

**SECTION 00 9112
ADDENDUM NUMBER TWO**

PARTICULARS

DATE: JULY 30, 2025

PROJECT: IOWA STATE FAIR – SWINE-CATTLE BARN UPDATES – PHASE 1

IOWA STATE FAIR CONTRACT NO. CSWB2301

K/O PROJECT NUMBER: 250401.00

OWNER: IOWA STATE FAIR BOARD OF DIRECTORS

ARCHITECT: KEFFER/OVERTON ARCHITECTS

TO: PROSPECTIVE BIDDERS BIDDING DOCUMENT HOLDERS OF RECORD:

THIS ADDENDUM FORMS A PART OF THE CONTRACT DOCUMENTS AND MODIFIES THE BIDDING DOCUMENTS FOR THE IOWA STATE FAIR – SWINE-CATTLE BARN UPDATES – PHASE 1, WITH AMENDMENTS AND ADDITIONS NOTED BELOW.

ACKNOWLEDGE RECEIPT OF THIS ADDENDUM IN THE SPACE PROVIDED IN THE BID FORM. FAILURE TO DO SO MAY DISQUALIFY THE BIDDER.

*** BIDS WILL BE RECEIVED AT THE OFFICE OF:

K/O ARCHITECTS
650 S. PRAIRIE VIEW DRIVE, SUITE 103
WEST DES MOINES, IOWA 50266

*** ON BEHALF OF THE OWNER, ON OR BEFORE,
2:00 P.M., LOCAL TIME, TUESDAY, AUGUST 5, 2025.

THIS ADDENDUM CONSISTS OF:

2 PAGES	ADDENDUM
2 PAGES	KORPELA ENGINEERING STRUCTURAL ADDENDUM
2 PAGES	STRUCTURAL SUPPLEMENTAL DRAWINGS
6 PAGES	REISSUED STRUCTURAL DRAWINGS
2 PAGES	MECHANICAL DRAWINGS

CHANGES TO THE PROJECT MANUAL:

SECTION 01 7000 – EXECUTION AND CLOSEOUT REQUIREMENTS

- A. Delete paragraph 3.04.G. in its entirety and substitute the following:
 - G. Owner will locate survey control & reference points, and provide construction staking.

CHANGES TO THE DRAWINGS:

STRUCTURAL DRAWINGS

- A. Disregard all changes to Structural Drawings in their entirety from Addendum #1 and use only the Written Structural Information (Korpela Engineering Structural Addendum), Structural Supplemental Drawings, and reissued Structural Drawings attached to this Addendum.

MECHANICAL DRAWINGS

- A. SHEET M102-1 – MECHANICAL ENLARGED PLANS (Refer to revised sheet.)
 - 1. ADD RG-1 return air grilles to the chase walls.
 - 2. ADD keyed note #16.
- B. SHEET M500 – MECHANICAL DETAILS & SCHEDULES (Refer to revised sheet.)
 - 1. ADD RG-1 to the Grilles, Registers, & Diffusers Schedule

ELECTRICAL:

PRODUCT APPROVALS

Section	Item	Submitted Manufacturer
265113	EM1	Evenlite TELESIS TCL
265113	EX1	Evenlite TELESIS TLX
265113	F1	Lithonia CPX
265113	F3, F3A, F3B	Bartco BSW215
265113	F4B	Bartco BSW215
265113	F5	Juno JSF 7IN
265113	S2	Juno JSF 7IN

END OF SECTION



K O R P E L A E N G I N E E R I N G

structural services company

DATE : July 30, 2025

RE: Structural Addendum

PROJECT : ISF Swine – Cattle Barn UPDATES – Phase 1

Disregard all items related to and including the Structural Drawings S101-1, S102-1, S501-1, S502-1, S503-1, S504-1 which were included in Addendum No. 1 dated July 28, 2025 and completely replace with this Structural Addendum.

All structural sheets are re-issued as part of this Structural Addendum. A written description of the changes per sheet are enumerated as follows:

Drawings S101-1 changes:

1. See attached SR072525-1 drawing which clarifies plan 1/S101-1 with the limits and extents of the 8" wide concrete starter wall – shaded in GREEN. Also provides clarification to the cross walls and footings. Also included are clarifications to the size and types of footings at the north and south ends.
2. Add note to plan 1/S101-1 all rooms other than the Chase as follows:
FLOOR SLAB TO BE 4" CONCRETE WITH 6X6 - W2.9XW2.9 WWF, ON 4" COMPACTED GRANULAR SUBBASE ON 15 MIL VAPOR BARRIER (TAPE JOINTS).
3. Change plan 2/S101-1. North and South edge of roof line actually closer to the building – see detail 8/S501-1.
4. Correct plan 2/S101-1. The number and locations of NOTE 1 have been changed to match mechanical. See Mechanical sheet M102-1 for actual locations and provide NOTE 1 for each.
5. Correct plan 12/S101-1. The number and locations of NOTE 2 have been changed to match mechanical. See Mechanical sheet M102-1 for actual locations and provide NOTE 2 for each.

Drawings S102-1 changes:

6. Delete line at door opening between room 102 and 103.

Drawings S501-1 changes:

7. Change detail 13/S501-1. Change 3'-0" overhang at East to be 3'-0" to the inside face of the double fascia boards. Match 11/S501-1. See architectural.
8. Change detail 13/S501-1. Change 2'-0" overhang at West to be 1'-8" to the inside face of the double fascia boards. See architectural.
9. Add to section 1&13&15/S501-1. Add 4" compacted granular subbase under chase slab.
10. Revised detail 1/S501-1 to eliminate starter wall at the chase wall. Masonry bears at -1'-2". Add note to starter wall "BEYOND".
11. Change 1&17&18/S501-1 Title to WALL SECTION.

Drawings S502-1 changes:

12. Replace Lintel 2 detail 2/S502-1 as indicated on the attached SR072525-2.
13. Detail 4/S502-1 has been fixed aligning plate and column.

Drawings S503-1 changes:

14. Detail 2/S503-1 change title to WALL SECTION.

Drawings S504-1 changes:

15. Replace Lintel 2 detail 2/S504-1 as indicated on the attached SR072525-2.

ATTACHMENTS :: Full set of reissued sheets
S101-1, S102-1, S501-1, S502-1, S503-1, S504-1
SR072525-1 and SR072525-2 (for reference only)



Timothy J. Korpela, Owner
Korpela Engineering Structural Services Company



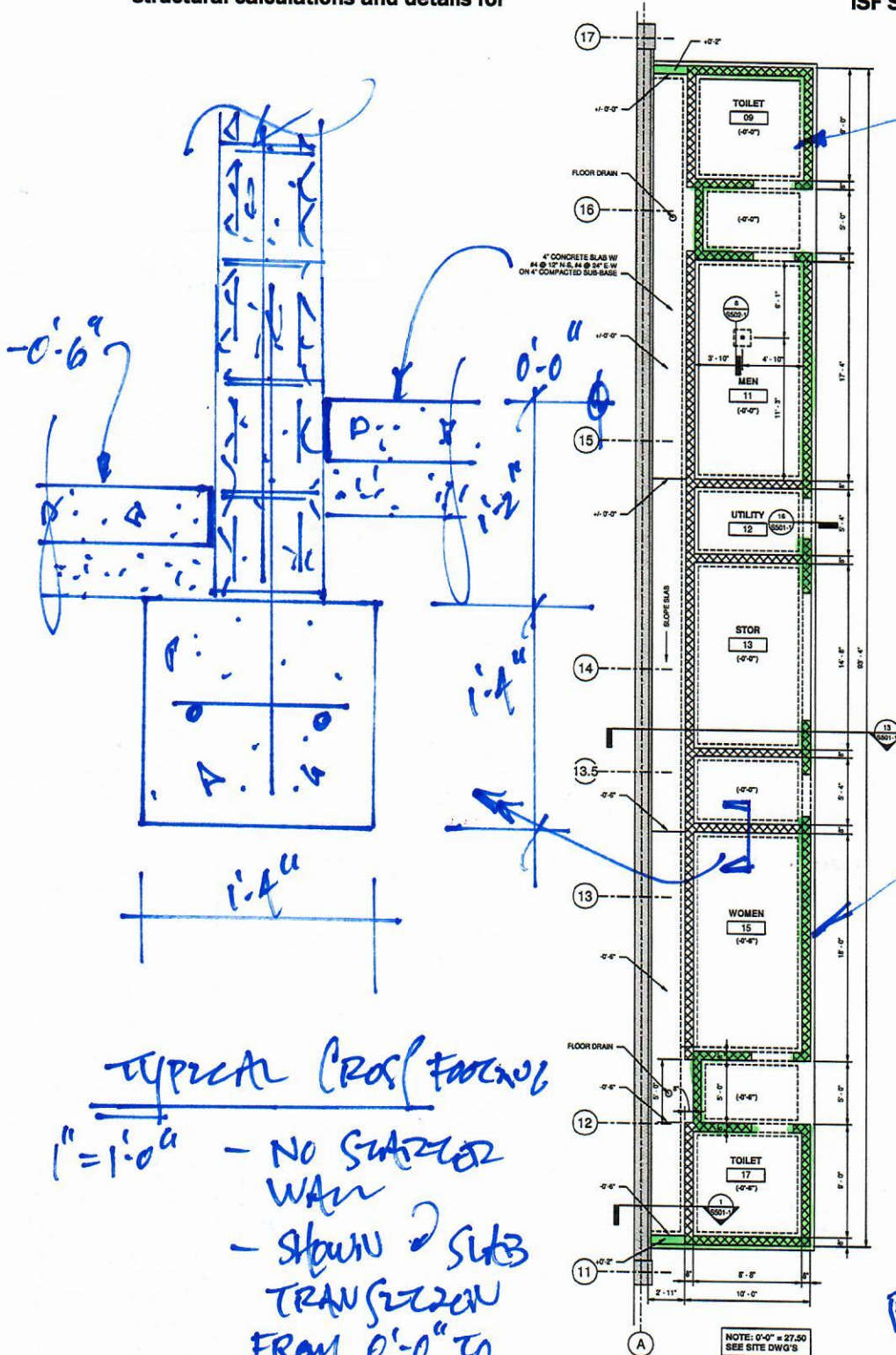
1239 73rd Street, Studio C
Windsor Heights, Iowa 50311
p515.271.0655
f515.271.0685
Tim@KorpelaEngineering.com

KORPELA ENGINEERING

structural services company

structural calculations and details for

ISF Swine - Cattle Barn Updates - PHASE 1
Iowa State Fair Grounds



PROVIDE 8" WIDE
STAZLER WALL
WHERE WALL
HIGHLIGHTED
GREEN -
TOC +0'-2"

- OTHER W/SE
CMU BEAMS ON
FOOTING AT -1'-2"
AT CHASE WALL
AND CROSS WALLS
NOT HIGHLIGHTED.

