McHenry County College

Student Farm Renovations

8900 Northwest Hwy #14,
Crystal Lake, IL 60012

ISSUED FOR BID - NOT FOR CONSTRUCTION

04/21/2026

DKA PROJECT NO: 25-037

MCC BID NO: IFB#05142026_AG

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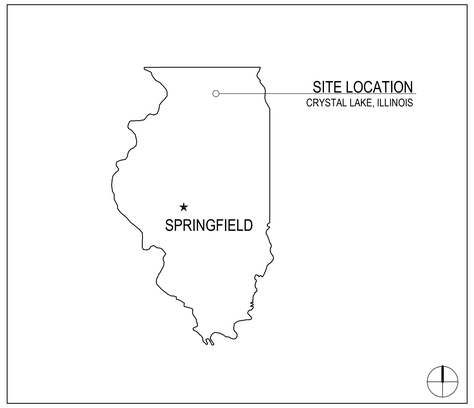
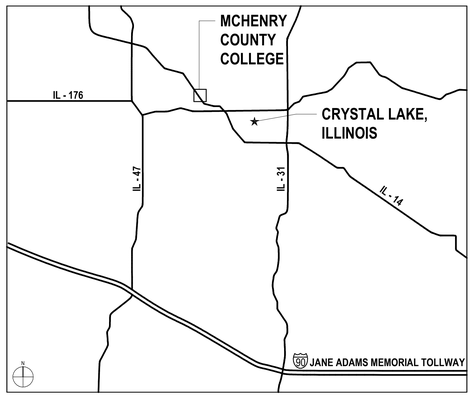
ABBREVIATIONS

A.P.	ACCESS PANEL
ACOUST.	ACOUSTICAL
A.C.T.	ACOUSTICAL CEILING TILE
ADJ.	ADJACENT
A.F.F.	ABOVE FINISH FLOOR
AGGR.	AGGREGATE
A/C	AIR CONDITIONING
ALT.	ALTERNATE
ALUM.	ALUMINUM
L.	ANGLE
APPD.	APPROVED
APPROX.	APPROXIMATE
ARCH.	ARCHITECTURAL OR ARCHITECT
A.D.	AREA DRAIN
ASB.	ASBESTOS
ASPH.	ASPHALT
A/V	AUDIO VISUAL
BSMT.	BASEMENT
BRG.	BEARING
BM.	BEAM
BTW.	BETWEEN
BITUM .	BITUMINOUS
BLK.	BLOCK
BLKG.	BLOCKING
BD.	BOARD
BRK.	BRICK
BLDG.	BUILDING
CAB.	CABINET
C.I.P.	CAST IN PLACE
C.I.P.C.	CAST IN PLACE CONCRETE
C.I.	CURB INLET
C.B.	CATCH BASIN
CLG.	CEILING
CTR.	CENTER
C.J.	CONTROL JOINT
C.L.	CENTER LINE
CPT.	CARPET
C.T.	CERAMIC TILE
CLR.	CLEAR
CLO.	CLOSET
COL.	COLUMN
CONC.	CONCRETE
CONN.	CONNECTION
CONST.	CONSTRUCTION
C.M.	CONSTRUCTION MANAGER
CONT.	CONTINUOUS OR CONTINUE
CONTR.	CONTRACTOR
CK.	CORK
CORR.	CORRIDOR
CNSK.	COUNTERSUNK
CRS.	COURSE
DEMO	DEMOLISH OR DEMOLITION
DEPT.	DEPARTMENT
D.L.	DEAD LOAD
DIA.	DIAMETER
DIM.	DIMENSION
DISP.	DISPENSER
DIV.	DIVISION
DR.	DOOR
D.O.	DOOR OPENING
DBL.	DOUBLE
DS.	DOWNSPOUT
DRW.	DRAWER
DWG.	DRAWING
D.F.	DRINKING FOUNTAIN
D.S.	DRY STANDPIPE
D.W.T.	DETECTABLE WARNING TILE
E	EAST
EA.	EACH
E.I.F.S.	EXTERIOR INSULATION FINISH SYSTEM
ELEC.	ELECTRICAL
E.T.C.	ELECTRICAL TRADES CONTRACTOR
E.W.C.	ELECTRICAL WATER COOLER
E.P.	ELECTRICAL PANEL BOARD
EL.	ELEVATION
ELEV.	ELEVATION
ELVTR.	ELEVATOR
ENCL.	ENCLOSURE
EMER.	EMERGENCY
EP. PT.	EPOXY PAINT
EP.F.	EPOXY FLOORING
EQ.	EQUAL
EQPMT.	EQUIPMENT
EXIST.	EXISTING
EXP.	EXPANSION
EXP. JT.	EXPANSION JOINT
EXPD.	EXPOSED
EXTR.	EXTERIOR
F.O.C.	FACE OF CONCRETE
F.O.F.	FACE OF FINISH
F.O.S.	FACE OF STUD
F.R.P.	FIBERGLASS REINFORCED PANEL
FIN.	FINISH OR FINISHED
F.A.	FIRE ALARM
F.E.	FIRE EXTINGUISHER
F.E.C.	FIRE EXTINGUISHER CABINET
F.H.C.	FIRE HOSE CABINET
FPRF.	FIREPROOF
F.B.	FLAT BAR STOCK
FL.	FLOOR
F.D.	FLOOR DRAIN
FLUOR.	FLUORESCENT
FT.	FOOT OR FEET
FTG.	FOOTING
FDN.	FOUNDATION
FRM.	FRAME
FRMG.	FRAMING
F.S.	FULL SIZE
FURR.	FURRING
FUTR.	FUTURE
F.W.	FABRIC WALLCOVERING
GA.	GAUGE
GALV.	GALVANIZED
GEN.	GENERAL
G.C.	GENERAL CONTRACTOR
G.T.C.	GENERAL TRADES CONTRACTOR
GL.	GLASS OR GLAZING
GD.	GRADE
GND.	GROUND
GYP. BD.	GYPSUM BOARD
HDW.	HARDWARE
HDWD.	HARDWOOD
HDR.	HEADER
HTG.	HEATING
H.V.A.C.	HEATING, VENTILATING, AIR CONDITIONING
HT.	HEIGHT
H.C.	HOLLOW CORE
H.M.	HOLLOW METAL
H.M.F.	HOLLOW METAL FRAME
HORZ.	HORIZONTAL
H.B.	HOSE BIB
HR.	HOUR
INC.	INCLUDE
I.D.	INSIDE DIAMETER
INSUL.	INSULATION
INTR.	INTERIOR
INV.	INVERT
JAN.	JANITOR
JT.	JOINT
KIT.	KITCHEN
LAM.	LAMINATE
LAV.	LAVATORY
L.H.	LEFT HAND
LGTH.	LENGTH
LT.	LIGHT
L.W.C.	LIGHT WEIGHT CONCRETE
LTL.	LINTEL
LN.	LINOLEUM
L.L.	LIVE LOAD
MH.	MANHOLE
MFR.	MANUFACTURER
MAS.	MASONRY
M.O.	MASONRY OPENING
MTL.	METAL
MAX.	MAXIMUM
MECH.	MECHANICAL
M.T.C.	MECHANICAL TRADES CONTRACTOR
MEMB.	MEMBRANE
M.T.	MARBLE TILE
MIN.	MINIMUM
MISC.	MISCELLANEOUS
MTD.	MOUNDED
MTG.	MOUNTING
MUL.	MULLION
NOM.	NOMINAL
N	NORTH
N.I.C.	NOT IN CONTRACT
N.T.S.	NOT TO SCALE
NO. OR #	NUMBER
OBS.	OBSCURE
OFF.	OFFICE
O.C.	ON CENTER
OPNG.	OPENING
OPP.	OPPOSITE
O.S.B.	ORIENTED STRAND BOARD
O.D.	OUTSIDE DIAMETER
OA.	OVERALL
OF.D.	OVERFLOW DRAIN
PT.	PAINT
PTD.	PAINTED
PR.	PAIR
PNL.	PANEL
P.BD.	PARTICLE BOARD
PTN.	PARTITION
PLAS.	PLASTIC
P-LAM	PLASTIC LAMINATE
PL.	PLATE
P.T.C.	PLUMBING TRADES CONTRACTOR
PLYWD.	PLYWOOD
P.S.I.	POUNDS PER SQUARE INCH
PC.	PRECAST
PC.C.	PRECAST CONCRETE
Q.T.	QUARRY TILE
R.	RADIUS OR RISER
R.W.L.	RAIN WATER LEADER
RFRG.	REFRIGERATOR
RGTR.	REGISTER
REINF.	REINFORCED
REQ.	REQUIRED
RES.	RESILIENT
R.A.	RETURN AIR
R.A.G.	RETURN AIR GRILLE
R.H.	RIGHT HAND
R.O.W.	RIGHT OF WAY
R.D.	ROOF DRAIN
RM.	ROOM
R.O.	ROUGH OPENING
R.B.	RUBBER BASE
SECT.	SECTION
SK.	SINK
SCHED.	SCHEDULE
SHTG.	SHEATHING
SHT.	SHEET
S.V.	SHEET VINYL
SHWR.	SHOWER
SIM.	SIMILAR
S.C.	SEALED CONCRETE
S.P.M.	SINGLE PLY MEMBRANE
S	SOUTH
S.S.	SOLID SURFACE
S.F.R.M.	SPRAY APPLIED FIRE RESISTIVE MATERIAL
SPEC.	SPECIFICATION
SQ.	SQUARE
ST. STL.	STAINLESS STEEL
STD.	STANDARD
STA.	STATION
STL.	STEEL
STOR.	STORAGE
STRUCT.	STRUCTURE OR STRUCTURAL
SUSP.	SUSPENDED
S.A.T.	SUSPENDED ACOUSTICAL TILE
SYM.	SYMMETRICAL
TEL.	TELEPHONE
T.V.	TELEVISION
TRZ.	TERRAZZO
T.B.	TILE BASE
THK.	THICK
T.O.C.	TOP OF CURB
T.O.P.	TOP OF PAVEMENT
T.O.W.	TOP OF WALL
T&G	TONGUE AND GROOVE
TYP.	TYPICAL
UNF.	UNFINISHED
U.N.O.	UNLESS NOTED OTHERWISE
UR.	URINAL
V.B.	VINYL BASE
VERT.	VERTICAL
VEST.	VESTIBULE
V.C.T.	VINYL COMPOSITION TILE
V.W.	VINYL WALLCOVERING
WSCT.	WAINSCOT
W.C.	WATER CLOSET
WLK.	WALK-OFF MAT
W.R.	WATER RESISTANT
WT.	WALL TILE OR WEIGHT
W	WEST
W	WIDE FLANGE "W16x21"
W	WIDTH
W/	WITH
W/O	WITHOUT
WD.	WOOD
WD.P.	WOOD PANEL
X	EXISTING

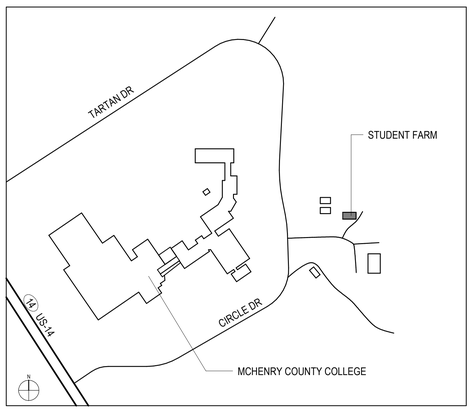
STATE LOCATION MAP



AREA MAP



CAMPUS MAP



SHEET INDEX

GENERAL
G1.00 SHEET INDEX, ABBREVIATIONS, SYMBOLS & NOTES
AC1.10 CODE PLAN

CIVIL
C-00 COVER SHEET
C-01 GENERAL NOTES, SPECIFICATIONS, & LEGEND
C-02 SITE DEMOLITION PLAN
C-03 SITE PLAN
C-04 UTILITY PLAN
C-05 EROSION CONTROL PLAN
C-06 EROSION CONTROL NOTES
C-07 STANDARD CONSTRUCTION DETAILS
C-08 STANDARD CONSTRUCTION DETAILS
C-09 STANDARD CONSTRUCTION DETAILS

ARCHITECTURAL
AD1.10 DEMOLITION FLOOR PLAN & REFLECTED CEILING PLAN
AD4.00 DEMOLITION EXTERIOR ELEVATIONS
A1.10 FLOOR PLAN & REFLECTED CEILING PLAN
A4.00 EXTERIOR ELEVATIONS & BUILDING SECTIONS
A6.01 SECTIONS AND DETAILS
A10.00 DOOR SCHEDULE, ELEVATIONS, AND DETAILS
A11.01 FINISH PLAN

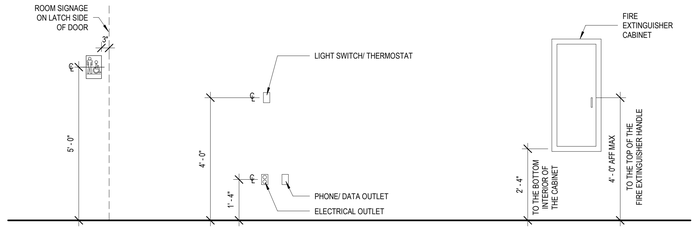
STRUCTURAL
S0.00 GENERAL NOTES, TESTING AND INSPECTION, SYMBOLS AND ABBREVIATIONS
S1.00 FOUNDATION PLAN, ROOF FRAMING PLAN AND DETAILS

MECHANICAL
M0.00 HVAC COVERSHEET
MD1.01 DEMOLITION FLOOR PLAN - HVAC
M1.01 FLOOR PLANS - PIPING & VENTILATION
M2.00 HVAC DETAILS
M2.01 HVAC DETAILS
M3.00 HVAC CONTROLS
M4.00 HVAC SCHEDULES

PLUMBING
P0.00 PLUMBING COVERSHEET
PD1.01 DEMOLITION FLOOR PLANS - PLUMBING
P1.01 FLOOR PLANS - PLUMBING
P2.00 PLUMBING DETAILS
P3.00 PLUMBING MATERIAL LIST

FIRE PROTECTION
F0.00 FIRE PROTECTION COVERSHEET
F1.01 FLOOR PLAN - FIRE PROTECTION
F2.00 FIRE PROTECTION DETAILS
F3.00 FIRE PROTECTION DIAGRAMS MATERIAL LIST

ELECTRICAL
E0.00 ELECTRICAL COVERSHEET
ED0.01 ELECTRICAL SITE DEMOLITION
ED1.01 DEMOLITION FLOOR PLAN - ELECTRICAL
E0.01 ELECTRICAL SITE PLAN
E1.01 FLOOR PLAN - LIGHTING
E1.02 FLOOR PLAN - POWER & SYSTEMS
E2.00 ELECTRICAL DETAILS



NOTE: IN THE EVENT OF A CONFLICT BETWEEN DIMENSIONS SHOWN ON THIS DRAWING AND ANY OTHER ARCHITECTURAL, ELECTRICAL, OR MECHANICAL SHEETS OR SPECIFICATIONS, NOTIFY ARCHITECT OF DISCREPANCY.

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SHEET INDEX, ABBREVIATIONS, SYMBOLS & NOTES

SHEET NUMBER:
G1.00

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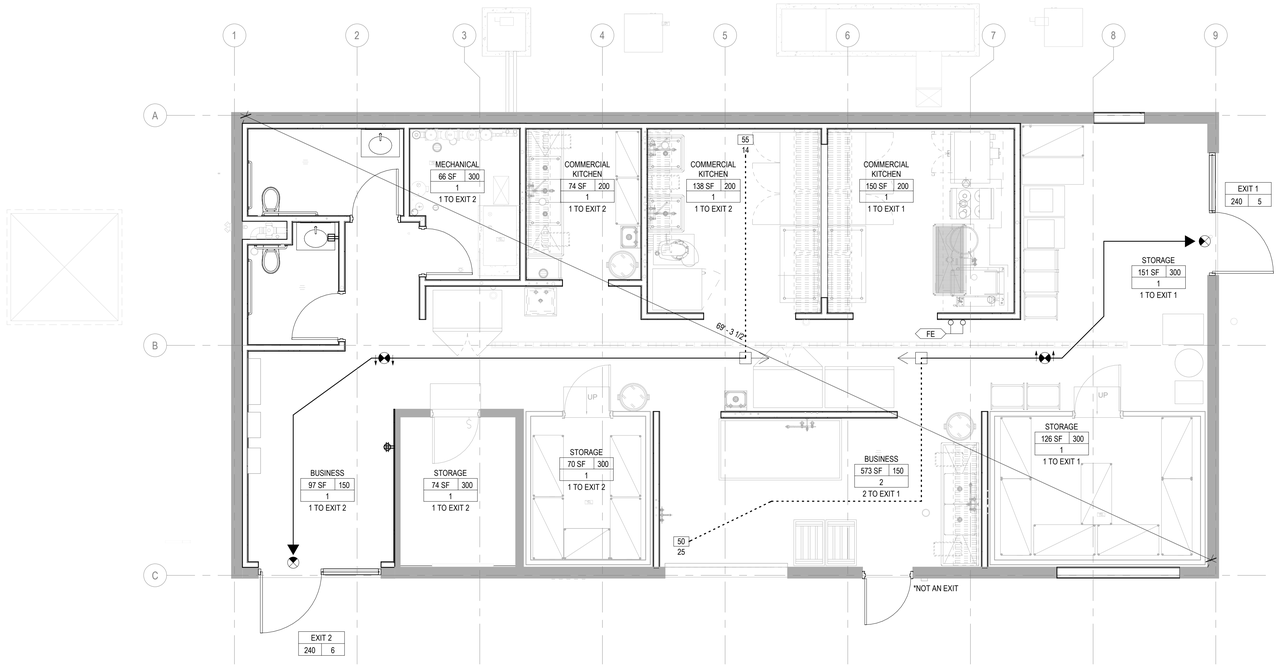

1 LEVEL 1 - CODE PLAN
1/4" = 1'-0"

0' 2' 4' 8'

CODE COMPLIANCE NOTES:

APPLICABLE CODES:

2021 INTERNATIONAL BUILDING CODE
2018 INTERNATIONAL MECHANICAL CODE
2018 NATIONAL ELECTRICAL CODE
2018 NFPA 101 LIFE SAFETY CODE
CURRENT EDITION, FIRE PREVENTION AND SAFETY CODE
CURRENT EDITION, ILLINOIS PLUMBING CODE
CURRENT EDITION (2018), ILLINOIS ACCESSIBILITY CODE
CURRENT EDITION (2021), ILLINOIS ENERGY CONSERVATION CODE

BUILDING AREA AND HEIGHT SUMMARY:

1. FIRST FLOOR (GROSS): 1,920 SF
2. BUILDING HEIGHT: 1 STORY, 16' - 4"

OCCUPANCY CLASSIFICATION (IBC 508):

1. USE B: BUSINESS
   EDUCATIONAL OCCUPANCY
   FOOD PROCESSING / COMMERCIAL KITCHEN NOT ASSOCIATED W/ RESTAURANTS, UNDER 2500 SF

CONSTRUCTION TYPE (IBC 602): TYPE VB SPRINKLERED

1. NON-PROTECTED, WOOD FRAMED COMBUSTIBLE STRUCTURE (JOISTS/COLUMNS)
2. NON-RATED EXTERIOR WALLS

ALLOWABLE AREA (IBC 506) AND HEIGHT (IBC 504) CALCULATIONS:

USE GROUP B: BUSINESS, SPRINKLERED
MAX. BUILDING HEIGHT (IBC 504): 60 FT; 3 STORIES
MAX. BUILDING AREA: 36,000 SF

FIRE RESISTANCE RATINGS, TYPE VB CONSTRUCTION (IBC 601):

1. STRUCTURAL FRAME 0 HRS
2. EXTERIOR BEARING WALLS 0 HRS
3. INTERIOR BEARING WALLS 0 HRS
4. EXTERIOR NON-BEARING WALLS 0 HRS
5. INTERIOR NON-BEARING WALLS 0 HRS
6. FLOOR CONSTRUCTION 0 HRS
7. ROOF CONSTRUCTION 0 HRS

EXIT ACCESS TRAVEL DISTANCES, SPRINKLERED (IBC 1017):

1. USE B: 300 FT.

COMMON PATH OF EGRESS TRAVEL, SPRINKLERED (IBC 1006):

1. USE B: 100 FT.

DEAD END CORRIDOR LENGTH, SPRINKLERED (IBC 1020.5):

1. USE B: 50 FT.
2. A DEAD-END CORRIDOR SHALL NOT BE LIMITED IN LENGTH WHERE THE LENGTH OF THE DEAD-END CORRIDOR IS LESS THAN 2.5 TIMES THE LEAST WIDTH OF THE DEAD-END CORRIDOR.

REVIEW 903.2.11
DUCTS CONVEYING HAZARDOUS EXHAUST PER 903.2.11.4 WITH EXCEPTION FOR 10" MAX CROSS-SECTIONAL DIAMETER, COMMERCIAL COOKING OPERATIONS PER 903.2.11.5 IF AUTOMATIC SPRINKLER SYSTEMS ARE USED

IECC 2018 CODE COMPLIANCE
EXISTING EXTERIOR ENVELOPE TO REMAIN. PER BUILDING TYPE / LOCATION, MIN. R-20 IS REQUIRED IN THE WALLS AND MIN. R-38 IS REQUIRED IN THE ATTIC SPACE. PER FIELD OBSERVATION AND EXISTING DRAWINGS AVAILABLE, R-38 INSULATION INSTALLED IN ATTIC AND CONTINUOUS SPRAYFOAM PROVIDED AT 6" EXTERIOR CAVITY WALL.

CODE COMPLIANCE PLAN SYMBOLS LEGEND:

NOTES:
1. REFER TO ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION ON FIRE ALARM SYSTEMS.
2. REFER TO FIRE PROTECTION DRAWINGS FOR ADDITIONAL INFORMATION ON SPRINKLER SYSTEMS.

OCCUPANT LOAD

ASSEMBLY
150 SF 15
30
11 TO EXIT 1
10 TO EXIT 2
8 TO EXIT 3

- FUNCTION OF SPACE
- ASTERISK INDICATES REQUIREMENT TO POST A ROOM OCCUPANT LOAD PLACARD
- SQUARE FOOTAGE PER OCCUPANT
- ROOM OR AREA SQUARE FOOTAGE
- MAXIMUM DESIGN EGRESS OCCUPANT LOAD
- DESIGN EGRESS OCCUPANT LOAD AND ASSIGNED EXIT DISCHARGE
- 17 — PLUMBING OCCUPANT LOAD

EXIT ACCESS TRAVEL DISTANCE

128
39

- TRAVEL DISTANCE TO NEAREST EXIT ACCESS
- TRAVEL DISTANCE ON COMMON PATH OF EGRESS
- LINETYPE DENOTES COMMON PATH OF EGRESS TRAVEL
- DENOTES END OF COMMON PATH OF EGRESS TRAVEL; OPEN ARROW DENOTES DIRECTION OF ALTERNATE PATH OF EGRESS
- CLOSED ARROW DENOTES DIRECTION OF TRAVEL
- SOLID ARROW DENOTES EXIT DISCHARGE

EXIT OCCUPANT LOAD

EXIT 3
320 268

- EXIT DISCHARGE NUMBER
- ACTUAL OCCUPANT LOAD
- MAXIMUM EGRESS LOAD

EXIT SIGNS

- EXIT SIGN, CEILING MOUNTED - SEE ELECTRICAL
  SOLID DENOTES FACE PLATE, ARROW DENOTES EGRESS DIRECTION
- EXIT SIGN, WALL MOUNTED - SEE ELECTRICAL
  SOLID DENOTES FACE PLATE, ARROW DENOTES EGRESS DIRECTION

FIRE-RESISTANCE-RATED SEPARATION TYPES

*SEE WALL TYPES FOR CONSTRUCTION REQUIREMENTS

FW	FIRE WALL	HA	HORIZ. ASSEMBLY
FB	FIRE BARRIER	SH	SHAFT ENCLOSURE
FP	FIRE PARTITION	SB	SMOKE BARRIER

- SMOKE PARTITION
- 1 HR FIRE-RESISTANCE-RATED CONSTRUCTION
- 2 HR FIRE-RESISTANCE-RATED CONSTRUCTION
- 3 HR FIRE-RESISTANCE-RATED CONSTRUCTION

DEVICES

- FE — WALL-MOUNTED FIRE EXTINGUISHER
- SFEC — SEMI-RECESSED FIRE EXTINGUISHER CABINET
- FAPS — FIRE ALARM PULL STATION - SEE ELECTRICAL
- FACP — FIRE ALARM CONTROL PANEL - SEE ELECTRICAL

PLUMBING FIXTURE COUNT:

1. NUMBER OF OCCUPANTS, TOTAL: 11
2. NUMBER OF OCCUPANTS, PER SEX: 6

BUILDING TYPE: BUSINESS

FIXTURE TYPE	QUANTITY			
	REQUIRED		PROVIDED	
	WOMEN	MEN	WOMEN	MEN
LAVATORY	1	1	1	1
WATER CLOSET	1	1	1	1
URINAL	--	0[a]	--	0[a]
DRINKING FOUNTAIN	0		0	
SERVICE SINK	1		1	

[a] ILLINOIS PLUMBING CODE SECTION 890. APPENDIX A FOOTNOTE #2: URINALS MAY BE SUBSTITUTED FOR WATER CLOSETS FOR MALES (1), NOT TO EXCEED HALF OF THE REQUIRED TOTAL NUMBER OF WATER CLOSETS.

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CODE PLAN

SHEET NUMBER:
AC1.10

4/21/2026 11:58:31 AM

MCHENRY COUNTY COLLEGE
STUDENT FARM RENOVATIONS
8900 US-14
CRYSTAL LAKE, ILLINOIS 60012

PARCEL # 13-25-300-021

OWNER:
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8900 U.S. HIGHWAY 14
CRYSTAL LAKE, ILLINOIS 60012

ENGINEER:
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PHONE: (815) 385-1778

JOE VAVRINA, PE, REGIONAL DIRECTOR
PHONE: (815) 759-8363

SURVEYOR:
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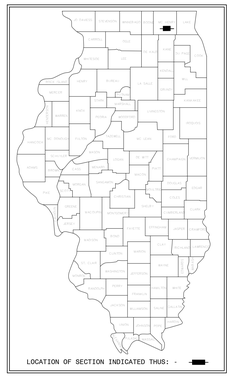
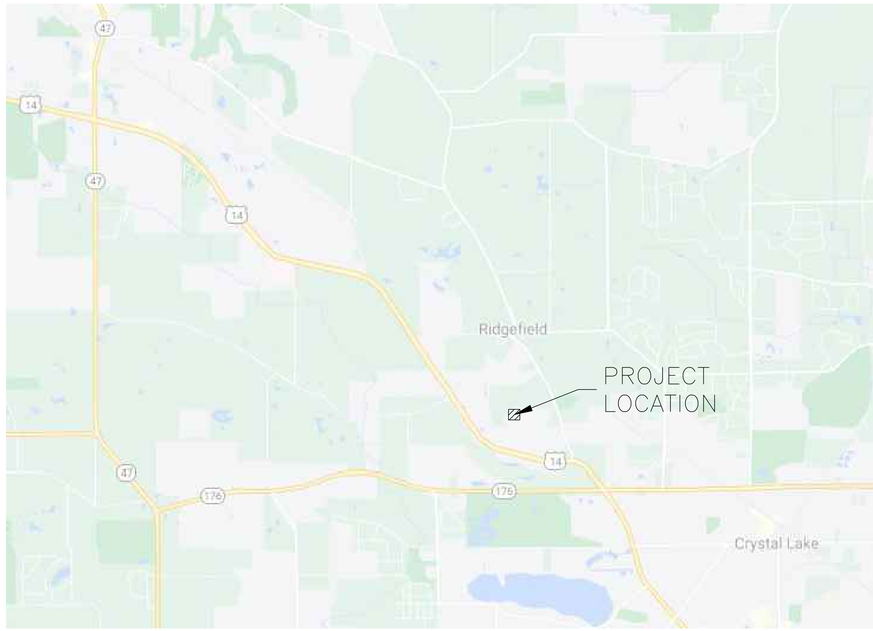
JOHN BOLINE, P.L.S. – PROJECT SURVEYOR
PHONE: (815) 759-8375



NOTE:

- HR GREEN, INC. IS TO BE NOTIFIED 3 DAYS PRIOR TO CONSTRUCTION START.
- HR GREEN, INC. SHALL BE INCLUDED IN ALL PRE-CONSTRUCTION MEETINGS.
- ANY KNOWN DISCREPANCIES ON THIS PLAN SET MUST BE BROUGHT TO THE ATTENTION OF HR GREEN, INC. PRIOR TO THE START OF CONSTRUCTION.

LOCATION MAP



NORTH
(N.T.S.)

SHEET INDEX

Sheet Number	Sheet Title
C-00	COVER SHEET
C-01	GENERAL NOTES, SPECIFICATIONS & LEGEND
C-02	SITE DEMOLITION PLAN
C-03	SITE PLAN
C-04	UTILITY PLAN
C-05	EROSION CONTROL PLAN
C-06	EROSION CONTROL NOTES
C-07	STANDARD CONSTRUCTION DETAILS
C-08	STANDARD CONSTRUCTION DETAILS
C-09	STANDARD CONSTRUCTION DETAILS

SITE BENCHMARK NOTES:

- SOURCE BENCHMARK: BENCHMARK #4" PER AS SHOWN ON THE PLANS FOR "MCHENRY COUNTY COLLEGE NEW SCIENCE CENTER " DATED AUGUST 11, 2017, BEING A CUT SQUARE ON NORTH FACE OF LIGHT POLE BASE LOCATED IN THE MIDDLE CURB ISLAND LOCATED EAST OF PARKING LOT D, NORTH OF THE RING ROAD AND SOUTH OF BUILDING D.
  - ELEV = 921.24 (NAVD 88)
- SITE BENCHMARK (BM#1): NORTHWEST ARROW BOLT ON THE FIRE HYDRANT LOCATED APPROXIMATELY 90 FEET WESTERLY OF THE ENTRANCE TO BUILDING E.
  - ELEV = 921.49 (NAVD 88)
- SITE BENCHMARK (BM#2): NORTHEAST ARROW BOLT ON THE FIRE HYDRANT LOCATED APPROXIMATELY 70 FEET NORTHEASTERLY OF THE ENTRANCE TO BUILDING B.
  - ELEV = 919.44 (NAVD 88)
- HR GREEN, INC. CONTROL DISCLAIMER: THE ATTACHED BENCHMARKS ARE FOR CONSTRUCTION PURPOSES ONLY. BY USING THE DATA PROVIDED HEREON, USERS ARE RESPONSIBLE FOR VERIFYING THE ACTUAL HORIZONTAL AND VERTICAL LOCATIONS OF PROPOSED IMPROVEMENTS BASED ON THE EXISTING EXTERIOR PROPERTY CORNERS AND SITE BENCHMARKS. HR GREEN, INC. ASSUMES NO RESPONSIBILITY FOR THE IMPROPER USE OF THE INFORMATION HEREIN PROVIDED.

CERTIFICATION

LICENSED PROFESSIONAL ENGINEER
JOSEPH F. VAVRINA
062-058926
STATE OF ILLINOIS

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Illinois.

04/21/2026
JOSEPH F. VAVRINA, P.E. — DATE
License Number: 062-058926
My license renewal date is December 31, 2027.
Pages or sheets covered by this seal:
ALL C SHEETS

Dial 811 or 1-800-892-0123
811
Know what's **below.** **Call** before you dig.

CALL JULIE 1-800-892-0123
WITH THE FOLLOWING:
COUNTY McHenry
CITY-TOWNSHIP Crystal Lake – Dorr
SEC. & 1/4 SEC. NO.# SW 1/4 OF SEC-25-T-44N-7E
48 hours before you dig
(Excluding Sat., Sun. & Holidays)

HRGreen

1391 CORPORATE DRIVE, SUITE 203 | McHENRY, ILLINOIS 60050
Phone: 815.385.1778 | Toll Free: 800.728.7805 | Fax: 815.385.1781 | HRGreen.com

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McHenry County College
Student Farm Renovations
8900 Northwest Hwy #14, Crystal Lake, IL 60012
DKA PROJECT NO: 25-037

KEY PLAN:

SHEET STATUS: 04/21/2026
ISSUED FOR BID - NOT FOR CONSTRUCTION

NO:	DESCRIPTION:	DATE:

SHEET TITLE:
COVER SHEET

SHEET NUMBER:
C-00

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SPECIFICATIONS & GENERAL NOTES

All items of this project shall be governed by specifications included in the documents listed below:

A. "Standard Specifications for Road and Bridge Construction" prepared by the Department of Transportation of the State of Illinois and adopted by said department (latest revision).

B. "Supplemental Specifications and Recurring Special Provisions" adopted by the Illinois Department of Transportation (latest revision date).

C. "Standards and Specifications for Soil Erosion and Sediment Control" (latest revision).

D. "Standard Specifications for Water and Sewer Main Construction in Illinois" (latest revision).

In addition the following special provisions supplement the said specifications, and in case of conflict with any part or parts of said specifications, these special provisions shall take precedence and shall govern.

1. SCOPE OF WORK. The proposed improvement consists of supplying all the necessary labor, material and equipment to satisfactorily construct and install all improvements according to the plans designated as "McHENRY COUNTY COLLEGE ENGAGEMENT HALL."

2. CONSTRUCTION OF UNDERGROUND UTILITIES

A. Excavation: Where working conditions and right-of-way permit, pipe line trenches with sloping sides may be used.

The slopes shall not extend below the top of the pipe, and trench excavations below this point shall be made with vertical sides with widths not exceeding those specified herein for the various sizes of pipe.

Open-cut trenches shall be sheeted and braced as required by the governing State and Federal laws and municipal ordinances, and as may be necessary to protect life, property, or the work.

Where firm foundation is not encountered at the grade established due to unsuitable soil, all such unsuitable material shall be removed and replaced with approved compacted granular material.

B. Width of trench: See trench detail.

C. Removal of water: Contractors shall, at all times during construction, provide and maintain ample means and devices with which to remove and properly dispose of all water entering the excavations. No sanitary sewer shall be used for disposal of trench water, unless specifically approved by the Engineer and then only if the trench water does not ultimately arrive at existing pumping or sewage treatment facilities.

D. Bedding of pipe: All pipe shall be installed on a bed of approved, compacted granular material unless otherwise approved by the City Engineer. The bedding and backfilling of excavated materials shall be cleared with City first and be installed as per typical trench backfill detail.

E. Special backfill: Whenever the excavation is in existing or proposed street, parking areas, driveways, or other paved areas, the trench shall be backfilled with approved selected granular material, compacted in place. The top 12" of the backfill shall be filled with road gravel or crushed stone and maintained as a temporary surface for the normal use of the area. Special backfill shall meet the requirements of the City of Crystal Lake standard detail UG-03 found on Sheet C-07. Note: Excavated materials may be used if approved by the City Engineer.

F. Restoration of drainage: As soon as possible after backfilling the trench, all ditching, grading and shaping necessary to restore the original drainage in the area of work shall be performed. Culverts removed during the course of the work shall be replaced as soon as practicable.

Adequate temporary drainage facilities shall be provided during construction.

G. Utilities: The Contractor shall notify all utilities prior to the installation of any pipe lines. Where conflict exists between underground utilities and the proposed underground piping requiring a revision to the plans, such construction shall not be undertaken until such changes are approved by the City Engineer in writing.

3. The subgrade shall be free of unsuitable material and shall be prepared in accordance with the recommendations noted in the geotechnical report prepared by Midland Standard dated April 23, 2013 for this project. Testing for compaction shall be the responsibility of the contractor. The City of Crystal Lake will require a proof-roll test if warranted by final soil compaction. This also applies to the parking lot and aisle subgrade and also upon gravel placement. All topsoil and any organic materials must be removed.

4. Easements for the existing utilities, both public and private, and utilities within public rights-of-way are shown on the plans according to available records. The Contractor shall be responsible for determining the exact location in the field of these utility lines and their protection from damage due to construction operations. If existing utility lines of any nature are encountered which conflict in location with new construction, the Contractor shall notify the Engineer so that the conflict may be resolved.

5. Contractor shall be responsible for securing all Permits including municipal permits.

6. INSPECTION. All improvements shall be subject to inspection by a duly authorized and qualified City inspector both during the course of construction and after construction is complete. The inspector shall have authority over materials of construction, methods of construction and workmanship to insure compliance with working drawings and specifications. The Contractor shall provide for reasonable tests and proof of quality of materials as requested by the inspector. Inspector shall have forty-eight (48) hours notice prior to construction.

7. Wherever a sewer crosses under a water main, the minimum vertical distance from the top of the sewer to the bottom of the water main shall be 18". Furthermore, a minimum horizontal distance of 10' between sanitary sewers and water mains shall be maintained. If either the vertical or horizontal distances described above cannot be maintained, or the sewer crosses above the water main, the sewer pipe shall be pipe of water main type quality and water main quality joints, or the water main shall be encased in a steel sleeve for a perpendicular distance of 10' on each side of the sewer.

8. SAN. MH TA, 48" DIA. Manholes shall be constructed of prefabricated concrete sections meeting the requirements of ASTM C-478. Sections shall be joined using either flexible rubber gaskets or preformed bituminous plastic gaskets. The manhole bottom shall be precast with the first riser section. Manholes shall have the pipe cast in place through the manhole or a water tight joint cast in the manhole wall to receive the pipe. Manhole frames and lids shall be of self-sealing type Neenah 1712 or equal with approval by the municipality, with Type B lid and concealed pickhole with the word "Sanitary" cast in the lid. (See City detail) Testing: Vacuum testing of sanitary manholes shall be completed by the contractor meeting the requirements of ASTM C-244.

9. Sanitary Gravity Sewer: Gravity sanitary sewer pipe shall be Polyvinyl Chloride (PVC) pipe minimum SDR 26 conforming to ASTM 3034 with elastomeric gasketed joints conforming to ASTM D 3212. All sanitary sewers shall be cleaned and subjected to an air test, applicable deflection test and TV inspection by the contractor. All sanitary sewer service laterals shall be locatable in accordance with JULIE & City of Crystal Lake requirements.

10. Sanitary Forcemain: Sanitary forcemain pipe shall be HDPE and shall be smooth-walled & shall meet the applicable requirements of ASTM D3035, DR 11, 200 psi. High Density Polyethylene (HDPE) shall meet the applicable requirements of ASTM F714 "Polyethylene (PE) Plastic Pipe and ASTM D-1248 "Polyethylene Plastic Molding and Extrusion Materials". All pipe shall be made of virgin material. The pipe shall be homogenous throughout and shall be free of visible cracks, holes, foreign material, blisters, or other deleterious faults. All HDPE fusion joints shall meet the minimum requirements of the manufacture for cool-down time and all other fusing requirements. HDPE pipe shall be provided with necessary restraints and/or fittings to guarantee the pipe will not separate from the manholes at either end as might be caused by thermal expansion or contraction. Any such restraint or fitting shall be "Friatec VA"electrofusion fittings or approved equal, and be pre-approved for use with HDPE pipe and installed in strict conformance with the pipe manufacturer's instructions. All sanitary sewer service laterals shall be locatable in accordance with JULIE & City of Crystal Lake requirements. All forcemain shall be cleaned and pressure tested at 1.5x the maximum operating pressure and leak tested per the requirements of the Standard Specifications for Water & Sewer Main Construction in Illinois, latest edition.

11. Water Service: Water service pipe shall be High Density Polyethylene (HDPE) Pipe complying with AWWA C-906. Polyethylene pipe shall be furnished with an outside diameter conforming to ductile iron pipe sizes. Minimum thickness of HDPE pipe shall not be less than DR 11 when measured in accordance with ASTM D-2122. All polyethylene pipe and fittings shall be made of a high-density polyethylene pipe compound with extra high molecular weight that meets the requirements for Type III, Grade P34 Polyethylene material as defined in ASTM D-1248, latest revision. Pipes shall be jointed to one another and to polyethylene fittings by thermal buttfusion or by socket fusion in accordance with ASTM D-3261. Joining of pipe sections shall be performed in accordance with the procedures recommended by the pipe manufacturer. Joints between pipe sections shall be smooth on the inside and internal projection beads shall not be greater than 3/16-inch.The tensile strength at yield of the butt-fusion joints shall not be less than the pipe. A specimen of pipe cut across the butt-fusion joint shall be tested in accordance with ASTM D-638. All water service pipe shall be locatable in accordance with JULIE & City of Crystal Lake requirements.Tracer wire shall be installed simultaneously with pullback of the HDPE pipe. Wire shall either be wrapped around the pipe or taped to the pipe at 10 foot minimum intervals before installation. Contractor shall perform an allowable leakage test on the full length of pipe after all sections have been welded or fused in accordance with ANSI/AWWA C600, latest revision. A hydrostatic pressure test shall also be performed on the installed pipe in accordance with ANSI/AWWA C600. Water service shall be disinfected per AWWA C651 and the requirements of the Standard Specifications for Water & Sewer Main Construction in Illinois, latest edition.

12. All manholes to be concentric, lids to have utility name.

13. All manholes and valve vaults shall be equipped with steps.

14. STORM SEWER FRAMES AND LIDS. All frames not falling in the flow line of the curb and gutter shall be Neenah 1713 or as noted on the plans with a 1" pickhole and the word "Storm" cast in the lid. All curb inlets, and catch basins in gutter lines shall be Neenah R-3281 Frame and Grate, or as noted on plans, with ENVIRO logo where Type B-6.12 curb and gutter is specified. All storm sewer grates shall have the ENVIRO Logo on them. All bituminous joining compound for manholes and catch basins shall be RAM-NEK or E-Z STICK.

15. PROTECTION OF WATER MAIN AND WATER SERVICE LINES. Water mains and water service lines shall be protected from sanitary sewers, storm sewers, combined sewers, house sewer service connections and drains as follows;

A. Water Service Lines
   1. Horizontal Separation
      a. Water mains shall be laid at least 10' horizontally from any existing or proposed drain, storm sewer, sanitary sewer, combined sewer or sewer service connection.
      b. Water mains may be laid closer than 10' to a sewer line when:
         (1) Local conditions present a lateral separation of 10';
         (2) The water main invert is at least 18" above the crown of the sewer; and
         (3) The water main is either in a separate trench or in the same trench on an undisturbed earth shelf located to one side of the sewer with a minimum vertical separation of 18".
      c. Both the water main and drain or sewer shall be constructed of slip-on or mechanical joint cast or ductile iron pipe, or PVC pipe meeting the requirements of Section 653.111 when it is impossible to meet (a) or (b) above. The drain or sewer shall be pressure tested to the maximum expected surcharge head before backfilling.
   2. Vertical Separation.
      a. A water main shall be laid so that its invert is 18" above the crown of the drain or sewer whenever water mains cross storm sewers, sanitary sewers or sewer service connections. The vertical separation shall be maintained for that portion of the water main located within 10' horizontally of any sewer or drain crossed. A length of water main pipe shall be centered over the sewer to be crossed with joints equidistant from the sewer or drain.
      b. Both the water main and sewer shall be constructed of slip-on or mechanical joint cast or ductile iron pipe, or PVC pipe meeting requirements of Section 653.111 when:
         (1) It is impossible to obtain the proper vertical separation as described in (a) above; and
         (2) The water main passes under a sewer or drain.
      c. A vertical separation of 18" between the invert of the sewer or drain and the crown of the water main shall be maintained where a water main crosses under a sewer. Support the sewer or drain lines to prevent settling and breaking the water main.
      d. Construction shall extend on each side of the crossing until the normal distance from the water main to the sewer or drain line is at least 10'.
      B. Special Conditions. Alternate solutions shall be presented to the Agency when extreme topographical, geological or existing structural conditions make strict compliance with (A) and (B) above technically and economically impractical. Alternate solutions will be approved provided water-tight construction structurally equivalent to approved water main material is proposed.

17. The Contractor may not remove any material from the site except as directed by the Owner or Engineer in the case of excess material.

18. TOPSOIL PLACEMENT. All non-paved disturbed areas shall be restored w/ 6" topsoil and Class 1A Seed with excelsior blanket.

19. The Engineer and City of Crystal Lake Engineering Department shall be notified if, during construction, any buried field tiles are exposed or disturbed. The Contractor shall reconnect said field tiles if deemed necessary.

20. Contractor shall provide insurance coverage as per Article 107.27 of the Standard Specifications. The "Department" shall be taken to mean HR Green, Inc. The policy of insurance shall include HR Green, Inc., the City of Crystal Lake and it's Agents as an additional insured or provide separate coverage with an Owner's Protective Policy, as per the amounts stated in the Standard Specifications. No work shall begin until the certificate of insurance is on file with the Engineer. All costs for insurance shall be considered incidental to the contract.

21. All handicapped parking signs must have a $250.00 fine sign attached.

22. The Contractor shall be responsible for the installation and maintenance of adequate signs, traffic control devices, and warning devices to inform and protect the public during all phases of construction. See City Standard Traffic Control detail for lane closures of public roads.

23. The Engineer shall be responsible for the following:

A. To visit the construction site in order to better carry out the duties and responsibilities assigned by the Owner and undertaken by the Engineer; and

B. The Engineer shall not, during such visits or as a result of such observations of the Contractor's work in progress, supervise, direct, have control over the Contractor's work, nor shall the Engineer have the authority over the responsibility for the means, methods, techniques, sequences, or procedures of construction selected by the Contractor, for safety precautions and programs incidental to the work of the Contractor, or for any failure of the Contractor to comply with laws, rules, regulations, ordinances, codes or orders applicable to the Contractor furnishing and performing his work. Accordingly, the Engineer can neither guarantee the performance of the construction contracts by the Contractor nor assume responsibility for the Contractor's failure to furnish and perform his work in accordance with the Contract Documents.

27. No construction plans shall be used for construction unless specifically marked "For Construction." Prior to commencement of construction, the Contractor shall verify all dimensions and conditions affecting their work with the actual conditions at the job site. In addition, the Contractor must verify the Engineer's line and grade stakes. If there are any discrepancies from what is shown on the construction plans, he must immediately report same to the Engineer before doing any work, otherwise the Contractor assumes full responsibility. In the event of disagreement between the construction plans, standard specifications and/or special details, the Contractor shall secure written instructions from the Engineer prior to proceeding with any part of the work affected by omissions or discrepancies. Failing to secure such instructions, the Contractor will be considered to have proceeded at his own risk and expense.

In the event of any doubt or question arising with respect to the true meaning of the construction plans or specifications, the decision of the Engineer shall be final and conclusive.

28. The Contractor shall indemnify and hold harmless the City ,City's Engineers their agents and it's employees, HR Green, Inc. and McHenry County College, from and against all claims, damages, losses and expenses, including attorney's fees arising out of or resulting from the performance of the Contractor's work. In any and all claims against the City or its employees, by any employee of the Contractor, or anyone directly or indirectly employed by the Contractor, or anyone for whose acts the Contractor may be liable, the indemnification obligation shall not be limited in any way by any limitation on the amount of damages, waiver of subrogation compensation or benefits payable by or for the Contractor under Workmen's Compensation acts, disability benefit acts or other employee benefit acts.

29. Sawing of removal items as noted on the plans, specified in Section 440 of the Standard Specifications, or as required by the engineer, shall be considered incidental to the cost of the item being removed, and no extra compensation will be allowed, unless otherwise specified.

30. SIGN PANEL - TYPE 1, METAL POST - TYPE B. This work shall consist of furnishing and installing Type 1 sign panels on U-channel, and break away sign supports as indicated on the plans. Sign assemblies shall meet the requirements of Standard Specifications for Traffic Control Items.

Installation of sign assemblies shall be as specified on the plans, in accordance with the Illinois Manual on Uniform Traffic Control Devices and as directed by the Engineer.

Furnishing, fabricating and installing sign assemblies will be paid for at the contract unit price per square foot for Sign Panel - Type 1 which price will be payment in full for all labor and material necessary to fabricate and install each sign assembly specified on the plans. The posts, including the break away assembly, shall be paid for at the unit price per foot for Metal Post - Type B.

31. PROTECTIVE COAT. This work shall be in accordance with Section 420 of the Standard Specifications insofar as applicable with the following revision.

The protective coat shall be applied to all exposed surfaces of Combination Concrete Curb and Gutter, Concrete Median and Concrete Corrugated Median.

This work will be paid for at the contract unit price per square yard for Protective Coat.

32. COMBINATION CONCRETE CURB AND GUTTER. Concrete curb, concrete gutter and combination concrete curb and gutter shall be constructed, measured and paid for in accordance with Section 606 of the Standard Specifications except as follows:

Revise the last sentence of the second paragraph of Article 606.07 to read as follows: "The traverse joints shall be contraction joints spaced on 12-foot centers."

Any City requirements regarding expansion & contraction joints shall govern construction.

33. A performance guarantee shall be required (letter of credit) for all public utilities. Also, a two year maintenance bond shall be established upon completion of work.

34. All pavement markings on main access drives, approaches and parking lot shall be painted with two (2) coats of WHITE SHERWIN WILLIAMS "PROMAR TRAFFIC MARKING."

Pavement Striping: All proposed pavement striping to be painted.

All Handicap striping shall be yellow.

35. All curb & gutter crossings over trench locations shall be reinforced with 2-#4 rebar extended 2' beyond each side of trench

36. Where storm sewer is located above the water main, the reinforced concrete pipe shall have O-rings to provide a water tight seal and to create a water quality pipe.

37. CURB RAMPS
All sidewalks shall be installed to accommodate the handicapped. A Type "A" Ramp shall be installed in accordance with I.D.O.T. Standard Detail 424001-01, or the detail shown on the plan. Color of truncated domes shall be contrasting with the adjacent surface. Contractor to coordinate color with owner prior to ordering truncated dome panels.

38. SIDEWALKS. Unless otherwise shown on the plans, the proposed sidewalks in front of the site shall be constructed when the site work is substantially complete.

ALL PUBLIC AND PRIVATE SIDEWALKS SHALL BE CONSTRUCTED WITH A MAXIMUM RUNNING SLOPE OF NO GREATER THAN 1:20 (FT/FT) = 5% GRADIENT

All materials shall meet the requirements of the "Standard Specifications for Road and Bridge Construction" of the Illinois Department of Transportation. Concrete shall be at least a six (6) bag mix, 4% to 6% air entrained, and shall have a slump of no less than two (2") inches nor more than four (4") inches. Fiberglass reinforced additives shall be used on all sidewalks extending through driveways. Sidewalks shall be placed on a minimum of four (4") inches of CA-6 crushed stone or Grade 9 compactable crushed stone. Driveway crossings for sidewalks shall be 6" P.C.C. with (4") inches of CA-6 crushed stone or Grade 9 compactable crushed stone.

Pre-molded bituminous expansion joints one-half (1/2") inch thick shall be placed every 50 feet minimum and one-half (1/2") inch thick between the sidewalk and all structures, which extend through the sidewalk. Control joints shall be on five (5') foot centers.

The side edges of the sidewalk shall have rounded edges and the surface shall be "broom" finished.

Protection and Curing: All exposed surfaces of concrete shall be protected against rain. The concrete shall be cured for a minimum period of three days after placing by one of the following methods:

Wet burlap

Impervious paper

Membrane curing compound

When the temperature of the air is expected to drop below 40 degrees F. within 24 hours placing the concrete shall be protected with nine inches of loose, dry straw and a layer of burlap other acceptable material, for a period of at least five days.

39. The concrete sealer, in addition to conforming with the referenced Standard Specification section, shall be selected from the current IDOT approved product list for Plural Component Concrete Sealers, or equal. The concrete sealer must dry to a clear finish. All exterior concrete surfaces as well as the segmental block retaining wall shall be sealed. The contractor shall provide documentation from the sealant provider, segmental block wall supplier and concrete pavement supplier noting the sealer is compatible with all exterior concrete surfaces that it is to be applied to. Contractor to also provide cut sheets of the desired sealer to the engineer for approval prior to ordering.

40. All surplus soil that will need to be hauled and disposed of offsite will need to be certified that it is not contaminated as defined under 415 ILCS 5/3.160 and any fees, taxes, surcharges charged by or through the operator(s) of clean construction or demolition debris (CCDD) or uncontaminated soil fill operations for the acceptance of uncontaminated soil shall be paid for by the contractor and those fees included in their bid price.

SYMBOL LEGEND

	EXISTING	PROPOSED
SANITARY MANHOLE		
STORM MANHOLE		
STORM CATCH BASIN/INLET		
INLET		
FLARED END SECTION		
DRY WELL		
VALVE VAULT		
FIRE HYDRANT		
LIGHT POLE		
STREET SIGN		
REGULATORY SIGN		
UTILITY POLE		
UTILITY BOX		
MAILBOX		
WELL		
STORM SEWER		
SANITARY SEWER		
CULVERT		
WATER MAIN		
WATER MAIN ENCASEMENT		
SANITARY FORCE MAIN		
STORM UNDERDRAIN		
ELECTRIC LINE	E	
TELEPHONE LINE	T	
GAS LINE	G	
CABLE TV LINE	C	
TREE LINE		
TREE		
CONTOURS		
FENCE		
STONE RIP RAP		
EROSION CONTROL FENCE (QUANTITY SPECIFIED PER PLANS)		
DRAINAGE DIRECTION ARROW		
10-100 YEAR OVERFLOW DIRECTION ARROW		

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McHenry County College

Student Farm Renovations

8900 Northwest Hwy #14, Crystal Lake, IL 60012

DKA PROJECT NO: 25-037

KEY PLAN:

SHEET STATUS: 04/21/2026

ISSUED FOR BID - NOT FOR CONSTRUCTION

NO:	DESCRIPTION:	DATE:

SHEET TITLE:

GENERAL NOTES, SPECIFICATIONS, & LEGEND

SHEET NUMBER:

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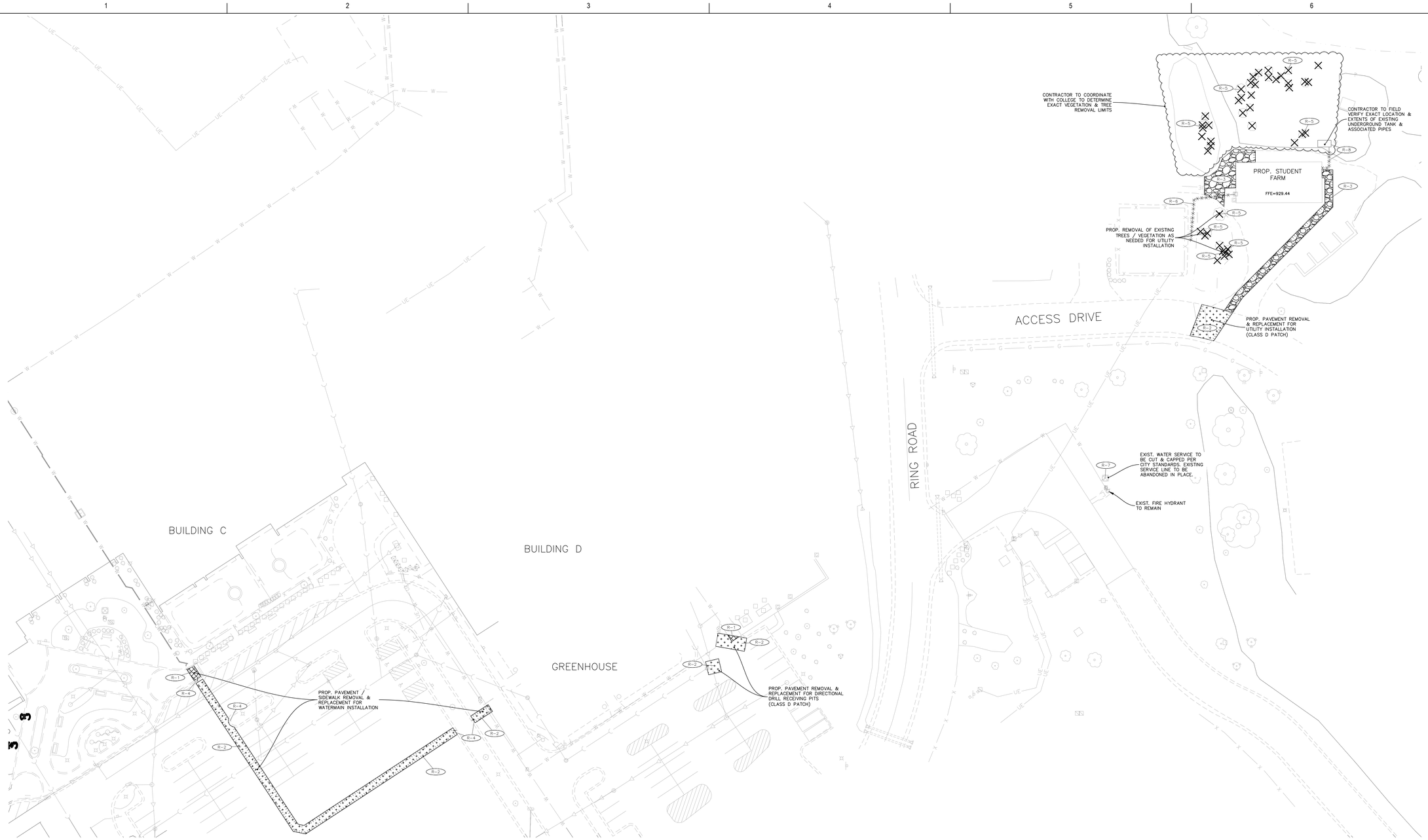

BID ALTERNATE NO. 2:

- ADD TO THE LUMP SUM BASE BID TO ADD THE WATER MAIN CONNECTION BETWEEN BUILDING C AND BUILDING D. ADDED SCOPE OF WORK INCLUDES ALL WORK ASSOCIATED WITH DEMO, EXCAVATION, PIPING INSTALLATION, BACKFILL, AND RESTORATION OF EXISTING CONDITIONS. BASE BID HAS NO WORK IN THIS AREA OF THE PROJECT.

LEGEND

- INDICATES HMA REMOVAL
- INDICATES CONCRETE REMOVAL (FULL DEPTH) (SEE TAGS FOR INFORMATION)
- INDICATES GRAVEL REMOVAL
- R-# INDICATES MISC. REMOVAL ITEMS
- INDICATES EXIST. CONCRETE CURB & GUTTER OR WALL TO BE REMOVED
- INDICATES TREE AND BRUSH REMOVAL (SEE LANDSCAPE PLANS)
- INDICATES TREE AND BRUSH PROTECTION
- INDICATES PAVEMENT SAWCUT
- INDICATES UTILITY LINE REMOVAL

R-# REMOVAL TAGS:

NUMBER	DESCRIPTION	REMARKS
R-1	CONCRETE PAVEMENT/SIDEWALK	REMOVE (FULL DEPTH)
R-2	ASPHALT PAVEMENT	REMOVE (FULL DEPTH)
R-3	GRAVEL	REMOVE
R-4	CURB & GUTTER	REMOVE & REPLACE
R-5	TREE	REMOVE
R-6	ELECTRIC SERVICE & METER	REMOVE (COORD. W/ UTILITY)
R-7	WATER SERVICE	ABANDON IN PLACE
R-8	UNDERGROUND TANK & PIPES	REMOVE

NOTES:

- MCHENRY COUNTY COLLEGE (MCC) SHALL BE NOTIFIED OF ALL NON IDENTIFIED UNDERGROUND UTILITIES OR CONDUITS DISCOVERED DURING CONSTRUCTION. IF ANY OF THE UTILITY OR CONDUITS NEED TO BE REPAIRED, PLUGGED, REROUTED AND OR ABANDONED IN PLACE, IT SHALL TAKE PLACE PER THE DIRECTION OF THE MCC.
- ALL NON-PAVED DISTURBED AREAS SHALL BE RESTORED W/ 6" TOPSOIL AND CL 1A SEED W/ EXCELSIOR BLANKET

REMOVAL NOTES:

- ALL REMOVALS IN NON-PAVED AREAS DENOTED TO REQUIRE CLEARING AND GRUBBING SHALL INCLUDE TOPSOIL STRIP AND STOCKPILE AS PART OF THE REMOVAL UNLESS OTHERWISE NOTED.

STAGING NOTE:

(STAGING SUBJECT TO CHANGES PER SITE CONTRACTORS SCHEDULE AND METHODS OF OPERATION)

1. EROSION CONTROL MEASURES
2. PLAN REMOVALS
3. UTILITY INSTALLATION
4. BUILDING CONSTRUCTION / RENOVATIONS
5. PAVING
6. TOPSOIL RESPREAD/SEED

PROJECT NOTES:

- **LAND DISTURBING ACTIVITIES SHALL NOT COMMENCE UNTIL APPROVAL TO DO SO HAS BEEN RECEIVED BY GOVERNING AUTHORITIES, IN ADDITION TO, NO LAND CLEARING OR GRADING SHALL BEGIN UNTIL ALL PERIMETER EROSION AND SEDIMENT CONTROL MEASURES HAVE BEEN INSTALLED. SEE SHEET C-06 FOR EROSION CONTROL MEASURES)**
- ALL EXISTING UTILITIES TO BE FIELD VERIFIED PRIOR TO CONSTRUCTION.
- CONTRACTOR SHALL COORDINATE AND COMPLY WITH ALL UTILITY COMPANIES INVOLVED IN PROJECT AND PAY ALL REQUIRED FEES AND COSTS.
- ALL STRUCTURES & DEBRIS SHALL BE REMOVED PRIOR TO CONSTRUCTION & DISPOSED OF OFFSITE.
- ANY EXISTING FIELD DRAIN TILES ENCOUNTERED SHALL BE RECONNECTED OR CONNECTED TO THE NEAREST STORM SEWER.
- ALL TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
- **CONTRACTOR TO KEEP RING ROAD (CIRCLE DR.) OPEN AT ALL TIMES.**
- THE CONTRACTOR IS CAUTIONED NEITHER TO OBSTRUCT NOR REMOVE ANY EXISTING PAVEMENT, NOR TO DISTURB THE EXISTING TRAFFIC PATTERNS MORE THAN IS NECESSARY FOR THE PROPER EXECUTION OF THE WORK.

Dial 811 or 1-800-892-0123

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

CALL JULIE 1-800-892-0123

WITH THE FOLLOWING:
COUNTY McHenry
CITY-TOWNSHIP Crystal Lake - Dorr
SEC. & 1/4 SEC. NO.# SW 1/4 OF SEC-25-T-44N-7E

48 hours before you dig
(Excluding Sat., Sun. & Holidays)

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NORTH
0 15 30
BAR IS ONE INCH ON OFFICIAL DRAWINGS
0 1"
IF NOT ONE INCH, ADJUST SCALE ACCORDINGLY

ISSUED FOR BID – NOT FOR CONSTRUCTION

ARCHITECT:
DEMONICA KEMPER ARCHITECTS
125 N. HALSTED STREET, SUITE 301
CHICAGO, IL 60661
P: 312.496.0000

S-MEP-FP-T ENGINEER:
IMEG CORP
263 SHUMAN BLVD, SUITE 550
NAPERVILLE, IL, 60563
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CIVIL ENGINEER:
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1391 CORPORATE DRIVE, SUITE 203
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P: 815.385.1778

KITCHEN CONSULTANT:
NEW VENTURE ADVISORS
2506 N. CLARK ST. #436
CHICAGO, IL, 60614
P: 773.245.3570

McHenry County College

Student Farm Renovations

8900 Northwest Hwy #14, Crystal Lake, IL 60012
DKA PROJECT NO: 25-037

KEY PLAN:

SHEET STATUS: 04/21/2026
ISSUED FOR BID - NOT FOR CONSTRUCTION

NO:	DESCRIPTION:	DATE:

SHEET TITLE:
SITE DEMOLITION PLAN

SHEET NUMBER:
C-02

2/26/2026 11:33:40 AM

Xrefs: 2504017_KCS-Diagn; 1801BIL_xv-Survey; 8615008B-xv-Basemap; 2404167_xv-Aerial; MCC Student Form_DKA-TITLEBLOCK; 2403560_AC-Diagn; 2502998_xv-Survey; 2504017_KCS-Tabulations

SITE DATA:

- PIN: 13-25-300-021
- PROPOSED PROJECT AREA: 50,348± SQ. FT. (1.16 ACRES)
- EXISTING IMPERVIOUS WITHIN PROJECT AREA: 21,481± SQ. FT. (42.67%)
  - ** PAVED SURFACE: 17,318± SQ. FT. (34.40%)
  - ** BUILDING AREA: 4,163± SQ. FT. (8.27%)
- PROPOSED IMPERVIOUS WITHIN PROJECT AREA: 24,495± SQ. FT. (48.56%)
  - ** PAVED SURFACE: 15,196± SQ. FT. (30.18%)
  - ** BUILDING AREA: 9,299± SQ. FT. (18.47%)
- NET CHANGE IN IMPERVIOUS AREA: 3,014± SQ. FT. INCREASE
  - ** PROPOSED EVENT CENTER ROOF AREA: 6,347± SQ. FT.
  - ** IMPERVIOUS TO EXIST. BASIN REDUCTION: 3,333± SQ. FT., SEE NOTE BELOW.
- NOTE:
  - ** BUILDING AREA REFERS TO BUILDING ROOF AREA. PAVED SURFACE REFERS TO IMPERVIOUS AREA AT GROUND LEVEL.
  - ** THE PROPOSED DEVELOPMENT RESULTS IN AN OVERALL INCREASE IN IMPERVIOUS AREA. HOWEVER, THE STORMWATER RUNOFF FROM THE PROPOSED EVENT CENTER BUILDING WILL BE ROUTED TO A PROPOSED INFILTRATION BASIN SEPARATE FROM THE EXISTING DETENTION BASIN. BECAUSE THIS BUILDING AREA WILL NO LONGER TRIBUTARY TO THE EXISTING DETENTION BASIN IT HAS BEEN CONSIDERED AS A HARDSCAPE AREA REDUCTION FOR PURPOSES OF STORMWATER CALCULATIONS. SEE STORMWATER MANAGEMENT REPORT FOR FURTHER DETAILS.

BUILDING AREA:

- PROPOSED BUILDING TO BE CONSTRUCTED PER ARCHITECTURAL PLANS.

PARKING DATA:

- NO CHANGES PROPOSED TO EXISTING PARKING.

REMOVAL NOTES:

- ALL REMOVALS IN NON-PAVED AREAS DENOTED TO REQUIRE CLEARING AND GRUBBING SHALL INCLUDE TOPSOIL STRIP AND STOCKPILE AS PART OF THE REMOVAL UNLESS OTHERWISE NOTED.

PROJECT NOTES:

- **LAND DISTURBING ACTIVITIES SHALL NOT COMMENCE UNTIL APPROVAL TO DO SO HAS BEEN RECEIVED BY GOVERNING AUTHORITIES, IN ADDITION TO, NO LAND CLEARING OR GRADING SHALL BEGIN UNTIL ALL PERIMETER EROSION AND SEDIMENT CONTROL MEASURES HAVE BEEN INSTALLED. SEE SHEET C-05 FOR EROSION CONTROL MEASURES)**
- ALL EXISTING UTILITIES TO BE FIELD VERIFIED PRIOR TO CONSTRUCTION.
- CONTRACTOR SHALL COORDINATE AND COMPLY WITH ALL UTILITY COMPANIES INVOLVED IN PROJECT AND PAY ALL REQUIRED FEES AND COSTS.
- ALL STRUCTURES & DEBRIS SHALL BE REMOVED PRIOR TO CONSTRUCTION & DISPOSED OF OFFSITE.
- ANY EXISTING FIELD DRAIN TILES ENCOUNTERED SHALL BE RECONNECTED OR CONNECTED TO THE NEAREST STORM SEWER.
- ALL TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
- **CONTRACTOR TO KEEP RING ROAD (CIRCLE DR.) OPEN AT ALL TIMES.**
- THE CONTRACTOR IS CAUTIONED NEITHER TO OBSTRUCT NOR REMOVE ANY EXISTING PAVEMENT, NOR TO DISTURB THE EXISTING TRAFFIC PATTERNS MORE THAN IS NECESSARY FOR THE PROPER EXECUTION OF THE WORK.

NOTES:

- MCHENRY COUNTY COLLEGE (MCC) SHALL BE NOTIFIED OF ALL NON IDENTIFIED UNDERGROUND UTILITIES OR CONDUITS DISCOVERED DURING CONSTRUCTION. IF ANY OF THE UTILITY OR CONDUITS NEED TO BE REPAIRED, PLUGGED, REROUTED AND OR ABANDONED IN PLACE, IT SHALL TAKE PLACE PER THE DIRECTION OF THE MCC.
- ALL NON-PAVED DISTURBED AREAS SHALL BE RESTORED W/ 6" TOPSOIL AND CL 1A SEED W/ EXCELSIOR BLANKET

CLASS "D" PATCH

PROJECT NOTES:

- CONTRACTOR TO COORDINATE W/ COLLEGE PRIOR TO CLOSING ANY PORTIONS OF THE EXISTING PAVED LOT.
- ALL CONSTRUCTION FOR UTILITIES AND PAVEMENT SHOULD BE DONE IN ACCORDANCE WITH CITY OF CRYSTAL LAKE STANDARD SPECIFICATIONS.
- ALL PAVEMENT DIMENSIONS ARE MEASURED TO THE EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.
- ALL PAVEMENT RADII ARE 5.0' RADIUS MEASURED TO THE EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.
- ALL CURB ADJOINING SIDEWALKS SHALL BE DOWELED INTO THE CURB.

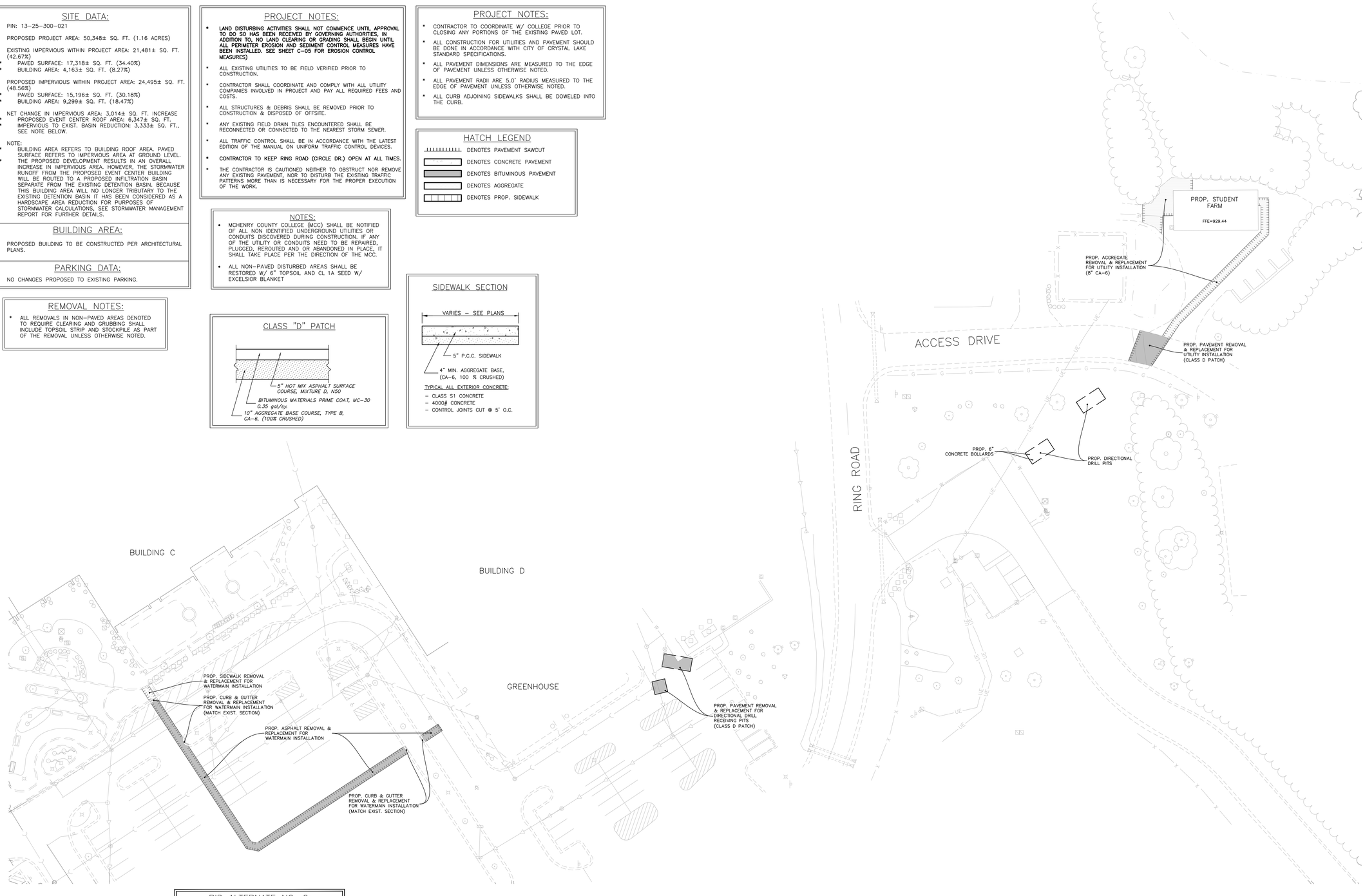
HATCH LEGEND

- DENOTES PAVEMENT SAWCUT
- DENOTES CONCRETE PAVEMENT
- DENOTES BITUMINOUS PAVEMENT
- DENOTES AGGREGATE
- DENOTES PROP. SIDEWALK

SIDEWALK SECTION

TYPICAL ALL EXTERIOR CONCRETE:

- CLASS S1 CONCRETE
- 4000# CONCRETE
- CONTROL JOINTS CUT @ 5' O.C.



