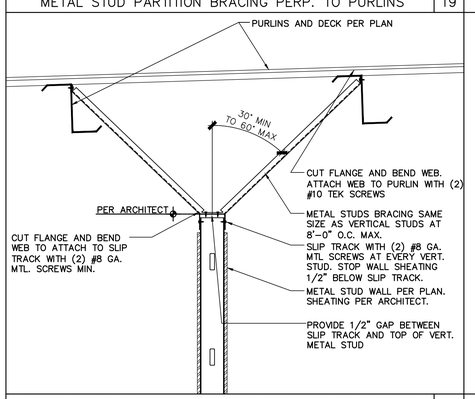
METAL STUDS JAMB COLUMN AT STOREFRONT 11



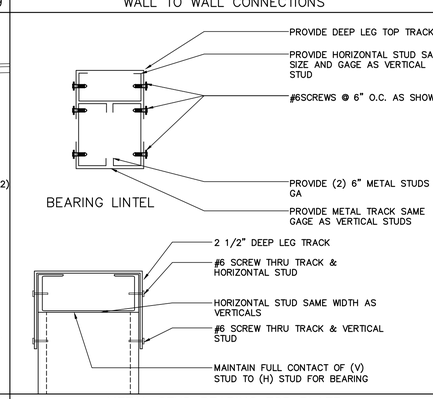
TYPICAL HEADER CONNECTION 7



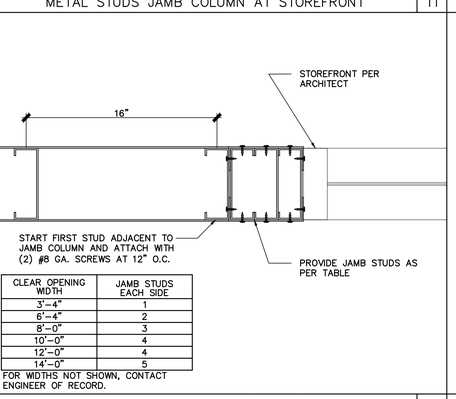
STEEL LINTEL ANGLE FOR MASONRY VENEER 3



METAL STUD PARTITION BRACING PARALLEL TO PURLINS 20



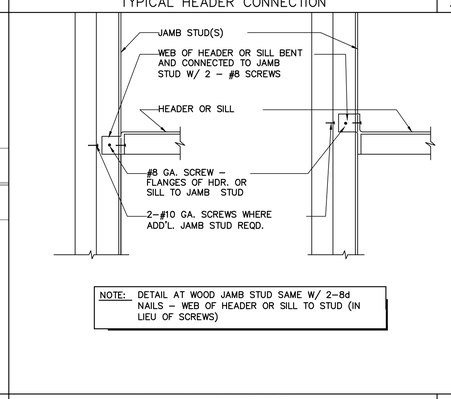
METAL STUD BEARING TOP PLATE 16



CLEAR OPENING WIDTH	JAMB STUDS EACH SIDE
3'-4"	1
6'-4"	2
8'-0"	3
10'-0"	4
12'-0"	4
14'-0"	5

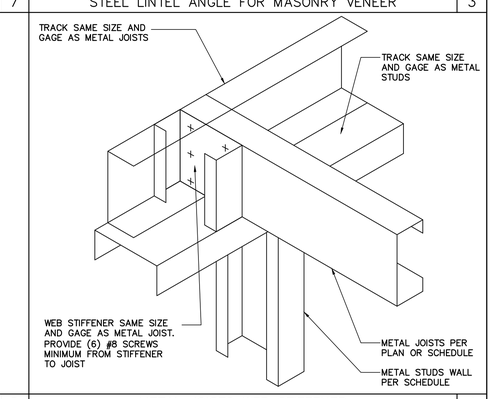
FOR WIDTHS NOT SHOWN, CONTACT ENGINEER OF RECORD.

METAL STUDS JAMB AT STOREFRONT 12



NOTE: DETAIL AT WOOD JAMB STUD SAME W/ 2-8d NAILS – WEB OF HEADER OR SILL TO STUD (IN LIEU OF SCREWS)

SILL AND HEADER DETAIL 8



METAL JOISTS WEB STIFFENER 4

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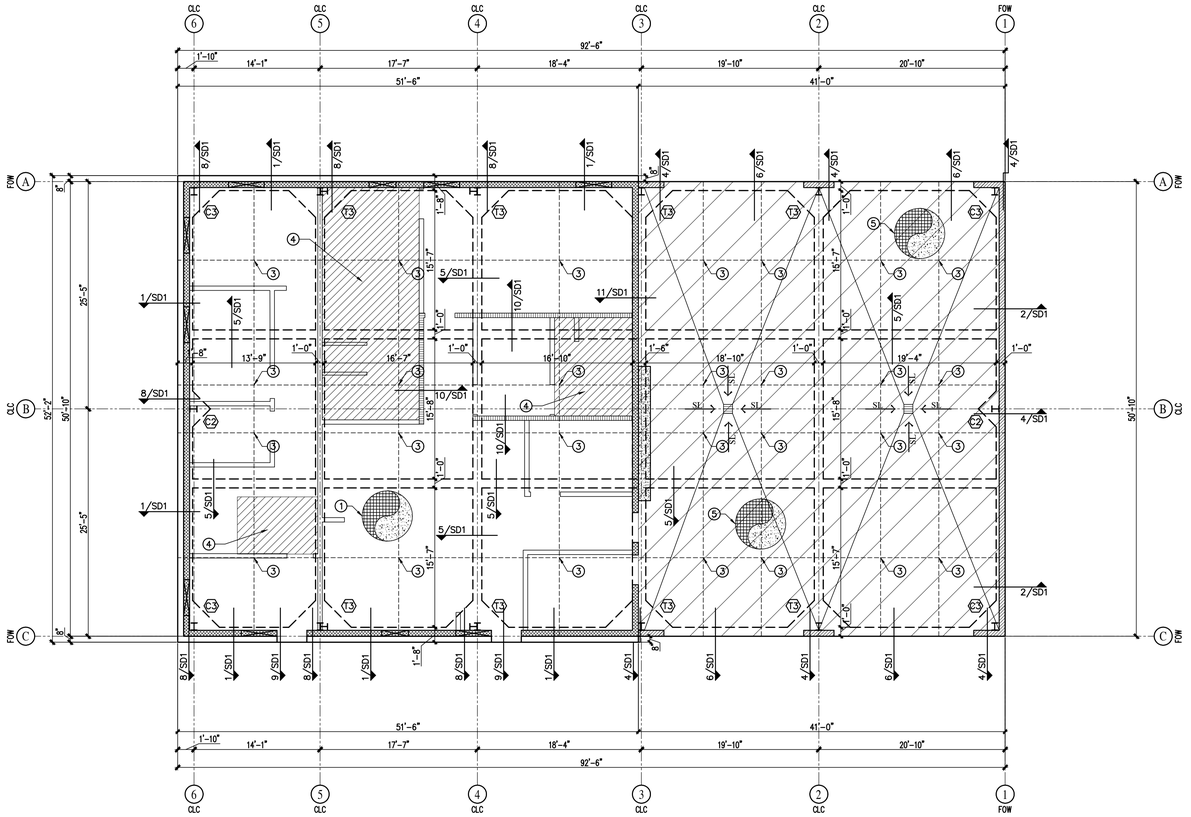
TYPICAL METAL STUDS DETAILS

DATE: 9/28/2015
REVISIONS:
ADDENDUM #5
11/02/2015

SHEET NO.:
S-1.3
JOB NO.: SSE-13-139.1



1 FOUNDATION PLAN

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

KEYED FOUNDATION NOTES

1. 5" THICK SLAB ON GRADE WITH #4 BARS @ 15" O.C. EACH WAY AT MID-DEPTH OF SLAB OVER 10 MIL VISQUEEN MOISTURE BARRIER OVER APPROVED COMPACTED FILL.
2. CMU WALL EXPANSION JOINT SEE DETAIL 1/S-1.2
3. SLAB CONTROL JOINTS, SEE DETAIL 13/S-1.1
4. RECESS SLAB AT SHADED AREA 1-1/2" (REFER TO ARCHITECTURAL PLANS).
5. 8" THICK SLAB ON GRADE WITH #5 BARS @ 12" O.C. EACH WAY AT 3" FROM TOP OF SLAB OVER 10 MIL VISQUEEN MOISTURE BARRIER OVER APPROVED COMPACTED FILL.

FOUNDATION NOTES

1. SEE SHEET S-1.1 FOR GENERAL NOTES AND TYPICAL FOUNDATION DETAILS.
2. SEE SHEET S-1.2 FOR TYPICAL CMU WALL DETAILS.
3. SEE SHEET S-1.3 FOR TYPICAL METAL STUD WALL DETAILS.
4. CONTRACTOR IS RESPONSIBLE FOR LOCATION OF ALL FLOOR DRAINS (F.D.) AND FLOOR DEPRESSIONS WHETHER OR NOT THEY ARE NOTED ON THE STRUCTURAL NOTES OR PLANS.
5. DIMENSIONS SHOWN ARE FOR GENERAL INFORMATION, COORDINATE WITH ARCHITECTURAL PLANS.
6. CONTRACTOR/SUBCONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL DIMENSIONS WITH ARCHITECTURAL PLANS BEFORE COMMENCING ANY WORK. THE CONTRACTOR/ SUBCONTRACTOR SHALL REPORT ANY DISCREPANCIES TO THE ARCHITECT/ENGINEER BEFORE THE WORK HAS BEGUN.
7. WALL LEGEND:
   - INDICATES METAL STUD WALL PER ARCH
   - INDICATES 6" LOAD BEARING METAL STUD WALL TO BE 600S162-33 @ 16" O.C.
   - INDICATES 8" METAL WALL BY P.E.B.M.
   - INDICATES 8" CMU WALL. REFER TO CMU WALL SCHEDULE FOR REINFORCING.
8. ABBREVIATIONS:
   CLC=CENTER LINE COLUMN
   CL=CENTER LINE WALL
   FOC=FACE OF COLUMN
   FOW=FACE OF WALL
   FFE=FINISH FLOOR ELEVATION
9. ALL ELEVATIONS REFERENCED HEREIN, ARE FROM THE BUILDING FINISH FLOOR ELEVATION OF 0'-0". REFER TO CIVIL PLANS FOR FINAL BUILDING ELEVATION.
10. REFER TO DETAIL 1/S-1.2 FOR CMU CONTROL JOINTS. UNLESS NOTED OTHERWISE, CONTROL JOINTS SHALL START AT 10 FT FROM EDGES OR CORNERS AND 20 FT O.C. IN BETWEEN. PROVIDE LOCATION OF CONTROL JOINTS FOR ENGINEER OF RECORD TO APPROVE BEFORE ERECTION OF WALLS.
11. REFER TO CIVIL PLANS FOR RAMPS, STAIRS & SIDEWALKS.

CMU WALL REINFORCING SCHEDULE

WALL TYPE	t	REINFORCING- SEE FOOT NOTE (5)	FOOT NOTE	SPEC. INSP.
WL-1	6"	#4 BARS (V) @ 48" O.C. CTR. & (1) #5 BAR (H) AT 10'-0"	(1)	NO
WL-2	8"	#5 BARS (V) @ 48" O.C. CTR. & (1) #5 BAR @ 5'-4" O.C. (H)	(2)	NO
WL-3	8"	#5 BARS (V) @ 32" O.C. CTR. & (1) #5 BAR @ 5'-4" O.C. (H)	(3)	NO
WL-4	8"	#5 BARS (V) @ 24" O.C. CTR. & (1) #5 BAR @ 5'-4" O.C. (H)		NO

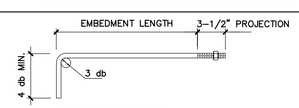
(1)TYP. 6" CMU INTERIOR NON-BEARING WALL U.N.O.
(2)TYP. 8" CMU INTERIOR NON-BEARING WALL U.N.O.
(3)TYP. 8" CMU INTERIOR BEARING WALL U.N.O.
(4)NOT USED
(5)ALL HORIZONTAL (H) REINFORCEMENT TO OCCUR IN CONTINUOUS BOND BEAMS SPACED AS INDICATED IN THE SCHEDULE ABOVE.

FOOTING SCHEDULE

TYPE	A	B	C	D	REINFORCING
T2		2'-0"	2'-0"	3'-0"	#5 BARS @ 10" O.C. EACH WAY @ BOTTOM
T3		3'-0"	3'-0"	3'-0"	#5 BARS @ 10" O.C. EACH WAY @ BOTTOM
T4		4'-0"	4'-0"	3'-0"	#5 BARS @ 10" O.C. EACH WAY @ BOTTOM
T5		5'-0"	5'-0"	3'-0"	#5 BARS @ 10" O.C. EACH WAY @ BOTTOM
T6		6'-0"	6'-0"	3'-0"	#5 BARS @ 10" O.C. EACH WAY @ BOTTOM
S2	2'-0"			3'-0"	#5 BARS @ 10" O.C. EACH WAY @ BOTTOM
S3	3'-0"			3'-0"	#5 BARS @ 10" O.C. EACH WAY @ BOTTOM
S4	4'-0"			3'-0"	#5 BARS @ 10" O.C. EACH WAY @ BOTTOM
S5	5'-0"			3'-0"	#5 BARS @ 10" O.C. EACH WAY @ BOTTOM
S6	6'-0"			3'-0"	#5 BARS @ 10" O.C. EACH WAY @ BOTTOM
S7	7'-0"			3'-0"	#5 BARS @ 10" O.C. EACH WAY @ BOTTOM
S8	8'-0"			3'-0"	#5 BARS @ 10" O.C. EACH WAY @ BOTTOM
C2		2'-0"	2'-0"	3'-0"	#5 BARS @ 10" O.C. EACH WAY @ BOTTOM
C3		3'-0"	3'-0"	3'-0"	#5 BARS @ 10" O.C. EACH WAY @ BOTTOM
C4		4'-0"	4'-0"	3'-0"	#5 BARS @ 10" O.C. EACH WAY @ BOTTOM
C5		5'-0"	5'-0"	3'-0"	#5 BARS @ 10" O.C. EACH WAY @ BOTTOM
C6		6'-0"	6'-0"	3'-0"	#5 BARS @ 10" O.C. EACH WAY @ BOTTOM

NOTE: D = FOOTING DEPTH BELOW FINISH FLOOR

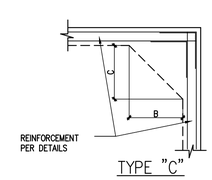
ANCHOR BOLT LENGTH SCHEDULE



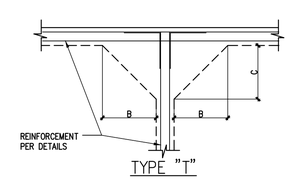
TYPICAL ANCHOR BOLT

MINIMUM ANCHOR BOLT EMBEDMENT (1), (2)	
DIAMETER	EMBEDMENT
1/2" (4)	12"
5/8" (4)	18"
3/4" (5)	24"
7/8" (5)	24"
1" (5)	30"
1 1/8" (6)	30"
1 1/4" (6)	30"

1. AN ADDITIONAL 2" OF EMBEDMENT SHALL BE PROVIDED FOR ANCHOR BOLTS LOCATED ON TOPS OF COLUMNS AND PEDESTALS.
2. ANCHOR BOLTS SHALL BE A307 HEX HEAD BOLTS.
3. NOT USED
4. MINIMUM 1.5" EDGE DISTANCE IN CONCRETE.
5. MINIMUM 2" EDGE DISTANCE IN CONCRETE.
6. MINIMUM 2.75" EDGE DISTANCE IN CONCRETE.



TYPE "C"



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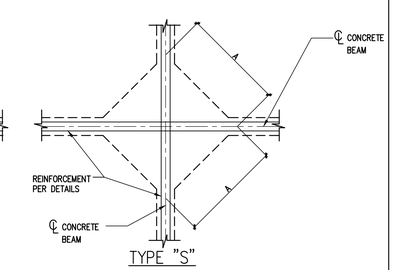

TYPE "S"

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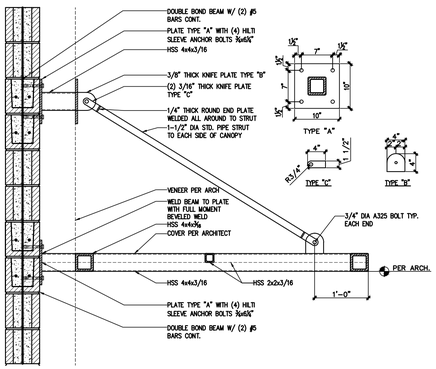
FOUNDATION PLAN

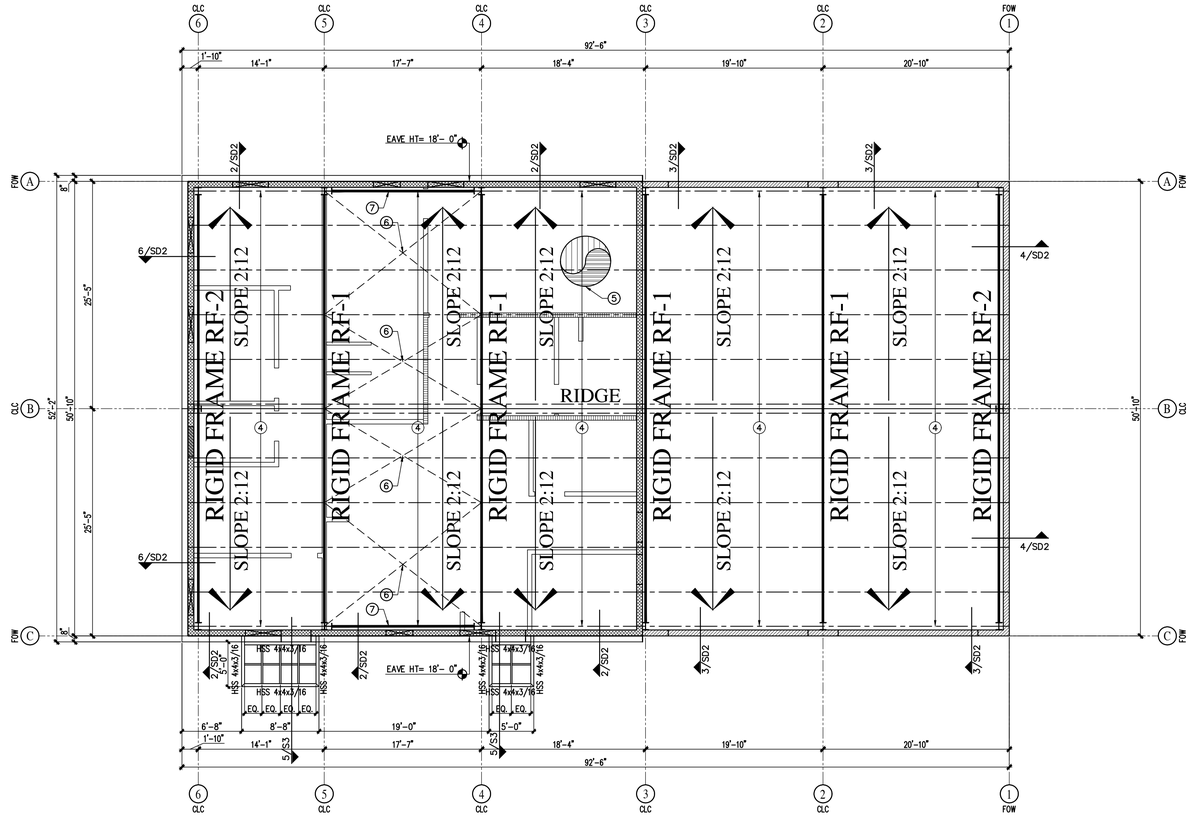
DATE: 9/28/2015
REVISIONS:
ADDENDUM #5
11/02/2015

SHEET NO.:
S-2

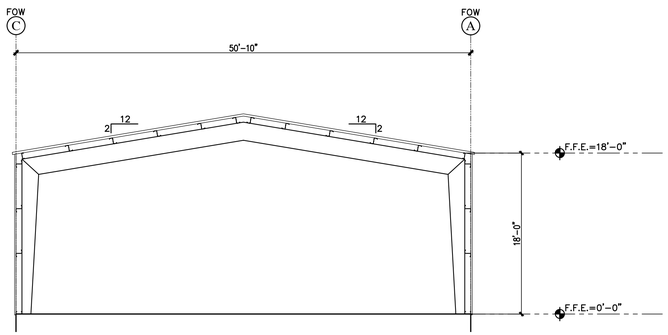
JOB NO.: SSE-13-139.1



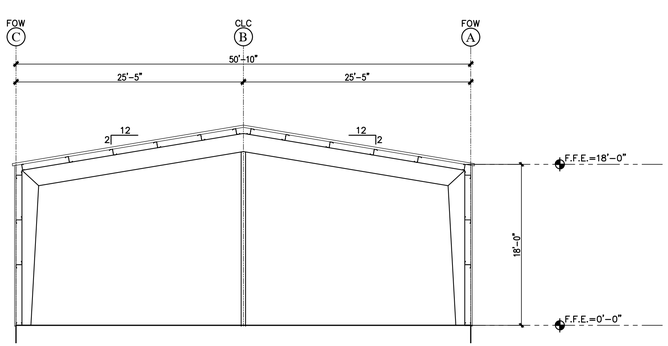
5 CANOPY TYPICAL SECTION
SCALE: 3/4" = 1'-0"



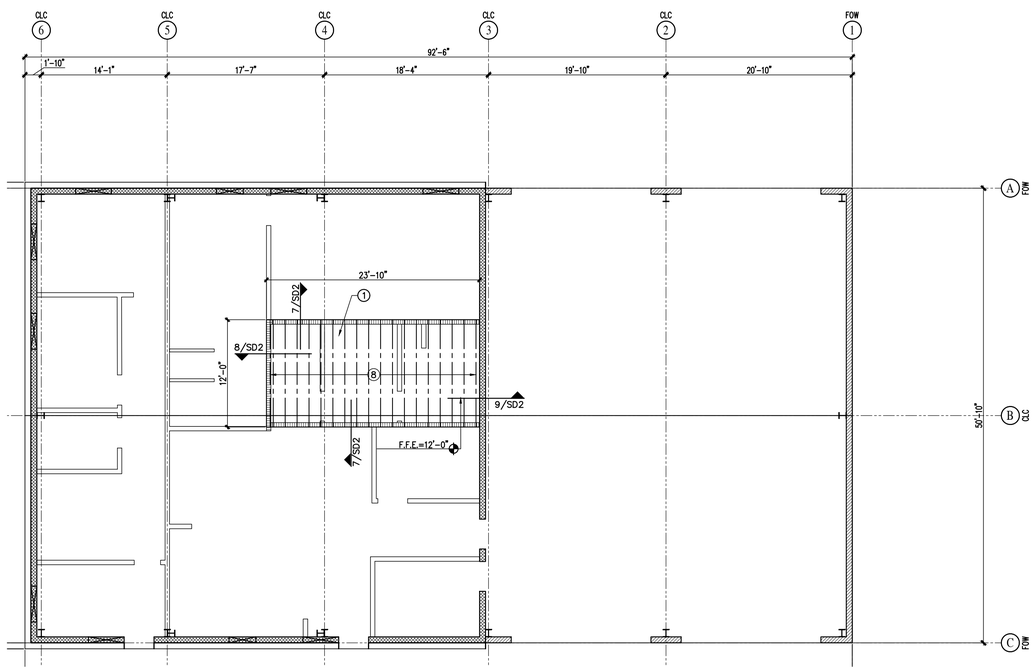
1 ROOF FRAMING PLAN
SCALE: 1/8" = 1'-0"



3 PRE-ENGINEERED RIGID FRAME ELEVATION RF-1
SCALE: 1/8" = 1'-0"



4 PRE-ENGINEERED RIGID FRAME ELEVATION RF-2
SCALE: 1/8" = 1'-0"



2 MEZZANINE FRAMING PLAN
SCALE: 1/8" = 1'-0"

FRAMING GENERAL NOTES

1. SEE SHEET S-1.1 FOR GENERAL NOTES AND TYPICAL FOUNDATION DETAILS.
2. SEE SHEET S-1.2 FOR TYPICAL CMU WALL DETAILS.
3. SEE SHEET S-1.3 FOR TYPICAL METAL STUD WALL DETAILS.
4. REFER TO MECHANICAL AC DRAWINGS FOR LOCATION AND SIZE OF REFRIGERANT PIPING AND DUCT WORK, MECHANICAL UNITS, WEIGHTS, & SUPPORTS.
5. DIMENSIONS SHOWN ARE FOR GENERAL INFORMATION, COORDINATE WITH ARCHITECTURAL PLANS.
6. JOISTS MANUFACTURER TO REFER TO MECHANICAL DRAWINGS FOR MECHANICAL EQUIPMENT LOCATION AND WEIGHTS.
7. WALL LEGEND:
   - INDICATES METAL STUD WALL PER ARCH
   - INDICATES 6" LOAD BEARING METAL STUD WALL TO BE 600S162-33 @ 16" O.C.
   - INDICATES 8" METAL WALL BY P.E.B.M.
   - INDICATES 8" CMU WALL. REFER TO CMU WALL SCHEDULE FOR REINFORCING.
8. ABBREVIATIONS:
   CLC=CENTER LINE COLUMN
   CLW=CENTER LINE WALL
   FOC=FACE OF COLUMN
   FOW=FACE OF WALL
   FFE=FINISH FLOOR ELEVATION
9. REFER TO DETAILS 9 THRU 12/S-1.2 FOR TYPICAL INTERIOR PARTITION TOP OF WALL BRACING
10. ALL ELEVATIONS REFERENCED HEREIN, ARE FROM THE BUILDING FINISH FLOOR ELEVATION OF 0'-0". REFER TO CIVIL PLANS FOR FINAL BUILDING ELEVATION.

