# Crestwood School District Crestwood High School

# Field Building & Site Improvements

Crestwood School District 27235 Joy Road, Dearborn Heights, MI 48127 Contact Name: Penny L. Morgan, Chief Financial Officer Contact Phone: (313) 378-2349

**ARCHITECT:** 



**CIVIL ENGINEER:** 



STRUCTURAL ENGINEER:



MECH. / ELECT. ENGINEER:

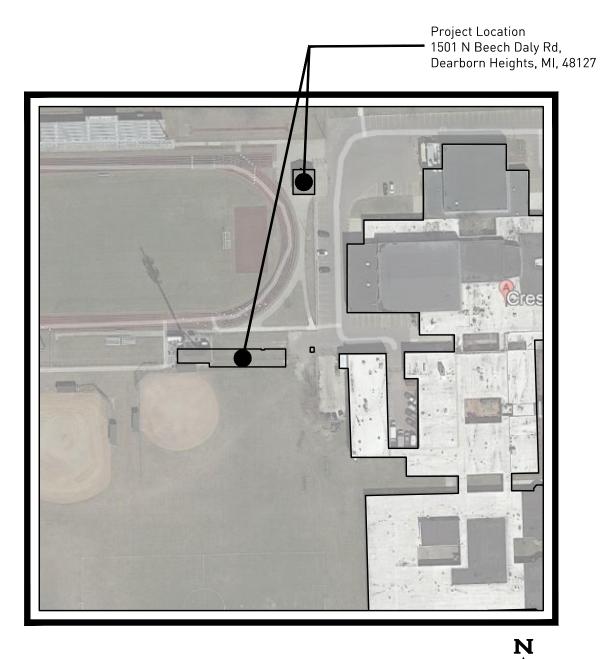


TECHNOLOGY CONSULTANT



FOOD SERVICE CONSULTANT





# LOCATION PLAN





# **APPLICABLE CODES:**

MICHIGAN REHABILITATION CODE FOR EXISTING BUILDINGS:	2015 EDITIO
MICHIGAN BUILDING CODE:	2015 EDITIO
MICHIGAN PLUMBING CODE:	2018 EDITIO
MICHIGAN MECHANICAL CODE:	2015 EDITIO
NATIONAL ELECTRIC CODE (WITH MICHIGAN PART 8 RULES):	2017 EDITIO
MICHIGAN UNIFORM ENERGY CODE:	2015 EDITIO
ASHRAE 90.1-2013:	
LIFE SAFETY CODE 101:	2012 EDITIO
FEDERAL ADA LAW:	CURRENT E
ACCESSIBLE AND USABLE BUILDINGS & FACILITIES (ANSI A117.1):	2009 EDITIO

# **USE GROUP:**

# ZONING DISTRICT:

R-1 SINGLE FAMILY RESIDENTIAL

# **CONSTRUCTION TYPE:**

111-B

# TOTAL FLOOR AREA:

BUILDING A (EXISTING): 976 SF

BUILDING A (ADDITION): 3,163 SF

4,139 SF (GROSS FLOOR AREA) 1,073 SF (GROSS FLOOR AREA)

# LIST OF DRAWINGS CONT.

ELECTRICAL STANDARDS AND DRAWING INDEX **ELECTRICAL STANDARD SCHEDULES** ELECTRICAL SITE PLAN

BUILDING A POWER AND AUXILIARY SYSTEMS PLAN BUILDING B POWER AND AUXILIARY SYSTEMS PLAN

PANEL SCHEDULES

FIELD BUILDING COMMUNICATIONS SITE PLAN FIELD BUILDING STRUCTURED CABLING PLAN

FOOD SERVICE FLOOR PLAN AND SCHEDULE

# BUILDING HEIGHT:

BUILDING A (EXISTING): ± 10'-11 1/2' BUILDING A (ADDITION): ± 11'-6 1/2"

BUILDING B (EXISTING): ± 16'-5"

# LIST OF ALTERNATES:

ALTERNATE #1: FOOD SERVICE EQUIPMENT
STATE THE AMOUNT TO BE DEDUCTED FROM THE BASE PROPOSAL AMOUNT TO PROVIDE AND INSTALL FOOD SERVICE EQUIPMENT. CONTRACTOR TO REFER TO DRAWINGS AND / OR SPECIFICATIONS FOR FURTHER INFORMATION.

# LIST OF DRAWINGS

GENERAL INFORMATION A0.01 CODE REVIEW PLAN

#### CIVIL DRAWINGS

TOPOGRAPHICAL SURVEY - AREA 2 TOPOGRAPHICAL SURVEY - STRUCTURE TABLE UTILITY PLAN - AREA 1 UTILITY PLAN - AREA 2 UTILITY PLAN - AREA 3 PAVING AND LAYOUT PLAN - AREA 1 PAVING AND LAYOUT PLAN - AREA 2 GRADING PLAN - AREA 1 GRADING PLAN - AREA 2

#### ARCHITECTURAL DRAWINGS:

REMOVALS FLOOR PLANS REMOVALS CEILING PLAN - BUILDING B REMOVALS ELEVATIONS - BUILDING A REMOVALS ELEVATIONS - BUILDING B FLOOR PLAN - BUILDING A FLOOR PLAN - BUILDING B DIMENSION PLAN - BUILDING E

WINDOW AND DOOR SCHEDULES

**BUILDING SECTIONS - BUILDING A** 

BUILDING SECTIONS - BUILDING E

INTERIOR ELEVATIONS - BUILDING B

A9.50 INTERIOR WALL SECTIONS

STRUCTURAL DRAWINGS:

GENERAL STRUCTURAL NOTES

S10 STRUCTURAL PLANS **BUILDING PLANS & ELEVATIONS** 

TYPICAL MASONRY DETAILS

S31 TYPICAL CONCRETE DETAILS

SECTIONS AND DETAILS

#### **MECHANICAL DRAWINGS:**

MECHANICAL STANDARDS AND DRAWING INDEX MECHANICAL COMPOSITE PLAN

BUILDING A UNDERGROUND PLUMBING PLAN BUILDING B UNDERGROUND PLUMBING PLAN

BUILDING A PLUMBING PLAN BUILDING B PLUMBING PLAN

BUILDING A SHEET METAL PLAN BUILDING B SHEET METAL PLAN

MECHANICAL DETAILS MECHANICAL DETAILS

MECHANICAL SCHEDULES MECHANICAL SCHEDULES

TEMPERATURE CONTROL STANDARDS AND GENERAL NOTES

Bidding and Permits: 20 March 2023

#### Title Sheet



Crestwood School District Crestwood High School Field Building & Site Improvements

Project No. 5622

#### **ABBREVIATIONS**

**PLUMBING** 

**FIXTURES** 

& ACCESSORIES

BARRIER FREE

WALL MOUNTED

WASH FOUNTAIN

WALL MOUNTED

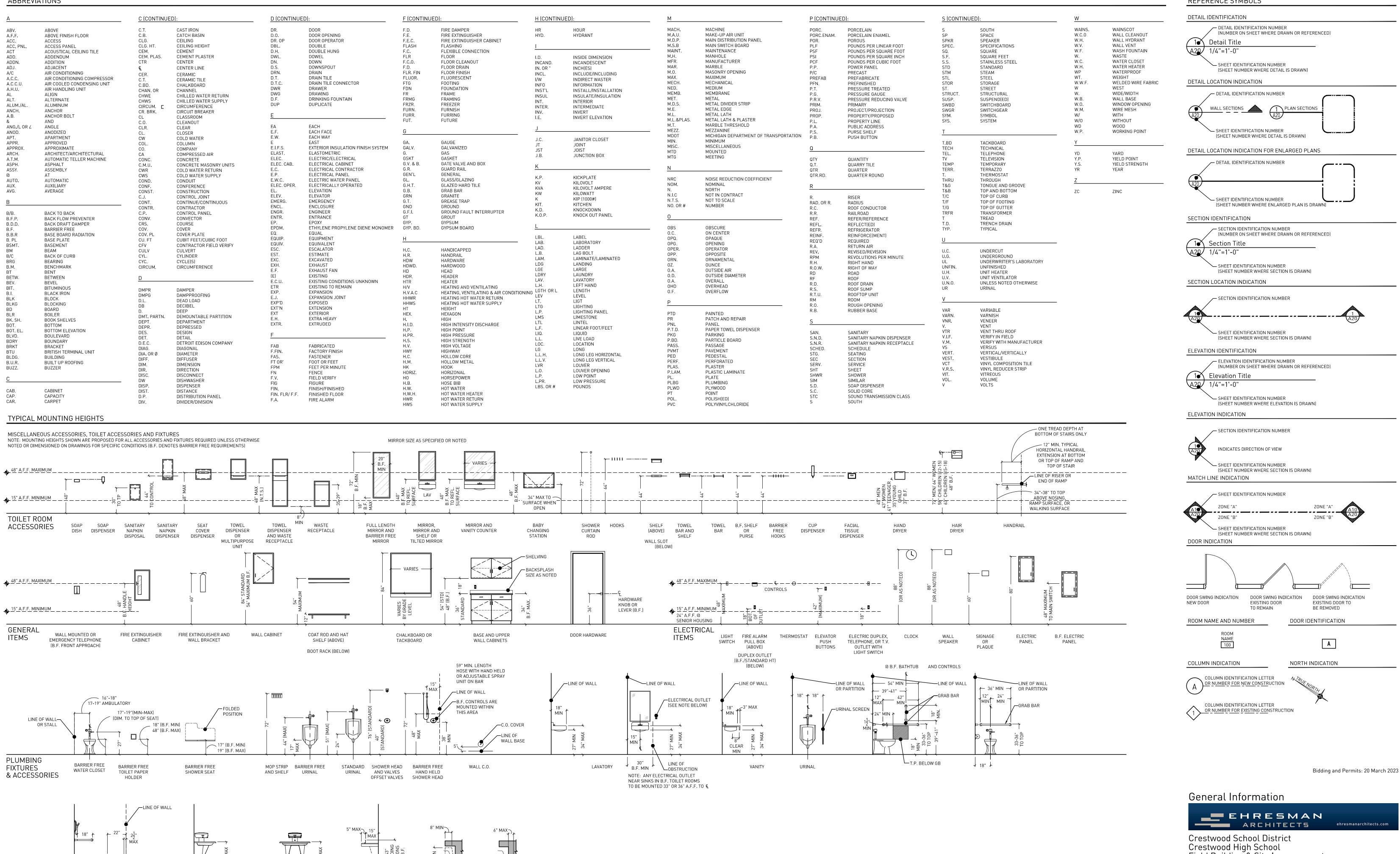
WASH FOUNTAIN

DRINKING FOUNTAIN

SPOUT LOCATION

KNEE CLEARANCE

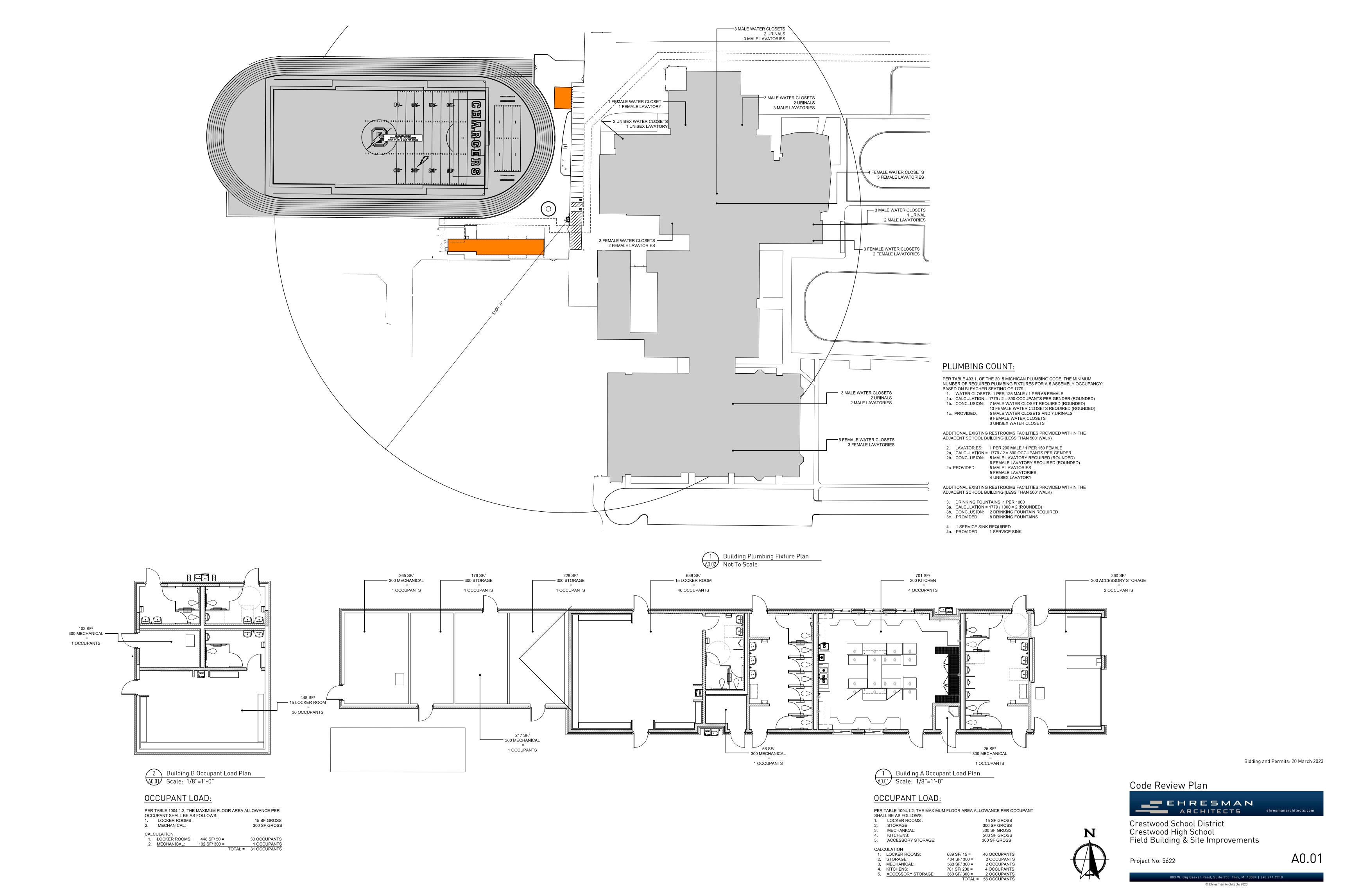
TOE CLEARANCE

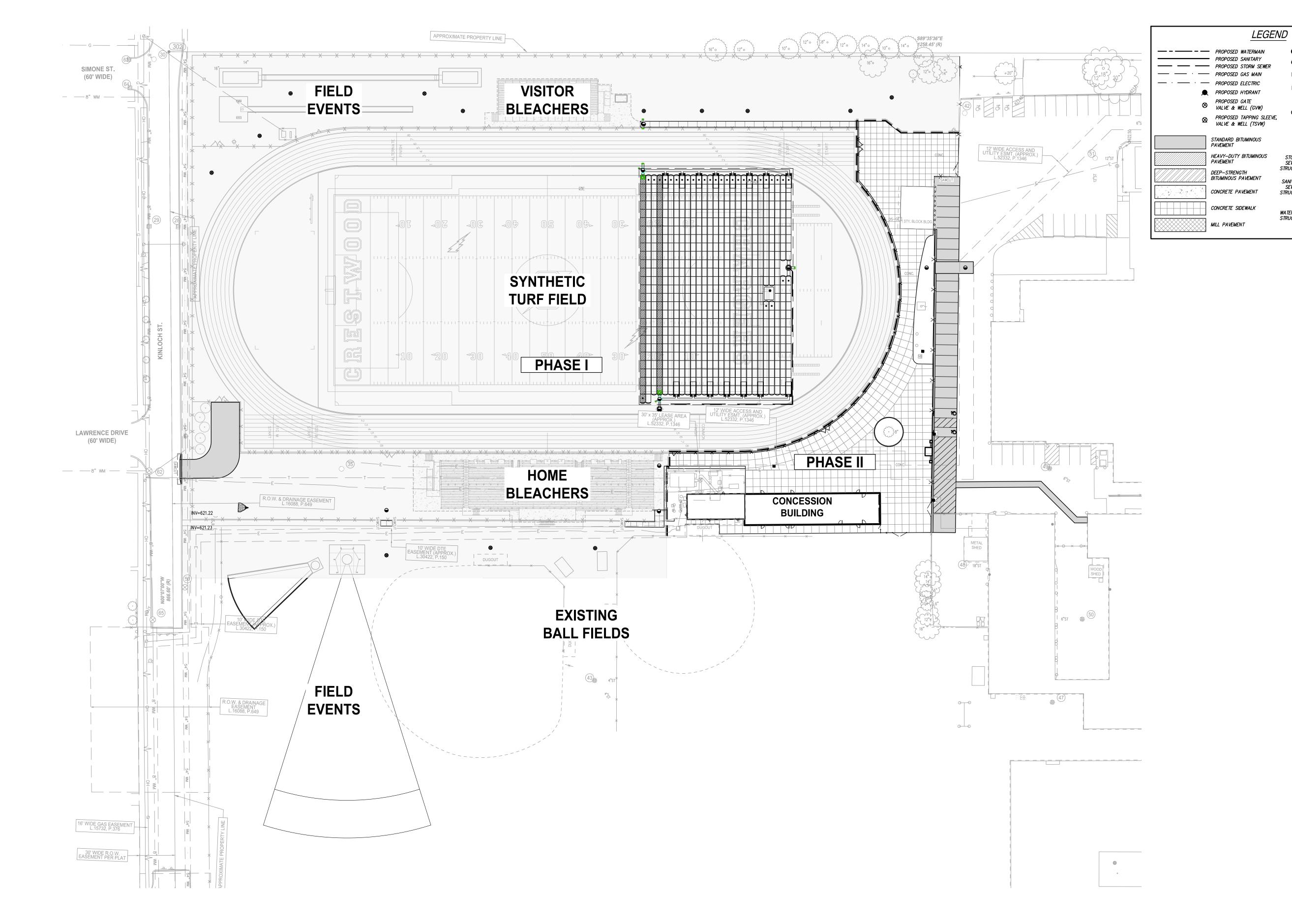


REFERENCE SYMBOLS

Field Building & Site Improvements

Project No. 5622





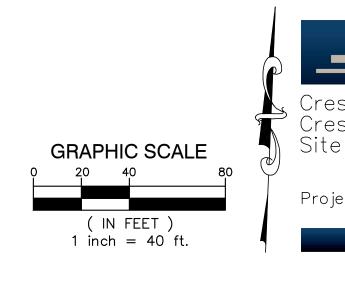


905 South Blvd. East Rochester Hills, MI 48307 Phone: (248) 844-5400 Fax: (248) 844-5404 www.sda-eng.com (800) 598-1600



Bidding and Permits: 20 March 2023 Wayne County DPS Rev. 02 March 2023 Proposal Request #2: 01 March 2023 Proposal Request #1: 20 Jan 2023 Agency Review: 09 November 2022 Addendum #3: 08 November 2022 Bidding & Permits: 31 October 2022 Owner Review: 03 October 2022

GENERAL PLAN



PROPOSED CATCH BASIN (CB)

► PROPOSED END SECTION (ES)

WATERMAIN 10 STRUCT. NO. STRUCT. TYPE

2 UTILITY CROSSING (SEE DATA TABLE)

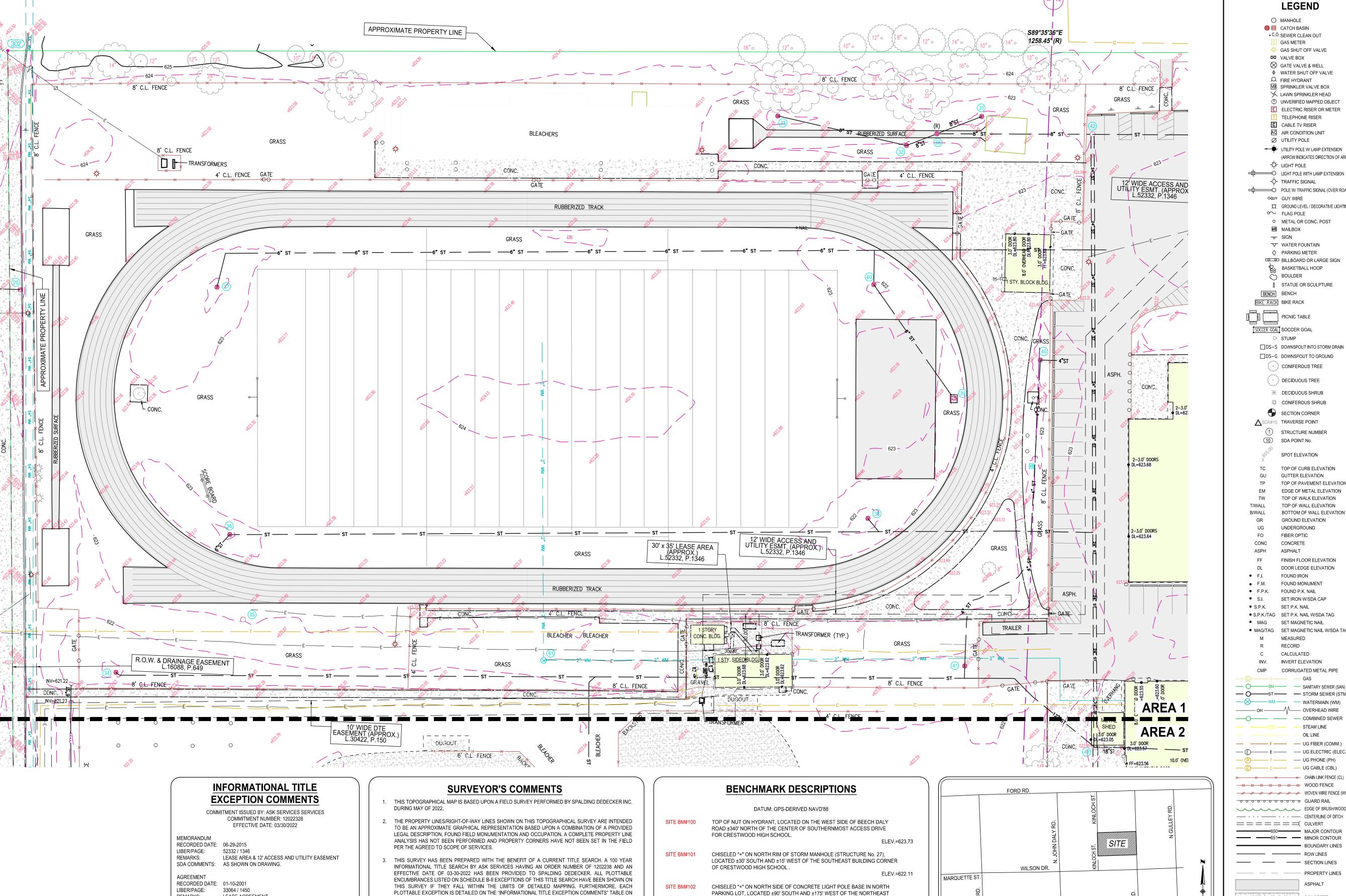
CB----STRUCT. TYPE
2 -----STRUCT. NO.

PROPOSED INLET (INL)



Crestwood School District Crestwood High School Site Improvements

Project No. 2522 (SDA NP22067)



LEASE AGREEMENT REMARKS: SDA COMMENTS: NOT SHOWN

UTILITY EASEMENT RECORDED DATE: 08-23-1999

LIBER/PAGE: 30422 / 150 10' UNDERGROUND EASEMENT RIGHT OF WAY SDA COMMENTS: AS SHOWN ON DRAWING.

GRANT OF EASEMENT RECORDED DATE: 08-02-1966 LIBER/PAGE: 16088 / 649

EASEMENT GRANTED TO THE CITY OF DEARBORN SDA COMMENTS: AS SHOWN ON DRAWING.

THE BASIS OF BEARINGS FOR THIS SURVEY IS THE LEGAL DESCRIPTION PER ASK SERVICES TITLE POLICY. THE COORDINATE SYSTEM FOR THIS SURVEY IS THE STATE PLANE COORDINATE SYSTEM, MICHIGAN SOUTH ZONE (2113) BASED ON NAD83 (2011).

PROPERTY LINES HAVE BEEN ROTATED TO STATE PLANE GRID BEARINGS; THEREFORE, THE BEARINGS OF THE PROPERTY LINES ON THE DRAWING WILL NOT MATCH THOSE SHOWN IN THE LEGAL

THE VERTICAL DATUM OF THIS SURVEY IS BASED UPON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) AS ESTABLISHED WITH RTK GPS MEASUREMENTS USING A DATA LINK TO THE MDOT CONTINUOUSLY OPERATING REFERENCE STATIONS (CORS).

THE PARKING LOT STRIPING SHOWN ON THIS SURVEY IS APPROXIMATE. DIMENSIONAL AND/OR ORIENTATION VARIATIONS MAY EXIST. THIS DRAWING SHOULD NOT BE USED FOR A PARKING SPACE THE UTILITY INFORMATION SHOWN ON THIS SURVEY IS BASED UPON A COMBINATION OF RECORD

INFORMATION AND FIELD MEASUREMENTS. A MISS DIG DESIGN TICKET NUMBER OF 2022032902465 HAS BEEN REFERENCED TO THIS PROJECT AND A UTILITY PROVIDER CHART IS SHOWN ON THIS DRAWING. THERE ARE NO ASSURANCES THAT ALL PROVIDERS HAVE RESPONDED AND THE SURVEYOR DOES NOT GUARANTEE THAT ALL UNDERGROUND UTILITIES ARE SHOWN AND/OR POSITIONED PROPERLY ON THIS DRAWING DUE TO AMBIGUOUS PLANS AND RECORDS PROVIDED TO US. THE INFORMATION SHOWN ON THIS DRAWING IS INTENDED TO BE USED AS A GUIDE FOR POSSIBLE UNDERGROUND UTILITY CONFLICTS. IT IS THE RESPONSIBILITY OF OTHERS TO RESOLVE THE ACTUAL LOCATION OF ANY UNDERGROUND UTILITY THROUGH THE MISS DIG FIELD VERIFICATION SYSTEM PRIOR TO ANY SITE EXCAVATION. CALL 811 OR 800-482-7171.

PARKING LOT, LOCATED ±90' SOUTH AND ±175' WEST OF THE NORTHEAST PROPERTY CORNER. ELEV.=624.49

#### LEGAL DESCRIPTION

SOURCE: ASK SERVICES

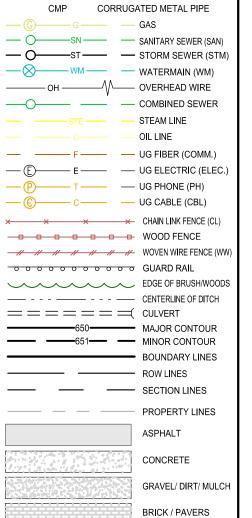
OWNER: CRESTWOOD SCHOOL DISTRICT TAX PARCEL ID: 33 031 99 0006 000 ADDRESS: 1501 N. BEECH DALY ROAD, DEARBORN HEIGHTS, MI 48127

THAT PART OF THE NE 1/4 OF SECTION 18 DESCRIBED AS BEGINNING AT A POINT ON THE E SECTION LINE DISTANCE N 0D 07M E 459.14 FT FROM THE E 1/4 CORNER OF SEC 18 AND PROCEEDING TH N 89D 35M 36SEC W 1314.92 FT TH N 0D 07M W 866.60 FT TH S 89D 35M 36SEC E 1318.45 FT TH S 0D 07M W ALONG THE E SECTION LINE 866.57 FT TO THE POB EXCEPT THE EAST 60 FT THEREOF 25.00 ACRES



**LOCATION MAP** 

NOT TO SCALE



WATER

LEGEND

MANHOLE

• C.O. SEWER CLEAN OUT GAS METER GAS SHUT OFF VALVE ✓ VALVE BOX φ WATER SHUT OFF VALVE A FIRE HYDRANT ☑ SPRINKLER VALVE BOX ✓ LAWN SPRINKLER HEAD ② UNVERIFIED MAPPED OBJECT E ELECTRIC RISER OR METER TELEPHONE RISER C CABLE TV RISER AC AIR CONDITION UNIT

Ø UTILITY POLE

OGUY GUY WIRE

 $\sim$  FLAG POLE

MB MAILBOX

-o- SIGN

STUMP

→ TRAFFIC SIGNAL

UTILITY POLE W/ LAMP EXTENSION (ARROW INDICATES DIRECTION OF ARM

GROUND LEVEL / DECORATIVE LIGHTIN

METAL OR CONC. POST

▼ WATER FOUNTAIN PARKING METER BILLBOARD OR LARGE SIGN BASKETBALL HOOP BOULDER

☐DS-S DOWNSPOUT INTO STORM DRAIN

CONIFEROUS TREE

· } DECIDUOUS TREE ★ DECIDUOUS SHRUB ☆ CONIFEROUS SHRUB

SECTION CORNER

 STRUCTURE NUMBER 10 SDA POINT No.

SPOT ELEVATION

TOP OF CURB ELEVATION **GUTTER ELEVATION** TP TOP OF PAVEMENT ELEVATION

> TOP OF WALK ELEVATION TOP OF WALL ELEVATION BOTTOM OF WALL ELEVATION GROUND ELEVATION UNDERGROUND

FINISH FLOOR ELEVATION DOOR LEDGE ELEVATION

FIBER OPTIC

CONCRETE

MEASURED RECORD CALCULATED

ASPHALT



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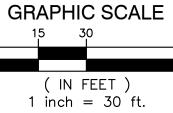
Bidding and Permits: 20 March 2023 Wayne County DPS Rev. 02 March 2023 Proposal Request #2: 01 March 2023 Proposal Request #1: 20 Jan 2023 Agency Review: 09 November 2022 Addendum #3: 08 November 2022 Bidding & Permits: 31 October 2022 Owner Review: 03 October 2022

Topographical Survey - Area

# \_ EHRESMAN

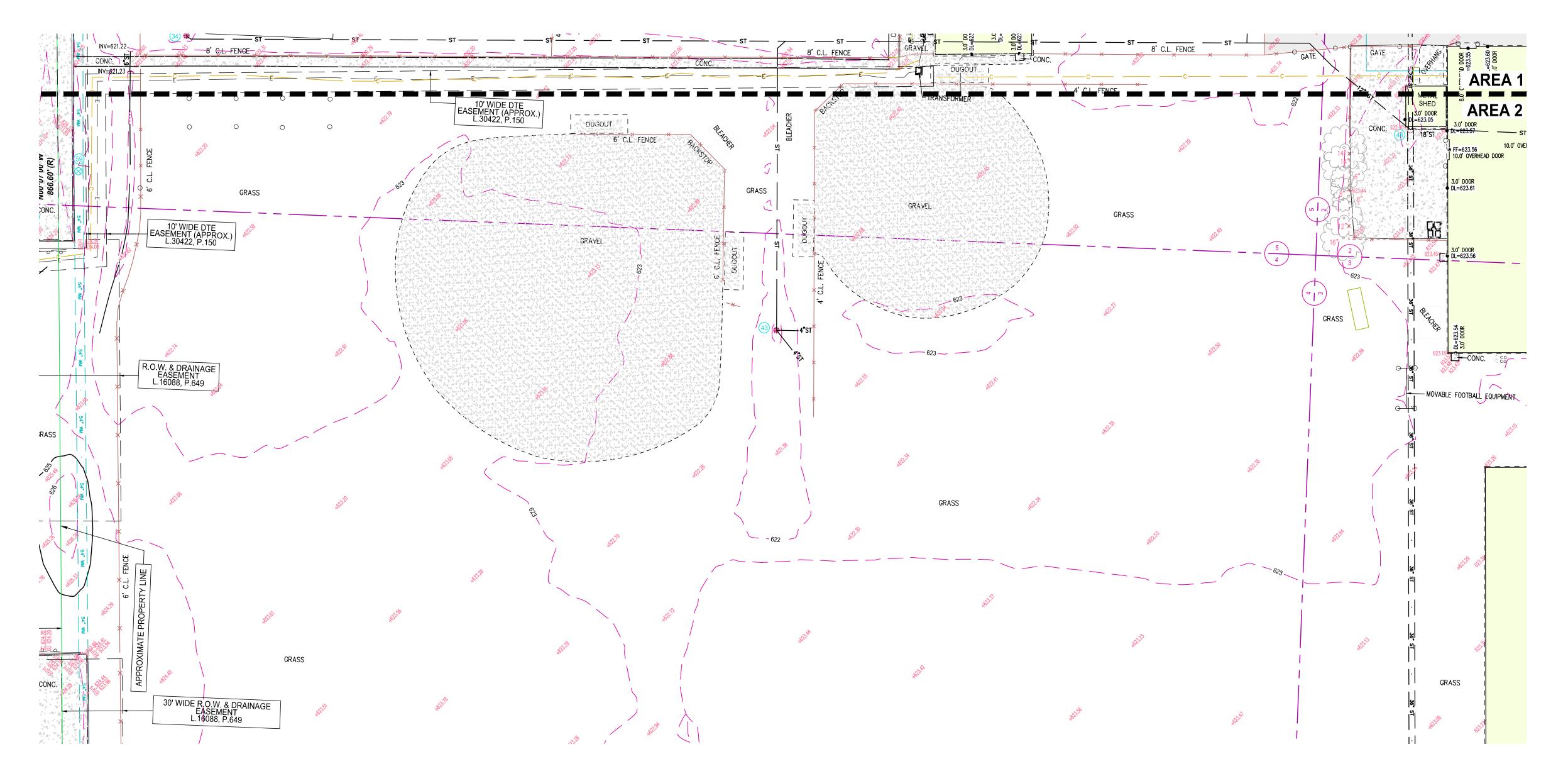
ARCHITECTS Crestwood School District Crestwood High School

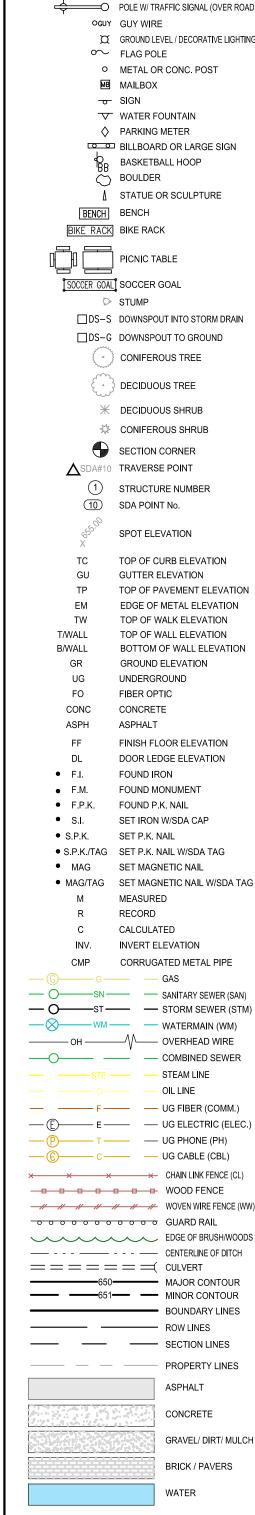
803 W. Big Beaver Road, Suite 350, Troy, MI 48084 | 248.244.9710



Project No. 2522 (SDA NP22067)

Site Improvements





**GRAPHIC SCALE** 

( IN FEET ) 1 inch = 30 ft.

**LEGEND** 

 C.O. SEWER CLEAN OUT G GAS METER - GAS SHUT OFF VALVE

φ WATER SHUT OFF VALVE

② UNVERIFIED MAPPED OBJECT E ELECTRIC RISER OR METER TELEPHONE RISER C CABLE TV RISER AC AIR CONDITION UNIT Ø UTILITY POLE

UTILITY POLE W/ LAMP EXTENSION (ARROW INDICATES DIRECTION OF ARM

LIGHT POLE WITH LAMP EXTENSION -∳- TRAFFIC SIGNAL

MANHOLE 

> VALVE BOX

A FIRE HYDRANT VB SPRINKLER VALVE BOX ✓ LAWN SPRINKLER HEAD





Crestwood School District Crestwood High School Site Improvements

Project No. 2522 (SDA NP22067) 803 W. Big Beaver Road, Suite 350, Troy, MI 48084 | 248.244.9719

#	TYPE	RIM	SIZE	MTRL	INVERT	DIRECTION	CONNECT
1	SQUARE CATCH BASIN	622.00	12"	RCP	617.56	WEST	16
			6"	CLAY	617.58	NE	
	TOP / WATER	617.60					
2	GATE VALVE & WELL	622.06					
2	TOP / PIPE	622.96 617.96				N/S	
	TOP / WATER	618.96				117.0	
	BOTTOM	616.86					
3	SANITARY MANHOLE	622.74	24"	RCP	599.85	SOUTH	5
			24"	RCP	599.75	NORTH	
4	SQUARE CATCH BASIN	621.04	10"	RCP	616.54	WEST	14
			12"	RCP	616.67	SE	6
_							
5	SANITARY MANHOLE	621.81	24"	RCP	600.51	SOUTH	8
			24"	RCP	600.41	NORTH	3
6	STORM MANHOLE	621.69	10"	CLAY	617.88	EAST	
	OTORIN MARTIOLE	021.03	10"	CLAY	617.79	NNW	4
				02/11	011110	1	
7	SQUARE CATCH BASIN	620.16	6"	CLAY	615.19	NE	
			6"	CLAY	615.20	SE	
			12"	RCP	615.17	WEST	12
	TOP / WATER	615.21					L_
8	SANITARY MANHOLE	621.61	24"	RCP	601.11	SOUTH	9
			24"	RCP	600.91	NORTH	5
9	SANITARY MANHOLE	621.72	24"	RCP	600.96	SW	
			24"	RCP	600.87	NORTH	8
40		200.40	2011	200	040.00		07
10	STORM MANHOLE	622.18	36"	RCP	612.08	WEST	27
			36"	RCP	611.93	SOUTH	
11	STORM MANHOLE	621.06	18"	RCP	614.36	NORTH	15
- ' '	STORM MARTICLE	021.00	12"	RCP	614.51	EAST	12
			24"	RCP	614.31	SOUTH	1 12
				1.10			
12	SQUARE CATCH BASIN	619.96	12"	RCP	614.81	EAST	7
			12"	RCP	614.76	WEST	11
	TOP / WATER	614.76					
13	SANITARY MANHOLE	621.14	36"	RCP	600.94	NORTH	
			36"	RCP	601.04	SOUTH	
	FLOW DIRECTION:	NORTH					
14	SQUARE CATCH BASIN	621.00	12"	RCP	616.10	EAST	4
	TOR / WATER	616 10	12"	RCP	616.05	NW	15
	TOP / WATER	616.10					
15	STORM MANHOLE	621.86	12"	RCP	617.36	NNW	56
		02.1100	12"	RCP	619.66	WSW	
			12"	RCP	615.56	NORTH	17
			12"	RCP	615.66	EAST	14
			18"	RCP	615.36	SOUTH	11
16	SQUARE CATCH BASIN	621.90	12"	RCP	N/A	EAST	1 (REC)
	UNABLE TO OPEN - SILTSACK INSIDE		12"	RCP	N/A	WEST	17 (REC)
17	STORM MANHOLE	622.84	12"	RCP	617.54	NORTH	18
			12"	RCP	620.74	WEST	
			12"	RCP	616.84	EAST	16
		-	12"	RCP	616.64	SOUTH	15
18	POUND CATCU BACIN	622.02	12"	DCD	617 77	WEST	
10	ROUND CATCH BASIN	622.82	12"	RCP RCP	617.77 617.70	SOUTH	17
			12	1,01	317.70	330111	11
		621.81	1	<u> </u>		NORTH	BLIND TAP
19	ROUND CATCH BASIN		1				- 773
19	ROUND CATCH BASIN NO PIPES VISIBLE OR FELT	02.1101			<del>                                     </del>		
19		619.31					
19	NO PIPES VISIBLE OR FELT						
19	NO PIPES VISIBLE OR FELT TOP / WATER	619.31					
19	NO PIPES VISIBLE OR FELT TOP / WATER	619.31	6"	PVC	619.39	NORTH	
	NO PIPES VISIBLE OR FELT  TOP / WATER  TOP / DEBRIS	619.31 618.01	6"	PVC	619.39	NORTH	
	NO PIPES VISIBLE OR FELT TOP / WATER TOP / DEBRIS  ROUND CATCH BASIN	619.31 618.01 621.54	6"	PVC	619.39	NORTH	
	NO PIPES VISIBLE OR FELT  TOP / WATER  TOP / DEBRIS  ROUND CATCH BASIN  TOP / WATER	619.31 618.01 621.54 619.34			619.39	NORTH	
	NO PIPES VISIBLE OR FELT  TOP / WATER  TOP / DEBRIS  ROUND CATCH BASIN  TOP / WATER	619.31 618.01 621.54 619.34	8"	CLAY	612.40	WEST	
20	NO PIPES VISIBLE OR FELT  TOP / WATER  TOP / DEBRIS  ROUND CATCH BASIN  TOP / WATER  TOP / DEBRIS	619.31 618.01 621.54 619.34 618.54					
20	NO PIPES VISIBLE OR FELT TOP / WATER TOP / DEBRIS  ROUND CATCH BASIN TOP / WATER TOP / DEBRIS  SANITARY MANHOLE	619.31 618.01 621.54 619.34 618.54	8"	CLAY CLAY	612.40 612.33	WEST EAST	BLIND TAP
20	NO PIPES VISIBLE OR FELT  TOP / WATER  TOP / DEBRIS  ROUND CATCH BASIN  TOP / WATER  TOP / DEBRIS	619.31 618.01 621.54 619.34 618.54	8"	CLAY	612.40	WEST	

#	TYPE	RIM	SIZE	MTRL	INVERT	DIRECTION	CONNEC
23	ROUND CATCH BASIN	622.32					
	NO PIPES VISIBLE OR FELT	022.02					
	TOP / WATER	619.22					
	TOP / DEBRIS	619.12					
24	SQUARE CATCH BASIN	621.89	6"	CPP	619.37	SE	
	TOP / WATER TOP / DEBRIS	619.39 616.29					
	TOF / DEDING	010.29					
25	ROUND CATCH BASIN	622.33					
	NO PIPES VISIBLE OR FELT						
	TOP / WATER	619.08					
	TOP / DEBRIS	619.03					
26	STORM MANHOLE	623.18	6" 6"	CLAY	614.78 614.72	NORTH	DI IND T
			6"	CLAY	614.72	SOUTH	BLIND TA
27	STORM MANHOLE	622,11	15"	RCP	614.08	NORTH	
			36"	RCP	613.08	WEST	46
			36"	RCP	612.83	EAST	10
28	SQUARE CATCH BASIN	622.40	12"	RCP	620.66	WEST	29
	TOP / WATER	620.70					
	COULABE CATCULE : C'''	000.0-	40"	505	040.07	F. 0=	0.5
29	SQUARE CATCH BASIN	622.35	12" 12"	RCP RCP	619.65	EAST NNE	30
	TOP / WATER	619.35	1Z"	KCP	619.35	INNE	30
	IOF / WATER	013.33					
30	STORM MANHOLE	623.41	12"	RCP	618.41	SSW	29
			12"	RCP	618.76	WEST	63
			12"	RCP	618.26	NORTH	
			·				
31	ROUND CATCH BASIN	621.86	8"	PVC	620.60	WSW	66
	TOP / WATER	620.16					
	TOP / DEBRIS	619.76					
32	ROUND CATCH BASIN	621.87	8"	PVC	619.59	ENE	66
-		021107	8"	PVC	619.62	WNW	33
33	ROUND CATCH BASIN	621.93	8"	PVC	620.86	ESE	32
	TOP / WATER	620.83					
34	BEE-HIVE CATCH BASIN	620.46	PIPE		N/A	SE	(REC)
	TOP / WATER	616.76				EAST	48
35	STORM MANHOLE	623.14					
	NO PIPES VISIBLE OR FELT	023.14					
	TOP / WATER	619.64					
36	BEE-HIVE CATCH BASIN	621.41	6"	PVC	620.16	SW	
			PIPE		N/A	EAST	(REC)
37	BEE-HIVE CATCH BASIN	621.61	6"	CLAY	619.96	NORTH	BLIND TA
	TOP / WATER	618.96					
38	BEE-HIVE CATCH BASIN	621.51	6"	PVC	619.96	SE	BLIND TA
00	TOP / WATER	618.01	U	1 10	019.90	JL	DEIND IA
		3,3.01			1		
39	ROUND CATCH BASIN	621.86	6"	PVC	620.31	NW	60
	TOP / WATER	620.26					
	TOP / DEBRIS	619.66					
40	ROUND CATCH BASIN	622.87	4"	CPP	621.92	SOUTH	41
	TOP / WATER	621.87	4"	CPP	621.17	EAST	
	IOF / WATER	021.07					
41	BEE-HIVE CATCH BASIN	621.52	PIPE		N/A	SE	(REC)
	NO PIPES VISIBLE OR FELT		· · · ·			SOUTH	BLIND TA
	TOP / WATER	618.02				NORTH	40
					_		
42	STORM MANHOLE	622.99	24"	RCP	616.67	EAST	58
			24"	RCP	616.49	SOUTH	48
	<b>F</b> . <b>A. A</b>	25:	8"	CLAY	617.09	WEST	66
	FLOW DIRECTION:	SOUTH					
ı	REE UIVE CATCU DAGIN	620 F4	4"	DVC	610.70	SE	
13	BEE-HIVE CATCH BASIN	620.51	4" 4"	PVC PVC	619.70 619.71	EAST	
43				1 10	N/A	NORTH	(REC)
43			PIPE	1			,
43	TOP / WATER	618.01	PIPE				
43	TOP / WATER BOTTOM	618.01 617.11	PIPE				
43		_	PIPE				

45	TYPE	RIM	SIZE	MTRL	INVERT	DIRECTION	CONNECT
	BEE-HIVE CATCH BASIN	623.01	8"	CLAY	620.44	SE	BLIND TAF
	TOP / DEBRIS	620.46					
46	STORM MANHOLE	622.69	36"	RCP	614.31	NORTH	48
			36"	RCP	614.25	EAST	27
47	BEE-HIVE CATCH BASIN	622.53				EAST	BLIND TAF
7/	NO PIPES VISIBLE OR FELT	022.00				LAGI	BEIND IAI
		610.52					
	TOP / WATER	619.53					
			2.111		245.00		
48	STORM MANHOLE	622.82	24"	RCP	615.62	NORTH	42
			12"	RCP	615.62	NW	BLIND TAF
			18"	RCP	616.32	EAST	34
			36"	RCP	615.32	SOUTH	46
49	ROUND CATCH BASIN	622.36	6"	CPP	621.06	SE	BLIND TAF
	TOP / WATER	619.86					
	TOP / DEBRIS	617.76					
	воттом	616.86					
50	ROUND CATCH BASIN	623.04	6"	CLAY	620.88	WEST	BLIND TAF
	TOP / WATER	621.54					
51	STORM MANHOLE	621.94	12"	CLAY	617.69	NORTH	BLIND TAF
			12"	CLAY	617.69	EAST	REDUCER
			12"	CLAY	617.69	SOUTH	REDUCER
					3.7.55		1
52	SQUARE CATCH BASIN	620.13				WEST	BLIND TAI
	NO PIPES VISIBLE OR FELT	020.13			<del>                                     </del>	******	PENAD IA
		047.40					
	TOP / WATER	617.43					
	TOP / DEBRIS	616.13					
	воттом	614.63					
53	SQUARE CATCH BASIN	622.45	12"	RCP	619.10	SE	56
54	STORM MANHOLE	620.53	2"	PVC	616.53	SE	55
			6"	CLAY	614.93	NW	
	TOP / DEBRIS	612.73					
	TOP / SUMP PUMP	613.28					
55	SQUARE CATCH BASIN	620.20	12"	RCP	616.54	ENE	56
			2"	PVC	616.75	WEST	54
56	STORM MANHOLE	622.99	12"	RCP	615.84	wsw	55
			12"	RCP	618.59	NW	53
			12"	RCP	617.69	SSE	15
					ļ		
57	SQUARE CATCH BASIN	621.57	6"	CPP	619.17	ESE	BLIND TAI
57	SQUARE CATCH BASIN TOP / WATER	621.57 618.97	6"	CPP	619.17	ESE	BLIND TAI
57			6"	CPP	619.17	ESE	BLIND TAI
57	TOP / WATER	618.97	6"	СРР	619.17	ESE	BLIND TAI
	TOP / WATER TOP / DEBRIS	618.97 618.07					
57	TOP / WATER  TOP / DEBRIS  SQUARE CATCH BASIN	618.97 618.07 621.64	6"	CPP	619.17	ESE	BLIND TAI
	TOP / WATER TOP / DEBRIS  SQUARE CATCH BASIN TOP / WATER	618.97 618.07 621.64 619.24					
	TOP / WATER  TOP / DEBRIS  SQUARE CATCH BASIN	618.97 618.07 621.64					
58	TOP / WATER TOP / DEBRIS  SQUARE CATCH BASIN TOP / WATER TOP / DEBRIS	618.97 618.07 621.64 619.24 617.04					
	TOP / WATER TOP / DEBRIS  SQUARE CATCH BASIN TOP / WATER TOP / DEBRIS  GATE VALVE & WELL	618.97 618.07 621.64 619.24 617.04				WEST	
58	TOP / WATER TOP / DEBRIS  SQUARE CATCH BASIN TOP / WATER TOP / DEBRIS  GATE VALVE & WELL TOP / PIPE	618.97 618.07 621.64 619.24 617.04 624.42 617.42					
58	TOP / WATER TOP / DEBRIS  SQUARE CATCH BASIN TOP / WATER TOP / DEBRIS  GATE VALVE & WELL TOP / PIPE TOP / WATER	618.97 618.07 621.64 619.24 617.04 624.42 617.42 622.92				WEST	
58	TOP / WATER TOP / DEBRIS  SQUARE CATCH BASIN TOP / WATER TOP / DEBRIS  GATE VALVE & WELL TOP / PIPE	618.97 618.07 621.64 619.24 617.04 624.42 617.42				WEST	
58	TOP / WATER TOP / DEBRIS  SQUARE CATCH BASIN TOP / WATER TOP / DEBRIS  GATE VALVE & WELL TOP / PIPE TOP / WATER TOP / DEBRIS	618.97 618.07 621.64 619.24 617.04 624.42 617.42 622.92 617.27	6"	CPP	619.34	WEST N/S	42
58	TOP / WATER TOP / DEBRIS  SQUARE CATCH BASIN TOP / WATER TOP / DEBRIS  GATE VALVE & WELL TOP / PIPE TOP / WATER	618.97 618.07 621.64 619.24 617.04 624.42 617.42 622.92	6"	CPP	619.34	WEST N/S	42
58	TOP / WATER TOP / DEBRIS  SQUARE CATCH BASIN TOP / WATER TOP / DEBRIS  GATE VALVE & WELL TOP / PIPE TOP / WATER TOP / DEBRIS	618.97 618.07 621.64 619.24 617.04 624.42 617.42 622.92 617.27	6"	CPP	619.34	WEST N/S	42
58	TOP / WATER TOP / DEBRIS  SQUARE CATCH BASIN TOP / WATER TOP / DEBRIS  GATE VALVE & WELL TOP / PIPE TOP / WATER TOP / DEBRIS	618.97 618.07 621.64 619.24 617.04 624.42 617.42 622.92 617.27	6"	CPP	619.34	WEST N/S	42
58	TOP / WATER TOP / DEBRIS  SQUARE CATCH BASIN TOP / WATER TOP / DEBRIS  GATE VALVE & WELL TOP / PIPE TOP / WATER TOP / DEBRIS	618.97 618.07 621.64 619.24 617.04 624.42 617.42 622.92 617.27	6"	CPP	619.34	WEST N/S	42
58	TOP / WATER TOP / DEBRIS  SQUARE CATCH BASIN TOP / WATER TOP / DEBRIS  GATE VALVE & WELL TOP / PIPE TOP / WATER TOP / DEBRIS  BEE-HIVE CATCH BASIN	618.97 618.07 621.64 619.24 617.04 624.42 617.42 622.92 617.27	6"	CPP	619.34	WEST N/S	42
58	TOP / WATER TOP / DEBRIS  SQUARE CATCH BASIN TOP / WATER TOP / DEBRIS  GATE VALVE & WELL TOP / PIPE TOP / WATER TOP / DEBRIS  BEE-HIVE CATCH BASIN  GATE VALVE & WELL	618.97 618.07 621.64 619.24 617.04 624.42 617.42 622.92 617.27	6"	CPP	619.34	WEST N/S	42
58	TOP / WATER TOP / DEBRIS  SQUARE CATCH BASIN TOP / WATER TOP / DEBRIS  GATE VALVE & WELL TOP / PIPE TOP / WATER TOP / DEBRIS  BEE-HIVE CATCH BASIN  GATE VALVE & WELL UNABLE TO OPEN	618.97 618.07 621.64 619.24 617.04 624.42 617.42 622.92 617.27	6"	CPP	619.34	WEST N/S	42
58	TOP / WATER TOP / DEBRIS  SQUARE CATCH BASIN TOP / WATER TOP / DEBRIS  GATE VALVE & WELL TOP / PIPE TOP / WATER TOP / DEBRIS  BEE-HIVE CATCH BASIN  GATE VALVE & WELL UNABLE TO OPEN	618.97 618.07 621.64 619.24 617.04 624.42 617.42 622.92 617.27	6"	CPP	619.34	WEST N/S	42
58 59 60 61	TOP / WATER TOP / DEBRIS  SQUARE CATCH BASIN TOP / WATER TOP / DEBRIS  GATE VALVE & WELL TOP / PIPE TOP / WATER TOP / DEBRIS  BEE-HIVE CATCH BASIN  GATE VALVE & WELL UNABLE TO OPEN TOP / DEBRIS	618.97 618.07 621.64 619.24 617.04 624.42 617.42 622.92 617.27 621.71	6"	CPP	619.34	WEST N/S	42
58 59 60 61	TOP / WATER TOP / DEBRIS  SQUARE CATCH BASIN TOP / WATER TOP / DEBRIS  GATE VALVE & WELL TOP / PIPE TOP / WATER TOP / DEBRIS  BEE-HIVE CATCH BASIN  GATE VALVE & WELL UNABLE TO OPEN TOP / DEBRIS  GATE VALVE & WELL FULL OF WATER	618.97 618.07 621.64 619.24 617.04 624.42 617.42 622.92 617.27 621.71	6"	CPP	619.34	WEST  N/S  SE  NE	42
58 59 60 61	TOP / WATER TOP / DEBRIS  SQUARE CATCH BASIN TOP / WATER TOP / DEBRIS  GATE VALVE & WELL TOP / PIPE TOP / WATER TOP / DEBRIS  BEE-HIVE CATCH BASIN  GATE VALVE & WELL UNABLE TO OPEN TOP / DEBRIS  GATE VALVE & WELL	618.97 618.07 621.64 619.24 617.04 624.42 617.42 622.92 617.27 621.71 622.26 618.66	6"	CPP	619.34	WEST N/S	42
58 59 60 61	TOP / WATER TOP / DEBRIS  SQUARE CATCH BASIN TOP / WATER TOP / DEBRIS  GATE VALVE & WELL TOP / PIPE TOP / WATER TOP / DEBRIS  BEE-HIVE CATCH BASIN  GATE VALVE & WELL UNABLE TO OPEN TOP / DEBRIS  GATE VALVE & WELL FULL OF WATER TOP / PIPE	618.97 618.07 621.64 619.24 617.04 624.42 617.42 622.92 617.27 621.71 622.26 618.66	6" 6" 6"	PVC	619.34 620.09 620.01	WEST  N/S  SE  NE	39 BLIND TAI
58 59 60 61	TOP / WATER TOP / DEBRIS  SQUARE CATCH BASIN TOP / WATER TOP / DEBRIS  GATE VALVE & WELL TOP / PIPE TOP / WATER TOP / DEBRIS  BEE-HIVE CATCH BASIN  GATE VALVE & WELL UNABLE TO OPEN TOP / DEBRIS  GATE VALVE & WELL FULL OF WATER	618.97 618.07 621.64 619.24 617.04 624.42 617.42 622.92 617.27 621.71 622.26 618.66	6" 6" 6"	PVC PVC	619.34 620.09 620.01	WEST  N/S  SE  NE  N/S/W  SOUTH	39 BLIND TAI
58 59 60 61	TOP / WATER TOP / DEBRIS  SQUARE CATCH BASIN TOP / WATER TOP / DEBRIS  GATE VALVE & WELL TOP / PIPE TOP / WATER TOP / DEBRIS  BEE-HIVE CATCH BASIN  GATE VALVE & WELL UNABLE TO OPEN TOP / DEBRIS  GATE VALVE & WELL FULL OF WATER TOP / PIPE  SQUARE CATCH BASIN	618.97 618.07 621.64 619.24 617.04 624.42 617.42 622.92 617.27 621.71 622.26 618.66 623.49 618.37	6" 6" 6"	PVC	619.34 620.09 620.01	WEST  N/S  SE  NE	39 BLIND TAI
58 59 60 61	TOP / WATER TOP / DEBRIS  SQUARE CATCH BASIN TOP / WATER TOP / DEBRIS  GATE VALVE & WELL TOP / PIPE TOP / WATER TOP / DEBRIS  BEE-HIVE CATCH BASIN  GATE VALVE & WELL UNABLE TO OPEN TOP / DEBRIS  GATE VALVE & WELL FULL OF WATER TOP / PIPE	618.97 618.07 621.64 619.24 617.04 624.42 617.42 622.92 617.27 621.71 622.26 618.66	6" 6" 6"	PVC PVC	619.34 620.09 620.01	WEST  N/S  SE  NE  N/S/W  SOUTH	39 BLIND TAI
58 59 60 61 62	TOP / WATER TOP / DEBRIS  SQUARE CATCH BASIN TOP / WATER TOP / DEBRIS  GATE VALVE & WELL TOP / PIPE TOP / WATER TOP / DEBRIS  BEE-HIVE CATCH BASIN  GATE VALVE & WELL UNABLE TO OPEN TOP / DEBRIS  GATE VALVE & WELL FULL OF WATER TOP / PIPE  SQUARE CATCH BASIN	618.97 618.07 621.64 619.24 617.04 624.42 617.42 622.92 617.27 621.71 622.26 618.66 623.49 618.37	6" 6" 6"	PVC PVC RCP	619.34 620.09 620.01 619.35 619.28	WEST  N/S  SE  NE  N/S/W  SOUTH  EAST	39 BLIND TAI
58 59 60 61	TOP / WATER TOP / DEBRIS  SQUARE CATCH BASIN TOP / WATER TOP / DEBRIS  GATE VALVE & WELL TOP / PIPE TOP / WATER TOP / DEBRIS  BEE-HIVE CATCH BASIN  GATE VALVE & WELL UNABLE TO OPEN TOP / DEBRIS  GATE VALVE & WELL FULL OF WATER TOP / PIPE  SQUARE CATCH BASIN	618.97 618.07 621.64 619.24 617.04 624.42 617.42 622.92 617.27 621.71 622.26 618.66 623.49 618.37 623.00	6" 6" 6"	PVC PVC	619.34 620.09 620.01	WEST  N/S  SE  NE  N/S/W  SOUTH	39 BLIND TA
58 59 60 61 62	TOP / WATER TOP / DEBRIS  SQUARE CATCH BASIN TOP / WATER TOP / DEBRIS  GATE VALVE & WELL TOP / PIPE TOP / WATER TOP / DEBRIS  BEE-HIVE CATCH BASIN  GATE VALVE & WELL UNABLE TO OPEN TOP / DEBRIS  GATE VALVE & WELL FULL OF WATER TOP / PIPE  SQUARE CATCH BASIN	618.97 618.07 621.64 619.24 617.04 624.42 617.42 622.92 617.27 621.71 622.26 618.66 623.49 618.37	6" 6" 6"	PVC PVC RCP	619.34 620.09 620.01 619.35 619.28	WEST  N/S  SE  NE  N/S/W  SOUTH  EAST	39 BLIND TA
58 59 60 61 62 63 64	TOP / WATER TOP / DEBRIS  SQUARE CATCH BASIN TOP / WATER TOP / DEBRIS  GATE VALVE & WELL TOP / PIPE TOP / WATER TOP / DEBRIS  BEE-HIVE CATCH BASIN  GATE VALVE & WELL UNABLE TO OPEN TOP / DEBRIS  GATE VALVE & WELL FULL OF WATER TOP / PIPE  SQUARE CATCH BASIN  TOP / WATER  SQUARE CATCH BASIN TOP / WATER	618.97 618.07 621.64 619.24 617.04 624.42 617.42 622.92 617.27 621.71 622.26 618.66 623.49 618.37 623.00	6" 6" 6"	PVC PVC RCP	619.34 620.09 620.01 619.35 619.28	WEST  N/S  SE  NE  N/S/W  SOUTH  EAST	39 BLIND TA
58 59 60 61 62	TOP / WATER TOP / DEBRIS  SQUARE CATCH BASIN TOP / WATER TOP / DEBRIS  GATE VALVE & WELL TOP / PIPE TOP / WATER TOP / DEBRIS  BEE-HIVE CATCH BASIN  GATE VALVE & WELL UNABLE TO OPEN TOP / DEBRIS  GATE VALVE & WELL FULL OF WATER TOP / PIPE  SQUARE CATCH BASIN	618.97 618.07 621.64 619.24 617.04 624.42 617.42 622.92 617.27 621.71 622.26 618.66 623.49 618.37 623.00	6" 6" 6"	PVC PVC RCP	619.34 620.09 620.01 619.35 619.28	WEST  N/S  SE  NE  N/S/W  SOUTH  EAST	39 BLIND TA
58 59 60 61 62 63 64	TOP / WATER TOP / DEBRIS  SQUARE CATCH BASIN TOP / WATER TOP / DEBRIS  GATE VALVE & WELL TOP / PIPE TOP / WATER TOP / DEBRIS  BEE-HIVE CATCH BASIN  GATE VALVE & WELL UNABLE TO OPEN TOP / DEBRIS  GATE VALVE & WELL FULL OF WATER TOP / PIPE  SQUARE CATCH BASIN  TOP / WATER  SQUARE CATCH BASIN TOP / WATER	618.97 618.07 621.64 619.24 617.04 624.42 617.42 622.92 617.27 621.71 622.26 618.66 623.49 618.37 623.00 619.30	6" 6" 6"	PVC PVC RCP	619.34 620.09 620.01 619.35 619.28	WEST  N/S  SE  NE  N/S/W  SOUTH  EAST	39 BLIND TA
58 59 60 61 62 63 64	TOP / WATER TOP / DEBRIS  SQUARE CATCH BASIN TOP / WATER TOP / DEBRIS  GATE VALVE & WELL TOP / PIPE TOP / WATER TOP / DEBRIS  BEE-HIVE CATCH BASIN  GATE VALVE & WELL UNABLE TO OPEN TOP / DEBRIS  GATE VALVE & WELL FULL OF WATER TOP / PIPE  SQUARE CATCH BASIN  TOP / WATER  SQUARE CATCH BASIN  TOP / WATER	618.97 618.07 621.64 619.24 617.04 624.42 617.42 622.92 617.27 621.71 622.26 618.66 623.49 618.37 623.00 619.30 623.02 620.12	6" 6" 6"	PVC PVC RCP	619.34 620.09 620.01 619.35 619.28	WEST  N/S  SE NE  N/S/W  SOUTH EAST	39 BLIND TAI
58 59 60 61 62 63 64	TOP / WATER TOP / DEBRIS  SQUARE CATCH BASIN TOP / WATER TOP / DEBRIS  GATE VALVE & WELL TOP / PIPE TOP / WATER TOP / DEBRIS  BEE-HIVE CATCH BASIN  GATE VALVE & WELL UNABLE TO OPEN TOP / DEBRIS  GATE VALVE & WELL FULL OF WATER TOP / PIPE  SQUARE CATCH BASIN  TOP / WATER  SQUARE CATCH BASIN  TOP / WATER  GATE VALVE & WELL  SQUARE CATCH BASIN TOP / WATER	618.97 618.07 621.64 619.24 617.04 624.42 617.42 622.92 617.27 621.71 622.26 618.66 623.49 618.37 623.00 619.30 623.02 620.12	6" 6" 6"	PVC PVC RCP	619.34 620.09 620.01 619.35 619.28	WEST  N/S  SE NE  N/S/W  SOUTH EAST	39 BLIND TAI
58 59 60 61 62 63 64	TOP / WATER TOP / DEBRIS  SQUARE CATCH BASIN TOP / WATER TOP / DEBRIS  GATE VALVE & WELL TOP / PIPE TOP / WATER TOP / DEBRIS  BEE-HIVE CATCH BASIN  GATE VALVE & WELL UNABLE TO OPEN TOP / DEBRIS  GATE VALVE & WELL FULL OF WATER TOP / PIPE  SQUARE CATCH BASIN  TOP / WATER  SQUARE CATCH BASIN  TOP / WATER  GATE VALVE & WELL  TOP / WATER	618.97 618.07 621.64 619.24 617.04 624.42 617.42 622.92 617.27 621.71 622.26 618.66 623.49 618.37 623.00 619.30 623.02 620.12	6" 6" 6"	PVC PVC RCP	619.34 620.09 620.01 619.35 619.28	WEST  N/S  SE NE  N/S/W  SOUTH EAST	39 BLIND TAI
58 59 60 61 62 63 64	TOP / WATER TOP / DEBRIS  SQUARE CATCH BASIN TOP / WATER TOP / DEBRIS  GATE VALVE & WELL TOP / PIPE TOP / WATER TOP / DEBRIS  BEE-HIVE CATCH BASIN  GATE VALVE & WELL UNABLE TO OPEN TOP / DEBRIS  GATE VALVE & WELL FULL OF WATER TOP / PIPE  SQUARE CATCH BASIN  TOP / WATER  SQUARE CATCH BASIN  TOP / WATER  GATE VALVE & WELL  TOP / WATER	618.97 618.07 621.64 619.24 617.04 624.42 617.42 622.92 617.27 621.71 622.26 618.66 623.49 618.37 623.00 619.30 623.02 620.12	6" 6" 6"	PVC PVC RCP	619.34 620.09 620.01 619.35 619.28	WEST  N/S  SE NE  N/S/W  SOUTH EAST	39 BLIND TAI
58 59 60 61 62 63 64 65	TOP / WATER TOP / DEBRIS  SQUARE CATCH BASIN TOP / WATER TOP / DEBRIS  GATE VALVE & WELL TOP / PIPE TOP / WATER TOP / DEBRIS  BEE-HIVE CATCH BASIN  GATE VALVE & WELL UNABLE TO OPEN TOP / DEBRIS  GATE VALVE & WELL FULL OF WATER TOP / PIPE  SQUARE CATCH BASIN  TOP / WATER  SQUARE CATCH BASIN  TOP / WATER  GATE VALVE & WELL TOP / PIPE  TOP / WATER	618.97 618.07 621.64 619.24 617.04 624.42 617.42 622.92 617.27 621.71 622.26 618.66 623.49 618.37 623.00 619.30 623.02 620.12	6" 6" 6" 12" 12"	PVC PVC RCP RCP	619.34 620.09 620.01 619.35 619.28	N/S  SE NE  N/S/W  SOUTH EAST  NORTH	39 BLIND TAI

# TYPE RIM SIZE MTRL INVERT DIRECTION CONNECT

#### STRUCTURE TABLE

THE STRUCTURE TABLE ON THIS DRAWING IDENTIFIES THE AS-SURVEYED UNDERGROUND UTILITY MANHOLES THAT WERE FIELD MEASURED USING REASONABLE AND TRADITIONAL SURVEYING PRACTICES. PIPE SIZES, DIRECTIONS AND ELEVATIONS ARE INDICATED BY A COMBINATION OF FIELD EVIDENCE AND AVAILABLE RECORD INFORMATION. UNDERGROUND UTILITY PIPE SIZES AND CONNECTIONS ARE MANY TIMES AMBIGUOUS. SOME STRUCTURES MAY HAVE PIPES WITH UNKNOWN CONNECTIONS, SUMPS AND / OR PIPES THAT ARE FILLED WITH DEBRIS. IT WILL BE UP TO THE DESIGN ENGINEER TO LOOK AT THE PRESENTED SURVEY RESULTS AND DECIDE IF FURTHER INVESTIGATION BY OTHER METHODS SUCH AS VACUUM CLEAN OUT, UNDERGROUND RADAR, SMOKE TESTING AND PHYSICAL EXCAVATION IS REQUIRED AS AN ADDITIONAL SERVICE.