BID ALTERNATE NO. 2:

- ADD TO THE LUMP SUM BASE BID TO ADD THE WATER MAIN CONNECTION BETWEEN BUILDING C AND BUILDING D. ADDED SCOPE OF WORK INCLUDES ALL WORK ASSOCIATED WITH DEMO, EXCAVATION, PIPING INSTALLATION, BACKFILL, AND RESTORATION OF EXISTING CONDITIONS. BASE BID HAS NO WORK IN THIS AREA OF THE PROJECT.

Dial 811 or 1-800-892-0123

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

CALL JULIE 1-800-892-0123

WITH THE FOLLOWING:
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SEC. & 1/4 SEC. NO.# SW 1/4 OF SEC-25-T-44N-7E

48 hours before you dig
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Xrefs: 2504017_xCs-Dsgn; 25029R8_xV-Survey; MCC Student Farm_DKA-TITLEBLOCK

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KEY PLAN:

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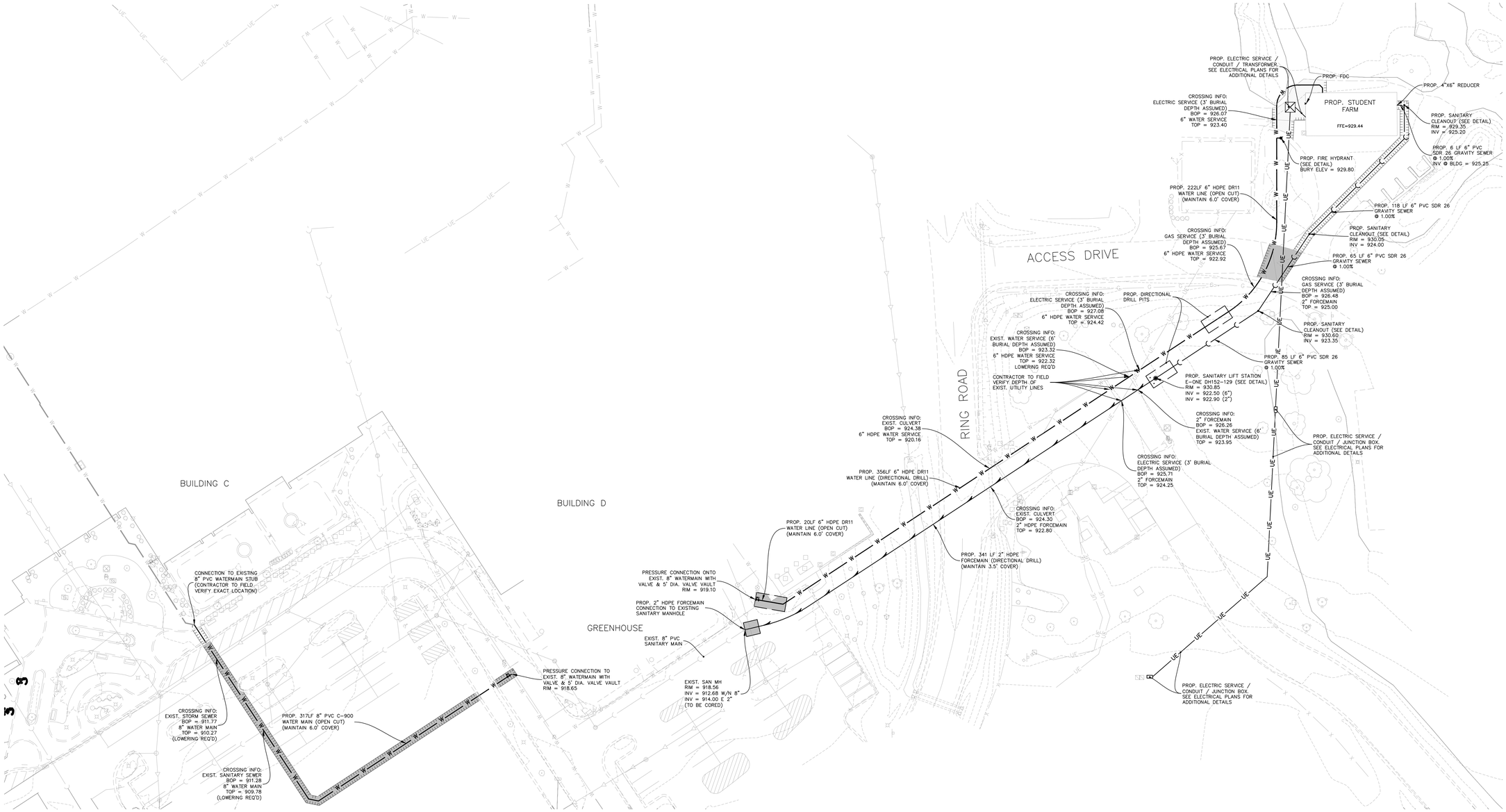
NO:	DESCRIPTION:	DATE:

SHEET TITLE:
SITE PLAN

SHEET NUMBER:
C-03

2/26/2026 11:33:40 AM



BID ALTERNATE NO. 2:

- ADD TO THE LUMP SUM BASE BID TO ADD THE WATER MAIN CONNECTION BETWEEN BUILDING C AND BUILDING D. ADDED SCOPE OF WORK INCLUDES ALL WORK ASSOCIATED WITH DEMO, EXCAVATION, PIPING INSTALLATION, BACKFILL, AND RESTORATION OF EXISTING CONDITIONS. BASE BID HAS NO WORK IN THIS AREA OF THE PROJECT.

PRIVATE SANITARY LIFT STATION NOTES:

- BASE BID:
  - ** E-ONE DH152-129 (SEE DETAIL)
- ACCEPTABLE ALTERNATES:
  - ** FRANKLIN ELECTRIC 515209 -IGP-DPLX3672
  - ** LIBERTY PUMPS D3696-SERIES

UTILITY NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF SITE PLAN DOCUMENTS AND ARCHITECTURAL DESIGN FOR EXACT BUILDING UTILITY CONNECTION LOCATIONS, DOOR ACCESS, AND EXTERIOR GRADING. THE UTILITY SERVICE SIZES ARE TO BE DETERMINED BY THE ARCHITECT. THE CONTRACTOR SHALL COORDINATE INSTALLATION OF UTILITIES/SERVICES WITH THE INDIVIDUAL COMPANIES, TO AVOID CONFLICTS AND ENSURE PROPER DEPTHS ARE ACHIEVED. THE JURISDICTION UTILITY REQUIREMENTS SHALL ALSO BE MET, AS WELL AS COORDINATING THE UTILITY TIE-INS/CONNECTIONS PRIOR TO CONNECTING TO THE EXISTING UTILITY/SERVICE. WHERE CONFLICTS EXIST WITH THESE SITE PLANS, ENGINEER IS TO BE NOTIFIED PRIOR TO CONSTRUCTION TO RESOLVE SAME.
2. FIELD VERIFY ELEVATIONS AND LOCATIONS OF ALL CONNECTIONS TO EXISTING UTILITIES PRIOR TO COMMENCING CONSTRUCTION.
3. PROVIDE TEMPORARY SUPPORT FOR EXISTING UTILITY LINES THAT ARE ENCOUNTERED DURING CONSTRUCTION UNTIL BACKFILLING IS COMPLETE.
4. MAINTAIN A MINIMUM OF **6.0'** COVER OVER ALL WATER MAINS & SERVICES.
5. MAINTAIN A MINIMUM OF **3.5'** COVER OVER ALL SANITARY SERVICES.
6. ADJUST ALL MANHOLES AND FRAMES TO FINISHED GRADES.
7. ALL SANITARY SEWER AND WATER SERVICES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE **IEPA STANDARDS.**
8. 18" MINIMUM VERTICAL CLEARANCE BETWEEN SANITARY/STORM SEWER AND WATER MAIN. (PER **IEPA** STANDARDS)
9. MAINTAIN A MINIMUM OF 10' HORIZONTAL SEPARATION BETWEEN SANITARY SEWER LINES AND PUBLIC WATER MAINS. (PER **IEPA** STANDARDS)
10. WHERE PUBLIC UTILITY FIXTURES ARE SHOWN AS EXISTING ON THE PLANS OR ENCOUNTERED WITHIN THE CONSTRUCTION AREA, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE OWNERS OF THOSE UTILITIES PRIOR TO THE BEGINNING OF ANY CONSTRUCTION. THE CONTRACTOR SHALL AFFORD ACCESS TO THESE FACILITIES FOR NECESSARY MODIFICATION OF SERVICES. UNDERGROUND FACILITIES, STRUCTURES, AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND RECORDS AND THEREFORE, THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. IT IS POSSIBLE THERE MAY BE OTHERS. THE EXISTENCE OF WHICH IS PRESENTLY NOT KNOWN OR SHOWN. IT IS THE CONTRACTORS RESPONSIBILITY TO DETERMINE THEIR EXISTENCE AND EXACT LOCATIONS AND TO AVOID DAMAGE THERETO. NO CLAIMS FOR ADDITIONAL COMPENSATION WILL BE ALLOWED TO THE CONTRACTOR FOR ANY INTERFERENCE OR DELAY CAUSED BY SUCH WORK. THE CONTRACTOR IS REQUIRED TO UTILIZE THE UTILITY CALL **JULIE AT 1-800-892-0123** AT LEAST 48 HOURS PRIOR TO EXCAVATING ANYWHERE ON THE PROJECT.
11. LOCATION OF SITE UTILITIES SHALL BE VERIFIED WITH PROPER UTILITY COMPANY PROVIDING SERVICE.
12. MATERIAL PERMITTED FOR USE AS GRAVITY SANITARY SEWER PIPES IS **PVC SDR 26** FOR **6"**.
13. ALL SANITARY SEWER CONSTRUCTION SHALL MEET THE REQUIREMENTS OF THE **CITY OF CRYSTAL LAKE.**
14. ALL CONNECTIONS TO PUBLIC SANITARY MANHOLES SHALL BE CORE DRILLED.
15. ALL STORM DRAINAGE CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH THE **CITY OF CRYSTAL LAKE.**
16. ALL FIELD TILES ENCOUNTERED SHALL BE REPLACED AND/OR CONNECTED TO THE STORM SEWER SYSTEM AND LOCATED AND IDENTIFIED ON THE RECORD PLANS BY THE CONTRACTOR.
17. ROOF DRAINS, FOUNDATION DRAINS, AND OTHER CLEAN WATER CONNECTIONS TO THE SANITARY SEWER SYSTEM ARE PROHIBITED.
18. PROVIDE UNDERDRAINS FROM SEEPS OR SPRINGS ENCOUNTERED. EXTEND TO STORM SEWER SYSTEM OR DAYLIGHT AT THE BOTTOM OF THE THE FILL SLOPE
19. ALL PROPOSED PIPE CONNECTIONS TO EXISTING OR PROPOSED MANHOLES SHALL CONFORM TO ASTM-C923.
20. ALL TRENCHING, PIPE LAYING, AND BACKFILLING SHALL BE IN ACCORDANCE WITH FEDERAL OSHA REGULATIONS.
21. GENERAL CONTRACTOR SHALL HAVE APPROVAL FROM ALL GOVERNING AGENCIES HAVING JURISDICTION OVER THIS SYSTEM PRIOR TO INSTALLATION.
22. ALL BUILDING UTILITY SERVICE LOCATIONS TO BE VERIFIED PRIOR TO CONSTRUCTION.
23. ALL EXISTING UTILITIES TO BE FIELD VERIFIED PRIOR TO CONSTRUCTION.
24. CONTRACTOR TO COORDINATE W/ **COLLEGE** PRIOR TO CLOSING ANY PORTIONS OF ANY **ADJACENT ACCESS DRIVES OR PARKING LOT.**
25. MATERIAL FOR WATER MAIN SHALL BE **PVC C-900 AND MATERIAL FOR WATER SERVICE SHALL BE HDPE DR11.**
26. **ALL NON-METALLIC UTILITY LINES SHALL BE INSTALLED WITH TRACER WIRE PER CITY STANDARDS.**

ONSITE WATERLINE NOTES:

- THRUST BLOCKS SHALL BE PROVIDED AT ALL BENDS, TEES, AND FIRE HYDRANTS.
- ALL FIRE HYDRANTS SHALL BE PROVIDED WITH AN APPROVED AUXILIARY GATE VALVE.
- ALL WATER MAINS SHALL BE HYDROSTATICALLY TESTED AND DISINFECTED BEFORE ACCEPTANCE. SEE SITE WORK SPECIFICATIONS.
- ALL TRENCHING, PIPE LAYING, AND BACKFILLING SHALL BE IN ACCORDANCE WITH FEDERAL OSHA REGULATIONS.
- GENERAL CONTRACTOR SHALL HAVE APPROVAL OF ALL GOVERNING AGENCIES HAVING JURISDICTION OVER THIS SYSTEM PRIOR TO INSTALLATION.
- **CONTRACTOR SHALL COORDINATE WITH MCHENRY COUNTY COLLEGE TO SCHEDULE WATER MAIN/SERVICE SHUTOFF FOR PROPOSED WATER MAIN WORK.**

Dial 811 or 1-800-892-0123

811

Know what's below. Call before you dig.

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SEC. & 1/4 SEC. NO.# SW 1/4 OF SEC-25-T-44N-7E

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8900 Northwest Hwy #14, Crystal Lake, IL 60012
DKA PROJECT NO: 25-037

KEY PLAN:

SHEET STATUS: 04/21/2026
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NO:	DESCRIPTION:	DATE:

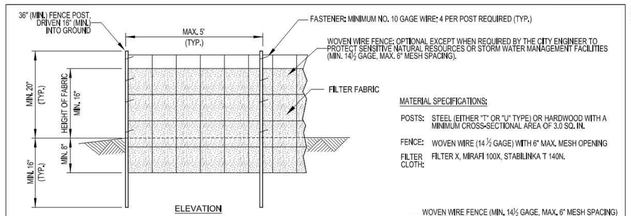
SHEET TITLE:
UTILITY PLAN

SHEET NUMBER:
C-04

2/26/2026 11:33:40 AM

Xrefs: 2504017_xCS-Diagn; 180186_xV-Survey; 8615008B-xV-Basemap; 2404167_xV-Aerial; MCC Student Form_DKA-TITLEBLOCK; 2403560_xC-Diagn; 2502998_xV-Survey

EC-01



ELEVATION

MATERIAL SPECIFICATIONS:

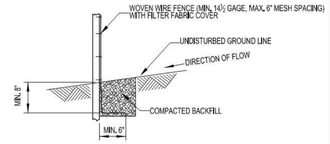
POSTS: STEEL (EITHER "T" OR "U" TYPE) OR HARDWOOD WITH A MINIMUM CROSS-SECTIONAL AREA OF 3.0 SQ. IN.

FENCE: WOVEN WIRE (14 ½ GAGE) WITH 6" MAX. MESH OPENING

FILTER CLOTH: FILTER X, MIRAFI 100X, STABILINKA T 140N.

NOTES:

1. TEMPORARY SEDIMENT FENCE SHALL BE INSTALLED PRIOR TO ANY GRADING WORK IN THE AREA TO BE PROTECTED. THEY SHALL BE MAINTAINED, AS NEEDED, THROUGHOUT THE CONSTRUCTION PERIOD AND REMOVED IN CONJUNCTION WITH THE FINAL GRADING AND SITE STABILIZATION.
2. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POST WITH TIES OR STAPLES
3. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID-SECTION
4. WHEN TWO (2) SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX (6) INCHES AND FOLDED
5. MATERIAL SHALL BE REMOVED WHEN BULGES DEVELOP IN THE SILT FENCE
6. DOUBLE ROWS OF SILT FENCE SPACED FIVE (5) FEET APART SHALL BE PLACED AROUND EXISTING STORMWATER MANAGEMENT FACILITIES OR WETLANDS AS ADDITIONAL PROTECTION WHEN REQUIRED BY CITY ENGINEER

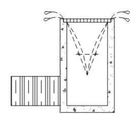


FABRIC ANCHOR DETAIL

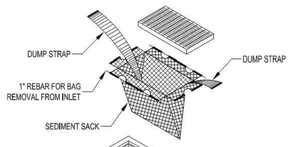
Revised:	Drawing Name	Drawing Number	
1. 06/12/2015	SILT FENCE	EC-01	City of Crystal Lake Illinois
2.		Date: 12/4/2012	
3.		Drawn DD / Checked AW	
4.			

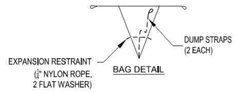
I:\ENGINEERING AND BUILDING ENGINEERING DETAILS AND STANDARDS\

EC-04



INSTALLATION DETAIL





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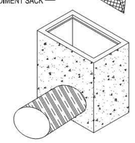
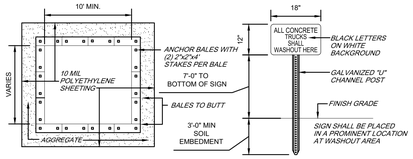


SEDIMENT CONTROL DEVICE

Revised:	Drawing Name	Drawing Number	
1. 06/12/2015	INLET SEDIMENT CONTROL DEVICE	EC-04	City of Crystal Lake Illinois
2.		Date: 11/2/2007	
3.		Drawn EM / Checked AW	
4.			

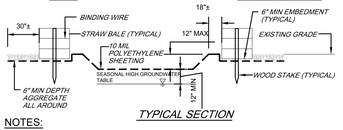
I:\ENGINEERING AND BUILDING ENGINEERING DETAILS AND STANDARDS\

CONCRETE WASHOUT AREA



PLAN

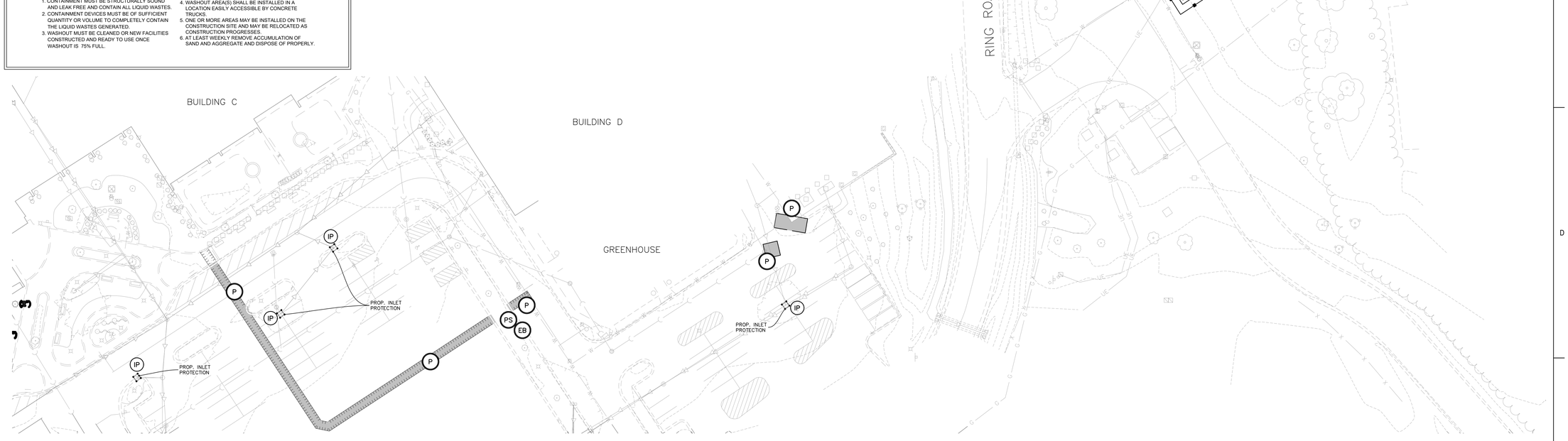
WASHOUT SIGN



TYPICAL SECTION

NOTES:

1. CONTAINMENT MUST BE STRUCTURALLY SOUND AND LEAK FREE AND CONTAIN ALL LIQUID WASTES.
2. CONTAINMENT DEVICES MUST BE OF SUFFICIENT QUANTITY OR VOLUME TO COMPLETELY CONTAIN THE LIQUID WASTES GENERATED.
3. WASHOUT MUST BE CLEANED OR NEW FACILITIES CONSTRUCTED AND READY TO USE ONCE WASHOUT IS 75% FULL.
4. WASHOUT AREA(S) SHALL BE INSTALLED IN A LOCATION EASILY ACCESSIBLE BY CONCRETE TRUCKS.
5. ONE OR MORE AREAS MAY BE INSTALLED ON THE CONSTRUCTION SITE AND MAY BE RELOCATED AS CONSTRUCTION PROGRESSES.
6. AT LEAST WEEKLY REMOVE ACCUMULATION OF SAND AND AGGREGATE AND DISPOSE OF PROPERLY.



LEGEND

INDICATES EROSION CONTROL MEASURES (LIMITS OF GRADING)

INDICATES AREA TO UTILIZE EXCELSIOR BLANKET (SEE DETAILS)

INDICATES EROSION CONTROL MEASURE (SEE SHEET C-05 FOR EROSION CONTROL LEGEND/INFO)

DENOTES AREA OF TRENCH BACKFILL

DENOTES LIMITS OF DISTURBANCE AREA

NORTH

0 15 30

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(Excluding Sat., Sun. & Holidays)

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Student Farm Renovations

8900 Northwest Hwy #14, Crystal Lake, IL 60012

DKA PROJECT NO: 25-037

KEY PLAN:

SHEET STATUS: 04/21/2026

ISSUED FOR BID - NOT FOR CONSTRUCTION

NO:	DESCRIPTION:	DATE:

SHEET TITLE:

EROSION CONTROL PLAN

SHEET NUMBER:

C-05

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CONTROL MEASURE GROUP	CONTROL MEASURE	APPL.	KEY	CONTROL MEASURE CHARACTERISTICS	TEMP.	PERMNT
VEGETATIVE SOIL COVER	TEMPORARY SEEDING		TS	PROVIDES QUICK TEMPORARY COVER TO CONTROL EROSION WHEN PERMANENT SEEDING IS NOT DESIRED OR TIME OF YEAR IS INAPPROPRIATE.		
	PERMANENT SEEDING	X	PS	PROVIDES PERMANENT VEGETATIVE COVER TO CONTROL EROSION, FILTERS SEDIMENT FROM WATER. MAY BE PART OF FINAL LANDSCAPE PLAN.		X
	DORMANT SEEDING		DS	SAME AS PERMANENT SEEDING EXCEPT IS DONE DURING DORMANT SEASON. HIGHER RATES OF SEED APPLICATION ARE REQUIRED.		
	SODDING		SO	QUICK PERMANENT COVER TO CONTROL EROSION. QUICK WAY TO ESTABLISH VEGETATION FILTER STRIP. CAN BE USED ON STEEP SLOPES OR IN DRAINAGEWAYS WHERE SEEDING MAY BE DIFFICULT.		
	GROUND COVER		GC	PROVIDES GROUND COVER. SHRUBS AND TREES IN ADDITION TO PERMANENT VEGETATION. MAY BE USED AS PART OF A FINAL LANDSCAPE PLAN ALONG WITH SHRUBS AND TREES.		
NON VEGETATIVE SOIL COVER	MULCHING		M	ADDED INSURANCE OF A SUCCESSFUL TEMPORARY OR PERMANENT SEEDING. CONTROLS UNWANTED VEGETATION AND PRESERVES MOISTURE. PROVIDES COVER WHERE VEGETATION CANNOT BE ESTABLISHED.		
	AGGREGATE COVER	X	AG	PROVIDES SOIL COVER ON ROADS AND PARKING LOTS AND AREAS WHERE VEGETATION CANNOT BE ESTABLISHED. PREVENTS MUD FROM BEING PICKED UP AND TRANSPORTED OFF-SITE.	X	
	PAVING	X	P	PROVIDES PERMANENT COVER ON PARKING LOTS AND ROADS OR OTHER AREAS WHERE VEGETATION CANNOT BE ESTABLISHED.		X
	EROSION BLANKET	X	EB	PROVIDES QUICK TEMPORARY COVER TO CONTROL EROSION WHEN PERMANENT SEEDING TIME OF YEAR IS INAPPROPRIATE AND IN SLOPED AREAS.	X	
DIVERSIONS	RIDGE DIVERSION		RD	TYPICALLY USED ABOVE SLOPES. USED WHERE AN EXCESS OF SOIL IS AVAILABLE.		
	CHANNEL DIVERSION		CD	TYPICALLY USED AT TOP OR BASE OF SLOPES. USED WHEN EXCESS SOIL IS NOT AVAILABLE.		
	COMBINATION DIVERSION		CBD	TYPICALLY USED ANYWHERE ON A SLOPE. SOIL TAKEN OUT OF CHANNEL IS USED TO BUILD THE RIDGE.		
	CURB AND GUTTER		CG	SPECIAL CASE OF DIVERSION USED IN CONJUNCTION WITH A STREET TO DIVERT WATER FROM AN AREA NEEDING PROTECTION.		
	BENCHES		B	SPECIAL CASE OF DIVERSION CONSTRUCTED WHEN WORKING ON CUT SLOPES TO SHORTEN LENGTH OF SLOPE AND ADD SLOPE STABILITY.		
WATERWAYS	BARE CHANNEL		BC	PROVIDES MEANS OF CONVEYING RUNOFF TO DESIRED LOCATION. MAY BE USED TO DRAIN DEPRESSIONAL AREAS. ONLY APPLICABLE WHEN VELOCITY OF FLOW IS VERY LOW.		
	VEGETATIVE CHANNEL		VC	PROVIDED ADDED STABILITY TO CHANNEL. USED WHEN VELOCITY OF FLOW IS NOT EXTREMELY FAST.		
	LINED CHANNEL		LC	USED WHEN VEGETATION WILL NOT PROTECT THE CHANNEL AGAINST HIGH VELOCITIES OF FLOW OR WHERE VEGETATION CANNOT BE ESTABLISHED.		
	DITCH CHECKS		DC	PROVIDES AN ENERGY DISSIPATER ALONG A LENGTHY CHANNEL TO REDUCE VELOCITY OF STORMWATER		
ENCLOSED DRAINAGE	STORM SEWER		ST	CAN BE USED TO CONVEY SEDIMENT LADEN WATER TO SEDIMENT BASIN OR IN CONJUNCTION WITH A WATERWAY.		
	UNDERDRAIN		UD	USED TO LOWER WATER TABLE AND INTERCEPT GROUNDWATER FOR BETTER VEGETATION GROWTH AND SLOPE STABILITY. USED TO CARRY BASE FLOW IN WATERWAYS AND TO DEWATER SEDIMENT BASINS.		
SPILLWAYS	STRAIGHT PIPE SPILLWAY		SS	USED FOR RELATIVELY SMALL VERTICAL DROPS AND SMALL FLOWS OF WATER		
	DROP INLET PIPE SPILLWAY		DIS	SAME AS PIPE SPILLWAY EXCEPT LARGER FLOWS AND LARGE VERTICAL DROPS CAN BE ACCOMMODATED.		
	WEIR SPILLWAY		W	USED FOR RELATIVELY SMALL VERTICAL DROPS AND FLOWS MUCH GREATER THAN PIPE STRUCTURES.		
	BOX INLET WEIR SPILLWAY		BS	SAME AS WEIR SPILLWAY EXCEPT LARGER FLOWS CAN BE ACCOMMODATED BECAUSE OF LONGER WEIR LENGTH.		
OUTLETS	LINED APRON		LA	PROTECTS DOWNSTREAM CHANNEL FROM HIGH VELOCITY OF FLOW DISCHARGING FROM STRUCTURES.		
	STONE RIP RAP		RR	USED AS AN ENERGY DISSIPATER AT OUTLET STRUCTURES TO REDUCE VELOCITIES		
SEDIMENT BASINS	EMBANKMENT SEDIMENT BASIN		ES	USED WHERE TOPOGRAPHY LENDS ITSELF TO CONSTRUCTING A DAM AND EARTH FILL IS AVAILABLE.		
	EXCAVATED SEDIMENT BASIN		XS	USED WHERE EMBANKMENT COULD CAUSE A HAZARD DOWNSTREAM IN CASE OF FAILURE AND WHEN EXCESS EARTH FILL IS NOT AVAILABLE.		
	COMBINATION SEDIMENT BASIN		CS	USED WHEN TOPOGRAPHY IS SUITABLE BUT ADDITIONAL CAPACITY IS NEEDED.		
SEDIMENT FILTERS	BARRIER FILTER	X	BF	USED FOR SINGLE LOTS OR DRAINAGE AREAS LESS THAN 1/2 ACRE TO FILTER SEDIMENT FROM RUNOFF.	X	
	VEGETATIVE FILTER		VF	USED ALONG DRAINAGE WAYS OR PROPERTY LINES TO FILTER SEDIMENT FROM RUNOFF. SIZE MUST BE INCREASED IN PROPORTION TO DRAINAGE AREA.		
	FILTER BASKET		FB	USED FOR FILTERING SEDIMENT WITHIN THE ROADWAY BEFORE ENTERING THE STORM SEWER		
	INLET PROTECTION		IP	USED FOR FILTERING SEDIMENT WITHIN GRASS AREAS BEFORE WATER ENTERS THE STORM SEWER		
MUD AND DUST CONTROL	STABILIZED CONST. ENTRANCE		SE	PREVENT MUD FROM BEING PICKED UP AND CARRIED OFF-SITE.		
	DUST AND TRAFFIC CONTROL	X	DT	PREVENTS DUST FROM LEAVING CONSTRUCTION SITE.	X	

STABILIZATION TYPE	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG	SEPT.	OCT.	NOV.	DEC.
PERMANENT SEEDING			A,B,C, D			*	*					
SODDING												
TEMPORARY SEEDING				E			E					

A (1) KENTUCKY BLUEGRASS 50 LBS/ACRE
MIXED WITH PERENNIAL RYEGRASS
30 LBS/ACRE AND CREEPING RED FESCUE
20 LBS/ACRE

B (1A) BLUE GRASS 30 LBS/ACRE
PERENNIAL RYEGRASS 10 LBS/ACRE
DARBONS RED FESCUE 10 LBS ACRE
SCALDIS HARD FESCUE 10 LBS/ACRE
FULTS SALT GRASS 30 LBS/ACRE

C (4) ANDROPOGON GERNADI (BIG BLUE STEM) 4 LBS/ACRE
ANDROPOGON SCOPARIUS (LITTLE BLUE STEM) 5 LBS/ACRE
BOUTELOVA CURTIPENDULA (SIDE OATS GRAMA) 5 LBS/ACRE
ELYMUS CANADENENSIS (WILD RYE) 1 LBS/ACRE
PANCIUM VIRGATUM (SWITCH GRASS) 1 LBS/ACRE
SORGHASTRUM NUTONS (INDIAN GRASS) 2 LBS/ACRE
ANNUAL RYE GRASS 25 LBS/ACRE
OATS, SPRING 25 LBS/ACRE
PERENNAL RYE GRASS 15 LBS/ACRE

D (4B) ANNUAL RYE GRASS 250 LBS/ACRE
OATS, SPRING 250 LBS/ACRE
WETLAND GRASSES 6 LBS/ACRE

E SPRING OATS 100 LBS/ACRE

F WHEAT OR CEREAL RYE
150 LBS/ACRE.

G SOD

H ALFALFA/SOYBEANS 100-250 LBS/ACRE (VERIFY WITH TCR)

* IRRIGATION NEEDED DURING JUNE AND JULY

** IRRIGATION NEEDED FOR 2 TO 3 WEEKS AFTER APPLYING SOD.

( ) IDOT STANDARD

EROSION CONTROL NOTES

- All sedimentation and erosion control regulations shall be adhered to per City of Crystal Lake requirements.
- All erosion control measures shall be installed prior to the start of construction.
- No land disturbing activities shall not commence until approval to do so has been received by governing authorities, in addition to, no land clearing or grading shall begin until all perimeter erosion and sediment control measures have been installed. (including storm water pollution prevention plan per the development criteria.)
- If any additional soil erosion measures are deemed necessary by the City Engineer or his representative. These measures must be immediately implemented by the contractor.
- The general contractor shall strictly adhere to the storm water pollution prevention plan (SWPPP) during construction operations.
- All topsoil shall be stripped prior to filling.
- All exposed areas shall be seeded as specified within 14 days of final grading.
- Should construction stop for longer than 14 days, the site shall be seeded as specified.
- Sediment and erosion control measures shall be inspected at least once every seven (7) days and within 24 hours of a rainfall exceeding 0.5 inches during a 24-hour period. All maintenance required by inspection shall commence within 24 hours and be completed within 48 hours of report.
- This plan shall not be considered all inclusive as the general contractor shall take all necessary precautions to prevent soil sediment from leaving the site.
- General contractor shall comply with all state and local ordinances that apply.
- Additional erosion and sediment control measures will be installed if deemed necessary by on site inspection.
- If installation of storm drainage system should be interrupted by weather or nightfall, the pipe ends shall be covered with filter fabric.
- General contractor shall be responsible to take whatever means necessary to establish permanent soil stabilization.
- All erosion and sediment control practices shall be maintained and repaired as needed to ensure effective performance of the required erosion control measures.
- All erosion and sediment control work shall conform to the I.D.O.T. Manual for, standards and procedures for erosion control.
- All construction will adhere to the requirements set forth in the IEPA's new construction site activities national pollutant discharge elimination system (NPDES) storm water permit.
- All roadways and driveways shall be cleaned at the end of each construction day.
- All disturbed areas shall be stabilized within 7 days of active disturbance.
- All erosion control measures shall be disposed of within 30 days of final stabilization of the site.
- Ground cover for 5:1 slopes or greater shall be established as soon as possible.
- All disturbed areas to to restored w/ 6" topsoil respread & seeding/sodding unless otherwise noted on plans
- Filter Baskets or Silt filter fabric shall be placed between frame and grate until vegetation is established. (see detail)
- Utilize excelsior blanket on all slopes of 5:1 or greater.
  *Seeding per I.D.O.T. Manual, section 251,standard specifications for road and bridge construction, (latest edition
  *Class 1A type
  *Mulch/hydroseed per I.D.O.T. Manual, section 251, standard specifications for road and bridge construction, (latest edition
  *Mulch/hydroseed method 2, procedure 3
- No dimensions shall be assumed by scaling.
- No known drain tiles are present on the proposed development, if tiles are encountered during construction please notify the engineer immediately.
- No part of the proposed project is located within a flood hazard 10-100yr area a flood hazard area
- Excess material shall be placed at specified location unless otherwise specified by owner and approved by engineer for use of lot grading. Stockpiles shall be surrounded with filter fence and shall be seeded per I.D.O.T. Manual (latest addition) (temporary) if left more than 14 working days.
- General contractor shall notify all utility companies having underground utilities on site or in right-of-way prior to excavation. Contractor shall contact utility locating company and locate all utilities prior to grading start.

PHASING NOTES:

SEQUENCE OF MAJOR ACTIVITIES

The Contractor will be responsible for implementing the following erosion control and storm water management control measures. The Contractor may designate these tasks to certain subcontractors as he sees fit, but the ultimate responsibility for implementing these controls and ensuring their proper functioning remains with the Contractor. The order of activities will be as follows (refer to the Erosion and Sediment Control Plan Sheet contained in this SWPPP for details and refer to the Suggested Phasing Plan in the design drawings for construction sequencing):

A. A pre-construction meeting shall be held by the **Site Project Manager** and the Operator's Engineer prior to land disturbing activities.
B. Install perimeter silt fences and inlet protection in the locations shown on the Erosion Control plan sheets.
C. Implement erosion control measures around the existing storm sewer to prevent sedimentation from infiltrating into the storm sewer system as shown on the Erosion Control plan sheets.
D. Begin clearing and grubbing operations if applicable. Clearing and grubbing shall be done only in areas where earthwork will be performed and only in areas where building is planned to commence within 7 days after clearing and grubbing.
E. Disturbed areas of the site where Construction Activity has ceased for more than 7 days shall be temporarily seeded and watered.
F. Commence site grading.
G. Construct gutter inlets, area inlets, storm sewer manholes and proposed storm sewer.
H. Install inlet / outlet protection around the constructed storm sewer to prevent sedimentation from infiltrating into the storm sewer system as shown on the Erosion Control plan sheets.
I. Construct utilities
J. Finalize pavement subgrade preparation.
K. Remove inlet protection around inlets and manholes no more than 48 hours prior to placing stabilized base course.
L. Install base material as required for pavement.
M. Carry out final grading and seeding, sodding and planting, including rolled erosion control products where shown on the Erosion Control plan sheets.
N. Remove silt fencing only after all paving is complete and exposed surfaces are stabilized.

SPECIFICATIONS & GENERAL NOTES

NOTES:

1. Site Description.

   a. The following is a description of the construction activity which is the subject of this plan:
   The proposed development consists of construction of a **Fire Tower building, pavement installation, grading, and restoration.** The construction activities for site improvements will include: **site clearing, grubbing, mass grading, removals, pavement construction, building construction, installation of utilities, soil erosion and sedimentation control measures**, as a minimum.

   b. The following is a description of the intended sequence of major activities which will disturb soils for major portions of the construction site such as grubbing, excavation, and grading:

   The sequence of the construction activities may be as follows:
   See Sequence of major activities on this sheet.

   c. The total area of the construction site is estimated to be **0.37 ± acres.**

   The total area if the site that is estimated to be disturbed by excavation, grading, or other activities, is **0.37 ± acres.**

2. Controls.

   This section of the plan addresses the various controls that will be implemented for each of the major construction activities described in 1.b above. For each measure discussed, the contractors will be responsible for its implementation as indicated. Each such contractor has signed the required certification on forms which are attached to, and are a part of, this plan.

   a. Erosion and Sediment Controls.

   (i) STABILIZATION PRACTICES. Provided below is a description of interim and permanent stabilization practices, including site-specific scheduling of the implementation of the practices. Site plans will ensure that existing vegetation is preserved where attainable and disturbed portions of the site will be stabilized. Except as provided in 2.a. (i) (A) and 2.b. stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 7 days after the construction activity in that portions of the site where construction activity will not occur for a period of 21 or more calendar days.

   (A) Where the initiation of stabilization measures by the 14th day after construction activity temporarily or permanently ceases is precluded by snow cover, stabilization measures shall be initiated as soon as practicable thereafter.

   The following interim and permanent stabilization practices, as a minimum will be implemented to stabilize the disturbed area of the site:

   1 Temporary Seeding
   2 Permanent seeding
   3 Erosion Blanket
   4 Barrier filter
   5 Dust & Traffic Control

   (ii) STRUCTURAL PRACTICES. Provided below is a description of structural practices that will be implemented, to the degree attainable, to divert flows from exposed soils, store flows or otherwise limit runoff and the discharge of pollutants from exposed areas of the site. The installation of these devices may be subject to Section 404 of the Clean Water Act.

   1. Vegetated drainage swales
   2. Permanent seeding
   3. Filter fabric

   b. Erosion Control. It shall be the Contractor's responsibility to provide adequate erosion control on the job site. The following erosion control sequence shall be adhered to:

   A. A pre-construction meeting shall be held by the **Site Project Manager** and the Operator's Engineer prior to land disturbing activities.
   B. Install perimeter silt fences and inlet protection in the locations shown on the Erosion Control plan sheets.
   C. Implement erosion control measures around the existing storm sewer to prevent sedimentation from infiltrating into the storm sewer system as shown on the Erosion Control plan sheets.
   D. Construct temporary construction exits at locations shown on the Erosion Control plan sheets.
   E. Begin clearing and grubbing operations if applicable. Clearing and grubbing shall be done only in areas where earthwork will be performed and only in areas where building is planned to commence within 7 days after clearing and grubbing.
   F. Disturbed areas of the site where Construction Activity has ceased for more than 7 days shall be temporarily seeded and watered.
   G. Commence site grading.
   H. Construct gutter inlets, area inlets, storm sewer manholes and proposed storm sewer.
   I. Install inlet / outlet protection around the constructed storm sewer to prevent sedimentation from infiltrating into the storm sewer system as shown on the Erosion Control plan sheets.
   J. Construct utilities
   K. Finalize pavement subgrade preparation.
   L. Construct all curb and gutter. Inlet protection may be removed temporarily for this construction.
   M. Remove inlet protection around inlets and manholes no more than 48 hours prior to placing stabilized base course.
   N. Install base material as required for pavement.
   O. Carry out final grading and seeding, sodding and planting, including rolled erosion control products where shown on the Erosion Control plan sheets.
   P. Remove silt fencing only after all paving is complete and exposed surfaces are stabilized.
   Q. Remove temporary construction exits

   Any siltation of conduits, structures, or ditches shall be cleaned and maintained by the Contractor, on a weekly basis, until the seeding has taken hold. All washouts, gullies, etc. will be regraded and reseeded by the Contractor, at the Contractor's expense.

   The Contractor's responsibility for erosion control shall extend throughout the construction process. The Contractor shall be responsible for cleanup of paved surfaces within and adjacent to the project.

   All erosion control practices shall be in compliance with the latest revision of the "Standard Specifications for Road and Bridge Construction," by the Illinois Department of Transportation and with "Standards and Specifications for Soil Erosion and Sedimentation Control" as published by the Illinois Environmental Protection Agency.

   If a topsoil stockpile location is provided and approved by the City, Contractor shall establish erosion control measures for the stockpile if it is to remain in place for more than three days. In addition, barrier filter fence shall enclose topsoil stockpile location with exception of truck access during construction hours.

   c. Stormwater Management.

   (i) Provided below is a description of measures that will be installed during the construction process to control pollutants in stormwater discharges that will occur after construction operations have been completed. The installation of these devices may be subject to **Section 404 of the Clean Water Act.**

   The practices selected for implantation were determined on the basis of the technical guidance contained in IEPA's Standard Specifications for Soil Erosion and Sedimentation Control, and other ordinances listed in the Specifications.

   The stormwater pollutant control measures shall include:

   1. Silt filter fence
   2. Drainage swales
   3. Storm sewers
   4. Rip-rap outlet protection

   (ii) Velocity dissipation devices will be placed at discharge locations and along the length of any outfall channel as necessary to provide a non-erosive velocity flow from the structure to a water course so that the natural physical and biological characteristics and functions are maintained and protected (e.g., maintenance of hydrologic conditions, such as the hydroperiod and hydrodynamics present prior to the initiation of construction activities).

   Stormwater Management Control includes
   1 Filter Fabric

3. Other Controls.

   (i) Waste Disposal. The solid waste materials including trash, construction debris, excess construction materials, machinery, tools and other items will be collected and disposed off-site by the contractor. The contractor is responsible to acquire any permit required for such disposal. Burning on the site will not be permitted. No solid materials, including building materials, shall be discharged into Waters of the State, except as authorized by a **Section 404 permit.**

   (ii) The provisions of this plan shall ensure and demonstrate compliance with applicable State and/or local waste disposal, sanitary sewer or septic system regulations.

The sanitary sewage will be discharged to the proposed sanitary sewer constructed per IEPA and local standards.

a. Approved State or Local Plans.

   The management practices, controls and other provisions contained in this plan are at least as protective as the requirements contained in the latest amendment of the Illinois Environmental Protection Agency's Standards and Specifications for Soil and Erosion and Sediment Control dated **October 1987**, Illinois Procedures and Standards for Urban Soil Erosion and Sedimentation Plan, and the Municipal Subdivision Ordinance. Requirements specified in sediment and erosion control site plans or site permits or stormwater management or site plans or site permits approved by local officials that are applicable to protecting surface water resources are, upon submittal of an NOI to be authorized to discharge under this permit, incorporated by reference and are enforceable under this permit even if they are not specifically included in the plan.

b. Maintenance.

   The following is a description of procedures that will be used to maintain, in good and effective operating conditions, vegetation, erosion and sediment control measures and other protective measures identified in this plan and Standard Specifications.

   Vegetative erosion control measures: The vegetative growth of temporary and permanent seeding, sodding, vegetative channels, vegetative filter, etc. shall be maintained periodically and supply adequate watering and fertilizer. The vegetative cover shall be removed and reseeded as necessary.

   Silt filter fence: The damaged silt filter fence shall be restored to meet the standards or removed and replaced as needed.

   Rip-rap outlet protection: It shall be inspected after high flows for any scour beneath the Rip-rap or for stones that have been dislodged. It shall be repaired immediately.
   Inlet Protection: Shall be inspected and emptied of silt if filled as required.

   Disturbed areas shall be stabilized with temporary or permanent measures within 7 calendar days following the end of active disturbance, or redisturbance, consistent with the following criteria:

   (i) Appropriate temporary or permanent stabilization measures shall include seeding, mulching, sodding, and/or non-vegetative measures.
   (ii) Areas having slopes greater than 12 percent shall be stabilized with sod, mat, or blanket in combination with seeding or equivalent.

   Soil storage piles containing more than 10 cu. yds. of material shall not be located with a downslope drainage length less than 25 feet to a roadway or drainage channel. Filter barriers, including straw bales, filter fence, or equivalent, shall be installed immediately on the down slope of the piles.

4. Inspections.

   The Owner, or Owner's representative shall provide qualified personnel to inspect disturbed areas of the construction site which have not been finally stabilized, structural control measures and location where vehicles enter or exit the site. Such inspections shall be conducted at least once every seven (7) calendar days within 24 hours of the end of a storm that is 0.5 inches or greater or equivalent snowfall.

   a. Disturbed areas and areas used for storage of materials that are exposed to precipitation shall be inspected for evidence of, or the potential for, pollutants entering the drainage system. Erosion and sediment control measures identified in the plan shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters. Locations where vehicles enter or exit the site shall be inspected for evidence of off-site sediment tracking.

   b. Based on the results of the inspection, the description of potential pollutant sources identified in section 1 above and pollution prevention measures identified in section 2 above shall be revised as appropriate as soon as practicable after such inspection. Any changes to this plan resulting from the required inspections shall be implemented within 7 calendar days following the inspection.

   c. A report summarizing the scope of the inspection, name(s) and qualifications of personnel making the inspection, the date(s) of the inspection, major observations relating to the implementation of this stormwater pollution prevention plan and actions taken in accordance with section 4.b. shall be made and retained as part of the plan for at least three (3) years after the date of the inspection. The report shall be signed in accordance with Part VI.G of the general permit.

   d. If any violation of the provisions of this plan is identified during the conduct of the construction work covered by this plan, the Resident Engineer or Resident Technician shall complete and file an "Incidence of Noncompliance" (ION) report for the identified violation. The Resident Engineer or Resident Technician shall use forms provided by the Illinois Environmental Protection Agency and shall include specific information on the cause of noncompliance, actions which were taken to prevent any further causes of noncompliance, and a statement detailing any environmental impact which may have resulted from the noncompliance. All reports of noncompliance shall be signed by a responsible authority in accordance with Part VI. G of the general permit. The report of noncompliance shall be mailed to the following address:

   Illinois Environmental Protection Agency
   Division of Water Pollution Control
   Attn: Permit Section
   P.O. Box 19276
   Springfield, Illinois 62794-9276

5. Non-Stormwater Discharges.
   Except for flows from fire fighting activities, sources of non-stormwater that may be combined with stormwater discharges associated with the industrial activity addressed in this plan, are described below:

   a. Water main flushing
   b. Fire hydrant flushing
   c. Watering for dust control
   d. Irrigation drainage for vegetative growth for seeding, etc..

   The pollution prevention measures, as described below, will be implemented for non-stormwater components of the discharge:

   The fire hydrant and water main will not be flushed directly on the exposed area of sub grade of the pavement. Hoses shall be used to direct the flow into the storm sewer system, if available.

   The erosion due to irrigation of seeding shall be considered minor.

   Contractor to provide the above non-stormwater discharged control to the standard specification required by the City or the approved equal.

6. Monitoring and Management Plan
   A three-year maintenance and monitoring plan is required after installation of native landscaping.
   See Project Specifications for details.

CONSTRUCTION SEQUENCE

1. File stormwater NPDES permit with the IEPA at least 30 days prior to beginning work.
2. Install all permanent and temporary erosion control practices, i.e. diversions, vegetated swales, stabilized construction entrances, temporary silt basins, polymer systems, and silt fences.
3. City inspection and signoff.
4. Strip topsoil.
5. Stabilize stockpiles with vegetative cover and additional erosion control measures.
6. City inspection and signoff.
7. Begin mass grading.
8. Add additional soil erosion and sediment control as needed. In particular the CLSO requirement for stabilization within 14 days of temporary or permanent cessation of grading must be met and will be vigorously enforced by the City.
9. Building and pavement construction.
10. Permanent site stabilization.
11. City inspection.

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EROSION CONTROL NOTES

SHEET NUMBER:
C-06

2/26/2026 11:33:40 AM

GE-02a

GENERAL SITE-WORK:

1. Pre-Construction meeting shall be conducted with City Staff and all Contractors prior to commencing any grading or underground utility construction activities (schedule meeting with the Community Development Department at 815-356-3615).
2. 24-hour Emergency contact numbers shall be provided to City Staff at the Pre-Construction meeting.
3. Working hours shall be limited to the hours of 7:00 a.m. and 7:00 p.m. on weekdays only (except in cases of emergency). Non-emergency work on weekends or holidays is not permitted per City Code except under written permission from the City Engineer. The owner is responsible for the City Inspector cost of overtime inspection beyond the normal eight (8) hour day, including weekends and holidays.
4. Public/private streets shall be kept free of dirt and debris with regular cleaning, sweeping, and scraping conducted by the Contractor. Junk and debris shall not be allowed to accumulate, blow, or scatter onto streets or adjacent properties.
5. J.U.L.I.E. shall be contacted for utility locations on-site and in the adjacent rights-of-way.
6. Contractor shall provide and maintain fencing, barricades, traffic control signs, and other safeguarding measures during the course of all work to protect the public from the construction operations.
7. Maintain access to adjacent streets during construction. No closing of streets unless approval is first obtained from the agency with jurisdiction (City of Crystal Lake, McHenry County Department of Transportation, Illinois Department of Transportation, etc).
8. Any damage to public rights-of-way, public utilities, streets, curb, etc. shall be repaired/replaced as soon as possible and as directed by the City Engineer.
9. The contractor shall give the City of Crystal Lake, Illinois Department of Transportation, and any other governmental agency having jurisdiction, at least two (2) working days notice excluding Saturday and Sunday prior to the initiation of any phase of construction. Contractor shall immediately notify if construction has ceased and renew the two (2) working day notification thereafter.
10. The Contractor shall be responsible for obtaining all required permits for construction prior to commencement along or across existing streets or highways. The Contractor shall make arrangements for the proper bracing, shoring and other protection of all roadways before construction begins.

GRADING:

1. The grading and construction of the site improvements shall not cause ponding of storm sewer water. All areas adjacent to these improvements shall be graded to allow positive drainage.
2. The proposed grading elevations shown on the plans are finished grade. A minimum of six (6) inches of topsoil is to be placed before finished grade elevations are achieved.
3. Embankment material within parkway and open space areas shall be compacted to a minimum of ninety percent (90%) of maximum density in accordance with ASTM Specification D-1557 (modified proctor method), or to such other density as may be determined appropriate by the soils engineer.
4. All subgrade material shall have a minimum CBR (California Bearing Ratio) of 3.0 as determined by the soils engineer, or base replacement and pavement design revisions shall be provided which are adequate to obtain equivalent pavement strength.
5. Proposed pavement areas, building pads, driveways and sidewalks and yard/open space areas shall be excavated or filled to plus or minus 0.1 foot of design subgrade elevations by the Contractor.
6. Any borrow pit locations shall be identified by the Contractor on a copy of the approved site plans and forwarded to the Engineering Division at least 24-hours prior to excavation. Provide backfill compaction reports from a geotechnical engineer and as-built plans to the Engineering Division for any borrow pit area.
7. Backfill shall be monitored by a geotechnical engineer on-site with compaction reports forwarded to the Engineering Division for review.
8. Water truck shall be on-site at all times during mass-grading operations and be available as needed for the purposes of dust control or at the request of City Staff.
9. Use of City fire hydrants is not allowed unless approved (separate from this permit) by the Public Works Department and a hydrant meter and RPZ is obtained from the City of Crystal Lake Water Division (815-356-3614). Only the City of Crystal Lake Water Division may operate valves and hydrants.

Revised:	Drawing Name	Drawing Number	
1. 06/12/2015 2. 3. 4.	STANDARD NOTES AND SPECIFICATIONS	GE-02a Date: 01/30/15 Drawn DD, Checked AW	City of Crystal Lake Illinois

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GE-02b

TOPSOIL STOCKPILING:

1. Location of any on-site topsoil stockpiles shall be identified on the approved plans with silt fence installed around the perimeter of the stockpile.
2. Topsoil stockpiled for future use shall be relatively free from large roots, sticks, weeds, brush, stones larger than one (1) inch diameter, or other litter and waste products including other extraneous materials not conducive to plant growth.
3. Topsoil shall be stockpiled in sequence to eliminate any re-handling or double movements by the Contractor. Failure to properly sequence the stockpiling operations shall not constitute a claim for additional compensation. No material shall be stockpiled in front yards, in utility easements, or in the right-of-way lines.
4. If a stockpile is to remain in place for more than (14) calendar days, it is required that the stockpile meet the requirements as outlined in section 595 of the City Code.

UNDERGROUND UTILITY:

1. The Contractor shall coordinate water main, water service, sanitary and storm sewer inspections and testing with the Community Development at least 24 hours in advance.
2. All main line sanitary shall be cleaned and televised (provide DVD to the City's Engineering Division).
3. All manhole or valve covers shall be imprinted "City of Crystal Lake Sanitary", or "City of Crystal Lake Storm", or "City of Crystal Lake Water" as directed by the City.
4. Reference the latest edition of the Standard Specifications for Water and Sewer Main Construction in Illinois.
5. Existing manholes to be circular cored and booted.

EROSION CONTROL:

1. All specified erosion control measures shall be installed and maintained per the requirements of the Crystal Lake Stormwater Ordinance in accordance with the active NPDES permit.
2. All slopes 4:1 or steeper shall be sodded or blanketed immediately after mass earthwork.
3. All overland flow routes to be stabilized by sod or blanket.
4. Erosion control measures to be inspected and approved by City Engineering Division prior to additional work on site.
5. Continuous monitoring of erosion control measures is required. Maintain records of weekly reports per the City of Crystal Lake Stormwater Ordinance.
6. The Contractor shall implement any additional erosion control measures deemed necessary by the City per the standards of the City Of Crystal Lake Stormwater Ordinance.
7. All storm sewer catch basins, sumps and/or retention basins provided are to be cleaned at the end of construction of the project prior to final acceptance. Cleaning may also be required during the course of the construction of the project if it is determined that the silt and debris traps are not properly functioning and their performance is impaired.
8. Rip-rap material RR 2 (6") - RR4 (16") shall be in accordance with Article 281
9. Projects of 1 Acre or greater must obtain an NPDES permit prior to commencement of any construction activity.

Revised:	Drawing Name	Drawing Number	
1. 06/12/2015 2. 02/25/2020 3. 4.	STANDARD NOTES AND SPECIFICATIONS	GE-02b Date: 01/30/15 Drawn DD, Checked AW	City of Crystal Lake Illinois

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GE-02c

SANITARY SEWER:

1. Non-shear stainless steel couplings shall be used when connecting sewer pipes of dissimilar materials and pipes with no hub joints. When connecting to an existing sanitary sewer by means other than an existing wye or manhole, contractor shall use a Sewer-Tap and hub-wye or hub-tee saddle.
2. Unless an alternate method is approved, water stop gaskets shall be provided at all sanitary sewer manhole connections. Type and manufacturer to be approved by the City.
3. PVC plastic sewer pipe and fittings of sizes 4-inch through 15-inch shall conform to the latest revised specification requirements of ASTM D3034 for type PSM polyvinyl chloride (PVC) sewer pipe and fittings of minimum wall thickness SDR 26.
4. Joints shall be either the solvent weld type conforming to the latest revised specification requirements of ASTM D2564 and ASTM D2855, or elastomeric gasket type conforming to the latest revised specification requirements of ASTM D1869 and ASTM D3212.
5. A thicker walled pipe such as SDR 18 may be specified by the engineer depending on design and/or field conditions.
6. PVC plastic sewer pipe and fittings of sizes 18-inch through 36-inch shall conform to the latest revised specification requirements of ASTM F679 or polyvinyl chloride (PVC) large diameter ribbed gravity sewer pipe and fittings, with integral bell gasketed joints and elastomeric gaskets to form a watertight seal conforming to the latest revised specification requirements of ASTM F477 or ASTM D3212.
7. Pipe and fittings shall be the products of one approved manufacturer only, and there shall not be any mixing of pipe and fittings of different manufacturers between manholes.
8. The handling and installation of pipe, assembly or joints, and manhole connections shall be in accordance with the manufacturer's recommendations.
9. Gasket-type watertop collars consist of a neoprene collar and a stainless steel band or other approved manhole watertop shall be installed wherever the pipe passes through the manhole walls to provide a watertight joint to prohibit infiltration into the sewer system.
10. PVC pipe shall be installed in accordance with the latest revised specification requirements of ASTM D2321 using either compacted class I or class II granular embedment materials for bedding, haunching and initial backfill of 12 inches over the top of pipe to provide the necessary support for the pipe so that the maximum deflection does not exceed five percent of the pipe's original internal diameter.
11. The Contractor shall provide the necessary tools and equipment and perform the work necessary to test the deflection in the initial 1,200 feet of installed sewer and not less than ten percent (10%) of the remainder of the sewer project at random locations selected by the engineers no sooner than 30 days after backfilling has been completed. In the event that deflection exceeds the maximum limit of five percent (5%), the Contractor shall test all other new flexible pipe for deflection. Deflection shall be tested by use of either a mandrel or rigid ball having a diameter equal to ninety-five percent (95%) of the inside diameter of the pipe, and the test shall be performed without using mechanical pulling devices. Wherever the deflection limitation is exceeded, the contractor shall uncover the pipe, carefully replace compacted embedment and backfill material, and retest for deflection.
12. The Contractor shall subject all sanitary sewers, including service lines, to an air test. Air testing shall be performed in accordance with the latest Standard Specifications for Water and Sewer.
13. The Contractor shall subject all newly constructed sanitary manholes to the Negative Pressure (Vacuum) Test in accordance with ASTM C 1244.The Contractor shall also televise all public sanitary sewers. Televising of sanitary sewer, cost for televising, and testing shall be the responsibility of the Contractor.
14. Cast Iron Soil Pipe: service weight cast iron soil pipe and fittings conforming C.I.S.P.I. Specification HS-67 with compression type rubber gasket joints conforming to ASTM specification C564, or other suitable materials approved by the City Engineer.

Revised:	Drawing Name	Drawing Number	
1. 06/12/2015 2. 01/25/2021 KL Vacuum Test Note 13 3. 4.	STANDARD NOTES AND SPECIFICATIONS	GE-02c Date: 01/30/15 Drawn DD, Checked AW	City of Crystal Lake Illinois

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GE-02d

WATER MAIN:

1. Water main shall be Ductile Iron.
   a) Ductile iron water main shall be Class 52 conforming to ANSI/AWWA C151/A21.51-09.
   b) Ductile iron fittings shall conform to ANSI/AWWA C153/A21.53 with mechanical joint gaskets.
2. All bolted connections shall be torqued to the manufacturer's specification. The Contractor shall verify the manufacturer's specification with an approved torque wrench.
3. Thrust blocking or Mega-Lugs with Mega-Bond coating or pre-approved equal shall be installed on water mains at all bends, tees, elbows, etc, except as noted below.
4. Thrust blocks not permitted with 45 degree vertical bends in water main (these shall be restrained with Mega-Lug or pre-approved equal.
5. Ductile iron pipe shall be encased in polyethylene and shall conform with ANSI/AWWA C105/A21.10 - 10 and ASTM A674-10.
6. Minimum cover from finished grade to top of water main shall be six (6) feet; Maximum cover shall be eight (8) feet.
7. Water Main Taps: An Illinois licensed plumber is required for any water main tap.
8. All water mains shall be subjected to a 2 hour pressure and leakage test by the Contractor in accordance with City Detail UW-09A and UW-09B. Water mains shall be chlorinated in accordance with City Detail UW-09A.
9. The Underground Contractor shall consider incidental to the contract any chlorination and testing of existing water main where connections to and conclusion of such mains is indicated on the drawing.
10. For repairs to existing PVC watermains, see details UW-12 and UW-13

PAVING:

1. All subgrades and bases shall be proof-rolled and approved by the Engineering Division prior to base or binder installation.
2. Subgrade and proposed pavements shall be finished by the Excavation Contractor to within 0.1 foot plus or minus, of plan elevation.
3. The Paving Contractor shall ensure that the subgrade has been properly prepared and that the finished top of subgrade elevation has been graded within the tolerances allowed in these specifications. Unless the Paving Contractor advises the owner and engineer in writing prior to fine grading for base course construction, it is understood that the Contractor has approved and accepts responsibility for the subgrade.
4. For the purpose of providing handicap accessibility and complying with the American Disability Act and City Standards, curbs shall be depressed at locations where public walks or pedestrian paths intersect curb lines at street intersections and other locations as directed.
5. ½ Inch thick premolded fiber expansion joints with two (2) No. 4 plain round steel dowel bars shall be installed at designated intervals and at all P.C., P.T., curb returns and at the end of each pour. Alternate ends of the dowel bars shall be greased and fitted with metal expansion tubes.
6. ½ Inch thick fiber expansion joints shall be used in every case where the sidewalk coincides with the curb and gutter. Contraction joints shall be saw cut at designated intervals in the curb. The cost of these joints shall be considered as incidental to the cost of the contract.
7. All poured in place concrete curb and gutter shall incorporate two (2) No. 4 reinforcing bars installed wherever the curb and gutter crosses utility service lines, the cost of which shall be considered incidental to the cost of concrete curb and gutter.
8. Sidewalks (where required) shall be of the thickness and dimensions as shown in the construction plans. All sidewalk concrete shall be a minimum of 6.1 bag mix (or IDOT class SI concrete) and shall develop a minimum of 3,500 psi compressive strength at fourteen (14) days. Contraction joints shall be set at five (5) foot centers, and one-half inch (½ Inch) premolded fiber expansion joints at fifty (50) foot centers and where the sidewalk meets the curb or another sidewalk, or at the end of each pour. All sidewalks constructed over utility trenches and/or abutting driveway aprons shall be reinforced with three (3) No. 4 reinforcing bars (10 foot minimum length).

Revised:	Drawing Name	Drawing Number	
1. 06/12/2015 2. KL 01/25/2021 Torque Specification 3. 02/06/2023 JRG - Update Water Main Note 8 4. 07/14/2023 JRG - Update Water Main Notes 1, 5, 10	STANDARD NOTES AND SPECIFICATIONS	GE-02d Date: 01/30/15 Drawn DD, Checked AW	City of Crystal Lake Illinois

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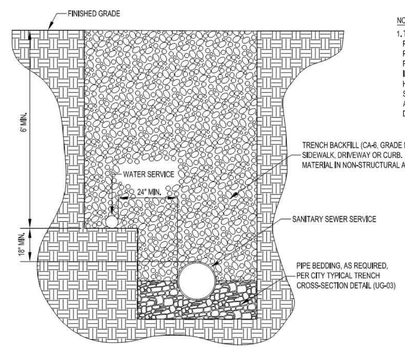
UG-02



NOTES:

1. THE WATER SERVICE PIPING AND BUILDING SEWER PIPING MAY BE INSTALLED IN A COMMON TRENCH PROVIDED THAT THE WATER SERVICE PIPE IS PLACED ON A SHELF A MINIMUM OF EIGHTEEN (18) INCHES ABOVE AND TWENTY-FOUR (24) INCHES HORIZONTALLY FROM THE BUILDING SEWER PIPING SUCH INSTALLATION SHALL USE SEWER MATERIAL AS SPECIFIED IN THE CITY CODE FOR A BUILDING DRAIN.

Revised:	Drawing Name	Drawing Number	
1. 06/12/2015 2. 3. 4.	COMMON WATER/SANITARY SERVICE TRENCH	UG-02 Date: 04/15/2007 Drawn EM, Checked LZ	City of Crystal Lake Illinois

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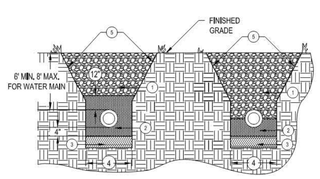
UG-03

LEGEND:

1. TRENCH BACKFILL TO SUBGRADE AND WITHIN 2 FEET OF PROPOSED PAVEMENT, DRIVEWAY, CURB AND GUTTER OR SIDEWALK. TRENCH BACKFILL MATERIALS SHALL BE IDOT APPROVED GRADATION CA-6, GRADE 7, 8, OR 9 COMPACTED TO 90% OF MODIFIED PROCTOR DENSITY. IN NON-STRUCTURAL AREAS BACKFILL WITH APPROVED EXCAVATED MATERIALS.
2. PIPE BEDDING SHALL BE WASHED MATERIAL IDOT GRADATION CA-7 OR CA-11 FROM 4 INCHES BELOW BOTTOM OF PIPE TO HEIGHT SHOWN ON EACH SECTION
3. UNSUITABLE MATERIAL TO BE REMOVED WHERE DIRECTED BY THE ENGINEER AND REPLACED WITH COMPACTED SUITABLE MATERIAL.
4. TRENCH WIDTH:
   PIPE O.D. + 12 INCHES MINIMUM
   PIPE I.D. + 18 INCHES MAXIMUM
5. CONTRACTORS SHALL COMPLY WITH ALL CURRENT OSHA STANDARDS.



SECTION A:
WATER MAIN / FORCE MAIN (DIP)(PVC) (HDPE)**
SANITARY SEWER MAIN & SERVICES (DIP)(PVC)
STORM SEWER (PVC)

SECTION B:
STORM SEWER (RCP)

* NOTE: ALL DUCTILE IRON SHALL BE WRAPPED WITH APPROVED POLYETHYLENE PIPE WRAP
** NOTE: PVC WATERMAIN ONLY ALLOWED FOR REPAIRS TO EXISTING PVC WATERMAIN

Revised:	Drawing Name	Drawing Number	
1. 06/12/2015 2. 02/04/2021 KL CA-7 WASHED STONE 3. 07/14/2023 JRG PVC ALLOWED ONLY AS STATED 4. 03/14/2024 JRG UPDATED CROSS SECTIONS	TYPICAL TRENCH CROSS SECTION	UG-03 Date: 05/29/2015 Drawn JH, Checked AW	City of Crystal Lake Illinois

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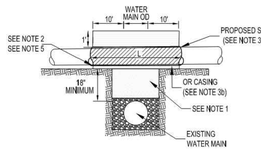
UG-04a

PROPOSED SEWER LINE ABOVE EXISTING WATER MAIN WITH 18" MINIMUM SEPARATION.



NOTES

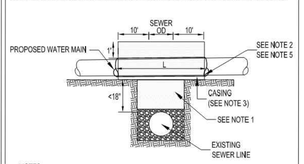
1. IF THE SELECT GRANULAR BACKFILL EXISTS; REMOVE WITHIN WIDTH OF PROPOSED SEWER TRENCH AND REPLACE WITH SELECT EXCAVATED MATERIAL (CLASS IV) AND COMPACT.
2. OMIT SELECT GRANULAR CRADLE AND GRANULAR BACKFILL TO ONE (1) FOOT OVER TOP OF THE WATER MAIN AND USE SELECT EXCAVATED MATERIAL (CLASS IV) AND COMPACT OVER LENGTH "L".

3a. CONSTRUCT "L" FEET OF PROPOSED SEWER OF WATER MAIN MATERIAL AND PRESSURE TEST, OR

3b. USE CASING LENGTH "L" FOR PROPOSED SEWER AND SEAL ENDS OF CASING. SEE UW-14 FOR CASING DETAILS.

4. POINT LOADS SHALL NOT BE ALLOWED BETWEEN SEWER OR SEWER CASING AND WATER MAIN.
5. PROVIDE ADEQUATE SUPPORT FOR EXISTING WATER MAIN TO PREVENT DAMAGE DUE TO SETTLEMENT OF SEWER TRENCH.

PROPOSED WATER MAIN ABOVE EXISTING SEWER LINE WITH LESS THAN 18" SEPARATION.



NOTES

1. IF THE SELECT GRANULAR BACKFILL EXISTS; REMOVE WITHIN WIDTH OF PROPOSED SEWER TRENCH AND REPLACE WITH SELECT EXCAVATED MATERIAL (CLASS IV) AND COMPACT.
2. OMIT SELECT GRANULAR CRADLE AND GRANULAR BACKFILL TO ONE (1) FOOT OVER THE TOP OF THE WATER MAIN AND USE SELECT EXCAVATED MATERIAL (CLASS IV) AND COMPACT OVER LENGTH "L".
3. USE A CASING PIPE FOR PROPOSED WATER MAIN AND SEAL ENDS OF CASING. SEE UW-14 FOR CASING DETAILS.
4. POINT LOADS SHALL NOT BE ALLOWED BETWEEN SEWER OR SEWER CASING AND WATER MAIN.
5. PROVIDE ADEQUATE SUPPORT FOR EXISTING SEWER LINE TO PREVENT DAMAGE DUE TO SETTLEMENT OF WATER MAIN TRENCH.