PARTIAL
/801-1

SR072525-1

1 ENLARGED EAST RESTROOM FTG. & FND PLAN

NO SCALE



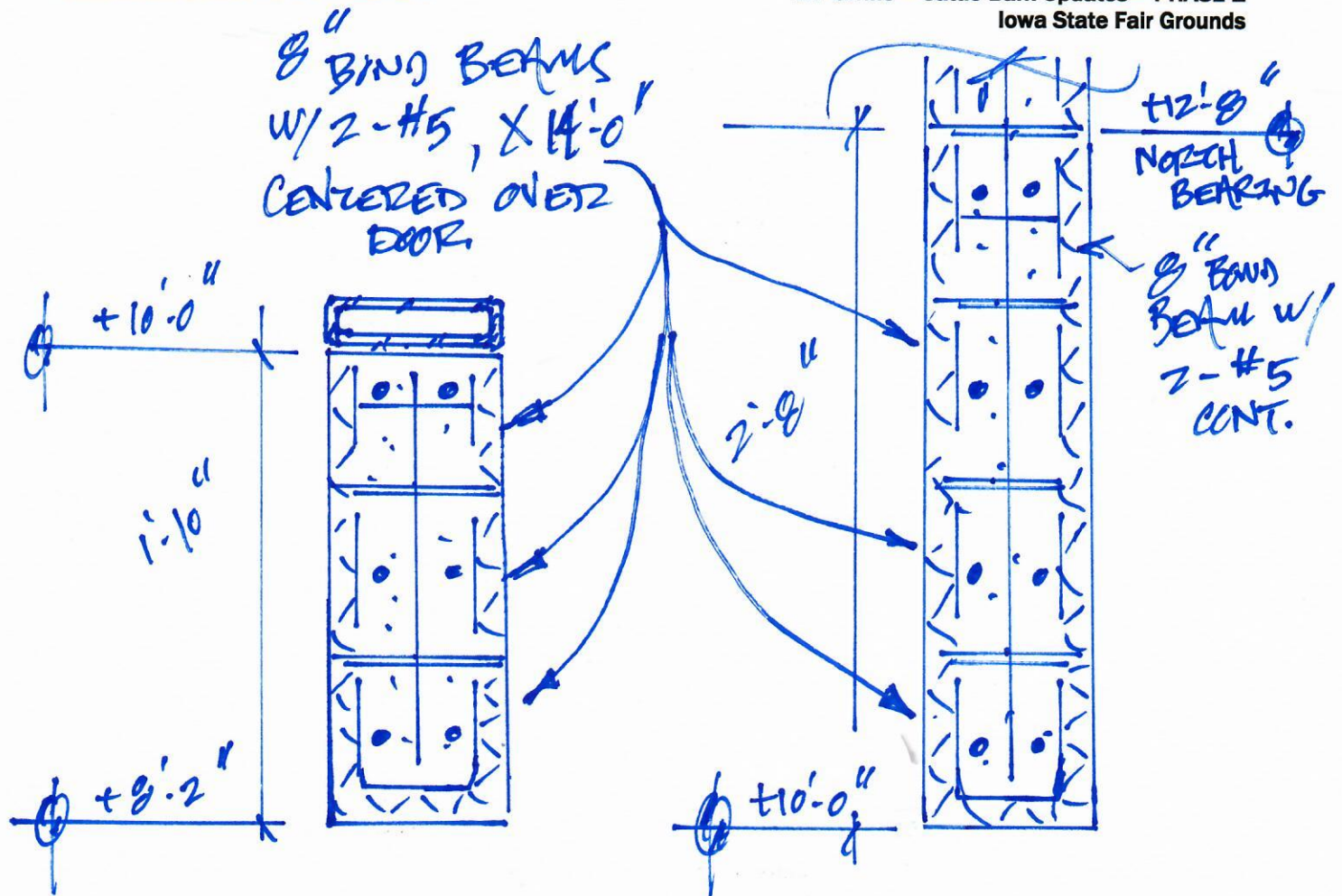
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p 515.271.0655
f 515.271.0685
Tim@KorpelaEngineering.com

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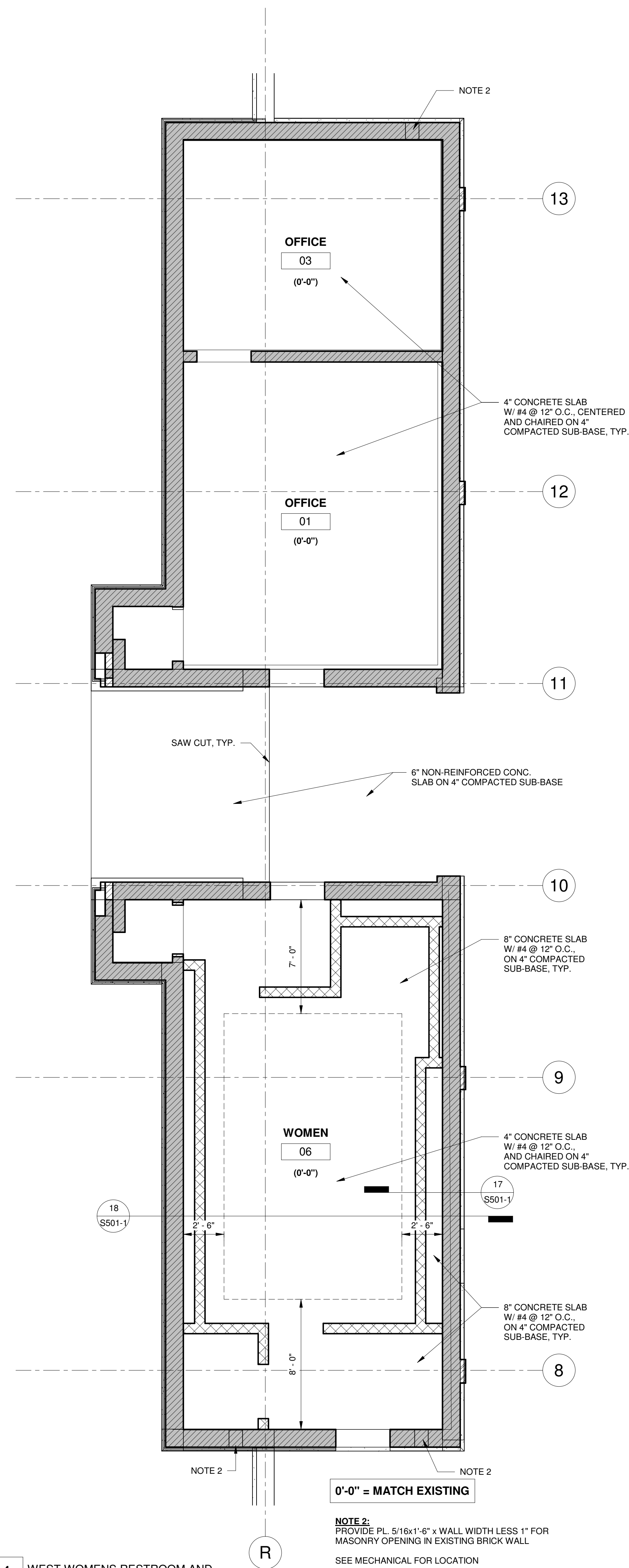


SWINE BARN L2 LINTEL
1/2" = 1'-0" (REPLACES
2/S502-1)

CATTLE BARN L2 LINTEL
1/2" = 1'-0" (REPLACES
2/S504-1)

SR072525-2

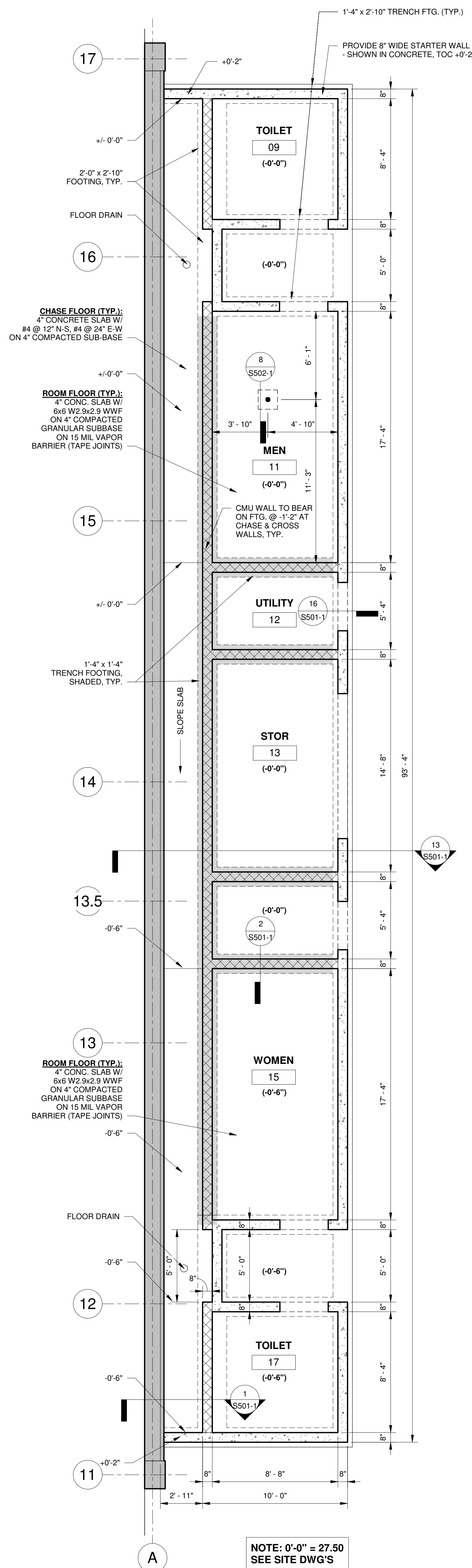
**NOTE: 0'-0" AT EAST RESTROOM
IS NOT THE SAME AS 0'-0" AT WEST
RESTROOM**



4 WEST WOMENS RESTROOM AND
OFFICE SLAB PLAN

1/4" = 1'-0"