#### **UTILITY CHART**

UTILITY PROVIDER	CONTACT#	MISS DIG RESULTS	DATE
AT&T TELEPHONE	(231) 409-7939	RECEIVED	4/4/2022
COMCAST CABLE TV	(855) 962-8525	RECEIVED	4/5/2022
COMCAST FIBER OPTICS	(855) 962-8525	RECEIVED	4/5/2022
DEARBORN HEIGHTS CITY POTABLE WATER	(313) 791-6000	NOT RECEIVED YET	
DEARBORN HEIGHTS CITY SANITARY SEWER	(313) 791-6000	NOT RECEIVED YET	
DEARBORN HEIGHTS CITY STORM SEWER	(313) 791-6000	NOT RECEIVED YET	
DTE ENERGY (ELECTRIC) ELECTRIC	(313) 235-5824	RECEIVED	4/12/2022
DTE ENERGY (GAS) GAS	(248) 318-7839	RECEIVED	3/30/2022
GREAT LAKES WATER AUTHORITY POTABLE WATER	(313) 799-0289	RECEIVED	3/29/2022
MCI/VERIZON BUSINESS FIBER OPTICS	(800) 624-9675	RECEIVED	3/29/2022
VERIZON WIRELESS FIBER OPTICS	(800) 624-9675	RECEIVED	3/29/2022
WIDE OPEN WEST CABLE TV	(734) 237-4319	RECEIVED	3/30/2022
WIDE OPEN WEST FIBER OPTICS	(734) 237-4319	RECEIVED	3/30/2022



905 South Blvd. East Rochester Hills, MI 48307 Phone: (248) 844-5400 Fax: (248) 844-5404

www.sda-eng.com (800) 598-1600



Bidding and Permits: 20 March 2023
Wayne County DPS Rev. 02 March 2023
Proposal Request #2: 01 March 2023
Proposal Request #1: 20 Jan 2023
Agency Review: 09 November 2022
Addendum #3: 08 November 2022
Bidding & Permits: 31 October 2022
Owner Review: 03 October 2022

Topographical Survey — Structure Table

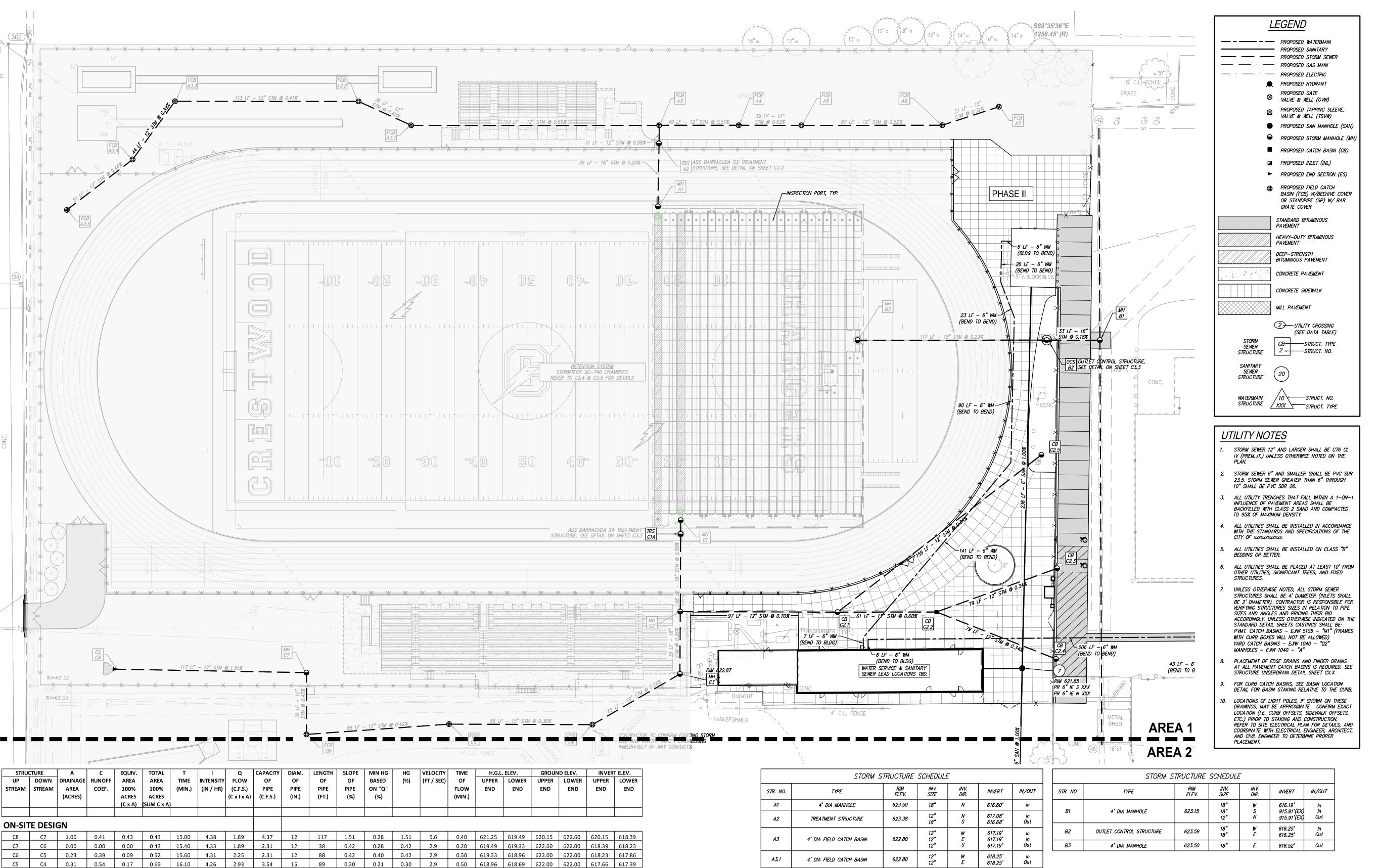
# EHRESMAN ARCHITECTS

Crestwood School District Crestwood High School Site Improvements

Project No. 2522 (SDA NP22067)

803 W. Big Beaver Road, Suite 350, Troy, MI 48084 | 248.244.9710

©Ehresman 29



 C4
 C3
 0.86
 0.36
 0.31
 0.99
 16.60
 4.21
 4.19
 5.36
 18
 62
 0.26
 0.16
 0.26
 3.0
 0.30
 618.69
 618.53
 622.00
 622.87
 617.19
 617.03

C3 C2 0.00 0.00 0.00 0.00 0.99 16.90 4.18 4.19 5.36 18 39 0.26 0.16 0.26 3.0 0.20 618.53 618.43 622.87 623.40 617.03 616.93 C2 C1A 0.00 0.00 0.00 1.66 17.10 4.16 6.89 8.00 18 48 0.58 0.43 0.58 4.5 0.20 618.43 618.15 623.40 623.50 616.93 616.65

C1A C1 0.00 0.00 0.00 1.66 17.30 4.14 6.89 8.00 18 8 0.58 0.43 0.58 4.5 0.00 618.15 618.10 623.50 623.50 616.65 616.60

 A4
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A3 A2 0.14 0.58 0.08 0.55 16.10 4.26 2.33 3.53 12 11 0.98 0.43 0.98 4.5 0.00 618.29 618.18 622.80 623.38 617.19 617.08

A2 A1 0.00 0.00 0.00 0.55 16.10 4.26 2.33 4.70 18 39 0.20 0.05 0.20 2.7 0.20 618.18 618.10 623.38 623.50 616.68 616.60

A3.5 A3.4 0.05 0.30 0.02 0.02 15.00 4.38 0.07 2.36 12 51 0.44 0.00 0.44 3.0 0.30 620.36 620.14 623.00 623.00 619.26 619.03

 
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 A3.3
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 A3.3 A3.2 0.07 0.55 0.04 0.09 15.60 4.31 0.38 2.28 12 113 0.41 0.01 0.41 2.9 0.70 619.96 619.50 623.25 623.25 618.86 618.40

A3.2 A3.1 0.15 0.34 0.05 0.14 16.30 4.24 0.59 2.31 12 36 0.42 0.03 0.42 2.9 0.20 619.50 619.35 623.25 622.80 618.40 618.25

A3.1 A3 0.17 0.52 0.09 0.23 16.50 4.22 0.96 2.96 12 153 0.69 0.07 0.69 3.8 0.70 619.35 618.29 622.80 622.80 618.25 617.19

 C2.5
 C2.1
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 0.25
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 12
 159
 0.34
 0.00
 0.34
 2.6
 1.00
 619.65
 619.11
 622.50
 623.25
 618.55
 618.01

 C2.1
 C2
 0.07
 0.95
 0.07
 0.66
 16.00
 4.27
 2.83
 2.98
 12
 97
 0.70
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 0.70
 3.8
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 618.43
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 C2.2
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 0.14
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 623.25
 618.38
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C2.3 C2.2 0.31 0.95 0.29 0.29 15.00 4.38 1.29 2.08 12 79 0.34 0.13 0.34 2.6 0.50 619.75 619.48 622.38 623.25 618.64 618.38

 B3
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 617.75
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 623.59
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 616.25

 B2
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 617.75
 617.69
 623.59
 623.15
 616.25
 616.19

**DETENTION OUTLET DESIGN** 

0.09 0.35 0.03 0.21 15.60 4.31 0.92 2.57 12 39 0.52 0.07 0.52 3.3 0.20 618.74 618.54 623.00 623.00 617.64 617.44

0.11 | 0.11 | 15.00 | 4.38 | 0.48 | 2.08 | 12 | 79 | 0.34 | 0.02 | 0.34 | 2.6 | 0.50 | 619.75 | 619.48 | 622.36 | 623.25 | 618.65 | 618.38

A5 0.08 0.35 0.03 0.18 15.20 4.35 0.80 2.57 12 87 0.52 0.05 0.52 3.3 0.40 619.19 618.74 622.80 623.00 618.09 617.64

1					<b>3.</b> //		11 2-12						
STORM S	TRUCTURE	SCHEDULE	<u>-</u> :					STORM S	TRUCTURE	SCHEDULE	Ξ		
ТҮРЕ	RIM ELEV.	INV. SIZE	INV. DIR.	INVERT	IN/OUT		STR. NO.	ТҮРЕ	RIM ELEV.	INV. SIZE	INV. DIR.	INVERT	IN/OUT
4' DIA MANHOLE	623.50	18"	N	616.60'	In			4 04 444405	CO7.15	18"	W	616.19'	ln
TREATMENT STRUCTURE	623.38	12" 18"	N S	617.08' 616.68'	In Out		B1	4' DIA MANHOLE	623.15	18" 12"	S N	915.91'(EX) 915.91'(EX)	In Out
4' DIA FIELD CATCH BASIN	622.80	12" 12"	W	617.19° 617.19°	In In		B2	OUTLET CONTROL STRUCTURE	623.59	18" 18"	W E	616.25' 616.25'	In Out
4 DIA FIELD CATCH BASIN	022.00	12"	S	617.19	Öut		B3	4' DIA MANHOLE	623.50	18"	Ε	616.52'	Out
4' DIA FIELD CATCH BASIN	622.80	12" 12"	W E	618.25° 618.25°	In Out								
						1							

618.40' 618.40'

618.86

618.86

619.03

619.03

619.26

617.44

617.44

617.64

617.64

618.09

618.09

618.28'

INVERT

618.01°

618.01° 618.01

618.38**'** 

618.38°

618.38°

618.64

618.65°

618.55°

Out

IN/OUT

Out

Out

SW NE

ΝE

W

W

SW

623.25

623.25

623.00

623.00

623.00

623.00

622.80

622.00

STORM STRUCTURE SCHEDULE

RIM ELEV.

623.25

*623.25* 

622.36

622.50

12"

12"

INV. SIZE

12"

12"

4' DIA FIELD CATCH BASIN

TYPE

4' DIA CATCH BASIN

4' DIA CATCH BASIN

4' DIA CATCH BASIN

4' DIA CATCH BASIN

4' DIA FIELD CATCH BASIN

A3.3

A3.5

STR. NO.

C2.2

C2.4

	STORM S	STRUCTURE	SCHEDULE	Ξ		
STR. NO.	TYPE	RIM ELEV.	INV. SIZE	INV. DIR.	INVERT	IN/OUT
C1	4' DIA MANHOLE	623.50	18"	s	616.60'	In
C1A	TREATMENT STRUCTURE	623.50	18" 18"	S N	616.65' 616.65'	In Out
C2	4' DIA MANHOLE	623.40	18" 18" 12"	S N E	616.93' 616.93' 617.33'	In Out In
СЗ	4' DIA MANHOLE	622.87	18" 18"	SW N	617.03' 617.03'	In Out
C4	4' DIA FIELD CATCH BASIN	622.00	15" 18"	W NE	617.39' 617.19'	In Out
C5	4' DIA FIELD CATCH BASIN	622.00	12" 15"	W E	617.86° 617.66°	In Out
C6	4' DIA FIELD CATCH BASIN	622.00	12" 12"	N E	618.23' 618.23'	In Out
C7	4' DIA MANHOLE	622.60	12" 12"	S W	618.39' 618.39'	Out In
C8	END SECTION	620.15	12"	Ε	620.15'	Out



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Utility Plan - Area

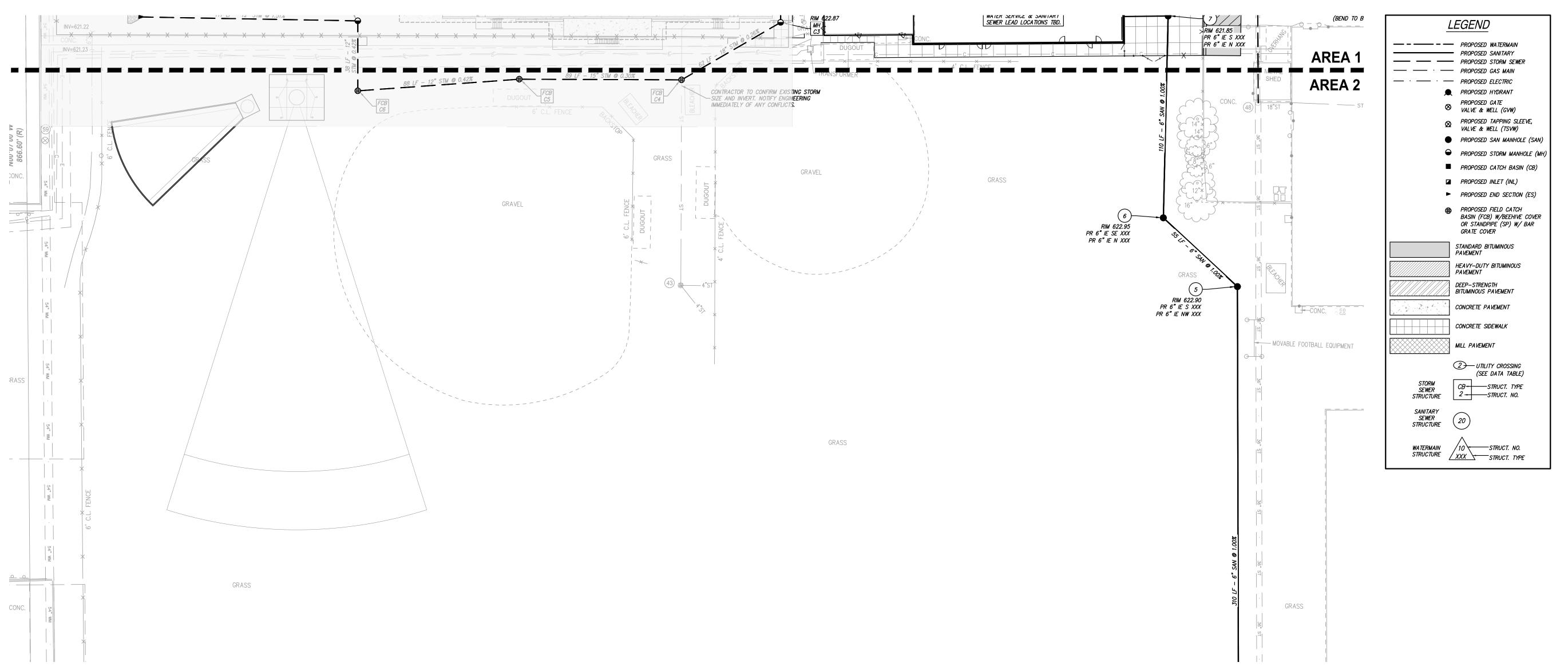
#### \_ EHRESMAN ARCHITECTS

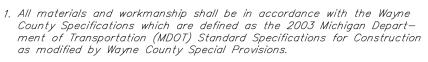
Crestwood School District Crestwood High School Site Improvements

Project No. 2522 (SDA NP22067)

803 W. Big Beaver Road, Suite 350, Troy, MI 48084 | 248.244.9710

GRAPHIC SCALE ( IN FEET ) 1 inch = 30 ft.





- 2. The Contractor may construct manholes, catch basins and inlets, as detailed, with precast reinforced concrete units provided the following conditions are satisfied:
  - a. All precast sections shall be made in accordance with ASTM C-478 except that:
  - (1) The minimum wall thickness shall be 5 inches. (2) The thickness of base and top slabs shall be as
  - detailed on the Standard Plans. b. The maximum diameter of sewer outlet in any precast unit shall be 18 inches, except for Inlets which shall have a

maximum outlet diameter of 12 inches.

REVISION DATE: 08/01/07

DIRECTOR OF ENGINEERING

- c. No openings shall be made in precast units which would leave less than 24 inches of total undisturbed precast manhole wall or would remove more than 30% of the circumference along any horizontal plane. A minimum of 6 inches of undisturbed manhole is required between any two openings. Openings may be constructed by casting, removal of green concrete, or by drilling the openings in cured concrete.
- d. Openings for sewer pipe shall be cut or precast with a diameter 3 inches larger than the outside diameter of the pipe. The opening around the outside of the pipe shall be closed using brick masonry.
- e. Structures for sewers larger than 18 inches or those not meeting the opening requirements shall be built of block or brick to a minimum of 8 inches above the top of sewer, with precast units being used above this point. Where the precast units rest on the block or brick, the groove in the precast unit will be filled with mortar.

WAYNE COUNTY DEPARTMENT OF PUBLIC SERVICES

ENGINEERING DIVISION/PERMIT OFFICE

PERMIT STANDARDS

GENERAL NOTES

	manufactured, supplied, to the project, and not utilized.
	g. Special precast units for use on large diameter sewers must have the approval of the Engineer.
3.	All vertical holes in concrete block structure wall shall be completely filled with mortar. All vertical wall joints shall be buttered.
4.	The first pipe length entering or leaving any structure shall be temporarily supported by suitable means until the structure is completed and backfilled.
5.	A poured Grade S1 concrete base without steel reinforcement, may be substituted for a precast base as approved by the Engineer. A porous backfill cushion will not be required under the poured base, unless the Contractor has excavated below the required elevation, at which time the Engineer will decide as to the merits of increasing the thickness of the concrete base or the use of a porous backfill cushion.
6.	The conical section of brick or block manholes, catch basins or inlets, shall be shrouded with a geotextile blanket from the top down to 1 foot below the conical section. Precast structures shall be shrouded with the geotextile blanket to a point 1 foot below the stack. Enough geotextile material will be left on the top to roll over the brick stack and under the casting. Also, wrap inlet and outlet pipes at connection to the structures with a geotextile blanket, minimum 1 foot each direction the geotextile blanket shall meet the requirements of Subsection 910.03.2 in the 2003 MDOT Standard Specifications for Construction.
7.	A 10 feet length of 6 inch Underdrain in Sewer Trench will be required at proposed drainage structure that do not have longer lengths of underdrain connected to them (see Standard Plan S-14). The cost of these 10 feet lengths of underdrain with end caps shall be included in the cost of the drainage structure.
	Steps are required for all structures over 10 feet in depth. Steps shall be of an approved design, made of cast iron, aluminum, or plastic coated steel. Rungs shall be a minimum of 10 inches clear length and designed to prevent the foot from slipping off the end. The minimum horizontal load shall be 405 lbf. The minimum vertical load shall be 810 lbf.
NOICIN	WAYNE COUNTY DEPARTMENT OF PUBLIC SERVICES SCALE
DE0	ENGINEERING DIVISION/PERMIT OFFICE NOT TO SCAL
RECTUB	F FNGINFFRING

PERMIT STANDARDS

GENERAL NOTES

S-1

SHEET 2 OF 2

DIRECTOR OF ENGINEERING

S-1

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AT THE WAYNE COUNTY ENGINEERING OFFICES.

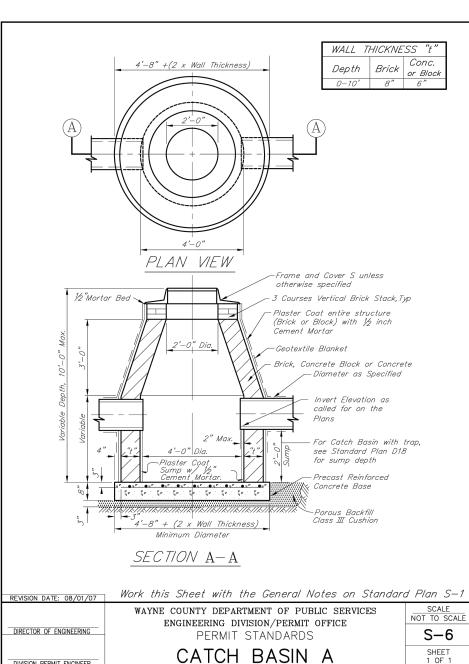
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Circumstances encountered during construction may preclude the use of precast unit structures, as determined by the

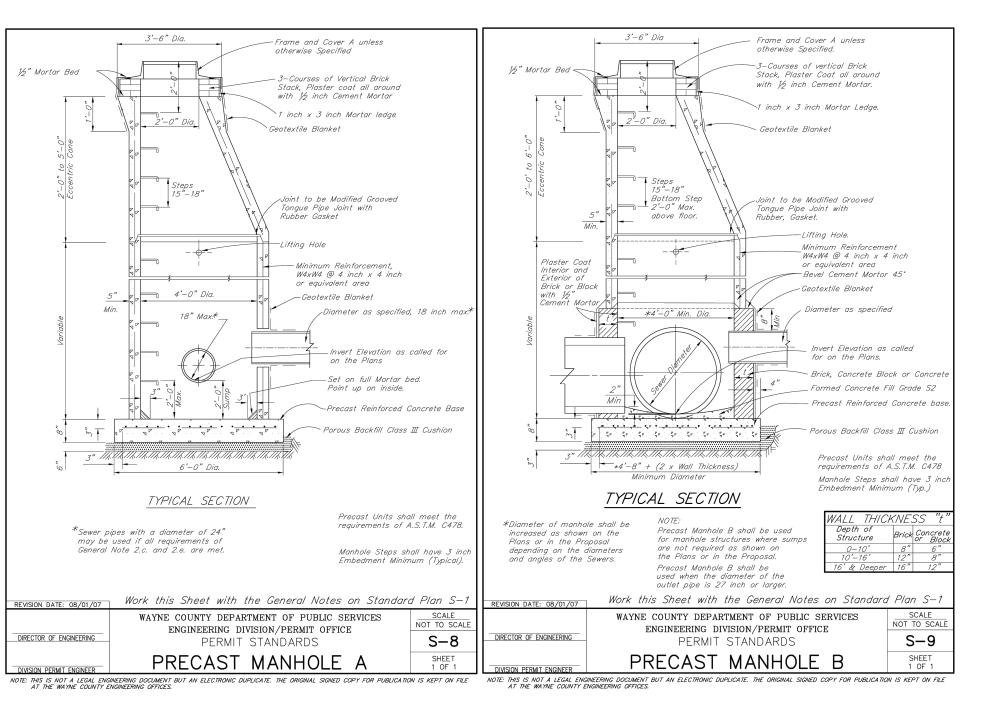
structures and field changes prohibit their use, no compen-

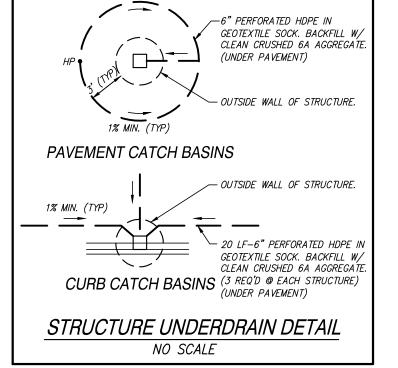
sation will be made to the contractor for having these units

Engineer. If the contractor elects to use precast unit



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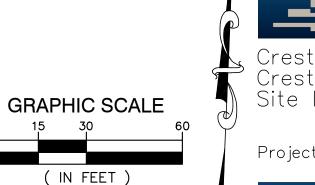
STR. NO.	TYPE	RIM ELEV.	INV. SIZE	INV. DIR.	INVERT	IN/OUT
C1	4' DIA MANHOLE	623.50	18"	S	616.60'	In
C1A	TREATMENT STRUCTURE	623.50	18" 18"	SN	616.65' 616.65'	In Out
C2	4' DIA MANHOLE	623.40	18" 18" 12"	S N E	616.93' 616.93' 617.33'	In Out In
C3	4' DIA MANHOLE	622.87	18" 18"	SW N	617.03' 617.03'	In Out
C4	4' DIA FIELD CATCH BASIN	622.00	15" 18"	W NE	617.39' 617.19'	In Out
C5	4' DIA FIELD CATCH BASIN	622.00	12" 15"	W E	617.86° 617.66°	In Out
C6	4' DIA FIELD CATCH BASIN	622.00	12" 12"	N E	618.23' 618.23'	In Out
C7	4' DIA MANHOLE	622.60	12" 12"	S W	618.39' 618.39'	Out In
C8	END SECTION	620.15	12"	Ε	620.15'	Out



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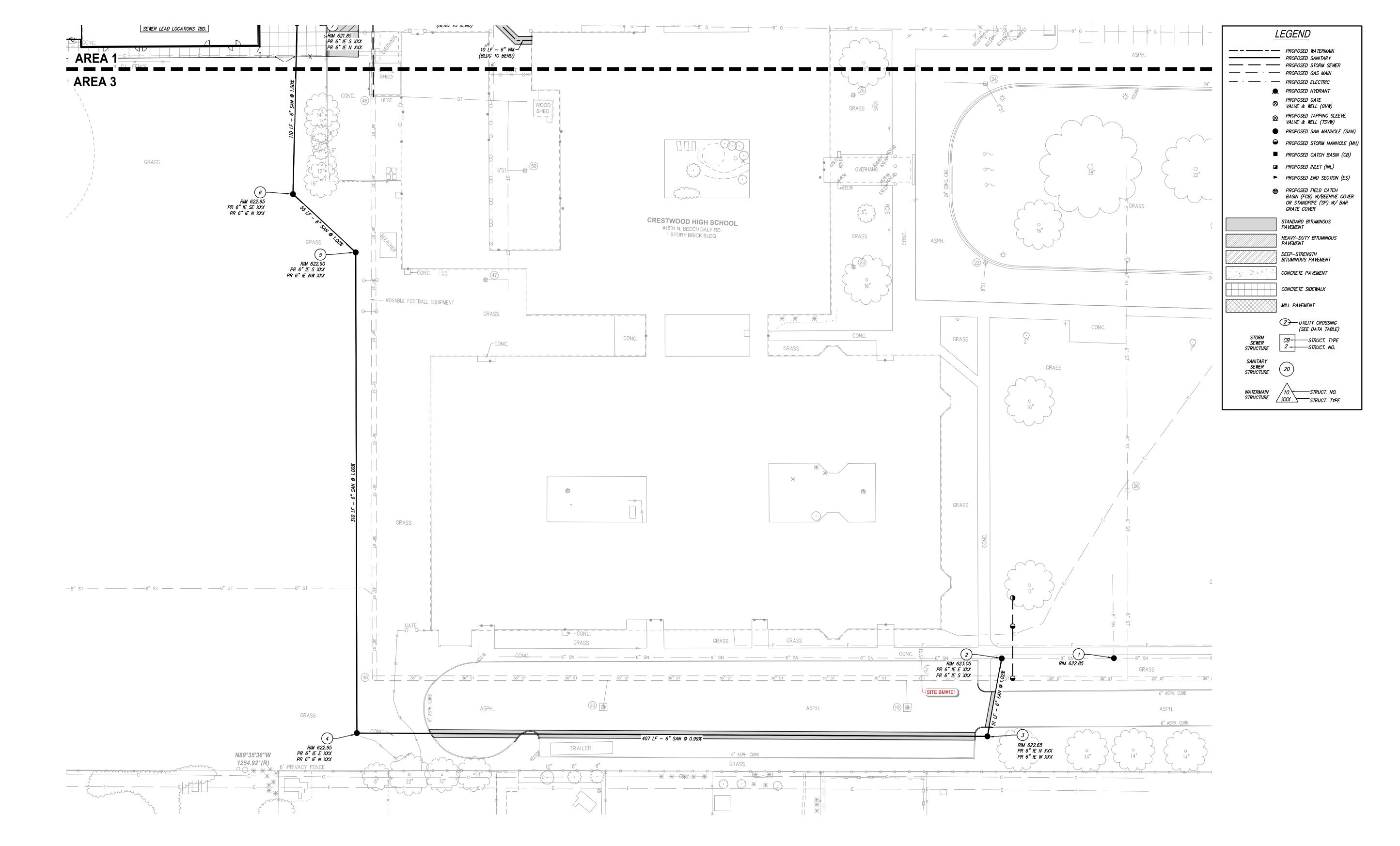


1 inch = 30 ft.



Crestwood School District Crestwood High School Site Improvements

Project No. 2522 (SDA NP22067)





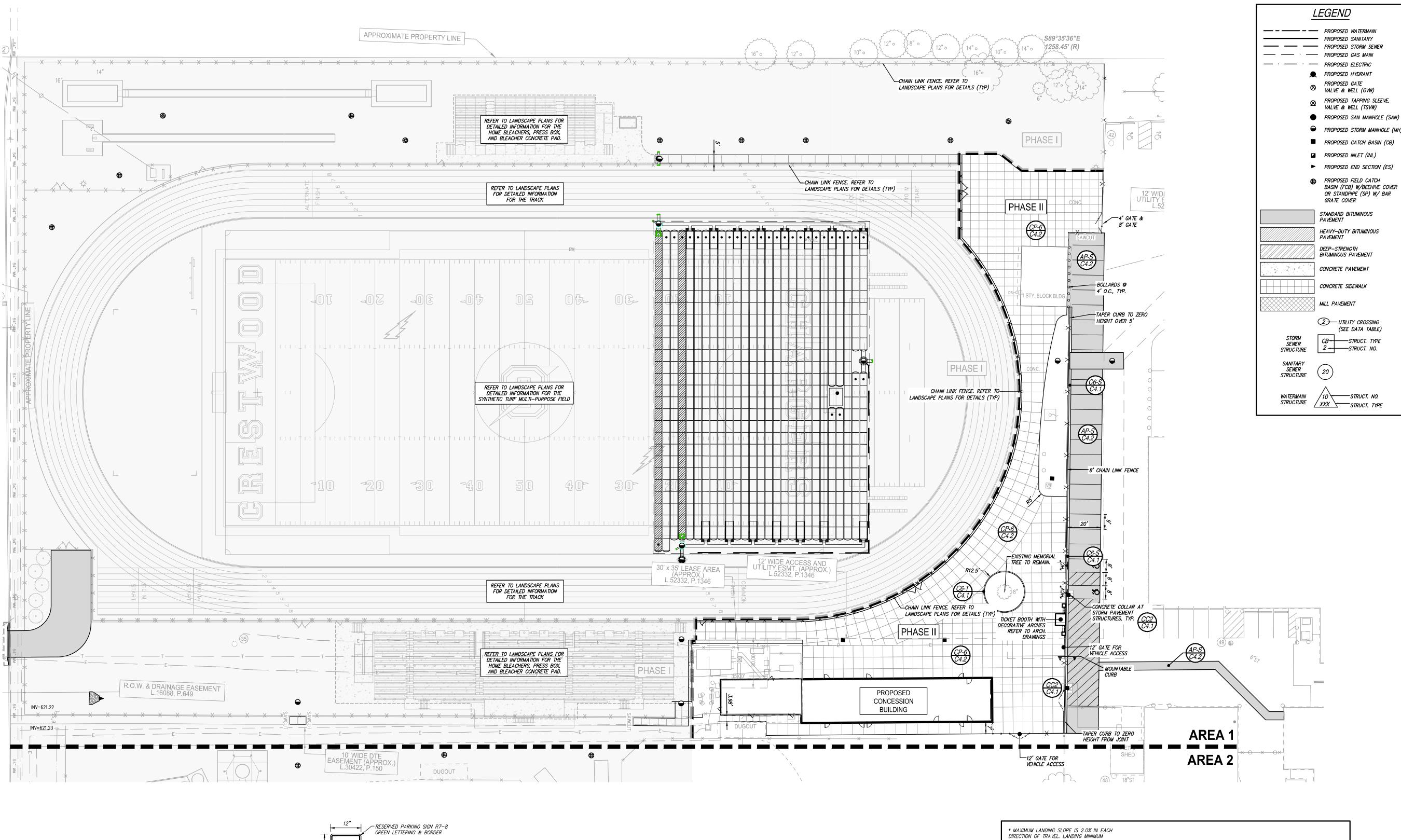
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-WHITE BACKGROUND

— 10' LONG — GALVANIZED

3 LB. U-CHANNEL SIGN POST

EPOXY COATED #4 BAR (TYP) ~ 4" LIMESTONE AGG. BASE, 21AA -

6" CURB & GUTTER STANDARD PAN

DETAIL

--- WHITE SYMBOL ON BLUE BACKGROUND

VAN ACCESSIBLE SIGN R7-8a
(WHERE NOTED ON PLANS)

GROUND ELEVATION

DETAIL

RESERVED PARKING SIGN DETAIL



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**Engineering and Surveying** 

SPALDING DEDECKER

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Crestwood School District Crestwood High School

CRAIG A.

GENGLER

Site Improvements

Project No. 2522 (SDA NP22067)

**GRAPHIC SCALE** ( IN FEET ) 1 inch = 30 ft.

- RED "ARMOR-TILE" 24" DEEP DETECTABLE

WARNING, ACROSS FULL WIDTH OF RAMP (SEE

DIMENSIONS 5' x 5'. SEE NOTES.

\*\* MAXIMUM RAMP CROSS SLOPE IS 2.0%. RUNNING SLOPE 5% - 7% (8.3% MAXIMUM). SEE NOTES.

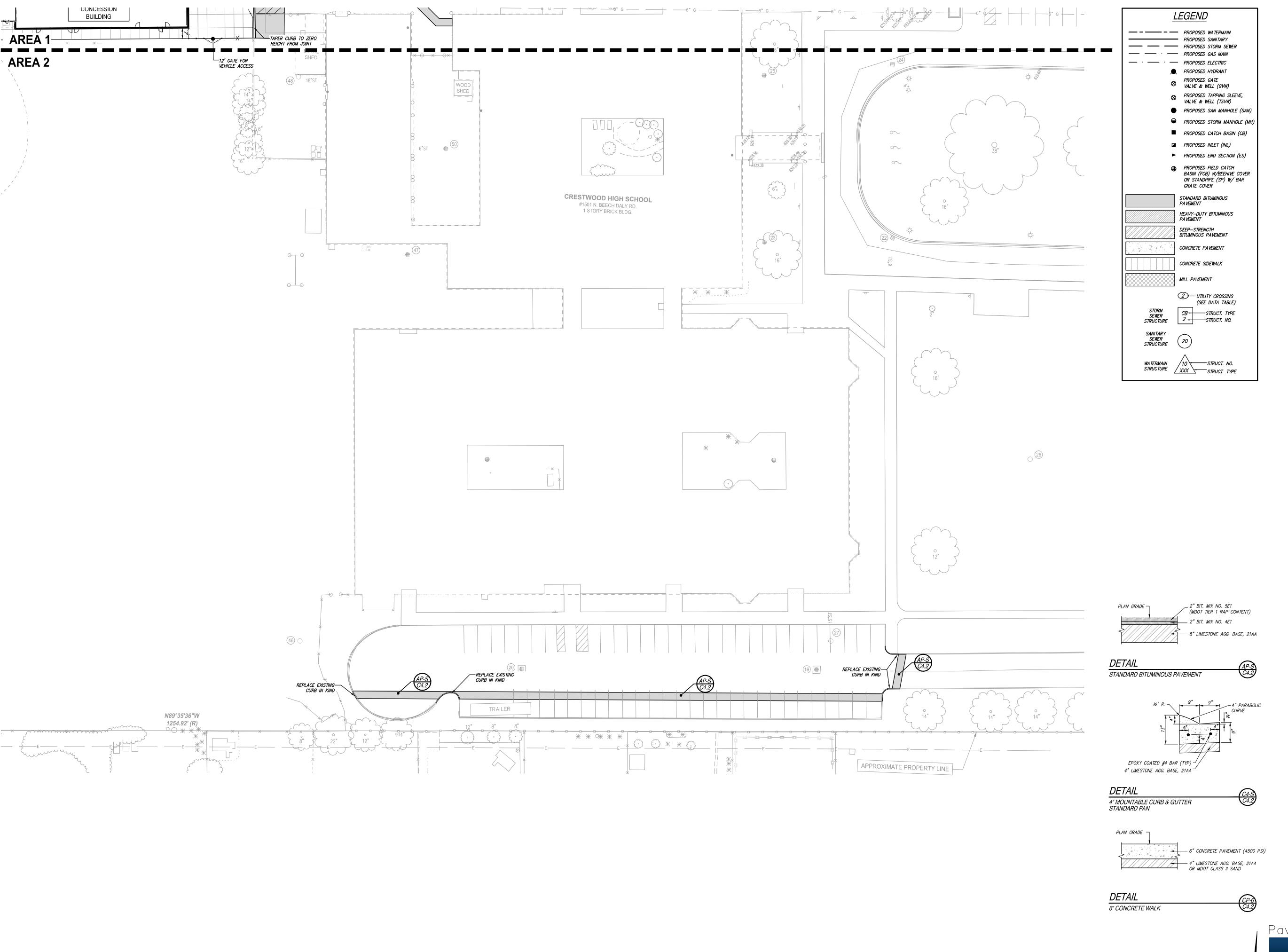
FULL CURB HEIGHT MAY BE REDUCED TO—— ACCOMMODATE MAXIMUM SIDE FLARE SLOPE

DETAIL

DETAIL

MDOT DETAIL R-28-J MODIFIED

SIDEWALK RAMP TYPE F (FLARED SIDES, TWO RAMPS SHOWN)





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C4.2

, Paving and Layout Plan — Area 2



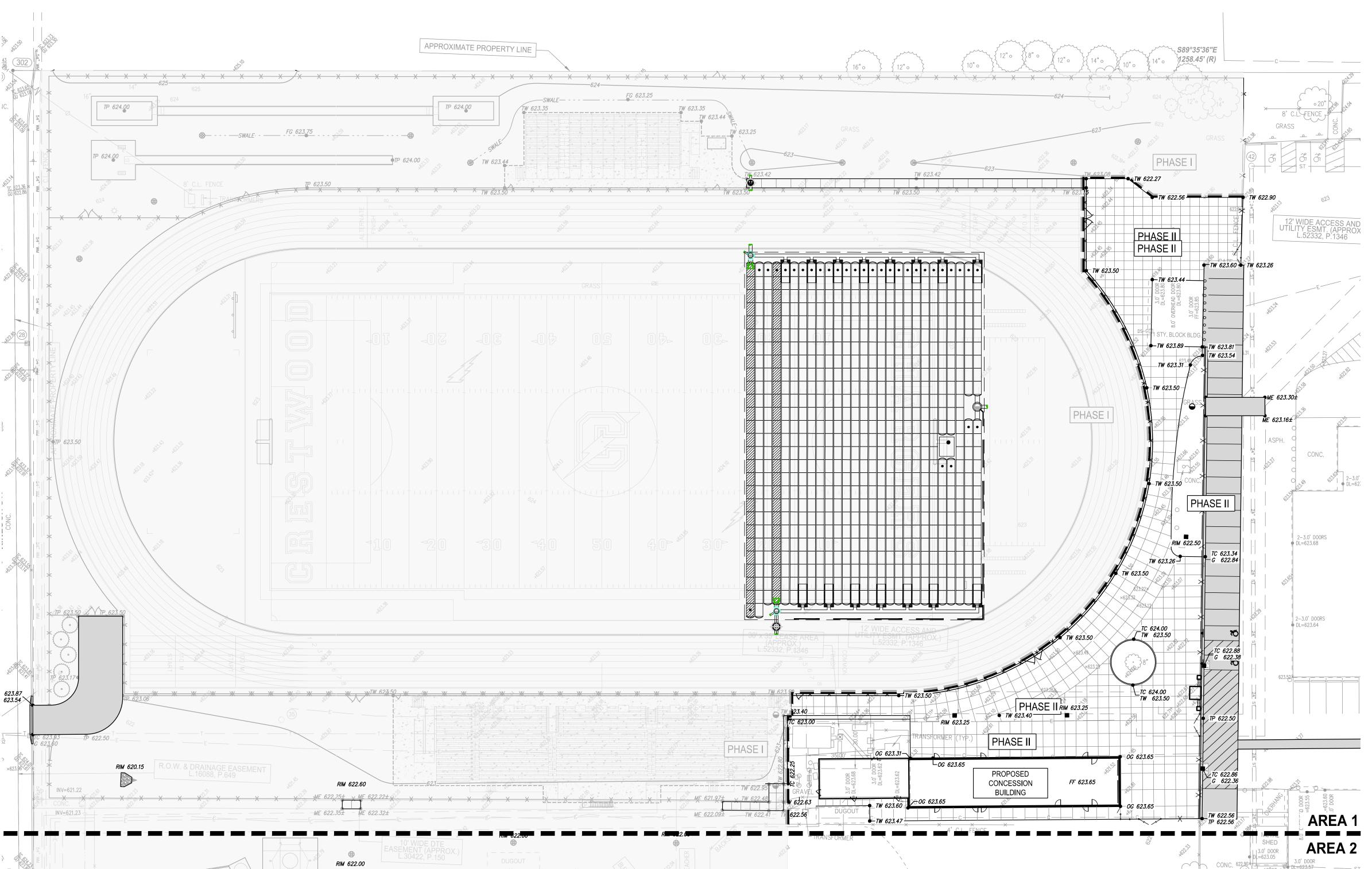
**GRAPHIC SCALE** 

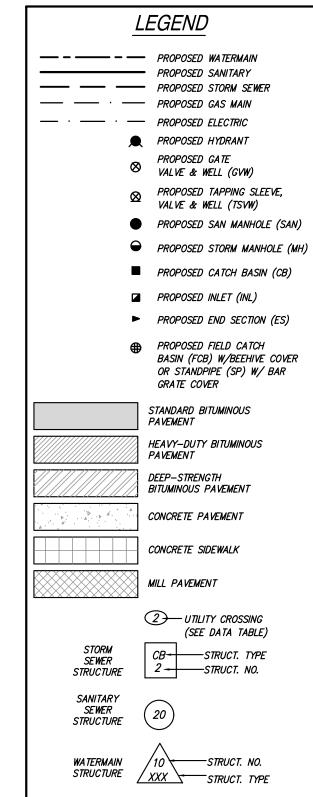
( IN FEET ) 1 inch = 30 ft. EHRESMAN

ARCHITECTS ehresmanarch

Crestwood School District Crestwood High School Site Improvements

Project No. 2522 (SDA NP22067)





# EXISTING ELEVATION TC 000.00 PROPOSED TOP OF CURB ELEVATION PROPOSED GUTTER ELEVATION OG 000.00 OUTSIDE GRADE ELEVATION EXISTING CONTOURS TI 30 PROPOSED CONTOURS TP 000.00 TOP OF PAVEMENT ELEVATION TW 000.00 TOP OF WALK ELEVATION FG 000.00 FINISH GRADE ELEVATION T/WALL 000.00 TOP OF WALL ELEVATION

# GRADING NOTES 1. CONTRACTOR TO PLACE ALL NEW PAVEMENT TO THE GRADES INDICATED, OR MATCH ORIGINAL GRADES IF NEW GRADES ARE NOT SHOWN. CONTRACTOR SHALL CONFIRM MINIMUM 1% PAVEMENT SLOPES ARE ATTAINED

IN ALL AREAS.

FF=623.56

FLOW ARROW

MATCH EXISTING ELEVATION

2. PROPOSED GRADES MAY BE BASED ON AN INTERPOLATION OF DATA SHOWN ON THE TOPOGRAPHIC SURVEY. THIS INTERPOLATED DATA IS APPROXIMATE AND COULD DIFFER SLIGHTLY BASED ON THE ACCURACY OF THE SURVEY. CONTRACTOR SHALL CONFIRM THAT THE PROPOSED GRADES SHOWN ON THIS PLAN WILL NOT CREATE A STANDING WATER CONDITION (I.E. A LOW SUPPORT OF PAVEMENT SLOPES LESS THAN 1%) OR AN UNSAFE CONDITION WITH SLOPES IN EXCESS OF 5%. CONTRACTOR SHALL NOTIFY ENGINEER IMMEDIATELY IF THEY BELIEVE THAT ONE OF THESE SITUATIONS WILL OCCUR BASED ON THE PROPOSED GRADES.

3. ALL PAVEMENT PLACED WITHIN HANDICAP PARKING AREAS (STALLS AND ACCESS AISLES) SHALL HAVE A MAXIMUM SLOPE OF 2% IN ANY DIRECTION, INCLUDING MEASURED DIAGONALLY ACROSS THE AREAS. CONTRACTOR SHALL ADJUST SLOPES AS NECESSARY TO PROVIDE ADA COMPLIANT SLOPES AS WELL AS PROVIDING RE-GRADED TRANSITION SLOPES OUTSIDE OF THE HANDICAP PARKING AREAS. CONTRACTOR SHALL NOTIFY ENGINEER IMMEDIATELY IF TRANSITION ZONES WILL EXCEED MAXIMUM 5% SLOPES. CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE PATTERNS WITH ALL NECESSARY PAVEMENT RE-GRADING.

4. ALL HANDICAP RAMPS AND ADA ACCESSIBLE ROUTES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT VERSION OF MDOT DETAIL R-28 "SIDEWALK RAMP AND DETECTABLE WARNING DETAILS".

5. CONTRACTOR IS RESPONSIBLE FOR CONTROLLING STORM WATER RUNOFF DURING CONSTRUCTION OPERATIONS. OF PARTICULAR CONCERN WILL BE THE TIME PERIOD AFTER THE SITE HAS BEEN STRIPPED AND NOT YET RESTORED, BUILT UPON, OR PAVED. CONTRACTOR MUST INSTALL OR CONSTRUCT APPROPRIATE TEMPORARY MEASURES TO PROTECT ADJACENT PROPERTIES.

#### RESTORATION NOTE

RESTORE ALL NON-PAVED AREAS WITH 3" OF CLEAN
TOPSOIL AND SEED MIX (30% KENTUCKY BLUEGRASS, 20%
PERENNIAL RYEGRASS, 50% CREEPING RED FESCUE). PLACE
MULCH IN ALL SEEDED AREAS. ON SLOPES IN EXCESS OF
10 HORIZONTAL TO 1 VERTICAL PLACE NORTH AMERICAN
GREEN DS150 MULCH BLANKET IMMEDIATELY AFTER SEEDING.
USE METAL STAPLES PER MANUFACTURERS
RECOMMENDATIONS TO HOLD MATTING IN PLACE.



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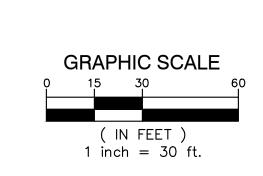
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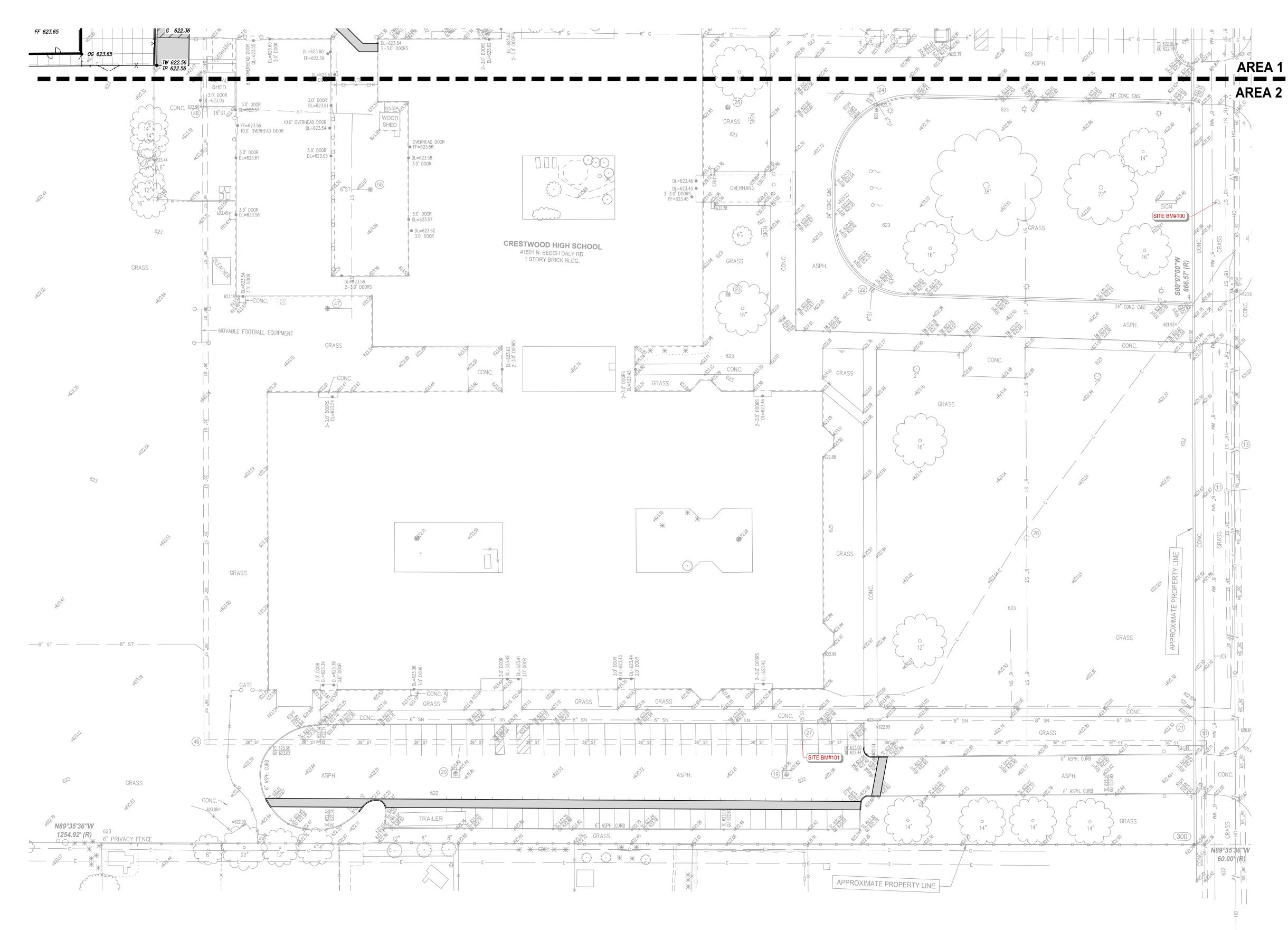
Grading Plan — Area 1

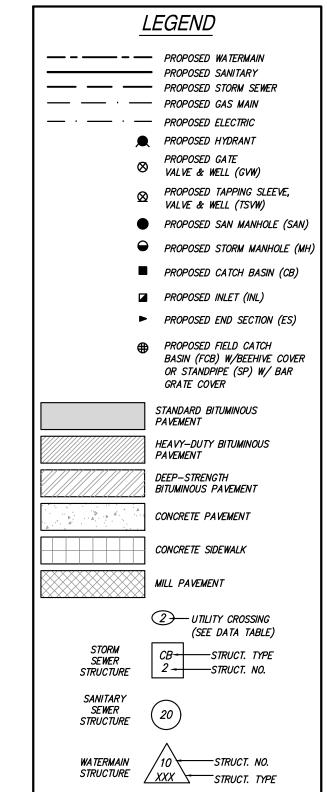


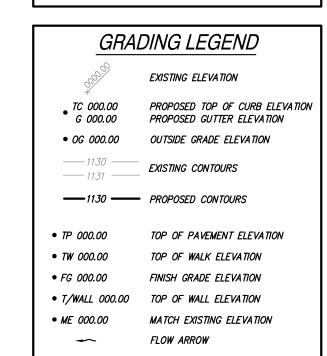
e improvements

Project No. 2522 (SDA NP22067)









( IN FEET )

1 inch = 30 ft.



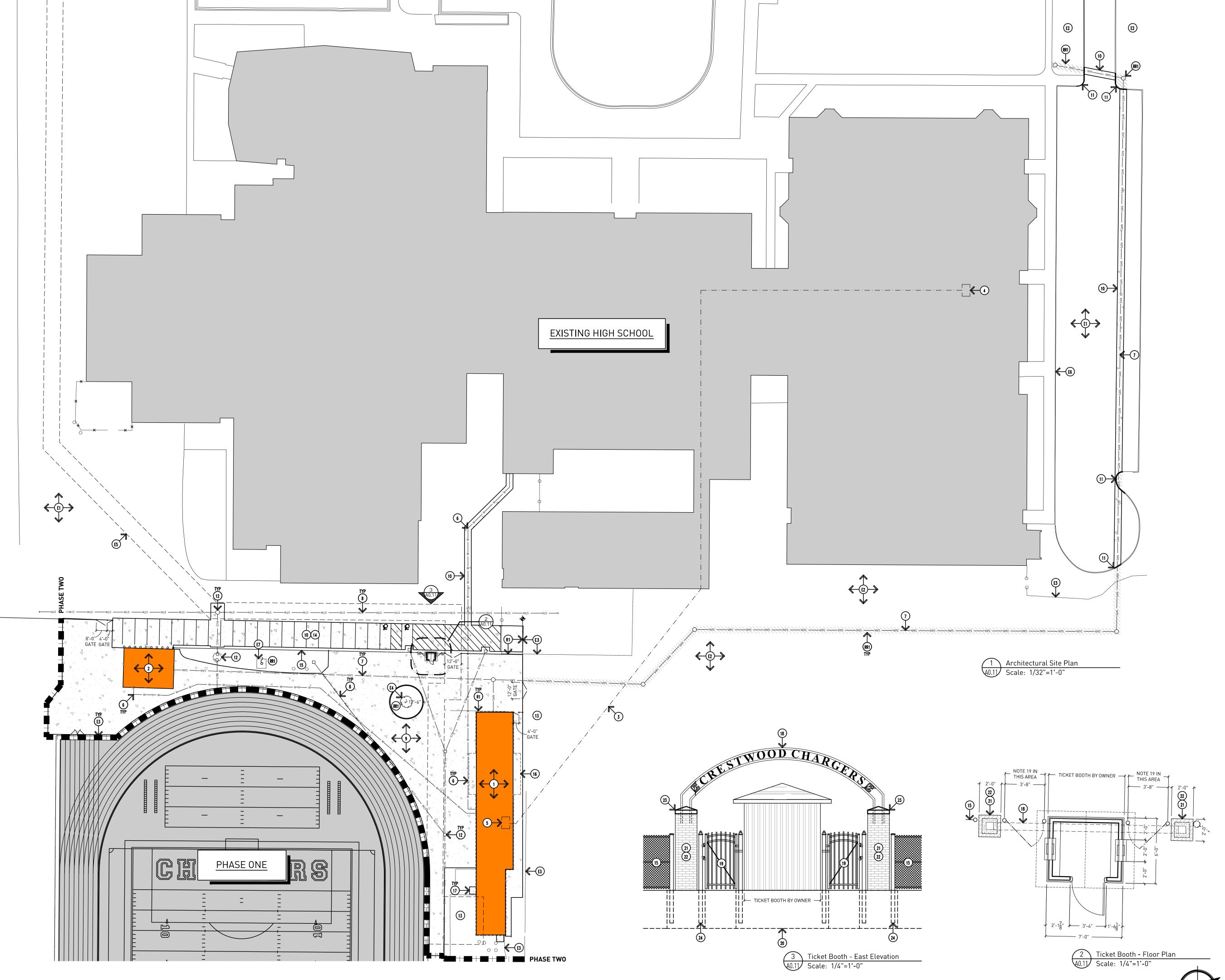
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Project No. 2522 (SDA NP22067) C5.2



#### **GENERAL NOTES:**

- G1. DO NOT SCALE DRAWING. DRAWING SCALE IS SHOWN FOR GENERAL REFERENCE ONLY.
- G2. CONTRACTOR TO FIELD VERIFY EXISTING CONDITIONS PRIOR TO COMMENCING THE WORK. REPORT ANY DISCREPANCIES TO THE ARCHITECT FOR DIRECTION.
- G3. CONTRACTOR TO REPLACE ALL ITEMS BACK TO ORIGINAL CONDITION IF DAMAGED DURING CONSTRUCTION OPERATIONS, YET NOT INDICATED TO BE REPLACED (I.E. CONCRETE SIDEWALKS, LAWN AREA, ASPHALT PAVING, ETC.)
  - G4. DISPOSE OF ALL ITEMS REMOVED OFF SITE PER LOCAL BUILDING AND SAFETY ORDINANCES.
- G5. ALL AREAS DISTURBED OR DAMAGED BY CONSTRUCTION OPERATIONS SHALL BE PATCHED, REPAIRED AND FINISHED BACK TO EXISTING CONDITION.
- G6. REFER TO CIVIL AND STRUCTURAL DRAWINGS AS WELL AS ARCHITECTURAL BUILDING SECTIONS FOR EXCAVATION.
- G7. REFER TO GEOTECHNICAL INVESTIGATION REPORT FOR FURTHER INFORMATION.
- G8. CONFORM TO ALL CITY OF DEARBORN HEIGHTS AND / OR WAYNE COUNTY REQUIREMENTS
- FOR WORK IN THE PUBLIC RIGHT-OF-WAY.
- FOR SOIL EROSION AND SEDIMENTATION CONTROL MEASURES. G10. CONTRACTOR TO MATCH GRADES EXACTLY, ESPECIALLY AT EXISTING CONCRETE SLABS, ETC.

G9. CONFORM TO ALL CITY OF DEARBORN HEIGHTS AND / OR WAYNE COUNTY REQUIREMENTS

- G11. CONFORM TO ALL MICHIGAN BARRIER FREE REQUIREMENTS.
- G12. DRAWING IS DIAGRAMMATIC AND FOR REFERENCE ONLY. REFER TO CIVIL DRAWINGS FOR ADDITIONAL INFORMATION.

#### GENERAL SITE NOTES:

- SN1. GRADE LAWN AREA AWAY FROM BUILDING MINIMUM 1/4" PER FOOT.
- SN2. GRADE TO BE 6" BELOW FINISH FLOOR AT ALL AREAS EXCEPT AT ENTRANCES.

#### **REMOVAL NOTES:**

R1. EXISTING FENCING - COMPLETE.

#### REMOVE & REINSTALL NOTES:

RR1. EXCAVATE AND RE-GRADE AS REQUIRED FOR CONSTRUCTION OPERATIONS - REFER TO CIVIL DRAWINGS FOR FURTHER INFORMATION.

#### EXISTING TO REMAIN

- E1. ASPHALT PAVEMENT.
- E2. LAWN/SOIL EXCEPT AS INDICATED IN CIVIL DRAWINGS.
- E3. EXISTING FENCING CONTRACTOR TO REPAIR OR REPLACE DAMAGED FENCING AT THE END OF CONSTRUCTION.
- E4. EXISTING MEMORIAL TREE.
- E5. EXISTING EASEMENT.
- E6. EXISTING CONCRETE SIDEWALK.
- E7. EXISTING FLAGPOLE AND BASE.