ADDITIONAL NOTES:
THE REQUIREMENTS ON THIS DETAIL ARE TAKEN FROM THE STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS, CURRENT EDITION
CLASS IV MATERIAL TO BE COMPACTED TO 95% OF STANDARD PROCTOR MAXIMUM DENSITY
OUTER DIAMETER = OD

Revised:	Drawing Name	Drawing Number	
1. 06/12/2015 2. 8/18/2023 JRG - SEWER AND WATER 2014 UPDATE 3. 4.	WATER AND SEWER SEPARATION REQUIREMENTS	UG-04a Date: 04/15/2007 Drawn EM, Checked AW	City of Crystal Lake Illinois

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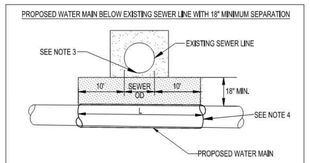
UG-04b

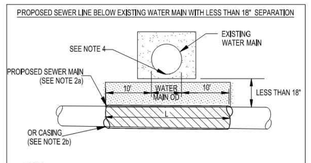
PROPOSED WATER MAIN BELOW EXISTING SEWER LINE WITH 18" MINIMUM SEPARATION



NOTES

1. OMIT SELECT GRANULAR CRADLE AND GRANULAR BACKFILL TO ONE (1) FOOT OVER THE TOP OF PROPOSED WATER MAIN AND USE SELECT EXCAVATED MATERIAL (CLASS IV) AND COMPACT OVER LENGTH "L".
2. IF THE SELECT GRANULAR BACKFILL EXISTS; REMOVE WITHIN WIDTH OF PROPOSED SEWER TRENCH AND REPLACE WITH SELECT EXCAVATED MATERIAL (CLASS IV) AND COMPACT.
3. PROVIDE ADEQUATE SUPPORT FOR EXISTING SEWER LINE TO PREVENT DAMAGE DUE TO SETTLEMENT.
4. USE A CASING PIPE LENGTH "L" FOR PROPOSED WATER MAIN AND SEAL ENDS OF CASING. SEE UW-14 FOR CASING DETAILS.

PROPOSED SEWER LINE BELOW EXISTING WATER MAIN WITH LESS THAN 18" SEPARATION



NOTES

1. OMIT SELECT GRANULAR CRADLE AND GRANULAR BACKFILL TO ONE (1) FOOT OVER TOP OF PROPOSED SEWER LINE AND USE SELECT EXCAVATED MATERIAL (CLASS IV) AND COMPACT OVER LENGTH "L".

2a. CONSTRUCT "L" FEET OF PROPOSED SEWER OF WATER MAIN MATERIAL AND PRESSURE TEST, OR

2b. CONSTRUCT "L" FEET OF CASING FOR PROPOSED SEWER AND SEAL ENDS OF CASING. SEE UW-14 FOR CASING DETAILS OR

3. POINT LOADS SHALL NOT BE ALLOWED BETWEEN SEWER OR SEWER CASING AND WATER MAIN.
4. PROVIDE ADEQUATE SUPPORT FOR EXISTING WATER MAIN TO PREVENT DAMAGE DUE TO SETTLEMENT OF SEWER TRENCH.

ADDITIONAL NOTES

THE REQUIREMENTS ON THIS DETAIL ARE TAKEN FROM THE STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS (SEE PAGES 160-173)

CLASS IV MATERIALS SHALL BE COMPACTED TO 95% OF STANDARDS PROCTOR DENSITY.

OD = OUTSIDE DIAMETER

Revised:	Drawing Name	Drawing Number	
1. 06/12/2015 2. 8/30/2021 KL - SEWER AND WATER 2014 UPDATE 3. 4.	WATER AND SEWER SEPARATION REQUIREMENTS	UG-04b Date: 04/15/2007 Drawn EM, Checked AW	City of Crystal Lake Illinois

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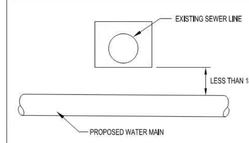
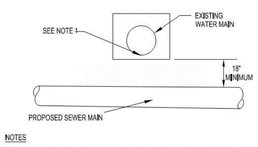
UG-04c

PROPOSED WATER MAIN BELOW EXISTING SEWER LINE WITH < 18" MINI. SEPARATION



NOT ALLOWED: MUST MAINTAIN 18" VERTICAL SEPARATION

PROPOSED SEWER LINE BELOW EXISTING WATER MAIN WITH 18" MINIMUM SEPARATION



NOTES

1. PROVIDE ADEQUATE SUPPORT FOR EXISTING WATER MAIN TO PREVENT DAMAGE DUE TO SETTLEMENT OF SEWER TRENCH.

ADDITIONAL NOTES:

THE REQUIREMENTS ON THIS DETAIL ARE TAKEN FROM THE STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS (SEE PAGES 160-173)

Revised:	Drawing Name	Drawing Number	
1. 06/12/2015 2. 8/18/2023 JRG - SEWER AND WATER 2014 UPDATE 3. 4.	WATER AND SEWER SEPARATION REQUIREMENTS	UG-04c Date: 04/15/2007 Drawn EM, Checked AW	City of Crystal Lake Illinois

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ISSUED FOR BID – NOT FOR CONSTRUCTION

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Xrefs: MCC Student Farm_DKA-TITLEBLOCK

ARCHITECT:
DEMONICA KEMPER ARCHITECTS
125 N. HALSTED STREET, SUITE 301
CHICAGO, IL 60661
P: 312.496.0000

S-MEP-FP-T ENGINEER:
IMEG CORP
263 SHUMAN BLVD, SUITE 550
NAPERVILLE, IL, 60563
P: 630.527.2320

CIVIL ENGINEER:
HR GREEN
1391 CORPORATE DRIVE, SUITE 203
MCHENRY, IL, 60050
P: 815.385.1778

KITCHEN CONSULTANT:
NEW VENTURE ADVISORS
2506 N. CLARK ST. #436
CHICAGO, IL, 60614
P: 773.245.3570

McHenry County College

Student Farm Renovations

8900 Northwest Hwy #14, Crystal Lake, IL 60012
DKA PROJECT NO: 25-037

KEY PLAN:

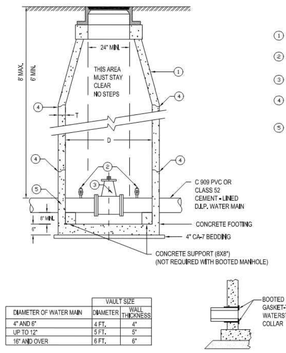
SHEET STATUS: 04/21/2026
ISSUED FOR BID - NOT FOR CONSTRUCTION

NO:	DESCRIPTION:	DATE:

SHEET TITLE:
STANDARD CONSTRUCTIONS DETAILS

SHEET NUMBER:
C-07

2/26/2026 11:33:40 AM



DIAMETER OF WATER MAIN	VAULT SIZE DIAMETER	VAULT SIZE WALL THICKNESS
4" AND 6"	4 FT.	6"
UP TO 12"	5 FT.	8"
16" AND OVER	6 FT.	8"

LEGEND:

1. CONCENTRIC CONES REQUIRED
2. 1" (MIN) MUELLER, A.Y. McDONALD, OR FORD NO LEAD CORPORATION STOP EACH SIDE OF VALVE MUST BE A COMPRESSION FITTING.
3. MUELLER 2361 OR AMERICAN FLOW CONTROL 2500-1 RESILIENT SEAT GATE VALVE
4. WATERTIGHT JOINTS USING EZ-STIK PREMIUM BUTYL SEALANT ASTM C990 OR EQUAL FOR FRAMES ADJUSTING RINGS AND BARREL SECTIONS.
5. GASKET-TYPE WATERSTOP COLLAR FOR ALL WATER MAIN CONNECTIONS

NOTES:

1. ALL MANHOLES MUST BE DAMP PROOF PER IDOT SPECIFICATIONS 1060.
2. DRAIN FOR VALVE VAULT SHALL BE CONSTRUCTED ONLY WHEN SHOWN ON THE PLANS.
3. CAST IRON MANHOLE FRAME & COVER SIMILAR TO NEENAH R-1712, OR EQUAL WITH STANDARD DUTY, NON-ROCKING TYPE LIDS WITH "CITY OF CRYSTAL LAKE WATER" CAST INTO LID. (NEENAH R-2535, OR EQUAL MAY BE USED IN GRASSY AREAS)
4. HDPE PLASTIC MANHOLE ADJUSTING RINGS CONFORMING TO THE REQUIREMENTS OF HS20 OF THE AASHTO STANDARD SPECIFICATIONS AND ASTM D1248AAA. ALL ADJUSTING RINGS SHALL BE STABILIZED AGAINST ULTRA VIOLET LIGHT. ADJUSTING RING HEIGHT NOT TO EXCEED 8" WITH A MAXIMUM OF THREE (3) ADJUSTMENT RINGS. THE ANNULAR SPACE BETWEEN RINGS AND CONE BARREL THE RINGS AND THE RINGS COVER FRAME SHALL BE SEALED UTILIZING AND APPROVED BUTYL SEALANT. ALL ADJUSTMENT FOR MATCHING ROAD GRADE SHALL BE MADE UTILIZING A MOLDED AND INDEXED SLOPE RING.
5. ALL UNDERGROUND NUTS, BOLTS & WASHERS MUST BE STAINLESS STEEL.
6. VALVE VAULT REQUIRED FOR WATER SERVICES GREATER THAN OR EQUAL TO 4". SEE VAULT SIZE TABLE.
7. STEPS WITHIN VAULT TO BE REMOVED PRIOR TO CITY ACCEPTANCE.

Revised:	Drawing Name	Drawing Number	
1. 06/12/2015 2. 08/18/2023 - JRG 1" CORP AND STEPS REMOVED 3. 4.	STANDARD VALVE VAULT	UW-01 Date: 05/29/2015 Drawn JH Checked VR	City of Crystal Lake Illinois

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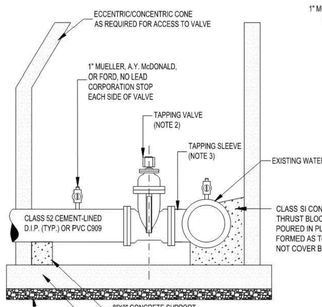
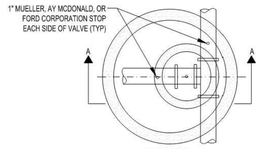
UW-01



SECTION A-A



PLAN VIEW

NOTES:

1. ALL UNDERGROUND MUST BE STAINLESS STEEL NUTS, BOLTS AND WASHERS.
2. MUELLER T-2360-16 OR AMERICAN FLOW CONTROL SERIES 2500-1 TAPPING VALVE
3. STAINLESS STEEL SMITH BLAIR "665", CASCADE "CST-EX", "ROMAC INDUSTRIES "SST", OR FORD "FTSS" TAPPING SLEEVE
4. SEE UW-01 FOR STANDARD VAULT VALVE

* DUCTILE IRON FLANGE AND M.J. OUTLET NOT APPROVED FOR USE W/ROMAC SST

Revised:	Drawing Name	Drawing Number	
1. 06/12/2015 2. KL 1-25-2021 1" CORPORATION STOPS 3. 4.	WATER MAIN PRESSURE CONNECTION	UW-02 Date: 05/29/2015 Drawn JH Checked VR	City of Crystal Lake Illinois

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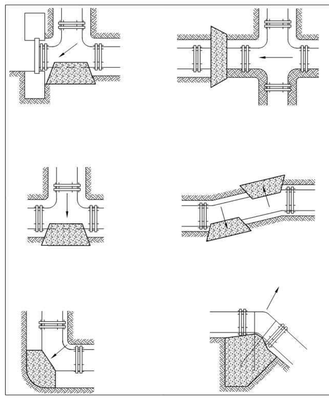
UW-02



BEARING AREA (SQ. FT.)					
PIPE SIZE	TEE/PLUG	90°	45°	21 1/2°	11 1/4°
6	4	2	1	1	1
8	6	4	3	1	1
10	7	5	3	1	1
12	8	6	4	2	2
14	12	9	6	3	3
16	15	12	7	3	3
18	18	15	9	4	4
24	40	30	15	5	5

NOTES:

ALL BLOCKING SHALL BE POURED CLASS SI CONCRETE AGAINST UNDISTURBED EARTH.

ALL BENDS OR ELBOWS GREATER THAN OR EQUAL TO 11 1/4" SHALL HAVE THRUST BLOCKING, FORM AS TO NOT COVER BOLTS.

IN LIEU OF THRUST BLOCKING, "MEGA LUG" (EBAA) JOINT RESTRAINTS OR APPROVED EQUAL CAN BE USED AS APPROVED BY THE ENGINEER.

Revised:	Drawing Name	Drawing Number	
1. 06/12/2015 2. 3. 4.	THRUST BLOCK INSTALLATION	UW-03 Date: 05/29/2015 Drawn JH Checked VR	City of Crystal Lake Illinois

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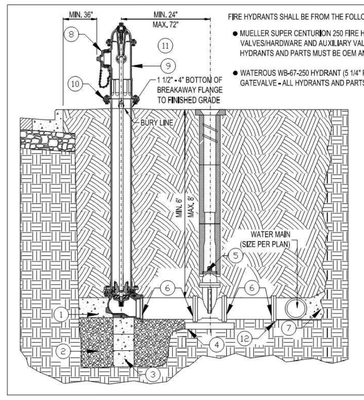
UW-03



FIRE HYDRANTS SHALL BE FROM THE FOLLOWING LIST, AS APPROVED BY THE CITY:

- MUELLER SUPER CENTURION 250 FIRE HYDRANT, A423 (5 1/4" BARREL) WITH MUELLER VALVES/HARDWARE AND AUXILIARY VALVE 6" GATE VALVE NO. 2361 RESILIENT WEDGE • ALL HYDRANTS AND PARTS MUST BE OEM AND COMPLY WITH NO LEAD REQUIREMENTS.
- WATEROUS WB-67-250 HYDRANT (5 1/4" PACER) WITH SERIES 2500-1 RESILIENT WEDGE GATEVALVE • ALL HYDRANTS AND PARTS MUST COMPLY WITH NO LEAD REQUIREMENTS

LEGEND:

1. PROVIDE CLASS SI CONCRETE BASE AND BLOCKING AGAINST UNDISTURBED EARTH
2. DRAIN SUMP TO BE 3/4 CUBIC YARD OF 3/4" WASHED STONE
3. CONCRETE SUPPORT
4. CONCRETE BLOCK OR BRICK SUPPORT
5. RUBBER VALVE BOX STABILIZER
6. USE MEGALUG RESTRAINTS WITH GRADE 304 STAINLESS STEEL NUTS AND BOLTS AT ALL MECHANICAL JOINTS.
7. CONCRETE BLOCKING
8. 4 1/2" PORT TO FACE PAVEMENT OR AS DIRECTED BY CITY ENGINEER
9. ALL NEWLY INSTALLED HYDRANTS MUST HAVE 2.4 MILS AMERICO AT PRIMER OR EQUAL AND FINISH COAT SHERWIN WILLIAMS POLANE B MIN 4.1 MILS = 6.5 MILS TOTAL DRY FILM THICKNESS, COLOR (SAFETY RED)
10. MIN. 48" BETWEEN HYDRANT AND ANY VERTICAL OBSTRUCTIONS.
11. MIN. 72" BETWEEN HYDRANT AND ANY LANDSCAPING WITH A MATURE HEIGHT GREATER THAN 12".
12. ALL UNDERGROUND HARDWARE MUST BE STAINLESS STEEL INCLUDING NUTS, BOLTS, AND WASHERS.

Revised:	Drawing Name	Drawing Number	
1. 06/12/2015 2. 01/25/2021 KL Mueller Super Centurion 250 FH Specification 3. 4.	FIRE HYDRANT	UW-06 Date: 06/01/2015 Drawn JH Checked VR	City of Crystal Lake Illinois

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UW-06

CITY OF CRYSTAL LAKE WATER MAIN CHLORINATION SPECIFICATIONS:

1. DISINFECTION OF WATER MAINS SHALL BE DONE IN ACCORDANCE WITH THE STATE OF ILLINOIS STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION, CURRENT EDITION
2. THE CITY ENGINEERING DIVISION AND WATER DIVISION SHALL BE NOTIFIED 48 HOURS IN ADVANCE FOR SCHEDULING OF ANY TESTING, CHLORINATING, FLUSHING, OR SAMPLING.
3. ONLY CITY WATER DIVISION PERSONNEL MAY OPERATE WATER VALVES ON LIVE MAINS.
4. A WATER VALVE JUMPER IS REQUIRED TO MAINTAIN PRESSURE ON THE CHLORINATED LINES DURING THE SAMPLING PROCEDURE. FOR PROPER INSTALLATION AND REQUIREMENTS SEE THE STANDARD WATER VALVE JUMPER DETAIL UW-05.
5. WATER MAINS SHALL BE FLUSHED WITH A MINIMUM VELOCITY OF 2.5 FPS.
6. THE INITIAL CHLORINE CONCENTRATION SHALL BE 50 mg/L WITH A MINIMUM 24 HOUR RESIDUAL OF 25 mg/L.
7. THE METHOD OF CHLORINE APPLICATION SHALL BE APPROVED BY THE CITY:
   a. LIQUID CHLORINE W/CHLORINATING DEVICE WITH BACKFLOW PREVENTER.
   b. CHLORINE BEARING COMPOUNDS IN WATER.
   c. TABLET DISINFECTION.
8. ALL NEW VALVES AND HYDRANTS SHALL BE OPERATED WHILE LINE IS BEING CHLORINATED.
9. THE CITY ENGINEERING DIVISION SHALL DETERMINE LOCATION AND QUANTITY OF CORPORATION STOPS FOR FLUSHING AND CHLORINATING. MAXIMUM SPACING BETWEEN SAMPLES SHALL BE 1,200 FEET. THE CHLORINE SOURCE AND ALL DEAD ENDS SHALL BE SAMPLED.
10. THE FINAL FLUSHING RESIDUAL IN THE NEW CHLORINATED LINES SHALL BE BETWEEN 0.2 AND 2.0 mg/L.
11. ALL WATER SAMPLES SHALL BE COLLECTED ON TWO (2) CONSECUTIVE DAYS AND PASS BACTERIOLOGICAL TEST RESULTS. IN THE EVENT THAT THE FIRST SET OF SAMPLES TAKEN TWO (2) CONSECUTIVE DAYS APART FAIL TO PASS, ANOTHER SET OF SAMPLES MAY BE TAKEN TWO (2) DAYS APART. (PER STATE SPECS). IF THE SECOND SET FAILS TO PASS TESTING, THEN THE PROCEDURE MUST BE REPEATED WITH THE MAIN BEING RECHLORINATED, REFLUSHED, AND RESAMPLED.
12. IF THE WATER MAIN FALLS BELOW 20 PSI AFTER CHLORINATION, THE LINE SHALL BE RESAMPLED ON TWO (2) CONSECUTIVE DAYS AND PASS BACTERIOLOGICAL TEST RESULTS.
13. STATE CERTIFIED LAB MUST BE USED FOR SAMPLES.

CHLORINE REQUIREMENTS TO PRODUCE 50 mg/L CONCENTRATION IN 100 FEET OF PIPE-BY DIAMETER

PIPE SIZE IN INCHES	100% CHLORINE, LB	1% CHLORINE SOLUTION, GAL.
4	0.027	0.33
6	0.061	0.73
8	0.108	1.30
10	0.170	2.04
12	0.240	2.88

NUMBER OF 5-GRAIN HYPOCHLORITE TABLETS REQUIRED FOR A DOSAGE OF 50mg/L PER LENGTH OF PIPE SECTION

	LENGTH OF PIPE SECTION IN FEET				
PIPE SIZE IN INCHES	UP TO 13	18	20	30	40
2	1	1	1	1	1
4	1	1	2	2	2
6	2	2	3	3	4
8	2	3	5	5	6
10	3	5	7	7	9
12	5	6	10	10	14

Revised:	Drawing Name	Drawing Number	
1. 06/12/2015 2. 4/30/2021 KL 20 PSI RESAMPLE, SAMPLING FREQUENCY 3. 4.	CHLORINATION SPECIFICATIONS	UW-08 Date: 09/20/2012 Drawn DD Checked VR	City of Crystal Lake Illinois

L:\ENGINEERING AND BUILDING\ENGINEERING DETAILS AND STANDARDS\

UW-08

WATERMAIN TESTING AND CHLORINATION PROCEDURE

STANDARD SPECIFICATIONS FOR WATER AND SEWER CONSTRUCTION IN ILLINOIS (LATEST EDITION) AND AWWA STANDARD C600-17 SHALL APPLY ALONG WITH THE FOLLOWING:

2 HOUR PRESSURE AND LEAKAGE TEST

1. PRETEST: THE CONTRACTOR SHALL PROVIDE A MAP OF THE FACILITIES (WATER MAINS, HYDRANTS, VALVES, ETC.) TO BE INCLUDED DURING THE TEST TO THE ENGINEER. SEE UW-09B WORKSHEET. ALL FIRE HYDRANT AUXILIARY VALVES SHALL BE OPENED 50 TESTING IS PERFORMED AGAINST FIRE HYDRANTS. THE ENGINEER WILL COORDINATE WITH THE WATER DEPARTMENT TO SCHEDULE OPENING OF CITY VALVES AND FILLING OF NEW WATER MAIN A MINIMUM OF 48 HOURS IN ADVANCE OF THE TEST. THE CONTRACTOR SHALL NOT OPERATE ANY VALVES ON EXISTING CITY WATER MAIN WITHOUT WRITTEN PERMISSION.
2. HYDROSTATIC PRESSURE TESTING: ALL TESTING EQUIPMENT AND LABOR NECESSARY TO SETUP AND RUN THE TEST SHALL BE PROVIDED BY THE CONTRACTOR AND SHALL INCLUDE:
   A) PRESSURE GAUGE LOCATED AT HIGHEST POINT OF ELEVATION OF THE WATER MAIN
   B) PUMP
   C) TANK
   D) FITTINGS FOR TESTING EQUIPMENT TO BE CONNECTED TO WATER MAIN
   E) ACCURATE WATER VOLUME MEASURING DEVICE (CALIBRATED VOLUMETRIC METER OR 1 GALLON GRADUATED CYLINDER IN OUNCES)
3. AIR REMOVAL: AFTER FILLING THE WATERMAIN, AIR SHALL BE EXPELLED BY FLUSHING WATER OUT OF THE MAIN AT FIRE HYDRANTS OR CORPORATION STOPS LOCATED AT HIGH POINTS ALONG THE WATER MAIN.
4. PRESSURIZATION: AFTER ALL AIR HAS BEEN REMOVED, THE MAIN SHOULD BE PRESSURIZED TO MINIMUM 150 PSI BY PUMPING ADDITIONAL WATER INTO THE WATER MAIN.
5. TWO HOUR TEST: ONCE TESTING PRESSURE IS OBTAINED, THE PUMP SHOULD BE SHUT OFF AND TIMING STARTED. THE PRESSURE GAUGE SHOULD BE CHECKED INTERMITTENTLY AND THE PRESSURE READING RECORDED AFTER TWO HOURS. IF THE PRESSURE READING VARIES MORE THAN +/- 5 PSI FROM THE INITIAL PRESSURE, THE TEST FAILS. THE LEAK SHALL BE FOUND AND ADDRESSED PRIOR TO RETESTING.
6. MAKE UP VOLUME: IF THE PRESSURE IS MAINTAINED WITHIN +/- 5 PSI FOR THE TWO HOUR TEST, THE MAKEUP VOLUME SHALL BE DETERMINED BY PUMPING WATER BACK INTO THE WATER MAIN TO REACH THE INITIAL TEST PRESSURE. THIS WILL NORMALLY BE DONE BY EXCEEDING THE TEST PRESSURE, AND USING THE BLEED OFF VALVE TO DROP THE PRESSURE TO THE INITIAL TEST PRESSURE. ONCE THE INITIAL TEST PRESSURE HAS BEEN REACHED, THE BLEED OFF VALVE SHALL BE OPENED AND WATER THAT LEAVES THE SYSTEM SHALL BE COLLECTED IN THE VOLUME MEASURING DEVICE. ONCE THE GAUGE REACHES THE FINAL TWO HOUR TEST PRESSURE, THE VOLUME OF WATER COLLECTED SHALL BE MEASURED.
7. ALLOWABLE MAKEUP VOLUME: THE MEASURED VOLUME OF "MAKE UP" WATER SHALL BE COMPARED TO THE ALLOWABLE LEAKAGE. THE ALLOWABLE LEAKAGE SHALL BE CALCULATED BY THE ENGINEER USING THE FORMULA ABOVE. IF THE WATER COLLECTED IS LESS THAN THE ALLOWABLE MAKE UP VOLUME, THE TEST PASSES. IF THE WATER COLLECTED IS MORE THAN THE ALLOWABLE MAKE UP VOLUME, THE TEST FAILS. THE LEAK SHALL BE FOUND AND ADDRESSED PRIOR TO RETESTING.
8. FINAL VALVE CHECKS: PRIOR TO BLEEDING OFF THE PRESSURE, ALL HYDRANTS ON THE TESTING MAP SHALL BE SLOWLY OPENED TO ENSURE THAT THEY HAD PRESSURE AGAINST THEM DURING TESTING. THE PRESSURE GAUGE SHOULD DROP AS THE HYDRANTS ARE OPENED ENSURING THAT ALL VALVES IN THE SYSTEM WERE PROPERLY OPENED/CLOSED DURING TESTING.
9. IF THE WATER MAIN HAS PASSED THE PRESSURE TEST, THE PRESSURE SHALL BE REDUCED TO THE CITY'S SYSTEM PRESSURE.

CHLORINATION

1. PRE-CHLORINATION: THE ENGINEER WILL COORDINATE WITH THE WATER DEPARTMENT TO SCHEDULE OPENING OF CITY VALVES FOR CHLORINATION A MINIMUM OF 48 HOURS IN ADVANCE OF THE CHLORINATION. THE FOLLOWING METHODS OF CHLORINE APPLICATION ARE APPROVED BY THE CITY:
   A) LIQUID CHLORINE WITH CHLORINATION DEVICE AND BACKFLOW PREVENTER
   B) CHLORINE BEARING COMPOUNDS IN WATER
   C) TABLET DISINFECTION
2. SAMPLING LOCATIONS: THE ENGINEER SHALL DETERMINE THE LOCATION AND QUANTITY OF SAMPLING LOCATIONS. MAXIMUM SPACING BETWEEN SAMPLES SHALL BE 1,200 FEET. THE CHLORINE SOURCE AND ALL DEAD ENDS SHALL BE SAMPLED. SEE UW-09B WORKSHEET.
3. CHLORINATION: THE INITIAL CHLORINE CONCENTRATION SHALL BE 50 mg/L WITH A MINIMUM 24 HOUR RESIDUAL OF 25 mg/L. ALL NEW VALVES AND HYDRANTS SHALL BE OPERATED WHILE THE LINE IS BEING CHLORINATED. THE FINAL FLUSHING RESIDUAL IN THE NEW CHLORINATED LINES SHALL BE BETWEEN 0.2-2.0 mg/L.
4. TESTING: ALL WATER SAMPLES SHALL BE COLLECTED ON TWO CONSECUTIVE DAYS AND PASS BACTERIOLOGICAL TEST RESULTS FROM A CERTIFIED LABORATORY. TEST RESULTS SHALL BE EMAILED TO THE CITY OF CRYSTAL LAKE SO THE IEPA PERMIT APPLICATION CAN BE SUBMITTED. IN THE EVENT THAT THE FIRST SET OF SAMPLES TAKEN TWO CONSECUTIVE DAYS APART FAIL TO PASS, ANOTHER SET OF SAMPLES ME BE TAKEN TWO DAYS APART. IF THE SECONDS SET FAILS TO PASS TESTING, THE PROCEDURE MUST BE REPEATED WITH THE WATER MAIN BEING RECHLORINATED, REFLUSHED AND RESAMPLED.
5. MAINTAIN PRESSURE: IMMEDIATELY AFTER THE SECOND DAY SAMPLE HAS BEEN TAKEN IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO INSTALL A CERTIFIED WATER VALVE JUMPER (SEE UW-05) TO MAINTAIN PRESSURE ON THE NEW WATER MAIN UNTIL THE IEPA PERMIT IS RECEIVED. AFTER RECEIVING THE IEPA OPERATING PERMIT, THE CITY OF CRYSTAL LAKE SHALL OPEN THE VALVE BETWEEN THE NEW AND EXISTING WATERMAIN AND THE WATER VALVE JUMPER MAY BE REMOVED. WATER VALVE JUMPERS ARE AVAILABLE FOR RENT AT THE CITY OF CRYSTAL LAKE WATER DEPARTMENT. IF WATER IN EXCESS OF THE ALLOWABLE LEAKAGE ENTERS THE NEW WATER MAIN THROUGH THE WATER VALVE JUMPER ; THE CONTRACTOR SHALL LOCATE THE LEAK. IF THE NEW WATER MAIN MUST BE DEPRESSURIZED TO FIX A LEAK, THE SYSTEM SHALL BE RETESTED, RECHLORINATED, REFLUSHED, AND RESAMPLED.

Revised:	Drawing Name	Drawing Number	
1. 06/12/2015 2. 8/18/2023 - JRG Leakage formula, procedure, delete 24 hour test 3. 4.	WATER MAIN PRESSURE TEST AND CHLORINATION PROCEDURE	UW-09A Date: 09/20/2012 Drawn DD Checked VR	City of Crystal Lake Illinois

L:\ENGINEERING AND BUILDING\ENGINEERING DETAILS AND STANDARDS\

UW-09A

PROJECT NAME: _____
CONTRACTOR: _____
WITNESS: _____
LINE PRESSURIZED: DATE: _____ TIME: _____ am / pm
LINE TESTED: DATE: _____ TIME: _____ am / pm

LEAKAGE FORMULA

$L = \frac{SD\sqrt{P}}{148{,}000}$

L = Testing (leakage) allowance (makeup water), in gallons per hour = _____ GPH
S = Length of pipe tested in feet = _____ FEET
D = Nominal diameter of the pipe, in inches = _____ INCHES
P = Average test pressure during the hydrostatic test, in pounds per square inch (gauge) _____ PSI
*If multiple diameters of water main are being tested, separate leakage (L) calculation shall be added together.

NOTES AND CALCULATIONS

2-HOUR TEST

TOTAL ALLOWABLE LEAKAGE = L X 2 HOURS	_____ GALLONS	A
INITIAL TEST PRESSURE (MINIMUM 150 PSI)	_____ PSI	B
FINAL TEST PRESSURE	_____ PSI	C
PASS (B-C>5 PSI) OR FAIL (B-C<5 PSI)		
MAKE UP VOLUME	_____ GALLONS	D
PASS (A > D) OR FAIL (A < D)		E

LOCATION DIAGRAM AND SAMPLING MAP

INDICATE NORTH

Revised:	Drawing Name	Drawing Number	
1. 2. 3. 4.	WATER MAIN PRESSURE TEST AND CHLORINATION WORKSHEET	UW-09B Date: 08/18/2023 Drawn JRG Checked PW	City of Crystal Lake Illinois

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UW-09B

TRACER WIRE

Reinforced tracer wire shall be required on all PVCO water main repairs within the City.

- Tracer wire for open cut installation shall be a #12 AWG HS-CCS high-strength copper clad steel conductor (HS-CCS), insulated with a 30 mil, high-density, high molecular weight polyethylene (HDPE) insulation, and rated for direct burial use at 30 volts. HS-CCS conductor must be at 21% conductivity for locating purposes, break load 380 lbs. minimum. HDPE insulation shall be RoHS compliant and utilize virgin grade material. Insulation color shall blue. Tracer wire shall be Copperhead™ HS-CCS HDPE 30 mil or pre-approved equal.
- Tracer wire for directional drilling/boring shall be SoloShot™ (12 AWG) extra-high strength copper-clad steel conductor (EHS-CCS), insulated with a 45 mil, high density, high molecular weight polyethylene (HDPE) insulation, and rated for direct burial use at 30 volts. EHS-CCS conductor must be at 21% conductivity for locating purposes; break load will be 1150 lbs. minimum. HDPE insulation shall be RoHS compliant and utilize virgin grade material. Tracer wire shall be Copperhead™ SoloShot™ EHS-CCS HDPE 45 mil or pre-approved equal.
- Two separate conductors shall be run along the side (at the nine or three o'clock position) of all new mains and hydrant leads, taped to the pipe a minimum of every 5 feet.
- The wire shall be brought to grade in a tracer box at each hydrant.
  - A magnetized tracer box shall be installed at each new fire hydrant.
  - Locate the magnetized tracer box adjacent to the auxiliary valve, with two feet of the hydrant barrel.
  - The box shall be tamper-proof, with cast or ductile iron blue lid with a brass wire harness and external brass connection screw. (Copperhead Industries, LDXL36BTP In unpaved areas, CD14BTP for concrete applications and RB14BTP In roadways or approved equal.
  - Magnetized tracer boxes maybe required at locations to be determined by the City Engineer.
- The wire shall also be secured to the top (inside) of each valve vault leaving enough slack in the wire so that it may be pulled out of the valve vault with an excess of 6 foot.
- All splices in the wire to connect main line tracer wire shall use Copperhead SnakeBite Part #SCB_01-SR or approved equal.
  - For lateral runs or hydrant leads, connections shall be made with a 3 - way enclosed lug direct bury connector with internal silicone sealant, Copperhead Industries "DryConn" Direct Bury Lug, # 3WB-01 or approved equal.
  - In directional bore operations: splices shall be at valve and fitting locations where excavation is required. If a splice must be done In an unexcavated location, use a wire nut twist connector with restraining cap and internal silicone sealant Copperhead Industries #SCB - 01SR or approved equal. Connections should be wrapped with heavy-duty electrical tape (minimum three (3) Inches each side of connection).
  - The contractor is responsible for testing and ensuring the continuity of the tracer wire during installation, the City will test the integrity of the tracing wire at the end of construction.
- Grounding the tracer wire system at all dead end points completed the needed electrical circuit for accurate locates.
  - Contractor to include a CopperheadTM Anode Part #(Ano-1005), 1# x 1.315"D x 18.5"L, Magnesium Drive In Anode which Includes an HDPE cap and 10' of density high molecular weight polyethylene (HDPE) Insulation.
  - Installation of one Copperhead Snake BiteTM connector, part # SCB-01-SR, shall be installed at a location to be determined by the Engineer.
  - The connector Is provided to splice the factory Installed anode tracer wire to the mainline tracer wire. The CopperheadTM Anode described above must be used or a pre-approved equal
- Tracer wire shall be tested upon repair.

Revised:	Drawing Name	Drawing Number	
1. 06/12/2015 2. 07/14/2023 JRG - Update PVCO WM repairs and tracer wire test 3. 4.	PVCO WATER MAIN TRACER WIRE GENERAL SPECIFICATIONS	UW-13 Date: 06/10/2015 Drawn JH Checked VR	City of Crystal Lake Illinois

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UW-13

ISSUED FOR BID – NOT FOR CONSTRUCTION

ARCHITECT:
DEMONICA KEMPER ARCHITECTS
125 N. HALSTED STREET, SUITE 301
CHICAGO, IL 60661
P: 312.496.0000

S-MEP-FP-T ENGINEER:
IMEG CORP
263 SHUMAN BLVD, SUITE 550
NAPERVILLE, IL, 60563
P: 630.527.2320

CIVIL ENGINEER:
HR GREEN
1391 CORPORATE DRIVE, SUITE 203
MCHENRY, IL, 60050
P: 815.385.1778

KITCHEN CONSULTANT:
NEW VENTURE ADVISORS
2506 N. CLARK ST. #436
CHICAGO, IL, 60614
P: 773.245.3570

McHenry County College

Student Farm Renovations

8900 Northwest Hwy #14, Crystal Lake, IL 60012

DKA PROJECT NO: 25-037

KEY PLAN:

SHEET STATUS: 04/21/2026

ISSUED FOR BID - NOT FOR CONSTRUCTION

NO:	DESCRIPTION:	DATE:

SHEET TITLE:

STANDARD CONSTRUCTION DETAILS

SHEET NUMBER:

C-08

2/26/2026 11:33:40 AM

Xrefs: MCC Student Farm_DKA-TITLEBLOCK

4/21/2026 2:48:37 PM
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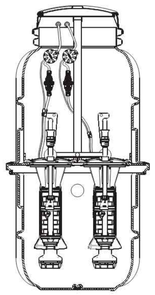
E/ONE EXTREME SERIES

DH152



General Features

The model DH152 grinder pump station is a complete unit that includes: two grinder pumps, check valve, polyethylene tank, controls, and alarm panel. A single DH152 or is ideal for up to four, average single-family homes and can also be used for up to 12 average single-family homes where codes allow and with consent of the factory.

- Rated for flows of 3000 gpd (11,356 lpd)
- 150 gallons (568 liters) of capacity
- Indoor or outdoor installation
- Standard outdoor heights range from 93 inches to 160 inches

The DH152 has a cable that connects the motor controls to the level controls through watertight penetrations.

Operational Information

Motor
1 hp, 1,725 rpm, high torque, capacitor start, thermally protected, 120/240V, 60 Hz, 1 phase

Inlet Connections
4-inch inlet grommet standard for DWV pipe. Other inlet configurations available from the factory.

Discharge Connections
Pump discharge terminates in 1.25-inch NPT female thread. Can easily be adapted to 1.25-inch PVC pipe or any other material required by local codes.

Discharge
15 gpm at 0 psig (0.95 lps at 0 m)
11 gpm at 40 psig (0.69 lps at 28 m)
7.8 gpm at 80 psig (0.49 lps at 56 m)

Accessories

E/One requires that the Uni-Lateral, E/One's own stainless steel check valve, be installed between the grinder pump station and the street main for added protection against backflow.

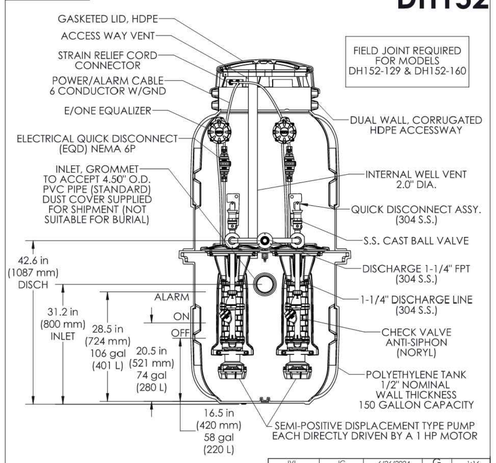
Alarm panels are available with a variety of options, from basic monitoring to advanced notice of service requirements.

The Remote Sentry is ideal for installations where the alarm panel may be hidden from view.

NA0052P01 Rev F

NA0052P02

DH152



CONCRETE BALLAST MAY BE REQUIRED SEE INSTALLATION INSTRUCTIONS FOR DETAILS

NOTE: DIMENSIONS ARE FOR REFERENCE ONLY

JVL	JG	6/26/2024	G	1:16
DR BY	CHK'D	DATE	ISSUE	SCALE

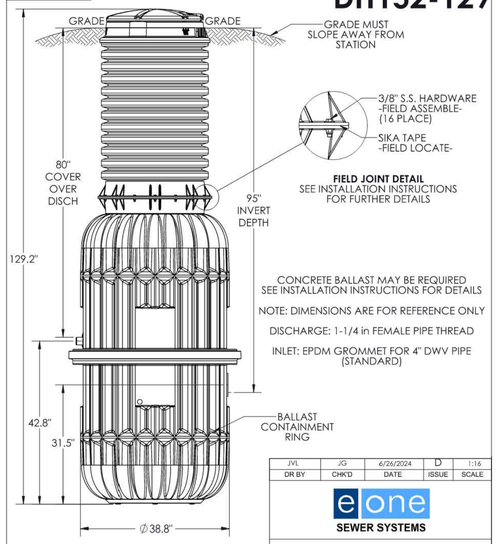
e one SEWER SYSTEMS

MODEL DH152
DETAIL SHEET

NA0052P02

NA0052P05

DH152-129



CONCRETE BALLAST MAY BE REQUIRED SEE INSTALLATION INSTRUCTIONS FOR DETAILS

NOTE: DIMENSIONS ARE FOR REFERENCE ONLY

DISCHARGE: 1-1/4 in FEMALE PIPE THREAD

INLET: EPDM GROMMET FOR 4" DWV PIPE (STANDARD)

JVL	JG	6/26/2024	D	1:16
DR BY	CHK'D	DATE	ISSUE	SCALE

e one SEWER SYSTEMS

MODEL DH152-129

NA0052P05

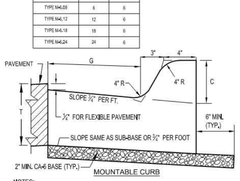
RD-05a

MOUNTABLE CURB DIMENSIONS FOR "S" AND "C"

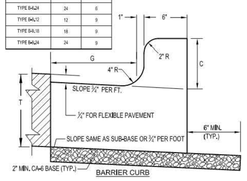
CURB TYPE	"S" (INCHES)	"C" (INCHES)
TYPE B4.24	24	3
TYPE B4.12	12	4
TYPE B4.06	6	6
TYPE B4.12	12	6
TYPE B4.18	18	6
TYPE B4.24	24	6

BARRIER CURB DIMENSIONS FOR "S" AND "C"

CURB TYPE	"S" (INCHES)	"C" (INCHES)
TYPE B4.12	12	6
TYPE B4.18	18	6
TYPE B4.24	24	6
TYPE B4.12	12	9
TYPE B4.18	18	9
TYPE B4.24	24	9



MOUNTABLE CURB



BARRIER CURB

NOTES:

THICKNESS - T - THICKNESS OF PAVEMENT WHEN CURB AND GUTTER IS CONSTRUCTED ADJACENT TO FLEXIBLE OR RIGID PAVEMENT. THE VERTICAL THICKNESS OF THE GUTTER FLAG SHALL BE 9". ALSO, TIE BARS SHALL BE OMITTED.

DRAINAGE OPENINGS - AT ALL LOCATIONS WHERE METAL CASTINGS ARE TO BE INCORPORATED IN THE CURB AND GUTTER, A 1" THICK PRE FORMED EXPANSION JOINT FILLER, CONFORMING TO THE CROSS SECTIONS OF THE CURB AND GUTTER, SHALL BE INSTALLED IN THE CURB AND GUTTER A DISTANCE OF 5 FT. FROM EACH SIDE OF THE METAL CASTING. WHEN THE WIDTH OF THE METAL CASTING IS LESS THAN THE WIDTH OF THE CURB AND GUTTER, 2 - NO. 4 REBARS @ ≈ 12 × CASTING LENGTH + 12") SHALL BE INCORPORATED IN THE CONTINUOUS OF CONCRETE GUTTER IN FRONT OF THE CASTING.

TRANSITIONS - THE TRANSITION FROM FULL HEIGHT CURB TO DEPRESSED CURB SHALL BE MADE AT THE RATE OF 3" PER FOOT OF LENGTH OR FLATTER.

(2) - NO. 4 STEEL REINFORCING BARS SHALL BE INCORPORATED OVER TRENCH CROSSINGS IF REQUIRED BY THE CITY ENGINEER.

JOINTS - IN ADDITION TO THE REQUIREMENTS OF ARTICLE 606.06 OF THE STANDARD SPECIFICATIONS, JOINTS SHALL BE CONSTRUCTED AS FOLLOWS:

CONTRACTION JOINTS AND EXPANSION JOINTS SHALL BE INSTALLED IN THE CURB OR CURB AND GUTTER IN PROLONGATION WITH JOINTS IN ADJACENT P.C.C. PAVEMENT OR BASE COURSE.

WHEN CURB AND GUTTER IS CONSTRUCTED ADJACENT TO FLEXIBLE PAVEMENT, A 1" THICK PRE FORMED EXPANSION JOINT FILLER, CONFORMING TO THE CROSS SECTION OF THE CURB AND GUTTER, SHALL BE INSTALLED AT POINTS OF CURVATURE FOR SHORT RADIUS CURVES AND AT CONSTRUCTION JOINTS. CONTRACTION JOINTS SHALL BE PLACED BETWEEN EXPANSION JOINTS AT DISTANCES NOT TO EXCEED 15 FEET.

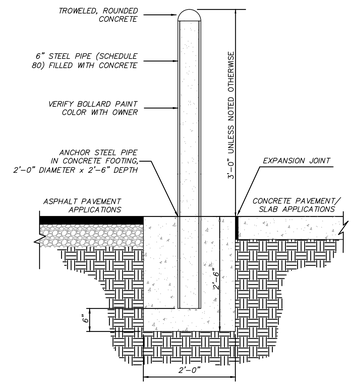
ALL EXPANSION JOINTS SHALL BE PROVIDED WITH A 1 1/2" DIA. X 18" COATED SMOOTH DOWEL BAR CONFORMING TO ARTICLE 1006.10 OF THE STANDARD SPECIFICATIONS. THE DOWEL BAR SHALL BE FITTED WITH A CAP HAVING A PINCHED STOP THAT WILL PROVIDE 1" OF EXPANSION.

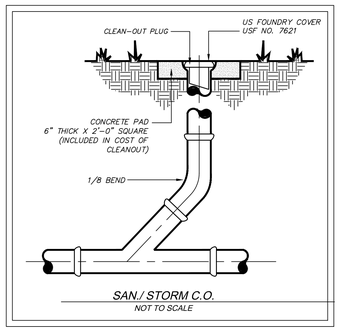
ALL CONSTRUCTION JOINTS SHALL BE PROVIDED WITH 1/2 DIA. DEFORMED STEEL TIE BARS 30" LONG CONFORMING TO AASHTO M31 OR M42. TIE BARS SHALL BE PLACED ON 9" CENTERS (MINIMUM 2 PER JOINT).

EXPANSION JOINTS SHALL BE PLACED AT INTERVALS NOT TO EXCEED 100 FEET.

Revised:	Drawing Name	Drawing Number	City of Crystal Lake Illinois
1. 06/12/2015	CURB: CONCRETE CURB AND GUTTER	RD-05a	
2. KL 1/25/2021 M=4.12 ADDED		Date: 06/11/2015	
3.		Drawn: DD / Checked: AW	
4.			

CONCRETE BOLLARD





SAN./ STORM C.O.
NOT TO SCALE

ISSUED FOR BID – NOT FOR CONSTRUCTION

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McHenry County College

Student Farm Renovations

8900 Northwest Hwy #14, Crystal Lake, IL 60012
DKA PROJECT NO: 25-037

KEY PLAN:

SHEET STATUS: 04/21/2026
ISSUED FOR BID - NOT FOR CONSTRUCTION

NO:	DESCRIPTION:	DATE:

SHEET TITLE:
STANDARD CONSTRUCTION DETAILS

SHEET NUMBER:
C-09

2/26/2026 11:33:40 AM

Xrefs: MCC Student Farm_DKA-TITLEBLOCK

4/21/2026 2:48:37 PM
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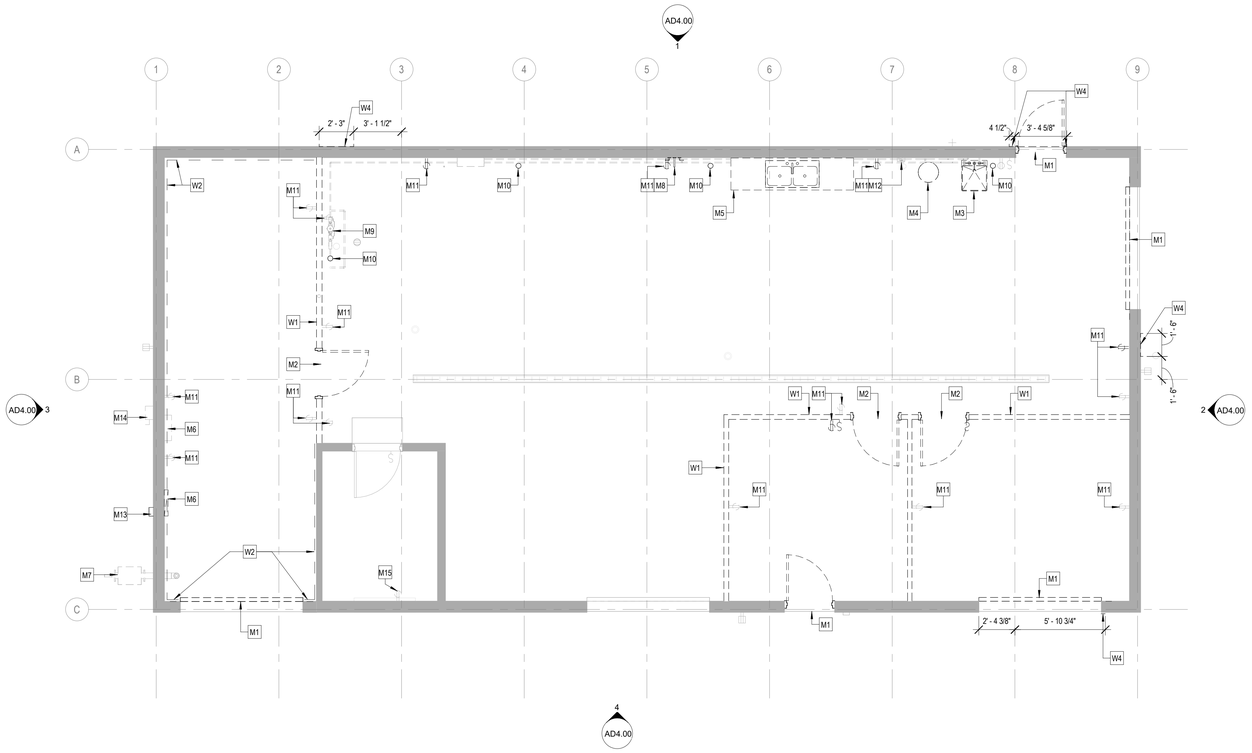
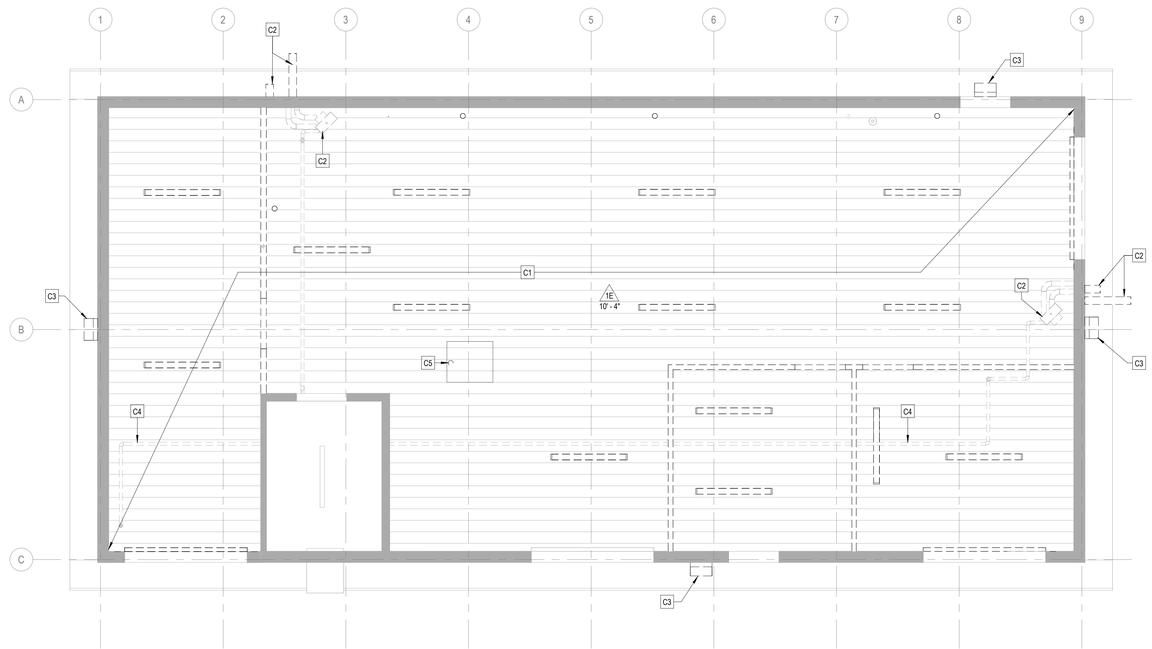


1 LEVEL 1 - DEMO FLOOR PLAN
1/4" = 1'-0"



2 LEVEL 1 - DEMO REFLECTED CEILING PLAN
1/4" = 1'-0"

DEMO GENERAL NOTES:

1. REFER TO M/E/P/FP/T DRAWINGS FOR ADDITIONAL INFORMATION ON MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION, AND TECHNOLOGY SYSTEMS.
2. DURING THE BID PERIOD, EACH BIDDING CONTRACTOR SHALL VISIT THE PROJECT TO REVIEW EXISTING CONDITIONS. CONTRACTOR'S FAILURE TO REASONABLY DETERMINE AND/OR ANTICIPATE THE NATURE OF EXISTING CONDITIONS AND THE WORK THEREBY INVOLVED SHALL NOT BE JUSTIFICATION FOR ADDITIONAL COMPENSATION.
3. CONTRACTOR SHALL VERIFY AND MAINTAIN THE BUILDING'S STRUCTURAL INTEGRITY DURING THE ENTIRE PROJECT DURATION.
4. PROVIDE ALL DEMOLITION, TEMPORARY REMOVAL, AND REINSTALLATION AND REPAIR REQUIRED TO INSTALL NEW WORK.
5. REMOVE ALL M/E/P/FP/T EQUIPMENT, DEVICES, AND FIXTURES, INCLUDING EQUIPMENT PADS, WIRING, CONDUIT, PIPING, AND RELATED APPURTENANCES, ABANDONED THROUGH DEMOLITION. IF COMPLETE REMOVAL IS NOT POSSIBLE, CUT AS CLOSE AS POSSIBLE TO ADJOINING SURFACES. FILL FLOOR VOIDS.
6. REMOVE ALL HANGERS, SUSPENSION SYSTEMS, SUPPORT FRAMING, ANCHORS, ATTACHMENT HARDWARE AND RELATED APPURTENANCES CONNECTED WITH THE WORK TO BE DEMOLISHED.
7. REPAIR EXISTING FLOORS, WALLS, AND CEILINGS WHERE AFFECTED BY DEMOLITION. MATCH EXISTING ADJACENT CONDITIONS.
8. INFILL OPENINGS CREATED BY DEMOLITION. PROVIDE A SEAMLESS TRANSITION TO EXISTING. KEY NEW MASONRY INTO EXISTING USING WHOLE UNITS.
9. WHERE CEILINGS ARE SHOWN TO BE DEMOLISHED, REMOVE CEILING SYSTEMS IN THEIR ENTIRETY, INCLUDING SUSPENSION WIRING, ANCHORS AND ALL ASSOCIATED APPURTENANCES.
10. WHERE ACOUSTICAL PANEL CEILING SYSTEMS ARE SHOWN TO BE DEMOLISHED, CONTRACTOR SHALL SALVAGE ALL TILES AS EXTRA STOCK FOR OWNER UNLESS NOTED OTHERWISE. SALVAGE ONLY UN-CUT TILES WITH NO VISIBLE DAMAGE. OWNER WILL REVIEW TILES PRIOR TO STORAGE.

DEMO RCP SYMBOLS LEGEND:

NOTES:
1. GRAYTONE LINEWORK DENOTES EXISTING CONSTRUCTION TO REMAIN.
2. REFER TO M/E/P/FP/T DRAWINGS FOR ADDITIONAL INFORMATION ON MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION, AND TECHNOLOGY SYSTEMS.

ROOM NAME 101	ROOM NAME AND NUMBER
XX X'-X"	CEILING TYPE AND ELEVATION A.F.F.

EXIST. TO REMAIN	REMOVE	DESCRIPTION
		GYPSUM BOARD OR PLASTER ON METAL- OR WOOD-FRAMED PARTITION
		GYPSUM BOARD OR PLASTER CEILING SYSTEM
		LINEAR LIGHT FIXTURE - SEE ELECTRICAL
		FRAME AND DOOR; SALVAGE ALL DEMOLISHED HARDWARE TO OWNER

DEMOLITION FLOOR PLAN REFERENCED NOTES: X

REFER TO M/E/P/FP DRAWINGS FOR ADDITIONAL INFORMATION ON MECHANICAL, ELECTRICAL, PLUMBING, AND FIRE PROTECTION SYSTEMS.

WALL DEMOLITION KEYED NOTES

W1. REMOVE EXISTING WALL. PATCH AND REPAIR ADJACENT SURFACES AND PREP FOR NEW WORK.
W2. REMOVE PLYWOOD ON WALL. PATCH AND REPAIR EXISTING FRAMING / INSULATION AND PREP FOR NEW WORK.
W3. REMOVE PORTION OF PARTIAL EXTERIOR MTL. PANELS ADJACENT AND ABOVE EXISTING TO BE DEMOLISHED DOOR TO THE EXTENTS SHOWN AND PREP FOR PANEL REPLACEMENT. SEE DEMO ELEVATIONS.

MISCELLANEOUS DEMOLITION KEYED NOTES

M1. REMOVE EXISTING DOOR COMPLETE. PREP ROUGH OPENING FOR NEW WORK. PATCH AND REPAIR ADJACENT FINISHES AS REQ.
M2. REMOVE DOORS COMPLETE AND PRESERVE FOR REUSE WHERE POSSIBLE. SEE A10.00 FOR DOOR SCHEDULE.
M3. REMOVE EXISTING MOP SINK COMPLETE. SEE PLUMB.
M4. REMOVE EXISTING WATER HEATER COMPLETE. SEE PLUMB.
M5. REMOVE EXISTING SINK AND STEEL COUNTER AND SALVAGE FOR RE-USE. PATCH AND REPAIR WALL AS REQ. PREP SURFACES FOR NEW WORK. SEE KITCHEN EQUIPMENT DRAWINGS.
M6. EXISTING ELECTRICAL PANEL TO BE REMOVED. SEE ELEC.
M7. EXISTING GAS LINE FEED / METER TO BE REMOVED. SEE MECH.
M8. EXISTING DISCONNECT TO BE REMOVED. SEE ELEC.
M9. EXISTING BACKFLOW PREVENTER AND WATER LINES TO BE REMOVED. SEE PLUMB.
M10. EXISTING VENT PIPE TO BE REMOVED. SEE PLUMB.
M11. EXISTING POWER OUTLET TO BE REMOVED. SEE ELEC.
M12. EXISTING SAFETY SWITCH TO BE REMOVED. SEE ELEC.
M13. EXISTING ELECTRICAL METER TO BE REMOVED. SEE ELEC.
M14. EXISTING DISCONNECT SWITCH TO BE REMOVED. SEE ELEC.

RCP DEMOLITION KEYED NOTES

C1. REMOVE EXISTING LIGHT FIXTURES AND SALVAGE FOR RE-USE. TURN OVER ANY ADD'L LIGHT FIXTURES NOT REINSTALLED TO OWNER. SEE ELEC.
C2. EXISTING MECHANICAL EQUIP. TO BE REMOVED. SEE MECH. REMOVE ADJACENT MTL PANELS AND PREP FOR REPLACEMENT MATEL PANELS. SEE ELEV.
C3. EXISTING LIGHT FIXTURE TO BE REMOVED. SEE ELEC.
C4. EXISTING GAS LINE TO BE REMOVED. SEE MECH.
C5. EXISTING LIGHT FIXTURE IN ATTIC TO BE REMOVED AND BE REPLACED WITH EXISTING, SALVAGED LIGHT FIXTURE. SEE ELEC.

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McHenry County College
Student Farm Renovations
8900 Northwest Hwy #14, Crystal Lake, IL 60012
DKA PROJECT NO: 25-037

KEY PLAN:

SHEET STATUS: 04/21/2026
ISSUED FOR BID - NOT FOR CONSTRUCTION

NO:	DESCRIPTION:	DATE:

SHEET TITLE:
DEMOLITION FLOOR PLAN & REFLECTED CEILING PLAN

SHEET NUMBER:
AD1.10

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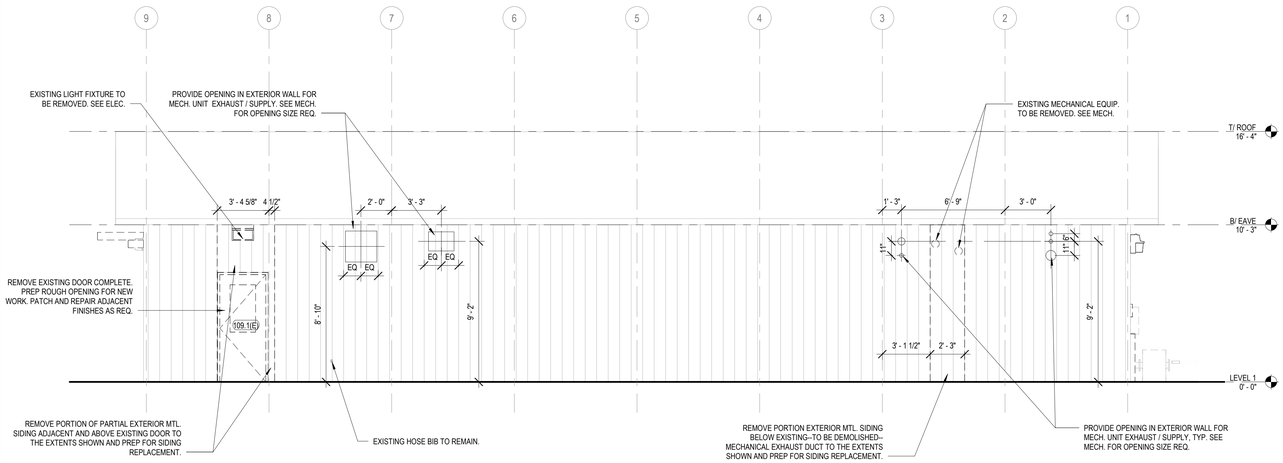
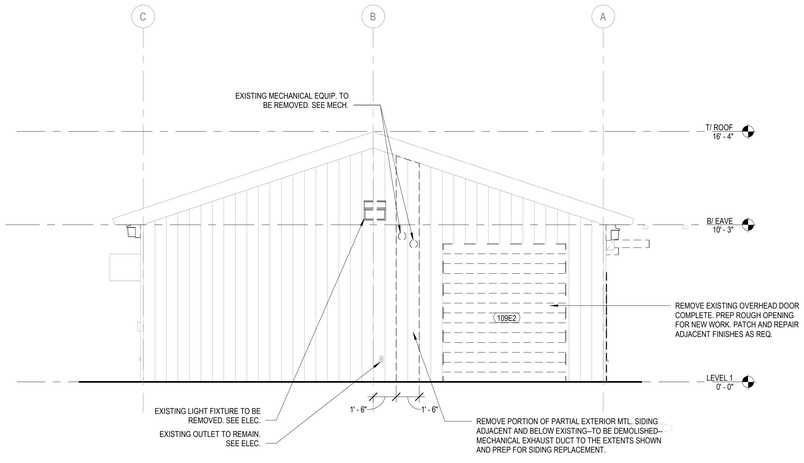
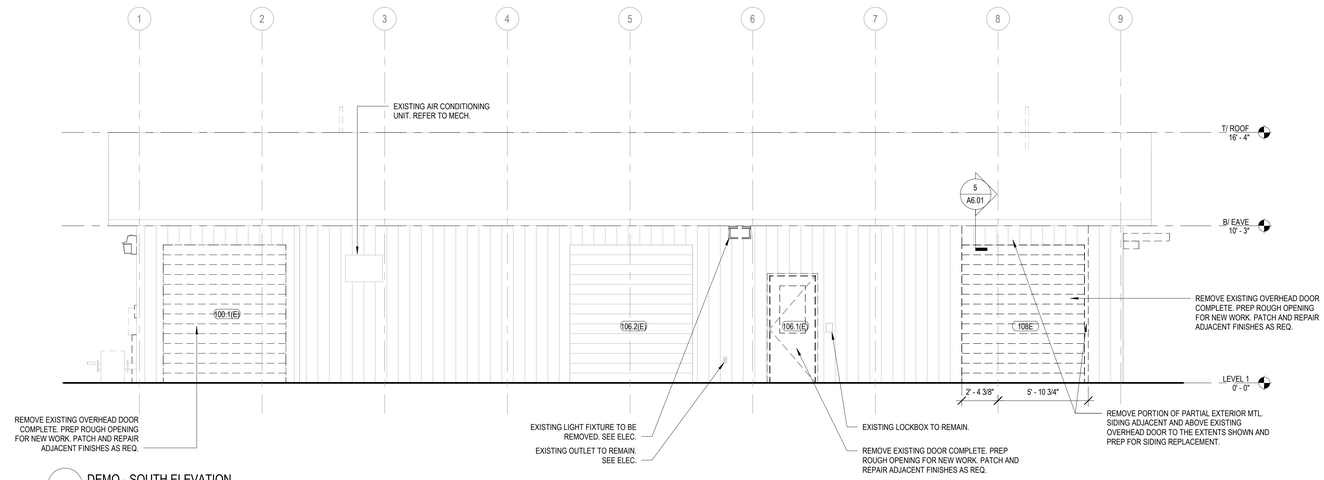


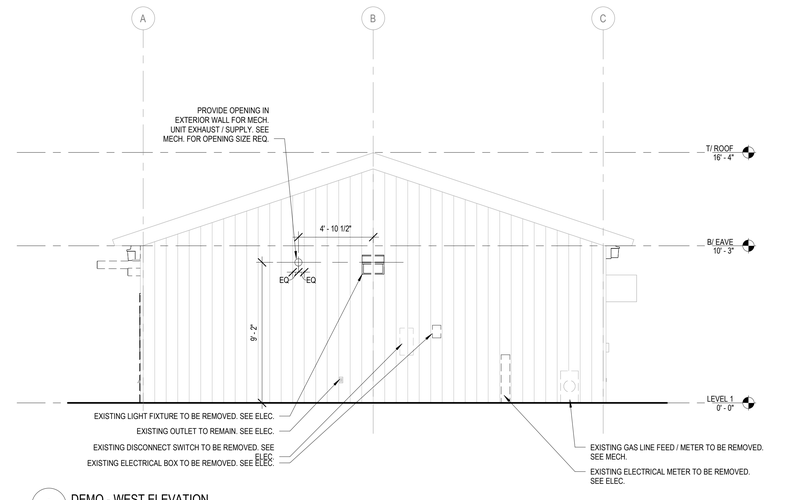
1 DEMO - NORTH ELEVATION
1/4" = 1'-0"



2 DEMO - EAST ELEVATION
1/4" = 1'-0"



4 DEMO - SOUTH ELEVATION
1/4" = 1'-0"



3 DEMO - WEST ELEVATION
1/4" = 1'-0"

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KEY PLAN:

SHEET STATUS: 04/21/2026
ISSUED FOR BID - NOT FOR CONSTRUCTION

NO:	DESCRIPTION:	DATE:

SHEET TITLE:
DEMOLITION EXTERIOR ELEVATIONS

SHEET NUMBER:
AD4.00

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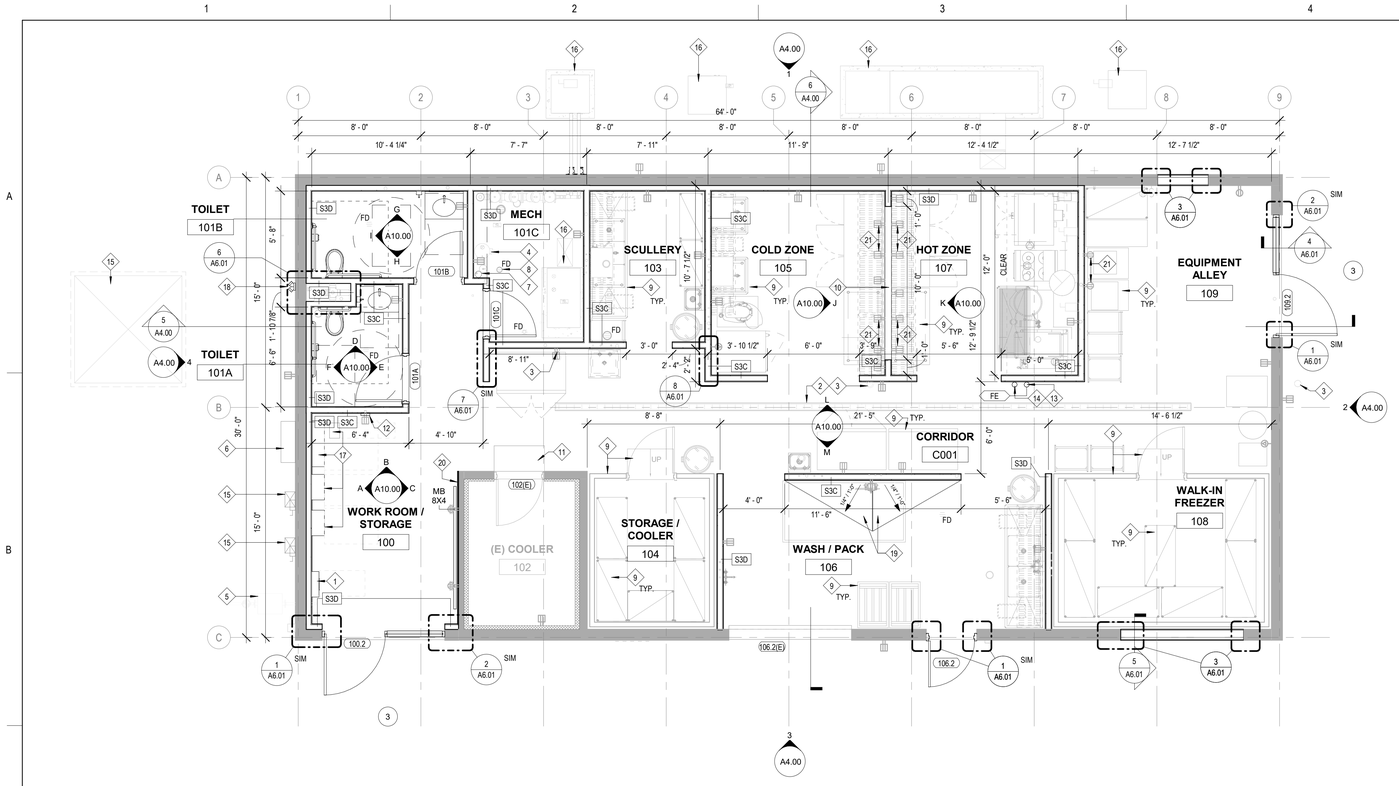
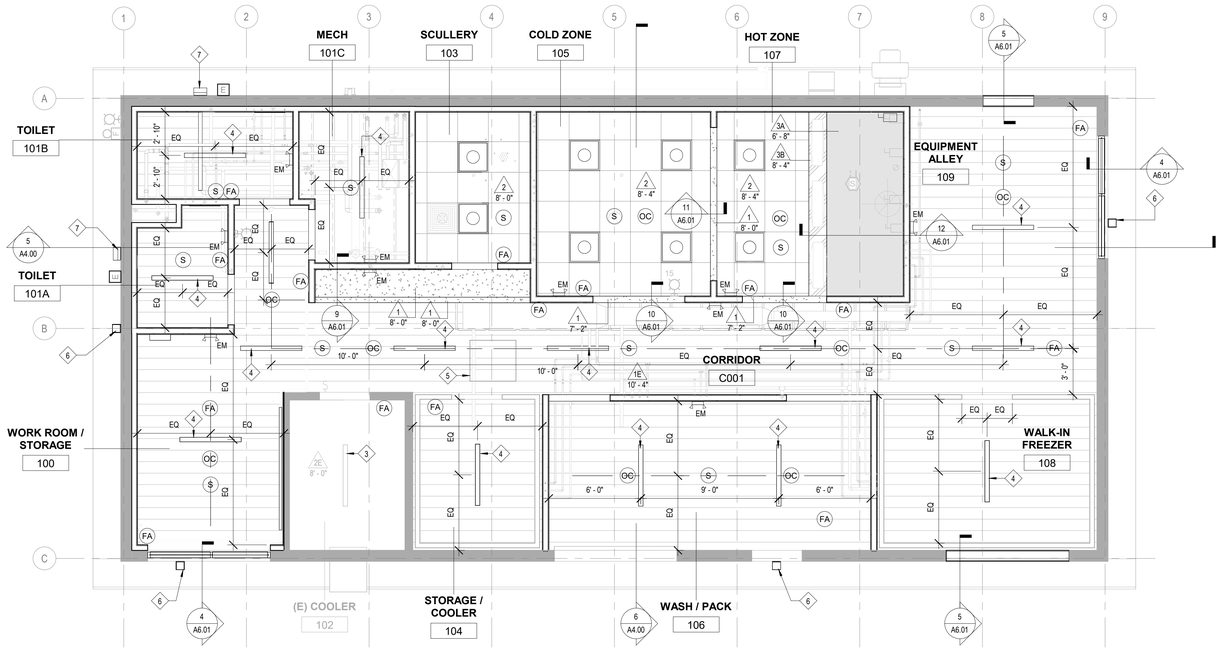


1 LEVEL 1 - FLOOR PLAN
1/4" = 1'-0"



2 LEVEL 1 - REFLECTED CEILING PLAN
1/4" = 1'-0"

RCP SYMBOLS LEGEND:

NOTES:
1. GRAYTONE LINEWORK DENOTES EXISTING CONSTRUCTION TO REMAIN.
2. REFER TO M/E/P/FP/T DRAWINGS FOR ADDITIONAL INFORMATION ON MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION, AND TECHNOLOGY SYSTEMS.