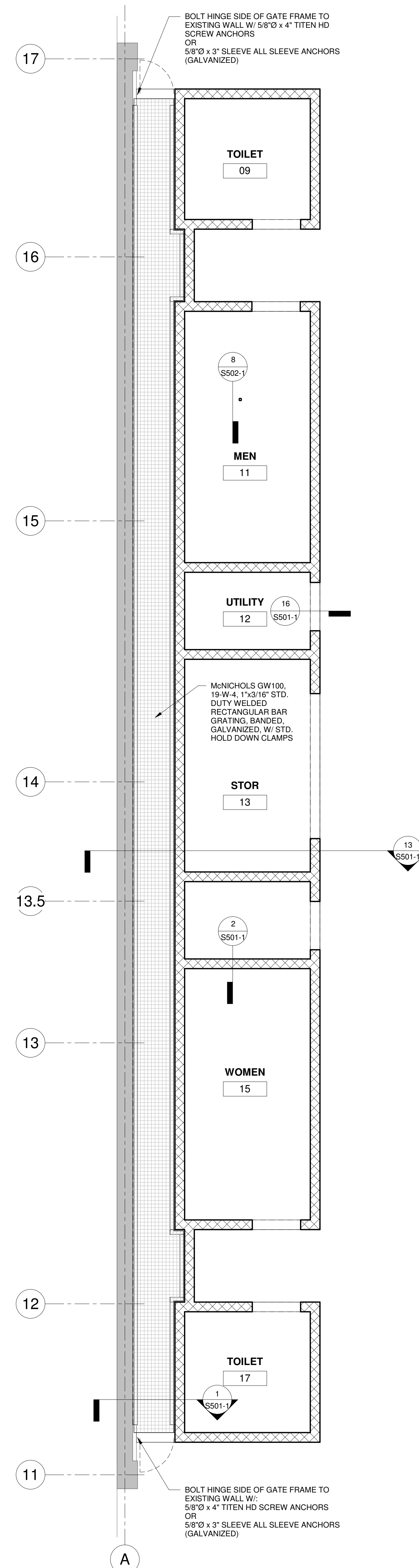
REFERENCING DETAIL: 1 / S101



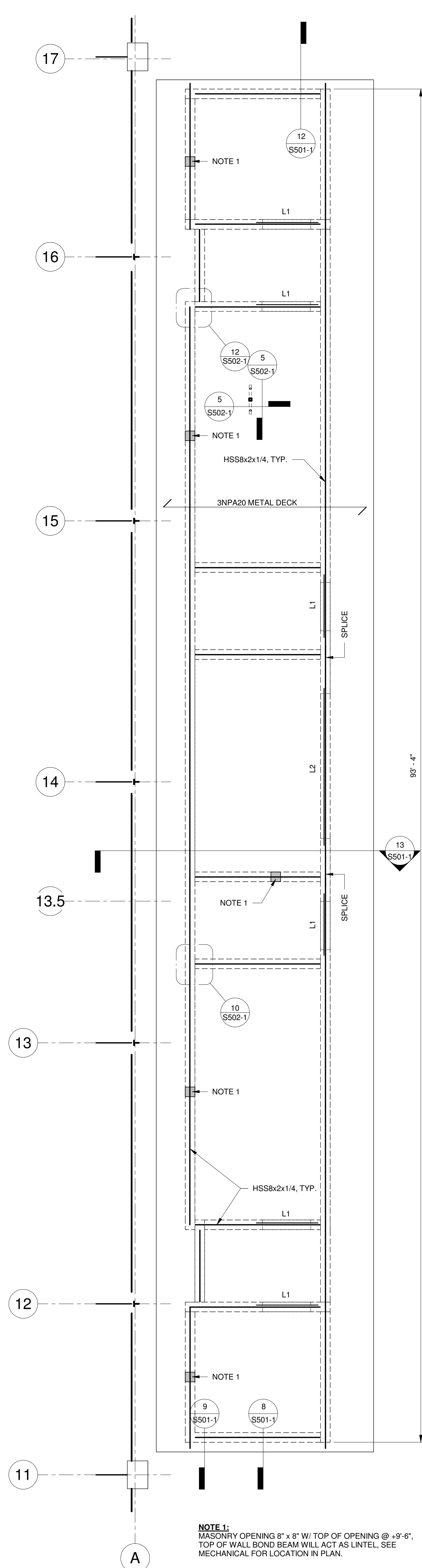
1 ENLARGED EAST RESTROOM FTG. &
FND PLAN


1/4" = 1'-0"

REFERENCING DETAIL: 1 / S101



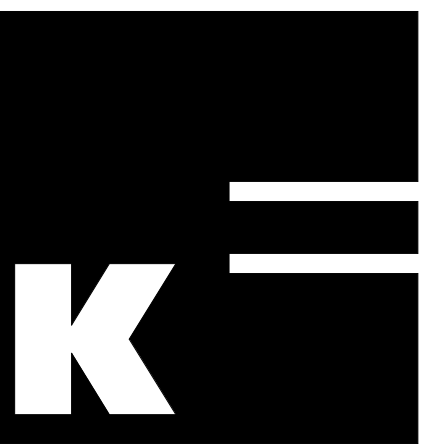
3 CHASE GRATING COVER PLAN
1/4" = 1'-0"
REFERENCING DETAIL: 5 / S105




2
 EAST RESTROOM ROOF FRAMING PLAN

_____ 1/4" = 1'-0"

REFERENCING DETAIL: 2 / S301



**KORPELA
ENGINEERING**
WWW.KORPELAENGINEERING.COM

PROJECT CONTACTS:

ARCHITECTURAL
K/O ARCHITECTS
350 S. PRAIRIE VIEW DR. STUDIO
103
WEST DES MOINES, IOWA 50266
515-288-4821

CIVIL
KIRKHAM MICHAEL
11021 AURORA AVENUE
URBANDALE, IOWA 50322
515-270-0848

STRUCTURAL
KORPELA ENGINEERING
1239 73RD STREET, STUDIO C
WINDSOR HEIGHTS, IOWA 50322
515-271-0655
TIM@KORPELAENGINEERING.COM

MECHANICAL, FIRE
PROTECTION,
PLUMBING, AND
ELECTRICAL
—
KED BLUESTONE
5518 NW 88TH ST
JOHNSTON, IOWA 50131
515-727-0700

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ISF - SWINE BARN UPDATES - PHASE 1

STRUCTURAL PLANS

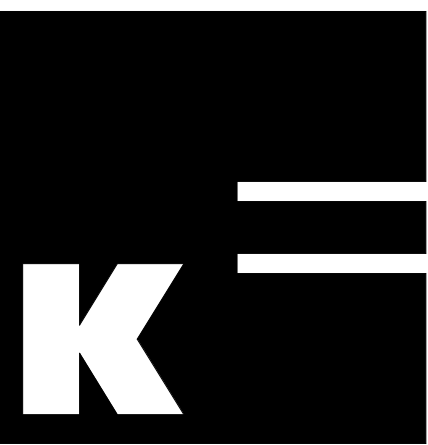
Project Number:

Date: 071425

S101-1

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

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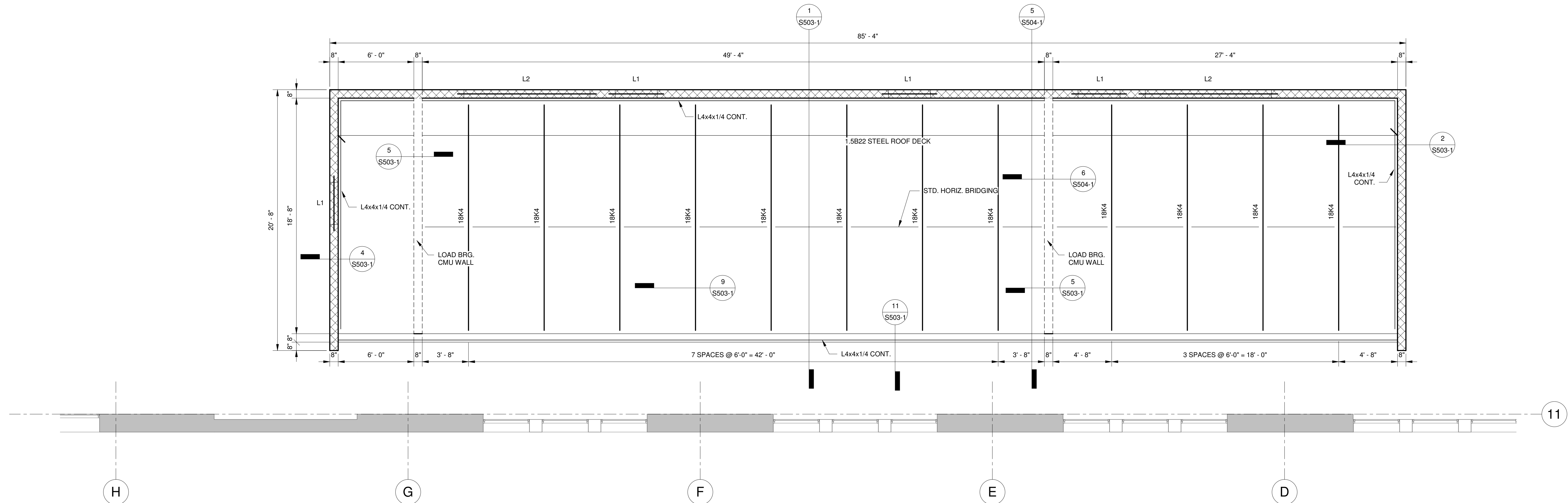
PROJECT
CONTACTS:

ARCHITECTURAL
K/O ARCHITECTS
650 S. PRAIRIE VIEW DR. STUDIO
103
WEST DES MOINES, IOWA 50266
515-288-4821

CIVIL
KIRKHAM MICHAEL
11021 AURORA AVENUE
URBANDALE, IOWA 50322
515-270-5549

STRUCTURAL
KORPELA ENGINEERING
1239 73RD STREET, STUDIO C
WINDSOR HEIGHTS, IOWA 50322
515-271-5655
TIM@KORPELAENGINEERING.COM

MECHANICAL, FIRE
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5518 NW 86TH ST
JOHNSTON, IOWA 50131
515-727-0700

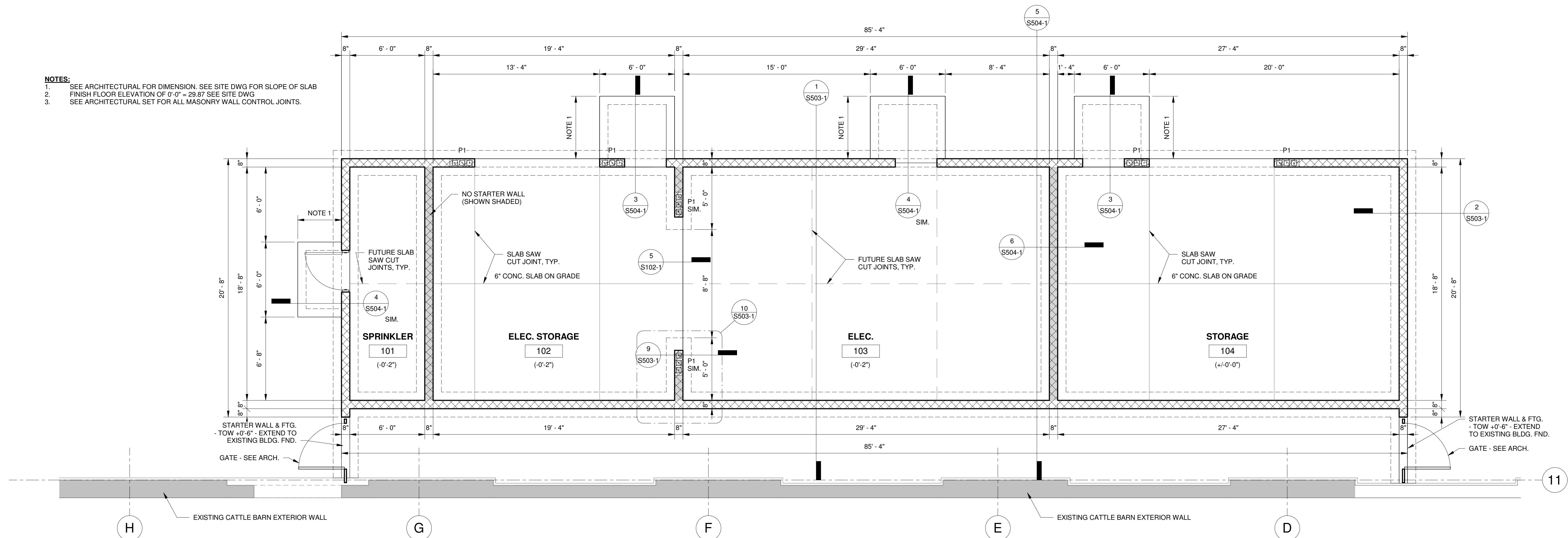


1 ENLARGED ELEC. RM. ROOF FRAMING
PLAN

1/4" = 1'-0"

REFERENCING DETAIL: 1 / A-101

- NOTES:
- SEE ARCHITECTURAL FOR DIMENSION. SEE SITE DWG FOR SLOPE OF SLAB
 - FINISH FLOOR ELEVATION OF 0'-0" = 29.87 SEE SITE DWG
 - SEE ARCHITECTURAL SET FOR ALL MASONRY WALL CONTROL JOINTS.



