# CONSTRUCT EXPANSION AND REPLACE STANDING SEAM ROOF
## FMS , FESTUS, MISSOURI


**EDM Incorporated**
Engineers Architects Planners
220 Mansion House Center St. Louis, Missouri 63102
(314) 231-5485 FAX (314) 231-8167


OWNER: STATE OF MISSOURI
MICHAEL L. PARSON,
GOVERNOR

MISSOURI NATIONAL GUARD
(MONG)

PROJECT MANAGEMENT: OFFICE OF ADMINISTRATION
DIVISION OF FACILITIES MANAGEMENT,
DESIGN AND CONSTRUCTION

**DRAWING LIST**


| | TITLE | SHEET # | DATE | CAD # |
|---|---|---|---|---|
| 1. | Cover Sheet | Sheet G-001 | 02/20/2020 | T1932-01 G-001 |
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| 14. | HVAC Plumbing Floor Plan | Sheet MP101 | 02/20/2020 | T1932-01 MP101 |
| 15. | Floor Plan Electrical | Sheet E-101 | 02/20/2020 | T1932-01 E-101 |



DESIGNER: EDM Incorporated
220 Mansion House Center
St. Louis, Missouri 63102
Arch CoA: 000227 Exp. 12/31/2020
Engr CoA: 000516 Exp. 12/31/2021


PROJECT NUMBER: T1932-01

SITE NUMBER: 6302
ASSET NUMBER: 8136302002

SHEET NUMBER:
G-001

## ARCHITECTURAL ABBREVIATIONS

| | |
|---|---|
| AFF | ABOVE FINISHED FLOOR |
| A4S | ALL FOUR SIDES |
| BD | BOARD |
| CMU | CONCRETE MASONRY UNIT |
| COL | COLUMN |
| CONC | CONCRETE |
| DIA | DIAMETER |
| DN | DOWN |
| DWG | DRAWING |
| EL | ELEVATION |
| ELECT | ELECTRIC |
| ELEV | ELEVATION |
| EQUIP | EQUIPMENT |
| FD | FLOOR DRAIN |
| FE | FIRE EXTINGUISHER |
| FT | FOOT OR FEET |
| FV | FIELD VERIFY |
| GYP | GYPSUM |
| HW | HOT WATER |
| JAN | JANITOR |
| MAS | MASONRY |
| MECH | MECHANICAL |
| MFGR | MANUFACTURER |
| MTL | METAL |
| N.I.C. | NOT IN CONTRACT |
| N.T.S. | NOT TO SCALE |
| RM | ROOM |
| SQ FT | SQUARE FEET |
| STRUCT | STRUCTURAL |
| TYP | TYPICAL ALL INSTANCES |
| UTIL | UTILITY |
| W/ | WITH |

## ARCHITECTURAL LEGEND

XXX
000 — ROOM NAME / NUMBER

000 — MAN DOOR / DOOR NUMBER

X — COLUMN GRID ID

0 A-000 — DETAIL NUMBER; DIRECTION OF VIEW; DETAIL SECTION CUT; DETAIL SHEET LOCATION

0 A-000 — DETAIL NUMBER; DETAIL REFERENCE; DETAIL SHEET LOCATION

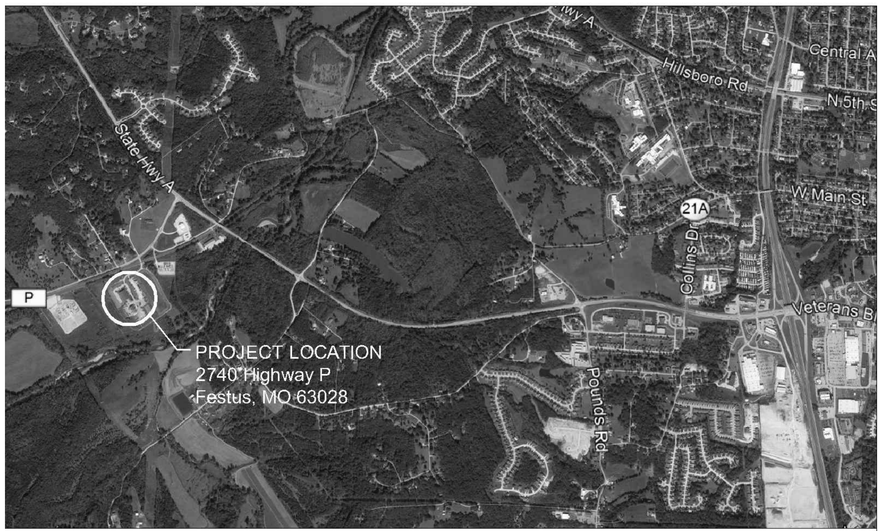
XXX.XX / XXX.XX — PROPOSED NEW ELEVATION (IF BLANK - ELEVATION IS UNCHANGED); ELEVATION GRADE POINT; EXISTING ELEVATION

X — DESIGNATED ROOF AREA

0 A-000 DETAIL NAME SCALE — DETAIL NUMBER; DETAIL SHEET

## GENERAL NOTES - ARCHECTURAL

1. DEMOLITION AND NEW WORK PLANS SHOW APPROXIMATE LAYOUT OF EXISTING BUILDING AND IS NOT INTENDED TO REPRESENT "AS-BUILT" CONDITIONS. THE CONTRACTOR IS TO VISIT THE SITE AND BECOME FAMILIAR WITH ACTUAL CONDITIONS BEFORE BIDDING THE WORK.
2. ALL DEMOLITION WORK SHALL BE EXECUTED IN COMPLIANCE WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES, LAWS AND REGULATIONS.
3. THE CONTRACTOR SHALL VISIT THE SITE AND FACILITY TO VERIFY ALL EXISTING CONDITIONS, AND VERIFY THE SCOPE OF WORK INDICATED BY ALL CONTRACT DOCUMENTS. FAILURE TO REASONABLY DETERMINE AND/OR ANTICIPATE THE IMPACT OF THE SCOPE OF WORK ON EXISTING CONDITIONS SHALL NOT BE JUSTIFICATION FOR ADDITIONAL COMPENSATION. ANY DISCREPANCIES DISCOVERED IN THE CONTRACT DOCUMENTS SHALL BE IMMEDIATELY REPORTED TO THE ARCHITECT
4. THE EXISTING FACILITIES SHALL REMAIN IN UNINTERRUPTED OPERATION THROUGHOUT CONSTRUCTION. THE BUILDING SHALL REMAIN IN WEATHERPROOF, SECURE CONDITION AT ALL TIMES. ANY NECESSARY DISRUPTION TO ONGOING OPERATIONS SHALL BE SCHEDULED AND COORDINATED WITH THE USER AT LEAST 24 HOURS IN ADVANCE.
5. THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS THAT THE BUILDING IS LEFT IN A SECURE MANNER AT ALL TIMES.
6. THE CONTRACTOR SHALL COORDINATE AND SCHEDULE WITH THE USER THE ASSIGNMENT OF AREAS TO BE USED FOR TEMPORARY CONSTRUCTION ACTIVITIES.
7. UNLESS NOTED OTHERWISE, ALL DEMOLISHED MATERIAL AND EQUIPMENT IS TO BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE IN A SAFE AND LEGAL MANNER. NO ON-SITE SALE OF MATERIAL IS ALLOWED.
8. ALL MATERIALS, EQUIPMENT, FIXTURES, SYSTEMS AND ACCESSORIES WHICH ARE TO REMAIN IN SERVICE SHALL BE PROTECTED, CLEANED, ADJUSTED IF REQUIRED, AND PLACED INTO PROPER OPERATIONS, IN ALL MODES, WITH THE ORIGINAL SYSTEM.
9. CONTRACTOR SHALL FOLLOW THE PROGRESS OF THE GENERAL DEMOLITION AND REMODELING WORK TO ASSURE THE ACCESSIBILITY AND SAFETY OF EQUIPMENT AND SYSTEMS TO REMAIN IN SERVICE, AND TO PROVIDE FOR THE TIMELY REMOVAL AND/OR RELOCATION OF EQUIPMENT, PIPING, ETC.
10. THE CONTRACTOR SHALL PROVIDE ADEQUATE PROTECTION FOR ALL EXISTING CONSTRUCTION DURING THE DEMOLITION AND CONSTRUCTION PROCESS TO PREVENT DAMAGE TO EXISTING FINISHES OR MATERIALS.
11. EXISTING CONSTRUCTION SHOWN TO REMAIN SHALL BE PROTECTED DURING DEMOLITION AND CONSTRUCTION. DAMAGE TO EXISTING CONSTRUCTION SHOWN TO REMAIN SHALL BE RESTORED TO MATCH PRE-DAMAGED CONDITION.
12. ITEMS TO BE REMOVED ARE SHOWN WITH DASHED LINES.
13. ALL INFILL OR REPLACEMENT WORK SHALL MATCH EXISTING CONDITIONS IN MATERIALS, CONSTRUCTION AND FINISH, UNLESS SPECIFICALLY NOTED ELSEWHERE IN THE CONSTRUCTION DOCUMENTS.
14. REMOVE ALL EXISTING OBSOLETE PLUMBING, MECHANICAL, AND ELECTRICAL EQUIPMENT IN THEIR ENTIRETY THROUGHOUT THE SPACE PARTICULARLY WHERE EXISTING ITEMS WILL INTERFERE WITH THE INSTALLATION OF NEW CONSTRUCTION, OR WHERE EXISTING ITEMS WILL BE EXPOSED IN THE NEW CONSTRUCTION, UNLESS SPECIFICALLY SHOWN ELSEWHERE IN THE CONTRACT DOCUMENTS TO REMAIN, WITH MATERIALS MATCHING EXISTING CONSTRUCTION. COORDINATE WITH NEW CONSTRUCTION. REFER TO M.E.P. DRAWINGS FOR MORE INFORMATION.
15. THE ARCHITECT/ ENGINEER WILL NOT BE RESPONSIBLE FOR MEANS, METHODS, TECHNIQUES, SEQUENCES, OR PROCEDURES, OR FOR THE SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE PROJECT.
16. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING DIMENSIONS AT THE JOB SITE AND NOTIFY THE CONTRACTING OFFICER'S REPRESENTATIVE OF ANY DIMENSIONAL ERRORS, OMISSIONS, OR DISCREPANCIES BEFORE BEGINNING OR FABRICATING ANY WORK.




# PROJECT LOCATION

## CODE ANALYSIS

**Applicable Codes (Jefferson County, MO)**
- International Building Code 2015
- International Fire Code 2015
- International Mechanical Code 2015
- International Energy Conservation Code 2015
- International Plumbing Code 2015
- National Electric Code 2008

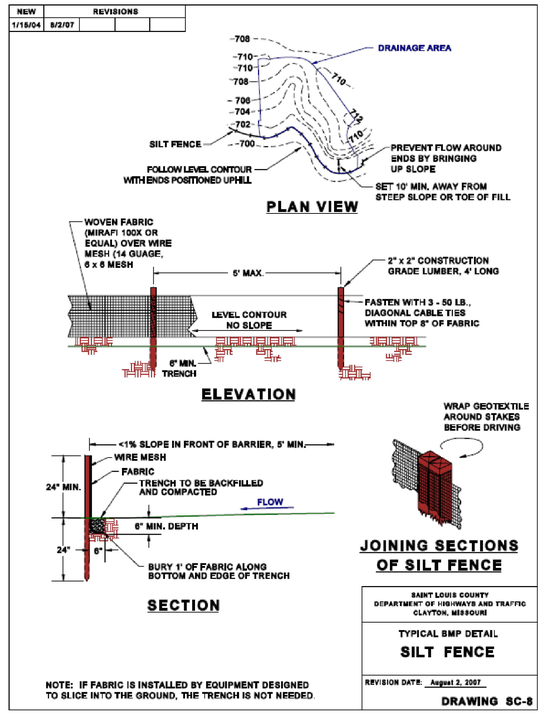
**Occupancy** — T 1004.1.2

Mixed / Non-separated: Business B / Storage S1 (Motor Vehicle Repair Garage)

| | | | |
|---|---|---|---|
| Existing Gross Area = | 10,730 sf | (B = 2,384 sf / S1 = 8,364 sf) | |
| Proposed New Area = | 3,140 sf | | |
| Total Proposed Area = | 13,870 sf | | |
| Business B | 2,384 gsf@ | 1/100 sf | 24 occ |
| Storage S1 | 11,486 gsf@ | 1/100 sf | 115 occ |
| Calculated Total Occupancy | | | 139 occ |

| | | | | |
|---|---|---|---|---|
| Construction | Type II B | | | |
| | | AREA /FL | HEIGHT | |
| **Allowed Area/Height** | | | | (Tables 504.3, 504.4, 506.2) |
| Allowable Area Factor ($A_t$) (Most Restrictive-S1 Storage Occ) | | | | |
| | NS / S1 / SM= | 17,500 NS | 2 st | 55 ft |
| | NS= | 17,500 | | |
| Bldg. Perimeter | 595 L.F. | | | |
| Accessible Perimeter | 595 L.F. | | | |
| | 100% | | | |
| Accessible Perimeter In excess of 25% ($I_b$) | 75% | | | |
| Width of Public Way over 20' | 30 ft+ | | | |
| Frontage Area Increase | | 75% | | |
| $A_a = A_t + (NS \times I_b) \times S_a$ | | | | |
| **Total Allowed Area per Floor ($A_a$) / Height ($S_a$)** | | **30,625 s.f** | **2 st** | **55 ft** (506.2) |
| **Actual Area Height** | | **13,870 s.f.** | **1 st** | **28 ft** |

| NEW | REVISIONS | | |
|---|---|---|---|
| 1/15/04 | 8/2/07 | | |




**STATE OF MISSOURI**
**MICHAEL L. PARSON,**
**GOVERNOR**

STATE OF MISSOURI — STEPHEN L. SCOTT — NUMBER A-006-06 — REGISTERED ARCHITECT
05/08/2020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**OFFICE OF ADMINISTRATION**
**DIVISION OF FACILITIES MANAGEMENT,**
**DESIGN AND CONSTRUCTION**

**MISSOURI NATIONAL GUARD (MONG)**

CONSTRUCT EXPANSION AND REPLACE STANDING SEAM ROOF

FESTUS FMS
2740 HIGHWAY P
FESTUS, MO 63028

PROJECT # T1932-01
SITE # 6302
ASSET # 8136302002

REVISION:
DATE:
REVISION:
DATE:
REVISION:
DATE:
ISSUE DATE: 05/08/2020

CAD DWG FILE: T1932-01 G-002.DWG
DRAWN BY:
CHECKED BY:
DESIGNED BY:

SHEET TITLE:
GENERAL INFORMATION

SHEET NUMBER:
G-002

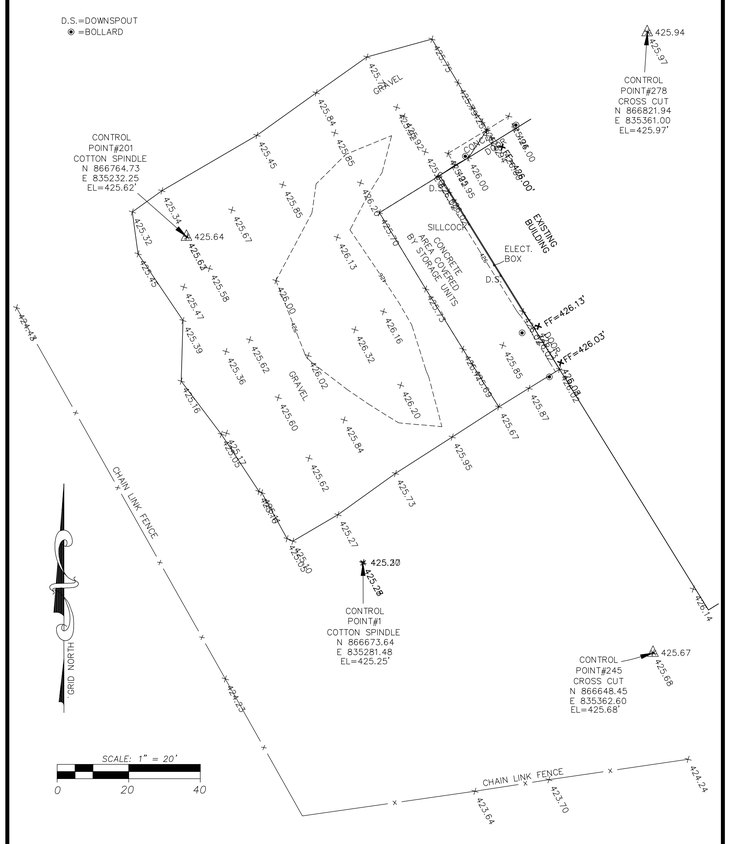
2 OF 15 SHEETS
05/08/2020

## SITE PLAN GENERAL NOTES

1. ANY STOCKPILED SOIL NOT REMOVED OR COVERED BY THE END OF THE WORK DAY SHALL BE SURROUNDED ON THE DOWNHILL SIDE BY A PROPERLY INSTALLED SILT FENCE AS DETAILED ON SHEET G-002.
2. THE CONTRACTOR SHALL KEEP EXISTING ROADWAYS AND SIDEWALKS CLEAR OF MUD AND DEBRIS.
3. UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND RECORDS; THEREFORE THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. THERE MAY BE OTHERS, THE EXISTENCE OF WHICH IS NOT PRESENTLY KNOWN. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE ALL UTILITIES LOCATED IN THE FIELD PRIOR TO EXCAVATION BY CONTACTING MISSOURI ONE CALL SYSTEM (1-800-344-7483).
4. ALL DISTURBED AREAS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION.

## FESTUS READINESS CENTER

2740 STATE HWY P




*WE, BURDINE AND ASSOCIATES, INC., HAVE ON SEPT. 20,2019 AT THE REQUEST OF: EDM*

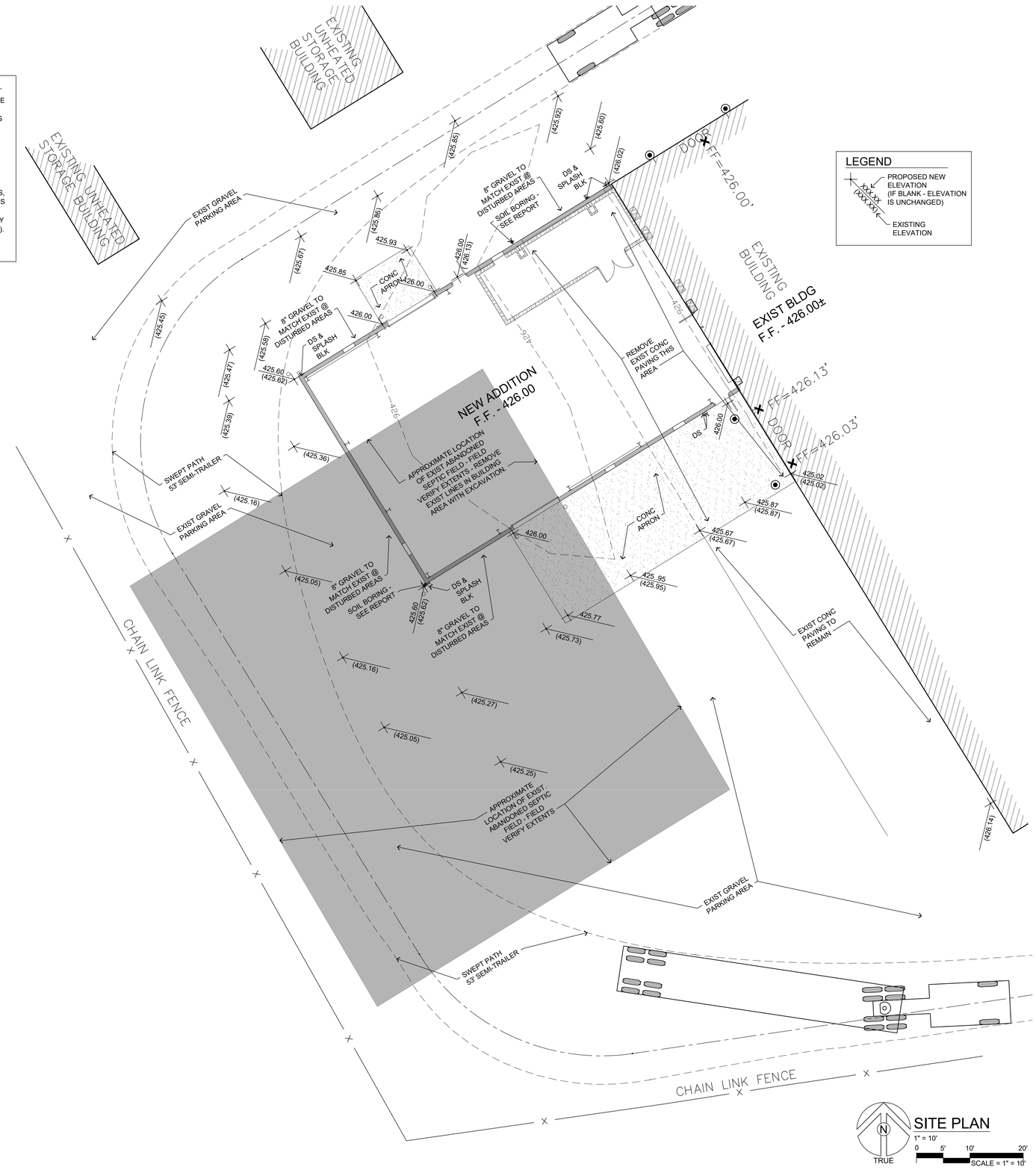
PREPARED A TOPOGRAPHIC MAP BASED ON ACTUAL FIELD MEASUREMENTS

THE BASES OF THE ELEVATIONS ARE NAVD1988 AS OBSERVED BY GPS REAL TIME KINETIC PROCESS TIED TO THE MODOT GRS NETWORK

BASIS OF BEARINGS: GRID NORTH

NO UTILITIES WERE EVIDENT AT TIME OF FIELD INSPECTION.

