BIDDING AND CONTRACT DOCUMENTS

ADDENDUM NUMBER ONE

STATE PROJECT NO. 15-030C-1

DATE: JULY 19, 2016

NORTH CENTRAL MISSOURI REGIONAL AIRPORT

CRAWFORD, MURPHY, TILLY, INC.
ONE MEMORIAL DRIVE, SUITE 500
SAINT LOUIS, MISSOURI 63102

STATE OF MISSOURI
BRIAN W. GARKIE
NUMBER
PE-2004017171
PROFESSIONAL ENGINEER
7/18/16

TO: ALL PLANHOLDERS AND POTENTIAL BIDDERS

SUBJECT: ADDENDUM NUMBER ONE TO THE BIDDING DOCUMENTS FOR: CONSTRUCT COMMUNITY HANGAR WITH TERMINAL BUILDING

This addendum forms a part of the bidding and contract documents, and modifies the original bidding documents dated June 30, 2016. This addendum must be signed on the last page and included with the submitted Bid Package. An acknowledgement sheet is also attached. This must be signed and returned to Crawford, Murphy, & Tilly, Inc via fax or mail by July 25, 2016. FAILURE TO NOT RECOGNIZE THE ADDENDUM ON THE BID FORM MAY SUBJECT THE BIDDER TO DISQUALIFICATION.

The Contract Documents are revised as follows:

PLANS (attached to this Addendum No. 1):

Sheet 2 of 47 (G-002)
REPLACE this sheet with Revision 1.

Sheet 7 of 47 (C-01)
REPLACE this sheet with Revision 1.

Sheet 8 of 47 (C-02)
REPLACE this sheet with Revision 1.

Sheet 11 of 47 (C-05)
REPLACE this sheet with Revision 1.

Sheet 13 of 47 (C-07)
REPLACE this sheet with Revision 1.

Sheet 15 of 47 (C-09)
REPLACE this sheet with Revision 1.

Sheet 17 of 47 (C-11)
REPLACE this sheet with Revision 1.

Sheet 19 of 47 (C-13)
REPLACE this sheet with Revision 1.

Sheet 20 of 47 (C-14)
REPLACE this sheet with Revision 1.

Sheet 27 of 47 (A-201)
REPLACE this sheet with Revision 1.

Sheet 30 of 47 (A-601)
REVISE in the MATERIAL LIST for the METAL WALL PANEL the words “HORIZONTAL APPLICATION” with “VERTICAL APPLICATION”. REPLACE this sheet with Revision 1.

Sheet 34 of 47 (P-101)
REPLACE this sheet with Revision 1.

Sheet 35 of 47 (P-102)
REVISE in the MAIN LOOPED AIR LINE the words “3/4 INCH” with “1 INCH”.

Sheet 36 of 47 (P-103)
REPLACE this sheet with Revision 1.

Sheet 38A of 47 (P-106)
ADD sheet 38A, P-106 – PLUMBING DETAILS II

Sheet 40 of 47 (M-101)
REPLACE this sheet with Revision 1.

Sheet 41 of 47 (M-102)
REPLACE this sheet with Revision 1.

Sheet 44 of 47 (E-101)
REPLACE this sheet with Revision 1.

Sheet 45 of 47 (E-102)
REPLACE this sheet with Revision 1.

Sheet 46 of 47 (E-103)
REPLACE this sheet with Revision 1.

Sheet 47 of 47 (E-104)
REPLACE this sheet with Revision 1.

CONTRACT PROPOSAL:

ADD after ITEM SP-3: BUILDINGS new specification ITEM SP-4: SANITARY SEWER INSTALLATION (attached to this Addendum No. 1).

DIVISION 7, SECTION 072100 THERMAL INSULATION
ADD PART 2, SECTION 2.01, MANUFACTURERS is modified to include:
e. ACH Foam Technologies

Page 211-212, PROPOSAL FORM
REPLACE these pages with page 211A-212A. (attached to this Addendum No. 1)

CLARIFICATION:

The revised Proposal Form page can be inserted into the contract book binding or stapled over the top of the existing Page 211 and Page 212.

CRAWFORD, MURPHY & TILLY, INC.
This Addendum consists of 4 pages plus 19 revised plan sheets, 1 new plan sheet, 1 new Specification, a revised Proposal Form and a fax transmittal sheet.

_____ _____

Signed Date
(Contractor)

Contractor to sign and date this Addendum #1 to acknowledge receipt. This signed Addendum must be included with the submitted Bid Package.

FAX TRANSMITTAL

To: Crawford, Murphy & Tilly, Inc
Attention: **Brian Garkie**
Re: Addendum #1
Fax 314.436.0723

From:
(name) _____

(company) _____

Date:

_____

To verify that all contractors are in receipt of this addendum, Contractors are asked to sign and date this acknowledgement sheet. The Contractor should fax or mail to Crawford, Murphy, & Tilly, Inc. at the number listed below by **July 25, 2016.**

Crawford, Murphy, & Tilly, Inc.
One Memorial Drive, Suite 500
Saint Louis, Missouri 63102

Fax: (314) 436-0723
Phone: (314) 436-5500

BY: CRAWFORD, MURPHY, & TILLY, INC.

PLAN SHEETS:

SUMMARY OF QUANTITIES

ITEM	DESCRIPTION	UNIT	QUANTITY
MO-100-4.1	MOBILIZATION	LS	1
MO-152-4.1	CLASS A EXCAVATION	LS	1
MO-152-4.2	DRAINAGE IMPROVEMENTS	LS	1
MO-156-7.4.1	INLET PROTECTION	EA	4
MO-209-5.1	4" CRUSHED AGGREGATE BASE COURSE	SY	461
MO-502-15.1	6" PORTLAND CEMENT CONCRETE PAVEMENT	SY	325
MO-502-15.2	4" PCC SIDEWALK	SY	102
MO-620-5.1	AIRPORT PAVEMENT MARKING (YELLOW)	SF	60
D-705-5.1	6" NON-PERFORATED PVC DRAIN PIPE	LF	266
MO-162-5.1	INSTALL 4' CHAIN-LINK FENCE	LF	188
MO-162-5.1	INSTALL 4' CHAIN-LINK PEDESTRIAN GATE - 6' WIDE	EA	1
MO-162-5.2	REMOVE 4' CHAIN-LINK PEDESTRIAN GATE	EA	1
MO-162-5.3	REMOVE 4' CHAIN-LINK FENCE	LF	180
MO-901-5.1	AIRPORT SEEDING	AC	0.3
MO-908-5.1	AIRPORT MULCHING	AC	0.3
MO-110-5.1	2-4" PVC CONCRETE ENCASED DUCT	LF	125
MO-110-5.2	3" PVC DUCT - DIRECT BURY	LF	170
SP-1-6.1	1" CLASS 200 PVC WATER LINE	LF	302
SP-1-6.2	WATER VALVE	EA	1
SP-2-6.1	CATCH BASIN	EA	4
SP-3-5.1	100' X 80' COMMUNITY HANGAR WITH TERMINAL BUILDING	LS	1
SP-4-8.1	PVC SANITARY SEWER, 6"	LF	364
SP-4-8.2	SANITARY SEWAGE HOLDING TANK	EA	2

REVISIONS

NUMBER	BY	DATE
1	BWG	7/15/16

0 1 2

THIS BAR IS EQUAL TO 2" AT FULL SCALE (34X22). PLOT 1

NORTH CENTRAL MISSOURI REGIONAL AIRPORT
BROOKFIELD, MISSOURI (LINN COUNTY)

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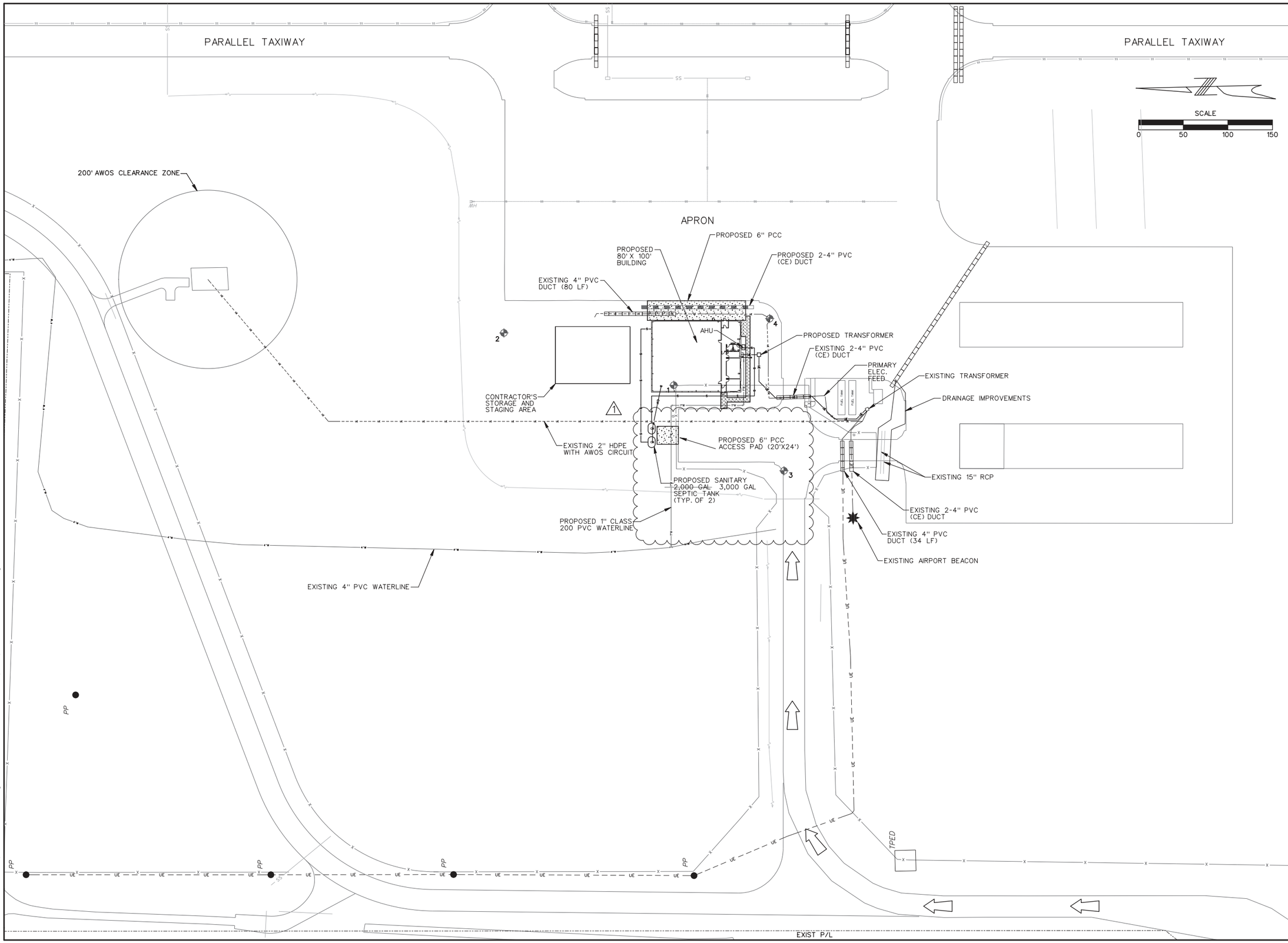

REVISIONS		
NUMBER	BY	DATE
1	BWG	7/15/16

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BROOKFIELD, MISSOURI (LINN COUNTY)

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CONSTRUCT COMMUNITY HANGAR WITH TERMINAL BUILDING

STATE OF MISSOURI
BRIAN W. GARKIE
NUMBER PE-2004017171
PROFESSIONAL ENGINEER
DATE: 7/15/16
BRIAN W. GARKIE, P.E.
PROFESSIONAL ENGINEER

CMT
211 NW EXECUTIVE WAY
SUITE H
LEE'S SUMMIT, MO 64063
(314) 436-5300
CRAWFORD MURPHY & TILLY, INC.
ENGINEERS & CONSULTANTS

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PROFESSIONAL ENGINEERING - 000631

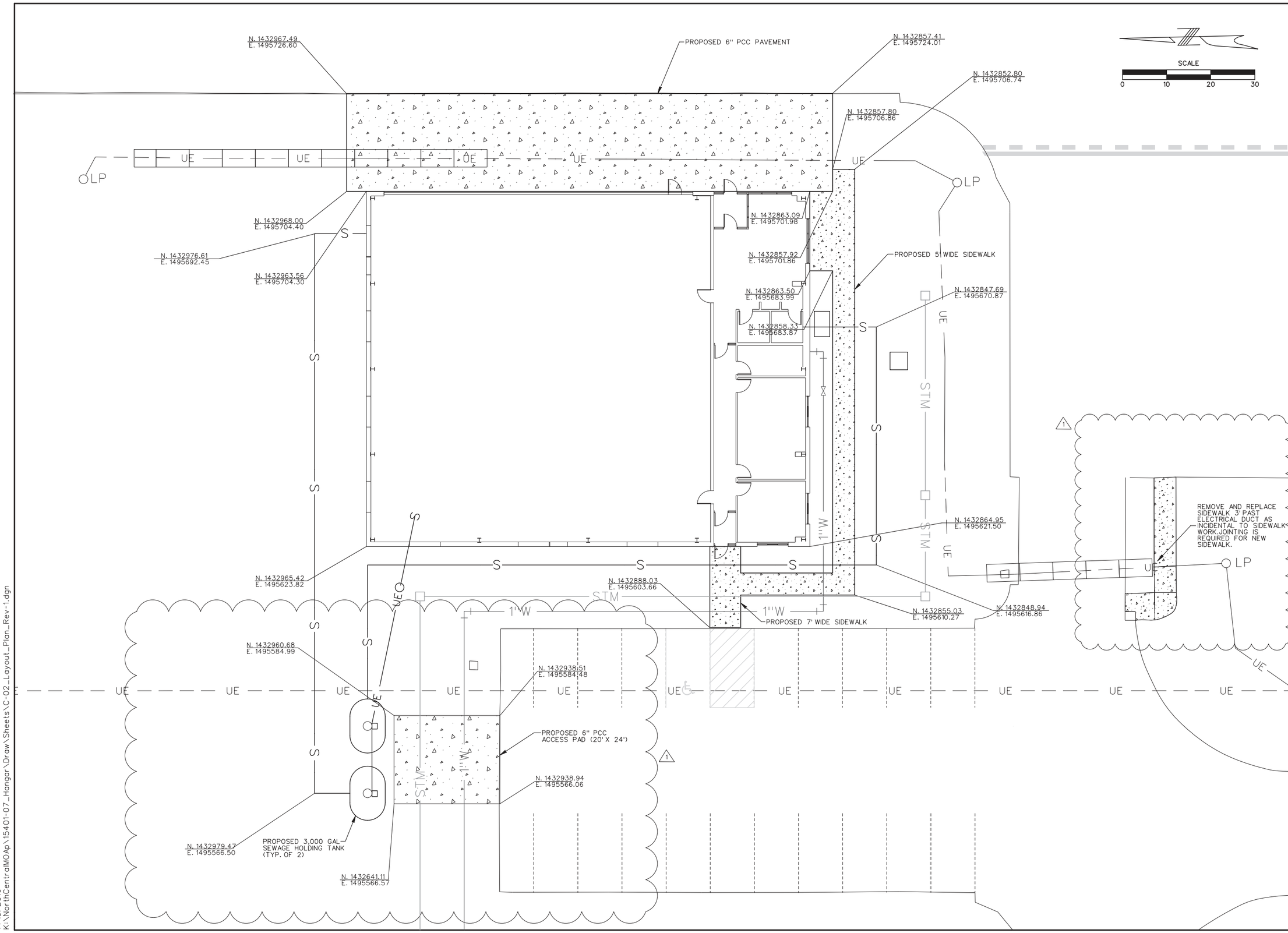
MoDOT PROJECT NO. 15-030C-1

PROPOSED IMPROVEMENTS

FILE: C-01_Prop_Improvements_Rev-1.dgn
DESIGN BY: BWG
DRAWN BY: TML
CHECKED BY:
APPROVED BY: BWG
DATE: JUNE 30, 2016
JOB No: 15401-07

C-01

7/19/2016
K:\NorthCentralMOAp\15401-07_Hangar\Draw\Sheets\C-01_Prop_Improvements_Rev-1.dgn



REVISIONS		
NUMBER	BY	DATE
1	BWG	7/15/16

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BROOKFIELD, MISSOURI (LINN COUNTY)