2 ELECTRICAL ROOM ENLARGED PLAN

1/4" = 1'-0"

REFERENCING DETAIL: 1 / A-100

FLOOR SLAB SCHEDULE

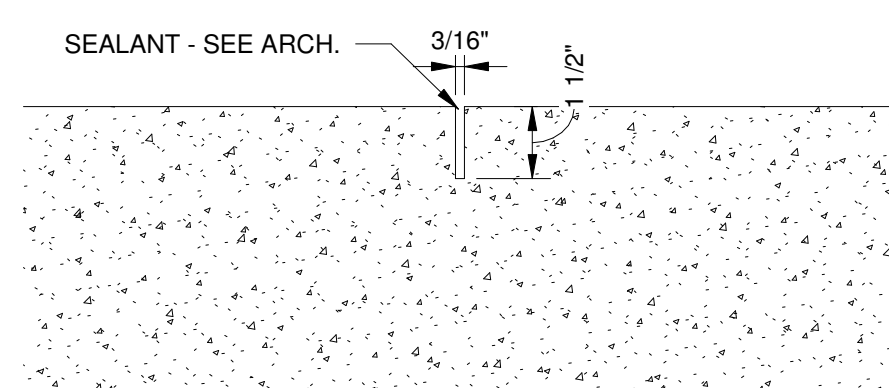
ROOM			
101	102	103	104
0'-2"	0'-2"	0'-2"	0'-0"
0'-8"	0'-8"	0'-8"	0'-6"
1'-0"	1'-0"	1'-0"	0'-10"

15 MIL VAPOR BARRIER, TAPED JOINTS

3 SLAB ELEVATION & SUB-BASE
SCHEDULE

1 1/2" = 1'-0"

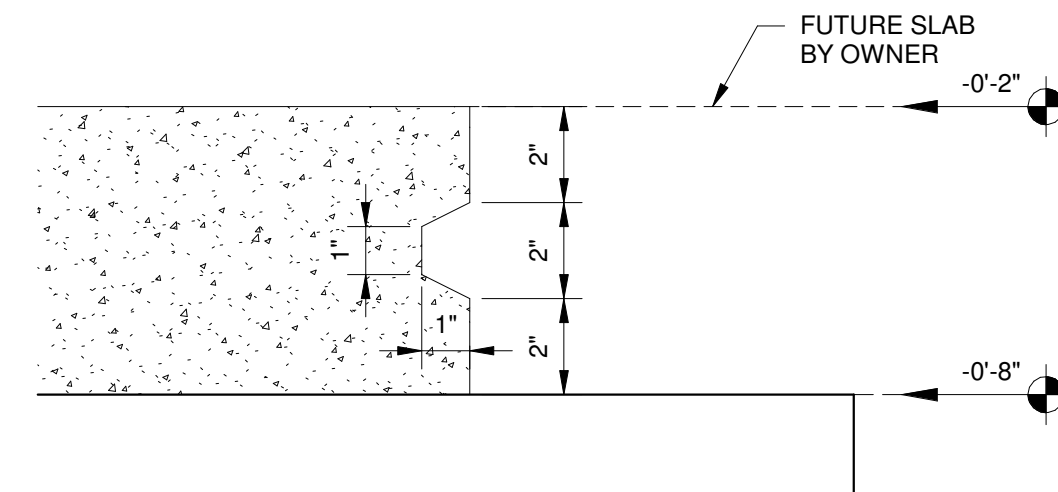
REFERENCING DETAIL: /



4 SLAB SAW CUT DETAIL

3" = 1'-0"

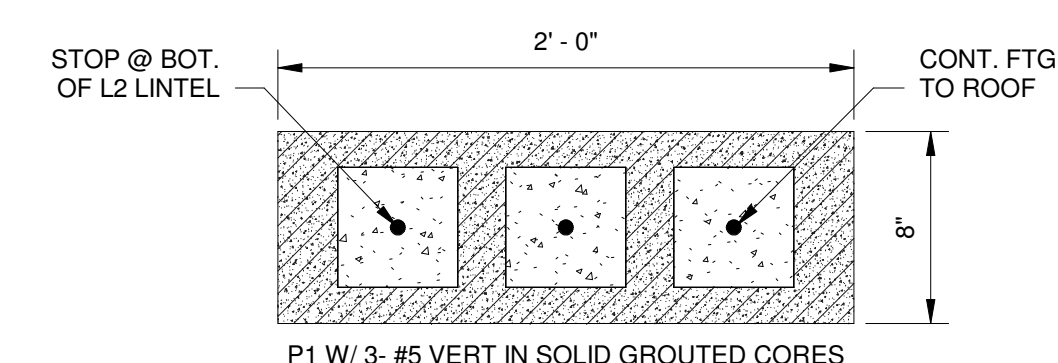
REFERENCING DETAIL: /



5 FUTURE SLAB KEYWAY

3" = 1'-0"

REFERENCING DETAIL: 2 / S102-1



6 P1 PIER DETAIL

1 1/2" = 1'-0"

REFERENCING DETAIL: /

ISF CATTLE
BARN
UPDATES -
PHASE 1

STRUCTURAL PLANS

Project Number:
Date: 071425

S102-1

SCALE: As indicated

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ARCHITECTURAL
K/O ARCHITECTS
650 S. PRAIRIE VIEW DR. STUDIO
103
WEST DES MOINES, IOWA 50266
515-288-4821

CIVIL
KIRKHAM MICHAEL
11021 AURORA AVENUE
URBANDALE, IOWA 50322
515-272-0010

STRUCTURAL
KORPELA ENGINEERING
1239 73RD STREET, STUDIO C
WINDSOR HEIGHTS, IOWA 50322
515-271-0655
TIM@KORPELAENGINEERING.CO

**MECHANICAL, FIRE
PROTECTION,
PLUMBING, AND
ELECTRICAL**

KED BLUESTONE
5518 NW 88TH ST
JOHNSTON, IOWA 50131
515-727-0700



3" = 1'-0"
REFERENCING DETAIL: 2 / S101-1



3" = 1'-0"
REFERENCING DETAIL: 2 / S101-1



3" = 1'-0"
REFERENCING DETAIL: 11/ S501-1



1 1/2" = 1'-0"
REFERENCING DETAIL: 13/ S501-1



1 1/2" = 1'-0"
REFERENCING DETAIL: 2 / S101-1



1/2" = 1'-0"
REFERENCING DETAIL: 4 / S101-1



3/4" = 1'-0"

REFERENCING DETAIL: 4 / S101-



1/2" = 1'-0"
REFERENCING DETAIL: 1 / S101-



1 1/2" = 1'-0"
REFERENCING DETAIL: 1 / S101-



3/4" = 1'-0"
REFERENCING DETAIL: 13/ S501-1



3/4" = 1'-0"
REFERENCING DETAIL: 13/ S501-1



3/4" = 1'-0"
REFERENCING DETAIL: 1 / S101-1

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ISF - SWINE
BARN
UPDATES -
PHASE 1

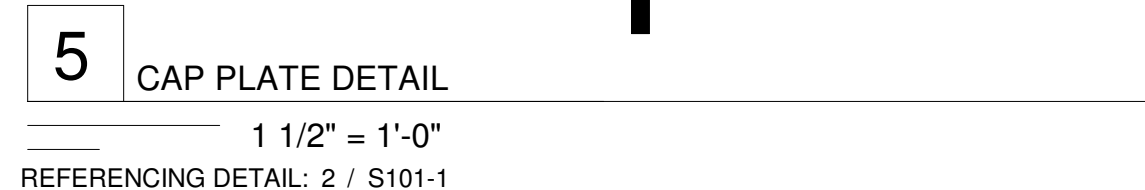
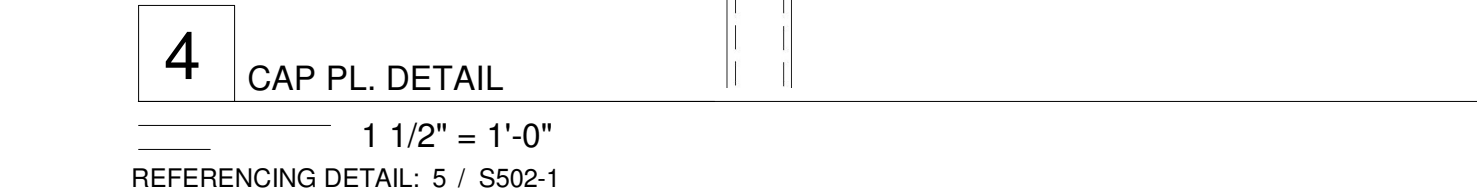
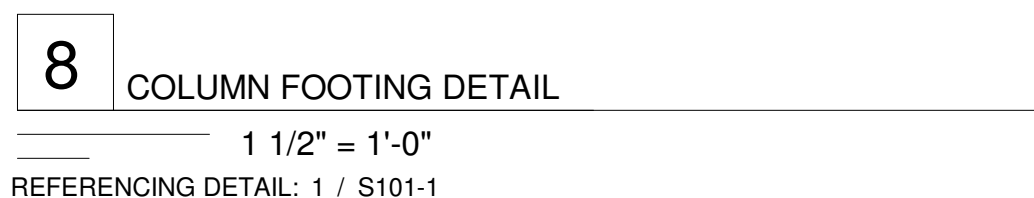
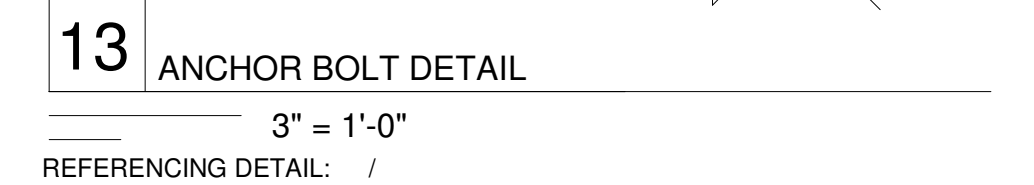
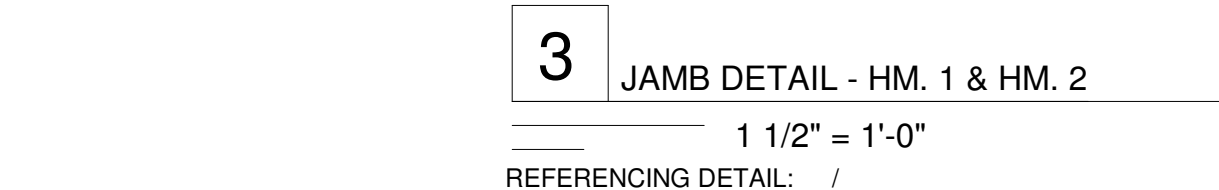
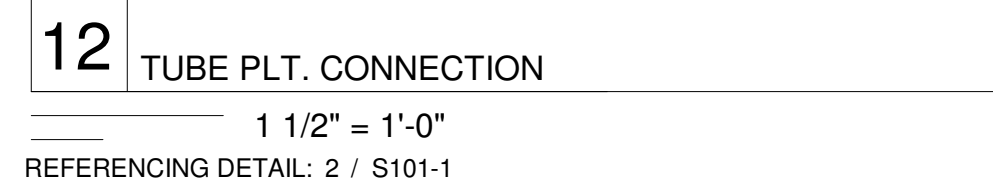
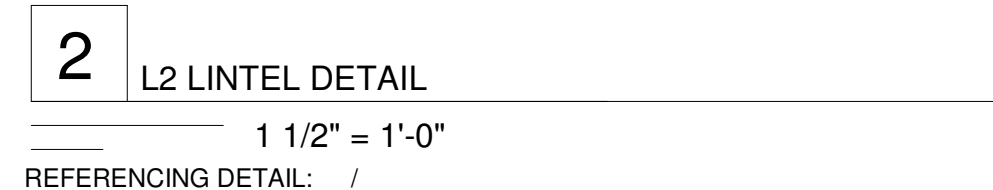
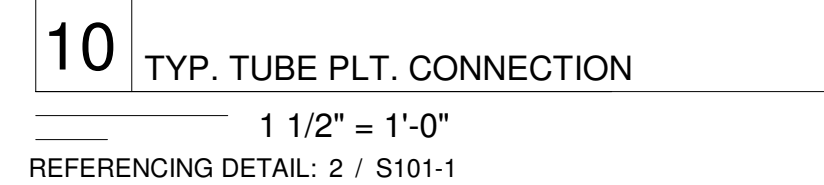
STRUCTURAL DETAILS