| FIELDWORK BY: DDB. | CHECKED BY: DRZ | PROJECT NO.: |
|---|---|---|
| DRAWN BY: DDB. | DATE: 09/25/2019 | SHEET NO.: 1 OF 1 |




## LEGEND

- PROPOSED NEW ELEVATION (IF BLANK - ELEVATION IS UNCHANGED)
- EXISTING ELEVATION

**STATE OF MISSOURI**
**MICHAEL L. PARSON, GOVERNOR**

STATE OF MISSOURI — B. STEPHEN SCOTT — NUMBER A-2006038 — REGISTERED ARCHITECT

05/08/2020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FESTUS FMS
FESTUS, MO 63028
2740 HIGHWAY P

PROJECT # T1932-01
SITE # 6302
ASSET # 81363;02002

REVISION:
DATE:
REVISION:
DATE:
REVISION:
DATE:
ISSUE DATE: 05/08/2020

CAD DWG FILE: T1932-01 A-100
DRAWN BY:
CHECKED BY:
DESIGNED BY:

SHEET TITLE:

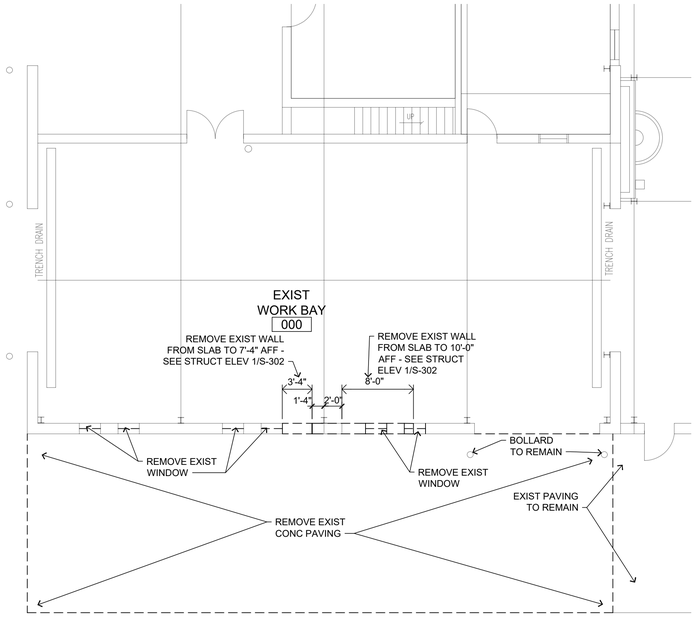
SURVEY
SITE PLAN

SHEET NUMBER:

A-100

3 OF 15 SHEETS
05/08/2020

| FINISH SCHEDULE | | | | | | |
|---|---|---|---|---|---|---|
| ROOM NAME | WALLS | | | | FLOOR | CEILING |
| | NORTH | EAST | SOUTH | WEST | | |
| 000 EXISTING WORK BAY | NO WORK | NO WORK | NO WORK | EXIST/NEW CMU - PAINT | NO WORK | NO WORK |
| 100 STORE ROOM | PREFINISH LINER PANEL | EXIST BRICK / NEW CMU - PAINT | PREFINISH LINER PANEL | PREFINISH LINER PANEL | SEALED CONCRETE | EXPOSED STRUCTURE |
| | CMU - PAINT | CMU - PAINT | | | | |
| 101 BATTERY ROOM | CMU - PAINT | CMU - PAINT | CMU - PAINT | CMU - PAINT | ACID RESISTANT EPOXY | EXPOSED METAL DECK |




## DEMOLITION FLOOR PLAN

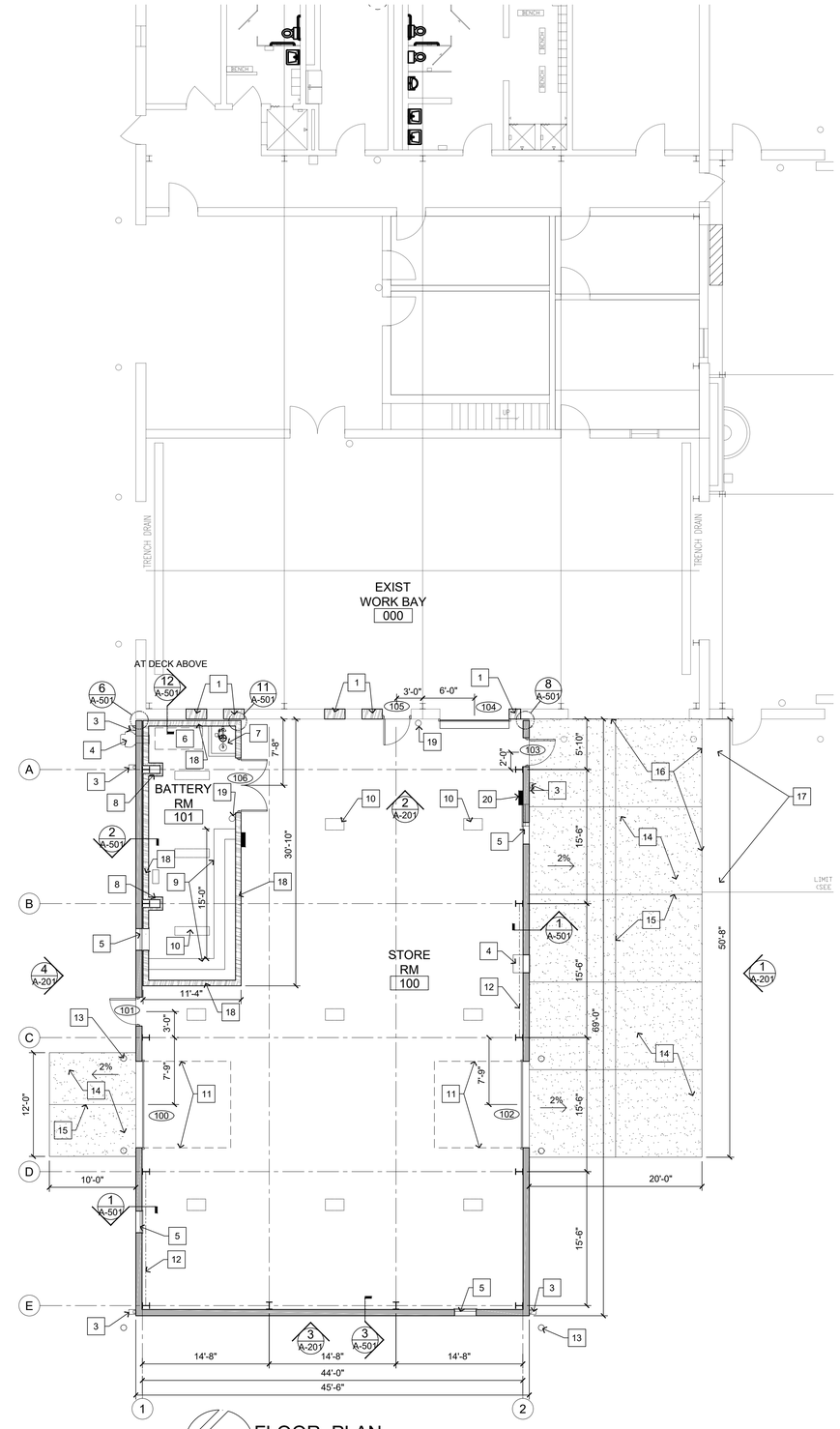
1/8" = 1'-0"

0 4' 8' 16'

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

KEYED NOTES - FLOOR PLAN NEW WORK

1. CMU INFILL AT EXISTING WINDOWS. MATCH WALL THICKNESS.
2. NEW CMU WALL - MATCH WALL THICKNESS.
3. DOWNSPOUT & SPLASH BLOCK. OMIT SPLASH BLOCK AT PAVING.
4. EXHAUST FAN SEE MECH DWG MP-101 & DETS 6/A-502 & 8/A-502.
5. INTAKE LOUVER & GRILL - SEE MECH DWG MP-101 & DET 7/A-502.
6. WORK BENCH TO BE PROVIDED BY OWNER
7. EMERGENCY EYEWASH & SHOWER. SET OVER A CONC. BASIN SLOPED TO DRAIN WITH A 4" X 2"H CURB.
8. 4" CMU FURRING VERIFY / COORDINATE SIZE OF FURRING WITH SIZE OF COLUMN
9. ACID RESISTANT SHELVING - SEE DETAIL 4/A501
10. LIGHT FIXTURES ON EXPOSED STRUCTURE - SEE ELECT DWG E-101.
11. SUPPORT DOOR TRACK FROM ROOF BEAMS.
12. ROD CROSS BRACING.
13. TYP BOLLARD SEE DET 10/A-501
14. CONC APRON SEE STRUCT DWG S-201
15. CONTROL JOINT (TYP)
16. WARP PAVEMENT TO ALIGN W/ SLAB.
17. EXIST PAVING TO REMAIN
18. 8" CMU - SEE STRUCT DWG S-201
19. FIRE EXTINGUISHER W/ BRACKET
20. ELECTRIC PANEL - SEE ELECT DRAWING E-101




## FLOOR PLAN

1/8" = 1'-0"

0 4' 8' 16'

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

STATE OF MISSOURI
MICHAEL L. PARSON,
GOVERNOR

STATE OF MISSOURI
STEPHEN SCOTT
NUMBER
AR-00848
REGISTERED ARCHITECT

05/08/2020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DATE:
ISSUE DATE: 05/08/2020

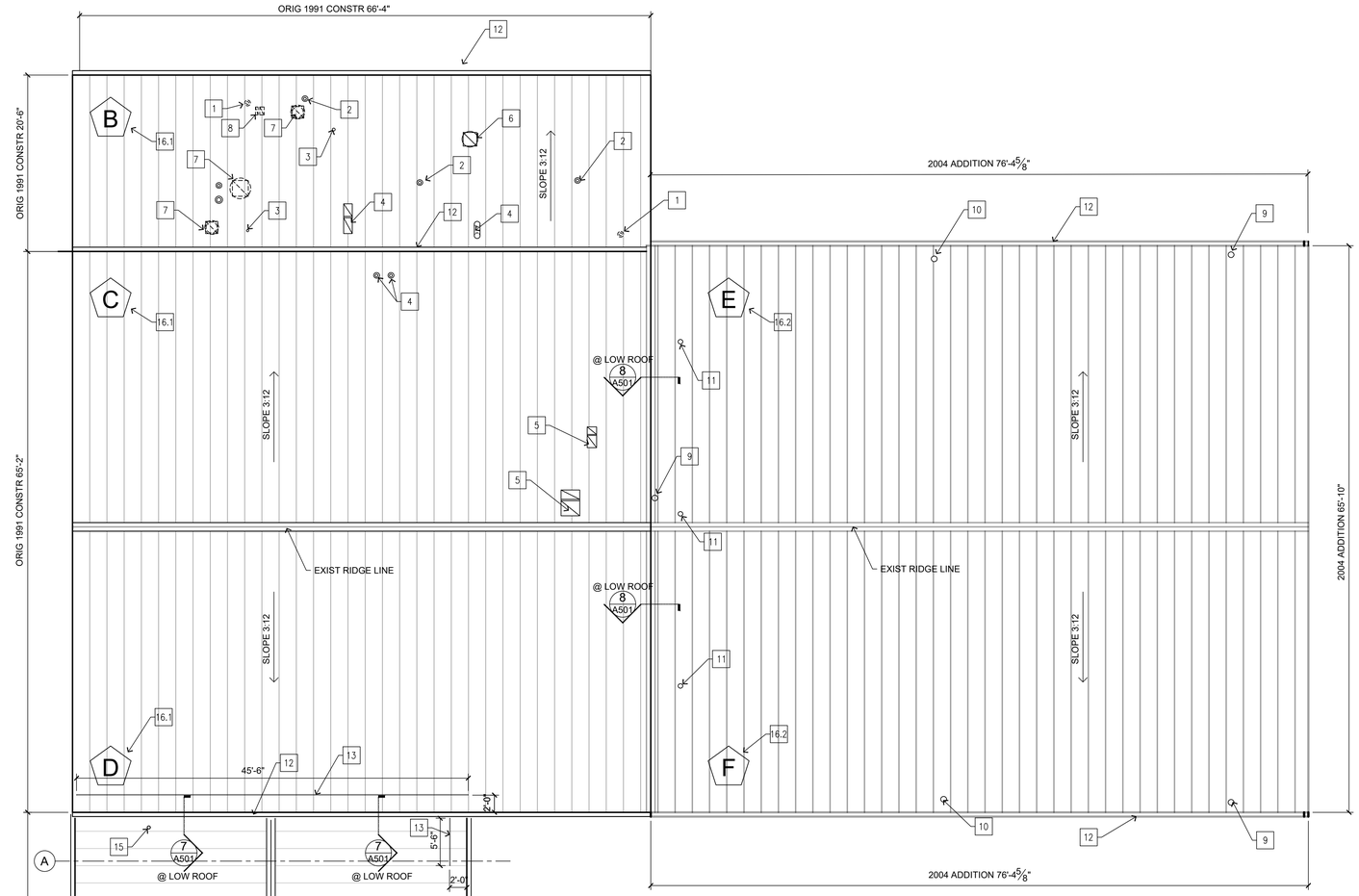
CAD DWG FILE: T1932-01 A-101
DRAWN BY:
CHECKED BY:
DESIGNED BY:

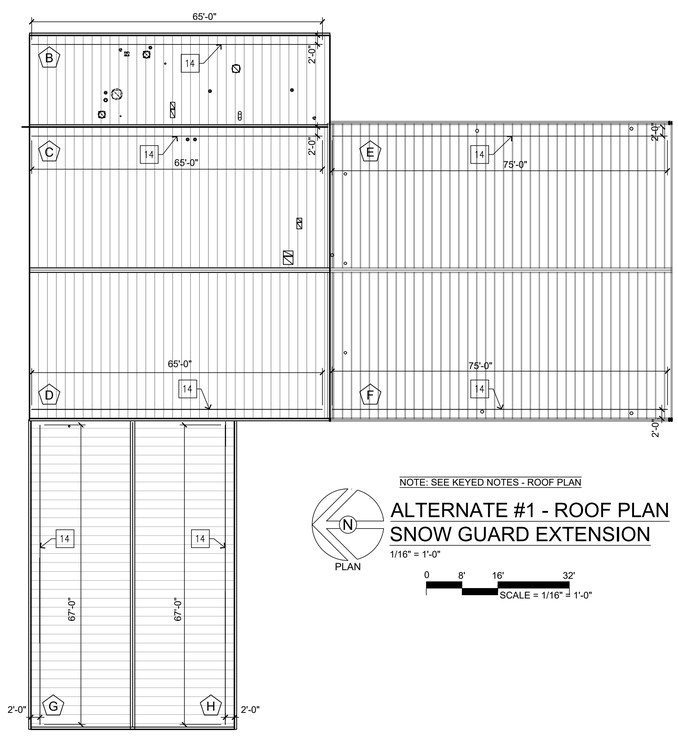
SHEET TITLE:

FLOOR PLAN
DEMO / NEW

SHEET NUMBER:

A-101



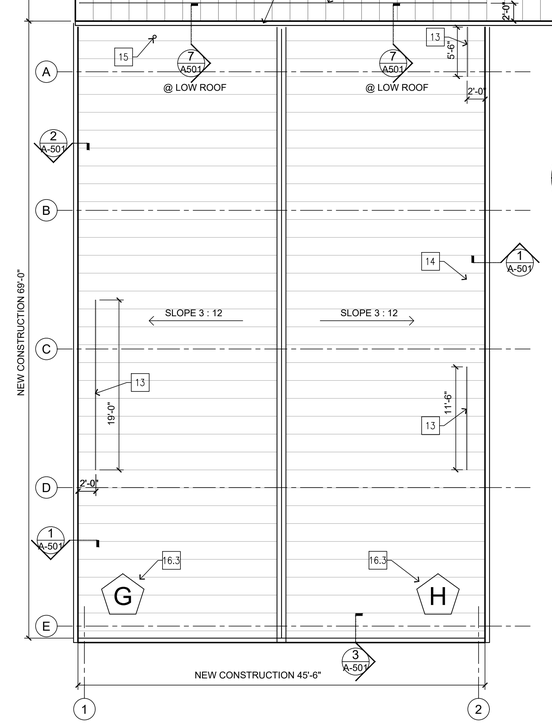

NOTE: SEE KEYED NOTES - ROOF PLAN

## ALTERNATE #1 - ROOF PLAN SNOW GUARD EXTENSION

1/16" = 1'-0"

0 8' 16' 32'

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




## EXISTING / DEMO / NEW ROOF PLAN

1/8" = 1'-0"

0 4' 8' 16'

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

## KEYED NOTES - ROOF PLAN

1. EXISTING ABANDONED GAS VENT TO BE REMOVED - TERMINATE VENT BELOW ROOF
2. EXISTING GAS VENT TO REMAIN - INSTALL NEW FLASHINGS - SEE DET 14/A501
3. EXISTING PLUMBING VENT TO REMAIN - INSTALL NEW FLASHING- SEE DET 14/A501
4. EXISTING INTAKE DUCT TO REMAIN - INSTALL NEW CURB & FLASHING - SEE DET 15/A501
5. EXISTING EXHAUST FAN DISCHARGE DUCT TO REMAIN- INSTALL NEW CURB & FLASHING. SEE DET 15/A501
6. EXISTING EXHAUST FAN TO REMAIN - INSTALL NEW CURB & FLASHING- SEE DET 15/A501
7. EXISTING ABANDONED EXHAUST FAN TO BE REMOVED - TERMINATE ABANDONED DUCTWORK BELOW ROOF.
8. EXISTING ABANDONED INTAKE DUCT TO BE REMOVED - TERMINATE ABANDONED DUCTWORK BELOW ROOF.
9. EXISTING 4" VTR TO REMAIN - INSTALL NEW FLASHING- SEE DET 14/A501
10. EXISTING 3" VTR TO REMAIN - INSTALL NEW FLASHING- SEE DET 14/A501
11. EXISTING 4"Ø FLUE U.T.R. TO REMAIN- INSTALL NEW FLASHING- SEE DET 14/A501
12. REMOVE EXISTING & INSTALL NEW GUTTER & STRUTS
13. BASE BID: INSTALL NEW SNOW GUARDS - SEE DETAIL 13/A501
14. ALTERNATE #1: INSTALL EXTENDED NEW SNOW GUARDS - SEE ALTERNATE #1 ROOF PLAN THIS SHEET & DETAIL 13/A501
15. PLUMBING VENT - INSTALL NEW FLASHING- SEE DET 14/A501
16. SCOPE OF ROOFING WORK: (NOTE: ROOF AREA IS NOT SHOWN AND IS N.I.C.)
    - 16.1. AREAS B, C & D: REMOVE EXISTING METAL ROOFING, GUTTERS & BATT INSULATION - INSTALL NEW STANDING SEAM METAL ROOFING, GUTTERS & INSULATION - NOTE: ROOFING AND INSULATION REMOVAL AND REPLACEMENT SHALL BE DONE THAT NO SECTION OF THE ROOF REMAIN OPEN & NOT WEATHER TIGHT BETWEEN WORK PERIODS OR DURING INCLEMENT WEATHER
    - 16.2. AREAS E & F: EXISTING METAL ROOFING TO REMAIN - REPLACE FLASHINGS AT ALL ROOF PENETRATIONS
    - 16.3. AREAS G & H: NEW STANDING SEAM METAL ROOFING AND INSULATION

**STATE OF MISSOURI**
**MICHAEL L. PARSON, GOVERNOR**

STATE OF MISSOURI · S. STEPHEN SCOTT · NUMBER A-9 · REGISTERED ARCHITECT

05/08/2020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REVISION:
DATE:
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ISSUE DATE: 05/08/2020