XX X'-X"	CEILING TYPE AND ELEVATION A.F.F.
	SUSPENDED ACOUSTICAL TILE CEILING SYSTEM
	GYPSUM BOARD OR PLASTER CEILING SYSTEM
	EXISTING CEILING OUTLET
	EXTERIOR LIGHT
	LINEAR LIGHT FIXTURE - SEE ELECTRICAL
	2' x 2' FLUORESCENT LIGHT FIXTURE - SEE ELECTRICAL
	SUPPLY AIR DIFFUSER - SEE MECHANICAL
	RETURN AIR DIFFUSER - SEE MECHANICAL
	EXHAUST AIR DIFFUSER - SEE MECHANICAL
	EXIT SIGN, CEILING MOUNTED - SEE ELECTRICAL SOLID DENOTES FACE PLATE, ARROW DENOTES EGRESS DIRECTION
H	EXIT SIGN, WALL MOUNTED - SEE ELECTRICAL SOLID DENOTES FACE PLATE, ARROW DENOTES EGRESS DIRECTION
EM	EMERGENCY LIGHT - SEE ELECTRICAL
FA	FIRE ALARM DEVICE - SEE ELECTRICAL
OS	OCCUPANT SENSOR - SEE ELECTRICAL
S	FIRE ALARM NOTIFICATION SPEAKER - SEE ELECTRICAL

RCP GENERAL NOTES:

1. REFER TO M/E/P DRAWINGS FOR ADDITIONAL INFORMATION ON MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION, AND TECHNOLOGY SYSTEMS.
2. DURING THE BID PERIOD, EACH BIDDING CONTRACTOR SHALL VISIT THE PROJECT TO REVIEW EXISTING CONDITIONS. CONTRACTOR'S FAILURE TO REASONABLY DETERMINE AND/OR ANTICIPATE THE NATURE OF EXISTING CONDITIONS AND THE WORK THEREBY INVOLVED SHALL NOT BE JUSTIFICATION FOR ADDITIONAL COMPENSATION.
3. ALL M/E/P ITEMS SHOWN ON ARCHITECTURAL REFLECTED CEILING PLANS ARE FOR REFERENCE AND COORDINATION ONLY. REFER TO M/E/P FOR ACTUAL QUANTITIES. IN CASE OF CONFLICT BETWEEN ITEMS THE ARCHITECTURAL REFLECTED CEILING PLAN SHALL GOVERN LOCATION.
4. IN AREAS THAT DO NOT HAVE REFLECTED CEILING PLANS YET REQUIRE NEW ITEMS TO BE INSTALLED IN OR ABOVE THE CEILING PLANE, THE CONTRACTOR SHALL REMOVE AND REINSTALL, REPLACE, OR MODIFY EXISTING CEILING CONSTRUCTION TO ACCOMMODATE THE NEW WORK. ANY NEW CEILING AREAS SHALL MATCH, AND PROVIDE A SEAMLESS TRANSITION TO, EXISTING ADJACENT FINISHES.
5. CENTER ALL FIXTURES IN CEILING TILES U.N.O.. ALIGN ALL FIXTURES IN BOTH DIRECTIONS OF CEILING TILE U.N.O..
6. CENTER ALL SPRINKLER HEADS IN CEILING TILES.
7. EXTEND FACE OF ALL GYP. BD. SOFFITS AND HEADERS MINIMUM 4" ABOVE FINISHED CEILING U.N.O.
8. ALL GYPSUM BOARD CEILINGS SHALL BE PAINTED PT-1 U.N.O..

RCP REFERENCED NOTES:

REFER TO M/E/P/FP DRAWINGS FOR ADDITIONAL INFORMATION ON MECHANICAL, ELECTRICAL, PLUMBING, AND FIRE PROTECTION SYSTEMS.

1. EXISTING AIR CONDITIONING UNIT TO REMAIN. SEE MECH.
2. EXISTING CEILING OUTLETS TO REMAIN. SEE ELEC.
3. EXISTING LIGHT FIXTURE TO REMAIN. SEE ELEC.
4. LIGHT FIXTURE. SEE ELEC. AND DEMO FOR RE-USE VERSUS NEW FIXTURES.
5. EXISTING CEILING HATCH TO REMAIN. VERIFY LOCATION IN FIELD PRIOR TO NEW WORK.
6. NEW EXTERIOR LIGHT FIXTURE. SEE ELEC.
7. BATHROOM EXHAUST FAN. SEE MECH.

RCP CEILING TYPES:

TYPE	DESCRIPTION
1E	EXISTING CORR. METAL CEILING SYSTEM.
2E	EXISTING COOLER CEILING SYSTEM.
1	GYP. BD. ON METAL FRAMING.
2	2x2 WASHABLE, ACOUSTICAL PANEL CEILING SYSTEM
3A	KITCHEN HOOD, SEE MECH. AND KITCHEN EQUIPMENT DRAWINGS.
3B	SS. PERF. PANEL FOR KITCHEN HOOD, SEE MECH. AND KITCHEN EQUIPMENT DRAWINGS.

FLOOR PLAN SYMBOLS LEGEND:

NOTES:
1. GRAYTONE LINEWORK DENOTES EXISTING CONSTRUCTION TO REMAIN.
2. REFER TO M/E/P DRAWINGS FOR ADDITIONAL INFORMATION ON MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION, AND TECHNOLOGY SYSTEMS.

	GYPSUM BOARD, PLASTER OR ON METAL
	UNIT MASONRY PARTITION
	FRAME AND DOOR
	TAGS
ROOM NAME 101	ROOM NAME AND NUMBER
XXXX	DOOR NUMBER - SEE DOOR AND FRAME SCHEDULE
S1A	PARTITION TYPE - SEE PARTITION TYPES
1 AXX.XX	ENLARGED DETAIL CALLOUT
1 AXX.XX	BUILDING SECTION CALLOUT
1 AXX.XX	WALL SECTION CALLOUT
1 A101 1	ELEVATION VIEW CALLOUT
DATUM ELEVATION	ELEVATION CALLOUT (RELATIVE TO ARCH 0'-0")
	DEVICES
FE	WALL-MOUNTED FIRE EXTINGUISHER
MB WxH	MARKER BOARD, WIDTH x HEIGHT
FD	FLOOR DRAIN - SEE PLUMBING

FLOOR PLAN GENERAL NOTES:

1. ELEVATIONS SHOWN ON ARCHITECTURAL DRAWINGS ARE RELATIVE TO FIRST FLOOR FINISH ELEVATION OF 0'-0". REFER TO CIVIL DRAWINGS FOR COORDINATING USGS ELEVATION.
2. REFER TO CODE PLANS ON SHEETS AC1.10 FOR FIRE RATINGS AND AREA SEPARATION LOCATIONS FOR WALLS, ENCLOSURES, OPENINGS, ETC.
3. DO NOT SCALE DRAWINGS.
4. NOTIFY ARCHITECT OF ANY DISCREPANCIES IN THE DOCUMENTS PRIOR TO WORK COMMENCING.
5. NOTES ON DRAWINGS SHALL APPLY TO ALL SIMILAR CONDITIONS WHETHER THEY ARE REPEATED OR NOT.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE VERIFICATION OF EXISTING CONDITIONS AND IN-FIELD DIMENSIONS PRIOR TO COMMENCING WORK.
7. ALL INTERIOR DIMENSIONS ARE TO FACE OF FINISHED WALL UNLESS NOTED OTHERWISE.
8. PROVIDE ACCESS PANELS AT LOCATIONS INDICATED AND AS REQUIRED FOR ACCESS TO EQUIPMENT AND DEVICES INCLUDING, BUT NOT LIMITED TO, MECHANICAL, PLUMBING AND ELECTRICAL WORK. PAINT ACCESS PANELS TO MATCH ADJACENT WALL OR CEILING FINISH.
9. REFER TO A1.10 FOR PARTITION INFORMATION. ALL INTERIOR PARTITIONS SHALL BE TYPE S1A-A, U.N.O.. ALL GYP BD COLUMN ENCLOSURES SHALL BE TYPE S2D, U.N.O..
10. REFER TO EXTERIOR ELEVATIONS, SECTIONS AND DETAILS FOR CONSTRUCTION OF EXTERIOR WALLS.

FLOOR PLAN REFERENCED NOTES:

REFER TO M/E/P/FP DRAWINGS FOR ADDITIONAL INFORMATION ON MECHANICAL, ELECTRICAL, PLUMBING, AND FIRE PROTECTION SYSTEMS.

1. FIRE ALARM CONTROL PANEL. SEE ELEC.
2. EXISTING TRENCH DRAIN TO REMAIN. SEE PLUMB.
3. EXISTING CLEANOUT TO REMAIN. SEE PLUMB.
4. WATER HEATER. SEE MECH.
5. GAS LINE FEED / METER. SEE MECH.
6. ELECTRICAL METER. SEE ELEC.
7. EXISTING WATER LINE. SEE PLUMB.
8. EXISTING FLOOR DRAIN. SEE PLUMB.
9. KITCHEN EQUIPMENT PROVIDED AND INSTALLED BY CONTRACTOR. SEE KITCHEN EQUIPMENT DRAWINGS AND SPECS.
10. OPENING IN WALL. SEE ELEV.
11. EXISTING STEP UP TO COOLER TO REMAIN.
12. EXISTING WIRELESS HOTSPOT ENCLOSURE - REMOVE IN DEMO AND REINSTALL IN LOCATION INDICATED. PROVIDE POWER AS REQUIRED. SEE ELEC.
13. TYPE ABC FIRE EXTINGUISHER MOUNTED TO WALL.
14. TYPE K FIRE EXTINGUISHER MOUNTED TO WALL.
15. TRANSFORMER AND CONCRETE PAD, IF APPLICABLE. SEE ELEC.
16. MECHANICAL EQUIPMENT AND ASSOCIATED CONCRETE PAD, IF APPLICABLE. SEE MECH. AND KITCHEN EQUIPMENT DRAWINGS.
17. ELECTRICAL EQUIPMENT AND ASSOCIATED CLEARANCES. SEE ELEC.
18. FIRE DEPARTMENT CONNECTION. SEE PLUMB.
19. SELF LEVELING, SLOPED INTEGRAL FLOOR SYSTEM. SEE FINISH PLANS.
20. 5/8" GYP. BD. ON EXISTING WALL.
21. ELEC. POWER OUTLET @ 48" AFF. SEE ELEC AND KITCHEN EQUIPMENT DRAWINGS.

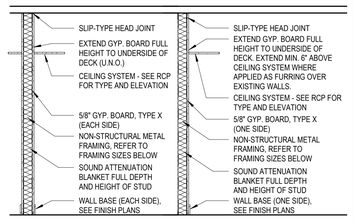
PARTITION TYPE LEGEND

S # A
- MODIFIER DESIGNATION - REFER TO PARTITION TYPES FOR MORE INFORMATION
- FRAMING DEPTH
- PARTITION STYLE

PARTITION STYLE ABBREVIATIONS
S METAL STUDS

PARTITION TYPE GENERAL NOTES:

1. ALL INTERIOR PARTITIONS SHALL BE TYPE S1A (U.N.O.)
2. ALL GYP BD ENCLOSURES AROUND COLUMNS SHALL BE TYPE S2D (U.N.O.)
3. PROVIDE SOLID FIRE RETARDANT TREATED WOOD BLOCKING, FLAT METAL STRAPS, OR METAL BACKING PLATES AT ALL WALL MOUNTED FIXTURES AND ACCESSORIES, INCLUDING BUT NOT LIMITED TO, DOOR STOPS, MILLWORK, DIGITAL DISPLAYS, VISUAL DISPLAY BOARDS, TOILET PARTITIONS, AND SIMILAR CONDITIONS.
4. PROVIDE MOISTURE RESISTANT GYP BD AT ALL PLUMBING PARTITIONS NOT SCHEDULED TO RECEIVE TILE.
5. SEE SPECIFICATIONS FOR ORIENTATION OF GYP BD PANELS, SIZING, AND SPACING OF METAL STUD FRAMING.
6. SEE SPECIFICATIONS FOR TYPE AND SPACING OF CMU HORIZONTAL JOINT REINFORCEMENT.
7. SEE INTERIOR ELEVATIONS FOR ANY GYP BD REVEAL PATTERNS.



S#A - GYP. BOARD EACH SIDE
CONSTRUCT PER UL U419 AT SMOKE AND 1-HR FIRE RESISTANCE RATED PARTITIONS
S3A 3-5/8" FRAMING

S#B - GYP. BOARD ONE SIDE
S3B 3-5/8" FRAMING

S#C - FRP ON GYP. BOARD EACH SIDE
S3C 3-5/8" FRAMING

S#D - FRP ON GYP. BOARD ONE SIDE
S3D 3-5/8" FRAMING

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McHenry County College

Student Farm Renovations

8900 Northwest Hwy #14, Crystal Lake, IL 60012
DKA PROJECT NO: 25-037

KEY PLAN:

SHEET STATUS: 04/21/2026
ISSUED FOR BID - NOT FOR CONSTRUCTION

NO:	DESCRIPTION:	DATE:

SHEET TITLE:
FLOOR PLAN & REFLECTED CEILING PLAN

SHEET NUMBER:
A1.10

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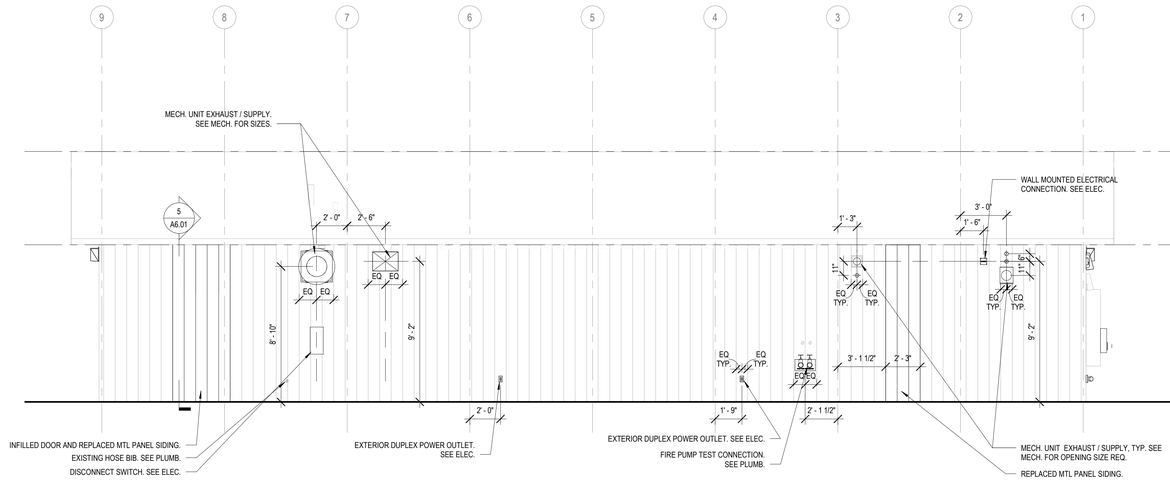
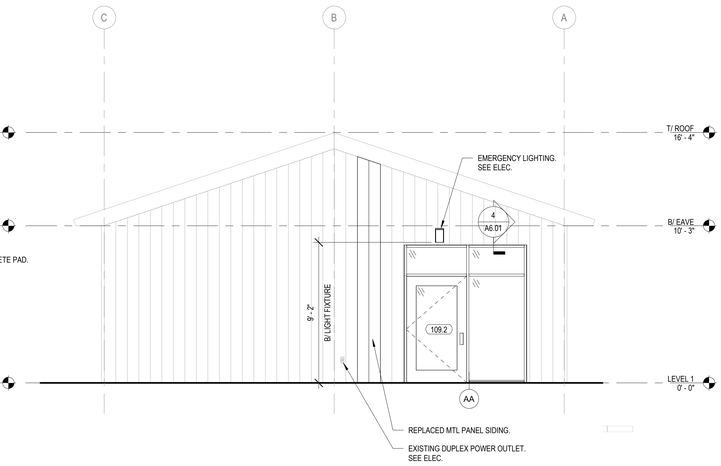


1 NORTH ELEVATION
1/4" = 1'-0"



2 EAST ELEVATION
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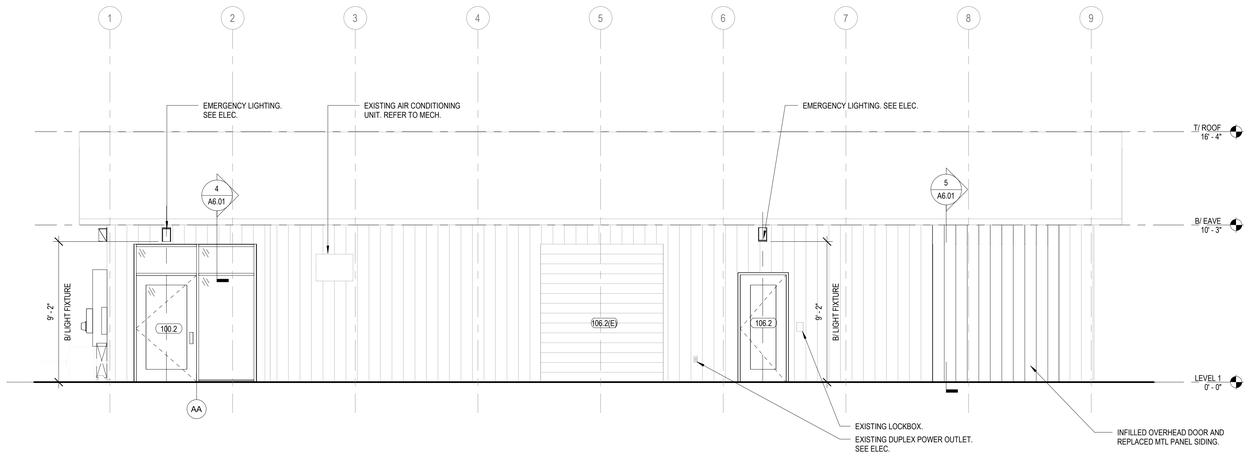

3 SOUTH ELEVATION
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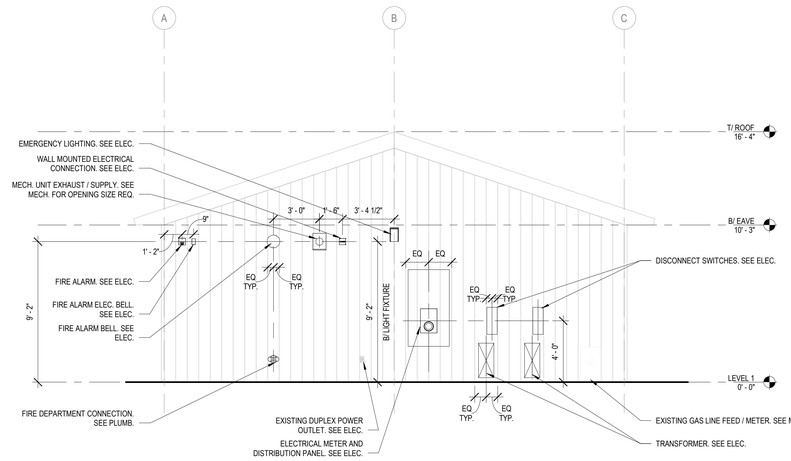

4 WEST ELEVATION
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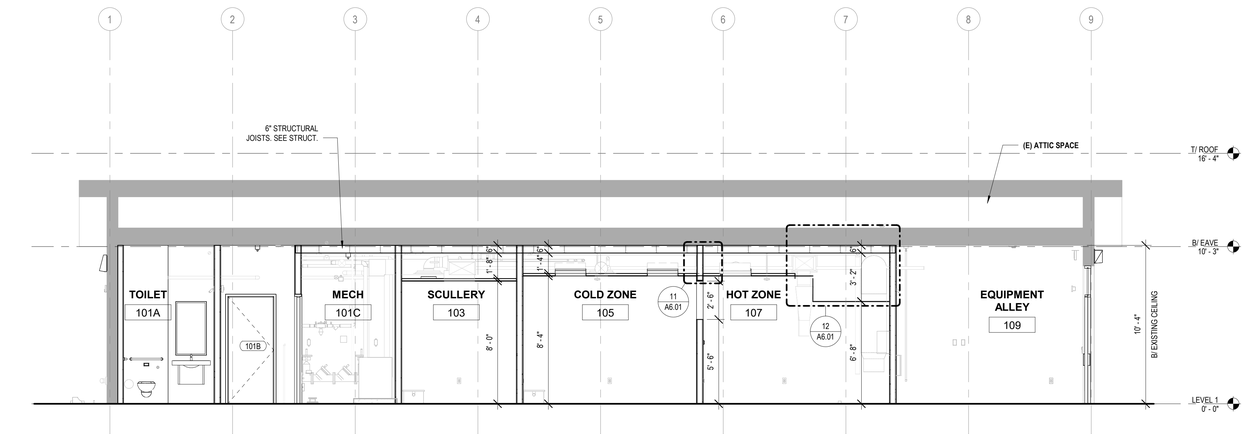
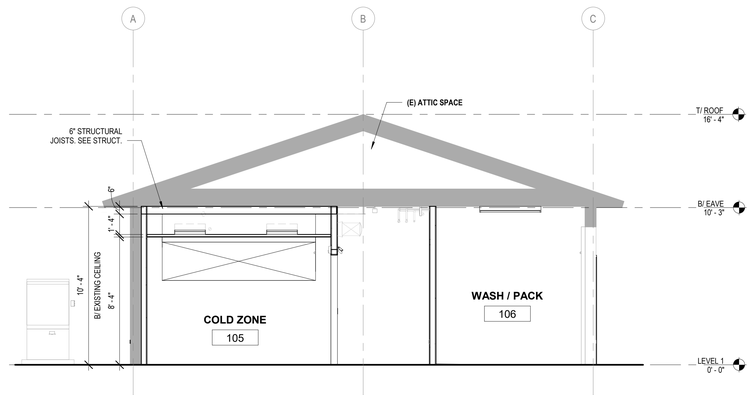


5 BUILDING SECTION
1/4" = 1'-0"



6 BUILDING SECTION
1/4" = 1'-0"

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SHEET TITLE:
EXTERIOR ELEVATIONS & BUILDING SECTIONS

SHEET NUMBER:
A4.00

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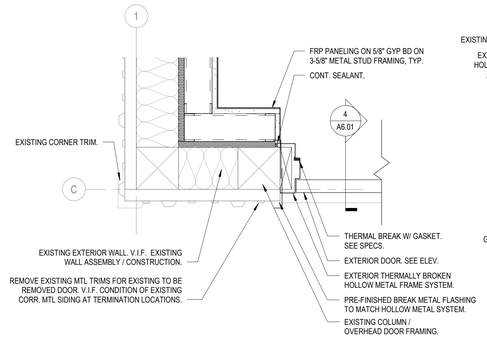

1 PLAN DETAIL
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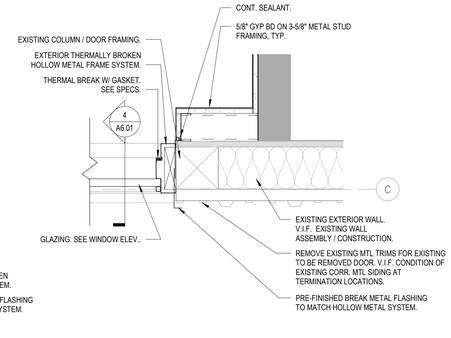

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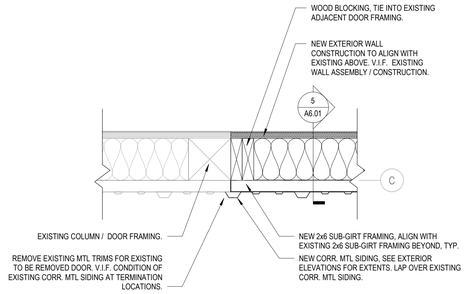

3 PLAN DETAIL
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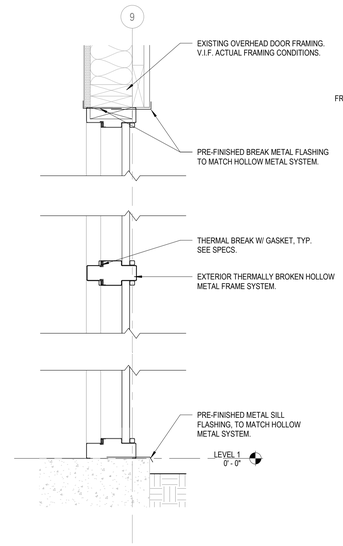
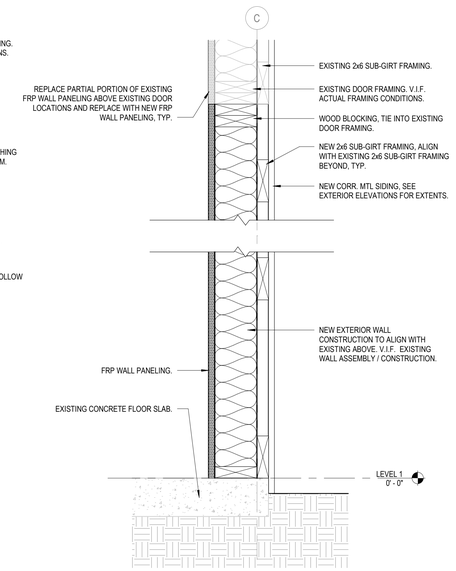
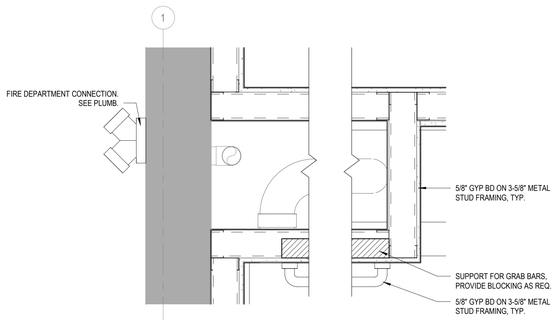


4 SECTION DETAIL
1 1/2" = 1'-0"



5 SECTION DETAIL
1 1/2" = 1'-0"



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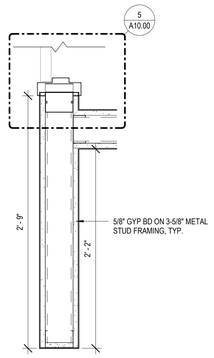
1 1/2" = 1'-0"



7 PLAN DETAIL
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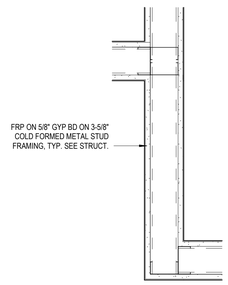

8 PLAN DETAIL
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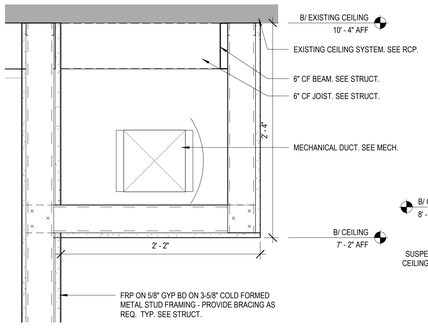
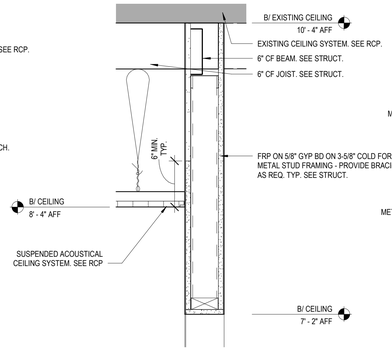


9 CEILING DETAIL 1
1 1/2" = 1'-0"



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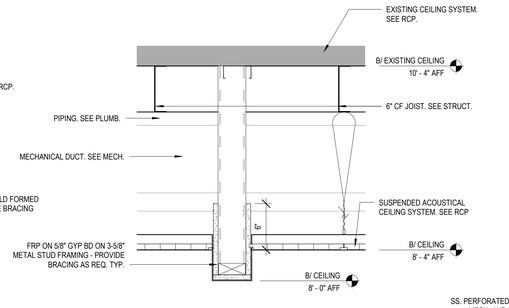
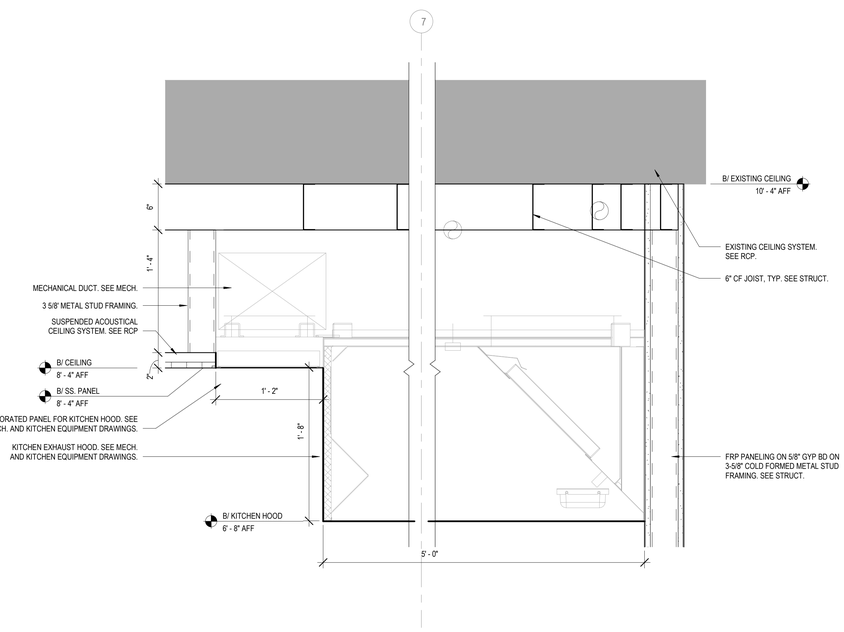


11 CEILING DETAIL
1 1/2" = 1'-0"



12 CEILING DETAIL
1 1/2" = 1'-0"

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DKA PROJECT NO: 25-037

KEY PLAN:

SHEET STATUS: 04/21/2026
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NO:	DESCRIPTION:	DATE:

SHEET TITLE:
SECTIONS AND DETAILS

SHEET NUMBER:
A6.01

4/21/2026 11:50:03 AM

DOOR AND FRAME SCHEDULE - NEW WORK

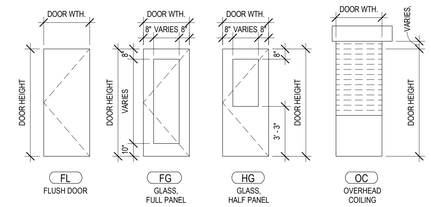
DOOR								FRAME			HARDWARE SET	
NUMBER	ROOM NAME	WIDTH	HEIGHT	FIRE RATING	MATERIAL	ELEV	GLAZING TYPE	MATERIAL	ELEV	GLAZING TYPE		REMARKS
100.2	WORK ROOM / STORAGE	4' - 0"	7' - 0"	-	HM	FG	GL-10	HM	WINDOW ELEV A	GL-10	HS-01	RE-CORE ALL DOORS TO BE ON CAMPUS SYSTEM
101A	TOILET	3' - 0"	7' - 0"	-	HM	FL	-	HM	A	-	HS-02	CONTRACTOR TO REVIEW EXISTING HM DOORS FOR SALVAGE AND REUSABILITY
101B	TOILET	3' - 0"	7' - 0"	-	HM	FL	-	HM	A	-	HS-02	CONTRACTOR TO REVIEW EXISTING HM DOORS FOR SALVAGE AND REUSABILITY
101C	MECH	3' - 0"	7' - 0"	-	HM	FL	-	HM	A	-	HS-03	CONTRACTOR TO REVIEW EXISTING HM DOORS FOR SALVAGE AND REUSABILITY
106.2	WASH / PACK	3' - 0"	7' - 0"	-	HM	FG	GL-10	HM	A	GL-10	HS-01	RE-CORE ALL DOORS TO BE ON CAMPUS SYSTEM
109.2	EQUIPMENT ALLEY	4' - 0"	7' - 0"	-	HM	FG	GL-10	HM	WINDOW ELEV A	GL-10	HS-01	RE-CORE ALL DOORS TO BE ON CAMPUS SYSTEM

DOOR AND FRAME SCHEDULE - EXISTING TO REMAIN

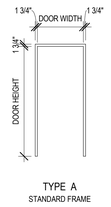
DOOR								FRAME			HARDWARE SET	
NUMBER	ROOM NAME	WIDTH	HEIGHT	FIRE RATING	MATERIAL	ELEV	GLAZING TYPE	MATERIAL	ELEV	GLAZING TYPE		REMARKS
100.1(E)	WORK ROOM / STORAGE	8' - 0"	9' - 0"	-		OC			-			OVERHEAD DOOR, FRAME AND TRACK TO REMAIN
102(E)	(E) COOLER	3' - 0"	7' - 0"	-		FL			A			EXISTING FLUSH DOOR AND FRAME TO REMAIN. REKEY TO NEW BUILDING KEYING / CORES.
106.1(E)	WASH / PACK	3' - 0"	7' - 0"	-		HG			A			EXISTING HG DOOR AND FRAME TO REMAIN, REKEY TO NEW BUILDING KEYING / CORES.
106.2(E)	WASH / PACK	8' - 0"	9' - 0"	-		OC			-			OVERHEAD DOOR, FRAME AND TRACK TO REMAIN
109.1(E)	EQUIPMENT ALLEY	3' - 0"	7' - 0"	-		HG			A			EXISTING HG DOOR AND FRAME TO REMAIN. REKEY TO NEW BUILDING KEYING / CORES.

GLAZING SCHEDULE

TYPE	DESCRIPTION
GL-10	1" INSULATED GLAZING UNIT - CLEAR



1 DOOR ELEVATIONS
1/4" = 1'-0"



2 FRAME ELEVATION
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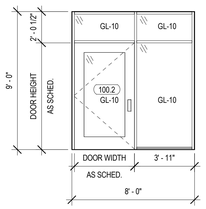

3 WINDOW ELEVATION A
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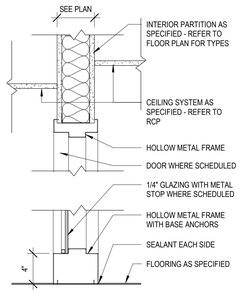
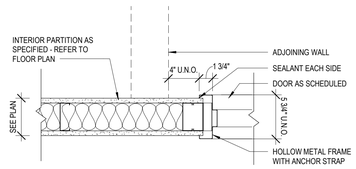
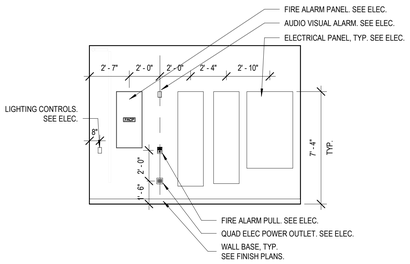


4 INTERIOR HOLLOW METAL FRAME - HEAD & SILL
1 1/2" = 1'-0"



5 INTERIOR HOLLOW METAL FRAME - JAMB
1 1/2" = 1'-0"



A INTERIOR ELEVATION
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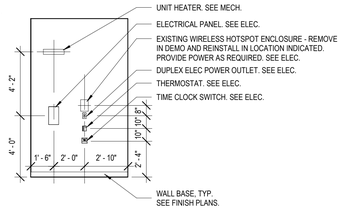

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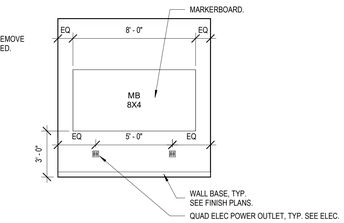
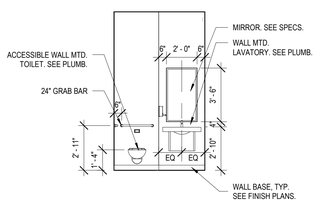
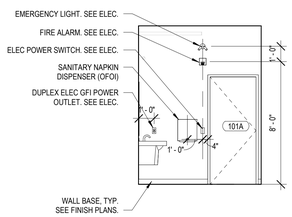
1/4" = 1'-0"



C INTERIOR ELEVATION
1/4" = 1'-0"



D INTERIOR ELEVATION
1/4" = 1'-0"



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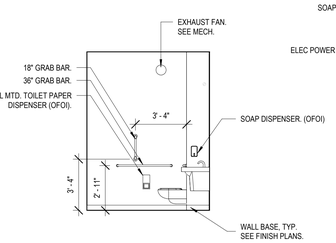

F INTERIOR ELEVATION
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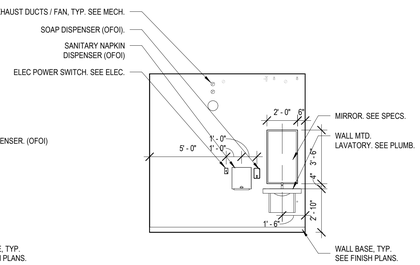
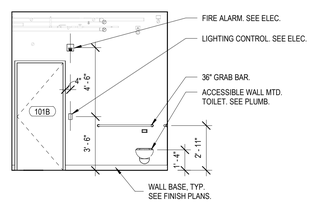
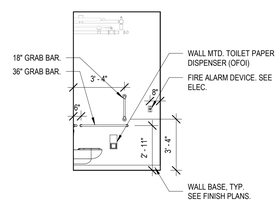


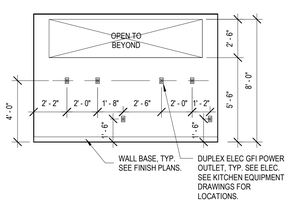
G INTERIOR ELEVATION
1/4" = 1'-0"



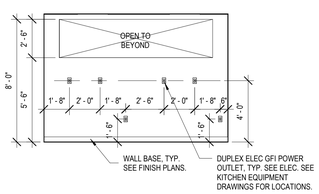
H INTERIOR ELEVATION
1/4" = 1'-0"



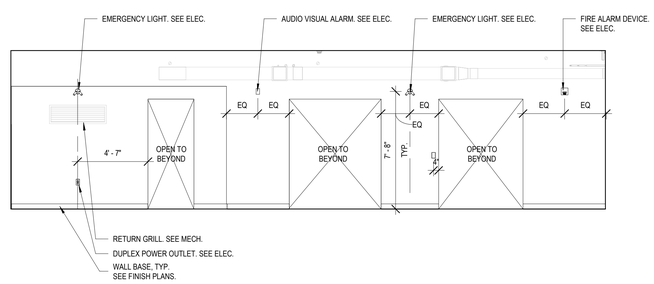
I INTERIOR ELEVATION
1/4" = 1'-0"



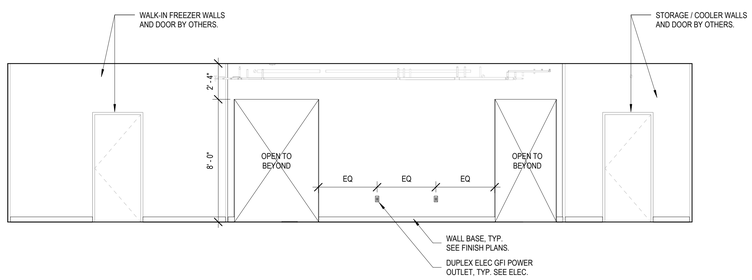
J INTERIOR ELEVATION
1/4" = 1'-0"



K INTERIOR ELEVATION
1/4" = 1'-0"



L INTERIOR ELEVATION 16
1/4" = 1'-0"



M INTERIOR ELEVATION
1/4" = 1'-0"

ARCHITECT:
DEMONICA KEMPER ARCHITECTS
125 N. HALSTED STREET, SUITE 301
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S-MEP-FP-T ENGINEER
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KITCHEN CONSULTANT
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McHenry County College
Student Farm Renovations
8900 Northwest Hwy #14, Crystal Lake, IL 60012
DKA PROJECT NO: 25-037

KEY PLAN:

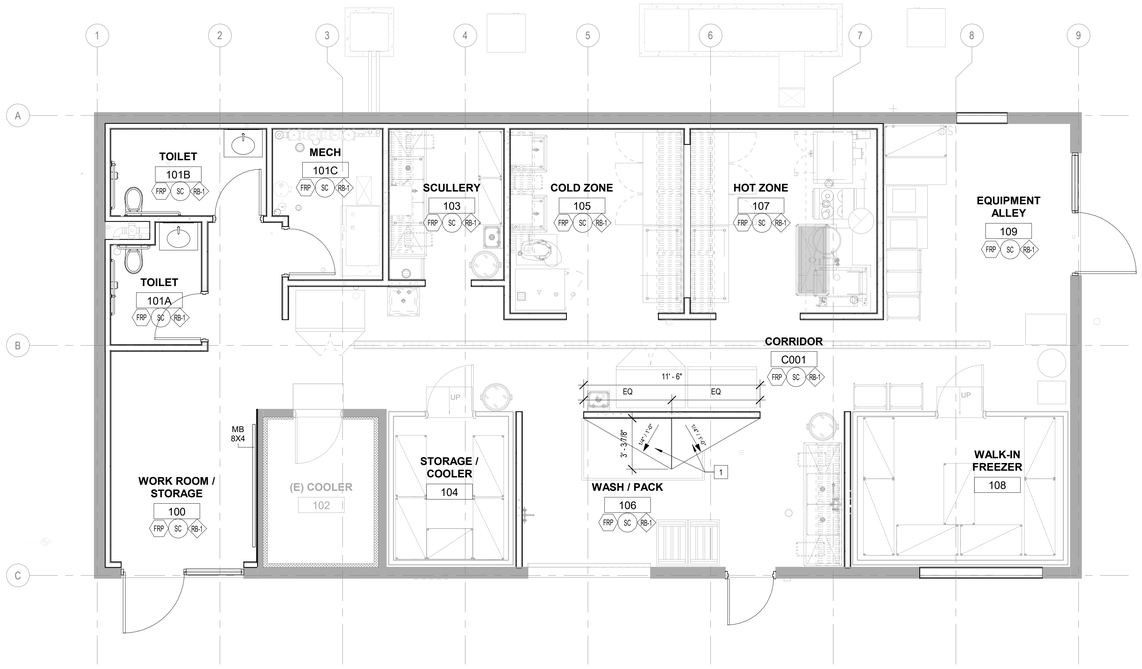
SHEET STATUS: 04/21/2026
ISSUED FOR BID - NOT FOR CONSTRUCTION

NO:	DESCRIPTION:	DATE:

SHEET TITLE:
DOOR SCHEDULE, ELEVATIONS, AND DETAILS

SHEET NUMBER:
A10.00

4/21/2026 11:54:30 AM



1 LEVEL 1 - FINISH PLAN
1/4" = 1'-0"

0' 2' 4' 8'

FINISH PLAN SYMBOLS LEGEND:

X WALL FINISH TYPE X WALL BASE TYPE X FLOOR FINISH TYPE

FINISH PLAN GENERAL NOTES:

1. PAINT ALL EXPOSED CONDUIT, DUCTWORK, PIPING, ETC. IN ALL FINISHED SPACES. REFER TO INTERIOR FINISH PLANS AND REFLECTED CEILING PLANS FOR CLARIFICATIONS.
2. PAINT ALL EXPOSED METAL ON EXTERIOR INCLUDING, BUT NOT LIMITED TO: CONDUIT, PIPING, FLASHING, MECHANICAL FLUES AND DUCTS, AND HOLLOW METAL FRAMES AND DOORS.
3. PROVIDE CEMENTITIOUS SELF-LEVELING UNDERLAYMENT AT REMOVAL OF EXISTING FLOOR DRAINS AS REQUIRED TO PROVIDE A LEVEL SUBSTRATE FOR NEW FLOOR FINISH.
4. **ALL FINISHES ARE MONUMENTAL PER ROOM UNLESS NOTED OTHERWISE.**
5. HOLLOW METAL DOORS AND FRAMES TO BE PAINTED PT-X UNLESS NOTED OTHERWISE.
6. AT ALL LOCATIONS WHERE CASEWORK IS TO BE INSTALLED, THE SUBSEQUENT BASE TYPE SPECIFIED FOR EACH ROOM SHALL BE INSTALLED OVER CASEWORK TOE KICKS UNLESS NOTED OTHERWISE. REFER TO FLOOR PLANS FOR CASEWORK LOCATIONS.
7. PAINT ALL GYP. BD. CEILINGS PT-X UNLESS NOTED OTHERWISE.
8. ALL CARPET TILE TO BE INSTALLED QUARTER TURNED UNLESS SPECIFIED OTHERWISE.

WALL FINISH TYPES:

X

TYPE	DESCRIPTION	MANUFACTURER	NAME/#/COLOR
PT-1	GENERAL PAINT	BENJAMIN MOORE	WHITE TO MATCH EXISTING
WC	VINYL WALLCOVERING	TBD	TBD
WT	PORCELAIN TILE	TBD	TBD
FRP	FRP WALL PANELING	TBD	WHITE TO MATCH EXISTING
GYP	GYP. WALL BD.	TBD	WHITE TO MATCH EXISTING

WALL BASE TYPES:

X

TYPE	DESCRIPTION	MANUFACTURER	NAME/#/COLOR
RB	4"H RUBBER BASE	TBD	TBD

FLOOR FINISH TYPES:

X

TYPE	DESCRIPTION	MANUFACTURER	NAME/#/COLOR
SC	EXISTING SEALED CONC.	TBD	TBD

FLOOR TRANSITION TYPES:

TRANS-X

TYPE	DESCRIPTION	MANUFACTURER	NAME/#/COLOR
CPT	CARPET TILE	TBD	TBD
DWT	DETECTABLE WARNING RUBBER TILE	TBD	TBD
RST	RUBBER STAIR TREADS	TBD	TBD
RT	RUBBER TILE	TBD	TBD
T-1	PORCELAIN TILE	TBD	TBD
WLKF	WALKOFF CARPET	TBD	TBD

FINISH PLAN REFERENCED NOTES:

1. SELF LEVELING, SLOPED INTEGRAL FLOOR SYSTEM.

ARCHITECT:
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8900 Northwest Hwy #14, Crystal Lake, IL 60012
DKA PROJECT NO: 25-037

KEY PLAN:

SHEET STATUS: 04/21/2026
ISSUED FOR BID - NOT FOR CONSTRUCTION

NO:	DESCRIPTION:	DATE:

SHEET TITLE:
FINISH PLAN

SHEET NUMBER:
A11.01

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DESIGN CRITERIA

1. STRUCTURE HAS BEEN DESIGNED TO COMPLY WITH 2021 INTERNATIONAL BUILDING CODE AND SUBSEQUENT REFERENCE STANDARDS.
2. RISK CATEGORY: II
3. DEADLOADS:

CEILING	TYPICAL	5 PSF

4. SEISMIC:

SEISMIC DESIGN CATEGORY	B
IMPORTANCE FACTOR	1.0
SITE CLASS	D
S_S	0.112 g
S_1	0.059 g
S_{DS}	0.12 g
S_{D1}	0.094 g

5. WIND:

BASIC WIND SPEED	V = 107 MPH		
EXPOSURE CLASS	B		
INTERNAL PRESSURE COEFFICIENT, GCpi	±0.18		
COMPONENTS & CLADDING:			
WALL COMPONENTS	ZONE 4	ZONE 5	
A=200 SF	28 PSF	30 PSF	
A=50 SF	31 PSF	35 PSF	
A=20 SF	34 PSF	42 PSF	

C & C NOTES:
- a. THE PRESSURES LISTED ARE IN ACCORDANCE IBC AND ASCE 7, AND THE DESIGN FORCES USED BY THE SUBCONTRACTOR FOR A SPECIFIC APPLICATION ARE THE RESPONSIBILITY OF THE SUBCONTRACTOR.
- b. WIND PRESSURES ARE ULTIMATE DESIGN LEVEL.
- c. SEE ASCE 7 FOR ZONE DEFINITIONS AND EXTENT OF ZONES. 'a' = 3 FT.
- d. SUBMIT DESIGN CALCULATIONS SIGNED AND SEALED BY A LICENSED ENGINEER IN THE PROJECT'S JURISDICTION FOR ANY DESIRED MODIFICATION TO THE STATED PRESSURES.

GENERAL

1. DURING THE CONSTRUCTION PERIOD, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF PERSONNEL AND PROPERTY ON AND AROUND THE JOBSITE. THE CONTRACTOR SHALL PROVIDE ADEQUATE SHORING, BRACING, GUYS, ETC. IN ACCORDANCE WITH ALL NATIONAL, STATE, AND LOCAL SAFETY ORDINANCES. TEMPORARY BRACING, SHORING, GUYING, ETC. SHALL AVOID EXCESSIVE STRESSES AND HOLD STRUCTURAL ELEMENTS IN PLACE DURING CONSTRUCTION. THE STRUCTURE SHOULD NOT BE CONSIDERED STABLE UNTIL ALL STRUCTURAL ELEMENTS HAVE BEEN CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
2. ALL DRAWINGS AND SPECIFICATIONS ARE CONSIDERED TO BE A PART OF THE CONTRACT DOCUMENTS. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE REVIEW AND COORDINATION OF ALL DRAWINGS AND SPECIFICATIONS PRIOR TO THE START OF CONSTRUCTION. ANY DISCREPANCIES OR OMISSIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT PRIOR TO THE START OF CONSTRUCTION SO A CLARIFICATION CAN BE ISSUED. ANY WORK THAT DEVIATES FROM OR IS PERFORMED IN CONFLICT WITH THE CONTRACT DOCUMENTS, SPECIFICATIONS, OR ANY CODE REQUIREMENTS SHALL BE CORRECTED BY THE CONTRACTOR AT THEIR OWN EXPENSE AND AT NO EXPENSE TO THE OWNER OR THE DESIGN PROFESSIONALS.
3. THE CONTRACT DOCUMENTS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING ALLOWABLE CONSTRUCTION LOADS AND FOR DETERMINING SEQUENCES OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE AND SAFETY OF WORKERS DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO: FALSEWORK, FORMWORK, STAGING, BRACING, AND SHORING FOR LOADS DUE TO CONSTRUCTION EQUIPMENT, ETC. OBSERVATION VISITS TO THE SITE BY THE ARCHITECT SHALL NOT INCLUDE INSPECTION OR APPROVAL OF THE ABOVE ITEMS AND DO NOT IN ANY WAY RELIEVE THE CONTRACTOR OF THEIR RESPONSIBILITIES FOR THE ABOVE. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO MAINTAIN AND ENSURE THE INTEGRITY OF THE STRUCTURE AT ALL STAGES OF CONSTRUCTION.
4. ALL DIMENSIONS AND SITE CONDITIONS SHALL BE VERIFIED BY THE CONTRACTOR AT THE JOBSITE PRIOR TO BID SUBMITTAL, START OF SHOP DRAWINGS, START OF CONSTRUCTION, AND/OR FABRICATION OF MATERIALS. IF DISCREPANCIES ARE ENCOUNTERED, OR CONDITIONS DEVELOP THAT ARE NOT COVERED BY THE CONTRACT DOCUMENTS, THE ARCHITECT SHALL BE NOTIFIED FOR CLARIFICATION.
5. STRUCTURAL SUBSTITUTIONS MAY BE ALLOWED WITH THE APPROVAL OF THE STRUCTURAL ENGINEER. SUPPLIER SHALL PROVIDE SIGNED AND SEALED DESIGN CALCULATIONS OR SUITABLE PRODUCT LITERATURE FOR THE COMPONENTS. ALL PRODUCT SUBSTITUTIONS SHALL INCLUDE A CODE EVALUATION REPORT SPECIFIC TO THE BUILDING CODE LISTED IN THE DESIGN CRITERIA.
6. STRUCTURAL DRAWINGS INCLUDE DESIGN REQUIREMENTS AND DIMENSIONS FOR STRUCTURAL INTEGRITY BUT DO NOT SHOW ALL DETAIL DIMENSIONS TO FIT INTRICATE ARCHITECTURAL AND MECHANICAL DETAILS. CONTRACTOR SHALL CONSTRUCT THE WORK SO IT WILL CONFORM TO THE CLEARANCES REQUIRED BY ARCHITECTURAL, MECHANICAL, AND ELECTRICAL DESIGN.
7. ALL SYMBOLS AND ABBREVIATIONS USED ON THE DRAWINGS ARE CONSIDERED TO BE CONSTRUCTION STANDARDS. IF CLARIFICATION IS REQUIRED, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT PRIOR TO PROCEEDING WITH THE WORK.
8. DO NOT SCALE DRAWINGS. PRINTED DIMENSIONS HAVE PRECEDENCE OVER SCALED DRAWINGS AND LARGE-SCALE OVER SMALL-SCALE DRAWINGS. CONTRACTOR TO DETERMINE FINAL DIMENSION WITH ARCHITECT.
9. TYPICAL DETAILS SHALL APPLY TO SITUATIONS OCCURRING ON THE PROJECT THAT ARE THE SAME OR SIMILAR TO THOSE SPECIFICALLY REFERENCED. WHERE NO DETAILS ARE GIVEN, CONSTRUCTION SHALL BE AS SHOWN FOR SIMILAR WORK.
10. ESTABLISH AND VERIFY ALL OPENINGS AND INSERTS FOR MECHANICAL, ELECTRICAL, AND PLUMBING WITH APPROPRIATE TRADE CONTRACTORS. OPENING SIZES AND LOCATIONS SHOWN FOR DUCTS, PIPE, INSERTS, AND OTHER PENETRATIONS WHEN SHOWN ARE FOR GENERAL INFORMATION ONLY AND SHALL BE VERIFIED PRIOR TO FORMING.
11. BEFORE SUBMITTING A PROPOSAL FOR THIS WORK, CONTRACTOR SHALL VISIT THE PREMISES AND BECOME FULLY ACQUAINTED WITH FIELD CONDITIONS, TEMPORARY CONSTRUCTION REQUIRED, QUANTITIES AND TYPE OF EQUIPMENT, ETC. THE PROPOSAL SHALL INCLUDE ALL SUMS REQUIRED TO DO THE WORK.

SUBMITTALS

1. SUBMITTALS ARE:
   - a. CONCRETE MIX DESIGNS
   - b. MATERIAL PRODUCT DATA FOR STRUCTURAL MATERIALS
   - c. CONCRETE REINFORCING
   - d. STEEL FABRICATION AND MISCELLANEOUS METALS
   - e. COLD FORMED STEEL FRAMING AND CONNECTIONS
2. SUBMITTALS SHALL BE REVIEWED AND COORDINATED PRIOR TO SUBMITTING TO THE ARCHITECT. EACH SHOP DRAWING SUBMITTED SHALL BE STAMPED INDICATING REVIEW BY THE CONSTRUCTION MANAGER/GENERAL CONTRACTOR AND REVIEW BY THE ARCHITECT SHALL NOT BEGIN UNTIL THIS IS COMPLETE. WORK SHALL NOT BEGIN WITHOUT REVIEW BY THE DESIGN PROFESSIONALS.
3. SUBMITTALS SHALL BE REVIEWED BY THE DESIGN PROFESSIONALS FOR GENERAL CONFORMANCE WITH DESIGN CONCEPT ONLY. NOTATIONS MADE BY THE DESIGN PROFESSIONALS ON THE SHOP DRAWINGS DO NOT RELIEVE THE CONTRACTOR FROM COMPLYING WITH THE REQUIREMENTS OF THE DRAWINGS.
4. FOR ADDITIONAL INFORMATION ON REQUIRED SUBMITTALS, SEE INDIVIDUAL MATERIAL SECTIONS.

DELEGATED DESIGN

1. DELEGATED DESIGNS PER SECTION 107.3.4.1 SHALL BE SUBMITTED TO THE BUILDING OFFICIAL AND THE DESIGN PROFESSIONALS AND REVIEWED PRIOR TO INSTALLATION.
2. DELEGATED DESIGNS ARE:
   - a. COLD FORMED STEEL FRAMING AND CONNECTIONS
3. ALL DELEGATED DESIGNS SHALL BE SIGNED AND SEALED BY AN ENGINEER LICENSED IN THE PROJECT'S JURISDICTION RESPONSIBLE FOR THE PREPARATION OF THESE DOCUMENTS.

EXISTING CONDITIONS / DEMOLITION

1. EXISTING CONDITIONS:
   - a. EXISTING STRUCTURAL INFORMATION SHOWN WAS OBTAINED FROM FIELD TAKE-OFF BY THE ARCHITECT AS PERMITTED BY ACCESS RESTRICTIONS DURING DESIGN.
   - b. ALL INFORMATION SHOWN ON THE DRAWINGS RELATIVE TO EXISTING CONDITIONS IS GIVEN AS THE BEST PRESENT KNOWLEDGE. CONTRACTOR TO VERIFY EXISTING INFORMATION, DIMENSIONS, AND SIZES AS REQUIRED TO COMPLETE THEIR WORK. WHERE ACTUAL CONDITIONS CONFLICT WITH THE DRAWINGS, THEY SHALL BE REPORTED TO THE ARCHITECT SO CLARIFICATION MAY BE MADE. MODIFICATION OF CONSTRUCTION DETAILS SHALL NOT BE MADE WITHOUT WRITTEN APPROVAL OF THE ARCHITECT.
2. ALL DEMOLITION SHALL BE CARRIED OUT IN SUCH A WAY TO PREVENT DAMAGE TO EXISTING ELEMENTS WHICH ARE TO REMAIN.
3. ALL ELEMENTS WHICH ARE TO REMAIN AND WHICH ARE DAMAGED DURING DEMOLITION WORK SHALL BE REPLACED AT NO ADDED COST. CONTRACTOR SHALL PROVIDE AND BE RESPONSIBLE FOR THE PROTECTION AND REPAIR OF ADJACENT EXISTING SURFACES AND AREAS WHICH MAY BE DAMAGED AS A RESULT OF NEW WORK.
4. CONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS OF EXISTING STRUCTURE AND SITES THAT ARE AFFECTED BY NEW WORK BEFORE PROCEEDING WITH FABRICATION AND CONSTRUCTION.
5. ALL CONSTRUCTION IS NEW UNLESS IDENTIFIED AS EXISTING, "(E)". THE CONTRACTOR SHALL VERIFY ALL EXISTING BUILDING INFORMATION AND SHALL NOTIFY THE ARCHITECT OF ANY DISCREPANCIES PRIOR TO FABRICATION OF ANY STRUCTURAL COMPONENT. NEW SLABS ARE TO BE AT THE SAME ELEVATIONS AS ADJACENT EXISTING SLABS UON. FOUNDATION ELEVATIONS OR COLUMN LENGTHS SHALL BE ADJUSTED WITH THE APPROVAL OF THE STRUCTURAL ENGINEER TO ACHIEVE MATCHING SLAB ELEVATIONS.

REINFORCING STEEL

1. ALL REINFORCING STEEL SHALL BE DETAILED AND PLACED IN CONFORMANCE WITH ACI 318, "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE", AND ACI 301, "SPECIFICATIONS FOR STRUCTURAL CONCRETE", UON.
2. CONCRETE REINFORCING STEEL SHALL CONFORM TO THE FOLLOWING STANDARDS:

REINFORCING STEEL UON	ASTM A615, GR 60	Fy=60 KSI
WELDED WIRE REINFORCING	ASTM A1064	Fy=65 KSI

3. MINIMUM CONCRETE COVER SHALL BE PROVIDED AS FOLLOWS TO THE OUTERMOST REINFORCING BARS:

CONCRETE EXPOSURE	MEMBER	REINFORCEMENT	COVER (IN)
CAST AGAINST AND PERMANENTLY IN CONTACT WITH GROUND	ALL	ALL	3
EXPOSED TO WEATHER OR IN CONTACT WITH GROUND	ALL	#6 TO #18	2
		#5 AND SMALLER	1 1/2
NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND	SLABS, JOISTS, AND WALLS	#14 & #18	1 1/2
		#11 AND SMALLER	3/4
	BEAMS, COLUMNS, PEDESTALS, AND TENSION TIES	PRIMARY REINF, STIRRUPS, TIES, SPIRALS, AND HOOPS	1 1/2

4. REINFORCING STEEL SHALL BE INSTALLED TO WITHIN THE FOLLOWING TOLERANCES. INDICATED TOLERANCES ARE PER ACI 117, "SPECIFICATIONS FOR TOLERANCES FOR CONCRETE CONSTRUCTION AND MATERIALS".

ITEM FOR WHICH TOLERANCE IS BEING MEASURED	PERMITTED TOLERANCE
CONCRETE COVER FOR SLAB TOP AND BOTTOM BARS	±1/4"
COVER FOR OTHER REINFORCING STEEL	±3/8"

THE ABOVE LIST OF PERMITTED TOLERANCES SHALL BE PROVIDED ON ALL REINFORCING STEEL PLACING DRAWINGS. PLACING DRAWINGS THAT DO NOT PROVIDE THIS LIST OF TOLERANCES WILL BE REJECTED.

5. FIELD BENDING OF REINFORCING STEEL IS NOT PERMITTED UON.
6. WELDING OF REINFORCING STEEL OTHER THAN A706 IS PROHIBITED. WELDING OF REINFORCING BARS SHALL BE IN ACCORDANCE WITH AWS D1.4 OR D1.8.
7. ALL WELDED WIRE REINFORCING SHALL BE LAP SPLICED 2 PANELS (1'-0" MIN).
8. FIELD CUTTING OF REINFORCING STEEL IS PROHIBITED UNLESS INDICATED ON THE REINFORCING PLACING DRAWINGS.
9. REINFORCING STEEL PLACING DRAWINGS SHALL BE PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF ACI 315. THE PLACING DRAWINGS SHALL SHOW ALL INFORMATION NECESSARY TO FABRICATE AND PLACE THE REINFORCING STEEL.
10. REINFORCING STEEL SPACINGS ARE CENTER-TO-CENTER DIMENSIONS UON. REINFORCING STEEL SHOWN IN SECTION PERPENDICULAR TO THE CUT ARE CONTINUOUS UON.
11. THE SPACING OF ALL REINFORCING STEEL MUST BE COMPUTED BY THE REINFORCING STEEL DETAILER AND MUST BE INDICATED ON THE PLACING DRAWINGS. EXTENT ARROWS MUST BE USED TO CLEARLY INDICATE THE LOCATIONS WHERE GROUPS OF REINFORCING BARS ARE TO BE INSTALLED.
12. A LIST OF ALL APPLICABLE REINFORCING STEEL PLACEMENT TOLERANCES SHALL BE INDICATED ON ALL REINFORCING STEEL PLACING DRAWINGS. PLACING DRAWINGS THAT DO NOT SHOW SUFFICIENT INFORMATION NEEDED TO PLACE THE REINFORCING STEEL WILL BE REJECTED.

CAST-IN-PLACE CONCRETE

1. ALL CONCRETE WORK SHALL CONFORM TO THE REQUIREMENTS OF ACI 318, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE, AND ACI 301, SPECIFICATIONS FOR STRUCTURAL CONCRETE UON.
2. CONCRETE MATERIALS SHALL CONFORM TO:

PORTLAND LIMESTONE CEMENT	ASTM C595, TYPE IL
FLY ASH	ASTM C618, TYPE C OR F
SLAG CEMENT	ASTM C989
FINE AND COARSE AGGREGATE	ASTM C33
LIGHTWEIGHT AGGREGATE	ASTM C330
WATER	POTABLE
AIR-ENTRAINING ADMIXTURE	ASTM C260
WATER REDUCING ADMIXTURE	ASTM C494

3. CONCRETE STRENGTHS SHALL CONFORM TO:

COMPONENT	f'c AT 28 DAYS[1] (PSI)	MAX PERMITTED W/C	EXPOSURE CLASS
INTERIOR SLAB-ON-GRADE	3000	0.60	F0, S0, W0, C0

   1. IF ALTERNATE VALUES ARE INDICATED ON PLANS OR DETAILS FOR SPECIFIC CONDITIONS, THEY SHALL BE USED IN LIEU OF THOSE LISTED IN THE TABLE.

4. REQUIRED NOMINAL MAXIMUM COARSE AGGREGATE SIZE:

CONCRETE ELEMENT	REQUIRED NOMINAL MAXIMUM COARSE AGGREGATE SIZE*
ALL CONCRETE UON	1"
TOPPING SLABS LESS THAN 3" THICK	3/8"

* SMALLER NOMINAL MAXIMUM COARSE AGGREGATE SIZE SHALL BE USED WHERE REQUIRED PER ACI 318.

5. JOINTS ABUTTING EXISTING CONCRETE CONSTRUCTION SHALL BE ROUGH JOINTS UON.
6. NOTIFY THE ARCHITECT 48 HOURS MINIMUM PRIOR TO ALL POURS.
7. CONTRACTOR SHALL SURVEY ALL CONCRETE WORK WITHIN 48 HOURS OF PLACING CONCRETE TO ENSURE PLACEMENT IS IN ACCORDANCE WITH PROJECT REQUIREMENTS.
8. CORING OF CONCRETE IS NOT PERMITTED UNLESS APPROVED BY THE STRUCTURAL ENGINEER. SUBMIT LOCATIONS OF PROPOSED CONCRETE CORES.
9. REINFORCING STEEL SHALL NOT BE DAMAGED WHEN DRILLING CONCRETE.
10. ADHERE TO ACI 305R AND ACI 306R FOR HOT AND COLD WEATHER CONCRETE CONSTRUCTION.
11. THE PROPOSED MATERIALS AND MIX DESIGN SHALL BE FULLY DOCUMENTED AND REVIEWED BY THE TESTING AND INSPECTION AGENCY. RESPONSIBILITY FOR OBTAINING THE REQUIRED DESIGN STRENGTH IS THE CONTRACTOR'S. SUBMIT TEST DATA ON EACH PROPOSED MIX FOR REVIEW IN ACCORDANCE WITH THE APPLICABLE CODE. MIX DESIGNS SUBMITTED WITHOUT THE REQUIRED TEST DATA WILL BE RETURNED WITHOUT REVIEW.

COLD-FORMED STEEL (CFS) DELEGATED

1. ALL COLD-FORMED STEEL FRAMING AND CONNECTIONS SHALL CONFORM TO THE AISI SPECIFICATION FOR THE DESIGN OF COLD-FORMED STRUCTURAL METALS, AISI S100.
2. THE STRUCTURAL DRAWINGS DO NOT REFLECT THE ENTIRE SCOPE OF WORK REQUIRED FOR COLD-FORMED STEEL FRAMING AND CONNECTIONS. COLD-FORMED STEEL FRAMING SHALL BE PROVIDED FOR AND COORDINATED WITH ARCHITECTURAL, MEP, AND OTHER DRAWINGS.
3. COLD-FORMED STEEL FRAMING AND CONNECTIONS INDICATED OR REFERENCED IN THE CONTRACT DOCUMENTS ARE FOR PURPOSES OF CONVEYING DESIGN INTENT ONLY. THE COMPLETE DESIGN OF COLD-FORMED STEEL SYSTEMS THAT SUPPORT GRAVITY OR LATERAL LOADS SHALL BE THE RESPONSIBILITY OF THE COLD-FORMED STEEL SUBCONTRACTOR AND THEIR STRUCTURAL ENGINEER. THE DESIGN OF COLD-FORMED STEEL SYSTEMS SHALL CONFORM TO THE GOVERNING BUILDING CODE AND REGULATIONS, AS WELL AS ANY SPECIAL CONDITIONS AND REQUIREMENTS AS INDICATED IN THE CONTRACT DOCUMENTS.
4. STEEL STUD MANUFACTURERS ASSOCIATION (SSMA) MEMBER DESIGNATIONS ARE SPECIFIED ON THE CONTRACT DOCUMENTS UON. WHERE SPECIFIC MANUFACTURERS ARE SPECIFIED AND PROPRIETARY FRAMING DESIGNATIONS INDICATED, FRAMING BY OTHER MANUFACTURERS MAY BE USED PROVIDED THOSE FRAMING MEMBERS HAVE DIMENSIONS EQUIVALENT TO THE SPECIFIED FRAMING AND ENGINEERING PROPERTIES EQUIVALENT TO OR GREATER THAN THE SPECIFIED FRAMING. SUCH PROPOSED SUBSTITUTIONS ARE PERMITTED ONLY IF APPROVED IN WRITING BY THE DESIGN PROFESSIONALS.
5. STRUCTURAL COLD-FORMED STEEL IS DEFINED AS THE FOLLOWING:
   - a. ANY COLD-FORMED STEEL THICKER THAN 20GA (33 MIL)
   - b. ANY EXTERIOR COLD-FORMED FRAMING AND CONNECTIONS
   - c. ANY LOAD BEARING MEMBER
   - d. ANY MEMBER CALLED OUT AND SPECIFIED IN THE STRUCTURAL DRAWINGS
   - e. ALL OTHER COLD-FORMED STEEL IS NON-STRUCTURAL AND NOT A PART OF THE STRUCTURAL PACKAGE
6. STRUCTURAL COLD-FORMED STEEL (ROLLED SECTIONS, CONNECTION MATERIAL, AND STIFFENER PLATES) SHALL CONFORM TO THE FOLLOWING STANDARDS:

18GA (43 MIL) AND THINNER	ASTM A653, GR 33	Fy=33 KSI
16GA (54 MIL) AND THICKER	ASTM A653, GR 50	Fy=50 KSI
CONNECTION MATERIAL > 3/16"	ASTM A36	Fy=36 KSI
HOT-DIP COATING	ASTM A924, G60	
ELECTRO-PLATE COATING	ASTM A591	
ALUMINUM-ZINC COATING	ASTM A792, GR 40	
ELECTRODES FOR ARC WELDING	AWS 5.1 E60XX	

7. WIND LOADS PERPENDICULAR TO THE PLANE OF EXTERIOR WALLS SHALL BE COMPUTED BASED UPON THE COMPONENT AND CLADDING WIND PRESSURES INDICATED IN THE GENERAL NOTES.
8. DESIGN SHALL INCLUDE DESIGN AND DETAILING OF FRAMING, BRIDGING, TEMPORARY AND PERMANENT BRACING, AND ALL FRAMING CONNECTIONS.
9. COLD-FORMED STEEL COMPONENTS SHALL BE CUT SQUARELY FOR ATTACHMENT TO PERPENDICULAR MEMBERS OR AS REQUIRED FOR A FULL ANGULAR FIT AGAINST ABUTTING MEMBERS. MEMBERS SHALL BE SECURED IN PLACE UNTIL PROPERLY ATTACHED.
10. SPLICING OF COLD-FORMED MEMBERS IS NOT PERMITTED.
11. CUTOUTS, HOLES, OR NOTCHES ARE NOT PERMITTED IN COLD-FORMED STEEL ROOF AND FLOOR JOISTS, HEADERS, OR BEAMS WITHOUT PRIOR WRITTEN APPROVAL OF EITHER THE STRUCTURAL ENGINEER OR THE COLD-FORMED STEEL ENGINEER.
12. CUTTING OF COLD-FORMED STEEL MEMBERS SHALL BE ACCOMPLISHED WITH A SAW OR SHEARS. TORCH CUTTING OF SUCH MEMBERS IS NOT PERMITTED. THE CUTTING OF ANY LOAD BEARING MEMBER IS PROHIBITED.
13. HOLES FIELD CUT THROUGH COLD-FORMED STUD FRAMING SHALL BE MADE WITHIN THE LIMITATIONS OF THE PRODUCT AND THE PRODUCT DESIGN. HOLES SHALL BE REINFORCED AS RECOMMENDED BY THE MANUFACTURER.
14. ALL WELDS SHALL COMPLY WITH THE REQUIREMENTS OF THE NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS, AISI S100, AND THE STRUCTURAL WELDING CODE - SHEET STEEL, AWS D1.3.
15. CONNECTIONS SHALL BE MADE BY WELDS, SCREWS, BOLTS, OR OTHER APPROVED FASTENING DEVICES OR METHODS PROVIDING POSITIVE ATTACHMENT AND RESISTANCE TO LOOSENING. FASTENERS SHALL BE MATERIAL COMPATIBLE WITH THE COLD-FORMED STEEL.
16. LIMIT HORIZONTAL COLD-FORMED STUD OUT-OF-PLANE DEFLECTIONS DUE TO WIND LOADS TO THE FOLLOWING:
   - a. STUDS BACKING UP ALL OTHER FACADE MATERIALS: L/360 UON
17. TEMPORARY BRACING SHALL BE PROVIDED WHERE REQUIRED TO ENSURE ALIGNMENT UNTIL WALL PANELS ARE INSTALLED AND CONSTRUCTION IS COMPLETED.
18. CONSTRUCTION SHALL NOT BEGIN UNTIL SHOP DRAWINGS AND CALCULATIONS HAVE BEEN REVIEWED BY THE DESIGN PROFESSIONALS. ALL COLD-FORMED STEEL FRAMING AND CONNECTIONS INCLUDING CONNECTIONS TO THE SUPPORTING STRUCTURE SHALL BE DESIGNED BY THE COLD-FORMED STEEL FRAMING CONTRACTOR'S ENGINEER LICENSED IN THE PROJECT'S JURISDICTION. ALL SUBMITTALS, INCLUDING DESIGN CALCULATIONS AND SHOP DRAWINGS, SHALL BE SIGNED AND SEALED BY THAT ENGINEER.