KEYED FRAMING NOTES

1. FLOOR DECK TO BE 2" NORMAL WEIGHT CONCRETE DECK WITH WWF 6x6-W2.9xW2.9 OVER VULCRAFT METAL DECK 0.6C 24 GA. WITH FASTENER PATTERN 33/4 WITH #12 TEK SCREWS AT SUPPORT AND #10 TEKS SCREWS @ 12" O.C. AT SIDELAPS. TOTAL THICKNESS OF SLAB = 2" (1.4" CONC. FILL + 0.6" MTL. DECK)
2. NOT USED.
3. CANOPY ROOF DECK TO BE VULCRAFT METAL DECK 3N 18 GA. WITH FASTENER PATTERN 24/4 WITH #12 TEK SCREWS AT SUPPORT AND #10 TEKS SCREWS @ 12" O.C. AT SIDELAPS.
4. 8" ZEE PURLINS AT 5'-0" O.C. MAX. PROVIDE BRACING AND LAP AS REQUIRED BY PRE-ENGINEERED BUILDING MANUFACTURER.
5. STANDING SEAM METAL ROOF PER ARCHITECT
6. DIAGONAL BRACING AS REQUIRED BY PRE-ENGINEERED BUILDING MANUFACTURER.
7. PORTAL FRAME AS REQUIRED BY PRE-ENGINEERED BUILDING MANUFACTURER.
8. FLOOR JOISTS TO BE 800S200-68 @ 16" O.C.

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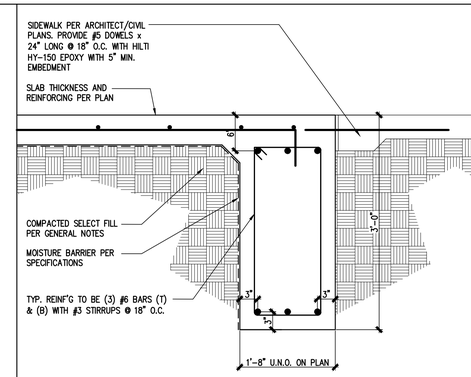
ROOF FRAMING PLAN

SHEET NO.:
S-3

JOB NO.: SSE-13-139.1



DETAIL NOT USED 17

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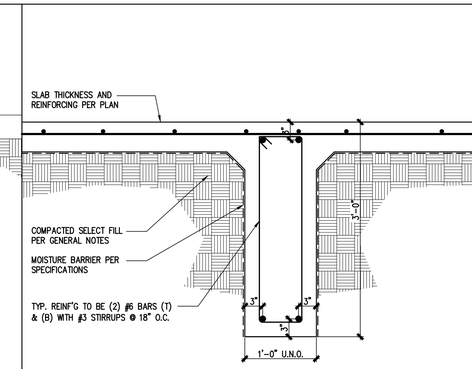
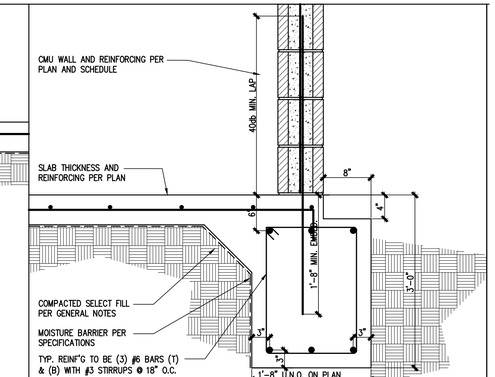
PERIMETER GRADE BEAM 9



INTERIOR GRADE BEAM 5



PERIMETER GRADE BEAM 1

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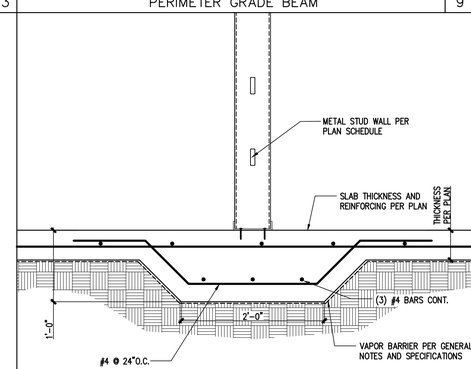
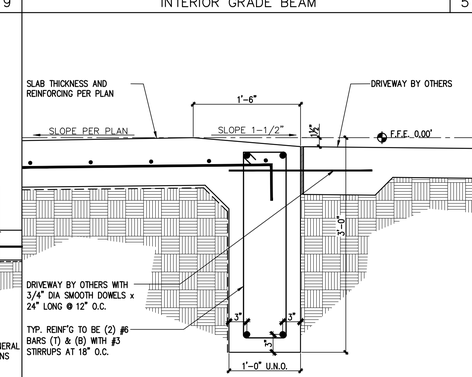
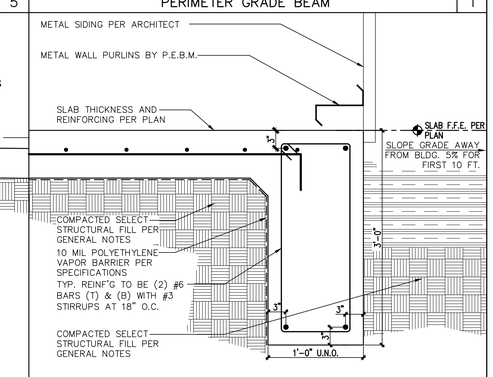


THICKENED SLAB AT BEARING INTERIOR PARTITIONS 10



PERIMETER GRADE BEAM AT ENTRY 6



PERIMETER GRADE BEAM 2

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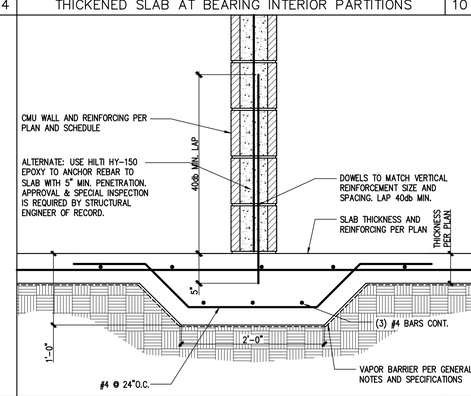
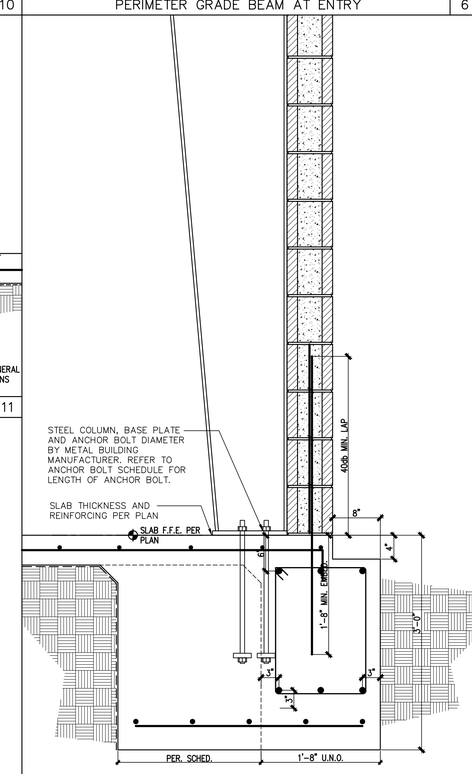


THICKENED SLAB AT BEARING INTERIOR PARTITIONS 11



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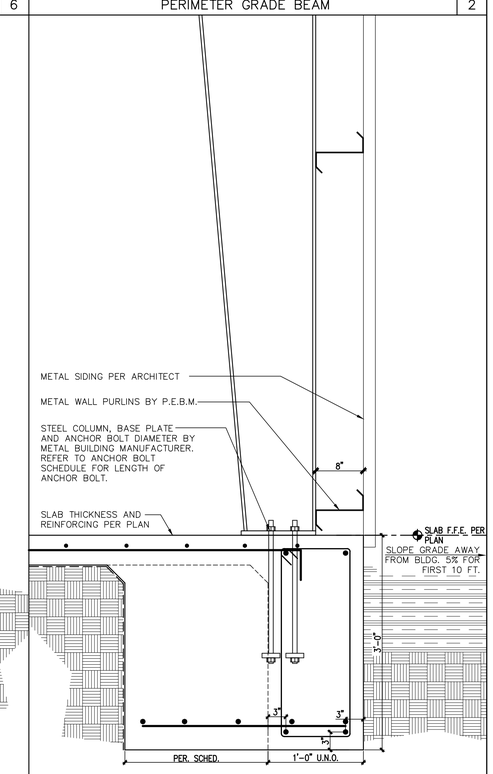

SPREAD FOOTING 4

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DETAIL NOT USED 16

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SHEET NO.:
SD-1

JOB NO.: SSE-13-139.1

DETAIL NOT USED 17

DETAIL NOT USED 18

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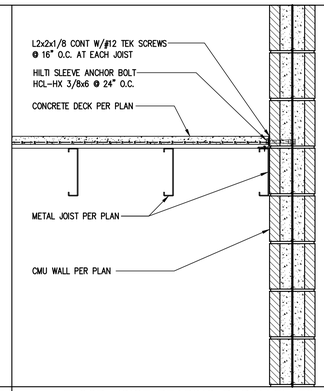

FLOOR JOIST BEARING PARALLEL TO CMU WALL 9

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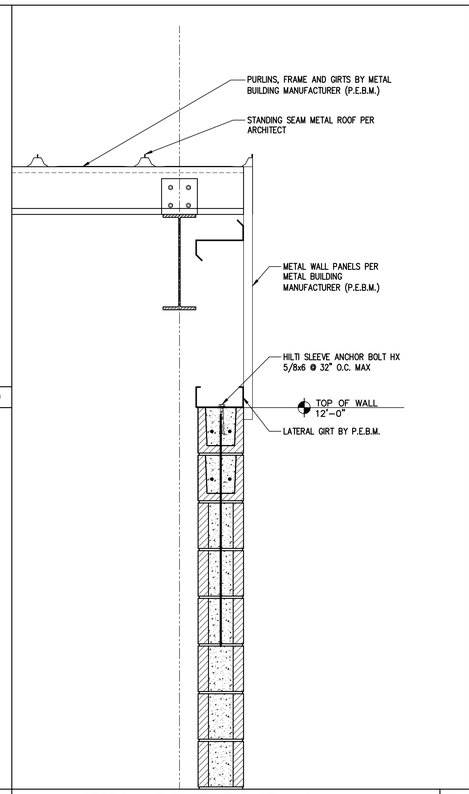
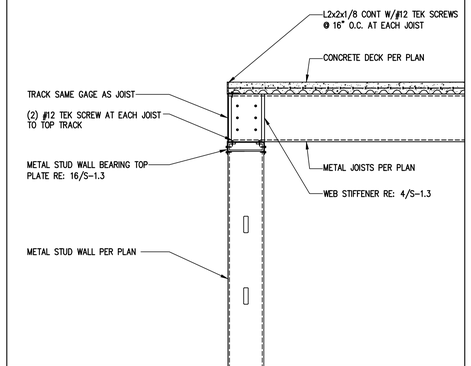
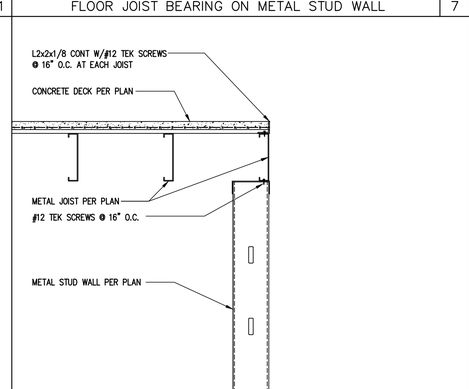


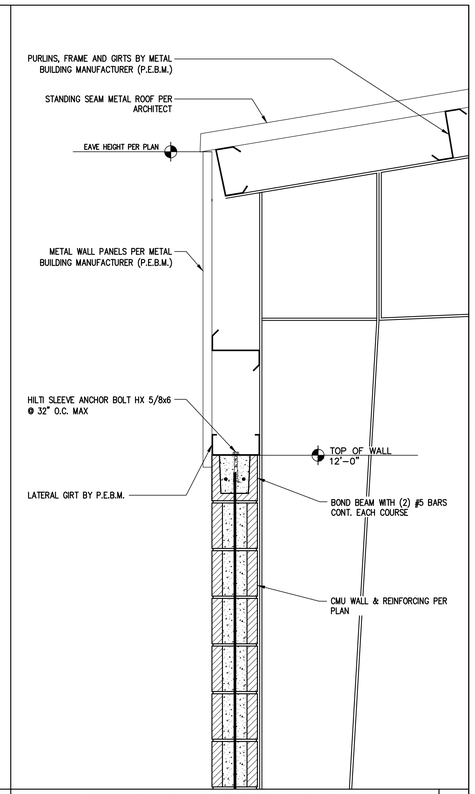
SECTION AT RAKE AT PARTIAL CMU WALL 6



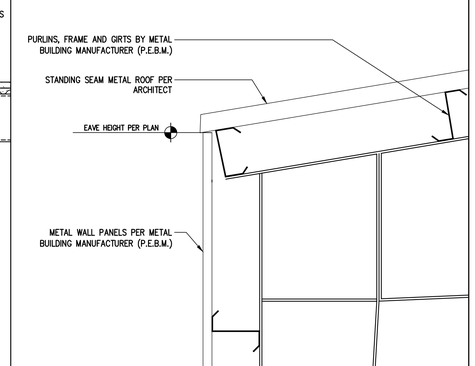
FLOOR JOIST BEARING ON METAL STUD WALL 7



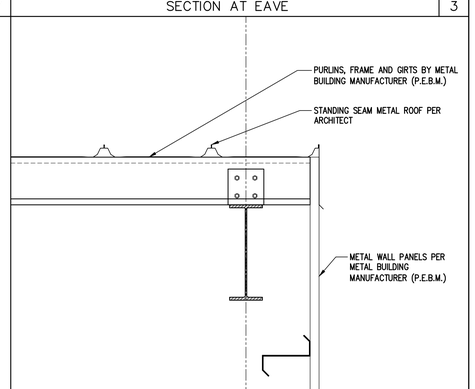
FLOOR JOIST PARALLEL TO METAL STUD WALL 8



SECTION AT EAVE AT PARTIAL CMU WALL 2



SECTION AT EAVE 3



RIGID FRAME AT RAKE 4

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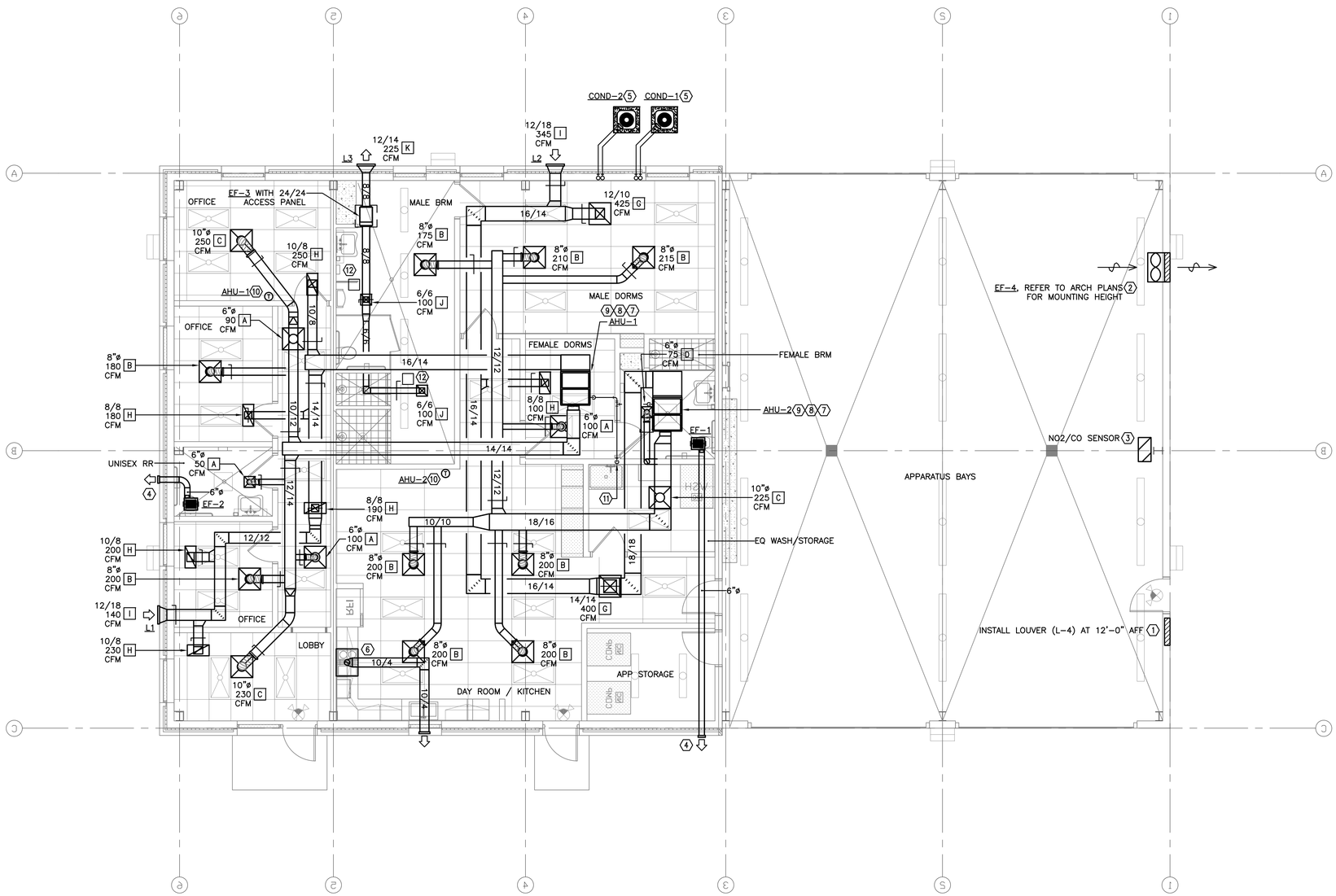
ROOF FRAMING DETAILS

SHEET NO.:
SD-2
JOB NO.: SSE-13-139.1



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

MECHANICAL KEYED NOTES:

1. PROVIDE WIND DRIVEN RAIN RESISTANT LOUVER 30/30 EQUIVALENT TO RUSKIN MODEL ELF6375DXD. PROVIDE WITH 120V VOLUME CONTROL DAMPER (VCD-40) INTERLOCK WITH INDICATED FAN.
2. PROVIDE WIND DRIVE RAIN RESISTANT LOUVER 30/30 EQUIVALENT TO RUSKIN MODEL ELF6375DXD. PROVIDE 120V VOLUME CONTROL DAMPER AND MOUNT EXHAUST FAN BEHIND DAMPER. INTERLOCK DAMPER WITH FAN.
3. PROVIDE "BRASCH GAS DETECTOR" WITH SOLID STATE CARBON MONOXIDE SENSOR AND DETECT BOTH CARBON MONOXIDE AND NITROGEN DIOXIDE, 120V, MODEL No. GSS-NCM-1. PROVIDE WITH MANUAL OVER RIDE SWITCH. INTERLOCK WITH EXHAUST FANS TO CONTROL VENTILATION IN THE APPARATUS BAY. BOTH FANS (EF-4 AND EF-5) SHALL RUN ON ALARM. INSTALL AS PER MANUFACTURES INSTRUCTIONS CONTROL WIRING, RELAYS, AND STARTERS BY ELECTRICAL CONTRACTOR.
4. PROVIDE FAN MANUFACTURER'S WALL CAP.
5. PROVIDE 6" HOUSEKEEPING PAD.
6. ROUTE 10/4 EXHAUST DUCT TO WALL CAP. PROVIDE BROAN WALL CAP MODEL No. 649.
7. PROVIDE FULL SIZE PLENUM ON END OF THE UNIT WITH SLIDE OUT FILTER FRAME AND ACCESS PANEL. FRAME SHALL HOUSE 2" MERV 8 PLEATED FILTERS.
8. INSTALL AHU IN MEZZANINE ABOVE. PROVIDE PROPER PLATFORM OR SUSPEND FROM STRUCTURE. PROVIDE SECONDARY DRAIN PAN WITH FLOAT SWITCH WIRED TO SHUT DOWN UNIT UPON ACTIVATION.
9. PROVIDE DUCT SMOKE DETECTOR IN SUPPLY AND RETURN DUCT.
10. INSTALL THERMOSTAT AT 48" AFF ABOVE FINISHED FLOOR. COORDINATE LOCATION WITH OTHER TRADES AND WITH GENERAL CONTRACTOR.
11. ROUTE CONDENSATE DRAIN LINE FULL SIZE TO DRAIN/FIXTURE AT THIS APPROXIMATE LOCATION. TERMINATE 2" ABOVE THE DRAIN/FIXTURE RIM. INSULATE ALL CONDENSATE LINES.
12. PROVIDE 12/12 ACCESS PANELS TO CONTROL VOLUME DAMPERS.