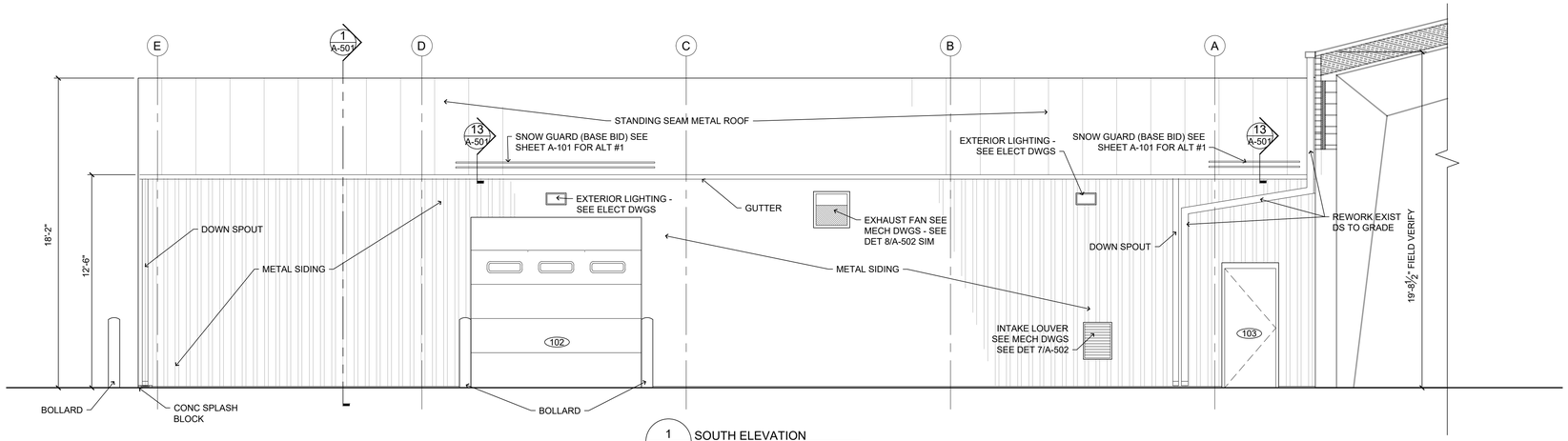
CAD DWG FILE: T1932-01 A-102
DRAWN BY:
CHECKED BY:
DESIGNED BY:

SHEET TITLE:

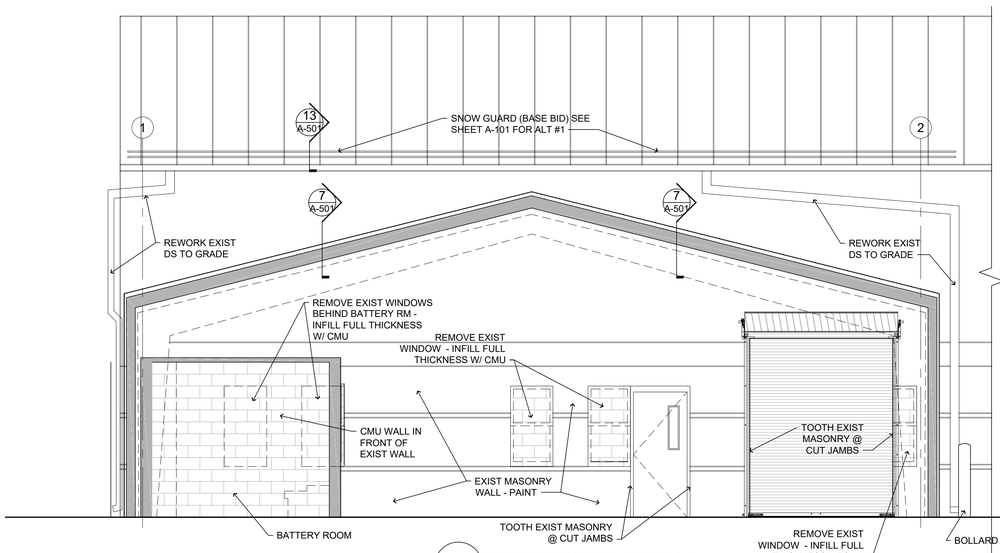
ROOF PLAN / EXIST / DEMO / NEW / ALTERNATE #1

SHEET NUMBER:

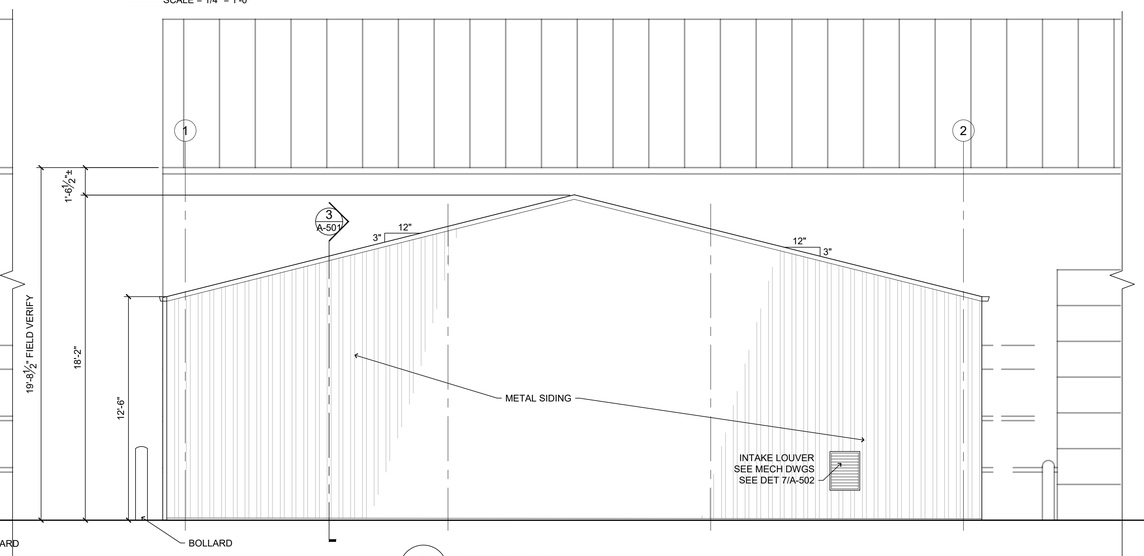
A-102



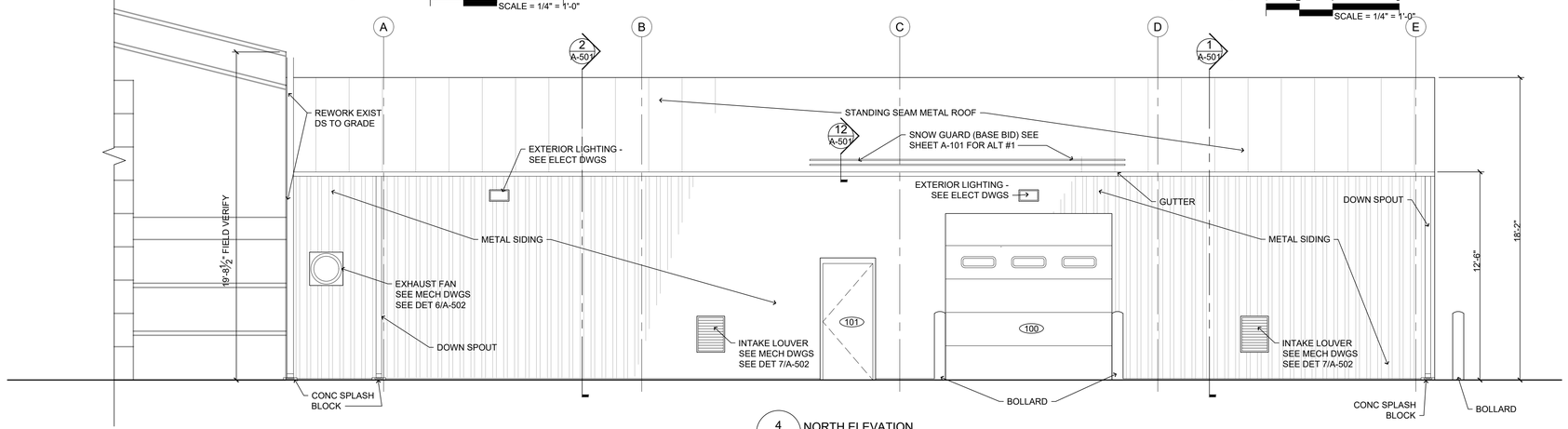

1 A-201 SOUTH ELEVATION
1/4" = 1'-0"
0 2' 4' 8'
SCALE = 1/4" = 1'-0"




2 A-201 INTERIOR EAST WALL ELEVATION
1/4" = 1'-0"
0 2' 4' 8'
SCALE = 1/4" = 1'-0"




3 A-201 WEST ELEVATION
1/4" = 1'-0"
0 2' 4' 8'
SCALE = 1/4" = 1'-0"




4 A-201 NORTH ELEVATION
1/4" = 1'-0"
0 2' 4' 8'
SCALE = 1/4" = 1'-0"

STATE OF MISSOURI
MICHAEL L. PARSON,
GOVERNOR

STATE OF MISSOURI
A. STEPHEN GOETTE
NUMBER
AR 000596
REGISTERED ARCHITECT

05/08/2020


EDM Incorporated
Engineers Architects Planners
220 Mansion House Center St. Louis, Missouri 63102
(314) 231-5485 FAX (314) 231-8167
CoA - Architecture 000516 Engineering: 000227
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MISSOURI NATIONAL GUARD (MONG)

CONSTRUCT EXPANSION AND REPLACE STANDING SEAM ROOF

FESTUS FMS
2740 HIGHWAY P
FESTUS, MO 63028

PROJECT # T1932-01
SITE # 6302
ASSET # 8136302002

REVISION:
DATE:
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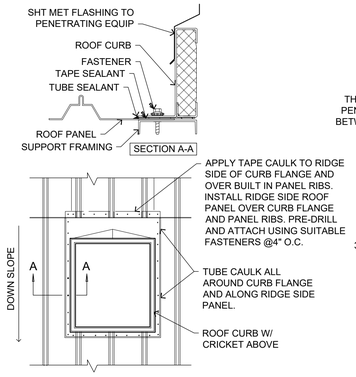
REVISION:
DATE:
ISSUE DATE: 05/08/2020

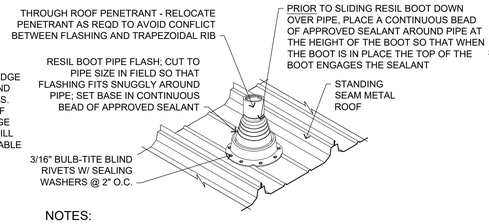
CAD DWG FILE: T1932-01 A-201
DRAWN BY:
CHECKED BY:
DESIGNED BY:

SHEET TITLE:
BUILDING ELEVATIONS

SHEET NUMBER:
A-201



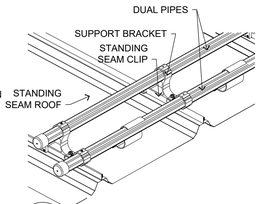

15 A-501 ROOF CURB DETAIL
N.T.S.



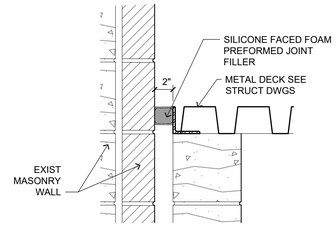

NOTES:

1. THE RESIL BOOT PIPE FLASHING MUST BE FASTENED TO THE PANEL ONLY AND NOT INTO THE ROOF SUBSTRATE TO ALLOW THE PANEL TO MOVE THERMALLY.
2. ADEQUATE CLEARANCE MUST BE LEFT BETWEEN THE PIPE AND THE PANEL TO ALLOW FOR THERMAL MOVEMENT WITHOUT INTERFERENCE.
3. THE PIPE MUST BE CENTERED IN THE PANEL TO ALLOW ADEQUATE CLEARANCE FOR INSTALLATION OF THE RESIL BOOT WITHOUT INTERFERENCE WITH THE PANEL RIBS.

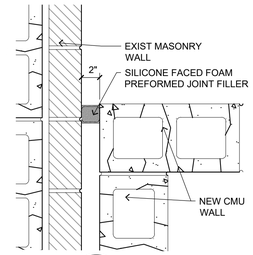
14 A-501 ROOF PENETRATION DETAIL
N.T.S.



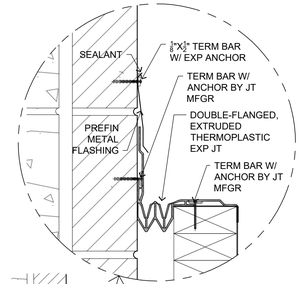

13 A-501 SNOW GUARD DETAIL
N.T.S.



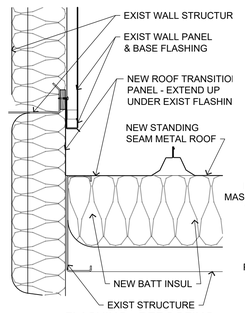

12 A-501 DECK EXPANSION JOINT
1 1/2" = 1'=0"



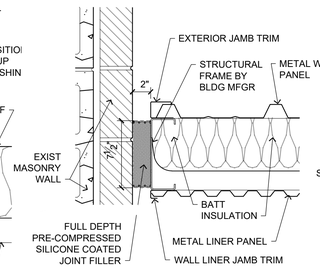

11 A-501 WALL EXPANSION JOINT
1 1/2" = 1'=0"



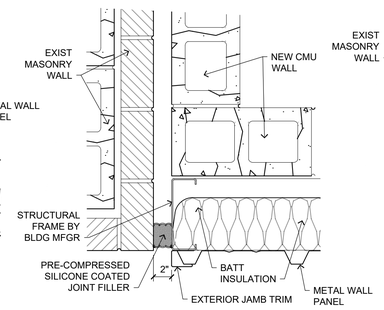

3" = 1'-0"



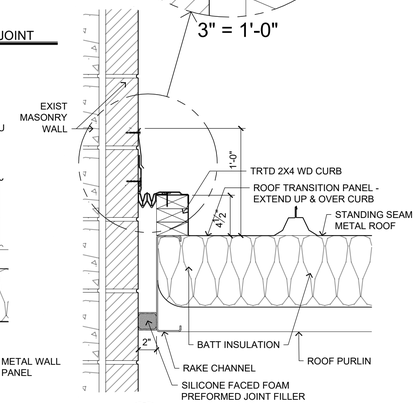

8 A-501 FLASHING - REROOFING @ EXIST WALL
1 1/2" = 1'=0"



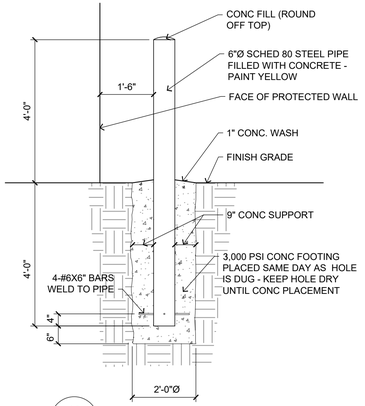

7 A-501 WALL EXPANSION JOINT
1 1/2" = 1'=0"



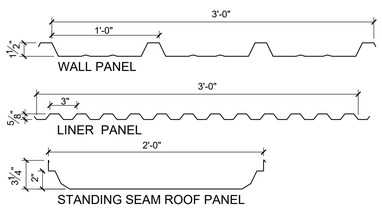

6 A-501 WALL EXPANSION JOIN
1 1/2" = 1'=0"



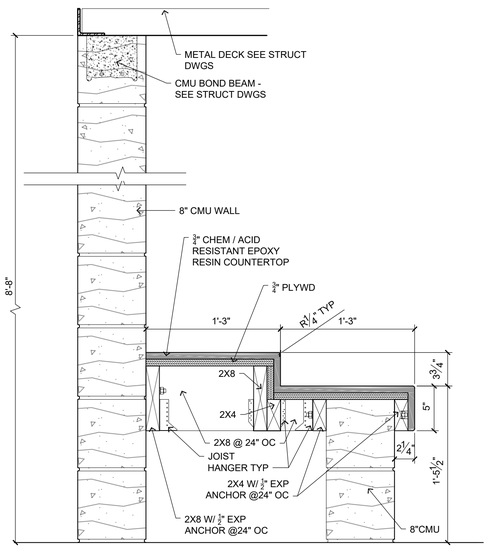

5 A-501 ROOF EXPANSION JOINT
1 1/2" = 1'=0"



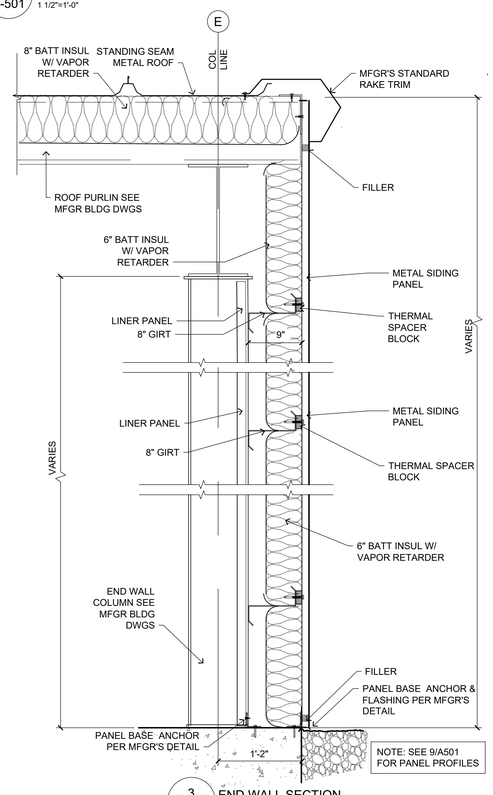

10 A-501 BOLLARD DETAIL
1/2" = 1'-0"




9 A-501 PANEL PROFILES
1 1/2"=1'-0"

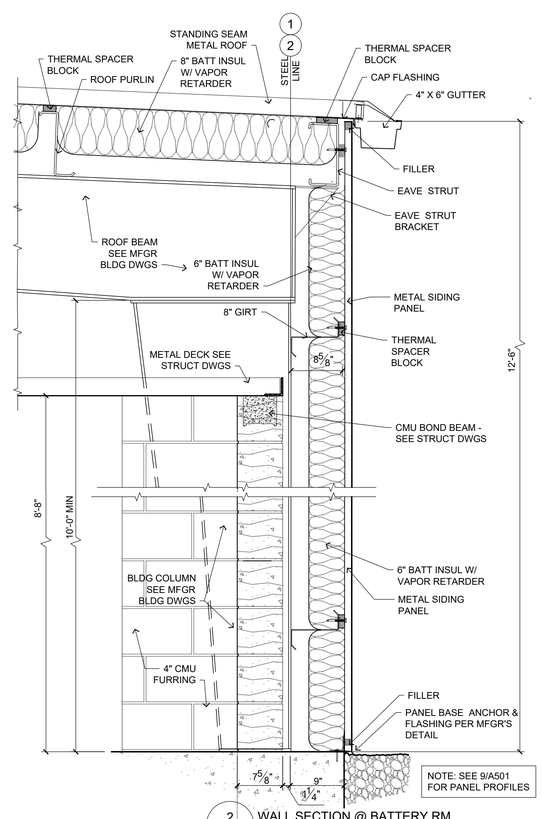



4 A-501 DETAIL - BATTERY SHELF
1 1/2" = 1"0"



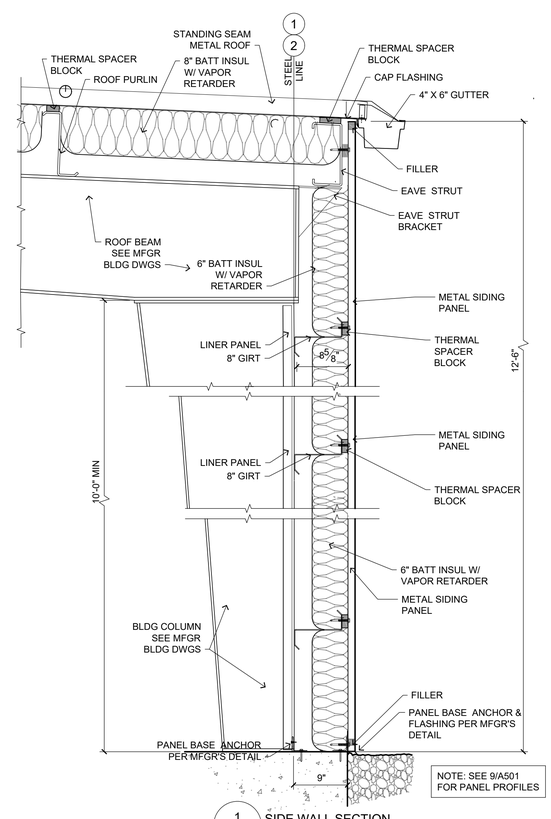

NOTE: SEE 9/A501 FOR PANEL PROFILES

3 A-501 END WALL SECTION
1"=1'-0"




NOTE: SEE 9/A501 FOR PANEL PROFILES

2 A-501 WALL SECTION @ BATTERY RM
1"=1'-0"




NOTE: SEE 9/A501 FOR PANEL PROFILES

1 A-501 SIDE WALL SECTION
1"=1'-0"

0 1' 2' 4' SCALE = 1/2" = 1'-0"
0 6" 1' 2' SCALE = 1" = 1'-0"
0 4" 8" 1'-4" SCALE = 1 1/2" = 1'-0"
0 2" 4" 8" SCALE = 3" = 1'-0"

STATE OF MISSOURI
MICHAEL L. PARSON,
GOVERNOR

STATE OF MISSOURI
S. STEPHEN ROCHE
AR/018808
AR.002808
REGISTERED ARCHITECT
05/08/2020


EDM Incorporated
Engineers Architects Planners
220 Mansion House Center St. Louis, Missouri 63102
(314) 231-5485 FAX (314) 231-8167
CoA - Architecture 000516 Engineering: 000227
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OFFICE OF ADMINISTRATION
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MISSOURI NATIONAL GUARD (MONG)