GENERAL

1. THE STRUCTURAL ENGINEER DOES NOT PROVIDE INSPECTIONS OF CONSTRUCTION. STRUCTURAL ENGINEER MAY MAKE PERIODIC OBSERVATIONS OF THE CONSTRUCTION. SUCH OBSERVATIONS SHALL NOT REPLACE REQUIRED INSPECTIONS BY THE GOVERNING AUTHORITIES OR SERVE AS "SPECIAL INSPECTIONS" AS MAY BE REQUIRED BY CHAPTER 17 OF THE INTERNATIONAL BUILDING CODE.
2. SEE ARCHITECTURAL, CIVIL, MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS OR SPECIFICATIONS FOR TESTING AND INSPECTION REQUIREMENTS OF NON-STRUCTURAL COMPONENTS.
3. DUTIES OF THE INSPECTION AGENCY PER IBC CHAPTER 17:
   - a. SUBMIT A PROPOSED TESTING AND INSPECTION PROGRAM TO THE OWNER, THE ARCHITECT AND THE STRUCTURAL ENGINEER FOR REVIEW AND APPROVAL AT LEAST TWO WEEKS PRIOR TO COMMENCEMENT OF WORK.
   - b. PERFORM ALL TESTING AND INSPECTION REQUIRED PER APPROVED TESTING AND INSPECTION PROGRAM.
   - c. FURNISH INSPECTION REPORT TO THE BUILDING OFFICIAL, THE OWNER, THE ARCHITECT, STRUCTURAL ENGINEER AND THE GENERAL CONTRACTOR. THE REPORTS SHALL BE COMPLETED AND FURNISHED WITHIN 48 HOURS OF INSPECTED WORK.
   - d. SUBMIT A FINAL SIGNED REPORT STATING WHETHER THE WORK REQUIRING SPECIAL INSPECTION WAS, TO THE BEST OF THE SPECIAL INSPECTION AGENCY'S KNOWLEDGE, IN CONFORMANCE WITH THE APPROVED PLANS AND SPECIFICATIONS.
4. SPECIAL INSPECTIONS AND TESTS ARE REQUIRED FOR MATERIALS AND SYSTEMS REQUIRED TO BE INSTALLED IN ACCORDANCE WITH ADDITIONAL MANUFACTURER'S INSTRUCTIONS THAT PRESCRIBE REQUIREMENTS NOT CONTAINED IN CHAPTER 17 OF THE IBC OR IN STANDARDS REFERENCED BY THE IBC. THESE ITEMS INCLUDE:
   - a. POST-INSTALLED ANCHORS - INSPECTION
5. THE FOLLOWING WORK SHALL BE INSPECTED BY THE SPECIAL INSPECTOR UNLESS SPECIFICALLY WAIVED BY THE BUILDING OFFICIAL.

CONCRETE CONSTRUCTION

VERIFICATION AND INSPECTION TASK	CONTINUOUS	PERIODIC	MATERIAL STD REFERENCE	IBC REFERENCE
INSPECT REINFORCEMENT, AND VERIFY PLACEMENT	-	X	ACI 318: CH 20, 25.2, 25.3, 26.6.1-26.6.3	-
INSPECT ANCHORS CAST IN CONCRETE	-	X	ACI 318: 17.8.2	-
INSPECT ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS:				
a. ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS	X	-	ACI 318: 17.8.2.4	-
b. MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED ABOVE	-	X	ACI 318: 17.8.2	-
VERIFY USE OF REQUIRED DESIGN MIX	-	X	ACI 318: CH 19, 26.4.3, 26.4.4	1904.1, 1904.2
PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE	X	-	ASTM C172, ASTM C31, ACI 318: 26.5, 26.12	-
INSPECT CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES	X	-	ACI 318: 26.5	-
VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES	-	X	ACI 318: 26.5.3-26.5.5	-

COLD-FORMED STEEL FRAMING

VERIFICATION AND INSPECTION TASK	CONTINUOUS	PERIODIC	IBC REFERENCE
PREFABRICATED COLD FORM STRUCTURAL ELEMENTS	-	X	1704.2.5
INSTALLATION OF PERMANENT RESTRAINT/BRACING FOR COLD FORM TRUSS INDIVIDUAL MEMBERS FOR TRUSSES SPANNING 60 FEET OR GREATER	-	X	1705.5.4
TEMPORARY INSTALLATION OF RESTRAINT/BRACING FOR COLD FORM TRUSSES SPANNING 60 FEET OR GREATER	-	X	1705.5.4
LATERAL FORCE RESISTING SYSTEMS (SHEAR WALLS, DIAPHRAGMS, DRAG STRUTS, BRACES, AND HOLDOWNS, WHERE FASTENER SPACING AT PANEL EDGES IS 4" OR LESS) [ENGR NOTE: ONLY APPLICABLE TO SDC C, D, E, OR F.]			
a. WELDING OPERATIONS OF ELEMENTS OF THE SEISMIC FORCE RESISTING SYSTEM	-	X	1705.11.2, 1705.12.3
b. SCREW ATTACHMENT, BOLTING, ANCHORING, AND OTHER FASTENING FOR ELEMENTS OF THE LATERAL FORCE RESISTING SYSTEM	-	X	1705.11.2, 1705.12.3

FOUNDATION SYMBOLS:

SYMBOL	DESCRIPTION	DETAIL REFERENCE
	SLAB DEPRESSION	
S	STEP IN FOOTING	

CONCRETE SYMBOLS:

SYMBOL	DESCRIPTION	DETAIL REFERENCE
RAMP UP	RAMP (DIRECTION)	N/A
	RAMP DOWN	
	RAMP UP	
	SLAB CURB WALL	
	SLAB DROP	
	SLAB FOLD	
	SLAB THICKNESS CHANGE	
	SLAB/BEAM	
	SLOPING SLAB DROP	

STRUCTURAL ABBREVIATION KEY

ABBR:	DESCRIPTION:
(E)	EXISTING
ADDL	ADDITIONAL
B.O.	BOTTOM OF
BF	BRACED FRAME
BN	BOUNDARY NAILING
BOT	BOTTOM
BTWN	BETWEEN
CFS	COLD FORM STEEL
CGS	CENTER OF GRAVITY OF THE TENDON
CJP	COMPLETE JOINT PENETRATION WELD
CLR	CLEAR
CL	CENTERLINE
CONN	CONNECTION
CONST	CONSTRUCTION
DBA	DEFORMED BAR ANCHOR
DL	DEAD LOAD
EA	EACH
EF	EACH FACE
EL	ELEVATION
E.N.	EDGE NAILING
EOD	EDGE OF DECK
EOS	EDGE OF SLAB
EW	EACH WAY
EXT	EXTERIOR
FN	FIELD NAILING
GA	GAGE OR GAUGE
GL	GLULAM
GT	GIRDER TRUSS
HORIZ	HORIZONTAL
HSA	HEADED STUD ANCHOR
LL	LIVE LOAD
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LONG.	LONGITUDINAL
LSH	LONG SIDE HORIZONTAL
LSV	LONG SIDE VERTICAL
NTS	NOT TO SCALE
OPP	OPPOSITE, OPPOSITE HAND
PAF	POWDER ACTUATED FASTENER
PJP	PARTIAL JOINT PENETRATION WELD
PL	PLATE
REQD	REQUIRED
SC	SLIP CRITICAL
SFRS	SEISMIC FORCE-RESISTING SYSTEM
SIM	SIMILAR
SL	SNOW LOAD
SP	SPACE(S)
SQ	SQUARE
T&B	TOP AND BOTTOM
T.O.	TOP OF
TC	PRE-TENSIONED BOLT
TRANS	TRANSVERSE
UON	UNLESS OTHERWISE NOTED
VERT	VERTICAL
VIF	VERIFY IN FIELD
w/	WITH
WP	WORK POINT
WWR	WELDED WIRE REINFORCING

STRUCTURAL SHEET INDEX

SHEET NUMBER	SHEET NAME
S0.00	GENERAL NOTES, TESTING AND INSPECTION, SYMBOLS AND ABBREVIATIONS
S1.00	FOUNDATION PLAN, ROOF FRAMING PLAN AND DETAILS
GRAND TOTAL: 2	

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REF. SCALE IN INCHES
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DKA PROJECT NO: 25-037

KEY PLAN:

SHEET STATUS: 04/21/2026
ISSUED FOR BID - NOT FOR CONSTRUCTION

NO:	DESCRIPTION:	DATE:

SHEET TITLE:
GENERAL NOTES, TESTING AND INSPECTION, SYMBOLS AND ABBREVIATIONS

SHEET NUMBER:
S0.00

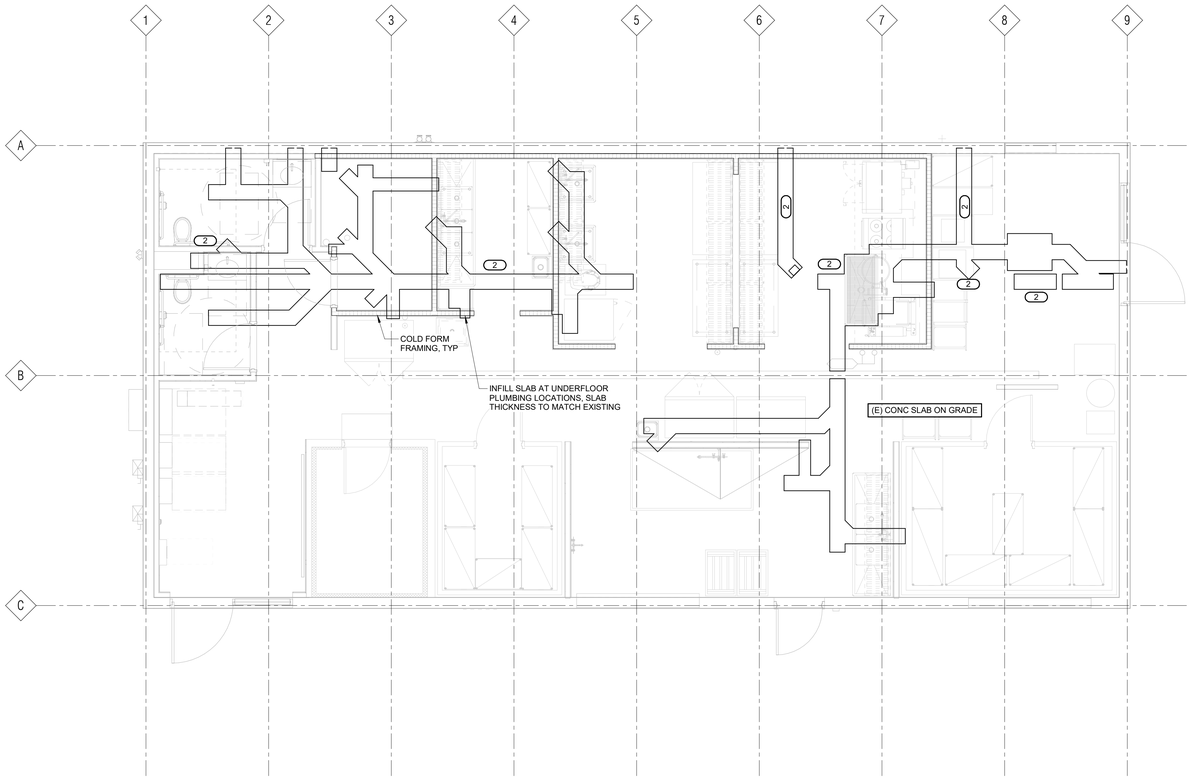
4/21/2026 6:46:45 AM

(E) FOUNDATION & ROOF FRAMING SHEET NOTES:

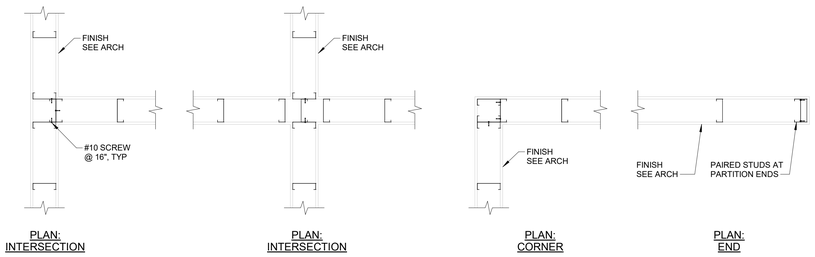
1. STUDS ARE TO BE DESIGNED TO SUPPORT MECHANICAL DUCTWORK, PIPES AND HANGING KITCHEN EQUIPMENT. DEAD LOAD IS 10 PSF, TYP.
2. SEE GENERAL NOTES SECTIONS FOR ADDITIONAL INFORMATION.
3. CONTRACTOR VERIFY ALL DIMENSIONS WITH ARCH DRAWINGS.

KEYNOTES: (#)

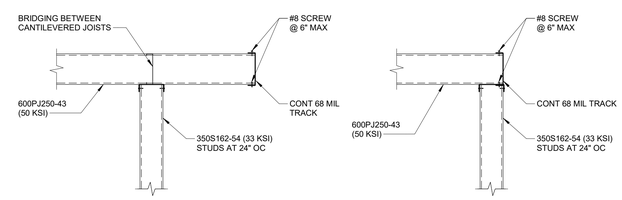
1. OPENING THRU EXISTING WALL FOR EXHAUST FAN. FRAME OPENING WITH COLD FORM STUDS AND HEADER SISTERED INTO EXISTING STUD WALL. THICKNESS OF HEADERS AND STUDS TO MATCH EXISTING WALL CONSTRUCTION.
2. DEMO EXISTING SLAB, AS REQUIRED, FOR PLUMBING UNDERFLOOR. COORDINATE WITH PLUMBING CONTRACTOR. INFILL WITH NEW CONC. SEE DETAIL 5/S1.00. THICKNESS OF SLAB TO MATCH (E) SLAB THICKNESS.
3. DOUBLE JOISTS AT KITCHEN HOOD CONNECTION. COORDINATE LOCATION WITH KITCHEN CONTRACTOR. HOOD WEIGHS 650 LBS.
4. CANTILEVER JOISTS TO SUPPORT DUCTWORK. COORDINATE WITH MECH CONTRACTOR.



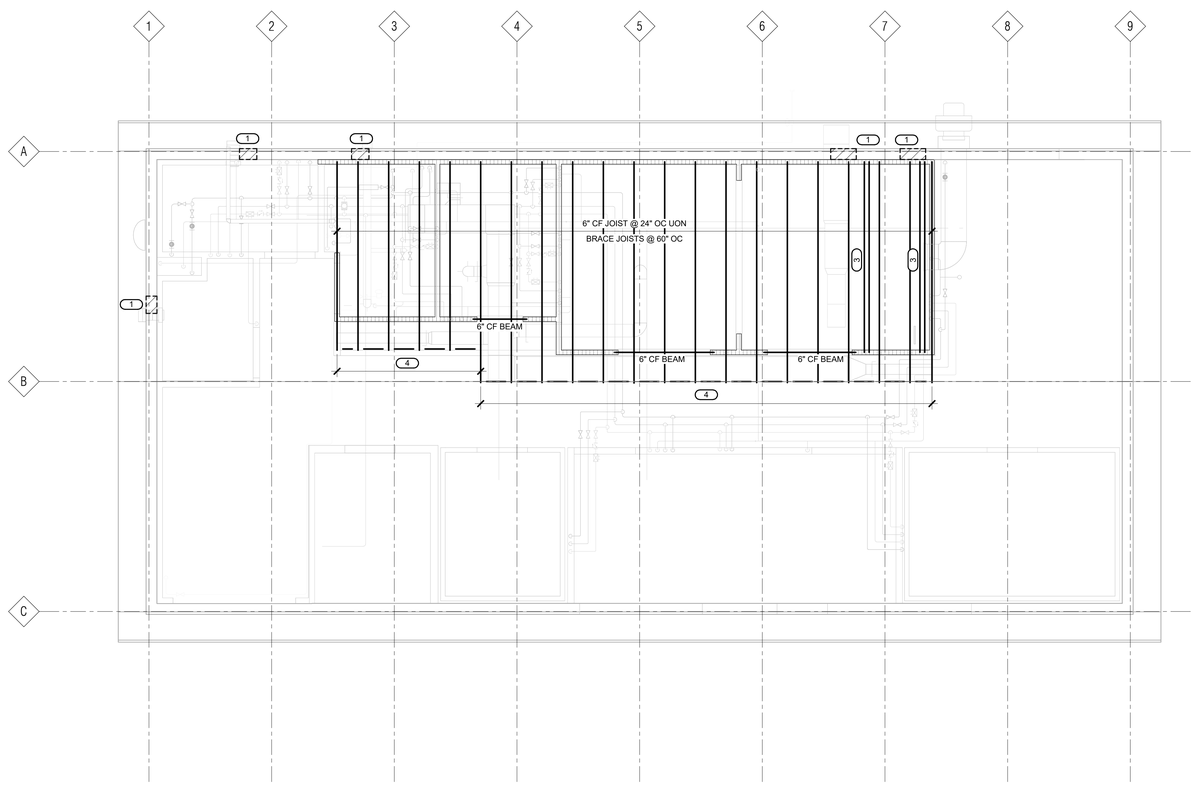
1 FOUNDATION PLAN
1/4" = 1'-0"



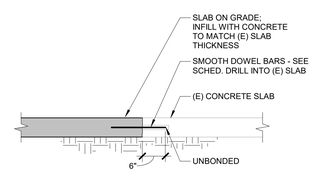
3 STUD WALL CORNER AND INTERSECTIONS
3/4" = 1'-0"



4 CFS JOIST BEARING AT CFS WALL
3/4" = 1'-0"

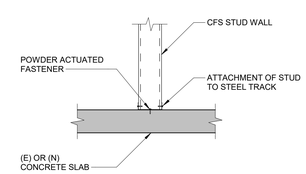


2 ROOF FRAMING PLAN
1/4" = 1'-0"



SLAB THICKNESS	SMOOTH DOWEL BAR
4"	1/2"ø x1'-4"@18"
5"	3/4"ø x1'-4"@12"
6"	

5 NEW TO EXISTING SLAB-ON-GRADE CONNECTION
3/4" = 1'-0"



6 COLD FORMED TRACK TO SLAB CONNECTION
3/4" = 1'-0"

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KEY PLAN:

SHEET STATUS: 04/21/2026
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SHEET TITLE:
FOUNDATION PLAN, ROOF FRAMING PLAN AND DETAILS

SHEET NUMBER:
S1.00

4/21/2026 6:46:46 AM

VIEW KEY

1 → KEYNOTE: INDICATES NOTE USED TO DESCRIBE ADDITIONAL INFORMATION ABOUT WORK REQUIRED, SPECIFIC TO THE SHEET AND/OR DETAIL

LINE TYPE AND TAG KEY:

NEW WORK BY THIS CONTRACTOR (WIDE LINE)
NEW
EXISTING TO BE REMOVED (SHORT DASHED PATTERN)

EXISTING TO REMAIN OR WORK BY OTHERS (NARROW LINE)

EXISTING TO REMAIN
EXISTING TO BE REMOVED BY OTHERS (SHORT DASHED PATTERN)

HALF TONING DOES NOT MODIFY SCOPE.

TAG-1 UNDERLINED TAG INDICATES OBJECT IS IN-SCOPE. IF NEW, ADDITIONAL INFORMATION IS AVAILABLE IN A SCHEDULE, MATERIAL LIST, OR SYMBOL LIST

CONTRACTOR ABBREVIATION KEY

ABBR:	DESCRIPTION:
C.C.	CIVIL CONTRACTOR
F.E.Q.	FOOD SERVICE CONTRACTOR
P.C.	PLUMBING CONTRACTOR
M.C.	MECHANICAL CONTRACTOR
F.P.C.	FIRE PROTECTION CONTRACTOR

DUCT ABBREVIATION KEY

ABBR.	DESCRIPTION
EA	EXHAUST AIR
OA	OUTSIDE AIR
RA	RETURN/RELIEF AIR
SA	SUPPLY AIR

SYMBOL LIST - PIPING SYSTEMS

SYMBOL	DESCRIPTION	* F	FLUID TYPE
DPP	DRAIN - PIPING		
LIQ	REFRIGERANT LIQUID	120	Water
SUC	REFRIGERANT SUCTION	35	Water

SYMBOL LIST - SENSORS

SYMBOL	DESCRIPTION
T	THERMOSTAT

HVAC ABBREVIATION KEY

ABBR:	DESCRIPTION:
DN	DOWN
N.C.	NORMALLY CLOSED
TYP	TYPICAL

HVAC SYMBOL LIST

NOT ALL SYMBOLS MAY APPLY.

SYMBOL:	DESCRIPTION:
G	NATURAL GAS
	PIPE DOWN
	PIPE UP OR UP/DOWN
	SHUTOFF VALVE NORMALLY OPEN
	PRESSURE/TEMPERATURE TEST PLUG
	GAS REGULATOR
	PRESSURE/TEMPERATURE TEST PLUG

MECHANICAL RENOVATION NOTES:

THESE NOTES APPLY TO ALL MECHANICAL SHEETS AND TRADES, INCLUDING BUT NOT LIMITED TO, FIRE PROTECTION, PLUMBING AND MECHANICAL.

1. EXISTING CONDITIONS ARE SHOWN BASED ON INFORMATION OBTAINED FROM FIELD SURVEYS, EXISTING BUILDING DOCUMENTS, AND STAFF. VERIFY EXISTING CONDITIONS AND REPORT ANY CONFLICTS BEFORE PROCEEDING.
2. NOT ALL EXISTING DUCTWORK AND PIPING IS SHOWN. VERIFY EXISTING CONDITIONS BEFORE STARTING WORK. NOTIFY ENGINEER OF ANY CONFLICTS WITH NEW WORK.
3. FIELD VERIFY THE AVAILABLE CLEARANCES FOR DUCTWORK AND PIPING BEFORE FABRICATION. RISES AND DROPS MAY BE NECESSARY BECAUSE OF EXISTING FIELD CONDITIONS.
4. EACH CONTRACTOR SHALL FIELD VERIFY ACCESSIBILITY TO THE AREA OF THEIR WORK AND SHALL NOTIFY THE CONSTRUCTION MANAGER PRIOR TO BIDDING IF OTHER UTILITIES ARE REQUIRED TO BE REMOVED OR RELOCATED TO ALLOW ACCESS TO THEIR AREA OF WORK.
5. EACH CONTRACTOR SHALL CUT AND PATCH ROOFS, WALLS, AND FLOORS ASSOCIATED WITH THEIR WORK.
6. THE CONTRACTOR IS RESPONSIBLE FOR REMOVAL AND REPLACEMENT OF CEILINGS, CEILING TILES, AND CEILING GRIDS ASSOCIATED WITH AREAS OF WORK BY ALL CONTRACTORS.
7. WHERE EXISTING MECHANICAL SYSTEMS DIFFER FROM THOSE SHOWN ON THE PROJECT DRAWINGS AND CREATE CONFLICTS WITH NEW EQUIPMENT, PIPING, OR DUCTWORK VALUES, AND NOT EXISTING CFM SHOWN ON DRAWINGS.
8. PROVIDE TEMPORARY CONNECTIONS TO MAINTAIN EXISTING SYSTEMS IN SERVICE DURING CONSTRUCTION. MAINTAIN ACCESS TO EXISTING MECHANICAL INSTALLATIONS THAT REMAIN ACTIVE.
9. OBTAIN PERMISSION FROM OWNER BEFORE SHUTTING DOWN ANY SYSTEM FOR ANY REASON. MAINTAIN SERVICE TO ALL COMPONENTS THAT ARE TO REMAIN UNTIL NEW SYSTEMS ARE INSTALLED.
10. MAINTAIN EXISTING SYSTEM IN SERVICE UNTIL NEW SYSTEM IS COMPLETE AND READY FOR TIE IN AND SWITCHOVER. DRAIN SYSTEM ONLY TO MAKE SWITCHOVERS AND CONNECTIONS. OBTAIN PERMISSION FROM OWNER BEFORE PARTIALLY OR COMPLETELY DRAINING SYSTEM. MAKE CHANGEOVER TO NEW SYSTEMS WITH MINIMUM OUTAGE.
11. DISCONNECT AND REMOVE MECHANICAL DEVICES AND EQUIPMENT SERVING EQUIPMENT THAT HAS BEEN REMOVED.

HVAC SYMBOL LIST

NOT ALL SYMBOLS MAY APPLY.

SYMBOL:	DESCRIPTION:
	MANUAL VOLUME DAMPER
	DUCT CAP
	DUCT DOWN
	DUCT UP
	SUPPLY/OUTSIDE AIR DUCT SECTION
	RETURN AIR DUCT SECTION
	EXHAUST/RELIEF AIR DUCT SECTION
CD-1 / 6/115	AIR TERMINAL PROPERTIES SYMBOL / NECK SIZE/CFM
T	THERMOSTAT

PIPING GENERAL NOTES:

1. THE SIZE OF BRANCH PIPING TO TERMINAL HEATING DEVICES AND COILS SHALL BE 3/4" UNLESS NOTED OTHERWISE.
2. PIPE DRAIN LINES FROM EQUIPMENT TO NEAREST FLOOR DRAIN.
3. INSTALL ALL REFRIGERANT LIQUID AND SUCTION PIPING SIZED PER EQUIPMENT MANUFACTURER RECOMMENDATIONS.

VENTILATION GENERAL NOTES:

1. UNLESS NOTED OTHERWISE, THE SIZE OF EACH BRANCH DUCT TO A TERMINAL AIR BOX (TAB) SHALL MATCH THE INLET SIZE UNLESS THE BRANCH IS GREATER THAN 6 FEET IN LENGTH, IN WHICH CASE THE BRANCH DUCT SHALL BE SIZED AT A PRESSURE DROP OF 0.07" W.C. PER 100' OF DUCTWORK.
2. UNLESS NOTED OTHERWISE, THE SIZE OF EACH BRANCH DUCT TO AN AIR TERMINAL SHALL MATCH THE INLET SIZE.
3. ALIGN TEMPERATURE SENSORS WITH LIGHT SWITCHES AND WHEN IN CLOSE PROXIMITY TO EACH OTHER.
4. PROVIDE ACCESS DOORS AT ALL DUCT MOUNTED EQUIPMENT.
5. EXISTING AIR INLET AND OUTLET CFM SHOWN ON DRAWINGS ARE FROM EXISTING DRAWINGS, AND ARE FOR REFERENCE ONLY. CONTRACTOR SHALL USE PRE-BALANCE VALUES, AND NOT EXISTING CFM SHOWN ON DRAWINGS.
6. CONTRACTOR MAY REUSE PORTIONS OF EXISTING DUCT PROVIDED SIZES AND PRESSURE CLASSES ARE CORRECT, DUCT IS THOROUGHLY CLEANED AND FREE OF DEFECTS, AND ALL TRANSVERSE JOINTS, LONGITUDINAL SEAMS, AND DUCT WALL PENETRATIONS ARE SEALED AS SPECIFIED FOR NEW DUCTWORK.

MECHANICAL GENERAL NOTES:

THESE NOTES APPLY TO ALL MECHANICAL SHEETS AND TRADES, INCLUDING BUT NOT LIMITED TO, FIRE PROTECTION, PLUMBING AND MECHANICAL.

1. DRAWINGS SHOWING LOCATIONS OF EQUIPMENT, DUCTWORK, PIPING, ETC. ARE DIAGRAMMATIC AND MAY NOT ALWAYS REFLECT EXACT INSTALLATION CONDITIONS. DRAWINGS SHOW THE GENERAL ARRANGEMENT OF DUCTWORK, PIPING, EQUIPMENT, ETC., AND MAY NOT INCLUDE ALL OFFSETS AND FITTINGS REQUIRED FOR COMPLETE INSTALLATION. THE DRAWINGS SHALL BE FOLLOWED AS CLOSELY AS ACTUAL BUILDING CONSTRUCTION AND THE WORK OF OTHERS WILL PERMIT.
2. CATALOG AND MODEL NUMBERS SHALL NOT BE CONSIDERED COMPLETE, BUT ARE GIVEN AS AN AID TO THE CONTRACTOR AND TO INDICATE THE QUALITY REQUIRED. CONTRACTOR IS RESPONSIBLE FOR THE COMPLETE DESCRIPTION OF MATERIAL SCHEDULED ON THESE DRAWINGS AND IN THE SPECIFICATIONS BEFORE ORDERING. THE DESCRIPTION OF THE MATERIAL AND SCHEDULED PERFORMANCE TAKES PRECEDENCE OVER THE MODEL NUMBER. THE FIRST MANUFACTURER SCHEDULED IS THE BASIS OF DESIGN.
3. DETERMINATION OF QUANTITIES OF MATERIAL AND EQUIPMENT REQUIRED SHALL BE MADE BY THE CONTRACTOR FROM THE DOCUMENTS. WHERE MATERIAL AND/OR QUANTITY DISCREPANCIES ARISE BETWEEN DRAWINGS, SCHEDULES AND/OR SPECIFICATIONS, THE HIGHER QUALITY/ GREATER NUMBER SHALL GOVERN.
4. DO NOT SCALE DRAWINGS. VERIFY ALL DIMENSIONS AND CLEARANCES FROM ARCHITECTURAL, STRUCTURAL, SUBMITTALS, AND OTHER APPROPRIATE DRAWINGS OR PHYSICALLY AT SITE. REVIEW ALL DRAWINGS, INCLUDING THOSE OF OTHER TRADES.
5. COORDINATE ALL WORK WITH ALL OTHER TRADES PRIOR TO INSTALLATION TO PROVIDE CLEARANCES REQUIRED FOR OPERATION, MAINTENANCE. CODE COMPLIANCE, AND TO VERIFY NON-INTERFERENCE WITH OTHER WORK. DO NOT FABRICATE PRIOR TO VERIFICATION OF NECESSARY CLEARANCES FOR ALL TRADES. BRING ANY INTERFERENCES OR CONFLICTS TO THE ATTENTION OF THE ARCHITECT/ENGINEER BEFORE PROCEEDING WITH FABRICATION OR EQUIPMENT ORDERS.
6. REVIEW SPACE REQUIREMENTS OF EQUIPMENT SPECIFIED OR SUBSTITUTED AND MAKE REASONABLE ACCOMMODATIONS IN LAYOUT AND POSITIONING TO PROVIDE PROPER ACCESS.
7. ANY CHANGES REQUIRED TO ELIMINATE CONFLICTS OR THAT RESULT FROM A FAILURE TO COORDINATE SHALL BE MADE BY THE CONTRACTOR WITHOUT ADDITIONAL COST OR EXPENSE TO OTHERS.
8. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN, ELECTRICAL, TECHNOLOGY AUDIO/VISUAL, AND OTHER MECHANICAL PLANS FOR EXACT LOCATIONS OF ALL CEILING MOUNTED DEVICES, OTHER THAN SPRINKLERS.
9. CONTRACTOR IS RESPONSIBLE FOR DAMAGE CAUSED BY THEIR ACTIONS TO WALLS, FLOORS, CEILINGS, AND ROOFS. THE CONTRACTOR WHOSE WORK CAUSES DAMAGE IS RESPONSIBLE FOR PATCHING TO MATCH ORIGINAL CONSTRUCTION, FIRE RATING, AND FINISH.
10. SEAL ALL WALL AND ROOF PENETRATIONS AIRTIGHT WHERE CONDUITS, PIPING, AND DUCTS PENETRATE.
11. CAULK ALL PIPE AND DUCT PENETRATIONS OF FULL HEIGHT NON-FIRE RATED WALL, PARTITION, FLOOR, AND ROOF ASSEMBLIES. THIS IS ESSENTIAL TO PREVENT NOISE TRANSMISSION FROM ONE ROOM TO ANOTHER AND TO PROVIDE THE DESIRED NC LEVELS WITHIN ROOMS.
12. DO NOT EXCEED 25 LBS PER HANGER AND A MINIMUM SPACING OF 2'-0" ON CENTER WHEN ATTACHING TO METAL ROOF DECKING (LIMITATION NOT REQUIRED WITH CONCRETE ON METAL DECK). THIS 25 LBS. LOAD AND 2'-0" SPACING INCLUDE ADJACENT ELECTRICAL AND ARCHITECTURAL ITEMS HANGING FROM DECK. IF THE HANGER RESTRICTIONS CANNOT BE ACHIEVED, SUPPLEMENTAL FRAMING OFF STEEL FRAMING SHALL BE ADDED. ANCHORS EMBEDDED IN CONCRETE SHALL BE CRACKED CONCRETE APPROVED IN ACCORDANCE WITH SPECIFICATIONS.

PIPE INSULATION SCHEDULE HVAC

GENERAL NOTES:
1. REFER TO THE SPECIFICATIONS FOR TYPE DESCRIPTIONS AND JACKETING REQUIREMENTS.
2. TYPE A INSULATION IS NOT PERMITTED IN NON-CONDITIONED OR HIGH-HUMIDITY SPACES (E.G., MECHANICAL ROOMS, EXTERIOR, ATTICS, AND AHU SUPPLY/RETURN AIR TUNNELS). AHU TUNNELS SHALL NOT BE CONSIDERED CONDITIONED SPACES.
3. TYPE B INSULATION GREATER THAN 1" THICK SHALL BE INSTALLED USING MULTIPLE LAYERS OF 3/4" OR 1" WITH STAGGERED SEAMS.
4. TYPE E IS NOT ALLOWED IN RETURN AIR PLENUMS, UNLESS LISTED AND LABELED AS 25/50 RATED PER ASTM E84/UL723
5. TYPE G 4" SHALL BE INSTALLED IN TWO (2) 2" LAYERS WITH STAGGERED SEAMS.
6. PROVIDE RIGID INSERT AT HANGERS, EITHER PRE-MANUFACTURED COUPLINGS (REFER TO PIPE HANGER AND SUPPORTS SPECIFICATIONS) OR TYPE C, D, OR E INSULATION. SEE SPEC. FOR MORE DETAILS.
7. DIRECT BURIED PIPING SHALL ONLY USE TYPE C OR TYPE E. REDUCTION IN THICKNESS FOR DIRECT BURIED PIPING IS ALLOWED PER ASHRAE / IECC AS APPLICABLE.

SYMBOL	PIPE SYSTEM	INSULATION TYPE	INSULATION THICKNESS PER NOMINAL PIPE OR TUBE SIZE				NOTES
			< 1"	1" TO < 1.5"	1.5" TO < 4"	4" TO < 8"	
23 PIPING - COOLING WATER							
DPP	DRAIN - PIPING	A (GlsFbr), B (Elasto), C (CelGla), E (Plyiso), F (Phenol)	1/2"	1/2"	1"	1"	APPLY INSULATION ONLY TO LOW TEMP DRAINS (55 DEG AND LOWER IE: COOLING COIL CONDENSATE, ICE MACHINE DRAINS, ETC.)
23 PIPING - REFRIGERANT							
LIQ	REFRIGERANT LIQUID	A (GlsFbr), B (Elasto), C (CelGla), E (Plyiso), F (Phenol)	1/2"	1/2"	1"	1"	
SUC	REFRIGERANT SUCTION	A (GlsFbr), B (Elasto), C (CelGla), E (Plyiso), F (Phenol)	1/2"	1/2"	1"	1"	

HVAC SHEET INDEX

M0.00	HVAC COVERSHEET
MD1.01	DEMOLITION FLOOR PLAN - HVAC
M1.01	FLOOR PLANS - PIPING & VENTILATION
M2.00	HVAC DETAILS
M2.01	HVAC DETAILS
M3.00	HVAC CONTROLS
M4.00	HVAC SCHEDULES
GRAND TOTAL: 7	

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PROJECT #26000535.00

THIS IS A COMBINED VERSION OF THE VENTILATION AND PIPING COVERSHEETS. DELETE UNNEEDED SHEETS AND AVOID DUPLICATING INFORMATION.

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Student Farm Renovations

8900 Northwest Hwy #14, Crystal Lake, IL 60012
DKA PROJECT NO: 25-037

KEY PLAN:

SHEET STATUS: 04/21/2026
ISSUED FOR BID

NO:	DESCRIPTION:	DATE:

SHEET TITLE:
HVAC COVERSHEET

SHEET NUMBER:
M0.00

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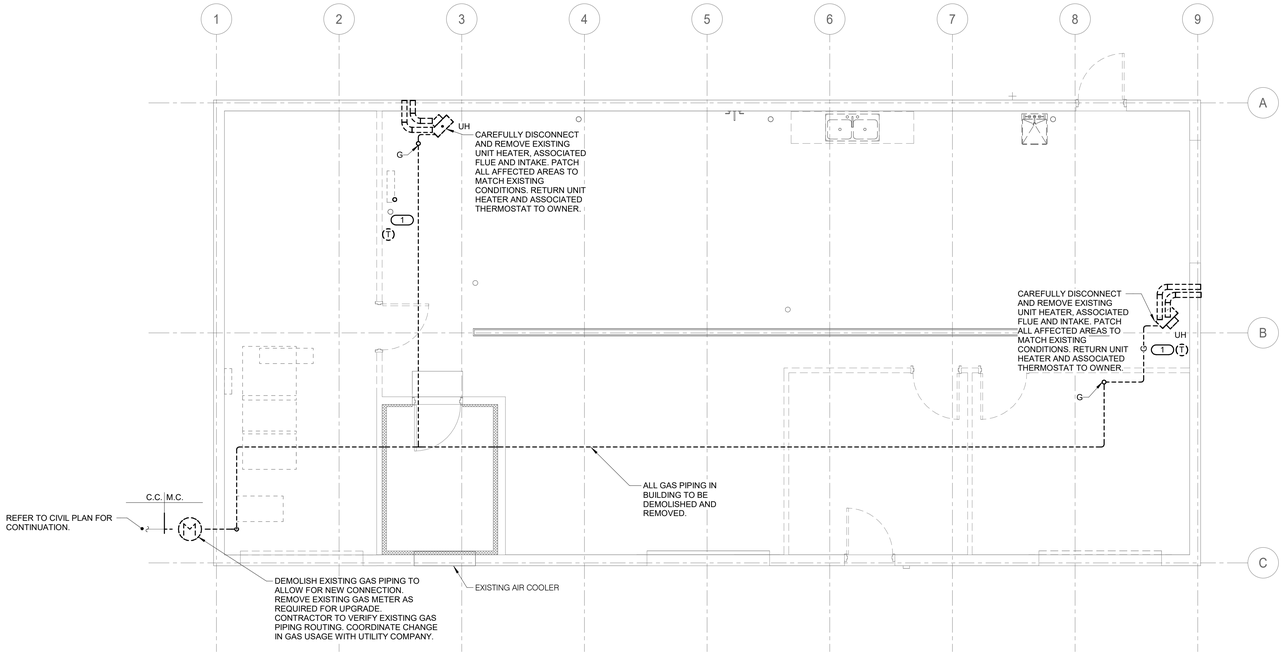
KEYNOTES:

1. DISCONNECT AND REMOVE EXISTING TEMPERATURE SENSOR, WIRING AND CONDUIT.



NORTH

1 DEMOLITION FLOOR PLAN - HVAC

1/4" = 1'-0"

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DKA PROJECT NO: 25-037

KEY PLAN:

SHEET STATUS: 04/21/2026
ISSUED FOR BID

NO:	DESCRIPTION:	DATE:

SHEET TITLE:
DEMOLITION FLOOR PLAN - HVAC

SHEET NUMBER:
MD1.01

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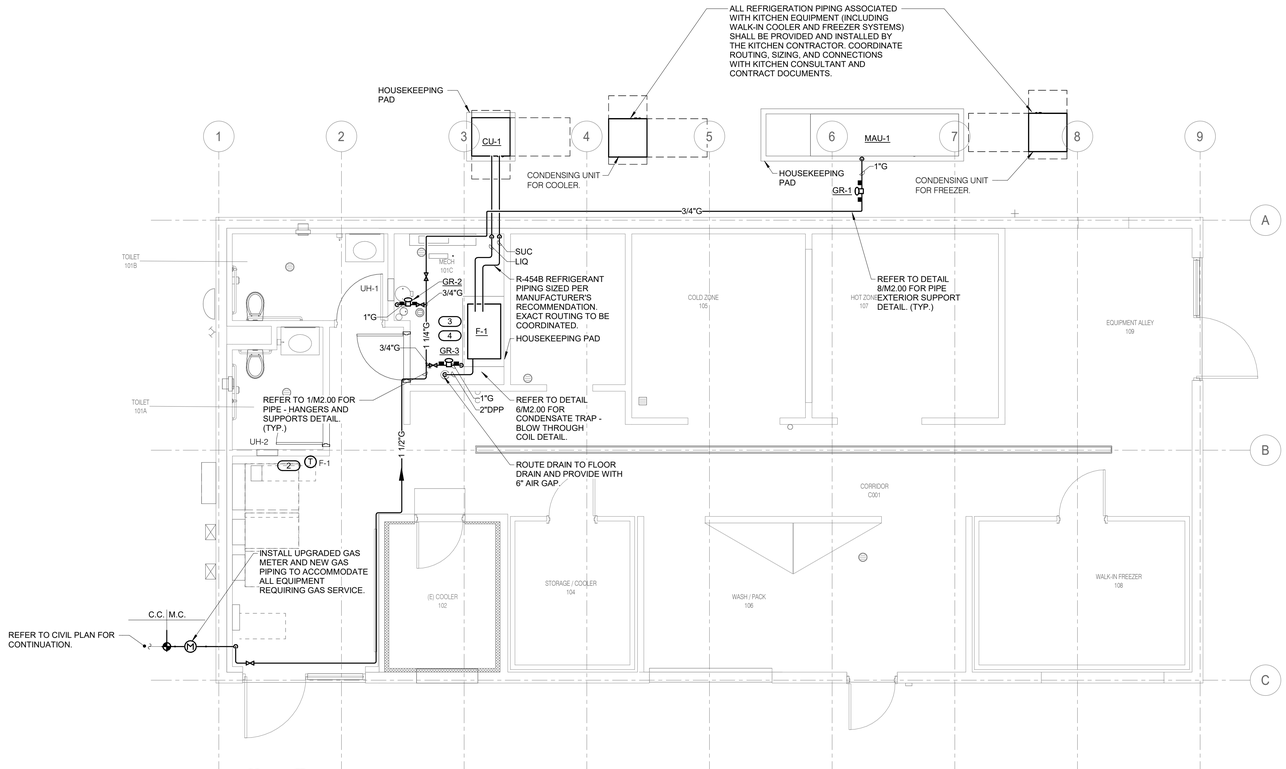
SHEET NOTES:

1. REFER TO ARCHITECTURAL ELEVATIONS FOR EXACT LOCATIONS OF ALL EXTERIOR WALL PENETRATIONS. COORDINATE ALL PENETRATIONS WITH ARCHITECTURAL AND RELATED TRADES PRIOR TO INSTALLATION.

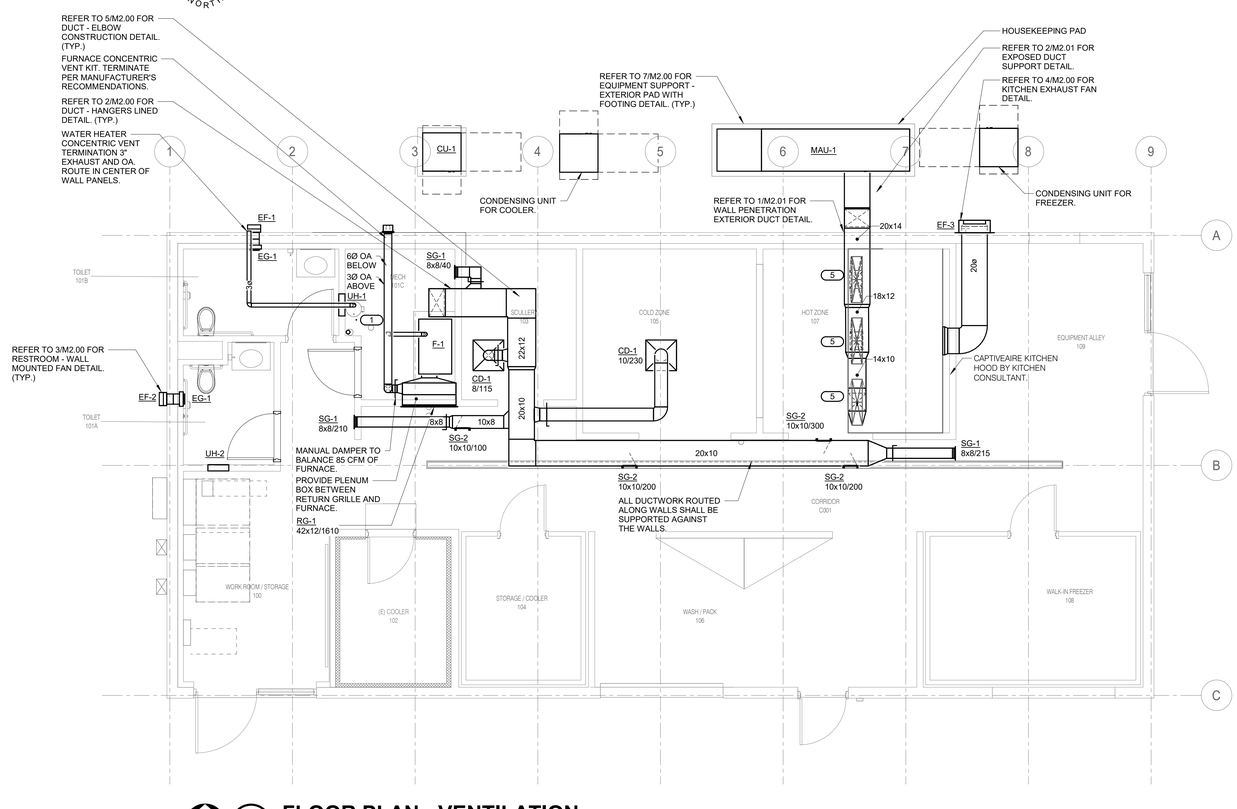
KEYNOTES:

1. PROVIDE CONCENTRIC VENT TERMINATION KIT. INNER PIPE SERVES AS FLUE GAS EXHAUST; COMBUSTION AIR IS DRAWN THROUGH ANNULAR SPACE. SINGLE WALL PENETRATION ONLY. COORDINATE FINAL FLUE AND VENT CONNECTION WITH MANUFACTURER.
2. PROVIDE TEMPERATURE SENSOR AT LOCATION SHOWN. PROVIDE CONTROLS WIRING AS REQUIRED.
3. ROUTE ALL FURNACE COOLING COIL CONDENSATE DRAIN PIPING TO THE NEAREST FLOOR DRAIN IN THE MECHANICAL ROOM.
4. FURNACE TO BE MOUNTED ON A 4" HOUSEKEEPING PAD.
5. PROVIDE VERTICAL DAMPERS ON OUTSIDE AIR DUCTS TO KITCHEN HOOD.



1 FLOOR PLAN - PIPING

1/4" = 1'-0"



2 FLOOR PLAN - VENTILATION

1/4" = 1'-0"

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KEY PLAN:

SHEET STATUS: 04/21/2026
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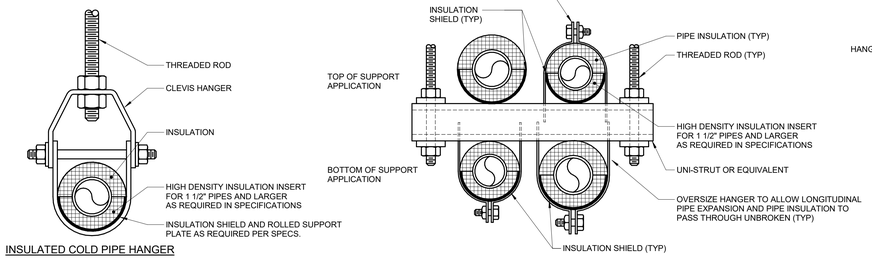
NO:	DESCRIPTION:	DATE:

SHEET TITLE:
FLOOR PLANS - PIPING & VENTILATION

SHEET NUMBER:
M1.01

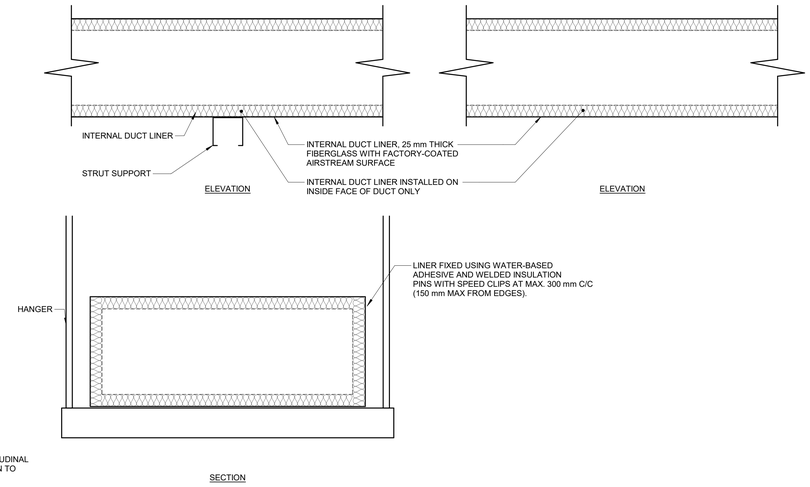
4/21/2026 12:19:07 PM



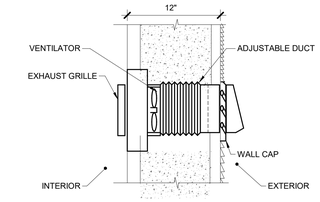
NOTES:

1. REFER TO SPECIFICATION SECTION 23 05 29-HVAC & SECTION 23 07 19-HVAC.

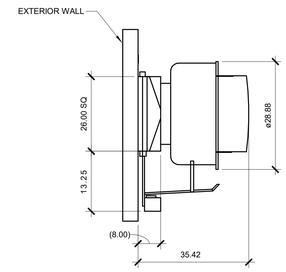
1 PIPE - HANGERS AND SUPPORTS
NO SCALE



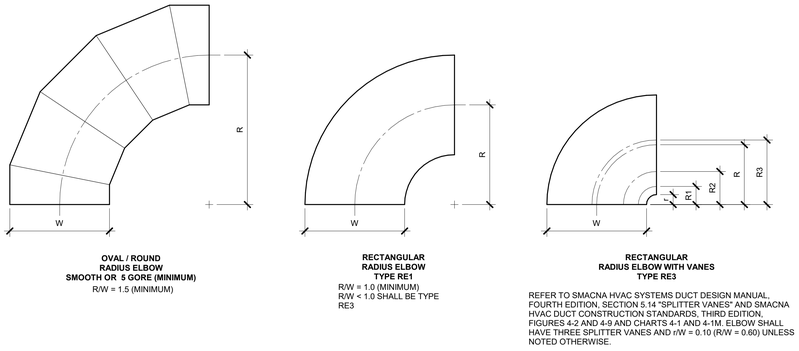
2 DUCT - HANGERS LINED
NO SCALE



3 RESTROOM - WALL MOUNTED FAN
NO SCALE



4 KITCHEN EXHAUST FAN DETAIL
NO SCALE



OVAL / ROUND RADIUS ELBOW SMOOTH OR 5 GORE (MINIMUM)
R/W = 1.5 (MINIMUM)

RECTANGULAR RADIUS ELBOW TYPE RE1
R/W = 1.0 (MINIMUM)
R/W < 1.0 SHALL BE TYPE RE3

RECTANGULAR RADIUS ELBOW WITH VANES TYPE RE3
REFER TO SMACNA HVAC SYSTEMS DUCT DESIGN MANUAL, FOURTH EDITION, SECTION 5.14 "SPLITTER VANES" AND SMACNA HVAC DUCT CONSTRUCTION STANDARDS, THIRD EDITION, FIGURES 4-2 AND 4-9 AND CHARTS 4-1 AND 4-1M. ELBOW SHALL HAVE THREE SPLITTER VANES AND r/W = 0.10 (R/W = 0.60) UNLESS NOTED OTHERWISE.

RECTANGULAR MITERED ELBOW TYPE RE6
USE ONLY AS PART OF OFFSETS AND TRANSITIONS PER FIGURE 4-7 TYPE 2 OR AS SHOWN ON DRAWINGS. OFFSETS ABOVE 30° SHALL BE TYPE RE1.

RECTANGULAR MITERED ELBOW WITH VANES TYPE RE2

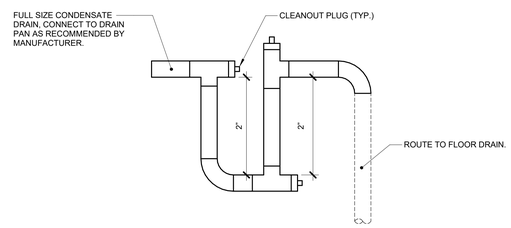
RECTANGULAR / OVAL / ROUND MITERED ELBOW WITHOUT VANES TYPE RE4
NOT ALLOWED

RECTANGULAR RADIUS ELBOW WITH SQUARE THROAT
NOT ALLOWED

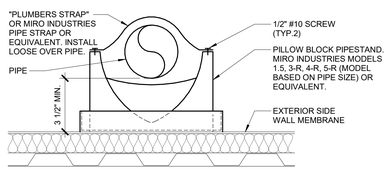
NOTES:

1. BEAD, CROSSBREAK, AND REINFORCE FLAT SURFACES AS IN STRAIGHT DUCT.
2. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
3. DEFAULT ELBOW SHALL BE TYPE "RE1".
4. ELBOW TYPES SHALL BE INSTALLED AS SHOWN AND NOT BE SUBSTITUTED WITHOUT PERMISSION. EXCEPTION: RE1 OR RE3 MAY BE SUBSTITUTED FOR RE2.

5 DUCT - ELBOW CONSTRUCTION
NO SCALE



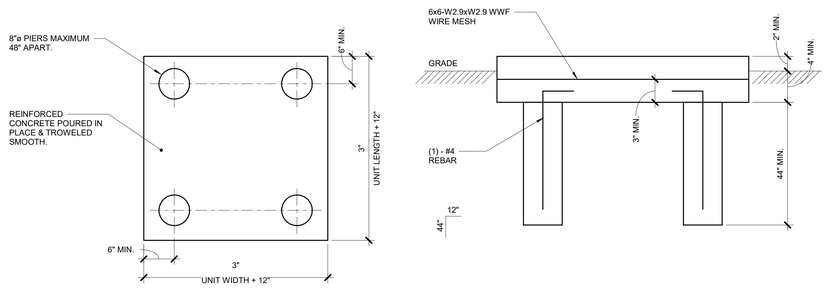
6 CONDENSATE TRAP - BLOW THROUGH COIL
NO SCALE



NOTES:

1. PIPE SUPPORT SHALL BE AT 8 FT. MAXIMUM SPACING. PROVIDE PIPE SUPPORT AT EACH SIDE OF 90° TURN.
2. COORDINATE PIPESTAND LOCATIONS WITH G.C.
3. BASIS OF DESIGN: MIRO INDUSTRIES.

8 PIPE EXTERIOR SUPPORT
NO SCALE



7 EQUIPMENT SUPPORT - EXTERIOR PAD WITH FOOTING DETAIL
NO SCALE

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DKA PROJECT NO: 25-037

KEY PLAN:

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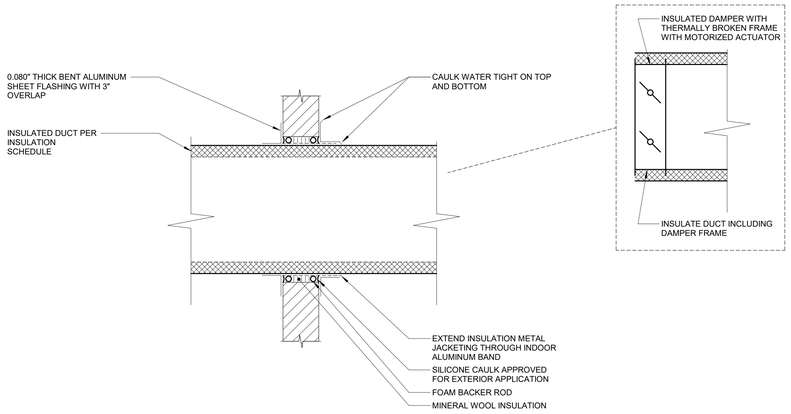
NO:	DESCRIPTION:	DATE:

SHEET TITLE:
HVAC DETAILS

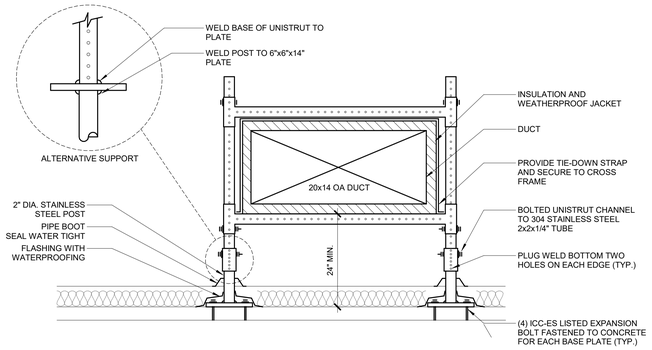
SHEET NUMBER:
M2.00

4/21/2026 12:19:09 PM



1 WALL PENETRATION - EXTERIOR - DUCT

NO SCALE



NOTES:
1. PROVIDE DUCT SUPPORT AT MAXIMUM SPACING OF 12 FEET.
2. REFER TO CONCRETE FASTENER INSTALLATION INSTRUCTIONS FOR RECOMMENDED DIAMETER AND EMBED LENGTH FOR WEIGHT OF SYSTEM SUPPORTED. TYPICAL DUCT LESS THAN 24" TALL OR PIPE SYSTEMS LESS THAN 12" DIAMETER, ANCHORED TO A 4" THICK CONCRETE SLAB, WOULD USE FASTENER SIZE: 1/2" DIA. HILTI KB TZ2 WITH 2" EMBED LENGTH (ESR-4266).

2 EXPOSED DUCT SUPPORT

NO SCALE

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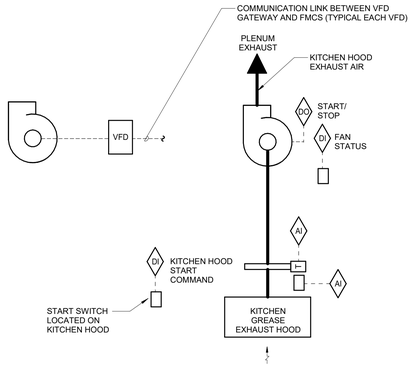
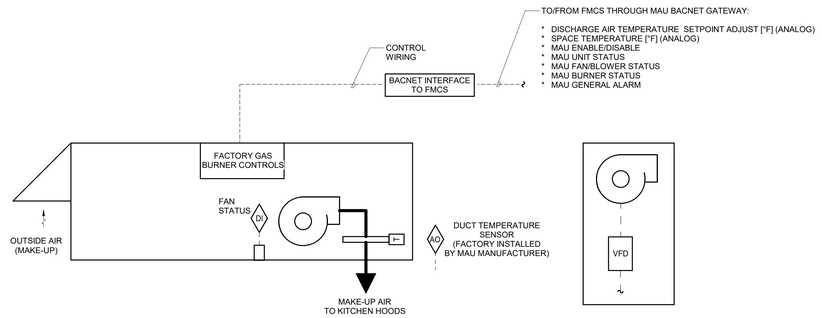
NO:	DESCRIPTION:	DATE:

SHEET TITLE:
HVAC DETAILS

SHEET NUMBER:
M2.01

4/21/2026 12:19:09 PM





KITCHEN HOOD EXHAUST FAN OPERATION:
KITCHEN HOOD EXHAUST FANS SHALL START FROM EITHER OF THE TWO FOLLOWING INPUTS:
- SWITCH ON ANY KITCHEN HOOD TURNED TO ON POSITION.
- ANY EXHAUST DUCT MOUNTED TEMP TRANSMITTER DETECTS AIR ABOVE SETPOINT (100°F ADJ.).
- ONCE A KITCHEN HOOD EXHAUST FAN IS ENERGIZED (VIA ANY INPUT) THE EXHAUST FAN SHALL CONTINUE TO OPERATE FOR A MIN. 20 MINUTE (ADJ.) TIME DURATION TO PREVENT SHORT CYCLING.

FMCS SHALL ENABLE THE INTERLOCKED MAU WHEN THE FAN IS ENABLED.

SEQUENCE OF OPERATION:
REFER TO SPECIFICATION SECTION 23 74 23.13 FOR A DESCRIPTION OF THE MAU AND CONTROLS PROVIDED BY THE MANUFACTURER. THE UNIT SHALL OPERATE BY PACKAGE CONTROLS TO MAINTAIN THE DISCHARGE AIR TEMPERATURE (DAT) OF 60°F (ADJ.) DAT SETPOINT SHALL BE SET BY THE FMCS OPERATOR WORK STATION. THE BAS SHALL PROVIDE A BURNER MODULATION SIGNAL (0-10V DC) BASED ON THE DIFFERENCE BETWEEN MEASURED DAT AND SETPOINT. THE MAU PACKAGE CONTROLS SHALL OPEN THE ASSOCIATED UNIT DAMPERS AND ENABLE HEATING BASED ON OUTSIDE AIR TEMPERATURE (E.G. T < 60°F).

ALARMS, INTERLOCKS AND SAFETIES:
AN ALARM SHALL BE GENERATED AT THE FMCS OPERATOR WORKSTATION IN THE EVENT OF THE FOLLOWING:
- THE FMCS COMMANDS THE EXHAUST FAN TO OPERATE AND THE CURRENT SENSING RELAY DETECTS INSUFFICIENT CURRENT DRAW.
- AN ALARM SHALL BE SENT TO THE FMCS WHEN THE MAU IS COMMANDED TO RUN AND THE CURRENT STATUS SWITCH INDICATES INSUFFICIENT CURRENT.
- WHEN THE FIRE ALARM CONTROL PANEL INDICATES AN ALARM CONDITION THE EXHAUST FAN SHALL BE SHUT DOWN.
- THE MAU SHALL PROVIDE A GENERAL ALARM TO THE FMCS OPERATOR WORK STATION.

SHUTDOWN:
- WHEN THE EF IS SHUTDOWN THE INTERLOCKED MAU SHALL BE SHUTDOWN.
- MAU PACKAGE CONTROLS SHALL CLOSE THE UNIT DAMPERS AND CLOSE THE HEATING GAS VALVES.

MODE OF OPERATION DURING FIRE:

- NFPA 96 MUST BE FOLLOWED FOR OPERATING THE MAKE-UP AIR, GREASE HOOD EXHAUST FANS, MAIN GAS SOLENOID VALVE, AND POWER SUPPLY TO THE ELECTRICAL EQUIPMENT UNDER THE GREASE HOOD.
- WHEN THE KITCHEN FIRE SUPPRESSION SYSTEM (ANSUL SYSTEM) DETECTS A FIRE, IT WILL SEND A SIGNAL (THROUGH THE HARD WIRES) TO STOP THE GAS SOLENOID VALVE, TURN OFF THE MAKE-UP AIR SUPPLY TO THE GREASE HOODS, CUT THE POWER TO THE EQUIPMENT UNDERNEATH THE HOODS, AND RUN THE GREASE HOOD EXHAUST FANS AT MAXIMUM SPEED.

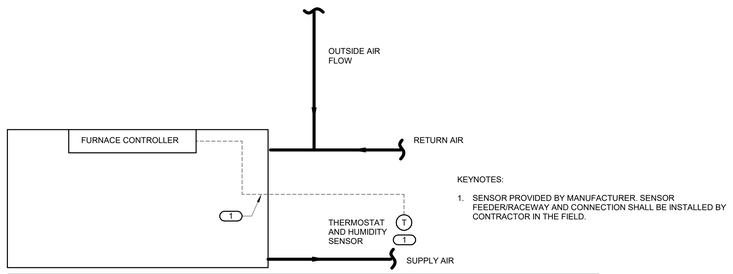
EXHAUST FAN AIRFLOW SCHEDULE

SYSTEM	EXHAUST CFM	MAU	MAU CFM	REMARKS
EF- 3	2637	MAU-1	2537	NOTES 1,2

NOTES:
1. CORRESPONDING MAU SHALL BE INTERLOCKED TO OPERATE WHENEVER THE EXHAUST FAN IS TURNED ON.
2. EXHAUST EXCEEDS MAKE-UP TO MAINTAIN SPACE SLIGHTLY NEGATIVE.

MAU REPORT GENERATION:
DDC FMCS SHALL MONITOR THE FOLLOWING POINTS ON 10 MINUTE (ADJ.) INTERVALS WITHIN A SINGLE TREND. THE TREND SHALL RUN FOR A 14-DAY (ADJ.) DURATION AT WHICH POINT THE NEWEST VALUES SHALL AUTOMATICALLY OVERWRITE THE OLDEST VALUES:
- DATE
- TIME
- GLOBAL OUTSIDE AIR TEMPERATURE (°F)
- DISCHARGE AIR TEMP (DAT) (°F)
- DAT SETPOINT (°F)
- BLOWER STATUS (ON/OFF)
- BURNER STATUS (ON/OFF)

1 FAN - KITCHEN WITH MAU - GAS
NO SCALE



KEYNOTES:
1. SENSOR PROVIDED BY MANUFACTURER. SENSOR FEEDER/RACEWAY AND CONNECTION SHALL BE INSTALLED BY CONTRACTOR IN THE FIELD.

CONTROLS SEQUENCE PROVIDED BY CONTRACTOR IN FIELD:

BUILDING OCCUPANCY SCHEDULING:
FURNACE OCCUPANCY SCHEDULE SHALL BE COORDINATED WITH AND ADJUSTABLE BY BUILDING OWNER. PROVIDE CAPABILITY TO ADJUST

CONTROLS PROVIDED BY FURNACE MANUFACTURER:

FURNACE SYSTEM DESCRIPTION:
REFER TO SECTION 23 54 00 FOR A DESCRIPTION OF THE FURNACE AND THE CONTROLS PROVIDED BY THE FURNACE MANUFACTURER.

SEQUENCE OF OPERATION:
THE FURNACE FAN SHALL RUN AT SPEED AS DETERMINED BY FURNACE CONTROL SYSTEM.

SUPPLY FAN CONTROL:
SUPPLY FAN SHALL RUN CONTINUOUSLY WHEN OCCUPIED. WHEN UNOCCUPIED ALLOW FURNACE TO VARY FAN SPEED, SPEED TO BE CONTROLLED BY FURNACE CONTROLS.

VENTILATION CONTROL:
WHEN THE UNIT IS IN OCCUPIED MODE, THE FURNACE WILL RUN AT CONSTANT VOLUME. THE BALANCER WILL SET THE OUTDOOR AIR DAMPER TO ALLOW THE SCHEDULED OA TO THE FURNACE.

SUPPLY AIR CONTROL:
DISCHARGE AIR TEMPERATURE SHALL BE MODULATED AS REQUIRED TO MAINTAIN SPACE SETPOINT. WHENEVER THE SUPPLY AIR TEMPERATURE IS ABOVE SETPOINT, THE FOLLOWING SHALL OCCUR IN SEQUENCE:
• THE FURNACE SHALL MODULATE/STAGE GAS BURNER AND COMPRESSORS AS REQUIRED TO MEET SPACE SETPOOINT.
• THE COOLING EQUIPMENT SHALL BE ENABLED AND MODULATE AS REQUIRED TO MAINTAIN SETPOINT.

WHENEVER THE DISCHARGE AIR TEMPERATURE IS BELOW SETPOINT, THE FOLLOWING SHALL OCCUR IN SEQUENCE:
• IF THE DISCHARGE AIR TEMPERATURE IS MORE THAN 5°F (ADJ) BELOW SETPOINT. MFR SHALL MODULATE COOLING EQUIPMENT OFF.
• MODULATE GAS BURNER AS REQUIRED TO MAINTAIN SETPOINT.

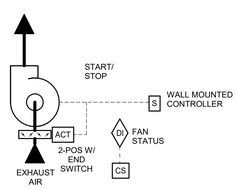
IN UNOCCUPIED MODE ALLOW 5F OF DRIFT ABOVE SETPOINT AND 10F DRIFT BELOW SETPOINT.

HUMIDITY CONTROL:

HUMIDIFER ACCESSORY PROVIDED WITH FURNACE SHALL BE ENABLED AND CONTROLLED BY FURNACE SYSTEM AS REQUIRED TO MANTAIN SPACE HUMIDITY SETPOINT

FURNACE SHALL CONTROL COOLING OPERATION AS REQUIRED TO IMPROVE LATENT REMOVAL AND MANTAIN SPACE HUMIDITY SETPOINT.

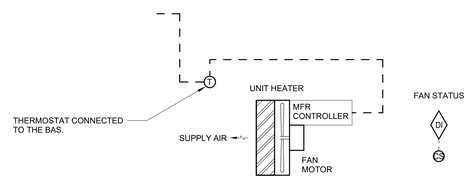
3 FURNACE SINGLE ZONE
NO SCALE



SEQUENCE OF OPERATION:
FAN SHALL BE CONTROLLED BY MANUAL MOTOR STARTER (WALL MOUNTED CONTROLLER) PROVIDED BY MFR.