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Texas Firm Registration No. F-005318

JOB 15096

MECHANICAL FLOOR PLAN

DATE: 11/02/15
REVISIONS:
ADDENDUM 5

SHEET NO.:
M1
JOB NO.: 15096

Nov 03, 2015 – 1:38pm
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DX SPLIT AIR HANDLING UNIT SCHEDULE

MARK	AHU-1	AHU-2
SERVES	OFFICE	DORM
TYPE	CV	CV
SUPPLY (CFM)	1200	1800
OUT SIDE AIR (CFM)	140	345
EXT. SP. (IN. WG)	0.75	0.75
FAN MOTOR HORSEPOWER	1/2	1
FAN RPM	1050	1050
FAN STYLE/CONFIGURATION	HORZ.	HORZ.
COOLING COIL		
MAX. COIL FACE VEL. (FPM)	500	500
ROWS/FINS		
EAT DB/WB (F)	80.4/64.9	80/67.3
LAT DB/WB (F)	55/53.5	55/54
TOTAL GRAND (MBTUH)	36	57.6
TOTAL SENSIBLE (MBTUH)	31	46.1
REHEAT COIL		
HEATING KW @208 V	7.2	10.8
HEATING BTUH	24624.0	36936.0
HEATING EAT DB (F)	67	64
HEATING LAT DB (F)	86	83
ELECTRICAL DATA		
VOLTS/PH/HZ	240/1/60	240/1/60
MCA	55/25	60/50
MOCP	60/25	60/50
MANUFACTURE	TRANE	TRANE
MODEL No.	GAM5A0B36	GAM5A0C60
NOTES:	1,2,3,4,5	1,2,3,4,5

NOTES:
1. PROVIDE 2" PLEATED 30% EFFICIENT MERV 8 FILTERS. PROVIDE SLIDE OUT FILTER FRAME ON RETURN INLET OF THE AIR HANDLER.
2. PROVIDE WITH DUAL POINT OF ELECTRICAL CONNECTION FOR EACH UNIT. THE UNITS SHALL BE CONSTANT VOLUME. UNITS SHALL BE PROVIDED WITH INTEGRAL CIRCUIT BREAKER DISCONNECTS.
3. PROVIDE SECONDARY DRAIN PAN WITH EMERGENCY FLOAT SWITCH. INTERLOCK FLOAT SWITCH WITH UNIT SAFETIES.
4. INSTALL ALL UNITS AS PER THE MANUFACTURERS SPECIFICATIONS AND RECOMMENDATIONS. PROVIDE THE MANUFACTURERS MINIMUM CLEARANCES FOR OPERATION AND SERVICE OF THE UNIT. COORDINATE THE INSTALLATION OF THE UNIT WITH ALL OTHER DISCIPLINES, DUCTWORK, STRUCTURE, ELECTRICAL, AND ALL OTHER OBSTRUCTION PRIOR TO INSTALLATION OF THE UNIT, ITS EQUIPMENT PAD, AND ALL ACCESSORIES.
5. MECHANICAL SPACES HAVE BEEN DESIGNED AROUND THE SPECIFIED MANUFACTURER. ALTERNATE MANUFACTURERS EQUIPMENT SHALL NOT EXCEED THE SPECIFIED MANUFACTURES PHYSICAL DIMENSIONS AND WEIGHTS.

CONDENSING UNIT SCHEDULE

MARK	COND-1	COND-2
SERVES	AHU-1	AHU-2
TOT MBTUH	36	60
AMBIENT TEMP.	105	105
SEER (EER)	14(11.5)	13(10.5)
VOLTS/PH	208/3/60	208/3/60
MCA	14	21
MOCP	20	35
MFG	TRANE	TRANE
MODEL No.	4TTA3036	4TTA3061
NOTES:	1,2,3,4	1,2,3,4

NOTES:
1. PROVIDE COMPRESSOR WITH 5 YEAR WARRANTY.
2. PROVIDE RAWAL HOTGAS BYPAS VALVE.
3. SIZE REFRIGERANT LINES PER MANUFACTURES RECOMMENDATIONS.
4. EQUIVALENT MANFUACTURES ARE LENNOX, CARRIER, AND TRANE.

FAN SCHEDULE

MARK	EF-1	EF-2	EF-3	EF-4
SERVES	WOMENS	MENS	RESTROOM	TRUCK BAY
TYPE/DRIVE	CEILING	CEILING	INLINE	WALL/PROP
CFM	75	75	200	3000
E.S.P. IN W.G.	0.50	0.50	0.50	0.60
HORSEPOWER	64 WATTS	64 WATTS	0.1	3/4
RPM (MAX.)	923	923	1703	1750
SONES (MAX.)	2.5	2.5	9.1	21
VOLTS/PHASE/HERTZ	115/1/60	115/1/60	115/1/60	208/3/60
MANUFACTURER	COOK	COOK	COOK	COOK
MODEL NUMBER	GC-144	GC-144	70SQN-B	24XMWH
NOTES	1,2,3,4,5	1,2,3,4,5	2,3,4,5	5,7

NOTES
1. PROVIDE MANUFACTURER'S WALL CAP.
2. PROVIDE PREWIRED 5AMP SPEED CONTROL RELAY.
3. ALL FANS SHALL BE EQUIPPED WITH BACKDRAFT DAMPER.
4. FAN SHALL SWITCHED WITH THE RESTROOM LIGHTS.
5. EQUIVALENT MANUFACTURERS: COOK, GREENHECK, TWIN CITY OR EQUAL.
6. EXHAUST FAN TO BE CONTROLLED BY A TIME CLOCK SET TO RUN FROM 7AM-7PM. TIME CLOCK BY DIV.16.
7. PROVIDE FAN WITH WALL HOUSING AND OSHA GUARD AUTOMATIC BELT TENSIONER, AND EPOXY COATING. MOUNT FAN/HOUSING TO WALL LOUVER.

NOTE:
PROVIDE APR CONTROLS, AS MANUFACTURED BY RAWAL DEVICES, INC. OF WOBURN, MA. (800-727-6447) SHALL BE INSTALLED IN ACCU-1 & 2 TO PROVIDE CONTINUOUS CAPACITY MODULATION ON THE REFRIGERATION CIRCUIT OF THE UNITS FOR ADDITIONAL CAPACITY CONTROL DURING PART LOAD CONDITIONS. APR CONTROLS SHALL BE INSTALLED ON LEAD CIRCUIT (FIRST-ON/LAST-OFF) IN SYSTEMS WITH MULTIPLE CIRCUITS FOR STAGING.

THE APR CONTROL HOT GAS BYPASS VALVE SHALL BE SET TO START OPENING AT 109 PSI TO MAINTAIN THE EVAPORATIVE COIL ABOVE 36° F. THE LIQUID INJECTION VALVE SHALL BE SET AT 12-13° F SUPERHEAT, AND SHALL FUNCTION AS A COMPRESSOR OVERHEAT PROTECTION DEVICE. THE PATENTED VORTEX DESUPERHEATER CHAMBER SHALL HAVE ACCESS VALVE TO ALLOW PRESSURE TESTING, EVACUATION AND CHARGING OF SYSTEM. APR CONTROLS COME SET FROM THE FACTORY PRESET, BUT MUST BE CONFIRMED IN THE FIELD. ADJUSTMENT INSTRUCTION ARE PROVIDED WITH APR CONTROLLER.

AIR DEVICE SCHEDULE

PLAN MARK	MANUF. & MODEL NUMBER	SERVICE	MODULE SIZE	NECK SIZE	FACE SIZE	BORDER TYPE	FINISH	BLOW PATTERN	MAT'L.	OPTIONS/NOTES
A	TITUS TMS-AA	SUPPLY	24 X 24	8"ø	18 X 18	3	26	4	ALU	PROVIDE TRM WHEN SURFACE MOUNTING
B	TITUS TMS-AA	SUPPLY	24 X 24	10"ø	18 X 18	3	26	4	ALU	PROVIDE TRM WHEN SURFACE MOUNTING
C	TITUS TMS-AA	SUPPLY	24 X 24	12"ø	18 X 18	3	26	4	ALU	PROVIDE TRM WHEN SURFACE MOUNTING
D	TITUS TMS-AA	SUPPLY	12 X 12	6"ø	12 X 12	1	26	4	ALU	TRM
E	TITUS 301FL	SUPPLY	20 X 12	18 x 10	20 X 12	1	04	2	ALU	-
F	TITUS 350FL	RETURN EXHAUST	26 X 26	24 X 24	26 X 26	1	04	-	ALU	-
G	TITUS 50 F	RETURN EXHAUST	24 X 24	22 X 22	24 X 24	3	26	-	ALU	½" X ½" X 1" CORE
H	TITUS 50 F	RETURN EXHAUST	24 X 12	22 X 10	24 X 12	1	26	-	ALU	½" X ½" X 1" CORE
I	RUSKIN ELF6375DXD	INTAKE LOUVER	12 X 18	12 X 18	12 X 18	7	CBA	-	ALU	BUG SCREEN
J	TITUS 50 RS	EXHAUST	12 X 12	10 X 10	12 X 12	1	26	-	SS	-
K	RUSKIN ELF6375DXD	EXHAUST LOUVER	12 X 14	12 X 14	12 X 14	7	CBA	-	ALU	BUG SCREEN

BORDER TYPE
1. SURFACE MOUNT
2. SNAP-IN
3. LAY-IN
4. SPLINE
5. DROPPED
6. BEVELED
7. FLUSH

BLOW PATTERN
1. 1-WAY
2. 2-WAY
2C. 2-WAY, OPPOSITE
3. 3-WAY
4. 4-WAY+

FINISH
01 ALUMINUM
04 MILL (STD)
26 WHITE
CBA COLOR BY ARCHITECT

MATERIAL
ST'L 22 GAUGE STEEL
ALU ALUMINUM
SS STAINLESS STEEL

OPTIONS/NOTES

TRM	RAPID MOUNT FRAME
PFSS	SS PLASTER FRAME
PFA	ALUM PLASTER FRAME
AG-15	STEEL DAMPER
AG-15-AA	ALUMINUM DAMPER
AG-15-SS	STAINLESS STEEL DAMPER
EQT	EARTHQUAKE TABS
L	FRONT BLADE LONG ORIENTATION
S	FRONT BLADE SHORT ORIENTATION
AG-85	BUTTERFLY DAMPER
EG	EQUALIZING GRID
TRV	THROW REDUCING VANES

GENERAL ENERGY NOTES:

THERMOSTATIC CONTROLS MUST HAVE A 5deg DEADBAND OR HAVE MANUAL CHANGEOVER BETWEEN HEATING AND COOLING.

PROVIDE AUTOMATIC CONTROLS: SETBACK TO 55degF (HEAT) AND 85degF (COOL); 7-DAY CLOCK, 2-HOUR OCCUPANT OVERRIDE, 10-HOUR BACKUP IN THE EVENT OF A POWER LOSS.

OUTDOOR AIR SUPPLY AND EXHAUST DUCTS SHALL BE PROVIDED WITH AUTOMATIC MEANS TO REDUCE AND SHUT OFF AIRFLOW WITH THE EXCEPTION FOR SYSTEM DESIGNED FOR CONTINUOUS OPERATION OR SYSTEM WITH AN FLOW RATE LESS THAN 3,000 CFM; SYSTEMS WITH READILY ACCESSIBLE MANUAL DAMPERS; OR RESTRICTED BY HEALTH AND LIFE SAFETY CODES.

ALL JOINTS, LONGITUDINAL AND TRANSVERSE SEAMS AND CONNECTIONS IN DUCTWORK SHALL BE SECURELY FASTENED AND SEALED WITH WELDS, GASKETS, MASTICS OR TAPES. TAPES AND MASTICS USED TO SEAL DUCTWORK SHALL BELISTED AND LABELED IN ACCORDANCE WITH UL181A OR UL181B. DUCT CONNECTIONS TO FLANGES OF AIR DISTRIBUTION SYSTEMS SHALL BE SEALED AND MECHANICALLY FASTENED. DUCT TAPE IS NOT PERMITTED AS A SEALANT OF ANY METAL DUCTS.

INSULATION SHALL BE PROVIDED FOR PIPING AS NOTED IN THE TABLE BELOW. PIPING INSULATION SHALL BE PROVIDED FOR RETURN CIRCULATION HOT WATER SYSTEM WITH 1" OR R-4 INSULATION. THE FIRST 8' OF PIPING IN NONCIRCULATING SYSTEMS SERVED BY EQUIPMENT W/O INTEGRAL HEAT TRAPS SHALL BE INSULATED WITH 5" OR R-4 INSULATION.

WATER HEATING EQUIPMENT NOT SUPPLIED WITH INTEGRAL HEAT TRAPS AND SERVING NONCIRCULATING SYSTEMS SHALL BE PROVIDED WITH HEAT TRAPS ON THE SUPPLY AND DISCHARGE PIPING AS ASSOCIATED WITH THE EQUIPMENT.

AUTOMATIC CIRCULATING HOT WATER SYSTEMS OR HEAT TRACE SHALL HAVE TIME SWITCHES THAT ARE CAPABLE OF BEING SET TO TURN OFF THE SYSTEM.

EACH AREA SHALL HAVE AT LEAST ONE MANUAL CONTROL FOR LIGHTING SERVING THAT AREA, UNLESS THE LIGHTING IS FOR SECURITY OR EMERGENCY AREAS THAT MUST REMAIN CONTINUOUSLY ILLUMINATED OR FOR ILLUMINATION OF MEANS OF EGRESS.

EACH AREA THAT IS REQUIRED TO HAVE A MANUAL CONTROL SHALL ALSO PROVIDE BI-LEVEL SWITCHING TO UNIFORMLY REDUCE THE LIGHT BY 50% UNLESS THE AREA IS SERVED BY:
a. ONE LUMINARE.
b. CONTROLLED BY AN OCCUPANCY SENSOR
c. CORRIDORS, STOREROOMS, RESTROOMS OR PUBLIC LOBBIES.

FIXTURES SHALL BE PROVIDED WITH ELECTRONIC BALLASTS.

MINIMUM PIPE INSULATION (inch)	NORMINAL PIPE DIA.	
FLUID	≤ 1.5"	> 1.5"
STEAM	1-1/2	3-1/2
HOT WATER	1	1-1/2
CHILL WATER or REFRIGERANT	1	1

MINIMUM DUCT INSULATION (R)	
UNCONDITIONED SPACE	≤ 5
OUTSIDE BLDG. ENVELOPE	≥ 8

EXCEPTIONS:
1. WHEN LOCATED WITHIN EQUIPMENT.
2. WHEN DESIGN TEMP. DIFFERENCE BETWEEN THE INTERIOR AND EXTERIOR OF THE DUCT OR PLENUM DOES NOT EXCEED 15'F.

HVAC GENERAL NOTES:

A. THESE GENERAL NOTES APPLY TO ALL HVAC DRAWINGS.
B. DUCT SIZES ARE INSIDE CLEAR DIMENSIONS.
C. INSULATE DUCTWORK AS FOLLOWS:
1. WRAP ALL INDOOR SUPPLY, RETURN, OUTSIDE AIR DUCT AND EXHAUST DUCT WILL 2-INCH THICK INSULATION WITH A THERMAL MIN. R-5 VALUE PER SPECIFICATIONS. THIS APPLIES TO CONCEALED DUCTWORK.
2. COVER ALL OUTDOOR SUPPLY AND RETURN DUCTS WITH 2" THICK RIGID BOARD INSULATION WITH A THERMAL MIN. R-8 VALUE PER SPECIFICATIONS. ALL OUTDOOR DUCTS SHALL HAVE ALL JOINTS AND SEAMS SEALED LIQUID TIGHT WITH A RCD #8, UL-181 MASTIC OR EQUAL. ALL JOINTS AND SEAMS ON THE RIGID INSULATION BOARD SHALL BE SEALED LIQUID TIGHT USING RCD #8, UL-181 MASTIC OR EQUAL. THEN ALL RIGID BOARD SHALL BE PAINTED WITH A LIBERAL AMOUNT OF "KOOL-SEAL" ALUMINUM ROOF COATING #20-400 OR EQUAL.
3. PROVIDE DOUBLE WALL DUCTWORK IN AREAS WHERE DUCT IS EXPOSED TO VIEW. PROVIDE DUCT INSULATION BETWEEN DUCT WALLS WITH MINIMUM R-VALUE OF 5. REFER TO SPECIFICATIONS.
D. PROVIDE FLEXIBLE CONNECTION AT DUCT ATTACHMENTS TO MECHANICAL EQUIPMENT.
E. HVAC EQUIPMENT SUBMITTED OTHER THAN SCHEDULED MANUFACTURER'S SHALL NOT EXCEED PHYSICAL DIMENSIONS DUE TO SPACE LIMITATIONS.
F. ALL PIPING AND DUCTWORK PENETRATIONS OF FIRE-RATED BARRIERS SHALL BE PROTECTED WITH FIRE BLOCKING MATERIAL AND/OR DAMPERS PER SPECIFICATIONS.
G. MANUAL VOLUME DAMPERS INSTALLED IN RECTANGULAR DUCTWORK SHALL BE OPPOSED BLADE TYPE. MANUAL VOLUME DAMPERS INSTALLED IN ROUND DUCTWORK SHALL BE BUTTERFLY TYPE.
H. BALANCING DAMPERS IN EXTERNALLY INSULATED DUCTWORK SHALL BE PROVIDED WITH A BUILD-OUT ON DAMPER OPERATOR TO EXTEND OPERATOR HANDLE TO OUTSIDE OF INSULATION.
I. CONCEALED DUCTWORK TO HAVE OPERABLE QUADRANTS ON BALANCING DAMPERS.
J. PROVIDE ACCESS TO ALL CONTROL, MOTORIZED, BALANCING AND FIRE DAMPERS. PROVIDE ACCESS DOORS IN DUCTS AND CEILINGS WHERE NECESSARY.
K. DUCTWORK SHALL BE GALVANIZED G-90 SHEETMETAL FABRICATED TO SMACNA STANDARDS. DUCTWORK SHALL BE SHEET STEEL OF LOCK-FORMING QUALITY, ASTM-525. SEAL ALL DUCT SEAMS, TRANSVERSE AND LONGITUDINAL SEAMS AIR TIGHT WITH LOW PRESSURE DUCT SEALANT.
L. FLEXIBLE DUCTWORK SHALL BE EQUAL TO FLEXMASTER 8M WITH AN INSULATING R-VALUE OF 5 OR BETTER. FLEX DUCT SHALL NOT EXCEED 6 FT. IN LENGTH. DUCT RUNOUTS TO DIFFUSERS SHALL BE SAME SIZE AS DIFFUSER NECK.
M. PROVIDE 7-DAY PROGRAMMABLE THERMOSTAT WITH 24 HOUR MEMORY BACKUP SIMILAR TO HONEYWELLS T7350M1008/U.

HVAC SYMBOLS AND ABBREVIATIONS

DUCTWORK:
- 20"ø — PRIMARY DUCT, ROUND
- 20/12 — PRIMARY DUCT, RECTANGULAR
- DUCT TRANSITION
- BRANCH TAP
- MANUAL VOLUME DAMPER (MVD)

LINE TYPES:
- NEW EQUIPMENT
- NEW PIPING OR DUCT
- EXISTING PIPING OR DUCT

- RETURN AIR
- FSD — FIRE/SMOKE DAMPER
- CEILING DIFFUSER
- RETURN/EXHAUST AIR GRILLE

MISCELLANEOUS:
- TS HS — ZONE TEMP/HUMIDITY SENSOR
- T H — ZONE THERMOSTAT/HUMIDISTAT
- A 8"ø 200 CFM — AIR DEVICE TYPE, NECK SIZE, SCHEDULED CFM
- NEW CONNECTION TO LANDLORD'S BASE SYSTEM

NOTE: ALL SYMBOLS & ABBREVIATIONS MAY NOT APPLY TO THIS PROJECT

LEGEND

ϕ	SQUARE
ø	ROUND
ACC.DR.	ACCESS DOOR
AFF	ABOVE FINISHED FLOOR
CFM	CUBIC FEET PER MINUTE
DB	DRY BULB
E/A	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
ESP	EXTERNAL STATIC PRESSURE
FC	FLEXIBLE CONNECTION
FLA	FULL LOAD AMPS
FPI	FINS PER INCH
FT W.G.	FOOT WATER GAUGE
GA.	GAUGE
GALV	GALVANIZED
GPM	GALLONS PER MINUTE
HVAC	HEATING VENTILATING & AIR CONDITIONING
IN W.G.	INCH WATER GAUGE
KW	KILOWATT
LAT	LEAVING AIR TEMPERATURE
MBH	THOUSAND BTU PER HOUR
MOCP	MAXIMUM OVER CURRENT PROTECTION
O/A	OUTSIDE AIR
PD	PRESSURE DROP
R/A	RETURN AIR
RLA	RUNNING LOAD AMPS
RPM	REVOLUTION PER MINUTE
S/A	SUPPLY AIR
SP	STATIC PRESSURE
SQ FT	SQUARE FEET
U.C.D.	UNDERCUT DOOR BY 1"
WB	WET BULB

11/02/2015

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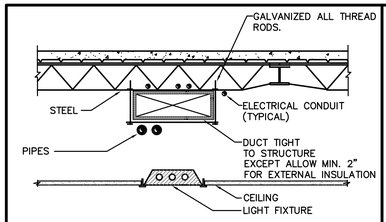
MECHANICAL SCHEDULES

DATE: 11/02/15
REVISIONS:
ADDENDUM 5

SHEET NO.:
M2

JOB NO.: 15096

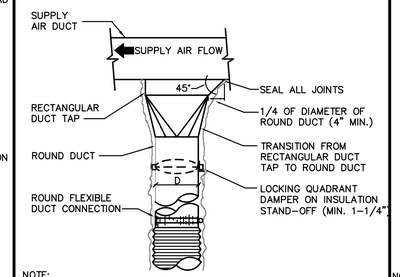


NOTES:

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

1 TYP. MEP INSTALLATION DETAIL

NOT TO SCALE — MAGD101.DWG

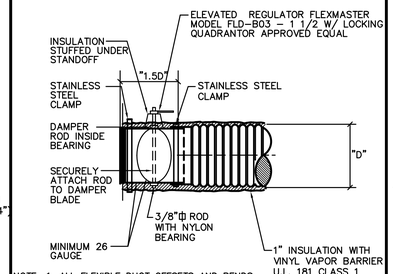


NOTE:

SEE FLOOR PLAN FOR SIZES

2 RECTANGLUAR TAP TO ROUND TRANSITION

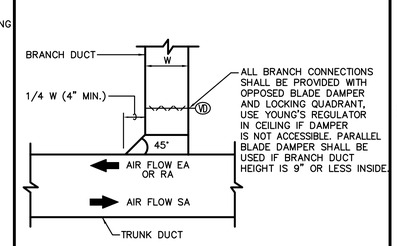
NOT TO SCALE — MAGD302.DWG



NOTE: 1. ALL FLEXIBLE DUCT OFFSETS AND BENDS SHALL MAINTAIN A RADIUS OF 1.5 X ("D") MINIMUM 3'–0" AND MAXIMUM 6'–0"
2. TYPICAL OF ROUND DUCT CONNECTIONS TO RECTANGULAR DUCTS

3 SPIN-IN DETAIL

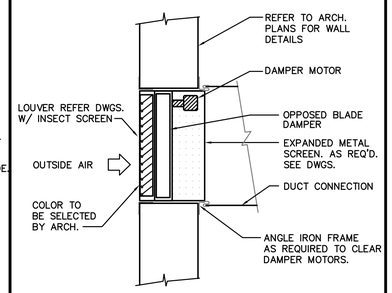
NOT TO SCALE — MAGD301.DWG



NOTE: THIS CONNECTION SHALL BE TYPICAL FOR ALL RECTANGULAR BRANCH DUCT CONNECTIONS TO RECTANGULAR TRUNK DUCTS, INCLUDING SUPPLY, RETURN, OUTSIDE AIR AND EXHAUST DUCTS.