CONSTRUCT EXPANSION AND REPLACE STANDING SEAM ROOF

FESTUS FMS
2740 HIGHWAY P
FESTUS, MO 63028

PROJECT # T1932-01
SITE # 6302
ASSET # 8136302002

REVISION:
DATE:
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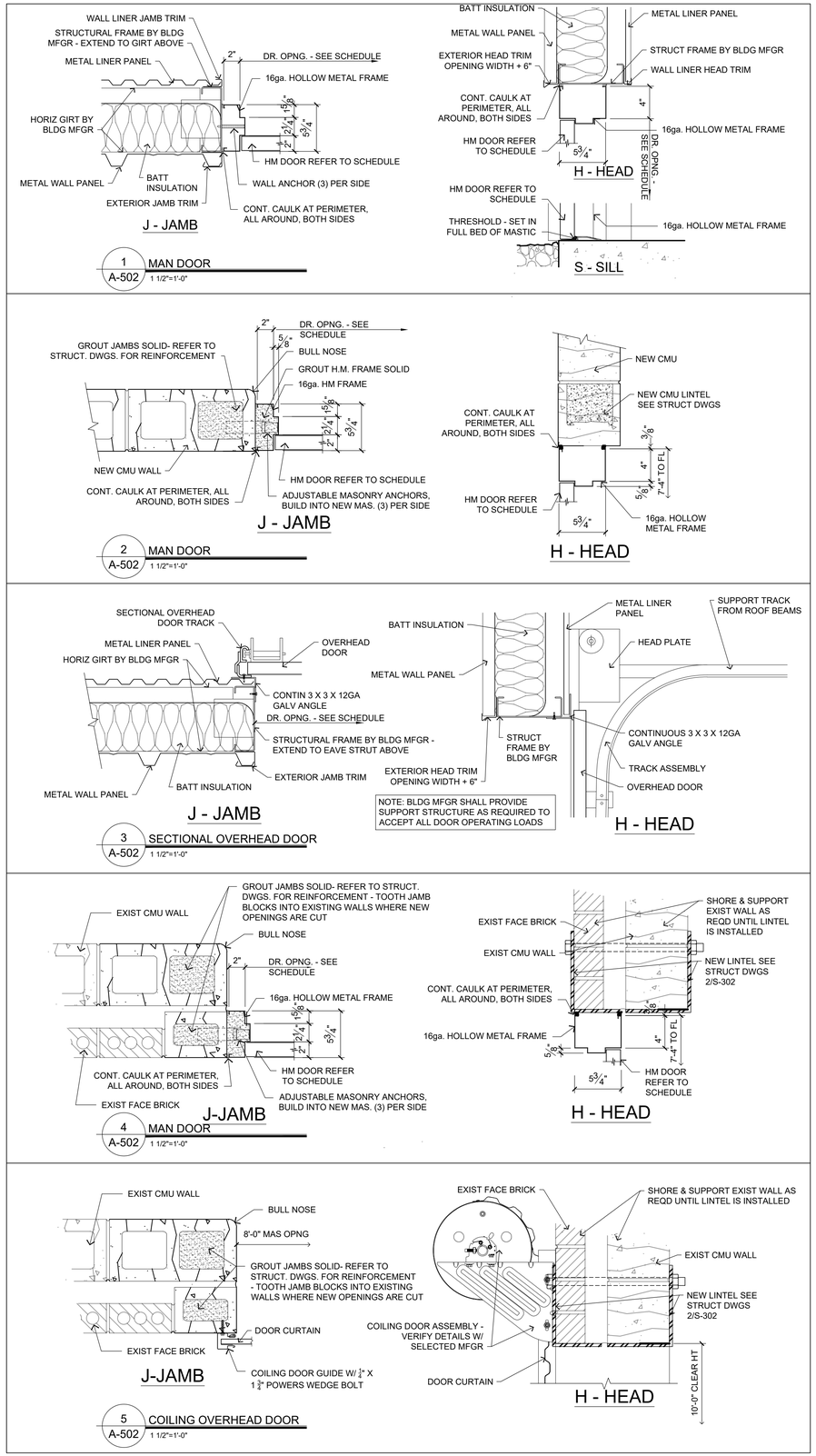
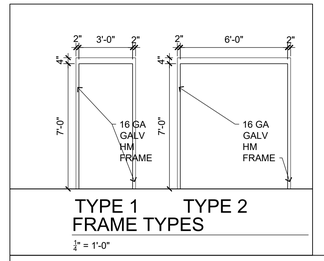
ISSUE DATE: 05/08/2020

CAD DWG FILE: T1932-01 A-501
DRAWN BY:
CHECKED BY:
DESIGNED BY:

SHEET TITLE:
DETAILS

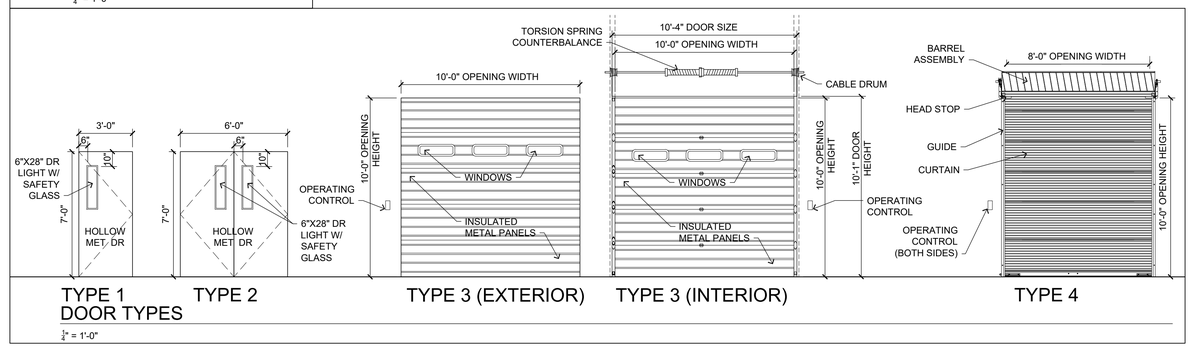
SHEET NUMBER:
A-501

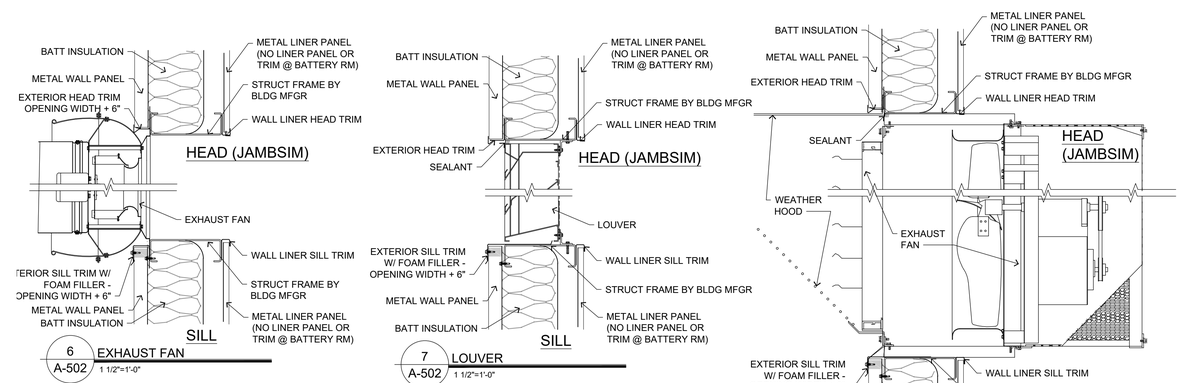



## DOOR SCHEDULE

| DOOR MARK | ROOM NAME | DOOR SIZE WIDTH | DOOR SIZE HEIGHT | DOOR SIZE THK | DOOR MATL | DOOR TYPE | DOOR HDWARE GROUP | DOOR UL RATING | FRAME MATL | FRAME TYPE | FRAME DETS SHEET A-502 HEAD | FRAME DETS SHEET A-502 JAMB | FRAME DETS SHEET A-502 SILL | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 100 | STORE ROOM | 10'-0" | 10'-0" | - | METAL | 3 | BY MFGR | - | - | - | 3-H | 3-J | - | POWER OPERATED OVERHEAD SECTIONAL |
| 101 | STORE ROOM | 3'-0" | 7'-0" | 1 3/4" | HM | 1 | 1 | - | HM | 1 | 1-H | 1-J | 1-S | EXTERIOR - MAN DOOR |
| 102 | STORE ROOM | 10'-0" | 10'-0" | - | METAL | 3 | BY MFGR | - | - | - | 3-H | 3-J | - | POWER OPERATED OVERHEAD SECTIONAL |
| 103 | STORE ROOM | 3'-0" | 7'-0" | 1 3/4" | HM | 1 | 1 | - | HM | 1 | 1-H | 1-J | 1-S | EXTERIOR - MAN DOOR |
| 104 | STORE ROOM | 8'-0" | 10'-0" | - | METAL | 4 | BY MFGR | - | - | - | 5-H | 5-J | - | POWER OPERATED OVERHEAD COILING |
| 105 | STORE ROOM | 3'-0" | 7'-0" | 1 3/4" | HM | 1 | 2 | - | HM | 1 | 4-H | 4-J | - | INTERIOR - MAN DOOR |
| 106 | BATTERY ROOM | 6'-0" | 7'-0" | 1 3/4" | HM | 2 | 3 | - | HM | 2 | 2-H | 2-J | - | INTERIOR - DOUBLE MAN DOOR |




0 2' 4' 8' SCALE = 1/4" = 1'-0"

0 4" 8" 1'-4" SCALE = 1 1/2" = 1'-0"

STATE OF MISSOURI
MICHAEL L. PARSON, GOVERNOR

STATE OF MISSOURI
B. STEPHEN SCOTT NUMBER OR 0056
REGISTERED ARCHITECT
05/08/2020


EDM Incorporated
Engineers Architects Planners
220 Mansion House Center St. Louis, Missouri 63102
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PROJECT # T1932-01
SITE # 6302
ASSET # 81363;02002

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CAD DWG FILE: XXX
DRAWN BY:
CHECKED BY:
DESIGNED BY:

SHEET TITLE:
DETAILS
SCHEDULES

SHEET NUMBER:
A-502

## DESIGN CRITERIA

A. CODES AND STANDARDS

IBC – 2015 INTERNATIONAL BUILDING CODE
ASCE 7–10 MINIMUM DESIGN LOADS AND ASSOCIATED CRITERIA FOR BUILDINGS AND OTHER STRUCTURES

B. SUPERIMPOSED DESIGN LOADS

| | |
|---|---|
| ROOF COLLATERAL LOAD | 5 PSF |
| ROOF SNOW LOAD | |
| GROUND SNOW LOAD, Pg | 20 PSF |
| FLAT–ROOF SNOW LOAD, Pf | 17 PSF |
| SNOW EXPOSURE FACTOR, Ce | 1.1 |
| SNOW LOAD IMPORTANCE FACTOR | 1.0 |
| THERMAL FACTOR, Ct | 1.2 |
| WIND DESIGN DATA (ASCE 7–05) | |
| BASIC WIND SPEED | 90 MPH |
| WIND IMPORTANCE FACTOR, Lw | 1.00 |
| BUILDING CATEGORY | II |
| WIND EXPOSURE | C |
| INTERNAL PRESSURE COEFFICIENT | +/– 0.18 |
| COMPONENTS & CLADDING WIND PRESSURE | 20 PSF (MIN.) |
| EARTHQUAKE DESIGN DATA | |
| SEISMIC IMPORTANCE FACTOR, Ie | 1.0 |
| IMPORTANCE FACTOR | 1.0 |
| MAPPED SPECTRAL RESPONSE ACCELERATION, $S_S$ | 0.483g |
| MAPPED SPECTRAL RESPONSE ACCELERATION, $S_1$ | 0.185g |
| SITE CLASS | D |
| SPECTRAL RESPONSE COEFFICIENT, $S_{DS}$ | 0.455g |
| SPECTRAL RESPONSE COEFFICIENT, $S_{D1}$ | 0.254g |
| SEISMIC DESIGN CATEGORY | D |
| BASIC SEISMIC FORCE RESISTING SYSTEM: ORDINARY STEEL MOMENT FRAME | |

ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE IN CASE OF CONFLICT BY GOVERNING CODES, THE MOST STRINGENT REQUIREMENT SHALL GOVERN.

## FOUNDATIONS:

1. THE FOUNDATION HAS BEEN DESIGNED IN ACCORDANCE WITH THE RECOMMENDATIONS MADE IN THE "GEOTECHNICAL EXPLORATION, PROPOSED BUILDING ADDITION, MISSOURI NATIONAL GUARD READINESS CENTER" DATED OCTOBER 8, 2019 BY GEOTECHNOLOGY INC. THIS GEOTECHNICAL EXPLORATION IS LOCATED IN THE SPECIFICATIONS AS APPENDIX 1.
2. THE CONTRACTOR IS RESPONSIBLE FOR EXCAVATION AND BACKFILL FOR FOOTINGS, WALLS, SLABS ON GRADE, AND ALL OTHER BUILDING ELEMENTS SHOWN ON THESE DRAWINGS. PROVIDE SOIL REMEDIATION FOR THE SITE PER THE DIRECTION OF THE GEOTECHNICAL REPORT STATED ABOVE AND PER THE GEOTECHNICAL ENGINEER ON SITE.
3. ALLOWABLE SOIL BEARING CAPACITY = 1500 PSF AT STRIP FOOTINGS
   2000 PSF AT COLUMN FOOTINGS
4. BASE BID AND UNIT PRICES NOTE:
   BASE BIID SHALL INCLUDE THE STANDARD EXCAVATION AND COMPACTED BACKFILL FOR STRIP/COLUMN FOOTINGS, BUILDING SLAB ON GRADE, AND SITE PAVING WITHOUT REGARD FOR POTENTIAL REMEDIATED FILL REQUIREMENTS. SEE SPECIFICATION SECTION 012200 FOR UNIT PRICES OF BULK OVER–EXCAVATION AND REMEDIATED FILL, AND TRENCH OVER–EXCAVATION AND REMEDIATED FILLS BASED ON FINAL DETERMINATION IN THE FIELD BY THE GEOTECHNICAL ENGINEER. SEE GEOTECHNICAL EXPLORATION, AND SPECIFICATIONS. TYPICAL OF ENTIRE BUILDING SITE.
5. FOOTINGS MAY BE POURED INTO AN EARTH–FORMED TRENCH.
6. ALL BEARING MATERIAL SHALL BE INSPECTED BY THE GEOTECHNICAL ENGINEER PRIOR TO CONCRETE PLACEMENT. THE GEOTECHNICAL ENGINEER SHALL BE THE SOLE JUDGE AS TO THE SUITABILITY OF THE BEARING MATERIAL. FOOTING ELEVATIONS SHALL BE ADJUSTED AS REQUIRED.
7. BOTTOM OF EXTERIOR FOOTINGS SHALL BEAR A MINIMUM OF 2'–6" BELOW FINAL GRADE FOR FROST PROTECTION.

## CONCRETE:

1. CONCRETE SHALL HAVE A 28–DAY COMPRESSIVE STRENGTH AND DENSITY, IN ACCORDANCE WITH THE FOLLOWING:

| | STRENGTH PSI | DENSITY PCF | W/C RATIO |
|---|---|---|---|
| CONCRETE FOOTINGS, WALLS & PILASTERS | 4000 | 145 | 0.45 MAX. |
| CONCRETE SLABS | 4000 | 145 | 0.45 MAX. |

2. ALL CONCRETE SHALL BE AIR–ENTRAINED.
3. REINFORCING SHALL CONFORM TO ASTM A615, GR60, INCLUDING TIES AND STIRRUPS.
4. ALL REINFORCING SHALL BE DETAILED, FABRICATED AND PLACED, IN ACCORDANCE WITH ACI DETAILING MANUAL 2004 (SP–66).
5. ALL REINFORCING SHALL BE SUPPORTED IN FORMS, SPACED WITH NECESSARY ACCESSORIES AND SHALL BE SECURELY WIRED TOGETHER, IN ACCORDANCE WITH CRSI "MANUAL OF STANDARD PRACTICE" (LATEST EDITION).
6. MINIMUM CONCRETE COVER, UNLESS NOTED OTHERWISE:
   A. UNFORMED SURFACE IN CONTACT WITH THE GROUND 3 IN.
   B. FORMED SURFACES EXPOSED TO EARTH OR WEATHER 2 IN.
7. LAP SPLICES SHALL BE IN ACCORDANCE WITH THE ACI CODE. WHERE CLASSES ARE NOT CALLED OUT ON DRAWINGS, USE CLASS "B" SPLICES.
8. UNLESS OTHERWISE SHOWN IN THE ARCHITECTURAL DRAWINGS, PROVIDE ¾" CHAMFERS AT ALL EDGES THAT ARE EXPOSED TO VIEW IN THE FINISHED STRUCTURE.
9. SEE ARCHITECTURAL DRAWINGS FOR DOOR AND WINDOW OPENINGS, AND FOR MISCELLANEOUS EMBEDDED PLATES, BOLTS, ANCHORS, ANGLES, ETC.
10. REFER TO ARCHITECTURAL DRAWINGS FOR CONCRETE FINISHES. WHERE FINISH IS NOT SPECIFIED, CONFORM TO REQUIREMENTS OF ACI 301.
11. MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS SHALL BE REFERRED TO FOR DRAINS, SLEEVES, OUTLET BOXES, CONDUIT, ANCHORS, ETC. THE VARIOUS TRADES ARE RESPONSIBLE FOR PLACING THEIR ITEMS.

## STRUCTURAL STEEL:

1. STEEL SHALL CONFORM TO THE FOLLOWING GRADES:
   A. EMBEDDED ANGLES — A316 STAINLESS STEEL
   B. STEEL PIPE — A53 GALVANIZED
   C. HEADED ANCHOR RODS — ASTM F1554 GALVANIZED
2. ALL STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE AISC CODE OF STANDARD PRACTICE (LATEST EDITION), EXCEPT AS MODIFIED IN THESE NOTES AND THE PROJECT SPECIFICATIONS.

## REINFORCED MASONRY:

1. MINIMUM PRISM STRENGTH (f'm) = 2000 PSI. GROUT SHALL COMPLY WITH REQUIREMENTS OF ASTM C476. MORTAR SHALL COMPLY WITH REQUIREMENTS OF ASTM C270.
2. REINFORCING SHALL CONFORM TO ASTM A615, GRADE 60, UNLESS NOTED ON DRAWINGS.
3. DOWELS FROM C.I.P. CONCRETE SHALL MATCH THE VERTICAL REINFORCEMENT IN THE WALL ABOVE UNLESS NOTED OTHERWISE. SUCH DOWELS SHALL BE FURNISHED BY THE CONCRETE CONTRACTOR.
4. REINFORCING ENTIRELY WITHIN THE MASONRY SHALL BE FURNISHED BY THE MASONRY CONTRACTOR.
5. WHEN A FOUNDATION DOWEL DOES NOT LINE UP WITH A VERTICAL BLOCK CORE, IT SHALL NOT BE SLOPED MORE THAN ONE HORIZONTAL IN 6 VERTICAL. DOWELS MAY BE GROUTED INTO A CELL IN VERTICAL ALIGNMENT, EVEN THOUGH IT IS IN AN ADJACENT CELL TO THE VERTICAL WALL REINFORCING, AS LONG AS THE CENTER–TO–CENTER SPACE BETWEEN THE WALL REINFORCING AND THE DOWEL DOES NOT EXCEED 5".
6. SPLICED REINFORCING SHALL BE LAPPED ACCORDING TO ACI 530 OR 24 INCHES, WHICHEVER IS GREATER. SPLICED BARS SHALL BE WIRED TOGETHER.
7. VERTICAL BARS SHALL BE HELD IN POSITION AT TOP AND BOTTOM.
8. VERTICAL REINFORCING BARS SHALL HAVE A MINIMUM CLEARANCE OF 3/4 OF AN INCH FROM THE MASONRY AND 1 INCH TO ADJACENT BARS AND NOT LESS THAN ONE BAR DIAMETER BETWEEN BARS NOT SPLICED.
9. REINFORCING STEEL SHALL BE SECURELY IN PLACE AND INSPECTED BEFORE GROUTING STARTS.
10. VERTICAL GROUTING MAY BE EITHER "LOW LIFT" OR "HIGH LIFT" AT THE CONTRACTOR'S OPTION.
11. VERTICAL CELLS THAT WILL BE GROUTED SHALL HAVE VERTICAL ALIGNMENT TO MAINTAIN A CONTINUOUS UNOBSTRUCTED CELL AREA NOT LESS THAN 2"x3".
12. GROUTING SHALL BE STOPPED 1 1/2" BELOW THE TOP OF A COURSE, AND 1/2" BELOW THE TOP OF A BOND BEAM, SO AS TO FORM A KEY AT THE POUR JOINT.
13. GROUTING OF MASONRY BEAMS OVER OPENINGS SHALL BE DONE IN ONE CONTINUOUS OPERATION.
14. ALL BOLTS, ANCHORS, ETC., INSERTED IN THE WALLS, SHALL BE GROUTED SOLID INTO POSITION.
15. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATIONS AND DETAILS OF DOOR AND WINDOW OPENINGS FOR SPECIAL COURSING AND OTHER MASONRY DETAILS. THE INFORMATION SHOWN ON THE STRUCTURAL DRAWINGS IS INTENDED TO DEFINE THE STRUCTURAL REQUIREMENT ONLY.