#### DRAWING NOTES CONTINUED:

- BUILDING A.
- BUILDING B.
- 3. LINE OF TECHNOLOGY TIE-IN REFER TO TECHNOLOGY DRAWINGS FOR FURTHER
- 4. LOCATION OF MDF REFER TO TECHNOLOGY DRAWINGS FOR FURTHER INFORMATION.
- 5. LOCATION OF IDF REFER TO TECHNOLOGY DRAWINGS FOR FURTHER INFORMATION.
- LINE OF WATER TIE-IN REFER TO CIVIL AND MECHANICAL DRAWINGS FOR FURTHER INFORMATION.
- 7. LINE OF SANITARY DRAIN TIE-IN REFER TO CIVIL AND MECHANICAL DRAWINGS FOR FURTHER INFORMATION.
- 8. LINE OF STORM DRAIN TIE-IN REFER TO CIVIL AND MECHANICAL DRAWINGS FOR FURTHER INFORMATION.
- 9. 5" CONCRETE SIDEWALK ON MINIMUM 4" SAND CUSHION BASE ON PROPERLY COMPACTED SUB-GRADE - REFER TO CIVIL DRAWINGS FOR FURTHER INFORMATION.
- 10. ASPHALT PAVING REFER TO CIVIL DRAWINGS FOR FURTHER INFORMATION.
- 11. REPLACE DAMAGED CONCRETE WALK & CURB AS NEED FROM CONTRACTOR OPERATIONS.
- PROVIDE POSITIVE DRAINAGE AWAY FROM THE BUILDING. REFER TO CIVIL DRAWINGS FOR
- FURTHER INFORMATION.
- 14. PARKING LOT STRIPING REFER TO CIVIL DRAWINGS FOR FURTHER INFORMATION.
- 15. BLACK VINYL CHAINLINK FENCING REFER TO SPECIFICATIONS FOR FURTHER INFORMATION.
- LINE OF ROOF ABOVE.

STORM DRAIN.

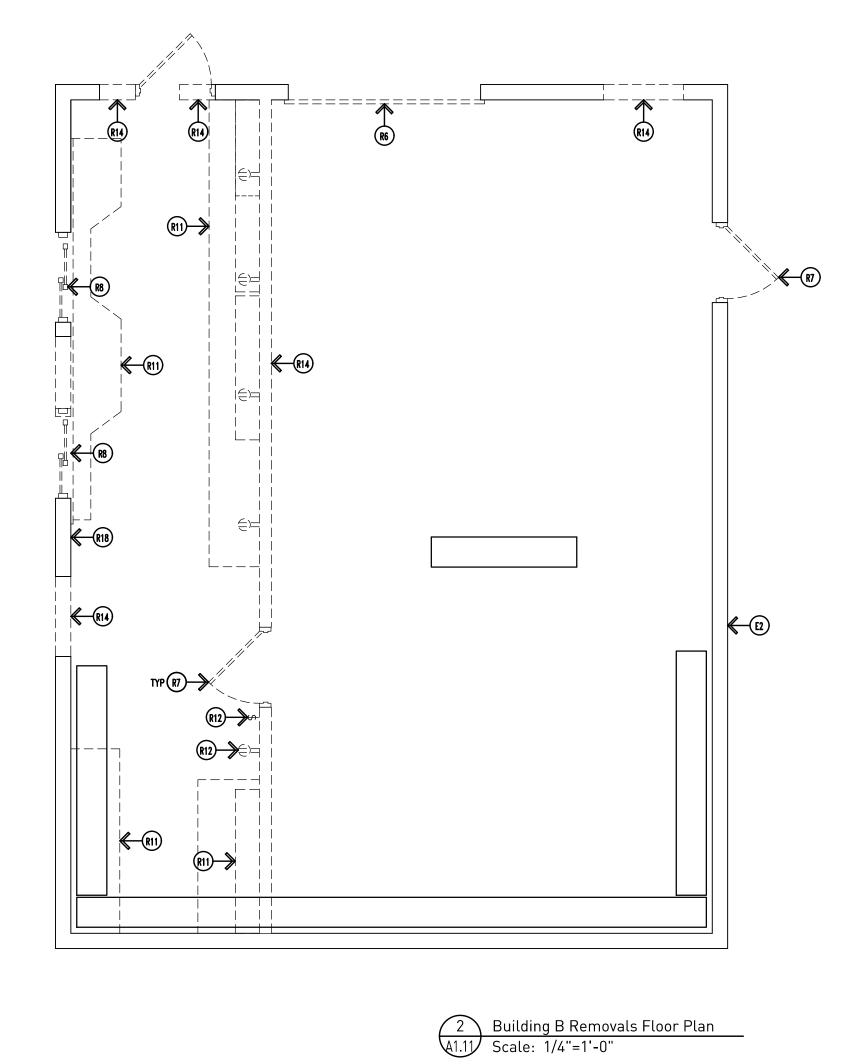
- 18. DISTRICT LOGO AND "CRESTWOOD CHARGERS" IRON ARCH CONTRACTOR TO VERIFY FINAL LOGO LAYOUT WITH OWNER PRIOR TO MANUFACTURING.
- 19. ORNAMENTAL STEEL FENCE POSTS AND GATE.
- 20. LINE OF FOUNDATION REFER TO STRUCTURAL DRAWINGS.
- 21. 4" BRICK VENEER TO MATCH EXISTING (INSTALL HEADER COURSE EVERY 6 ROWS OF BRICK). --COLOR TO BE BELDEN BRICK "1-HB".
- 22. CONCRETE IRON ARCH SUPPORT PIER.
- LIMESTONE CAP.
- 24. FENCE POST TO BE DRIVEN INTO THE GROUND A MINIMUM OF 3'-6" TO MEET FROST REQUIREMENTS.

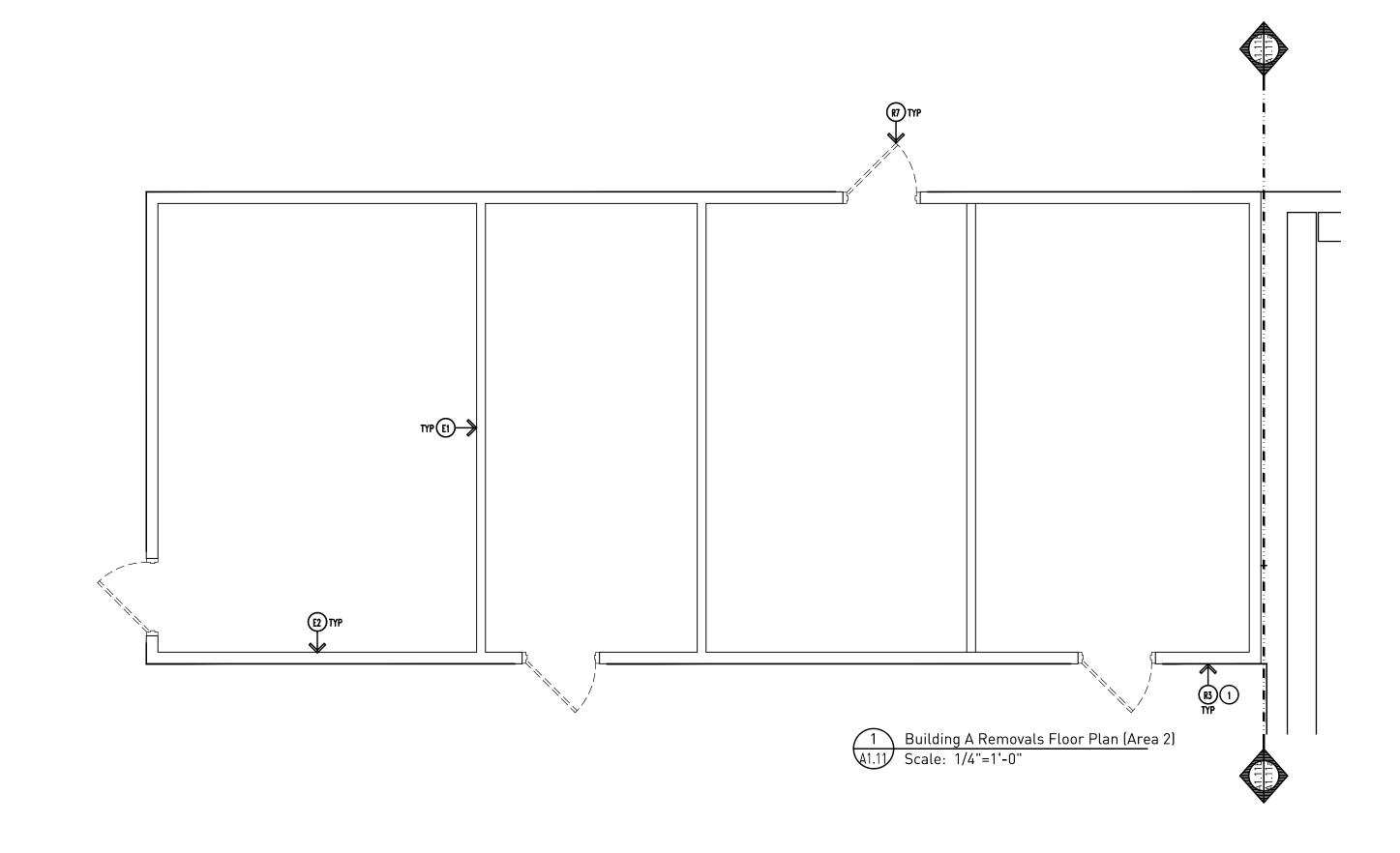
Bidding and Permits: 20 March 2023

Architectural Site Plan & Details



Crestwood School District Crestwood High School Field Building & Site Improvements





#### REMOVAL NOTES CONTINUED:

- R7. EXISTING DOOR, FRAME, HARDWARE, ETC. COMPLETE.
- R8. EXISTING WINDOW SYSTEM, GLAZING, ETC. COMPLETE.
- R9. EXISTING LIGHT FIXTURE -- REFER TO ELECTRICAL DRAWINGS FOR MORE INFORMATION.
- R10. EXISTING CEILING.
- R11. EXISTING MILLWORK COUNTER OR STORAGE CABINET.
- R12. EXISTING ELECTRICAL EQUIPMENT -- REFER TO ELECTRICAL DRAWINGS FOR MORE INFORMATION.
- R13. EXISTING HVAC -- REFER TO MECHANICAL DRAWINGS FOR MORE INFORMATION.
- R14. EXISTING WALL.
- R15. EXISTING GUTTER/ DOWNSPOUT.
- R16. EXISTING EXTERIOR ACCESSORIES.
- R17. CUT FASCIA BACK TO LINE OF EXISTING WALL FOR NEW ROOF TIE IN.
- R18. EXISTING ELECTRICAL PANEL-- REFER TO ELECTRICAL DRAWINGS FOR MORE INFORMATION.

#### DRAWING NOTES:

CONTRACTOR TO INVESTIGATE EXISTING PLYWOOD SHEATHING FOR STRUCTURAL SOUNDNESS. IF IT IS DETERMINED THAT REPLACEMENT IS REQUIRED, THE CONTRACT WILL BE ADJUSTED ACCORDINGLY VIA CHANGE ORDER AT THE UNIT PRICES INCLUDED ON THE PROPOSAL FORM. CONTRACTOR TO MATCH EXISTING THICKNESS (C.F.V.)

#### **GENERAL NOTES:**

- G1. DO NOT SCALE DRAWING. DRAWING SCALE IS SHOWN FOR GENERAL REFERENCE ONLY.
- G2. ALL NOTES MAY NOT APPLY TO THIS SHEET.
- G3. FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO COMMENCING ON THE WORK.
- G4. PROTECT ALL ITEMS TO REMAIN FORM CONSTRUCTION OPERATIONS SO AS TO NOT CAUSE DAMAGE.

## EXISTING TO REMAIN:

E1. INTERIOR WALL E2. EXTERIOR WALL

#### REMOVAL NOTES:

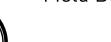
- R1. REMOVAL OF EXISTING SHINGLES, DECK PROTECTION, ETC.
- R2. REMOVAL OF EXISTING EXISTING ALUM. FASCIA, ALUM. SOFFIT, ETC.
- R3. REMOVAL OF EXISTING WOOD SIDING COMPLETE.
- R4. REMOVAL OF MISC. CONDUITS, PIPE, ETC.
- R5. REMOVE EXISTING ROOF VENTS.
- R6. REMOVAL OF EXISTING O/H DOOR AND WOOD FRAME.

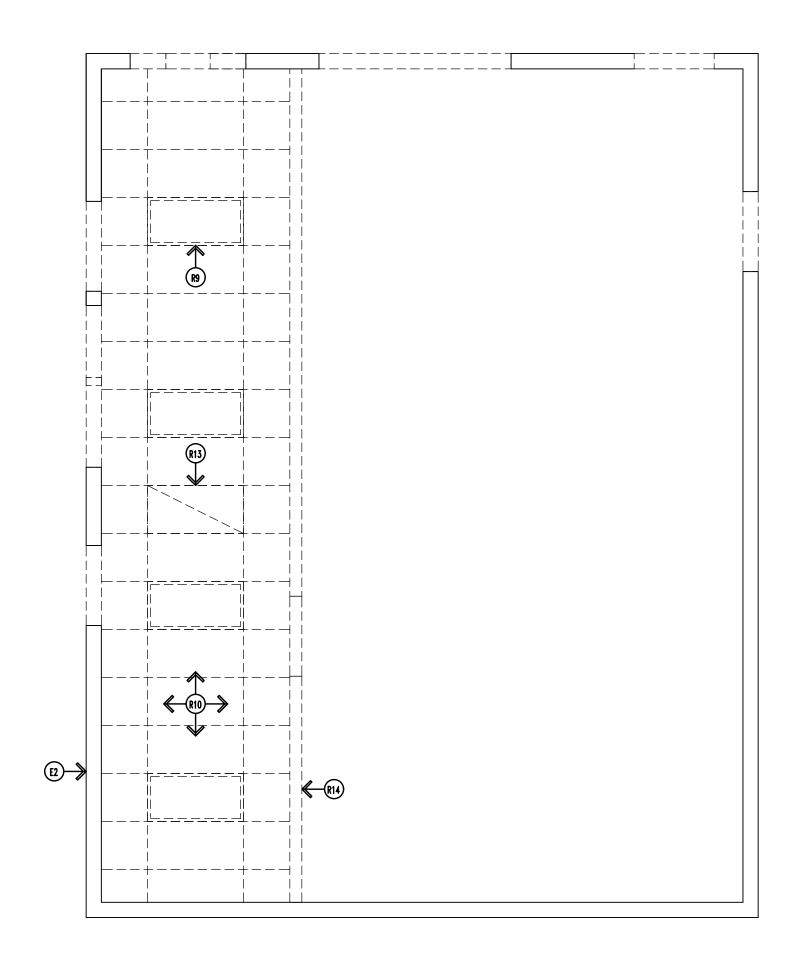
Bidding and Permits: 20 March 2023

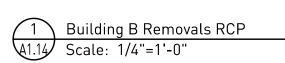
Removals Floor Plans



Crestwood School District Crestwood High School Field Building & Site Improvements







#### REMOVAL NOTES CONTINUED:

- R7. EXISTING DOOR, FRAME, HARDWARE, ETC. COMPLETE.
- R8. EXISTING WINDOW SYSTEM, GLAZING, ETC. COMPLETE.
- R9. EXISTING LIGHT FIXTURE -- REFER TO ELECTRICAL DRAWINGS FOR MORE INFORMATION.
- R10. EXISTING CEILING.
- R11. EXISTING MILLWORK COUNTER OR STORAGE CABINET.
- R12. EXISTING ELECTRICAL EQUIPMENT -- REFER TO ELECTRICAL DRAWINGS FOR MORE
- R13. EXISTING HVAC -- REFER TO MECHANICAL DRAWINGS FOR MORE INFORMATION.
- R14. EXISTING WALL.
- R15. EXISTING GUTTER/ DOWNSPOUT.
- R16. EXISTING EXTERIOR ACCESSORIES.
- R17. CUT FASCIA BACK TO LINE OF EXISTING WALL FOR NEW ROOF TIE IN.
- R18. EXISTING ELECTRICAL PANEL-- REFER TO ELECTRICAL DRAWINGS FOR MORE INFORMATION.

#### DRAWING NOTES:

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#### **GENERAL NOTES:**

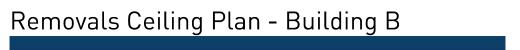
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  - G4. PROTECT ALL ITEMS TO REMAIN FORM CONSTRUCTION OPERATIONS SO AS TO NOT CAUSE DAMAGE.

## **EXISTING TO REMAIN:**

- E1. INTERIOR WALL E2. EXTERIOR WALL

#### REMOVAL NOTES:

- R1. REMOVAL OF EXISTING SHINGLES, DECK PROTECTION, ETC.
- R2. REMOVAL OF EXISTING EXISTING ALUM. FASCIA, ALUM. SOFFIT, ETC. R3. REMOVAL OF EXISTING WOOD SIDING COMPLETE.
- R4. REMOVAL OF MISC. CONDUITS, PIPE, ETC.
- R5. REMOVE EXISTING ROOF VENTS. R6. REMOVAL OF EXISTING O/H DOOR AND WOOD FRAME.



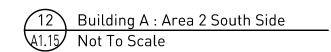


Crestwood School District Crestwood High School Field Building & Site Improvements



Bidding and Permits: 20 March 2023









10 Building A : Area 2 West Side
A1.15 Not To Scale

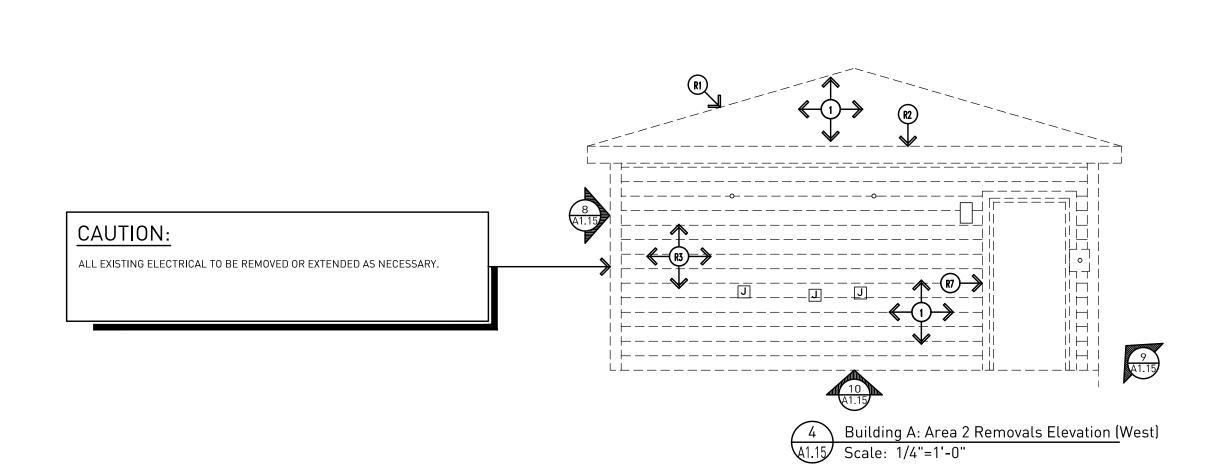


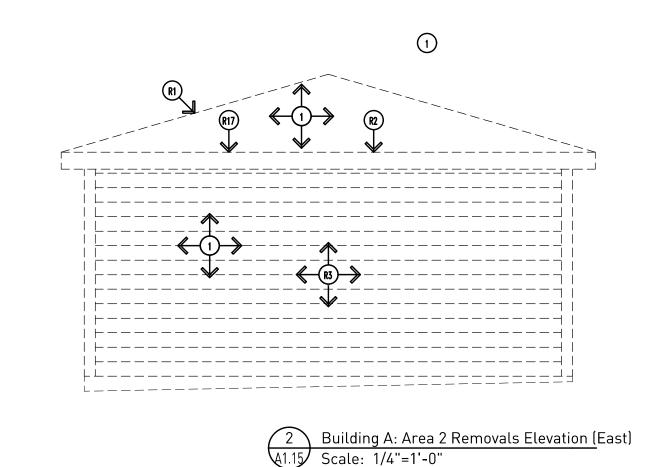


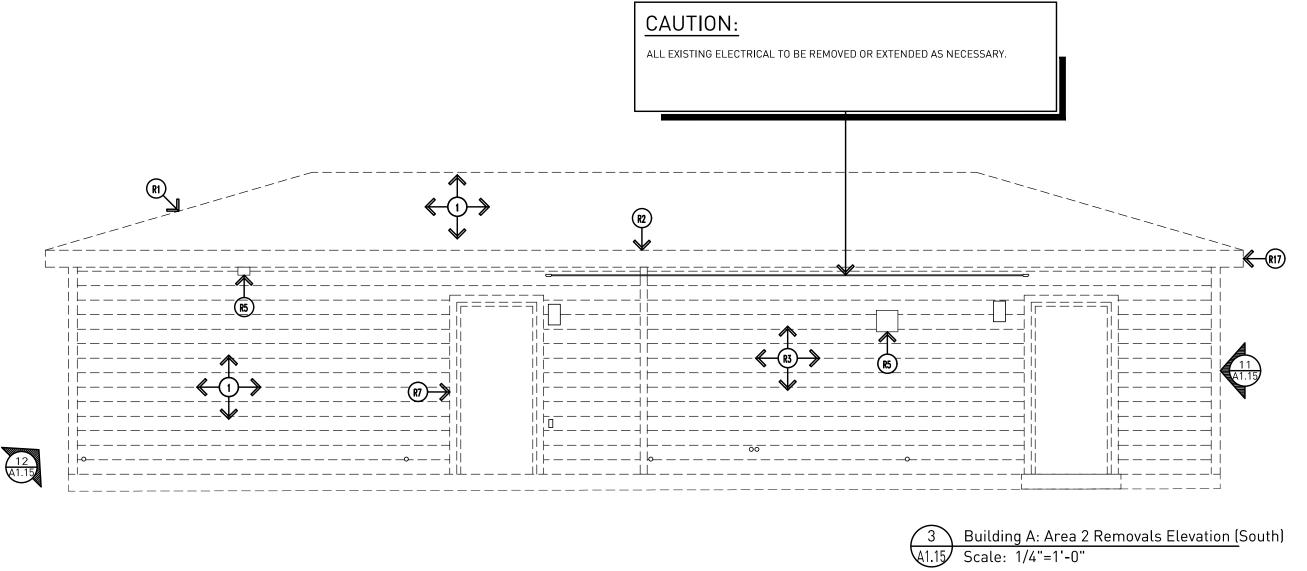


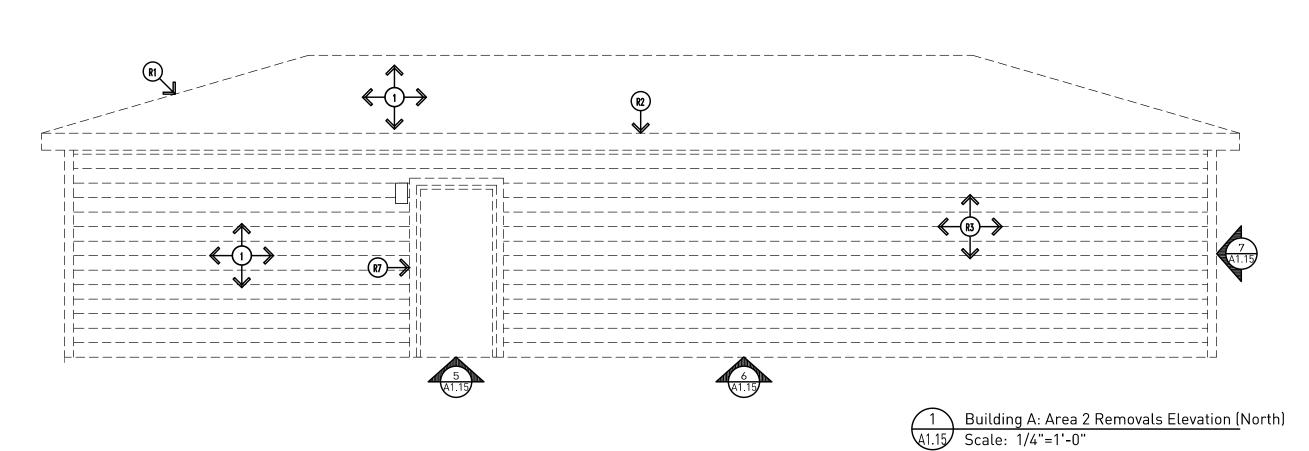












# REMOVAL NOTES CONTINUED:

- R7. EXISTING DOOR, FRAME, HARDWARE, ETC. COMPLETE.
- R8. EXISTING WINDOW SYSTEM, GLAZING, ETC. COMPLETE.
- R9. EXISTING LIGHT FIXTURE -- REFER TO ELECTRICAL DRAWINGS FOR MORE INFORMATION.
- R10. EXISTING CEILING.
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- R12. EXISTING ELECTRICAL EQUIPMENT -- REFER TO ELECTRICAL DRAWINGS FOR MORE
- R13. EXISTING HVAC -- REFER TO MECHANICAL DRAWINGS FOR MORE INFORMATION.
- R14. EXISTING WALL.
- R15. EXISTING GUTTER/ DOWNSPOUT.
- R16. EXISTING EXTERIOR ACCESSORIES.
- R17. CUT FASCIA BACK TO LINE OF EXISTING WALL FOR NEW ROOF TIE IN.
- R18. EXISTING ELECTRICAL PANEL-- REFER TO ELECTRICAL DRAWINGS FOR MORE INFORMATION.

#### **DRAWING NOTES:**

CONTRACTOR TO INVESTIGATE EXISTING PLYWOOD SHEATHING FOR STRUCTURAL SOUNDNESS. IF IT IS DETERMINED THAT REPLACEMENT IS REQUIRED, THE CONTRACT WILL BE ADJUSTED ACCORDINGLY VIA CHANGE ORDER AT THE UNIT PRICES INCLUDED ON THE PROPOSAL FORM. CONTRACTOR TO MATCH EXISTING THICKNESS (C.F.V.)

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#### **EXISTING TO REMAIN:**

- E1. INTERIOR WALL E2. EXTERIOR WALL

#### **REMOVAL NOTES:**

- R1. REMOVAL OF EXISTING SHINGLES, DECK PROTECTION, ETC.
- R2. REMOVAL OF EXISTING EXISTING ALUM. FASCIA, ALUM. SOFFIT, ETC.
- R3. REMOVAL OF EXISTING WOOD SIDING COMPLETE.
- R4. REMOVAL OF MISC. CONDUITS, PIPE, ETC. R5. REMOVE EXISTING ROOF VENTS.

R6. REMOVAL OF EXISTING O/H DOOR AND WOOD FRAME.

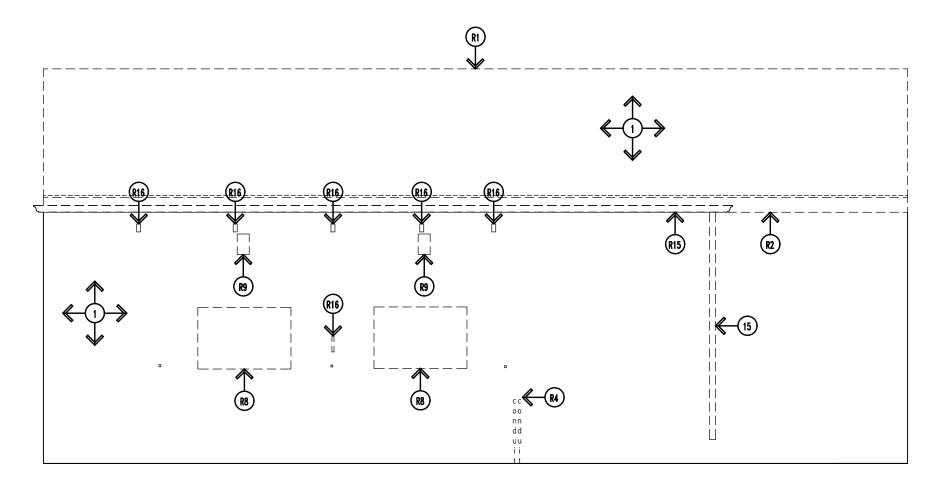
Bidding and Permits: 20 March 2023

Removals Elevations - Building A



**Crestwood School District** Crestwood High School
Field Building & Site Improvements

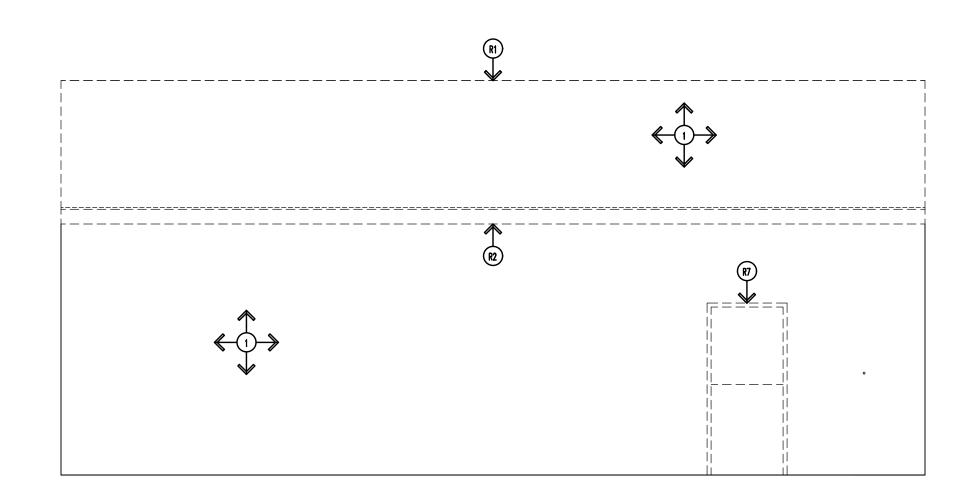
Project No. 5622

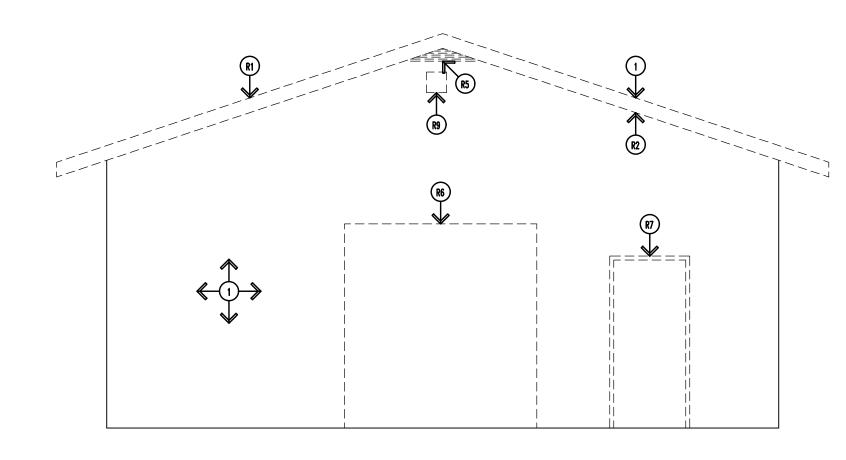


Building B Removals Elevation (West)

A1.16 Scale: 1/4"=1'-0"

Building B Removals Elevation (South)
A1.16 Scale: 1/4"=1'-0"





Building B Removals Elevation (East)
A1.16 Scale: 1/4"=1'-0"

# REMOVAL NOTES CONTINUED:

- R7. EXISTING DOOR, FRAME, HARDWARE, ETC. COMPLETE.
- R8. EXISTING WINDOW SYSTEM, GLAZING, ETC. COMPLETE.
- R9. EXISTING LIGHT FIXTURE -- REFER TO ELECTRICAL DRAWINGS FOR MORE INFORMATION.
- R10. EXISTING CEILING.
- R11. EXISTING MILLWORK COUNTER OR STORAGE CABINET.
- R12. EXISTING ELECTRICAL EQUIPMENT -- REFER TO ELECTRICAL DRAWINGS FOR MORE
- R13. EXISTING HVAC -- REFER TO MECHANICAL DRAWINGS FOR MORE INFORMATION.
- R14. EXISTING WALL.
- R15. EXISTING GUTTER/ DOWNSPOUT.
- R16. EXISTING EXTERIOR ACCESSORIES.
- R17. CUT FASCIA BACK TO LINE OF EXISTING WALL FOR NEW ROOF TIE IN.
- R18. EXISTING ELECTRICAL PANEL-- REFER TO ELECTRICAL DRAWINGS FOR MORE INFORMATION.

#### DRAWING NOTES:

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# Building B Removals Elevation (North) A1.16 Scale: 1/4"=1'-0"

#### **GENERAL NOTES:**

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- G4. PROTECT ALL ITEMS TO REMAIN FORM CONSTRUCTION OPERATIONS SO AS TO NOT CAUSE DAMAGE.

## **EXISTING TO REMAIN:**

E1. INTERIOR WALL E2. EXTERIOR WALL

#### REMOVAL NOTES:

- R1. REMOVAL OF EXISTING SHINGLES, DECK PROTECTION, ETC.
- R2. REMOVAL OF EXISTING EXISTING ALUM. FASCIA, ALUM. SOFFIT, ETC.
- R3. REMOVAL OF EXISTING WOOD SIDING COMPLETE.
- R4. REMOVAL OF MISC. CONDUITS, PIPE, ETC.

R6. REMOVAL OF EXISTING O/H DOOR AND WOOD FRAME.

R5. REMOVE EXISTING ROOF VENTS.

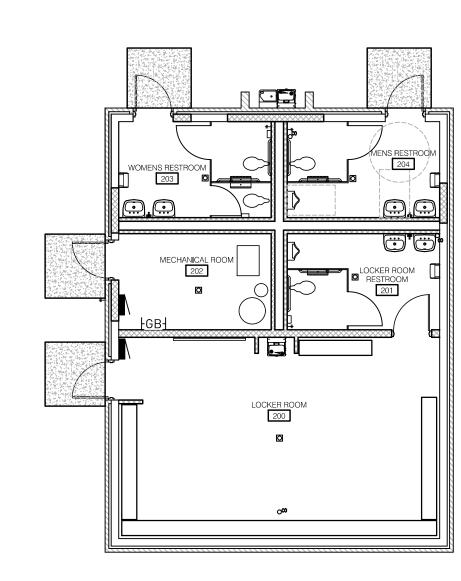
Bidding and Permits: 20 March 2023

Removals Elevations - Building B

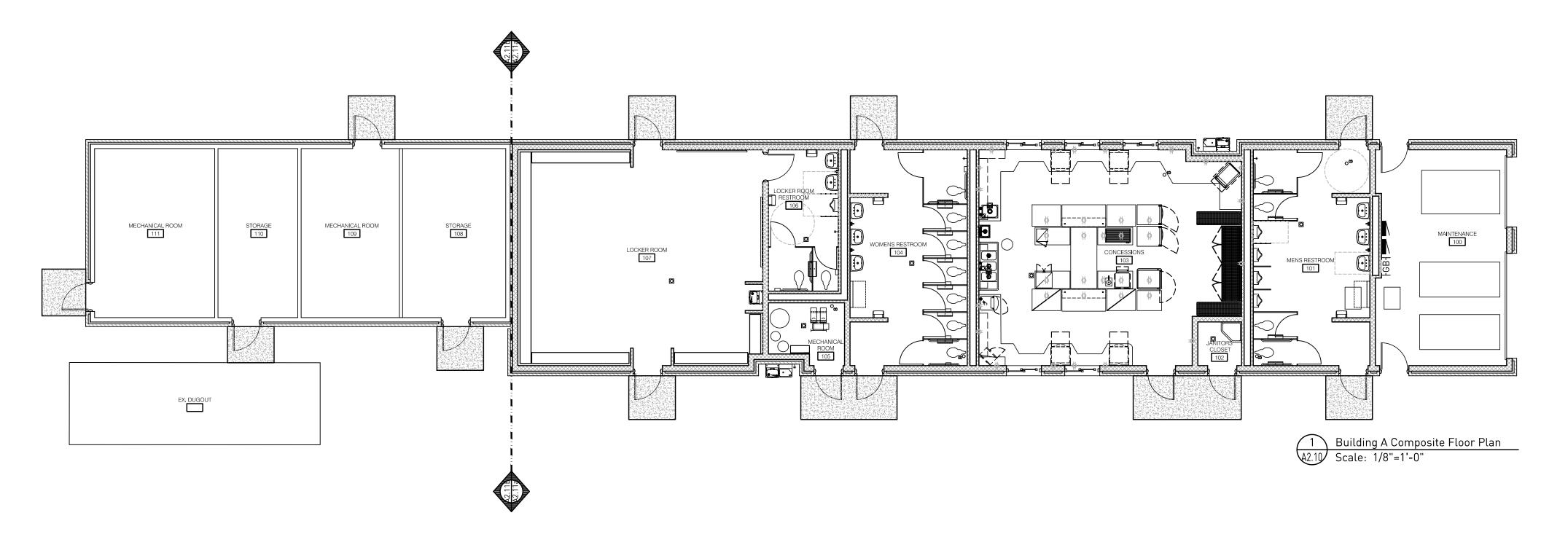


Crestwood School District Crestwood High School Field Building & Site Improvements

Project No. 5622



Building B Composite Floor Plan
A2.10 Scale: 1/8"=1'-0"



GENERAL NOTES:

G1. DO NOT SCALE DRAWING. DRAWING SCALE IS SHOWN FOR GENERAL REFERENCE ONLY.

Bidding and Permits: 20 March 2023

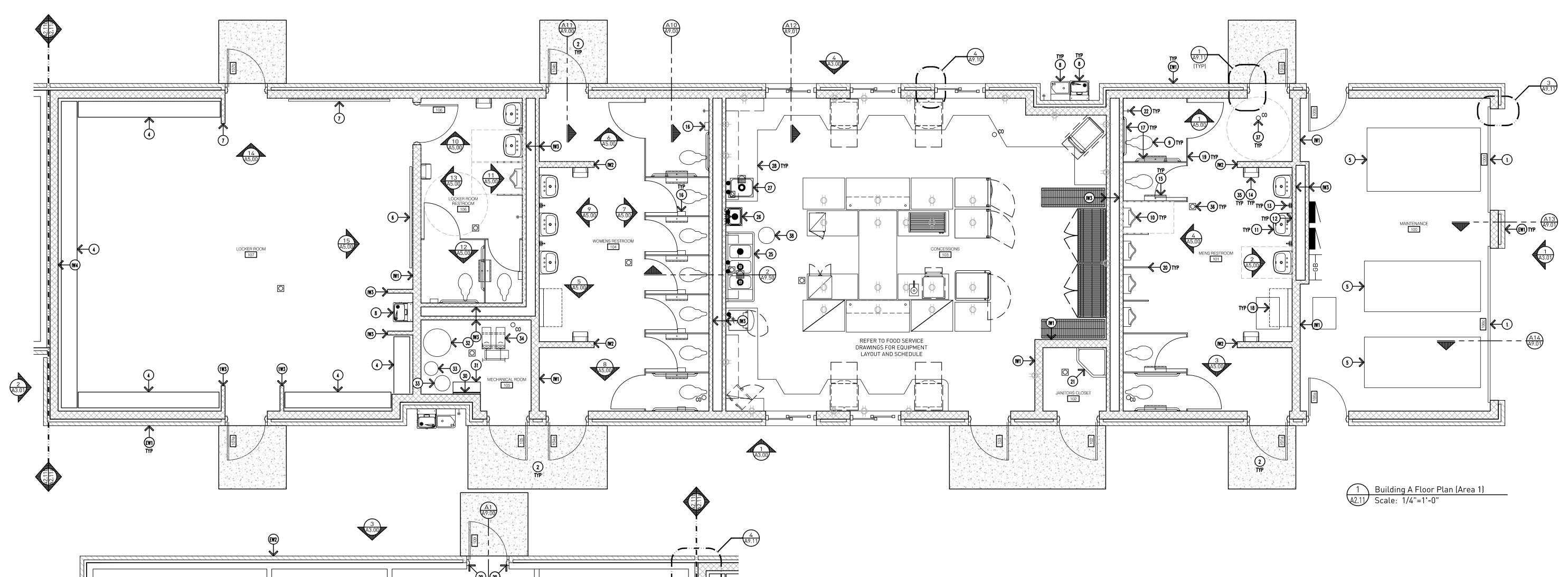
A2.10

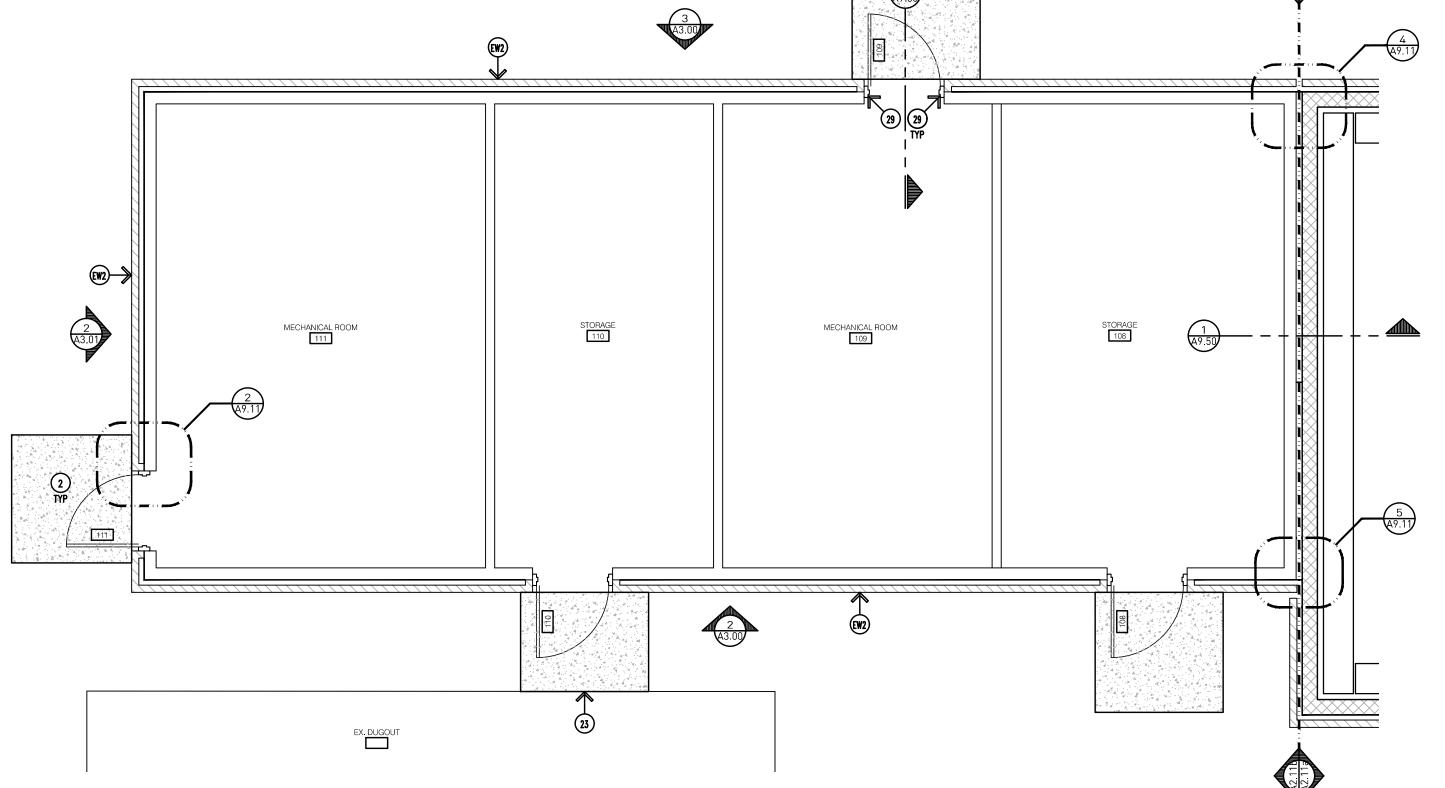






Crestwood School District Crestwood High School Field Building & Site Improvements





#### EXTERIOR WALL TAG DESIGNATION:

- EW1. 3 5/8" BRICK VENEER WITH ADJACENT BRICK TIES @ 16" O.C. VERTICALLY AND HORIZONTALLY (PROVIDE LENGTH AS REQUIRED DUE TO WALL CAVITY SIZE).
- 2 5/8" AIRSPACE. VAPOR BARRIER
- 7 5/8" CMU MASONRY (PAINT ALL SURFACES EXPOSED TO VIEW).
- EW2. 3 5/8" BRICK VENEER WITH ADJACENT BRICK TIES @ 16" O.C. VERTICALLY AND HORIZONTALLY (PROVIDE LENGTH AS REQUIRED DUE TO WALL CAVITY SIZE).
  - 2 5/8" AIRSPACE. VAPOR BARRIER.

#### EXISTING STRUCTURE. INTERIOR WALL TAGS:

- IW1. 7 5/8" CMU MASONRY (PAINT ALL SURFACES EXPOSED TO VIEW).
- IW2. 5 5/8" CMU MASONRY (PAINT ALL SURFACES EXPOSED TO VIEW).
- IW3. 3 5/8" CMU MASONRY (PAINT ALL SURFACES EXPOSED TO VIEW),
- IW4. 7 5/8" CMU MASONRY (PAINT ALL SURFACES EXPOSED TO VIEW).
- 3" AIRSPACE. EXISTING STRUCTURE.

#### DRAWING NOTES CONTINUED:

- 26. HAND WASHING SINK REFER TO MECHANICAL AND FOOD SERVICE DRAWINGS FOR MORE
- 27. SINK REFER TO MECHANICAL AND FOOD SERVICE DRAWINGS FOR MORE INFORMATION.
- 29. PATCH/REPAIR EXISTING WALLS AT REPLACED DOOR FRAMES.
- 30. TELECOM PLYWOOD BACKBOARD. PRIOR TO INSTALLING, COORDINATE WITH OWNERS
- TECHNOLOGY REP, MECHANICAL, AND ELECTRICAL TRADES.
- REP, MECHANICAL, AND ELECTRICAL TRADES.
- 32. HOT WATER TANK REFER TO MECHANICAL DRAWINGS. 33. EXPANSION TANK - REFER TO MECHANICAL DRAWINGS.
- 34. BOOSTER PUMP REFER TO MECHANICAL DRAWINGS.
- 35. WALL MOUNTED WASTE RECEPTACLE.
- 36. FLOOR DRAIN REFER TO MECHANICAL DRAWINGS. SLOPE FLOOR TO PROVIDE POSITIVE
- 37. SANITARY CLEAN OUT REFER TO MECHANICAL DRAWINGS.
- 38. GREASE INTERCEPTOR REFER TO MECHANICAL DRAWINGS.

- DRAWING NOTES CONTINUED: 14. WALL MOUNTED PAPER TOWEL DISPENSER- REFER TO SPECIFICATIONS.
- INFORMATION. 15. TOILET TISSUE DISPENSER MOUNTED PER BARRIER FREE REQUIREMENTS.
- 16. SANITARY NAPKIN DISPOSAL. MOUNTED PER BARRIER FREE REQUIREMENTS. 28. FOOD SERVICE COUNTER - REFER TO FOOD SERVICE DRAWINGS FOR MORE INFORMATION.
- FLOOR MOUNTED PLASTIC TOILET COMPARTMENT WITH DOOR, HINGES, SLIDE LATCH, DOOR 31. DATA EQUIPMENT RACK. PRIOR TO INSTALLING, COORDINATE WITH OWNERS TECHNOLOGY PULL, COAT HOOK, ETC. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION.
  - WALL MOUNTED, PLASTIC URINAL SCREEN WITH CONTINUOUS WALL BRACKET. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION. PROVIDE PILASTER AT FREE END FOR
    - 21. FLOOR MOUNTED MOP SINK. REFER TO MECHANICAL FOR FURTHER INFORMATION. 22. RECESS HOSE BIBB WITH LOCKABLE COVER. REFER TO MECHANICAL FOR FURTHER

SPECIFICATIONS FOR FURTHER INFORMATION.

18. WALL MOUNTED BABY CHANGER- REFER TO SPECIFICATIONS.

Building A Floor Plan (Area 2)
A2.11 Scale: 1/4"=1'-0"

- 23. ALIGN CONCRETE FROST SLAB WITH THE BACK OF THE EXITING TO REMAIN DUGOUT WALL.
- MASONRY INFILL AT DOOR/WINDOW SEE REMOVALS. MASONRY TO ALIGN WITH EXISTING WALL THICKNESS EXACTLY. 25. THREE COMPARTMENT SINK - REFER TO MECHANICAL AND FOOD SERVICE DRAWINGS FOR MORE INFORMATION.

STAINLESS STEEL GRAB BAR MOUNTED PER ADA REQUIREMENTS - REFER TO A0.00 &

#### **DRAWING NOTES:**

- 1. OVERHEAD SECTIONAL DOOR WITH METAL TRACK, ELECTRIC OPERATOR, ETC. REFER TO DOOR SCHEDULE.
- CONCRETE FROST SLAB MIN 3'-6" BELOW FINISH FLOOR . PROVIDE 1/2" ISOLATION JOINT
- WITH SEALANT AT BUILDING WALL.
- 3. CONCRETE SPLASH BLOCK. PLAYER BENCH.
- DESIGNATED AREA FOR OWNERS BATTERY POWERED UTILITY VEHICLE.

WALL MOUNTED MIRROR- REFER TO SPECIFICATIONS.

13. WALL MOUNTED SOAP DISPENSER - REFER TO SPECIFICATIONS.

- INTERACTIVE FLAT PANEL FURNISHED AND INSTALLED BY TECHNOLOGY VENDOR.
- WHITE BOARD REFER TO SPECIFICATIONS FOR FURTHER INFORMATION.
- BARRIER FREE REQUIREMENTS. REFER TO MECHANICAL DRAWINGS. 9. FLOOR MOUNTED TOILET WITH AUTOMATIC FLUSH VALVE. MOUNTED WITH RIM AT 17" A.F.F. (MAXIMUM). REFER TO MECHANICAL FOR FURTHER INFORMATION.
- WALL MOUNTED URINAL WITH AUTOMATIC FLUSH VALVE, MOUNTED WITH RIM AT 17" A.F.F. (MAXIMUM). REFER TO MECHANICAL FOR FURTHER INFORMATION. PROVIDE CONCEALED CARRIER WITH TUBE STEEL SUPPORT LEGS.

ELECTRIC WATER COOLER WITH BOTTLE FILLER (1) AT EACH LOCATION. MOUNTED PER

11. WALL MOUNTED LAVATORY. REFER TO MECHANICAL FOR FURTHER INFORMATION.

#### **GENERAL NOTES:**

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- G2. ALL NOTES MAY NOT APPLY TO THIS SHEET.
- G3. FIELD VERIFY EXISTING CONDITIONS PRIOR TO COMMENCING ON THE WORK. G4. PROTECT ITEMS TO REMAIN FROM CONSTRUCTION OPERATIONS SO AS TO NOT CAUSE
- G5. ALL AREAS DISTURBED OR DAMAGED BY CONSTRUCTION OPERATIONS SHALL BE PATCHED, REPAIRED, AND FINISHED BACK TO ORIGINAL CONDITION.
- G6. NEW FINISH FLOOR TO MATCH EXISTING EXACTLY.

FURTHER INFORMATION.

- G7. ALL MASONRY TO MATCH EXISTING COURSING EXACTLY. CONTRACTOR TO FIELD VERIFY CONDITIONS PRIOR TO STARTING WORK.
- G8. CONTRACTOR SHALL INSTALL HORIZONTAL JOINT REINFORCING @ 16" O.C. VERTICALLY.
- CONTRACTOR TO INSTALL ADJUSTABLE BRICK VENEER ANCHORS @ 16" O.C. VERTICALLY AND HORIZONTALLY. FIELD VERIFY CAVITY THICKNESS TO PROVIDE CORRECT ANCHOR SIZE.
- G10. ALL OUTSIDE CORNERS OF INTERIOR CMU MASONRY TO BE BULLNOSE. MASONRY CONTROL JOINTS SHOULD BE SPACED 25'-0" APART MAX. AND SHOULD NOT BE SPACED FURTHER THAN 1.5x THE WALL HEIGHT - REFER TO THE MASONRY INSTITUTE FOR

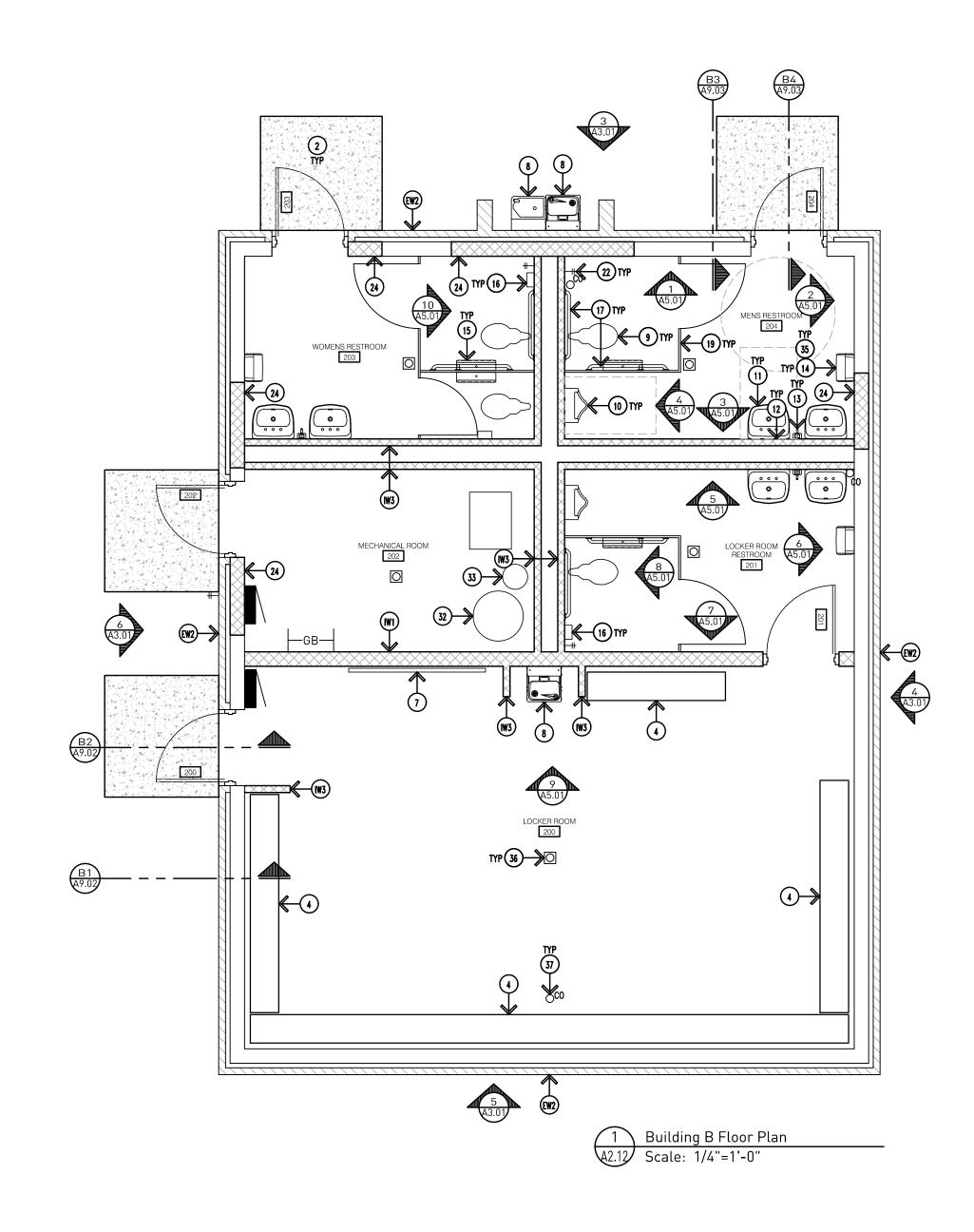
Bidding and Permits: 20 March 2023

Floor Plan - Building A



Crestwood School District

Crestwood High School Field Building & Site Improvements



#### EXTERIOR WALL TAG DESIGNATION:

- EW1. 3 5/8" BRICK VENEER WITH ADJACENT BRICK TIES @ 16" O.C. VERTICALLY AND HORIZONTALLY (PROVIDE LENGTH AS REQUIRED DUE TO WALL CAVITY SIZE).
- 2 5/8" AIRSPACE. VAPOR BARRIER
- 7 5/8" CMU MASONRY (PAINT ALL SURFACES EXPOSED TO VIEW).
- EW2. 3 5/8" BRICK VENEER WITH ADJACENT BRICK TIES @ 16" O.C. VERTICALLY AND HORIZONTALLY (PROVIDE LENGTH AS REQUIRED DUE TO WALL CAVITY SIZE).
  - 2 5/8" AIRSPACE. VAPOR BARRIER.

#### EXISTING STRUCTURE.

- INTERIOR WALL TAGS:
- IW2. 5 5/8" CMU MASONRY (PAINT ALL SURFACES EXPOSED TO VIEW).

IW1. • 7 5/8" CMU MASONRY (PAINT ALL SURFACES EXPOSED TO VIEW).

- IW3. 3 5/8" CMU MASONRY (PAINT ALL SURFACES EXPOSED TO VIEW).
- IW4. 7 5/8" CMU MASONRY (PAINT ALL SURFACES EXPOSED TO VIEW).
- 3" AIRSPACE. EXISTING STRUCTURE.

#### DRAWING NOTES CONTINUED:

- 26. HAND WASHING SINK REFER TO MECHANICAL AND FOOD SERVICE DRAWINGS FOR MORE INFORMATION.
- 27. SINK REFER TO MECHANICAL AND FOOD SERVICE DRAWINGS FOR MORE INFORMATION.
- 28. FOOD SERVICE COUNTER REFER TO FOOD SERVICE DRAWINGS FOR MORE INFORMATION.
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- TECHNOLOGY REP, MECHANICAL, AND ELECTRICAL TRADES.
- 30. TELECOM PLYWOOD BACKBOARD. PRIOR TO INSTALLING, COORDINATE WITH OWNERS
- 31. DATA EQUIPMENT RACK, PRIOR TO INSTALLING, COORDINATE WITH OWNERS TECHNOLOGY REP, MECHANICAL, AND ELECTRICAL TRADES.
- 32. HOT WATER TANK REFER TO MECHANICAL DRAWINGS.
- 33. EXPANSION TANK REFER TO MECHANICAL DRAWINGS.
- 34. BOOSTER PUMP REFER TO MECHANICAL DRAWINGS.

DRAINAGE TO DRAIN.

- 35. WALL MOUNTED WASTE RECEPTACLE. 36. FLOOR DRAIN - REFER TO MECHANICAL DRAWINGS. SLOPE FLOOR TO PROVIDE POSITIVE
- 37. SANITARY CLEAN OUT REFER TO MECHANICAL DRAWINGS.
- 38. GREASE INTERCEPTOR REFER TO MECHANICAL DRAWINGS.

#### DRAWING NOTES CONTINUED:

- 14. WALL MOUNTED PAPER TOWEL DISPENSER- REFER TO SPECIFICATIONS.
- 15. TOILET TISSUE DISPENSER MOUNTED PER BARRIER FREE REQUIREMENTS.
- 16. SANITARY NAPKIN DISPOSAL. MOUNTED PER BARRIER FREE REQUIREMENTS. STAINLESS STEEL GRAB BAR MOUNTED PER ADA REQUIREMENTS - REFER TO A0.00 &
- SPECIFICATIONS FOR FURTHER INFORMATION. 18. WALL MOUNTED BABY CHANGER- REFER TO SPECIFICATIONS.
- FLOOR MOUNTED PLASTIC TOILET COMPARTMENT WITH DOOR, HINGES, SLIDE LATCH, DOOR PULL, COAT HOOK, ETC. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION.
- 20. WALL MOUNTED, PLASTIC URINAL SCREEN WITH CONTINUOUS WALL BRACKET. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION. PROVIDE PILASTER AT FREE END FOR
- 21. FLOOR MOUNTED MOP SINK. REFER TO MECHANICAL FOR FURTHER INFORMATION.
- 22. RECESS HOSE BIBB WITH LOCKABLE COVER. REFER TO MECHANICAL FOR FURTHER
- 23. ALIGN CONCRETE FROST SLAB WITH THE BACK OF THE EXITING TO REMAIN DUGOUT WALL. MASONRY INFILL AT DOOR/WINDOW SEE REMOVALS. MASONRY TO ALIGN WITH EXISTING
- WALL THICKNESS EXACTLY. 25. THREE COMPARTMENT SINK - REFER TO MECHANICAL AND FOOD SERVICE DRAWINGS FOR MORE INFORMATION.

#### **DRAWING NOTES:**

- 1. OVERHEAD SECTIONAL DOOR WITH METAL TRACK, ELECTRIC OPERATOR, ETC. REFER TO DOOR SCHEDULE.
- 2. CONCRETE FROST SLAB MIN 3'-6" BELOW FINISH FLOOR . PROVIDE 1/2" ISOLATION JOINT WITH SEALANT AT BUILDING WALL.
- 3. CONCRETE SPLASH BLOCK.
- PLAYER BENCH.
- DESIGNATED AREA FOR OWNERS BATTERY POWERED UTILITY VEHICLE.
- 6. INTERACTIVE FLAT PANEL FURNISHED AND INSTALLED BY TECHNOLOGY VENDOR.
- WHITE BOARD REFER TO SPECIFICATIONS FOR FURTHER INFORMATION. ELECTRIC WATER COOLER WITH BOTTLE FILLER (1) AT EACH LOCATION. MOUNTED PER
- BARRIER FREE REQUIREMENTS. REFER TO MECHANICAL DRAWINGS. 9. FLOOR MOUNTED TOILET WITH AUTOMATIC FLUSH VALVE, MOUNTED WITH RIM AT 17" A.F.F.
- (MAXIMUM). REFER TO MECHANICAL FOR FURTHER INFORMATION. WALL MOUNTED URINAL WITH AUTOMATIC FLUSH VALVE, MOUNTED WITH RIM AT 17" A.F.F.
  - (MAXIMUM). REFER TO MECHANICAL FOR FURTHER INFORMATION. PROVIDE CONCEALED CARRIER WITH TUBE STEEL SUPPORT LEGS. FURTHER INFORMATION.
- 11. WALL MOUNTED LAVATORY. REFER TO MECHANICAL FOR FURTHER INFORMATION.
- 12. WALL MOUNTED MIRROR- REFER TO SPECIFICATIONS. 13. WALL MOUNTED SOAP DISPENSER - REFER TO SPECIFICATIONS.

#### **GENERAL NOTES:**

- G1. DO NOT SCALE DRAWING. DRAWING SCALE IS SHOWN FOR GENERAL REFERENCE ONLY.
- G2. ALL NOTES MAY NOT APPLY TO THIS SHEET.
- G3. FIELD VERIFY EXISTING CONDITIONS PRIOR TO COMMENCING ON THE WORK. G4. PROTECT ITEMS TO REMAIN FROM CONSTRUCTION OPERATIONS SO AS TO NOT CAUSE
- G5. ALL AREAS DISTURBED OR DAMAGED BY CONSTRUCTION OPERATIONS SHALL BE PATCHED,
- REPAIRED, AND FINISHED BACK TO ORIGINAL CONDITION. G6. NEW FINISH FLOOR TO MATCH EXISTING EXACTLY.
- G7. ALL MASONRY TO MATCH EXISTING COURSING EXACTLY. CONTRACTOR TO FIELD VERIFY CONDITIONS PRIOR TO STARTING WORK.
- G8. CONTRACTOR SHALL INSTALL HORIZONTAL JOINT REINFORCING @ 16" O.C. VERTICALLY.
- CONTRACTOR TO INSTALL ADJUSTABLE BRICK VENEER ANCHORS @ 16" O.C. VERTICALLY AND HORIZONTALLY. FIELD VERIFY CAVITY THICKNESS TO PROVIDE CORRECT ANCHOR SIZE.
- MASONRY CONTROL JOINTS SHOULD BE SPACED 25'-0" APART MAX. AND SHOULD NOT BE SPACED FURTHER THAN 1.5x THE WALL HEIGHT - REFER TO THE MASONRY INSTITUTE FOR
- G10. ALL OUTSIDE CORNERS OF INTERIOR CMU MASONRY TO BE BULLNOSE.