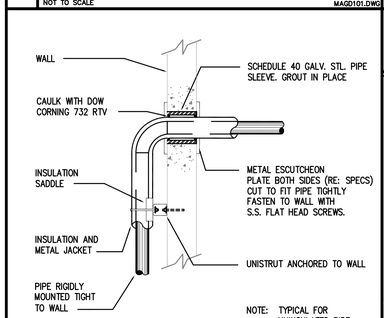
4 RECTANGULAR BRANCH DUCT TAP

NOT TO SCALE — MAGD300.DWG



5 INTAKE LOUVER MOUNTING

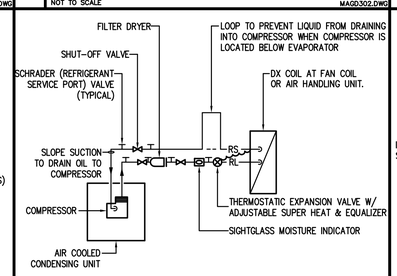
NOT TO SCALE — MADT301.DWG



NOTE: TYPICAL FOR UNINSULATED PIPE.

6 PIPE ENTRY THRU EXTERIOR WALL

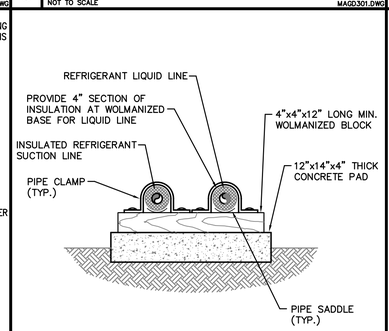
NOT TO SCALE — MPPE302.DWG



NOTE:
1. COMPLY WITH MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS.
2. TYPICAL FOR EACH SEPARATE REFRIGERANT CIRCUIT.
3. USE "ACR" HARD DRAWN COPPER REFRIGERANT PIPE.

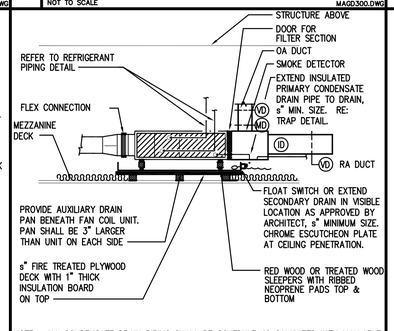
7 REFRIGERANT PIPING SCHEMATIC

NOT TO SCALE (5 TONS AND SMALLER) — MPRE104.DWG



8 GROUND MTD. REFR. PIPE

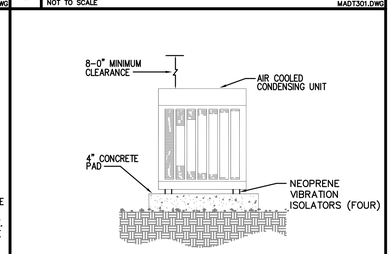
NOT TO SCALE — MPRE202.DWG



NOTE: ALL CONDENSATE DRAIN PIPING SHALL BE SCHEDULE 40 GALVNIZED WITH MALLABLE IRON SCREWED FITTINGS.

9 FAN COIL UNIT MOUNTING (DX)

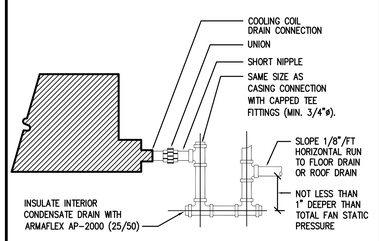
NOT TO SCALE — MEFC200.DWG



NOTE:
CLEARANCE AROUND UNIT FOR AIR FLOW AND SERVICE PER MANUFACTURER INSTALLATION INSTRUCTION.

10 CONDENSING UNIT MOUNTING ON GRADE

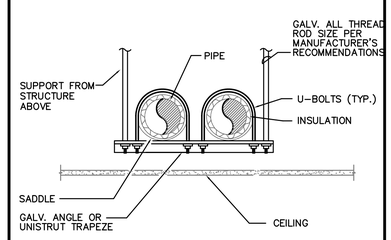
NOT TO SCALE — MECU100.DWG



NOTE:
1. MAINTAIN MINIMUM 1" AIR GAP AT FLOOR DRAIN OR ROOF DRAIN.
2. ALL CONDENSATE DRAIN PIPING SHALL BE SCHEDULE 40 PVC WITH SOLVENT WELD FITTINGS OR TYPE "L" COPPER PIPE.

11 COOLING COIL CONDENSATE DRAIN

NOT TO SCALE — MPCE300.DWG



12 PIPE HANGER DETAIL

NOT TO SCALE — MPHS103.DWG

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11/02/2015

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JOB 15096

MECHANICAL DETAILS

DATE: 11/02/15
REVISIONS:
ADDENDUM 5

SHEET NO.:
M3

JOB NO.: 15096

Nov 03, 2015 – 1:38pm
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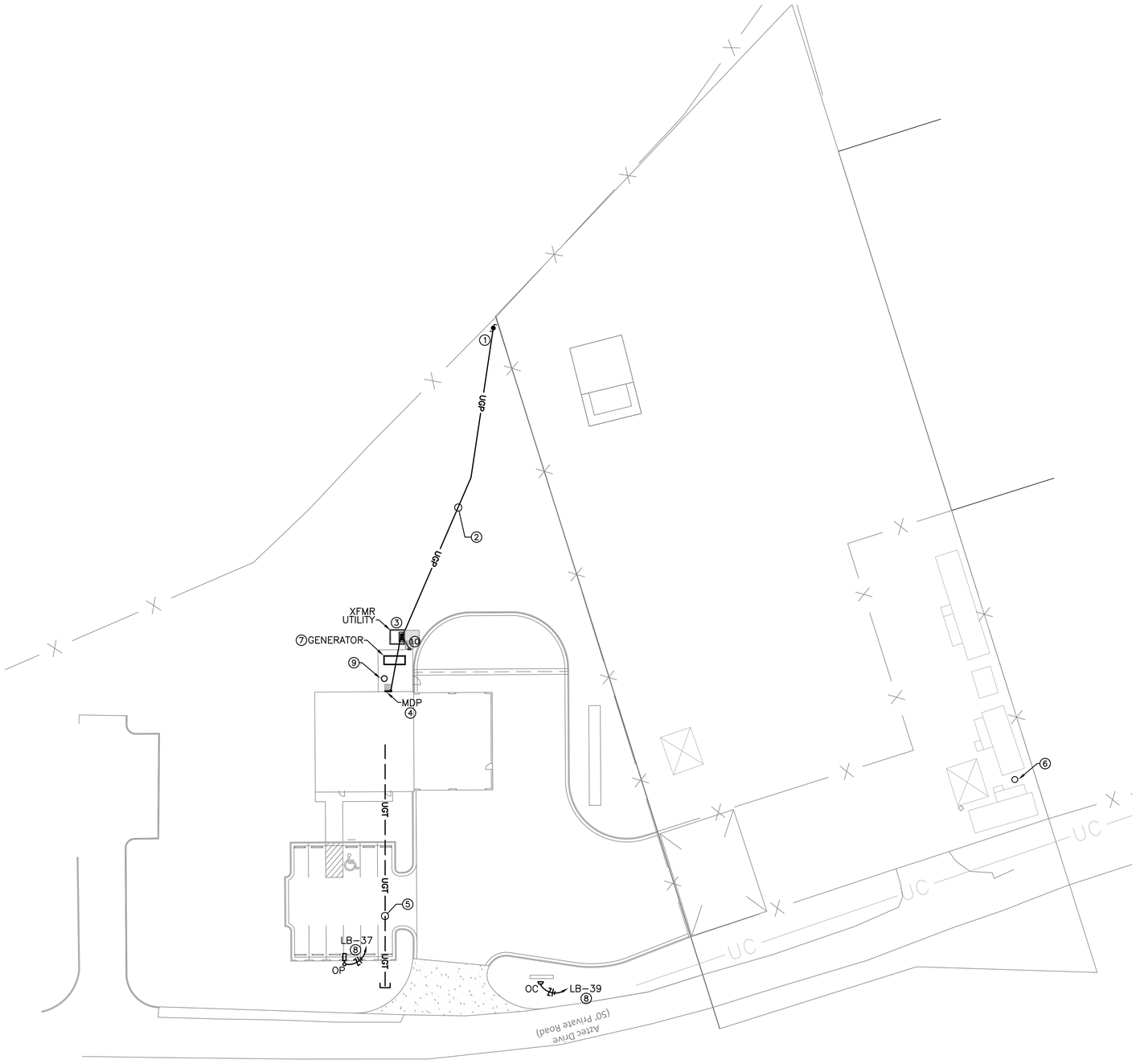

1 ELECTRICAL SITE PLAN
1" =30'-0"

GENERAL NOTES:

A. 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.

B. CONTRACTOR SHALL REVIEW ALL ARCHITECTURAL, CIVIL, MECHANICAL & STRUCTURAL DRAWINGS AND SPECIFICATIONS FOR ANY ADDITIONAL REQUIREMENTS.

C. CONTRACTOR SHALL COORDINATE HIS WORK WITH OTHER TRADES.

D. ALL CONDUIT SHALL BE AS STRAIGHT AS POSSIBLE AND PARALLEL OR PERPENDICULAR TO BUILDING LINES.

E. PROVIDE MULTI-CONDUCTOR HOMERUNS AS SHOWN AND USE A #10 AWG NEUTRAL. PROVIDE GREEN GROUND WIRE IN ALL RACEWAYS.

F. SEAL ALL WALL, ROOF, AND FLOOR PENETRATIONS WITH UL LISTED FIRE SEALANT.

G. ALL CONDUIT SHALL BE ROUTED CONCEALED WITHIN WALLS AND/OR ABOVE CEILINGS.

H. REFER TO ARCHITECTURAL ELEVATIONS FOR EXACT MOUNTING HEIGHTS OF ALL DEVICES.

ELECTRICAL SITE PLAN KEY NOTES:

1. APPROXIMATE LOCATION OF NEW DIP POLE BY UTILITY COMPANY, FIELD COORDINATE EXACT LOCATION.
2. NEW UNDERGROUND ELECTRICAL PRIMARY BY POWER COMPANY.
3. APPROXIMATE LOCATION OF NEW PAD MOUNTED UTILITY TRANSFORMER. PROVIDE CONCRETE FOUNDATION PER POWER COMPANY REQUIREMENT.
4. REFER TO SHEET E4.1 FOR FEEDER AND GROUNDING REQUIREMENTS.
5. PROVIDE TWO(2) 4" CONDUITS WITH PULL CORDS FOR TELEPHONE AND CABLE SERVICE. ROUTE TO NEAREST EASEMENT.
6. EXISTING COMMUNICATION TOWER TO BE RELOCATED. REFERENCE NOTE 9 FOR ADDITIONAL REQUIREMENTS.
7. PROVIDE CONCRETE FOUNDATION PER GENERATOR MANUFACTURES REQUIREMENTS.
8. ROUTE VIA LIGHTING CONTACTOR.
9. RELOCATE IS EXISTING COMMUNICATION TOWER TO THIS LOCATION. PROVIDE GROUND RING AND CONNECT TO POLE. COORDINATE RELOCATION WITH OWNER.
10. MOUNT METER ON CMU FENCE. FIELD COORDINATE EXACT REQUIREMENTS AND LOCATION WITH POWER COMPANY.

11/02/2015

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ELECTRICAL SITE PLAN

DATE: 11/02/15
REVISIONS:
ADDENDUM 5

SHEET NO.:
E0.1

JOB NO.: 15096

Nov 03, 2015 – 1:35pm
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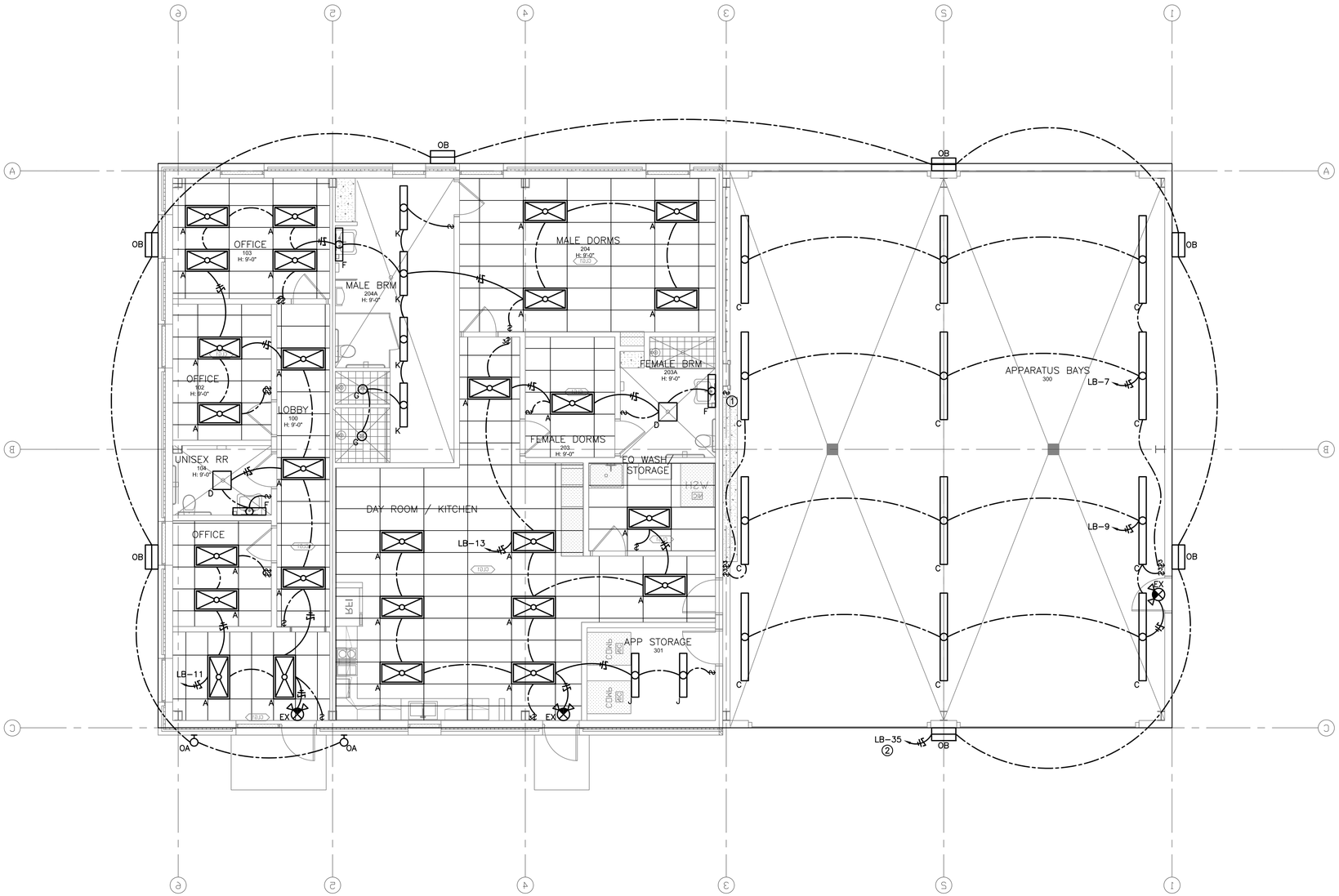
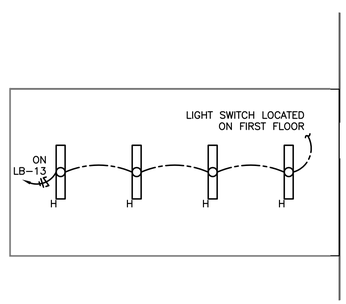


1 ELECTRICAL LIGHTING PLAN
3/16" =1'-0"



2 ELECTRICAL LIGHTING PLAN-MEZZANINE
3/16" =1'-0"

GENERAL NOTES:

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C. CONTRACTOR SHALL COORDINATE HIS WORK WITH OTHER TRADES.

D. ALL CONDUIT SHALL BE AS STRAIGHT AS POSSIBLE AND PARALLEL OR PERPENDICULAR TO BUILDING LINES.

E. PROVIDE MULTI-CONDUCTOR HOMERUNS AS SHOWN AND USE A #10 AWG NEUTRAL. PROVIDE GREEN GROUND WIRE IN ALL RACEWAYS.

F. SEAL ALL WALL, ROOF, AND FLOOR PENETRATIONS WITH UL LISTED FIRE SEALANT.

G. ALL CONDUIT SHALL BE ROUTED CONCEALED WITHIN WALLS AND/OR ABOVE CEILINGS.

H. REFER TO ARCHITECTURAL ELEVATIONS FOR EXACT MOUNTING HEIGHTS OF ALL DEVICES.

ELECTRICAL LIGHTING KEY NOTES:

1. LIGHT SWITCH FOR MEZZANINE LIGHTING. FIELD COORDINATE EXACT LOCATION.
2. ROUTE VIA LIGHTING CONTACTOR.

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ELECTRICAL LIGHTING PLAN

DATE: 11/02/15
REVISIONS:
ADDENDUM 5

SHEET NO.:
E1.1
JOB NO.: 15096

Nov 03, 2015 – 1:36pm
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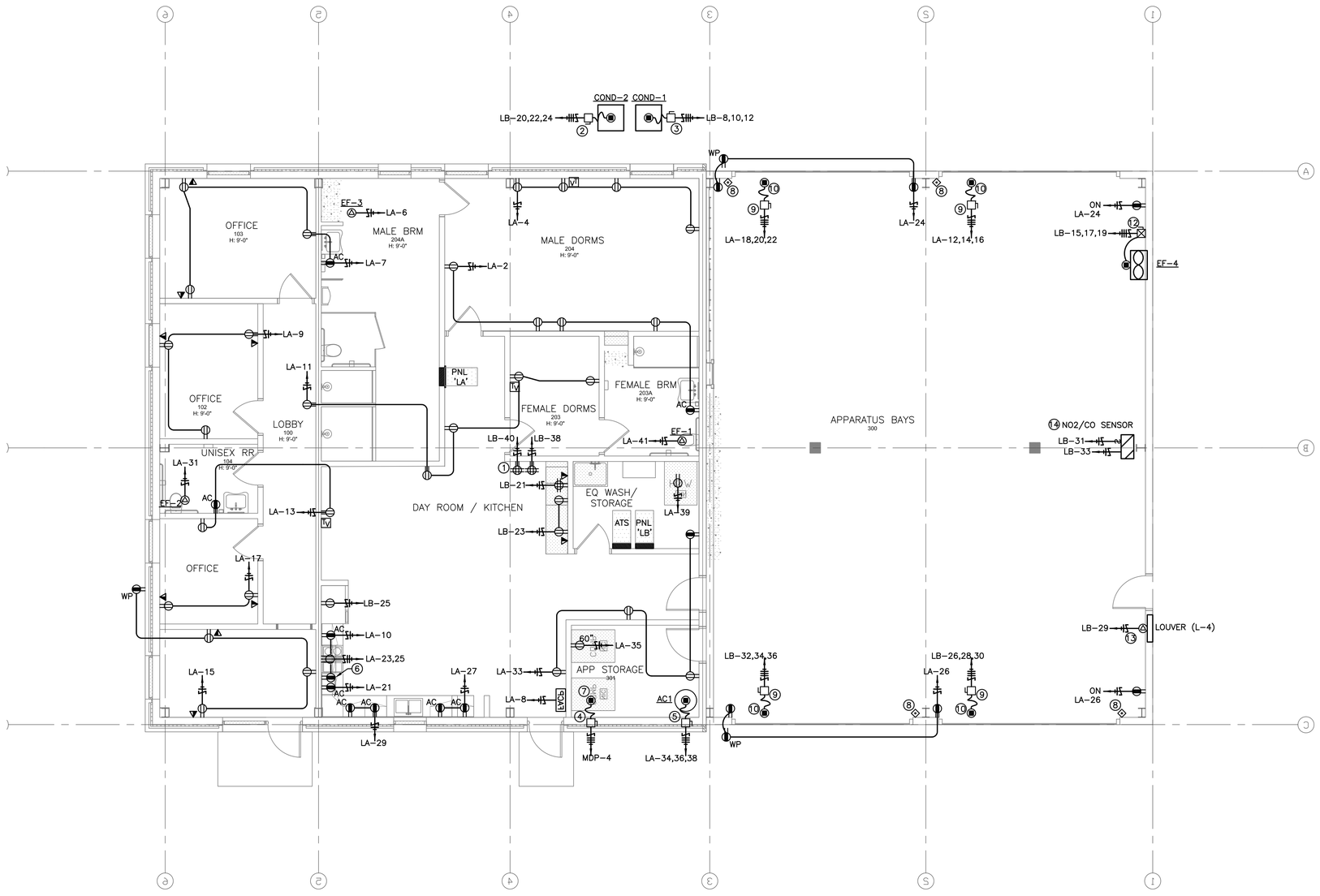
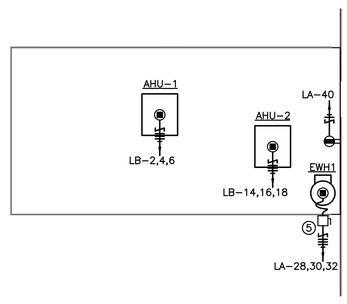


1 ELECTRICAL POWER PLAN
3/16" = 1'-0"



2 ELECTRICAL POWER PLAN-MEZZANINE
3/16" = 1'-0"

GENERAL NOTES:

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E. PROVIDE MULTI-CONDUCTOR HOMERUNS AS SHOWN AND USE A #10 AWG NEUTRAL. PROVIDE GREEN GROUND WIRE IN ALL RACEWAYS.

F. SEAL ALL WALL, ROOF, AND FLOOR PENETRATIONS WITH UL LISTED FIRE SEALANT.

G. ALL CONDUIT SHALL BE ROUTED CONCEALED WITHIN WALLS AND/OR ABOVE CEILINGS.

H. REFER TO ARCHITECTURAL ELEVATIONS FOR EXACT MOUNTING HEIGHTS OF ALL DEVICES.

ELECTRICAL POWER KEY NOTES:

1. PROVIDE 3/4" PLYWOOD TERMINAL BOARD WITH GRAY FLAME RETARDANT PAINT FINISH.
2. PROVIDE 60A/3P/NF NEMA-3R DISCONNECT.
3. PROVIDE 30A/3P/NF NEMA-3R DISCONNECT.
4. PROVIDE 100A/3P/NF NEMA-1 DISCONNECT.
5. PROVIDE 60A/3P/NF NEMA-1 DISCONNECT.
6. PROVIDE 120V POWER FOR KITCHEN HOOD. REFER TO MECHANICAL PLANS.
7. PROVIDE 208V POWER FOR 10 HP BREATHING AIR COMPRESSOR. FIELD COORDINATE EXACT LOCATION AND REQUIREMENTS.
8. TYPICAL: OVERHEAD DOOR UP/DOWN PUSH BUTTON CONTROLLER
9. PROVIDE 30A/3P/NF NEMA-1 DISCONNECT.
10. PROVIDE 208v, 3ph CONNECTION TO OVERHEAD DOOR MOTOR.
11. NOT USED.
12. PROVIDE 30A/3P/3F/00/NEMA 12 STARTER DISCONNECT WITH 120V COIL FOR EXHAUST FAN. INTERCONNECT WITH NO2/CO GAS DETECTOR.
13. PROVIDE 120V POWER FOR DAMPER. REFER TO MECHANICAL PLANS.
14. NO2/CO GAS DETECTOR FURNISHED BY DIVISION 15 INSTALLED BY DIVISION 16. COORDINATE MOUNTING LOCATION WITH MECHANICAL CONTRACTOR. PROVIDE 2-POSITION SWITCH. SEE DETAIL 4, SHEET E5.2 FOR ADDITIONAL REQUIREMENTS.