DAMPER SHALL BE HARDWIRED TO THE EXHAUST FAN'S STARTER TO OPEN WHEN FAN IS COMMANDED ON. WHETHER THE HAND-OFF-AUTO SWITCH IS IN THE HAND OR AUTO POSITION. THE HARDWIRED DAMPER ENDSWITCH (OR DAMPER ACTUATOR'S AUXILIARY SWITCH) SHALL ENERGIZE THE FAN STARTER ONCE THE DAMPER IS FULLY OPEN.

2 FAN - WALL MOUNTED CONTROLLER
NO SCALE



SEQUENCE OF OPERATION:

THE UNIT HEATER SHALL BE FURNISHED WITH A UNIT MOUNTED FAN SPEED SELECTOR SWITCH (OFF–HIGH–MED–LOW).

SPACE TEMPERATURE SETPOINT SHALL BE 68°F (ADJ.). WHEN THE SPACE TEMPERATURE DROPS BELOW SETPOINT, THE THERMOSTAT SHALL ACTIVATE THE UNIT HEATER. THE FACTORY CONTROLLER SHALL TURN ON THE FAN AND ENERGIZE THE ELECTRIC HEATER COIL TO MAINTAIN HOT AIR DISCHARGE TEMPERATURE. AFTER THE SPACE TEMPERATURE IS ABOVE THE SETPOINT FOR 10 CONSECUTIVE MINUTES (ADJ.), THE THERMOSTAT SHALL DISABLE THE UNIT HEATER.

ALARMS INTERLOCKS & SAFETIES:
SEND AN ALARM TO THE FMCS OPERATOR INTERFACE IF SPACE TEMPERATURE FALLS 10°F (ADJ.) BELOW SETPOINT.

SEND AN ALARM TO THE FMCS OPERATOR INTERFACE IF THE UNIT HEATER HAS BEEN COMMANDED TO RUN AND THE CURRENT SENSOR DOESN'T INDICATE CURRENT FLOW.

4 UNIT HEATER CONTROL - ELECTRIC
NO SCALE

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REF. SCALE IN INCHES
PROJECT #26000535.00

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8900 Northwest Hwy #14, Crystal Lake, IL 60012
DKA PROJECT NO: 25-037

KEY PLAN:

SHEET STATUS: 04/21/2026
ISSUED FOR BID

NO:	DESCRIPTION:	DATE:

SHEET TITLE:
HVAC CONTROLS

SHEET NUMBER:
M3.00

4/21/2026 12:19:10 PM

AIR TERMINAL SCHEDULE

NOTES:
1.CONTRACTOR SHALL DETERMINE PROPER BORDER TYPE TO MATCH CEILING CONSTRUCTION.
2.REFER TO DRAWINGS FOR NECK SIZE. ALL BRANCH DUCTWORK TO AIR TERMINALS SHALL BE NECK SIZE UNLESS NOTED OTHERWISE.

TAG NAME	TYPE	MATERIAL	FINISH	FACE SIZE (NOTE 1,2) WIDTH	FACE SIZE (NOTE 1,2) HEIGHT	BORDER (NOTE 3)	VOLUME DAMPER	MANUFACTURER	MODEL	NOTES
CD-1	PLAQUE	STEEL	WHITE	24"	24"	LAY-IN	No	TITUS	OMNI	
EG-1	PLAQUE	STEEL	WHITE	8"	8"	SURFACE MOUNT	Yes	FANTECH	MGE 8	METAL EXHAUST GRILLE,WALL MOUNT, DIRECT DUCT CONNECTION
RG-1	35 DEGREE DEFLECTION	STEEL	WHITE	42"	12"	SURFACE MOUNT	No	TITUS	350	LONG BLADES
SG-1	DOUBLE DEFLECTION	STEEL	WHITE	8"	8"	1 1/4"	No	TITUS	300	LONG FRONT BLADES
SG-2	DOUBLE DEFLECTION	ALUMINUM	WHITE	10'	10"	SURFACE MOUNT	Yes	TITUS	US300FL	

UNIT HEATER SCHEDULE - ELECTRIC (UH)

NOTES:
1. PROVIDE ELECTRIC UNIT HEATER WITH FACTORY CONTROLS AND BAS INTEGRATION.

TAG NAME	AREA SERVED	CONFIGURATION	CFM	STAGES	KW	ELECTRICAL VOLTS	PH	DISCONNECT BY (NOTE A)	DISCONNECT TYPE (NOTE B)	CONTROLLER/STARTER BY (NOTE A)	SCCR	CONTROL DIAGRAM	MANUFACTURER	MODEL	NOTES
UH-1	TOILET 101A	ARCHITECTURAL WALL MOUNT	100	1	4	208	1	MFR	NF	MFR	5,000	4/M3.00	TRANE	UHAA-04	NOTE 1
UH-2	TOILET 101B	ARCHITECTURAL WALL MOUNT	100	1	4	208	1	MFR	NF	MFR	5,000	4/M3.00	TRANE	UHAA-04	NOTE 1

CONDENSING UNIT SCHEDULE - COOLING (CU)

NOTES:
1.UNIT SHALL INCLUDE FACTORY ECM inverter-driven compressor.

TAG NAME	SERVICE	TONNAGE IN (lb)	REFRIGERANT	SAT SUC TEMP °F	AMBIENT TEMP °F	NUMBER OF COMPRESSORS	NUMBER OF STAGES	NUMBER OF CIRCUITS	NUMBER OF FANS	RLA (AMP)	ELECTRICAL MCA	MOCP AMPS	VOLTS	PHASE	DISCONNECT BY (NOTE A)	DISCONNECT TYPE (NOTE B)	CONTROLLER/STARTER BY (NOTE A)	CONTROLLER/STARTER SCCR	MANUFACTURER	MODEL	NOTES
CU-1	F-1	257	R-454B	45	95	1	1	1	1	17.4	24	40	208	1	MFR	NF	MFR	5000	CARRIER	26VNA160W003	NOTE 1

FURNACE SCHEDULE

NOTES:
1. PROVIDE HIGH EFFICIENCY GAS FURNACE WITH FACTORY CONTROLS AND BAS INTEGRATION. COORDINATE FINAL OPERATION AND OCCUPIED SCHEDULE WITH OWNER.
2. PROVIDE WITH HUMIDITY CONTROL.

TAG NAME	SERVICE	EXT S.P. IN. WG	FAN/BLOWER CFM (HIGH SPEED)	FAN/BLOWER HP	FAN/BLOWER RPM	ELECTRICAL VOLTAGE	PHASE	DISCONNECT BY (NOTE A)	DISCONNECT TYPE (NOTE B)	CONTROLLER/STARTER BY (NOTE A)	CONTROLLER/STARTER SCCR	HEATING STAGES	OUTPUT MBH	EVAPORATOR COIL LAT F°	EAT DB °F	EAT WB °F	TOTAL MBH	AMBIENT AIR °F	MANUFACTURER	FURNACE MODEL	EVAPORATOR COIL MODEL	CONTROL DIAGRAM	NOTES
F-1	BUILDING	0.5	1,625	0.75	1100	115	1	EC	NF	MFR	5000	4	117	57	80	67	120	95	CARRIER	59MN7C120C24--22	CVAVA6024XMA	3/M3.00	NOTES 1, 2

FAN SCHEDULE

NOTES:
1. PROVIDE WITH STANDARD ONE FAN CONTROLLER TO ACHIEVE SEQUENCE OF OPERATION PER M2.01 CONTROL DIAGRAMS.
2. GREASE EXHAUST FAN TO BE GREASE RATED UL 762 ETC.

TAG NAME	SERVICE	CFM DESIGN	TOTAL S.P. IN. WC	WHEEL DIA	DRIVE	FAN RPM	BACK DRAFT DAMPER TYPE	ELECTRICAL BHP (NOTE E)	MHP (NOTE E)	VOLTS	PH	DISCONNECT BY (NOTE A)	DISCONNECT TYPE (NOTE B)	CONTROLLER/STARTER BY (NOTE A)	CONTROLLER/STARTER TYPE (NOTE C)	MANUFACTURER	MODEL	CONTROL DIAGRAM	NOTES
EF-1	TOILET 101A	75	1.36	N/A	DIRECT	3457	GRAVITY	0.09	0.12	120	1	MFR	NF	MFR	ECM	FANTECH	#44860	2/M3.00	
EF-2	TOILET 101B	75	1.36	N/A	DIRECT	3457	GRAVITY	0.09	0.12	120	1	MFR	NF	MFR	ECM	FANTECH	#44860	2/M3.00	
EF-3	HOT ZONE 107	2,637	0.75	16"	DIRECT	1202	GRAVITY	0.66	0.78	120	1	MFR	NF	MFR	ECM	GREENHECK	CUE- 160- VG	1/M3.00	NOTES 1, 2

MAKE-UP AIR UNIT SCHEDULE (MAU)

NOTES:
1. PROVIDE FACTORY CONTROLS WITH BACNET COMPATIBILITY FOR BAS INTEGRATION. UNIT TO OPERATE IN COORDINATION WITH EXHAUST SYSTEMS. FINAL AIRFLOW, DISCHARGE AIR TEMPERATURE, AND OCCUPIED SCHEDULE TO BE COORDINATED WITH OWNER.

TAG NAME	LOCATION	FAN CFM DESIGN	FAN EXT S.P. IN. WC	FAN DRIVE	FAN MOTOR HP	HEATING SECTION MBH INPUT	HEATING SECTION MBH OUTPUT	HEATING SECTION TURN DOWN	HEATING SECTION INLET PSIG	COOLING SECTION REFRIGERATION TYPE	REFRIGERATION EER	FLUID TYPE	MBH TOTAL	MBH SENSIBLE	EAT DB °F	EAT WB °F	LAT DB °F	LAT WB °F	MOTOR HP	ELECTRICAL VOLTS	PH	DISCONNECT BY [A]	DISCONNECT TYPE [B]	CNTLR/STARTER BY [A]	CNTLR/STARTER TYPE [C]	SCCR	EM PWR	FILTER FINAL A.P.D. IN. W.G.	CONTROL DIAGRAM	MANUFACTURER	MODEL	NOTES
MAU-1	HOT ZONE	2,537	1	DIRECT	1.5	238.3	219.2	1	0.5	R-454B	16.35	R-454B	96.7	68.1	95	78	68	68	1	208	3	MFR	NF	MFR	VFD	5,000	No	1.95	1/M3.00	GREENHECK	DGX-P116-H12-D1-8	NOTE 1

GAS REGULATOR SCHEDULE

TAG NAME	DESCRIPTION	MANUFACTURER AND MODEL
GR-1	GAS PRESSURE REGULATOR - CAST IRON BODY, INTERNAL PRESSURE RELIEF, THREADED CONNECTIONS, ADJUSTABLE PRESSURE SETTING, TIGHT SHUTOFF. 2PSI INLET PRESSURE, 7" - 10" OUTLET PRESSURE, 180 CFH CAPACITY, MINIMUM CONTROLLABLE FLOW OF 27 CFH.	FISHER, ITRON, SENSUS, MAXITROL
GR-2	GAS PRESSURE REGULATOR - CAST IRON BODY, INTERNAL PRESSURE RELIEF, THREADED CONNECTIONS, ADJUSTABLE PRESSURE SETTING, TIGHT SHUTOFF. 2PSI INLET PRESSURE, 7" - 10" OUTLET PRESSURE, 180 CFH CAPACITY, MINIMUM CONTROLLABLE FLOW OF 24 CFH. PROVIDE GAS REGULATOR WITH VENT LIMITING DEVICE.	MAXITROL VLIMITER OR APPROVED EQUIVALENT
GR-3	GAS PRESSURE REGULATOR - CAST IRON BODY, INTERNAL PRESSURE RELIEF, THREADED CONNECTIONS, ADJUSTABLE PRESSURE SETTING, TIGHT SHUTOFF. 2PSI INLET PRESSURE, 7" - 10" OUTLET PRESSURE, 150 CFH CAPACITY, MINIMUM CONTROLLABLE FLOW OF 20 CFH. PROVIDE GAS REGULATOR WITH VENT LIMITING DEVICE.	MAXITROL VLIMITER OR APPROVED EQUIVALENT

SCHEDULE GENERAL...

[A] DISCONNECT AND CNTLR/STARTER FURNISHED AND INSTALLED BY:
MFR = MANUFACTURER
EC = ELECTRICAL CONTRACTOR.
MC = FURNISHED BY MECHANICAL CONTRACTOR, INSTALLED BY ELECTRICAL CONTRACTOR.
MFR/EC = FURNISHED LOOSE BY MANUFACTURER INSTALLED BY ELECTRICAL CONTRACTOR.
TCC = TEMPERATURE CONTROL CONTRACTOR

[B] DISCONNECT TYPE:
CB = CIRCUIT BREAKER
F = FUSED
NF = NON-FUSED
PLUG = PLUG AND CORD

[C] CONTROLLER STARTER TYPE:
FV = FULL VOLTAGE
WYE = WYE-DELTA
SS = SOLID STATE (SOFT START)
MS = MANUAL STARTER
VFD = VARIABLE FREQUENCY DRIVE
VFD/B = VARIABLE FREQUENCY DRIVE WITH BYPASS
ECM = ELECTRONICALLY COMMUTATED MOTOR

NOTE: PROVIDE SHAFT GROUNDING ON MOTORS DRIVEN BY A VFD AS REQUIRED PER SPECIFICATIONS 22 05 13 AND 23 05 13.

[D] RPM LIMITATION
FAN RPM SHALL NOT EXCEED 110% OF SCHEDULED VALUE, WITH THE SCHEDULED WHEEL TYPE. SUBSTITUTION OF BI OR BIA FANS FOR FC IS ACCEPTABLE IF EFFICIENCY IS NOT LOWER.

[E] HORSEPOWER LIMITATION
NO EQUIPMENT SHALL BE SELECTED ABOVE 90% OF MOTOR NAME PLATE RATING.

[F] RPM DEVIATION
MUST BE WITHIN +/- 10% OF SCHEDULED RPM.

[G] CURB / PAD TYPE:
STD = STANDARD CURB
SAC = SOUND ATTENUATOR CURB
CONC = CONCRETE BASE (HOUSEKEEPING PAD)

[G] CURB / PAD BY:
MFR = MANUFACTURER
MC = MECHANICAL CONTRACTOR
GC = BY GENERAL CONTRACTOR

[H] CONTROL / SENSOR TYPE
1 = SENSOR ONLY
2 = SENSOR WITH ADJUSTMENT
3 = SENSOR WITH OVERRIDE
4 = SENSOR WITH ADJUSTMENT AND OVERRIDE.

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Illinois Design Firm Registration #184008976-0014
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PROJECT #26000535.00

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McHenry County College

Student Farm Renovations

8900 Northwest Hwy #14, Crystal Lake, IL 60012
DKA PROJECT NO: 25-037

KEY PLAN:

SHEET STATUS: 04/21/2026
ISSUED FOR BID

NO:	DESCRIPTION:	DATE:

SHEET TITLE:
HVAC SCHEDULES

SHEET NUMBER:
M4.00

4/21/2026 12:19:14 PM

VIEW KEY

1 — KEYNOTE: INDICATES NOTE USED TO DESCRIBE ADDITIONAL INFORMATION ABOUT WORK REQUIRED, SPECIFIC TO THE SHEET AND/OR DETAIL

INDICATES DIRECTION OF TRUE NORTH
PLAN OR DETAIL NUMBER
PLAN OR DETAIL NAME

NORTH — 1 — VIEW NAME — 1/8" = 1'-0"

PLAN OR DETAIL SCALE

LINE TYPE AND TAG KEY:

NEW WORK BY THIS CONTRACTOR (WIDE LINE)
- NEW
- EXISTING TO BE REMOVED (SHORT DASHED PATTERN)

EXISTING TO REMAIN OR WORK BY OTHERS (NARROW LINE)
- EXISTING TO REMAIN
- EXISTING TO BE REMOVED BY OTHERS (SHORT DASHED PATTERN)

HALF TONING DOES NOT MODIFY SCOPE.

TAG-1 — UNDERLINED TAG INDICATES OBJECT IS IN-SCOPE. IF NEW, ADDITIONAL INFORMATION IS AVAILABLE IN A SCHEDULE, MATERIAL LIST, OR SYMBOL LIST

CONTRACTOR ABBREVIATION KEY

ABBR:	DESCRIPTION:
C.C.	CIVIL CONTRACTOR
F.E.Q.	FOOD SERVICE CONTRACTOR
P.C.	PLUMBING CONTRACTOR
M.C.	MECHANICAL CONTRACTOR
F.P.C.	FIRE PROTECTION CONTRACTOR

SYMBOL LIST - PLUMBING SYSTEMS

SYMBOL	DESCRIPTION
CW	COLD WATER - POTABLE
G	NATURAL GAS
GSAN	SANITARY DRAINAGE - GREASE LADEN
GV	GREASE VENT
HW	HOT WATER - POTABLE
HWC	HOT WATER CIRCULATING - POTABLE
SAN	SANITARY DRAINAGE
V	VENT
W	SERVICE WATER - POTABLE

PLUMBING ABBREVIATION KEY

ABBR:	DESCRIPTION:
BFP	BACKFLOW PREVENTER
E	EXISTING
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
GI	GREASE INTERCEPTOR
HB	HOSE BIBB
L or LAV	LAVATORY
MB	MOP SINK
SK	SINK
TD	TRENCH DRAIN
TYP	TYPICAL
VTR	VENT THROUGH ROOF
WC	WATER CLOSET
WCO	WALL CLEANOUT
WH	WATER HEATER

MECHANICAL RENOVATION NOTES:

THESE NOTES APPLY TO ALL MECHANICAL SHEETS AND TRADES, INCLUDING BUT NOT LIMITED TO, FIRE PROTECTION, PLUMBING AND MECHANICAL.

1. EXISTING CONDITIONS ARE SHOWN BASED ON INFORMATION OBTAINED FROM FIELD SURVEYS, EXISTING BUILDING DOCUMENTS, AND STAFF. VERIFY EXISTING CONDITIONS AND REPORT ANY CONFLICTS BEFORE PROCEEDING.
2. NOT ALL EXISTING DUCTWORK AND PIPING IS SHOWN. VERIFY EXISTING CONDITIONS BEFORE STARTING WORK. NOTIFY ENGINEER OF ANY CONFLICTS WITH NEW WORK.
3. FIELD VERIFY THE AVAILABLE CLEARANCES FOR DUCTWORK AND PIPING BEFORE FABRICATION. RISES AND DROPS MAY BE NECESSARY BECAUSE OF EXISTING FIELD CONDITIONS.
4. EACH CONTRACTOR SHALL FIELD VERIFY ACCESSIBILITY TO THE AREA OF THEIR WORK AND SHALL NOTIFY THE CONSTRUCTION MANAGER PRIOR TO BIDDING IF OTHER UTILITIES ARE REQUIRED TO BE REMOVED OR RELOCATED TO ALLOW ACCESS TO THEIR AREA OF WORK.
5. EACH CONTRACTOR SHALL CUT AND PATCH ROOFS, WALLS, AND FLOORS ASSOCIATED WITH THEIR WORK.
6. THE CONTRACTOR IS RESPONSIBLE FOR REMOVAL AND REPLACEMENT OF CEILINGS, CEILING TILES, AND CEILING GRIDS ASSOCIATED WITH AREAS OF WORK BY ALL CONTRACTORS.
7. WHERE EXISTING MECHANICAL SYSTEMS DIFFER FROM THOSE SHOWN ON THE PROJECT DRAWINGS AND CREATE CONFLICTS WITH NEW EQUIPMENT, PIPING, OR DUCTWORK INSTALLATIONS, THE CONTRACTOR SHALL PROVIDE DETAILED DOCUMENTATION (SUCH AS SKETCHES, PHOTOS, AND DIMENSIONS) ALONG WITH RECOMMENDATIONS TO RESOLVE THE CONFLICT. THIS INFORMATION MUST BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL. NO WORK RELATED TO THE CONFLICT SHALL PROCEED UNTIL AN APPROVED RESOLUTION IS PROVIDED BY THE ENGINEER.
8. PROVIDE TEMPORARY CONNECTIONS TO MAINTAIN EXISTING SYSTEMS IN SERVICE DURING CONSTRUCTION. MAINTAIN ACCESS TO EXISTING MECHANICAL INSTALLATIONS THAT REMAIN ACTIVE.
9. OBTAIN PERMISSION FROM OWNER BEFORE SHUTTING DOWN ANY SYSTEM FOR ANY REASON. MAINTAIN SERVICE TO ALL COMPONENTS THAT ARE TO REMAIN UNTIL NEW SYSTEMS ARE INSTALLED.
10. MAINTAIN EXISTING SYSTEM IN SERVICE UNTIL NEW SYSTEM IS COMPLETE AND READY FOR TIE IN AND SWITCHOVER. DRAIN SYSTEM ONLY TO MAKE SWITCHOVERS AND CONNECTIONS. OBTAIN PERMISSION FROM OWNER BEFORE PARTIALLY OR COMPLETELY DRAINING SYSTEM. MAKE CHANGEOVER TO NEW SYSTEMS WITH MINIMUM OUTAGE.
11. DISCONNECT AND REMOVE MECHANICAL DEVICES AND EQUIPMENT SERVING EQUIPMENT THAT HAS BEEN REMOVED.

PLUMBING ROUGH-IN SCHEDULE

NOTES: (APPLIES TO ALL PLUMBING FIXTURES LISTED BELOW)
1) SIZES SHOWN ARE MINIMUMS. LARGER SIZES SHOWN ON THE DRAWING SHALL DICTATE THE ROUGH-IN SIZE. 2) SANITARY RISERS UP IN WALL TO FIXTURES SHALL BE A MINUMUM OF 2". 3) DOMESTIC WATER BRANCH PIPING OUTSIDE OF THE WALL/CHASE SHALL BE A MINIMUM OF 3/4" UNLESS NOTED OTHERWISE. ONLY THE FINAL RISE-DROP SHALL BE SMALLER. 4) FINAL SANITARY SIZE SHALL MATCH P-TRAP SIZE (REFER TO MATERIAL LIST).

TAG NAME	DESCRIPTION	CW	HW	SAN	VENT
FD-1	FLOOR DRAIN			4"	2"
FS-1	FLOOR SINK			4"	2"
HD-1	HUB DRAIN			4"	2"
L-1	LAVATORY (ACCESSIBLE)	1/2"	1/2"	1 1/2"	1 1/2"
WC-1	WATER CLOSET (ACCESSIBLE)	1 1/2"	-	4"	2"

PLUMBING GENERAL NOTES:

1. THE SYMBOLS AND THE MATERIAL LIST ARE FOR THE CONVENIENCE OF THE CONTRACTOR. CONTRACTOR SHALL VERIFY QUANTITIES AND FURNISH ALL MATERIALS REQUIRED FOR FULLY OPERATIONAL SYSTEMS, WHETHER SPECIFIED OR NOT.
2. CATALOG NUMBERS SHALL NOT BE CONSIDERED COMPLETE, BUT ARE GIVEN AS AN AID TO THE CONTRACTOR AND TO INDICATE THE QUALITY REQUIRED. CONTRACTOR IS RESPONSIBLE FOR A COMPLETE DESCRIPTION OF MATERIAL ON THESE DRAWINGS AND IN THE SPECIFICATIONS BEFORE ORDERING. THE DESCRIPTION OF THE MATERIAL TAKES PRECEDENCE OVER THE CATALOG NUMBER. THE FIRST MANUFACTURER LISTED IS THE BASIS OF DESIGN.
3. CONTRACTOR SHALL VERIFY THAT FIXTURES SUPPLIED ARE APPROVED PER ALL APPLICABLE STATE, LOCAL AND GOVERNING AUTHORITIES.
4. ALL FIXTURES SHALL CONFORM TO FEDERAL ACT S.3874
5. VERIFY UNDERGROUND PIPE SIZES, INVERT ELEVATIONS, AND LOCATIONS PRIOR TO BEGINNING ANY WORK.
6. REFER TO THE PLUMBING ROUGH-IN SCHEDULE FOR THE SIZES OF BRANCH PIPES TO PLUMBING FIXTURES.
7. EXISTING CONDITIONS ON DEMOLITION PLANS ARE PROVIDED TO INDICATE THE GENERAL SCOPE OF ITEMS TO BE REMOVED. REFER TO SPECIFICATION SECTION 22 05 05 FOR ADDITIONAL DEMOLITION INFORMATION.
8. P.C. SHALL CUT AND PATCH EXISTING AS REQUIRED FOR NEW OR DEMOLITION WORK UNLESS NOTED OTHERWISE. REFER TO SPECIFICATION SECTION 22 05 05 FOR ADDITIONAL INFORMATION.

MECHANICAL GENERAL NOTES:

THESE NOTES APPLY TO ALL MECHANICAL SHEETS AND TRADES, INCLUDING BUT NOT LIMITED TO, FIRE PROTECTION, PLUMBING AND MECHANICAL.

1. DRAWINGS SHOWING LOCATIONS OF EQUIPMENT, DUCTWORK, PIPING, ETC. ARE DIAGRAMMATIC AND MAY NOT ALWAYS REFLECT EXACT INSTALLATION CONDITIONS. DRAWINGS SHOW THE GENERAL ARRANGEMENT OF DUCTWORK, PIPING, EQUIPMENT, ETC., AND MAY NOT INCLUDE ALL OFFSETS AND FITTINGS REQUIRED FOR COMPLETE INSTALLATION. THE DRAWINGS SHALL BE FOLLOWED AS CLOSELY AS ACTUAL BUILDING CONSTRUCTION AND THE WORK OF OTHERS WILL PERMIT.
2. CATALOG AND MODEL NUMBERS SHALL NOT BE CONSIDERED COMPLETE, BUT ARE GIVEN AS AN AID TO THE CONTRACTOR AND TO INDICATE THE QUALITY REQUIRED. CONTRACTOR IS RESPONSIBLE FOR THE COMPLETE DESCRIPTION OF MATERIAL SCHEDULED ON THESE DRAWINGS AND IN THE SPECIFICATIONS BEFORE ORDERING. THE DESCRIPTION OF THE MATERIAL AND SCHEDULED PERFORMANCE TAKES PRECEDENCE OVER THE MODEL NUMBER. THE FIRST MANUFACTURER SCHEDULED IS THE BASIS OF DESIGN.
3. DETERMINATION OF QUANTITIES OF MATERIAL AND EQUIPMENT REQUIRED SHALL BE MADE BY THE CONTRACTOR FROM THE DOCUMENTS. WHERE MATERIAL AND/OR QUANTITY DISCREPANCIES ARISE BETWEEN DRAWINGS, SCHEDULES AND/OR SPECIFICATIONS, THE HIGHER QUALITY/ GREATER NUMBER SHALL GOVERN.
4. DO NOT SCALE DRAWINGS. VERIFY ALL DIMENSIONS AND CLEARANCES FROM ARCHITECTURAL, STRUCTURAL, SUBMITTALS, AND OTHER APPROPRIATE DRAWINGS OR PHYSICALLY AT SITE. REVIEW ALL DRAWINGS, INCLUDING THOSE OF OTHER TRADES.
5. COORDINATE ALL WORK WITH ALL OTHER TRADES PRIOR TO INSTALLATION TO PROVIDE CLEARANCES REQUIRED FOR OPERATION, MAINTENANCE, CODE COMPLIANCE, AND TO VERIFY NON-INTERFERENCE WITH OTHER WORK. DO NOT FABRICATE PRIOR TO VERIFICATION OF NECESSARY CLEARANCES FOR ALL TRADES. BRING ANY INTERFERENCES OR CONFLICTS TO THE ATTENTION OF THE ARCHITECT/ENGINEER BEFORE PROCEEDING WITH FABRICATION OR EQUIPMENT ORDERS.
6. REVIEW SPACE REQUIREMENTS OF EQUIPMENT SPECIFIED OR SUBSTITUTED AND MAKE REASONABLE ACCOMMODATIONS IN LAYOUT AND POSITIONING TO PROVIDE PROPER ACCESS.
7. ANY CHANGES REQUIRED TO ELIMINATE CONFLICTS OR THAT RESULT FROM A FAILURE TO COORDINATE SHALL BE MADE BY THE CONTRACTOR WITHOUT ADDITIONAL COST OR EXPENSE TO OTHERS.
8. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN, ELECTRICAL, TECHNOLOGY AUDIO/VISUAL, AND OTHER MECHANICAL PLANS FOR EXACT LOCATIONS OF ALL CEILING MOUNTED DEVICES, OTHER THAN SPRINKLERS.
9. CONTRACTOR IS RESPONSIBLE FOR DAMAGE CAUSED BY THEIR ACTIONS TO WALLS, FLOORS, CEILINGS, AND ROOFS. THE CONTRACTOR WHOSE WORK CAUSES DAMAGE IS RESPONSIBLE FOR PATCHING TO MATCH ORIGINAL CONSTRUCTION, FIRE RATING, AND FINISH.
10. SEAL ALL WALL AND ROOF PENETRATIONS AIRTIGHT WHERE CONDUITS, PIPING, AND DUCTS PENETRATE.
11. CAULK ALL PIPE AND DUCT PENETRATIONS OF FULL HEIGHT NON-FIRE RATED WALL, PARTITION, FLOOR, AND ROOF ASSEMBLIES. THIS IS ESSENTIAL TO PREVENT NOISE TRANSMISSION FROM ONE ROOM TO ANOTHER AND TO PROVIDE THE DESIRED NC LEVELS WITHIN ROOMS.
12. DO NOT EXCEED 25 LBS PER HANGER AND A MINIMUM SPACING OF 2'-0" ON CENTER WHEN ATTACHING TO METAL ROOF DECKING (LIMITATION NOT REQUIRED WITH CONCRETE ON METAL DECK). THIS 25 LBS. LOAD AND 2'-0" SPACING INCLUDE ADJACENT ELECTRICAL AND ARCHITECTURAL ITEMS HANGING FROM DECK. IF THE HANGER RESTRICTIONS CANNOT BE ACHIEVED, SUPPLEMENTAL FRAMING OFF STEEL FRAMING SHALL BE ADDED. ANCHORS EMBEDDED IN CONCRETE SHALL BE CRACKED CONCRETE APPROVED IN ACCORDANCE WITH SPECIFICATIONS.

PIPE INSULATION SCHEDULE (PLUMBING)

GENERAL NOTES:
1. REFER TO THE SPECIFICATIONS FOR TYPE DESCRIPTIONS AND JACKETING REQUIREMENTS.
2. TYPE A INSULATION IS NOT PERMITTED IN NON-CONDITIONED OR HIGH-HUMIDITY SPACES (E.G., MECHANICAL ROOMS, EXTERIOR, ATTICS, AND AHU SUPPLY/RETURN AIR TUNNELS). AHU TUNNELS SHALL NOT BE CONSIDERED CONDITIONED SPACES.

SYMBOL	PIPE SYSTEM	INSULATION TYPE	INSULATION THICKNESS PER NOMINAL PIPE OR TUBE SIZE					NOTES
			< 1"	1" TO < 1.5"	1.5" TO < 4"	4" TO < 8"	≥ 8"	
22 PLUMBING - WASTE								
GSAN	SANITARY DRAINAGE - GREASE LADEN	A (GlsFbr)	1/2"	1/2"	1"	1"	1"	APPLY INSULATION ONLY TO FLOOR DRAIN BODY, P-TRAP AND 10' DOWNSTREAM AT LOW TEMP DRAIN DISCHARGE (55 DEG AND LOWER IE: COOLING COIL CONDENSATE, ICE MACHINE DRAINS, ETC.)
GV	GREASE VENT	A (GlsFbr)	1/2"	1/2"	1"	1"	1"	APPLY INSULATION ONLY WITHIN 10' OF EXTERIOR PENETRATION
SAN	SANITARY DRAINAGE	A (GlsFbr)	1/2"	1/2"	1"	1"	1"	APPLY INSULATION ONLY TO FLOOR DRAIN BODY, P-TRAP AND 10' DOWNSTREAM AT LOW TEMP DRAIN DISCHARGE (55 DEG AND LOWER IE: COOLING COIL CONDENSATE, ICE MACHINE DRAINS, ETC.)
V	VENT	A (GlsFbr)	1/2"	1/2"	1"	1"	1"	APPLY INSULATION ONLY WITHIN 10' OF EXTERIOR PENETRATION
22 PLUMBING - WATER								
CW	COLD WATER - POTABLE	A (GlsFbr)	1/2"	1/2"	1"	1"	1"	
HW	HOT WATER - POTABLE	A (GlsFbr)	1"	1"	1"	1"	1"	
HWC	HOT WATER CIRCULATING - POTABLE	A (GlsFbr)	1"	1"	1"	1"	1"	
W	SERVICE WATER - POTABLE	A (GlsFbr)	1/2"	1/2"	1"	1"	1"	

PLUMBING SHEET INDEX

P0.00	PLUMBING COVERSHEET
PD1.01	DEMOLITION FLOOR PLANS - PLUMBING
P1.01	FLOOR PLANS - PLUMBING
P2.00	PLUMBING DETAILS
P3.00	PLUMBING MATERIAL LIST
GRAND TOTAL: 5	

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DKA PROJECT NO: 25-037

KEY PLAN:

SHEET STATUS: 04/21/2026
ISSUED FOR BID

NO:	DESCRIPTION:	DATE:

SHEET TITLE:
PLUMBING COVERSHEET

SHEET NUMBER:
P0.00

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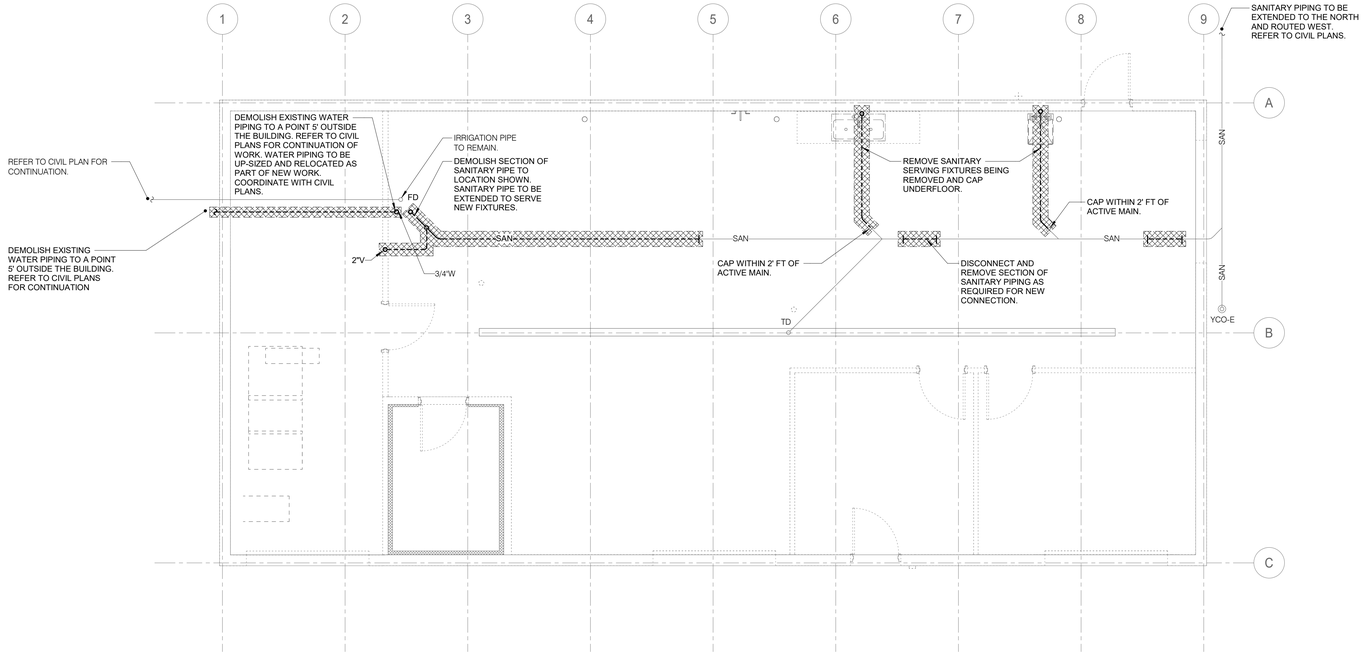
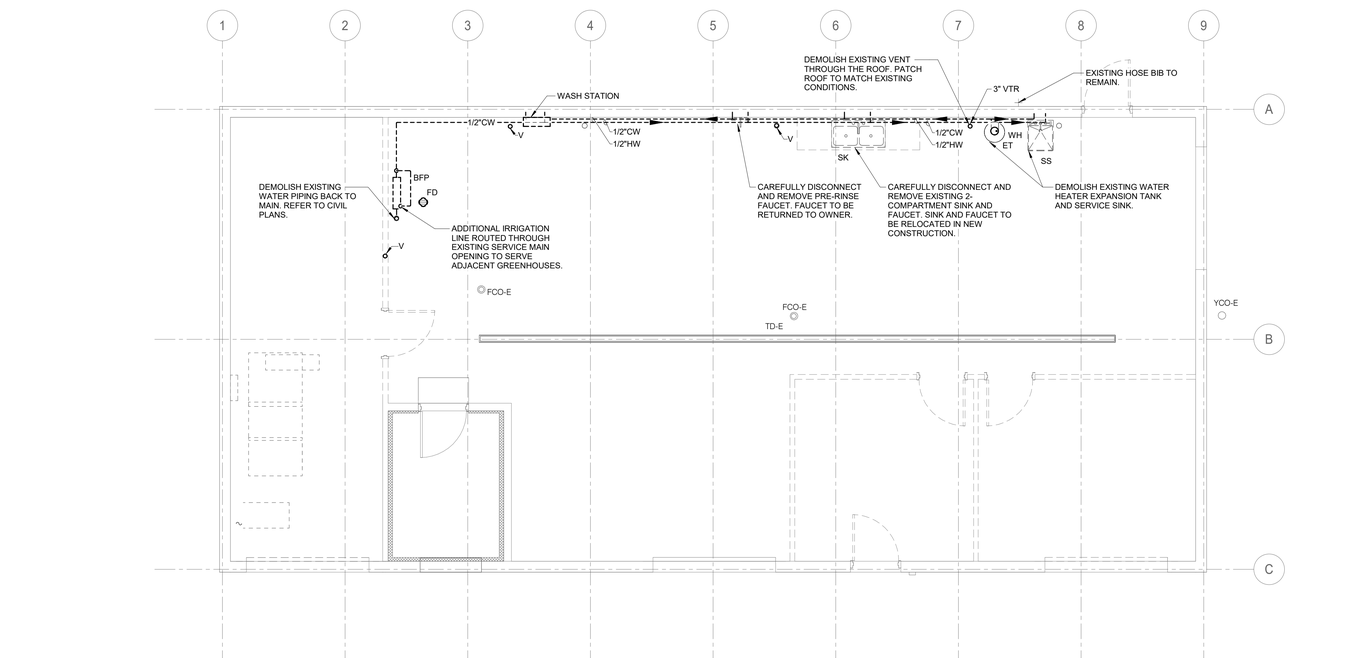
SHEET NOTES:

1. PLUMBING CONTRACTOR SHALL USE SCOPING IN COMBINATION WITH ELECTROMAGNETIC PIPE LOCATOR, SONAR AND/OR GROUND PENETRATING RADAR TO CONFIRM THE EXACT LOCATION OF THE EXISTING UNDERFLOOR PIPING PRIOR TO ANY SAWCUTTING. CONTRACTOR TO CONFIRM INVERTS.
2. CONTRACTOR SHALL SAWCUT EXISTING STRUCTURAL FLOOR SLAB AS REQUIRED TO ROUTE NEW SANITARY PIPING. PATCH THE REFER TO STRUCTURAL DRAWING FOR SAWCUTTING AND PATCHING REQUIREMENTS AND DETAILS.
3. REMOVE ALL EXISTING DOMESTIC PIPING, INCLUDING ALL HANGERS, SUPPORTS, ETC.



1 UNDERFLOOR DEMOLITION PLAN - PLUMBING

1/4" = 1'-0"



2 LEVEL 1 - FLOOR DEMOLITION PLAN - PLUMBING

1/4" = 1'-0"

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DKA PROJECT NO: 25-037

KEY PLAN:

SHEET STATUS: 04/21/2026
ISSUED FOR BID

NO:	DESCRIPTION:	DATE:

SHEET TITLE:
DEMOLITION FLOOR PLANS - PLUMBING

SHEET NUMBER:
PD1.01

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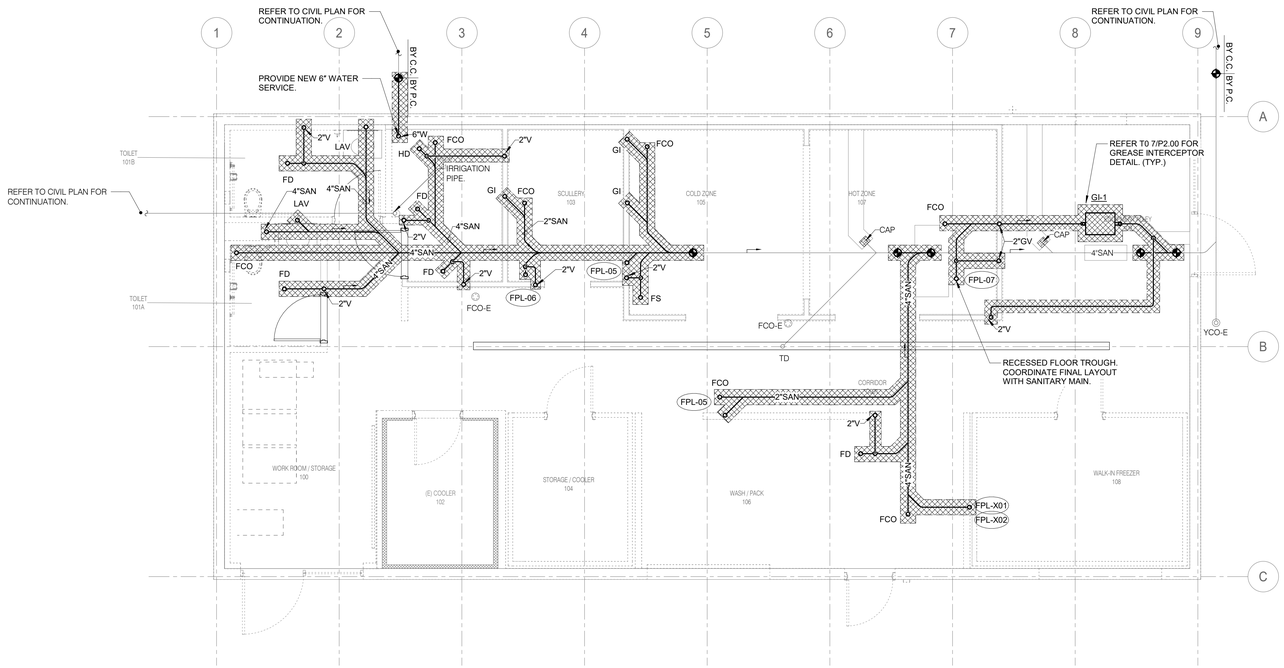
SHEET NOTES:

1. CONTRACTOR TO CONFIRM EXACT DEPTH AND LOCATION OF SANITARY MAIN PRIOR TO SAWCUTTING. CONTRACTOR TO CONFIRM INVERTS PRIOR TO PERFORMING NEW WORK. CONTRACTOR SHALL SAWCUT EXISTING FLOOR AS REQUIRED TO INSTALL NEW PIPING. PATCH FLOOR TO MATCH EXISTING.
2. ALL PIPING TO BE 3/4" UNLESS NOTED OTHERWISE.
3. ALL BALANCING VALVES TO 0.5 GPM UNLESS NOTED OTHERWISE.

KEYNOTES:

1. PROVIDE SHUT OFF VALVE FOR COLD WATER AND HOT WATER. PROVIDE SHUT OFF VALVE, CHECK VALVE AND BALANCING VALVE FOR HOT WATER CIRCULATION.



1 UNDERFLOOR PLAN - PLUMBING

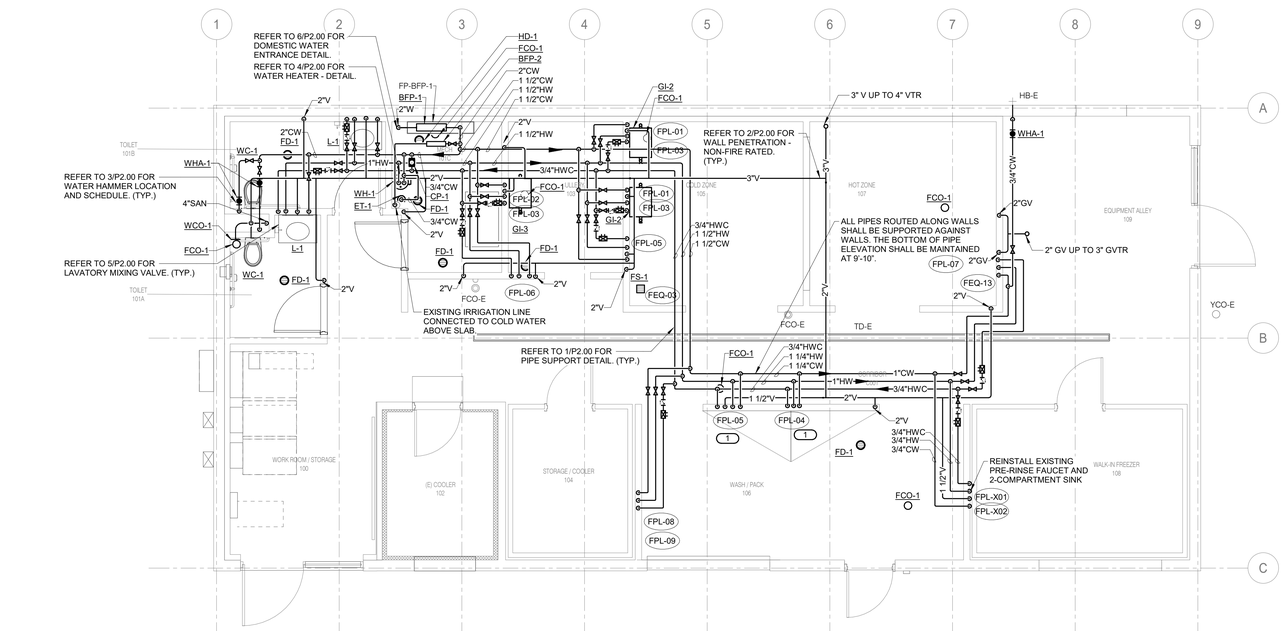
1/4" = 1'-0"

PLUMBING CONNECTION SCHEDULE - SCULLERY, COLD AND HOT ZONE

ITEM NO.	DESCRIPTION	FURNISHED/ INSTALLED BY (NOTE 7)	CW	HW 140°F	SAN	INDIRECT WASTE (IW)	VENT	REMARKS
FEQ-03	CHILLER/FREEZER, BLAST	F.E.Q	-	-	-	0.75"	2"	NOTES 1, 2, 3, 6
FEQ-13	KETTLE/STEAM JACKETED	F.E.Q	0.5"	0.5"	-	-	-	NOTES 2, 3, 6
FPL-01	ONE COMPARTMENT SINK	F.E.Q	-	-	3.5"	-	1 1/2"	NOTES 1, 2, 3, 4, 6, 7
FPL-02	THREE COMPARTMENT SINK	F.E.Q	-	-	3.5"	-	1 1/2"	NOTES 1, 2, 3, 4, 6, 7
FPL-X01	EXISTING 2 COMPARTMENT SINK	F.E.Q	-	-			1 1/2"	NOTES 2, 3, 4, 6, 7
FPL-X02	EXISTING PRE-RINSE FAUCET, WALL MOUNT	F.E.Q	.75"	.75"				NOTES 2, 3, 4, 6, 7
FPL-03	PRE-RINSE FAUCET, WALL MOUNT	F.E.Q	0.5"	0.5"	-	-	-	NOTES 2, 3, 4, 5, 6, 7
FPL-04	PRE-RINSE FAUCET, WALL MOUNT	F.E.Q	.75"	.75"	-	-		NOTES 2, 3, 4, 6, 7
FPL-05	HAND SINK, WALL MOUNT	F.E.Q	.75"	.75"	2"		1 1/2"	NOTES 2, 3, 4, 6, 7, 8
FPL-06	MOP SINK STORAGE CABINET	F.E.Q	0.5"	0.5"	2"	-	2"	NOTES 2, 3, 4, 6, 7
FPL-07	FLOOR TROUGH	F.E.Q	-	-	4"		2"	NOTES 1, 2, 3, 4, 6, 7
FPL-08	FAUCET, SERVICE SINK	F.E.Q	0.5"	0.5"	-	-	-	NOTES 2, 3, 4, 6, 7
FPL-09	COILED HOSE	F.E.Q	-	-	-	-	-	NOTES 2, 3, 6

NOTES:

1. P.C. SHALL ROUTE ALL INDIRECT WASTE PIPING AS PER FOOD SERVICE DRAWINGS.
2. P.C. SHALL MAKE FINAL CONNECTION TO EQUIPMENT. REFER TO FOOD SERVICE DRAWINGS FOR ALL CONNECTION REQUIREMENTS.
3. COORDINATE ALL REQUIREMENTS WITH FOOD SERVICE EQUIPMENT CONTRACTOR. PLUMBING CONTRACTOR SHALL REFERENCE FOOD SERVICE DRAWINGS AND SHALL COORDINATE ANY DISCREPANCIES BETWEEN FOOD SERVICE DRAWINGS AND PLUMBING DRAWINGS.
4. 1/2" CW AND HW ONLY APPLIES TO THE FINAL VERTICAL RISE-DROP TO EACH FIXTURE. BRANCH PIPING TO VERTICAL RISE-DROP SHALL BE MINIMUM 3/4" UNLESS NOTED OTHERWISE. PROVIDE ALL REQUIRED COPPER LINES DOWNSTREAM OF SHUTOFF VALVES SIZED TO MATCH CONNECTION TO EQUIPMENT.
5. CONTRACTOR TO CONFIRM WHETHER PRE-RINSE FAUCET IS PROVIDED WITH INTERNAL AIR GAP FITTING OR APPROVED BACKFLOW PREVENTION DEVICE. IF NOT, P.C. TO PROVIDE BACKFLOW PREVENTER DEVICE (BFP-2) AT THE FAUCET CONNECTION.
6. F.E.Q. STANDS FOR FOOD SERVICE EQUIPMENT CONTRACTOR AND P.C. STANDS FOR PLUMBING CONTRACTOR.
7. F.E.Q. TO PROVIDE SINK, TRIM, AND TWIST WASTE/LEVER FOR INSTALLATION BY P.C.. P.C. TO PROVIDE THE TRAPS, ACCESSORIES, MIXING VALVE (MV-1), AND PIPING TO SERVE EQUIPMENT.
8. F.E.Q. TO PROVIDE HAND SINKS AND TRIM. PLUMBING CONTRACTOR TO PROVIDE THE TRAPS, ACCESSORIES, MIXING VALVE, AND PIPING TO SERVE SINK.



2 LEVEL 1 - FLOOR PLAN - PLUMBING

1/4" = 1'-0"

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DKA PROJECT NO: 25-037

KEY PLAN:

SHEET STATUS: 04/21/2026
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FLOOR PLANS - PLUMBING

SHEET NUMBER:
P1.01

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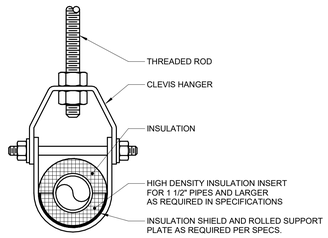
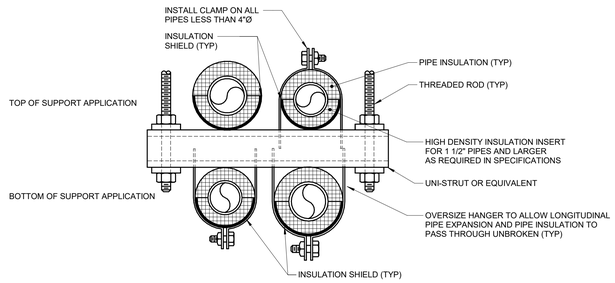


INSULATED COLD PIPE HANGER



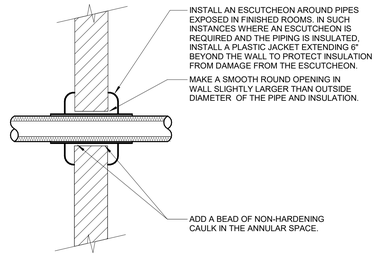
TRAPEZE HANGER

NOTES:

1. REFER TO SPECIFICATION SECTION 22 05 29-PLUMBING & SECTION 22 07 19-PLUMBING.

1 PIPE - HANGERS AND SUPPORTS

NO SCALE



NOTES:

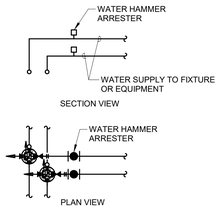
1. THIS DETAIL APPLIES TO ALL PIPES. THE INTENTION IS TO CONTINUE THE INSULATION AND VAPOR BARRIER THROUGH ALL PENETRATIONS. PERMIT THERMAL EXPANSION WITHOUT DAMAGING INSULATION, AND TO SEAL AIRTIGHT AROUND INSULATED AND UNINSULATED PIPES FOR NOISE TRANSMISSION CONTROL.
2. SEE SPECIFICATION SECTION 22 05 29 - PLUMBING FOR ADDITIONAL INFORMATION.
3. FLOOR OPENINGS ARE SIMILAR, SEE SPECIFICATION SECTION 22 05 29 - PLUMBING FOR DIFFERENCES BETWEEN FLOOR AND WALL PENETRATIONS.

2 WALL PENETRATION - NON-FIRE RATED

NO SCALE

PROVIDE WATER HAMMER ARRESTER (WHA-#) AT PLUMBING FIXTURES AND QUICK CLOSING VALVES AS INDICATED ON DRAWINGS AND AS RECOMMENDED BY STANDARD PDI-WH201. REFER TO PLUMBING MATERIAL LIST FOR WATER HAMMER ARRESTER DESCRIPTION.

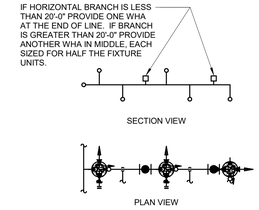
SINGLE / DOUBLE FIXTURE



PDI SIZE	PIPE SIZE	FIXTURE UNIT LOAD
A	1/2"	1-11
B	3/4"	12-32
C	1"	33-60
D	1-1/4"	61-113
E	1-1/2"	114-154
F	2"	155-330

INSTALL WHA'S PER PDI STANDARDS AND MANUFACTURER'S INSTRUCTIONS. INSTALL IN HORIZONTAL OR VERTICAL POSITION, BUT NEVER UPSIDE DOWN. INSTALL IN LINE WITH WATER FLOW DIRECTION IF POSSIBLE. SIZE THE WHA AS SHOWN PER THE TABLES ABOVE. PROVIDE ACCESSIBILITY TO WHA WITH ACCESS PANEL OR INSTALL ABOVE ACCESSIBLE CEILING.

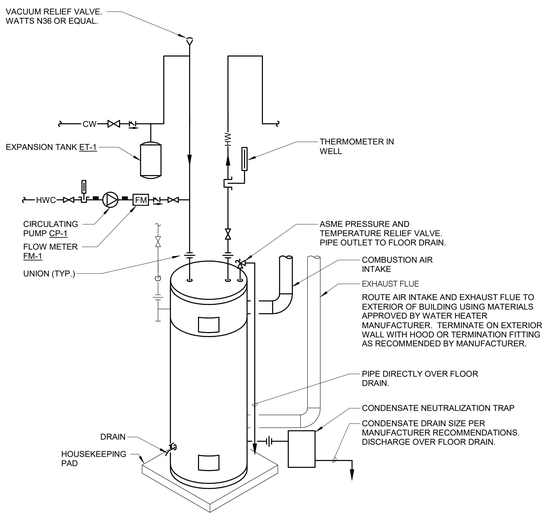
MULTIPLE FIXTURES



FIXTURE UNIT CALCULATION		
FIXTURE	COLD	HOT
WATER CLOSET (F.V.)	10	--
WATER CLOSET (TANK)	5	--
URINAL	5	--
LAVATORY	1.5	1.5
JANITOR'S SINK	3	3
SHOWER/BATHTUB	2	3
DRINKING FOUNTAIN	2	-
KITCHEN SINK	2	2
ICE MAKER / BEVERAGE	1	-

3 WATER HAMMER LOCATION AND SCHEDULE

NO SCALE



4 WATER HEATER - DETAIL

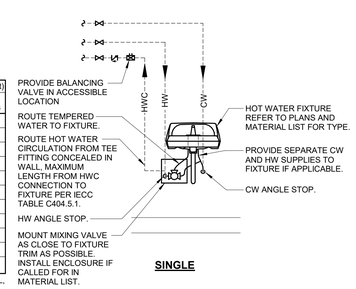
NO SCALE

INTERNATIONAL ENERGY CONSERVATION CODE (IECC) MAXIMUM ALLOWABLE PIPE LENGTH FROM THE NEAREST SOURCE OF HEATED WATER (CIRCULATED TEE FITTING) TO THE TERMINATION OF THE FIXTURE SUPPLY PIPE.

TABLE C404.5.1
PIPING VOLUME AND MAXIMUM PIPING LENGTHS

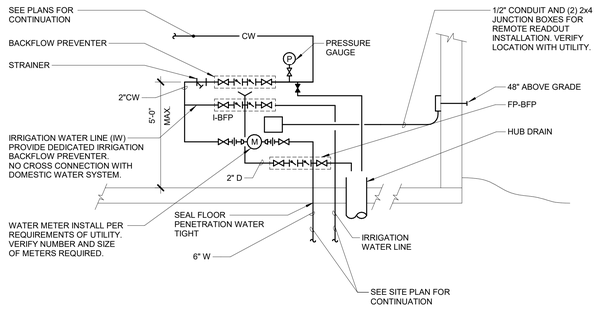
NOMINAL PIPE SIZE (inches)	VOLUME (liquid ounces per foot length)	MAXIMUM PIPING LENGTH (feet)	
		Public lavatory faucets	Other fixtures and appliances
1/4	0.33	6	50
5/16	0.5	4	50
3/8	0.75	3	50
1/2	1.5	2	43
5/8	2	1	32
3/4	3	0.5	21
7/8	4	0.5	16
1	5	0.5	13
1 1/4	8	0.5	8
1 1/2	11	0.5	6
2 or larger	18	0.5	4

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 liquid ounce = 0.030 L, 1 gallon = 128 ounces.



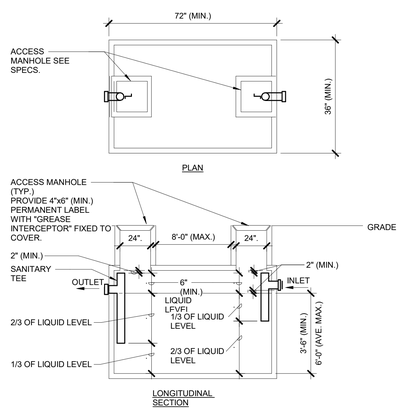
5 LAVATORY MIXING VALVE

NO SCALE



6 DOMESTIC WATER ENTRANCE

NO SCALE



NOTES:

1. DETAIL IS FOR GENERAL CODE COMPLIANCE ONLY. REFER TO PLAN FOR ACTUAL PROPOSED EQUIPMENT INFORMATION AND DEPARTMENT OF COMMERCE APPROVAL DATA.

7 GREASE INTERCEPTOR DETAIL

NO SCALE

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CONSTRUCTION

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Illinois Design Firm Registration #184008976-0014

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REF. SCALE IN INCHES
PROJECT #26000035.00

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DKA PROJECT NO: 25-037

KEY PLAN:

SHEET STATUS: 04/21/2026
ISSUED FOR BID

NO:	DESCRIPTION:	DATE:

SHEET TITLE:
PLUMBING DETAILS

SHEET NUMBER:
P2.00

4/21/2026 12:18:59 PM

PLUMBING MATERIAL LIST

TAG NAME	DESCRIPTION	MANUFACTURER AND MODEL
BFP-1	BACK FLOW PREVENTER - REDUCED PRESSURE ZONE, STAINLESS STEEL CONSTRUCTION, SIZE SAME AS PIPE 6", NON-CORROSIVE INTERNAL PARTS, STAINLESS STEEL SPRINGS, DIFFERENTIAL PRESSURE RELIEF VALVE BETWEEN SPRING-LOADED CHECK VALVES, GATE STYLE SHUT-OFF VALVES ON INLET AND OUTLET OF UNIT, AIR GAP DRAIN FITTING, TEST PORTS WITH SHUT-OFF VALVES, RATED FOR 175 PSI AT 33°F TO 140°F, 15 PSI (MAXIMUM) PRESSURE DROP AT 10 FPS, FACTORY TESTED, ALL PARTS TO BE SERVICEABLE WITHOUT REMOVING UNIT FROM LINE, APPROVED BY USC FCCC & HR, AWWA C511-92, ASSE 1013, IAPMO AND SBCCI LISTED. MOUNT WITHIN 60" OF FINISHED FLOOR. ROUTE DRAIN PIPE FROM AIR GAP FITTING TO FLOOR DRAIN. PROVIDE AND INSTALL BRONZE OR EPOXY COATED STRAINER UPSTREAM OF EACH UNIT AND ADDITIONAL VALVE UPSTREAM OF EACH STRAINER. FLOW PRESSURE DROP CURVES SHALL BE SUBMITTED.	WATTS (957), APOLLO (RPLF4A), ZURN WILKINS (375AST), MIFAB (BEECO BARRACUDA 40 FRP SS)
BFP-2	BACK FLOW PREVENTER - REDUCED PRESSURE ZONE, LEAD FREE ALLOY CONSTRUCTION, SIZE SAME AS PIPE , NON-CORROSIVE INTERNAL PARTS, STAINLESS STEEL SPRINGS, DIFFERENTIAL PRESSURE RELIEF VALVE BETWEEN SPRING-LOADED CHECK VALVES, BALL STYLE SHUT-OFF VALVES ON INLET AND OUTLET OF UNIT, AIR GAP DRAIN FITTING, TEST PORTS WITH SHUT-OFF VALVES, RATED FOR 175 PSI AT 33°F TO 140°F, 15 PSI (MAXIMUM) PRESSURE DROP AT 10 FPS, FACTORY TESTED, APPROVED BY USC FCCC & HR, AWWA C511-92, ASSE 1013, IAPMO AND SBCCI LISTED. MOUNT WITHIN 60" OF FINISHED FLOOR. ROUTE DRAIN PIPE FROM AIR GAP FITTING TO FLOOR DRAIN. PROVIDE AND INSTALL BRONZE OR EPOXY COATED STRAINER UPSTREAM OF EACH UNIT AND ADDITIONAL VALVE UPSTREAM OF EACH STRAINER. FLOW PRESSURE DROP CURVES SHALL BE SUBMITTED.	WATTS (LF009), ZURN WILKINS (975XL3), FEBCO (LF880), APOLLO (RPLF4A), MIFAB (BEECO FRP)
CP-1	CIRCULATING PUMP - VARIABLE SPEED CONTROLLER WITH SETTINGS TO ADJUST AND MAINTAIN A CONSTANT SPEED, FIXED PRESSURE, OR PROPORTIONAL PRESSURE. LEAD FREE BRONZE OR STAINLESS STEEL CONSTRUCTION, PERMANENTLY LUBRICATED SEALED BEARINGS, MECHANICAL SEAL, OIL LUBRICATED, ECM MOTOR WITH INTEGRATED VARIABLE SPEED CONTROL, FLANGED CONNECTIONS, RATED FOR 125 PSIG AT 225°F, UL LISTED. 6 GPM @ 16 FEET OF HEAD. ELECTRICAL REQUIREMENTS - HARD-WIRE	PUMP - GRUNDFOS (ALPHA2 15-55SF), B&G (ECOCIRC SERIES), ARMSTRONG (COMPASS 20-20 SS SERIES)
ET-1	EXPANSION TANK - WELDED STEEL CONSTRUCTION, GUARANTEED AIRTIGHT AND LEAKPROOF, STAINLESS STEEL SYSTEM CONNECTION, HEAVY DUTY BUTYL DIAPHRAGM AND RIGID POLYPROPYLENE LINER MECHANICALLY BONDED TO TANK TO PROVIDE A 100% NON-CORROSIVE WATER RESERVOIR, DIAPHRAGM AND LINER SHALL BE APPROVED FOR USE IN POTABLE WATER SYSTEMS, ALL WETTED COMPONENTS OF FDA APPROVED MATERIALS. PROVIDE STANDARD SCHRADER AIR VALVE FOR FIELD CHARGING. TANK SHALL COMPLY WITH FEDERAL ACT S.3874. STATIC SYSTEM PRESSURE 40-60 PSIG MAXIMUM TANK DESIGN PRESSURE 150 PSIG MINIMUM TANK VOLUME TO BE 4.8 GALLONS MINIMUM ACCEPTING VOLUME TO BE 2.9 GALLONS TANK SHALL HAVE A WORKING TEMPERATURE OF 200°F AND A WORKING PRESSURE OF 150 PSIG. FACTORY PRE-CHARGED FOR SHIPPING. FIELD CHARGE TANK TO 40-60 PSIG.	EXPANSION TANK - AMTROL (THERM-X-TROL), B&G (PT), FLEXTRON (FTT), WATTS (PLT), WESSELS (T)
FCO-1	FLOOR CLEANOUT - ADJUSTABLE, CAST IRON HOUSING, ANCHOR FLANGE, TAPERED THREAD PLUG, SECURED NICKEL BRONZE TOP. TOP STYLE SHALL MATCH FLOOR FINISH AS FOLLOWS: UNFINISHED FLOOR - ROUND SOLID SCORIATED TOP TILE OR TERRAZZO - ROUND RECESSED TOP	ZURN (Z1400), JOSAM (55000), MIFAB (C1100), SMITH (4000), WADE (6000), WATTS (CO-200), SIOUX CHIEF (854 OR 834 SERIES)
FD-1	FLOOR DRAIN - CAST IRON BODY, NICKEL BRONZE ADJUSTABLE TOP, 6" ROUND 4" BOTTOM OUTLET, FLASHING COLLAR, SURFACE MEMBRANE CLAMP.	FLOOR DRAIN - ZURN (Z-415), SMITH (2005), WADE (1100), JOSAM (30000), WATTS (FD-100), MIFAB (F1100), SUN (FD1000), SIOUX CHIEF (862-N)
FS-1	FLOOR SINK - CAST IRON BODY, NICKEL BRONZE RIM AND GRATE, 12" SQUARE, 4" BOTTOM OUTLET, 6" DEEP RECEPTOR WITH STAINLESS STEEL MESH SEDIMENT BUCKET, ACID RESISTANT COATED INTERIOR, SEEPAGE FLANGE WITH CLAMP .	ZURN (Z1901), SMITH (3151), WADE (9140), JOSAM (49340A), WATTS (FS-740), SIOUX CHIEF (860-QNF), MIFAB (FS1730)
GI-1	GREASE INTERCEPTOR - UNDERGROUND INSTALLATION, POLYETHYLENE, HDPE, OR FIBERGLASS REINFORCED POLYESTER CONSTRUCTION, REMOVABLE OR CLEANABLE INTAKE AND DISCHARGE BAFFLES, INTERNAL FLOW CONTROL FITTING IF NECESSARY FOR OPERATION, GASKETED H-20 RATED COVER, PDI G101, 30 YEAR WARRANTY. PROVIDE RISERS FOR EXTENDING COVER TO GRADE. PROVIDE TWO-WAY CLEANOUTS UPSTREAM AND DOWNSTREAM OF GREASE INTERCEPTOR. PROVIDE TANK HOLD DOWN SYSTEM AS REQUIRED BY MANUFACTURER FOR THE SOIL TYPE AND WATER TABLE. SCHIER UNIT DOES NOT REQUIRE TANK OR FLOW CONTROL VENT PIPING. OTHER GREASE INTERCEPTOR MANUFACUTURES MAY REQUIRE TANK AND FLOW CONTROL FITTING VENT SYSTEMS. THESE ADDITIONAL SYSTEMS SHALL BE INSTALLED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE PROJECT IF THESE ALTERNATIVE PRODUCTS ARE SUBMITTED AND INSTALLED. 25 GPM FLOW, 57.6 LBS. GREASE CAPACITY, 10 GALLONS HOLDING CAPACITY, 4" PIPE INLET AND OUTLET.	GREASE INTERCEPTOR - SCHIER (GREAT BASIN GB-1)
GI-2	GREASE INTERCEPTOR - RECESSED, RUGGED POLYETHYLENE TANK BODY, REMOVABLE BAFFLES, INLET DIFFUSER CAP FOR THROTTLING HEAVY HEAD PRESSURES, INCLUDES PLAIN END FITTINGS TO CONNECT TO 3" PIPE, PDI G101 OR ASME A112.14.3 COMPLIANT. PROVIDE EXTENSION TO MATCH FINISHED FLOOR HEIGHT. PROVIDE FLASHING FLANGE AND CLAMPING DEVICE FOR ABOVE CEILING INSTALLATIONS. 35 GPM FLOW, 193 LB. GREASE CAPACITY, 20 GALLONS HOLDING CAPACITY	GREASE INTERCEPTOR - SCHEIR (GREAT BASIN GB-2), ROCKFORD (RP-SS SERIES), MIFAB (MI-G),
GI-3	GREASE INTERCEPTOR - RECESSED, RUGGED POLYETHYLENE TANK BODY, REMOVABLE BAFFLES, TRIPLE OUTLET, INTEGRAL AIR RELIEF, FLOW CONTROL FITTING, PDI G101 OR ASME A112.14.3 COMPLIANT. PROVIDE EXTENSION TO MATCH FINISHED FLOOR HEIGHT. PROVIDE FLASHING FLANGE AND CLAMPING DEVICE FOR ABOVE CEILING INSTALLATIONS. 50 GPM FLOW, 439 LB. GREASE CAPACITY, 65 GALLONS HOLDING CAPACITY	GREASE INTERCEPTOR - SCHEIR (GREAT BASIN GB-50) ROCKFORD (RP-SS SERIES), MIFAB (MI-G)
HD-1	HUB DRAIN - OPEN SITE HUB DRAIN, CAST IRON BODY, SEDIMENT BUCKET, 4" BOTTOM OUTLET. TRAP SEAL - 4", PLASTIC HOUSING WITH FLEXIBLE DIAPHRAGM, SEALING GASKETS, RECLOSES AND SEALS WHEN DISCHARGE IS COMPLETED, ASSE 1072 TRAP PRIMER - PROVIDE A SIDE CONNECTION FOR A TRAP PRIMER LINE.	HUB DRAIN DRAIN - WATTS (FD-100-DD), SMITH (2005-HUB), SIOUX CHIEF (833-D4HHD) TRAP SEAL - SURE SEAL (SS), PROVENT (TRAP GUARD), SMITH (QUAD CLOSE), GREEN DRAIN, MIFAB (MI-GARD), ZURN (Z1072), SIOUX CHIEF (835)
L-1	LAVATORY - UNDER-COUNTER MOUNTED, WHITE VITREOUS CHINA, 18"x12" O.D. OVAL BOWL, FRONT OVERFLOW. LAVATORY TRIM - TWO HANDLE MIXING FAUCET, BRASS CONSTRUCTION, CHROME-PLATED FINISH, CONVENTIONAL SPOUT WITH LAMINAR FLOW OUTLET, SINGLE WING HANDLES AT 4" CENTERS, CERAMIC DISC CARTRIDGE, PERFORATED GRID STRAINER WITH 1-1/4" 17 GAUGE TAILPIECE. MAXIMUM FLOW TO BE 0.5 GPM IN COMPLIANCE WITH ENERGY POLICY ACT OF 2005 AND ASME/ANSI STANDARD A112.18.1M. FAUCET SHALL COMPLY WITH FEDERAL ACT S.3874. PROVIDE RESTRICTIVE DEVICE AS REQUIRED. MIXING VALVE - POINT-OF-USE ANTI-SCALD THERMOSTATIC MIXING VALVE FOR TEMPERED WATER CONTROL, ALL BRONZE/BRASS CONSTRUCTION, ROUGH FINISH, THREADED INLETS, TAMPER RESISTANT SETPOINT, 3/8" COMPRESSION INLETS AND OUTLETS, COLD WATER BYPASS IF USED WITH MIXING FAUCET. 0.5 GPM OUTPUT. UNIT TO MIX 120 DEGREE F HOT WATER SUPPLY AND 40 DEGREE F COLD WATER SUPPLY FOR 110 DEGREE F OUTLET. UNIT SHALL BE ASSE 1070 LISTED AND APPROVED. VALVE SHALL COMPLY WITH FEDERAL ACT S.3874. INSULATION KIT - INCLUDE FOR EXPOSED TRAPS, REFER TO 22 40 00. ARMAFLEX WITH TAPE IS NOT ACCEPTABLE IN LIEU OF INSULATION KIT. COORDINATE OPENINGS REQUIRED IN COUNTERTOP WITH GENERAL CONTRACTOR. FIELD CUT OPENINGS WILL NOT BE ACCEPTABLE.	LAVATORY - AMERICAN STANDARD (0496.221), KOHLER (K-2210), GERBER (12-780), SLOAN (SS-3001), TOTO (LT569), ZURN (Z5220) LAVATORY TRIM - DELTA (21C122), AMERICAN STANDARD (5502.140), CHICAGO FAUCET (802), MOEN (8218), SPEAKMAN (SC-3072), SYMMONS (S-250), T&S BRASS (B-0871), ZURN (Z81103-XL) MIXING VALVE - WATTS (LFUSG-B), LEONARD (170D-LF), LAWLER (TMM-1070T), ACORN CONTROLS (ST70), APOLLO (34DLF), POWERS (LFE480), SLOAN (MIX-135-A), SYMMONS (8210CK), WILKINS (ZW3870XLT)

PLUMBING MATERIAL LIST

TAG NAME	DESCRIPTION	MANUFACTURER AND MODEL
WC-1	WATER CLOSET - ACCESSIBLE, WALL MOUNTED, FLUSH VALVE TYPE, WHITE VITREOUS CHINA, SIPHON JET, WATER SAVING, ELONGATED BOWL, 1-1/2" TOP SPUD. FLUSH VALVE - EXPOSED, MANUAL OPERATION, 1.28 GALLONS PER FLUSH, 11-1/2" ROUGH-IN, CHROME PLATED, 1" I.P.S. SCREWDRIVER STOP-CHECK VALVE WITH VANDAL RESISTANT CAP, HIGH BACK PRESSURE VACUUM BREAKER, SPUD COUPLING AND FLANGE, WALL FLANGE WITH SET SCREW, NON-HOLD-OPEN HANDLE, ADJUSTABLE TAILPIECE, ADA COMPLIANT, 3 YEAR WARRANTY, WATERSENSE LABELED . SEAT - WHITE, EXTRA HEAVY, OPEN FRONT, INJECTION MOLDED SOLID ANTI-MICROBIAL PLASTIC, SELF-SUSTAINING HINGE, STAINLESS STEEL OR PLATED STEEL POSTS AND NUTS. CONTRACTOR OPTION: COMBINATION WATER CLOSET/FLUSH VALVE PACKAGED SYSTEM BY AMERICAN STANDARD, KOHLER, SLOAN, OR ZURN ACCESSORIES - WATER CLOSET SUPPORT CARRIER RATED FOR 500 LBS. MOUNT WATER CLOSET WITH CARRIER BOLTED SECURELY TO FLOOR. TOP OF SEAT SHALL BE AT 17"-19" ABOVE FINISHED FLOOR (VERIFY EXACT MOUNTING HEIGHT WITH MANUFACTURER). VERIFY EQUIPMENT REQUIREMENTS AND ROUGH-IN LOCATIONS.	WATER CLOSET - AMERICAN STANDARD (2257.101), GERBER (25-030), KOHLER (K-84325), SLOAN (ST-2053), TOTO (CT708), ZURN (Z5610) FLUSH VALVE - ZURN (Z6000AV-SM-HET), SLOAN (111-1.28), AMERICAN STANDARD (6047.121), KOHLER (K-13517-CP), TOTO (TMT1LN32#CP), AMTC (MF-700-T12) SEAT - BEMIS (3155SSCT), CHURCH (3155C), BENEKE (533PC), OLSONITE (95), SAME AS WATER CLOSET MANUFACTURER
WCO-1	WALL CLEANOUT - END CAP, CAST IRON ACCESS BODY, GAS AND WATERTIGHT BRONZE OR BRASS THREADED PLUG, ROUND STAINLESS STEEL ACCESS COVER, EXTENDED MACHINE SCREW.	JR SMITH (4422), WADE (W-8480-R/8550), JOSAM (58600-CO), WATTS (CO-380-RD), MIFAB (C1450-RD), SIOUX CHIEF (853-FV WITH 870/874)
WH-1	WATER HEATER - GAS FIRED, CONDENSING, VERTICAL, MINIMUM 94% EFFICIENT, SEALED COMBUSTION, METAL CABINET, BAKED ENAMEL FINISH, ASME STAMPED GLASS-LINED STEEL OR STAINLESS STEEL TANK, 160 PSI WORKING PRESSURE, FIBERGLASS OR FOAM INSULATION, BRASS WATER CONNECTIONS AND DRAIN VALVE, ASME APPROVED T&P RELIEF VALVE, MULTIPLE MAGNESIUM ANODE RODS, VENT PIPING KIT, HIGH TEMPERATURE GAS SHUT OFF, AUTOMATIC WATER THERMOSTAT, BUILT-IN GAS REGULATING VALVE, ADJUSTABLE TEMPERATURE RANGE, 3-YEAR WARRANTY, UL LISTED, COMPLIANT TO NAECA, ASHRAE 90.1 AND ASHRAE 90A. 100 GALLON CAPACITY, 125,000 BTUH INPUT NATURAL GAS, 146 GPH RECOVERY AT 100°F RISE. ELECTRICAL REQUIREMENTS - CIRCUIT FOR BLOWER AND CONTROLS, 120V, NEMA 5-20 PLUG AND CORD SET WATER TEMPERATURE AT 140°F. SET SUPPLY GAS PRESSURE AT 7-14" W.C. CONDENSATE DRAIN NEUTRALIZATION TANK - RATED FOR MAXIMUM 4,000 MBH WATER HEATER AND 32 GPH CONDENSATE FLOW, POLYPROPYLENE RECTANGULAR TANK, 1"FNPT INLET AND OUTLET, REMOVABLE ACCESS COVER FOR CLEANING AND PELLET REPLACEMENT, 12.5 LBS PH NEUTRALIZING PELLETS.	WATER HEATER - A.O. SMITH (CYCLONE MXI BTH), BOCK (OT SERIES), BRADFORD WHITE (EF SERIES), HTP (PHOENIX PLUS), PVI (CONQUEST), RHEEM/RAYPAK (TRITON GHE), STATE (SUF), LOCHINVAR (SWR SERIES) NEUTRALIZATION KIT - JJM BOILER WORKS (NB-4), NUTRASAFE (CN4T)
WHA-1	WATER HAMMER ARRESTOR – PISTON TYPE, PRE-CHARGED WITH 60 PSIG AIR, LEAD FREE, COPPER BODY, BRASS OR HIGH HEAT POLY-PROPYLENE PISTON WITH DUAL EPDM O-RING SEALS LUBRICATED WITH FDA APPROVED SILICONE LUBRICANT. PDI CERTIFIED, A.S.S.E. 1010 APPROVED FOR SEALED WALL INSTALLATION, RATED FOR 1-11 FIXTURE UNITS. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.	WATTS (LF15M2-DR), SIOUX CHIEF (650 SERIES), MIFAB (MWH), PPP (SC SERIES), ZURN WILKINS (1250XL), JR SMITH (5201-5250), WADE (WP5-100), JOSAM (75000-S)

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Illinois Design Firm Registration #184008976-0014

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REF. SCALE IN INCHES

PROJECT #26000535.00

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DKA PROJECT NO: 25-037

KEY PLAN:

SHEET STATUS: 04/21/2026
ISSUED FOR BID

NO:	DESCRIPTION:	DATE:

SHEET TITLE:
PLUMBING MATERIAL LIST

SHEET NUMBER:
P3.00

4/21/2026 12:19:00 PM

VIEW KEY

1 — KEYNOTE: INDICATES NOTE USED TO DESCRIBE ADDITIONAL INFORMATION ABOUT WORK REQUIRED, SPECIFIC TO THE SHEET AND/OR DETAIL

INDICATES DIRECTION OF TRUE NORTH
PLAN OR DETAIL NUMBER
PLAN OR DETAIL NAME

NORTH — 1 — VIEW NAME
1/8" = 1'-0"
PLAN OR DETAIL SCALE

LINE TYPE AND TAG KEY:

NEW WORK BY THIS CONTRACTOR (WIDE LINE)
NEW
EXISTING TO BE REMOVED (SHORT DASHED PATTERN)

EXISTING TO REMAIN OR WORK BY OTHERS (NARROW LINE)

EXISTING TO REMAIN
EXISTING TO BE REMOVED BY OTHERS (SHORT DASHED PATTERN)

HALF TONING DOES NOT MODIFY SCOPE.