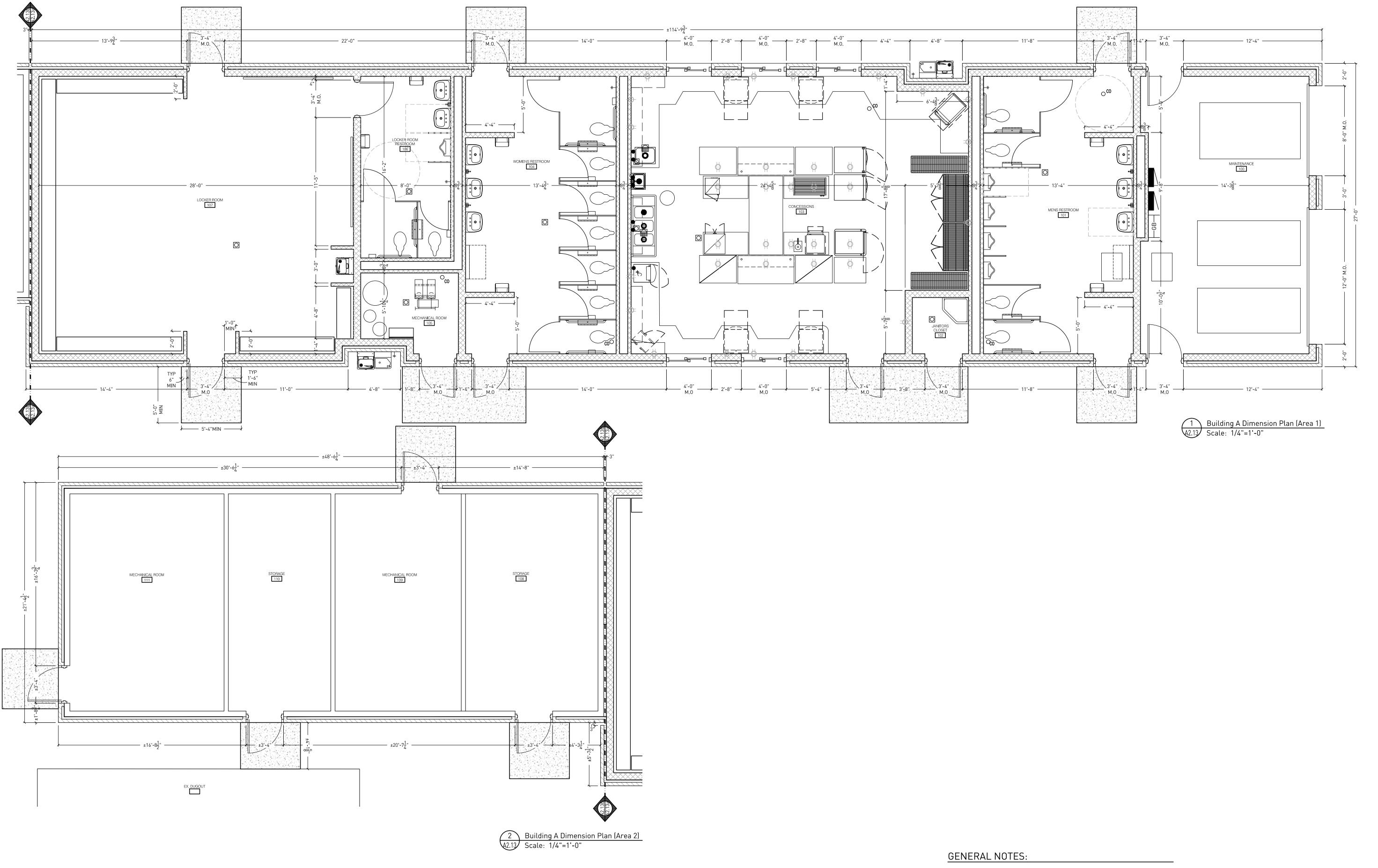
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Crestwood School District

Crestwood High School Field Building & Site Improvements

Project No. 5622



G1. DO NOT SCALE DRAWING. DRAWING SCALE IS SHOWN FOR GENERAL REFERENCE ONLY.

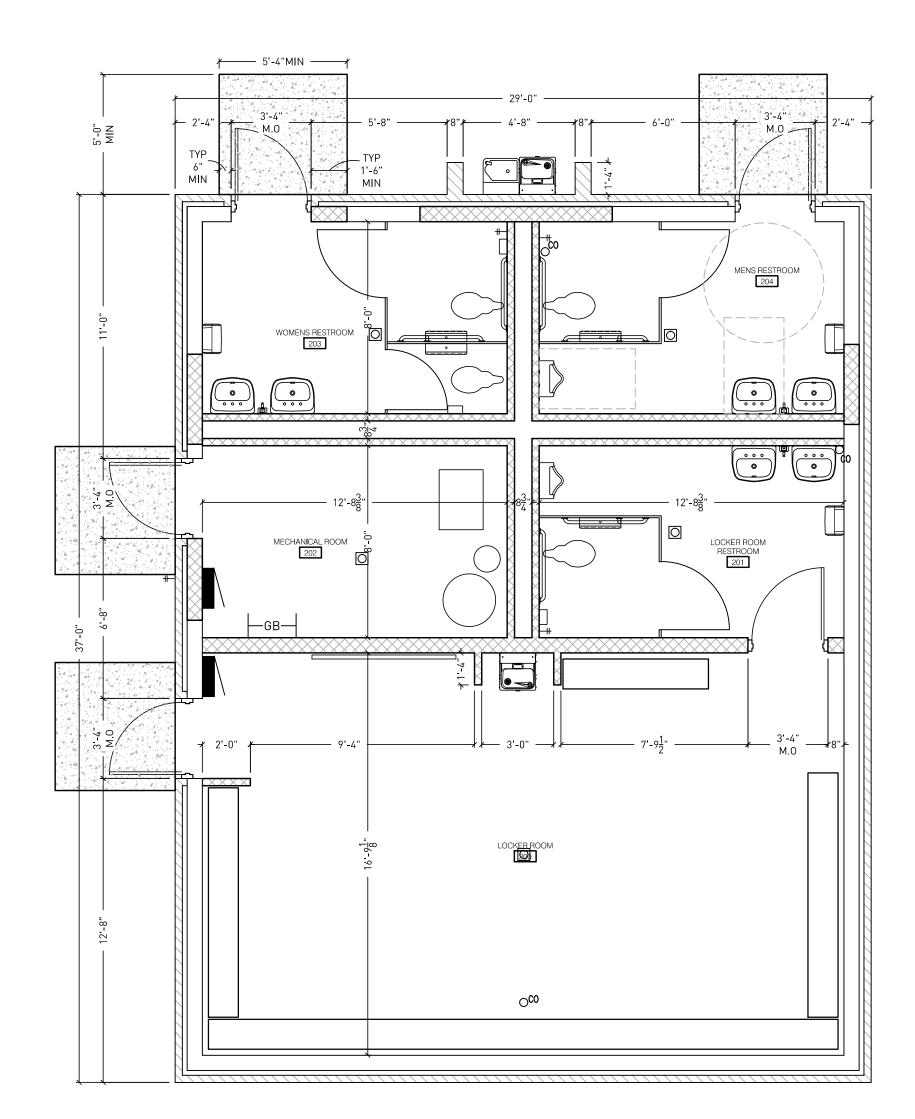
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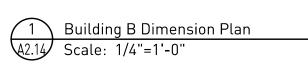
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Crestwood School District Crestwood High School Field Building & Site Improvements





#### GENERAL NOTES:

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Dimension Plan - Building B



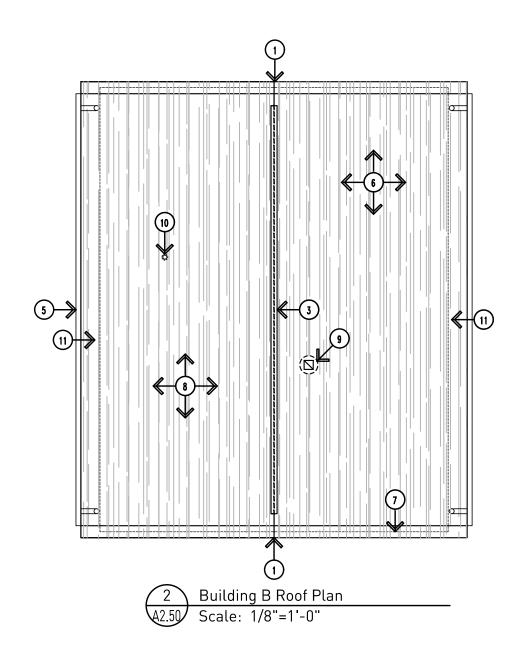
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Crestwood School District Crestwood High School Field Building & Site Improvements

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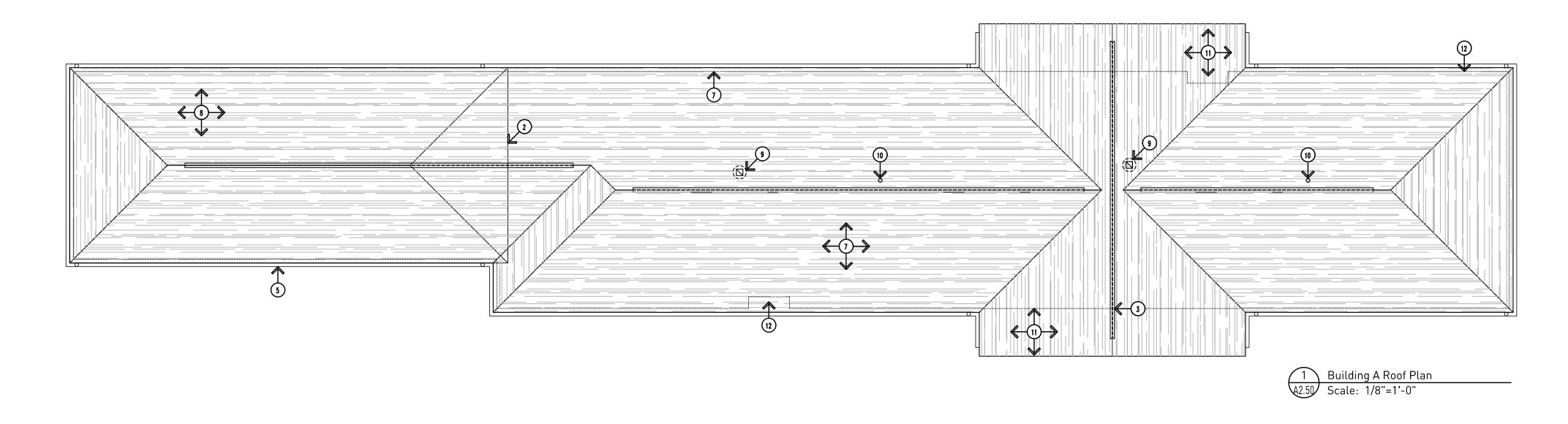
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803 W. Big Beaver Road, Suite 350, Troy, MI 48084 | 248.244.9710 © Ehresman Architects 2023



#### ATTIC VENT CALCULATION: BUILDING B

- AREA OF ATTIC SPACE:
   NET FREE AREA REQUIRED:
- 3. FREE AREA REQUIRED IN INCHES: 4. EQUAL AREA AT SOFFIT AND RIDGE: 5. SHINGLE-OVER RIDGE VENTS AT 18 SQ. IN. / LF: 6. METAL HALF VENT SOFFIT AT 6% OPEN:
- 1222 SF 1222 SF/ 300 = 4.07 SF 4.07 SF X 144 = 586 SQ. INCHES 586 SQ. IN. /2 = 293 SQ. INCHES 24 LF X 18 SQ IN. = 432 SQ. INCHES 21,456 SQ. IN. X 0.06 = 1,287 SQ. INCHES



#### ATTIC VENT CALCULATION: BUILDING B - AREA 2

- 1. AREA OF ATTIC SPACE: NET FREE AREA REQUIRED:
- 3. FREE AREA REQUIRED IN INCHES: 4. EQUAL AREA AT SOFFIT AND RIDGE:
- 532 SQ. IN. /2 = 266 SQ. INCHES 5. SHINGLE-OVER RIDGE VENTS AT 18 SQ. IN. / LF: 25.75 LF X 18 SQ IN. = 463 SQ. INCHES 6. METAL HALF VENT SOFFIT AT 6% OPEN: 7,776 SQ. IN. X 0.16 = 466 SQ. INCHES

1111 SF/ 300 = 3.70 SF

3.70 SF X 144 = 532 SQ. INCHES

ATTIC VENT CALCULATION: BUILDING A - AREA 1

- 1. AREA OF ATTIC SPACE: NET FREE AREA REQUIRED:
- 3. FREE AREA REQUIRED IN INCHES:
- 4. EQUAL AREA AT SOFFIT AND RIDGE:
- 5. SHINGLE-OVER RIDGE VENTS AT 18 SQ. INCHES / LF: 119 LF X 18 SQ IN. = 2,142 SQ. INCHES 6. METAL HALF VENT SOFFIT AT 6% OPEN:
- 3505 SF/ 300 = 11.68 SF 11.68 SF X 144 = 1,682 SQ. INCHES 1,682 SQ. IN. /2 = 841 SQ. INCHES 61,920 SQ. IN. X 0.06 = 3,715 SQ. IN.

3505 SF (ROUNDED)

#### DRAWING NOTES CONTINUED:

- 4. WOOD FRAMING AT EAST AND WEST SIDES OF EXISTING BUILDING B TO CREATE A FLAT
- GUTTERS AND DOWNSPOUTS.
- 6. ASHPALT SHINGLES.
- LINE OF EXISTING WALL BELOW.
- 8. CONTRACTOR TO INVESTIGATE EXISTING PLYWOOD SHEATHING FOR STRUCTURAL SOUNDNESS. IF IT IS DETERMINED THAT REPLACEMENT IS REQUIRED, THE CONTRACT WILL BE ADJUSTED ACCORDINGLY VIA CHANGE ORDER AT THE UNIT PRICES INCLUDED ON THE PROPOSAL FORM. CONTRACTOR TO MATCH EXISTING THICKNESS (C.F.V.)
- 9. EXHAUST FAN -- REFER TO MECHANICAL FOR MORE INFORMATION.
- 10. VENT THRU ROOF -- REFER TO MECHANICAL FOR FURTHER INFORMATION,
- 11. METAL SOFFIT HALF VENT 6% OPEN AIR, AT BUILDING A CONCESSIONS OVERHANG AND ALL OF BUILDING B.
- 12. METAL SOFFIT FULL VENT 12% OPEN AIR, AT ALL BUILDING A EXCEPT CONCESSIONS OVERHANG.

#### **GENERAL NOTES:**

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- G3. FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO COMMENCING ON THE WORK.
- G4. PROTECT ALL ITEMS TO REMAIN FORM CONSTRUCTION OPERATIONS SO AS TO NOT CAUSE
- G5. ALL AREAS DISTURBED OR DAMAGED BY CONSTRUCTION OPERATIONS SHALL BE PATCHED, REPAIRED, AND FINISHED BACK TO EXISTING CONDITION.
- G6. REFER TO MANUFACTURER SPECIFICATIONS, REQUIREMENTS, ETC. FOR PROPER ROOFING INSTALLATION PER ARCHITECTURAL SPECIFICATIONS AND WARRANTY CONDITIONS. ROOFING MATERIAL SHALL BE INSTALLED TO MAINTAIN WARRANTY OF EXISTING ROOFING.
- G7. ALL CURBS, FLASHINGS, ETC. SHALL BE FURNISHED AND INSTALLED TO BE COMPATIBLE WITH THE ROOFING SYSTEM AND AT HEIGHT REQUIRED TO MAINTAIN ROOFING WARRANTY.
- G8. ROOF INSULATION TO BE INSTALLED IN MINIMUM 2 LAYERS -- REFER TO SPECIFICATIONS.

#### DRAWING NOTES:

- 1. GABLE END FRAMING TO EXTEND OVERHANG AT NORTH AND SOUTH ENDS OF EXISTING
- 2. OVERLAYED ROOF FRAMING TO TIE ADDITION ROOF INTO EXISTING AT BUILDING B.
- CONTINUOUS RIDGE VENT.

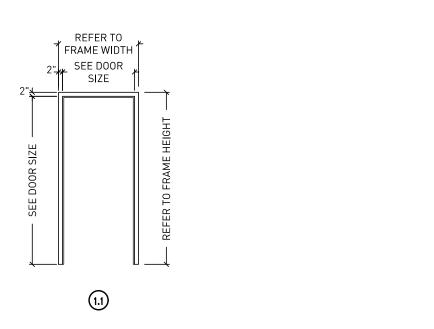
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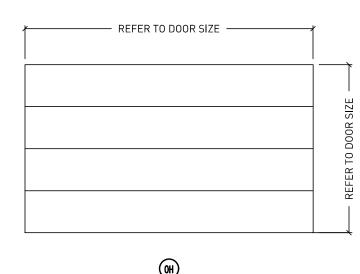
Project No. 5622

#### DOOR FRAME ELEVATIONS:



#### DOOR ELEVATIONS:

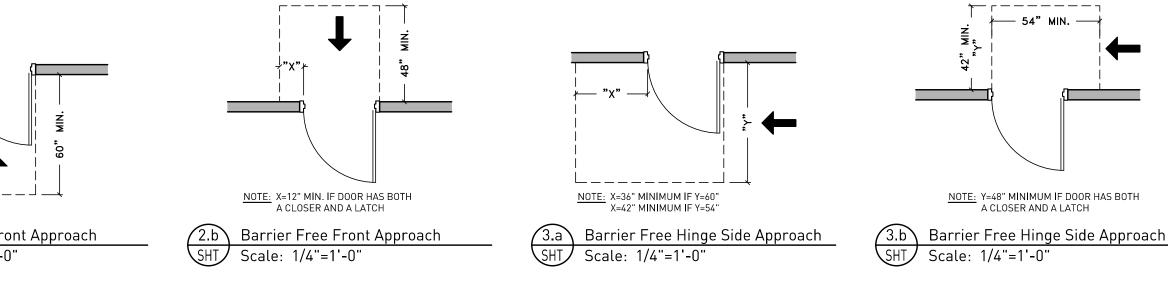




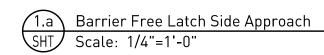
	DOOR SCHEDULE BUILDING A																	
D005		FIDE	LIA DDV.	1.001/		FRAME I	NFORMATIO	ON					DOOR INFORMATION					
000R NO.	OPENING LOCATION	FIRE RATING	HARDW. HEADING	LOCK FUNCTION	HARDWARE REMARKS	OPENING WIDTH	OPENING HEIGHT	FRAME ELEV.	JAMB DEPTH	FRAME MATER.	FRAME FINISH	FRAME REMARKS	DOOR SIZE	DOOR THICK.	DOOR ELEV.	DOOR MATER.	DOOR FINISH	DOOR REMARKS
100a	TO MAINTENANCE 100 FROM EXTERIOR	<b>†</b>	SET #1	STOREROOM		3'-4"	7'-2"	1.0	(5-3/4")	НМ	PAINT		3'-0" x 7'-0"	(1-3/4")	F	FRP	PREFIN	
00b	TO MAINTENANCE 100 FROM EXTERIOR	1	SET #1	STOREROOM		3'-4"	7'-2"	1.0	(5-3/4")	НМ	PAINT		3'-0" x 7'-0"	(1-3/4")	F	FRP	PREFIN	
00c	TO MAINTENANCE 100 FROM EXTERIOR					12'-0"	7'-0"		15"	STEEL	PAINT		12'-0" x 7'-0"	2"	ОН	STEEL	PREFIN	
00d	TO MAINTENANCE 100 FROM EXTERIOR					8'-0"	7'-0"		15"	STEEL	PAINT		8'-0" x 7'-0"	2"	ОН	STEEL	PREFIN	
01a	TO EXTERIOR FROM MENS RESTROOM 101		SET #3	RESTROOM		3'-4"	7'-2"	1.0	(5-3/4")	НМ	PAINT		3'-0" x 7'-0"	(1-3/4")	F	FRP	PREFIN	
01b	TO EXTERIOR FROM MENS RESTROOM 101		SET #3	RESTROOM		3'-4"	7'-2"	1.0	(5-3/4")	НМ	PAINT		3'-0" x 7'-0"	(1-3/4")	F	FRP	PREFIN	
102	TO EXTERIOR FROM JANITORS CLOSET102		SET #1	STOREROOM		3'-4"	7'-2"	1.0	(5-3/4")	НМ	PAINT		3'-0" x 7'-0"	(1-3/4")	F	FRP	PREFIN	
103	TO EXTERIOR FROM CONCESSIONS 103		SET #2	CLASSROOM		3'-4"	7'-2"	1.0	(5-3/4")	НМ	PAINT		3'-0" x 7'-0"	(1-3/4")	F	FRP	PREFIN	
04a	TO EXTERIOR FROM WOMENS RESTROOM 104		SET #3	RESTROOM		3'-4"	7'-2"	1.0	(5-3/4")	НМ	PAINT		3'-0" x 7'-0"	(1-3/4")	F	FRP	PREFIN	
04b	TO EXTERIOR FROM WOMENS RESTROOM 104		SET #3	RESTROOM		3'-4"	7'-2"	1.0	(5-3/4")	НМ	PAINT		3'-0" x 7'-0"	(1-3/4")	F	FRP	PREFIN	
105	TO EXTERIOR FROM MECHANICAL ROOM 105		SET #1	STOREROOM		3'-4"	7'-2"	1.0	(5-3/4")	НМ	PAINT		3'-0" x 7'-0"	(1-3/4")	F	FRP	PREFIN	
106	TO RESTROOM 106 FROM LOCKER ROOM 107		SET #4	RESTROOM		3'-4"	7'-2"	1.0	(5-3/4")	НМ	PAINT		3'-0" x 7'-0"	(1-3/4")	F	FRP	PREFIN	
107a	TO EXTERIOR FROM LOCKER ROOM 107		SET #2	CLASSR00M		3'-4"	7'-2"	1.0	(5-3/4")	НМ	PAINT		3'-0" x 7'-0"	(1-3/4")	F	FRP	PREFIN	
107b	TO EXTERIOR FROM LOCKER ROOM 107		SET #2	CLASSR00M		3'-4"	7'-2"	1.0	(5-3/4")	НМ	PAINT		3'-0" x 7'-0"	(1-3/4")	F	FRP	PREFIN	
108	TO EXTERIOR FROM STORAGE ROOM 108		SET #1	STOREROOM		3'-4"	7'-2"	1.0	(5-3/4")	НМ	PAINT		3'-0" x 7'-0"	(1-3/4")	F	FRP	PREFIN	
109	TO EXTERIOR FROM MECHANICAL ROOM 109		SET #1	STOREROOM		3'-4"	7'-2"	1.0	(5-3/4")	НМ	PAINT		3'-0" x 7'-0"	(1-3/4")	F	FRP	PREFIN	
110	TO EXTERIOR FROM STORAGE ROOM 110		SET #1	STOREROOM		3'-4"	7'-2"	1.0	(5-3/4")	НМ	PAINT		3'-0" x 7'-0"	(1-3/4")	F	FRP	PREFIN	
111	TO EXTERIOR FROM MECHANICAL ROOM 111		SET #1	STOREROOM		3'-4"	7'-2"	1.0	(5-3/4")	НМ	PAINT		3'-0" x 7'-0"	(1-3/4")	F	FRP	PREFIN	

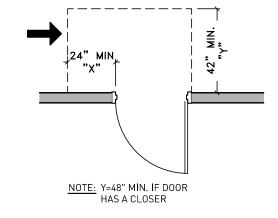
	DOOR SCHEDULE BUILDING B																	
DOOR						FRAME INFORMATION					DOOR INFORMATION							
NO.	OPENING LOCATION		HEADING		HARDWARE REMARKS	OPENING WIDTH	OPENING HEIGHT	FRAME ELEV.	JAMB DEPTH	FRAME MATER.	FRAME FINISH	FRAME REMARKS	DOOR SIZE	DOOR THICK.		DOOR MATER.	DOOR FINISH	DOOR REMARKS
200	TO EXTERIOR FROM LOCKER ROOM 200		SET #2	CLASSROOM		3'-4"	7'-2"	1.0	(5-3/4")	НМ	PAINT		3'-0" x 7'-0"	(1-3/4")	F	FRP	PREFIN	
201	TO RESTROOM 201 FROM LOCKER ROOM 200		SET #4	RESTROOM		3'-4"	7'-2"	1.0	(5-3/4")	НМ	PAINT		3'-0" x 7'-0"	(1-3/4")	F	FRP	PREFIN	
202	TO EXTERIOR FROM MECHANICAL ROOM 202		SET #1	STOREROOM		3'-4"	7'-2"	1.0	(5-3/4")	НМ	PAINT		3'-0" x 7'-0"	(1-3/4")	F	FRP	PREFIN	
203	TO EXTERIOR FROM WOMENS RESTROOM 203		SET #3	RESTROOM		3'-4"	7'-2"	1.0	(5-3/4")	НМ	PAINT		3'-0" x 7'-0"	(1-3/4")	F	FRP	PREFIN	
204	TO EXTERIOR FROM MENS RESTROOM 204		SET #3	RESTROOM		3'-4"	7'-2"	1.0	(5-3/4")	НМ	PAINT		3'-0" x 7'-0"	(1-3/4")	F	FRP	PREFIN	

	WINDOW SCHEDULE											
TAG	OPENING SIZE	WINDOW SIZE (WIDTH x HEIGHT)	WINDOW OPERATION	TOTAL WINDOWS	BASIS OF DESIGN	NOTES						
W1	4'-3/8" x 3'-3/8"	4'-0" x 3'-0"	SIDE SLIDING	5	SC-4030							

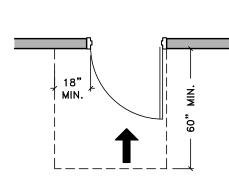


# L\_\_\_\_\_ NOTE: Y=54" MIN. IF DOOR HAS A CLOSER

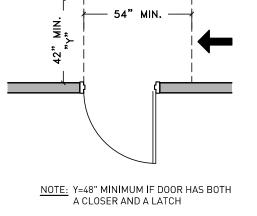




1.b Barrier Free Latch Side Approach
SHT Scale: 1/4"=1'-0"



2.a Barrier Free Front Approach
SHT Scale: 1/4"=1'-0"



#### LEGEND:

FRP FIBERGLASS REINFORCED POLYMER

НМ HOLLOW METAL

PREFIN PREFINISHED

#### **GENERAL NOTES:**

- G1. DO NOT SCALE DRAWING. DRAWING SCALE IS SHOWN FOR GENERAL REFERENCE ONLY.
- G2. PROVIDE PERIMETER SEALANT AROUND INTERIOR AND EXTERIOR SIDES OF DOOR FRAMES.
- G3. CONTRACTOR TO FIELD VERIFY ALL EXISTING OPENING DIMENSIONS.

#### LOCK FUNCTION NOTES:

CLASSROOM: SIMILAR TO SCHLAGE L9050.

RESTROOM: SIMILAR TO SCHLAGE L463 DEADBOLT (DOOR CAN BE UNLOCKED FROM INSIDE, BUT NOT LOCKED)

STOREROOM: --

#### **GENERAL HARDWARE NOTES:**

GHN1. LOCK FUNCTIONS INDICATED ARE APPROXIMATE. FINAL LOCK FUNCTION, ETC. TO BE DETERMINED AT SPECIAL MEETING WITH OWNER AND HARDWARE SUPPLIER SPECIFICALLY INTENDED FOR THAT PURPOSE -REFER TO SPECIFICATIONS.

## **GENERAL DOOR NOTES:**

GD1. COORDINATE DIMENSIONS WITH MANUFACTURER.

GD2. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.

Bidding and Permits: 20 March 2023

Window and Door Schedules

HARDWARE SCHEDULE

ITEM FINISH

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ITEM FINISH

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ITEM FINISH

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ITEM FINISH

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HARDWARE SET #1: SINGLE EXTERIOR DOOR - STOREROOM

HARDWARE SET #2: SINGLE EXTERIOR DOOR - CLASSROOM

HARDWARE SET #3: SINGLE EXTERIOR DOOR - RESTROOM

HARDWARE SET #4: SINGLE INTERIOR DOOR - RESTROOM

ITEM DESCRIPTION

CYLINDER / CORE

LOCKSET

CLOSER

KICKPLATE

THRESHOLD

WEATHERSTRIPPING

ITEM DESCRIPTION

CONTINUOUS HINGE

CYLINDER / CORE

LOCKSET

CLOSER

KICKPLATE

THRESHOLD

WEATHERSTRIPPING

ITEM DESCRIPTION

CONTINUOUS HINGE

PUSH/PULL

DEADLOCK

CLOSER

KICKPLATE

THRESHOLD

WEATHERSTRIPPING

ITEM DESCRIPTION

CONTINUOUS HINGE

PUSH/PULL

DEADLOCK

KICKPLATE

CLOSER

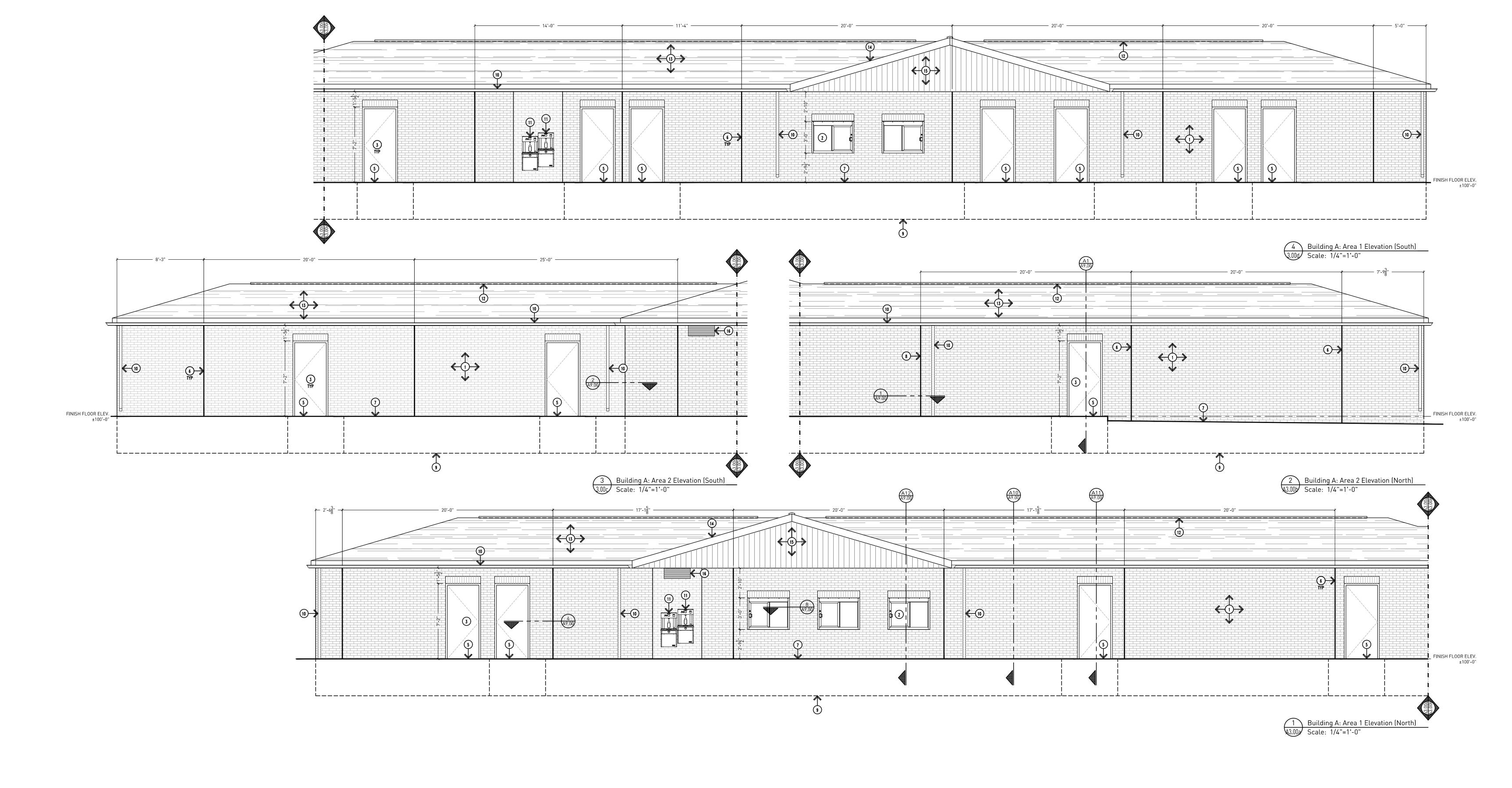
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Crestwood School District Crestwood High School Field Building & Site Improvements

Project No. 5622

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#### DRAWING NOTES CONTINUED:

- 15. VERTICAL ALUMINUM SIDING REFER TO SPECIFICATIONS.
- 16. TRANSFER GRILLE REFER TO MECHANICAL.
- 17. SECTIONAL OVERHEAD DOOR WITH ELECTRIC OPERATOR REFER TO SPECIFICATIONS.

#### DRAWING NOTES:

- 2. SIDE SLIDING SERVING WINDOW WITH AUTOMATIC CLOSING AND LOCKING REFER TO WINDOW SCHEDULE AND SPECIFICATIONS FOR FURTHER INFORMATION.
- 3. DOOR, FRAME, HARDWARE, AND FINISH REFER TO DOOR SCHEDULE AND SPECIFICATIONS FOR FURTHER INFORMATION.
- 4. PREFINISHED ALUMINUM SILL.
- 5. FROST SLAB.
- BRICK EXPANSION JOINT PROVIDE JOINTS PER MIN. RECOMMENDATIONS. MAX 20 FT O.C. TYP. CORNER JOINTS TO BE 20 FT APART MAX WITH ONE OF THE JOINTS AT LEAST 4" AND NOT MORE THAN 10 FT FROM THE CORNER.
- APPROXIMATE LINE OF GRADE.
- 8. CONTROL JOINT BETWEEN BUILDINGS.
- 9. LINE OF FOUNDATION REFER TO STRUCTURAL DRAWINGS.
   10. GUTTERS AND DOWNSPOUTS.
- 11. ELECTRIC WATER COOLER WITH BOTTLE FILLER MOUNTED PER BARRIER FREE REQUIREMENTS. REFER TO MECHANICAL DRAWINGS.
- 12. RIDGE VENT.
- 13. ASHPALT SHINGLES.14. FASCIA.

#### GENERAL NOTES:

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- G2. ALL NOTES MAY NOT APPLY TO THIS SHEET.
- G3. FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO COMMENCING ON THE WORK.G4. PROTECT ALL ITEMS TO REMAIN FORM CONSTRUCTION OPERATIONS SO AS TO NOT CAUSE
- DAMAGE.
- G5. ALL AREAS DISTURBED OR DAMAGED BY CONSTRUCTION OPERATIONS SHALL BE PATCHED, REPAIRED, AND FINISHED BACK TO EXISTING CONDITION.
- G6. PROVIDE CONTINUOUS VAPOR AND AIR BARRIER PRIOR TO INSTALLATION OF RIGID AND/OR SPRAY INSULATION. BARRIER SYSTEM SHALL BE CONTINUOUS AROUND THE BUILDING
- ENVELOPE AND INCLUDES ALL PROPER TECHNIQUES FOR PENETRATIONS, ETC.

  G7. PROVIDE BRICK EXPANSION JOINTS WITH SEALANT AND BACKER ROD PER MASONRY
- G8. PROVIDE SEALANT AND FOAM BACKER ROD TO SUIT CONDITIONS AROUND ALL WINDOW AND DOOR OPENINGS/PERIMETER.
- G9. REFER TO STRUCTURAL DRAWINGS FOR ANY STEPPED FOOTING LOCATION, ETC.
- G10. CONTRACTOR TO COORDINATE ALL DIMENSIONS WITH APPLICABLE MANUFACTURERS.

# DRAWING NOTES:

1. 4" BRICK VENEER TO MATCH EXISTING (INSTALL HEADER COURSE EVERY 6 ROWS OF BRICK). -- COLOR TO BE BELDEN BRICK "1-HB".

Bidding and Permits: 20 March 2023

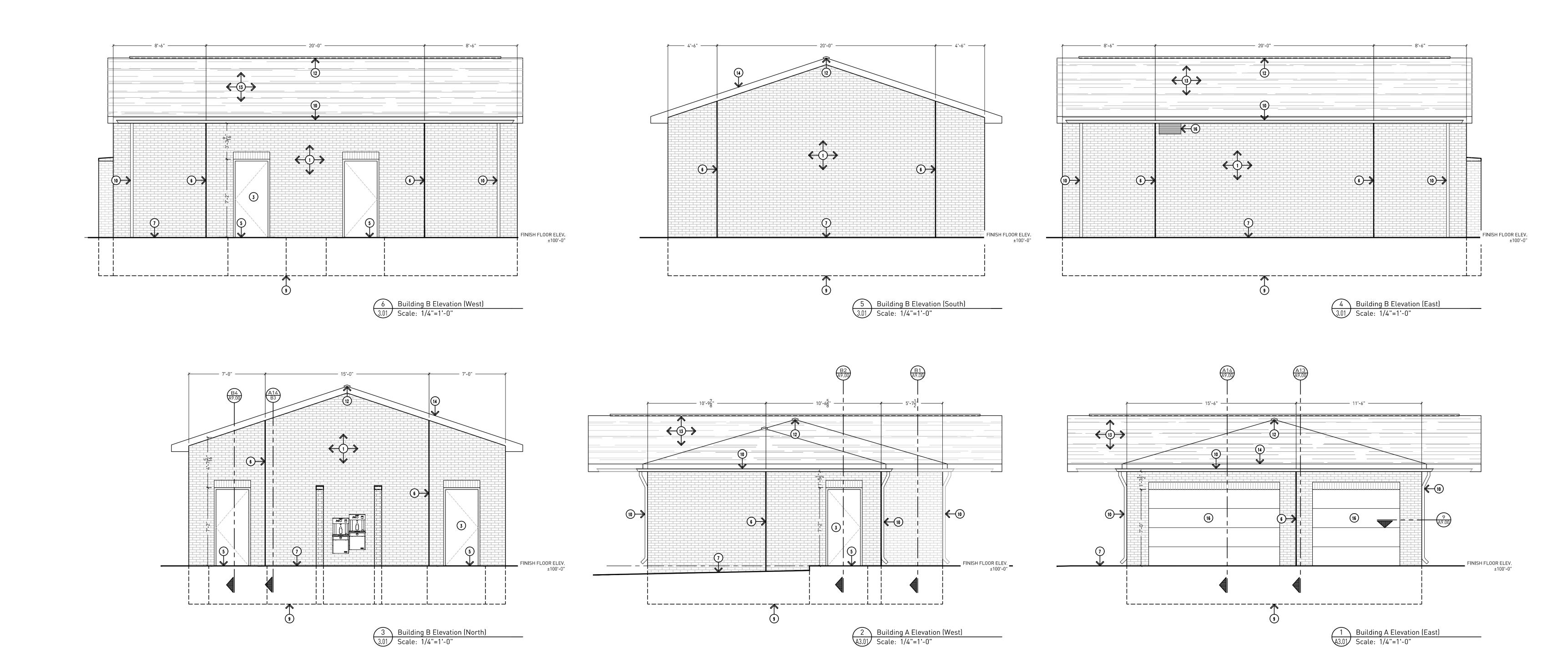
**Exterior Elevations** 



Crestwood School District Crestwood High School Field Building & Site Improvements

Project No. 5622

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#### DRAWING NOTES CONTINUED:

- 15. VERTICAL ALUMINUM SIDING REFER TO SPECIFICATIONS.
- 16. TRANSFER GRILLE REFER TO MECHANICAL.
- 17. SECTIONAL OVERHEAD DOOR WITH ELECTRIC OPERATOR REFER TO SPECIFICATIONS.

#### DRAWING NOTES:

- SIDE SLIDING SERVING WINDOW WITH AUTOMATIC CLOSING AND LOCKING REFER TO WINDOW SCHEDULE AND SPECIFICATIONS FOR FURTHER INFORMATION.
- DOOR, FRAME, HARDWARE, AND FINISH REFER TO DOOR SCHEDULE AND SPECIFICATIONS FOR FURTHER INFORMATION.
- 4. PREFINISHED ALUMINUM SILL.
- FROST SLAB.
- BRICK EXPANSION JOINT PROVIDE JOINTS PER MIN. RECOMMENDATIONS. MAX 20 FT O.C. TYP. CORNER JOINTS TO BE 20 FT APART MAX WITH ONE OF THE JOINTS AT LEAST 4" AND NOT MORE THAN 10 FT FROM THE CORNER.
- APPROXIMATE LINE OF GRADE.
- 8. CONTROL JOINT BETWEEN BUILDINGS. 9. LINE OF FOUNDATION - REFER TO STRUCTURAL DRAWINGS.
- 10. GUTTERS AND DOWNSPOUTS.
- 11. ELECTRIC WATER COOLER WITH BOTTLE FILLER MOUNTED PER BARRIER FREE REQUIREMENTS. REFER TO MECHANICAL DRAWINGS.
- 12. RIDGE VENT.
- 13. ASHPALT SHINGLES.
- 14. FASCIA.

#### **GENERAL NOTES:**

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- G4. PROTECT ALL ITEMS TO REMAIN FORM CONSTRUCTION OPERATIONS SO AS TO NOT CAUSE
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- G6. PROVIDE CONTINUOUS VAPOR AND AIR BARRIER PRIOR TO INSTALLATION OF RIGID AND/OR SPRAY INSULATION. BARRIER SYSTEM SHALL BE CONTINUOUS AROUND THE BUILDING ENVELOPE AND INCLUDES ALL PROPER TECHNIQUES FOR PENETRATIONS, ETC.
- G7. PROVIDE BRICK EXPANSION JOINTS WITH SEALANT AND BACKER ROD PER MASONRY
- G8. PROVIDE SEALANT AND FOAM BACKER ROD TO SUIT CONDITIONS AROUND ALL WINDOW AND DOOR OPENINGS/PERIMETER.
- G9. REFER TO STRUCTURAL DRAWINGS FOR ANY STEPPED FOOTING LOCATION, ETC. G10. CONTRACTOR TO COORDINATE ALL DIMENSIONS WITH APPLICABLE MANUFACTURERS.

# DRAWING NOTES:

4" BRICK VENEER TO MATCH EXISTING (INSTALL HEADER COURSE EVERY 6 ROWS OF BRICK). --COLOR TO BE BELDEN BRICK "1-HB".

Bidding and Permits: 20 March 2023

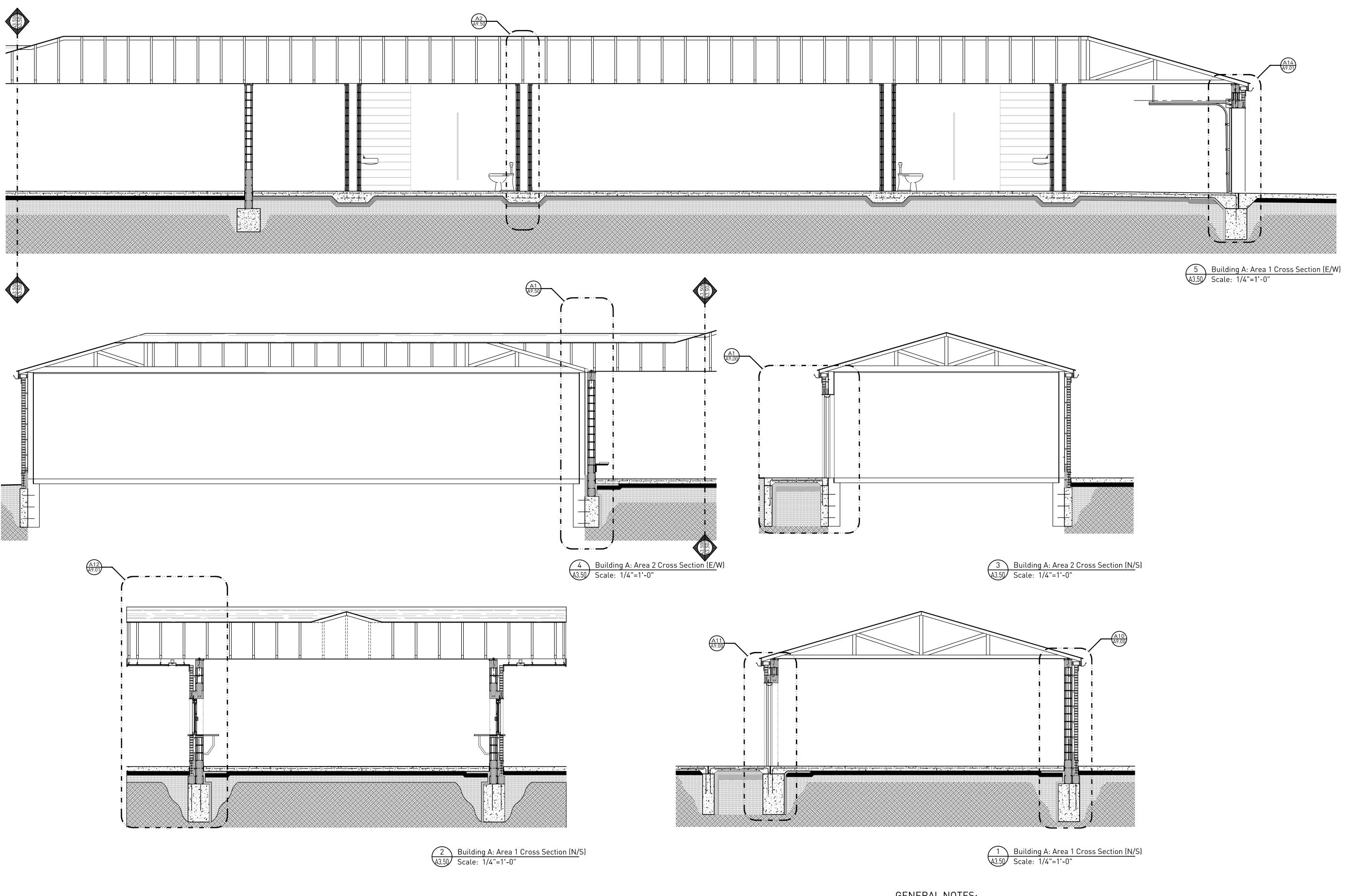
**Exterior Elevations** 



Crestwood School District

Crestwood High School
Field Building & Site Improvements

Project No. 5622



GENERAL NOTES:

G1. DO NOT SCALE DRAWING. DRAWING SCALE IS SHOWN FOR GENERAL REFERENCE ONLY.

Bidding and Permits: 20 March 2023

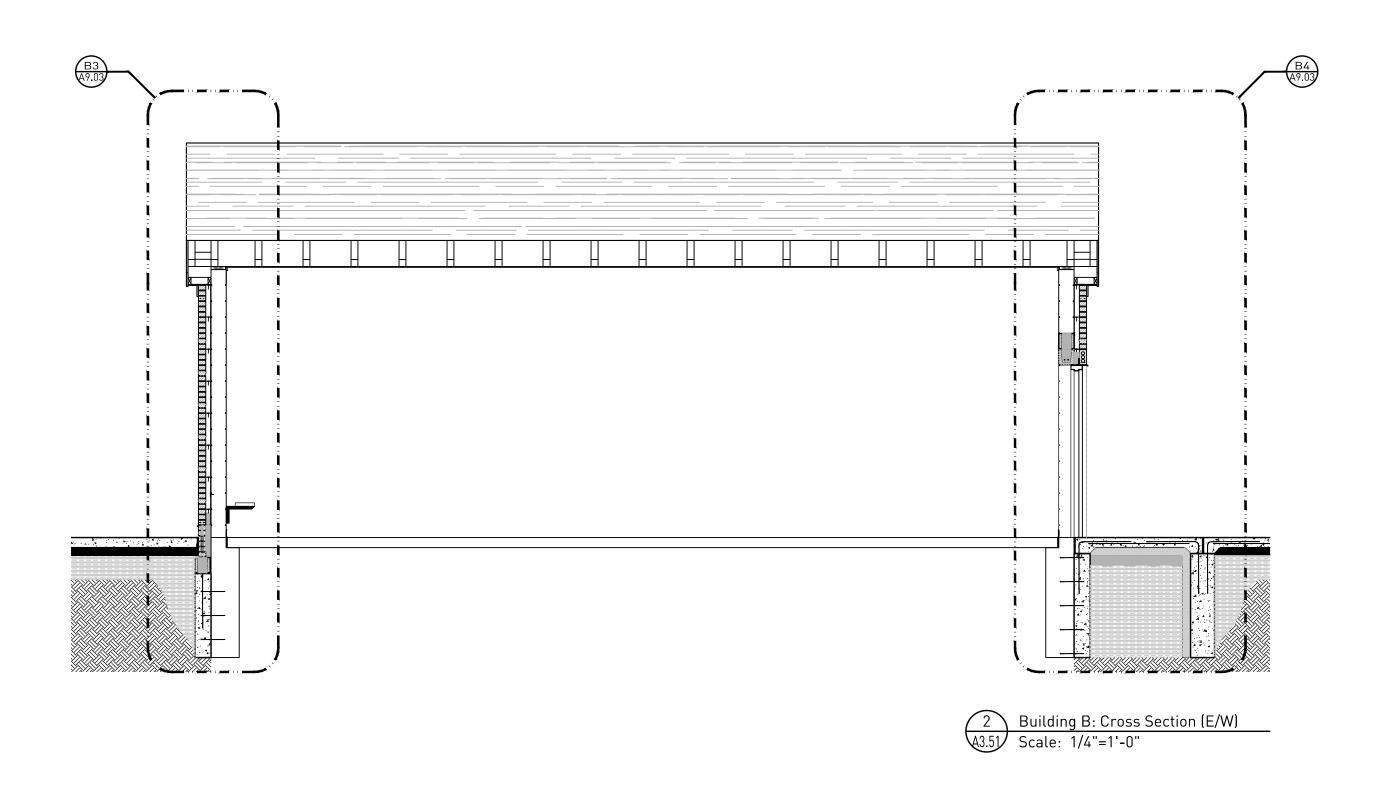
Building Sections - Building A

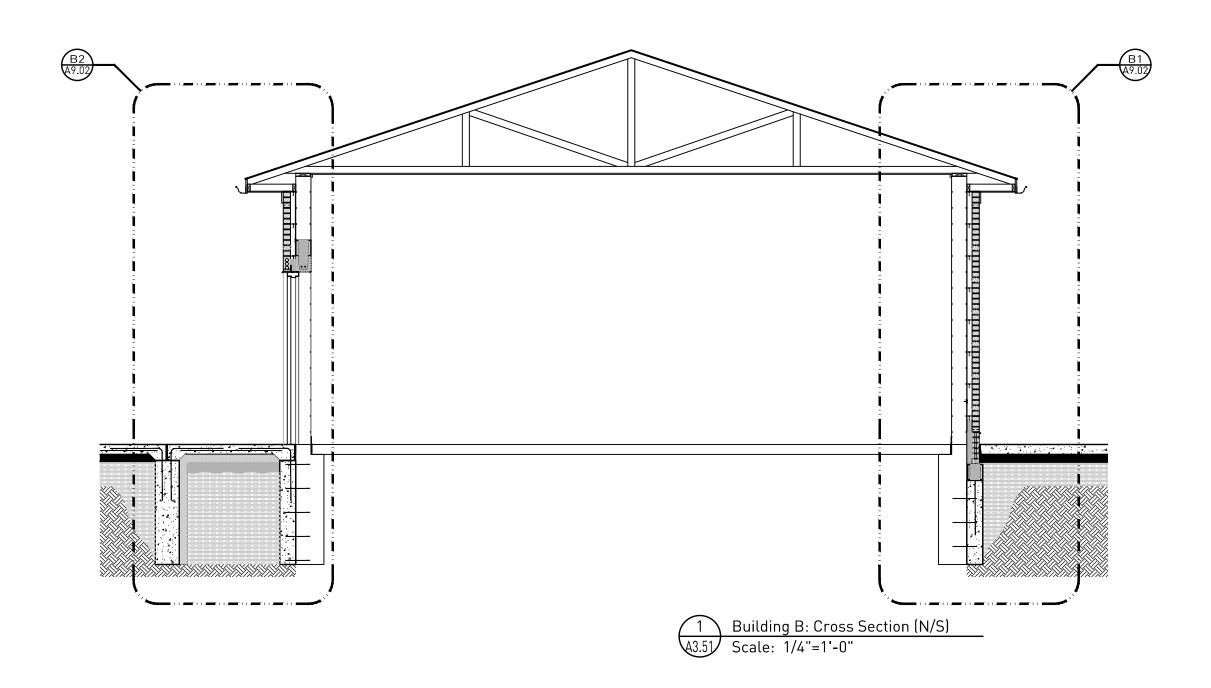


Crestwood School District Crestwood High School Field Building & Site Improvements

Project No. 5622

A3.50





GENERAL NOTES:

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Bidding and Permits: 20 March 2023

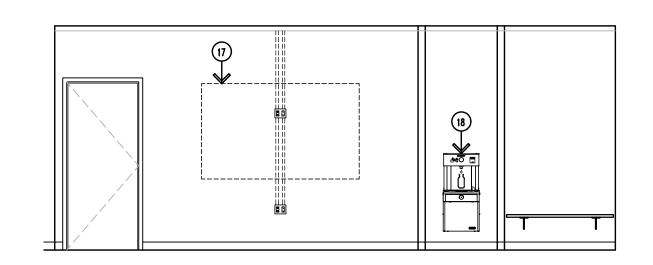
Building Sections - Building B

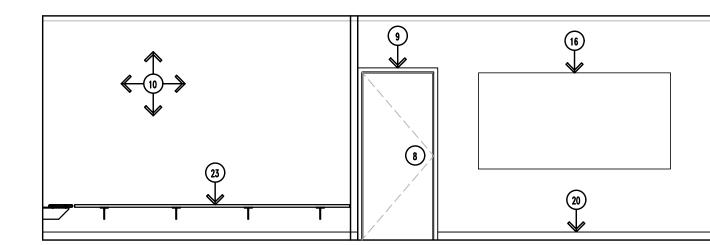


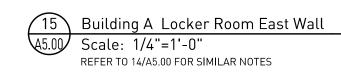
Crestwood School District Crestwood High School Field Building & Site Improvements

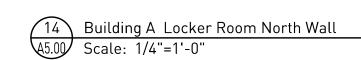
Project No. 5622

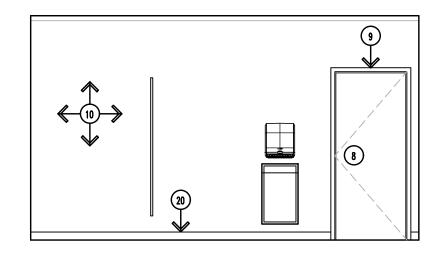
A3.51

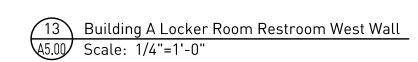


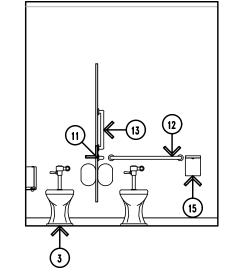




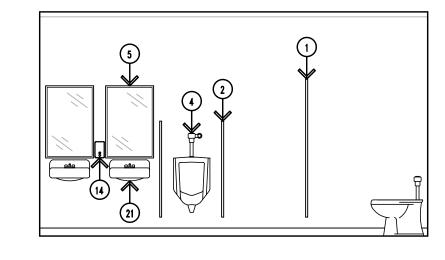


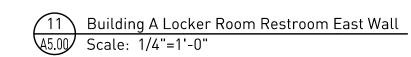


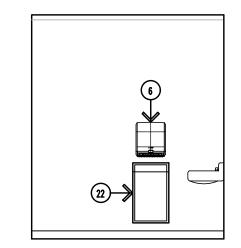




Building A Locker Room Restroom South Wall
A5.00 Scale: 1/4"=1'-0"

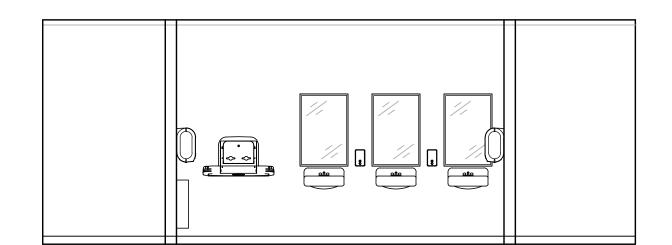




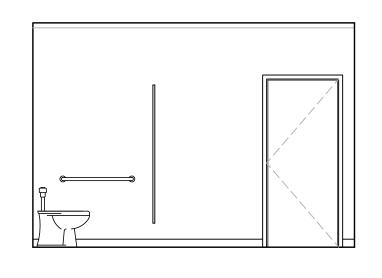


Building A Locker Room Restroom North Wall

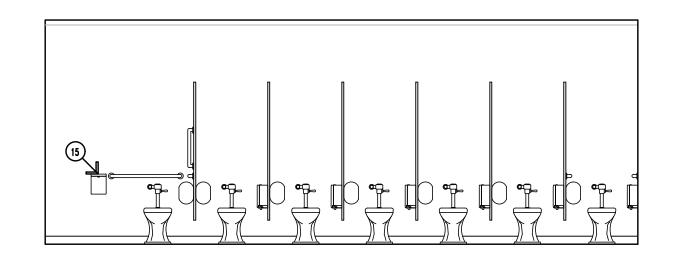
45.00 Scale: 1/4"=1'-0"

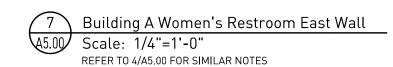


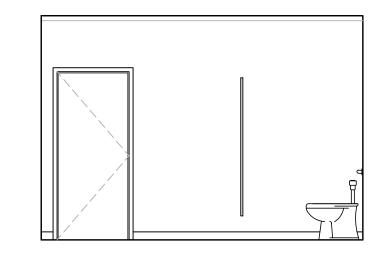
9 Building A Women's Restroom West Wall A5.00 Scale: 1/4"=1'-0" REFER TO 2/A5.00 FOR SIMILAR NOTES



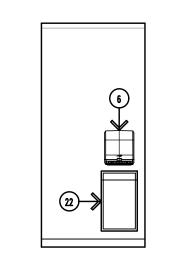
8 Building A Women's Restroom South Wall A5.00 Scale: 1/4"=1'-0" REFER TO 1/A5.00 FOR SIMILAR NOTES

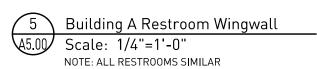


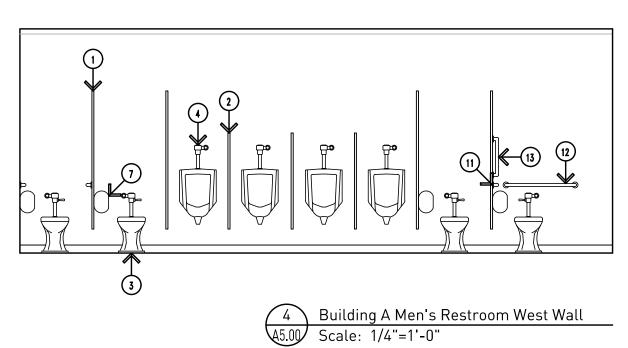


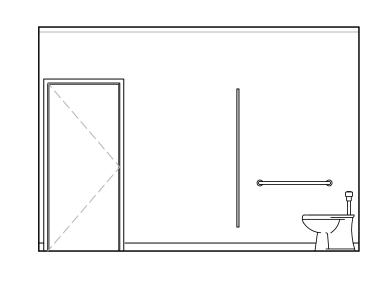


6 Building A Women's Restroom North Wall Scale: 1/4"=1'-0" REFER TO 1/A5.00 FOR SIMILAR NOTES

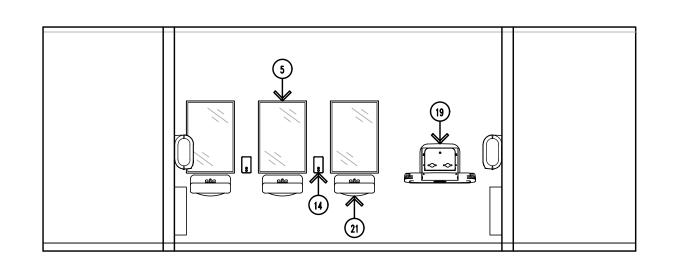






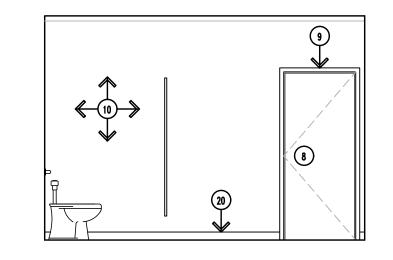


3 Building A Men's Restroom South Wall A5.00 Scale: 1/4"=1'-0" REFER TO 1/A5.00 FOR SIMILAR NOTES



Building A Men's Restroom East Wall

45.00 Scale: 1/4"=1'-0"



1 Building A Men's Restroom North Wall A5.00 Scale: 1/4"=1'-0"

#### DRAWING NOTES CONTINUED:

- 10. PAINTED CMU WALL REFER TO FINISH / MATERIALS SCHEDULE
- 11. 42" STAINLESS STEEL GRAB BAR MOUNTED PER ADA REQUIREMENTS REFER TO A0.00 & SPECIFICATIONS FOR FURTHER INFORMATION.
- 12. 36" STAINLESS STEEL GRAB BAR MOUNTED PER ADA REQUIREMENTS REFER TO A0.00 & SPECIFICATIONS FOR FURTHER INFORMATION.
- 13. 18" STAINLESS STEEL GRAB BAR MOUNTED PER ADA REQUIREMENTS REFER TO A0.00 & SPECIFICATIONS FOR FURTHER INFORMATION.
- 14. WALL MOUNTED SOAP DISPENSER REFER TO SPECIFICATIONS.
- 15. SANITARY NAPKIN DISPOSAL MOUNTED PER BARRIER FREE REQUIREMENTS.
- 16. WHITE BOARD REFER TO SPECIFICATIONS FOR FURTHER INFORMATION.
- 17. APPROXIMATE LOCATION OF INTERACTIVE FLAT PANEL FURNISHED AND INSTALLED BY TECHNOLOGY VENDOR.
- 18. ELECTRIC WATER COOLER WITH BOTTLE FILLER.
- 19. WALL MOUNTED CHANGING TABLE REFER TO SPECIFICATIONS.
- 20. WALL BASE.

23. LOCKER ROOM BENCH.

- 21. WALL-MOUNTED LAVATORY.
- 22. WALL MOUNTED TRASH RECEPTACLE.

#### **GENERAL NOTES:**

G1. DO NOT SCALE DRAWING. DRAWING SCALE IS SHOWN FOR GENERAL REFERENCE ONLY.

#### DRAWING NOTES:

- FLOOR MOUNTED, OVERHEAD BRACED PLASTIC TOILET COMPARTMENT WITH DOOR, HINGES, SLIDE LATCH, DOOR PULL, COAT HOOK, ETC. REFER TO SPECIFICATIONS FOR FURTHER
- WALL MOUNTED, PLASTIC URINAL SCREEN WITH CONTINUOUS WALL BRACKET. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION. PROVIDE PILASTER AT FREE END FOR
- 3. FLOOR MOUNTED TOILET WITH AUTOMATIC FLUSH VALVE, MOUNTED WITH RIM AT 17" A.F.F. (MAXIMUM). REFER TO MECHANICAL FOR FURTHER INFORMATION.
- WALL MOUNTED URINAL WITH AUTOMATIC FLUSH VALVE, MOUNTED WITH RIM AT 17" A.F.F. (MAXIMUM). REFER TO MECHANICAL FOR FURTHER INFORMATION. PROVIDE CONCEALED CARRIER WITH TUBE STEEL SUPPORT LEGS.
- 5. WALL MOUNTED MIRROR REFER TO SPECIFICATIONS.
- 6. WALL MOUNTED PAPER TOWEL DISPENSER REFER TO SPECIFICATIONS.
- 7. TOILET TISSUE DISPENSER MOUNTED PER BARRIER FREE REQUIREMENTS.
- 8. DOOR REFER TO DOOR SCHEDULE.
- 9. DOOR FRAME REFER TO DOOR SCHEDULE.