Project Number: _____
Date: 071425

S501-1

SCALE: As indicated

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STRUCTURAL NOTES - FOR SWINE BARN AND CATTLE BARN UPDATES - PHASE 1

DIVISION 1 - GENERAL REQUIREMENTS

- 1000 - DESIGN AND BUILDING CODES:
- 1000-1. INTERNATIONAL BUILDING CODE 2018, SECTION 1603.1.1
- 1000-2. AMERICAN CONCRETE INSTITUTE 318-LATEST EDITION
- 1000-3. AMERICAN INSTITUTE OF STEEL CONSTRUCTION FOURTEENTH EDITION 2011
- 1000-4. NATIONAL FOREST PRODUCTS ASSOCIATION NATIONAL DESIGN SPECIFICATION 2015
- 1001 - LATERAL LOADS:
- 1001-1. INTERNATIONAL BUILDING CODE 2018, CRITERIA :
- 1001-2. WIND:
- \$ BASIC WIND SPEED: 120 MPH
- \$ OCCUPANCY CATEGORY III
- \$ SURFACE ROUGHNESS B, EXPOSURE B, URBAN
- 1001-3. SNOW:
- \$ GROUND SNOW = 30PSF
- \$ ROOF SNOW = 24PSF
- 1002 - LIVE LOADS:
- 1002-1. ROOF SNOW LOADS 24 PSF + drift
- 1002-2. WIND UPWARD AND DOWNWARD 20 PSF
- 1003 - NET ALLOWABLE SOIL BEARING PRESSURE: 1,500 PSF
- NOTE: ALL BUILDING SLABS SHALL BE PLACED ON ACCEPTABLE NATURAL SOILS OR NEWLY PLACED STRUCTURAL FILL MATERIAL.
- 1003-1. WALL FOOTINGS 1500 PSF ASSUMED: ON NEWLY PLACED COMPACTED STRUCTURAL FILL
- 1003-3. SITE SOILS TO BE VERIFIED ON SITE BY AN APPROVED GEOTECHNICAL TESTING AGENCY PRIOR TO CONSTRUCTION, MITIGATE AND REPAIR UNACCEPTABLE SOILS AS DIRECTED IN THE GEOTECHNICAL TESTING AGENCY. PROVIDE FOR CONSTRUCTION Dewatering AS REQUIRED.
- 1004 - CONCRETE COMPRESSIVE STRENGTHS - MINIMUM 28 DAY F'C
- 1004-1. TYPICAL-UNLESS NOTED OTHERWISE 4000 PSI
- 1004-2. FOOTINGS 4000 PSI
- 1004-3. FOUNDATION WALLS 4000 PSI
- 1004-4. SLABS ON GRADE 4000 PSI
- 1005 - REINFORCING STEEL
- 1005-1. DEFORMED BARS: ASTM A615, GR 60 (UNLESS OTHERWISE NOTED)
- 1005-2. WELDABLE REINFORCING: ASTM A706, GR 60
- 1005-3. PLAIN BARS: ASTM A62
- 1005-4. WELDED WIRE FABRIC: ASTM A185
- 1005-5. EPOXY COATING: ASTM A775
- 1008.1 - STRUCTURAL SAWN LUMBER:
- 1008.1-1. 2X JOISTS DFL NO 2, or SYP
- 1008.1-2. 2X4 THRU 2X6 STUDS DFL NO 2, or SYP
- 1008.2 - PLYWOOD:
- 1008.2-1. SEE DRAWINGS FOR THICKNESS AND IDENTIFICATION NUMBERS
- 1008.2-2. ROOF SHEATHING C-D INT-APA (PSI 74) WITH EXTERIOR GLUE
- 1008.2-3. INTERIOR LID SHEATHING C-D INT-APA (PSI 74) WITH EXTERIOR GLUE
- 1008 - SPECIAL INSPECTION REQUIREMENTS
- THE FOLLOWING TYPES OF WORK REQUIRE SPECIAL INSPECTION BASED ON CHAPTER 17 OF THE 2018 INTERNATIONAL BUILDING CODE
- THE OWNER WILL EMPLOY SPECIAL INSPECTORS WHO SHALL PROVIDE SPECIAL INSPECTIONS DURING:
- 1008-1. STRUCTURAL CONCRETE COMPRESSIVE STRENGTH

1009 - GENERAL NOTES

- 1000-1. ESTABLISH AND VERIFY ALL OPENINGS AND INSERTS FOR MECHANICAL, ELECTRICAL, AND PLUMBING WITH APPROPRIATE TRADE CONTRACTORS. OPENING SIZES AND LOCATIONS SHOWN FOR DUCTS, PIPES, INSERTS, ETC., WHEN SHOWN ARE FOR GENERAL INFORMATION ONLY AND SHALL BE VERIFIED PRIOR TO FORMING.
 - 1000-2. FIELD VERIFY ALL EXISTING DIMENSIONS, MEMBER SIZES, AND ELEVATIONS SHOWN ON THE DRAWINGS. ALL DISCREPANCIES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ARCHITECT.
 - 1000-3. GENERAL INFORMATION FOR THIS WORK: EACH BIDDER SHALL VISIT THE PREMISES AND ACQUAINT HIMSELF FULLY WITH THE EXISTING CONDITIONS, TEMPORARY CONSTRUCTION REQUIRED, QUANTITIES AND TYPES OF EQUIPMENT, ETC. THE BID SHALL INCLUDE ALL SUMS REQUIRED TO DO THE WORK WITHIN THE EXISTING CONDITIONS, DISTRIBUTION OF NORMAL ACTIVITIES THROUGHOUT THE AREA MUST BE KEPT TO A MINIMUM.
 - 1000-4. SHOP DRAWINGS PREPARED BY SUPPLIERS, SUBCONTRACTORS, ETC. SHALL BE REVIEWED AND COORDINATED PRIOR TO SUBMITTING TO THE ARCHITECT. EACH SHOP DRAWING SUBMITTED SHALL BE STAMPED, INITIALED, AND DATED AS BEING REVIEWED BY THE CONSTRUCTION MANAGER/GENERAL CONTRACTOR.
 - 1000-5. SHOP DRAWINGS PREPARED BY THE SUBCONTRACTORS, SUPPLIERS, ETC. SHALL BE REVIEWED BY THE ARCHITECT FOR CONFORMANCE WITH DESIGN CONCEPT ONLY. REVIEW BY THE ARCHITECT SHALL NOT BEGIN WITHOUT PRIOR COORDINATION AND REVIEW BY THE CONSTRUCTION MANAGER/GENERAL CONTRACTOR. WORK SHALL NOT BEGIN WITHOUT THE REVIEW BY THE ARCHITECT.
 - 1000-6. DETAILS AND NOTES ON THE STRUCTURAL DRAWINGS ARE INTENDED TO BE TYPICAL FOR SIMILAR SITUATIONS ELSEWHERE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ADAPTATION OF THE DETAILS TO THE SITUATION.
 - 1000-7. OPTIONS ARE FOR THE CONTRACTOR'S CONVENIENCE. HE SHALL BE RESPONSIBLE FOR ALL CHANGES NECESSARY IF HE CHOOSES AN OPTION AND SHALL COORDINATE ALL DETAILS. THE COST OF ADDITIONAL DESIGN WORK NECESSITATED BY SELECTION OF AN OPTION SHALL BE BORNE BY THE CONTRACTOR.
 - 1000-8. THE COST OF ADDITIONAL DESIGN WORK DUE TO ERRORS OR OMISSIONS BY THE CONTRACTOR IN CONSTRUCTION SHALL BE BORNE BY THE CONTRACTOR.
 - 1000-9. ANY ENGINEERING DESIGN PROVIDED BY OTHERS AND SUBMITTED FOR REVIEW OR RECORD SHALL BEAR THE STAMP AND SIGNATURE OF A PROFESSIONAL STRUCTURAL ENGINEER REGISTERED IN THE STATE OF IOWA.
 - 1000-4. ALL ELEVATIONS GIVEN THUS (+16'-0") ARE TO TOP OF FOOTING, TOP OF FOUNDATION WALL, JOIST BEARING, TOP OF STEEL, TOP OF SLAB, ETC. WITH REFERENCE TO THE FINISHED FIRST FLOOR SLAB = (0'-0").
 - 1001- CONSTRUCTION PROCEDURES AND SAFETY REQUIREMENTS
 - 1010-1. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AND APPLYING CITY, COUNTY, STATE, AND FEDERAL LAWS, INCLUDING THE OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA) AND REGULATIONS ADOPTED PURSUANT THERETO.
 - 1010-2. THE CONTRACT STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. UNLESS OTHERWISE INDICATED, THEY DO NOT INCLUDE THE METHODS OR MECHANISMS OF CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING ALL SEQUENCES OF CONSTRUCTION, AND BRACING OF ALL PORTIONS OF THE STRUCTURE (INCLUDING WALLS, BEAMS, EXCAVATIONS, ECT.) UNTIL THE STRUCTURE IS FINISHED AND COMPLETE.
 - 1010-3. PROVIDE ALL MEASURES NECESSARY TO PROTECT THE WORKMEN AND OTHER PERSONS DURING CONSTRUCTION. PROVIDE ALL NECESSARY MEASURES TO AVOID EXCESSIVE STRESSES AND TO HOLD THE STRUCTURAL ELEMENTS IN PLACE DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING, SHORING FOR CONSTRUCTION EQUIPMENT, SHORING FOR EARTH BANKS, FORMS, SCAFFOLDING, PLANKING, SAFETY NETS, SUPPORT AND BRACING FOR CRANES AND HOISTS, GUYING, ETC.
 - 1010-4. CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING WHO, WHEN, AND HOW TEMPORARY PRECAUTIONARY MEASURES SHALL BE USED. OBSERVATION VISITS TO THE SITE BY STRUCTURAL ENGINEER'S FIELD REPRESENTATIVES SHALL NOT INCLUDE THE ITEMS NOTED ABOVE.
 - 1010-5. SUPERVISE AND DIRECT THE WORK SO AS TO MAINTAIN SOLE RESPONSIBILITY FOR ALL CONSTRUCTION METHODS, METHODS, TECHNIQUES, SEQUENCES, AND SAFETY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AND APPLYING CITY, COUNTY, STATE, AND FEDERAL LAWS, INCLUDING THE OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA) AND REGULATIONS ADOPTED PURSUANT THERETO.
 - 1010-6. ANY SCAFFOLDING FOR WORKMEN, AND ALL SHORING OF FORMS AND ELEMENTS OF THE CONSTRUCTION.
 - 1010-7. ANY ENGINEERING DESIGN PROVIDED BY OTHERS AND SUBMITTED FOR REVIEW AND/OR RECORD SHALL BEAR THE STAMP AND SIGNATURE OF A PROFESSIONAL STRUCTURAL ENGINEER REGISTERED IN THE STATE OF IOWA.
 - DIVISION 3 - CONCRETE**
 - 3300- CONCRETE AND REINFORCING
 - 3300-1. ALL CONCRETE WORK SHALL CONFORM TO THE LATEST EDITION OF THE AMERICAN CONCRETE INSTITUTE PUBLICATIONS: ACI 301, ACI 304, ACI 311, ACI 318, ACI 318.1, AND ACI 347 UNLESS OTHERWISE NOTED ON THE DRAWINGS.
 - 3300-2. CONCRETE MATERIALS:

3300-2-A.	ASTM C150	TYPE I PORTLAND CEMENT
3300-2-B.	ASTM C33	NORMAL WEIGHT AGGREGATES
3300-2-C.	ASTM C330	LIGHT WEIGHT AGGREGATES
3300-2-D.		POTABLE WATER

- 3300-3-3. CHLORIDES CONTENT SHALL BE LIMITED BY ACI REQUIREMENTS FOR TYPE OF EXPOSURE.
 3300-4-4. UNLESS OTHERWISE NOTED, PRINCIPAL REINFORCEMENT SHALL HAVE THE FOLLOWING PROTECTION:
 3300-4-4-SURFACES CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH 3 INCHES
 3300-4-4-FORMED SURFACES EXPOSED TO EARTH OR WATER 2 INCHES
 3300-4-4-SLABS 1 INCH (TOP)
 3300-4-4 3/4 INCH (BOT.)
 3300-4-4 2 INCHES
 3300-4-4 1 1/2 INCHES

3300-4-D BEAMS, COLUMNS
 3300-4-E WALLS (INTERIOR SURFACES)
 3300-4-F TIES/STRUTS

3300-5-5. ALL SLABS-ON-GRADE, PADS, FILLS, AND TOPPING SHALL HAVE A MINIMUM OF 6 X 6 - W21 X W21 WWF. UNLESS NOTED OTHERWISE, CENTERED IN THE SLAB. LAP WWF MINIMUM 2 PANELS AT EDGES AND ENDS AND PROVIDE ADDITIONAL REINFORCING WHERE SHOWN ON THE DRAWINGS.

3300-6-6. ALL SLABS-ON-GRADE SHALL BE PLACED ON COMPACTED GRANULAR FILL. PITCH SLABS TO DRAINS AND PROVIDE DEPRESSIONS, WHEN SHOWN ON THE DRAWINGS, OR ARCHITECTURAL DRAINED FLOORS TO REDUCE THE THICKNESS OF SLAB INDICATED. FOR SLABS ON GRADE DEPRESSIONS GREATER THAN 1", SEE DETAILS FOR ADDITIONAL REINFORCING.

3300-7-7. PROVIDE SLAB-ON-GRADE CONNECTION JOINTS AROUND EACH COLUMN AGAINST GRADE BEAMS, INTERIOR WALLS, AND BETWEEN COLUMNS OR WALLS TO FORM AREAS NOT TO EXCEED 15' IN LENGTH IN EACH DIRECTION. SEE TYPICAL DETAILS. SUBMIT DETAILED DRAWINGS SHOWING LOCATIONS OF ALL CONNECTION JOINTS.

3300-8-8. PROVIDE VERTICAL CONNECTION JOINTS IN EXPOSED CONCRETE WALLS AT A MAXIMUM UNIFORM SPACING NOT TO EXCEED 30'-0". COORDINATE JOINT LOCATIONS WITH ARCHITECTURAL DRAWINGS.

3300-9-9. PROVIDE REINFORCING BOLTS, H-CHAINS, SUPPORT BARS, ETC., TO MAINTAIN SPECIFIED CLEARANCES FOR THE ENTIRE LENGTH OF ALL REINFORCING BARS. PROVIDE ACCESSORIES WHICH ARE PLASTIC TIPPED OR GALVANIZED WITH TURNED UP ENDS FOR REINFORCEMENT AT ALL FACES OF EXPOSED CONCRETE, INTERIOR OR EXTERIOR.

3300-9-9. PROVIDE REINFORCING BARS, IF ANY, NO CONCRETE SHALL BE PLACED WITHOUT A MINIMUM REINFORCING OF 0.002 TIMES THE GROSS CROSS SECTIONAL AREA IN EACH DIRECTION.

3300-9-9. CONTINUOUS REINFORCING SHALL BE LAPPED AS FOLLOWS UNLESS OTHERWISE NOTED:

3300-9-A. TOP BARS: AT MIDSPAN;	CLASS B PER CRSI
3300-9-B. BOTTOM BARS: DIRECTLY OVER SUPPORT,	CLASS B PER CRSI
3300-9-C. ALL LAPS SHOWN ON THE DRAWINGS AND NOT DIMENSIONED SHALL BE	CLASS B, 5 AND 42 BAR DIAMETERS MINIMUM.
3300-9-D. ADDITIONAL LAPS REQUIRED FOR CONSTRUCTION SHALL BE	CLASS B PER CRSI

3300-10-10. CROSS REFERENCE STRUCTURAL AND ARCHITECTURAL DRAWINGS FOR INSERTS, ANCHOR BOLTS, NUTS, LEDGES, LUGS, ETC. REQUIRED ON ALL EXPOSED SURFACES. WIDTH AND DEPTH OF EMBEDMENT SHALL BE NO SMALLER THAN 1/2 OF THE DIMENSIONS OF CONCRETE.

3300-11-11. FILL BENDING OF REINFORCING SHALL BE DONE COLD. HEATING OF BARS WILL NOT BE PERMITTED.

3300-12-12. NO ALUMINUM OF ANY TYPE SHALL BE ALLOWED IN THE CONCRETE WORK UNLESS COATED TO PREVENT ALUMINUM-CONCRETE REACTION.

3300-13-13. MINIMUM Q.O. OF EMBEDDED CONDUIT SHALL BE NO LARGER THAN 1/2 OF THE SLAB THICKNESS. NO CONDUIT SHALL BE PLACED ABOVE THE WELDED WIRE FABRIC IN SLABS. ON-GRADE OR CONCRETE FILL PLACED ON COMPOSITE METAL DECK.

3300-14-14. CONCRETE WHICH WILL BE SUBJECTED TO REPEATED CYCLES OF FREEZE-THAW DURING THE LIFE OF THE STRUCTURE SHALL HAVE A WATER-CEMENT RATIO OF 0.50 OR LESS. GALLONS PER BAG AND SHALL CONTAIN ENTRAINED AIR. SEE ACI 301 FOR ADDITIONAL REQUIREMENTS.

3300-15-15. MECHANICALLY VIBRATE CONCRETE EXCEPT THAT SLABS-ON-GRADE NEED ONLY BE VIBRATED AROUND FLOOR DUCTS AND OTHER EMBEDDED ITEMS. VIBRATE TOPS OF COLUMNS AND GRADED PIERS.

3300-16-16. DO NOT CAST UNEXPOSED WALLS OR DRAIN BEAMS IN LENGTHS OVER 60'-0". WAIT 48 HOURS BETWEEN ADJACENT POURS.

3300-17-17. ALL CONNECTION JOINTS BETWEEN ADJACENT CONCRETE POURS OR BETWEEN CONCRETE AND MASONRY SHALL BE KEVED. JOINTS MUST BE KEPT FREE OF DIRT, DEBRIS, FORM OILS, ETC. TO ASSURE PROPER BOND WITH ADJACENT POUR OR MASONRY CONSTRUCTION.

3300-18-18. DO NOT PLACE PIPES, DUCTS, REGELTS OR CHAINS IN STRUCTURAL CONCRETE OR COMPOSITE FLOOR SYSTEMS WITHOUT APPROVAL OF THE STRUCTURAL ENGINEER THROUGH THE ARCHITECT.

3300-19-19. FLOOR TOLERANCES:

3300-19-A. SURFACE TOLERANCE: CLASS B. (SEE ACI 301)	
3300-19-B. THICKNESS: PLUS 1" MINUS 1/2" SLAB ON GRADE	
3300-19-B. PLUS 1" MINUS 1/4" STRUCTURAL AND COMPOSITE SLABS	
3300-19-C. REPLACE ANY SLAB WITH A THICKNESS DEVIATION AS DIRECTED BY THE ARCHITECT.	
3300-2-2. MAXIMUM FREE DROP OF ANY CONCRETE: 6'-0"	

3300-21-21. ALL BAR DETAILING AND ACCESSORIES TO BE FURNISHED SHALL CONFORM TO TYPICAL DETAILS AND STANDARDS IN THE LATEST ACI STANDARD 315 DETAILING MANUAL, EXCEPT AS OTHERWISE SHOWN, NOTED, OR SPECIFIED.

[illegible]

ISF - SWINE
BARN
UPDATES -
PHASE 1

STRUCTURAL DETAILS

Project Number: _____
Date: 07/14/25

S502-1

SCALE: As indicated



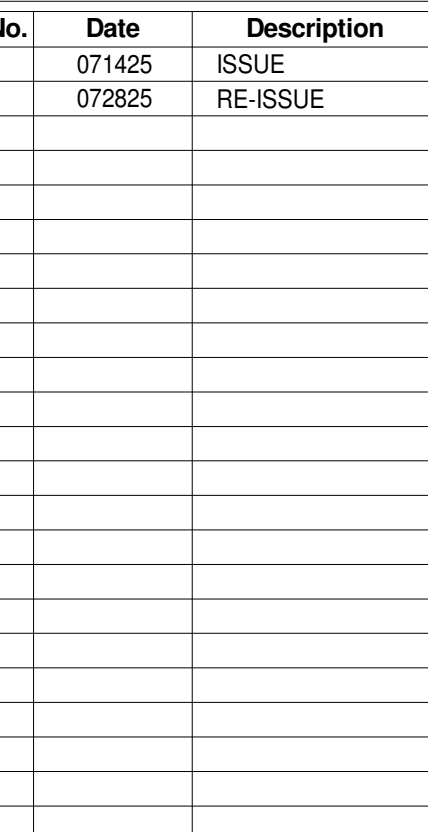
ARCHITECTURAL
K/O ARCHITECTS
650 S. PRAIRIE VIEW DR. STUDIO
103
WEST DES MOINES, IOWA 50266
515-288-4821

CIVIL
KIRKHAM MICHAEL
11021 AURORA AVENUE
URBANDALE, IOWA 50322
515-270-0848

STRUCTURAL
KORPELA ENGINEERING
1239 73RD STREET, STUDIO C
WINDSOR HEIGHTS, IOWA 50322
515-271-0655
TMG@KORPELAENGINEERING.COM