TAG-1 — UNDERLINED TAG INDICATES OBJECT IS IN-SCOPE. IF NEW, ADDITIONAL INFORMATION IS AVAILABLE IN A SCHEDULE, MATERIAL LIST, OR SYMBOL LIST

SYMBOL LIST - FIRE HAZARD ZONES

SYMBOL:	DESCRIPTION:
	FIRE ZONE BOUNDARY
NO HATCH	LIGHT HAZARD
	ORDINARY GROUP 1

CONTRACTOR ABBREVIATION KEY

ABBR:	DESCRIPTION:
C.C.	CIVIL CONTRACTOR
F.E.Q.	FOOD SERVICE CONTRACTOR
P.C.	PLUMBING CONTRACTOR
M.C.	MECHANICAL CONTRACTOR
F.P.C.	FIRE PROTECTION CONTRACTOR

SYMBOL LIST - FIRE PROTECTION

SYMBOL:	DESCRIPTION:
	SHUTOFF VALVE NORMALLY OPEN
	SHUTOFF VALVE NORMALLY CLOSED
	AUTOMATIC DRAIN VALVE
	ANGLE VALVE
	BUTTERFLY VALVE WITH MONITOR SWITCH
	CHECK VALVE
	INSPECTOR TEST AND DRAIN VALVE
F	FLOW SWITCH
P	PRESSURE GAUGE (FURNISHED WITH BALL VALVE)
	UNION FLANGE

SYMBOL LIST - FIRE PROTECTION SYSTEMS

SYMBOL	DESCRIPTION
DFP	DRAIN - FIRE PROTECTION
FP	FIRE PROTECTION

FIRE PROTECTION ABBREVIATION KEY

ABBR:	DESCRIPTION:
AFF	ABOVE FINISHED FLOOR
BFP	BACKFLOW PREVENTER
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED

MECHANICAL RENOVATION NOTES:

THESE NOTES APPLY TO ALL MECHANICAL SHEETS AND TRADES, INCLUDING BUT NOT LIMITED TO, FIRE PROTECTION, PLUMBING AND MECHANICAL.

1. EXISTING CONDITIONS ARE SHOWN BASED ON INFORMATION OBTAINED FROM FIELD SURVEYS, EXISTING BUILDING DOCUMENTS, AND STAFF. VERIFY EXISTING CONDITIONS AND REPORT ANY CONFLICTS BEFORE PROCEEDING.
2. NOT ALL EXISTING DUCTWORK AND PIPING IS SHOWN. VERIFY EXISTING CONDITIONS BEFORE STARTING WORK. NOTIFY ENGINEER OF ANY CONFLICTS WITH NEW WORK.
3. FIELD VERIFY THE AVAILABLE CLEARANCES FOR DUCTWORK AND PIPING BEFORE FABRICATION. RISES AND DROPS MAY BE NECESSARY BECAUSE OF EXISTING FIELD CONDITIONS.
4. EACH CONTRACTOR SHALL FIELD VERIFY ACCESSIBILITY TO THE AREA OF THEIR WORK AND SHALL NOTIFY THE CONSTRUCTION MANAGER PRIOR TO BIDDING IF OTHER UTILITIES ARE REQUIRED TO BE REMOVED OR RELOCATED TO ALLOW ACCESS TO THEIR AREA OF WORK.
5. EACH CONTRACTOR SHALL CUT AND PATCH ROOFS, WALLS, AND FLOORS ASSOCIATED WITH THEIR WORK.
6. THE CONTRACTOR IS RESPONSIBLE FOR REMOVAL AND REPLACEMENT OF CEILINGS, CEILING TILES, AND CEILING GRIDS ASSOCIATED WITH AREAS OF WORK BY ALL CONTRACTORS.
7. WHERE EXISTING MECHANICAL SYSTEMS DIFFER FROM THOSE SHOWN ON THE PROJECT DRAWINGS AND CREATE CONFLICTS WITH NEW EQUIPMENT, PIPING, OR DUCTWORK INSTALLATIONS, THE CONTRACTOR SHALL PROVIDE DETAILED DOCUMENTATION (SUCH AS SKETCHES, PHOTOS, AND DIMENSIONS) ALONG WITH RECOMMENDATIONS TO RESOLVE THE CONFLICT. THIS INFORMATION MUST BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL. NO WORK RELATED TO THE CONFLICT SHALL PROCEED UNTIL AN APPROVED RESOLUTION IS PROVIDED BY THE ENGINEER.
8. PROVIDE TEMPORARY CONNECTIONS TO MAINTAIN EXISTING SYSTEMS IN SERVICE DURING CONSTRUCTION. MAINTAIN ACCESS TO EXISTING MECHANICAL INSTALLATIONS THAT REMAIN ACTIVE.
9. OBTAIN PERMISSION FROM OWNER BEFORE SHUTTING DOWN ANY SYSTEM FOR ANY REASON. MAINTAIN SERVICE TO ALL COMPONENTS THAT ARE TO REMAIN UNTIL NEW SYSTEMS ARE INSTALLED.
10. MAINTAIN EXISTING SYSTEM IN SERVICE UNTIL NEW SYSTEM IS COMPLETE AND READY FOR TIE IN AND SWITCHOVER. DRAIN SYSTEM ONLY TO MAKE SWITCHOVERS AND CONNECTIONS. OBTAIN PERMISSION FROM OWNER BEFORE PARTIALLY OR COMPLETELY DRAINING SYSTEM. MAKE CHANGEOVER TO NEW SYSTEMS WITH MINIMUM OUTAGE.
11. DISCONNECT AND REMOVE MECHANICAL DEVICES AND EQUIPMENT SERVING EQUIPMENT THAT HAS BEEN REMOVED.

FIRE PROTECTION SHEET INDEX

F0.00	FIRE PROTECTION COVERSHEET
F1.01	FLOOR PLAN - FIRE PROTECTION
F2.00	FIRE PROTECTION DETAILS
F3.00	FIRE PROTECTION DIAGRAMS MATERIAL LIST
GRAND TOTAL: 4	

FIRE SPRINKLER USAGE SCHEDULE (SPR)

NOTES:
1.SEE FLOOR PLANS FOR ZONING REQUIREMENTS.
2.SPRINKLER SHALL HAVE COLOR CODED BULB THERMAL ELEMENT.
3.ALL SPRINKLERS SHALL BE UL LISTED.
4.CONTRACTOR TO VERIFY SPRINKLER REQUIREMENTS BASED ON ACTUAL INSTALLATION, USAGE, ARCHITECTURAL CEILING PLAN AND NFPA 13 REQUIREMENTS.
5.TAG NAME IS PRIMARILY FOR IDENTIFYING SPRINKLERS IN SUBMITTALS. IT MAY OR MAY NOT BE FOUND ELSEWHERE ON THE DRAWINGS. CONTRACTOR TO SUBMIT ALL SPRINKLER TYPES TO BE USED.
6.AREAS ARE GENERAL IN NATURE. CONTRACTOR TO MATCH UNSCHEDULED AREAS TO SIMILAR SPACES.
7.SPRINKLERS SHALL HAVE A 3mm QUICK RESPONSE BULB
8.SPRINKLERS SPECIFIED WITHIN FIRE SPRINKLER USAGE SCHEDULE ARE STANDARD COVERAGE TYPE. EXTENDED COVERAGE SPRINKLERS ARE PERMITTED PROVIDED SPRINKLERS MEET THE REQUIREMENTS OF UL.

AREA (NOTE 1 & 6)		SPRINKLER (NOTE 4 & 5)						
DESCRIPTION	HAZARD	TAG NAME	TYPE	FINISH	RESPONSE	TEMP RATING	MANUFACTURER & MODEL	NOTES
EXPOSED STRUCTURE WITHOUT OBSTRUCTIONS	SEE PLANS	SPR-1	PENDENT	ROUGH BRASS	QUICK	155	VIKING VK, RELIABLE F1FR, TYCO TY-FRB, VICTAULIC V2708	NOTES 1, 2, 3, 4,5, 6, 7, 8
EXPOSED STRUCTURE WITH OBSTRUCTIONS	SEE PLANS	SPR-2	UPRIGHT	ROUGH BRASS	QUICK	155	VIKING VK, RELIABLE F1FR, TYCO TY-FRB, VICTAULIC V2704	NOTES 1, 2, 3, 4,5, 6, 7, 8
FINISHED AREA	SEE PLANS	SPR-3	CONCEALED	WHITE	QUICK	155	VIKING VK, RELIABLE G4A, TYCO RFII, VICTAULIC V3802	NOTES 1, 2, 3, 4,5, 6, 7, 8
UNBRACED AREA	SEE PLANS	SPR-4	SIDE WALL	ROUGH BRASS	QUICK	155	VIKING VK, RELIABLE F1FR, TYCO TY-FRB, VICTAULIC V2710	NOTES 1, 2, 3, 4,5, 6, 7, 8
EXPOSED STRUCTURE WITH OBSTRUCTIONS - DRY	SEE PLANS	SPR-5	DRY UPRIGHT	ROUGH BRASS	QUICK	155	VIKING VK, TYCO, VICTAULIC	NOTE 3, 7

FIRE PROTECTION GENERAL NOTES:

1. THE SYMBOLS AND THE MATERIAL LIST ARE FOR THE CONVENIENCE OF THE CONTRACTOR. CONTRACTOR SHALL VERIFY QUANTITIES AND FURNISH ALL MATERIALS REQUIRED FOR FULLY OPERATIONAL SYSTEMS, WHETHER SPECIFIED OR NOT.
2. CATALOG NUMBERS SHALL NOT BE CONSIDERED COMPLETE, BUT ARE GIVEN AS AN AID TO THE CONTRACTOR AND TO INDICATE THE QUALITY REQUIRED. CONTRACTOR IS RESPONSIBLE FOR COMPLETE DESCRIPTION OF MATERIAL ON THESE DRAWINGS AND IN THE SPECIFICATIONS BEFORE ORDERING. THE DESCRIPTION OF THE MATERIAL TAKES PRECEDENCE OVER THE CATALOG NUMBER. THE FIRST MANUFACTURER IS THE BASIS OF DESIGN.
3. CENTER SPRINKLERS IN CEILING TILES IN BOTH DIRECTIONS IN ALL AREAS. IN AREAS WITH 2'X4' CEILING TILES CENTERING USING A 2'X2' CEILING PATTERN IS ACCEPTABLE. SPRINKLER HEADS SHALL BE ALIGNED WITH OTHER SPRINKLER HEADS, LIGHTING, DIFFUSERS, AND ANY OTHER FEATURES IN THE CEILING.
4. NEW SPRINKLERS SHALL BE QUICK RESPONSE TYPE, UNLESS OTHERWISE NOTED. CONTRACTOR SHALL NOT MIX STANDARD RESPONSE SPRINKLERS WITH QUICK RESPONSE SPRINKLERS IN UNPARTITIONED SPACES.
5. PROVIDE COVERAGE ABOVE (IF APPLICABLE) AND BELOW FLOATING CEILINGS, REFER TO ARCHITECTURAL PLANS.
6. FIRE PROTECTION PIPE ROUTING IS SHOWN FOR GENERAL LAYOUT. DETERMINE EXACT NUMBER OF SPRINKLERS, PIPE SIZING, AND PIPE ROUTING.
7. THE FIRE PROTECTION SYSTEM SHALL BE DESIGNED TO MEET OWNER'S INSURANCE COMPANY STANDARDS WHERE APPLICABLE. THE MORE STRINGENT OF THE OWNER'S INSURANCE UNDERWRITER'S DESIGN CRITERIA AND THE NFPA STANDARDS SHALL BE USED.
8. ALL BUILDING AREA SHALL BE FULLY SPRINKLERED INCLUDING CANOPIES, WALKWAYS, OVERHANGS, SOFFITS, AND BUILDING PROJECTIONS. ALL ACCESSIBLE COMBUSTIBLE CONCEALED SPACES SHALL BE FULLY PROTECTED BY THE SPRINKLER SYSTEM.
9. PROVIDE RISER ROOM IDENTIFICATION SIGNAGE OUTSIDE THE FIRE RISER ROOM. COORDINATE EXACT SIGN LANGUAGE WITH AHJ.
10. WHERE FEASIBLE INSTALL PIPES HIGH AS POSSIBLE TO AVOID CONFLICT WITH OTHER DISCIPLINES.
11. INSTALL SYSTEM DRAINS AT LOW POCKET AREAS CONTAINING FIVE GALLONS OF WATER OR MORE, PROVIDE WITH ISOLATION VALVE AND THREADED HOSE CONNECTION.
12. MAIN PIPING PASSING BELOW SKYLIGHTS OR CLERESTORIES ARE NOT PERMITTED.
13. FOLLOW STRUCTURAL DETAILS WHEN PENETRATING OR PASSING THROUGH STRUCTURAL ELEMENTS. ALTERNATE DESIGNS WILL NEED TO BE APPROVED THROUGH THE STRUCTURAL ENGINEER.
14. PROVIDE INTERMEDIATE TEMPERATURE SPRINKLER HEADS WHERE REQUIRED BY NFPA 13 UNLESS OTHERWISE NOTED.
15. FINAL HEAD LOCATION, TYPE AND FINISH SHALL BE REVIEWED AND APPROVED BY THE ARCHITECT.
16. EXACT LOCATION OF THE ALL PANELS SHALL BE VERIFIED ON SITE AND COORDINATED WITH THE ELECTRICAL CONTRACTOR.
17. PAINT ALL EXPOSED PIPING TO MATCH BACKGROUND OR AS DIRECTED BY THE ARCHITECT.
18. THE OWNER MUST BE NOTIFIED PRIOR TO EACH AND EVERY DRAINING OR RECHARGING OF THE SPRINKLER SYSTEM.
19. THE CONTRACTOR SHALL PREPARE A COORDINATED SET OF SHOP DRAWINGS AND SHALL OBTAIN APPROVAL FROM THE AUTHORITIES HAVING JURISDICTION AND THE LOCAL FIRE DEPARTMENT PRIOR TO ANY INSTALLATION.
20. DRAWINGS SHOW LOCATIONS OF EQUIPMENT, DUCTWORK, PIPING, ETC. ARE DIAGRAMMATIC AND MAY NOT ALWAYS REFLECT EXACT INSTALLATION CONDITIONS. DRAWINGS SHOW THE GENERAL ARRANGEMENT OF DUCTWORK, PIPING, EQUIPMENT, ETC. AND MAY NOT INCLUDE ALL OFFSETS AND FITTINGS REQUIRED FOR COMPLETE INSTALLATION. THE DRAWINGS SHALL BE FOLLOWED AS CLOSELY AS ACTUAL BUILDING CONSTRUCTION AND THE WORK OF OTHERS WILL PERMIT.
21. VERIFY ALL DIMENSIONS AND CLEARANCES FROM ARCHITECTURAL, STRUCTURAL, SUBMITTALS, AND OTHER APPROPRIATE DRAWINGS OR PHYSICALLY AT SITE. REVIEW ALL DRAWINGS, INCLUDING THOSE OF OTHER TRADES.

MECHANICAL GENERAL NOTES:

THESE NOTES APPLY TO ALL MECHANICAL SHEETS AND TRADES, INCLUDING BUT NOT LIMITED TO, FIRE PROTECTION, PLUMBING AND MECHANICAL.

1. DRAWINGS SHOWING LOCATIONS OF EQUIPMENT, DUCTWORK, PIPING, ETC. ARE DIAGRAMMATIC AND MAY NOT ALWAYS REFLECT EXACT INSTALLATION CONDITIONS. DRAWINGS SHOW THE GENERAL ARRANGEMENT OF DUCTWORK, PIPING, EQUIPMENT, ETC., AND MAY NOT INCLUDE ALL OFFSETS AND FITTINGS REQUIRED FOR COMPLETE INSTALLATION. THE DRAWINGS SHALL BE FOLLOWED AS CLOSELY AS ACTUAL BUILDING CONSTRUCTION AND THE WORK OF OTHERS WILL PERMIT.
2. CATALOG AND MODEL NUMBERS SHALL NOT BE CONSIDERED COMPLETE, BUT ARE GIVEN AS AN AID TO THE CONTRACTOR AND TO INDICATE THE QUALITY REQUIRED. CONTRACTOR IS RESPONSIBLE FOR THE COMPLETE DESCRIPTION OF MATERIAL SCHEDULED ON THESE DRAWINGS AND IN THE SPECIFICATIONS BEFORE ORDERING. THE DESCRIPTION OF THE MATERIAL AND SCHEDULED PERFORMANCE TAKES PRECEDENCE OVER THE MODEL NUMBER. THE FIRST MANUFACTURER SCHEDULED IS THE BASIS OF DESIGN.
3. DETERMINATION OF QUANTITIES OF MATERIAL AND EQUIPMENT REQUIRED SHALL BE MADE BY THE CONTRACTOR FROM THE DOCUMENTS. WHERE MATERIAL AND/OR QUANTITY DISCREPANCIES ARISE BETWEEN DRAWINGS, SCHEDULES AND/OR SPECIFICATIONS, THE HIGHER QUALITY/ GREATER NUMBER SHALL GOVERN.
4. DO NOT SCALE DRAWINGS. VERIFY ALL DIMENSIONS AND CLEARANCES FROM ARCHITECTURAL, STRUCTURAL, SUBMITTALS, AND OTHER APPROPRIATE DRAWINGS OR PHYSICALLY AT SITE. REVIEW ALL DRAWINGS, INCLUDING THOSE OF OTHER TRADES.
5. COORDINATE ALL WORK WITH ALL OTHER TRADES PRIOR TO INSTALLATION TO PROVIDE CLEARANCES REQUIRED FOR OPERATION, MAINTENANCE, CODE COMPLIANCE, AND TO VERIFY NON-INTERFERENCE WITH OTHER WORK. DO NOT FABRICATE PRIOR TO VERIFICATION OF NECESSARY CLEARANCES FOR ALL TRADES. BRING ANY INTERFERENCES OR CONFLICTS TO THE ATTENTION OF THE ARCHITECT/ENGINEER BEFORE PROCEEDING WITH FABRICATION OR EQUIPMENT ORDERS.
6. REVIEW SPACE REQUIREMENTS OF EQUIPMENT SPECIFIED OR SUBSTITUTED AND MAKE REASONABLE ACCOMMODATIONS IN LAYOUT AND POSITIONING TO PROVIDE PROPER ACCESS.
7. ANY CHANGES REQUIRED TO ELIMINATE CONFLICTS OR THAT RESULT FROM A FAILURE TO COORDINATE SHALL BE MADE BY THE CONTRACTOR WITHOUT ADDITIONAL COST OR EXPENSE TO OTHERS.
8. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN, ELECTRICAL, TECHNOLOGY AUDIO/VISUAL, AND OTHER MECHANICAL PLANS FOR EXACT LOCATIONS OF ALL CEILING MOUNTED DEVICES, OTHER THAN SPRINKLERS.
9. CONTRACTOR IS RESPONSIBLE FOR DAMAGE CAUSED BY THEIR ACTIONS TO WALLS, FLOORS, CEILINGS, AND ROOFS. THE CONTRACTOR WHOSE WORK CAUSES DAMAGE IS RESPONSIBLE FOR PATCHING TO MATCH ORIGINAL CONSTRUCTION, FIRE RATING, AND FINISH.
10. SEAL ALL WALL AND ROOF PENETRATIONS AIRTIGHT WHERE CONDUITS, PIPING, AND DUCTS PENETRATE.
11. CAULK ALL PIPE AND DUCT PENETRATIONS OF FULL HEIGHT NON-FIRE RATED WALL, PARTITION, FLOOR, AND ROOF ASSEMBLIES. THIS IS ESSENTIAL TO PREVENT NOISE TRANSMISSION FROM ONE ROOM TO ANOTHER AND TO PROVIDE THE DESIRED NC LEVELS WITHIN ROOMS.
12. DO NOT EXCEED 25 LBS PER HANGER AND A MINIMUM SPACING OF 2'-0" ON CENTER WHEN ATTACHING TO METAL ROOF DECKING (LIMITATION NOT REQUIRED WITH CONCRETE ON METAL DECK). THIS 25 LBS. LOAD AND 2'-0" SPACING INCLUDE ADJACENT ELECTRICAL AND ARCHITECTURAL ITEMS HANGING FROM DECK. IF THE HANGER RESTRICTIONS CANNOT BE ACHIEVED, SUPPLEMENTAL FRAMING OFF STEEL FRAMING SHALL BE ADDED. ANCHORS EMBEDDED IN CONCRETE SHALL BE CRACKED CONCRETE APPROVED IN ACCORDANCE WITH SPECIFICATIONS.

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McHenry County College

Student Farm Renovations

8900 Northwest Hwy #14, Crystal Lake, IL 60012
DKA PROJECT NO: 25-037

KEY PLAN:

SHEET STATUS: 04/21/2026
ISSUED FOR BID

NO:	DESCRIPTION:	DATE:

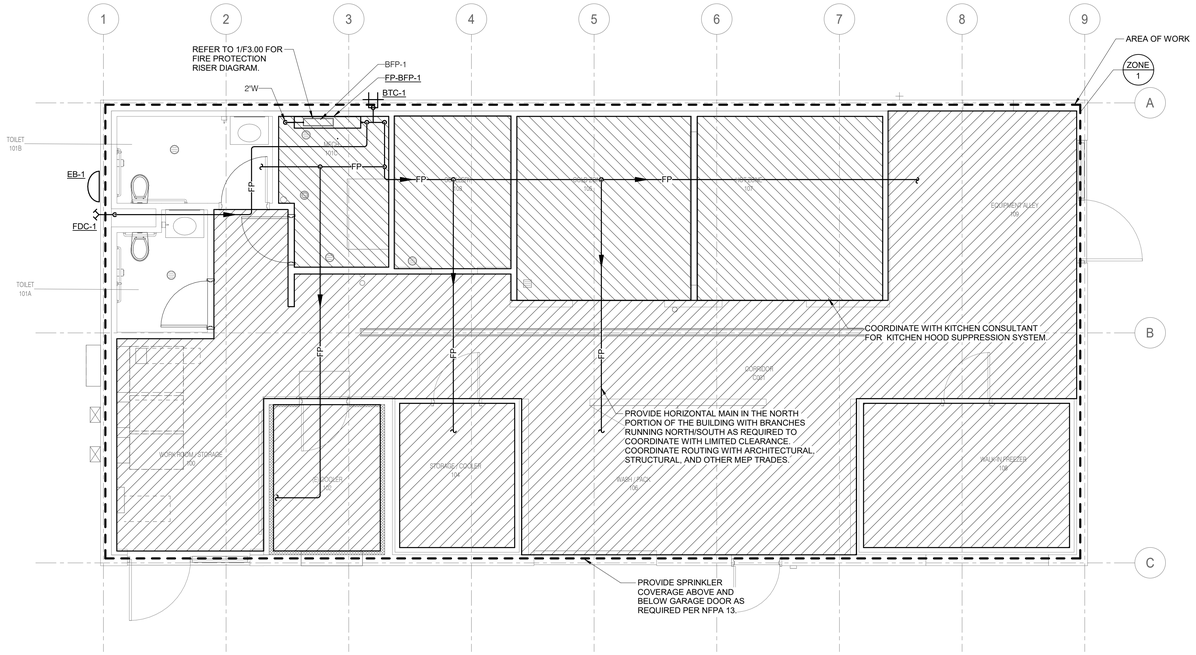
SHEET TITLE:
FIRE PROTECTION COVERSHEET

SHEET NUMBER:
F0.00

21-Apr-26 8:26:47 PM

GENERAL SHEET NOTES:

1. ROUTE AND SIZE SPRINKLER PIPING PER NFPA 13. THE FIRE PROTECTION CONTRACTOR IS RESPONSIBLE FOR FINAL DESIGN. LAYOUT AND QUANTITY OF SPRINKLER HEADS.
2. PROVIDE SPRINKLER COVERAGE ABOVE AND BELOW DUCTWORK AS REQUIRED BY NFPA 13.
3. REFER TO 1/F2.00 FOR PIPE SUPPORT - FIRE PROTECTION DETAIL.
4. REFER TO 2/F2.00 FOR SPRINKLER HEAD MOUNTING DETAIL.
5. REFER TO 3/F2.00 FOR PENDENT SPRINKLER DETAIL.



NORTH

1 LEVEL 1 - FLOOR PLAN - FIRE PROTECTION

1/4" = 1'-0"

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KEY PLAN:

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NO:	DESCRIPTION:	DATE:

SHEET TITLE:
FLOOR PLAN - FIRE PROTECTION

SHEET NUMBER:
F1.01

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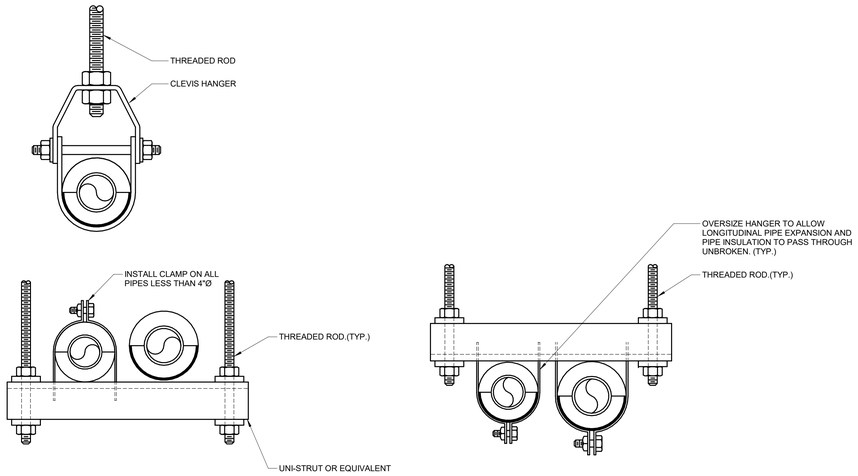

NOTES:

1. REFER TO SPECIFICATION SECTION 21 05 29.

1 PIPE SUPPORT - FIRE PROTECTION

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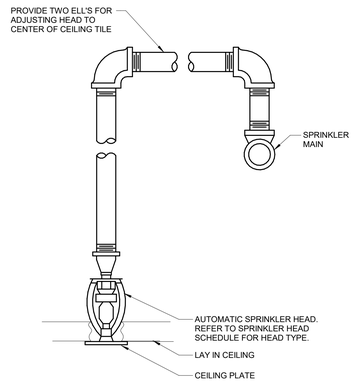
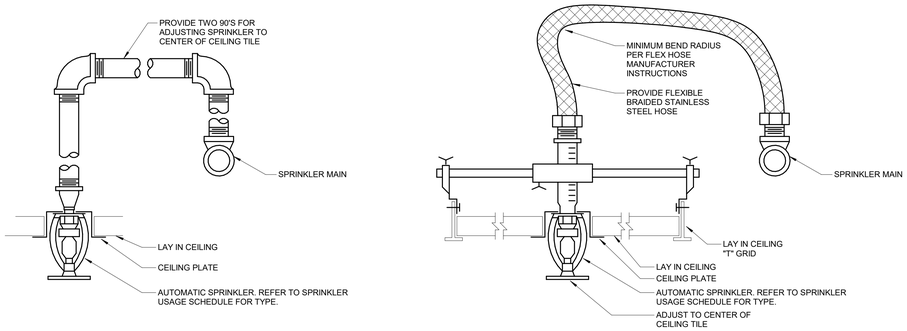


2 CONCEALED SPRINKLE HEAD MOUNTING DETAIL

NO SCALE



3 PENDENT SPRINKLER

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DKA PROJECT NO: 25-037

KEY PLAN:

SHEET STATUS: 04/21/2026
ISSUED FOR BID

NO:	DESCRIPTION:	DATE:

SHEET TITLE:
FIRE PROTECTION DETAILS

SHEET NUMBER:
F2.00

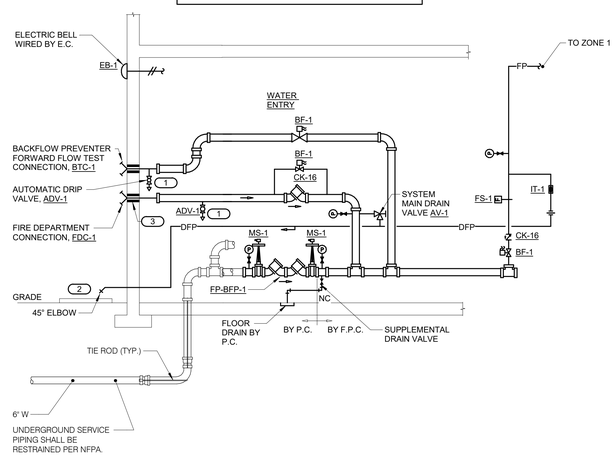
21-Apr-26 8:26:49 PM

FIRE PROTECTION MATERIAL LIST

TAG NAME	DESCRIPTION	MANUFACTURER AND MODEL
ADV-1	AUTOMATIC DRIP VALVE, FOR USE ON INLET SIDE OF FDC OR PUMPER CONNECTION, 175 PSI, BRASS OR BRONZE BODY, STAINLESS STEEL OR BERYLLIUM COPPER SPRING AND RETAINING RING, MIN. CLOSING PRESSURE 7 PSI WITH INCREASING PRESSURE, MIN OPENING PRESSURE 5 PSI WITH DECREASING PRESSURE, 1/2" NPT INLET AND 1/4" NPT DRAIN OUTLET. VALVE ORIENTATION SHALL BE INSTALLED ACCORDING TO MFR. RECOMMENDATIONS, UL.	VIKING B-1, TYCO AD-2, RELIABLE MODEL C
AV-1	ANGLE VALVE, 1/2" TO 2", 175 PSI, RISING STEM, BRASS/BRONZE BODY, BRASS/BRONZE BONNET, INTEGRAL SEAT, SOFT DISC, HANDWHEEL, THREADED. UL	UNITED BRASS WORKS 126SUL, NIBCO T-301-W, FPPI 06-800
BF-1	INDICATING BUTTERFLY VALVE, NORMALLY OPEN, 175 PSI WWP, GROOVED TYPE DUCTILE IRON BODY WITH PROTECTIVE COATING, ELECTROLESS NICKEL OR EPDM COATED DUCTILE IRON DISC, STAINLESS STEEL STEM AND SCREWS, CAST OR DUCTILE IRON HANDWHEEL, EPDM SEAT, INDICATOR FLAG, FACTORY MOUNTED INTEGRAL MONITOR SWITCHES, UL/FM. LUGGED OR WAFER VALVES ARE ACCEPTABLE PROVIDED THEY HAVE THE FEATURES LISTED ABOVE.	VICTAULIC (SERIES 705), TYCO (BFV-300), KENNEDY (G300), RELIABLE (REL-BFG-300), NIBCO (GD-4765-8N)
BTC-1	FLUSH FOUR WAY BACKFLOW PREVENTOR TEST OUTLET CONNECTION, HORIZONTAL ORIENTATION, CAST BRASS OR DUCTILE IRON BODY WITH POLISHED CHROME FINISH, 6" INLET WITH FOUR 2-1/2" OUTLETS, BRASS NON RISING STEM HOSE VALVES, 3" FEMALE NPT INLET x 2-1/2" MALE HOSE THREAD OUTLETS, CAPS AND CHAINS, WALL PLATE WITH SAME FINISH AS BODY LABELED "BACKFLOW TEST CONNECTION".	POTTER ROEMER 5864, CROKER 6807, GUARDIAN SERIES 6744-6746
CK-16	SWING CHECK VALVE, 300 PSI WWP, GROOVED/FLANGED TYPE, DUCTILE IRON BODY, STAINLESS STEEL HINGE ASSOCIATED WITH RUBBER FACED CLAPPER, BRASS SEAT RING, ACCESS COVER, 1/2" OR 3/4" TAPPED BOSSES, VALVE LISTED FOR HORIZONTAL OR VERTICAL INSTALLATION, UL/FM. FLANGED TYPE IS ACCEPTABLE PROVIDED VALVE HAS THE FEATURES LISTED ABOVE.	VIKING (G-1), TYCO (CV-1F)
EB-1	FIRE SPRINKLER ELECTRIC BELL - 10" GONG SIZE, RATED FOR INDOOR OR OUTDOOR USE, WEATHERPROOF RED STEEL COVER AND BACKBOX, 120VAC, UL.	POTTER PBA120, SYSTEM SENSOR SSV, ARGCO.
FDC-1	EXPOSED STORZ FIRE DEPT. CONNECTION INLET CONNECTION, 5" FEMALE NPT OUTLET x 5" STORZ INLET, INLET SCREEN, 30 DEGREE ANGLE BODY STYLE, ALUMINUM LOCKING CAPS WITH KEYWRENCH LOCK, BRASS WALL PLATE LABELED "AUTO SPKR" CONTRACTOR TO COORDINATE PURCHASE OF LOCKING CAPS WITH LOCAL FIRE DEPARTMENT.	FDC: POTTER ROEMER 5795/5799, CROKER SERIES 6350-6365, GUARDIAN 6624-6629 LOCKING CAP: KNOX COMPANY [5001] 5002
FP-BFP-1	DOUBLE CHECK BACKFLOW PREVENTER, LISTED FOR USE IN FIRE PROTECTION SYSTEM, 175 PSI WWP AT 33°F TO 140°F, LEAD FREE, STAINLESS STEEL CONSTRUCTION, SAME SIZE AS PIPE 6", NON-CORROSIVE INTERNAL PARTS, STAINLESS STEEL SPRINGS, SPRING-LOADED CHECK VALVES, INDICATING BUTTERFLY SHUT-OFF VALVES ON INLET AND OUTLET, TEST PORTS WITH SHUT-OFF VALVES, FACTORY TESTED, 8 PSI (MAXIMUM) PRESSURE DROP AT 10 FPS, ALL PARTS TO BE SERVICEABLE WITHOUT REMOVING UNIT FROM LINE, APPROVED BY USC FCCC & HR, AWWA C510-92, ASSE 1015, IAPMO AND SBCCI LISTED. UL. MOUNT WITHIN 60" OF FINISHED FLOOR. FLOW PRESSURE DROP CURVES SHALL BE SUBMITTED. LISTED FOR HORIZONTAL OR VERTICAL CONFIGURATIONS.	AMES (C200), ZURN WILKINS (350AST), APOLLO (DCLF 4A)
FS-1	FLOW SWITCH - VANE TYPE, 450 PSI, FLOW SENSITIVITY OF 4-10 GPM, TWO SINGLE POLE DOUBLE THROW SWITCHES, PNEUMATIC RETARD ADJUSTABLE FROM 0-90 SECONDS WITH AUTOMATIC RESET, NEMA 4 INDOOR/OUTDOOR RATED METAL HOUSING, UL/FM.	POTTER VSR, SYSTEM SENSOR WFD
IT-1	COMBINATION INSPECTOR'S TEST AND DRAIN VALVE, 300 PSI, INTEGRAL SIGHT GLASS, BALL VALVE PLATE INDICATING OFF-TEST-DRAIN POSITIONS, FURNISHED WITH TEST ORIFICE GIVING FLOW EQUIVALENT TO ONE SPRINKLER OF A TYPE HAVING THE SMALLEST ORIFICE INSTALLED ON THE SYSTEM, PRESSURE RELIEF VALVE, UL/FM.	AGF (M1011A), RELIABLE (MODEL TD), VICTAULIC (SERIES UTD)
MS-1	MONITOR SWITCH - ELECTRIC, ONE SINGLE POLE, DOUBLE THROW CONTACT, CAST ALUMINUM HOUSING WITH CORROSION RESISTANT PARTS, WITH J-BOLTS FOR MOUNTING. UL/FM. VERIFY ELECTRICAL CHARACTERISTICS WITH ELECTRICAL CONTRACTOR PRIOR TO PURCHASE.	POTTER ELECTRIC OSYSU-1 SYSTEM SENSOR OSY2

KEYNOTES:

1. DISCHARGE DOWN OVER NEAREST FLOOR DRAIN, INTO NEARBY FP DRAIN RISER, OR OUTDOORS.
2. PROVIDE CONCRETE SPLASHBLOCK AT GRADE.
3. SEAL WALL PENETRATION WATERTIGHT. (TYP.)



1 FIRE PROTECTION RISER DIAGRAM

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McHenry County College

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DKA PROJECT NO: 25-037

KEY PLAN:

SHEET STATUS: 04/21/2026

ISSUED FOR BID

NO:	DESCRIPTION:	DATE:

SHEET TITLE:

FIRE PROTECTION DIAGRAMS MATERIAL LIST

SHEET NUMBER:

F3.00

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VIEW KEY

1 → KEYNOTE: INDICATES NOTE USED TO DESCRIBE ADDITIONAL INFORMATION ABOUT WORK REQUIRED, SPECIFIC TO THE SHEET AND/OR DETAIL

INDICATES DIRECTION OF TRUE NORTH
PLAN OR DETAIL NUMBER
PLAN OR DETAIL NAME

NORTH — 1 — **VIEW NAME** — 1/8" = 1'-0"

PLAN OR DETAIL SCALE

LINE TYPE AND TAG KEY:

NEW WORK BY THIS CONTRACTOR (WIDE LINE)
——— NEW
- - - - - EXISTING TO BE REMOVED (SHORT DASHED PATTERN)

EXISTING TO REMAIN OR WORK BY OTHERS (NARROW LINE)
——— EXISTING TO REMAIN
- - - - - EXISTING TO BE REMOVED BY OTHERS (SHORT DASHED PATTERN)

HALF TONING DOES NOT MODIFY SCOPE.

TAG-1 UNDERLINED TAG INDICATES OBJECT IS IN-SCOPE. IF NEW, ADDITIONAL INFORMATION IS AVAILABLE IN A SCHEDULE, MATERIAL LIST, OR SYMBOL LIST

ELECTRICAL SYMBOL LIST

SYMBOL	TAG	SPEC SECTION	DESCRIPTION
COMMON AND SEQUENCE OF OPERATION SUBSCRIPTS			SUBSCRIPTS: TYPE / PROGRAMMING W = WEATHERPROOF # = 15, 30, 75, 110, 177 CANDELA RATING

ELECTRICAL SYMBOL LIST - FIRE ALARM

SYMBOL	EQUIP ABBREV	SPEC SECTION	DESCRIPTION
	FACP-SF	28 31 00	FIRE ALARM CONTROL PANEL
S	FA-120	28 31 00	SMOKE DETECTOR - PHOTOELECTRIC
S	FA-122	28 31 00	DUCT SMOKE DETECTOR
H F	FA-140	28 31 00	HEAT DETECTOR - FIXED TEMP.
F	FA-130	28 31 00	MANUAL PULL STATION
#	FA-200	28 31 00	VISUAL ALARM DEVICE ## INDICATES CANDELA RATING
# F	FA-263	28 31 00	ELECTRIC BELL FOR SPRINKLER SYSTEM
# F	FA-211	28 31 00	COMBINATION AUDIO HORN / VISUAL ALARM DEVICE - ## INDICATES CANDELA RATING
RT	FA-242	28 31 00	REMOTE INDICATOR WITH TEST SWITCH
FS	FA-260	28 31 00	FLOW SWITCH TO MONITOR SPRINKLER SYSTEM
TS	FA-261	28 31 00	TAMPER SWITCH TO MONITOR SPRINKLER SYSTEM
MM	FA-160	28 31 00	ADDRESSABLE MONITOR MODULE
CM	FA-161	28 31 00	ADDRESSABLE CONTROL MODULE

FIRE ALARM SEQUENCES KEY:

SUBSCRIPTS: TYPE/PROGRAMMING:
W WEATHERPROOF
15, 30, 75, 110, 177 CANDELA RATING

ELECTRICAL SYMBOL LIST

SYMBOL:	TAG:	SPEC SECTION:	DESCRIPTION:
	REFER TO LUMINAIRE SCHEDULE		LINEAR LUMINAIRES
			WALL PACK LUMINAIRE
			RECESSED TROFFER
			SINGLE FACE EXIT SIGN
			EMERGENCY UNIT

CONDUIT INSTALLATION SCHEDULE

THE FOLLOWING SCHEDULE SHALL BE ADHERED TO UNLESS THEY CONSTITUTE A VIOLATION OF APPLICABLE CODES OR ARE NOTED OTHERWISE ON THE DRAWINGS. THE INSTALLATION OF RMC CONDUIT WILL BE PERMITTED IN PLACE OF ALL CONDUIT SPECIFIED IN THIS SCHEDULE. REFER TO CONDUIT AND BOXES SPECIFICATION 26 05 33 FOR ADDITIONAL INFORMATION.

INSTALLATION TYPE	RMC	IMC	EMT	PVC	PVC CONCRETE ENCASED
FEEDERS: SWITCHBOARDS, DISTRIBUTION PANELS, PANELBOARDS, MOTOR CONTROL CENTERS, ETC.		X	X		
BRANCH CIRCUITS: LIGHTING, RECEPTACLES, CONTROLS, ETC.		X	X		
MECHANICAL EQUIPMENT FEEDERS: PUMPS, CHILLERS, AIR HANDLING UNITS, ETC.		X	X		
FLOOR MOUNTED EQUIPMENT FEEDERS: PUMPS, ETC. (INCLUDE NO MORE THAN 6 FEET OF LFMC TO PUMP)		X	X		
CONTROLS (LIGHTING, POWER, BUILDING AUTOMATION, ETC.)		X	X		
WET AND DAMP LOCATIONS: (CONDUIT, BOXES, FITTINGS, INSTALLED AND EQUIPPED TO PREVENT WATER ENTRY)	X				
INTERIOR LOCATIONS WITH FINISHED CEILING AND WALLS: CONCEALED IN WALLS AND ABOVE FINISHED CEILINGS			X		
INTERIOR LOCATIONS WITHOUT FINISHED CEILINGS: CONCEALED IN WALL, EXPOSED ABOVE CEILINGS		X	X		
EXISTING INTERIOR LOCATIONS WITH FINISHED CEILINGS AND WALLS: CONCEALED IN WALLS AND ABOVE FINISHED CEILING UNLESS OTHERWISE NOTED			X		
UNDERGROUND / SLABS ON GRADE (IN OR UNDER SLABS ON GRADE)					
WITHIN THE PERIMETER OF THE BUILDING, UNDER SLAB ON GRADE	X			X	
WITHIN 5' OF ANY BUILDING WALL OR FOUNDATION WHEN PENETRATING THE STRUCTURAL FOUNDATION OR WALL	X				X
UNDERGROUND SITE CONDUITS:					
WITHIN 5' FROM THE PERIMETER OF A BUILDING FOUNDATION	X				X
5' OR GREATER FROM THE PERIMETER OF A BUILDING FOUNDATION	X			X	
UNDER ROADS, DRIVES, AND VEHICLE TRAVELED WAYS. WHEN HDPE DIRECTIONAL BORING IS ALLOWED: PROVIDE PRESSURIZED GROUT					X
DEFINITIONS:					
CONCRETE ENCASEMENT: CONDUIT WITH A MINIMUM OF 3" THICKNESS BETWEEN THE SURFACE OF THE CONCRETE AND THE NEAREST CONDUIT. CONCRETE TO BE DOWELED INTO THE FOUNDATION.					

ELECTRICAL SYMBOL LIST - LIGHTING CONTROLS

SYMBOL	TAG	EQUIP ABBREV	SPEC SECTION	DESCRIPTION
S		SW-1P	26 09 33	SWITCH - SINGLE POLE
	O	SW-O	26 09 33	SWITCH - OCCUPANCY SENSOR AND SWITCH
	V	SW-V	26 09 33	SWITCH - VACANCY SENSOR AND SWITCH
OC		SW-OC-D	26 09 33	OCCUPANCY SENSOR - DUAL TECHNOLOGY
PC		SW-LS-PC	26 09 33	PHOTOCELL
#B		SW-#B	26 09 33	LIGHTING CONTROL STATION - UNIQUE ID
TC		SW-TC	26 09 33	TIME CLOCK SWITCH

ELECTRICAL SYMBOL LIST - POWER

SYMBOL	EQUIP ABBREV	SPEC SECTION	DESCRIPTION
E	ECONN	26 05 33	ELECTRICAL CONNECTION - CEILING/SURFACE
E	ECONN	26 05 33	ELECTRICAL CONNECTION - WALL
J	JB	26 05 33	JUNCTION BOX - WALL
ES	ES	26 09 16	EMERGENCY STOP, N.C. CONTACT
	PANEL-'##'	26 24 16	PANELBOARD - SURFACE MOUNT
	DP-#	26 24 16	DISTRIBUTION PANEL
	MS-#	26 24 19	MANUAL STARTER, REFER TO DISCONNECT AND STARTER SCHEDULE
	TR-#	26 22 00	DRY TRANSFORMER(S)
	DS-#	26 28 16	DISCONNECT SWITCH, REFER TO DISCONNECT AND STARTER SCHEDULE
	FDS-#	26 28 16	FUSIBLE DISCONNECT SWITCH, REFER TO DISCONNECT AND STARTER SCHEDULE
	SPD-1	26 43 00	SURGE PROTECTION DEVICE

ELECTRICAL SYMBOL LIST - RECEPTACLES

SYMBOL	TAG	EQUIP ABBREV	SPEC SECTION	DESCRIPTION
		REC-DUP	26 27 26	DUPLEX RECEPTACLE, 125V
	W	REC-DUP-WP	26 27 26	DUPLEX GFI WEATHERPROOF RECEPTACLE, 125V - NEMA 3R WHILE IN-USE COVER
		REC-DUP-GFI	26 27 26	DUPLEX RECEPTACLE, GROUND FAULT CIRCUIT INTERRUPTER, 125V
		REC-QUAD	26 27 26	QUAD RECEPTACLE, 125V
#	620	REC-SIM-620R	26 27 26	RECEPTACLE, 6-20R, 250V
	L1530	REC-SIM-L1530R	26 27 26	RECEPTACLE-LOCKING, L15-30R, 250V, 3PH

RECEPTACLE SUBSCRIPT KEY:

DEVICE KEY:
DEVICE # = MOUNTING (IF APPLICABLE)
1 = CIRCUIT NUMBER

*IF LABEL IS ORIENTED HORIZONTALLY A SLASH WILL SEPARATE THIS INFORMATION. EX: A / 1

ELECTRICAL MOUNTING SUBSCRIPT KEY:
A MOUNT AT +6" TO CENTERLINE ABOVE COUNTER OR BACKSPLASH
WG WIRE GUARD
+#" MOUNT AT #" TO CENTERLINE ABOVE FINISHED FLOOR

ELECTRICAL RENOVATION NOTES:

THESE NOTES APPLY TO ALL ELECTRICAL SHEETS AND TRADES, INCLUDING BUT NOT LIMITED TO, LIGHTING, POWER, FIRE ALARM, AND OTHER LOW VOLTAGE SYSTEMS.

1. EXISTING CONDITIONS ARE SHOWN BASED ON INFORMATION OBTAINED FROM FIELD SURVEYS, EXISTING BUILDING DOCUMENTS. CONTRACTOR SHALL REVIEW EXISTING CONDITIONS AND REPORT CONFLICTS.
2. NOT ALL EXISTING EQUIPMENT, LUMINAIRES, AND CONDUIT ARE SHOWN. CONTRACTOR SHALL REVIEW EXISTING CONDITIONS AND REPORT CONFLICTS.
3. ELECTRICAL CONTRACTOR SHALL REVIEW EXISTING CONDITIONS TO VERIFY ACCESSIBILITY TO THE AREAS OF THEIR WORK INCLUDING WALLS, FLOOR, CEILINGS, CEILING TILES/GRID, AND ROOF. ELECTRICAL CONTRACTOR IS RESPONSIBLE TO PROVIDE CUTTING, REMOVAL, PATCHING, AND REINSTALLATION OF AFFECTED AREAS ASSOCIATED WITH THEIR WORK BY COORDINATING WITH THE GENERAL CONTRACTOR OR QUALIFIED CONTRACTOR. CONTRACTOR SHALL NOTIFY THE PRIME CONTRACTOR OF AFFECTED AREAS PRIOR TO BIDDING.
4. WHERE EXISTING ELECTRICAL SYSTEMS ARE LOCATED IN AREAS THAT CONFLICT WITH NEW EQUIPMENT, PIPING, OR DUCTWORK TO BE INSTALLED, EACH CONTRACTOR SHALL EITHER ARRANGE NEW EQUIPMENT, CONDUIT, OR DUCTWORK IN SUCH A FASHION THAT IT DOES NOT CONFLICT WITH EXISTING SYSTEMS, OR REWORK EXISTING ELECTRICAL SYSTEMS TO ALLOW FOR INSTALLATION OF NEW EQUIPMENT, PIPING, OR DUCTWORK.

LIGHTING SYSTEM DESCRIPTION KEY:

THE DESIGN DOCUMENTS DESCRIBE THE OPERATIONAL PERFORMANCE REQUIREMENTS OF THE LIGHTING CONTROL SYSTEM. THE PROJECT MAY REQUIRE ONE OR MORE LIGHTING CONTROL STRATEGIES FOR THE PROJECT. REFER TO THE ELECTRICAL SYMBOL KEY, SPECIFICATION SECTION 26 09 33 LIGHTING CONTROL SYSTEMS, AND THE DRAWINGS TO DETERMINE THE DESIGN APPLICATION FOR EACH SPACE. THE POTENTIAL STRATEGIES ARE AS FOLLOWS:

1. STANDALONE LIGHTING CONTROL DEVICES: INDEPENDENT (STANDALONE) DEVICES TRADITIONALLY OPERATING AT LINE OR LOW VOLTAGE. FIELD CONFIGURABLE WITH OTHER STANDALONE DEVICES TO PROVIDE AN OVERALL LIGHTING CONTROL SYSTEM.
2. ROOM BASED LIGHTING CONTROLS: INTEGRATED SYSTEM COMPRISED OF SWITCH STATIONS, SENSORS, ROOM CONTROLLERS, CONTROL PANELS, AND ACCESSORIES, OPERATING AT LINE AND/OR LOW VOLTAGE, CONFIGURED AS AN INTEGRATED OVERALL "INTELLIGENT" LIGHTING CONTROL SYSTEM. LIGHTING CONTROL ZONES AND POWER CIRCUITS COMMONLY ALIGN.

LIGHTING CONTROL SYSTEM DESIGNATION: THE FOLLOWING KEY MAY BE USED AS AN EXAMPLE TO DETERMINE THE DESIGNATED LIGHTING CONTROL SYSTEM FOR EACH SPACE. REFER TO ELECTRICAL COVERSHEET FOR ELECTRICAL SYMBOLS LIST AND DEVICE SPECIFICATION TAG. REFER TO THE SPECIFICATIONS FOR ADDITIONAL INFORMATION.

1. STANDALONE LIGHTING CONTROL DEVICES: CONTROL STATION COMMONLY DEFINED BY AN ALPHA CHARACTER WITH SUBSCRIPTS.
   A. EXAMPLE SYMBOL "S", SPECIFICATION TAG "SW-1P", DESCRIPTION "SWITCH-SINGLE POLE SWITCH".
   B. EXAMPLE CONTROL DESIGNATION: a, b, c (WHEN REQUIRED TO CLARIFY DESIGN INTENT).
   C. REFER TO THE LIGHT CONTROL SEQUENCE OF OPERATION TAG {L#-##} FOR A COMPLETE DESCRIPTION OF THE LIGHTING CONTROL REQUIREMENTS.

   F#/a — LUMINAIRE; a/S — CONTROL

2. ROOM BASED LIGHTING CONTROLS: CONTROL STATION COMMONLY DEFINED BY A RECTANGLE SYMBOL.
   A. EXAMPLE CONTROL STATION: SYMBOL "#B", TAGGED "SW-#B", DESCRIPTION "LIGHTING CONTROL STATION".
   B. EXAMPLE CONTROL DESIGNATIONS: a, b, c
   C. LIGHTING CONTROL STATION "#B" a,b CONTROLS LUMINAIRES WITH THE SUBSCRIPT "a" AND "b" WITHIN THE SAME SPACE
   D. REFER TO THE LIGHT CONTROL SEQUENCE OF OPERATION TAG {L#-##} FOR A COMPLETE DESCRIPTION OF THE LIGHTING CONTROL AND PRE-PROGRAMMED SCENE SELECTION REQUIREMENTS.

   F#/a — LUMINAIRE; F#/b — LUMINAIRE; a,b/#B — CONTROL

LIGHTING CONTROL NOTES:

LIGHTING CONTROL NOTES:

{L#-##} INDICATES THE LIGHTING SEQUENCE OF OPERATION FOR THE SPACE. REFER TO THE LIGHTING SEQUENCE OF OPERATION MATRIX ON SHEET E4.00.

{#B} LIGHTING CONTROL STATION. THE "#" INDICATES THE MINIMUM QUANTITY OF ZONES/SCENES AS DEFINED IN THE LIGHTING SEQUENCE OF OPERATIONS. THE LIGHTING CONTROL STATION SHALL PROVIDE SEPARATE ON AND OFF AS WELL AS RAISE AND LOWER BUTTON(S). CONTROL SHALL BE CAPABLE OF DIMMING UP/DOWN AND SWITCHING AS DEFINED IN THE LIGHTING SEQUENCE OF OPERATIONS. REFER TO DRAWINGS AND LUMINAIRE SUBSCRIPTS TO DETERMINE IF A ROOM BASED CONTROLLER (a, b, c SUBSCRIPTS) OR NETWORK CONTROL SYSTEM (z1, z2, z3) IS REQUIRED.

LIGHTING CONTROL SUBSCRIPTS:
1. LOWER CASE ALPHA SUBSCRIPTS "a, b, c" INDICATE LINE VOLTAGE OR ROOM BASED LIGHTING CONTROL SYSTEMS. REFER TO DRAWINGS TO DETERMINE IF LINE VOLTAGE CONTROL (S, S3, S4, ETC) OR {#B} ROOM BASED CONTROLLER SYSTEM (#B) IS REQUIRED.

REFER TO SHEET E4.00 FOR LUMINAIRE SCHEDULE

ELECTRICAL INSTALLATION NOTES:

1. THE COMPLETE INSTALLATION SHALL BE IN ACCORDANCE WITH THE ADA STANDARDS FOR ACCESSIBLE DESIGN.
2. CIRCUIT NUMBERS ARE SHOWN FOR CIRCUIT IDENTIFICATION. CIRCUITING SHALL AGREE WITH NUMBERING ON THE PANEL PROVIDED. COMMON NEUTRALS MAY NOT BE USED FOR BRANCH CIRCUITS. BALANCE THE LOAD ON PANEL AS EVENLY AS POSSIBLE BETWEEN EACH PHASE.
3. FLUSH MOUNT ALL LIGHTING CONTROL DEVICES AT +42" FROM FLOOR (CENTERLINE DIMENSION), EXCEPT WHERE OTHERWISE NOTED.
4. FLUSH MOUNT ALL DUPLEX RECEPTACLES AND TECHNOLOGY OUTLETS AT +18" FROM FLOOR (CENTERLINE DIMENSION), EXCEPT WHERE OTHERWISE NOTED.
5. MOUNT ALL FIRE ALARM PULL STATIONS AT +42" FROM FLOOR (CENTERLINE DIMENSION) EXCEPT WHERE OTHERWISE NOTED.
6. INSTALL ALL WALL MOUNTED FIRE ALARM NOTIFICATION DEVICES AT 90" ABOVE FINISHED FLOOR OR 6" BELOW THE CEILING, WHICHEVER IS LOWER, EXCEPT WHERE OTHERWISE NOTED. HEIGHT SHALL BE MEASURED TO THE TOP OF THE DEVICE.
7. CONTRACTOR SHALL COORDINATE THE LOCATION OF ALL CEILING MOUNTED DEVICES AND EQUIPMENT WITH LUMINAIRES, AND CEILING DIFFUSERS. CENTER ALL DEVICES IN CEILING TILE PATTERN. SMOKE DETECTORS, AND OCCUPANCY/VACANCY SENSORS SHALL BE LOCATED NO CLOSER THAN 3 FEET TO AN AIR SUPPLY DIFFUSER OR RETURN GRILLE.
8. CONTRACTOR SHALL VERIFY ALL FURNITURE, MODULAR FURNITURE, AND EQUIPMENT LOCATIONS WITH ARCHITECTURAL PLANS, ELEVATIONS, AND REVIEWED SHOP DRAWINGS. PRIOR TO MAKING THE ACTUAL ELECTRICAL INSTALLATION, THIS CONTRACTOR SHALL ADJUST RECEPTACLES, OUTLETS, OR CONNECTION LOCATIONS TO ACCOMMODATE FURNITURE AND/OR EQUIPMENT.
9. ELECTRICAL AND TECHNOLOGY EQUIPMENT SHALL BE MOUNTED TO AVOID IMPEDANCE OF, OPERATION OF, AND/OR ACCESS TO ELECTRICAL AND MECHANICAL EQUIPMENT. ALL MOUNTING OF ELECTRICAL AND TELECOMMUNICATIONS EQUIPMENT, ON EQUIPMENT SUPPLIED BY ANOTHER CONTRACTOR, SHALL BE APPROVED IN ADVANCE BY THE OTHER CONTRACTOR.
10. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL OPENINGS REQUIRED IN WALLS. ALL OPENINGS SHALL BE REPAIRED TO MATCH EXISTING BY A QUALIFIED CONTRACTOR AT THE EXPENSE OF THIS CONTRACTOR. ALL CONDUITS THROUGH WALLS SHALL BE GROUTED OR SEALED INTO OPENINGS.
11. EACH CONTRACTOR IS RESPONSIBLE FOR DAMAGE CAUSED BY THEIR ACTIONS TO THE WALLS, FLOORS, CEILINGS, AND ROOFS. THE CONTRACTOR WHOSE WORK CAUSES DAMAGE IS RESPONSIBLE FOR PATCHING TO MATCH ORIGINAL CONSTRUCTION, FIRE RATING, AND FINISH.
12. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN, ELECTRICAL, TECHNOLOGY AUDIO/VISUAL, AND OTHER ELECTRICAL PLANS FOR EXACT LOCATIONS OF ALL CEILING MOUNTED DEVICES.
13. ELECTRICAL IDENTIFICATION. REFER TO SPECIFICATION SECTION 26 05 53 FOR COLOR/LABEL REQUIREMENTS FOR CONDUIT, BOX, CABLE/WIRE, AND EQUIPMENT.

ELECTRICAL SHEET INDEX

E0.00	ELECTRICAL COVERSHEET
ED0.01	ELECTRICAL SITE DEMOLITION
ED1.01	DEMOLITION FLOOR PLAN - ELECTRICAL
E0.01	ELECTRICAL SITE PLAN
E1.01	FLOOR PLAN - LIGHTING
E1.02	FLOOR PLAN - POWER & SYSTEMS
E2.00	ELECTRICAL DETAILS
E4.00	ELECTRICAL SCHEDULES
GRAND TOTAL: 8	

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DKA PROJECT NO: 25-037

KEY PLAN:

SHEET STATUS: 04/21/2026
ISSUED FOR BID

NO:	DESCRIPTION:	DATE:

SHEET TITLE:
ELECTRICAL COVERSHEET

SHEET NUMBER:
E0.00

4/21/2026 8:45:56 AM

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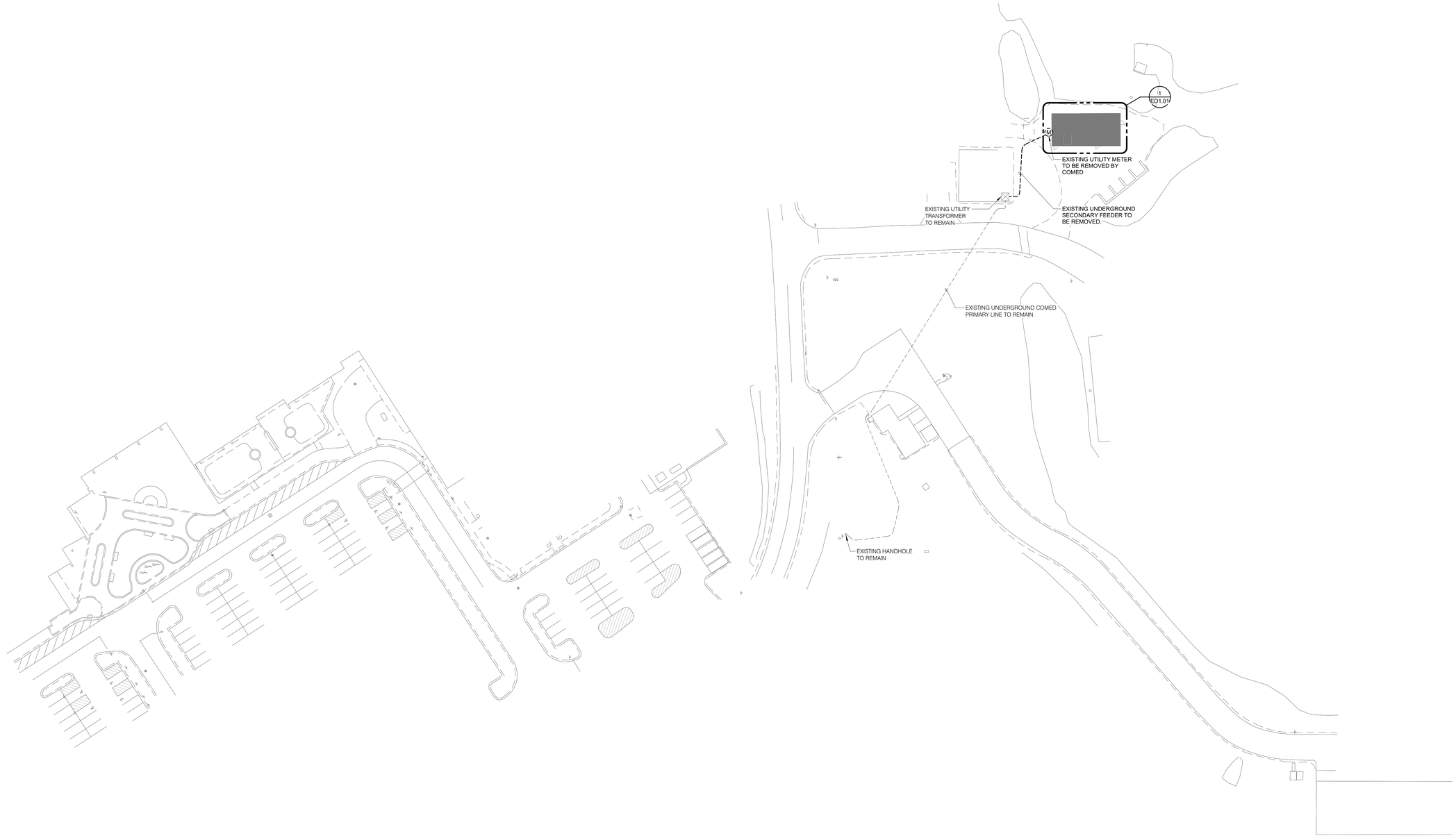
Illinois Design Firm Registration #184008976-0014

0 1 2 3
REF. SCALE IN INCHES

PROJECT #260000535.00

GENERAL SHEET NOTES:

1. REFER TO SHEET E0.00 FOR ELECTRICAL GENERAL NOTES, INSTALLATION NOTES, SYMBOL LIST, AND OTHER MISCELLANEOUS INFORMATION.