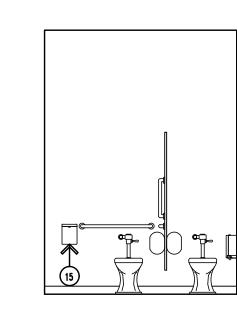
Bidding and Permits: 20 March 2023

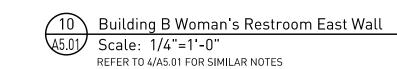
Interior Elevations - Building A

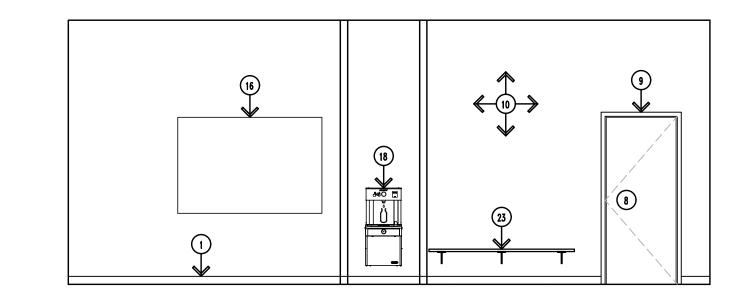


Crestwood School District Crestwood High School
Field Building & Site Improvements

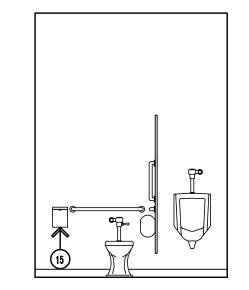
Project No. 5622



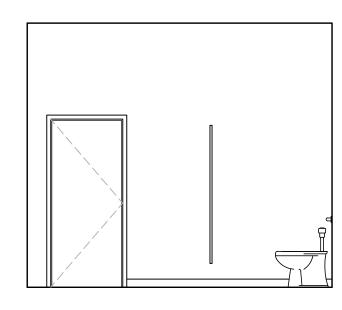




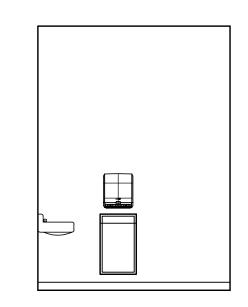
9 Building B Locker Room North Wall
A5.01 Scale: 1/4"=1'-0"



8 Building B Team Restroom West Wall A5.01 Scale: 1/4"=1'-0" REFER TO 4/A5.01 FOR SIMILAR NOTES

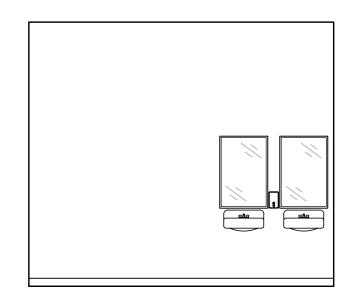


7 Building B Locker Room Restroom South Wall A5.01 Scale: 1/4"=1'-0" REFER TO 1/A5.01 FOR SIMILAR NOTES

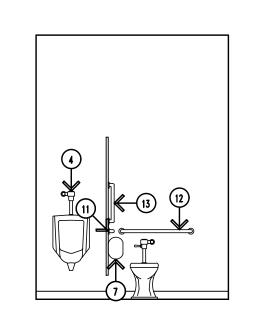


6 Building B Locker Room Restroom East Wall A5.01 Scale: 1/4"=1'-0"

REFER TO 2/A5.01 FOR SIMILAR NOTES

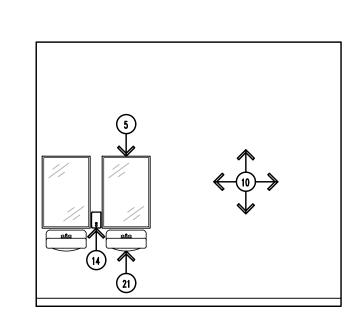


5 Building B Locker Room Restroom North Wall A5.01 Scale: 1/4"=1'-0" REFER TO 3/A5.01 FOR SIMILAR NOTES

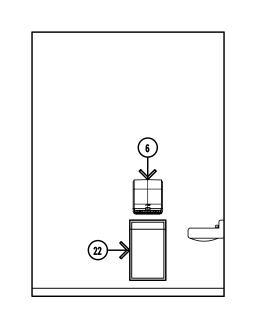


Building B Men's Restroom West Wall

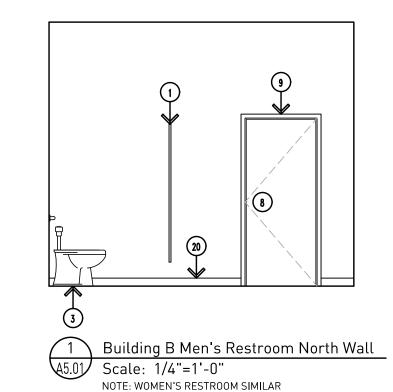
A5.01 Scale: 1/4"=1'-0"







Building B Men's Restroom East Wall Scale: 1/4"=1'-0" NOTE: WOMEN'S RESTROOM SIMILAR



#### DRAWING NOTES CONTINUED:

- 10. PAINTED CMU WALL REFER TO FINISH / MATERIALS SCHEDULE
- 11. 42" STAINLESS STEEL GRAB BAR MOUNTED PER ADA REQUIREMENTS REFER TO A0.00 & SPECIFICATIONS FOR FURTHER INFORMATION. 12. 36" STAINLESS STEEL GRAB BAR MOUNTED PER ADA REQUIREMENTS - REFER TO A0.00 &
- SPECIFICATIONS FOR FURTHER INFORMATION.
- 13. 18" STAINLESS STEEL GRAB BAR MOUNTED PER ADA REQUIREMENTS REFER TO A0.00 & SPECIFICATIONS FOR FURTHER INFORMATION.
- 14. WALL MOUNTED SOAP DISPENSER REFER TO SPECIFICATIONS.
- 15. SANITARY NAPKIN DISPOSAL MOUNTED PER BARRIER FREE REQUIREMENTS.
- 16. WHITE BOARD REFER TO SPECIFICATIONS FOR FURTHER INFORMATION. 17. APPROXIMATE LOCATION OF INTERACTIVE FLAT PANEL - FURNISHED AND INSTALLED BY
- TECHNOLOGY VENDOR.
- 18. ELECTRIC WATER COOLER WITH BOTTLE FILLER.
- 19. WALL MOUNTED CHANGING TABLE REFER TO SPECIFICATIONS.
- 20. WALL BASE.
- 21. WALL-MOUNTED LAVATORY.
- 22. WALL MOUNTED TRASH RECEPTACLE.
- 23. LOCKER ROOM BENCH.

#### **GENERAL NOTES:**

G1. DO NOT SCALE DRAWING. DRAWING SCALE IS SHOWN FOR GENERAL REFERENCE ONLY.

#### DRAWING NOTES:

- FLOOR MOUNTED, OVERHEAD BRACED PLASTIC TOILET COMPARTMENT WITH DOOR, HINGES, SLIDE LATCH, DOOR PULL, COAT HOOK, ETC. REFER TO SPECIFICATIONS FOR FURTHER
- WALL MOUNTED, PLASTIC URINAL SCREEN WITH CONTINUOUS WALL BRACKET. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION. PROVIDE PILASTER AT FREE END FOR
- 3. FLOOR MOUNTED TOILET WITH AUTOMATIC FLUSH VALVE, MOUNTED WITH RIM AT 17" A.F.F. (MAXIMUM). REFER TO MECHANICAL FOR FURTHER INFORMATION.
- WALL MOUNTED URINAL WITH AUTOMATIC FLUSH VALVE, MOUNTED WITH RIM AT 17" A.F.F. (MAXIMUM). REFER TO MECHANICAL FOR FURTHER INFORMATION. PROVIDE CONCEALED CARRIER WITH TUBE STEEL SUPPORT LEGS.
- 5. WALL MOUNTED MIRROR REFER TO SPECIFICATIONS.
- 6. WALL MOUNTED PAPER TOWEL DISPENSER REFER TO SPECIFICATIONS.
- 7. TOILET TISSUE DISPENSER MOUNTED PER BARRIER FREE REQUIREMENTS.
- 8. DOOR REFER TO DOOR SCHEDULE.

9. DOOR FRAME - REFER TO DOOR SCHEDULE.

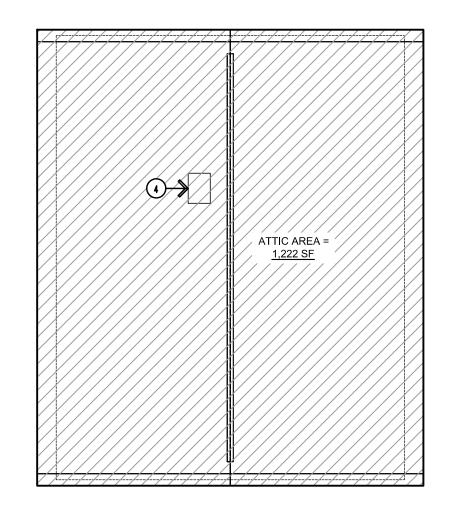
Bidding and Permits: 20 March 2023

Interior Elevations - Building B



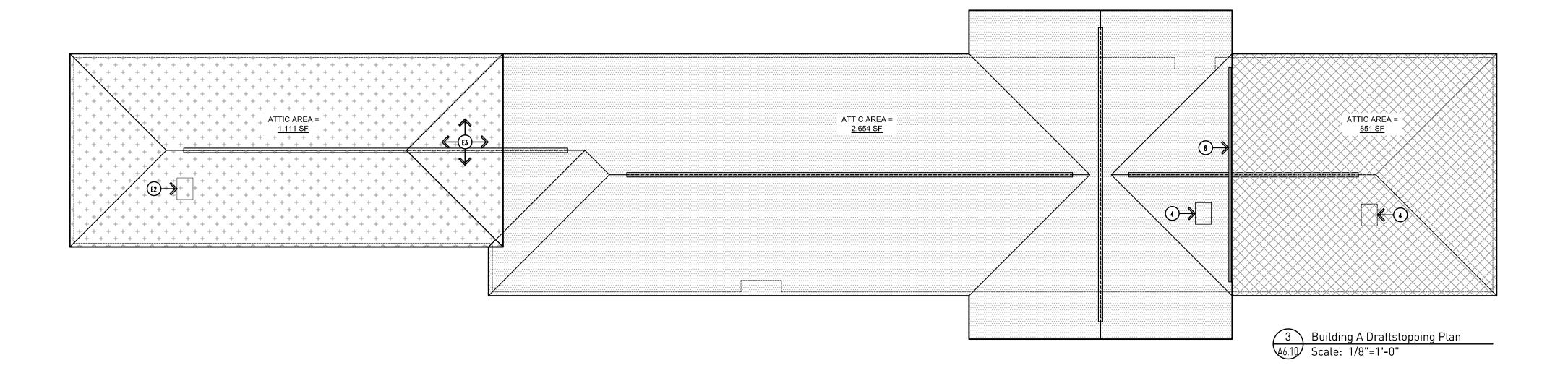
Crestwood School District Crestwood High School
Field Building & Site Improvements

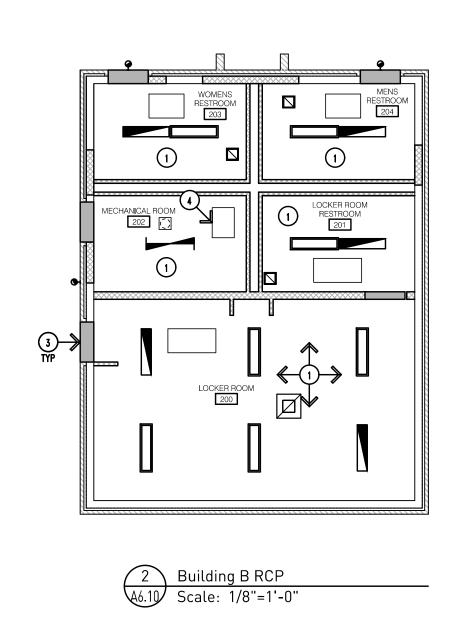
Project No. 5622

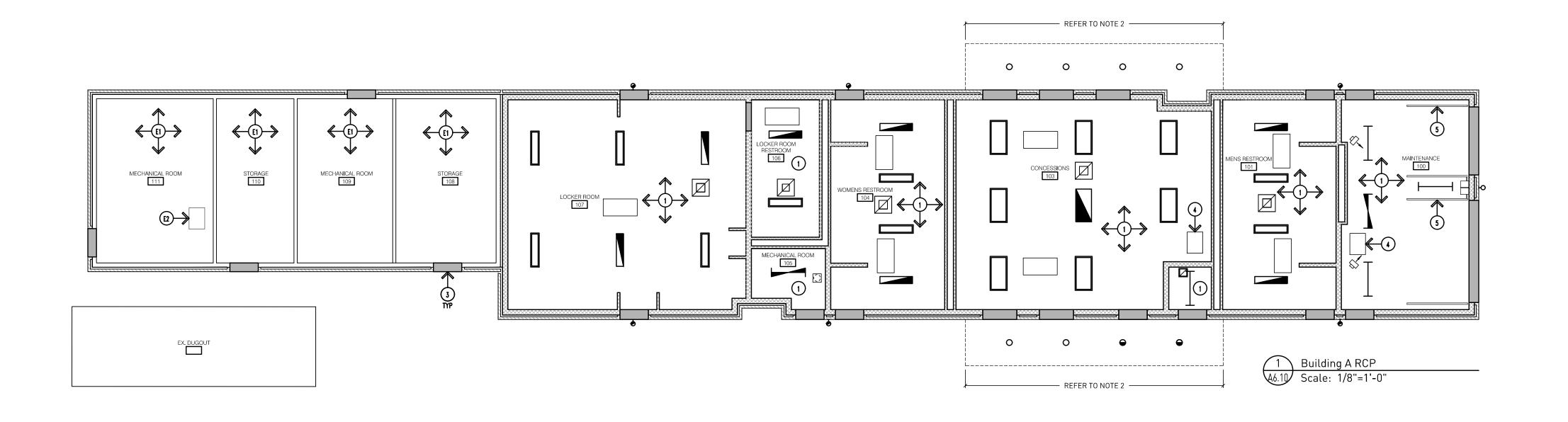


Building B Draftstopping Plan

A6.10 Scale: 1/8"=1'-0"







#### CODE REVIEW - DRAFTSTOPPING PLAN:

- CR1. <u>718.3.1 DRAFTSTOPPING MATERIALS</u> DRAFTSTOPPING MATERIALS SHALL BE NOT LESS THAN  $\frac{1}{2}$  INCH (12.7 MM) GYPSUM BOARD,  $\frac{3}{8}$  INCH (9.5 MM) WOOD STRUCTURAL PANEL,  $\frac{3}{8}$  INCH (9.5 MM) PARTICLE BOARD, 1-INCH (25-MM) NOMINAL LUMBER, CEMENT FIBERBOARD, BATTS OR BLANKETS OF MINERAL WOOL OR GLASS FIBER, OR OTHER APPROVED MATERIALS ADEQUATELY SUPPORTED. THE INTEGRITY OF DRAFTSTOPS SHALL BE MAINTAINED.
- CR2. 718.4 DRAFTSTOPPING IN ATTICS IN COMBUSTIBLE CONSTRUCTION, DRAFTSTOPPING SHALL BE INSTALLED TO SUBDIVIDE ATTIC SPACES AND CONCEALED ROOF SPACES IN THE LOCATIONS PRESCRIBED IN SECTIONS 718.4.2 AND 718.4.3. VENTILATION OF CONCEALED
- CR3. 718.4.1 DRAFTSTOPPING MATERIALS MATERIALS UTILIZED FOR DRAFTSTOPPING OF ATTIC SPACES SHALL COMPLY WITH SECTION 718.3.1

ROOF SPACES SHALL BE MAINTAINED IN ACCORDANCE WITH SECTION 1203.2

- CR4. 718.4.1.1 OPENINGS OPENINGS IN THE PARTITIONS SHALL BE PROTECTED BY SELF-CLOSING DOORS WITH AUTOMATIC LATCHES CONSTRUCTED AS REQUIRED FOR THE PARTITIONS.
- CR5. 718.4.3 OTHER GROUPS DRAFTSTOPPING SHALL BE INSTALLED IN ATTICS AND CONCEALED ROOF SPACES, SUCH THAT ANY HORIZONTAL AREA DOES NOT EXCEED 3,000 SQUARE FEET
- CR6. 1209.2 ATTIC SPACES AN OPENING NOT LESS THAN 20 INCHES BY 30 INCHES (559 MM BY 762 MM) SHALL BE PROVIDED TO ANY ATTIC AREA HAVING A CLEAR HEIGHT OF OVER 30 INCHES [762 MM]. CLEAR HEADROOM OF NOT LESS THAN 30 INCHES [762 MM] SHALL BE PROVIDED IN THE ATTIC SPACE AT OR ABOVE THE ACCESS OPENING.

#### LEGEND CONTINUED:

ELECTRIC UNIT HEATER - REFER TO MECHANICAL DRAWINGS

ELECTRIC FAN UNIT HEATER - REFER TO MECHANICAL DRAWINGS

ELECTRIC FAN UNIT HEATER - REFER TO MECHANICAL DRAWINGS

#### EXHAUST DUCT - REFER TO MECHANICAL DRAWINGS

LINEAR 4' LIGHT WITH EMERGENCY BACK UP - REFER TO ELECTRICAL DRAWINGS

## 2X4 LED LIGHT - REFER TO ELECTRICAL DRAWINGS

1X4 LED LIGHT - REFER TO ELECTRICAL DRAWINGS

LINEAR 4' LIGHT - REFER TO ELECTRICAL DRAWINGS

1X4 LED LIGHT WITH EMERGENCY BACK UP - REFER TO ELECTRICAL

LEGEND:

2X4 LED LIGHT WITH EMERGENCY BACK UP - REFER TO ELECTRICAL DRAWINGS

WALL MOUNTED LIGHT WITH EMERGENCY BACK UP - REFER TO ELECTRICAL

WALL MOUNTED LIGHT - REFER TO ELECTRICAL DRAWINGS

8" ROUND CAN LIGHT - REFER TO ELECTRICAL DRAWINGS

8" ROUND CAN LIGHT WITH EMERGENCY BACK UP - REFER TO ELECTRICAL

#### DRAWING NOTES CONTINUED:

DRAFTSTOPPING WALL - 2 X 4 NOMINAL WOOD STUD CONSTRUCTION WITH  $\frac{1}{2}$ " GYPSUM BOARD ON EAST SIDE OF WALL.

#### **EXISTING TO REMAIN:**

- E1. EXISTING CEILING SYSTEM TO REMAIN.
- E2. EXISTING ATTIC ACCESS DOOR.
- E3. EXISTING PLYWOOD ROOF SHEATHING TO REMAIN IN THIS AREA. ENSURE ALL JOINTS ARE PROPERLY SEALED TO ACT AS A DRAFTSTOP E.C.U. CFV EXISTING SHEATHING IS AT LEAST ₹" THICK.

#### **GENERAL NOTES:**

- G1. DO NOT SCALE DRAWING. DRAWING SCALE IS SHOWN FOR GENERAL REFERENCE ONLY.
- G2. ALL NOTES MAY NOT APPLY TO THIS SHEET.
- G3. FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO COMMENCING ON THE WORK.
- G4. PROTECT ALL ITEMS TO REMAIN FORM CONSTRUCTION OPERATIONS SO AS TO NOT CAUSE
- G5. REFER TO FINISH SCHEDULE FOR CEILING HEIGHTS.
- G6. REFER TO ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.
- REFER TO STRUCTURAL DRAWINGS FOR ADDITIONAL INFORMATION ON BUILDING

#### DRAWING NOTES:

- 1. GYPSUM BOARD CEILING WITH PAINTED WOOD PERIMETER TRIM.
- 2. ROOF OVERHANG AT CONCESSION WINDOWS SEE ELEVATIONS FOR LOCATION.
- 3. DOOR HEADER.
- 4. 22" X 30" ATTIC ACCESS DOOR ACUDOR; PRODUCT FW-5050-UP FIRE RATED INSULATED UP SWING DOOR FOR CEILINGS.
- 5. OVERHEAD DOOR TRACK AND OPERATOR.

RCP and Draftstopping Plan



Crestwood School District Crestwood High School
Field Building & Site Improvements

Project No. 5622

Bidding and Permits: 20 March 2023

ROOM FINISH SCHEDULE BUILDING A																			
ROOM NO.	ROOM DESIGNATION	FLOORING INFORMATION				WALL INFORMATION										CEILING INFORMATION			
		FLOOR MATERIAL	BASE MATERIAL	BASE HEIGHT	FLOORING REMARKS	NORTH WALL MATERIAL	NORTH WALL FINISH	EAST WALL MATERIAL	EAST WALL FINISH	SOUTH WALL MATERIAL	SOUTH WALL FINISH	WEST WALL MATERIAL	WEST WALL FINISH	WALL REMARKS	CEILING MATERIAL	CEILING FINISH	HEIGHT A.F.F.	CEILING REMARKS	
100	MAINTENANCE	sc	RB	4"		СМИ	PAINT (PT-2)	СМИ	PAINT (PT-2)	СМИ	PAINT (PT-2)	CMU	PAINT (PT-)		GB	PAINT (PT-3)	9'-4"		
101	MENS RESTROOM	sc	RB	4"		СМИ	PAINT (PT-1)	СМИ	PAINT (PT-1)	СМИ	PAINT (PT-1)	CMU	PAINT (PT-1)		GB	PAINT (PT-3)	9'-4"		
102	JANITORS CLOSET	EFC	EFC	4"		СМИ	PAINT (PT-2)	СМИ	PAINT (PT-2)	СМИ	PAINT (PT-2)	CMU	PAINT (PT-2)		GB	PAINT (PT-3)	9'-4"		
103	CONCESSIONS	EFC	EFC	4"		СМИ	PAINT (PT-)	СМИ	PAINT (PT-1)	СМИ	PAINT (PT-1)	CMU	PAINT (PT-1)		GB	PAINT (PT-3)	9'-4"		
104	WOMENS RESTROOM	sc	RB	4"		СМИ	PAINT (PT-1)	СМИ	PAINT (PT-1)	СМИ	PAINT (PT-1)	CMU	PAINT (PT-1)		GB	PAINT (PT-3)	9'-4"		
105	MECHANICAL ROOM	sc	RB	4"		СМИ	PAINT (PT-2)	СМИ	PAINT (PT-2)	СМИ	PAINT (PT-2)	CMU	PAINT (PT-2)		GB	PAINT (PT-3)	9'-4"		
106	LOCKER ROOM RESTROOM	sc	RB	4"		СМИ	PAINT (PT-1)	СМИ	PAINT (PT-1)	СМИ	PAINT (PT-1)	CMU	PAINT (PT-1)		GB	PAINT (PT-3)	9'-4"		
107	LOCKER ROOM	sc	RB	4"		СМИ	PAINT (PT-1)	СМИ	PAINT (PT-1)	СМИ	PAINT (PT-1)	CMU	PAINT (PT-1)		GB	PAINT (PT-3)	9'-4"		
108	STORAGE	ETR	ETR	ETR		ETR	ETR	ETR	ETR	ETR	ETR	ETR	ETR		ETR	ETR	ETR		
109	MECHANICAL ROOM	ETR	ETR	ETR		ETR	ETR	ETR	ETR	ETR	ETR	ETR	ETR		ETR	ETR	ETR		
110	STORAGE	ETR	ETR	ETR		ETR	ETR	ETR	ETR	ETR	ETR	ETR	ETR		ETR	ETR	ETR		
111	MECHANICAL ROOM	ETR	ETR	ETR		ETR	ETR	ETR	ETR	ETR	ETR	ETR	ETR		ETR	ETR	ETR		

	ROOM FINISH SCHEDULE BUILDING B																	
ROOM NO.	ROOM DESIGNATION	FLOORING INFORMATION				WALL INFORMATION		CEILING INFORMATION										
		FLOOR MATERIAL	BASE MATERIAL	BASE HEIGHT	FLOORING REMARKS	NORTH WALL MATERIAL	NORTH WALL FINISH	EAST WALL MATERIAL	EAST WALL FINISH	SOUTH WALL MATERIAL	SOUTH WALL FINISH	WEST WALL MATERIAL	WEST WALL FINISH	WALL REMARKS	CEILING MATERIAL	CEILING FINISH	HEIGHT A.F.F.	CEILING REMARKS
200	LOCKER ROOM	SC	RB	4"		СМИ	PAINT (PT-1)	CMU	PAINT (PT-1)	СМИ	PAINT (PT-1)	СМИ	PAINT (PT-1)		GB	PAINT (PT-3)	11'-0"	
201	LOCKER ROOM RESTROOM	SC	RB	4"		СМИ	PAINT (PT-1)	CMU	PAINT (PT-1)	СМИ	PAINT (PT-1)	СМИ	PAINT (PT-1)		GB	PAINT (PT-3)	11'-0"	
202	MECHANICAL ROOM	SC	RB	4"		СМИ	PAINT (PT-2)	CMU	PAINT (PT-2)	СМИ	PAINT (PT-2)	СМИ	PAINT (PT-2)		GB	PAINT (PT-3)	11'-0"	
203	WOMENS RESTROOM	SC	RB	4"		СМИ	PAINT (PT-1)	CMU	PAINT (PT-1)	СМИ	PAINT (PT-1)	СМИ	PAINT (PT-1)		GB	PAINT (PT-3)	11'-0"	
204	MENS RESTROOM	SC	RB	4"		СМИ	PAINT (PT-1)	СМИ	PAINT (PT-1)	СМИ	PAINT (PT-1)	СМИ	PAINT (PT-1)		GB	PAINT (PT-3)	11'-0"	

#### FINISH MATERIALS LIST:

EFC SHERWIN WILLIAMS; ARMORSEAL - HAZE GRAY

PT-1 SHERWIN WILLIAMS - SW7016 'MINDFUL GRAY'

PT-2 SHERWIN WILLIAMS - SW7008 'ALABASTER'
PT-3 SHERWIN WILLIAMS - SW7007 'CEILING BRIGHT WHITE'

RB - JOHNSONITE - 29 'MOON ROCK'

#### GENERAL NOTES:

- G1. DO NOT SCALE DRAWING. DRAWING SCALE IS SHOWN FOR GENERAL REFERENCE ONLY.
- G2. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION REGARDING REQUIRED PAINT FORMULA AND SHEEN BASED ON VARIOUS SUBSTRATES AND APPLICATIONS.

#### LEGEND:

CMU CONCRETE MASONRY UNITS

EFC EPOXY FLOOR COATING - SHERWIN WILLIAMS; PRODUCT - ARMORSEAL PRIMER/SEALER AND 8100 WITH INTEGRAL 4" COVED BASE.

8100 WITH INTEGRAL 4" C
ETR EXISTING TO REMAIN

GB GYPSUM BOARD

PT EPOXY PAINT

RB RUBBER BASE

SC SEALED CONCRETE - DAYTON SUPERIOR; PRODUCT - TUF SEAL J35.

Bidding and Permits: 20 March 2023

Finish Schedule



Crestwood School District Crestwood High School Field Building & Site Improvements

Project No. 5622

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#### DRAWING NOTES (CONTINUED)

- 57. O/H DOOR REFER TO DOOR SCHEDULE FOR FURTHER INFORMATION.
- 58.  $1\frac{1}{2}$ " x 16"x  $\frac{1}{8}$ " STRAP ANCHOR @ 24" O.C. VERTICALLY--WELD TO CHANNEL WITH HOOK IN
- 59. GROUT SOLID.
- WOOD TRIM 3/4" x 1-1/2"- CONTINUOUS AT PERIMETER ALL ROOMS, PAINTED TO MATCH
- 61. 2 x 4 LEDGER.
- 62. 2" x 4" LOOKOUT.
- 63. 1" x 6" WOOD TRIM BOARD WITH ALUMINUM TRIM.
- 64. PREFINISHED ALUMINUM GUTTER.
- 65. 1" x \_\_\_ WOOD FASCIA WITH ALUMINUM TRIM.
- 66. PREFINISHED ALUMINUM DRIP EDGE.
- 67. 2 x 4 BLOCKING.
- 68. HEAVY DUTY RATED, STEEL FRAMED WALL MOUNTED BENCH WITH ALUMINUM SEAT.

#### DRAWING NOTES (CONTINUED):

- 43. ISOLATION GASKET.
- 44. HEAVY DUTY PREFINISHED ALUMINUM COVER PLATE.
- 45. MOISTURE BARRIER MEMBRANE ATTACHED TO BUILDING STRUCTURE.
- 46. 1/2"Ø ANCHOR BOLT, 1'-4" LONG, 4' O.C.
- 47. 2 HOUR FIRE BARRIER.
- 48. STAINLESS STEEL COUNTERTOP REFER TO FOOD SERVICE DRAWINGS FOR FURTHER INFORMATION.
- 49. STEEL ANGLE REFER TO STRUCTURAL DRAWINGS FOR FURTHER INFORMATION.
- 51. OVERHEAD DOOR METAL TRACK.
  - 52. METAL TRACK BRACKET.
  - FOLLER AXLE.
  - 54. ROLLER AXLE BRACKET ATTACHED TO OVERHEAD DOOR.
  - 55. STEEL ROLLER.
  - 56. CUSTOM STEEL CHANNEL (PRIME AND PAINT) REFER TO STRUCTURAL DRAWINGS FOR

#### DRAWING NOTES (CONTINUED):

33. PEA STONE DRAINAGE MATERIAL (MINIMUM 6" HEIGHT).

37. HM DOOR FRAME - REFER TO DOOR SCHEDULE.

38. FRP DOOR - REFER TO DOOR SCHEDULE.

39. JAMB ANCHOR TO SUIT CONDITIONS.

40. GROUT FILLED DOOR FRAME.

42. LINE OF GRADE.

34. VERTICAL ALUMINUM SIDING - REFER TO SPECIFICATIONS.

35. SEAL EXISTING CONCRETE FLOOR - REFER TO FINISH SCHEDULE.

41. ADHESIVE APPLIED WATERPROOFING - REFER TO SPECIFICATIONS.

- 29. CONTINUOUS SPRAY-APPLIED VAPOR BARRIER FROM FOUNDATION TO ROOFING.
- 30. STAINLESS STEEL METAL DRIP WITH HEMMED EDGE.
- 31. FULLY ADHERED FLEXIBLE MEMBRANE FLASHING WITH END DAMS.

36. PREFABRICATED WOOD TRUSSES - REFER TO STRUCTURAL DRAWINGS FOR SPACING.

PROVIDE STAINLESS STEEL DRIP WITH HEMMED EDGE ABOVE ALL EXTERIOR WINDOW AND 32. TERMINATION BAR WITH TOP SEALANT--INSTALL PER MANUFACTURER'S REQUIREMENTS.

**GENERAL NOTES:** 

G5. PROVIDE MASONRY WEEPHOLES @ 32" O.C. HORIZONTALLY COMPLETE WITH 3/8" x 1-1/2"

G3. PROVIDE MASONRY ANCHORS @ 16" O.C. VERTICALLY AND HORIZONTALLY.

PLASTIC WEEP VENT AND FLEXIBLE MEMBRANE FLASHING MIN. 16" UP WALL. MASONRY CONTROL JOINTS SHOULD BE SPACED 25'-0" APART MAX. AND SHOULD NOT BE SPACED FURTHER THAN 1.5x THE WALL HEIGHT - REFER TO THE MASONRY INSTITUTE FOR

G1. DO NOT SCALE DRAWING. DRAWING SCALE IS SHOWN FOR GENERAL REFERENCE ONLY.

- G7. CONTRACTOR TO FIELD VERIFY ALL CONDITIONS, DIMENSIONS, ACCESS, ETC. PRIOR TO BIDDING AND STARTING WORK.
- G8. NEW PLYWOOD THICKNESS TO MATCHING EXISTING (C.F.V.)

G2. NOT ALL NOTES ARE APPLICABLE TO THIS SHEET.

- G9. RESTORE EXISTING PAVING, LANDSCAPING, LAWN, ETC. TO ORIGINAL CONDITIONS IF DAMAGED DURING CONSTRUCTION OPERATIONS.
- G10. REFER TO SPECIFICATIONS FOR SHINGLE TYPE, ALTERNATIVES, ETC.
- G11. CONTRACTOR TO INVESTIGATE EXISTING PLYWOOD SHEATHING FOR STRUCTURAL SOUNDNESS. IF IT IS DETERMINED THAT REPLACEMENT IS REQUIRED, THE CONTRACT WILL BE ADJUSTED ACCORDINGLY VIA CHANGE ORDER AT THE UNIT PRICES INCLUDED ON
- THE PROPOSAL FORM. CONTRACTOR TO MATCH EXISTING THICKNESS (C.F.V.) G12. INTENT IS FOR ENTIRE ROOF DECK TO BE COVERED WITH SELF-ADHERING LEAK BARRIER.

#### **EXISTING TO REMAIN NOTES:**

- E1. CONCRETE FLOOR SLAB EXACT CONDITIONS UNKNOWN.
- E2. CMU BLOCK EXACT CONDITIONS UNKNOWN.
- E3. ROOF STRUCTURE (WOOD TRUSSES) EXACT CONDITIONS UNKNOWN.
- E4. UNDISTURBED SOIL.
- E5. STRUCTURAL FOOTING EXACT CONDITIONS UNKNOWN. CONTRACTOR TO FIELD VERIFY
- E6. WOOD FRAME CONSTRUCTION EXACT CONDITIONS UNKNOWN.
- E7. GYP. BOARD CEILING EXACT CONDITIONS UNKNOWN.
- E8. PLYWOOD ROOF SHEATHING EXACT CONDITIONS UNKNOWN. REFER TO NOTE G11.
- E9. PLYWOOD WALL SHEATHING EXACT CONDITIONS UNKNOWN. REFER TO NOTE G11.

#### **REMOVAL NOTES:**

EXISTING ROOF STRUCTURE/SYSTEM AS INDICATED. CONTRACTOR TO REMOVE ROOF BACK TO THE FACE OF THE EXISTING WALL. WATERPROOF AND SEAL ANY AND ALL OPENINGS IN ROOF FOR A WEATHER-TIGHT INSTALLATION.

#### DRAWING NOTES:

- PROPERLY COMPACTED EXISTING SUBGRADE.
- COMPACTED ENGINEERED FILL AS REQUIRED AFTER REMOVAL OF EXISTING LAWN / UNSUITABLE SOILS AS REQUIRED FOR PROPER SLAB ELEVATION.
- 3. COMPACTED SAND CUSHION BASE (MINIMUM 4").
- SEALED CONCRETE FLOOR SLAB OVER 15 MIL VAPOR BARRIER -- PROPERLY LAP AND SEAL JOINTS PER MANUFACTURER'S REQUIREMENTS.
- 5. CONCRETE FOUNDATION REFER TO STRUCTURAL DRAWINGS.
- 6.  $\frac{1}{2}$ " PREMOLDED EXPANSION JOINT WITH SEALANT.
- 7. CMU MASONRY BLOCK (EPOXY PAINT ALL SURFACES EXPOSED TO VIEW).
- 8. HORIZONTAL JOINT REINFORCING @ 16" O.C. VERTICALLY. 9. REINFORCING - REFER TO STRUCTURAL DRAWINGS.
- 10. EPOXY FLOOR COATING WITH INTEGRAL 4" COVED BASE
- 11. 4" RUBBER BASE.
- GROUT BRICK/CMU CORES AND COLLAR JOINTS SOLID BELOW FLASHING, BELOW GRADE, AND WHERE INDICATED BY STRUCTURAL DRAWINGS.
- 13. 2" RIGID INSULATION BOARD MINIMUM 24" INSIDE BUILDING, AND VERTICALLY BEHIND
- 14.  $\frac{1}{2}$ " GYP. BOARD ON WOOD TRUSSES.
- 15. SERVING WINDOW FRAMING AND GLAZING REFER TO WINDOW SCHEDULE AND DETAILS.
- 4" BRICK VENEER WITH ADJUSTABLE BRICK TIES @ 16" O.C. VERTICALLY AND HORIZONTALLY (PROVIDE LENGTH AS REQUIRED DUE TO WALL CAVITY SIZE).
- 17. ASPHALT SHINGLES ON 40 MIL SELF ADHERING LEAK BARRIER OVER THE EXISTING PLYWOOD
- 18.  $\frac{3}{8}$ " x 1  $\frac{1}{2}$ " PLASTIC WEEP VENT WITH INSECT SCREEN AT BASE AND TOP OF WALL.
- 19. ALUMINUM SOFFIT, FULLY VENTED REFER TO SPECIFICATIONS.
- 20.  $\frac{3}{4}$ " CROSS FURRING SPACED PER MANUFACTURER'S RECOMMENDATIONS.
- 21. 2" CRC MAIN RUNNER ATTACHED TO BUILDING STRUCTURE WITH GALVANIZED TIE WIRE (SPACED PER MANUFACTURER'S RECOMMENDATIONS).
- 22. INSULATION FORM REFER TO STRUCTURAL DRAWINGS.
- 23. 5" CONCRETE FROST SLAB -- SLOPE AWAY FROM BUILDING MINIMUM  $\frac{1}{4}$ " PER FOOT.
- 24. RECESSED LIGHT FIXTURE -- REFER TO ELECTRICAL DRAWINGS. 25. STEEL LINTEL WITH PLATE, PAINT -- REFER TO STRUCTURAL DRAWINGS.
- 26. 2"x 8" PRESERVATIVE TREATED WOOD PLATE.
- 27. CONCRETE SIDEWALK OR PLAZA PAVING REFER TO CIVIL DRAWINGS.
- 28. SEALANT (WITH FOAM BACKER ROD AS NECESSARY TO SUIT CONDITIONS).

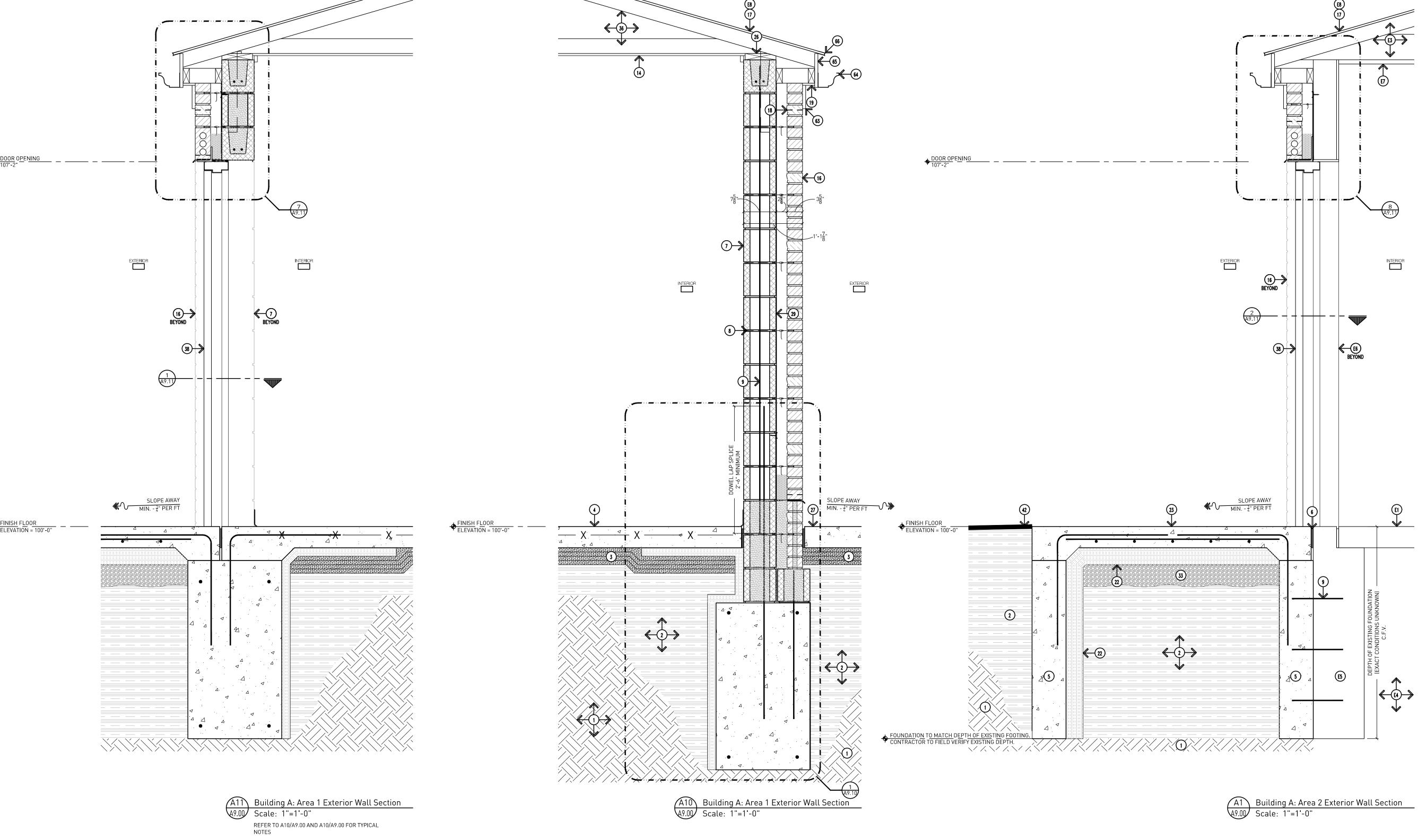
Bidding and Permits: 20 March 2023

Exterior Wall Sections - Building A



**Crestwood School District** Crestwood High School
Field Building & Site Improvements

Project No. 5622



#### DRAWING NOTES (CONTINUED):

- 60. WOOD TRIM 3/4" x 1-1/2"- CONTINUOUS AT PERIMETER ALL ROOMS, PAINTED TO MATCH
- 61. 2 x 4 LEDGER.
- 62. 2" x 4" LOOKOUT.
- 63. 1" x 6" WOOD TRIM BOARD WITH ALUMINUM TRIM.
- 64. PREFINISHED ALUMINUM GUTTER.
- 65. 1" x \_\_\_ WOOD FASCIA WITH ALUMINUM TRIM.
- 66. PREFINISHED ALUMINUM DRIP EDGE.

INTERIOR

<u>51</u>

\(\A9.01\)\) Scale: 1"=1'-0"

- 67. 2 x 4 BLOCKING.
- 68. HEAVY DUTY RATED, STEEL FRAMED WALL MOUNTED BENCH WITH ALUMINUM SEAT.

#### DRAWING NOTES (CONTINUED):

- 48. STAINLESS STEEL COUNTERTOP REFER TO FOOD SERVICE DRAWINGS FOR FURTHER
- 49. STEEL ANGLE REFER TO STRUCTURAL DRAWINGS FOR FURTHER INFORMATION.
- OVERHEAD DOOR MOTOR.
- OVERHEAD DOOR METAL TRACK.
- 52. METAL TRACK BRACKET.
- FOLLER AXLE.
- 54. ROLLER AXLE BRACKET ATTACHED TO OVERHEAD DOOR.
- 55. STEEL ROLLER. CUSTOM STEEL CHANNEL (PRIME AND PAINT) - REFER TO STRUCTURAL DRAWINGS FOR
- FURTHER INFORMATION. 57. O/H DOOR - REFER TO DOOR SCHEDULE FOR FURTHER INFORMATION.
- $1\frac{1}{2}$ " x 16"x  $\frac{1}{8}$ " STRAP ANCHOR @ 24" O.C. VERTICALLY--WELD TO CHANNEL WITH HOOK IN
- 59. GROUT SOLID.

INTERIOR

#### DRAWING NOTES (CONTINUED):

- 38. FRP DOOR REFER TO DOOR SCHEDULE.
- 39. JAMB ANCHOR TO SUIT CONDITIONS.
- 40. GROUT FILLED DOOR FRAME.
- 41. ADHESIVE APPLIED WATERPROOFING REFER TO SPECIFICATIONS.
- 42. LINE OF GRADE.
- 43. ISOLATION GASKET.
- 44. HEAVY DUTY PREFINISHED ALUMINUM COVER PLATE.
- 45. MOISTURE BARRIER MEMBRANE ATTACHED TO BUILDING STRUCTURE.
- 46. 1/2"Ø ANCHOR BOLT, 1'-4" LONG, 4' O.C.
- 47. 2 HOUR FIRE BARRIER.

#### DRAWING NOTES (CONTINUED):

29. CONTINUOUS SPRAY-APPLIED VAPOR BARRIER FROM FOUNDATION TO ROOFING.

32. TERMINATION BAR WITH TOP SEALANT--INSTALL PER MANUFACTURER'S REQUIREMENTS.

36. PREFABRICATED WOOD TRUSSES - REFER TO STRUCTURAL DRAWINGS FOR SPACING.

30. STAINLESS STEEL METAL DRIP WITH HEMMED EDGE.

33. PEA STONE DRAINAGE MATERIAL (MINIMUM 6" HEIGHT).

37. HM DOOR FRAME - REFER TO DOOR SCHEDULE.

**₹**36

34. VERTICAL ALUMINUM SIDING - REFER TO SPECIFICATIONS.

35. SEAL EXISTING CONCRETE FLOOR - REFER TO FINISH SCHEDULE.

- G3. PROVIDE MASONRY ANCHORS @ 16" O.C. VERTICALLY AND HORIZONTALLY. 31. FULLY ADHERED FLEXIBLE MEMBRANE FLASHING WITH END DAMS.
  - G4. PROVIDE STAINLESS STEEL DRIP WITH HEMMED EDGE ABOVE ALL EXTERIOR WINDOW AND

G2. NOT ALL NOTES ARE APPLICABLE TO THIS SHEET.

**GENERAL NOTES:** 

- G5. PROVIDE MASONRY WEEPHOLES @ 32" O.C. HORIZONTALLY COMPLETE WITH 3/8" x 1-1/2" PLASTIC WEEP VENT AND FLEXIBLE MEMBRANE FLASHING MIN. 16" UP WALL.

G1. DO NOT SCALE DRAWING. DRAWING SCALE IS SHOWN FOR GENERAL REFERENCE ONLY.

- G6. MASONRY CONTROL JOINTS SHOULD BE SPACED 25'-0" APART MAX. AND SHOULD NOT BE SPACED FURTHER THAN 1.5x THE WALL HEIGHT - REFER TO THE MASONRY INSTITUTE FOR FURTHER INFORMATION
- G7. CONTRACTOR TO FIELD VERIFY ALL CONDITIONS, DIMENSIONS, ACCESS, ETC. PRIOR TO BIDDING AND STARTING WORK.
- G8. NEW PLYWOOD THICKNESS TO MATCHING EXISTING (C.F.V.)
- RESTORE EXISTING PAVING, LANDSCAPING, LAWN, ETC. TO ORIGINAL CONDITIONS IF DAMAGED DURING CONSTRUCTION OPERATIONS.
- G10. REFER TO SPECIFICATIONS FOR SHINGLE TYPE, ALTERNATIVES, ETC.
- G11. CONTRACTOR TO INVESTIGATE EXISTING PLYWOOD SHEATHING FOR STRUCTURAL SOUNDNESS. IF IT IS DETERMINED THAT REPLACEMENT IS REQUIRED, THE CONTRACT WILL BE ADJUSTED ACCORDINGLY VIA CHANGE ORDER AT THE UNIT PRICES INCLUDED ON THE PROPOSAL FORM. CONTRACTOR TO MATCH EXISTING THICKNESS [C.F.V.]
- G12. INTENT IS FOR ENTIRE ROOF DECK TO BE COVERED WITH SELF-ADHERING LEAK BARRIER.

#### **EXISTING TO REMAIN NOTES:**

- E1. CONCRETE FLOOR SLAB EXACT CONDITIONS UNKNOWN.
- E2. CMU BLOCK EXACT CONDITIONS UNKNOWN.
- E3. ROOF STRUCTURE (WOOD TRUSSES) EXACT CONDITIONS UNKNOWN.
- E4. UNDISTURBED SOIL.
- STRUCTURAL FOOTING EXACT CONDITIONS UNKNOWN. CONTRACTOR TO FIELD VERIFY
- E6. WOOD FRAME CONSTRUCTION EXACT CONDITIONS UNKNOWN.
- E7. GYP. BOARD CEILING EXACT CONDITIONS UNKNOWN.
- E8. PLYWOOD ROOF SHEATHING EXACT CONDITIONS UNKNOWN. REFER TO NOTE G11. E9. PLYWOOD WALL SHEATHING - EXACT CONDITIONS UNKNOWN. REFER TO NOTE G11.

#### REMOVAL NOTES:

R1. EXISTING ROOF STRUCTURE/SYSTEM AS INDICATED. CONTRACTOR TO REMOVE ROOF BACK TO THE FACE OF THE EXISTING WALL. WATERPROOF AND SEAL ANY AND ALL OPENINGS IN ROOF FOR A WEATHER-TIGHT INSTALLATION.

#### DRAWING NOTES:

- PROPERLY COMPACTED EXISTING SUBGRADE.
- COMPACTED ENGINEERED FILL AS REQUIRED AFTER REMOVAL OF EXISTING LAWN / UNSUITABLE SOILS AS REQUIRED FOR PROPER SLAB ELEVATION.
- 3. COMPACTED SAND CUSHION BASE (MINIMUM 4").
- SEALED CONCRETE FLOOR SLAB OVER 15 MIL VAPOR BARRIER -- PROPERLY LAP AND SEAL JOINTS PER MANUFACTURER'S REQUIREMENTS.
- 5. CONCRETE FOUNDATION REFER TO STRUCTURAL DRAWINGS.
- 6.  $\frac{1}{2}$ " PREMOLDED EXPANSION JOINT WITH SEALANT.
- 7. CMU MASONRY BLOCK (EPOXY PAINT ALL SURFACES EXPOSED TO VIEW).
- 8. HORIZONTAL JOINT REINFORCING @ 16" O.C. VERTICALLY.
- 9. REINFORCING REFER TO STRUCTURAL DRAWINGS.
- 10. EPOXY FLOOR COATING WITH INTEGRAL 4" COVED BASE
- 11. 4" RUBBER BASE.
- 12. GROUT BRICK/CMU CORES AND COLLAR JOINTS SOLID BELOW FLASHING, BELOW GRADE, AND WHERE INDICATED BY STRUCTURAL DRAWINGS.
- 13. 2" RIGID INSULATION BOARD MINIMUM 24" INSIDE BUILDING, AND VERTICALLY BEHIND
- 14.  $\frac{1}{2}$ " GYP. BOARD ON WOOD TRUSSES.
- 15. SERVING WINDOW FRAMING AND GLAZING REFER TO WINDOW SCHEDULE AND DETAILS.
- 16. 4" BRICK VENEER WITH ADJUSTABLE BRICK TIES @ 16" O.C. VERTICALLY AND HORIZONTALLY (PROVIDE LENGTH AS REQUIRED DUE TO WALL CAVITY SIZE).
- ASPHALT SHINGLES ON 40 MIL SELF ADHERING LEAK BARRIER OVER THE EXISTING PLYWOOD
- 18.  $\frac{3}{8}$ " x 1  $\frac{1}{2}$ " PLASTIC WEEP VENT WITH INSECT SCREEN AT BASE AND TOP OF WALL.
- 19. ALUMINUM SOFFIT, FULLY VENTED REFER TO SPECIFICATIONS.
- $\frac{3}{4}$ " CROSS FURRING SPACED PER MANUFACTURER'S RECOMMENDATIONS.
- 21. 2" CRC MAIN RUNNER ATTACHED TO BUILDING STRUCTURE WITH GALVANIZED TIE WIRE (SPACED PER MANUFACTURER'S RECOMMENDATIONS).
- 22. INSULATION FORM REFER TO STRUCTURAL DRAWINGS.
- 23. 5" CONCRETE FROST SLAB -- SLOPE AWAY FROM BUILDING MINIMUM  $\frac{1}{4}$ " PER FOOT.
- 24. RECESSED LIGHT FIXTURE -- REFER TO ELECTRICAL DRAWINGS.
- 25. STEEL LINTEL WITH PLATE, PAINT -- REFER TO STRUCTURAL DRAWINGS. 26. 2"x 8" PRESERVATIVE TREATED WOOD PLATE.
- 27. CONCRETE SIDEWALK OR PLAZA PAVING REFER TO CIVIL DRAWINGS.
- 28. SEALANT (WITH FOAM BACKER ROD AS NECESSARY TO SUIT CONDITIONS).

Bidding and Permits: 20 March 2023

Exterior Wall Sections - Building A



**Crestwood School District** Crestwood High School Field Building & Site Improvements

Project No. 5622

A13 Building A: Area 1 Exterior Wall Section A14 Building A: Area 1 Exterior Wall Section REFER TO A13/A9.01 FOR TYPICAL NOTES

A12 Building A: Area 1 Exterior Wall Section REFER TO A13/A9.01 FOR TYPICAL NOTES

<del>(</del>13)

# 33 A A

Building B: Exterior Wall Section

REFER TO B1/9.02 FOR TYPICAL NOTES

#### DRAWING NOTES (CONTINUED):

- 29. CONTINUOUS SPRAY-APPLIED VAPOR BARRIER FROM FOUNDATION TO ROOFING.
- 30. STAINLESS STEEL METAL DRIP WITH HEMMED EDGE.
- 31. FULLY ADHERED FLEXIBLE MEMBRANE FLASHING WITH END DAMS.
- 32. TERMINATION BAR WITH TOP SEALANT--INSTALL PER MANUFACTURER'S REQUIREMENTS.
- 33. PEA STONE DRAINAGE MATERIAL (MINIMUM 6" HEIGHT).
- 34. VERTICAL ALUMINUM SIDING REFER TO SPECIFICATIONS.
- 35. SEAL EXISTING CONCRETE FLOOR REFER TO FINISH SCHEDULE.
- 36. PREFABRICATED WOOD TRUSSES REFER TO STRUCTURAL DRAWINGS FOR SPACING.
- 37. HM DOOR FRAME REFER TO DOOR SCHEDULE.
- 38. FRP DOOR REFER TO DOOR SCHEDULE.
- 39. JAMB ANCHOR TO SUIT CONDITIONS.
- 40. GROUT FILLED DOOR FRAME.
- 41. ADHESIVE APPLIED WATERPROOFING REFER TO SPECIFICATIONS.
- 42. LINE OF GRADE.
- 43. ISOLATION GASKET.
- 44. HEAVY DUTY PREFINISHED ALUMINUM COVER PLATE.
- 45. MOISTURE BARRIER MEMBRANE ATTACHED TO BUILDING STRUCTURE.
- 46. 1/2"Ø ANCHOR BOLT, 1'-4" LONG, 4' O.C.
- 47. 2 HOUR FIRE BARRIER.
- 48. STAINLESS STEEL COUNTERTOP REFER TO FOOD SERVICE DRAWINGS FOR FURTHER
- 49. STEEL ANGLE REFER TO STRUCTURAL DRAWINGS FOR FURTHER INFORMATION.

OVERHEAD DOOR MOTOR.

- 51. OVERHEAD DOOR METAL TRACK.
- 52. METAL TRACK BRACKET.
- 53. ROLLER AXLE.

54. ROLLER AXLE BRACKET ATTACHED TO OVERHEAD DOOR.

- 56. CUSTOM STEEL CHANNEL (PRIME AND PAINT) REFER TO STRUCTURAL DRAWINGS FOR FURTHER INFORMATION.
- 57. O/H DOOR REFER TO DOOR SCHEDULE FOR FURTHER INFORMATION.
- 12" x 16" x  $\frac{1}{2}$ " STRAP ANCHOR @ 24" O.C. VERTICALLY--WELD TO CHANNEL WITH HOOK IN
- 60. WOOD TRIM 3/4" x 1-1/2"- CONTINUOUS AT PERIMETER ALL ROOMS, PAINTED TO MATCH
- CEILING. 61. 2 x 4 LEDGER.
- 62. 2" x 4" LOOKOUT.
- 63. 1" x 6" WOOD TRIM BOARD WITH ALUMINUM TRIM.
- 64. PREFINISHED ALUMINUM GUTTER.
- 65. 1" x \_\_\_ WOOD FASCIA WITH ALUMINUM TRIM.
- 66. PREFINISHED ALUMINUM DRIP EDGE.
- 67. 2 x 4 BLOCKING.

MIN. - ½" PER FT

B1 Building B: Exterior Wall Section

A9.02 Scale: 1"=1'-0"

68. HEAVY DUTY RATED, STEEL FRAMED WALL MOUNTED BENCH WITH ALUMINUM SEAT.

#### **GENERAL NOTES:**

- G1. DO NOT SCALE DRAWING. DRAWING SCALE IS SHOWN FOR GENERAL REFERENCE ONLY.
- G2. NOT ALL NOTES ARE APPLICABLE TO THIS SHEET.
- G3. PROVIDE MASONRY ANCHORS @ 16" O.C. VERTICALLY AND HORIZONTALLY.
- G4. PROVIDE STAINLESS STEEL DRIP WITH HEMMED EDGE ABOVE ALL EXTERIOR WINDOW AND
- G5. PROVIDE MASONRY WEEPHOLES @ 32" O.C. HORIZONTALLY COMPLETE WITH 3/8" x 1-1/2" PLASTIC WEEP VENT AND FLEXIBLE MEMBRANE FLASHING MIN. 16" UP WALL.
- G6. MASONRY CONTROL JOINTS SHOULD BE SPACED 25'-0" APART MAX. AND SHOULD NOT BE SPACED FURTHER THAN 1.5x THE WALL HEIGHT - REFER TO THE MASONRY INSTITUTE FOR FURTHER INFORMATION.
- G7. CONTRACTOR TO FIELD VERIFY ALL CONDITIONS, DIMENSIONS, ACCESS, ETC. PRIOR TO BIDDING AND STARTING WORK.
- G8. NEW PLYWOOD THICKNESS TO MATCHING EXISTING (C.F.V.)
- RESTORE EXISTING PAVING, LANDSCAPING, LAWN, ETC. TO ORIGINAL CONDITIONS IF
- DAMAGED DURING CONSTRUCTION OPERATIONS.
- G10. REFER TO SPECIFICATIONS FOR SHINGLE TYPE, ALTERNATIVES, ETC.
- G11. CONTRACTOR TO INVESTIGATE EXISTING PLYWOOD SHEATHING FOR STRUCTURAL SOUNDNESS. IF IT IS DETERMINED THAT REPLACEMENT IS REQUIRED, THE CONTRACT WILL BE ADJUSTED ACCORDINGLY VIA CHANGE ORDER AT THE UNIT PRICES INCLUDED ON THE PROPOSAL FORM. CONTRACTOR TO MATCH EXISTING THICKNESS (C.F.V.)
- G12. INTENT IS FOR ENTIRE ROOF DECK TO BE COVERED WITH SELF-ADHERING LEAK BARRIER.

#### **EXISTING TO REMAIN NOTES:**

- E1. CONCRETE FLOOR SLAB EXACT CONDITIONS UNKNOWN.
- E2. CMU BLOCK EXACT CONDITIONS UNKNOWN.
- E3. ROOF STRUCTURE (WOOD TRUSSES) EXACT CONDITIONS UNKNOWN.
- E4. UNDISTURBED SOIL.
- STRUCTURAL FOOTING EXACT CONDITIONS UNKNOWN. CONTRACTOR TO FIELD VERIFY
- E6. WOOD FRAME CONSTRUCTION EXACT CONDITIONS UNKNOWN.
- E7. GYP. BOARD CEILING EXACT CONDITIONS UNKNOWN.
- E8. PLYWOOD ROOF SHEATHING EXACT CONDITIONS UNKNOWN. REFER TO NOTE G11. E9. PLYWOOD WALL SHEATHING - EXACT CONDITIONS UNKNOWN. REFER TO NOTE G11.

#### REMOVAL NOTES:

R1. EXISTING ROOF STRUCTURE/SYSTEM AS INDICATED. CONTRACTOR TO REMOVE ROOF BACK TO THE FACE OF THE EXISTING WALL. WATERPROOF AND SEAL ANY AND ALL OPENINGS IN ROOF FOR A WEATHER-TIGHT INSTALLATION.

#### DRAWING NOTES:

- PROPERLY COMPACTED EXISTING SUBGRADE.
- COMPACTED ENGINEERED FILL AS REQUIRED AFTER REMOVAL OF EXISTING LAWN / UNSUITABLE SOILS AS REQUIRED FOR PROPER SLAB ELEVATION.
- 3. COMPACTED SAND CUSHION BASE (MINIMUM 4").
- SEALED CONCRETE FLOOR SLAB OVER 15 MIL VAPOR BARRIER -- PROPERLY LAP AND SEAL JOINTS PER MANUFACTURER'S REQUIREMENTS.
- 5. CONCRETE FOUNDATION REFER TO STRUCTURAL DRAWINGS.
- 6.  $\frac{1}{2}$ " PREMOLDED EXPANSION JOINT WITH SEALANT.
- 7. CMU MASONRY BLOCK (EPOXY PAINT ALL SURFACES EXPOSED TO VIEW).
- 8. HORIZONTAL JOINT REINFORCING @ 16" O.C. VERTICALLY.
- 9. REINFORCING REFER TO STRUCTURAL DRAWINGS.
- 10. EPOXY FLOOR COATING WITH INTEGRAL 4" COVED BASE.
- 11. 4" RUBBER BASE.
- 12. GROUT BRICK/CMU CORES AND COLLAR JOINTS SOLID BELOW FLASHING, BELOW GRADE, AND WHERE INDICATED BY STRUCTURAL DRAWINGS.
- 13. 2" RIGID INSULATION BOARD MINIMUM 24" INSIDE BUILDING, AND VERTICALLY BEHIND
- 14.  $\frac{1}{2}$ " GYP. BOARD ON WOOD TRUSSES.
- 15. SERVING WINDOW FRAMING AND GLAZING REFER TO WINDOW SCHEDULE AND DETAILS.
- 16. 4" BRICK VENEER WITH ADJUSTABLE BRICK TIES @ 16" O.C. VERTICALLY AND HORIZONTALLY (PROVIDE LENGTH AS REQUIRED DUE TO WALL CAVITY SIZE).
- ASPHALT SHINGLES ON 40 MIL SELF ADHERING LEAK BARRIER OVER THE EXISTING PLYWOOD
- 18.  $\frac{3}{8}$ " x 1  $\frac{1}{2}$ " PLASTIC WEEP VENT WITH INSECT SCREEN AT BASE AND TOP OF WALL.
- 19. ALUMINUM SOFFIT, FULLY VENTED REFER TO SPECIFICATIONS.
- 20.  $\frac{3}{4}$ " CROSS FURRING SPACED PER MANUFACTURER'S RECOMMENDATIONS.
- 21. 2" CRC MAIN RUNNER ATTACHED TO BUILDING STRUCTURE WITH GALVANIZED TIE WIRE (SPACED PER MANUFACTURER'S RECOMMENDATIONS).
- 22. INSULATION FORM REFER TO STRUCTURAL DRAWINGS.
- 5" CONCRETE FROST SLAB -- SLOPE AWAY FROM BUILDING MINIMUM  $\frac{1}{4}$ " PER FOOT.
- 24. RECESSED LIGHT FIXTURE -- REFER TO ELECTRICAL DRAWINGS. 25. STEEL LINTEL WITH PLATE, PAINT -- REFER TO STRUCTURAL DRAWINGS.
- 26. 2"x 8" PRESERVATIVE TREATED WOOD PLATE.
- 27. CONCRETE SIDEWALK OR PLAZA PAVING REFER TO CIVIL DRAWINGS.
- 28. SEALANT (WITH FOAM BACKER ROD AS NECESSARY TO SUIT CONDITIONS).