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STATE OF MISSOURI
BRIAN W. GARKIE
NUMBER PE-2004017171
PROFESSIONAL ENGINEER
DATE: 7/18/16
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(314) 436-5500
CRAWFORD MURPHY & TILLY, INC.
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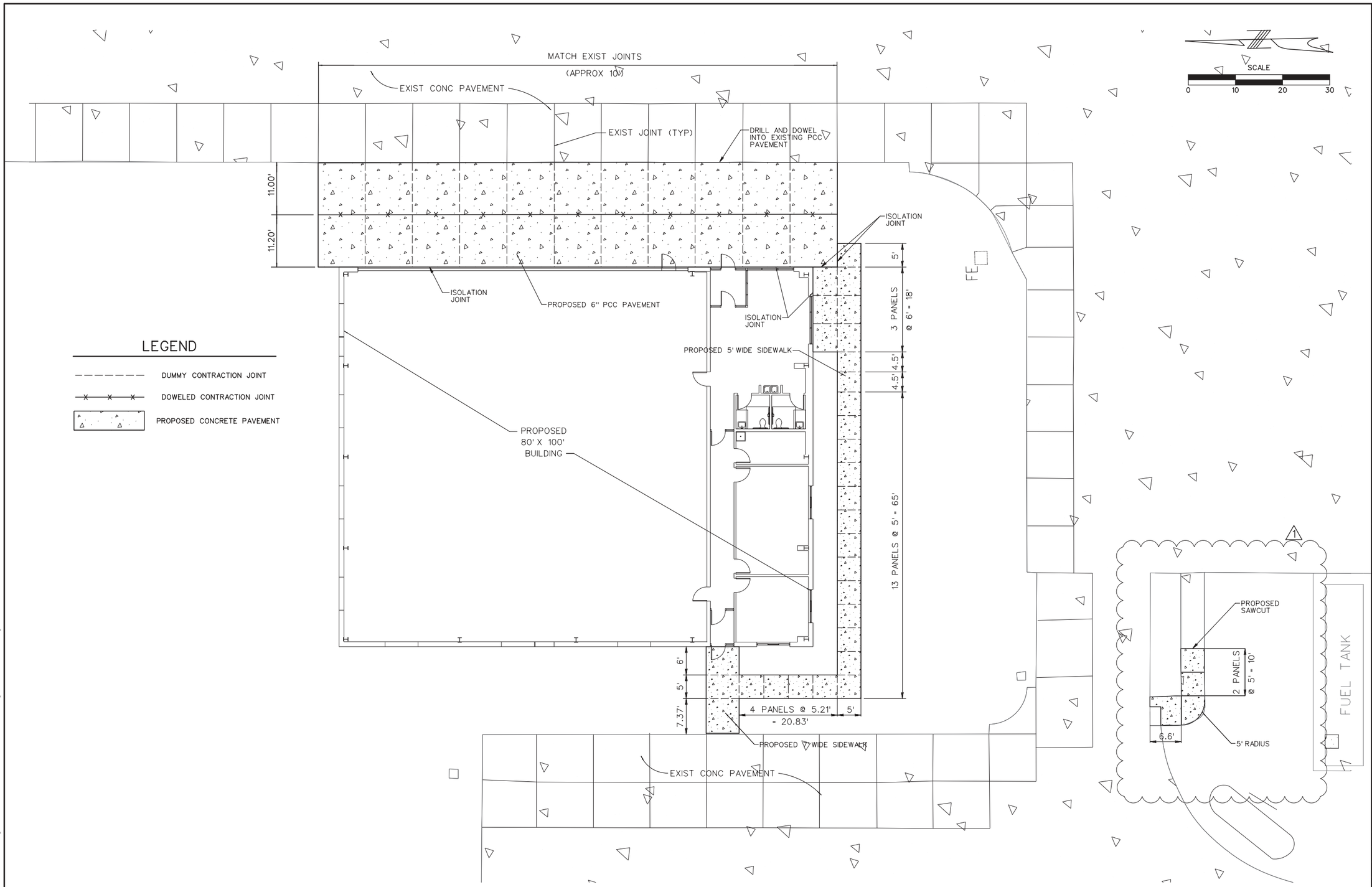
MoDOT PROJECT NO. 15-030C-1

LAYOUT PLAN

FILE: C-02_Layout_Plan_Rev-1.dgn
DESIGN BY: BWG
DRAWN BY: TML
CHECKED BY:
APPROVED BY: BWG
DATE: JUNE 30, 2016
JOB No: 15401-07

C-02

7/19/2016
K:\NorthCentralMOAp\15401-07_Hangar\Draw\Sheets\C-02_Layout_Plan_Rev-1.dgn



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BROOKFIELD, MISSOURI (LINN COUNTY)

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CONSTRUCT COMMUNITY HANGAR WITH TERMINAL BUILDING

STATE OF MISSOURI
BRIAN W. GARKIE
NUMBER PE-2004017171
PROFESSIONAL ENGINEER

DATE: 7/18/16
BRIAN W. GARKIE, P.E.
PROFESSIONAL ENGINEER

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211 NW EXECUTIVE WAY
SUITE H
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(314) 436-5500

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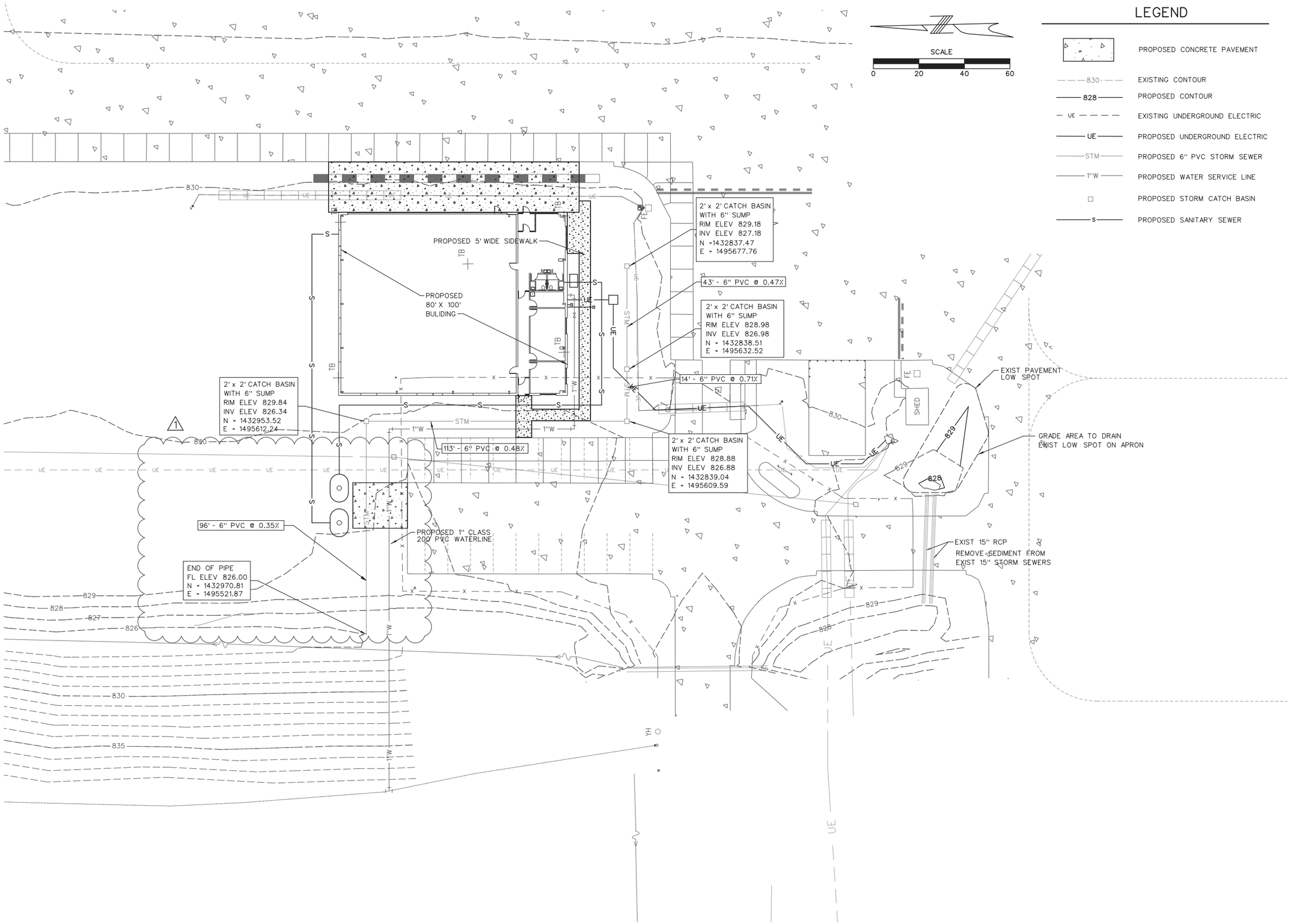
MoDOT PROJECT NO. 15-030C-1

JOINTING PLAN

FILE: C-05_Jointing_Plan_Rev-1.dgn
DESIGN BY: BWG
DRAWN BY: TML
CHECKED BY:
APPROVED BY: BWG
DATE: JUNE 30, 2016
JOB No: 15401-07

C-05

7/19/2016
K:\NorthCentralMOAp\15401-07_Hangar\Draw\Sheets\C-05_Jointing_Plan_Rev-1.dgn



REVISIONS		
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BROOKFIELD, MISSOURI (LINN COUNTY)

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MoDOT PROJECT NO. 15-030C-1

DRAINAGE PLAN

FILE:	C-07_Drainage_Plan_Rev-1.dgn
DESIGN BY:	BWG
DRAWN BY:	TML
CHECKED BY:	
APPROVED BY:	BWG
DATE:	JUNE 30, 2016
JOB No:	15401-07

C-07

7/19/2016
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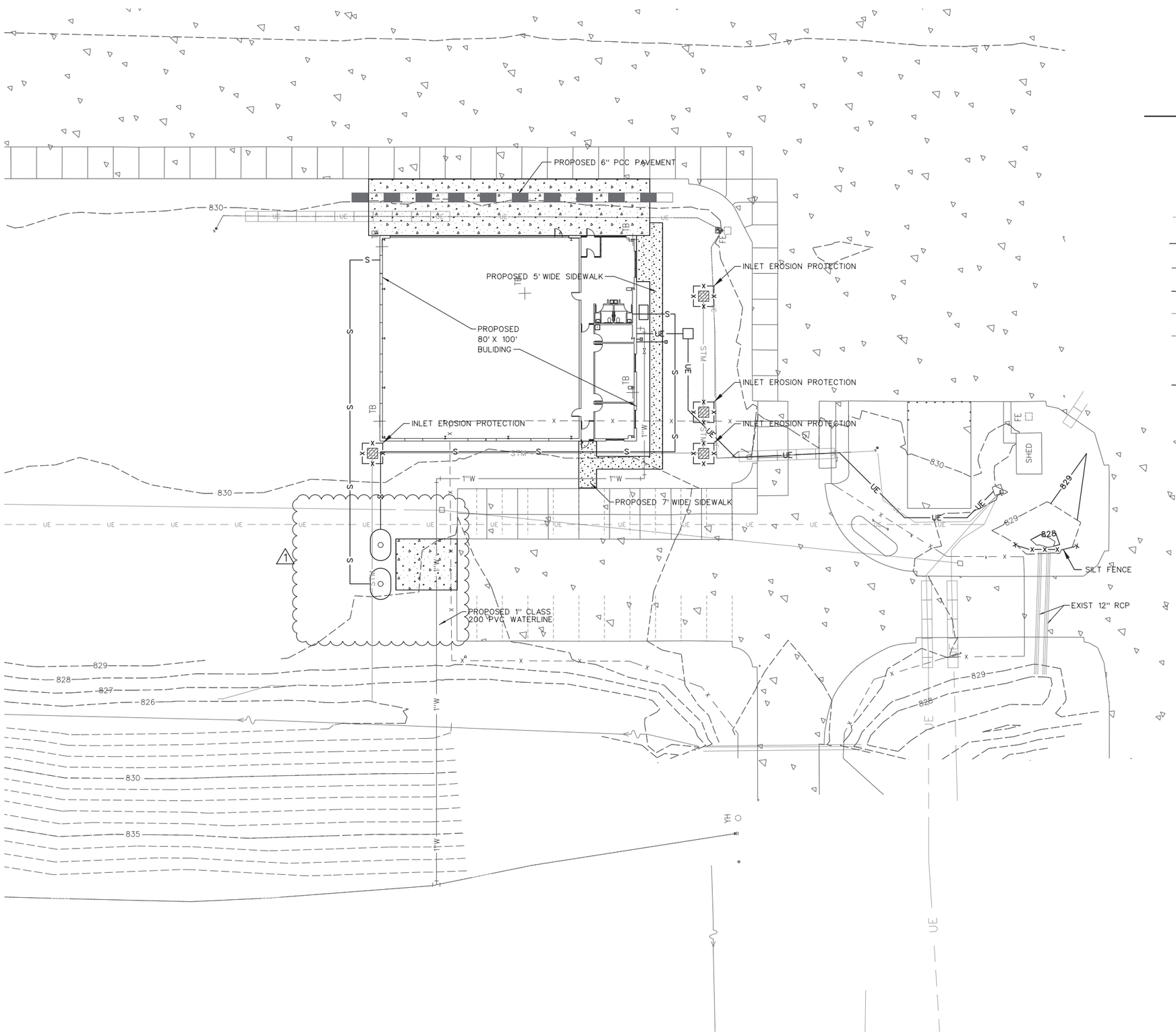

SCALE

0 20 40 60

LEGEND

	PROPOSED CONCRETE PAVEMENT
	PROPOSED INLET EROSION PROTECTION
830	EXISTING CONTOUR
828	PROPOSED CONTOUR
UE	EXISTING UNDERGROUND ELECTRIC
UE	PROPOSED UNDERGROUND ELECTRIC
STM	PROPOSED 6" PVC STORM SEWER
1"W	PROPOSED WATER SERVICE LINE
	PROPOSED STORM CATCH BASIN
S	PROPOSED SANITARY SEWER

REVISIONS

NUMBER	BY	DATE
1	BWG	7/15/16

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BROOKFIELD, MISSOURI (LINN COUNTY)

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CONSTRUCT COMMUNITY HANGAR WITH TERMINAL BUILDING

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NUMBER PE-2004017171
PROFESSIONAL ENGINEER

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BRIAN W. GARKIE, P.E.
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SUITE H
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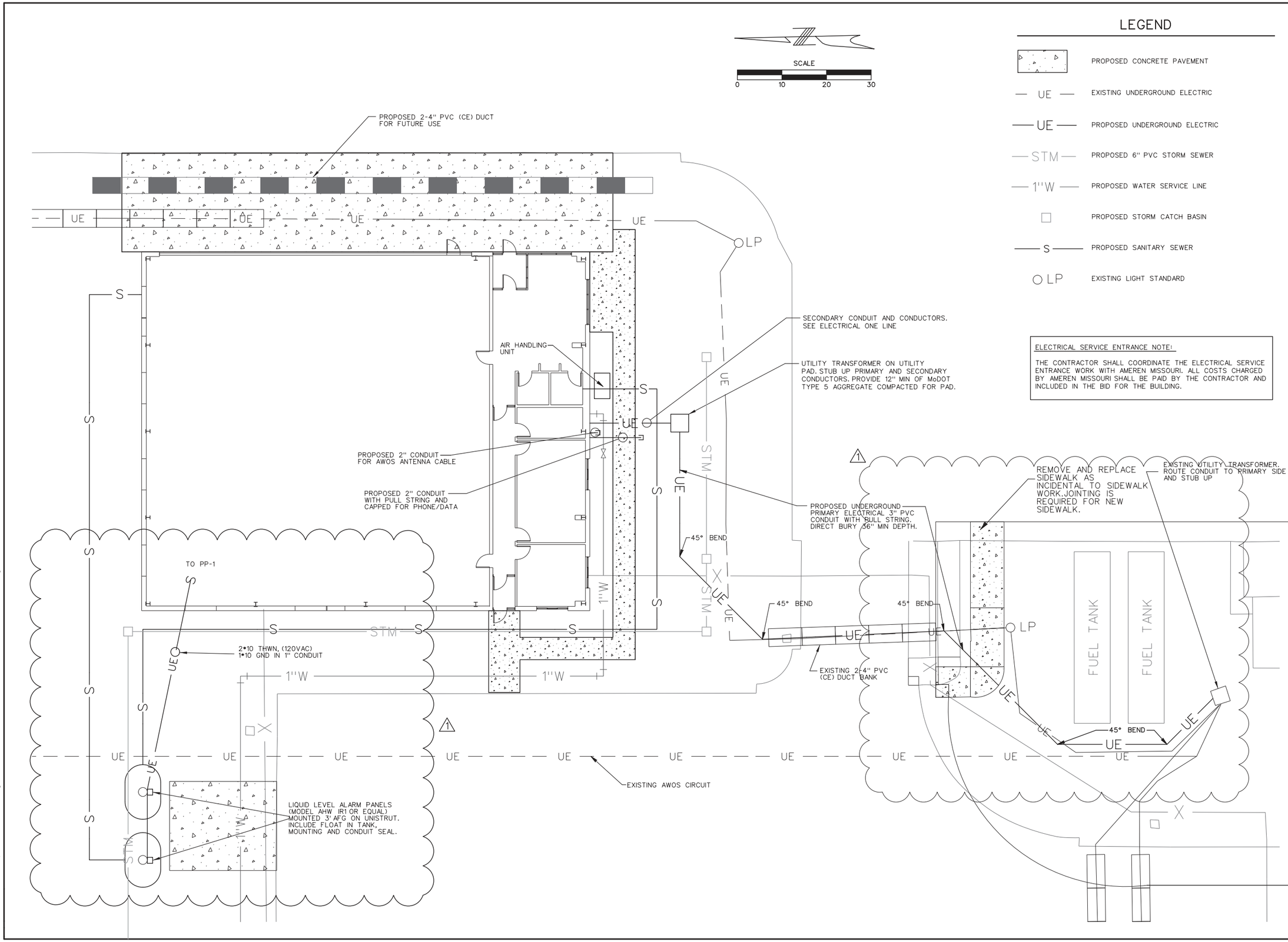
MoDOT PROJECT NO. 15-030C-1

EROSION CONTROL PLAN

FILE: C-09_Erosion_Control_Plan_Rev-1.dgn
DESIGN BY: BWG
DRAWN BY: TML
CHECKED BY:
APPROVED BY: BWG
DATE: JUNE 30, 2016
JOB No: 15401-07

C-09

7/18/2016
K:\NorthCentralMOAp\15401-07_Hangar\Draw\Sheets\C-09_Erosion_Control_Plan_Rev-1.dgn



LEGEND

	PROPOSED CONCRETE PAVEMENT
— UE —	EXISTING UNDERGROUND ELECTRIC
— UE —	PROPOSED UNDERGROUND ELECTRIC
— STM —	PROPOSED 6" PVC STORM SEWER
— 1"W —	PROPOSED WATER SERVICE LINE
□	PROPOSED STORM CATCH BASIN
— S —	PROPOSED SANITARY SEWER
○ LP	EXISTING LIGHT STANDARD

ELECTRICAL SERVICE ENTRANCE NOTE:

THE CONTRACTOR SHALL COORDINATE THE ELECTRICAL SERVICE ENTRANCE WORK WITH AMEREN MISSOURI. ALL COSTS CHARGED BY AMEREN MISSOURI SHALL BE PAID BY THE CONTRACTOR AND INCLUDED IN THE BID FOR THE BUILDING.