11/02/2015

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WEBB COUNTY MAIN FIRE STATION
AND ADMINISTRATION BUILDING
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LAREDO, TEXAS 78045
CONSULTANT

ELECTRICAL POWER PLAN

DATE: 11/02/15
REVISIONS:
ADDENDUM 5

SHEET NO.:
E2.1

JOB NO.: 15096

Nov 03, 2015 - 1:36pm
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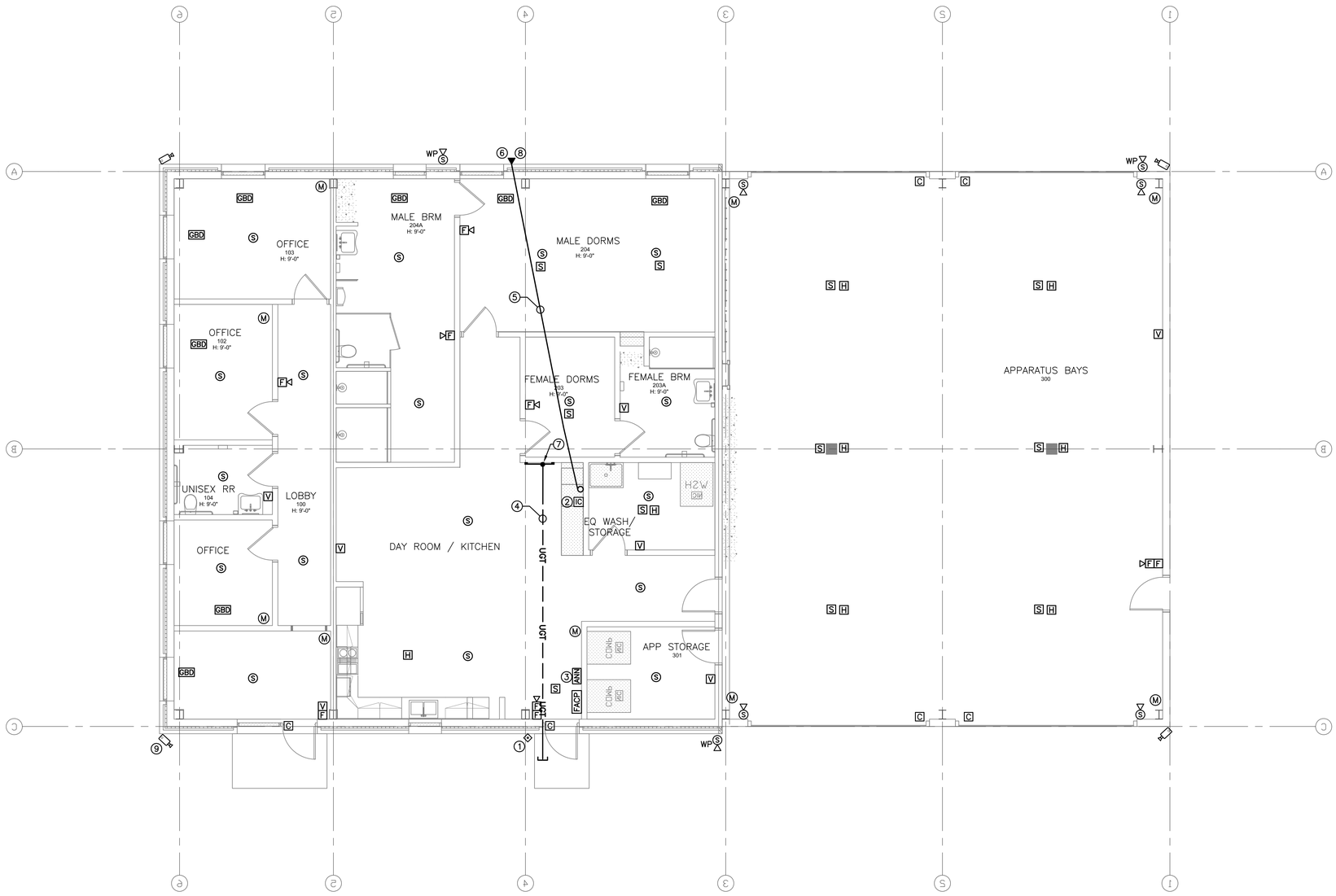
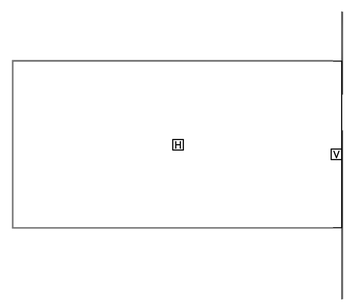


1 SPECIAL SYSTEMS PLAN
3/16" = 1'-0"



2 SPECIAL SYSTEMS PLAN-MEZZANINE
3/16" = 1'-0"

GENERAL NOTES:

A. 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.

B. CONTRACTOR SHALL REVIEW ALL ARCHITECTURAL, CIVIL, MECHANICAL & STRUCTURAL DRAWINGS AND SPECIFICATIONS FOR ANY ADDITIONAL REQUIREMENTS.

C. CONTRACTOR SHALL COORDINATE HIS WORK WITH OTHER TRADES.

D. ALL CONDUIT SHALL BE AS STRAIGHT AS POSSIBLE AND PARALLEL OR PERPENDICULAR TO BUILDING LINES.

E. PROVIDE MULTI-CONDUCTOR HOMERUNS AS SHOWN AND USE A #10 AWG NEUTRAL. PROVIDE GREEN GROUND WIRE IN ALL RACEWAYS.

F. SEAL ALL WALL, ROOF, AND FLOOR PENETRATIONS WITH UL LISTED FIRE SEALANT.

G. ALL CONDUIT SHALL BE ROUTED CONCEALED WITHIN WALLS AND/OR ABOVE CEILINGS.

H. REFER TO ARCHITECTURAL ELEVATIONS FOR EXACT MOUNTING HEIGHTS OF ALL DEVICES.

SPECIAL SYSTEMS KEY NOTES:

1. EXTERIOR INTERCOM STATION.
2. INTERCOM BASE STATION.
3. GENERATOR REMOTE ANNUNCIATOR
4. PROVIDE (2) 4"C WITH PULL CORDS FOR FUTURE COMMUNICATIONS. SEE SHEET E0.1 FOR CONTINUATION.
5. PROVIDE (1) 4"C WITH PULL CORD FOR FUTURE RADIO COMMUNICATION CABLING. FIELD COORDINATE EXACT LOCATION.
6. APPROXIMATE LOCATION OF NEW RADIO TOWER
7. STUB UP CONDUITS 12" AFF. FIELD COORDINATE EXACT LOCATION.
8. GROUND RADIO TOWER PER MANUFACTURERS RECOMMENDATIONS.
9. TYPICAL: CCTV SYSTEM BY OWNER. PROVIDE CONDUIT ROUGH-IN. COORDINATE ROUGH-IN HEIGHTS WITH ARCHITECT.

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SPECIAL SYSTEMS PLAN

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E3.1
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LIGHT FIXTURE SCHEDULE - FIRE STATION

TYPE	MANUFACTURER & CATALOG NO.	VOLTAGE	LAMPS	MOUNTED	DESCRIPTION
A	LITHONIA #2SP8-G332-A12125-MVOLT-GEB10IS	120	(2)-28WT8	RECESSED	2x4 LAY-IN FLUORESCENT
C	LITHONIA #TEJ-432-MVOLT-GEB10IS-WG2EJ	120	(6)-28WT8	SURFACE	8' TANDEM STRIPLIGHT W/6-28WT8 LAMPS &WIREGUARD
D	LITHONIA #FM72-ACLS-LP	120	(1)48WT9 & (1)32WT9	SURFACE	20" SQUARE LOW PROFILE W/ 2 T9 CIRCLINE LAMPS
F	LITHONIA #11891-MVOLT-GEB10IS	120	(2)-25WT8	SURFACE	3' VANITY FXITURE W/ 2-25WT8 LAMPS
G	LITHONIA #L7X-AT-7LD1PF	120	40W A19	RECESSED	SHOWER LIGHT
H	LITHONIA #C-2-32-MVOLT-GEB10IS-WGCUN ST-HC36	120	(2)-28WT8	PENDANT	4' STRIPLIGHT W/ WIREGUARD
J	LITHONIA #LB-2-32-MVOLT-GEB10IS	120	(2)-28WT8	SURFACE	4' LOW-PROFILE WRAPAROUND W/ 2-32WT8 LAMPS
K	LITHONIA #10640-32-MVOLT-GEB10IS	120	(2)-28WT8	SURFACE	4' LINEAR FLUSH MOUNT W/ 2-32WT8 LAMPS
OA	SPI #AEW1032-2N60-120-PTXX	120	(2)60W	SURFACE	DECORATIVE EXTERIOR FIXTURE
OB	LITHONIA #CSXW-LED-30C-1000-40K-T4M-MV-DDBXD	120	104W LED	SURFACE	WALLPACK
OC	HYDREL #4754-28T5-MV-WWD-KM-SBA12-LPI41K-BZ	120	28T5-41K	GROUND	FACADE FLOODLIGHT
OP	LITHONIA #CSX2-LED-120C-1000-40K-T4M-MV-SPA-DB	120	416W LED	POLE	LITHONIA POLE #SSS-4G-DM19-DDB
EX	LITHONIA #LHQM-P-W-3R-120-N	120	LED	SURFACE	EXIT SIGN W/EMERGENCY LIGHTS

PANEL ' LA '

W/TVSS — 200 AMP, M.L.O, 120/208 V, 3Ø, 4W, S/N, FLUSH, NEMA 1, 35 KAIC

CKT #	LOAD SERVED	LOAD	CONDUIT & WIRE SIZE	BKR SIZE	A B C	BKR SIZE	CONDUIT & WIRE SIZE	LOAD	LOAD SERVED	CKT #
1	TVSS	-		30/3	A	20/1	#12 AWG	900	MALE DORM RECEPT.	2
3		-			B	20/1	#12 AWG	720	MALE DORM RECEPT.	4
5		-			C	20/1	#12 AWG	250	EF-3	6
7	OFFICE RECEPT.	720	#12 AWG	20/1	A	20/1	#12 AWG	300	FACP	8
9	OFFICE RECEPT.	720	#12 AWG	20/1	B	20/1	#12 AWG	500	COUNTERTOP/HOOD RECEPT.	10
11	DORMS/MISC. RECEPT	900	#12 AWG	20/1	C	20/3	#12 AWG	600	OVERHEAD DOOR	12
13	MISC. RECEPT.	900	#12 AWG	20/1	A		#12 AWG	600	"	14
15	LOBBY RECEPT.	720	#12 AWG	20/1	B		#12 AWG	600	"	16
17	OFFICE RECEPT.	360	#12 AWG	20/1	C	20/3	#12 AWG	600	OVERHEAD DOOR	18
19					A		#12 AWG	600	"	20
21	MICROWAVE	1600	#12 AWG	20/1	B		#12 AWG	600	"	22
23	STOVE	4160	#6 AWG	50/2	C	20/1	#12 AWG	720	APP BAY RECEPTS.	24
25	"	4160	#6 AWG		A	20/1	#12 AWG	720	APP BAY RECEPTS.	26
27	COUNTERTOP RECEPT.	1080	#12 AWG	20/1	B	45/3	#6 AWG	4000	EWH1	28
29	COUNTERTOP RECEPT.	1080	#12 AWG	20/1	C		#6 AWG	4000	"	30
31	EF-2	64	#12 AWG	20/1	A		#6 AWG	4000	"	32
33	STORAGE RECEPT	720	#12 AWG	20/1	B	45/3	#10 AWG	2004	AC1	34
35	APP STORAGE COMP	1080	#12 AWG	20/1	C		#10 AWG	2004	"	36
37					A		#10 AWG	2004	"	38
39	WASHER	1500	#12 AWG	20/1	B	20/1	#12 AWG	180	MEZZANINE RECEPT.	40
41	EF-1	64	#12 AWG	20/1	C					42
43					A					44
45					B					46
47					C					48
49					A					50
51					B					52
53					C					54
55					A					56
57					B					58
59					C					60

CONNECTED LOAD = 45730 VA — PHASE A = 14968 VA — PHASE B = 14944 VA — PHASE C = 15818 VA

PANEL ' LB '

W/TVSS — 200 AMP, M.L.O, 120/208 V, 3Ø, 4W, S/N, SURFACE, NEMA 1, 35 KAIC

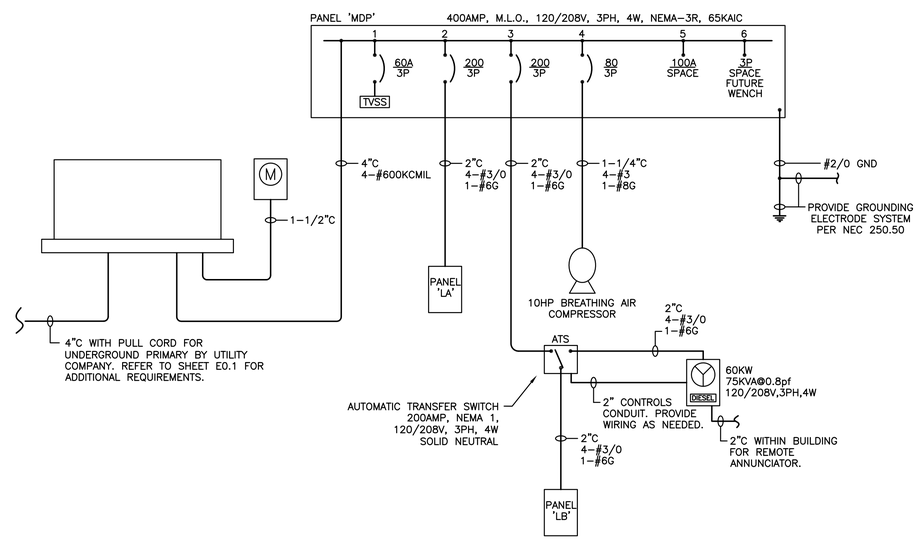
CKT #	LOAD SERVED	LOAD	CONDUIT & WIRE SIZE	BKR SIZE	A B C	BKR SIZE	CONDUIT & WIRE SIZE	LOAD	LOAD SERVED	CKT #
1	TVSS	-		30/3	A	35/3	#8 AWG	3600	AHU-1	2
3		-			B		#8 AWG	3600	"	4
5		-			C		#8 AWG	3600	"	6
7	APPARATUS BAY LTG	1008	#10 AWG	20/1	A	20/3	#12 AWG	1680	COND-1	8
9	APPARATUS BAY LTG	1008	#10 AWG	20/1	B		#12 AWG	1680	"	10
11	MISC. LIGHTING	1380	#10 AWG	20/1	C		#12 AWG	1680	"	12
13	MISC. LIGHTING	1026	#10 AWG	20/1	A	50/3	#6 AWG	5520	AHU-2	14
15	EF-4	420	#12 AWG	20/3	B		#6 AWG	5520	"	16
17	"	420	#12 AWG		C		#6 AWG	5520	"	18
19	"	420	#12 AWG		A	35/3	#8 AWG	2520	COND-2	20
21	RADIO	360	#12 AWG	20/1	B		#8 AWG	2520	"	22
23	DISPATCH RECEPT.	360	#12 AWG	20/1	C		#8 AWG	2520	"	24
25	REFRIGERATOR	1200	#12 AWG	20/1	A	20/3	#12 AWG	600	OVERHEAD DOOR	26
27					B		#12 AWG	600	"	28
29	LOUVER L-4	600	#12 AWG	20/1	C		#12 AWG	600	"	30
31	CO SENSOR	180	#12 AWG	20/1	A	20/3	#12 AWG	600	OVERHEAD DOOR	32
33	CO SENSOR	180	#12 AWG	20/1	B		#12 AWG	600	"	34
35	BUILDING LIGHTING	968	#10 AWG	20/1	C		#12 AWG	600	"	36
37	SITE LIGHTING	416	#6 AWG	20/1	A	20/1	#12 AWG	360	IT RECEPT.	38
39	SITE LIGHTING	100	#6 AWG	20/1	B	20/1	#12 AWG	360	IT RECEPT.	40
41					C					42
43					A					44
45					B					46
47					C					48
49					A					50
51					B					52
53					C					54
55					A					56
57					B					58
59					C					60

CONNECTED LOAD = 54326 VA — PHASE A = 19130 VA — PHASE B = 16948 VA — PHASE C = 18248 VA

ESTIMATED ELECTRICAL LOAD

120/208V, 3Ø, 4W

DESCRIPTION		CONNECTED LOAD	DEMAND FACTOR	NEC DEMAND
LIGHTING		5906	125%	7383
RECEPTACLES		11660	NEC 220-44	10830
H.V.A.C.	(HEAT)	27360	100%	27360
LARGEST MOTOR		0	125%	0
MOTOR LOAD		17100	100%	17100
MISC. SINGLE PHASE LOADS		40038	100%	40038
TOTAL VOLT-AMPERES		102064		102711
AMPACITY: 102711	208 X 3ph =			285 AMPS



11/02/2015

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SCHEDULES AND ONE-LINE

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SHEET NO.: E4.1

JOB NO.: 15096

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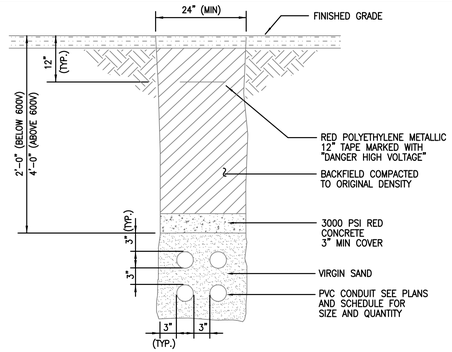
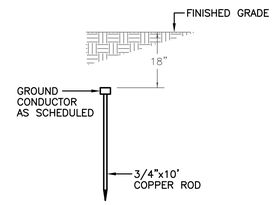
SYMBOL	DESCRIPTION
B-2	HOMERUN TO CIRCUIT AND PANEL INDICATED
	NEUTRAL CONDUCTOR
	HOT CONDUCTOR
	GROUNDING CONDUCTOR
	TRAVELER
	SWITCH LEG
(2)	NUMBER IN PARENTHESIS INDICATES CIRCUIT TO WHICH DEVICE IS CONNECTED
S	TOGGLE SWITCH – 120/277V, 20A
S3	THREEWAY SWITCH – 120/277V, 20A
SK	KEY SWITCH – 120/277V, 20A
S4	FOURWAY SWITCH – 120/277V, 20A
SD	DIMMER SWITCH
	DUPLEX RECEPTACLE – 125V, 20A, 1P
	GROUND FAULT INTERRUPTER DUPLEX RECEPTACLE 125V, 20A, 1P
	ISOLATED GROUND RECEPTACLE – 125V, 20A, 1P
	SINGLE RECEPTACLE – 250V, AMPS PER PANEL SCHEDULE
	QUADRAPLEX RECEPTACLE – 125V, 20A, 1P
	SINGLE RECEPTACLE – 125V, 20A, 1P
	DUPLEX RECEPTACLE – 125V, 20A, 1P (FLOOR MOUNTED)
	TELEPHONE OUTLET BOX WITH 1"C TO ACCESSIBLE LOCATION ABOVE CEILING
	DATA/TELEPHONE OUTLET BOX WITH 1"C TO ACCESSIBLE LOCATION ABOVE CEILING
	DATA OUTLET BOX WITH 1"C TO ACCESSIBLE LOCATION ABOVE CEILING
TV	TELEVISION OUTLET BOX WITH 3/4"C TO ACCESSIBLE LOCATION ABOVE CEILING
T	THERMOSTAT OUTLET BOX WITH 3/4"C TO ACCESSIBLE LOCATION ABOVE CEILING
	DOOR BELL/BUZZER
T	DOOR BELL/BUZZER TRANSFORMER
	PUSHBUTTON
S	SPEAKER
J	JUNCTION BOX, SIZED PER N.E.C.
F	FIRE ALARM PULL STATION
F	FIRE ALARM AUDIO/VISUAL SIGNAL
V	FIRE ALARM ADA VISUAL SIGNAL
R	FIRE ALARM SHUT DOWN RELAY
S	SMOKE DETECTOR
H	HEAT DETECTOR
SD	DUCT MTD. SMOKE DETECTOR
TS	TAMPER SWITCH
FS	FLOW SWITCH
A	ANSUL SUPPRESSION SYSTEM
DR	FIRE ALARM DOOR RELEASE
WP	WEATHER PROOF
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
E.C.	ELECTRICAL CONTRACTOR
NL	NIGHT LIGHT – ON 24 HOURS
	240V, 1P EQUIPMENT CONNECTION
	120V, 1P EQUIPMENT CONNECTION
	240V, 3P EQUIPMENT CONNECTION
	208V, 3P EQUIPMENT CONNECTION
	208V, 1P EQUIPMENT CONNECTION
	277V, 1P EQUIPMENT CONNECTION
	480V, 3P EQUIPMENT CONNECTION
	480V, 1P EQUIPMENT CONNECTION
	DISCONNECT SWITCH – SIZE AND POLE AS NOTED
	COMBINATION STARTER/DISCONNECT SWITCH
	STARTER
SM	MANUAL MOTOR STARTER
	PANELBOARD AS SPECIFIED
FACP	FIRE ALARM CONTROL PANEL
DC	DOOR CONTACTOR ROUGH–IN WITH 3/4" C TO ACCESSIBLE LOCATIONS ABOVE CEILING.
AK	ACKNOWLEDGE PUSHBUTTON OUTLET BOX WITH 1"C. TO ACCESSIBLE LOCATION ABOVE CEILING.
ATS	AUTOMATIC TRANSFER SWITCH
M	MOTORIZED DAMPER BY DIVISION 15.

1 ELECTRICAL LEGEND — SCALE: NO SCALE

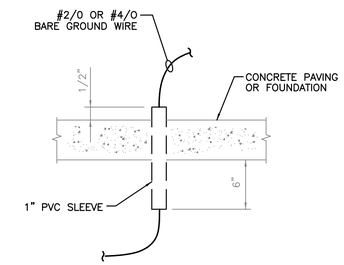
NOTE: NOT ALL SYMBOLS MAY APPLY TO THIS JOB!