## METAL DECK:

1. CONTRACTOR AND METAL DECK SUPPLIER SHALL SUBMIT THE FOLLOWING:
   A. PRODUCT DATA
   B. MANUFACTURING CERTIFICATES
   C. SHOP DRAWINGS PROVIDING THE FOLLOWING:
      1. LAYOUT AND TYPES OF DECK PANELS
      2. ANCHORAGE DETAILS
      3. DECK OPENINGS
      4. ATTACHMENTS TO OTHER UNITS
2. CONTRACTOR SHALL INSTALL METAL DECK USING CERTIFIED WELDERS AND COMPLY WITH ALL APPLICABLE PROVISIONS OF AWS D1.1 "STRUCTURAL WELDING CODE FOR STEEL" AND AWS D1.3 "STRUCTURAL WELDING CODE FOR SHEET STEEL"
3. CONTRACTOR SHALL PROVIDE VALID QUALIFICATION CERTIFICATES FOR ALL WELDERS.
4. MANUFACTURER SHALL PROVIDE LABELED METAL DECK PANELS IDENTICAL TO THOSE TESTED AS PART OF AN ASSEMBLY FOR FIRE RESISTANCE PER ASTM E119 BY A TESTING AND INSPECTION AGENCY PERFORMING TESTING AND FOLLOW–UP SERVICES, THAT IS ACCEPTABLE TO DESIGNER.
5. DECK SHALL BE ROLLED FROM GALVANIZED SHEET STEEL CONFORMING TO ASTM A 653, STRUCTURAL STEEL, GRADE 33 MINIMUM WITH A G60 MINIMUM GALVANIZED COATING UNLESS OTHERWISE NOTED.
6. MANUFACTURER SHALL DESIGN AND PROVIDE ALL NECESSARY ACCESSORIES FOR OPENINGS AND PANEL EDGES.
7. METAL DECK SHALL BE INSTALLED ACCORDING TO APPLICABLE SPECIFICATIONS AND COMMENTARY OF SDI PUBLICATION NO. 31 AND MANUFACTURERS RECOMMENDATIONS, AND THE FOLLOWING REQUIREMENTS:
   A. PLACE PANELS ON SUPPORTING FRAMING AND ADJUST TO FINAL POSITION WITH ENDS ACCURATELY ALIGNED AND BEARING ON SUPPORTING FRAMING BEFORE BEING PERMANENTLY FASTENED.
   B. CONTRACTOR SHALL NOT STRETCH OR CONTRACT SIDE LAP INTERLOCKS.
   C. PLACE DECK PANELS FLAT AND SQUARE AND FASTEN TO SUPPORTING FRAMING WITHOUT WARP OR DEFLECTION.
   D. CUT, REINFORCE, AND NEATLY FIT DECK PANELS AND ACCESSORIES AROUND OPENINGS AND OTHER WORK PROJECTING THROUGH OR ADJACENT TO THE DECKING.
   E. COMPLY WITH AWS REQUIREMENTS AND PROCEDURES FOR MANUAL SHIELDED METAL ARC WELDING, APPEARANCE AND QUALITY OF WELDS, AND METHODS USED IN CORRECTING WELDING WORK.
   F. INSTALL ALL NECESSARY ROOF ACCESSORIES PER MANUFACTURERS, RECOMMENDATIONS. THESE ITEMS INCLUDE SUMP PANS, SUMP PLATES, RIDGE AND VALLEY PLATES, FINISH STRIPS, COVER PLATES, END CLOSURES AND REINFORCING CHANNELS.
   G. CONTRACTOR SHALL PREPARE AND REPAIR ALL DAMAGED GALVANIZED COATING ON BOTH SURFACES WITH GALVANIZED REPAIR PAINT ACCORDING TO ASTM A780 AND MANUFACTURER'S INSTRUCTIONS.
8. CONTRACTOR SHALL COORDINATE SIZE AND LOCATION OF OPENINGS WITH ARCHITECTURAL AND MECHANICAL DRAWINGS.

## EXISTING CONDITIONS:

1. BECOME FAMILIAR WITH EXISTING CONDITIONS PRIOR TO BIDDING. PROVIDE NECESSARY MEANS AND METHODS TO ACCOMPLISH THE SPECIFIED WORK.
2. FIELD VERIFY ALL CONDITIONS, SIZES, SPACINGS AND DIMENSIONS OF EXISTING STRUCTURE PRIOR TO FABRICATION AND NEW CONSTRUCTION. CONTACT STRUCTURAL ENGINEER IF EXISTING CONDITIONS, ETC. VARY FROM THOSE SHOWN ON THESE DRAWINGS.
3. CONTRACTOR IS RESPONSIBLE FOR TEMPORARY REMOVAL AND REPLACEMENT/RELOCATION OF ANY NON–STRUCTURAL ELEMENTS NECESSARY TO COMPLETE THE STRUCTURAL WORK. FOLLOW ALL APPLICABLE CODES AND REQUIREMENTS OF AFFECTED TRADES. PROVIDE FOR THIS REQUIREMENT IN THE BID.

## REPRODUCTION:

1. THE USE OF ELECTRONIC FILES OR REPRODUCTIONS OF THESE CONTRACT DOCUMENTS BY ANY CONTRACTOR, SUBCONTRACTOR, ERECTOR, FABRICATOR, OR MATERIAL SUPPLIER IN LIEU OF PREPARATION OF SHOP DRAWINGS SIGNIFIES THEIR ACCEPTANCE OF ALL INFORMATION SHOWN HEREON AS CORRECT, AND OBLIGATES THEMSELVES TO ANY JOB EXPENSE, REAL OR IMPLIED, ARISING DUE TO ANY ERRORS THAT MAY OCCUR HEREON.

## TYPICAL DETAILS:

1. DETAILS LABELED "TYPICAL" ON THE DRAWINGS SHALL APPLY TO ALL SITUATIONS OCCURRING ON THE PROJECT THAT ARE THE SAME OR SIMILAR TO THOSE SPECIFICALLY DETAILED. THE APPLICABILITY OF THE DETAIL TO ITS LOCATION ON THE PLANS CAN BE DETERMINED BY THE TITLE OF THE DETAIL. SUCH DETAILS SHALL APPLY WHETHER OR NOT THEY ARE KEYED IN AT EACH LOCATION. DECISIONS REGARDING APPLICABILITY OF TYPICAL DETAILS SHALL BE DETERMINED BY THE ENGINEER.

## MISCELLANEOUS:

1. STRUCTURAL DRAWINGS ARE INTENDED TO BE USED WITH ARCHITECTURAL AND MECHANICAL DRAWINGS. CONTRACTOR IS RESPONSIBLE FOR COORDINATING SUCH REQUIREMENTS INTO THEIR SHOP DRAWINGS AND WORK.
2. NO OPENING SHALL BE MADE IN ANY STRUCTURAL MEMBER WITHOUT THE WRITTEN APPROVAL OF THE ARCHITECT/ENGINEER.
3. NO CHANGE IN SIZE OR DIMENSION OF STRUCTURAL MEMBERS SHALL BE MADE WITHOUT THE WRITTEN APPROVAL OF THE ARCHITECT/ENGINEER.
4. OPENINGS 1'–4" AND LESS ON A SIDE ARE GENERALLY NOT SHOWN ON THE STRUCTURAL DRAWINGS. REFER TO ARCHITECTURAL, ELECTRICAL, PLUMBING, AND MECHANICAL DRAWINGS FOR SUCH OPENINGS.
5. THE CONTRACTOR IS RESPONSIBLE FOR LIMITING THE AMOUNT OF CONSTRUCTION LOAD IMPOSED UPON STRUCTURAL FRAMING. CONSTRUCTION LOADS SHALL NOT EXCEED THE DESIGN CAPACITY OF THE FRAMING AT THE TIME THE LOADS ARE IMPOSED.
6. THE STRUCTURE IS DESIGNED TO FUNCTION AS A UNIT UPON COMPLETION. THE CONTRACTOR IS RESPONSIBLE FOR FURNISHING ALL TEMPORARY BRACING AND/OR SUPPORT THAT MAY BE REQUIRED AS THE RESULT OF THE CONTRACTOR'S CONSTRUCTION METHODS AND/OR SEQUENCES.
7. DO NOT SCALE THESE DRAWINGS, USE DIMENSIONS.
8. CONTRACTOR'S CONSTRUCTION AND/OR ERECTION SEQUENCES SHALL RECOGNIZE AND CONSIDER THE EFFECTS OF THERMAL MOVEMENTS OF STRUCTURAL ELEMENTS DURING THE CONSTRUCTION PERIOD. EXPANSION JOINTS SHOWN ON THE DRAWINGS HAVE BEEN DESIGNED TO ACCOMMODATE ANTICIPATED THERMAL MOVEMENT AFTER THE BUILDING IS COMPLETE.
9. THE CONTRACTOR SHALL INFORM THE ARCHITECT IN WRITING OF ANY DEVIATION FROM THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL NOT BE RELIEVED OF THE RESPONSIBILITY FOR SUCH DEVIATION BY THE ARCHITECT'S APPROVAL OF SHOP DRAWINGS, PRODUCT DATA, ETC., UNLESS HE HAS SPECIFICALLY INFORMED THE ARCHITECT OF SUCH DEVIATION AT THE TIME OF SUBMISSION, AND THE ARCHITECT HAS GIVEN WRITTEN APPROVAL TO THE SPECIFIC DEVIATION.
10. ALL THINGS WHICH, IN THE OPINION OF THE CONTRACTOR, APPEAR TO BE DEFICIENCIES, OMISSIONS, CONTRADICTIONS, OR AMBIGUITIES, IN THE PLANS AND SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT. PLANS AND/OR SPECIFICATIONS WILL BE CORRECTED, OR WRITTEN INTERPRETATION OF THE ALLEGED DEFICIENCY, OMISSION, CONTRADICTION OR AMBIGUITY WILL BE MADE BY THE ARCHITECT BEFORE THE AFFECTED WORK PROCEEDS.
11. ALL LOCATIONS AND SIZES OF EXISTING STRUCTURE SHALL BE VERIFIED BY CONTRACTOR PRIOR TO CONSTRUCTION. IF FABRICATION OF NEW STRUCTURE ELEMENTS MUST BE COORDINATED WITH EXISTING STRUCTURE, LOCATIONS AND SIZES OF PERTINENT EXISTING STRUCTURE SHALL BE VERIFIED PRIOR TO FABRICATION. IF FIELD MEASUREMENTS REVEAL DISCREPANCIES BETWEEN ACTUAL STRUCTURE AND LOCATIONS AND SIZES OF EXISTING STRUCTURE SHOWN ON THESE DRAWINGS, CONTRACTOR SHALL NOTIFY ENGINEER.

## ABBREVIATIONS

| | |
|---|---|
| L | ANGLE |
| @ | AT |
| A.B. | ANCHOR BOLT(S) |
| A.C.I. | AMERICAN CONCRETE INSTITUTE |
| ADDN'L. | ADDITIONAL |
| ADJ. | ADJACENT |
| A.F.F. | ABOVE FINISH FLOOR |
| A.H.U. | AIR HANDLING UNIT |
| A.I.S.C. | AMERICAN INSTITUTE OF STEEL CONSTRUCTION |
| ALT. | ALTERNATE |
| ANCH. | ANCHOR |
| ARCH. | ARCHITECT (URE) (URAL) |
| B/ – BOT/ | BOTTOM OF |
| B/F – B.F. | BOTTOM OF FOOTING |
| B/S | BOTTOM OF STEEL |
| BLDG. | BUILDING |
| BM. | BEAM |
| BMD | BOTTOM OF METAL DECK |
| BOT. | BOTTOM |
| BOTT. | BOTTOM (PER A.C.I. STANDARD) |
| BRG. | BEARING |
| BL | BRICK LEDGE |
| BTWN. | BETWEEN |
| [ OR C | CHANNEL |
| ℄ | CENTER LINE |
| C/C – C.C. – C to C | CENTER TO CENTER |
| C.I.P. | CAST IN PLACE |
| C.J. | CONTROL JOINT |
| C.J. – CONSTR. JT. | CONSTRUCTION JOINT |
| CL. – CLR. | CLEAR |
| C.M.U. | CONCRETE MASONRY UNIT |
| COL. | COLUMN(S) |
| CONC. | CONCRETE |
| CONN. | CONNECTION |
| CONSTR. | CONSTRUCTION |
| CONT. | CONTINUOUS |
| CONTR. | CONTRACTOR |
| C.P. | COMPLETE PENETRATION |
| C.S.I. | CONSTRUCTION SPECIFICATION INSTITUTE |
| CTR. | CENTER, CENTRAL |
| CU.FT. | CUBIC FOOT |
| CU.IN. | CUBIC INCH |
| CU.YD. | CUBIC YARD |
| DIA. – ø | DIAMETER |
| DIAG. | DIAGONAL |
| DIM. | DIMENSION |
| DL. | DEAD LOAD |
| DN. | DOWN |
| DO – " – do | DITTO |
| DWG. – DRWG(S) | DRAWING(S) |
| DWL(S) | DOWEL(S) |
| EA. | EACH |
| E.J. – EXP. JT. | EXPANSION JOINT |
| EL. | ELEVATION |
| ELEV. | ELEVATION, ELEVATOR |
| ENGR. | ENGINEER |
| EQ. | EQUAL |
| EQUIP. | EQUIPMENT |
| E.W. | EACH WAY |
| EXIST. | EXISTING |
| EXP. | EXPANSION |
| F.D. | FLOOR DRAIN |
| FDN. | FOUNDATION |
| FIN. FL. | FINISH(ED) FLOOR |
| F.L. | FLOOR LINE |
| FLR. | FLOOR |
| FRMG. | FRAMING |
| F.S. | FAR SIDE |
| FT. – ' | FOOT |
| FTG. | FOOTING |
| F.V. | FIELD VERIFY |
| GA. | GAUGE, GAGE |
| GALV. | GALVANIZE(D) |
| G.B. | GRADE BEAM |
| GR. | GRADE |
| GYP. | GYPSUM |
| HK.(S) | HOOK(S) |
| H.P. | HIGH POINT |
| H.V.A.C. | HEATING, VENTILATION & AIR CONDITIONING |
| I.D. | INSIDE DIAMETER |
| I.F. | INSIDE FACE |
| IN. | INCH(ES) |
| INCL. | INCLUDE(D) (ING) |
| INFO. | INFORMATION |
| JST. | JOIST |
| JST. BRG. | JOIST BEARING |
| JT. | JOINT |
| LB. or # | POUND(S) |
| L.F. | LINEAR FOOT (FEET) |
| LG. | LENGTH |
| L.L. | LIVE LOAD |
| LLBB | LONG LEG BACK TO BACK |
| LLH | LONG LEG HORIZONTAL |
| LLV | LONG LEG VERTICAL |
| L.P. | LOW POINT |
| LT. WT. | LIGHTWEIGHT |
| L.W. | LONG WAY |

| | |
|---|---|
| MAINT. | MAINTENANCE |
| MAS. – MSNRY. | MASONRY |
| MAX. | MAXIMUM |
| MECH. | MECHANICAL |
| MET. – MTL. | METAL |
| MANUF. | MANUFACTURER |
| MIN. | MINIMUM |
| MISC. | MISCELLANEOUS |
| M.O. | MASONRY OPENING |
| N. | NORTH |
| N/A – N.A. | NOT APPLICABLE |
| N.I.C. | NOT IN CONTRACT |
| NO. – # | NUMBER |
| NOM. | NOMINAL |
| N.S. | NEAR SIDE |
| N.T.S. | NOT TO SCALE |
| O.C. | ON CENTER |
| O.D. | OUTSIDE DIAMETER |
| O.F. | OUTSIDE FACE |
| O.H. | OPPOSITE HAND |
| OPNG. | OPEN(ING) |
| OPP. | OPPOSITE |
| O.S.C.B.F. | ORDINARY STEEL CONCENTRICALLY BRACED FRAME |
| O.S.M.F. | ORDINARY STEEL MOMENT FRAME |
| % | PERCENT |
| PAVT. | PAVEMENT |
| P.C. | PRECAST CONCRETE |
| P.C.F. | POUNDS PER CUBIC FOOT |
| PENE. | PENETRATION |
| PERP. –_\| | PERPENDICULAR |
| PL. | PLATE |
| PLBG. | PLUMBING |
| P.L.F. | POUNDS PER LINEAR FOOT |
| PLYWD. | PLYWOOD |
| PMBM | PRE–ENGINEERED METAL BUILDING MANUFACTURER |
| PREFAB. | PREFABRICATED |
| PROJ. | PROJECTION |
| P.S.F. | POUND PER SQUARE FOOT |
| P.S.I. | POUND PER SQUARE INCH |
| QTY. | QUANTITY |
| R | RISER |
| R. – RAD. | RADIUS |
| R.D. | ROOF DRAIN |
| REBAR. | REINFORCING BAR |
| REF. | REFERENCE |
| REINF. | REINFORCE(MENT)(ING) |
| REQ'D. | REQUIRED |
| RET. | RETAIN(ING) |
| RF. | ROOF |
| S | SOUTH |
| S.C. | SHEAR CONNECTOR [X] |
| SCHED. | SCHEDULE |
| SECT. | SECTION |
| SH. – SHT. | SHEET |
| SIM. | SIMILAR |
| SL. | SLAB |
| S.O.G. | SLAB–ON–GRADE |
| SPA. | SPACE(S) or SPACING |
| SPEC. | SPECIFICATIONS |
| SQ. | SQUARE |
| SQ. FT. | SQUARE FOOT |
| SQ. IN. | SQUARE INCH(ES) |
| STA. | STATION |
| STD. | STANDARD |
| STIR. – STIRR. | STIRRUP |
| STL. | STEEL |
| STRUCT. | STRUCTURAL |
| SUB. – SUBST. | SUBSTITUTE |
| S.W. | SHORT WAY |
| SYM. – SYMM. | SYMMETRICAL |
| T/ | TOP OF |
| T/BL | TOP OF BRICK LEDGE |
| T/C | TOP OF CONCRETE |
| T/F | TOP OF FOOTING |
| T/P | TOP OF PIER |
| T/PC | TOP OF PILE CAP |
| T/R | TOP OF ROCK |
| T/S – T.S. | TOP OF STEEL |
| T/SL – T.O.S. | TOP OF SLAB |
| T/W | TOP OF WALL |
| TAN. | TANGENT |
| T & B | TOP AND BOTTOM |
| T.B. | TIE BEAM |
| TEMP. | TEMPERATURE |
| THK. | THICK |
| T.M.E. | TO MATCH EXISTING |
| TYP. | TYPICAL |
| U.N.O. | UNLESS NOTED OTHERWISE |
| VERT. | VERTICAL |
| W/ | WITH |
| W/I | WITH IN |
| W/O | WITHOUT |
| W | WEST |
| WD. | WIDTH |
| W.S. | WATER STOP |
| WT. | WEIGHT |
| W.W.F. | WELDED WIRE FABRIC |
| YD. | YARD |

SCALE = 1" = 20'
SCALE = 1" = 10'
SCALE = 1/16" = 1'-0"
SCALE = 1/8" = 1'-0"
SCALE = 1/4" = 1'-0"
SCALE = 1" = 1'-0"
SCALE = 1 1/2" = 1'-0"
SCALE = 3" = 1'-0"

STATE OF MISSOURI
MICHAEL L. PARSON, GOVERNOR

STATE OF MISSOURI — GHOLAM H. MASOUMY — NUMBER E-24059 — REGISTERED PROFESSIONAL ENGINEER
05/08/2020
EXP. 12/31/2021

EDM Incorporated
Engineers Architects Planners
220 Mansion House Center St. Louis, Missouri 63102
(314) 231-5485 FAX (314) 231-8167
CoA - Architecture 000516 Exp. 12/31/2020 Engineering: 000227 Exp. 12/31/2021

OFFICE OF ADMINISTRATION
DIVISION OF FACILITIES MANAGEMENT, DESIGN AND CONSTRUCTION

MISSOURI NATIONAL GUARD (MONG)

CONSTRUCTION EXPANSION AND REPLACE STANDING SEAM ROOF

FESTUS READINESS CENTER
2740 HIGHWAY P
FESTUS, MO 63028

PROJECT # T1932-01
SITE # 6302
ASSET # 8136302002

REVISION:
DATE:
REVISION:
DATE:
REVISION:
DATE:
ISSUE DATE: 05/08/2020

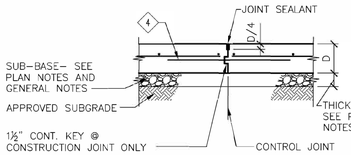
CAD DWG FILE: T1932-01 S-101
DRAWN BY: DAF
CHECKED BY: [signature]
DESIGNED BY: [signature]

SHEET TITLE:

GENERAL NOTES

SHEET NUMBER:

S-101




CONTROL/CONSTRUCTION JOINT

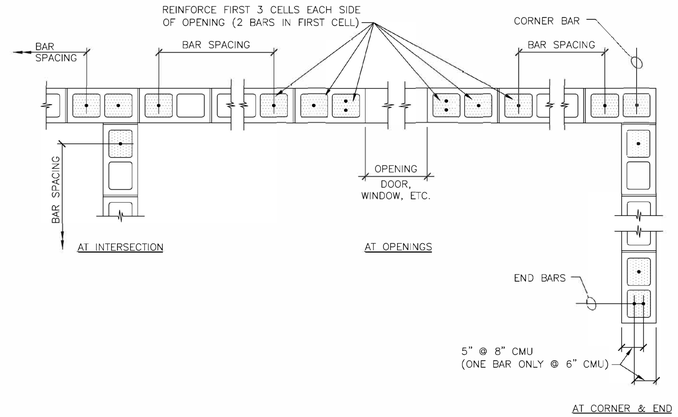
## SLAB-ON-GRADE NOTES:

1. PROVIDE CONTROL JOINTS IN ALL SLABS-ON-GRADE IN ACCORDANCE WITH THESE NOTES AND DETAILS.
2. LOCATE CONTROL JOINTS SO THAT PANELS BETWEEN JOINTS ARE NEARLY SQUARE BUT WITH THE LENGTH NEVER EXCEEDING TWICE THE WIDTH. JOINT SPACING- SEE PLAN.
3. PROVIDE SAW CUT CONTROL JOINTS. INSTALL SAW CUTS AS SOON AS PRACTICAL AND BEFORE THE CUTTING WOULD RESULT IN CHIPPING, SPALLING, OR TEARING BUT IN NO CASE MORE THAN 12 HOURS AFTER PLACEMENT.