REVISIONS

NUMBER	BY	DATE
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MoDOT PROJECT NO. 15-030C-1

ELECTRICAL SITE PLAN

FILE: C-11_Electrical_Site_Plan_Rev-1.dgn
DESIGN BY: BWG
DRAWN BY: TML
CHECKED BY:
APPROVED BY: BWG
DATE: JUNE 30, 2016
JOB No: 15401-07

C-11

7/19/2016
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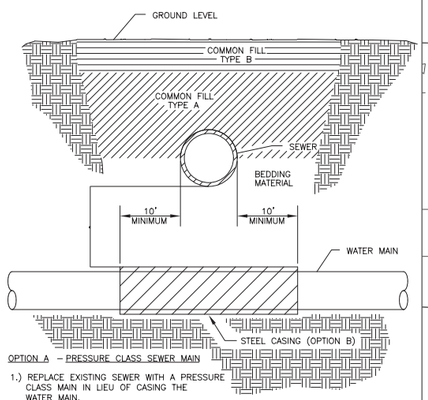
WATER MAIN CROSSING UNDER SEWER



OPTION A – PRESSURE CLASS SEWER MAIN

1.) REPLACE EXISTING SEWER WITH A PRESSURE CLASS MAIN IN LIEU OF CASING THE WATER MAIN.

2.) THE SEWER SHALL BE REPLACED A MINIMUM OF 10' EACH SIDE OF THE WATERMAIN.

OPTION B – WATER MAIN CASING INSTALLATION

1.) PROVIDE ADEQUATE SUPPORT FOR THE EXISTING SEWER TO PREVENT DAMAGE DUE TO SETTLEMENT.

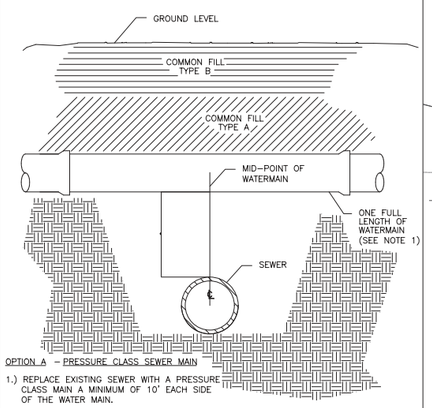
NOTES:

1.) FOLLOW TRENCH MATERIAL DETAIL WHEN BACK-FILLING WATER MAIN.

2.) THE SELECTED OPTION MUST BE APPROVED BY AN ENGINEERS REPRESENTATIVE.

WATER MAIN CROSSING UNDER SEWER DETAIL

WATER MAIN CROSSING OVER SEWER



OPTION A – PRESSURE CLASS SEWER MAIN

1.) REPLACE EXISTING SEWER WITH A PRESSURE CLASS MAIN A MINIMUM OF 10' EACH SIDE OF THE WATER MAIN.

OPTION B – WATER MAIN INSTALLATION

1.) MID-POINT OF ONE FULL LENGTH OF WATER MAIN IS TO BE CENTERED ABOVE SEWER LINE.

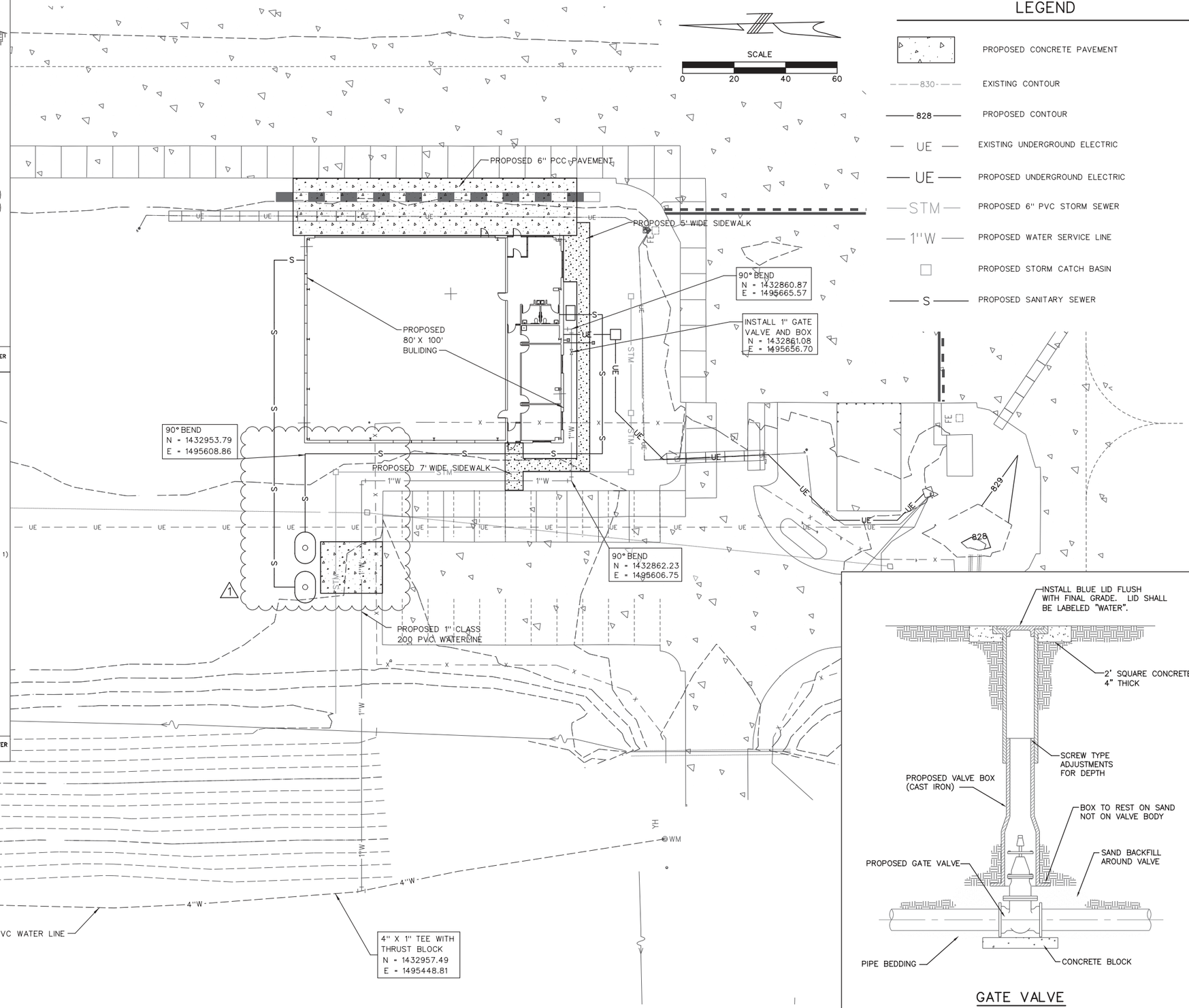
2.) PROVIDE ADEQUATE SUPPORT FOR THE WATER MAIN TO PREVENT DAMAGE DUE TO SETTLEMENT.

NOTES:

1.) FOLLOW TRENCH MATERIAL DETAIL WHEN BACK-FILLING WATER MAIN.

2.) THE SELECTED OPTION MUST BE APPROVED BY AN ENGINEERS REPRESENTATIVE.

WATER MAIN CROSSING OVER SEWER DETAIL



LEGEND

- PROPOSED CONCRETE PAVEMENT
- 830 — EXISTING CONTOUR
- 828 — PROPOSED CONTOUR
- UE — EXISTING UNDERGROUND ELECTRIC
- UE — PROPOSED UNDERGROUND ELECTRIC
- STM — PROPOSED 6" PVC STORM SEWER
- 1"W — PROPOSED WATER SERVICE LINE
- PROPOSED STORM CATCH BASIN
- S — PROPOSED SANITARY SEWER

GATE VALVE
N.T.S.

REVISIONS		
NUMBER	BY	DATE
1	BWG	7/15/16

0 1 2
THIS BAR IS EQUAL TO 2" AT FULL SCALE (34X22). PLOT 1

NORTH CENTRAL MISSOURI REGIONAL AIRPORT
BROOKFIELD, MISSOURI (LINN COUNTY)

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NUMBER PE-2004017171
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DATE: 7/15/16
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(314) 436-5500
CRAWFORD MURPHY & TILLY, INC.
ENGINEERS & CONSULTANTS

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PROFESSIONAL ENGINEERING - 000631

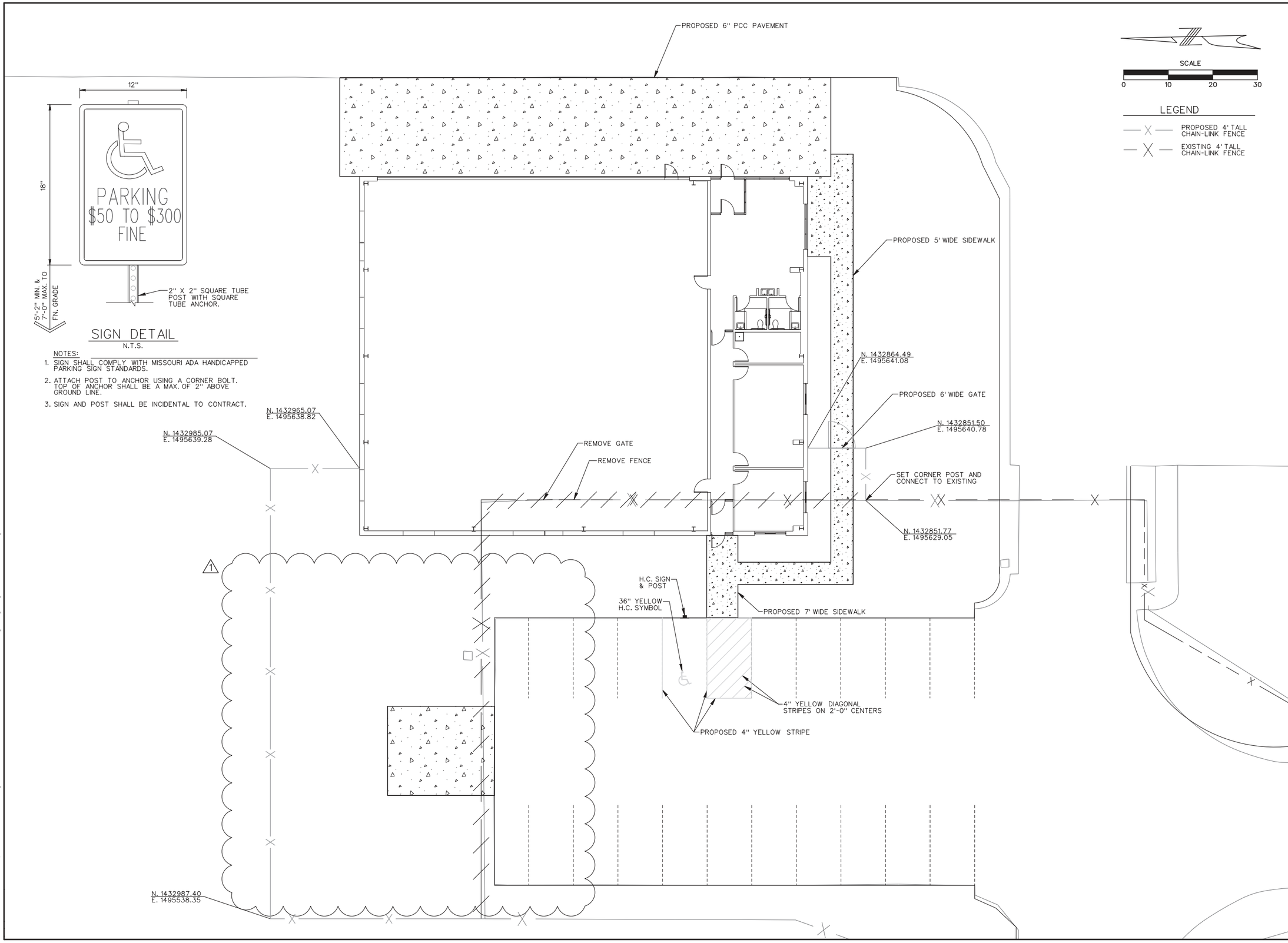
MoDOT PROJECT NO. 15-030C-1

WATER LINE LAYOUT

FILE: C-13_Water_Line_Layout_Plan_Rev-1
DESIGN BY: BWG
DRAWN BY: TML
CHECKED BY:
APPROVED BY: BWG
DATE: JUNE 30, 2016
JOB No: 15401-07

C-13

7/19/2016
K:\NorthCentralMOAp\15401-07_Hangar\Draw\Sheets\C-13_Water_Line_Layout_Plan_Rev-1.dgn



REVISIONS		
NUMBER	BY	DATE
1	BWG	7/15/16

0 1 2

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NORTH CENTRAL MISSOURI REGIONAL AIRPORT

BROOKFIELD, MISSOURI (LINN COUNTY)

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CONSTRUCT COMMUNITY HANGAR WITH TERMINAL BUILDING

STATE OF MISSOURI
BRIAN W. GARKIE
NUMBER
PE-2004017171
PROFESSIONAL ENGINEER

DATE: 7/18/16
BRIAN W. GARKIE, P.E.
PROFESSIONAL ENGINEER

CMT
CRAWFORD MURPHY & TILLY, INC.
ENGINEERS & CONSULTANTS
211 NW EXECUTIVE WAY
SUITE H
LEE'S SUMMIT, MO 64063
(314) 436-5500

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MoDOT PROJECT NO. 15-030C-1

FENCING, MARKING & SIGNING PLAN

FILE: C-14_Fence_Marking_Signing_Plan_Re

DESIGN BY: BWG

DRAWN BY: TML

CHECKED BY:

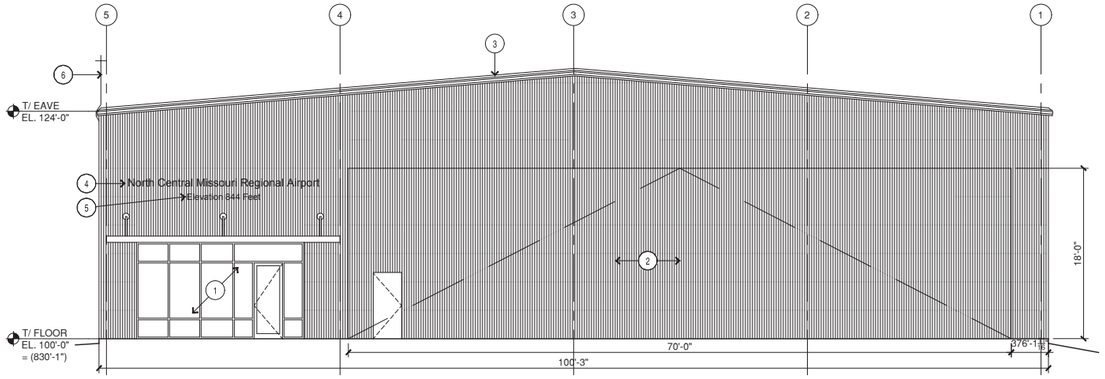
APPROVED BY: BWG

DATE: JUNE 30, 2016

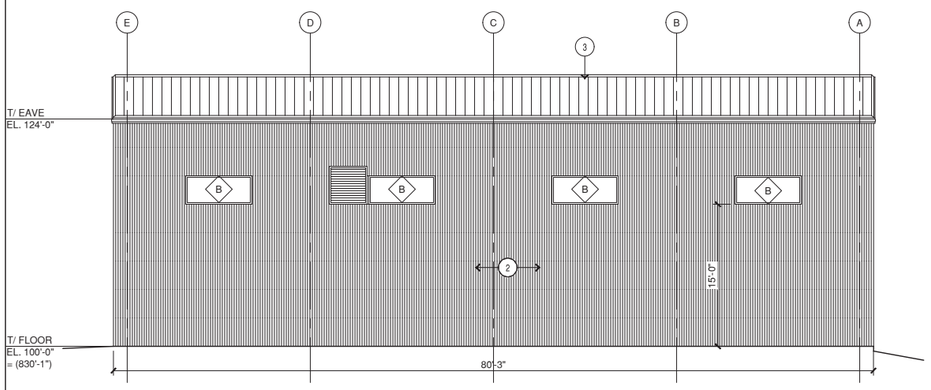
JOB No: 15401-07

C-14

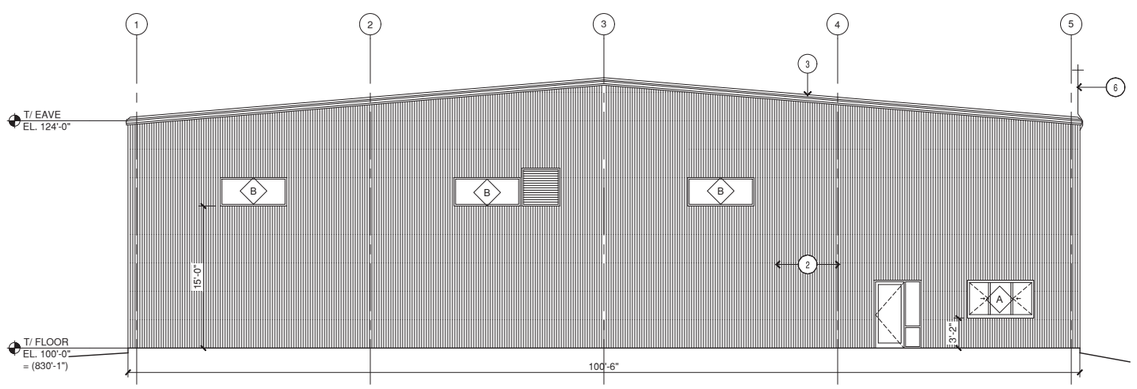
7/18/2016
K:\NorthCentralMOAp\15401-07_Hangar\Draw\Sheets\C-14_Fence_Marking_Signing_Plan_Rev-1.dgn



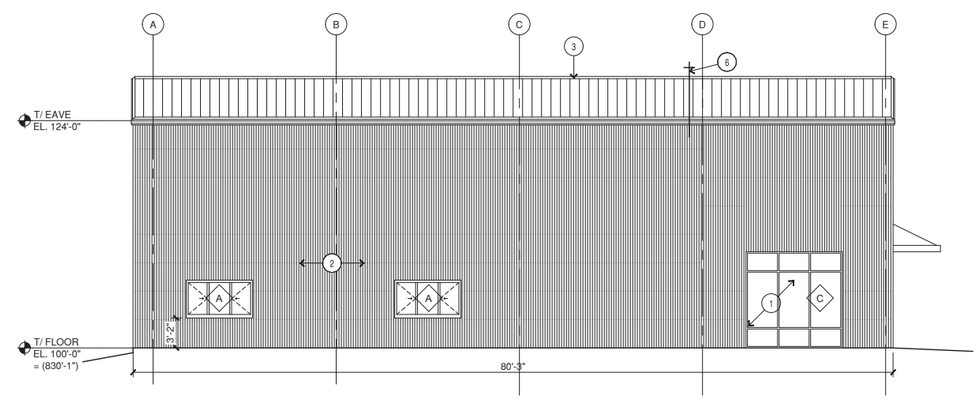
C1 EAST ELEVATION
1/8"=1'-0"



B1 NORTH ELEVATION
1/8"=1'-0"



A1 WEST ELEVATION
1/8"=1'-0"



A2 SOUTH ELEVATION
1/8"=1'-0"

GENERAL NOTES:

1. CONTRACTOR TO VERIFY ALL CONDITIONS AND DIMENSIONS PRIOR TO ANY CONSTRUCTION.
2. ALL CONCRETE FLOOR CONTROL JOINTS TO BE SEALED WITH ELASTOMERIC SEALANT. SAW CUT AND SEAL COLD JOINTS TO MATCH CONTROL JOINTS.