**MECHANICAL, FIRE
PROTECTION,
PLUMBING, AND
ELECTRICAL**

KED BLUESTONE
5518 NW 88TH ST
JOHNSTON, IOWA 50131
515-727-0700



ISF CATTLE BARN UPDATES - PHASE 1

STRUCTURAL DETAILS

Date: 071425

S503-1

SCALE: As indicated

ARCHITECTURAL

K/O ARCHITECTS
650 S. PRAIRIE VIEW DR. STUDIO
103
WEST DES MOINES, IOWA 50266
515-288-4821

CIVIL
KIRKHAM MICHAEL
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515-270-0848

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515-271-0655
TIM@KORPELAENGINEERING.COM

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KED BLUESTONE
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JOHNSTON, IOWA 50131
515-727-0700



1 1/2" = 1'-0"
REFERENCING DETAIL: /



1 1/2" = 1'-0"
REFERENCING DETAIL: /



3/4" = 1'-0"
REFERENCING DETAIL: 2 / S102-1



3/4" = 1'-0"
REFERENCING DETAIL: 2 / S102-1



3/4" = 1'-0"
REFERENCING DETAIL: 1 / S102-1



3/4" = 1'-0"
REFERENCING DETAIL: 1 / S102-1

[illegible]

ISF CATTLE BARN UPDATES - PHASE 1

STRUCTURAL DETAILS

Date: 06/09/25

S504-1

SCALE: As indicated

7/27/2025 5:52:36 PM

DUCTWORK APPLICATION SCHEDULE

AIR HANDLING SYSTEM	EQUIPMENT SERVICE	AIRSTREAM	DUCTWORK LOCATION (ALL DUCT CONCEALED UNLESS NOTED OTHERWISE)	SYSTEM TYPE (CONSTANT VOLUME OR VAV OR BOTH)	ACTUAL PRESSURE RATING (IN W.C.) (NOTES 1 & 2)		DUCTWORK MATERIAL	SINGLE OR DOUBLE WALL	DUCT SHAPE ROUND / RECT / FLAT OVAL
					SEAL CLASS	EF-1 : 8			
GENERAL EXHAUST	EF-1 THRU EF-6	EXHAUST AIR			A	N / A	GALVANIZED SHEET METAL	SINGLE	RECT / ROUND / FLAT OVAL
MOISTURE LADEN EXHAUST	EF-7	EXHAUST AIR	INLET TO EXHAUST FAN	CONSTANT VOLUME	A	N / A	ALUMINUM	SINGLE	RECT / ROUND / FLAT OVAL
DUCTWORK ACCESSORIES	GENERAL	GENERAL	-	-	-	N / A	-	-	-

NOTES:

- DUCT SEAL CLASS TO BE BASED ON PRESSURE CLASS AS NOTED BELOW:
CLASS A: -10"W.C. THRU -4" W.C.
CLASS B: -3" W.C.
CLASS C: -2" W.C. THRU +2"W.C.
CLASS B: -3" W.C.
CLASS A: +9"W.C. THRU +10" W.C.
- ACTUAL DUCT CONSTRUCTION SHALL EXCEED THE ACTUAL PRESSURE RATING LISTED AND FALL INTO ONE OF THE STANDARD DUCT PRESSURE CLASS RATINGS AS FOLLOWS:
0.5", 1", 2", 3", 4", 6", 10" (POSITIVE OR NEGATIVE)

CABINET UNIT HEATER SCHEDULE - ELECTRIC

MARK	MANUFACTURER	MODEL	CONFIGURATION			ELECTRIC HEATING COIL		CONTROLS TYPE	CABINET DIMENSIONS			ELECTRICAL				NOTES	
			CABINET	MOUNTING	DISCHARGE	NUMBER OF STAGES	KW		LENGTH (IN.)	WIDTH (IN.)	DEPTH (IN.)	VOLT	PH	FLA	DISCONNECT		
															BY		TYPE
CUH-1	INDEECO	933	HORIZONTAL	RECESSED	BOTTOM	1	4.0	1	18.25	14.375	3.75	208	1	9.8	MFR	NON-FUSED	1
CUH-2	INDEECO	933	HORIZONTAL	RECESSED	BOTTOM	1	4.0	1	18.25	14.375	3.75	208	1	9.8	MFR	NON-FUSED	1
CUH-3	INDEECO	933	VERTICAL	RECESSED	BOTTOM	1	1.5	2	18.25	14.375	3.75	120	1	12.5	MFR	NON-FUSED	1
CUH-4	INDEECO	933	HORIZONTAL	RECESSED	BOTTOM	1	4.0	1	18.25	14.375	3.75	208	1	19.2	MFR	NON-FUSED	1
CUH-5	INDEECO	933	HORIZONTAL	RECESSED	BOTTOM	1	4.0	1	18.25	14.375	3.75	208	1	19.2	MFR	NON-FUSED	1

NOTES:

- VERIFY FINAL COLOR SELECTION WITH ARCHITECT.

CONFIGURATION NOTES:

CABINET: HORIZONTAL OR VERTICAL
MOUNTING: CONCEALED / RECESSED / SEMI-RECESSED / SURFACE
DISCHARGE: BOTTOM / TOP / DUCTED

CONTROL TYPES:

- WALL MOUNTED THERMOSTAT
- UNIT MOUNTED THERMOSTAT

UNIT HEATER SCHEDULE - ELECTRIC

MARK	MANUFACTURER	MODEL	SERVICE	NOMINAL CFM	ELECTRIC COIL				ELECTRICAL								CONTROL TYPE
					EAT (°F)	LAT (°F)	TOTAL KW	NUMBER OF STAGES	FAN HP	VOLT	PH	MCA	MOCP	DISCONNECT		STARTER BY	
														BY	TYPE		
UH-1	TRANE	UHEC	SPRINK. 101	700	50	84	7.5	1	FHP	480	3	9.1	15	MFR.	NON-FUSED	N/A	1
UH-2	TRANE	UHEC	ELEC. STOR. 102	700	50	84	7.5	1	FHP	480	3	9.1	15	MFR.	NON-FUSED	N/A	1
UH-3	TRANE	UHEC	ELEC. 103	700	50	84	7.5	1	FHP	480	3	9.1	15	MFR.	NON-FUSED	N/A	1
UH-4	TRANE	UHEC	STORAGE 104	700	50	95	10.0	1	FHP	480	3	12.1	20	MFR.	NON-FUSED	N/A	1

CONTROL TYPES:

- UNIT MOUNTED THERMOSTAT (EXTERNAL KNOB ADJUSTMENT. NO TOOLS REQUIRED)

PIPING APPLICATION SCHEDULE

SYSTEM (NOTE 1)	LOCATION	DESIGN WORKING PRESSURE (PSI)	MATERIAL	JOINTS	USAGE SIZE RANGE	INSULATION APPLICATION		NOTES
						THICKNESS (IN.)	TYPE (NOTES 2, 3)	
REFRIGERANT	GENERAL	500	ACR COPPER	FLARED END WITH SOLDER	LESS THAN 1-1/2"	1"	ELASTOMERIC FOAM	4
HVAC EQUIPMENT DRAINS (GRAVITY & PUMPED CONDENSATE)	ABOVE GRADE (RETURN AIR PLENUM)	N/A	DWV COPPER	SOLDER	1-1/2" & GREATER	1"	FIBERGLASS	5

NOTES:

- REFER TO EACH PIPING SPECIFICATION FOR SPECIFIC PIPING REQUIREMENTS.
- SEE SPECIFICATION SECTION 230719 FOR COMPLETE INSULATION AND JACKETING REQUIREMENTS. ALL INSULATION SHALL BE PLENUM RATED MEETING ASTM E84 WHERE INSTALLED IN A RETURN AIR PLENUM.
- INSTALL RIGID CALCIUM SILICATE INSERTS AT ALL PIPING HANGERS.
- PAINT EXPOSED & EXTERIOR INSULATION WITH TWO COATS EXTERIOR GRADE LATEX.
- INSULATION ONLY REQUIRED FOR COLD SERVICE PIPING. EQUIPMENT DRAIN PIPING LESS THAN 5' IN LENGTH NEED NOT BE INSULATED.

FAN SCHEDULE

MARK	MANUFACTURER	MODEL	SERVICE	TYPE	AIRFLOW (CFM)	S.P. (IN. W.C.)	MAX FAN RPM	DRIVE	WHEEL DIA (INCHES)	MAX. AMCA SONES	FAN CONSTRUCTION		ELECTRICAL (FAN)						DAMPER			CONTROL TYPE	NOTES	
											HOUSING (STEEL OR ALUM)	WHEEL (STEEL OR ALUM)	BHP	MHP	VOLT	PH	DISCONNECT		STARTER BY	TYPE (MOTORIZED OR GRAVITY)	VOLT			PH
																	BY	TYPE						
EF-1	GREENHECK	CUE-WALL	TOILET 17	WALL MOUNTED CENTRIFUGAL	75	0.2	1,300	DIRECT	8.125	2.5	ALUM	ALUM	0.01	FHP	120	1	MFR	NON-FUSED	MFR	MOTORIZED	120	1	1	1
EF-2	GREENHECK	CUE-WALL	WOMEN'S 15	WALL MOUNTED CENTRIFUGAL	150	0.2	1,300	DIRECT	8.125	2.5	ALUM	ALUM	0.01	FHP	120	1	MFR	NON-FUSED	MFR	MOTORIZED	120	1	1	1
EF-3	GREENHECK	CUE-WALL	MENS 11	WALL MOUNTED CENTRIFUGAL	150	0.2	1,300	DIRECT	8.125	2.5	ALUM	ALUM	0.01	FHP	120	1	MFR	NON-FUSED	MFR	MOTORIZED	120	1	1	1
EF-4	GREENHECK	CUE-WALL	TOILET 09	WALL MOUNTED CENTRIFUGAL	75	0.2	1,300	DIRECT	8.125	2.5	ALUM	ALUM	0.01	FHP	120	1	MFR	NON-FUSED	MFR	MOTORIZED	120	1	1	1
EF-5	GREENHECK	CUE-WALL	WOMEN'S 06	WALL MOUNTED CENTRIFUGAL	300	0.2	1,050	DIRECT	10.876	4.2	ALUM	ALUM	0.03	FHP	120	1	MFR	NON-FUSED	MFR	MOTORIZED	120	1	1	1
EF-6	GREENHECK	CUE-WALL	TOILET 04	WALL MOUNTED CENTRIFUGAL	150	0.2	1,300	DIRECT	8.125	2.5	ALUM	ALUM	0.01	FHP	120	1	MFR	NON-FUSED	MFR	MOTORIZED	120	1	1	1
EF-7	GREENHECK	CSP	JANITOR 08	INLINE	100	0.5	825	DIRECT	6.750	2.0	ALUM	ALUM	0.06	FHP	120	1	MFR	NON-FUSED	MFR	MOTORIZED	120	1	1	1

- MOTORIZED BACKDRAFT DAMPER WIRED TO OPEN WHEN FAN OPERATES. FAN TO HAVE A SINGLE POINT POWER CONNECTION FOR FAN AND DAMPER FOR ON / OFF FANS.