4. PROVIDE DOWELS AT CONSTRUCTION JOINTS. DOWELS SHALL BE ⅝"ø x 24" LONG A36 SMOOTH BARS WITH ONE END GREASED. SPACING EQUALS 16" O.C.

## TYPICAL SLAB-ON-GRADE DETAIL

NO SCALE

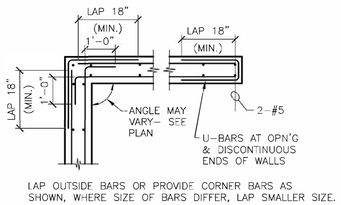



## TYPICAL REINFORCED MASONRY WALL DETAILS

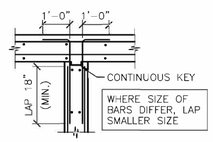
NO SCALE

## MASONRY WALL NOTES:

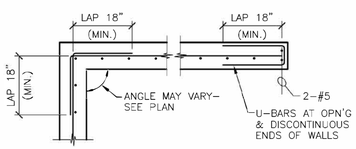
1. PROVIDE HORIZONTAL TRUSS REINFORCING IN ALL CMU WALLS AT THE FOLLOWING LOCATIONS U.N.O.:
   A. IN BED JOINTS AT 16" VERTICAL SPACING.
   B. FIRST AND SECOND BED JOINTS AT BOTTOM OF WALL.
2. PROVIDE BOND BEAMS WITH 2-#5 CONTINUOUS IN ALL CMU WALLS AT THE FOLLOWING LOCATIONS U.N.O.:
   A. AT THE TOP OF ALL WALLS.
   B. AT ALL FLOOR AND ROOF ATTACHMENT LOCATIONS.
   C. AT ADDITIONAL LOCATIONS SHOWN ON DRAWINGS.
3. SEE PLANS, SECTIONS, AND DETAILS FOR SIZE AND SPACING OF VERTICAL REINFORCEMENT AT EXTERIOR WALLS, LOAD BEARING WALLS AND SHEAR WALLS.
4. END BARS, CORNER BARS, INTERSECTION BARS, AND JAMB BARS SHALL BE THE SAME SIZE AS TYPICAL WALL REINFORCING UNLESS NOTED OTHERWISE.
5. LOCATE ALL SINGLE LAYER VERTICAL REINFORCING IN CENTER OF WALL, U.N.O.
6. INTERLOCK BLOCK AT WALL INTERSECTIONS AND CORNERS.



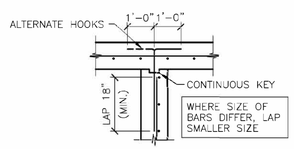

AT CORNERS AND ENDS




AT INTERSECTIONS




AT CORNERS AND ENDS

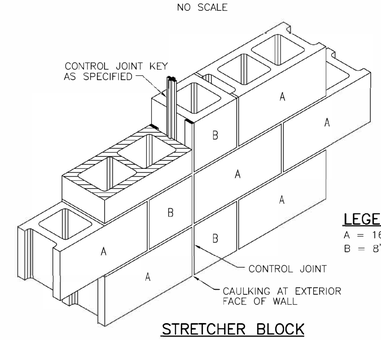



AT INTERSECTIONS

## PLAN OF HORIZONTAL REINFORCING AT CORNERS AND INTERSECTIONS OF CONCRETE WALLS/FOOTINGS

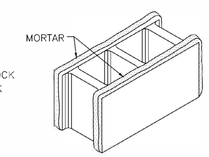
NO SCALE

| BAR SIZE | CLASS "B" SPLICE LENGTH (f'c=4000 PSI) IN INCHES | | | |
|---|---|---|---|---|
| | TOP BARS | | OTHER BARS | |
| | CASE 1 | CASE 2 | CASE 1 | CASE 2 |
| #3 | 25 | 37 | 19 | 28 |
| #4 | 33 | 49 | 25 | 37 |
| #5 | 41 | 61 | 31 | 47 |
| #6 | 49 | 73 | 37 | 56 |
| #7 | 71 | 106 | 54 | 81 |
| #8 | 81 | 121 | 62 | 93 |
| #9 | 91 | 136 | 70 | 105 |
| #10 | 102 | 153 | 79 | 118 |
| #11 | 114 | 170 | 87 | 131 |




STRETCHER BLOCK

**LEGEND:**
A = 16" LONG BLOCK
B = 8" LONG BLOCK

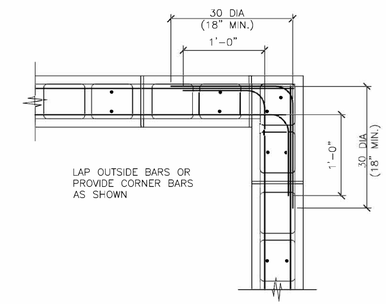



SHELL MORTAR BEDDING

NOTE:
FIGURE ABOVE IS APPLICABLE TO THE CONSTRUCTION OF ALL CONTROL JOINTS IN THE 8" & 12" HOLLOW BLOCK WALLS EXCEPT WHERE STEEL OR CONCRETE COLUMNS OCCUR. SEE STRUCTURAL AND ARCHITECTURAL DRAWINGS FOR LOCATIONS.

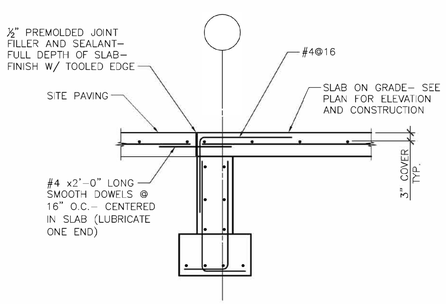
## BASIC CONTROL JOINT FOR SINGLE WYTHE MASONRY WALLS

NO SCALE



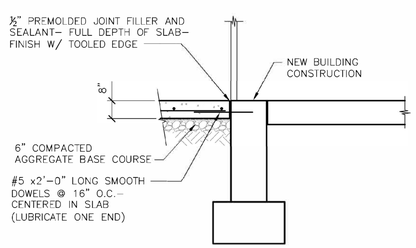

## TYPICAL CMU BOND BEAM REINFORCING AT CORNERS

NO SCALE



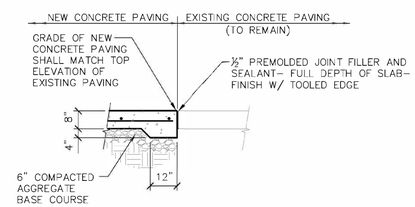

## TYPICAL SECTION AT DOORS

NO SCALE



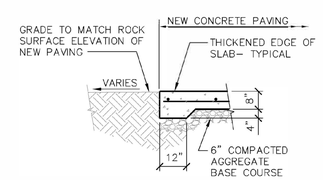

## CONCRETE APRONS AT NEW CONSTRUCTION

NO SCALE



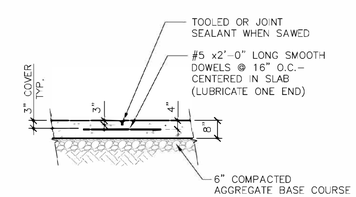

## CONCRETE APRONS AT EXISTING PAVING

NO SCALE




## CONCRETE APRONS AT EXTERIOR GRADE

NO SCALE




## CONCRETE APRONS AT CONSTRUCTION/CONTROL JOINTS

NO SCALE

0 10' 20' 40' SCALE = 1" = 20'
0 5' 10' 20' SCALE = 1" = 10'
0 8' 16' 32' SCALE = 1/16" = 1'-0"
0 4' 8' 16' SCALE = 1/8" = 1'-0"
0 2' 4' 8' SCALE = 1/4" = 1'-0"
0 6" 1' 2' SCALE = 1" = 1'-0"
0 4" 8" 1'-4" SCALE = 1 1/2" = 1'-0"
0 2" 4" 8" SCALE = 3" = 1'-0"

STATE OF MISSOURI
MICHAEL L. PARSON,
GOVERNOR

STATE OF MISSOURI
NICHOLAS H. MOSUMY
NUMBER E-24059
REGISTERED PROFESSIONAL ENGINEER
05/08/2020
EXP. 12/31/2021

EDM Incorporated
Engineers Architects Planners
220 Mansion House Center St. Louis, Missouri 63102
(314) 231-5485 FAX (314) 231-8167
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OFFICE OF ADMINISTRATION
DIVISION OF FACILITIES MANAGEMENT,
DESIGN AND CONSTRUCTION

MISSOURI NATIONAL GUARD (MONG)

CONSTRUCTION EXPANSION AND REPLACE STANDING SEAM ROOF

FESTUS, MO 63028
2740 HIGHWAY P
FESTUS READINESS CENTER

PROJECT # T1932-01
SITE # 6302
ASSET # 8136302002

REVISION:
DATE:
REVISION:
DATE:
ISSUE DATE: 05/08/2020

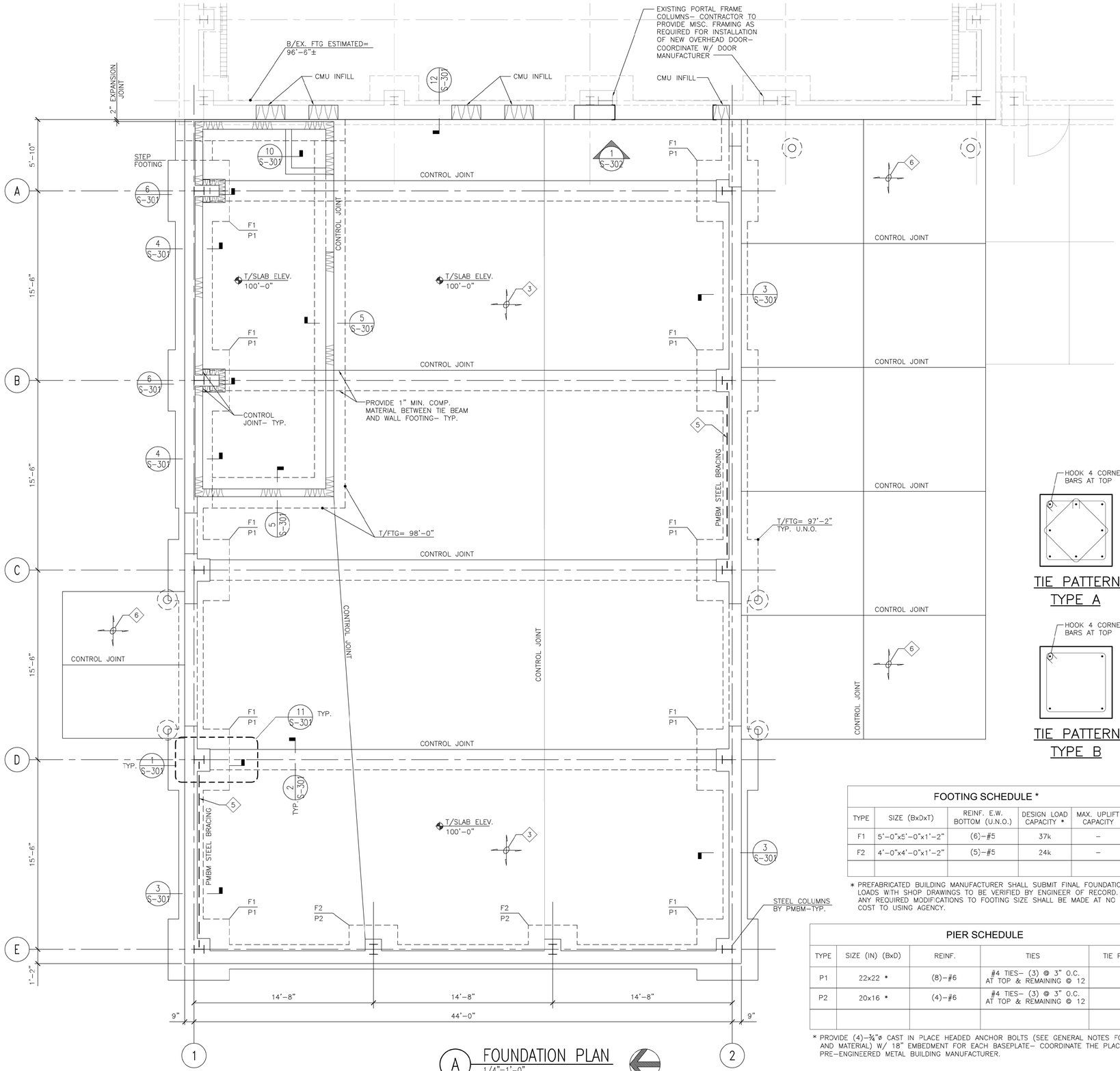
CAD DWG FILE: T1932-01 S-102
DRAWN BY: DAF
CHECKED BY:
DESIGNED BY:

SHEET TITLE:

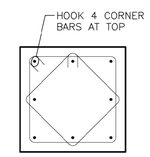
TYPICAL DETAILS

SHEET NUMBER:

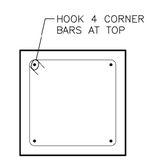
S-102




A FOUNDATION PLAN
1/4"=1'-0"




TIE PATTERN TYPE A




TIE PATTERN TYPE B

## PLAN NOTES:

1. SEE SHEET S-101 FOR GENERAL NOTES.
2. SEE SHEET S-102 FOR TYPICAL DETAILS.
3. SLAB-ON-GRADE CONSTRUCTION: CONCRETE THICKNESS: 8"
   REINFORCEMENT: #5@16" O.C.
   VAPOR RETARDER: 15 MIL.
   SUB-BASE: 6" COMPACTED CRUSHED ROCK
4. T/FTG INDICATES TOP OF FOOTING ELEVATION. T/FTG=97'–2" (TYP. U.N.O.)
5. BRACING BY PRE-ENGINEERED METAL BUILDING SUPPLIER.
6. 8" CONCRETE APRON– SLOPE GRADE, SIDEWALKS AND PAVEMENT AWAY FROM BUILDING FIRST FIVE FEET AT 2%. REINFORCE WITH #5@16" O.C.– CENTERED IN SLAB. SEE TYPICAL DETAILS.
7. T/SLAB ELEVATION 100'–0" = ELEVATION TO MATCH EXISTING.
8. 3" DEEP– 18 GAGE COMPOSITE DECK– FASTEN IN A 36/4 PATTERN W/ 5/8" DIA. PUDDLE WELDS AND #10 TEK SCREWS AT SIDE LAPS. PROVIDE SIDE LAP CONNECTIONS AT 24" O.C. MAX SPACING. FASTEN AT 6" O.C. AT PERIMETER AND OPENING EDGES W/ 5/8" DIA. PUDDLE WELDS TYP. U.N.O.
9. PREPARE BEARING MATERIALS FOR SLAB ON GRADE AND FOOTINGS AS DIRECTED IN THE GEOTECHNICAL EXPLORATION AND IN ACCORDANCE WITH THE GEOTECHNICAL ENGINEER ON SITE. SOIL REMEDIATION MATERIALS AND DEPTH SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER. THE GEOTECHNICAL EXPLORATION IS LOCATED IN THE SPECIFICATIONS AS APPENDIX 1.

BASE BID AND UNIT PRICES NOTE:
BASE BIID SHALL INCLUDE THE STANDARD EXCAVATION AND COMPACTED BACKFILL FOR STRIP/COLUMN FOOTINGS, BUILDING SLAB ON GRADE, AND SITE PAVING WITHOUT REGARD FOR POTENTIAL REMEDIATED FILL REQUIREMENTS. SEE SPECIFICATION SECTION 012200 FOR UNIT PRICES OF BULK OVER-EXCAVATION AND REMEDIATED FILL, AND TRENCH OVER-EXCAVATION AND REMEDIATED FILLS BASED ON FINAL DETERMINATION IN THE FIELD BY THE GEOTECHNICAL ENGINEER. SEE GEOTECHNICAL EXPLORATION, AND SPECIFICATIONS. TYPICAL OF ENTIRE BUILDING SITE.

### FOOTING SCHEDULE *

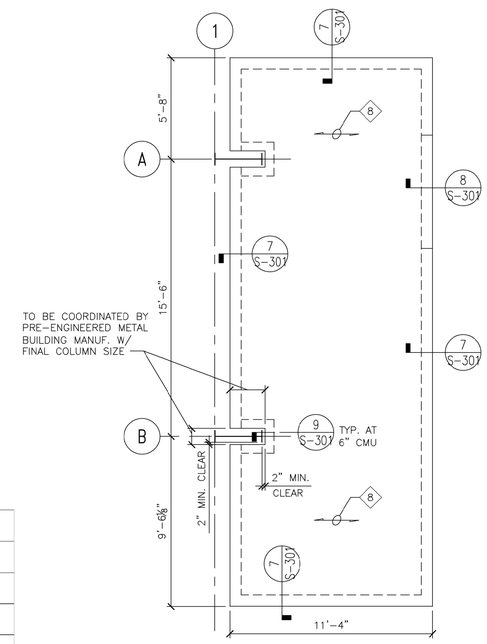
| TYPE | SIZE (BxDxT) | REINF. E.W. BOTTOM (U.N.O.) | DESIGN LOAD CAPACITY * | MAX. UPLIFT CAPACITY |
|---|---|---|---|---|
| F1 | 5'–0"x5'–0"x1'–2" | (6)–#5 | 37k | – |
| F2 | 4'–0"x4'–0"x1'–2" | (5)–#5 | 24k | – |
| | | | | |

* PREFABRICATED BUILDING MANUFACTURER SHALL SUBMIT FINAL FOUNDATION LOADS WITH SHOP DRAWINGS TO BE VERIFIED BY ENGINEER OF RECORD. ANY REQUIRED MODIFICATIONS TO FOOTING SIZE SHALL BE MADE AT NO COST TO USING AGENCY.

### PIER SCHEDULE

| TYPE | SIZE (IN) (BxD) | REINF. | TIES | TIE PATTERN |
|---|---|---|---|---|
| P1 | 22x22 * | (8)–#6 | #4 TIES– (3) @ 3" O.C. AT TOP & REMAINING @ 12 | A |
| P2 | 20x16 * | (4)–#6 | #4 TIES– (3) @ 3" O.C. AT TOP & REMAINING @ 12 | B |
| | | | | |

* PROVIDE (4)–3/4"ø CAST IN PLACE HEADED ANCHOR BOLTS (SEE GENERAL NOTES FOR TYPE AND MATERIAL) W/ 18" EMBEDMENT FOR EACH BASEPLATE– COORDINATE THE PLACEMENT WITH PRE-ENGINEERED METAL BUILDING MANUFACTURER.