KEYED NOTES:

1. ALUMINUM STOREFRONT SYSTEM.
2. VERTICAL EXPOSED FASTENER MEAL PANEL. 1
3. MECHANICALLY SEAMED STANDING SEAM ROOF SYSTEM WITH NO GUTTERS OR DOWNSPOUTS.
4. 10"x1" ANODIZED ALUMINUM LETTERS, STUD MOUNT.
5. 8"X1" ANODIZED ALUMINUM LETTERS, STUD MOUNT.
6. RELOCATED UHF AWOS ANTENNA

REVISIONS

NUMBER	BY	DATE
1	ADD 1	7/18/16

0 1 2
THIS BAR IS EQUAL TO 2" AT FULL SCALE (34X22). PLOT 1

NORTH CENTRAL MISSOURI REGIONAL AIRPORT
BROOKFIELD, MISSOURI (LINN COUNTY)

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CONSTRUCT COMMUNITY HANGAR WITH TERMINAL BUILDING

STATE OF MISSOURI
ALEXANDER P. BLOCK
NUMBER 2014030706
ARCHITECT
DATE: 07/18/16
EXP: 12/31/16

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211 NW EXECUTIVE WAY
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LEE'S SUMMIT, MO 64063
(314) 436-5500
CRAWFORD MURPHY & TILLY, INC.
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MoDOT PROJECT NO. 15-030C-1

EXTERIOR ELEVATIONS

FILE:
DESIGN BY: APB
DRAWN BY: CMT
CHECKED BY: XXX
APPROVED BY: APB
DATE: JUNE 30, 2016
JOB No: 15401-07

A-201

DOOR SCHEDULE

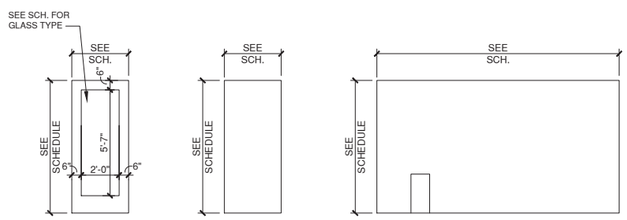
DOOR						FRAME				LABEL	DETAILS (SEE SHEET 05)			HARDWARE GROUP	LINTEL	NOTES
NO.	SIZE	MAT'L	FINISH	CORE	TYPE	ELEV.	MAT'L	FINISH	WALL CONST.		HEAD	JAMB	SILL			
100A	3'-0" x 8'-0" x 1 3/4"	ALUM	ANOD	INSUL	A	1	ALUM	ANOD	-	--	-	-	-	1	--	1.
100B	3'-0" x 8'-0" x 1 3/4"	ALUM	ANOD	--	A	4	ALUM	ANOD	-	--	-	-	-	2	--	2.
102A	3'-0" x 7'-0" x 1 3/4"	WOOD	PLAM	--	B	2	ALUM	ANOD	-	--				3	--	--
103A	3'-0" x 7'-0" x 1 3/4"	WOOD	PLAM	--	B	2	ALUM	ANOD	-	--	-	-	-	3	--	--
104A	3'-0" x 7'-0" x 1 3/4"	WOOD	PLAM	--	B	2	ALUM	ANOD	-	--	-	-	-	4	--	--
105A	3'-0" x 7'-0" x 1 3/4"	WOOD	PLAM	--	B	2	ALUM	ANOD	-	--				5	--	--
105B	3'-0" x 7'-0" x 1 3/4"	WOOD	PLAM	--	B	2	ALUM	ANOD	-	--	-	-	-	5	--	--
106A	3'-0" x 7'-0" x 1 3/4"	WOOD	PLAM	--	B	2	ALUM	ANOD	-	--	-	-	-	5	--	--
107A	3'-0" x 7'-0" x 1 3/4"	ALUM	ANOD	--	B	3	ALUM	ANOD	-	--				2	--	2.
108A	3'-0" x 7'-0" x 1 3/4"	ALUM	ANOD	INSUL	A	3	ALUM	ANOD	-	--	-	-	-	1	--	1.
108B	3'-0" x 7'-0" x 1 3/4"	ALUM	ANOD	--	A	3	ALUM	ANOD	-	--	-	-	-	2	--	2.
109A	3'-0" x 7'-0" x 1 3/4"	STEEL	PNT	--	B	2	STEEL	PNT	-	3 HR.				6	--	--
109B	3'-0" x 7'-0" x 1 3/4"	STEEL	PNT	--	B	2	STEEL	PNT	-	3 HR.	-	-	-	6	--	--
109C	70'-0" x 18'-0"	STEEL	PNL -1&2	INSUL	C	--	--	--	-	--	-	-	-	7	--	3.

DOOR NOTES:
1. 1" INSULATED TEMPERED GLAZING.
2. 1/4" TEMPERED GLAZING.
3. 3'-0" X 7'-0" MAN DOOR BY HANGAR DOOR MANUFACTURER, HDW GROUP #7.

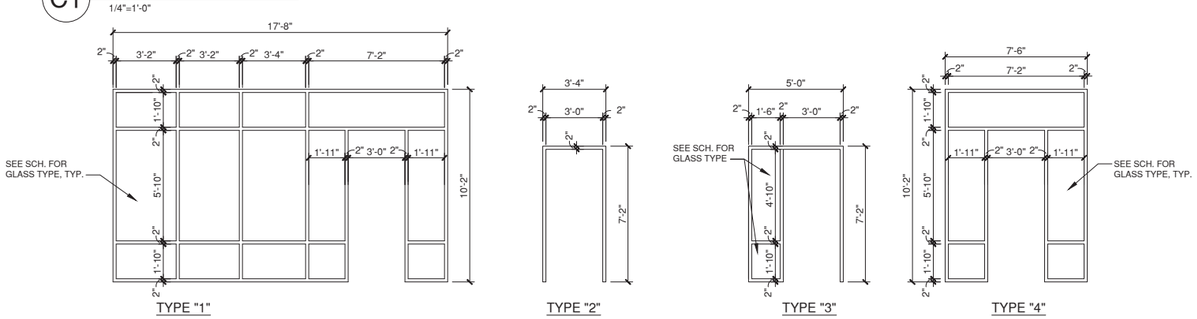
WINDOW SCHEDULE

WINDOW						LABEL	DETAILS (SEE SHEET 02)			NOTES
NO.	SIZE	MODEL	OPERATION	MAT'L	ELEV.		HEAD	JAMB	SILL	
A	7'-0"W x 4'-0"H	-	VENT-FIXED-VENT	ALUM	A	--	-	-	-	--
B	7'-0"W x 3'-0"H	-	FIXED	ALUM	B	--	-	-	-	1., 2.
C	10'-2"W x 10'-2"H	-	FIXED	ALUM	C	--	-	-	-	1., 2.

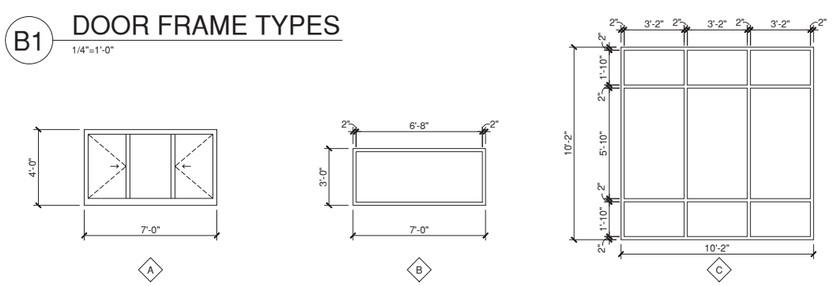
WINDOW NOTES:
1. 1" INSULATED GLAZING.
2. ALUMINUM STOREFRONT FRAMING.



C1 DOOR TYPES
1/4"=1'-0"



B1 DOOR FRAME TYPES
1/4"=1'-0"



A1 EXTERIOR WINDOW TYPES
1/4"=1'-0"

ROOM FINISH SCHEDULE

NUMBER	ROOM NAME	WALLS								BASE		FLOOR		CEILING			NOTES
		NORTH		SOUTH		EAST		WEST									
		MAT'L	FIN	MAT'L	FIN	MAT'L	FIN	MAT'L	FIN	MAT'L	FINISH	MAT'L	FINISH	MAT'L	FINISH	HEIGHT	
100	ENTRY	GPDW	PNT-1	GPDW	PNT-1	GPDW	PNT-1	GPDW	PNT-1	RB	RB-1	CONC	WLK OFF	ACP	--	10'-2"	-
101	LOUNGE	GPDW	PNT-1	GPDW	PNT-1	GPDW	PNT-1	GPDW	PNT-1	RB	RB-1	CONC	LVT-1/CPT-1	ACP	--	18'-0"	-
102	WOMENS	GPDW	PNT-1	GPDW	PNT-1	GPDW	PNT-1	GPDW	PNT-1	RB	RB-1	CONC	LVT-1	ACP	--	8'-0"	-
103	MENS	GPDW	PNT-1	GPDW	PNT-1	GPDW	PNT-1	GPDW	PNT-1	RB	RB-1	CONC	LVT-1	ACP	--	8'-0"	-
104	MECHANICAL	GPDW	PNT-1	GPDW	PNT-1	GPDW	PNT-1	GPDW	PNT-1	--	--	CONC	SEALER	--	PNT-3	VARIES	-
105	CONFERENCE	GPDW	PNT-1	GPDW	PNT-1	GPDW	PNT-1	GPDW	PNT-1	RB	RB-1	CONC	CPT-1	ACP	--	9'-0"	-
106	OFFICE	GPDW	PNT-1	GPDW	PNT-1	GPDW	PNT-1	GPDW	PNT-1	RB	RB-1	CONC	CPT-1	ACP	--	9'-0"	-
107	HALL	GPDW	PNT-1	GPDW	PNT-1	GPDW	PNT-1	GPDW	PNT-1	RB	RB-1	CONC	LVT-1	ACP	--	9'-0"	-
108	ENTRY	GPDW	PNT-1	GPDW	PNT-1	GPDW	PNT-1	GPDW	PNT-1	RB	RB-1	CONC	WLK OFF	ACP	--	9'-0"	-
109	HANGAR	METAL	PNL-3	METAL	PNL-3	METAL	PNL-3	METAL	PNL-3	--	--	CONC	SEALER	--	PNT-3	VARIES	-

ROOM FINISH NOTES:
1. --
2. --

MATERIALS LIST

CODE KEY: FLOOR FINISH 000, BASE FINISH 100, WALL FINISH 200, CEILING FINISH 300, DOOR FINISH 400, DOOR FRAME 500, WINDOW FRAME 600, CABINETRY 700, MISCELLANEOUS 800, EXTERIOR 900

ITEM	CODE	DESCRIPTION	REMARKS
FLOOR FINISHES			
WALK-OFF	001	SHAW, STEPPIN OUT, ENTREE TILE, BLACK CHOCOLATE 31751	--
CONC	002	SEALED CONCRETE FLOOR	--
LVT	003	SHAW, CRETE, SLATE 0203V	18"X18"
CPT-1	004	SHAW, OPENWORK, KASURI TILE, CAST BRONZE 92601	MONOLITHIC INSTALLATION, PATTERN IN LONG DIRECTION
BASE FINISHES			
VB	100	JOHNSONITE, 4" COVE BASE, FAWN 80	-
WALL FINISHES			
PNT	200	TBD	SEMI-GLOSS
MTL LINER PANEL	201	MCELROY METAL, BUCKSKIN	--
CEILING FINISHES			
ATC	300	ARMSTRONG, OPTIMA BEVELED TEGULAR	-
PNT	301	TBD	SEMI-GLOSS, EXPOSED STRUCTURE AND METAL DECK
DOOR FINISHES			
PNT	400	TBD	SEMI-GLOSS
ALUM	401	ANODIZED ALUMINUM, FACTORY FINISHED, TBD	EXTERIOR AND INTERIOR DOOR
PLAM	402	HGS PLASTIC LAMINATE, FACTORY FINISHED, TBD	INTERIOR DOOR
DOOR FRAME FINISHES			
PNT	500	TBD	SEMI-GLOSS
ALUM	501	ANODIZED ALUMINUM, FACTORY FINISHED, TBD	EXTERIOR DOOR, DOOR FRAMES AND WINDOW FRAMES
WINDOW FRAME FINISHES			
ALUM	600	ANODIZED ALUMINUM, FACTORY FINISHED, TBD	EXTERIOR WINDOW FRAMES
EXTERIOR FINISHES			
METAL WALL PANEL	900	MCELROY METAL, MEGA-RIB, VERTICAL APPLICATION (1)	36" PANEL WIDTH
		COLOR : TBD	
ROOF PANEL	901	MCELROY METAL, COLOR: TBD	

REVISIONS

NUMBER	BY	DATE
1	ADD 1	7/18/16

0 1 2
THIS BAR IS EQUAL TO 2" AT FULL SCALE (34X22). PLOT 1

NORTH CENTRAL MISSOURI REGIONAL AIRPORT
BROOKFIELD, MISSOURI (LINN COUNTY)

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CONSTRUCT COMMUNITY HANGAR WITH TERMINAL BUILDING

STATE OF MISSOURI
ALEXANDER P. BUCK
NUMBER 2014030706
ARCHITECT
DATE: 07/12/16
EXP: 12/31/16

CMT
211 NW EXECUTIVE WAY
SUITE H
LEE'S SUMMIT, MO 64063
(314) 436-5500
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ENGINEERS & CONSULTANTS
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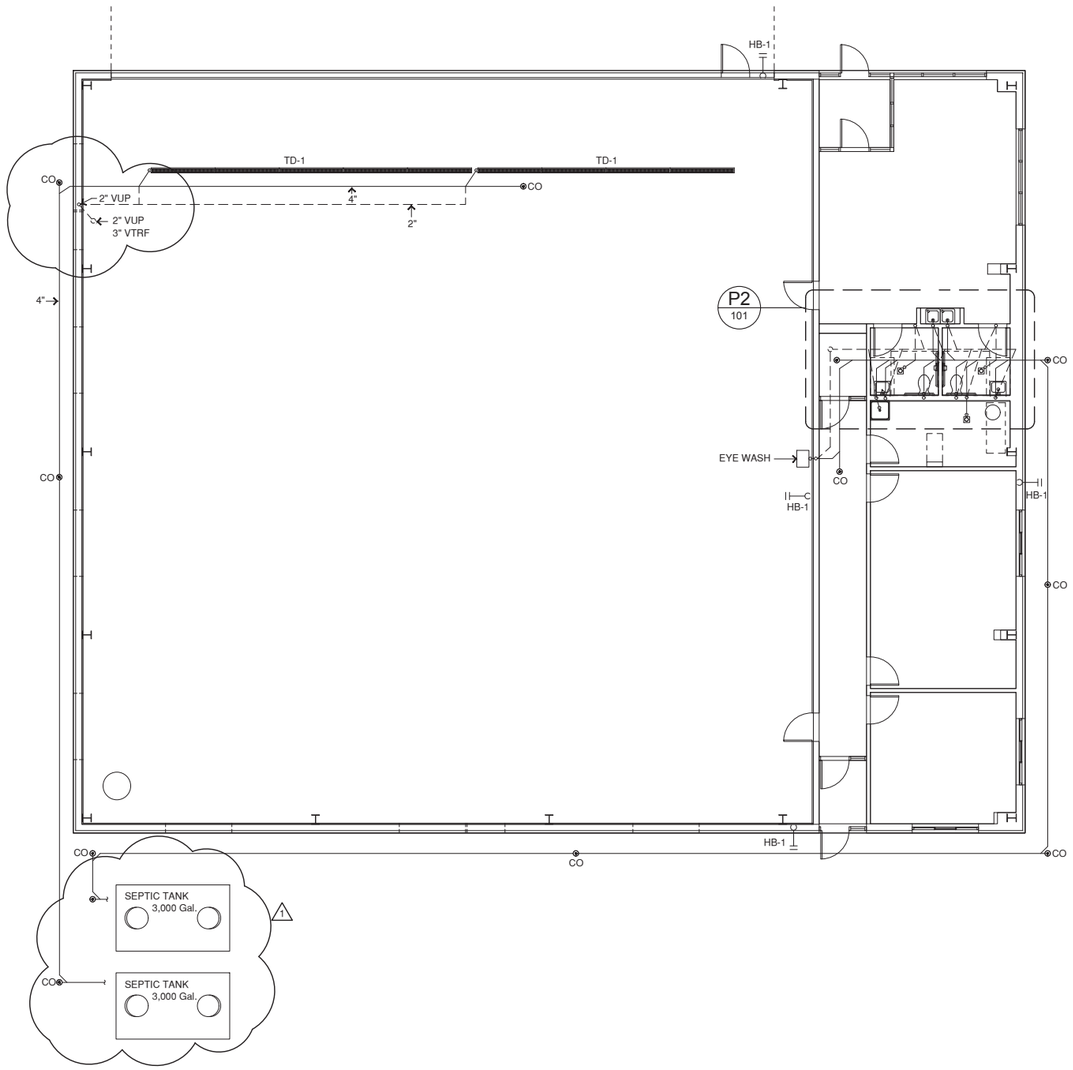
MoDOT PROJECT NO. 15-030C-1