Bidding and Permits: 20 March 2023

Exterior Wall Sections - Building B

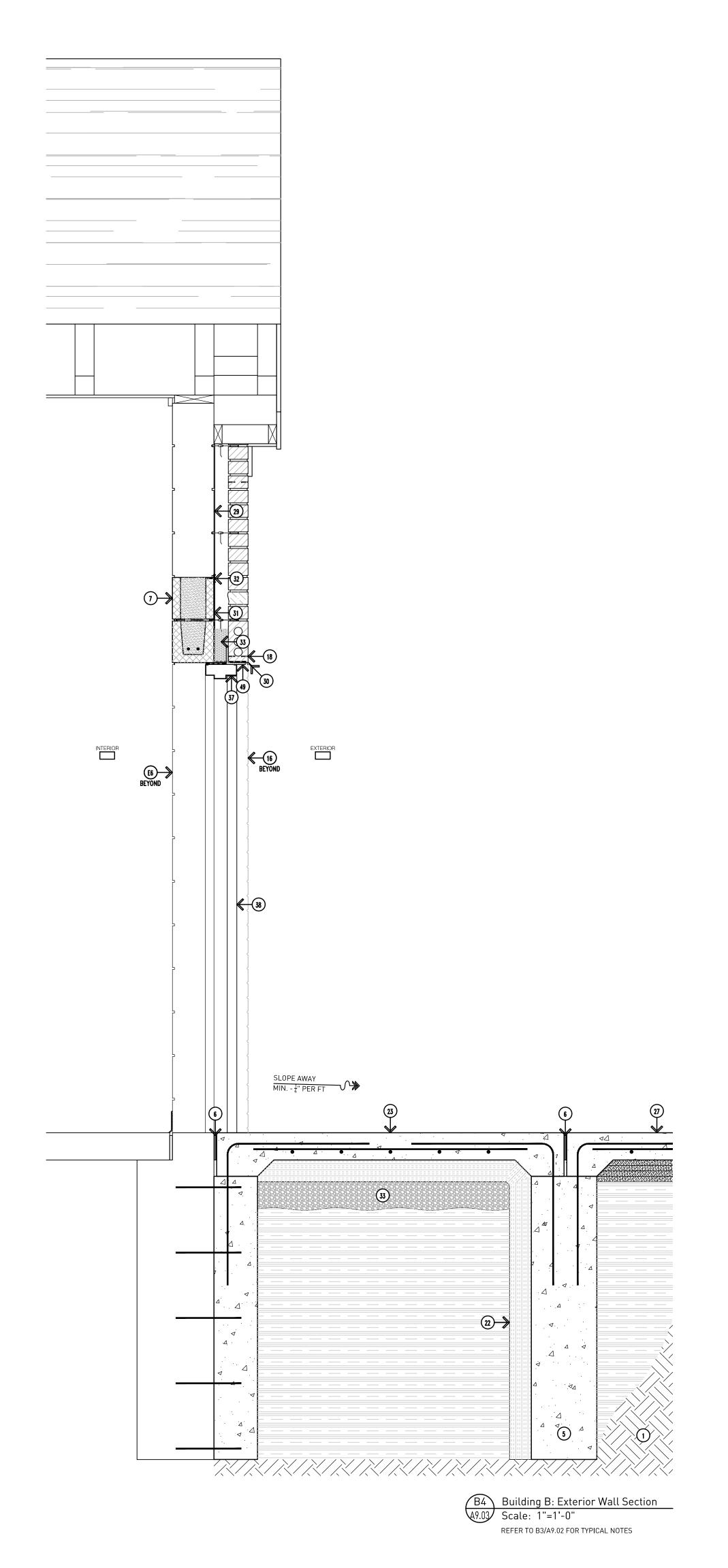


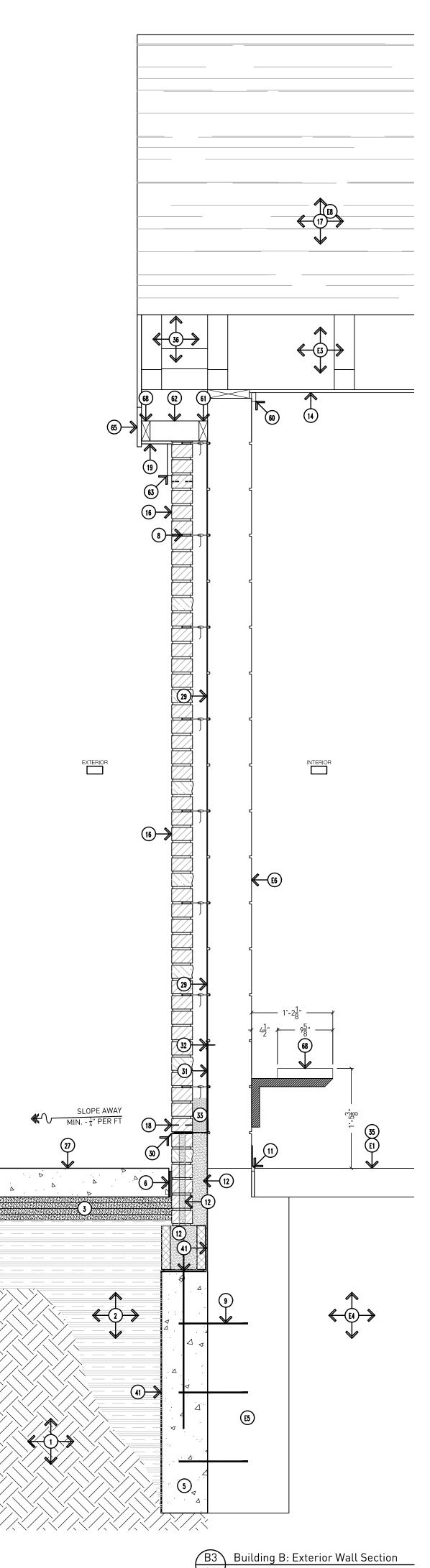
Crestwood School District Crestwood High School Field Building & Site Improvements

Project No. 5622









#### DRAWING NOTES (CONTINUED):

30. STAINLESS STEEL METAL DRIP WITH HEMMED EDGE.

33. PEA STONE DRAINAGE MATERIAL (MINIMUM 6" HEIGHT).

37. HM DOOR FRAME - REFER TO DOOR SCHEDULE.

44. HEAVY DUTY PREFINISHED ALUMINUM COVER PLATE.

54. ROLLER AXLE BRACKET ATTACHED TO OVERHEAD DOOR.

38. FRP DOOR - REFER TO DOOR SCHEDULE.

46. 1/2"Ø ANCHOR BOLT, 1'-4" LONG, 4' O.C.

39. JAMB ANCHOR TO SUIT CONDITIONS.

40. GROUT FILLED DOOR FRAME.

42. LINE OF GRADE.

43. ISOLATION GASKET.

47. 2 HOUR FIRE BARRIER.

50. OVERHEAD DOOR MOTOR.

52. METAL TRACK BRACKET.

53. ROLLER AXLE.

CEILING.

61. 2 x 4 LEDGER.

62. 2" x 4" LOOKOUT.

51. OVERHEAD DOOR METAL TRACK.

FURTHER INFORMATION.

34. VERTICAL ALUMINUM SIDING - REFER TO SPECIFICATIONS.

35. SEAL EXISTING CONCRETE FLOOR - REFER TO FINISH SCHEDULE.

41. ADHESIVE APPLIED WATERPROOFING - REFER TO SPECIFICATIONS.

45. MOISTURE BARRIER MEMBRANE ATTACHED TO BUILDING STRUCTURE.

48. STAINLESS STEEL COUNTERTOP - REFER TO FOOD SERVICE DRAWINGS FOR FURTHER

56. CUSTOM STEEL CHANNEL (PRIME AND PAINT) - REFER TO STRUCTURAL DRAWINGS FOR

1  $\frac{1}{2}$ " x 16"x  $\frac{1}{8}$ " STRAP ANCHOR @ 24" O.C. VERTICALLY--WELD TO CHANNEL WITH HOOK IN

60. WOOD TRIM 3/4" x 1-1/2"- CONTINUOUS AT PERIMETER - ALL ROOMS, PAINTED TO MATCH

57. O/H DOOR - REFER TO DOOR SCHEDULE FOR FURTHER INFORMATION.

49. STEEL ANGLE - REFER TO STRUCTURAL DRAWINGS FOR FURTHER INFORMATION.

36. PREFABRICATED WOOD TRUSSES - REFER TO STRUCTURAL DRAWINGS FOR SPACING.

- 29. CONTINUOUS SPRAY-APPLIED VAPOR BARRIER FROM FOUNDATION TO ROOFING.
- 31. FULLY ADHERED FLEXIBLE MEMBRANE FLASHING WITH END DAMS.
- G3. PROVIDE MASONRY ANCHORS @ 16" O.C. VERTICALLY AND HORIZONTALLY. 32. TERMINATION BAR WITH TOP SEALANT--INSTALL PER MANUFACTURER'S REQUIREMENTS.
  - G4. PROVIDE STAINLESS STEEL DRIP WITH HEMMED EDGE ABOVE ALL EXTERIOR WINDOW AND

G2. NOT ALL NOTES ARE APPLICABLE TO THIS SHEET.

- G5. PROVIDE MASONRY WEEPHOLES @ 32" O.C. HORIZONTALLY COMPLETE WITH 3/8" x 1-1/2"
- PLASTIC WEEP VENT AND FLEXIBLE MEMBRANE FLASHING MIN. 16" UP WALL. G6. MASONRY CONTROL JOINTS SHOULD BE SPACED 25'-0" APART MAX. AND SHOULD NOT BE SPACED FURTHER THAN 1.5x THE WALL HEIGHT - REFER TO THE MASONRY INSTITUTE FOR

G7. CONTRACTOR TO FIELD VERIFY ALL CONDITIONS, DIMENSIONS, ACCESS, ETC. PRIOR TO

G1. DO NOT SCALE DRAWING. DRAWING SCALE IS SHOWN FOR GENERAL REFERENCE ONLY.

- FURTHER INFORMATION.
- G8. NEW PLYWOOD THICKNESS TO MATCHING EXISTING (C.F.V.)

BIDDING AND STARTING WORK.

- RESTORE EXISTING PAVING, LANDSCAPING, LAWN, ETC. TO ORIGINAL CONDITIONS IF DAMAGED DURING CONSTRUCTION OPERATIONS.
- G10. REFER TO SPECIFICATIONS FOR SHINGLE TYPE, ALTERNATIVES, ETC.
- G11. CONTRACTOR TO INVESTIGATE EXISTING PLYWOOD SHEATHING FOR STRUCTURAL SOUNDNESS. IF IT IS DETERMINED THAT REPLACEMENT IS REQUIRED, THE CONTRACT WILL BE ADJUSTED ACCORDINGLY VIA CHANGE ORDER AT THE UNIT PRICES INCLUDED ON THE PROPOSAL FORM. CONTRACTOR TO MATCH EXISTING THICKNESS (C.F.V.)
- G12. INTENT IS FOR ENTIRE ROOF DECK TO BE COVERED WITH SELF-ADHERING LEAK BARRIER.

#### **EXISTING TO REMAIN NOTES:**

- E1. CONCRETE FLOOR SLAB EXACT CONDITIONS UNKNOWN.
- E2. CMU BLOCK EXACT CONDITIONS UNKNOWN.
- E3. ROOF STRUCTURE (WOOD TRUSSES) EXACT CONDITIONS UNKNOWN.
- E4. UNDISTURBED SOIL.

**GENERAL NOTES:** 

- STRUCTURAL FOOTING EXACT CONDITIONS UNKNOWN. CONTRACTOR TO FIELD VERIFY
- E6. WOOD FRAME CONSTRUCTION EXACT CONDITIONS UNKNOWN.
- E7. GYP. BOARD CEILING EXACT CONDITIONS UNKNOWN.
- E8. PLYWOOD ROOF SHEATHING EXACT CONDITIONS UNKNOWN. REFER TO NOTE G11.
- E9. PLYWOOD WALL SHEATHING EXACT CONDITIONS UNKNOWN. REFER TO NOTE G11.

#### **REMOVAL NOTES:**

R1. EXISTING ROOF STRUCTURE/SYSTEM AS INDICATED. CONTRACTOR TO REMOVE ROOF BACK TO THE FACE OF THE EXISTING WALL. WATERPROOF AND SEAL ANY AND ALL OPENINGS IN ROOF FOR A WEATHER-TIGHT INSTALLATION.

#### DRAWING NOTES:

- PROPERLY COMPACTED EXISTING SUBGRADE.
- COMPACTED ENGINEERED FILL AS REQUIRED AFTER REMOVAL OF EXISTING LAWN /
- 3. COMPACTED SAND CUSHION BASE (MINIMUM 4").
- 64. PREFINISHED ALUMINUM GUTTER.
- 65. 1" x \_\_\_ WOOD FASCIA WITH ALUMINUM TRIM.

63. 1" x 6" WOOD TRIM BOARD - WITH ALUMINUM TRIM.

- 66. PREFINISHED ALUMINUM DRIP EDGE.
- 67. 2 x 4 BLOCKING.
- 68. HEAVY DUTY RATED, STEEL FRAMED WALL MOUNTED BENCH WITH ALUMINUM SEAT.
- UNSUITABLE SOILS AS REQUIRED FOR PROPER SLAB ELEVATION.
- SEALED CONCRETE FLOOR SLAB OVER 15 MIL VAPOR BARRIER -- PROPERLY LAP AND SEAL
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- 6.  $\frac{1}{2}$ " PREMOLDED EXPANSION JOINT WITH SEALANT.
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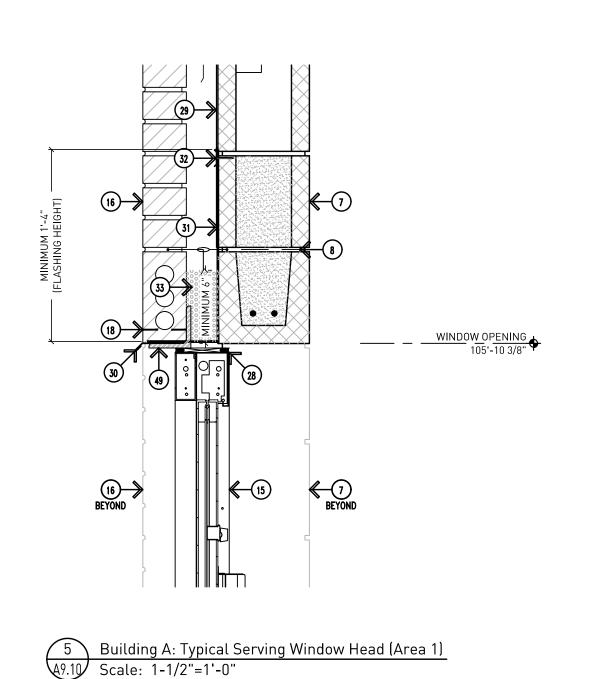
Bidding and Permits: 20 March 2023

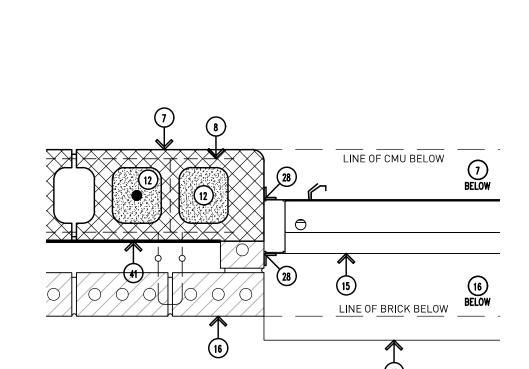
Exterior Wall Sections - Building B

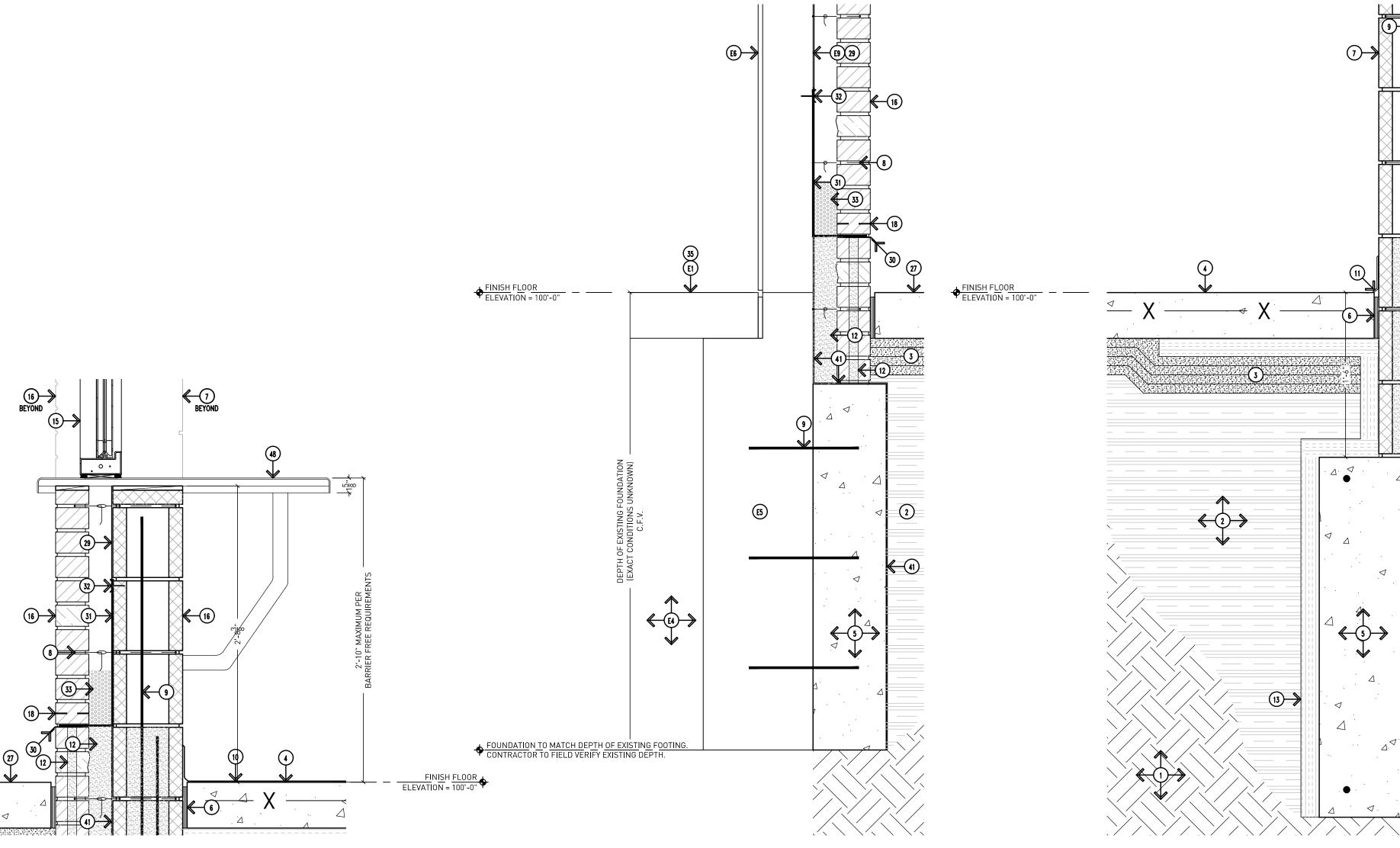


**Crestwood School District** Crestwood High School
Field Building & Site Improvements

Project No. 5622







Building A: Typical Serving Window Sill (Area 1)

Building A: Typical Base of Wall (Area 2)

#### DRAWING NOTES (CONTINUED):

30. STAINLESS STEEL METAL DRIP WITH HEMMED EDGE.

37. HM DOOR FRAME - REFER TO DOOR SCHEDULE.

44. HEAVY DUTY PREFINISHED ALUMINUM COVER PLATE.

54. ROLLER AXLE BRACKET ATTACHED TO OVERHEAD DOOR.

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46. 1/2"Ø ANCHOR BOLT, 1'-4" LONG, 4' O.C.

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47. 2 HOUR FIRE BARRIER.

50. OVERHEAD DOOR MOTOR.

52. METAL TRACK BRACKET.

53. ROLLER AXLE.

59. GROUT SOLID.

CEILING.

62. 2" x 4" LOOKOUT.

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FURTHER INFORMATION.

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PLASTIC WEEP VENT AND FLEXIBLE MEMBRANE FLASHING MIN. 16" UP WALL. 34. VERTICAL ALUMINUM SIDING - REFER TO SPECIFICATIONS. 35. SEAL EXISTING CONCRETE FLOOR - REFER TO FINISH SCHEDULE.

**GENERAL NOTES:** 

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G4. PROVIDE STAINLESS STEEL DRIP WITH HEMMED EDGE ABOVE ALL EXTERIOR WINDOW AND

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Bidding and Permits: 20 March 2023

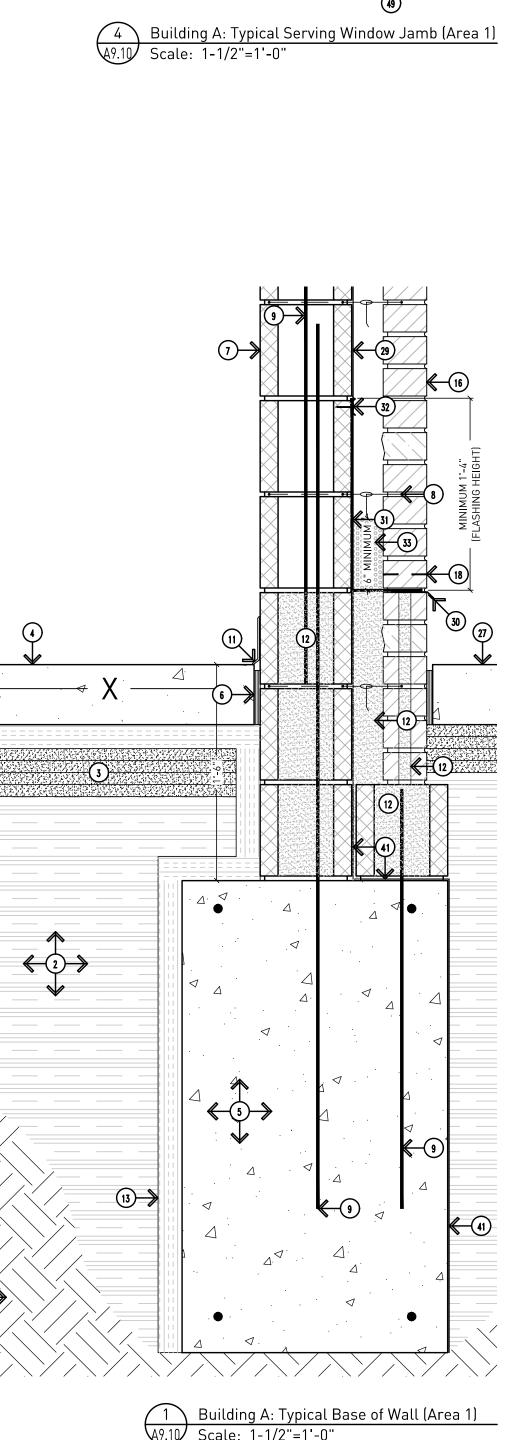
#### Exterior Details

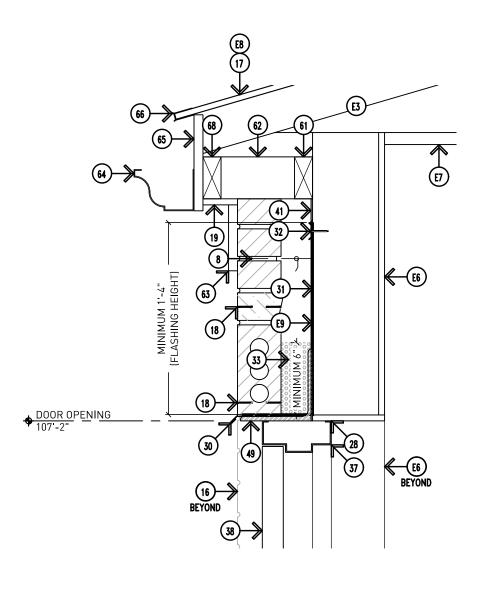


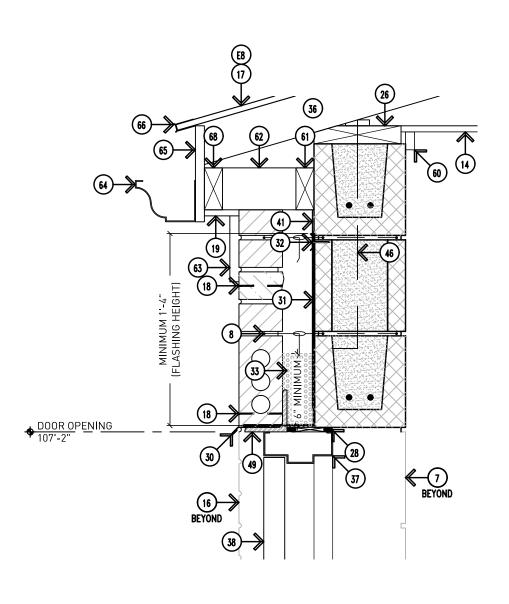
**Crestwood School District** Crestwood High School
Field Building & Site Improvements

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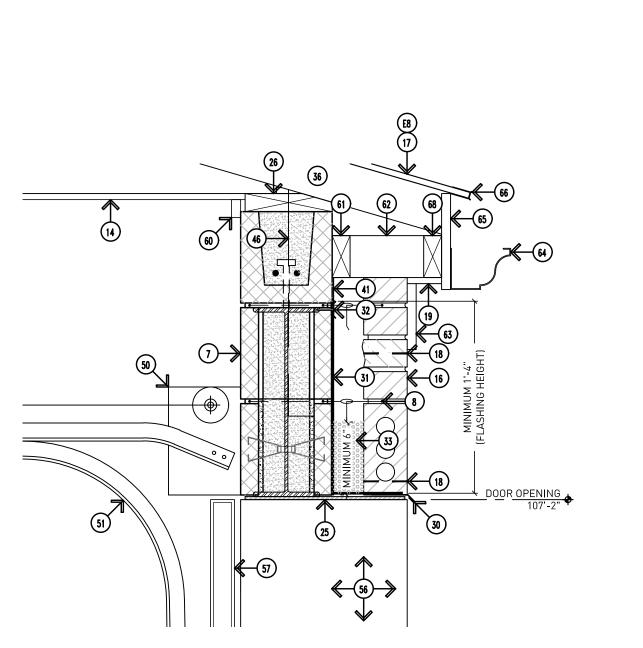
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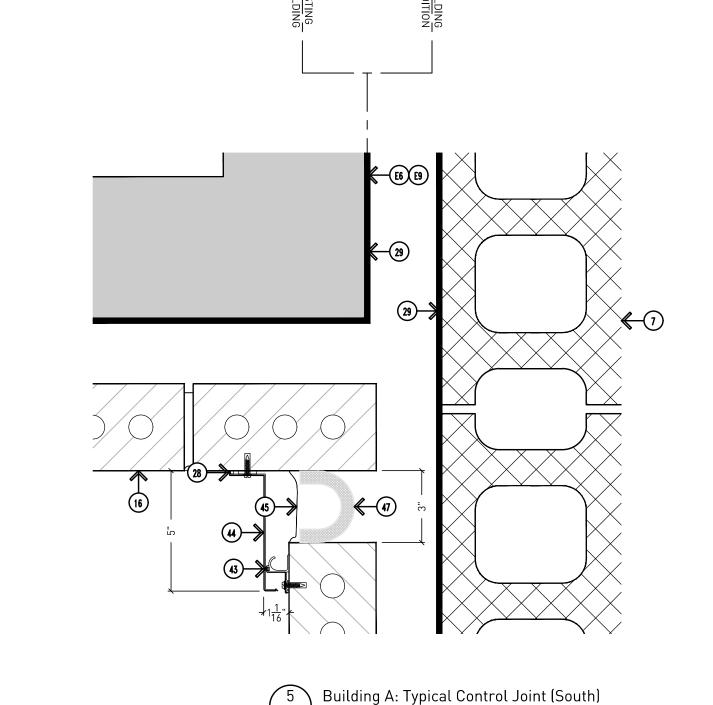
Building A: Typical Door Head (Area 1)



6 Building A: Typical O/H Door Jamb (Area 1)

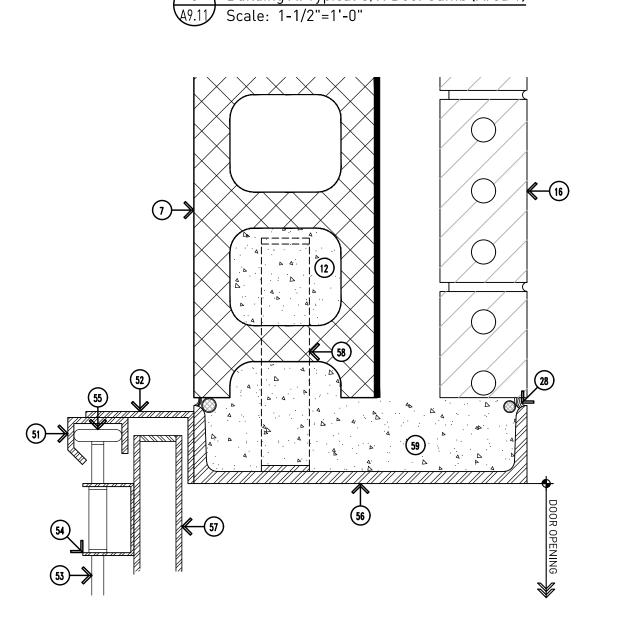
8 \ Building A: Typical Door Head (Area 2)

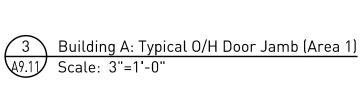
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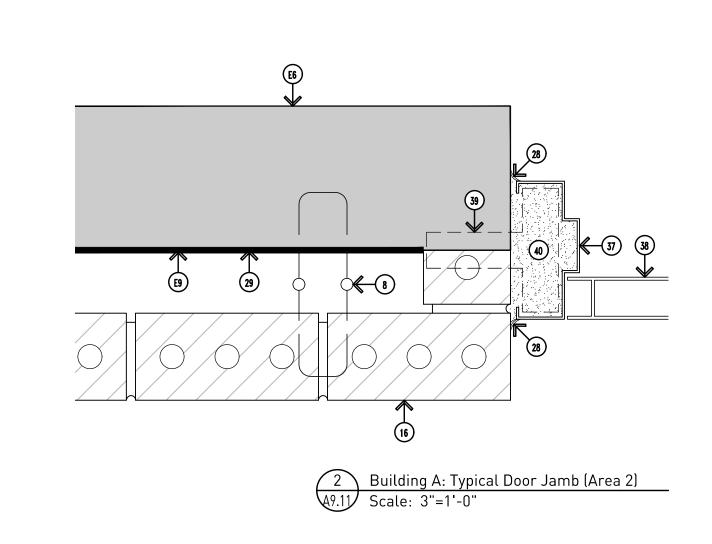


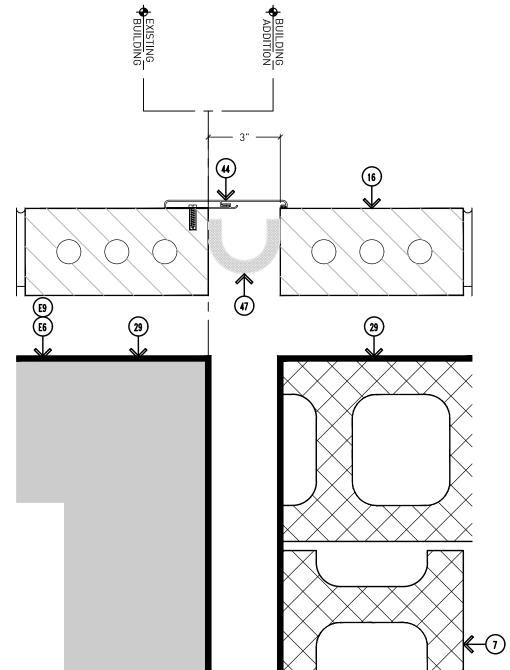
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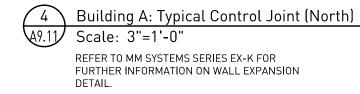
REFER TO MM SYSTEMS SERIES WJL 2-1 FOR FURTHER INFORMATION ON WALL EXPANSION











#### DRAWING NOTES (CONTINUED):

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- 30. STAINLESS STEEL METAL DRIP WITH HEMMED EDGE.
- 31. FULLY ADHERED FLEXIBLE MEMBRANE FLASHING WITH END DAMS.
- 32. TERMINATION BAR WITH TOP SEALANT--INSTALL PER MANUFACTURER'S REQUIREMENTS.
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- 34. VERTICAL ALUMINUM SIDING REFER TO SPECIFICATIONS.
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- 48. STAINLESS STEEL COUNTERTOP REFER TO FOOD SERVICE DRAWINGS FOR FURTHER
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- 50. OVERHEAD DOOR MOTOR.
- 51. OVERHEAD DOOR METAL TRACK.
- 52. METAL TRACK BRACKET.
- 53. ROLLER AXLE.
- 54. ROLLER AXLE BRACKET ATTACHED TO OVERHEAD DOOR.

- 56. CUSTOM STEEL CHANNEL (PRIME AND PAINT) REFER TO STRUCTURAL DRAWINGS FOR FURTHER INFORMATION.
- 57. O/H DOOR REFER TO DOOR SCHEDULE FOR FURTHER INFORMATION.
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- 60. WOOD TRIM 3/4" x 1-1/2"- CONTINUOUS AT PERIMETER ALL ROOMS, PAINTED TO MATCH
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- 63. 1" x 6" WOOD TRIM BOARD WITH ALUMINUM TRIM.
- 64. PREFINISHED ALUMINUM GUTTER.
- 65. 1" x \_\_\_ WOOD FASCIA WITH ALUMINUM TRIM.
- 66. PREFINISHED ALUMINUM DRIP EDGE.
- 67. 2 x 4 BLOCKING.
- 68. HEAVY DUTY RATED, STEEL FRAMED WALL MOUNTED BENCH WITH ALUMINUM SEAT.

#### **GENERAL NOTES:**

- G1. DO NOT SCALE DRAWING. DRAWING SCALE IS SHOWN FOR GENERAL REFERENCE ONLY.
- G2. NOT ALL NOTES ARE APPLICABLE TO THIS SHEET.
- G3. PROVIDE MASONRY ANCHORS @ 16" O.C. VERTICALLY AND HORIZONTALLY.
- G4. PROVIDE STAINLESS STEEL DRIP WITH HEMMED EDGE ABOVE ALL EXTERIOR WINDOW AND
- G5. PROVIDE MASONRY WEEPHOLES @ 32" O.C. HORIZONTALLY COMPLETE WITH 3/8" x 1-1/2" PLASTIC WEEP VENT AND FLEXIBLE MEMBRANE FLASHING MIN. 16" UP WALL.
- G6. MASONRY CONTROL JOINTS SHOULD BE SPACED 25'-0" APART MAX. AND SHOULD NOT BE SPACED FURTHER THAN 1.5x THE WALL HEIGHT - REFER TO THE MASONRY INSTITUTE FOR FURTHER INFORMATION.
- G7. CONTRACTOR TO FIELD VERIFY ALL CONDITIONS, DIMENSIONS, ACCESS, ETC. PRIOR TO BIDDING AND STARTING WORK.
- G8. NEW PLYWOOD THICKNESS TO MATCHING EXISTING (C.F.V.)
- RESTORE EXISTING PAVING, LANDSCAPING, LAWN, ETC. TO ORIGINAL CONDITIONS IF
- DAMAGED DURING CONSTRUCTION OPERATIONS.
- G10. REFER TO SPECIFICATIONS FOR SHINGLE TYPE, ALTERNATIVES, ETC.
- G11. CONTRACTOR TO INVESTIGATE EXISTING PLYWOOD SHEATHING FOR STRUCTURAL SOUNDNESS. IF IT IS DETERMINED THAT REPLACEMENT IS REQUIRED, THE CONTRACT WILL BE ADJUSTED ACCORDINGLY VIA CHANGE ORDER AT THE UNIT PRICES INCLUDED ON THE PROPOSAL FORM. CONTRACTOR TO MATCH EXISTING THICKNESS (C.F.V.)
- G12. INTENT IS FOR ENTIRE ROOF DECK TO BE COVERED WITH SELF-ADHERING LEAK BARRIER.

#### **EXISTING TO REMAIN NOTES:**

- E1. CONCRETE FLOOR SLAB EXACT CONDITIONS UNKNOWN.
- E2. CMU BLOCK EXACT CONDITIONS UNKNOWN.
- E3. ROOF STRUCTURE (WOOD TRUSSES) EXACT CONDITIONS UNKNOWN.
- E4. UNDISTURBED SOIL.
- STRUCTURAL FOOTING EXACT CONDITIONS UNKNOWN. CONTRACTOR TO FIELD VERIFY
- E6. WOOD FRAME CONSTRUCTION EXACT CONDITIONS UNKNOWN.
- E7. GYP. BOARD CEILING EXACT CONDITIONS UNKNOWN.
- E8. PLYWOOD ROOF SHEATHING EXACT CONDITIONS UNKNOWN. REFER TO NOTE G11. E9. PLYWOOD WALL SHEATHING - EXACT CONDITIONS UNKNOWN. REFER TO NOTE G11.

#### REMOVAL NOTES:

R1. EXISTING ROOF STRUCTURE/SYSTEM AS INDICATED. CONTRACTOR TO REMOVE ROOF BACK TO THE FACE OF THE EXISTING WALL. WATERPROOF AND SEAL ANY AND ALL OPENINGS IN ROOF FOR A WEATHER-TIGHT INSTALLATION.

#### DRAWING NOTES:

- PROPERLY COMPACTED EXISTING SUBGRADE.
- COMPACTED ENGINEERED FILL AS REQUIRED AFTER REMOVAL OF EXISTING LAWN / UNSUITABLE SOILS AS REQUIRED FOR PROPER SLAB ELEVATION.
- 3. COMPACTED SAND CUSHION BASE (MINIMUM 4").
- SEALED CONCRETE FLOOR SLAB OVER 15 MIL VAPOR BARRIER -- PROPERLY LAP AND SEAL JOINTS PER MANUFACTURER'S REQUIREMENTS.
- 5. CONCRETE FOUNDATION REFER TO STRUCTURAL DRAWINGS.
- 6.  $\frac{1}{2}$ " PREMOLDED EXPANSION JOINT WITH SEALANT.
- 7. CMU MASONRY BLOCK (EPOXY PAINT ALL SURFACES EXPOSED TO VIEW).
- 8. HORIZONTAL JOINT REINFORCING @ 16" O.C. VERTICALLY.
- 9. REINFORCING REFER TO STRUCTURAL DRAWINGS.
- 10. EPOXY FLOOR COATING WITH INTEGRAL 4" COVED BASE.
- 11. 4" RUBBER BASE.
- 12. GROUT BRICK/CMU CORES AND COLLAR JOINTS SOLID BELOW FLASHING, BELOW GRADE, AND WHERE INDICATED BY STRUCTURAL DRAWINGS.
- 13. 2" RIGID INSULATION BOARD MINIMUM 24" INSIDE BUILDING, AND VERTICALLY BEHIND
- 14.  $\frac{1}{2}$ " GYP. BOARD ON WOOD TRUSSES.
- 15. SERVING WINDOW FRAMING AND GLAZING REFER TO WINDOW SCHEDULE AND DETAILS.
- 16. 4" BRICK VENEER WITH ADJUSTABLE BRICK TIES @ 16" O.C. VERTICALLY AND HORIZONTALLY
- (PROVIDE LENGTH AS REQUIRED DUE TO WALL CAVITY SIZE). 17. ASPHALT SHINGLES ON 40 MIL SELF ADHERING LEAK BARRIER OVER THE EXISTING PLYWOOD
- 18.  $\frac{3}{8}$ " x 1  $\frac{1}{2}$ " PLASTIC WEEP VENT WITH INSECT SCREEN AT BASE AND TOP OF WALL.
- 19. ALUMINUM SOFFIT, FULLY VENTED REFER TO SPECIFICATIONS.
- 20.  $\frac{3}{2}$ " CROSS FURRING SPACED PER MANUFACTURER'S RECOMMENDATIONS.
- 21. 2" CRC MAIN RUNNER ATTACHED TO BUILDING STRUCTURE WITH GALVANIZED TIE WIRE (SPACED PER MANUFACTURER'S RECOMMENDATIONS).
- 22. INSULATION FORM REFER TO STRUCTURAL DRAWINGS.
- 5" CONCRETE FROST SLAB -- SLOPE AWAY FROM BUILDING MINIMUM  $\frac{1}{4}$ " PER FOOT.
- 24. RECESSED LIGHT FIXTURE -- REFER TO ELECTRICAL DRAWINGS.
- 25. STEEL LINTEL WITH PLATE, PAINT -- REFER TO STRUCTURAL DRAWINGS. 26. 2"x 8" PRESERVATIVE TREATED WOOD PLATE.
- 27. CONCRETE SIDEWALK OR PLAZA PAVING REFER TO CIVIL DRAWINGS.
- 28. SEALANT (WITH FOAM BACKER ROD AS NECESSARY TO SUIT CONDITIONS).

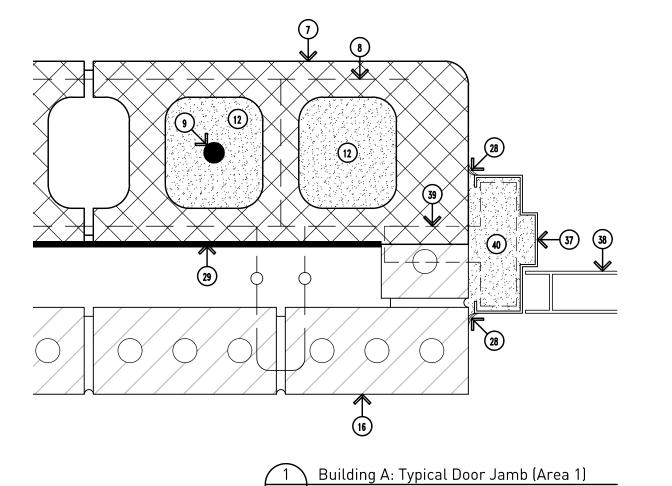
Bidding and Permits: 20 March 2023

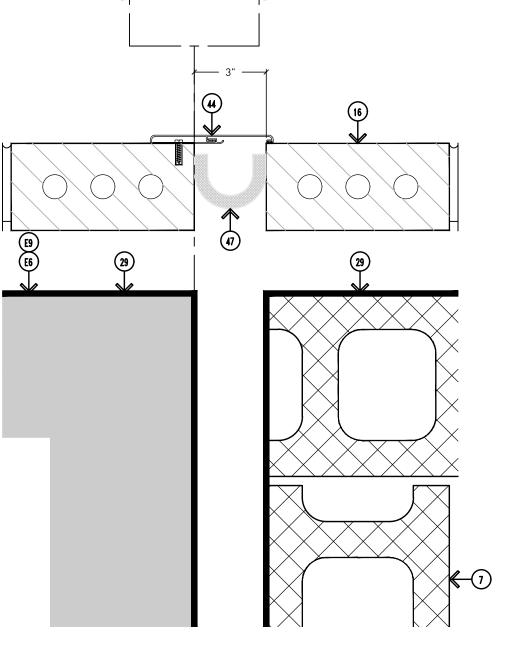
#### Exterior Details

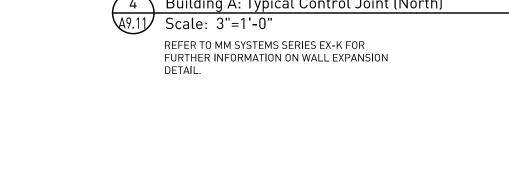


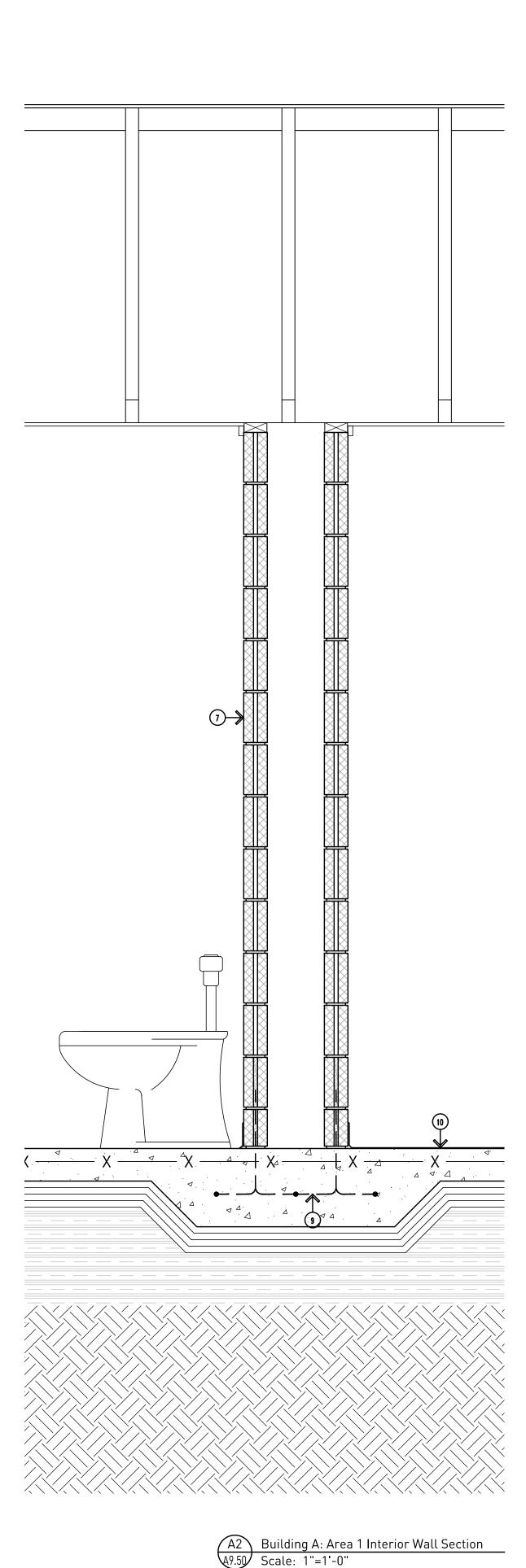
Crestwood School District Crestwood High School
Field Building & Site Improvements

Project No. 5622

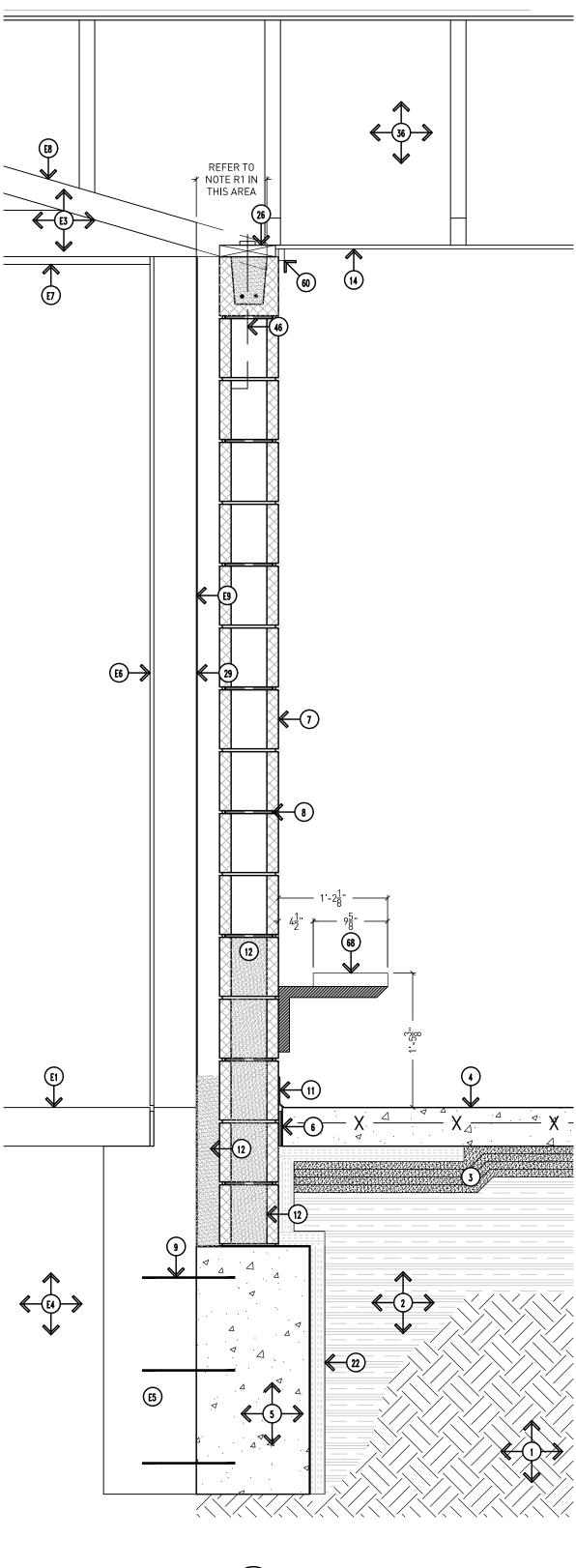








REFER TO 1/9.50 FOR TYPICAL NOTES



#### A1 Building A: Area 2 Interior Wall Section A9.50 Scale: 1"=1'-0"

#### DRAWING NOTES (CONTINUED):

- 29. CONTINUOUS SPRAY-APPLIED VAPOR BARRIER FROM FOUNDATION TO ROOFING.
- 30. STAINLESS STEEL METAL DRIP WITH HEMMED EDGE.
- 31. FULLY ADHERED FLEXIBLE MEMBRANE FLASHING WITH END DAMS.
- 32. TERMINATION BAR WITH TOP SEALANT--INSTALL PER MANUFACTURER'S REQUIREMENTS.
- 33. PEA STONE DRAINAGE MATERIAL (MINIMUM 6" HEIGHT).
- 34. VERTICAL ALUMINUM SIDING REFER TO SPECIFICATIONS.
- 35. SEAL EXISTING CONCRETE FLOOR REFER TO FINISH SCHEDULE.
- 36. PREFABRICATED WOOD TRUSSES REFER TO STRUCTURAL DRAWINGS FOR SPACING.
- 37. HM DOOR FRAME REFER TO DOOR SCHEDULE.
- 38. FRP DOOR REFER TO DOOR SCHEDULE.
- 39. JAMB ANCHOR TO SUIT CONDITIONS.
- 40. GROUT FILLED DOOR FRAME.
- 41. ADHESIVE APPLIED WATERPROOFING REFER TO SPECIFICATIONS.
- 42. LINE OF GRADE.
- 43. ISOLATION GASKET.
- 44. HEAVY DUTY PREFINISHED ALUMINUM COVER PLATE.
- 45. MOISTURE BARRIER MEMBRANE ATTACHED TO BUILDING STRUCTURE.
- 46. 1/2"Ø ANCHOR BOLT, 1'-4" LONG, 4' O.C.
- 47. 2 HOUR FIRE BARRIER.
- 48. STAINLESS STEEL COUNTERTOP REFER TO FOOD SERVICE DRAWINGS FOR FURTHER
- 49. STEEL ANGLE REFER TO STRUCTURAL DRAWINGS FOR FURTHER INFORMATION.
- 50. OVERHEAD DOOR MOTOR.
- 51. OVERHEAD DOOR METAL TRACK.
- 52. METAL TRACK BRACKET.
- 53. ROLLER AXLE.
- 54. ROLLER AXLE BRACKET ATTACHED TO OVERHEAD DOOR.
- 56. CUSTOM STEEL CHANNEL (PRIME AND PAINT) REFER TO STRUCTURAL DRAWINGS FOR FURTHER INFORMATION.
- 57. O/H DOOR REFER TO DOOR SCHEDULE FOR FURTHER INFORMATION.
- 12" x 16" x  $\frac{1}{2}$ " STRAP ANCHOR @ 24" O.C. VERTICALLY--WELD TO CHANNEL WITH HOOK IN
- 60. WOOD TRIM 3/4" x 1-1/2"- CONTINUOUS AT PERIMETER ALL ROOMS, PAINTED TO MATCH
- CEILING. 61. 2 x 4 LEDGER.
- 62. 2" x 4" LOOKOUT.
- 63. 1" x 6" WOOD TRIM BOARD WITH ALUMINUM TRIM.
- 64. PREFINISHED ALUMINUM GUTTER.
- 65. 1" x \_\_\_ WOOD FASCIA WITH ALUMINUM TRIM.
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G5. PROVIDE MASONRY WEEPHOLES @ 32" O.C. HORIZONTALLY COMPLETE WITH 3/8" x 1-1/2"

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- G6. MASONRY CONTROL JOINTS SHOULD BE SPACED 25'-0" APART MAX. AND SHOULD NOT BE SPACED FURTHER THAN 1.5x THE WALL HEIGHT - REFER TO THE MASONRY INSTITUTE FOR FURTHER INFORMATION.
- G7. CONTRACTOR TO FIELD VERIFY ALL CONDITIONS, DIMENSIONS, ACCESS, ETC. PRIOR TO BIDDING AND STARTING WORK.
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- RESTORE EXISTING PAVING, LANDSCAPING, LAWN, ETC. TO ORIGINAL CONDITIONS IF DAMAGED DURING CONSTRUCTION OPERATIONS.
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- 28. SEALANT (WITH FOAM BACKER ROD AS NECESSARY TO SUIT CONDITIONS).

Bidding and Permits: 20 March 2023

Interior Wall Sections



Crestwood School District Crestwood High School Field Building & Site Improvements

Project No. 5622

#### **DESIGN CRITERIA**

100 PSF (REDUCIBLE)

**EQUIVALENT LATERAL FORCE** 

-49 PSF

ZONE 3

-40 PSF

-55 PSF

-92 PSF

5 PSF

25 PSF

- 1. STRUCTURE HAS BEEN DESIGNED TO COMPLY WITH: MICHIGAN BUILDING CODE 2015 IEBC 2015 ASCE 7-10 ACI 318-14 ACI 530-13 AISC 360-10
- AWS D1.1 NDS-15 AND SDPWS-15
- 2. RISK CATEGORY II

TYPICAL FLOOR

RAIN-ON-SNOW SURCHARGE

AISI S100

- LIVE LOADS: TYPICAL ROOF 20 PSF (REDUCIBLE)
- 3. SNOW: GROUND SNOW 20 PSF SNOW EXPOSURE FACTOR THERMAL FACTOR 1.0 IMPORTANCE FACTOR 1.0 **FLAT-ROOF SNOW** 14 PSF
- 4. SEISMIC:

**DESIGN SNOW** 

- SEISMIC DESIGN CATEGORY IMPORTANCE FACTOR 1.0 SOIL CLASS 0.05 g 0.09 g 0.08 g SEISMIC FORCE RESISTING SYSTEM MASONRY SHEAR WALLS
- ANALYSIS PROCEDURE
- WIND: BASIC WIND SPEED V ULT = 115 MPH IMPORTANCE FACTOR EXPOSURE CLASS INTERNAL PRESSURE COEFFICIENT, ± 0.18
- ROOF COMPONENTS: ZONE 1 ZONE 2 SUPPORT BEAMS (A > 100 SF) -34 PSF -40 PSF 46 PSF ROOF SHEATHING (A = 50 SF) -35 PSF DECK FASTENERS (A ≤ 10 SF) -37 PSF -61 PSF WALL COMPONENTS: ZONE 4 ZONE 5 A = 200 SF-34 PSF -38 PSF A = 50 SF-35 PSF -41 PSF

A ≤ 20 SF

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.

-40 PSF

- b. WIND PRESSURES ARE ULTIMATE DESIGN LEVEL.
- c. SEE ASCE 7 FOR ZONE DEFINITIONS AND EXTENT OF ZONES.
- d. SUBMIT DESIGN CALCULATIONS PREPARED BY A QUALIFIED PROFESSIONAL STRUCTURAL ENGINEER, REGISTERED IN THE STATE WHERE THE PROJECT IS LOCATED, FOR ANY DESIRED MODIFICATION TO THE STATED PRESSURES.
- ALL LATERAL LOAD RESISTANCE AND STABILITY OF THE BUILDING IN THE COMPLETED STRUCTURE IS PROVIDED BY SHEAR WALLS IN EACH ORTHOGONAL DIRECTION. SEE PLANS FOR LOCATIONS. THE ROOF SHEATING SERVES AS HORIZONTAL DIAPHRAGM DISTRIBUTING THE LATERAL FORCES TO THE VERTICAL LATERAL ELEMENTS WHICH IN TURN CARRY THE LOAD TO THE BUILDING FOUNDATIONS.

#### **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.
- 2. ALL DRAWINGS ARE CONSIDERED TO BE A PART OF THE CONTRACT DOCUMENTS. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE REVIEW AND COORDINATION OF ALL DRAWINGS PRIOR TO THE START OF CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT PRIOR TO THE START OF CONSTRUCTION SO A CLARIFICATION CAN BE ISSUED. ANY WORK PERFORMED IN CONFLICT WITH THE CONTRACT DOCUMENTS OR ANY CODE REQUIREMENTS SHALL BE CORRECTED BY THE CONTRACTOR AT THEIR OWN EXPENSE AND AT NO EXPENSE TO THE OWNER OR ARCHITECT.
- 3. STRUCTURAL SUBSTITUTIONS MAY BE ALLOWED WITH THE APPROVAL OF THE STRUCTURAL ENGINEER. SUPPLIER SHALL PROVIDE SEALED DESIGN CALCULATIONS OR SUITABLE PRODUCT LITERATURE FOR THE COMPONENTS.
- JOBSITE PRIOR TO CONSTRUCTION, 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. CONTRACTOR SHALL PROVIDE AND BE RESPONSIBLE FOR THE PROTECTION AND REPAIR

4. ALL DIMENSIONS AND SITE CONDITIONS SHALL BE VERIFIED BY THE CONTRACTOR AT THE

- OF ADJACENT EXISTING SURFACES AND AREAS WHICH MAY BE DAMAGED AS A RESULT OF
- 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 SO 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. THE CONTRACT DOCUMENTS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE AND SAFETY OF WORKMEN DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING AND SHORING FOR LOADS DUE TO CONSTRUCTION EQUIPMENT, ETC. OBSERVATION VISITS TO THE SITE BY THE ARCHITECT OR STRUCTURAL ENGINEER 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.
- 11. SEE ARCHITECTURAL, ELECTRICAL AND MECHANICAL DRAWINGS FOR DETAILS, CONDITIONS, PITS, TRENCHES, PADS, DEPRESSIONS, ROOF/FLOOR OPENINGS, STAIRS, SLEEVES, ITEMS TO BE EMBEDDED OR ATTACHED TO STRUCTURAL ELEMENTS, ETC., NOT SHOWN ON THE STRUCTURAL DRAWINGS.
- 12. 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.
- 13. NO HOLES, NOTCHES, BLOCK-OUTS, ETC. ARE ALLOWED IN STRUCTURAL ELEMENTS UNLESS SPECIFICALLY DETAILED ON THE STRUCTURAL DRAWINGS OR APPROVED BY THE STRUCTURAL ENGINEER.
- 14. BEFORE SUBMITTING A PROPOSAL FOR THIS WORK, EACH PARTY SHALL VISIT THE PREMISES AND BECOME FULLY ACQUAINTED WITH CONDITIONS IN FIELD, TEMPORARY CONSTRUCTION REQUIRED, QUANTITIES AND TYPE OF EQUIPMENT, ETC. THE PROPOSAL SHALL INCLUDE ALL SUMS REQUIRED TO DO THE WORK.

- THE STRUCTURAL NOTES ARE INTENDED TO AUGMENT THE DRAWINGS AND SPECIFICATIONS. SHOULD CONFLICTS EXIST BETWEEN THE DRAWINGS, SPECIFICATIONS AND THE STRUCTURAL NOTES, THE STRICTEST PROVISION SHALL GOVERN.
- THE STRUCTURAL DRAWINGS FORM AN INTEGRAL PART OF CONTRACT DOCUMENTS, WHICH INCLUDE ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL, CIVIL/SITE DRAWINGS AND SPECIFICATIONS. CONTRACTOR SHALL COORDINATE THE STRUCTURAL DRAWINGS WITH THE REQUIREMENTS SHOWN IN THE OTHER COMPONENTS OF THE CONTRACT DOCUMENTS.

#### SUBMITTALS

- 1. SUBMITTALS ARE:
- a. CONCRETE MIX DESIGNS
- b. CONCRETE AND MASONRY REINFORCING
- c. PREFABRICATED TRUSSES
- 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 ARCHITECT/STRUCTURAL ENGINEER.
- SUBMITTALS SHALL BE REVIEWED BY THE ARCHITECT/STRUCTURAL ENGINEER FOR GENERAL CONFORMANCE WITH DESIGN CONCEPT ONLY. NOTATIONS MADE BY THE ARCHITECT/STRUCTURAL ENGINEER ON THE SHOP DRAWINGS DOES 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. PREFABRICATED TRUSSES b. STAIRS, ACCESS LADDERS, HANDRAILS, GUARDRAILS, AND GRATING
- c. ROOFTOP EQUIPMENT ANCHORAGE AND CURBS
- 3. ALL DELEGATED DESIGNS SHALL BEAR THE STAMP AND SIGNATURE OF THE QUALIFIED PROFESSIONAL STRUCTURAL ENGINEER, REGISTERED IN THE STATE WHERE THE PROJECT IS LOCATED. RESPONSIBLE FOR THE PREPARATION OF THESE DOCUMENTS. PROVIDE SIGNED AND SEALED CALCULATION TO EOR TO REVIEW.

#### **EXISTING CONDITIONS / DEMOLITION**

- 1. EXISTING CONDITIONS:
- a. EXISTING STRUCTURAL INFORMATION SHOWN WAS OBTAINED FROM EXISTING
- 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 OR STRUCTURAL ENGINEER SO PROPER CLARIFICATION MAY BE MADE. MODIFICATION OF CONSTRUCTION DETAILS SHALL NOT BE MADE WITHOUT WRITTEN APPROVAL OF THE ARCHITECT OR STRUCTURAL
- 2. ALL DEMOLITION SHALL BE CARRIED OUT IN SUCH A WAY SO AS TO NOT DAMAGE 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. EXISTING ELEMENTS ARE TO BE PROTECTED TO THE FULLEST EXTENT POSSIBLE TO REDUCE SUCH DAMAGE TO A

#### **EARTHWORK**

- 1. FOUNDATION DESIGN IS BASED ON PRESUMPTIVE BEARING CAPACITY.
- 2. ASSUMED SOIL PROPERTIES:
- ALLOWABLE NET SOIL BEARING PRESSURE:
- 3. ALL EXCAVATIONS SHALL BE PROPERLY AND SAFELY BACKFILLED.
- 4. CONTRACTOR SHALL PROVIDE FOR DE-WATERING OF EXCAVATIONS FROM SURFACE WATER, GROUND WATER OR SEEPAGE. FREE GROUND WATER WAS NOT ENCOUNTERED IN THE BORINGS.
- 5. CARE SHALL BE EXERCISED WHEN EXCAVATING OR GRADING ADJACENT TO EXISTING STRUCTURES OR IMPROVEMENTS TO NOT DAMAGE OR UNDERMINE FOUNDATIONS, WALLS, SLABS, UTILITIES, ETC.
- 6. CONTRACTOR SHALL INVESTIGATE SITE DURING CLEARING AND EARTHWORK OPERATIONS FOR FILL MATERIAL OR BURIED STRUCTURES SUCH AS CESSPOOLS. CISTERNS AND FOUNDATIONS. IF ANY SUCH MATERIAL OR STRUCTURES ARE FOUND, ARCHITECT/ENGINEER SHALL BE NOTIFIED IMMEDIATELY. ALL ABANDONED FOUNDATIONS. UTILITIES AND OTHER STRUCTURES THAT INTERFERE WITH NEW CONSTRUCTION SHALL BE REMOVED.
- ALL FOOTINGS AND SLABS ON GRADE SHALL BE PLACED ONTO FIRM UNDISTURBED SOIL OR CONTROLLED COMPACTED FILL, REMOVING ANY EXISTING FILL, ORGANIC MATERIAL. OR UNSUITABLE SOILS. EXPOSED NATURAL SOIL SHALL BE PROOF ROLLED BELOW SLABS ON GRADE.
- 8. THE PREPARATION OF THE SUBGRADE FOR THE SLAB ON GRADE SHALL PROVIDE MIN. COMPACTION OF 95% MAXIMUM DRY DENSITY PER ASTM D1557.
- 9. FOUNDATION ELEVATIONS SHOWN DESIGNATE A MINIMUM DEPTH WHERE AN ADEQUATE SOIL BEARING PRESSURE IS EXPECTED. FOOTINGS, PIERS AND/OR WALLS SHALL BE LOWERED OR EXTENDED AS REQUIRED TO REACH SOIL MEETING THE DESIGN BEARING PRESSURE.
- 10. THE PREPARATION OF THE SUBGRADE FOR THE SLAB ON GRADE SHALL BE IN STRICT ACCORDANCE WITH THE PROJECT GEOTECHNICAL REPORT REFERENCED ABOVE. THE CONTRACTOR SHALL DIRECT QUESTIONS REGARDING THE SUBGRADE PREPARATION REQUIREMENTS TO THE GEOTECHNICAL ENGINEER.
- 11. ALL FOOTINGS AND SLABS ON GRADE SHALL BE PLACED ONTO FIRM UNDISTURBED SOIL OR CONTROLLED COMPACTED FILL, REMOVING ANY EXISTING FILL, ORGANIC MATERIAL. OR UNSUITABLE SOILS, AS RECOMMENDED BY THE GEOTECHNICAL REPORT. EXPOSED NATURAL SOIL SHALL BE PROOF ROLLED BELOW SLABS ON GRADE
- 12. ALL REQUIRED BACKFILL AND UTILITY TRENCH BACKFILL WITHIN THE BUILDING AREA SHALL BE MECHANICALLY COMPACTED IN 12" LAYERS TO 95% MAXIMUM DRY DENSITY PER
- ASTM D1557 AND TO THE APPROVAL OF THE INSPECTION AGENCY. 13. THE MOISTURE CONTENT OF ONSITE CLAYEY SOILS AT THE TIME OF COMPACTION SHALL
- BE BETWEEN 2-3% ABOVE OPTIMUM MOISTURE CONTENT. 14. ANY REQUIRED IMPORT FILL SOIL SHALL HAVE A LOW POTENTIAL FOR EXPANSION AND SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO IMPORTING.