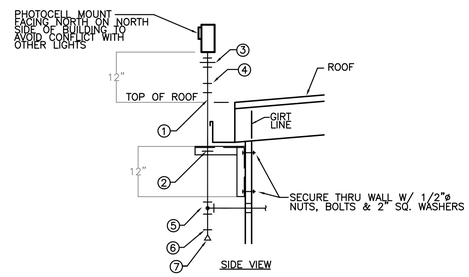
2 ELECTRICAL DUCT BANK DETAIL — SCALE: NO SCALE



3 GROUND ROD DETAIL — SCALE: NO SCALE



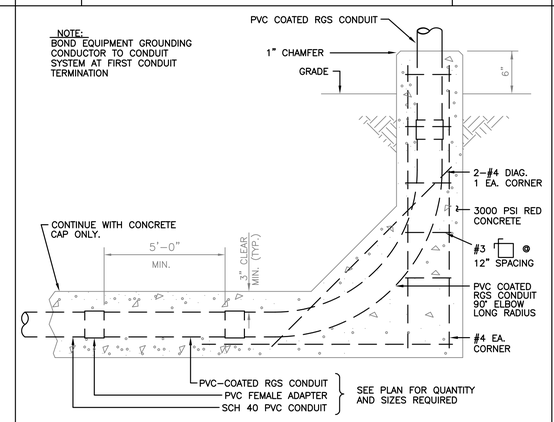
4 TYPICAL CONCRETE PENETRATION — SCALE: NO SCALE



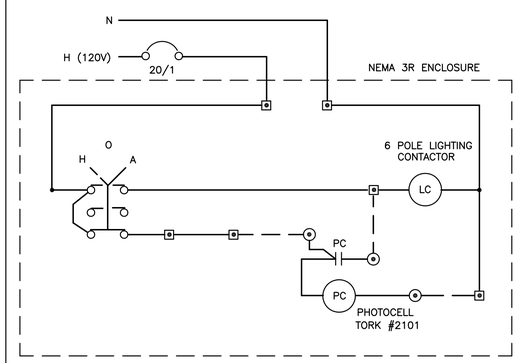
BILL OF MATERIAL

ITEM	DESCRIPTION	SIZE	QTY
1	CONDUIT, RIGID GALV. STEEL	3/4"	AS REQ'D
2	UBOLT, 1/4" GALV. STEEL	3/4"	1
3	UNION, MALE MALLEABLE	3/4"	1
4	CONDUIT BODY, TYPE "C"	3/4"	1
5	CONDUIT BODY, TYPE "T"	3/4"	1
6	REDUCER, GALV. STEEL	3/4 X 1/2"	1
7	DRAIN/BREATHER, UNIVERSAL S.S.	1/2"	1

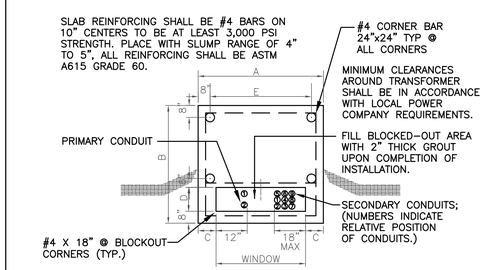
5 PHOTOCELL MOUNTING DETAIL — SCALE: NO SCALE

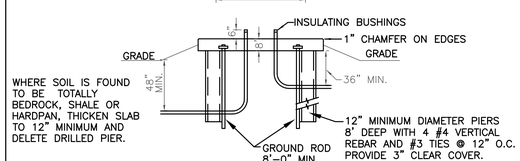


6 CONDUIT STUB-UP DETAIL AT GRADE — SCALE: NO SCALE



7 LIGHTING CONTROL SCHEMATIC — SCALE: NO SCALE

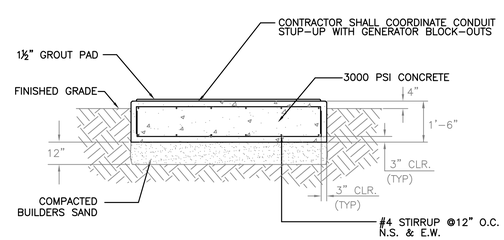




NOTE: CONCRETE POURED IN PLACE

KVA SIZE	A	B	C	D	E	MAX. WEIGHT	WINDOW
75 –500	72	68	12	16	56	10,000	48"
750 – 2500	84	79	12	16	68	19,000	60"

8 TRANSFORMER FOUNDATION DETAIL — SCALE: NO SCALE



9 GENERATOR FOUNDATION DETAIL — SCALE: NO SCALE

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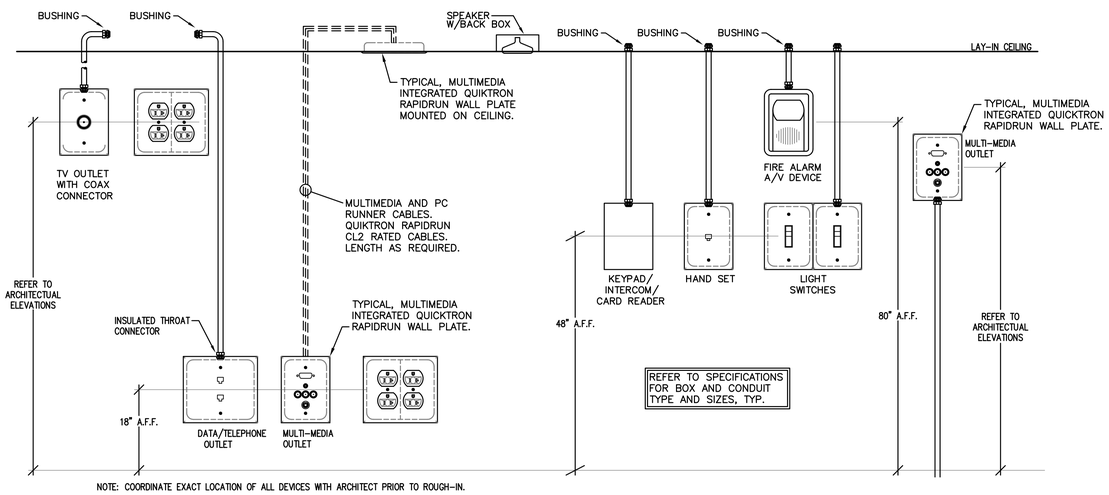


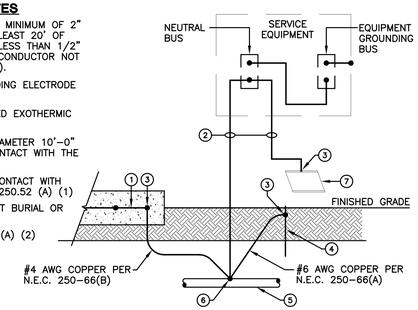
NOTE: COORDINATE EXACT LOCATION OF ALL DEVICES WITH ARCHITECT PRIOR TO ROUGH-IN.

1 TYPICAL DEVICE ELEVATIONS (UNLESS NOTED OTHERWISE)
NOT TO SCALE

SCALE: NO SCALE

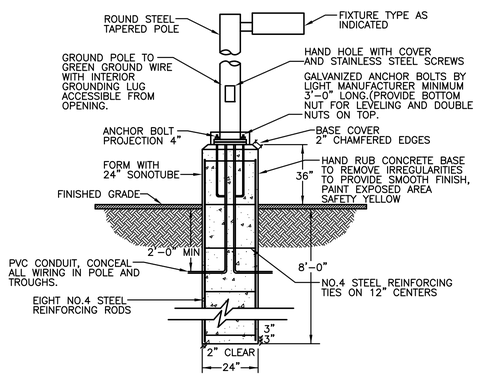
GROUNDING ELECTRODE KEYED NOTES

1. CONCRETE ENCASED ELECTRODE ENCASED BY A MINIMUM OF 2" CONCRETE OF FOUNDATION CONSISTING OF AT LEAST 20' OF ONE OR MORE STEEL REINFORCING BARS NOT LESS THAN 1/2" DIAMETER OR AT LEAST 20' OF BARE COPPER CONDUCTOR NOT LESS THAN #4 AWG. PER N.E.C. 250.52 (A) (3).
2. RGS CONDUIT WITH FULL SIZE COPPER GROUNDING ELECTRODE CONDUCTOR PER N.E.C. TABLE 250–66
3. CONNECTION SHALL BE CADWELD COPPER–BASED EXOTHERMIC WELD.
4. COPPER BONDED STEEL ELECTRODE 5/8" IN DIAMETER 10'–0" LONG WITH A MINIMUM OF 8'–0" IN DIRECT CONTACT WITH THE EARTH PER N.E.C. 250–52 (A) (5).
5. METAL UNDERGROUND WATER PIPE IN DIRECT CONTACT WITH THE EARTH FOR 10'–0" OR MORE PER N.E.C. 250.52 (A) (1)
6. BOLTED TYPE CONNECTION SUITABLE FOR DIRECT BURIAL OR EXOTHERMIC WELD (TYP)
7. METAL FRAME OF BUILDING PER N.E.C. 250.52 (A) (2)



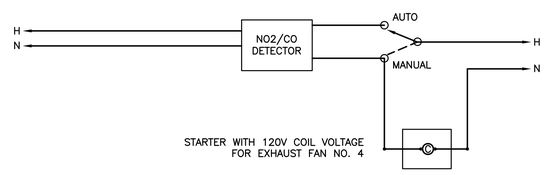
2 GROUNDING ELECTRODE SYSTEM DETAIL
NOT TO SCALE

SCALE: NO SCALE



3 LIGHT POLE FOUNDATION DETAIL

SCALE: NO SCALE



4 NO2/CO VENTILATION CONTROL DIAGRAM
NOT TO SCALE

11/02/2015

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ELECTRICAL DETAILS

DATE: 11/02/15
REVISIONS:
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SHEET NO.: E5.2

JOB NO.: 15096

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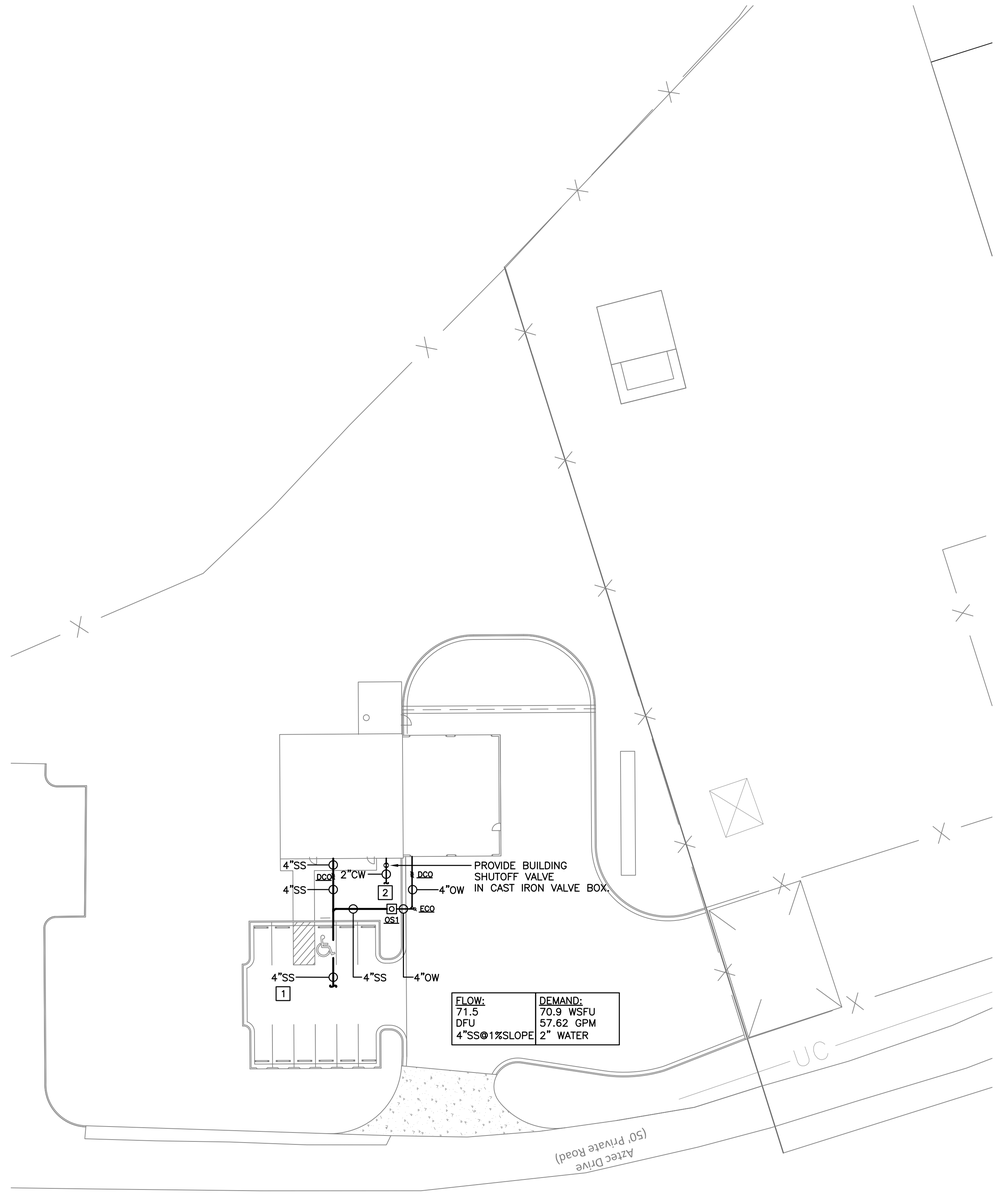

1 PLUMBING SITE PLAN
1" = 30'-0"

PLUMBING GENERAL 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. SEAL ALL WALL, ROOF, AND FLOOR PENETRATIONS WITH UL LISTED FIRE SEALANT.

PLUMBING KEYNOTES:

1 PROVIDE 4"SS. REFER TO CIVIL SITE PLAN FOR CONTINUATION.

2 PROVIDE 2"CW. REFER TO CIVIL SITE PLAN FOR CONTINUATION.

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PLUMBING SITE PLAN

DATE: 11/02/15
REVISIONS:
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SHEET NO.:
P1.0
JOB NO.: 15096

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PLUMBING GENERAL 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.
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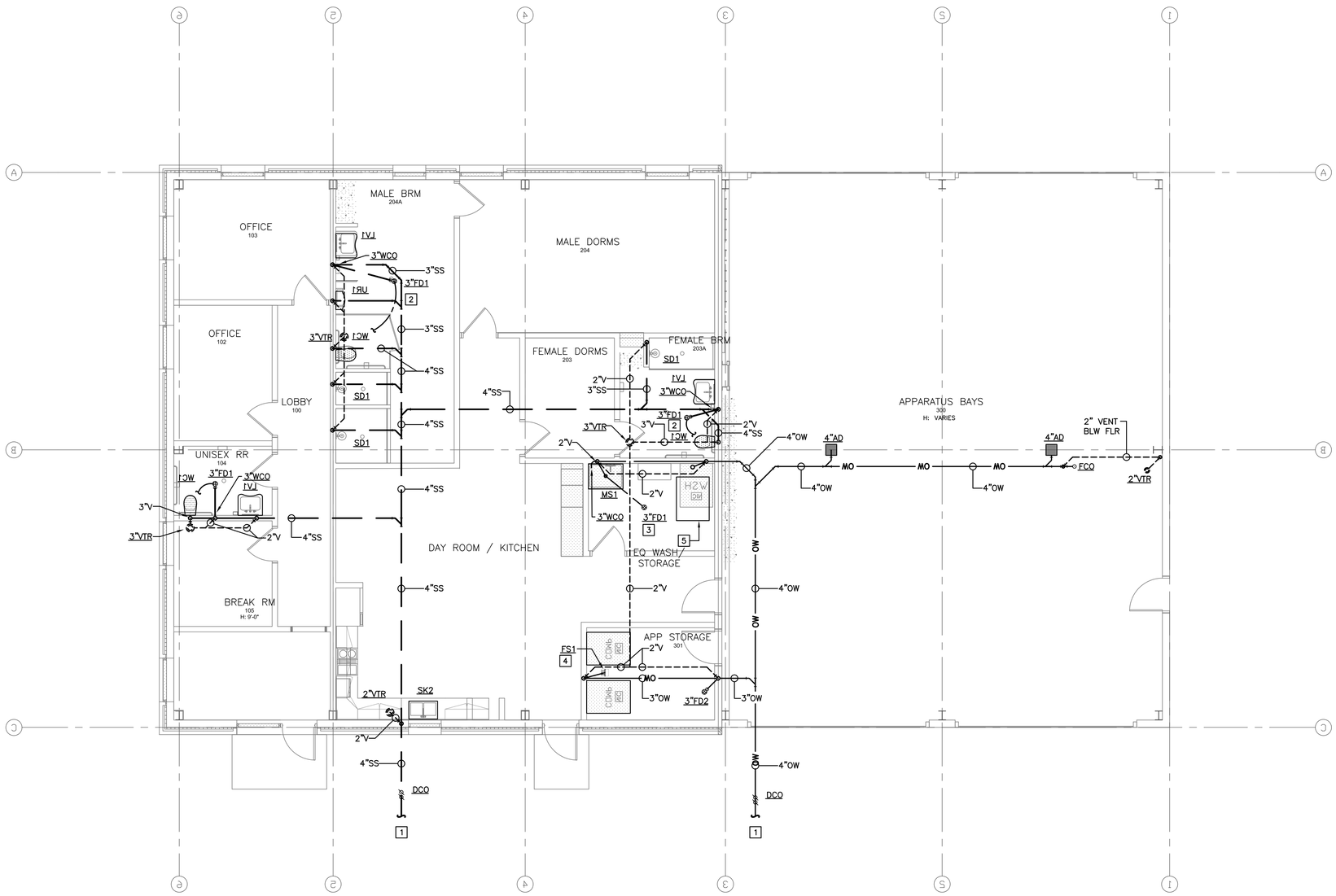
3. CONTRACTOR SHALL COORDINATE HIS WORK WITH OTHER TRADES.
4. SEAL ALL WALL, ROOF, AND FLOOR PENETRATIONS WITH UL LISTED FIRE SEALANT.

PLUMBING KEYNOTES:

1. REFER TO PLUMBING SITE PLAN FOR CONTINUATION.
2. PROVIDE 1/2" LINE FROM FLOOR DRAIN TRAP PRIMER CONNECTION TO WATER CLOSET TRAP PRIMER CONNECTION. REFER TO DETAIL SHEET.
3. FLOOR DRAIN TO TIE INTO MOP SINK ABOVE P-TRAP AS INDIRECT WASTE CONNECTION. REFER TO PLUMBING DETAILS.
4. ROUTE CONDENSATE FROM BREATHING AIR COMPRESSOR TO SUPPLIED FLOOR DRAIN. TERMINATE WITH PROPER AIR GAP.
5. PROVIDE 4" HOUSEKEEPING PAD FOR WASHING MACHINE. ROUTE WASHING MACHINE DISCHARGE TO FORMED IN SLAB 6"x36"x12" TRENCH DRAIN.



1 PLUMBING DWV PLAN
3/16" = 1'-0"

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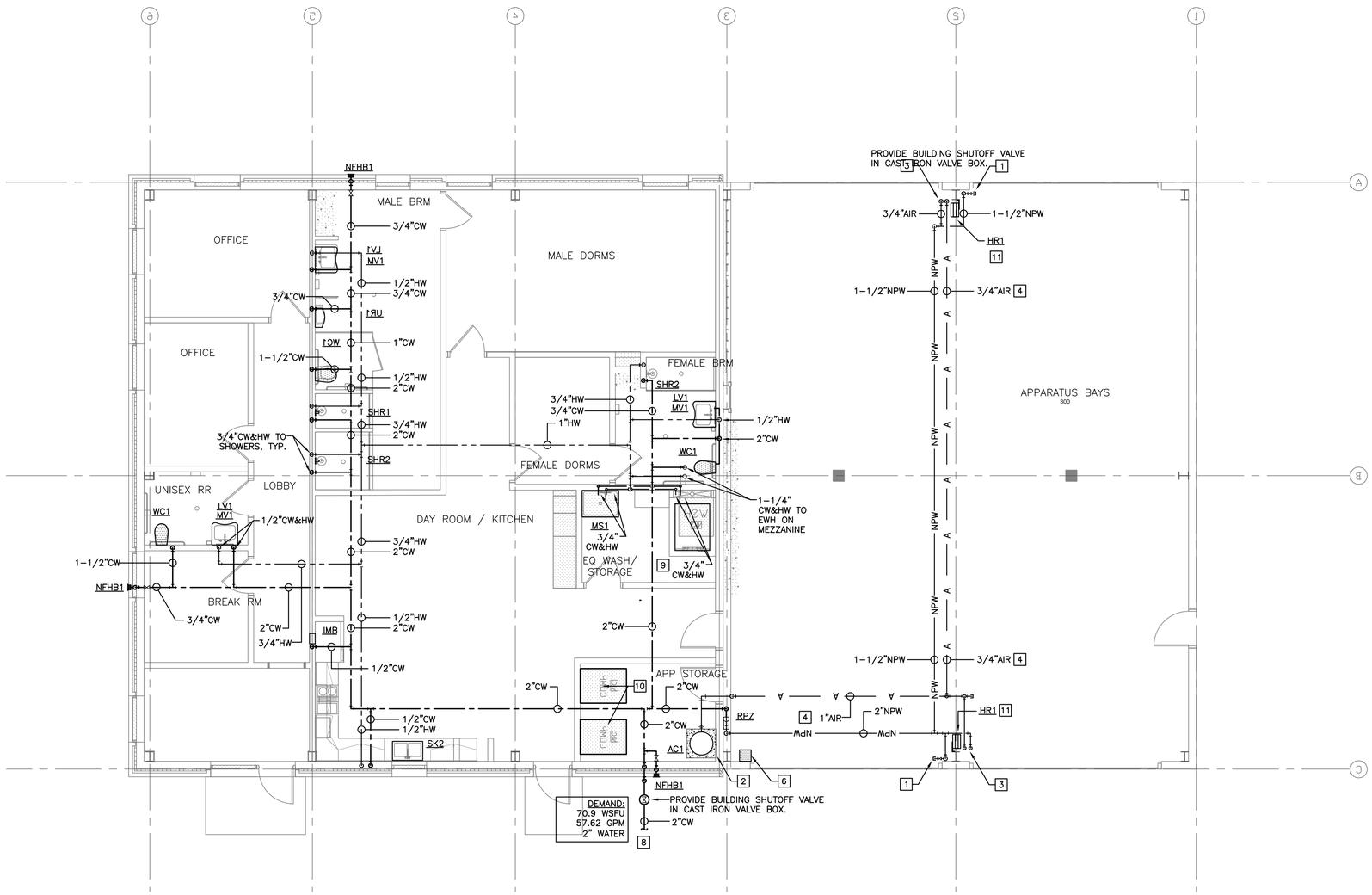


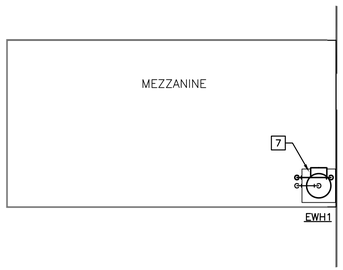
1 PLUMBING WATER PLAN
3/16" = 1'-0"

PLUMBING GENERAL 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. SEAL ALL WALL, ROOF, AND FLOOR PENETRATIONS WITH UL LISTED FIRE SEALANT.

PLUMBING KEYED NOTES:

1. PROVIDE 1-1/2" BALL VALVE WITH MALE THREADED PIPE END FOR FIRE DEPARTMENT USE (TANK FILL). LOCATE 18" ABOVE FLOOR/GRADE.
2. PROPOSED AIR COMPRESSOR LOCATION. INSTALL AIR COMPRESSOR ON 6" CONCRETE HOUSEKEEPING PAD. REFER TO PLUMBING FIXTURE SCHEDULE. FIELD COORDINATE FINAL LOCATION OF AIR COMPRESSOR WITH OWNER/ARCHITECT.
3. PROVIDE 3/4" COMPRESSED AIR DROP AND 3/4"NPW TO HOSE REELS. FIELD COORDINATE EXACT LOCATION.
4. ROUTE COMPRESSED AIR LINE AS HIGH AS POSSIBLE, ABOVE CEILING LINE.
5. PROVIDE ISOLATION VALVE ABOVE CEILING FOR MAINTANCE OF FIXTURES. PROVIDE VALVE IDENTIFICATION TAG AS PER SPECIFICATIONS.
6. PROVIDE ALARM WITH FLASHING STROBE FOR OIL INTERCEPT AT THIS LOCATION. COORDINATE FINAL LOCATION WITH ARCHITECT AND ELECTRICAL CONTRACTOR.
7. PROVIDE ELECTRIC WATER HEATER IN MEZZANINE. INSTALL PER MANUFACTURER'S INSTALLATION INSTRUCTION. ROUTE T&P AND PAN TO APPROVED LOCATION. REFER TO PLUMBING FIXTURE SCHEDULE FOR HEATER SIZE. FIELD COORDINATE EXACT LOCATION.
8. PROVIDE 2" DOMESTIC WATER SERVICE AT THIS APPROXIMATE LOCATION. COORDINATE EXACT WATER ENTRANCE WITH OWNER/ARCHITECT. REFER TO CIVIL SITE PLAN FOR CONTINUATION.
9. PROVIDE 3/4"HW&CW CONNECTION TO WASHING MACHINE. INSTALL PER MANUFACTURER'S INSTALLATION INSTRUCTION.
10. BREATHING AIR COMPRESSOR AND BOTTLE FILL EQUIPMENT AT THIS LOCATION. EQUIPMENT PROVIDED BY OWNER, INSTALLED BY CONTRACTOR. INSTALL PER MANUFACTURER'S INSTALLATION INSTRUCTION. PROVIDE PIPING, FITTINGS AND ALL NECESSARY APPURTENANCES REQUIRED FOR COMPLETE SYSTEM INSTALL. ROUTE CONDENSATE TO FLOOR DRAIN, SEE DWV PLAN SHEET P1.1.
11. PROVIDE WALL/SIDE MOUNTED HOSE REEL (HR1). MOUNT HOSE REEL TO COLUMN AT THIS APPROXIMATE LOCATION. PROVIDE SUPPORT USING APPROVED METHODS. PROVIDE WATER AND AIR CONNECTION TO HOSE REEL. FIELD COORDINATE EXACT MOUNTING LOCATION AND HEIGHT WITH OWNER/ARCHITECT.