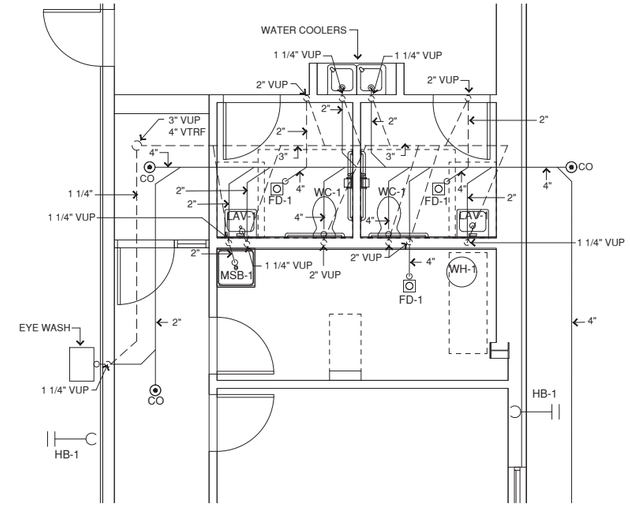
SCHEDULES

FILE:
DESIGN BY: APB
DRAWN BY: CMT
CHECKED BY: XXX
APPROVED BY: APB
DATE: JUNE 30, 2016
JOB No: 15401–07

A-601



P1 WASTE & VENT
1/8"=1'-0"
N



P2 ENLARGED PLAN
1/4"=1'-0"
N

GENERAL NOTES:

1. CONTRACTOR TO VERIFY ALL CONDITIONS AND DIMENSIONS PRIOR TO ANY CONSTRUCTION.

KEYED NOTES:

REVISIONS

NUMBER	BY	DATE
1	GLJ	07/18/16

0 1 2
THIS BAR IS EQUAL TO 2" AT FULL SCALE (34X22). PLOT I

NORTH CENTRAL MISSOURI REGIONAL AIRPORT
BROOKFIELD, MISSOURI (LINN COUNTY)

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STATE OF MISSOURI
BRIAN W. GARKIE
NUMBER PE-2004017171
PROFESSIONAL ENGINEER

DATE: 7/18/16
BRIAN W. GARKIE, P.E.
PROFESSIONAL ENGINEER

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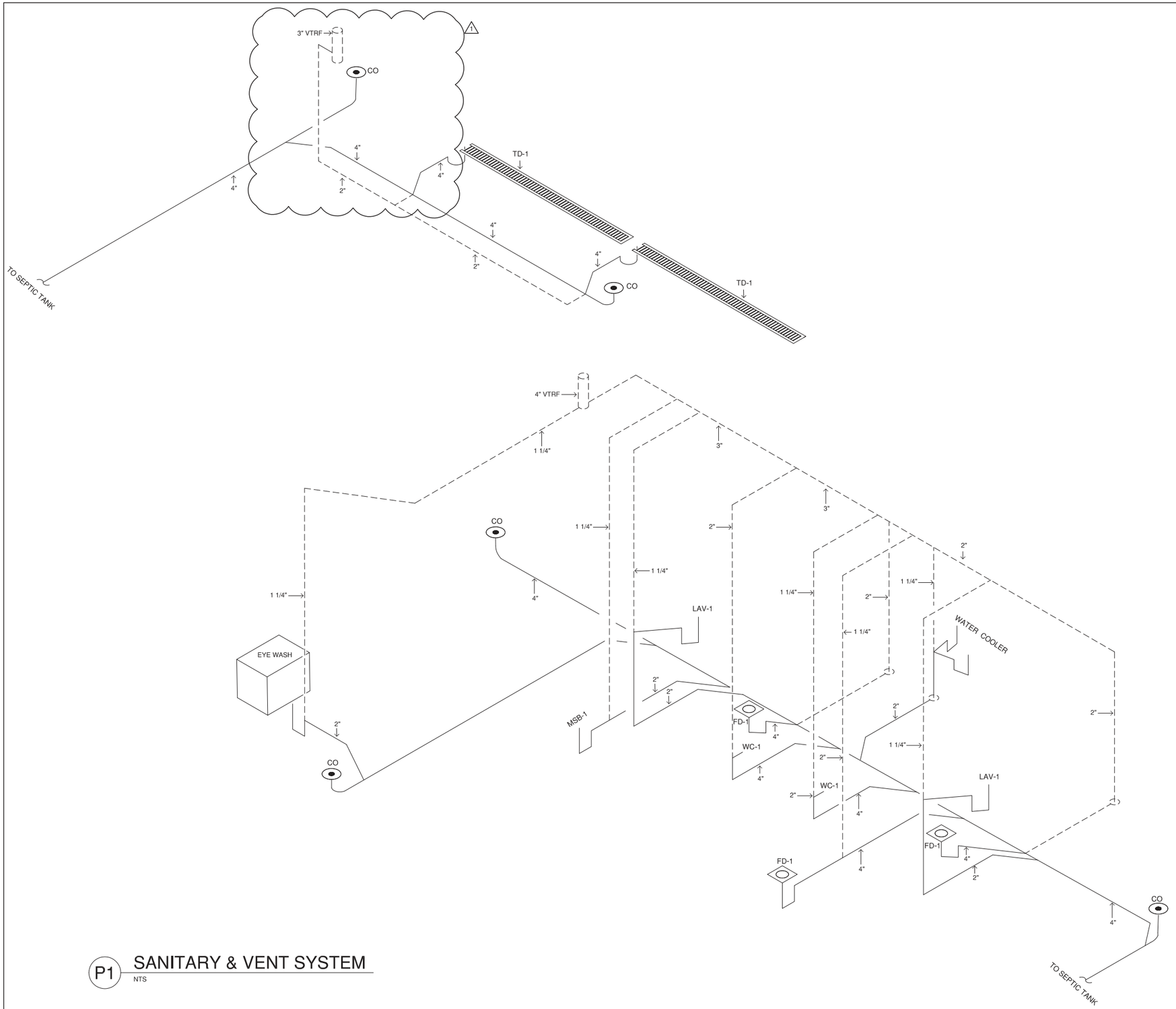
MoDOT PROJECT NO. 15-030C-1

PLUMBING PLAN I

FILE:
DESIGN BY: GLJ
DRAWN BY: GLJ
CHECKED BY: HEC
APPROVED BY: BWG
DATE: JUNE 30, 2016
JOB No: 15401-07

P-101



P1 SANITARY & VENT SYSTEM
NTS

REVISIONS		
NUMBER	BY	DATE
1	GLJ	07/18/16

0 1 2
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BROOKFIELD, MISSOURI (LINN COUNTY)

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BRIAN W. GARKIE
NUMBER PE-2004017171
PROFESSIONAL ENGINEER
7/18/16
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BRIAN W. GARKIE, P.E.
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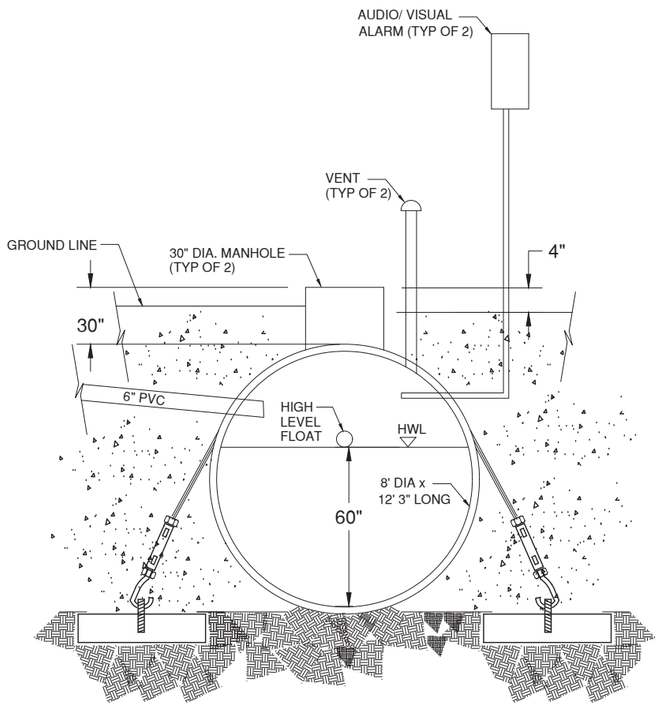
MoDOT PROJECT NO. 15-030C-1

PLUMBING ISO DRAWING I

FILE:
DESIGN BY: GLJ
DRAWN BY: GLJ
CHECKED BY: HEC
APPROVED BY: BWG
DATE: JUNE 30, 2016
JOB No: 15401-07

P-103



SEPTIC TANK DETAIL

N.T.S.

NOTES:

SEPTIC TANK TO BE FIBERGLASS REINFORCED PLASTIC AND AND ABLE TO WITHSTAND H-20 TRAFFIC LOADING.

REVISIONS		
NUMBER	BY	DATE
1	GLJ	07/18/16

0 1 2

THIS BAR IS EQUAL TO 2" AT FULL SCALE (34X22). PLOT 1

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BROOKFIELD, MISSOURI (LINN COUNTY)

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MoDOT PROJECT NO. 15-030C-1

PLUMBING DETAILS II

FILE:

DESIGN BY: GLJ

DRAWN BY: GLJ

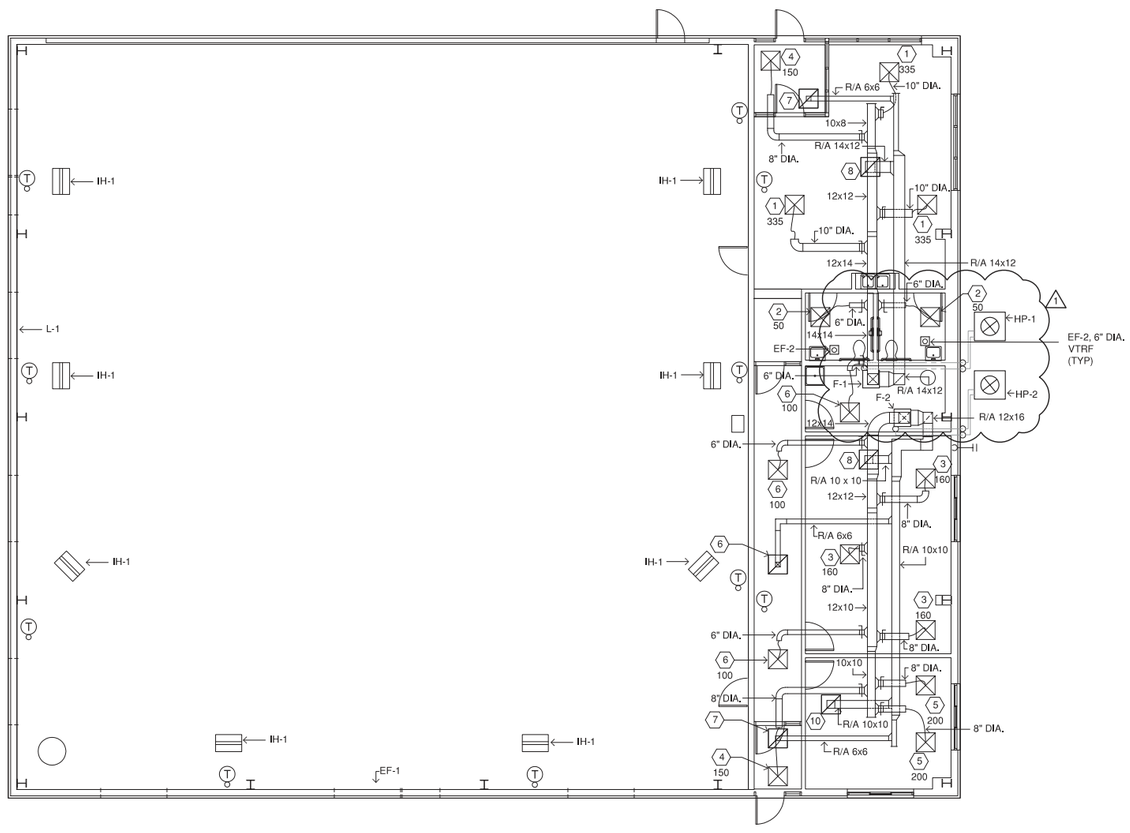
CHECKED BY: HEC

APPROVED BY: BWG

DATE: JUNE 30, 2016

JOB No: 15401-07

P-106



M1 HVAC PLAN
1/8"=1'-0"

N

GENERAL NOTES:

1. CONTRACTOR TO VERIFY ALL CONDITIONS AND DIMENSIONS PRIOR TO ANY CONSTRUCTION.

KEYED NOTES:

REVISIONS

NUMBER	BY	DATE
1	GLJ	07/18/16

0 1 2
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BRIAN W. GARKIE
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MoDOT PROJECT NO. 15-030C-1

HVAC PLAN

FILE:
DESIGN BY: GLJ
DRAWN BY: GLJ
CHECKED BY: HEC
APPROVED BY: BWG
DATE: JUNE 30, 2016
JOB No: 15401-07

M-101

UNIT HEATER SCHEDULE

MARK		EUH-1	
LOCATION		HANGAR SPACE	
SERVICE		-	
TYPE		QUARTZ LAMP	
INPUT KW		7.5	
MBH		25,300	
FAN	CFM	-	
	RPM	-	
	HP	-	
ELECT.	VOLT	240	
	PHASE	3	
	WATTS	7,500	
ACCESSORIES		SEE NOTES 1,2	
REMARKS		MOUNT BOTTOM OF UNIT 10'-0" AFF	

NOTES:
1. CEILING MOUNTING KIT
2. INTEGRAL THERMOSTAT, MOUNT 42" A.F.F.

FURNACE SCHEDULE

MARK		F-1	F-1
MANUFACTURER		CARRIER	CARRIER
MODEL		FX4D	FX4D
CFM		1355	1230
EXTERNAL STATIC PRESSURE		0.5"	0.5"
FAN HP		1/2	1/2
COOLING	SENS. MBH	31.3	26.2
	TOTAL MBH	35.1	31.2
	EDB / EWB	76.6° / 63.6°	77.6° / 64.6°
	LDB / LWB	56.9° / 55.7°	57.2° / 56.0°
AUXILARY HEATING	KW	10	10
	VOLT / PHASE	208 - 230 / 1	208 - 230 / 1
	AMPS	54.2 / 59.9	54.2 / 59.9
	NO. OF ELEMENTS	2	2
	MOCP	60	60
	LAT	95°	95°
ELECTRICAL	VOLT	230	230
	PH	1	1
	HZ	60	60
ACCESSORIES		SEE NOTES 1,2,3,4,5,6,7	SEE NOTES 1,2,3,4,5,6,7
REMARKS		10% OUTDOOR AIR	10% OUTDOOR AIR

NOTES:
1. THROWAWAY FILTERS
2. ROUTE DRAIN TO SANITARY. TERMINATE OPEN SITE
3. SEVEN DAY PROGRAMMABLE THERMOSTAT SUITABLE FOR USE WITH HEAT PUMP
4. HUMIDIFIER AND ASSOCIATED PIPING TO DOMESTIC WATER
5. DISCONNECT KIT
6. SINGLE POINT WIRING KIT
7. MOUNT UNIT ON 4" HOUSEKEEPING PAD. EXTEND PAD MINIMUM 6" BEYOND ALL EDGES OF UNIT.