#### REINFORCING STEEL

- 1. ALL REINFORCING STEEL SHALL BE DETAILED AND PLACED IN CONFORMANCE WITH THE AMERICAN CONCRETE INSTITUTE "ACI DETAILING MANUAL" (SP-066) EXCEPT AS
- 2. CONCRETE REINFORCING STEEL SHALL BE HIGH STRENGTH NEW BILLET STEEL CONFORMING TO THE FOLLOWING STANDARDS:

OTHERWISE SHOWN, NOTED OR SPECIFIED.

SLABS, JOIST AND WALLS WITH #14 AND #18 BARS

ENDS.

	DEFORMED BARS	ASTM A615, GR 60	Fy = 60 KSI
	WELDED WIRE REINFORCING	ASTM A1064	Fy = 65 KSI
	STEEL WIRE	ASTM A1064	Fy = 60 KSI
3.	MINIMUM CONCRETE COVER SHALL	BE PROVIDED AS FOLLOWS TO	THE OUTERMOST

- CAST AGAINST AND PERMANENTLY IN CONTACT WITH GROUND 3' EXPOSED TO WEATHER OR IN CONTACT WITH GROUND #6 BARS OR LARGER #5 BARS OR SMALLER 1 1/2" NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND
- SLABS, JOISTS AND WALLS WITH #11 BARS OR SMALLER 4. ALL WELDED WIRE REINFORCING (WWR) SHALL BE LAPPED 2 PANELS AT EDGES AND

1 1/2"

- 5. CONTINUOUS HORIZONTAL REINFORCING SHALL BE LAPPED AT MIDSPAN FOR TOP BARS AND DIRECTLY OVER SUPPORTS FOR BOTTOM BARS. AT DISCONTINUOUS ENDS, THE TOP STEEL SHALL BE BENT DOWN 12 BAR DIAMETERS OR 12" MINIMUM, WHICHEVER IS
- 6. DOWELS BETWEEN FOOTINGS AND WALLS OR COLUMNS SHALL BE THE SAME GRADE, SIZE AND SPACING OR NUMBER AS THE VERTICAL REINFORCING, RESPECTIVELY, UNLESS OTHERWISE NOTED. PROVIDE FOUNDATION DOWELS TO MATCH SIZE AND SPACING OF WALL OR COLUMN REINFORCEMENT. EXTEND DOWELS A LAP SPLICE LENGTH INTO WALL OR COLUMN AND TERMINATE WITH STANDARD HOOK AT BOTTOM OF FOOTING, UNLESS OTHERWISE NOTED.
- 7. REINFORCING IN WALL FOOTINGS AND GRADE BEAMS BETWEEN COLUMNS SHALL BE DEVELOPED (Ld) INTO COLUMN FOOTINGS.
- 8. CUTTING OF REINFORCING WHICH CONFLICTS WITH EMBEDDED OBJECTS OR SLEEVES IS
- 9. REINFORCING BARS SHALL BE BENT COLD, AND NO METHOD OF FABRICATION SHALL BE USED WHICH WOULD BE INJURIOUS TO THE MATERIAL. HEATING OF BARS FOR BENDING IS
- 10. FIELD WELDING OR BENDING OF REINFORCING IS NOT PERMITTED EXCEPT AS INDICATED ON THE DRAWINGS OR AS APPROVED BY THE STRUCTURAL ENGINEER.
- 11. USE TEMPLATES TO SET ALL EMBEDDED ANCHOR BOLTS, LEVELING PLATES, AND DOWEL BARS AS REQUIRED OR INDICATED ON THE DRAWINGS.
- 12. SUBMIT SHOP DRAWINGS FOR FABRICATION AND PLACEMENT OF REINFORCING STEEL. INCLUDE SCHEDULES AND DIAGRAMS OF BENT BARS AND SHOW ARRANGEMENT OF REINFORCEMENT, INCLUDING CONCRETE COVER. STRUCTURAL ENGINEER'S REVIEW WILL BE FOR COMPLIANCE WITH DESIGN REQUIREMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING DIMENSIONS AND QUANTITIES.
- 13. ALL CONCRETE NOT OTHERWISE SPECIFIED SHALL BE REINFORCED TO THE MINIMUM REQUIREMENT OF ACI 318.
- 14. REINFORCE ALL ARCHITECTURAL CONCRETE TOPPING SLABS WITH 6x6-W2.1Xw2.1 WWR

#### CAST-IN-PLACE CONCRETE

- 1. ALL CONCRETE WORK SHALL CONFORM TO THE CORRESPONDING EDITION OF THE AMERICAN CONCRETE INSTITUTE PUBLICATIONS: ACI 117, ACI 301, ACI 305.1, ACI 306.1, ACI 308.1, ACI 318 AND SP-066, UNLESS OTHERWISE NOTED.
- 2. CONCRETE MATERIALS SHALL CONFORM TO:

CEMENT	ASTM C150, TYPE I OR II
FLY ASH	ASTM C618, TYPE C OR F
FINE AND COARSE AGGREGATE	ASTM C33
LIGHTWEIGHT AGGREGATE	ASTM C330
WATER	POTABLE
AIR-ENTRAINING ADMIXTURE	ASTM C260
WATER REDUCING ADMIXTURE	ΔSTM C494

CONCRETE STRENGTHS SHALL CONFORM TO

INTENDEDUSE	STRENGTH(PSI)	MAX. W/C	AIR	
FOOTINGS AND FOUNDATIONS	4000	0.50	N/A	
SLAB ON GRADE	4000	0.48	N/A	
STOOPS, EXTERIOR CONCRETE 5000 0.45 +/- 6%				

- 3.THE MODULUS OF ELASTICITY OF ALL CONCRETE SHALL EXCEED 57,000 SQRT(f'c) FOR NORMAL-WEIGHT CONCRETE OR wc1.5 33 SQRT(f'c).
- DRYPACK OR GROUT SHALL HAVE A MINIMUM 28-DAY STRENGTH OF 7000 PSI.
- 5. SLAB-ON-GRADE CONSTRUCTION: LOCATE SAW-CUT CONTROL JOINTS ALONG COLUMN LINES WITH INTERMEDIATE JOINTS SPACED PER THE TABLE BELOW, UNLESS OTHERWISE NOTED. SLAB PANELS SHALL HAVE A MAXIMUM LENGTH TO WIDTH RATIO OF 1.5:1. PROVIDE ADDITIONAL CONTROL JOINTS AT ALL RE-ENTRANT CORNERS. SEE PLAN FOR SPECIAL CASES

it Edine Onded.				
THICKNESS (IN)	MAXIMUM JOINT SPACING EACH WAY (FT)			
4	12			
5	13			
6	15			
8	18			

- CROSS REFERENCE ARCHITECTURAL AND STRUCTURAL DRAWINGS TO ENSURE PROPER DIMENSIONS AND PLACEMENT OF ALL ANCHOR BOLTS, INSERTS, NOTCHES, AND EDGES OF WALLS/FOUNDATIONS PRIOR TO PLACING CONCRETE.
- 7. UNLESS OTHERWISE NOTED, ALL FOOTINGS SHALL BE CENTERED UNDER WALLS, PIERS OR COLUMNS.
- 8. CONSTRUCTION JOINTS SHALL BE THOROUGHLY ROUGHENED TO 1/4" AMPLITUDE BY SAND BLASTING OR MECHANICAL MEANS. CLEAN BEFORE POUR. LOCATION TO BE APPROVED BY THE STRUCTURAL ENGINEER. SUBMIT LOCATION PLAN OF ALL PROPOSED JOINTS NOT INDICATED ON DRAWINGS FOR APPROVAL PRIOR TO BEGINNING WORK.
- 9. PRIOR TO PLACING CONCRETE. THE CONTRACTOR SHALL ENSURE ALL REINFORCING AND EMBEDMENTS, INCLUDING COLUMN ANCHOR BOLTS, ARE PROPERLY LOCATED AND SECURELY TIED IN PLACE.
- 10. PROVIDE SLEEVES FOR PLUMBING AND ELECTRICAL PENETRATIONS THROUGH CONCRETE BEFORE PLACING. SECURE SLEEVES TO PREVENT MOVEMENT DURING
- PLACING OPERATIONS. SEE MECHANICAL AND ELECTRICAL DRAWINGS FOR LOCATIONS. 11. CONFIRM WITH ARCHITECT THAT MATERIALS TO BE EMBEDDED ARE SUITABLE FOR
- 12. CONDUIT, PIPES, AND SLEEVES EMBEDDED IN CONCRETE SHALL CONFORM TO REQUIREMENTS OF ACI 318, SECTIONS 20.7 AND 26.8.

EMBEDMENT IN CONCRETE.

- 13. NO ALUMINUM SHALL BE ALLOWED IN THE CONCRETE WORK UNLESS COATED TO PREVENT ALUMINUM-CONCRETE REACTION.
- 14. PROJECTING CORNERS OF BEAMS, WALLS, COLUMNS, ETC., SHALL BE FORMED WITH A 3/4 INCH CHAMFER, UNLESS OTHERWISE NOTED ON ARCHITECTURAL DRAWINGS.
- 15. SLOPE SLABS TO DRAINS OR FOR POSITIVE DRAINAGE IF NO DRAINS ARE PRESENT AND PROVIDE DEPRESSIONS WHERE SHOWN ON THE STRUCTURAL AND/OR ARCHITECTURAL DRAWINGS WITHOUT REDUCING THE THICKNESS OF SLAB INDICATED. FOR SLAB-ON-GRADE DEPRESSIONS GREATER THAN 1 INCH, SEE DETAILS FOR ADDITIONAL REINFORCING.
- 16. INTERNALLY VIBRATE ALL CAST-IN-PLACE CONCRETE EXCEPT SLABS-ON-GRADE WHICH NEED ONLY BE VIBRATED AROUND UNDER FLOOR DUCTS AND OTHER EMBEDDED ITEMS. VIBRATE TOPS OF COLUMNS.
- 17. PROVIDE VERTICAL CONTROL JOINTS IN EXPOSED CONCRETE WALLS AT A MINIMUM UNIFORM SPACING NOT TO EXCEED 25 FEET PER ACI 224.3. COORDINATE JOINT LOCATIONS WITH ARCHITECTURAL DRAWINGS.
- 18. CONCRETE SHALL NOT BE PERMITTED TO DROP MORE THAN 5 FEET.
- 19. IF CONCRETE IS PLACED BY PUMPING, SUPPORT SHALL BE PROVIDED FOR THE HOSE. THE HOSE SHALL NOT BE ALLOWED TO RIDE ON THE REINFORCING AND OTHER EMBEDDED
- 20. THE DESIGN AND ENGINEERING OF FORMWORK, SHORING AND RESHORING, AS WELL AS THEIR CONSTRUCTION, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. FORMS SHALL BE DESIGNED TO HAVE SUFFICIENT STRENGTH TO SAFELY WITHSTAND THE LOADS RESULTING FROM PLACEMENT AND VIBRATION OF THE CONCRETE AND SHALL ALSO BE DESIGNED FOR SUFFICIENT RIGIDITY TO MAINTAIN SPECIFIED TOLERANCES. CONTRACTOR SHALL SUBMIT DETAILED FORMWORK SHOP DRAWINGS TO THE ARCHITECT TO BE
- REVIEWED FOR GENERAL COMPLIANCE WITH THE DESIGN CONCEPT ONLY. 21. CONCRETE SLABS SHALL BE CURED BY KEEPING CONTINUOUSLY WET FOR 7 DAYS. FORMS FOR CONCRETE WALLS SHALL BE LEFT IN PLACE FOR 7 DAYS OR MAY BE STRIPPED AFTER 3 DAYS AND COATED WITH AN APPROVED CURING COMPOUND.
- 22. NO LOADS SHALL BE PLACED ON STRUCTURAL CONCRETE SLABS WITHIN 7 DAYS AFTER CONCRETE IS PLACED. AFTER CONCRETE IS PLACED, IN NO CASE SHALL THE SUPERIMPOSED CONSTRUCTION LOADS BE GREATER THAN SPECIFIED DESIGN LIVE LOADS, UNLESS THE WORK IS SHORED.
- 23. CONTRACTOR SHALL SURVEY ALL CONCRETE WORK WITHIN 48 HOURS OF PLACING CONCRETE TO ENSURE PLACEMENT IS IN ACCORDANCE WITH PROJECT REQUIREMENTS. 24. THE DESIGN AND ENGINEERING OF FORMWORK, SHORING AND RESHORING, AS WELL AS
- 25. CORING OF CONCRETE IS NOT PERMITTED UNLESS APPROVED BY THE STRUCTURAL ENGINEER. 26. NO CONCRETE SHALL BE PLACED ONTO OR AGAINST SUBGRADES CONTAINING FREE

THEIR CONSTRUCTION, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

WATER, FROST, ICE OR SNOW. 27. DURING WINTER CONSTRUCTION, ALL FOOTINGS SHALL BE PROTECTED FROM FROST PENETRATION UNTIL THE BUILDING IS ENCLOSED AND TEMPORARY HEAT IS PROVIDED.

- 28. GENERAL CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR SIZE, LOCATION AND HEIGHT OF MECHANICAL EQUIPMENT PADS ON CONCRETE SLAB ON STEEL DECK AND SLAB-ON-
- 29. THE PROPOSED MATERIALS AND MIX DESIGN SHALL BE FULLY DOCUMENTED AND REVIEWED BY THE TESTING 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.

- 1. STRUCTURAL STEEL SHALL BE DETAILED IN ACCORDANCE WITH THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) "DETAILING FOR STEEL CONSTRUCTION" AND FABRICATED AND ERECTED IN ACCORDANCE WITH THE "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS".
- 2. STRUCTURAL STEEL SHALL CONFORM TO ASTM STANDARDS AS NOTED BELOW: WIDE FLANGE SHAPES ASTM A992 Fy = 50 KSIOTHER ROLLED SHAPES ASTM A36 Fy = 36 KSI PIPE SECTIONS ASTM A53, GR B Fv = 35 KSIHSS SECTIONS, ROUND ASTM A500, GR C Fy = 46 KSIHSS SECTION, SQ/RECT ASTM A500, GR C Fy = 50 KSIBASE AND CONNECTION PLATES ASTM A36 A572 Fy = 3650 KSI**ANCHOR RODS** ASTM F1554, GR 36 Fy = 36 KSI **HEAVY HEX NUTS** ASTM A563

WASHERS

FABRICATION.

ELECTRODES FOR ARC WELDING

3. HIGH STRENGTH BOLTS SHALL BE INSTALLED IN ACCORDANCE WITH AISC "SPECIFICATIONS FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS". SEE DETAILS FOR BOLT SIZE AND MATERIAL ASTM DESIGNATION.

ASTM F436

AWS 5.1, E70XX

- 4. ALL BOLTED CONNECTIONS SHALL BE GRADE A325N BEARING TYPE BOLTS, UNLESS OTHERWISE NOTED. ALL BOLTS SHALL BE INSTALLED TO A MINIMUM "SNUG TIGHT" CONDITION, UNLESS OTHERWISE NOTED.
- 5. FULLY TENSIONED HIGH STRENGTH BOLTS AND SLIP CRITICAL HIGH STRENGTH BOLTS SHALL USE TENSION-CONTROL "TWIST-OFF" BOLTS OR BE INSTALLED USING THE TURN OF
- 6. WELD LENGTHS INDICATED ON THE DRAWINGS ARE THE NET EFFECTIVE LENGTH REQUIRED. WHERE WELD LENGTH IS NOT SPECIFIED, PROVIDE WELD ALONG ENTIRE INTERSECTION OF THE JOINED PARTS. WHERE FILLET WELD SYMBOL IS GIVEN WITHOUT INDICATION OF SIZE, USE MINIMUM WELD SIZE AS SPECIFIED IN AISC 360, TABLE J2.4.
- 7. ALL WELDING OF STRUCTURAL STEEL SHALL BE PERFORMED BY CERTIFIED WELDERS WITH EXPERIENCE AND CERTIFICATION IN THE TYPES OF WELDING CALLED FOR. WELDERS SHALL HAVE BEEN RECENTLY QUALIFIED AS PRESCRIBED IN "QUALIFICATION" PROCEDURES" OF THE AMERICAN WELDING SOCIETY (AWS).
- 8. BEAMS SHALL BE CAMBERED UPWARD WHERE SHOWN ON THE DRAWINGS. WHERE NO UPWARD CAMBER IS INDICATED, ANY MILL CAMBER SHALL BE DETAILED UPWARD IN THE

9. SPLICING OF STEEL MEMBERS WHERE NOT DETAILED ON THE DRAWINGS IS PROHIBITED

- WITHOUT THE PRIOR APPROVAL OF THE STRUCTURAL ENGINEER AS TO LOCATION, TYPE OF SPLICE AND CONNECTION TO BE MADE 10. ALL STEEL EXPOSED TO WEATHER OR AS NOTED ON PLAN SHALL BE HOT-DIP GALVANIZED
- AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 G90. ABRADED AREAS TO BE TOUCHED UP WITH COLD GALVANIZING COMPOUND IN ACCORDANCE WITH ASTM A780. 14. ALL GALVANIZED HOLLOW SECTIONS SHALL HAVE WELDED CAP PLATES TO SEAL
- EXPOSED ENDS. 15. CUTS, HOLES, OPENINGS, ETC., REQUIRED IN STRUCTURAL STEEL MEMBERS FOR THE WORK OF OTHER TRADES SHALL BE SHOWN ON THE SHOP DRAWINGS. BURNING OF HOLES AND CUTS IN THE FIELD SHALL NOT BE ALLOWED, EXCEPT BY WRITTEN
- AUTHORIZATION FROM THE STRUCTURAL ENGINEER. 16. FURNISH AND INSTALL MISCELLANEOUS STEEL (CURBS, HANGERS, EXPANSION JOINT ANGLES, STRUTS, ETC.) AS CALLED FOR OR AS NECESSARY PER ARCHITECTURAL AND
- MECHANICAL/ELECTRICAL DRAWINGS. 17. GROUTFORBASEANDBEARINGPLATESSHALLBEANON-SHRINK, NON-METALLICPRODUCT.MINIMUMCOMPRESSIVESTRENGTHAT28DAYSSHALLBE7000PSI.INSTALL
- GROUTPRIORTOAPPLYINGSIGNIFICANTLOADINGTOMEMBER. 18. THE STRUCTURAL STEEL FABRICATOR SHALL FURNISH SHOP DRAWINGS OF ALL STRUCTURAL STEEL FOR ARCHITECT/STRUCTURAL ENGINEER'S REVIEW BEFORE

#### **MASONRY**

- 1. CMU CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH ACI 530/530.1 TMS 402/602 "BUILDING CODE REQUIREMENTS AND SPECIFICATION FOR MASONRY
- STRUCTURES". 2. MINIMUM 28-DAY COMPRESSIVE STRENGTHS FOR NEW CMU CONSTRUCTION SHALL BE: DESIGN ASSEMBLY STRENGTH, f'm 2000 PSI
- INDIVIDUAL CONCRETE MASONRY UNITS 2800 PSI 2000 PSI 3. CMU MATERIALS SHALL CONFORM TO THE FOLLOWING STANDARDS: CONCRETE MASONRY UNITS ASTM C90, NORMAL WEIGHT
- MORTAR ASTM C270, TYPE S **GROUT** ASTM C476 JOINT REINFORCING ASTM A82 4. WIRE REINFORCING PER ASTM A82 FOR SINGLE-WYTHE CMU WALLS, CMU CAVITY WALLS. AND MULTI-WYTHE COMPOSITE CMU WALLS SHALL BE HOT-DIP GALVANIZED PER ASTM
- GAUGE AND VERTICAL SPACING: RUNNING BOND 9 GA @ 16" OC (ALL WIDTHS)
- BELOW GRADE WALLS 9 GA @ 8" OC 5. ALL LOAD BEARING CMU WALLS TO HAVE FULL MORTAR BED, HEAD, AND COLLAR JOINTS.

6. GROUT SOLID ALL JAMBS FULL HEIGHT IN LOAD BEARING CMU WALLS TO UNDERSIDE OF

A153, CORROSION RESISTANT HORIZONTAL JOINT REINFORCING WITH THE FOLLOWING

- LINTEL PLUS ONE CELL BEYOND BEARING LENGTH. 7. PROVIDE MINIMUM 1 INCH GROUT BETWEEN MAIN REINFORCING AND/OR BOLTS AND CMU UNIT FACE. VERTICAL REINFORCEMENT SHALL BE CENTERED IN WALL, UNLESS OTHERWISE NOTED. VERTICAL REINFORCING BARS SHALL SECURELY BE HELD IN POSITION BY WIRE TIES OR OTHER APPROVED MEANS TO ENSURE DESIGN LOCATION AND
- LAP. PLACE BARS AND LAP PRIOR TO GROUTING. 8. HORIZONTAL BOND BEAM AND VERTICAL REINFORCING SHALL BE CONTINUOUS UNLESS
- OTHERWISE NOTED. 9. CELLS SHALL BE IN VERTICAL ALIGNMENT. DOWELS IN FOOTINGS SHALL BE SET TO ALIGN WITH VERTICAL REINFORCING STEEL.
- 10. ALL CELLS CONTAINING REINFORCING SHALL BE FILLED SOLID WITH GROUT. 11. LIFTS OF GROUT SHALL BE KEYED 1 1/2 INCHES INTO THE PREVIOUS COURSE BELOW. 12. HORIZONTAL BAR REINFORCEMENT SHALL BE FULLY EMBEDDED IN GROUT IN AN
- UNINTERRUPTED POUR. 13. SEE ARCHITECTURAL DRAWINGS FOR SURFACE AND HEIGHT OF UNITS, LAYING PATTERN, AND JOINT TYPE. ALL BLOCK SHALL BE LAID IN RUNNING BOND, UNLESS OTHERWISE
- 14. EXCEPT FOR WALL PILASTERS, VERTICAL REINFORCEMENT SHALL BE FIELD CUT FOR 4'-0" LIFTS AND LAP SPLICED PER LAP LENGTH SCHEDULE.

#### LINTELS

- PROVIDE LINTELS OVER ALL OPENINGS AND RECESSES IN MASONRY CONSTRUCTION. LINTELS ARE NOT REQUIRED OVER OPENINGS 12" WIDE OR LESS THAT IS AT LEAST 1
- COURSE BELOW THE BOND BEAM AT THE TOP OF WALL 2. PENETRATIONS NOT IDENTIFIED ON THE DOCUMENTS ARE TO BE TREATED IN A MANNER SIMILAR TO THE IDENTIFIED LOCATIONS.

3. LINTELS IN NON-BEARING WALLS SHALL BE SIZED PER THE FOLLOWING:		
	SPAN, L	STEEL OPTION (FOR EA 4" OF MASONRY) *
	0' < L ≤ 4'-0"	L3 1/2x3 1/2x1/4
	4'-0" < L ≤ 6'-0"	L4x3 1/2x5/16 (LLV)
	6'-0" < L ≤ 8'-0"	L5x3 1/2x5/16 (LLV)
	8'-0" < L ≤ 10'-0"	L6x3 1/2x3/8 (LLV)



Bidding and Permits 20 March, 2023

GENERAL STRUCTURAL NOTES



CRESTWOOD HS FIELD BUILDING



PROJECT NO. 5622

803 W. Big Beaver Road, Suite 350, Troy, MI 48084 | 248.244.9710

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SPAN, L	CMU OPTIONS				
	6" BLOCK	8" BLOCK	10" BLOCK	12" BLOCK	
0' < L ≤ 4'-0"	8" DEEP W/ (1) #	8" DEEP W/ (1) #	8" DEEP W/ (1)	8" DEEP W/ (1) #	
	4 BOTT	4 BOTT	#5 BOTT	5 BOTT	
4'-0" < L ≤ 6'-0"	8" DEEP W/ (1) #	8" DEEP W/ (1) #	8" DEEP W/ (1)	8" DEEP W/ (1) #	
	4 BOTT	4 BOTT	#5 BOTT	5 BOTT	
6'-0" < L ≤ 8'-0"	16" DEEP W/ (1)	16" DEEP W/ (1)	16" DEEP W/ (1)	16" DEEP W/ (1)	
	#4 BOTT	#4 BOTT	#5 BOTT	#5 BOTT	
8'-0" < L ≤ 10'-0"	16" DEEP W/ (1)	16" DEEP W/ (2)	16" DEEP W/ (2)	16" DEEP W/ (2)	
	#5 BOTT	#5 BOTT	#5 BOTT	#5 BOTT	
ALL ANGLES THAT ARE BACK-TO-BACK SHALL BE WELDED TOP AND BOTTOM 3" @ 12" OC					

#### MINIMUM.

- 4. ALL LINTELS SHALL HAVE A MINIMUM OF 8" END BEARING AND DO NOT REQUIRE BEARING PLATES, UNLESS OTHERWISE NOTED.
- 5. TEMPORARY SHORING OF MASONRY LINTELS MUST BE PROVIDED UNTIL MASONRY HAS REACHED 75% OF DESIGN STRENGTH.
- 6. ALL STEEL LINTELS IN EXTERIOR WALL CONSTRUCTION SHALL BE HOT-DIP GALVANIZED, UNLESS OTHERWISE NOTED.

#### WOOD

- STRUCTURAL SHEATHING
- A. EACH PANEL SHALL BEAR THE QUALITY TRADEMARK STAMP OF THE AMERICAN PLYWOOD ASSOCIATION (APA).
- B. ROOFS:
- GRADE:
  - a. 3/4", GROUP 1, SPAN INDEX 48/24, EXPOSURE 1
- PANEL EDGE SUPPORT SHALL BE EITHER TONGUE-AND-GROOVE EDGE. PANEL ii. EDGE CLIP MIDWAY BETWEEN SUPPORTS, OR LUMBER BLOCKING (MIN 2x4 SIZE).
- &nbsp: SEE ARCHITECTURAL DRAWINGS FOR TYPICAL WALL SHEATHING, UNLESS
- OTHERWISE NOTED. SEE PLANS FOR SHEAR WALL SHEATHING.
- D. MINIMUM NAILING REQUIREMENTS UNLESS OTHERWISE NOTED:
- ROOF: a. NAIL SIZE: USE 0.148" x 2 1/4" GUN NAIL
- b. SPACING:
- 1) PANEL EDGES @ 6" OC
- 2) INTERIOR BEARINGS @ 12" OC
- WALL (AT SHEAR WALL, PROVIDE NAILING PER SCHEDULE OR MINIMUM LISTED ii. BELOW):
- a. NAIL SIZE: USE 0.148" x 2 1/4" GUN NAIL
- b. SPACING:
- 1) PANEL EDGES @ 6" OC 2) INTERIOR BEARINGS @ 12" OC
- PROVIDE MINIMUM 2x SOLID BLOCKING AT PANEL EDGES OF WALL SHEATHING iii. WHERE REQUIRED BY SHEAR WALL SCHEDULE OR AT PANEL EDGES OF ROOF/FLOOR SHEATHING WHERE REQUIRED ON PLAN.
- SHEATHING FASTENERS SHALL BE DRIVEN FLUSH BUT SHALL NOT FRACTURE THE
- HOT-DIP GALVANIZED NAILS SHALL BE USED WHEN NAILING TO PRESSURE v. TREATED MEMBERS.
- E. PANEL LAYOUT:
- LONG DIMENSION OF PANEL TO BE PERPENDICULAR TO FRAMING MEMBERS. EXCEPT PANELS AT WALLS MAY BE INSTALLED WITH LONG DIMENSION PARALLEL TO STUDS UNLESS OTHERWISE NOTED.
  - END JOINTS IN ADJACENT RUNS SHALL BE STAGGERED 4 FEET.
- MINIMUM PANEL WIDTH SHALL BE 12".
- EDGES OF ALL PANELS LESS THAN 24" WIDE SHALL BE BACKED BY BLOCKING (MIN
- PROVIDE 1/8" GAP AT ALL SHEATHING JOINTS FOR FLOORS AND WALLS UNLESS v. OTHERWISE NOTED ON PLAN OR DETAILS.
- F. IF SHEATHING PANELS EXHIBIT SWELLING, NAIL HEAD PULL-THROUGH, SOFT SPOTS OR OTHER CONDITIONS WHEREBY REDUCING THE STRUCTURAL CAPACITY, REMOVE AND REPLACE.
- 2 LUMBER:
- A. COMPLY WITH ANSI/AWC NATIONAL DESIGN SPECIFICATION (NDS) FOR WOOD
- B. ALL FRAMING LUMBER SHALL BE SPRUCE PINE FIR, GRADED BY WESTERN WOOD PRODUCTS ASSOCIATION. NOTED ALLOWABLE STRESSES ARE MINIMUMS AND FOR NONREPETITIVE USES PRIOR TO ALLOWABLE STRESS INCREASES AND CONFORMING TO THE NDS AS FOLLOWS:
- 2" THICK 4" TO 6" WIDE (WALL STUD ONLY) NO. 2 Fb = 875 PSI, E = 1,400,000 PSI 2" TO 4" THICK - 6" AND WIDER NO. 2 Fb = 875 PSI, E = 1,400,000 PSI 5" THICK - 5" AND WIDER NO. 1 Fb = 900 PSI, E = 1,300,000 PSI
- C. ALL LUMBER STRESSES SHOWN ABOVE ARE FOR VISUALLY STRESS-RATED LUMBER USED AT 19% MAXIMUM MOISTURE CONTENT WHEN BUILDING IS ENCLOSED, SINGLE MEMBER USE. ALL LUMBER SHALL BE GRADE MARKED.
- D. PROVIDE A MINIMUM OF 1 1/2" JOIST BEARING UNLESS OTHERWISE NOTED.
- E. NOTCHING OR DRILLING HOLES IN LUMBER FRAMING MEMBERS MUST BE AS APPROVED BY THE STRUCTURAL ENGINEER PRIOR TO CONSTRUCTION.
- 3. MANUFACTURED WOOD PRODUCTS:
- A. LAMINATED VENEER LUMBER (LVL)
- SIZES SHOWN ARE AS MANUFACTURED BY TRUS JOIST. MATERIALS, FABRICATION, HANDLING, AND INSTALLATION SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDATIONS.
- MATERIAL STRENGTHS:
- MODULUS OF ELASTICITY, E 2000 KSI
- BENDING STRENGTH, Fb 2900 PSI SHEAR STRENGTH, Fv 285 PSI
- B. NOTCHING OR DRILLING HOLES IN MANUFACTURED WOOD PRODUCTS THAT ARE DIFFERENT FROM THE MANUFACTURER'S GUIDELINES MUST BE AS APPROVED BY THE STRUCTURAL ENGINEER PRIOR TO CONSTRUCTION.
- C. CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER INSTALLATION PER DETAILED INSTALLATION RECOMMENDATIONS AND GUIDELINES OF THE MANUFACTURER.
- D. ALL HANGERS SELECTED SHALL MATCH THE SIZE OF SUPPORTED MEMBER AND SHALL HAVE FULL NAILING AS SHOWN IN THE ICC REPORT.
- E. SUBSTITUTIONS MUST BE APPROVED BY THE STRUCTURAL ENGINEER AND HAVE ICC APPROVED LOAD CAPACITIES EQUAL TO OR GREATER THAN THE SIMPSON STRONG-
- F. SIMPSON HANGERS AT PRESSURE TREATED MEMBERS SHALL HAVE ZMAX COATING. G. SEE ARCHITECTURAL DETAILS AND SPECIFICATIONS FOR MATERIAL TYPES AND
- H. PROVIDE STANDARD CAMBERS FOR ALL ROOF BEAMS AND PURLINS UNLESS OTHERWISE NOTED.
- I. SEE MANUFACTURER REQUIREMENTS FOR MINIMUM BEARING LENGTHS. 4. FASTENING:
- A. ALL NAILS SHALL BE COMMON WIRE NAILS. AT ALL EXPOSED NAILING TO WEATHER OR INSTALLED IN PRESSURE TREATED WOOD (E.G.-DECKING & SIDING), USE HOT-DIP GALVANIZED NAILS. USE OF PLASTIC COATED OR CASING NAILS IS NOT ALLOWED. NAIL DESIGNATIONS SHALL MEET THE FOLLOWING LENGTHS AND DIAMETERS:
- 6d 2" x 0.113"
- 8d 2 1/2" x 0.131' 10d - 3" x 0.148"
- 12d 3 1/4" x 0.148" iv. 16d - 3 1/2" x 0.162"
- 20d 4" x 0.192"

- B. THE NAILING SCHEDULE AND STRUCTURAL DETAILS ARE BASED ON THE USAGE OF "COMMON" WIRE NAILS EXCEPT THAT 16d "SINKER" NAILS (3 1/4" x 0.148") MAY BE USED WHERE 16d IS SPECIFIED. IF GUN NAILS ARE USED, THE CONTRACTOR SHALL SUBMIT NAIL DATA FOR REVIEW PRIOR TO BEGINNING CONSTRUCTION.
- C. THE NUMBER AND SIZE OF NAILS CONNECTING WOOD MEMBERS SHALL NOT BE LESS THAN THE FOLLOWING SCHEDULE:

THAN THE FOLLOWING SCHEDULE:	
CONNECTION	FASTENING
JOIST TO SILL, TOP PLATE OR GIRDER	(3) 8d TOENAILS
BRIDGING OR BLOCKING BETWEEN JOISTS	(2) 8d TOENAILS, EACH END OR (2) 16d END
OR TRUSSES NOT AT WALL TOP PLATE	NAILS
SILL PLATE TO JOIST, RIM JOIST OR BLOCKING	16d @ 16" OC, FACE NAIL
TOP PLATE TO STUD AND STUD TO SILL	(2) 16d END NAILS FOR 2x (3) 16d END NAILS
PLATE	FOR 3x
2x STUD TO TOP OR SILL PLATE	(4) 8d TOENAILS OR (2) 16d END NAILS
3x STUD TO SOLE PLATE	(6) 8d TOENAILS OR (3) 16d END NAILS
STUD TO STUD	16d @ 24" OC, FACE NAIL
DOUBLE TOP PLATES	16d @ 16" OC, FACE NAIL
DOUBLE TOP PLATES, LAP SPLICE	(12) 16d EACH SIDE OF SPLICE
BLOCKING BETWEEN JOIST OR RAFTERS TO TOP PLATE	(3) 8d TOENAILS
RIM JOIST TO TOP PLATE OR FRAMING BELOW	8d @ 6" OC, TOENAIL
JOIST TO RIM JOIST	(3) 16d END NAILS
TOP PLATE LAPS AT CORNERS AND INTERSECTIONS	(2) 16d, FACE NAIL
BUILT-UP HEADER	16d @ 16" OC ALONG EACH EDGE
CEILING JOIST TO TOP PLATE	(3) 8d TOENAILS
CONTINUOUS HEADER TO STUD	(4) 8d, TOENAIL
CEILING JOIST, LAPS OVER PARTITIONS	(3) 16d FACE NAILS
CEILING JOISTS TO PARALLEL RAFTERS	SEE TABLE 2308.7.3.1
RAFTER OR ROOF TRUSS TO PLATE	(3) 10d TOENAILS
BUILT-UP CORNER STUDS	16d @ 24" OC
BUILT-UP GIRDER AND BEAMS, 2x LUMBER	20d FACE NAILS @ 32" OC ALONG T&B,
LAYERS	STAGGERED OPPOSITE SIDES, AND (2) 20d
	AT ENDS AND AT EACH SPLICE
FLAT BLOCKING TO TRUSS AND WEB FILLER	16d @ 16" OC, FACE NAIL
MULTI-PLY LAMINATED VENEER LUMBER (LVL)	SEE PLAN

- D. PILOT HOLES SHALL BE PROVIDED FOR ALL NAILS 20d AND LARGER, PILOT HOLES SHALL HAVE A DIAMETER OF APPROXIMATELY 75% OF THE NAIL SHANK DIAMETER.
- E. USE OF MACHINE NAILING IS SUBJECT TO A SATISFACTORY JOBSITE DEMONSTRATION AND THE APPROVAL OF THE ARCHITECT/STRUCTURAL ENGINEER.
- F. CONTRACTOR TO AVOID SPLITTING WOOD MEMBERS DURING FASTENER INSTALLATION. NAIL HEADS SHOULD BE DRIVEN NO GREATER THAN 1/16 OF AN INCH BELOW WOOD SURFACE.
- ALL BOLTED WOOD CONNECTIONS SHALL BE MADE WITH A307 BOLTS CONFORMING TO THE REQUIREMENTS OF THE CURRENT VERSION OF ANSI/ASME UNLESS OTHERWISE NOTED. BOLT HOLES SHALL BE 1/32" TO 1/16" LARGER THAN THE BOLT. FORCIBLE DRIVING OF BOLTS IS NOT ALLOWED. RETIGHTEN ALL BOLTS BEFORE CONCEALING CONNECTION.
- H. USE STANDARD CUT WASHERS BETWEEN THE BOLTS HEADS, BOLT NUTS AND LAG
- SCREW HEADS AND WOOD FRAMING, UNLESS OTHERWISE NOTED. ALL WOOD CONNECTIONS MADE WITH LAG SCREWS SHALL BE MADE WITH SCREWS CONFORMING TO THE REQUIREMENTS OF THE CURRENT VERSION OF ANSI/ASME. LEAD HOLES FOR THE SHANK SHALL HAVE THE SAME DIAMETER AS THE SHANK AND

THE SAME DEPTH AS THE LENGTH OF UNTHREADED SHANK. THE LEAD HOLE SHALL

WHERE THERE ARE CONNECTOR NAILING ALTERNATIVES LISTED IN THE MANUFACTURER'S CATALOG, THE NAILING PROVIDING THE HIGHEST LOAD CAPACITY SHALL BE USED, UNLESS OTHERWISE NOTED.

HAVE A DIAMETER EQUAL TO 60-75% OF THE SHANK DIAMETER.

- 5. GENERAL CONSTRUCTION REQUIREMENTS:
- A. METAL FRAMING CONNECTORS NOTED ON THE DRAWINGS USE SIMPSON STRONG-TIE AS BASIS OF DESIGN, UNLESS OTHERWISE NOTED. SUBSTITUTIONS OF ALTERNATE MANUFACTURERS WILL BE ACCEPTABLE AS LONG AS LOAD CAPACITIES ARE MET OR EXCEEDED AND ARE SUBSTANTIATED BY AN ICC REPORT.
- B. FRAMING PLANS INDICATE GENERAL LAYOUT AND DIMENSIONAL CONTROL ONLY. SEE SHOP DRAWINGS FOR ENGINEERING AND ERECTION.
- C. SOLID-SAWN LUMBER BEAMS, RAFTERS AND JOISTS SHALL HAVE LATERAL SUPPORT PREVENTING ROTATION OR DISPLACEMENT BASED UPON SPAN-TO-DEPTH RATIOS AS FOLLOWS:
- 2:1, NO LATERAL SUPPORT IS REQUIRED.
- . 3:1 OR 4:1, THE ENDS SHALL BE HELD IN POSITION BY FULL-DEPTH BLOCKING. ii. BRIDGING, NAILING, OR BOLTING TO OTHER FRAMING MEMBERS.
- 5:1, ONE EDGE SHALL BE HELD IN LINE FOR ITS ENTIRE LENGTH.
- 6:1, FULL-DEPTH BLOCKING, BRIDGING, OR CROSS-BRACING SHALL BE INSTALLED iv. AT INTERVALS NOT EXCEEDING 8 FEET UNLESS BOTH EDGES ARE HELD IN LINE.
- 7:1, BOTH EDGES SHALL BE HELD IN LINE FOR THE ENTIRE LENGTH. D. ÄLL LUMBER, UNLESS NOTED, SHALL BE MILL SIZED AND SURFACED ON FOUR SIDES AND SHALL BE STRAIGHT STOCK, FREE FROM WARP OR CUP, AND SINGLE LENGTH PIECES.
- E. ALL ROUGH CARPENTRY SHALL PRODUCE JOINTS TRUE, TIGHT, AND WELL NAILED WITH MEMBERS ASSEMBLED IN ACCORDANCE WITH THE DRAWINGS AND ALL PERTINENT BUILDING CODES. THE SHIMMING OF SILLS, JOISTS, SHORT STUDS TRIMMERS, HEADERS, OR OTHER FRAMING MEMBERS SHALL NOT BE PERMITTED. ALL WALLS AND PARTITIONS SHALL BE STRAIGHT, PLUMB, AND ACCURATELY LOCATED. CAREFULLY SELECT ALL STRUCTURAL MEMBERS SO KNOTS AND OBVIOUS MINOR DEFECTS WILL NOT INTERFERE WITH MAKING SOUND CONNECTIONS.
- F. INSTALL ALL BLOCKING AS REQUIRED TO SUPPORT ALL REQUIRED FINISHES AND EQUIPMENT. PROVIDE 2x FIRE BLOCKING TO CUT OFF ALL CONCEALED DRAFT OPENINGS, BOTH VERTICAL AND HORIZONTAL, BETWEEN CEILING AND FLOOR AREAS. VERIFY ALL REQUIRED BLOCKING WITH ARCHITECTURAL DRAWINGS AND LOCAL
- G. ALL LUMBER AND PRODUCTS SHALL BE HANDLED AND STORED TO PREVENT MARRING AND MOISTURE ABSORPTION. NO DIRECT CONTACT WITH THE GROUND IS PERMITTED. H. PROTECTION AGAINST DECAY AND TERMITES:
- &nbsp: ALL LUMBER: WHEN IN DIRECT CONTACT WITH CONCRETE OR MASONRY SHALL BE TREATED WOOD. BOTTOM OF SILLS AT EXTERIOR WALLS SHALL NOT BE LESS THAN 8" ABOVE OUTSIDE GRADE EXCEPT WHERE GRADE IS PAVED OVER FOR 18" MINIMUM WIDTH AND DRAINING AWAY FROM THE BUILDING. FOR THAT CONDITION,
- SILL MAY BE 2" ABOVE. EXTERIOR COLUMNS AND POSTS: IN AREAS EXPOSED TO WATER SPLASH AND ii. EXTERIOR CONDITIONS, COLUMN/POST SHALL BE SUPPORTED BY A METAL
- CONNECTOR AND BE TREATED IN ACCORDANCE WITH AWPA UC3. STRUCTURAL SUPPORTS OF BALCONIES, PORCHES, OR SIMILAR APPURTENANCES: iii. WHEN MEMBERS ARE EXPOSED TO THE WEATHER WITHOUT ADEQUATE ROOF PROTECTION PREVENTING WATER ACCUMULATION, THEY SHALL BE TREATED WOOD IN ACCORDANCE WITH AWPA UC3.
- MOISTURE CONTENT: WHEN WOOD IS PRESSURE TREATED WITH A WATERBORNE PRESERVATIVE AND LOCATED IN ENCLOSED SPACES WHERE DRYING IN SERVICE CANNOT READILY OCCUR, SUCH WOOD SHALL BE AT A MOISTURE CONTENT OF 19% OR LESS BEFORE BEING COVERED.
  - USE AWPA UC4 AT ALL WOOD IN CONTACT WITH SOIL.
- . NOTCHES AND BORED HOLE PENETRATIONS IN WOOD STUD WALLS SHALL CONFORM TO SECTION 2308 OF THE IBC CBC AND TYPICAL DETAIL, WHICHEVER IS MORE
- J. ALL APPLICABLE FRAMING STANDARDS OR GRADING RULES SPECIFIED SHALL BE IDENTIFIED BY THE GRADE MARK OR A CERTIFICATE OF INSPECTION BY AN APPROVED AGENCY. ALL LUMBER AND PLYWOOD REQUIRED TO BE TREATED WOOD SHALL BE IDENTIFIED BY THE QUALITY MARK OF AN APPROVED INSPECTION AGENCY WHICH MAINTAINS CONTINUED SUPERVISION, TESTING, AND INSPECTION OVER THE QUALITY OF THE PRODUCT.
- K. ALL APPLICABLE FRAMING STANDARDS OR GRADING RULES SPECIFIED SHALL BE IDENTIFIED BY THE GRADE MARK OR A CERTIFICATE OF INSPECTION BY AN APPROVED AGENCY. ALL LUMBER AND PLYWOOD REQUIRED TO BE TREATED WOOD SHALL BE IDENTIFIED BY THE QUALITY MARK OF AN APPROVED INSPECTION AGENCY WHICH MAINTAINS CONTINUED SUPERVISION, TESTING, AND INSPECTION OVER THE QUALITY
- WALL STUD CONSTRUCTION IS DESIGNED TO BE BRACED BY THE WALL SHEATHING (WOOD STRUCTURAL PANEL OR GYPSUM BOARD). CONTRACTOR TO PROVIDE TEMPORARY BRACING, AS REQUIRED, UNTIL SHEATHING IS INSTALLED.

M. ALL DRYWALL, WINDOWS, EXTERIOR CLADDING, MEP, ETC. SHALL BE ARCHITECTURALLY DETAILED AND CONSTRUCTED BY THE CONTRACTOR TO ACCOMMODATE ESTIMATED VERTICAL MOVEMENT DUE TO CRUSHING, SHRINKAGE, AND CONSTRUCTION GAPS. STRUCTURAL ENGINEER SHALL NOT BE HELD LIABLE FOR ANY POST-CONSTRUCTION REMEDIATION REQUIRED AS A RESULT OF DIFFERENTIAL

#### METAL PLATE CONNECTED WOOD TRUSSES

- 1. DESIGN, FABRICATE, TRANSPORT, AND ERECT METAL PLATE CONNECTED WOOD TRUSSES IN ACCORDANCE WITH LATEST STRUCTURAL BUILDING COMPONENTS ASSOCIATION (SBCA) STANDARDS AND MANUFACTURER'S RECOMMENDATIONS.
- 2. DESIGN FOR LOADS. IN ADDITION TO MEMBER WEIGHTS. AS NOTED ON THE DRAWINGS AND PER APPLICABLE CODE REQUIREMENTS.
- 3. PREFABRICATED PRE-ENGINEERED TRUSSES ARE PERFORMANCE SPECIFIED. WOOD GRADE, SECTION, BRACING, CONNECTIONS, AND SIMILAR DETAILS ARE THE
- RESPONSIBILITY OF THE MANUFACTURER BASED ON REQUIRED LOADING. 4. ALL TRUSS-T0-TRUSS CONNECTIONS ARE TO BE DESIGNED BY THE TRUSS
- MANUFACTURER. 5. ALL PERMANENT AND TEMPORARY BRACING SHALL BE DESIGNED BY THE TRUSS

MANUFACTURER, UNLESS OTHERWISE NOTED.

- 6. COMPONENT DESIGN SHALL BE SIGNED AND SEALED BY A QUALIFIED PROFESSIONAL STRUCTURAL ENGINEER, REGISTERED IN THE STATE WHERE THE PROJECT IS LOCATED. SUBMIT DESIGN CALCULATIONS AND SHOP DRAWINGS FOR REVIEW BY THE STRUCTURAL ENGINEER THROUGH THE ARCHITECT. FABRICATION SHALL NOT BEGIN WITHOUT APPROVED SHOP DRAWINGS.
- 7. SHOP DRAWINGS SHALL SHOW THE TRUSS DESIGN LOADS, SIZE AND GRADE OF THE CHORDS AND WEBS, TRUSS DEFLECTION, LOCATIONS OF THE JOINTS AND CONNECTIONS, SIZE AND TYPE AND LOCATION OF THE METAL PLATES, AND ALL BRACING AND BLOCKING
- 8. ROOF TRUSS LIVE LOAD DEFLECTION SHALL NOT EXCEED SPAN/360. TOTAL LOAD DEFLECTION SHALL NOT EXCEED SPAN/240.
- 9. MAXIMUM DIFFERENTIAL DEFLECTION SHALL BE 1/2" MAXIMUM BETWEEN ADJACENT
- TRUSSES (LIVE LOAD ONLY OR TOTAL LOAD). 10. TRUSS MANUFACTURER SHALL NOT EXCEED THE ALLOWABLE BEARING STRESS PERPENDICULAR TO GRAIN OF THE SUPPORTING MEMBER.
- 11. TRUSS MANUFACTURER TO CONFIRM CEILING SLOPES AND CONFIGURATION WITH ARCHITECTURAL DRAWINGS PRIOR TO FABRICATION.
- 12. TRUSS MANUFACTURER IS RESPONSIBLE FOR MAINTAINING WEB OPENING ALIGNMENT BETWEEN ADJACENT TRUSSES AT TYPICAL AND ATYPICAL SPANS, GENERAL CONTRACTOR SHALL COORDINATE WEB OPENING MIS-ALIGNMENT WITH MECHANICAL ELECTRICAL AND PLUMBING ROUTING.

#### POST-INSTALLED ANCHORS

- I. ANCHORS SERVING AS THE BASIS OF DESIGN ARE SHOWN ON THE DRAWINGS ACCEPTABLE ALTERNATIVE ANCHORS MAY BE SUPPLIED PROVIDED THE QUANTITY AND CONFIGURATION MATCH THE CAPACITY OF THE DESIGN ANCHOR QUANTITY AND CONFIGURATION. ANY ALTERNATES ARE TO BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW. INSTALL IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS. BELOW SUMMARIZES EACH ANCHOR TYPE USED ON THE PROJECT.
- 2. MECHANICAL ANCHORS:

ANCHORED INTO	BASIS OF DESIGN	ACCEPTABLE ALTERNATES
GROUTED MASONRY	HILTI KB3 (ESR-1385)	DEWALT POWER STUD+ SD1 (ESR-2966) SIMPSON WEDGE-ALL (ESR-1396)
UNCRACKED CONCRETE	HILTI KB3 (ESR-2302)	DEWALT POWER STUD+ SD2 (ESR-2502) RED HEAD TRUBOLT+ (ESR-2427) SIMPSON STRONG BOLT 2 (ESR-3037)
CRACKED CONCRETE	HILTI KBTZ (ESR-1917)	DEWALT POWER STUD+ SD2 (ESR-2502) RED HEAD TRUBOLT+ (ESR-2427) SIMPSON STRONG BOLT 2 (ESR-3037)

h THREADED SCREW ANCHORS

b. THREADED S	b. THREADED SCREW ANCHORS			
ANCHORED INTO	BASIS OF DESIGN	ACCEPTABLE ALTERNATES		
GROUTED	HILTI KWIK HUS-EZ	DEWALT WEDGE-BOLT+ (ESR-1678) SIMPSON		
MASONRY	(ESR-3056)	TITEN HD (ESR-1056)		
UNCRACKED	HILTI KWIK HUS-EZ	DEWALT POWER SCREW-BOLT+ (ESR-3889)		
CONCRETE	(ESR-3027)	SIMPSON TITEN HD (ESR-2713)		
CRACKED	HILTI KWIK HUS-EZ	DEWALT POWER SCREW-BOLT+ (ESR-3889)		
CONCRETE	(ESR-3027)	SIMPSON TITEN HD (ESR-2713)		

3. ADHESIVE ANCHORS: SHALL CONSIST OF DEFORMED REINFORCING BARS OR ASTM A193 GRADE B7 RODS, HEAVY DUTY NUTS AND WASHERS AND A TWO COMPONENT STRUCTURAL ADHESIVE. WHERE ANCHORING INTO HOLLOW MASONRY, A SCREEN TUBE

ANCHORED INTO	BASIS OF DESIGN	ACCEPTABLE ALTERNATES
HOLLOW MASONRY	HILTI HIT-HY 270 (ESR-4143)	DEWALT AC 100+ GOLD (ESR-3200) SIMPSON SET-XP (ESR-0265)
GROUTED	HILTI HIT-HY 270	DEWALT AC 100+ GOLD (ESR-3200) RED HEAD A7
MASONRY	(ESR-4143)	ACRYLIC (ESR-3951) SIMPSON SET-XP (ESR-0265)
CONCRETE	HILTI HIT-HY 200	DEWALT AC 200+ (ESR-4027) SIMPSON SET-3G

(ESR-4057) (ESR-3187) 4. CRACKED CONCRETE REPRESENTS ALL CONCRETE FOR PROJECTS LOCATED IN SEISMIC DESIGN CATEGORY C OR HIGHER, TENSILE ZONES SUCH AS BOTTOMS OF BEAMS AND

#### SLABS, OR WHERE NOTED ON THE DRAWINGS. **EPOXY ANCHORS**

5. FOR REQUIRED HOLES, THE DIAMETERS SHALL BE PER MANUFACTURER'S

- INTENDED FOR USE WITH REINFORCING BARS AND THREADED RODS. 2. ALL EPOXY ON THE JOB, UNLESS OTHERWISE NOTED, SHALL BE 'SET-3G' AS
- 3. WORKERS SHALL BE CERTIFIED FOR ANCHOR INSTALLATION EQUIPMENT AND PROCEDURES USING THEIR EPOXY.
- 4. CONTINUOUS INSPECTION IS REQUIRED FOR INSTALLATION OF REBAR OR THREADED

MANUFACTURED BY SIMPSON STRONG-TIE (ICC ESR-4057) OR APPROVED EQUIVALENT.

- REQUIREMENTS. MINIMUM HOLE LENGTH SHALL BE PER STRUCTURAL DRAWINGS, OR PER THE ICC MINIMUM (FOR MAXIMUM TENSION) IF NOT SHOWN. 6. FOR HORIZONTAL HOLES COMPLETELY THROUGH WALLS OR BEAMS AND FOR TIES AROUND COLUMNS, PROVIDE A DAM AT ONE END, FLOOD WITH EPOXY AND DAM THE OTHER SIDE. VIBRATE TIES TO ENSURE FULL COVERAGE. REMOVE DAMS ONCE FLUID
- EPOXY HAS SET. FILL ANY VOIDS WITH ADDITIONAL EPOXY. 7. ALL EPOXY ANCHORS WILL BE TESTED AS FOLLOWS:
- a. 25% OF FIRST 40 ANCHORS INSTALLED AND 10% OF ALL ANCHORS THEREAFTER. b. IF ANY FAILURES OCCUR, THE PREVIOUS 10 ANCHORS INSTALLED SHALL BE TESTED AS WELL AS THE NEXT 5 ANCHORS INSTALLED. NEW INSTALLED ANCHORS WILL CONTINUE TO BE TESTED UNTIL 5 SUCCESSIVE ANCHORS PASS, AT WHICH TIME NORMAL TESTING OF THE REMAINING ANCHORS SHALL RESUME
- c. TEST VALUES:

o. Teor value.					
ANCHOR TYPE	TEST TYPE	TEST LOAD (LBS)	BASE MATERIAL		
5/8"ø THREADED ROD*	TENSION	6,000	CONCRETE		
3/4"ø THREADED ROD*	TENSION	8,500	CONCRETE		
7/8"ø THREADED ROD*	TENSION	11,500	CONCRETE		
1"ø THREADED ROD*	TENSION	15,000	CONCRETE		
#4 REBAR**	TENSION	4,800	CONCRETE		
#5 REBAR**	TENSION	7,500	CONCRETE		
#6 REBAR**	TENSION	10,500	CONCRETE		

- \* A307 \*\* GRADE 60
- d. ANCHORS SHALL BE ALLOWED TO CURE 48 HOURS PRIOR TO TESTING.
- e. TENSION TEST SHALL BE IN ACCORDANCE WITH ASTM E488. f. A MINIMUM OF TWO DOWELS PER WALL PER FLOOR SHALL BE TESTED.
- g. IF ANCHOR EDGE DISTANCE IS LESS THAN 6 ANCHOR DIAMETERS, USE 1/2 THE TEST VALUE SHOWN, UNLESS OTHERWISE NOTED.

8. WHEN INSTALLING DRILLED-IN EPOXY BARS OR ANCHORS IN EXISTING NON-PRESTRESSED REINFORCED CONCRETE, USE CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE EXISTING REINFORCING BARS.

STRUCTURAL ABBREVIATION KEY				
ABBR:	DESCRIPTION:	ABBR:	DESCRIPTION:	
#	NUMBER OR POUNDS	KSF	KIPS PER SQUARE FOOT	
@	AT	KSI L	KIPS PER SQUARE INCH LENGTH	
Ø	DEGREE   DIAMETER	LBS	POUND	
(E)	EXISTING	LL	LIVE LOAD	
A.B.	ANCHOR BOLT	LLH	LONG LEG HORIZONTAL	
AHU	AIR-HANDLING UNIT	LLV	LONG LEG VERTICAL	
ARCH	ARCHITECT, -URE, -URAL	LONG. LSH	LONGITUDINAL LONG SIDE HORIZONTAL	
B.O. bf	BOTTOM OF BEAM FLANGE WIDTH	LSV	LONG SIDE HORIZONTAL	
BF	BRACE FRAME	LT WT	LIGHTWEIGHT	
BM	BEAM	MAX	MAXIMUM	
B.N.	BOUNDARY NAILING	MECH	MECHANICAL	
BOTT	BOTTOM	MANUF MIN	MANUFACTURER MINIMUM	
BTWN CFSF	BETWEEN   COLD FORM STEEL FRAMING	NIC	NOT IN CONTRACT	
CGS	CENTER OF GRAVITY OF THE TENDON	NTS	NOT TO SCALE	
CJP	COMPLETE JOINT PENETRATION WELD	OC	ON CENTER	
CLR	CLEAR	ОН	OPPOSITE HAND	
CL	CENTERLINE	OPNG	OPENING OFFICIAL PROPERTY.	
CMU	CONCRETE MASONRY UNIT	OSB PCF	OREINTED STRAND BOARD POUNDS PER CUBIC FOOT	
COL	COLUMN	P.H.	PENTHOUSE	
CONC	CONCRETE CONTINUOUS	PJP	PARTIAL JOINT PENETRATION WELD	
COORD	COORDINATION	PL	PLATE	
DIA	DIAMETER	PLF	POUNDS PER LINEAR FOOT	
DL	DEAD LOAD	PSF	POUNDS PER SQUARE FOOT	
DET	DETAIL	PSI	POUNDS PER SQUARE INCH	
DWG DWL	DRAWING	PT R	PRESSURE TREATED DOUGLAS FIR RADIUS	
EA	DOWEL EACH	REINF	REINFORCING, -MENT, -ED	
EF	EACH FACE	REQD	REQUIRED	
EFF	EFFECTIVE	RTU	ROOF TOP UNIT	
EL	ELEVATION	SC	SLIP CRITICAL	
ELEC	ELECTRICAL	SCHED SFRS	SCHEDULE SEISMIC FORCE-RESISTING SYSTEM	
EMBED E.N.	EMBEDMENT EDGE NAILING	SIM	SIMILAR	
EOD	EDGE NAILING EDGE OF DECK	SL	SNOW LOAD	
EOS	EDGE OF SLAB	S.M.S.	SHEET METAL SCREW	
EQ	EQUAL	SP	SPACE(S)	
EQUIP	EQUIPMENT	SPEC	SPECIFICATION(S)	
ETC	ETCETERA	SQ STIFF	SQUARE STIFFENER	
EW EXP	EACH WAY EXPANSION	STL	STEEL	
EXT	EXTERIOR	SIM	SIMILAR	
f'c	CONCRETE COMPRESSIVE STRENGTH	T&B	TOP AND BOTTOM	
FDN	FOUNDATION	T.O.	TOP OF	
FLR	FLOOR	TC	PRE-TENSIONED BOLT	
F.N.	FIELD NAILING	TEMP tf	TEMPERATURE BEAM FLANGE THICKNESS	
FT FTG	FOOT FOOTING	THK	THICK	
Fy	YIELD STRESS	TRANS	TRANSVERSE	
GA	GAGE OR GAUGE	TYP	TYPICAL	
GALV	GALVANIZED	UON	UNLESS OTHERWISE NOTED	
GB	GRADE BEAM	VERT VIF	VERTICAL   VERIFY IN FIELD	
GLB GT	GLULAM BEAM	W/	WITH	
HORIZ	GIRDER TRUSS HORIZONTAL	WP	WORK POINT	
HSA	HEADED STUD ANCHOR	WT	WEIGHT	
HSB	HIGH STRENGTH BOLT	WWR	WELDED WIRE REINFORCING	
JT	JOINT			
K, KIP	KILOPOUND (1,000 POUNDS)			
		l		







PROJECT NO. 5622

CRESTWOOD HS FIELD BUILDING

GENERAL STRUCTURAL NOTES



20 March, 2023

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Bidding and Permits

#### **TESTING, INSPECTIONS, AND OBSERVATIONS**

- 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.