B BATTERY ROOM ROOF
1/4"=1'-0"

SCALE = 1" = 20' | SCALE = 1" = 10' | SCALE = 1/16" = 1'-0" | SCALE = 1/8" = 1'-0" | SCALE = 1/4" = 1'-0" | SCALE = 1" = 1'-0" | SCALE = 1 1/2" = 1'-0" | SCALE = 3" = 1'-0"

**STATE OF MISSOURI**
**MICHAEL L. PARSON, GOVERNOR**

STATE OF MISSOURI — WILLIAM H. LOMSDUMY — NUMBER E-24059 — REGISTERED PROFESSIONAL ENGINEER

**05/08/2020**
**EXP. 12/31/2021**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Engineers Architects Planners
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FESTUS READINESS CENTER
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FESTUS, MO 63028

PROJECT # T1932-01
SITE # 6302
ASSET # 8136302002

REVISION:
DATE:
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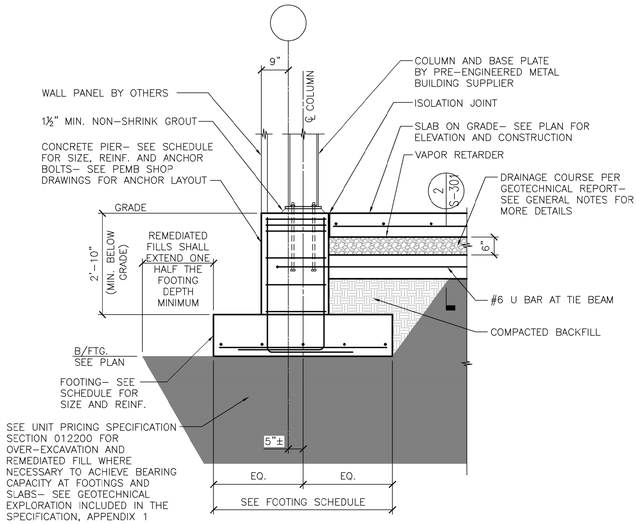
ISSUE DATE: 05/08/2020

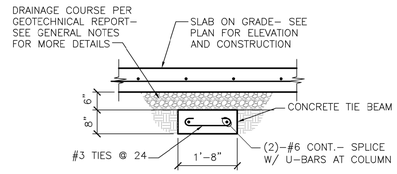
CAD DWG FILE: T1932-01 S-201
DRAWN BY: DAF
CHECKED BY: CEH
DESIGNED BY: JW

SHEET TITLE:
FOUNDATION PLAN

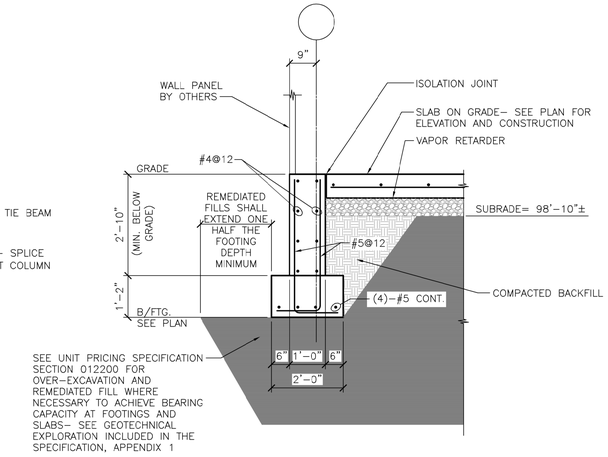
SHEET NUMBER:
S-201




1 SECTION AT COLUMN FOOTING
1/2"=1'-0"

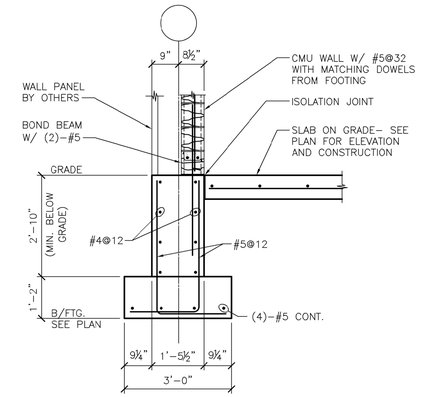



2 SECTION AT TIE BEAM
1/2"=1'-0"

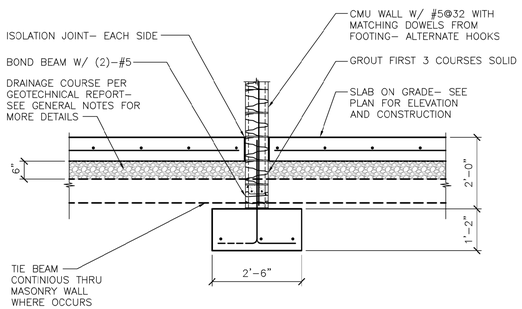



3 SECTION AT WALL FOOTING
1/2"=1'-0"

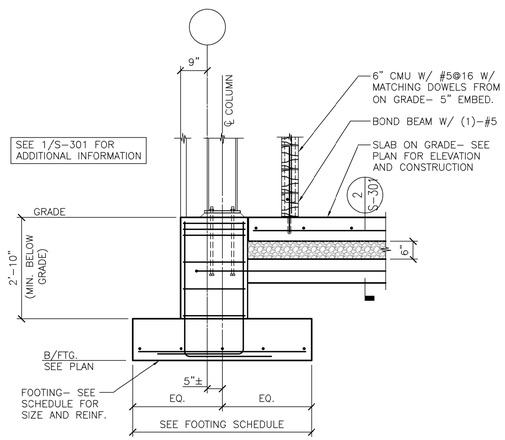
NOTE:
FOUNDATIONS AND SLAB ON GRADE ARE TO BE PLACED ON BEARING MATERIALS AS DIRECTED IN THE GEOTECHNICAL EXPLORATION AND IN ACCORDANCE WITH THE GEOTECHNICAL ENGINEER ON SITE. SOIL REMEDIATION MATERIALS AND DEPTH SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER. THE GEOTECHNICAL EXPLORATION IS LOCATED IN THE SPECIFICATIONS AS APPENDIX 1. SEE SPECIFICATION SECTION 012200 "UNIT PRICES" FOR OVER-EXCAVATION THAT MAY BE REQUIRED UPON REVIEW OF SITE DURING EXCAVATION.



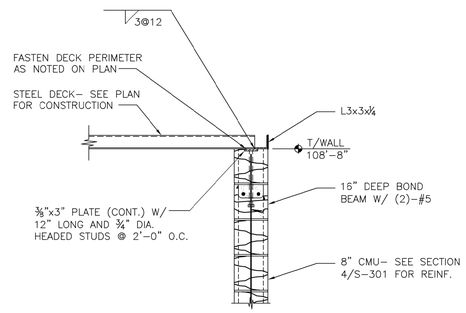

4 SECTION AT WALL FOOTING AT BATTERY ROOM
1/2"=1'-0"



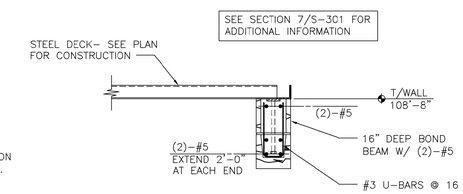

5 SECTION AT INTERIOR BATTERY ROOM CMU WALLS
1/2"=1'-0"



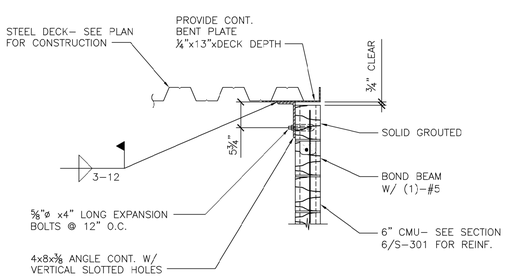

6 SECTION AT COLUMN FOOTING AT BATTERY ROOM
1/2"=1'-0"



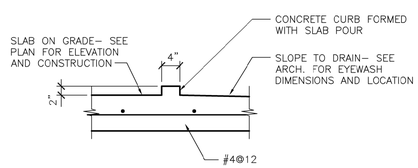

7 SECTION AT BATTERY ROOM ROOF DECK
3/4"=1'-0"



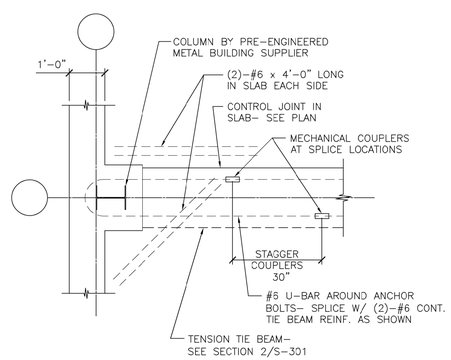

8 SECTION AT BATTERY ROOM CMU WALL LINTEL
3/4"=1'-0"



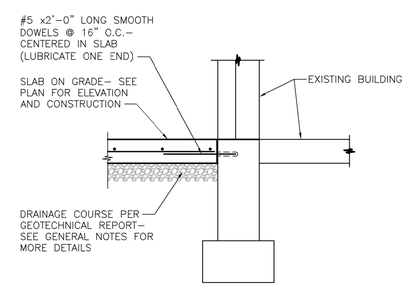

9 SECTION AT BATTERY ROOM AT 6" CMU
3/4"=1'-0"




10 SECTION AT EYE WASH CURB
3/4"=1'-0"




11 PLAN VIEW AT TIE BEAMS
1/2"=1'-0"




12 SECTION AT EXISTING FOUNDATION
1/2"=1'-0"

0 10' 20' 40' SCALE = 1" = 20'
0 5' 10' 20' SCALE = 1" = 10'
0 8' 16' 32' SCALE = 1/16" = 1'-0"
0 4' 8' 16' SCALE = 1/8" = 1'-0"
0 2' 4' 8' SCALE = 1/4" = 1'-0"
0 6" 1' 2' SCALE = 1" = 1'-0"
0 4" 8" 1'-4" SCALE = 1 1/2" = 1'-0"
0 2" 4" 8" SCALE = 3" = 1'-0"

STATE OF MISSOURI
MICHAEL L. PARSON,
GOVERNOR

STATE OF MISSOURI
CALEB H. DUMSUMY
NUMBER
E-24059
REGISTERED PROFESSIONAL ENGINEER

05/08/2020
EXP. 12/31/2021

EDM Incorporated
Engineers Architects Planners
220 Mansion House Center St. Louis, Missouri 63102
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FESTUS, MO 63028

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ASSET # 8136302002

REVISION:
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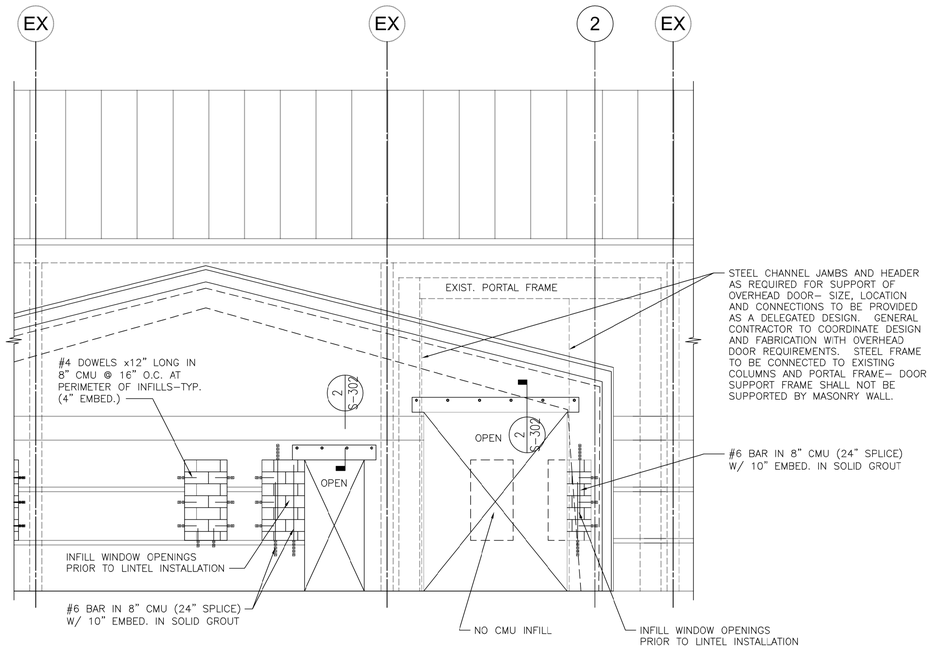
ISSUE DATE: 05/08/2020

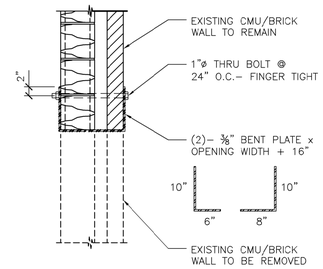
CAD DWG FILE: T1932-01 S-301
DRAWN BY: DAF
CHECKED BY: CHD
DESIGNED BY: CHD

SHEET TITLE:
SECTIONS AND DETAILS

SHEET NUMBER:
S-301




1 ELEVATION AT EXISTING WALL
1/4"=1'–0"




2 SECTION AT OVERHEAD DOOR IN EXISTING CONSTRUCTION
3/4"=1'–0"

NOTES:

1. SOLID GROUT CMU WALL AT LOCATIONS OF CUT CMU AT NEW OPENINGS.
2. ALL DOWELS AND ANCHORS SHALL BE IN SOLID GROUTED CELLS. GROUT SOLID ANY OPEN CELLS.
3. ALTERNATIVE MEANS AND METHODS FOR CREATING DOOR OPENINGS MAY BE SUBMITTED FOR REVIEW AT CONTRACTOR'S OPTION.

0 10' 20' 40' SCALE = 1" = 20'
0 5' 10' 20' SCALE = 1" = 10'
0 8' 16' 32' SCALE = 1/16" = 1'-0"
0 4' 8' 16' SCALE = 1/8" = 1'-0"
0 2' 4' 8' SCALE = 1/4" = 1'-0"
0 6" 1' 2' SCALE = 1" = 1'-0"
0 4" 8" 1'-4" SCALE = 1 1/2" = 1'-0"
0 2" 4" 8" SCALE = 3" = 1'-0"

**STATE OF MISSOURI**
**MICHAEL L. PARSON,**
**GOVERNOR**

STATE OF MISSOURI
WILLIAM H. MASOUMY
NUMBER
E-24059
REGISTERED PROFESSIONAL ENGINEER

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CAD DWG FILE: T1932-01 S-301
DRAWN BY: DAF
CHECKED BY:
DESIGNED BY:

SHEET TITLE:

SECTIONS AND DETAILS

SHEET NUMBER:

S-302

## EXHAUST FAN (EF) SCHEDULE

| MARK | MANUFACTURER AND MODEL (BASIS OF DESIGN) | TYPE | DRIVE | CFM | HP | V/PH/HZ | SP (IN-WG) | NOTES |
|---|---|---|---|---|---|---|---|---|
| EF-1 | L.G. COOK 1510VH17D VF | CENTRIFUGAL | DIRECT EC | 600 | 1/8 | 115/1/60 | 0.5 | 1. |
| EF-2 | L.G. COOK 18XP24D17EC | PROPELLER | DIRECT EC | 2100 | 3/4 | 115/1/60 | 0.5 | 1. 2. |

NOTES:
1. PROVIDE FACTORY DISCONNECT IN NEMA 3R ENCLOSURE.
2. PROVIDE WATERTIGHT WEATHER HOOD.

## LOUVER SCHEDULE

| SYMBOL | MANUFACTURER AND MODEL (BASIS OF DESIGN) | OVERALL SIZE L x H (IN.) | TYPE | MINIMUM FREE AREA | CFM | ACCESSORIES AND REMARKS |
|---|---|---|---|---|---|---|
| L-1 | RUSKIN ELF375DX | 24 x 18 | DRAINABLE BLADE | 1.2 SF | 600 | 1. |
| L-2 | RUSKIN ELF375DX | 24 x 18 | DRAINABLE BLADE | 1.2 SF | 700 | 1. |
| L-3 | RUSKIN ELF375DX | 24 x 18 | DRAINABLE BLADE | 1.2 SF | 700 | 1. |
| L-4 | RUSKIN ELF375DX | 24 x 18 | DRAINABLE BLADE | 1.2 SF | 700 | 1. |

NOTES:
1. PROVIDE WITH ALUMINUM INSECT SCREEN.

## ELECTRIC UNIT HEATER (EUH) SCHEDULE

| PLAN NO. | MANUFACTURER AND MODEL (BASIS OF DESIGN) | CFM | VAC/ø/Hz | WATTS | EAT/LAT | NOTES |
|---|---|---|---|---|---|---|
| EUH-1 | BERKO HUHAA720 | 650 | 208/1/60 | 7500 | 50/87 | 1. |

NOTES:
1. INSTALL THERMOSTAT AT UNIT AIR INLET.

## EMERGENCY EYEWASH/SHOWER SCHEDULE

| PLAN NO. | MANUFACTURER AND MODEL (BASIS OF DESIGN) | GPM | WATER CONNECTION | WASTE | NOTES |
|---|---|---|---|---|---|
| ESH-1 | BRADLEY S19314FW | 20 | 1-1/4" | INDIRECT | 1, 2 |

NOTES:
1. PROVIDE WITH THERMOSTATIC MIXING VALVE. REFER TO SPECIFICATIONS.
2. PROVIDE WITH FLOW SWITCH ACTIVATED EMERGENCY SIGNALING SYSTEM.

## AIR DEVICE SCHEDULE

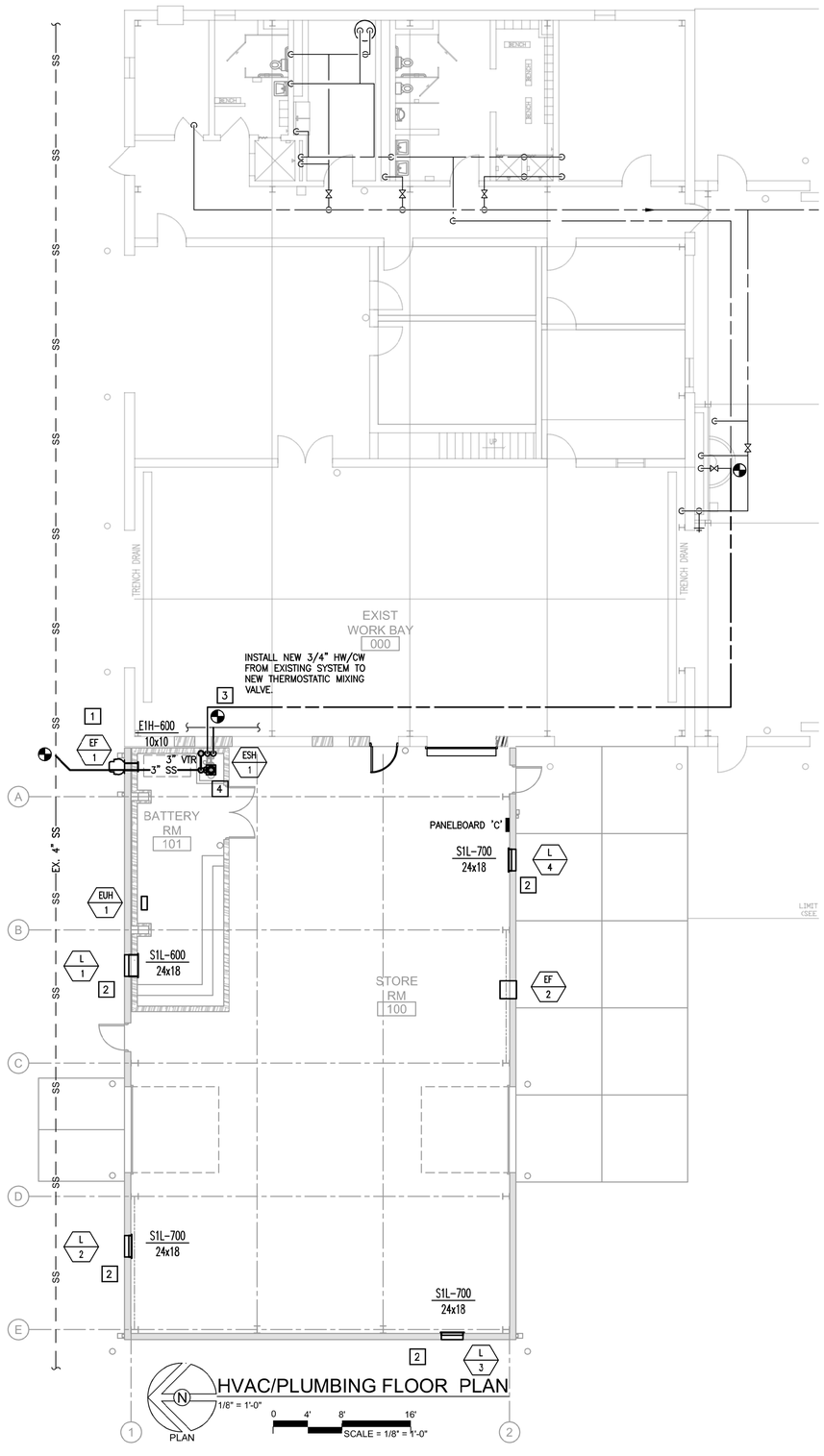
| PLAN NO. | MANUFACTURER AND MODEL (BASIS OF DESIGN) | MODULE SIZE | MATERIAL | FINISH |
|---|---|---|---|---|
| S1 | TITUS 271RL | 24x18 | STL | PRIME COAT |
| | | | | |
| E1 | TITUS 55F | 10X10 | STL | PRIME COAT |

### GENERAL NOTES

1. HEATING & COOLING LOAD CRITERIA FOR BATTERY RM 101: SEMI-HEATED, 50 DEG F.
2. BATTERY RM 101 VENTILATION RATE 1 CFM/SF MIN.
3. STORE RM 100 VENTILATION RATE 3 ACH/HR MIN.

### KEYED NOTES

1. LOCATE EXHAUST FAN SO THAT THE EXHAUST DUCT IS AT THE HIGHEST POINT POSSIBLE IN THE BATTERY STORAGE ROOM.
2. INSTALL BOTTOM OF LOUVER AT 20" ABOVE GRADE.
3. DEMOLISH WALL HYDRANT ON EXTERIOR WALL. REUSE CONNECTION FOR EMERGENCY FIXTURE CONNECTION.
4. PROVIDE 3" FLOOR DRAIN FOR EMERGENCY FIXTURE.