FAN SCHEDULE

MARK		EF-1	EF-2
SERVICE		HANGAR	-
LOCATION		SOUTH WALL	RESTROOM
TYPE		CABINET	CABINET
CFM		6064	75
S.P.		0.1	0.134
FAN RPM		980	675
MOTOR	HP	3/4	15.8W
	VOLT	-	115
	PHASE	-	1
	RPM	980	-
ACCESSORIES		SEE NOTES	SEE NOTES
REMARKS			

NOTES:
1. 12" HIGH ROOF CURB
2. BIRDSCREEN
3. VERTICAL EXHAUST DUCT STACKHEAD
4. BAKED, CHEMICAL RESISTANT, SYNTHETIC RESIN FINISH
5. WEATHER PROOF COVER
6. COUNTER BALANCED GRAVITY BACKDRAFT DAMPER
7. MOTORIZED DAMPER
8. MOTOR GUARD
9. DAMPER GUARD
10. GENERAL PURPOSE DISCONNECT SWITCH
11. WALL COLLAR

HEAT PUMP UNIT SCHEDULE

MARK		HP-1	HP-2
MANUFACTURER		CARRIER	CARRIER
MODEL		28HNB5	28HNB5
SERVICE		F-1	F-2
COP		3.42	3.42
SEER		16.0	15.5
CAPACITY	TOTAL	35.1	31.2
MBH	SENSIBLE	31.3	26.2
HEATING MBH	SENSIBLE	14.0	10.0
COMPRESSOR	RLA	21.1	16.7
	LRA	109.0	79.0
FAN	QUANTITY	1	1
	HP	1/5	1/5
ELECT.	KW	3.92	3.92
	VOLT	230	230
	PHASE	1	1
	HERTZ	60	60
	MOCP	40	35
ACCESSORIES		SEE NOTES	SEE NOTES
REMARKS		3/8" LIQUID 3/4" SUCTION	3/8" LIQUID 3/4" SUCTION

NOTES:
1. CRANKCASE HEATER
2. TIME DELAY RELAY
3. LIQUID LINE SOLENOID
4. LOW AMBIENT CONTROL
5. THERMOSTATIC EXPANSION VALVE
6. SUPPORT FEET

STATIONARY LOUVER SCHEDULE

MARK		SL-1		
SERVICE		HANGAR SPACE		
LOCATION		WEST WALL		
TYPE		DRAINABLE		
CFM		6064		
MAX. Δ S.P. (IN)		0.1		
NOM. SIZE	WIDTH	48"		
	HEIGHT	48'		
	DEPTH	4"		
AREA (SQ. FT.)	NET	192.00		
	FREE	8.71		
FRAME		GLAZING		
MATERIAL		ALUMINUM		
FINISH		KYNAR		
ACCESSORIES		SEE NOTES 1,2,3,4		
REMARKS				

NOTES:
1. COLOR TO BE SELECTED BY ARCHITECT
2. BIRD SCREEN
3. EXTENDED SILL
4. MOTORIZED DAMPER

AIR DEVICE SCHEDULE

MARK	1	2	3	4	5	6	7	8	9	10
TYPE	A	A	A	A	A	A	B	B	B	B
SERVICE	SUPPLY	SUPPLY	SUPPLY	SUPPLY	SUPPLY	SUPPLY	RETURN	RETURN	RETURN	RETURN
MAXIMUM CFM	335	50	160	150	200	100	150	1,005	480	400
TOTAL PRESSURE	0.082	0.011	0.028	0.028	0.040	0.025	0.06	0.04	0.02	0.02
THROW (FT/50 FPM)	5 - 7 - 13	1 - 1 - 4	2 - 4 - 7	2 - 4 - 7	3 - 4 - 9	1 - 3 - 5	-	-	-	-
MAXIMUM NC	15	<10	<10	<10	<10	<10	14	24	20	21
ADAPTER SIZE	10"DIA.	6" DIA.	8" DIA.	8" DIA.	8" DIA.	6" DIA.	6 X 6	14 X 12	12 X 10	10 X 10
NOMINAL NECK SIZE	10" DIA.	6" DIA.	8" DIA.	8" DIA.	8" DIA.	6" DIA.	6 X 6	14 X 14	12 X 12	10 X 10
MODULE SIZE	24 X 24	24 X 24	24 X 24	24 X 24	24 X 24	24 X 24	24 X 24	24 X 24	24 X 24	24 X 24
PATTERN	4-WAY	4-WAY	4-WAY	4-WAY	4-WAY	4-WAY	-	-	-	-
FRAME	LAY-IN	LAY-IN	LAY-IN	LAY-IN	LAY-IN	LAY-IN	LAY-IN	LAY-IN	LAY-IN	LAY-IN
FINISH	OFF WHITE	OFF WHITE	OFF WHITE	OFF WHITE	OFF WHITE	OFF WHITE	OFF WHITE	OFF WHITE	OFF WHITE	OFF WHITE
MATERIAL	ALUMINUM	ALUMINUM	ALUMINUM	ALUMINUM	ALUMINUM	ALUMINUM	ALUMINUM	ALUMINUM	ALUMINUM	ALUMINUM
ACCESSORIES							SEE NOTE	SEE NOTE	SEE NOTE	SEE NOTE
REMARKS										

REVISIONS

NUMBER	BY	DATE
1	GLJ	07/18/16

0 1 2
THIS BAR IS EQUAL TO 2" AT FULL SCALE (34X22).
PLOT 1

NORTH CENTRAL MISSOURI REGIONAL AIRPORT
BROOKFIELD, MISSOURI (LINN COUNTY)

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CONSTRUCT COMMUNITY HANGAR WITH TERMINAL BUILDING

STATE OF MISSOURI
BRIAN W. GARKIE
NUMBER PE-2004017171
PROFESSIONAL ENGINEER
7/18/16
DATE:
BRIAN W. GARKIE, P.E.
PROFESSIONAL ENGINEER

CMT
CRAWFORD MURPHY & TILLY, INC.
ENGINEERS & CONSULTANTS
211 NW EXECUTIVE WAY
SUITE H
LEE'S SUMMIT, MO 64063
(314) 436-5500

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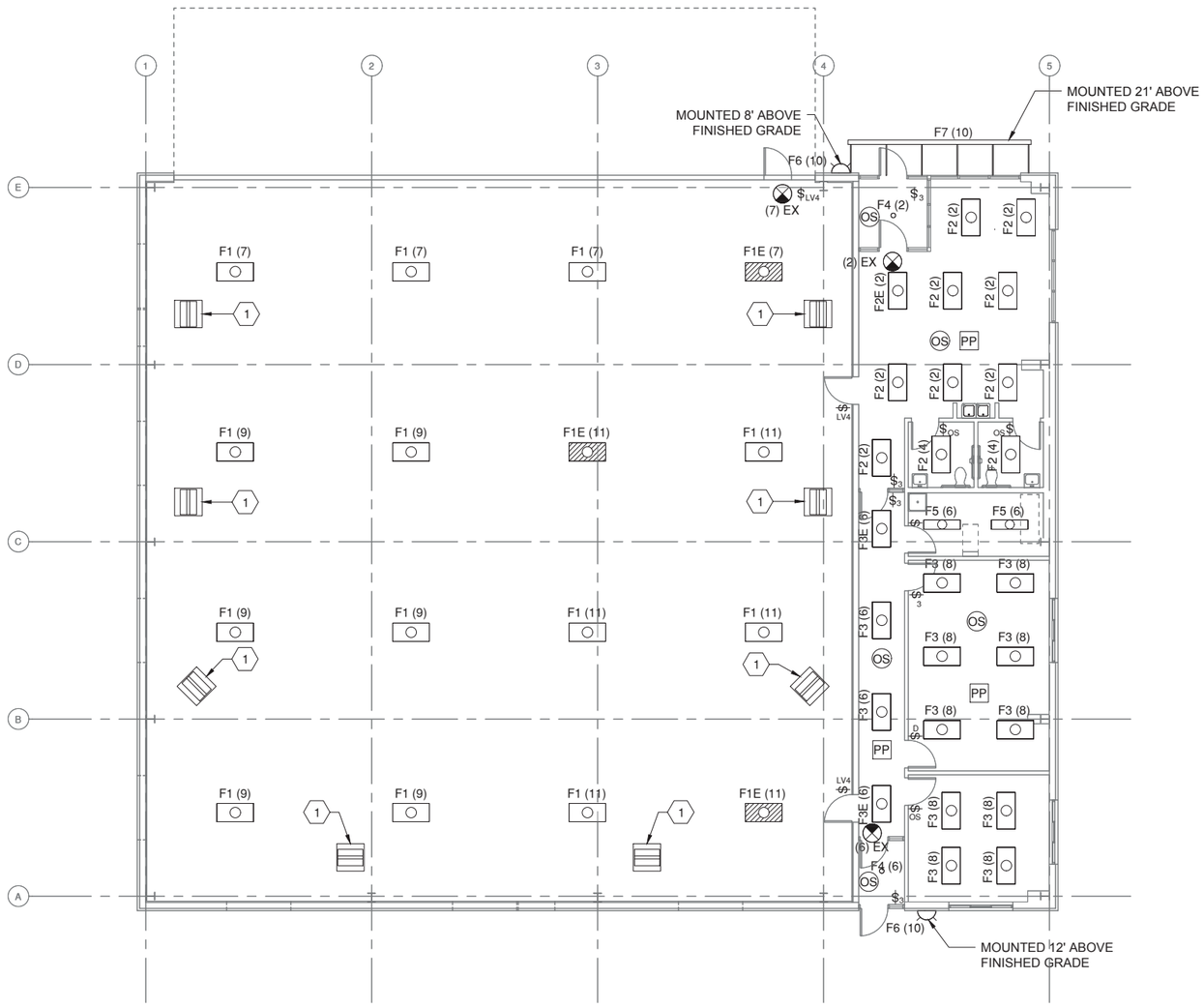
MoDOT PROJECT NO. 15-030C-1

HVAC SCHEDULES

FILE:
DESIGN BY: GLJ
DRAWN BY: GLJ
CHECKED BY: HEC
APPROVED BY: BWG
DATE: JUNE 30, 2016
JOB No: 15401-07

M-102



A1 LIGHTING PLAN
1/8"=1'-0"

N

GENERAL NOTES:

1. THE WALL BETWEEN THE HANGER SPACE AND THE FINISHED SPACE HAS A TWO OUR FIRE RATING. ALL CONDUIT PENETRATIONS SHALL UTILIZE A U.L. LISTED FIRE STOPPING SYSTEM.
2. SEE LIGHTING CONTROLS SCHEMATIC FOR LIGHTING WIRING.
3. INTERLOCK RESTROOM WOMENS 102 AND MENS ROOM 103 EXHAUST FANS WITH OCCUPANCY SENSOR SWITCH FOR LIGHTS.

1

KEYED NOTES:

1. INFRARED HEATER (7500W). PROVIDE 2 #8THWN, 1 #8 GROUND IN ¾" CONDUIT TO MAIN DISTRIBUTION PANEL (MDP)

LEGEND

- $ — TOGGLE SWITCH SINGLE POLE
- $OS — OCCUPANCY SENSOR LIGHT SWITCH (WSX PDT D)
- $LV4 — 4 ZONE ON/OFF RAISE/LOWER (NPODM-4S-DX)
- $3 — 3-WAY TOGGLE SWITCH
- $D — DIMMING SWITCH (ISD-BC)
- OS — OCCUPANCY SENSOR CEILING MOUNTED (CM-10)
- PP — POWER PACK (PP-20)
- FIXTURE # → F(#); CIRCUIT → (A) — INTERIOR FLUORESCENT LIGHT FIXTURE
- EXIT SIGN
- F(#) — WALL PACK LIGHT FIXTURE

REVISIONS

NUMBER	BY	DATE
1	ADD 1	7/18/16

0 1 2
THIS BAR IS EQUAL TO 2" AT FULL SCALE (34X22). PLOT 1

NORTH CENTRAL MISSOURI REGIONAL AIRPORT
BROOKFIELD, MISSOURI (LINN COUNTY)

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CONSTRUCT COMMUNITY HANGAR WITH TERMINAL BUILDING

STATE OF MISSOURI
LEWIS D. WILLIAMS
NUMBER
PE-2002009025
REGISTERED PROFESSIONAL ENGINEER

DATED: 7/18/16
ENGINEER: PE-2002009025
LICENSE EXPIRES: DECEMBER 31, 2016

CMT
CRAWFORD MURPHY & TILLY, INC.
ENGINEERS & CONSULTANTS
211 NW EXECUTIVE WAY
SUITE H
LEE'S SUMMIT, MO 64063
(314) 436-5500

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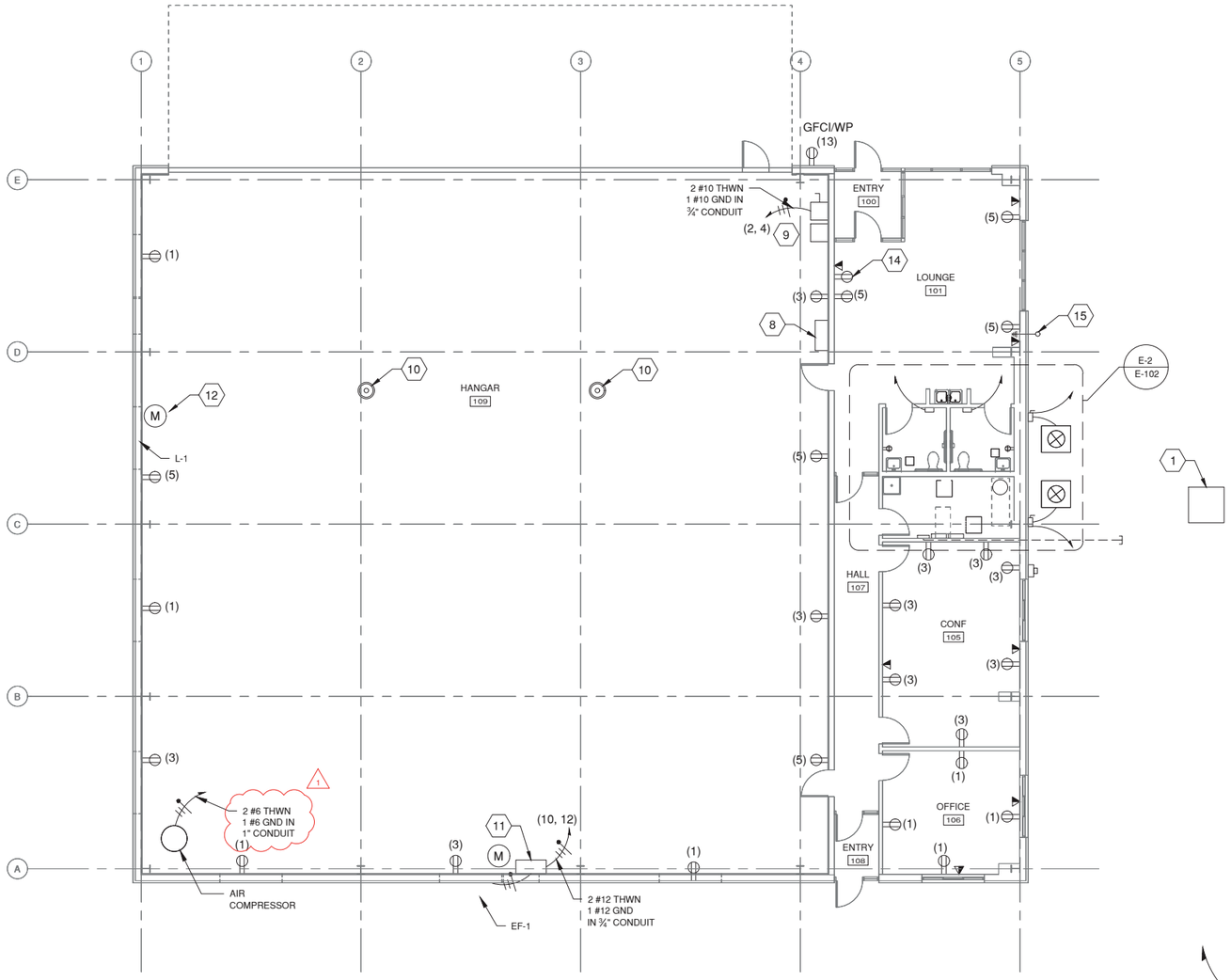
MoDOT PROJECT NO. 15-030C-1

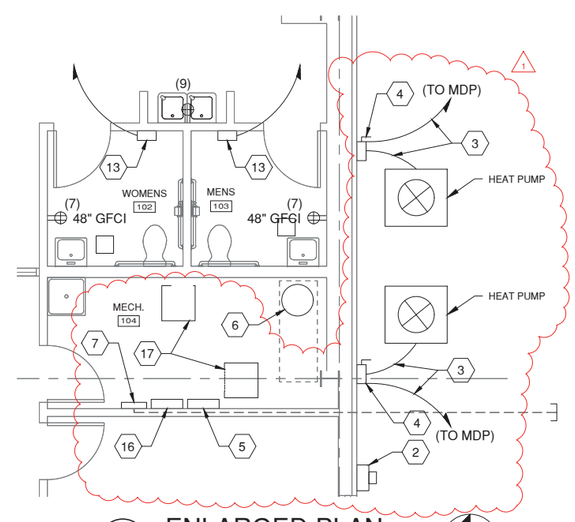
LIGHTING PLAN

FILE:
DESIGN BY: LDW
DRAWN BY: DLB
CHECKED BY:
APPROVED BY: LDW
DATE: JUNE 30, 2016
JOB No: 15401-07

E-101



E1 POWER PLAN
1/8"=1'-0"



E2 ENLARGED PLAN
1/4"=1'-0"

GENERAL NOTES:

1. THE WALL BETWEEN THE HANGAR SPACE AND THE FINISHED SPACE HAS A TWO HOUR FIRE RATING. ALL CONDUIT PENETRATIONS SHALL UTILIZE A U.L. LISTED FIRE STOPPING SYSTEM.
2. ALL RECEPTACLES IN HANGAR AREA SHALL BE GFCI RATED AND SHALL BE MOUNTED 42" ABOVE FINISHED FLOOR.
3. ALL WIRING DEVICES IN FINISHED AREAS (NOT IN HANGAR OR MECHANICAL ROOM) SHALL BE FLUSH MOUNTED.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR RELOCATION OF THE AWOS COMPUTER DISPLAY AND CONNECTED EQUIPMENT WHICH INCLUDES THE UHF ANTENNA FROM THE EXISTING AIRPORT OFFICE TO THE NEW TERMINAL BUILDING. WORK SHALL BE COMPLETED BY AN FAA CERTIFIED AWOS TECHNICIAN WITH CURRENT FCC LICENSURE. NOTE, THE CURRENT AWOS TECHNICIAN FOR THE AIRPORT IS RON ROLLINS OF J&R ENGINEERING (816-896-3215). RELOCATION OF THE UHF ANTENNA WILL REQUIRE UPDATING THE FCC LICENSE WISH USES CALL SIGN WQPB550, FILE NUMBER 0005025209, AND FCC REGISTRATION NUMBER (FRN) 0021365168. AN AIRSPACE REVIEW FOR THE PROPOSED NEW LOCATION OF THE UHF ANTENNA WILL BE SUBMITTED TO FAA BY THE ENGINEER USING FAA FORM 7460-1. ALL WORK ASSOCIATED WITH THIS ITEM EXCEPT FOR THE AIRSPACE SUBMITTAL SHALL BE COMPLETED BY THE CONTRACTOR. ALL COSTS ASSOCIATED WITH THIS WORK INCLUDING ANY CHARGES BY THE AWOS TECHNICIAN OR ANY LICENSED MODIFICATION FEES BY THE FCC SHALL BE INCLUDED AS PART OF THE BUILDING LUMP SUM PAY ITEM.
5. THE CONTRACTOR SHALL COORDINATE THE ELECTRICAL SERVICE ENTRANCE WORK WITH AMEREN MISSOURI. ALL COSTS CHARGED BY AMEREN MISSOURI SHALL BE PAID BY THE CONTRACTOR AND INCLUDED IN THE BID FOR THE BUILDING.