2 PLUMBING WATER PLAN - MEZZ.
3/16" = 1'-0"

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JOB 15096

PLUMBING WATER PLAN

DATE: 11/02/15
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P1.2
JOB NO.: 15096

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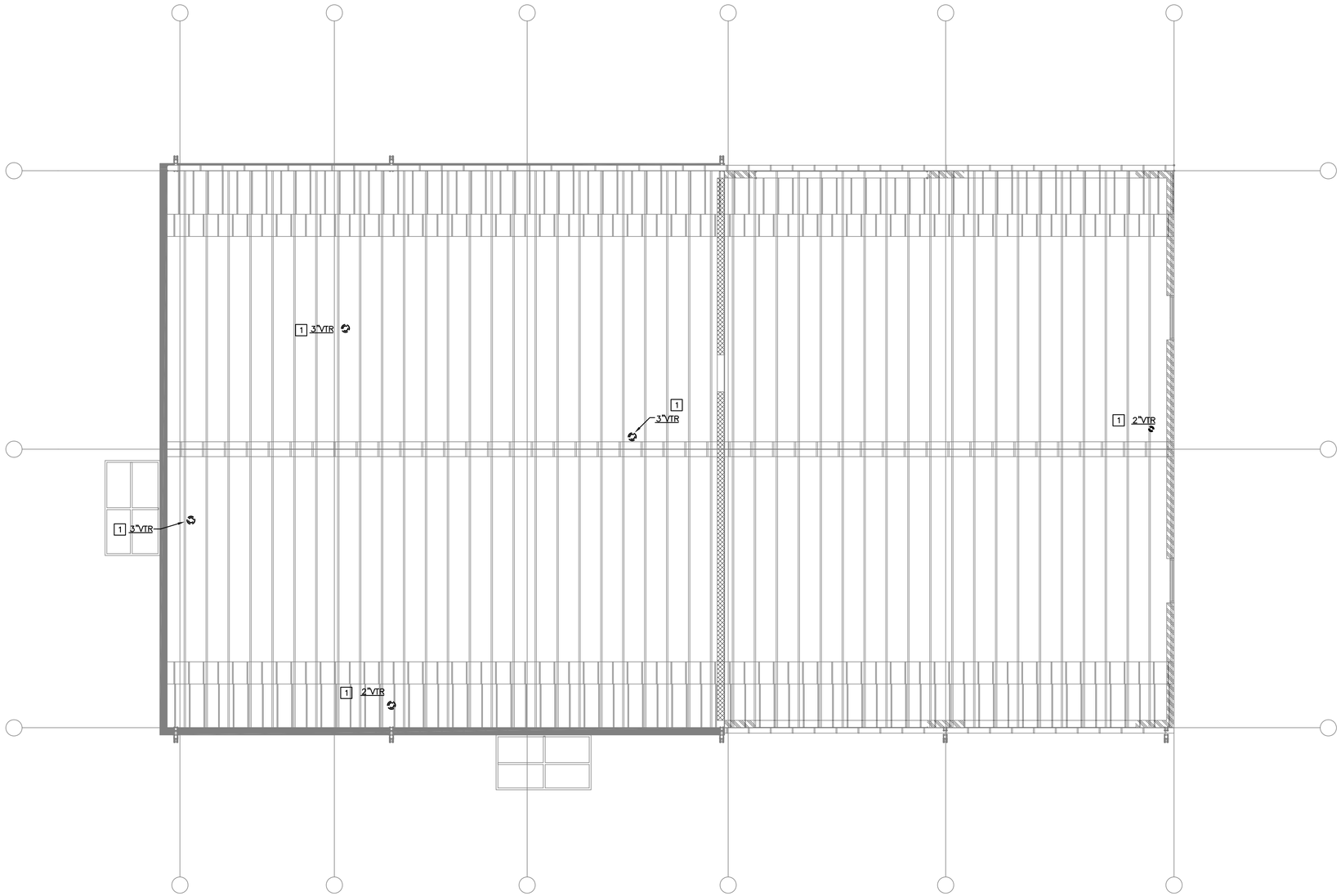

1 PLUMBING ROOF PLAN
1/8" = 1'-0"

PLUMBING GENERAL NOTES

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3. CONTRACTOR SHALL COORDINATE HIS WORK WITH OTHER TRADES.
4. SEAL ALL WALL, ROOF, AND FLOOR PENETRATIONS WITH UL LISTED FIRE SEALANT.

KEYED NOTES

1 PLUMBING ROOF VENT; VENTS SHALL MAINTAIN A MINIMUM OF 10' CLEARANCE FROM HVAC INTAKE/SUPPLY FANS. REFER TO MECHANICAL PLANS FOR EXACT LOCATION OF HVAC EQUIPMENT. FIELD VERIFY EXACT LOCATION.

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PLUMBING ROOF PLAN

DATE: 11/02/15
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SHEET NO.:
P1.3
JOB NO.: 15096

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PLUMBING FIXTURE SCHEDULE

PLAN MARK	MINIMUM ROUGH-IN SIZES					DESCRIPTION
	WST & VENT		DRAIN	CW	HW	
WATER CLOSET WC1 (FLOOR MOUNT) (FLUSH VALVE)	4"	2"	4"	1"	----	KOHLER No. K-4405 "HIGHLINE", FLOOR MOUNT, WHITE V.C. ELONGATED SIPHON JET (1.28 GPF) BOWL WITH 1-1/2" TOP SPUD, BEMIS No. 1955CWH WHITE OPEN FRONT SEAT LESS COVER AND SLOAN "ROYAL" 111-1.28-TP FLUSH VALVE. FIXTURE MUST MEET ADA/TDLR. PROVIDE TRAP PRIMER CONNECTION WITH FIXTURE.
WATER CLOSET WC2 (FLOOR MOUNT) (FLUSH VALVE)	4"	2"	4"	1"	----	KOHLER No. K-4350 "WELLCOMME", FLOOR MOUNT, WHITE V.C. ELONGATED SIPHON JET (1.28 GPF) BOWL WITH 1-1/2" TOP SPUD, BEMIS No. 1955CWH WHITE OPEN FRONT SEAT LESS COVER AND SLOAN "ROYAL" 111-1.28 FLUSH VALVE.
URINAL UR1	2"	2"	1-1/2"	3/4"	----	KOHLER No. K-5016-ET "DEXTER" WHITE V.C. SIPHON JET FIXTURE WITH 3/4" TOP SPUD AND WALL HANGERS (0.5 GPF). PROVIDE SLOAN ROYAL No.186-0.5 FLUSH VALVE AND MIFAB OR EQUAL FLOOR MOUNTED CARRIER. MOUNT AT ADA/TAS HEIGHT.
LAVATORY LV1 (WALL HUNG)	2"	1-1/2"	1-1/4"	1/2"	1/2"	KOHLER No. K-2005 "KINGSTON" WALL MOUNTED WHITE V.C. LAVATORY WITH FRONT OVERFLOW. FAUCET SHALL BE BLADE LEVER OPERATED ZURN No. Z812A4-XL-FC0.5 CHROME PLATE FINISH FAUCET, 0.5 GPM, GOOSENECK STYLE WITH WRIST BLADE HANDLES, FIXED GRID DRAIN STRAINER, SEMI CAST BRASS OFFSET TAILPIECE AND P-TRAP WITH C.O. STOPS AND SUPPLIES. PROVIDE MIFAB MC-41 SERIES FLOOR MOUNTED CONCEALED ARM CARRIER WITH TWO UPRIGHTS. SEE ARCHITECTURAL DRAWINGS FOR MOUNTING HEIGHT.
MIXING VALVE MV1	SEE PLAN	----	----	1/2"	1/2"	PROVIDE WATTS THERMOSTATIC MIXING VALVE No. MMV-M1 WITH 1/2" INLET AND 1/2" OUTLET CONNECTIONS, INTEGRAL FILTER WASHERS ,HOT AND COLD CHECK VALVES AND CHECK STOPS, AND STAINLESS STEEL SPRINGS. SET TEMPERATURE LIMIT AT 110°F. ASSE 1070 CERTIFIED
ELECTRIC WATER COOLER EWC1 (BI LEVEL COOLER)	2"	1-1/2"	1-1/2"	1/2"	----	ELKAY No. EZSTL8C BARRIER-FREE, LEAD FREE, DUAL HEIGHT WALL MOUNT COOLER, 8.0 GPH CAPACITY, COOLED TO 50°F WITH 80°F AMBIENT WATER TEMP., UNIT SHALL USE 3.7 FL. AMPS. WIRED FOR 120V/1ø/60Hz. POWER. PROVIDE ELKAY APRON LKAPREZL UNDER UPPER UNIT. PROVIDE MIFAB FLOOR MOUNTED WATER COOLER SUPPORT SYSTEM. PROVIDE CAST BRASS P-TRAP WITH C.O., STOPS AND SUPPLIES. COLOR TO BE SELECTED BY ARCHITECT. MOUNT LOWER UNIT AT ADA HEIGHT.
SINK SK1 (SINGLE COMPARTMENT)	2"	1-1/2"	1-1/2"	1/2"	1/2"	ELKAY No. LRAD-1918 "LUSTERTONE" 6" DEEP 3 HOLE PUNCH, 18 GA. 304 STAINLESS STEEL SELF RIMMING SINK WITH OFF-CENTER REAR DRAIN OPENING. PROVIDE T&S BRASS FAUCET No. B-866-04 SWIVEL GOOSENECK WITH WRIST BLADE HANDLES, LK-18 FIXED GRID DRAIN STRAINER, WITH OFFSET TAILPIECE. PROVIDE C.P. CAST BRASS P-TRAP WITH C.O., LOOSE KEY STOPS AND SUPPLIES. PROVIDE TRUEBRO No. 102-EZ INSULATION KIT FOR ADA.
SINK SK2 (DOUBLE COMPARTMENT)	2"	1-1/2"	1-1/2"	1/2"	1/2"	ELKAY No. LRAD-3321 "LUSTERTONE" 6" DEEP 4 HOLE PUNCH, 18 GA. 304 STAINLESS STEEL SELF RIMMING DOUBLE BOWL SINK WITH OFF-CENTER REAR DRAIN OPENINGS. PROVIDE T&S BRASS FAUCET No. B-2347 SWIVEL GOOSENECK FAUCET WITH WRIST BLADE HANDLES, 4FT SIDE SPRAY AND 8" INLET CENTERS. LK-18 FIXED GRID DRAIN STRAINER, WITH OFFSET TAILPIECE. PROVIDE C.P. CAST BRASS P-TRAP WITH C.O., LOOSE KEY STOPS AND SUPPLIES. PROVIDE TRUEBRO No. 102-EZ INSULATION KIT FOR ADA.
ELECTRIC WATER HEATER EWH1	----	----	----	3/4"	3/4"	A.O. SMITH No. DRE-52-12, 50 GALLON STORAGE W/ 12000 W ELEMENT. UNIT SHALL HAVE 49 GPH FIRST HR RECOVERY AT 90° F. TEMPERATURE RISE. UNIT SHALL BE RATED FOR 150PSI WORKING PRESSURE, GLASS LINED TANK, ASME TPR VALVE, 6 YEAR WARRANTY, BRASS DRAIN VALVE, AND MFG'S HEAT TRAPS. UNIT SHALL BE 208 VOLT, THREE PHASE.
EXPANSION TANK XT	----	----	----	3/4"	----	AMTROL No. ST-25V, HEAVY DUTY BUTYL, FDA APPROVED DIAPHRAGM, POLYPROPYLENE LINED DOME WITH 10.3 GALLON VOLUME. ELBI IS AN EQUIVALENT MANUFACTURE.
REDUCED PRESSURE BACKFLOW PREVENTER RPZ	----	----	----	2"	----	WATTS NO. 009QT-FDA REDUCED PRESS. PRINCIPLE DOUBLE CHECK VALVE WITH INTERMEDIATE ATMOSPHERIC VENT. DRAIN TO FLOOR RECEPTOR. INSTALL AT 36" ABOVE GRADE WITH CLEARANCE FOR SERVICE AND PIPING BRACKETING. PROVIDE SHUT OFF VALVE AND FULL SIZE STRAINER ON INLET AND SHUT OFF VALVE ON OUTLET RISER. TEST AND CERTIFY PER AWWA C-511
MOP SINK MS1	3"	2"	3"	1/2"	1/2"	FIAT MSB-2424 MOLDED STONE 24"x24"x10" WITH AND STAINLESS STEEL CAP ON THRESHOLD MODEL E-88-AA; CAULK OUTLET BRASS DRAIN WITH S.S. STRAINER. PROVIDE A KOHLER No. K8907-RP SERVICE SINK FAUCET WITH VACUUM BREAKER HOSE END SPOUT, PAIL HOOK AND TOP REINFORCING BRACKET. PROVIDE WITH MOP HANGER BRACKET FOR UP TO 3 MOPS.
NON-FREEZE HOSE BIBB NFHB	----	----	----	3/4"	----	WOODFORD MODEL #B65, AUTOMATIC DRAINING, FREEZELESS WALL HYDRANT W/ ANTI-SPHON VACUUM BREAKER ENCLOSED IN A BRASS FLUSH WALL BOX.
ICE MAKER BOX IMB	----	----	----	1/2"	----	OATY WMB NO. 38681 WITH 1/4" TURN BALL VALVE AND SWEAT CONNECTION.
HOSE BIBB HB	----	----	----	3/4"	----	WOODFORD MODEL #24, AUTOMATIC DRAINING, WALL HYDRANT W/ ANTI-SPHON VACUUM BREAKER
WALL CLEANOUT WCO	SEE PLAN	SEE PLAN	SEE PLAN	----	----	ZURN NO. ZS1469-7-VP ROUND STAINLESS STEEL ACCESS COVER COMPLETE WITH SECURING SCREW. PROVIDE CLEANOUT PLUG TO MATCH PIPE MATERIAL.
SHOWER DRAIN SD1	2"	2"	2"	----	----	ZURN No.Z-2254-CP SHOWER DRAIN WITH 4" DIAMETER STAINLESS STEEL STRAINER AND 1/2" IPS TRAP PRIMER CONNECTION AND DEEP SEAL TRAP. SHOWER PAN 40 MIL THICKNESS. PROVIDE PROSET SYSTEMS TRAP GUARD INSERT No. TG33-Z-415.
SHOWER SYSTEM SHR1	----	----	----	1/2"	1/2"	PROVIDE SYMMONS SHOWER SYSTEM MODEL No. C-96-1-295-X-A WITH PRESSURE-BALANCING MIXING VALVE WITH LEVER HANDLE, INTEGRAL CHECK STOPS, ADJUSTABLE STOP SCREW TO LIMIT HANDLE TURN, AND CAST BRASS SHOWER HEAD WITH ARM AND FLANGE. PROVIDE 2" SHOWER DRAIN, SAME AS "FD1" WITH TYPE "B" STRAINER. SEE FIXTURE SD1. MOUNT SHOWER HEAD AT 82" ABOVE FINISHED FLOOR, FIELD VERIFY EXACT MOUNTING HEIGHT WITH OWNER/ARCHITECT.
SHOWER SYSTEM SHR2	----	----	----	1/2"	1/2"	PROVIDE SYMMONS SHOWER SYSTEM WITH HAND SPRAY MODEL No. C-96-500-B30-V-X-CHKS-QD WITH PRESSURE-BALANCING MIXING VALVE WITH LEVER HANDLE, ADJUSTABLE STOP SCREW TO LIMIT HANDLE TURN, LEVERTROL DIVERTER WITH INTEGRAL VOLUME CONTROL, INTEGRAL CHECK STOPS, CAST BRASS SHOWER HEAD WITH ARM AND FLANGE, WALL/HAND SHOWER WITH QUICK DISCONNECT AND IN-LINE VACUUM BREAKER, FLEXIBLE 60" METAL HOSE, WALL CONNECTION AND FLANGE, AND 30" SLIDE BAR FOR HAND SHOWER MOUNTING. MOUNT SHOWER HEAD AT 78" ABOVE FINISHED FLOOR.

GENERAL NOTES:

1. CONTRACTOR TO FIELD VERIFY ELEVATIONS AND DIMENSIONS OF FINISHED FLOORS AND WALLS. TRUE ALL DRAINS, ROUGH-INS AND CARRIERS IN ACCORDANCE WITH THE PROPOSED ELEVATIONS AND FINISHED SURFACES.
2. MOUNTING HEIGHT ELEVATION OF ALL WALL HUNG OR COUNTER MOUNTED FIXTURES SHALL BE COORDINATED WITH THE ARCHITECT PRIOR TO INSTALLATION OF ROUGH-IN WORK.
3. FOR ALL FIXTURES AND EQUIPMENT WITH ASSOCIATED TRIM OR COMPONENT ACCESSORIES, PROVIDE UNDER SEPARATE DIVISIONS AND REQUIRING PLUMBING CONNECTIONS; THIS CONTRACTOR SHALL FIELD COORDINATE EXACT REQUIREMENTS OF, MAKE PROVISIONS FOR, AND SUPPLY ALL MATERIALS AND LABOR FOR MAKING FINAL CONNECTIONS.
4. CONTRACTOR SHALL REFER TO SHOP DRAWINGS OF EQUIPMENT TO BE SUPPLIED FOR FINAL COORDINATION OF ALL ROUGH-IN OPENINGS BEFORE BEGINNING WORK.
5. ALL FIXTURE AND EQUIPMENT STUB-OUTS SHALL BE PROVIDED WITH A STOP VALVE. ALL FIXTURE STOPS SHALL BE SOLID BRASS, LOOSE KEY OPERATED, CHROME PLATED (WERE EXPOSED), AND FITTED TIGHT TO CHROME PLATED BRASS WALL ESCUTCHEON PLATES. SUPPLY RISERS SHALL BE TYPE "L" TUBING, CHROME PLATED. PROVIDE 1/2" FIP X 3/8" OD COMPRESSION FITTINGS FOR ALL SINKS, LAVATORIES, AND SIMILAR FIXTURES.
6. ALL P-TRAPS WITHIN THE BUILDING, ABOVE GRADE AND EXPOSED TO INSPECTION SHALL BE CHROME PLATED ADJUSTABLE, CAST BRASS WITH CLEANOUT PLUG. PROVIDE CAST SLIP NUTS AND WASHERS, 17 GAGE SEAMLESS TUBULAR BRASS DRAIN TO WALL AND WALL FLANGE. PROVIDE 1-1/2" P-TRAP FOR ALL LAVATORIES AND SIMILAR FIXTURES. PROVIDE 1-1/2" P-TRAP FOR ALL SINKS AND SIMILAR FIXTURES, MCGUIRE OR EQUAL
7. ALL ROUGH-IN OPENINGS SHALL BE FITTED WITH CHROME PLATED, WROUGHT BRASS DEEP BELL OR BOX ESCUTCHEON PLATES FITTED TIGHT TO PIPE AND FLUSH TO WALL. STEEL ESCUTCHEON PLATES ARE NOT ACCEPTED.
8. ALL EXPOSED BRASS SHALL BE CHROME PLATED.
9. ALL HANDICAPPED ACCESSIBLE FIXTURES SHALL BE OF APPROVED TYPES AND WITH REQUIRED CONTROLS INSTALLED TO HEIGHTS AND CLEARANCES, AS PRESCRIBED BY THE AMERICAN DISABILITIES ACT (ADA) AND THE TEXAS ACCESSIBILITY STANDARDS (TAS). FIXTURES SHALL COMPLY WITH ALL FEDERAL, STATE, AND LOCAL ACCESSIBILITY CODE REQUIREMENTS. PROVIDE FIXTURES WITH DEPTHS AT MAXIMUM PERMITTED AND AVAILABLE FOR INTENDED FIXTURE USE.
10. INSULATE ALL EXPOSED WATER AND DRAIN LINES ON ADA/TAS ACCESSIBLE LAVATORIES AND SINKS WITH MCGUIRE PRO WRAP OR EQUAL. PROVIDE OFFSET DRAIN FITTINGS WHERE REQUIRED TO PROVIDE MINIMUM CLEARANCES.
11. ALL ADA/TAS SINKS SHALL BE STAMPED WITH DRAIN OUTLET AT THE REAR OF THE BOWL.
12. PLUMBING FIXTURES SHALL BE OF WATER CONSERVATION TYPE IN ACCORDANCE WITH SENATE BILL 587 FOR WATER SAVING PERFORMANCE. LAVATORY(0.5GPM) AND SINK FAUCETS(2.2GPM) SHALL INCLUDE GPM FLOW CONTROL.
13. ORIENT ADA/TAS WATER CLOSET FLUSH VALVE WITH OPERATOR ON LARGE SIDE OF ENCLOSURE AND BELOW GRAB BARS.
14. SEAL ALL SPACES BETWEEN PLUMBING FIXTURES AND MOUNTING SURFACES WITH WHITE LATEX CAULK WIPED SMOOTH AND FLUSH WITH FIXTURE.
15. FLOOR DRAINS SHALL BE INSTALLED AT LOW POINTS OF UNIFORMLY SLOPED FLOOR. CONTRACTOR SHALL FIELD COORDINATE WITH STRUCTURAL TO INSURE FLOORS ARE UNIFORMLY SLOPED ACROSS ENTIRE TOILET ROOMS OR OVER AS WIDE AN AREA AS PRACTICAL FOR OPEN AREA FLOOR DRAINS. CONVEX FLOOR SLOPE IN THE IMMEDIATE VICINITY OF THE FLOOR DRAIN IS NOT ACCEPTABLE.
16. EQUIVALENT MANUFACTURES OF CHINA FIXTURES ARE KOHLER, ELJIER, AND CRANE. EQUIVALENT MANUFACTURES OF STAINLESS FIXTURES ARE JUST AND ELKAY.
17. WATER HEATER SHALL BE PROVIDED WITH CODE APPROVED VACUUM BREAKER AND BRASS ASME TEMPERATURE AND PRESSURE RELIEF VALVE. ROUTE TPR DRAIN LINE FULL SIZED TO EXTERIOR OF BUILDING AND TERMINATE 6" ABOVE FINISHED GRADE, OR AS INDICATED ON PLANS.
18. ROOF PENETRATIONS SHALL BE DONE IN STRICT COMPLIANCE WITH THE ARCHITECTS SPECIFICATIONS AND SHALL BE LEAK PROOF.
19. FIELD VERIFY ALL EXISTING CONDITIONS AND LOCATION OF STUB OUTS. NOTIFY ARCHITECT OF ANY DISCREPANCIES IMMEDIATELY WHICH MAY AFFECT THE INTENDED DESIGN.
20. ALL PLUMBING WORK SHALL BE DONE IN STRICT COMPLIANCE WITH ALL STATE AND LOCAL CODES.
21. THE PLUMBING CONTRACTOR SHALL GUARANTEE THE COMPLETE PLUMBING SYSTEM TO BE FREE OF DEFECTS IN WORKMANSHIP AND MATERIALS FOR A PERIOD OF 12 MONTHS FROM DATE OF FINAL ACCEPTANCE.
22. ALL WATER HEATER SUPPLY CONNECTIONS SHALL HAVE HEAT TRAP NIPPLE CONNECTIONS. HEAT TRAP NIPPLES NOT REQUIRED IF HOT WATER RECIRCULATION SYSTEM IS PROVIDED.