NORTH

1 ELECTRICAL SITE - DEMOLITION

1" = 40'-0"

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DKA PROJECT NO: 25-037

KEY PLAN:

SHEET STATUS: 04/21/2026
ISSUED FOR BID

NO:	DESCRIPTION:	DATE:

SHEET TITLE:
ELECTRICAL SITE DEMOLITION

SHEET NUMBER:
ED0.01

4/21/2026 8:45:59 AM

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0 1 2 3
REF. SCALE IN INCHES

PROJECT #25000535.00

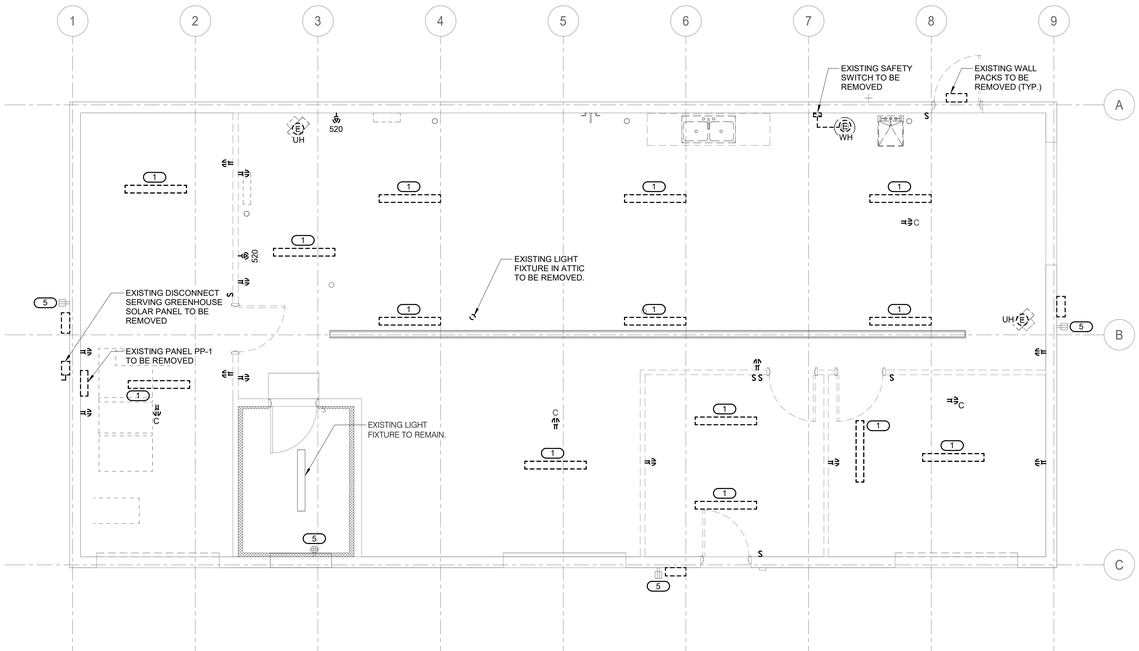
2 (E) EXISTING GREENHOUSE LOAD TO REMAIN. REFER TO NEW WORK.

2 (E) EXISTING GREENHOUSE BLOWER TO REMAIN. REFER TO NEW WORK.

2 (E) EXISTING GREENHOUSE CONTROL TO REMAIN. REFER TO NEW WORK.

3 (E) EXISTING ENPHASE CONTROLLER TO REMAIN. REFER TO NEW WORK.

4 (E) EXISTING SOLAR PANEL TO REMAIN. REFER TO NEW WORK.



1 LEVEL 1 - FLOOR DEMOLITION PLAN - ELECTRICAL

1/4" = 1'-0"

GENERAL SHEET NOTES:

1. REFER TO SHEET E0.00 FOR ELECTRICAL GENERAL NOTES, INSTALLATION NOTES, DEMOLITION NOTES, SYMBOL LIST, AND OTHER MISCELLANEOUS INFORMATION.
2. REFER TO SPECIFICATION SECTION 26 05 05 FOR DEMOLITION REQUIREMENTS.
3. REFER TO ARCHITECTURAL DEMOLITION DRAWINGS FOR ADDITIONAL INFORMATION.
4. WHERE DEVICES ARE SCHEDULED TO BE REMOVED, REMOVE ANY ASSOCIATED SURFACE BOXES AND CONDUIT AND WIRE BACK TO THE SOURCE PANEL.

KEYNOTES:

1. EXISTING LUMINAIRES TO BE REMOVED AND SALVAGED FOR REUSE. REFER TO NEW WORK.
2. EXISTING 120V CIRCUIT SERVING GREENHOUSE EQUIPMENT TO REMAIN. INTERCEPT EXISTING CIRCUIT AND EXTEND TO NEW PANEL MDP. MATCH EXISTING CONDUIT AND WIRE. REFER TO NEW WORK.
3. EXISTING 240V CIRCUIT SERVING GREENHOUSE EQUIPMENT TO REMAIN. INTERCEPT EXISTING CIRCUIT AND EXTEND TO NEW BUCKBOOST TRANSFORMER 'BB-TR-3'. MATCH EXISTING CONDUIT AND WIRE. REFER TO NEW WORK.
4. EXISTING 240V CIRCUIT SERVING GREENHOUSE EQUIPMENT TO REMAIN. INTERCEPT EXISTING CIRCUIT AND EXTEND TO NEW BUCKBOOST TRANSFORMER 'BB-TR-7.5'. MATCH EXISTING CONDUIT AND WIRE. REFER TO NEW WORK.
5. EXISTING DEVICE TO REMAIN FOR RE-USE. REMOVE ALL CONDUIT AND WIRE BACK TO SOURCE. REFER TO NEW WORK.

ELECTRICAL DEMOLITION SYMBOL LIST

SYMBOL:	DESCRIPTION:
	INDICATES EXISTING TO REMAIN
	INDICATES EXISTING TO BE REMOVED
(E)	ELECTRICAL CONNECTION
	DUPLEX RECEPTACLE
	DUPLEX GFI RECEPTACLE
	PANELBOARD - SURFACE MOUNT
	LINEAR LUMINAIRE
	WALL PACK LUMINAIRE
	SIMPLEX RECEPTACLE, 5-20R, 125V
	DOWNLIGHT
S	SINGLE POLE SWITCH
	DISCONNECT SWITCH
	MANUAL SWITCH

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8900 Northwest Hwy #14, Crystal Lake, IL 60012
DKA PROJECT NO: 25-037

KEY PLAN:

SHEET STATUS: 04/21/2026
ISSUED FOR BID

NO:	DESCRIPTION:	DATE:

SHEET TITLE:
DEMOLITION FLOOR PLAN - ELECTRICAL

SHEET NUMBER:
ED1.01

4/21/2026 8:46:00 AM

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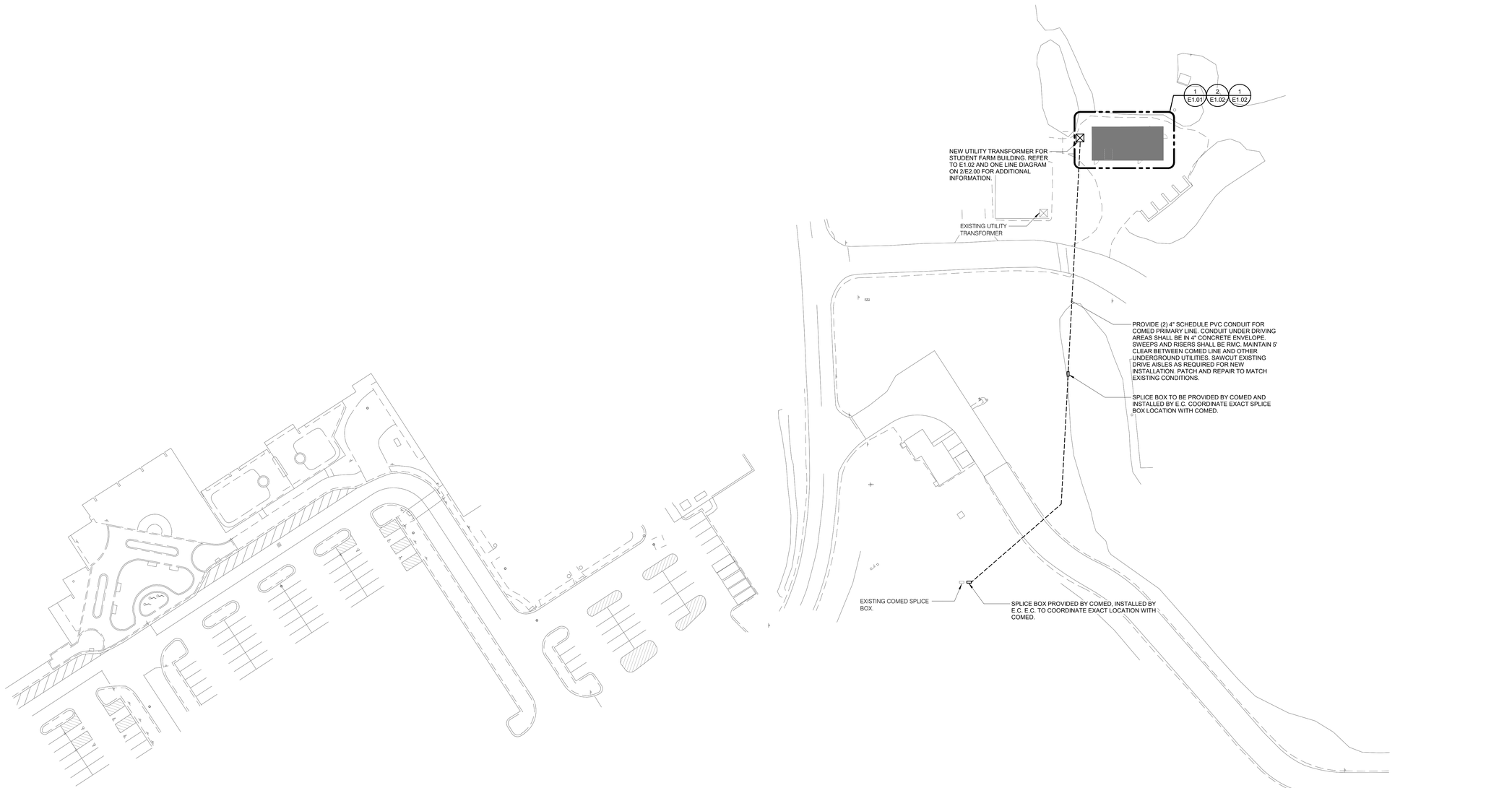
REF. SCALE IN INCHES

PROJECT #250000535.00

GENERAL SHEET NOTES:

1. REFER TO SHEET E0.00 FOR ELECTRICAL GENERAL NOTES, INSTALLATION NOTES, SYMBOL LIST, AND OTHER MISCELLANEOUS INFORMATION.
2. E.C. SHALL HIRE PRIVATE UNDERGROUND UTILITY LOCATER TO MARK ALL UNDERGROUND UTILITIES PRIOR TO START OF WORK.



NORTH

1 ELECTRICAL SITE PLAN

1" = 40'-0"

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Illinois Design Firm Registration #184008976-0014

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REF. SCALE IN INCHES

PROJECT #26000035.00

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McHenry County College

Student Farm Renovations

8900 Northwest Hwy #14, Crystal Lake, IL 60012
DKA PROJECT NO: 25-037

KEY PLAN:

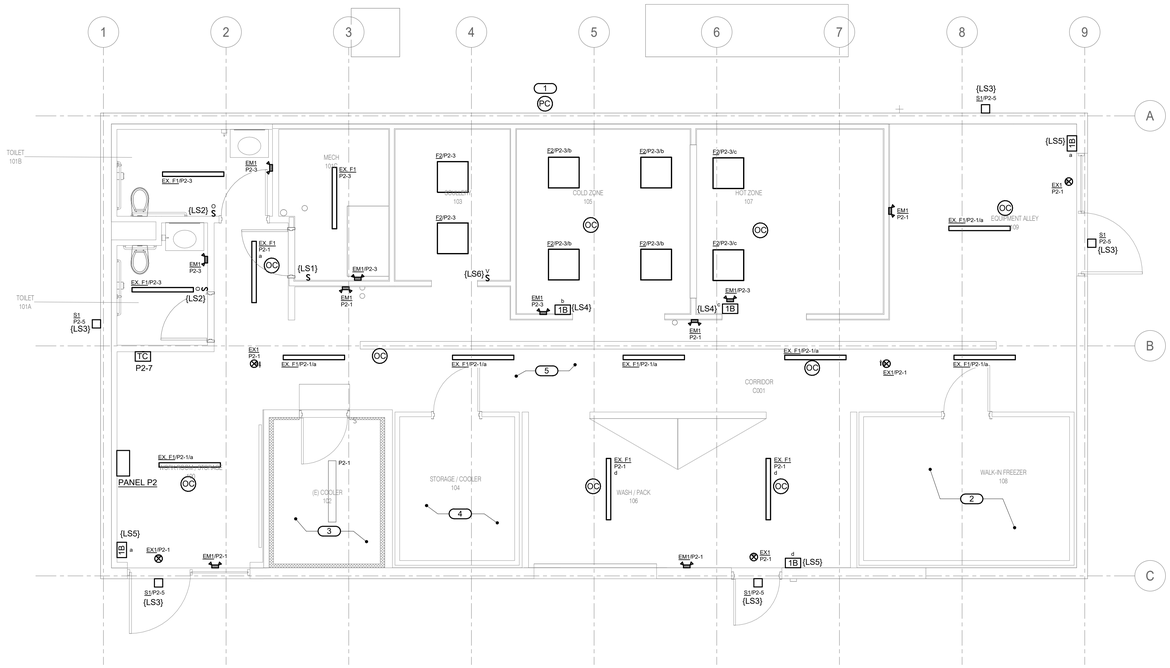
SHEET STATUS: 04/21/2026
ISSUED FOR BID

NO:	DESCRIPTION:	DATE:

SHEET TITLE:
ELECTRICAL SITE PLAN

SHEET NUMBER:
E0.01

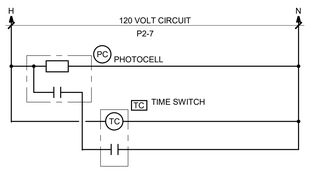
4/21/2026 8:45:56 AM



NORTH

1 LEVEL 1 - FLOOR PLAN - LIGHTING

1/4" = 1'-0"



2 EXTERIOR LIGHTING CONTROL DETAIL

NO SCALE

GENERAL SHEET NOTES:

1. REFER TO SHEET E0.00 FOR ELECTRICAL GENERAL NOTES, INSTALLATION NOTES, RENOVATION NOTES, SYMBOL LIST, AND OTHER MISCELLANEOUS INFORMATION.
2. REFER TO SHEET E4.00 FOR LUMINAIRE SCHEDULE AND LIGHTING SEQUENCE OF OPERATION.
3. REFER TO SHEET E4.00 FOR PANEL SCHEDULES.
4. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN, MECHANICAL, FIRE PROTECTION, AND OTHER ELECTRICAL PLANS FOR EXACT LOCATIONS OF ALL CEILING MOUNTED DEVICES.
5. FIXTURE TYPE F1 WITH TAG 'EX. F1' ARE EXISTING FIXTURES RETAINED FOR RE-USE. FIXTURES SHALL BE INSTALLED AND CONNECTED TO NEW 120V CIRCUIT AND CONTROLS AS NOTED ON PLANS.
6. EXPOSED CONDUIT IS ACCEPTABLE WHERE A NEW DEVICE IS TO BE INSTALLED ON AN EXISTING WALL.
7. WIRE EXIT SIGNS AND EMERGENCY UNITS TO THE UN-SWITCHED LEG OF THE LOCAL LIGHTING CIRCUIT.

KEYNOTES:

1. PHOTOCELL FOR EXTERIOR LUMINAIRES. REFER TO DETAIL 2/E1.01 FOR WIRING DIAGRAM. MOUNT ON WALL FACING NORTH. COORDINATE EXACT LOCATION WITH OWNER.
2. LIGHT FIXTURES TO BE PROVIDED BY WALK-IN FREEZER MANUFACTURER. INSTALLED AND WIRED BY E.C. REFER TO ITEM FEQ-01 ON SHEET E1.02 FOR POWER REQUIREMENTS.
3. EXISTING COOLER LUMINAIRE SHALL BE CONNECTED TO NEW 120V CIRCUIT. EXISTING LIGHTING CONTROLS TO REMAIN.
4. LIGHT FIXTURES TO BE PROVIDED BY WALK-IN COOLER MANUFACTURER, INSTALLED AND WIRED BY E.C. REFER TO ITEM FEQ-04 ON SHEET E1.02 FOR POWER REQUIREMENTS.
5. PROVIDE EX.F1 FIXTURE IN ATTIC SPACE CONNECTED TO CIRCUIT 'P2-1'. PROVIDE LOCAL LIGHTING CONTROLS IN THE SPACE PERTAINING TO (LS1). VERIFY EXACT FIXTURE LOCATION WITH ARCHITECT.

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DKA PROJECT NO: 25-037

KEY PLAN:

SHEET STATUS: 04/21/2026

ISSUED FOR BID

NO:	DESCRIPTION:	DATE:

SHEET TITLE:

FLOOR PLAN - LIGHTING

SHEET NUMBER:

E1.01

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PROJECT #250000535.00

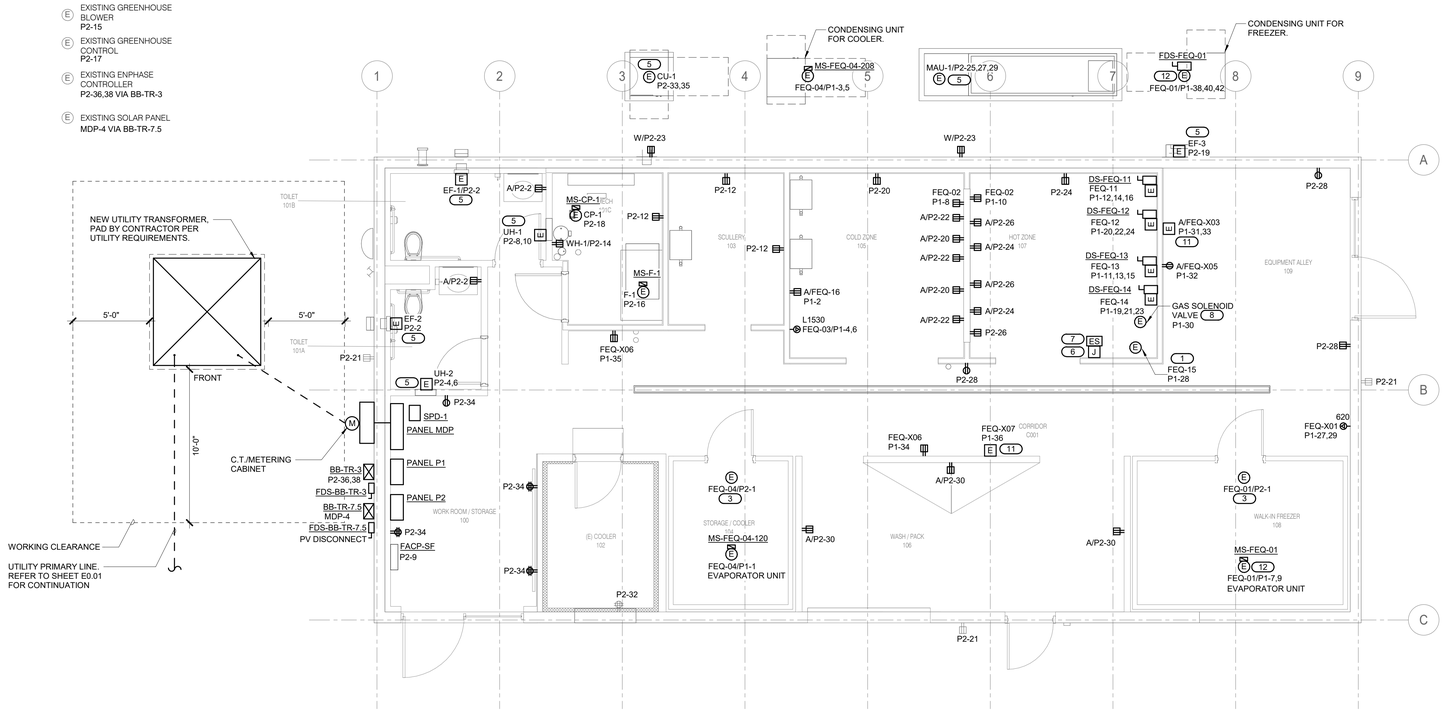
(E) EXISTING GREENHOUSE LOAD P2-13

(E) EXISTING GREENHOUSE BLOWER P2-15

(E) EXISTING GREENHOUSE CONTROL P2-17

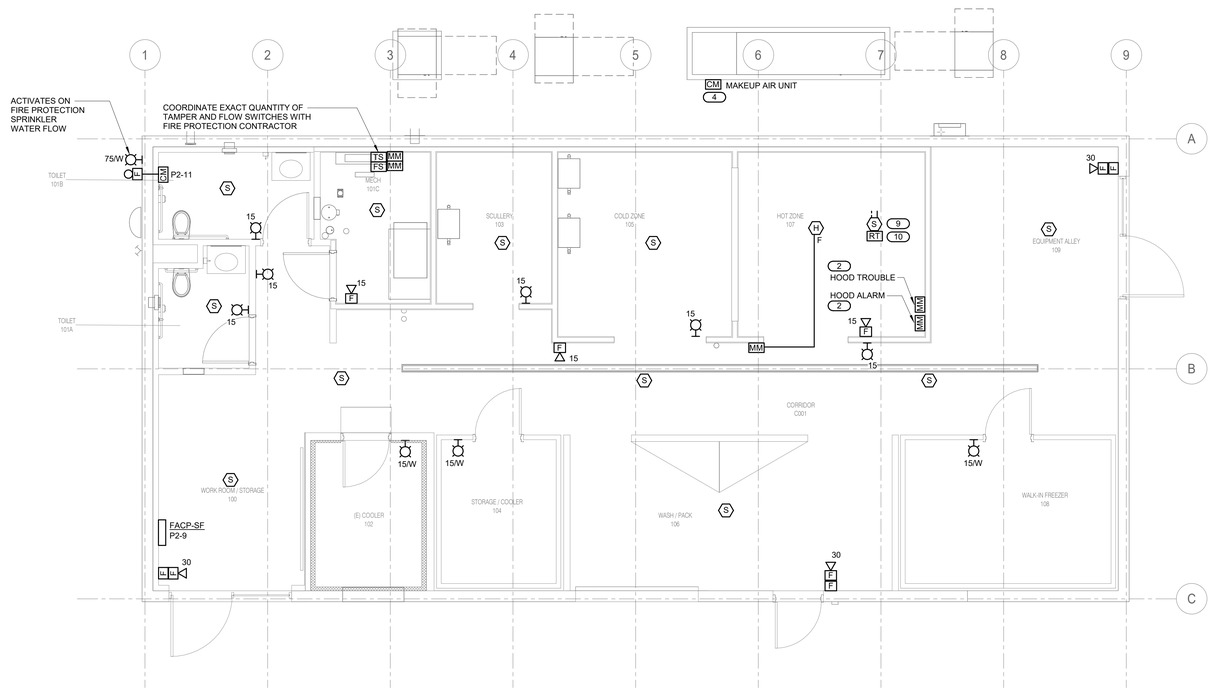
(E) EXISTING ENPHASE CONTROLLER P2-36,38 VIA BB-TR-3

(E) EXISTING SOLAR PANEL MDP-4 VIA BB-TR-7.5



2 LEVEL 1 - FLOOR PLAN - POWER

1/4" = 1'-0"



1 LEVEL 1 - FLOOR PLAN - SYSTEMS

1/4" = 1'-0"

GENERAL SHEET NOTES:

1. REFER TO SHEET E0.00 FOR ELECTRICAL GENERAL NOTES, INSTALLATION NOTES, RENOVATION NOTES, SYMBOL LIST, AND OTHER MISCELLANEOUS INFORMATION.
2. REFER TO SHEET E4.00 FOR PANEL SCHEDULES.
3. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN, MECHANICAL, FIRE PROTECTION, AND OTHER ELECTRICAL PLANS FOR EXACT LOCATIONS OF ALL CEILING MOUNTED DEVICES.
4. VERIFY EXACT LOCATION AND ELEVATION OF RECEPTACLES WITH ARCHITECT.
5. REFER TO DETAIL 1/E2.00 FOR EXHAUST HOOD CONTROL DIAGRAM.
6. EXPOSED CONDUIT IS ACCEPTABLE WHERE A NEW DEVICE IS TO BE INSTALLED ON AN EXISTING WALL.
7. COORDINATE LOCATIONS OF ALL KITCHEN EQUIPMENT DEVICES MARKED 'FEQ-##' WITH KITCHEN CONSULTANT PRIOR TO ROUGH-IN.

KEYNOTES:

1. HOOD PROVIDED WITH LIGHT SWITCH, INSTALLED AND WIRED BY E.C.
2. MONITOR MODULE FOR EXHAUST HOOD CONTROL PANEL. REFER TO DETAIL 1/E2.00.
3. LIGHTING TO BE PROVIDED BY FREEZER/COOLER MANUFACTURER, INSTALLED AND WIRED BY E.C. PROVIDE LIGHTING CONTROL AS REQUIRED.
4. CONNECTION TO MOTOR CONTROLLER FOR MOTOR SHUTDOWN SEQUENCE.
5. CONNECT TO MANUFACTURER PROVIDED DISCONNECT/STARTER.
6. BACKBOX FOR MANUAL HOOD SUPPRESSION. COORDINATE LOCATION WITH HOOD INSTALLER. REFER TO DETAIL 1/E2.00 FOR WIRING DETAIL.
7. EMERGENCY GAS SHUTOFF SWITCH. REFER TO DETAIL 1/E2.00 FOR WIRING DETAIL.
8. GAS SOLENOID VALVE FOR COOKING APPLIANCE UNDER HOOD. COORDINATE EXACT LOCATION WITH M.C. REFER TO DETAIL 1/E2.00 FOR WIRING DETAIL.
9. INSTALL SAMPLING TUBE IN STRAIGHT RUN OF THE DUCT, DOWN STREAM OF FILTERS, AND AHEAD ANY BRANCH DUCTS. COORDINATE INSTALLATION WITH M.C. PRIOR TO ROUGH-IN. SEAL ALL DUCT PENETRATIONS AIR-TIGHT.
10. INSTALL REMOTE INDICATOR TEST SWITCH ON WALL IN THE CORRIDOR. LABEL AS PER ASSOCIATED MAU, DUCT SYSTEM, AND SMOKE DETECTOR ADDRESS.
11. VERIFY EXISTING EQUIPMENT ON SITE. COORDINATE RECEPTACLE CONFIGURATION WITH EXISITNG PLUG.
12. POWER REQUIREMENTS HAVE NOT BEEN PROVIDED TO IMEG DURING DESIGN. CONTRACTOR SHALL COORDINATE EXACT POWER REQUIREMENTS WITH APPROVED SHOP DRAWINGS.

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DKA PROJECT NO: 25-037

KEY PLAN:

SHEET STATUS: 04/21/2026
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SHEET TITLE:
FLOOR PLAN - POWER & SYSTEMS

SHEET NUMBER:
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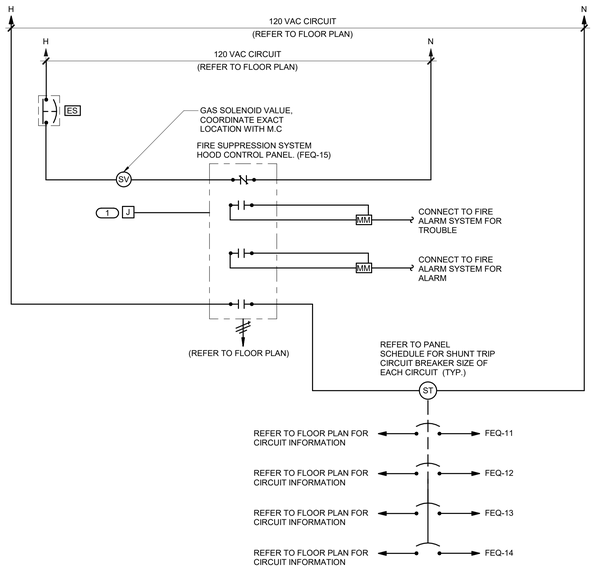
PROJECT #26000535.00



1 EXHAUST HOOD CONTROL DIAGRAM

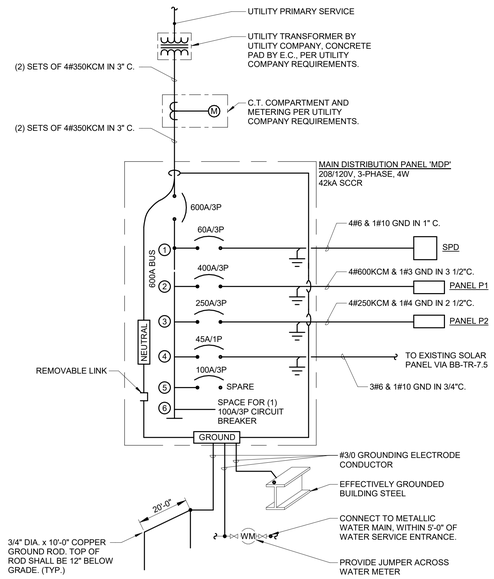
NO SCALE

NOTES:

1. WIRING PER MANUFACTURER'S RECOMMENDATIONS. ALL WIRING SHALL BE INSTALLED IN CONDUIT.

KEYNOTES: (#)

1. PROVIDE BACKBOX AND CONDUIT FOR MANUAL PULL STATION PROVIDED BY FOOD SERVICE EQUIPMENT SUPPLIER. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH SERVICE EQUIPMENT SUPPLIER PRIOR TO INSTALLATION.

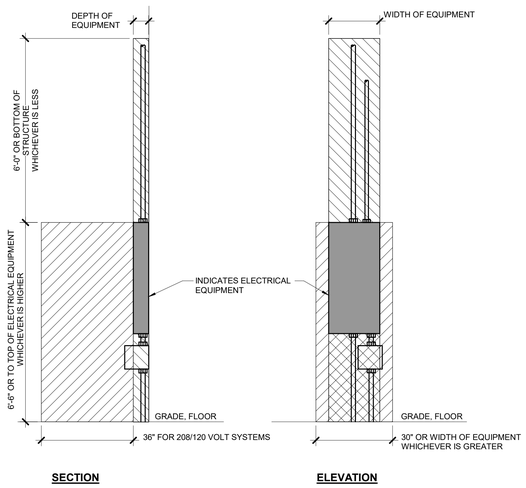


2 ONE LINE DIAGRAM

NO SCALE

ONE LINE DIAGRAM NOTES

1. AIC RATINGS LISTED FOR EQUIPMENT ARE MINIMUM REQUIREMENTS FOR BUS BRACING AND DEVICE RATING. ALL EQUIPMENT SHALL BE FULLY RATED UNLESS SPECIFICALLY NOTED AS SERIES RATED.
2. (M) INDICATES KILOWATT-HOUR METER AS SUPPLIED BY UTILITY COMPANY.
3. INDICATES DIRECT CONNECTION OF GROUND CONDUCTOR TO GROUND BUS.
4. INDICATES CIRCUIT BREAKER, SIZE AS SPECIFIED.
5. INDICATES TRANSFORMER, SIZE AS SPECIFIED.
6. INDICATES O.Z. GEDNEY OR EQUAL GROUND BUSHING BONDED TO GROUND BUS WITH CONDUCTOR SIZED TO MAXIMUM FEEDER GROUND CAPACITY.



INDICATES WORKING SPACE REQUIRED PER LOCAL ELECTRICAL CODE. ELECTRICAL EQUIPMENT LOCATED ABOVE OR BELOW OTHER RELATED EQUIPMENT SHALL NOT EXTEND MORE THAN 6" IN FRONT OF SUCH EQUIPMENT.

INDICATES DEDICATED ELECTRICAL SPACE REQUIRED PER LOCAL ELECTRICAL CODE

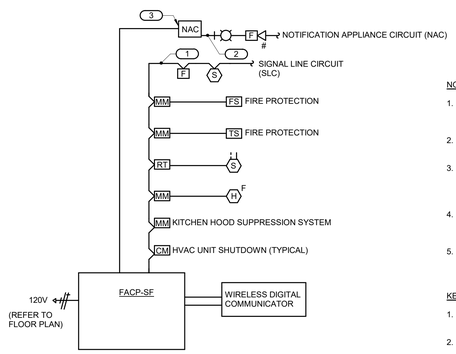
3 PANELBOARD EQUIPMENT CLEARANCES

NO SCALE

SYSTEM INPUTS \ SEQUENCE OF OPERATION		PANEL/ANNUNCIATOR ALARM INDICATION	PANEL/ANNUNCIATOR SUPERVISORY INDICATION	PANEL/ANNUNCIATOR TROUBLE INDICATION	AUDIBLE ALARMS SEQUENCE	VISUAL ALARMS SEQUENCE	CM MAU & MECHANICAL FAN SHUTDOWN SEQUENCE
FIRE ALARM PANEL, TRANSPONDER, NAC PANEL LOW BATTERY			X				
FIRE ALARM PANEL, TRANSPONDER, NAC PANEL BATTERY OR CHARGER FAILURE				X			
FIRE ALARM PANEL, TRANSPONDER, NAC PANEL ABNORMAL SWITCH OR CONTROL POSITION.			X				
FIRE ALARM PANEL, TRANSPONDER, NAC PANEL GROUND FAULT, OPEN CIRCUIT, SHORT CIRCUIT				X			
FIRE ALARM PANEL, TRANSPONDER, NAC PANEL AC POWER LOSS OR IRREGULARITY				X			
NOTIFICATION APPLIANCE CIRCUIT OR SLC LOOP GROUND FAULT, OPEN CIRCUIT, SHORT CIRCUIT				X			
INITIATING DEVICE FAILURE OR COMMUNICATION ERROR				X			
FIRE ALARM PANEL MANUAL FIRE DRILL			X		X	X	
MANUAL PULL STATION	F	X			X	X	
SMOKE DETECTOR	S	X			X	X	
HEAT DETECTOR	H F	X			X	X	
SMOKE DETECTOR FOR HVAC CONTROL	S T						X
SPRINKLER SYSTEM FLOW SWITCH	FS	X			X	X	
SPRINKLER SYSTEM TAMPER SWITCH	TS		X				

4 FIRE ALARM OPERATION MATRIX

NO SCALE



NOTES:

1. THE RISER DIAGRAM IS INTENDED TO CONVEY THE TYPES OF FIRE ALARM CONNECTIONS AND SPECIFICALLY DOES NOT INDICATE QUANTITIES, NUMBER OF CIRCUITS REQUIRED OR DISTANCES.
2. THE COMPLETE FIRE ALARM SYSTEM SHALL MEET ALL APPLICABLE CODES AND MANUFACTURER'S RECOMMENDATIONS.
3. CONTRACTOR SHALL COORDINATE ALL WIRE SIZES, TYPES AND REQUIREMENTS WITH THE VENDOR PRIOR TO BID. REFER TO SPECIFICATIONS TO DETERMINE CIRCUIT STYLES AND IF CONDUIT IS REQUIRED OR PLENUM RATED CABLE IS ACCEPTABLE.
4. ALL +120VAC WIRING REQUIRED FOR OPERATION OF THE SYSTEM AS DESCRIBED IN THE CONSTRUCTION DOCUMENTS SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR.
5. ALL NECESSARY RELAYS MAY NOT BE SHOWN ON THIS PLAN, BUT WHERE REQUIRED FOR PROPER OPERATION OF THE SYSTEM THEY SHALL BE PROVIDED BY THE CONTRACTOR.

KEYNOTES: (#)

1. REFER TO SPECIFICATION FOR REQUIREMENTS OF EACH INITIATION LOOP AND WIRING STYLE. REFER TO FLOOR PLANS FOR DEVICES AND THEIR LOCATIONS.
2. REFER TO SPECIFICATION FOR REQUIREMENTS OF EACH NOTIFICATION APPLIANCE CIRCUIT AND WIRING STYLE. REFER TO FLOOR PLANS FOR DEVICES AND THEIR LOCATIONS.
3. PROVIDE NOTIFICATION APPLIANCE EXTENDER PANELS AS REQUIRED. DETERMINATION OF NEED TO BE MADE BY FIRE ALARM VENDOR. REFER TO SPECIFICATIONS FOR REQUIREMENTS AND ACCEPTABLE MOUNTING LOCATIONS.

5 FIRE ALARM RISER DIAGRAM

NO SCALE

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ELECTRICAL DETAILS

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PROJECT #250000535.00

SHEET NUMBER:

E2.00

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LUMINAIRE SCHEDULE LEGEND

DESCRIPTION:

CONFIRM ALL COLORS AND FINISHES OF ALL LUMINAIRE COMPONENTS WITH ARCHITECT AND INTERIOR DESIGNER PRIOR TO THE RELEASE OF THE LUMINAIRE ORDER

MOUNTING (MTG):

RE - RECESSED **WL** - WALL **CL** - CEILING **SU** - SURFACE

VERIFY AND COORDINATE ALL CEILING TYPES WITH LUMINAIRE MOUNTING AND TRIM REQUIREMENTS. REFER TO ARCHITECTURAL AND INTERIOR DESIGN ELEVATIONS, SECTIONS, AND DETAILS FOR LUMINAIRE MOUNTING LOCATIONS AND REQUIREMENTS.

DIMENSIONS:

L - LENGTH **W** - WIDTH **H** - HEIGHT **D** - DEPTH **Ø** - DIAMETER

VAR. - DIMENSION VARIES, SEE ARCHITECTURAL PLANS.

LIGHT SOURCE:

SOURCE TYPE **LED** - INTEGRAL LIGHT EMITTING DIODE

CCT / CRI INTERIOR CORRELATED COLOR TEMPERATURE 3500K, COLOR RENDERING INDEX (CRI) AT OR ABOVE 80 UNLESS NOTED OTHERWISE.
EXTERIOR CORRELATED COLOR TEMPERATURE 4000K, COLOR RENDERING INDEX (CRI) AT OR ABOVE 80 UNLESS NOTED OTHERWISE.

DELIVERED LUMENS:

LUMENS INDICATED ARE MINIMUM INITIAL DELIVERED LUMENS AT SPECIFIED CCT AND CRI.

WATTS:

MAXIMUM ANSI WATTS PER: (BLANK) = PER LUMINAIRE **FT** = LINEAR FOOT

VOLTAGE:

VOLTAGE (V AC) 120

POWER SUPPLY:

PS TYPE **EM** - EMERGENCY BATTERY

CONTROL METHOD **0-10V** - 0 TO 10V DIMMING
1% AS INDICATED

COORDINATE LUMINAIRE DRIVER DIMMING METHODS AND PROTOCOLS WITH THE LIGHTING CONTROL SYSTEM AND CONTROL MANUFACTURER REQUIREMENTS TO ENSURE DIMMING COMPATIBILITY.

MANUFACTURER - SERIES:

1. **THE FIRST MANUFACTURER AND MODEL LISTED IS THE BASIS OF DESIGN.**
2. **THE MODEL NUMBER SHOWN SHALL NOT BE CONSIDERED COMPLETE AND MATERIAL SHALL NOT BE ORDERED BY MANUFACTURER AND MODEL NUMBER ONLY. THE COMPLETE DESCRIPTION AND THE SPECIFICATION SHALL BE COORDINATED WITH THE MODEL NUMBER TO DETERMINE THE EXACT MATERIAL AND ACCESSORIES TO BE ORDERED.**

LUMINAIRE SCHEDULE GENERAL NOTES:

1. **REFER TO SPECIFICATION SECTIONS LED LIGHTING 26 51 19 FOR ADDITIONAL INFORMATION AND REQUIREMENTS.**

LUMINAIRE SCHEDULE

TAG	DESCRIPTION	MTG	DIMENSIONS	LIGHT SOURCE	DELIVERED LUMENS	WATTS	VOLTAGE	POWER SUPPLY	MANUFACTURER - SERIES
EM1	EMERGENCY UNIT, NICKEL-CADMIUM BATTERY. TWO ADJUSTABLE HEADS, THERMOPLASTIC HOUSING. COORDINATE WITH ARCHITECT FOR FINISH AND MOUNTING.	WL	9 1/4"L X 3 1/8"W X 4 5/8"H	LED	220 lm	2 / FIX	120	EM	LITHONIA ELM2L EVENLITE TELESIS OR APPROVED EQUAL
EX1	SINGLE-FACE EXIT SIGN, WHITE THERMOPLASTIC BODY, RED LETTERS, EMERGENCY NI-CAD BATTERY INSIDE OF SIGN. UNIVERSAL ARROWS/MOUNTING. SELF TEST & DIAGNOSTICS OF INVERTER & LAMPS.	CL/WL	13"L X 2"W X 9"H	LED		2 / FIX	120	EM	DUAL-LITE EVE LITHONIA SURE-LITES CHLORIDE LIGHTALARMS SLED
EX. F1	EXISTING RELOCATED SURFACE MOUNTED LIGHTING FIXTURE.	SU	48"L X 3 1/2"W X 3 1/8"H	LED	7,800 lm	60 / FIX	120	0-10V	---
F2	RECESSED 2'X2' TROFFER, FLAT FROSTED LENS, TIGHT ENCLOSURE ASSEMBLY, RATED FOR NSF/ANSI 2.	RE	24"L X 24"W X 2 1/4"H	LED	4,000 lm	36 / FIX	120	0-10V	LITHONIA CPX DAY-BRITE METALUX COLUMBIA
S1	WALL PACK LED LUMINAIRE, P1 DISTRIBUTION, WET LOCATION LISTED. EM COLD RATED BATTERY. PROVIDE ALL MOUNTING HARDWARE AS REQUIRED. COORDINATE FINAL FINISH AND MOUNTING WITH ARCHITECT.	WL	6 1/2"L X 11"W X 10 1/2"H	LED	1,500 lm	11 / FIX	120	EM	LITHONIA ARC 1 H.E. WILLIAMS GARDCO OR APPROVED EQUAL

DISCONNECT AND STARTER SCHEDULE

NOTE: ALL DISCONNECTS (EXCEPT MANUAL STARTERS) SHALL BE HEAVY DUTY TYPE.

DISCONNECT TYPE:	ACCESSORIES & OPTIONS	
FU - FUSED	SA - STANDARD ACCESSORIES (INCLUDES * ITEMS)	PF - PHASE LOSS PROTECTION (5 HP OR GREATER, 3 PHASE...
NF - NON-FUSED	*CT - CONTROL TRANSFORMER, FUSED 120V	TO - MELTING THERMAL OVERLOADS (1 PHASE)
CB - CIRCUIT BREAKER	*EO - ELECTRONIC OVERLOAD (3 PHASE MOTORS)	TS - 2 SPEED SELECTOR SWITCH IN DOOR
	*HA - HAND-OFF-AUTO IN DOOR	GP - GREEN (OFF) PILOT LIGHT IN DOOR
STARTER TYPE:	*RP - RED (RUN) PILOT LIGHT IN DOOR	FA - 4-CONVERTIBLE AUXILIARY CONTACTS
FV - FULL VOLTAGE	*TA - TWO CONVERTIBLE AUXILIARY CONTACTS	EI - ELECTRICAL INTERLOCK (2)-N.O. & (2)-N.C.
YD - WYE - DELTA	S/N - INSULATED NEUTRAL ASSEMBLY	SS - START-STOP PUSHBUTTON IN DOOR
RE - REVERSING		HL - HANDLE PADLOCK HASP
TW - 2 SPEED, 2 WINDING		
SW - 2 SPEED, 1 WINDING		
RV - REDUCED VOLTAGE AUTOXFMR		
SS - SOLID STATE		
MS - MANUAL STARTER		
MX - MANUAL SWITCH		
FS - FUSED SWITCH		
AMS-ASSEMBLED MOTOR STARTER		

ITEM	DISCONNECT TYPE & RATING: TYPE	RATING	TRIP RATING	VOLTAGE	POLES	STARTER: NEMA SIZE	TYPE	ENCLOSURE	REQUIRED ACCESSORIES & OPTIONS	COMMENTS
MS-CP-1		20		120	1	0	MS	NEMA 1	RP,TO	
MS-F-1		20		120	1	0	MS	NEMA 1	RP,TO	
MS-FEQ-01		20		208	1	0	MS	NEMA 1	RP,TO	
MS-FEQ-04-120		20		120	1	0	MS	NEMA 1	RP,TO	
MS-FEQ-04-208		20		208	1	0	MS	NEMA 3R	RP,TO	
FDS-BB-TR-3	FU	30	20	240	1			NEMA 3R	HL	
FDS-BB-TR-7.5	FU	30	30	240	1			NEMA 3R	HL	
FDS-FEQ-01	FU	30	20	208	3			NEMA 3R	HL	
DS-FEQ-14	NF	30		208	3			NEMA 1		
DS-FEQ-11	NF	60		208	3			NEMA 1		
DS-FEQ-12	NF	60		208	3			NEMA 1		
DS-FEQ-13	NF	60		208	3			NEMA 1		

TRANSFORMER SCHEDULE

TYPE:		ACCESSORIES & OPTIONS
K1 - DOE 2016 DRY TYPE	AUT - AUTOTRANSFORMER	AL - ALUMINUM WINDINGS
K4 - K4 RATED DRY TYPE	BB - BUCK BOOST	CU - COPPER WINDINGS
K13 - K13 RATED DRY TYPE	LIQ - LIQUID FILLED	RS - EPOXY RESIN ENCAPSULATED
HM - HARMONIC MITIGATING		NV - NON-VENTILATED
PE - NEMA PREMIUM EFFICIENCY		NL - 200% RATED NEUTRAL
		EL - ELECTROSTATIC SHIELD
		TTM - TRANSFORMER TEMP MONITOR (REFER TO SPECIFICATION 26 09 13)

ITEM	KVA RATING	TYPE	ENCLOSURE	MAX. TEMP. RISE C.	PRIMARY: VOLTS	PRIMARY: PH	SECONDARY: VOLTS	SECONDARY: PH	REQUIRED ACCESSORIES & OPTIONS	COMMENTS
BB-TR-3	3 kVA	K-1	NEMA 3R	150	208	1	240	1	AL	
BB-TR-7.5	7.5 kVA	K-1	NEMA 3R	150	208	1	240	1	AL	

PANEL P1

MOUNTING: SURFACE
ENCLOSURE: NEMA 1
FED FROM: 400/3P MCCB @ MDP
LOCATION: WORK ROOM / STORAGE 100

SINGLE TUB
SOLID NEUTRAL
GROUND BUS

MAIN: 400 MLO
VOLTS: 120/208 Wye
PHASE: 3
WIRE: 4
SCCR: 22kA

NOTES:

KEY	CKT NO.	LOAD DESCRIPTION	OCPD AMPS	P	WIRE SIZE H	N	G	A		B		C		WIRE SIZE G	N	H	P	OCPD AMPS	LOAD DESCRIPTION	CKT NO.	KEY
	P1-1	FEQ-04 EVAPORATOR UNIT	20	1	12	12	12	1.1	1.2					12	12	12	1	20	FEQ-16	P1-2	
	P1-3	FEQ-04 CONDENSING UNIT	20	2	10	--	10			0.8	1.85			12	--	12	2	20	FEQ-03	P1-4	
	P1-5											0.8	1.85							P1-6	
	P1-7	FEQ-01 EVAPORATOR UNIT	20	2	10	--	10	1	0.67					12	12	12	1	20	FEQ-02	P1-8	
	P1-9									1	0.67			12	12	12	1	20	FEQ-02	P1-10	
	P1-11	FEQ-13	45	3	6	--	10					5	4.17							P1-12	
*ST	P1-13							5	4.17					10	8	8	3	35	FEQ-11	P1-14	*ST
	P1-15									5	4.17									P1-16	
--	P1-17	SHUNT TRIP FOR FEQ-13	--	1	--	--	--					--	--	--	--	--	1	--	SHUNT TRIP FOR FEQ-11	P1-18	--
	P1-19	FEQ-14	30	3	10	--	10	3.3	5.27					10	--	6	3	50	FEQ-12	P1-20	
*ST	P1-21									3.3	5.27									P1-22	*ST
	P1-23											3.3	5.27							P1-24	
--	P1-25	SHUNT TRIP FOR FEQ-14	--	1	--	--	--	--	--					--	--	--	1	--	SHUNT TRIP FOR FEQ-12	P1-26	--
	P1-27	FEQ-X01	20	2	12	--	12			2	1			12	12	12	1	20	FEQ-15	P1-28	
	P1-29											2	0.2	12	12	12	1	15	GAS SOLENOID VALVE	P1-30	
	P1-31	FEQ-X03	20	2	10	10	10	1.4	0.5					10	10	10	1	20	FEQ-X05	P1-32	
	P1-33									1.4	0.5			12	12	12	1	20	FEQ-X06	P1-34	
	P1-35	FEQ-X06	20	1	12	12	12					0.5	2	10	10	10	1	30	FEQ-X07	P1-36	
--	P1-37	SPARE	20	1	--	--	--	0	1											P1-38	
--	P1-39	SPARE	20	1	--	--	--			0	1			10	10	10	3	30	FEQ-01 CONDENSING UNIT	P1-40	
--	P1-41	SPARE	20	1	--	--	--					0	1							P1-42	
								Total Load:		24.60 kVA		27.95 kVA		26.08 kVA							
								Total Amps:		205.03		234.84		219.26							

LOAD SUMMARY

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	TOTALS*	
HVAC	4.6 kVA	100.00%	4.6 kVA		
Power	62.3 kVA	100.00%	62.3 kVA	**TOTAL CONNECTED LOAD:**	78.64 kVA
Receptacles	11.74 kVA	92.59%	10.87 kVA	**TOTAL ESTIMATED DEMAND LOAD:**	77.77 kVA
				TOTAL CONNECTED AMPS:	218.28 A
				TOTAL ESTIMATED DEMAND AMPS:	215.9

*TOTAL DEMAND CALCS SUBTRACT ANY REDUNDANT LOAD AND THE SMALLER OF ANY NONCOINCIDENT HVAC LOADS. THIS CALC IS DONE AT EACH PANEL.

CIRCUIT KEY NOTES: *ST = PROVIDE SHUT TRIP BREAKER.

LIGHTING SEQUENCE OF OPERATION

PLAN ID	LIGHTING SWITCHED
{LS1}	SEQUENCE: Switched luminaires are manually controlled in this space. ON: Luminaires turn on manually to 100% via wall switch. OFF: Luminaires turn off manually via wall switch. EMERGENCY: Emergency units shall turn on automatically upon loss of normal power.
{LS2}	SEQUENCE: Switched luminaires are occupancy controlled in this space. ON: Luminaires shall turn on automatically to 100% via occupancy sensor or manually via wall sensor switch. OFF: After the space has been vacant for 15 minutes, the luminaires shall automatically turn off via occupancy sensor or manually via wall sensor switch. EMERGENCY: Emergency units shall turn on automatically upon loss of normal power.
{LS3}	SEQUENCE: Lights are photocell and time clock controlled. Refer to detail 2/E1.01. ON: The lights turn on via available daylight from exterior photocell or time clock. OFF: The lights turn off via available daylight from exterior photocell or time clock. EMERGENCY: Emergency battery backup lights will turn on upon loss of normal power.
{LS4}	SEQUENCE: Dimmable luminaires are occupancy controlled in this space. ON: Luminaires are automatically turned on to 50% via occupancy sensor. Luminaires are manually turned on to 100% via wall controller. ADJUST: Dimmable luminaires are raised/lowered via wall controller. OFF: After the space has been vacant for 10 minutes, the luminaires shall automatically turned off via occupancy sensor or can be turned off manually via wall controller. EMERGENCY: Emergency units shall turn on automatically upon loss of normal power.
{LS5}	SEQUENCE: switched luminaires are occupancy controlled in this space. ON: Luminaires are automatically turned on 100% via occupancy sensor. Luminaires are manually turned on to 100% via wall controller. OFF: After the space has been vacant for 15 minutes, the luminaires shall automatically turned off via occupancy sensor or can be turned off manually via wall controller. EMERGENCY: Emergency units shall turn on automatically upon loss of normal.
{LS6}	SEQUENCE: Switched luminaires are vacancy controlled in this space. ON: Luminaires shall turn on automatically to 100% manually via wall sensor switch. OFF: After the space has been vacant for 15 minutes, the luminaires shall automatically turn off via vacancy sensor or manually via wall sensor switch.

PANEL P2

MOUNTING: SURFACE
ENCLOSURE: NEMA 1
FED FROM: 200/3P MCCB @ MDP
LOCATION: WORK ROOM / STORAGE 100

SINGLE TUB
SOLID NEUTRAL
GROUND BUS

MAIN: 250 MLO
VOLTS: 120/208 Wye
PHASE: 3
WIRE: 4
SCCR: 22kA

NOTES:

KEY	CKT NO.	LOAD DESCRIPTION	OCPD AMPS	P	WIRE SIZE H	N	G	A		B		C		WIRE SIZE G	N	H	P	OCPD AMPS	LOAD DESCRIPTION	CKT NO.	KEY
	P2-1	Lighting	20	1	12	12	12	1.69	1.36					12	12	12	1	20	Receptacles, EF-1, EF-2	P2-2	
	P2-3	Lighting	20	1	12	12	12			0.53	2			10	--	10	2	30	UH-2	P2-4	
	P2-5	Exterior Lighting	20	1	10	10	10					0.06	2							P2-6	
	P2-7	Time Clock	20	1	12	12	12	1	2					10	--	10	2	30	UH-1	P2-8	
	P2-9	FACP	20	1	12	12	12			0.2	2									P2-10	
	P2-11	Electric Bell	20	1	12	12	12					0.2	0.54	12	12	12	1	20	Receptacles	P2-12	
	P2-13	Existing Greenhouse Load	20	1	10	10	10	0.5	0.6					12	12	12	1	20	WH-1	P2-14	
	P2-15	Existing Greenhouse Blower	20	1	10	10	10			0.5	0.5			12	12	12	1	20	F-1	P2-16	
	P2-17	Existing Greenhouse Control	20	1	10	10	10					0	1	12	12	12	1	20	CP-1	P2-18	
	P2-19	EF-3	30	1	10	10	10	1.8	0.54					12	12	12	1	20	Receptacles	P2-20	
	P2-21	Receptacles	20	1	10	10	10			0.54	0.54			12	12	12	1	20	Receptacles	P2-22	
	P2-23	Receptacles	20	1	12	12	12					0.36	0.54	12	12	12	1	20	Receptacles	P2-24	
	P2-25	MAU-1	70	3	4	--	8	5.57	0.54					12	12	12	1	20	Receptacles	P2-26	
	P2-27									5.57	0.54			12	12	12	1	20	Receptacles	P2-28	
	P2-29											5.57	0.54	12	12	12	1	20	Receptacles	P2-30	
--	P2-31	SPARE	20	1	--	--	--	0	0.18					12	12	12	1	20	Receptacles	P2-32	
	P2-33	CU-1	50	2	6	--	10			3.8	1.44			12	12	12	1	20	Receptacles	P2-34	
	P2-35											3.8	1.5	12	--	12	2	20	BB-TR-3	P2-36	
--	P2-37	SPARE	20	1	--	--	--	0	1.5											P2-38	
--	P2-39	SPARE	20	1	--	--	--			0	0			--	--	--	1	20	SPARE	P2-40	--
--	P2-41	SPARE	20	1	--	--	--					0	0	--	--	--	1	20	SPARE	P2-42	--
--	P2-43	SPARE	20	1	--	--	--	0	0					--	--	--	1	20	SPARE	P2-44	--
--	P2-45	SPARE	20	1	--	--	--			0	0			--	--	--	1	20	SPARE	P2-46	--
--	P2-47	SPACE	--	1	--	--	--					--	--	--	--	--	1	--	SPACE	P2-48	--
--	P2-49	SPACE	--	1	--	--	--	--	--					--	--	--	1	--	SPACE	P2-50	--
--	P2-51	SPACE	--	1	--	--	--			--	--			--	--	--	1	--	SPACE	P2-52	--
--	P2-53	SPACE	--	1	--	--	--					--	--	--	--	--	1	--	SPACE	P2-54	--
--	P2-55	SPACE	--	1	--	--	--	--	--					--	--	--	1	--	SPACE	P2-56	--
--	P2-57	SPACE	--	1	--	--	--			--	--			--	--	--	1	--	SPACE	P2-58	--
--	P2-59	SPACE	--	1	--	--	--					--	--	--	--	--	1	--	SPACE	P2-60	--
								Total Load:		17.28 kVA		18.16 kVA		16.11 kVA							
								Total Amps:		145.46		152.80		134.23							

LOAD SUMMARY

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	TOTALS*	
HVAC	36.6 kVA	100.00%	36.6 kVA		
Lighting	1.279 kVA	100.00%	1.279 kVA	**TOTAL CONNECTED LOAD:**	51.34 kVA
Other	0.2 kVA	100.00%	0.2 kVA	**TOTAL ESTIMATED DEMAND LOAD:**	51.339 kVA
Power	6 kVA	100.00%	6 kVA	**TOTAL CONNECTED AMPS:**	142.50 A
Receptacles	7.26 kVA	100.00%	7.26 kVA	**TOTAL ESTIMATED DEMAND AMPS:**	142.5

*TOTAL DEMAND CALCS SUBTRACT ANY REDUNDANT LOAD AND THE SMALLER OF ANY NONCOINCIDENT HVAC LOADS. THIS CALC IS DONE AT EACH PANEL.

CIRCUIT KEY NOTES:

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125 N. HALSTED STREET, SUITE 301
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KITCHEN CONSULTANT:
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P: 773.245.3570

McHenry County College

Student Farm Renovations

8900 Northwest Hwy #14, Crystal Lake, IL 60012

DKA PROJECT NO: 25-037

KEY PLAN:

SHEET STATUS: 04/21/2026
ISSUED FOR BID

NO:	DESCRIPTION:	DATE:

SHEET TITLE:
ELECTRICAL SCHEDULES

SHEET NUMBER:
E4.00

4/21/2026 8:45:59 AM

IMEG
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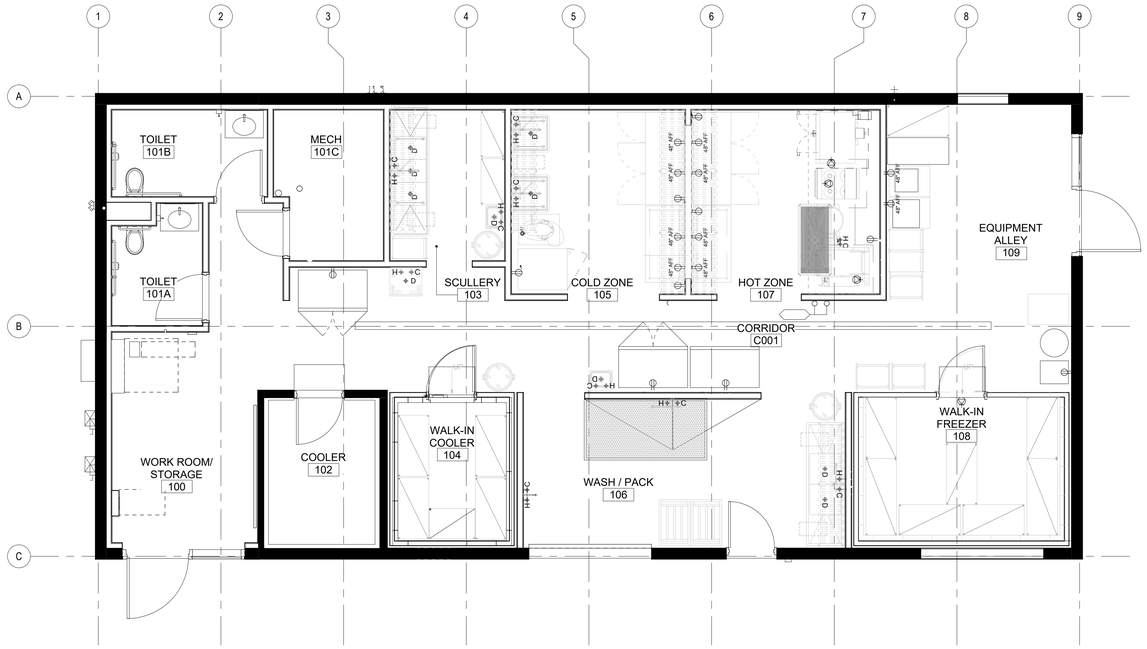
Illinois Design Firm Registration #184008976-0014

REF. SCALE IN INCHES PROJECT #250000535.00



C1 FOOD SERVICE UTILITIES PLAN

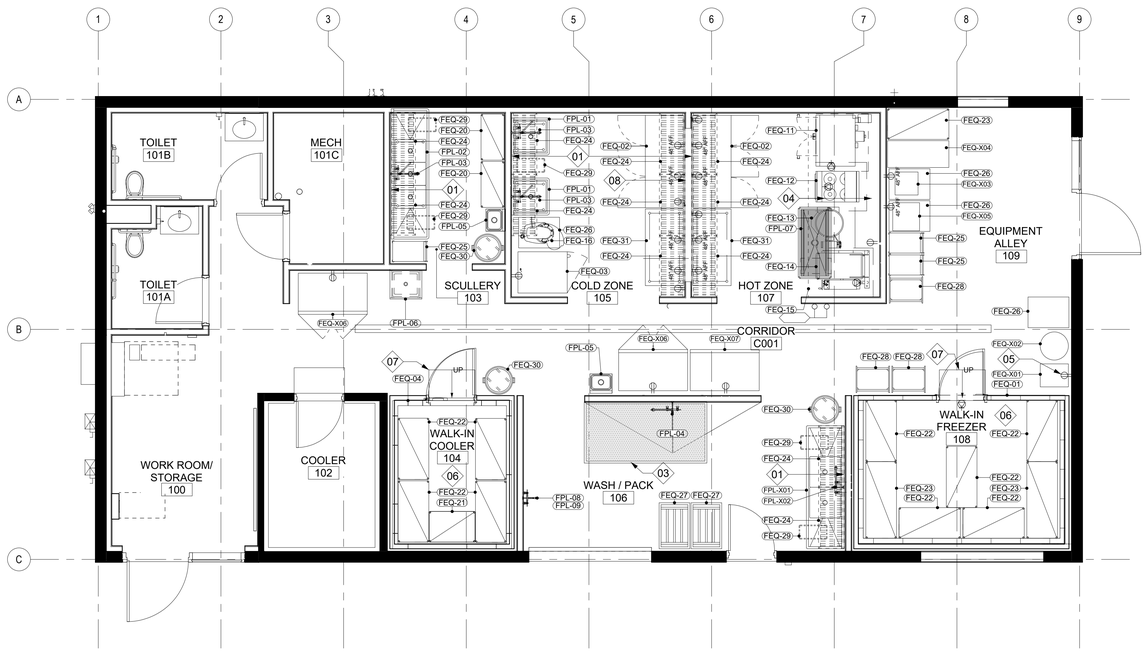
SCALE: 1/4" = 1' - 0"

EQUIPMENT SCHEDULE

Item No	Equipment Category	Manufacturer	Model Number
FEQ-01	Freezer, Walk-In	Kolpak	Custom
FEQ-02	Refrigerator, Undercounter	True Mfg. - General Foodservice	TUC-72-HC
FEQ-03	Chiller/Freezer, Blast	American Panel	AP12BCF150-2-P
FEQ-04	Refrigerator, Walk-In Unit	Kolpak	KF8-0810-CR-4
FEQ-11	Conv Oven Double SS430 Kit 208V Elec	EFI Sales	HCV1-2-208V ELC
FEQ-12	Range, Heavy Duty, Electric	Imperial Range	IR-4-E
FEQ-13	Kettle, Steam Jacketed	Cleveland Range	KET-20-T
FEQ-14	Tilting Braising Pan, Electric	Groen	BPM-15EA
FEQ-15	Hood	CaptiveAire	ND-2
FEQ-16	Mixer, Counter	Hobart US Foodservice	HL200-1STD
FEQ-20	Shelving	Steelworks	SW1836C
FEQ-21	Shelving	Steelworks	SW2436C
FEQ-22	Shelving	Steelworks	SW2448C
FEQ-23	Shelving	Steelworks	SW2460C
FEQ-24	Shelving, Wall Mounted	New Age Industrial	1122PR
FEQ-25	Cart, Utility	Lakeside	316
FEQ-26	Stand, Equipment	Lakeside	738
FEQ-27	Dolly, Dunnage	Channel Manufacturing	MD2436
FEQ-28	Rack, Tray	Lakeside	135
FEQ-29	Trash Can	Rubbermaid	FG354060BLA
FEQ-30	Trash Can w/ Lid & Dolly	Lavex	475tc32bkkit
FEQ-31	Work Table	Steelworks	SWWTS-3060-318
FPL-01	1 Comp. Sinks	Steelworks	SWS1C242414-316
FPL-02	3 Comp. Sinks	Steelworks	SWS3C182414-24LR-318
FPL-03	Pre-Rinse Faucet, Wall Mount	Krowne	DX-109
FPL-04	Pre-Rinse Faucet, Wall Mount	Krowne	DX-109-X
FPL-05	Hand Sink, Wall Mount	Advance Tabco	7-PS-EC-SP
FPL-06	Mop Sink Storage Cabinet	Eagle Group/Metal Masters	F1916-VSCS
FPL-07	Floor Trough	Advance Tabco	FFTG-2454
FPL-08	Faucet, Service Sink	Krowne	16-127
FPL-09	Coiled Hose	HoseCoil Washdown Systems	HoseCoil PRO Series 25'

EXISTING EQUIPMENT SCHEDULE

FPL-X01	2 Compartment Sink	EXISTING	
FPL-X02	Pre-Rinse Faucet, Wall Mount	EXISTING	
FEQ-X01	Commercial Dehydrator	EXISTING	
FEQ-X02	40 Liter Hydropress	EXISTING	
FEQ-X03	Electric Fruit Crusher	EXISTING	
FEQ-X04	Destemmer	EXISTING	
FEQ-X05	Vacuum Packing Machine	EXISTING	
FEQ-X06	Reach In Refrigerator	EXISTING	
FEQ-X07	Reach In Merchandiser Freezer	EXISTING	



E1 FOOD SERVICE EQUIPMENT PLAN

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

FOOD SERVICE GENERAL NOTES

1. ALL FINISHES IN KITCHEN, WASHING, COLD STORAGE AND SCULLERY AREAS ARE TO BE NON-POROUS CLEANABLE SURFACES, SUCH AS FRP. EXPOSED CONCRETE FLOORS ARE TO BE SEALED. COVE BASE IS TO BE USED IN ALL FOOD PREPARATION AND STORAGE AREAS.

2. ALL STORAGE SHELVES ARE TO BE INSTALLED IN SUCH A WAY THAT THE LOWEST SHELF IS AT LEAST 6" AFF.

3. ADEQUATE LIGHT WITH A MINIMUM OF 20 FOOTCANDLES IS TO BE PROVIDED IN ALL FOOD PREPARATION AND STORAGE AREAS.

4. PROTECTIVE SHIELDING SHALL BE PROVIDED FOR ALL LIGHT FIXTURES OVER ALL PREPARATION, STORAGE, WARE WASHING, REFRIGERATION AND HOOD AREAS.

5. THERMOMETERS ARE TO BE LOCATED IN ALL REFRIGERATION UNITS.

6. ALL EXTERIOR DOORS ARE TO BE TIGHT FITTING WITH SELF-CLOSING DEVICES.

7. ALL RESTROOM DOORS ARE TO BE FITTED WITH SELF-CLOSING DEVICES.

8. ALL EXPOSED PLUMBING, ELECTRICAL, AND REFRIGERATION LINES ARE TO BE LOCATED 6" OFF THE FLOOR AND ½" AWAY FROM WALLS.

9. ALL OPERABLE WINDOWS ARE TO BE SCREENED WITH 16 MESH/INCH SCREENING.

KEYNOTES

01 PROVIDE IN-WALL BLOCKING PER ARCHITECTURAL SPECIFICATIONS FOR WALL MOUNTED SHELVING

02 NOT USED

03 EXISTING MESH TOP WASH TABLE

04 PROVIDE STRUCTURAL SUPPORT ABOVE FOR HOOD ATTACHMENT. PER MANUFACTURER'S INSTRUCTIONS, HOOD TO BE HUNG WITH 1/2" THREADED RODS FROM BUILDING STRUCTURAL SUPPORT SYSTEM TO FACTORY PROVIDED WELDED-ON ANGLE MOUNTING BRACKETS ON HOOD

05 PROVIDE POWER FOR BENCHFOODS DEHYDRATOR AS FOLLOWS:
MAX POWER USAGE 3kW
AVG POWER USAGE 1.5 kW
VOLTAGE FREQUENCY 200-240/50-60Hz
MAX AMPERAGE 12A
SAFETY BREAKER REQUIRED SINGLE PHASE/15A
POWER CABLE 3-WIRE CABLE, N6-20P PLUG TIP

06 KITCHEN CONTRACTOR TO DESIGN ASSOCIATED PIPING TO CONDENSING UNIT. REFER TO MECHANICAL DRAWINGS FOR GROUND MOUNTED CONDENSING UNIT LOCATION. WALK-IN DRAIN LINE TO BE COORDINATED WITH PLUMBING.

07 RAMP FOR WALK-IN TO BE PROCURED AND INSTALLED BY KITCHEN CONTRACTOR

08 FINAL CLEAR DIMENSION TO BE VERIFIED IN FIELD PRIOR TO CONFIRMATION OF WALL-HUNG SHELVING SIZES

DRAWING LEGEND

- FEQ-XX EQUIPMENT TAG
- FPL-XX PLUMBING FIXTURE TAG
- H+ HOT WATER CONNECTION
- C+ COLD WATER CONNECTION
- D+ DRAIN CONNECTION
- DUPLEX OUTLET (REFER TO EQUIPMENT SPECIFICATIONS FOR MOUNTING HEIGHT)
- 48" AFF DUPLEX OUTLET MOUNTED AT 48" AFF
- HARDWIRED CONNECTION AT EQUIPMENT

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McHenry County College

Student Farm Renovations

8900 Northwest Hwy #14, Crystal Lake, IL 60012
DKA PROJECT NO: 25-037

KEY PLAN:

SHEET STATUS: 04/21/2026
ISSUE FOR BID - NOT FOR CONSTRUCTION

NO:	DESCRIPTION:	DATE:

SHEET TITLE:
FOOD SERVICE PLANS

SHEET NUMBER:
QF1.01

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