KEYED NOTES:

1. UTILITY TRANSFORMER ON CONCRETE PAD. CONTRACTOR TO PROVIDE CONDUITS THAT STUB UP AND BACKFILL WITH GRANULAR MATERIAL (MIN. 4' x 4'. AMEREN TO PROVIDE PAD AND TRANSFORMER.
2. UTILITY METER (CLASS 320) INSTALLED 5' ABOVE FINISHED GRADE.
3. 2 #8THWN, 1 #8 GND IN 1" CONDUIT.
4. 2 POLE, 240 VAC HEAVY DUTY SAFETY SWITCH IN NEMA 4X ENCLOSURE MOUNTED 5' ABOVE FINISHED GRADE.
5. MAIN DISTRIBUTION PANEL. SEE ELECTRICAL ONE-LINE AND PANELBOARD SCHEDULE FOR FURTHER INFORMATION.
6. 50 GALLON WATER HEATER. PROVIDE 3 #10AWG IN 3/4 " CONDUIT FROM WATER HEATER TO MAIN DISTRIBUTION PANEL (MDP)
7. PHONE/DATA/SECURITY DEMARK LOCATION WITH 4' BY 4' PLYWOOD. PROVIDE 2-2" CONDUIT WITH PULL STRING BELOW GRADE TO 12' OUTSIDE OF THE BUILDING AND CAP.
8. POWER PANEL 1 (PP-1) SEE ELECTRICAL ONE LINE AND PANELBOARD SCHEDULE FOR FURTHER INFORMATION.
9. HANGAR DOOR CONTROL PANEL AND 30AMP, 2 POLE HEAVY DUTY SAFETY SWITCH IN NEMA 4X ENCLOSURE. PROVIDE 3 #10THWN IN 3/4" CONDUIT FROM CONTROL PANEL TO SAFETY SWITCH AND FROM SAFETY SWITCH TO MAIN DISTRIBUTION PANEL.
10. STATIC ELECTRICITY GROUNDING RECEPTACLE. SEE DETAIL FOR FURTHER INFORMATION. COORDINATE EXACT LOCATION WITH THE OWNER. PAINT PER ARCHITECTURE PLANS.
11. FULL VOLTAGE NON-REVERSING NEMA SIZE 1 COMBINATION STARTER FOR EXHAUST FAN IN NEMA 12 ENCLOSURE. SEE COMBINATION MOTOR STARTER SCHEMATIC FOR FURTHER INFORMATION.
12. MOTORIZED LOUVER TO BE INTERCONNECTED WITH EXHAUST FAN STARTER.
13. ELECTRIC HAND DRYER, PROVIDE 2 #12 THWN (240V), 1 #12 GND. IN ¾" CONDUIT TO PP-1.
14. PROVIDE DATA AND RECEPTACLE 18" BELOW CEILING FOR FUTURE TV. COORDINATE EXACT LOCATION WITH OWNER.
15. RELOCATED AWOS ANTENNA MOUNTED ABOVE THE ROOF LINE TO BE POINTED NORTH.
16. POWER PANEL 2 (PP-2) SEE ELECTRICAL ONE LINE AND PANELBOARD SCHEDULE FOR FURTHER DETAILS.
17. FURNACE. PROVIDE 2 #8 THWN, 1 #8 GND IN 1" CONDUIT TO MDP.

LEGEND

	DUPLEX RECEPTACLE
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
WP	WEATHER PROOF WHILE IN USE
	RECEPTACLE
	ROUGH-IN FOR DATA/VOICE WIRING DEVICE BOX 18" ABOVE FINISHED FLOOR WITH BLANK COVER PLATE AND ¾" CONDUIT TO 90° BEND TO 6" ABOVE CEILING WITH CONDUIT BUSHING AND PULL STRING.

REVISIONS

NUMBER	BY	DATE
1	ADD 1	7/18/16

0 1 2
THIS BAR IS EQUAL TO 2" AT FULL SCALE (34X22). PLOT 1

NORTH CENTRAL MISSOURI REGIONAL AIRPORT
BROOKFIELD, MISSOURI (LINN COUNTY)

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CONSTRUCT COMMUNITY HANGAR WITH TERMINAL BUILDING

STATE OF MISSOURI
LANDON WILLIAM DILLY
NUMBER PE-2002009025
REGISTERED PROFESSIONAL ENGINEER

DATED: 7/18/16
ENGINEER: PE-2002009025
LICENSE EXPIRES: DECEMBER 31, 2016

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CRAWFORD MURPHY & TILLY, INC.
ENGINEERS & CONSULTANTS
211 NW EXECUTIVE WAY
SUITE H
LEE'S SUMMIT, MO 64063
(314) 436-5500

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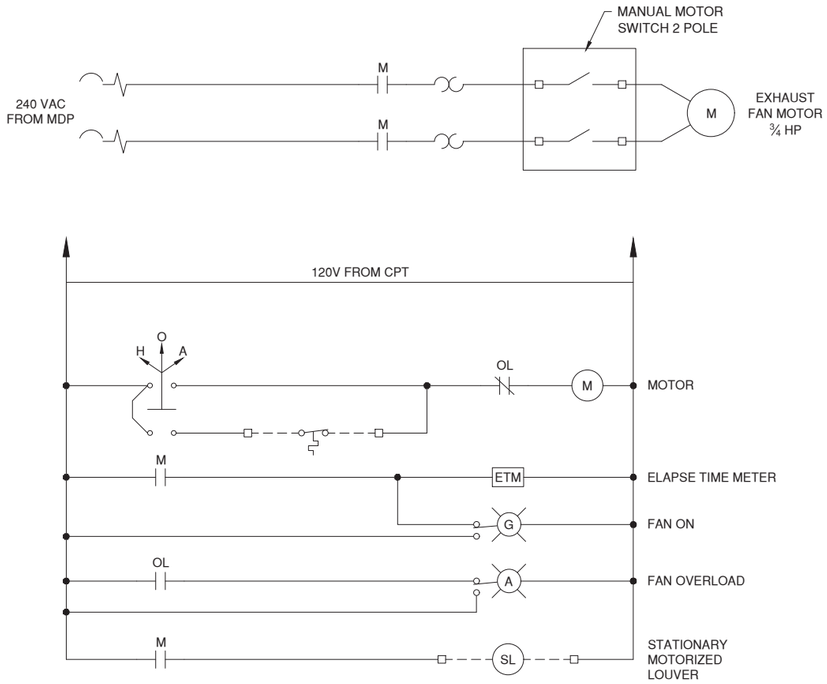
MoDOT PROJECT NO. 15-030C-1

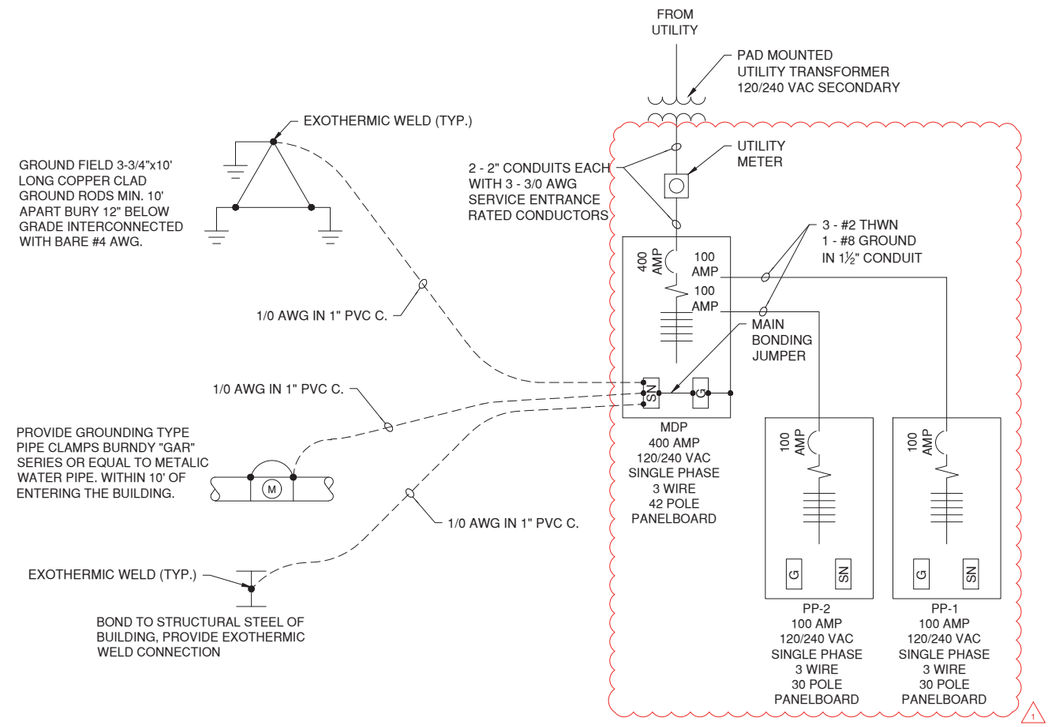
POWER PLAN

FILE:
DESIGN BY: LDW
DRAWN BY: DLB
CHECKED BY:
APPROVED BY: LDW
DATE: JUNE 30, 2016
JOB No: 15401-07

E-102



E1 COMBINATION MOTOR STARTER SCHEMATIC
N.T.S.



E2 ELECTRICAL ONE-LINE
N.T.S.

REVISIONS

NUMBER	BY	DATE
1	ADD 1	7/18/16

0 1 2
THIS BAR IS EQUAL TO 2" AT FULL SCALE (34X22).
PLOT 1

NORTH CENTRAL MISSOURI REGIONAL AIRPORT
BROOKFIELD, MISSOURI (LINN COUNTY)

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CONSTRUCT COMMUNITY HANGAR WITH TERMINAL BUILDING

STATE OF MISSOURI
LEE WAYNE DOUGLAS WILLIAMS
NUMBER PE-2002009025
REGISTERED PROFESSIONAL ENGINEER

DATED: 7/18/16
ENGINEER: PE-2002009025
LICENSE EXPIRES: DECEMBER 31, 2016

CMT
CRAWFORD MURPHY & TILLY, INC.
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SUITE H
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(314) 436-5500

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MoDOT PROJECT NO. 15-030C-1

ELECTRICAL SCHEMATICS

FILE:
DESIGN BY: LDW
DRAWN BY: DLB
CHECKED BY:
APPROVED BY: LDW
DATE: JUNE 30, 2016
JOB No: 15401–07

E-103

LIGHT PANEL SCHEDULE

PANEL DESIGNATION: **MAIN DISTRIBUTION PANEL (MDP)** TYPE: **SERVICE ENTRANCE RATED**
LOCATION: **MECHANICAL ROOM** POLE: **42**

VOLTS: 120/240 WIRE: 3 AMPS: 400
PHASE: SINGLE MOUNTING: SURFACE MAIN CIRCUIT BREAKER: 400A-2P

CKT NO.	LOAD	BREAKER SIZE	LOAD AMPS	USAGE FACTOR	USAGE AMPS A	USAGE AMPS B	POLE NO.		USAGE AMPS A	USAGE AMPS B	USAGE FACTOR	LOAD AMPS	BREAKER SIZE	LOAD	CKT NO.
1	WATER HEATER	30A-2P	19	0	0		1	2	0		1	0	30A-2P	SURGE PROTECTIVE DEVICE (SPD)	2
3	-----	-----	19	0		0	3	4		0	1	0	-----	-----	4
5	HAND DRYER MEN, WOMEN	20A-2P	7	0	0		5	6	25.6		0.8	32	50A-2P	INFRARED HEATER 1	6
7	-----	-----	7	0		0	7	8		25.6	0.8	32	-----	-----	8
9	SPARE	50A-2P	0	1	0		9	10	25.6		0.8	32	50A-2P	INFRARED HEATER 2	10
11	-----	-----	0	1		0	11	12		25.6	0.8	32	-----	-----	12
13	FURNACE 1 (F-1)	50A-2P	41	1	41		13	14	25.6		0.8	32	50A-2P	INFRARED HEATER 3	14
15	-----	-----	41	1		41	15	16		25.6	0.8	32	-----	-----	16
17	FURNACE 1 (F-1)	50A-2P	41	1	41		17	18	25.6		0.8	32	50A-2P	INFRARED HEATER 4	18
19	-----	-----	41	1		41	19	20		25.6	0.8	32	-----	-----	20
21	HEAT PUMP 1 (HP-1)	40A-2P	28	0	0		21	22	25.6		0.8	32	50A-2P	INFRARED HEATER 5	22
23	-----	-----	28	0		0	23	24		25.6	0.8	32	-----	-----	24
25	HEAT PUMP 2 (HP-2)	40A-2P	22	0	0		25	26	25.6		0.8	32	50A-2P	INFRARED HEATER 6	26
27	-----	-----	22	0		0	23	24		25.6	0.8	32	-----	-----	28
29	SPARE	20A-1P	0	1	0		25	26	25.6		0.8	32	50A-2P	INFRARED HEATER 7	30
31	SPARE	20A-1P	0	1		0	23	24		25.6	0.8	32	-----	-----	32
33	SPARE	20A-1P	0	1	0		25	26	25.6		0.8	32	50A-2P	INFRARED HEATER 8	34
35	SPARE	20A-1P	0	1		0	23	24		25.6	0.8	32	-----	-----	36
37	SPARE	20A-1P	0	1	0		25	26	10		1	10	100A-2P	POWER PANEL 1 (PP-1)	38
39	POWER PANEL 2 (PP-2)	100A-2P	29	1		29	23	24		10	1	10	-----	-----	40
41	-----	-----	18	1	18		25	26	0		1	0	20A-1P	SPARE	42
	SECTION TOTAL:				100	111			214.8	214.8					

MINIMUM MAIN CIRCUIT BREAKER CA 400

PHASE TOTAL AMPS: A 314.8 B 325.8
PHASE TOTAL VA: A 37776 B 39096

TOTAL USAGE LOAD: 76872 VA
MIN. XFMR VA: 96090 VA

BOND NEUTRAL AND GROUND BAR: YES
SHORT CIRCUIT RATING: 10,000 A

LIGHT PANEL SCHEDULE

PANEL DESIGNATION: **POWER PANEL NO. 1 (PP-1)** TYPE: **SQUARE D NQOD OR EQUAL**
LOCATION: **HANGER** POLE: **30**

VOLTS: 120/240 WIRE: 3 AMPS: 100
PHASE: SINGLE MOUNTING: SURFACE MAIN CIRCUIT BREAKER: 100A-2P

CKT NO.	LOAD	BREAKER SIZE	LOAD AMPS	USAGE FACTOR	USAGE AMPS A	USAGE AMPS B	POLE NO.		USAGE AMPS A	USAGE AMPS B	USAGE FACTOR	LOAD AMPS	BREAKER SIZE	LOAD	CKT NO.
1	RECEPTACLE CIR 1	20A-1P	6	0.1	0.6		1	2	1.6		0.1	16	20A-2P	T-HANGER DOOR	2
3	RECEPTACLE CIR 2	20A-1P	6	0.1		0.6	3	4		1.6	0.1	16	-----	-----	4
5	RECEPTACLE CIR 3	20A-1P	4.5	0.1	0.45		5	6	2.8		0.1	28	60A-2P	AIR COMPRESSOR	6
7	HANGER LIGHTS CIR 1	20A-1P	8.2	1		8.2	7	8		2.8	0.1	28	-----	-----	8
9	HANGER LIGHTS CIR 2	20A-1P	12.3	1	12.3		9	10	7		1	7	20A-1P	EXHAUST FAN	10
11	HANGER LIGHTS CIR 3	20A-1P	12.3	1		12.3	11	12		7	1	7	-----	-----	12
13	RECEPTACLE EXTERIER	20A-1P	1.5	1	1.5		13	14	0		1		20A-1P	SPARE	14
15	UST ALARM PANEL	20A-1P		1		0	15	16		0	1		20A-1P	SPARE	16
17	SPARE	20A-1P		1	0		17	18	0		1		20A-1P	SPARE	18
19	SPARE	20A-1P		1		0	19	20		0	1		20A-1P	SPARE	20
21	SPARE	20A-1P		1	0		21	22	0		1		20A-1P	SPARE	22
23	SPARE	20A-1P		1		0	23	24		0	1		20A-1P	SPARE	24
25	SPARE	20A-1P		1	0		25	26	0		1		20A-1P	SPARE	26
27	SPARE	20A-1P		1		0	23	24		0	1		20A-1P	SPARE	28
29	SPARE	20A-1P		1	0		25	26	0		1		20A-1P	SPARE	30
	SECTION TOTAL:				14.85	21.1			11.4	11.4					

MINIMUM MAIN CIRCUIT BREAKER CA 46

PHASE TOTAL AMPS: A 26.25 B 32.5
PHASE TOTAL VA: A 3150 B 3900

TOTAL USAGE LOAD: 7050 VA
MIN. XFMR VA: 8812.5 VA

BOND NEUTRAL AND GROUND BAR: YES
SHORT CIRCUIT RATING: 10,000 A

LIGHT PANEL SCHEDULE

PANEL DESIGNATION: **POWER PANEL NO. 2 (PP-2)** TYPE: **SQUARE D NQOD OR EQUAL**
LOCATION: **MECH RM 104** POLE: **30**

VOLTS: 120/240 WIRE: 3 AMPS: 100
PHASE: SINGLE MOUNTING: SURFACE MAIN CIRCUIT BREAKER: 100A-2P

CKT NO.	LOAD	BREAKER SIZE	LOAD AMPS	USAGE FACTOR	USAGE AMPS A	USAGE AMPS B	POLE NO.		USAGE AMPS A	USAGE AMPS B	USAGE FACTOR	LOAD AMPS	BREAKER SIZE	LOAD	CKT NO.
1	RECEPTACLE OFFICE RM 106	20A-1P	6	1	6		1	2	4.6		1	4.6	20A-1P	LIGHTS ENTRY LOUNGE RM 100, 101	2
3	RECEPTACLE CONFERENCE RM 105	20A-1P	9	1		9	3	4		1	1	1	20A-1P	LIGHTS RR ROOMS 102, 103	4
5	RECEPTACLE LOUNGE RM 101	20A-1P	6	1	6		5	6	3		1	3	20A-1P	LIGHTS HALLWAY, MECH RM 107, 104	6
7	RECEPT RR ROOMS 102, 103	20A-1P	3	1		3	7	8		5	1	5	20A-1P	LIGHTS CONF AND OFFICE 105, 106	8
9	RECEPT WATER COOLER	20A-1P	6	1	6		9	10	3		1	3	20A-1P	EXTERIOR LIGHTS	10
11	SPARE	20A-1P		1		0	11	12		0	1		20A-1P	SPARE	12
13	SPARE	20A-1P		1	0		13	14	0		1		20A-1P	SPARE	14
15	SPARE	20A-1P		1		0	15	16		0	1		20A-1P	SPARE	16
17	SPARE	20A-1P		1	0		17	18	0		1		20A-1P	SPARE	18
19	SPARE	20A-1P		1		0	19	20		0	1		20A-1P	SPARE	20
21	SPARE	20A-1P		1	0		21	22	0		1		20A-1P	SPARE	22
23	SPARE	20A-1P		1		0	23	24		0	1		20A-1P	SPARE	24
25	SPARE	20A-1P		1	0		25	26	0		1		20A-1P	SPARE	26
27	SPARE	20A-1P		1		0	23	24		0	1		20A-1P	SPARE	28
29	SPARE	20A-1P		1	0		25	26	0		1		20A-1P	SPARE	30
	SECTION TOTAL:				18	12			10.6	6					