PLUMBING SYMBOLS

SYMBOL	ABBREV.	DESCRIPTION
	VTR	VENT THRU ROOF
	HD	HUB DRAIN
	FD	FLOOR DRAIN
	FS	FLOOR SINK
	HB	HOSE BIBB
	NFWH	NON-FREEZE WALL HYDRANT W/ BOX
	CW	COLD WATER PIPING
	HW	HOT WATER PIPING
	HWR	HOT WATER RETURN PIPING
G	G	GAS PIPING
D	D	DRAIN PIPING
SW	SW	SOFT WATER
	SS	SANITARY SEWER PIPING
CD	CD	CONDENSATE DRAIN PIPING
OW	OW	OIL WASTE PIPING
		VENT PIPING
	CO	WALL CLEAN OUT
	FCO	FLOOR CLEAN OUT
	ECO	EXTERIOR CLEAN OUT
	DCO	DOUBLE CLEAN OUT
	RCP	RECIRC PUMP
	BFP	BACKFLOW PREVENTOR
	QCHC	QUICK CONNECT HOSE CONNECTION
		WATER SHUT-OFF VALVE(FULL PORT)
		THERMOMETER
		GATE VALVE
		WATER HAMMER ARRESTOR
		BALL VALVE
		GAS PRESSURE REGULATOR
		CHECK VALVE
		CAP PIPE END
		PIPE RISE
		PIPE DROP
		UNION
		TIE NEW INTO EXISTING AT THIS POINT

NOT ALL SYMBOLS MAY BE USED

AIR COMPRESSOR SCHEDULE

MARK	AC1
TYPE	VERTICAL TANK, TWO STAGE
MIN. TANK CAPACITY (GALLONS)	80
PSG RATING	125
CFM DISPLACEMENT	23.5
CFM DELIVERY	19.1
RPM	734
NO. OF CYLINDERS	2
MOTOR HP	5
VOLTS-PHASE	208-3PH
MANUFACTURER	CHAMPION
MODEL	VR5-8
NOTE	1,2

NOTES: (THE EQUIPMENT SHALL BE PROVIDED WITH THE FOLLOWING ACCESSORIES/OPTIONS).
1. TEFC MOTOR.
2. INDOOR APPLICATION

PLUMBING FIXTURE SCHEDULE - CON'T.

PLAN MARK	MINIMUM ROUGH-IN SIZES					DESCRIPTION
	WST & VENT		DRAIN	CW	HW	
FLOOR DRAIN FD1	3"	2"	3"	----	----	ZURN No.ZN-415 CAST IRON DRAIN WITH 6" DIAMETER TYPE 'B' STRAINER AND 1/2" IPS TRAP PRIMER CONNECTION AND DEEP SEAL TRAP. PROVIDE PROSET SYSTEMS TRAP GUARD INSERT No. TG33-Z-415.
FLOOR DRAIN FD2	3"	2"	3"	----	----	ZURN No. ZN-415 CAST IRON DRAIN WITH 6" DIAMETER TYPE 'I' STRAINER AND 1/2" IPS TRAP PRIMER CONNECTION AND DEEP SEAL TRAP. PROVIDE PROSET SYSTEMS TRAP GUARD INSERT No. TG33-Z-415.
AREA DRAIN AD	SEE PLAN	2"	----	----	----	JR SMITH No. 2410 CAST IRON DRAIN WITH 12" SQUARE TOP DUCTILE IRON GRATE, FREE STANDING SEDIMENT BUCKET, AND DEEP SEAL TRAP.
SAND/OIL INTERCEPT OS1	SEE PLAN	----	----	----	----	PARK EQUIPMENT No. CMP250, PRECAST CONCRETE 250 GAL. CAPACITY SAND/OIL INTERCEPT WITH STAINLESS STEEL COALESCING BAFFLES AND CONTAINER. 4500 PSI CONCRETE WITH STEEL REBAR REINFORCING. PROVIDE HIGH LEVEL FLOAT SWITCH AND REMOTE ALARM.
WATER HAMMER ARRESTOR SA1	SEE RISER	SEE RISER	SEE RISER	----	----	SIOUX CHIEF MODEL 652A. TYPE I COPPER TUBE, POLY PISTON WITH TWO EPDM O-RINGS. INSTALL TO MANUFACTURES SPECIFICATIONS.
COMBIMATION HOSE REEL HR1	----	----	----	----	----	GRAINGER MODEL C-LP-350-350. AIR/WATER COMBINATION HOSE REEL, 50 FT., 3/8 HOSE DIAMETER. FULL FLOW BRASS SWIVEL WITH NITRILE SEALS.

PLUMBING PIPE MATERIALS SCHEDULE

PIPING SYSTEM	PIPING MATERIAL
SANITARY SEWER BELOW GRADE	SCHEDULE 40 DWV PVC
SANITARY DRAIN AND VENTS ABOVE GRADE	SCHEDULE 40 DWV PVC*
DOMESTIC HOT & COLD WATER BELOW GRADE	COPPER, TYPE "K" SOFT
DOMESTIC HOT & COLD WATER ABOVE GRADE	COPPER, TYPE "L" HARD DRAWN
HOT WATER PIPE INSULATION	1" RIGID FIBER GLASS
GAS PIPING	SCHEDULE 40 BLACK STEEL
AIR COMPRESSOR PIPING	ALUM. PIPING SIMPLAIR EASY PIPELINE OR EQUAL

*SCHEDULE 40 DWV PVC SHALL NOT BE USED IN RETURN AIR PLENUMS. WHERE CEILING PLENUMS ARE USED FOR RETURN AIR, CONTRACTOR SHALL ONLY USE BELL AND SPIGOT SERVICE WEIGHT CAST IRON PIPE.

SAND-OIL SEPERATOR CALCULATIONS

SHOP AREA	CALCULATIONS	CAPACITY (CFT)	MIN. CAPACITY (GAL)
2198 SQFT	$6 \text{ CFT} + \frac{(2198 \text{ SQFT} - 100)}{100 \text{ SQFT/CFT}} =$	26.98 CUBIC FEET	(1CFT=7.48052gal) 201.82 GAL

11/02/2015

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PLUMBING FIXTURE SCHEDULES

DATE: 11/02/15
REVISIONS:
ADDENDUM 5

SHEET NO.:
P2.1
JOB NO.: 15096

Nov 03, 2015 - 1:44pm
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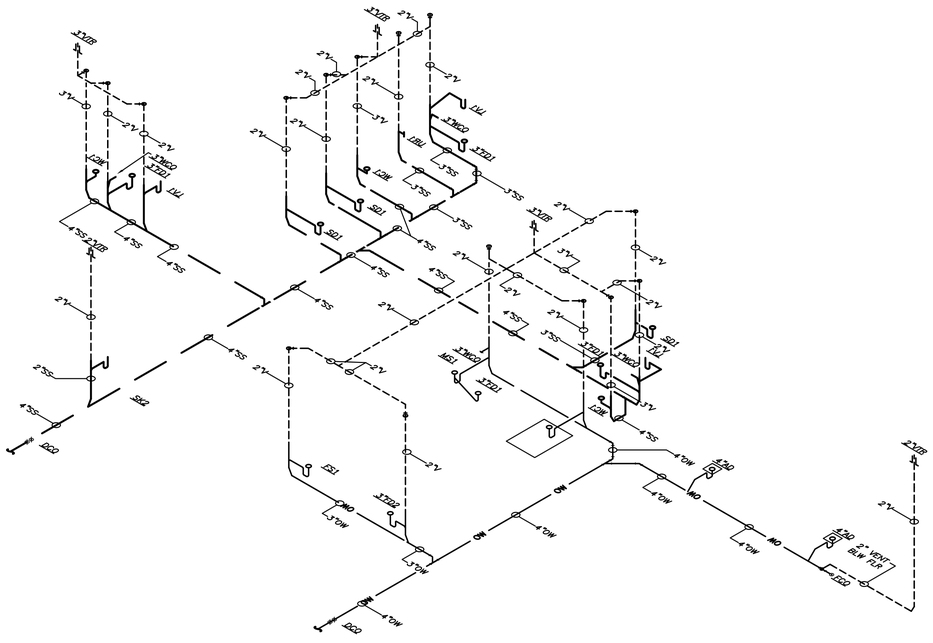
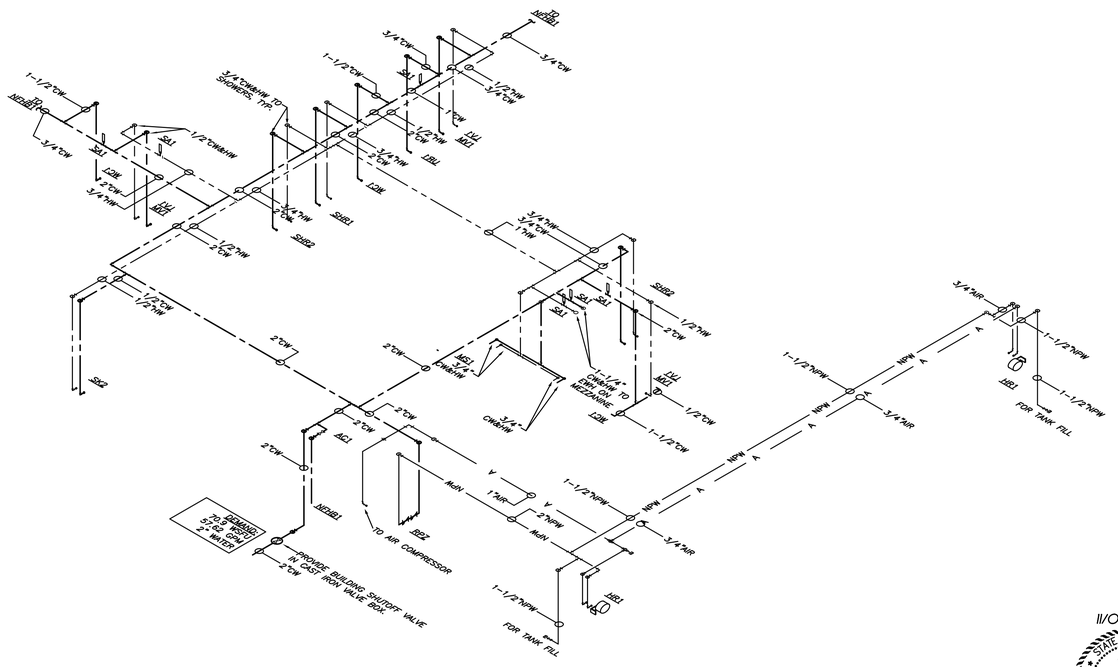


1 DWV RISER DIAGRAM
NO SCALE



2 WATER RISER DIAGRAM
NO SCALE

11/02/2015

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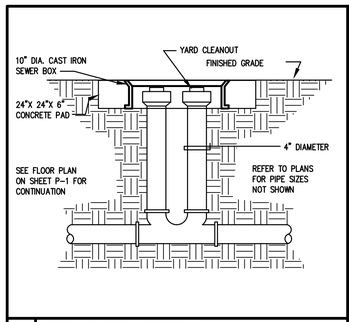
PLUMBING RISER DIAGRAMS

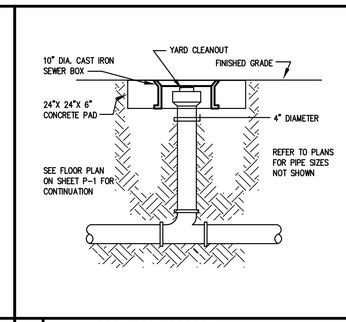
DATE: 11/02/15
REVISIONS:
ADDENDUM 5

SHEET NO.:
P3.1
JOB NO.: 15096

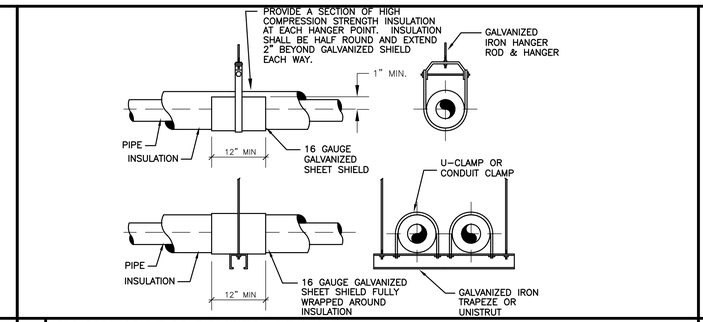
Nov 03, 2015 – 1:45pm
15096_P1.dwg



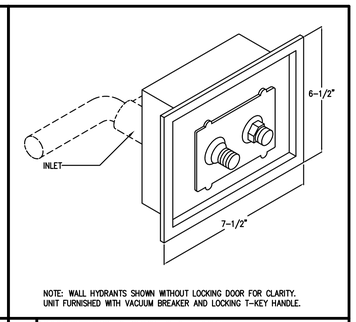
1 DOUBLE CLEANOUT
PPTP100



2 EXTERIOR CLEANOUT
PPTP100

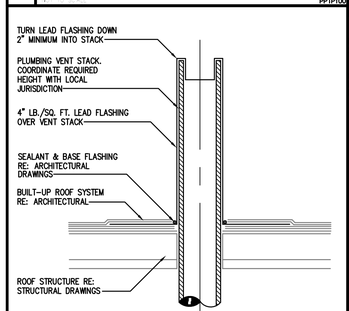


3 PIPE HANGER FOR INSULATED PIPE

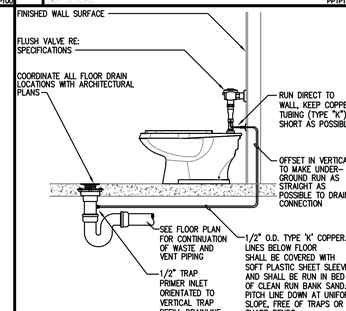


NOTE: WALL HYDRANTS SHOWN WITHOUT LOCKING DOOR FOR CLARITY. UNIT FURNISHED WITH VACUUM BREAKER AND LOCKING T-KEY HANDLE.

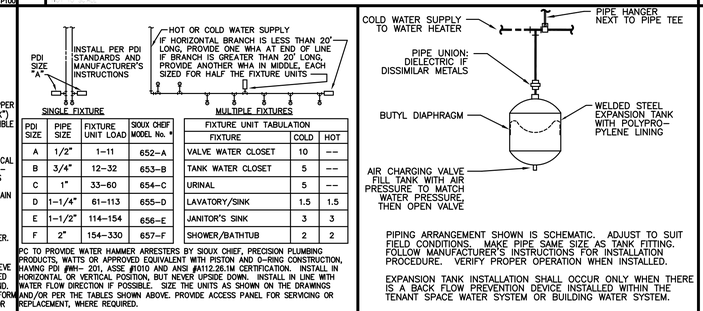
4 WALL HYDRANT DETAIL
PWH104



5 VENT THRU ROOF
PPWV103



6 TRAP PRIMER DETAIL
NOT TO SCALE
PPTP103



PDI SIZE	PIPE SIZE	FIXTURE UNIT LOAD	SIOUX CHIEF MODEL No. *
A	1/2"	1-11	652-A
B	3/4"	12-32	653-B
C	1"	33-60	654-C
D	1-1/4"	61-113	655-D
E	1-1/2"	114-154	656-E
F	2"	154-330	657-F

FIXTURE UNIT TABULATION		
FIXTURE	COLD	HOT
VALVE WATER CLOSET	10	--
TANK WATER CLOSET	5	--
URINAL	5	--
LAVATORY/SINK	1.5	1.5
JANITOR'S SINK	3	3
SHOWER/BATHTUB	2	2

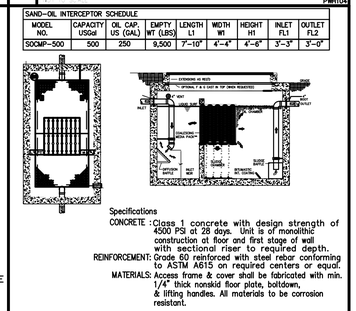
PC TO PROVIDE WATER HAMMER ARRESTERS BY SIOUX CHIEF, PRECISION PLUMBING PRODUCTS, WATTS OR APPROVED EQUIVALENT WITH PISTON AND O-RING CONSTRUCTION, HAVING PDI #WH- 201, ASSE #1010 AND ANSI #A112.26.1M CERTIFICATION. INSTALL IN HORIZONTAL OR VERTICAL POSITION, BUT NEVER UPSIDE DOWN. INSTALL IN LINE WITH WATER FLOW DIRECTION IF POSSIBLE. SIZE THE UNITS AS SHOWN ON THE DRAWINGS AND/OR PER THE TABLES SHOWN ABOVE. PROVIDE ACCESS PANEL FOR SERVICING OR REPLACEMENT, WHERE REQUIRED.

7 WATER HAMMER ARRESTOR
PPTP100

PIPING ARRANGEMENT SHOWN IS SCHEMATIC. ADJUST TO SUIT FIELD CONDITIONS. MAKE PIPE SAME SIZE AS TANK FITTING. FOLLOW MANUFACTURER'S INSTRUCTIONS FOR INSTALLATION PROCEDURE. VERIFY PROPER OPERATION WHEN INSTALLED.

EXPANSION TANK INSTALLATION SHALL OCCUR ONLY WHEN THERE IS A BACK FLOW PREVENTION DEVICE INSTALLED WITHIN THE TENANT SPACE WATER SYSTEM OR BUILDING WATER SYSTEM.

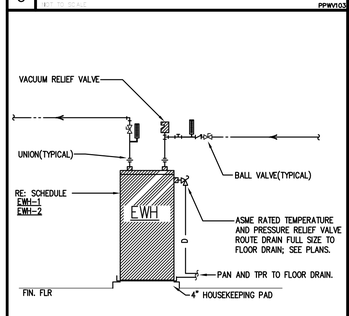
8 EXPANSION TANK DETAIL
PPTP100



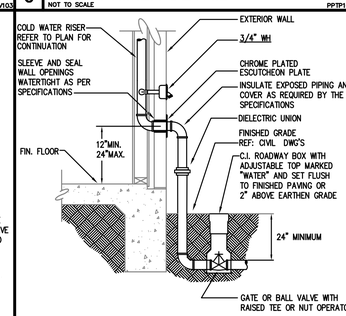
SAND-OIL INTERCEPTOR SCHEDULE								
MODEL NO.	CAPACITY US/Gal	OIL CAP. US (GAL)	EMPTY WT (LBS)	LENGTH L1	WIDTH W1	HEIGHT H1	INLET FL1	OUTLET FL2
SOCMP-500	500	250	9,500	7'-10"	4'-4"	4'-6"	3'-3"	3'-0"

Specifications
CONCRETE : Class 1 concrete with design strength of 4500 PSI at 28 days. Unit is of monolithic construction at floor and first stage of wall with sectional riser to required depth.
REINFORCEMENT: Grade 60 reinforced with steel rebar conforming to ASTM A615 on required centers or equal.
MATERIALS: Access frame & cover shall be fabricated with min. 1/4" thick nonskid floor plate, boltdown, & lifting handles. All materials to be corrosion resistant.

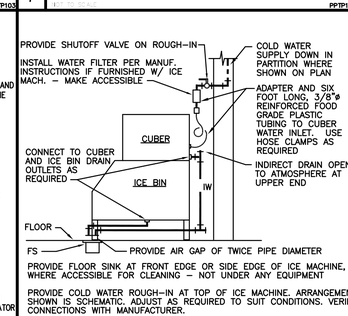
9 SAND/OIL SEPERATOR
NOT TO SCALE
PPTP105



10 GENERAL WATER HEATER DETAIL
NOT TO SCALE
PWH301



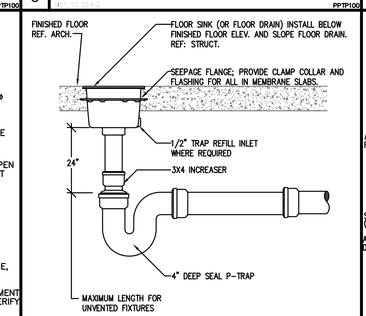
11 WATER PIPE ENTRY DETAIL
PWR202



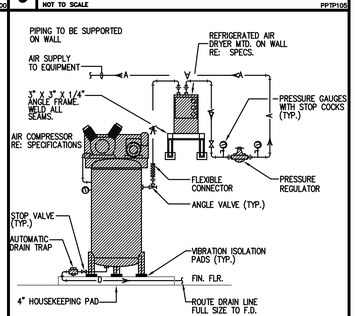
PROVIDE FLOOR SINK AT FRONT EDGE OR SIDE EDGE OF ICE MACHINE, WHERE ACCESSIBLE FOR CLEANING - NOT UNDER ANY EQUIPMENT

PROVIDE COLD WATER ROUGH-IN AT TOP OF ICE MACHINE. ARRANGEMENT SHOWN IS SCHEMATIC. ADJUST AS REQUIRED TO SUIT CONDITIONS. VERIFY CONNECTIONS WITH MANUFACTURER.

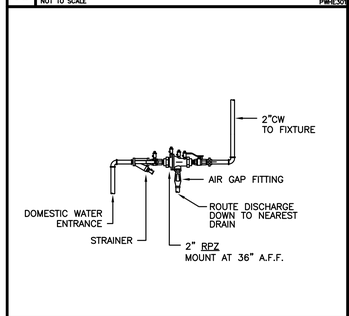
12 ICE MAKER CONNECTION



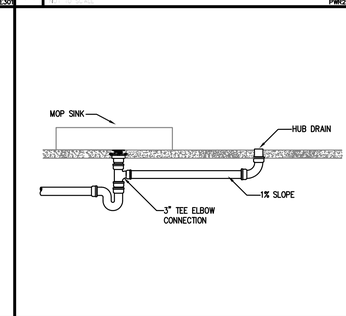
13 FLOOR DRAIN DETAIL
PPWD100



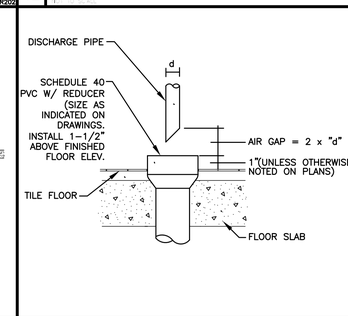
14 GENERAL AIR COMPRESSOR DETAIL
PPAC105



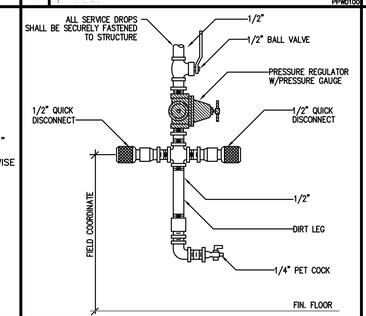
15 BACKFLOW PREVENTER DETAIL



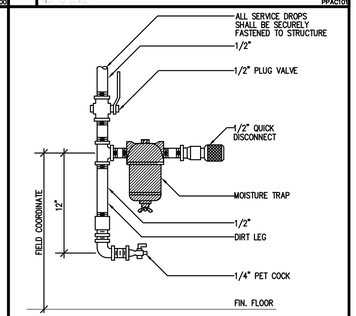
16 TIE IN ABOVE MOP SINK TRAP
NOT TO SCALE
PPTP105



17 HUB DRAIN W/ AIR GAP



18 COMPRESSED AIR OUTLET DETAIL
PPAC103



19 COMPRESSED AIR OUTLET DETAIL
PPAC104

Nov 03, 2015 - 1:45pm
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11/02/2015

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PLUMBING DETAILS

DATE: 11/02/15
REVISIONS:
ADDENDUM 5

SHEET NO.:
P4.1
JOB NO.: 15096