TYPE 1. INTERLOCKED TO ROOM LIGHT SWITCH

SPLIT SYSTEM HEAT PUMP SCHEDULE - INDOOR & OUTDOOR UNITS

MARK	MANUFACTURER	MODEL	SERVICE	NOMINAL CAPACITY (TONS)	SEER	HEATING COP @ 47°F	INDOOR UNIT										DIMENSIONS (IN.)			ELECTRICAL (NOTE 1)						NOTES
							AIRFLOW (CFM)	REFRIGERANT	MAXIMUM LINESET LENGTH (FT.) (NOTE 2)	COOLING EAT		HEATING EAT		TOTAL COOLING MBH	TOTAL HEATING MBH	FILTERS	LENGTH	DEPTH	HEIGHT	VOLT	PH	MCA	MOCP	DISCONNECT		
										DB (°F)	WB (°F)	DB (°F)	WB (°F)											BY	TYPE	
AC-1	MTSUBISHI	MSZ SERIES	WOMEN'S 06	1.5	21.5	3.7	629	R-454B	100	80	67	70	60	18.0	21.6	1" WASHABLE	37	10	12	208	1	1	15	EC	NON-FUSED	1, 2, 3
AC-2	MTSUBISHI	MSZ SERIES	OFFICE 01	1.5	21.5	3.7	629	R-454B	100	80	67	70	60	18.0	21.6	1" WASHABLE	37	10	12	208	1	1	15	EC	NON-FUSED	1, 2, 3
AC-3	MTSUBISHI	MSZ SERIES	ROOM 03	0.75	28.4	4.4	381	R-454B	100	80	67	70	60	9.0	10.9	1" WASHABLE	32	10	12	208	1	1	15	EC	NON-FUSED	1, 2, 3
AC-4	MTSUBISHI	MSZ SERIES	TOILET 04	0.75	28.4	4.4	381	R-454B	100	80	67	70	60	9.0	10.9	1" WASHABLE	32	10	12	208	1	1	15	EC	NON-FUSED	1, 2, 3
AC-5	MTSUBISHI	MSZ SERIES	TOILET 09	0.75	28.4	4.4	381	R-454B	100	80	67	70	60	9.0	10.9	1" WASHABLE	32	10	12	208	1	1	15	EC	NON-FUSED	1, 2, 3
AC-6	MTSUBISHI	MSZ SERIES	MEN'S 11	0.75	28.4	4.4	381	R-454B	100	80	67	70	60	9.0	10.9	1" WASHABLE	32	10	12	208	1	1	15	EC	NON-FUSED	1, 2, 3
AC-7	MTSUBISHI	MSZ SERIES	WOMEN'S 15	0.75	28.4	4.4	381	R-454B	100	80	67	70	60	9.0	10.9	1" WASHABLE	32	10	12	208	1	1	15	EC	NON-FUSED	1, 2, 3
AC-8	MTSUBISHI	MSZ SERIES	TOILET 17	0.75	28.4	4.4	381	R-454B	100	80	67	70	60	9.0	10.9	1" WASHABLE	32	10	12	208	1	1	15	EC	NON-FUSED	1, 2, 3
ACCU-1	MTSUBISHI	MUZ SERIES	AC-1	1.5		N/A		R-454B	100					18.0	18.0	N/A	32"	14"	24"	208	1	17.9	25	EC	NON-FUSED	2
ACCU-2	MTSUBISHI	MUZ SERIES	AC-2, AC-3, & AC-4	3.0		N/A		R-454B	100					18.0	18.0	N/A	32"	14"	24"	208	1	17.9	25	EC	NON-FUSED	2
ACCU-3	MTSUBISHI	MUZ SERIES	AC-5 & AC-6	1.5		N/A		R-454B	100					18.0	18.0	N/A	32"	14"	24"	208	1	17.9	25	EC	NON-FUSED	2
ACCU-4	MTSUBISHI	MUZ SERIES	AC-7 & AC-8	1.5		N/A		R-454B	100					18.0	18.0	N/A	32"	14"	24"	208	1	17.9	25	EC	NON-FUSED	2

NOTES:

- PROVIDE WITH WALL MOUNTED THERMOSTAT AND CONTROLS.
- COORDINATE INDOOR AND OUTDOOR UNIT LOCATIONS WITH FINAL PIPING ROUTING. INSTALL PER MANUFACTURERS REQUIREMENTS.
- PROVIDE WITH PLENUM RATED UNIT MOUNTED CONDENSATE PUMP EQUAL TO LITTLE GIANT.

GRILLES, REGISTERS, & DIFFUSERS SCHEDULE

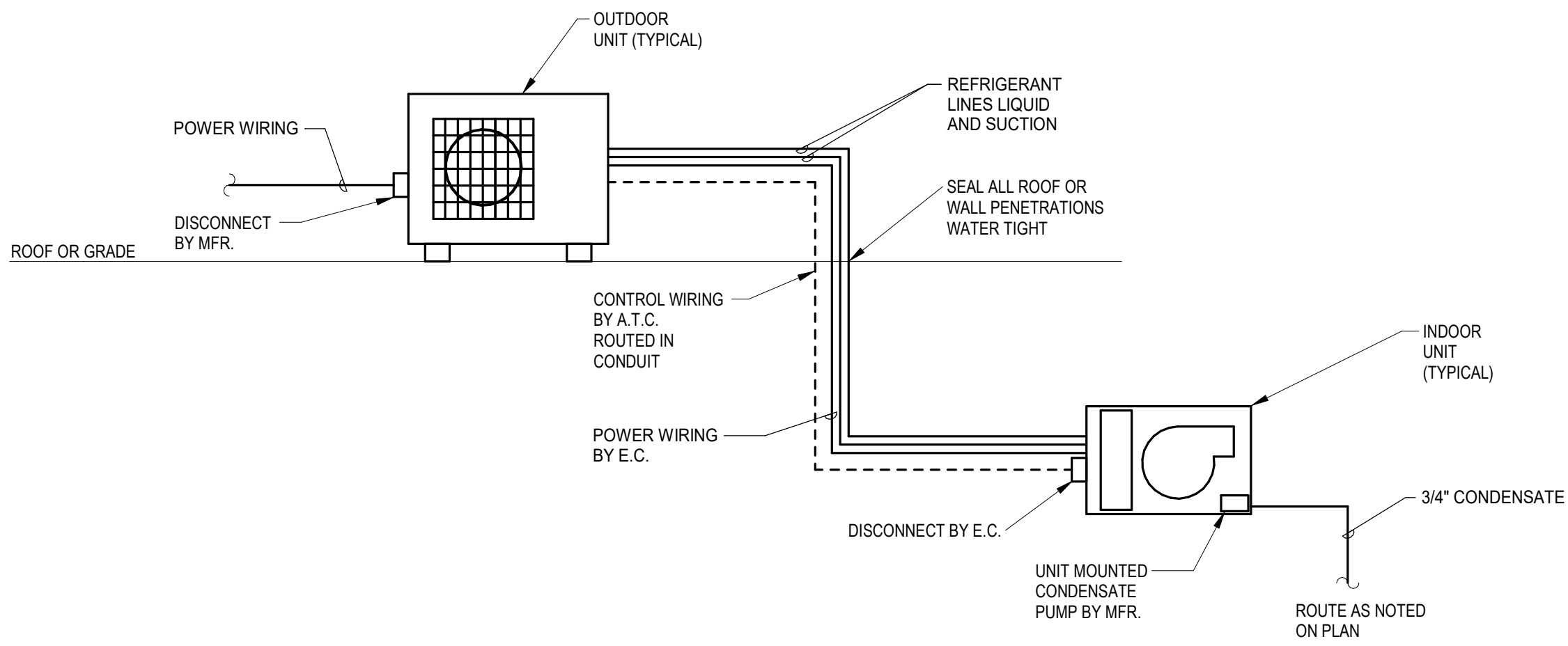
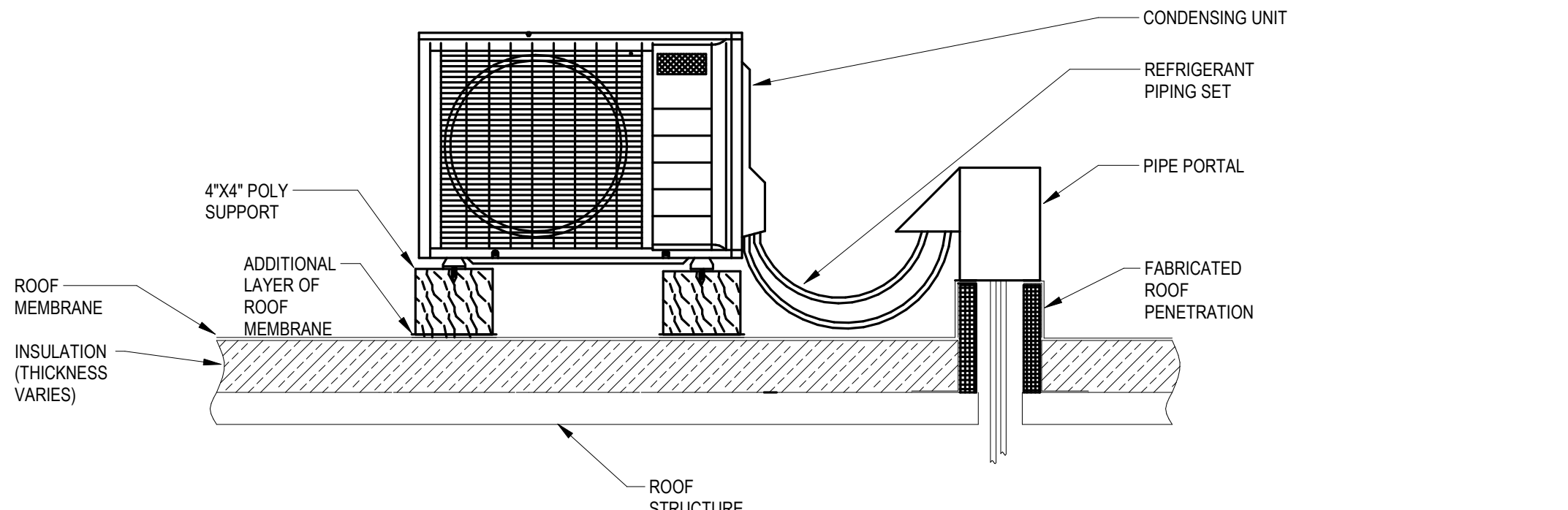
MARK	MANUFACTURER	MODEL	STYLE	BORDER	INLET SIZE (INCH) (NOTE 2)	FACE SIZE (INCH)	DAMPER NEEDED	MATERIAL	COLOR
EG-1	TITUS	350FL	35° DEFLECTION	SURFACE	SEE DWG.	INLET + 1 3/4"	YES	ALUMINUM	WHITE
RG-1	TITUS	350RL	35° DEFLECTION	SURFACE	SEE DWG.	INLET + 1 3/4"	NO	STEEL	WHITE

LOUVER SCHEDULE

MARK	MANUFACTURER	MODEL	SERVICE	AIRFLOW (CFM)	SIZE (INCHES)		FREE AREA (FT²)	FREE AREA VEL (FPM)	MAX S.P. (IN. W.C.)	FINISH (NOTE 1)
					W	x H				
EAL-1	GREENHECK	ELF	EF-8	100	12	x 12	0.34	294	0.1	BAKED ENAMEL

NOTES:

- COLOR SELECTION BY ARCHITECT.



1 SPLIT SYSTEM

N.T.S.