HVAC/PLUMBING FLOOR PLAN

STATE OF MISSOURI
MICHAEL L. PARSON,
GOVERNOR

5/8/2020


EDM Incorporated
Engineers Architects Planners
220 Mansion House Center St. Louis, Missouri 63102
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CAD DWG FILE: T1932-01 MP101
DRAWN BY:
CHECKED BY:
DESIGNED BY:

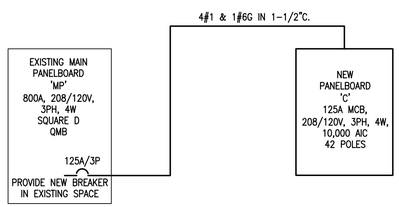
SHEET TITLE:
HVAC/PLUMBING FLOOR PLAN

SHEET NUMBER:
MP101

14 OF 15 SHEETS
05/08/2020

## ELECTRICAL SYMBOL LEGEND

- A,1a / B,1a — LUMINAIRE – LETTER DENOTES FIXTURE TYPE – SEE LIGHTING FIXTURE SCHEDULE.,1 = CIRCUIT NUMBER, a = IDENTIFICATION LETTER OF SWITCH CONTROLLING LUMINAIRE.
- EXIT LIGHT W/INTEGRAL EMERGENCY LIGHT– WALL MOUNTED 96" AFF.
- EMERGENCY LIGHT – WALL MOUNTED 96" AFF.
- $ $3 $4 $P — SWITCHES – SINGLE POLE, 3 WAY, 4 WAY, PILOT–LIGHT; MOUNT 44" A.F.F. TO CENTER.
- $a,b,c — NOTE: SUBSCRIPT OF LOWER CASE LETTER (a,b,c OR ETC.) ADJACENT TO SWITCH DESIGNATES THE SIMILARLY MARKED LIGHTING FIXTURES OR RECEPTACLES CONTROLLED BY THAT SWITCH.
- DUPLEX RECEPTACLE – 120 V. GROUNDING TYPE – SURFACE MOUNTED 44" A.F.F. TO CENTER UNLESS OTHERWISE NOTED.
- EXP — EXPLOSION–PROOF RECEPTACLE OUTLET.
- GF — GROUND FAULT RECEPTACLE OUTLET, WITH WEATHERPROOF COVER.
- J — JUNCTION & PULL BOXES.
- MOTOR.
- F — DISCONNECT SWITCHES – FUSED, NON–FUSED.
- STARTER, COMBINATION STARTER/DISCONNECT.
- $M — MANUAL MOTOR STARTER SWITCH.
- REMOTE PUSHBUTTON SWITCH – SURFACE MOUNTED 44" A.F.F. TO CENTER.
- PANELBOARD, SURFACE MOUNTED, 6'–0" A.F.F. TO TOP.




## RISER DIAGRAM

NOT TO SCALE

## ELECTRICAL GENERAL NOTES

A. EXCEPT AS OTHERWISE SPECIFIED, THESE PLANS AND SPECIFICATIONS DETAIL PROVISION OF ALL LABOR, MATERIALS AND SERVICES TO INSTALL, TEST AND LEAVE OPERATIVE COMPLETE ELECTRICAL SYSTEM AS SHOWN. CONTRACTOR SHALL BE FAMILIAR WITH SITE AND EXISTING CONDITIONS.

B. PROVIDE INSTALLATION IN ACCORDANCE WITH LATEST EDITION OF NATIONAL ELECTRICAL CODE (NEC), NFPA 72, NFPA 101, AND LOCAL CODES AND ORDINANCES. MATERIAL SHALL CONFORM TO APPLICABLE CODES AND STANDARDS AND SHALL BEAR LABEL OF UNDERWRITER LABORATORIES, INC.

C. GUARANTEE MATERIALS AND WORK ACCORDING TO SPECIFICATIONS, AND REPAIR OR REPLACE FAULTY MATERIAL AT NO ADDITIONAL EXPENSE.

D. CONDUCTORS SHALL BE CONTINUOUS WITHOUT SPLICES OR TAPS IN CONDUIT RUNS. WIRING SHALL BE IN CONDUIT OR AS NOTED. MAKE SPLICES AT OUTLET BOXES, PULL BOXES OR JUNCTION BOXES. AT JOINTS, CONDUCTORS SHALL BE SPLICED OR JOINED AS TO BE MECHANICALLY AND ELECTRICALLY SECURE.

E. IDENTIFICATION OF NEUTRAL, GROUNDING OF CIRCUITS, NUMBER OF WIRES IN CONDUIT SHALL COMPLY WITH THE LATEST VERSION OF THE NATIONAL ELECTRICAL CODE. BRANCH CIRCUITS SHALL BE LABELED AT EVERY JUNCTION BOX. MINIMUM BRANCH WIRE SIZE SHALL BE #12 AWG. MAINTAIN MAXIMUM BRANCH CIRCUIT CONDUCTOR LENGTHS AS PER SPECIFICATIONS INCLUDING THE GROUND CONDUCTOR DERATINGS.

F. CONDUIT SHALL BE CONTINUOUS AND COMPLETE BETWEEN PANELS, JUNCTION, OUTLET, PULL AND FIXTURE BOXES. KEEP CONDUIT CLEAN AND UNOBSTRUCTED INSIDE WITH ENDS FREE OF BURRS AND OTHER PROJECTIONS WHICH WOULD DAMAGE OR IMPEDE PULLING OF WIRE. RUN CONDUIT PARALLEL OR PERPENDICULAR TO BUILDING LINES. ROUTE CONDUIT CONCEALED IN FINISHED AREAS, EXCEPT WHERE OTHERWISE NOTED. INSTALL FLEXIBLE COUPLINGS IN CONDUITS CROSSING SEISMIC JOINTS.

G. ALL BRANCH CIRCUITS SHALL HAVE DEDICATED NEUTRAL CONDUCTORS.

H. SET BOXES AND ENCLOSURES PLUMB AND FASTEN SECURELY. BOXES IN FINISHED WALLS SHALL BE FLUSH WITH FINISHED SURFACE.

I. FOR EXACT LOCATIONS, CEILING CONSTRUCTION AND FINISHED SURFACE CONDITIONS, SEE ARCHITECTURAL DRAWINGS, ELEVATIONS, AND REFLECTED CEILING PLANS.

J. FOR EXACT LOCATION OF FACILITY EXPANSION JOINTS, FIRE RATED WALLS AND SMOKE WALLS, SEE ARCHITECTURAL DRAWINGS.

K. FOR EXACT LOCATIONS OF MECHANICAL EQUIPMENT, SEE MECHANICAL AND PLUMBING DRAWINGS.

L. MOUNTING HEIGHTS ARE TO CENTER OF WALL MOUNTED, AND TO BOTTOM OF CEILING MOUNTED DEVICES, LIGHTING FIXTURES AND EQUIPMENT, UNLESS OTHERWISE NOTED.

M. INSTALL GROUND WIRE IN EVERY CONDUIT. DO NOT USE CONDUIT AS GROUNDING PATH.

N. CONTRACTOR SHALL VERIFY EQUIPMENT PLUG CONFIGURATIONS BEFORE INSTALLING THE RECEPTACLES.

O. ALL OUTDOOR WIRING CONNECTIONS SHALL BE MADE IN WATERPROOF BOXES.

## ELECTRICAL ABBREVIATIONS

| | |
|---|---|
| A | AMPS |
| AFF | ABOVE FINISHED FLOOR |
| AIC | AMPS INTERRUPTING CAPACITY |
| C | CONDUIT |
| CB | CIRCUIT BREAKER |
| DS | DISCONNECT SWITCH |
| EX | EXISTING |
| F | FUSE/FUSIBLE |
| FLA | FULL LOAD AMPS |
| G,GND | GROUND |
| GFCI | GROUND FAULT CIRCUIT INTERRUPTER |
| HP | HORSEPOWER |
| J–BOX | JUNCTION BOX |
| KW | KILOWATTS |
| LTG | LIGHTING |
| MAG | MAGNETIC STARTER |
| MAN | MANUAL STARTER |
| MCA | MINIMUM CIRCUIT AMPS |
| MCB | MAIN CIRCUIT BREAKER |
| MFR | MANUFACTURER |
| NF | NONFUSED |
| PB | START–STOP PUSHBUTTON |
| PH | PHASE |
| PWCP | PRE–WIRED CONTROL PANEL |
| REC | RECEPTACLE |
| SW | DISCONNECT SWITCH |
| V | VOLTS |
| VA | VOLT AMPERES |
| W | WIRE |
| W/ | WITH |
| WP | WEATHERPROOF |

## LIGHTING FIXTURE SCHEDULE

| TYPE | FIXTURE DESCRIPTION | AVAILABLE MANUFACTURERS / MODEL NUMBER | MOUNTING | LAMPS | VOLTS | VA | SPECIAL COMMENTS |
|---|---|---|---|---|---|---|---|
| A | LED HIGH BAY W/INTEGRAL OCCUPANCY SENSOR | DAY–BRITE #G10L–4FT–12L–UV–835–SC–OS<br>LITHONIA #UFIT–L92–12000LM–SEF–MVOLT–GZ10–35K–LAOZU<br>METALUX #LHB–12–UNV–L840–CD–MS | PENDANT 12'–0" AFF | LED 3500K | 120 | 77 | |
| B | 48" LED LINEAR SUSPENDED | DAY–BRITE #LBX–40L–835–UNV–FD<br>LITHONIA #BLWP4–40L–ADP–EZ1–LP835<br>METALUX #4ST2L4040R | CEILING SURFACE | LED 3500K | 120 | 31 | FURNISH W/HANGER BRACKET |
| C | EXTERIOR LED WALL BRACKET | GARDCO #101L–32L–530–WW–G1–3–UNV–PCB–BK<br>LITHONIA #WDGE3–LED–P1–30K–70CRI–MVOLT–PE–DBLXD<br>McGRAW–EDISON #IST–AF–800–LED–E1–T3–BK–7030–P | WALL MTD. 12'–0" AFF | LED 3000K | 120 | 52 | BLACK FINISH; INTEGRAL PHOTOCONTROL |
| E | EMERGENCY LIGHT HIGH OUTPUT LAMPS | LIGHTALARMS #2MGR12H1/LD10–B–ID<br>LITHONIA #ELM6L–B–UVOLT–LTP–SDRT<br>DUAL–LITE #EVHC–12–I–B–06L | WALL MTD. 8'–0" AFF | INCLUDED | 120 | 2 | BLACK FINISH; SELF–DIAGNOSTIC |
| X | COMBINATION EXIT SIGN/ EMERGENCY LIGHT | LIGHTALARMS #GR612H–R–1–B–2–LD10–ID<br>LITHONIA #LHQM–LED–B–R–SD<br>DUAL–LITE #LT–U–R–B–I–03L | WALL MTD. 8'–0" AFF | LED | 120 | 2 | BLACK FINISH; SELF–DIAGNOSTIC |

## PANEL C

MOUNTING: SURFACE | 240/120 VOLTS | 3 PHASE | 4 WIRE | MAIN 125 A MCB | 10,000 A.I.C. | SYM BUS 125 A

| VOLT AMPS Ø A | Ø B | Ø C | DESCRIPTION | REC | LTG | POLE | BKR | CIR | PH | CIR | BKR | POLE | LTG | REC | DESCRIPTION | VOLT AMPS Ø A | Ø B | Ø C | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 616 | | | LTG - STORE RM | | | 1 | 20 | 1 | A | 2 | 20 | 1 | | | LTG-BATTERY RM | 77 | | | (1) |
| | 720 | | REC - STORE RM | 4 | | 1 | 20 | 3 | B | 4 | 20 | 1 | | 2 | REC-BATTERY RM | | 540 | | (1) |
| | | 540 | REC - STORE RM | 3 | | 1 | 20 | 5 | C | 6 | 20 | 1 | | | REC-BATTERY RM | | | 900 | (1) |
| 2300 | | | O.H. DOOR | | | 1 | 30 | 7 | A | 8 | 20 | 1 | | | REC-BATTERY RM | 900 | | | (1) |
| | 2300 | | O.H. DOOR | | | 1 | 30 | 9 | B | 10 | 20 | 1 | | | REC-BATTERY RM | | 900 | | (1) |
| | | 2300 | O.H. DOOR | | | 1 | 30 | 11 | C | 12 | 20 | 1 | | | REC-BATTERY RM | | | 900 | (1) |
| 208 | | | LTG-EXTERIOR | | | 1 | 20 | 13 | A | 14 | 20 | 1 | | | REC-BATTERY RM | 900 | | | (1) |
| | | | SPARE | | | 2 | 30 | 15 | B | 16 | 20 | 1 | | | REC-BATTERY RM | | 900 | | (1) |
| | | | SPARE | | | - | - | 17 | C | 18 | 20 | 1 | | | EF-1-BATTERY RM | | | 828 | |
| | | | SPARE | | | 1 | 20 | 19 | A | 20 | 40 | 2 | | | EUH-1-BATTERY RM | 3750 | | | (1) |
| | | | SPARE | | | 1 | 20 | 21 | B | 22 | - | - | | | ---- | | 3750 | | (1) |
| | | | SPARE | | | 1 | 20 | 23 | C | 24 | 20 | 1 | | | CONTACTOR | | | 180 | |
| | | | SPARE | | | 1 | 20 | 25 | A | 26 | 20 | 1 | | | EF-2 | 1587 | | | |
| | | | SPARE | | | 1 | 20 | 27 | B | 28 | 20 | 1 | | | SPARE | | | | |
| | | | SPARE | | | 1 | 20 | 29 | C | 30 | 20 | 1 | | | SPARE | | | | |
| | | | SPARE | | | 1 | 20 | 31 | A | 32 | 20 | 1 | | | SPARE | | | | |
| | | | SPARE | | | 1 | 20 | 33 | B | 34 | 20 | 1 | | | SPARE | | | | |
| | | | SPACE | | | - | - | 35 | C | 36 | - | - | | | SPACE | | | | |
| | | | SPACE | | | - | - | 37 | A | 38 | - | - | | | SPACE | | | | |
| | | | SPACE | | | - | - | 39 | B | 40 | - | - | | | SPACE | | | | |
| | | | SPACE | | | - | - | 41 | C | 42 | - | - | | | SPACE | | | | |
| 3124 | 3020 | 2840 | VA/LINE | | | | | | | | | | | | | 7214 | 6090 | 2808 | |

Ø A= 10338 | Ø B= 9110 | Ø C= 5648

CONTINUOUS LOADS: 10996 X1.25= 13745

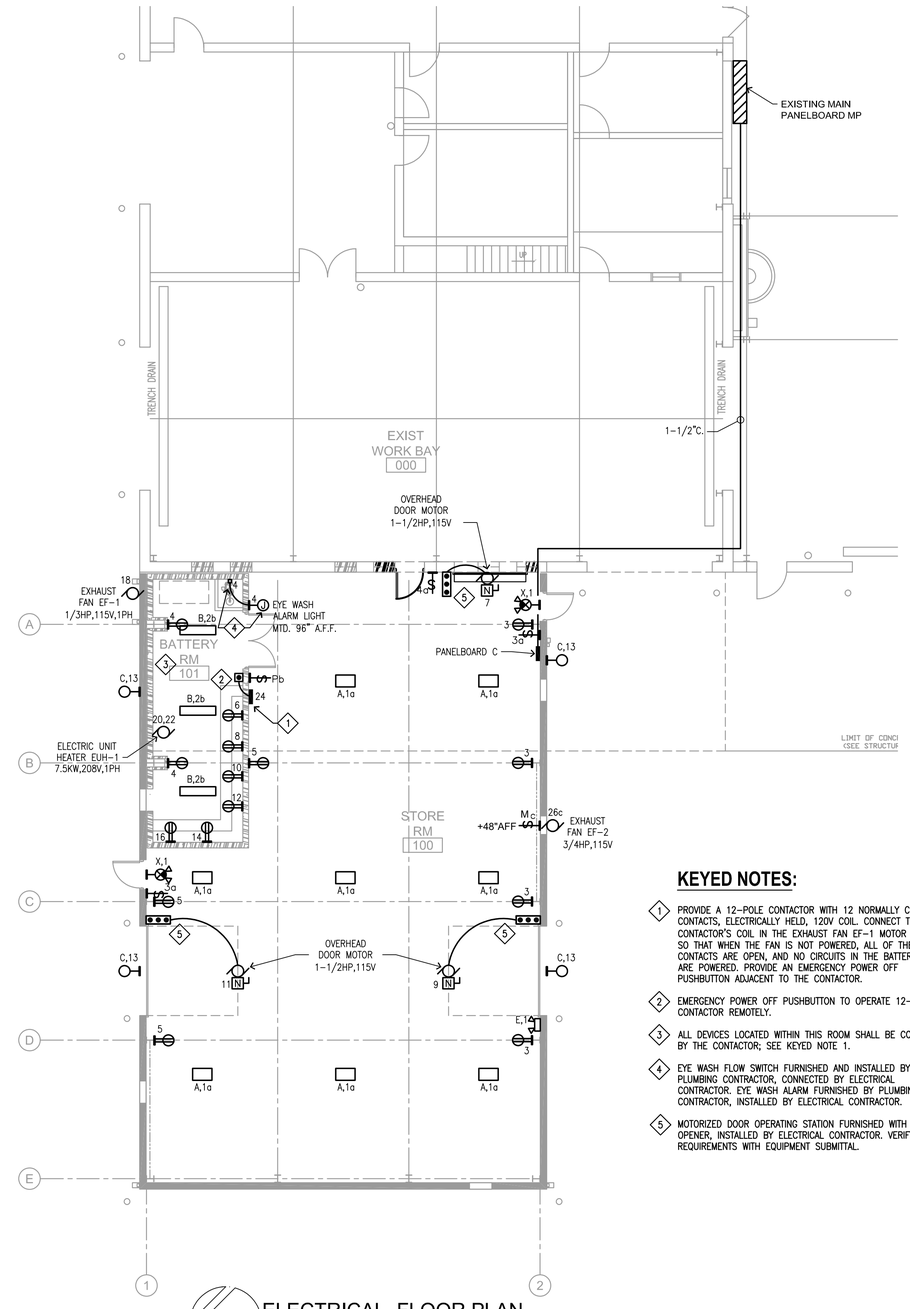
NON-CONTINUOUS LOADS: RECEPTACLES — UP TO 10 KVA 7020 X1.00= 7020; REMAINDER ____ X0.50= ____; OTHER 7080 X1.00 7080

TOTAL DESIGN KVA = 28 | TOTAL DESIGN AMPS = 67

(1) CONTACTOR-CONTROLLED CIRCUIT

**EXISTING SERVICE ENTRANCE SWITCHBOARD 'MP'**
**LOAD CALCULATION**

| LOAD DESCRIPTION | MAXIMUM LOAD SIZE |
|---|---|
| SW POWER POLE | 60 |
| AIR COMPRESSOR | 60 |
| NE POWER POLE | 60 |
| EXISTING LOAD LABELED 'SPARE' | 100 |
| PANEL A | 200 |
| PANEL B | 200 |
| **TOTAL EXISTING LOAD** | **680** |
| SWITCHBOARD CAPACITY | 800 |
| **SPARE CAPACITY** | **120** |




## ELECTRICAL FLOOR PLAN

1/8" = 1'-0"

PLAN — 0 4' 8' 16' — SCALE = 1/8" = 1'-0"

## KEYED NOTES:

1. PROVIDE A 12–POLE CONTACTOR WITH 12 NORMALLY CLOSED CONTACTS, ELECTRICALLY HELD, 120V COIL. CONNECT THE CONTACTOR'S COIL IN THE EXHAUST FAN EF–1 MOTOR CIRCUIT SO THAT WHEN THE FAN IS NOT POWERED, ALL OF THE 12 CONTACTS ARE OPEN, AND NO CIRCUITS IN THE BATTERY ROOM ARE POWERED. PROVIDE AN EMERGENCY POWER OFF PUSHBUTTON ADJACENT TO THE CONTACTOR.
2. EMERGENCY POWER OFF PUSHBUTTON TO OPERATE 12–POLE CONTACTOR REMOTELY.
3. ALL DEVICES LOCATED WITHIN THIS ROOM SHALL BE CONTROLLED BY THE CONTACTOR; SEE KEYED NOTE 1.
4. EYE WASH FLOW SWITCH FURNISHED AND INSTALLED BY PLUMBING CONTRACTOR, CONNECTED BY ELECTRICAL CONTRACTOR. EYE WASH ALARM FURNISHED BY PLUMBING CONTRACTOR, INSTALLED BY ELECTRICAL CONTRACTOR.
5. MOTORIZED DOOR OPERATING STATION FURNISHED WITH DOOR OPENER, INSTALLED BY ELECTRICAL CONTRACTOR. VERIFY REQUIREMENTS WITH EQUIPMENT SUBMITTAL.

**STATE OF MISSOURI**
**MICHAEL L. PARSON,**
**GOVERNOR**

STATE OF MISSOURI — RAMONA C. NICULA — NUMBER PE-2013017378 — PROFESSIONAL ENGINEER — 05/07/2020


**EDM Incorporated**
Engineers Architects Planners
220 Mansion House Center St. Louis, Missouri 63102
(314) 231-5485 FAX (314) 231-8167
CoA - Architecture 000516 Engineering: 000227
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**OFFICE OF ADMINISTRATION**
**DIVISION OF FACILITIES MANAGEMENT,**
**DESIGN AND CONSTRUCTION**

**MISSOURI NATIONAL GUARD (MONG)**

CONSTRUCT EXPANSION AND REPLACE STANDING SEAM ROOF

FESTUS FMS
2740 HIGHWAY P
FESTUS, MO 63028

PROJECT # T1932-01
SITE # 6302
ASSET # 8136302002

REVISION:
DATE:
REVISION:
DATE:
REVISION:
DATE:
ISSUE DATE: 05/08/2020

CAD DWG FILE: T1932-01 E-101
DRAWN BY: RGH
CHECKED BY: RCN
DESIGNED BY: RCN

SHEET TITLE:
FLOOR PLAN
ELECTRICAL

SHEET NUMBER:
E-101

15 OF 15 SHEETS
05/08/2020