MINIMUM MAIN CIRCUIT BREAKER CAPACITY 36

PHASE TOTAL AMPS: A 28.6 B 18
PHASE TOTAL VA: A 3432 B 2160

TOTAL USAGE LOAD: 5592 VA
MIN. XFMR VA: 6990 VA

BOND NEUTRAL AND GROUND BAR: YES
SHORT CIRCUIT RATING: 10,000 A

LIGHT FIXTURE SCHEDULE

FIXTURE NO.	DESCRIPTION	MANUFACTURER OR EQUIVALENT	CATALOG MODEL NO.	LAMP	LOCATION & MOUNTING
F1	2 BY 4 LED HIGH BAY FIXTURE WITH 24,000 LUMENS, WIDE DISTRIBUTION, SEMI-DIFFUSED ACRYLIC LENS, MULTIVOLT, 80CRI AND 4000K COLOR AND STANDARD GLASS WHITE	LITHONIA	IBL-24L-WD-SD125-LP840-NPP216D	LED 245W	SUSPENDED AT 20FT ABOVE FLOOR WITH ADJUSTABLE AIRCRAFT HANGERS
F1E	2 BY 4 LED HIGH BAY FIXTURE WITH 24,000 LUMENS, WIDE DISTRIBUTION, SEMI-DIFFUSED ACRYLIC LENS, MULTIVOLT, 80CRI AND 4000K COLOR AND STANDARD GLASS WHITE WITH EMERGENCY BATTERY PACK	LITHONIA	IBL-24L-WD-SD125-LP840-NPP16D-I2412	LED 245W	SUSPENDED AT 20FT ABOVE FLOOR WITH ADJUSTABLE AIRCRAFT HANGERS
F2	2 BY 4 VOLUMETRIC 8500 LUMENS, SQUARE LINEAR PRIXMX MULTIVOLT 0-10 DIMMING 82CRI AND 3500K	LITHONIA	2BLT4 85L SDP EZ1 LP835	LED 60 WATT	RECESSED MOUNTED
F2E	2 BY 4 VOLUMETRIC 8500 LUMENS, SQUARE LINEAR PRIXMX MULTIVOLT 0-10 DIMMING 82CRI AND 3500K WITH 1400 LUMEN BATTERY PACK	LITHONIA	2BLT4 85L SDP EZ1 LP835 EMG EL14L	LED 60 WATT	RECESSED MOUNTED
F3	2 BY 4 VOLUMETRIC 4800 LUMENS, SQUARE LINEAR PRIXMX MULTIVOLT 0-10 DIMMING 82CRI AND 3500K	LITHONIA	2BLT4 48L SDP EZ1 LP835	LED 34 WATT	RECESSED MOUNTED
F3E	2 BY 4 VOLUMETRIC 4800 LUMENS, SQUARE LINEAR PRIXMX MULTIVOLT 0-10 DIMMING 82CRI AND 3500K WITH 1400 LUMEN BATTERY PACK	LITHONIA	2BLT4 48L SDP EZ1 LP835 EMG EL14L	LED 34 WATT	RECESSED MOUNTED
F4	6" CAN DOWNLIGHT WITH 3500K COLOR, 1500 LUMENS OPEN WITH SEMI SPECILAR FINISH120 VAC	LITHONIA	LDN6 35/ 15 L06 AR 120 CONTROL	LED 11 WATT	RECESSED MOUNTED
F5	LED 4' STRIP 3000 LUMENS, FROSTED DIFFUSER, MULITVOLT, 3500K COLOR 80 COLOR RENDERING INDEX WITH WHITE FINISH	LITHONIA	ZL1N LED L48 3000LM F ST MVOLT 35K 80CRI WH	LED 33W	SURFACE MOUNTED MECHANICAL ROOM
F6	ARCHITECTURAL WALL SCONCE, LED, ONE ENGINE, 4000K COLOR, TYPE 4 DISTRIBUTION, 120 VAC, 0-10V DIMMING COLOR BY ARCHITECT	LITHONIA	WST LED 1 10A700/40K SR4 120 DMG	LED 24W	ON BUILDING SURFACE 8' AND 12' ABOVE FINISHED GRADE
F7	SIGN FIXTURES 5 TOTAL TANDOMMED TOGETHER FOR 20 FEET, LED, LINEAR LED DRIVER, 4 FOOT, 24 LEDS, 350 MA DRIVER, UL LISTED 400K COLOR 0-10V DIMMING	ELLIPTIPAR	S 171 L424 H M 0 40 ZX	27 WATTS TIMES 5 OR 135 WATTS TOTAL	MOUNTED 21' ABOVE FINISHED GRADE AND 3' SETBACK OUT FROM BUILDING
EX1	EXIT DIE CAST ALUMINIM WITH SINGLE FACE, RED WITH BATTERY BACKUP	LITHONIA	LQC 1 R EL N	LED	SURFACE MOUNTED

REVISIONS

NUMBER	BY	DATE
1	ADD 1	7/18/16

0 1 2
THIS BAR IS EQUAL TO 2" AT FULL SCALE (34X22). PLOT 1

NORTH CENTRAL MISSOURI REGIONAL AIRPORT
BROOKFIELD, MISSOURI (LINN COUNTY)

THE PROFESSIONAL WHOSE SIGNATURE AND PERSONAL SEAL APPEAR HEREON, ASSUMES RESPONSIBILITY ONLY FOR WHAT APPEARS ON THIS PAGE, AND DISCLAIMS UPON SUMMARY TO SECTION 327.411 REMOD ANY RESPONSIBILITY FOR ALL OTHER PLANS, SPECIFICATIONS, ESTIMATES, REPORTS, OR OTHER DOCUMENTS OR INSTRUMENTS WHICH ARE NOT PRODUCED BY THE PROFESSIONAL WHOSE SIGNATURE AND SEAL APPEAR ON THIS PAGE, OR WHICH ARE PRODUCED BY THE PROFESSIONAL WHOSE SIGNATURE AND SEAL APPEAR ON THIS PAGE, BUT WHICH ARE NOT SEALED BY THE PROFESSIONAL WHOSE SIGNATURE AND SEAL APPEAR ON THIS PAGE, OR WHICH ARE SEALED BY THE PROFESSIONAL WHOSE SIGNATURE AND SEAL APPEAR ON THIS PAGE, BUT WHICH ARE NOT PRODUCED BY THE PROFESSIONAL WHOSE SIGNATURE AND SEAL APPEAR ON THIS PAGE, OR WHICH ARE NOT PART OF THE PROJECT WHICH THIS PAGE REFERS.

CONSTRUCT COMMUNITY HANGAR WITH TERMINAL BUILDING

STATE OF MISSOURI
LANDON D. WILLIAMS
NUMBER PE-2002009025
LICENSED PROFESSIONAL ENGINEER

DATED: 7/18/16
ENGINEER: PE-2002009025
LICENSE EXPIRES: DECEMBER 31, 2016

CMT
CRAWFORD MURPHY & TILLY, INC.
ENGINEERS & CONSULTANTS
211 NW EXECUTIVE WAY
SUITE H
LEE'S SUMMIT, MO 64063
(314) 436-5500

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PROFESSIONAL ENGINEERING - 000631

MoDOT PROJECT NO. 15-030C-1

ELECTRICAL SCHEDULES

FILE:
DESIGN BY: LDW
DRAWN BY: DLB
CHECKED BY:
APPROVED BY: LDW
DATE: JUNE 30, 2016
JOB No: 15401-07

E-104

SPECIFICATIONS:

ITEM SP-4

SANITARY SEWER INSTALLATION

DESCRIPTION

4-1.1 GENERAL. The work described herein includes pipe gravity sewer and sanitary manholes. All piping shall be as specified here in and installed at the location shown on the plans.

4-2.1 TRENCH BACKFILL

This item shall be constructed according to Section 603 of the Missouri Standard Specifications for Highway Construction, except as modified herein:

Section 603.3.10 "Backfilling" shall be changed to require the use of suitable backfill as specified in Section 726.6 of the Missouri Standard Specifications for Highway Construction, and that the suitable backfill shall be as shown on plans. Fine Aggregate will not be allowed.

Trench backfill material shall be compacted as specified in Section 726.6.1 of the Missouri Standard Specifications for Highway Construction.

This work will shall be incidental to the contract.

4-3.1 PVC SANITARY SEWERS, 6"

Under this item, contractor shall furnish and install gravity sewer of the appropriate diameter as shown on the plans and as specified here in. The sections of the Recommended Standards for Wastewater Facilities related to these items are as follows:

CHAPTER 30 DESIGN OF SEWERS
- Section 33.7 – Materials
- Section 33.8 – Installation
- Section 33.9 – Joints and Infiltrations

Buried PVC Pipe shall be in accordance with ASTM D 2241, SDR 26.

Joints: Push-on type with rubber gaskets. PVC pipe shall have rubber gasketed joints, shall be Standard Dimension Ratio 26 (Pressure Class 160) and shall conform to ASTM D2241 (latest revision). PVC pipe shall have outside diameter equal to ductile iron pipe. Rubber gaskets shall meet ASTM Specification F477.

For all PVC pipe, additives and fillers, including but not limited to stabilizers, antioxidants, lubricants, colorants, etc. shall not exceed ten (10) parts by weight per one hundred (100) parts of the resin in the compound. Manufacturers will be required to certify that their pipe compound meets this requirement as well as cell classification.

All pipe shall be furnished with a painted ring or other acceptable marking suitable for determining whether or not the pipe has been properly inserted into the coupling. Each pipe shall be clearly marked with the nominal diameter, manufacturer's name, class pressure rating and identification code.

This work shall be paid for at the contract unit price per lineal foot for PVC SANITARY SEWERS, 6". Payment shall be full compensation for trench excavation, furnishing and installation of pipe, pipe bedding, pipe testing, and all other materials, equipment and labor necessary to complete the sanitary sewer installation as shown on the plans and specified here in.

4-2.1 SANITARY SEWAGE HOLDING TANK

This item shall consist of a single wall reinforced plastic underground storage tank as shown on the drawings. Sizes and fittings shall be as shown on the plans. The tank shall be a fiberglass tank manufactured by Xerxes Corporation or an approved equal. The engineer will assess suitable substitutions including a monolithic PCC tank.

The tank shall conform to ANSI/AWWA D120 – Thermosetting Fiberglass Reinforced Plastic Tanks. The tank shall conform to Underwriters Laboratories, Inc. (UL) Standard 1316.

The tank shall be designed to withstand a 5-psig air pressure (3 psig for a 12' diameter tank).

The tank shall withstand surface H-20 axle loads.

The tank shall be capable of being buried in ground with 7' of overburden over the top of the tank.

The tank shall be capable of storing wastewater products limited to the collection and storage of human solid waste or liquid organic sewage. Thank shall be vented to atmospheric pressure.

The tank shall be manufactured with 100% resin and glass-fiber reinforcement. No sand filters allowed.

Piping for the tank shall be Schedule 40 PVC for inlet and outlet piping.

All access openings shall be 24 inches in diameter or larger.

METHOD OF MEASUREMENT

4-7.1 The unit of measurement for 6" PVC gravity sanitary sewer shall be the number of linear feet of sanitary sewer installed by the Contractor.

BASIS OF PAYMENT

4-8.1 The unit price bid per lineal foot for each designated type and size of pipe shall cover all installation and shall include all excavation and backfill including dewatering, sheeting/shoring or other type of excavation support, pipe, jointing materials, fittings, pipe laying, all bell hole excavation, embedment materials, pipe embedment, acceptance testing, fine grading, surface restoration and erosion control. The contractor shall be responsible for the construction method utilized. The sanitary lateral shall be considered incidental to the building.

Payment will be made under:

Item SP-4-8.1 PVC Sanitary Sewers, 6" – per LF
Item SP-4-8.2 Sanitary Sewage Holding Tank – per Each

REFERENCE TO STANDARDS

American Water Works Association (AWWA).

AWWA C900 "Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fittings, 4-inch through 12-Inch, for Water Distribution."

AWWA C905 "Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fittings, 14-inch through 48-inch, for Water Transmission and Distribution."

AWWA C605 "Underground Installation of Polyvinyl Chloride (PVC) Pressure Pipe and Fittings for Water."

ANSI/AWWA C110/A21.10, American National Standard for Ductile-Iron and Gray-Iron Fittings, 3 in. through 48 in. for Water and Other Liquids.

ANSI/AWWA C153/A21.53, American National Standard for Ductile-Iron Compact Fittings, 3 in. through 24 in. and 54 in. through 64 in. for Water Service.

American National Standards Institute/American Society for Testing and Materials (ANSI/ASTM).

ASTM D698 Standard Proctor Density Test

Occupational Safety and Health Administration (OSHA): Current OSHA Occupational Safety and Health Standards - Excavations, 29 CFR Part 1926, including any successor regulations.

END OF ITEM SP-4

PROPOSAL FORM:

PROPOSAL FORM

NORTH CENTRAL MISSOURI REGIONAL AIRPORT AUTHORITY

State Block Grant Project No. **15-030C-1**

TO: Airport Board Chairman

The undersigned, in compliance with the request for bids for construction of the following Project:

CONSTRUCT COMMUNITY HANGAR WITH TERMINAL BUILDING:

hereby proposes to furnish all labor, permits, material, machinery, tools, supplies and equipment to faithfully perform all work required for construction of the Project in accordance with the project manual, project drawings and issued Addenda within the specified time of performance for the following prices:

BASE BID							
BID ITEM	FAA or MoDOT SPEC.	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		EXTENSION	
				DOLLARS	CTS	DOLLARS	CTS
1	MO-100-4.1	Mobilization	1 Lump Sum				
2	MO-152-4.1	Class A Excavation	1 Lump Sum				
3	MO-152-4.2	Drainage Improvements	1 Lump Sum				
4	MO-156-7.4.1	Inlet Protection	4 Each				
5	MO-209-5.1	4" Crushed Aggregate Base Course	461 S.Y.				
6	MO-502-15.1	6" Portland Cement Concrete Pavement	325 S.Y.				
7	MO-502-15.2	4” PCC Sidewalk	102 S.Y.				
8	MO-620-5.1	Airport Pavement Marking (Yellow)	60 S.F.				
9	D-705-5.1	6” Non-Perforated PVC Drain Pipe	266 L.F.				
10	MO-162-5.1	Install 4' Chain-Link Fence	188 L.F.				
11	MO-162-5.2	Install 4’ Chain-Link Pedestrian Gate – 6’ Wide	1 Each				
12	MO-162-5.3	Remove 4’ Chain-Link Pedestrian Gate	1 Each				
13	MO-162-5.4	Remove 4' Chain-Link Fence	180 L.F.				
14	MO-901-5.1	Airport Seeding	0.3 Acres				

15	MO-908-5.1	Airport Mulching	0.3 Acres				
16	MO-110-5.1	2-4" PVC Concrete Encased Duct	125 L.F.				
17	MO-110-5.2	3" PVC Duct – Direct Bury	170 L.F.				
18	SP-1-6.1	1" Class 200 PVC Water Line	302 L.F.				
19	SP-1-6.2	Water Valve	1 Each				
20	SP-2-6.1	Catch Basin	4 Each				
21	SP-3-5.1	100' x 80' Community Hangar with Terminal Building	1 Lump Sum				
22	SP-4-8.1	PVC Sanitary Sewers, 6"	364 L.F.				
23	SP-4-8.2	Sanitary Sewage Holding Tank	2 Each				
TOTAL BID (Base Bid)							

ACKNOWLEDGEMENTS BY BIDDER

a. By submittal of a proposal, the BIDDER acknowledges and accepts that the quantities established by the OWNER are an approximate estimate of the quantities required to fully complete the Project and that the estimated quantities are principally intended to serve as a basis for evaluation of bids. The BIDDER further acknowledges and accepts that payment under this contract will be made only for actual quantities and that quantities will vary in accordance with the General Provisions subsection entitled "Alteration of Work and Quantities".

b. The BIDDER acknowledges and accepts that the Bid Documents are comprised of the documents identified within the General Provisions. The BIDDER further acknowledges that each the individual documents that comprise the Bid Documents are complementary to one another and together establishes the complete terms, conditions and obligations of the successful BIDDER.

c. As evidence of good faith in submitting this proposal, the undersigned encloses a bid guaranty in the form of a certified check, cashier's check or bid bond in the amount of 5% of the bid price. The BIDDER acknowledges and accepts that refusal or failure to accept award and execute a contract within the terms and conditions established herein will result in forfeiture of the bid guaranty to the owner as a liquidated damage.

d. The BIDDER acknowledges and accepts the OWNER'S right to reject any or all bids.

e. The BIDDER acknowledges and accepts the OWNER'S right to hold all Proposals for purposes of review and evaluation and not issue a notice of award for a period not to exceed sixty (60) calendar days from the stated date for receipt of bids.

f. The undersigned agrees that upon written notice of award of contract, he or she will execute the contract within thirty (30) days of the notice of award, and furthermore, and provide executed payment and performance bonds within fifteen (15) days from the date of contract execution. The undersigned accepts that failure to execute the contract and provide the required bonds within the stated timeframe shall result in forfeiture of the bid guaranty to the owner as a liquidated damage.