VERIFICATION AND INSPECTION TASK	CONTINUOUS	PERIODIC	MATERIAL STD REFERENCE	IBC REFERENCE
CONCRETE CONSTRUCTION				
INSPECT REINFORCEMENT, INCLUDING PRESTRESSING TENDONS, AND VERIFY PLACEMENT		Х	ACI 318: CH 20, 25.2, 25.3, 26.2.1-26.6.3	1908.4
2. MATERIAL IDENTIFICATION OF REINFORCING (TYPE/GRADE)		Х	AISC 341: TABLE J9.1	
3. REINFORCING STEEL HAS NOT BEEN REBENT IN THE FIELD		Х	AISC 341: TABLE J9.1	
4. REINFORCING STEEL HAS BEEN TIED AND SUPPORTED AS REQUIRED		Х	AISC 341: TABLE J9.1	
5. REINFORCING STEEL CLEARANCES HAVE BEEN PROVIDED		Х	AISC 341: TABLE J9.1	
6. COMPOSITE STEEL MEMBERS HAVE REQUIRED SIZE		Х	AISC 341: TABLE J9.1	
7. REINFORCING BAR WELDING:				
a. VERIFY WELDABILITY OF REINFORCING BARS OTHER THAN ASTM A706		Х	AWS D1.4	
b. INSPECT SINGLE-PASS FILLET WELDS, MAXIMUM 5/16"; AND		Х	ACI 318: 26.6.4	
c. INSPECTS ALL OTHER WELDS	X			
8. INSPECT ANCHORS CAST IN CONCRETE		X	ACI 318: 17.8.2	
9. 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 IN 4.a		X	ACI 318: 17.8.2	
10. VERIFY USE OF REQUIRED DESIGN MIX		Х	ACI 318: CH 19, 26.4.2, 26.4.4	1904.1, 1904.2, 1908.2, 1908.3
11. PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE	Х		ASTM C172, ASTM C31, ACI 318: 26.5, 26.12	1907.10
12. INSPECT CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES	X		ACI 318: 26.5	1908.6, 1908.7, 1908.8
13. VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES		X	ACI 318: 26.5.3-26.5.5	1908.9
14. INSPECT PRESTRESSED CONCRETE FOR:				
a. APPLICATION OF PRESTRESSING FORCES; AND	X		ACI 318: 26.11.2	
b. GROUTING OF BONDED PRESTRESSING TENDONS	X			
15. INSPECT ERECTION OF PRECAST CONCRETE MEMBERS	X		ACI 318: 26.9	
16. VERIFY IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POST- TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS		Х	ACI 318: 26.11.2	
17. INSPECT FORMWORK FOR SHAPE, LOCATION, AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED		Х	ACI 318: 26.11.2(b)	

VERIFICATION AND INSPECTION TASK	CONTINUOUS	PERIODIC	TMS 402	TMS 602
MASONRY CONSTRUCTION - LEVEL 2				
1. PRIOR TO CONSTRUCTION:				
a. VERIFICATION OF COMPLIANCE OF SUBMITTALS		X		ART. 1.5
b. VERIFICATION OF I'm		Х		ART. 1.4 B
2. AS CONSTRUCTION BEGINS, VERIFY THE FOLLOWING ARE IN COMPLIANCE:				
a. PROPORTIONS OF SITE-PREPARED MORTAR		Х		ART. 2.1, 2.6 A & 2.6 C
b. GRADE AND SIZE OF ANCHORAGES		Х		ART. 2.4 B & 2.4 H
c. GRADE, TYPE AND SIZE OF REINFORCEMENT, CONNECTORS, ANCHOR BOLTS, AND ANCHORAGES		Х		ART. 3.4 & 3.6 A
d. SAMPLE PANEL CONSTRUCTION		Х		ART. 1.6 D
3. PRIOR TO GROUTING, VERIFY THE FOLLOWING ARE IN COMPLIANCE:				
a. GROUT SPACE		X		ART. 3.2 D & 3.2 F
b. PLACEMENT OF ANCHORAGES		Х	SEC. 10.8 & 10.9	ART. 2.4 & 3.6
c. PLACEMENT OF REINFORCEMENT, CONNECTORS, AND ANCHOR BOLTS		Х	SEC. 6.1, 6.3.1, 6.3.6 & 6.3.7	ART. 3.2 E & 3.4
d. PROPORTIONS OF SITE-PREPARED GROUT		Х		ART. 2.6 B & 2.4 G.1.b
4. DURING CONSTRUCTION:				
a. VERIFICATION OF SLUMP FLOW AND VISUAL STABILITY INDEX (VSI) WHEN SELF-CONSOLIDATING GROUT IS DELIVERED TO THE PROJECT SITE		Х		ART. 1.5 & 1.6.3
b. MATERIALS AND PROCEDURES WITH THE APPROVED SUBMITTALS		Х		ART. 1.5
c. PLACEMENT OF MASONRY UNITS AND MORTAR JOINT CONSTRUCTION		X		ART. 3.3 B
d. SIZE AND LOCATION OF STRUCTURAL MEMBERS		Х		ART. 3.3 F
e. TYPE, SIZE, AND LOCATION OF ANCHORS, INCLUDING OTHER DETAILS OF ANCHORAGE OF MASONRY TO STRUCTURAL MEMBERS, FRAMES, OR OTHER CONSTRUCTION		Х	SEC. 1.2.1(e), 6.2.1 & 6.3.1	
f. WELDING OF REINFORCEMENT	X		SEC. 6.1.6.1.2	
g. PREPARATION, CONSTRUCTION, AND PROTECTION OF MASONRY DURING COLD WEATHER (TEMPERATURE BELOW 40°F) OR HOT WEATHER (TEMPERATURE ABOVE 90°F)		Х		ART. 1.8 C & 1.8 D
5. OBSERVE PREPARATION OF GROUT SPECIMENS, MORTAR SPECIMENS, AND/OR PRISMS		X		ART. 1.4 B.2.a.3, 1.4 B.2.b.3, 1.4 B.2.c.3, 1.4 B.3 & 1.4 B.4

			& 1.4 B.4
VERIFICATION AND INSPECTION TASK	QC	QA	MATERIAL STD REFERENCE
STRUCTURAL STEEL - FABRICATION			
1. FABRICATION FACILITY			X
2. CONNECTION ERECTION AND ASSEMBLY	Х	X	
3. PRETENSIONED AND SLIP-CRITICAL BOLTS/JOINTS USING TURN-OF-NUT METHOD WITHOUT	Х	X	
MATCHMAKING OF CALIBRATED WRENCH METHODS OF INSTALLATION			
4. SINGLE PASS FILLET WELDS 5/16" OR LESS	X	X	X
5. ALL OTHER WELDS INCLUDING COMPLETE AND PARTIAL PENETRATION WELDS	X	X	X
6. SHEAR STUD PLACEMENT	X	X	
VERIFICATION AND INSPECTION TASK	QC	QA	MATERIAL STD REFERENCE
STRUCTURAL STEEL - ERECTION			
1. STRUCTURAL STEEL ERECTION	X	X	
2. CONNECTION ERECTION AND ASSEMBLY	X	X	
3. PRETENSIONED AND SLIP-CRITICAL BOLTS/JOINTS USING TURN-OF-NUT METHOD WITHOUT MATCHMAKING OF CALIBRATED WRENCH METHODS OF INSTALLATION	X	Х	
4. SINGLE PASS FILLET WELDS 5/16" OR LESS	X	X	X
5. ALL OTHER WELDS INCLUDING COMPLETE AND PARTIAL PENETRATION WELDS	X	X	X
6. SHEAR STUD PLACEMENT	X	X	7
7. BEAM CAMBER (IN-PLACE)	X		

1 DOCUMENT - THE INSPECTOR SHALL PREPARE REPORTS INDICATING THE WORK HAS BEEN PERFORMED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE REPORTS NEED NOT PROVIDE DETAILED MEASUREMENTS FOR JOINT FIT-UPS, WPS SETTINGS, COMPLETED WELDS, OR OTHER INDIVIDUAL ITEMS LISTED IN THE TABLES. FOR SHOP FABRICATION, THE REPORT SHALL INDICATE THE PIECE MARK OF THE PIECE INSPECTED. FOR FIELD WORK, THE REPORT SHALL INDICATE THE REFERENCE GRID LINES AND FLOOR OR ELEVATION INSPECTED. WORK NOT IN COMPLIANCE WITH THE CONTRACT DOCUMENTS AND WHETHER THE NONCOMPLIANCE HAS BEEN SATISFACTORILY REPAIRED SHALL BE NOTED IN THE INSPECTION.

VERIFICATION AND INSPECTION TASK	QC	QA	MATERIAL STD REFERENCE	AWS D1. CLAUSE
STRUCTURAL STEEL AFTER BOLTING - MINIMUM INSPECTION  1. DOCUMENT ACCEPTANCE OR REJECTION OF BOLTED CONNECTIONS	Р	Р	TABLE C-N5.6-3	N/A
ERIFICATION AND INSPECTION TASK	QC	QA	MATERIAL STD REFERENCE	AWS D1.
TRUCTURAL STEEL PRIOR TO WELDING - MINIMUM INSPECTION				
. WELDING PROCEDURE SPECIFICATIONS (WPS) AVAILABLE	Р	Р	TABLE C-N5.4-1	6.3
2. MANUFACTURER CERTIFICATES FOR WELDING CONSUMABLES AVAILABLE 3. MATERIAL IDENTIFICATION	P 0	P 0	TABLE C-N5.4-1 TABLE C-N5.4-1	6.2 6.2
4. WELDER IDENTIFICATION	0	0	TABLE C-N5.4-1	6.4 (WELD
				QUALIFICA
5. FIT-UP OF GROOVE WELDS (INCLUDING JOINT GEOMETRY)	0	0	TABLE C-N5.4-1	N)
i. JOINT PREPARATION	0	0	TABLE C-N5.4-1	6.5.2
DIMENSIONS (ALIGNMENT, ROOT OPENING, ROOT FACE, BEVEL)	0	0	TABLE C-N5.4-1	5.22
. CLEANLINESS (CONDITION OF STEEL SURFACE)	0	0	TABLE C-N5.4-1	5.14
I. TACKING (TACK WELD QUALITY AND LOCATION)  BACKING TYPE AND FIT (IF APPLICABLE)	0	0	TABLE C-N5.4-1	5.17 5.9, 5.21.
. FIT-UP OF CJP GROOVE WELDS OF HSS T-, Y- & KJOINTS WITHOUT BACKING	P/O <sup>1</sup>	0	TABLE C-N5.4-1	9.11.2
NCLUDING JOINT GEOMETRY)				
. JOINT PREPARATION	P/O <sup>1</sup>	0	TABLE C-N5.4-1	9.11.2
DIMENSIONS (ALIGNMENT, ROOT OPENING, ROOT FACE, BEVEL)  CLEANLINESS (CONDITION OF STEEL SURFACE)	P/O <sup>1</sup> P/O <sup>1</sup>	0	TABLE C-N5.4-1 TABLE C-N5.4-1	9.11.2 9.11.2
. TACKING (TACK WELD QUALITY AND LOCATION)	P/O <sup>1</sup>	0	TABLE C-N5.4-1	9.11.2
. CONFIGURATION AND FINISH OF ACCESS HOLÉS	0		TABLE C-N5.4-1	6.5.2, 5.16 SEE AISC SECT. J1
. FIT-UP OF FILLET WELDS	P/O <sup>1</sup>	0	TABLE C-N5.4-1	0201.01
. DIMENSIONS (ALIGNMENT, GAPS AT ROOT)	P/O <sup>1</sup>	0	TABLE C-N5.4-1	5.21.1
. CLEANLINESS (CONDITION OF STEEL SURFACES)	P/O <sup>1</sup>	0	TABLE C-N5.4-1	5.14
. TACKING (TACK WELD QUALITY AND LOCATION) . CHECK WELDING EQUIPMENT	P/O <sup>1</sup>	0	TABLE C-N5.4-1	5.17 6.2, 5.1
				,
ERIFICATION AND INSPECTION TASK	QC	QA	MATERIAL STD REFERENCE	AWS D1
TRUCTURAL STEEL DURING WELDING - MINIMUM INSPECTION			TABLE 0 NE 4 0	0.4
. USE OF QUALIFIED WELDERS . CONTROL AND HANDLING OF WELDING CONSUMABLES	0	0	TABLE C-N5.4-2 TABLE C-N5.4-2	6.4
. PACKAGING	0	0	TABLE C-N5.4-2	5.3.1
EXPOSURE CONTROL	0	0	TABLE C-N5.4-2	5.3.2 (FO SMAW), 5 (FOR SA
. ENVIRONMENT CONDITIONS	0	0	TABLE C-N5.4-2	(I OIT OA
. WIND SPEED WITHIN LIMITS	0	0	TABLE C-N5.4-2	5.11.1
. PRECIPITATION AND TEMPERATURE . WPS FOLLOWED	0	0	TABLE C-N5.4-2 TABLE C-N5.4-2	5.11.2 6.3.3, 6.5.2 5.20
. SETTINGS ON WELDING EQUIPMENT	0	0	TABLE C-N5.4-2	00
. TRAVEL SPEED	0	0	TABLE C-N5.4-2	
SELECTED WELDING MATERIALS SHIELDING GAS TYPE/FLOW RATE	0	0	TABLE C-N5.4-2 TABLE C-N5.4-2	
PREHEAT APPLIED	0	0	TABLE C-N5.4-2	5.6, 5.7
INTERPASS TEMPERATURE MAINTAINED (MIN/MAX)	0	0	TABLE C-N5.4-2	,
. PROPER POSITION (F, V, H, OH)	0	0	TABLE C-N5.4-2	
. INTERMIX OF FILLER METALS AVOIDED UNLESS APPROVED . WELDING TECHNIQUES	0	0	TABLE C-N5.4-2 TABLE C-N5.4-2	6.5.2, 6.5.3
. INTERPASS AND FINAL CLEANING	0	0	TABLE C-N5.4-2	5.29.1
. EACH PASS WITHIN PROFILE LIMITATIONS	0	0	TABLE C-N5.4-2	
EACH PASS MEETS QUALITY REQUIREMENTS	0	0	TABLE C-N5.4-2	
ERIFICATION AND INSPECTION TASK	QC	QA	MATERIAL STD REFERENCE	AWS D1
TRUCTURAL STEEL AFTER WELDING - MINIMUM INSPECTION . WELDS CLEANED	0	0	TABLE C-N5.4-3	5.29.1
. SIZE, LENGTH AND LOCATION OF WELDS	P	P	TABLE C-N5.4-3	6.5.1
. WELDS MEET VISUAL ACCEPTANCE CRITERIA	P <sup>2</sup>	P <sup>2</sup>	TABLE C-N5.4-3	6.5.3
. CRACK PROHIBITION	P <sup>2</sup>	P <sup>2</sup>	TABLE C-N5.4-3	TABLE 6.
. WELD/BASE-METAL FUSION . CRATER CROSS-SECTION	P <sup>2</sup>	P <sup>2</sup>	TABLE C-N5.4-3 TABLE C-N5.4-3	TABLE 6.1
WELD PROFILES	P <sup>2</sup>	P <sup>2</sup>	TABLE C-N5.4-3	TABLE 6. 5.24
. WELD SIZE	P <sup>2</sup>	P <sup>2</sup>	TABLE C-N5.4-3	TABLE 6.
UNDERCUT	P <sup>2</sup>	P <sup>2</sup>	TABLE C-N5.4-3	TABLE 6.
. POROSITY . ARC STRIKES	P <sup>2</sup>	P <sup>2</sup>	TABLE C-N5.4-3	TABLE 6. <sup>2</sup> 5.28
. K-AREA <sup>3</sup>	P <sup>2</sup>	P <sup>2</sup>	TABLE C-N5.4-3	0.26 N/A
. WELD ACCESS HOLES IN ROLLED HEAVY SHAPES AND BUILT-UP HEAVY SHAPES	Р	Р	TABLE C-N5.4-3	5.16, 6.5.2 SEE AISC SECT. J1
. BACKING REMOVED AND WELD TABS REMOVED (IF REQUIRED)	P <sup>2</sup>	P <sup>2</sup>	TABLE C-N5.4-3	5.9, 5.3
. REPAIR ACTIVITIES	P	P <sup>2</sup>	TABLE C-N5.4-3	6.5.3, 5.2
. DOCUMENT ACCEPTANCE OR REJECTION OF WELDED JOINT OR MEMBER	Р	P	TABLE C-N5.4-3	6.5.4, 6.5
0. PLACEMENT OF REINFORCING OR CONTOURING FILLET WELDS (IF REQUIRED)	P <sup>2</sup>	P <sup>2</sup>	TABLE C-N5.4-3	6.5.4, 6.5
FOLLOWING PERFORMANCE OF THIS INSPECTION TASK FOR TEN WELDS TO BE MADE INDERSTANDING OF REQUIREMENTS AND POSSESSION OF THE SKILLS TO VERIFY THESE EDUCED TO OBSERVE, AND THE WELDER SHALL PERFORM THIS TASK. SHOULD THE INTERFORMANCE OF THIS TASK, THE TASK SHALL BE RETURNED TO PERFORM UNTIL SUCSSURANCE THE WELDER WILL PERFORM THE INSPECTION TASKS LISTED.	SE ITEMS, THE PI SPECTOR DETE	ERFORM DES RMINE THE V	SIGNATION OF THIS VELDER HAS DISCOI	TASK SHAL NTINUED

DOCUMENTS. THE REPORT NEED NOT PROVIDE DETAILED MEASUREMENTS FOR JOINT FIT-UPS, WPS SETTINGS, COMPLETED WELDS, OR OTHER INDIVIDUAL ITEMS LISTED IN THE TABLES. FOR SHOP FABRICATION, THE REPORT SHALL INDICATE THE PIECE MARK OF THE PIECE INSPECTED. FOR FIELD WORK, THE REPORT SHALL INDICATE THE REFERENCE GRID LINES AND FLOOR OR ELEVATION INSPECTED. WORK NOT IN COMPLIANCE WITH THE CONTRACT DOCUMENTS AND WHETHER THE NONCOMPLIANCE HAS BEEN SATISFACTORILY REPAIRED SHALL BE NOTED IN THE INSPECTION.

VERIFICATION AND INSPECTION TASK	CONTINUOUS	PERIODIC	MATERIAL STD REFERENCE	IBC REFERENCE
WOOD FRAMING				
PREFABRICATED WOOD STRUCTURAL ELEMENTS		Х		1704.2.5
a. METAL-PLATE-CONNECTED WOOD TRUSSES SPANNING 60 FEET OR GREATER:				
i. TEMPORARY AND PERMANENT INSTALLATION RESTRAINT/BRACING		X		1705.5.3
2. HIGH-LOAD DIAPHRAGMS:				
a. SHEATHING GRADE AND THICKNESS		Х		1705.5.1
b. MEMBER SIZES AT ADJOINING PANEL EDGES		Х		1705.5.1
c. DIAPHRAGM NAILING		X		1705.5.1
3. LATERAL FORCE RESISTING SYSTEM (SHEAR WALLS, DIAPHRAGMS, DRAG STRUTS, BRACES, AND HOLDOWNS, WHERE FASTENER SPACING AT PANEL EDGES IS 4" OR LESS):				
a. GLUING OF ELEMENTS OF THE LATERAL FORCE RESISTING SYSTEM	Х			1705.12.1, 1705.13.2
b. NAILING, BOLTING, ANCHORING AND OTHER FASTENING TO OTHER ELEMENTS OF THE LATERAL FORCE RESISTING SYSTEM		Х		1705.12.1, 1705.13.2

VERIFICATION AND INSPECTION TASK	CONTINUOUS	PERIODIC	MATERIAL STD REFERENCE	IBC REFERENCE
SOILS				
1. VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE		Х		
THE DESIGN BEARING CAPACITY				
2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED		X		
PROPER MATERIAL				
3. PERFORM CLASSIFICATIONS AND TESTING OF COMPACTED FILL MATERIAL		X		
4. VERIFY USE OF PROPER MATERIALS, DENSITIES, AND LIFT THICKNESSES DURING	X			
PLACEMENT AND COMPACTION OF COMPACTED FILL				
5. PRIOR TO PLACEMENT OF COMPACTED FILL, INSPECT SUBGRADE AND VERIFY THAT		X		
SITE HAS BEEN PREPARED PROPERLY				



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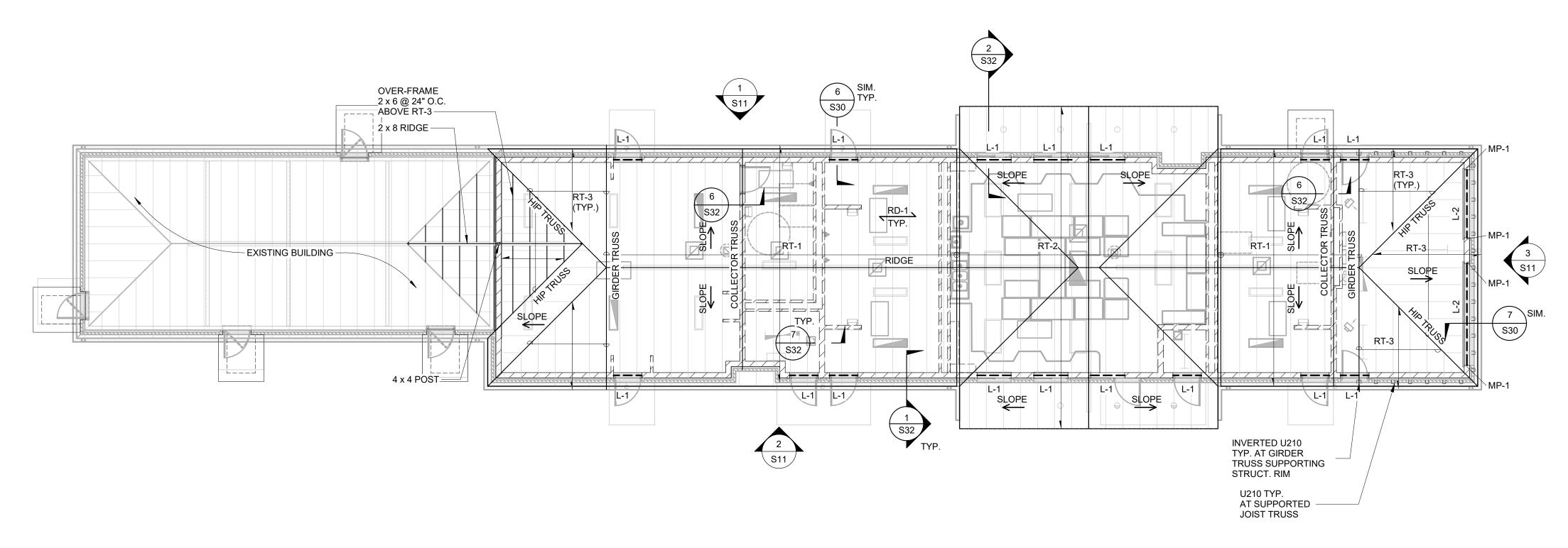
SPECIAL INSPECTION SCHEDULE



CRESTWOOD HS FIELD BUILDING



PROJECT NO. 5622



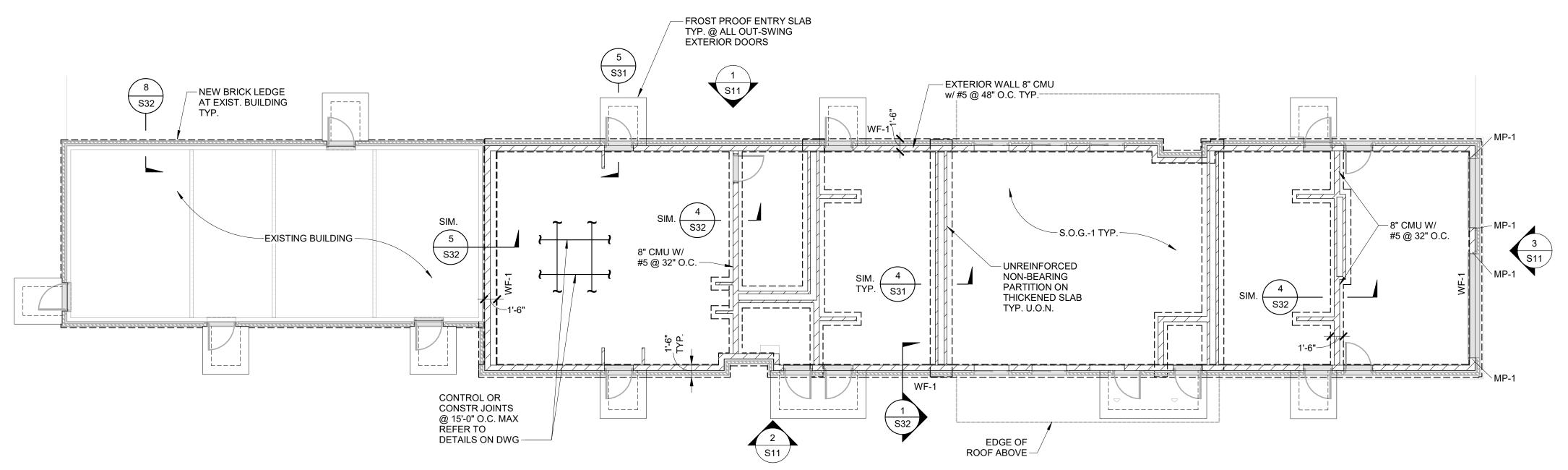
#### **ROOF FRAMING NOTES:**

- **DESIGNATIONS**:
  - RD-1: 3/4" EXTERIOR GRADE STRUCTURAL SHEATHING, ORIENTED PERPENDICULAR TO FRAMING.
  - L-1: 16" DEEP BOND BEAM REINFORCED WITH (2) #5 CONT. 8" MIN. BEARING. + L 3 1/2 x 3 1/2 x 3/8 LOOSE LINTEL; 8" MIN. BEARING. REFER TO S301
  - L-2: W16x26 W/ 3/8" CONT. BOTT. PLATE REFER TO S301 W/ BP-1 AT EACH END
  - BP-1: BEARING PLATE, 7x7x1/2" WITH (2) 1/2" DIA. x 6" LONG HEADED STUDS (TYP.)
  - RT-X: PRE-ENGINEERED ROOF TRUSSES @ 24" O.C. MAX. REFER TO S303
- ALL TRUSSES SHALL BE DESIGNED FOR A NET UPLIFT OF 12 PSF (ASD), IN ADDITION TO OTHER LOAD CASES AND ANY OTHER NON-UNIFORM LOADS INDICATED ON THE DRAWINGS.
- COORDINATE SIZES AND LOCATION OF ALL ROOF OPENINGS WITH ARCHITECTURAL AND MEP DRAWINGS.
- 7. VERIFY DIMENSIONS AND ELEVATIONS WITH ARCHITECTURAL DRAWINGS.
- ALL STEEL OUTSIDE THE CONDITIONED SPACE AND EXPOSED TO THE ELEMENTS SHALL BE GALVANIZED. CONTRACTOR SHALL COORDINATE WITH ARCHITECTURAL FOR ALL AND ANY OTHER STEEL TO BE GALVANIZED.
- PROVIDE BOND BEAM WITH (2) #5 CONT. ABOVE ALL BEARING AND NON-BEARING WALLS (TYP.)
- 10. REFERENCE DRAWINGS:

GENERAL STRUCTURAL NOTES SPECIAL INSPECTION SCHEDULES TYPICAL MASONRY DETAILS S302 TYPICAL CONCRETE DETAILS S303 SECTIONS & DETAILS

# BUILDING A ROOF FRAMING PLAN 1/8" = 1'-0"





#### **FOUNDATION NOTES**:

- REFERENCE FINISHED FLOOR ELEVATION = 100'-0"
- TOP OF FOOTING ELEVATION = -1'- 6" UNLESS NOTED THUS [XX'-XX"]
- FOOTING ARE DESIGNED TO BEAR ON FIRM UNDISTURBED SOIL OR CONTROLLED COMPACTED FILL BASED ON PRESUMPTIVE MINIMUM NET ALLOWABLE BEARING CAPACITY OF 2,000 PSF. CONTRACTOR TO VEIFY IN FIELD.
- CONTRACTOR SHALL COORDINATE ALL MASONRY DOWEL SIZES AND SPACING TO BE CAST INTO CONCRETE WITH MASONRY REINFORCING SHOP DRAWINGS.
- REFER TO CIVIL/SITE DRAWINGS FOR PROPOSED GRADE ELEVATIONS AROUND THE PERIMETER OF THE BUILDING.
- REFER TO MEP DRAWINGS FOR ALL PIPE AND CONDUIT SIZES AND LOCATIONS PASSING THROUGH AND/OR UNDER FOUNDATIONS.
- VERIFY DIMENSIONS AND ELEVATIONS WITH ARCHITECTURAL DRAWINGS.
- THICKEN THE FOOTINGS AT EXTERIOR TO MEET -3'-6" BELOW FINISHED GRADE.
- - WF-1: 1'-6" WIDE x 3'-6" (MIN.) DEPTH WALL FOOTING REINF. W/ (2) #5 CONT. TOP & BOTT.
  - MW-1: 8" CMU WALL WITH #5 @ 48" O.C. PROVIDE BOND BEAMS WITH (2)#5 HORIZONTAL BARS AT TOP OF WALL AND BEAM/JOIST BEARING ELEV., PROVIDE (3) #5 VERTICAL BARS, ONE PER CELL, AT CORNERS AND (2) #5 VERTICAL BARS, ONE PER CELL, AT OPENINGS IN WALLS, ENDS OF WALLS AND BELOW BEAM/JOIST POCKETS.
  - MP-1: MASONRY PIER REFER TO SCHEDULE
- S.O.G-1: 5" SLAB ON GRADE WITH 6x6-W2.9xW2.9 W.W.F. PLACED @ 2" FROM TOP OF SLAB ON VAPOR RETARDER ON MIN. 4" COMPACTED GRANULAR FILL ON PREPARED SUB-GRADE (TYP. UNO)
- 10. <u>REFERENCE DRAWINGS</u>:

S001 & S002 GENERAL STRUCTURAL NOTES SPECIAL INSPECTION SCHEDULES S003 S301 TYPICAL MASONRY DETAILS S302 TYPICAL CONCRETE DETAILS S303 SECTIONS & DETAILS

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BUILDING A FOUNDATION PLAN

1/8" = 1'-0"



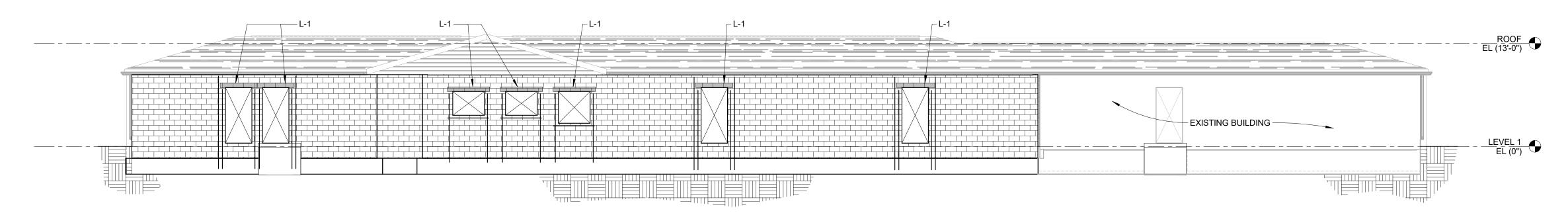
CRESTWOOD HS FIELD BUILDING



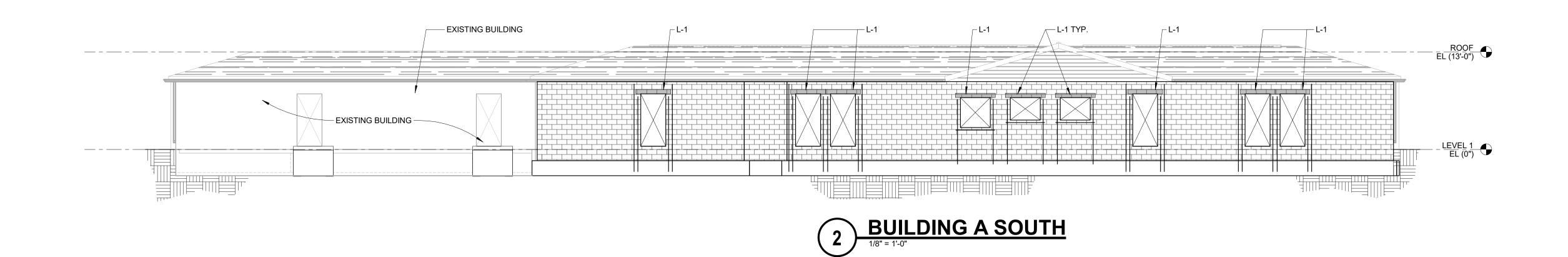
STRUCTURAL PLANS

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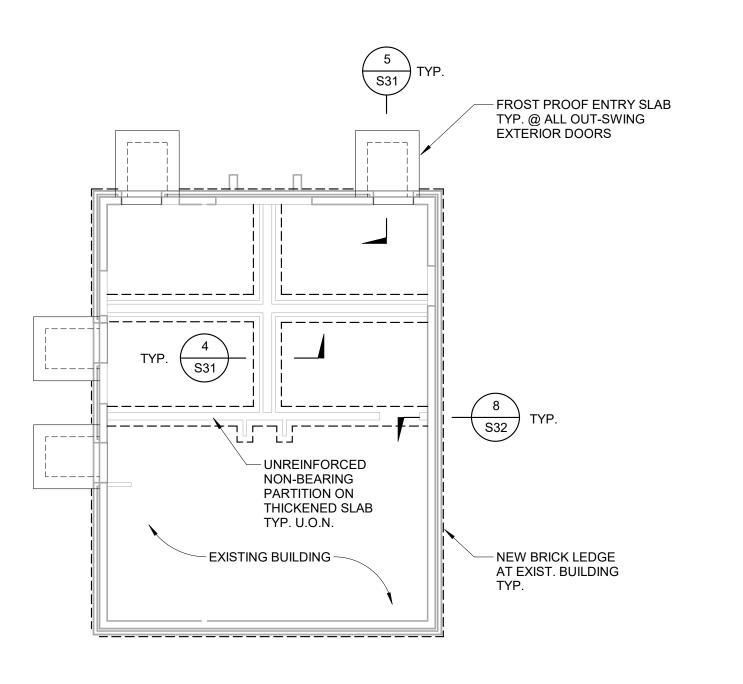
PROJECT NO. 5622

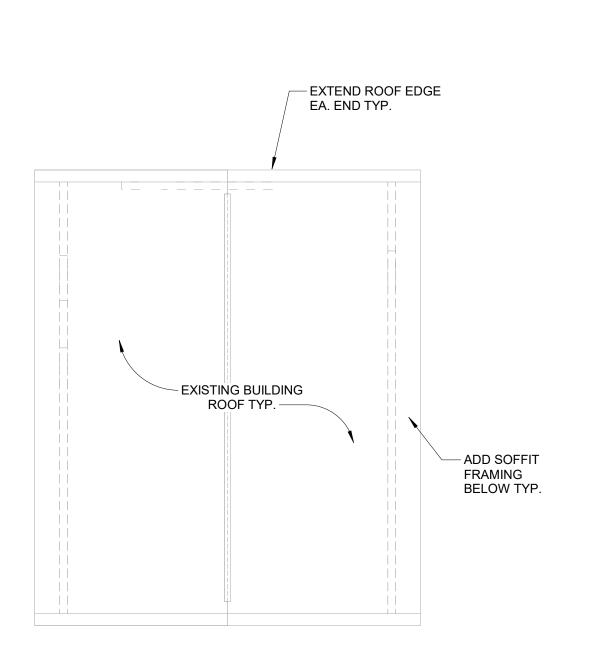


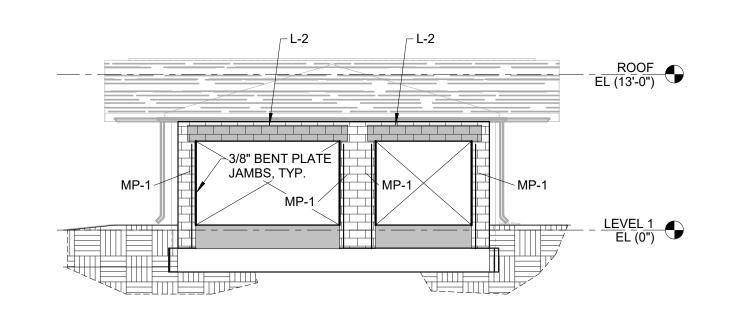
# 1 BUILDING A NORTH











BUILDING A EAST

1/8" = 1'-0"

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**BUILDING PLANS & ELEVATIONS** 

CRESTWOOD HS FIELD BUILDING

4 BUILDING B FOUNDATION PLAN
1/8" = 1'-0"

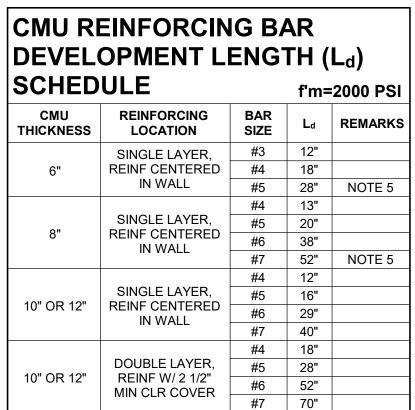
**5** BUILDING B ROOF FRAMING PLAN

1/8" = 1'-0"

PROJECT NO. 5622

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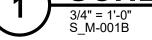


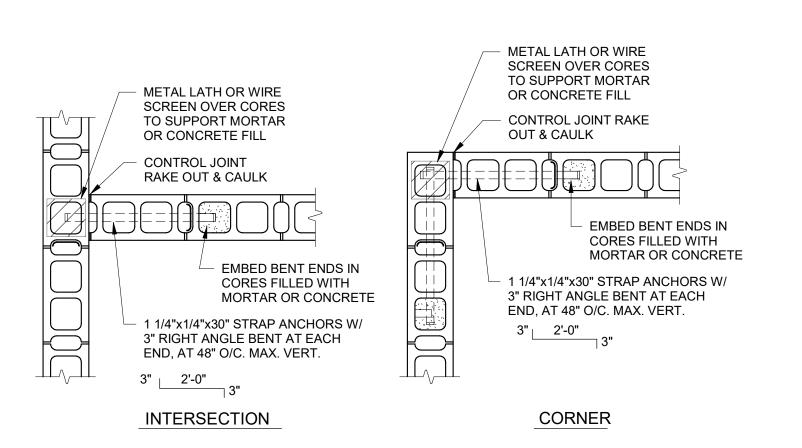
#### NOTES:

- 1. CONTRACTOR TO PROVIDE LAP SPLICE LENGTHS TO MATCH Ld VALUES PROVIDED IN SCHEDULE OR USE MECHANICAL SPLICES ADEQUATE FOR 125% OF SPECIFIED YIELD STRENGTH OF THE BAR.
- 2. WHERE TWO DIFFERENT SIZES OF REINFORCING BARS ARE LAPPED, PROVIDE Ld FOR SMALLER REINFORCING
- 3. DOWEL EMBEDMENT INTO CONCRETE SHALL CONFORM TO THE REQUIREMENTS OF THE CAST-IN-PLACE CONCRETE GENERAL NOTES.
- 4. WHEN EPOXY-COATED REINFORCING BARS ARE USED. INCREASE TABULATED VALUES BY A FACTOR OF 1.5. 5. MORTAR FINS TO BE REMOVED.

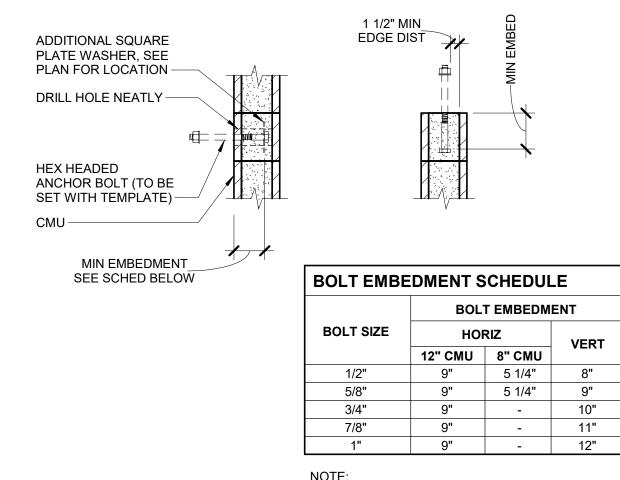
## S\_M-001B REINFORCING BAR **DEVELOPMENT LENGTH (Ld)**

SCHEDULE f'm2000





# TYPICAL PLANS @ MASONRY WALL INTERSECTION & CORNER 3/4" = 1'-0"



1. BOLT SPACING SHALL BE 8 BOLT DIAMETERS.

**ANCHOR BOLT** CAST INTO CMU DETAIL

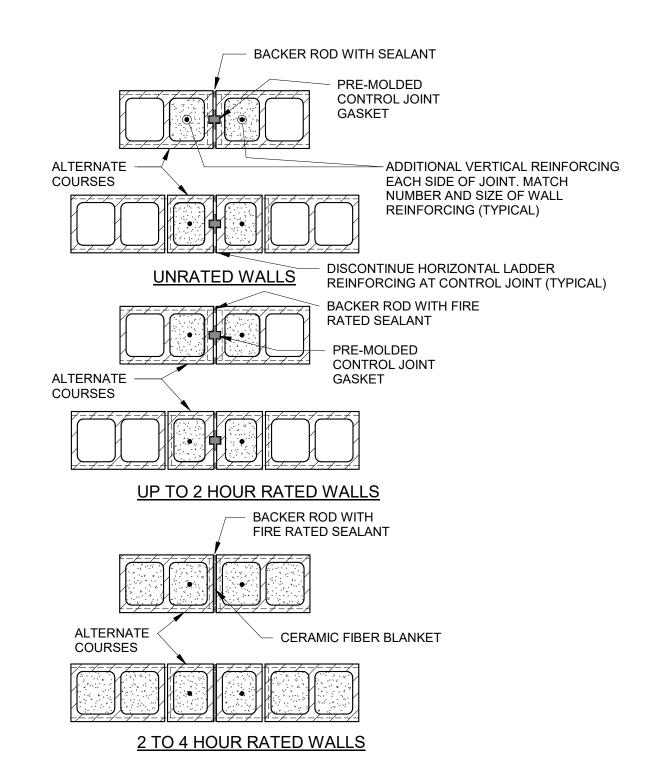


1. HORIZONTAL REINFORCING AND BOND BEAMS SHALL BE

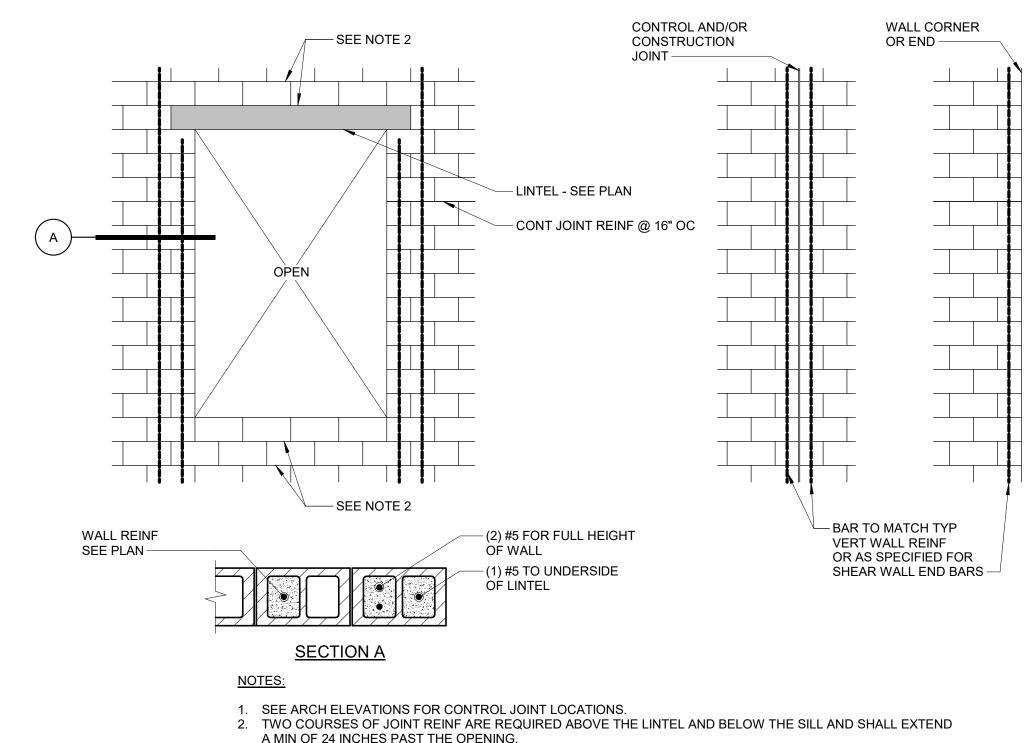
2. DO NOT LOCATE JOINT OVER OPENING OR WITHIN JAMB.

SEE ARCHITECT

FOR JOINT MATERIAL

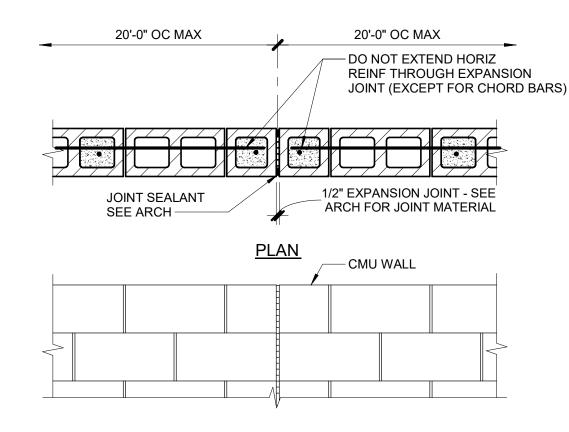


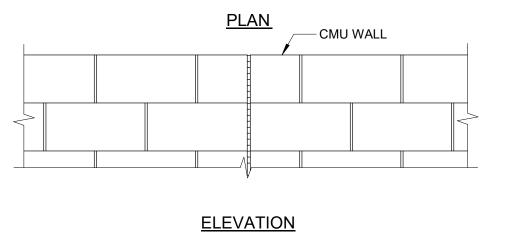




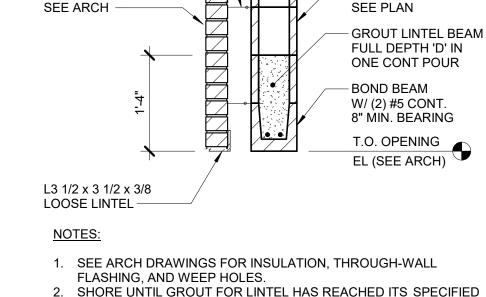
A MIN OF 24 INCHES PAST THE OPENING.

# TYPICAL CMU WALL OPENING DETAIL

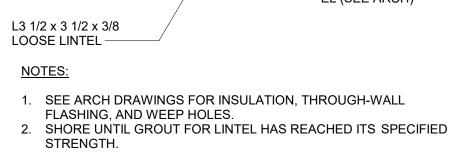




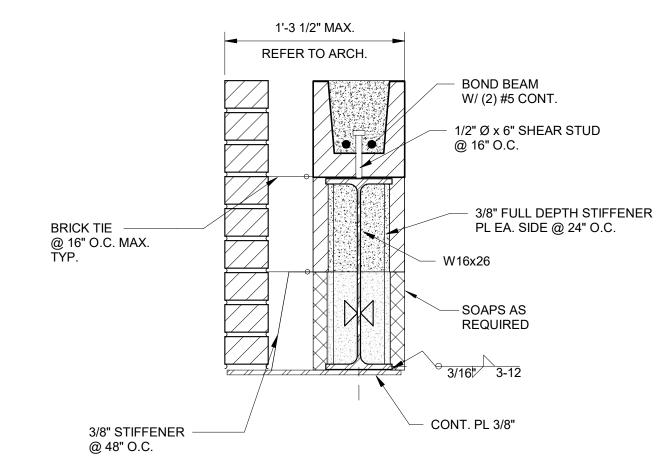
**CMU EXPANSION JOINT DETAIL** 



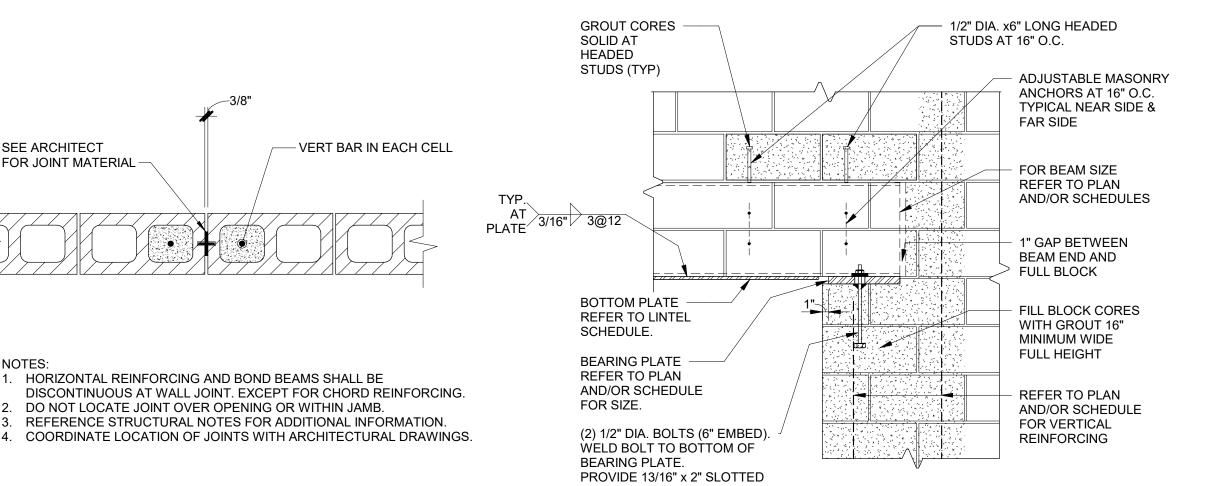
- CMU WALL



# 6 EXTERIOR BRICK LINTEL L-1 3/4" = 1'-0" S\_M-403





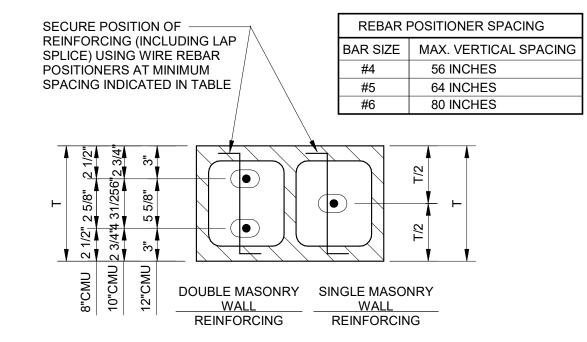


BRICK TIE

**BRICK** 

@ 16" O.C. MAX.











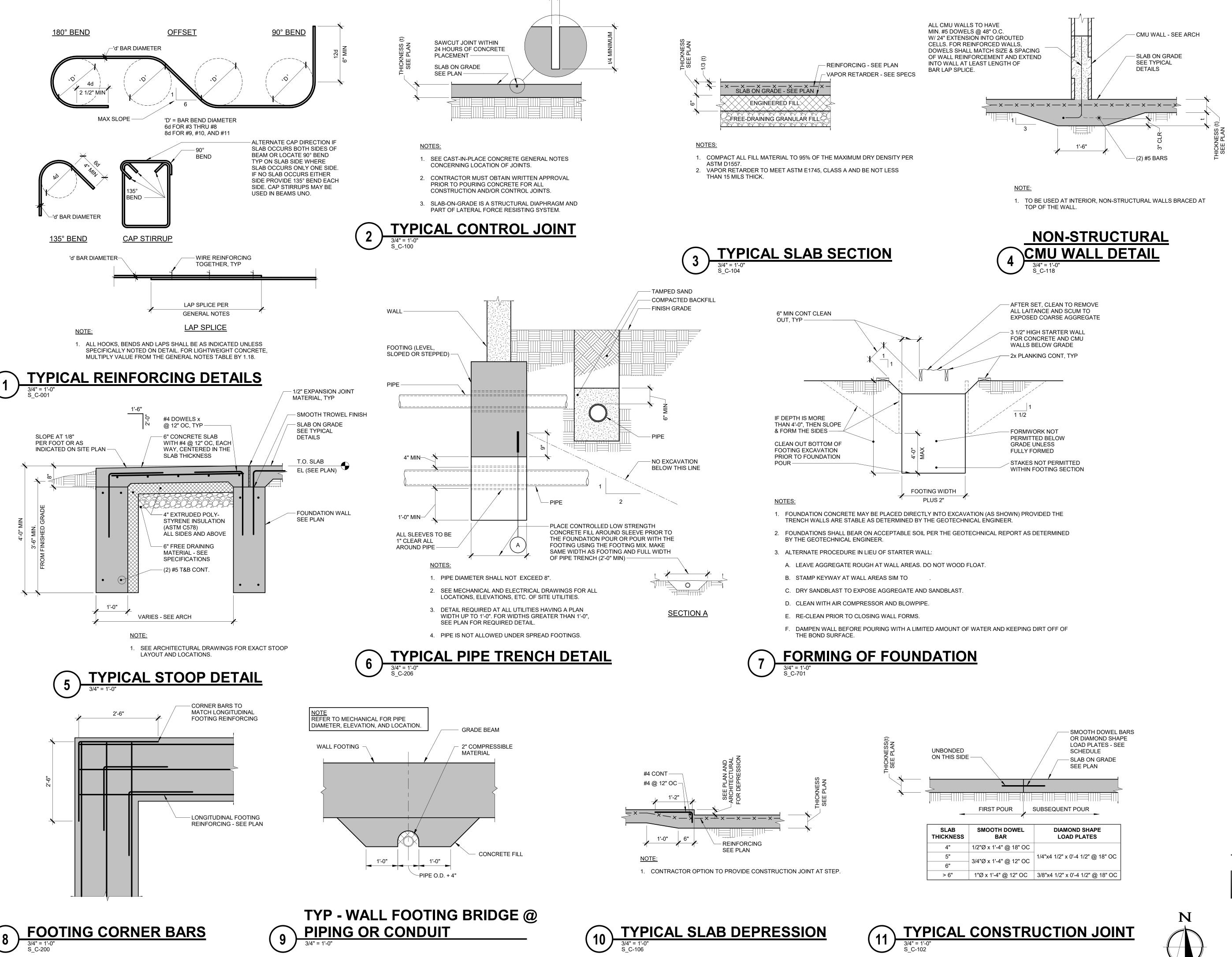
FARMINGTON HILLS, MI 48331

www.imegcorp.com

248.344.2800 FAX: 248.344.1650

CRESTWOOD HS FIELD BUILDING

S30 PROJECT NO. 5622 803 W. Big Beaver Road, Suite 350, Troy, MI 48084 | 248.244.9710



20 March, 2023 Bidding and Permits

TYPICAL CONCRETE DETAILS

EHRESMAN ---- ARCHITECTS

FARMINGTON HILLS, MI 48331

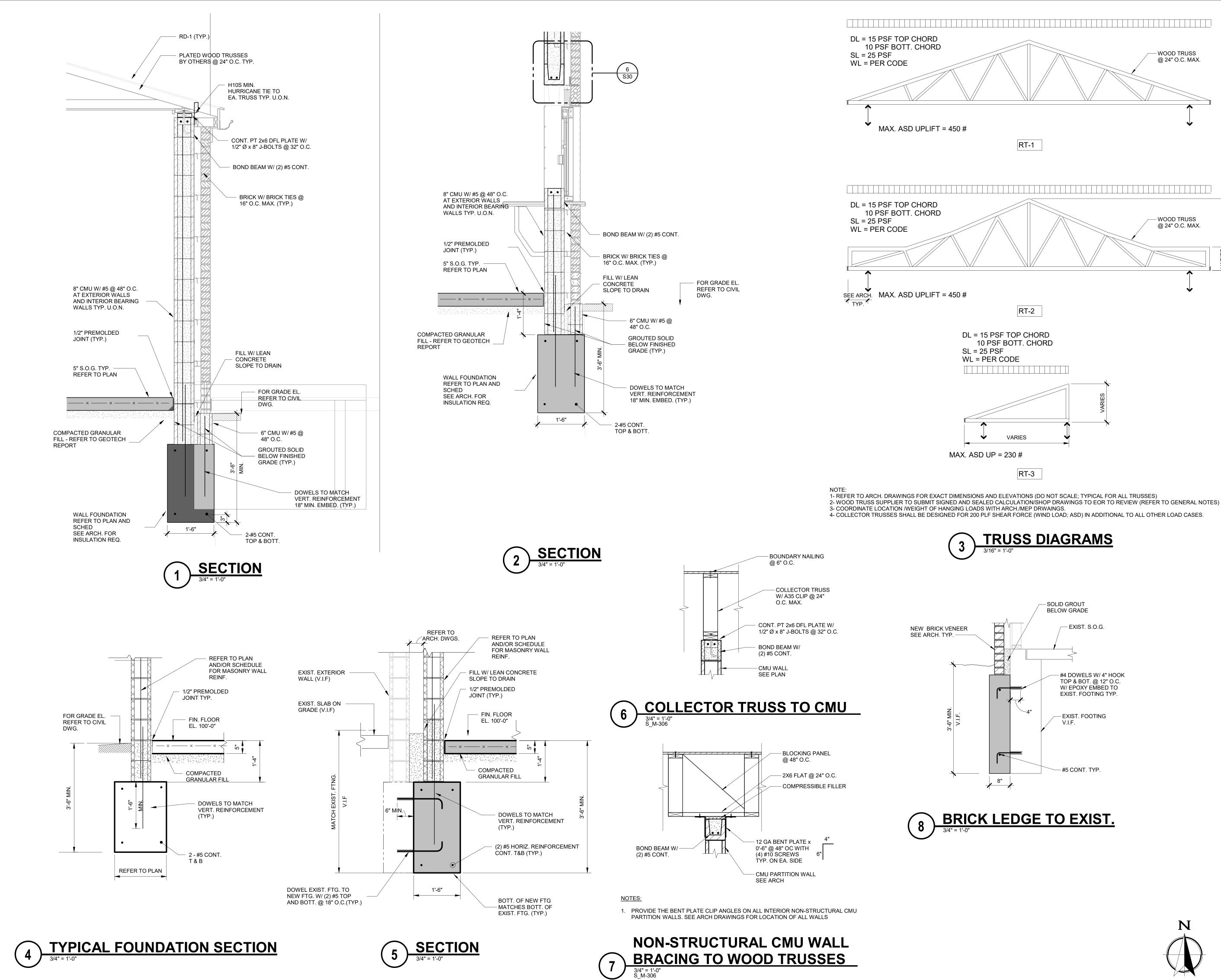
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CRESTWOOD HS FIELD BUILDING

PROJECT NO. 5622

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PROJECT NO. 5622

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**SECTIONS AND DETAILS** 

EHRESMAN

CRESTWOOD HS FIELD BUILDING

ARCHITECT5

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Bidding and Permits

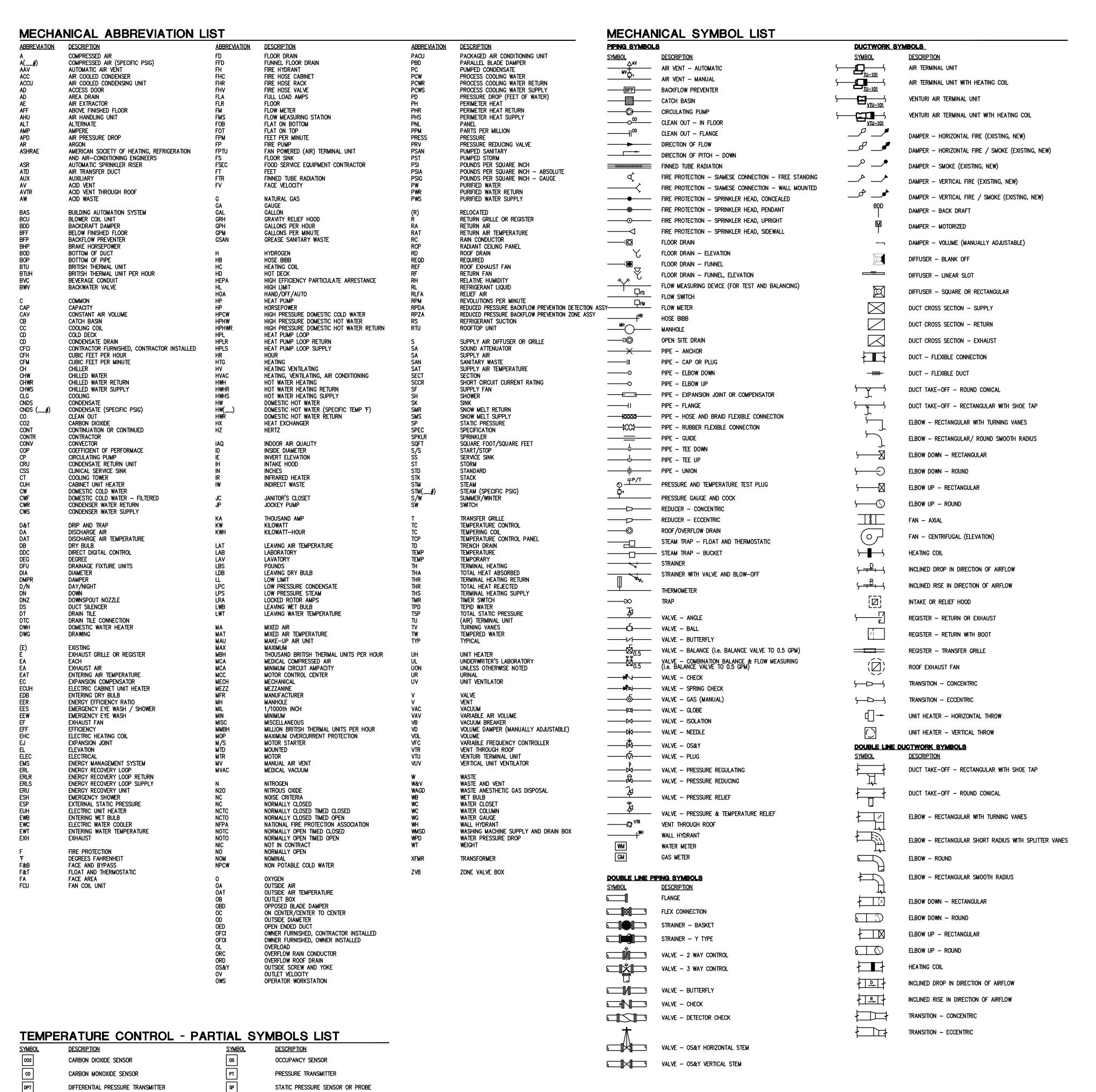
20 March, 2023

ehresmanarchitects.com

FARMINGTON HILLS, MI 48331

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248.344.2800 FAX: 248.344.1650



#### MECHANICAL DRAWING INDEX

M8.10

SHEET NO. SHEET TITLE M0.10 MECHANICAL STANDARDS AND DRAWING INDEX M0.20 MECHANICAL COMPOSITE PLAN M2.00BUILDING A UNDERGROUND PLUMBING PLAN M2.01BUILDING B UNDERGROUND PLUMBING PLAN M2.10 BUILDING A PLUMBING PLAN M2.11 BUILDING B PLUMBING PLAN BUILDING A SHEET METAL PLAN M4.10 BUILDING B SHEET METAL PLAN MECHANICAL DETAILS M6.11 MECHANICAL DETAILS M7.10 MECHANICAL SCHEDULES M7.11 MECHANICAL SCHEDULES

TEMPERATURE CONTROLS, STANDARDS AND GENERAL NOTES

STANDARD METHODS OF NOTATION SUPPLY DIFFUSER WITH SCHEDULE TAG "1", 10" DIAMETER NECK SIZE 350 CFM TYPICAL FOR 4 RETURN REGISTER WITH SCHEDULE TAG "1", 22"x 22" NECK SIZE 640 CFM TYPICAL FOR 2 EXHAUST REGISTER E DESIGNATION SIMILAR. AIR TERMINAL UNIT WITH HEATING COIL NO. 101 WITH SERVICE CLEARANCE SHOWN VENTURI AIR TERMINAL WITH HEATING COIL NO. 101 WITH SERVICE CLEARANCE SHOWN <u>VTU-101</u> PLUMBING FIXTURE UNIT IDENTIFICATION TAG WATER CLOSET TYPE "1" TYPICAL FOR 2 PIPE DIAMETER NOTATION ALL SIZES IN INCHES DUCT SIZE NOTATION ALL SIZES IN INCHES 22x10 18x14ø OVAL DUCT -RECTANGULAR DUCT CONSTRUCTION KEY NOTE (NUMBER) OR EQUIPMENT DESIGNATION, (i.e. EXHAUST FAN NUMBER 1) PIPING RISER DESIGNATION (i.e. HOT WATER RISER NUMBER 1 - NEW SYSTEM COMPONENT EXISTING SYSTEM COMPONENT TO REMAIN - POINT OF NEW CONNECTION SYMBOL -----SECTION OR PLAN NUMBER ------ AREA OF ENLARGEMENT SHEET WHERE ENLARGED PLAN IS DRAWN - SECTION OR PLAN NUMBER SECTION OR ENLARGED PLAN M5.1 - SHEET WHERE SECTION IS CUT OR ENLARGED PLAN IS REFERENCED SHEET M1.0 HEAVY LINE WEIGHT INDICATES NEW WORK LIGHT LINE WEIGHT INDICATES EXISTING EQUIPMENT OR REFERENCED INFORMATION GRAY LINE INDICATES BACKGROUND INFORMATION DASHED LINES INDICATE PIPING \_\_\_\_\_

NOTE: SOME SYMBOLS AND ABBREVIATIONS SHOWN MAY NOT APPLY TO THIS PROJECT.

ROUTED BELOW SLAB OR GRADE

TO BE DISCONNECTED AND REMOVED.

HATCH MARKS INDICATE EQUIPMENT OR MATERIALS



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MECHANICAL STANDARDS AND DRAWING INDEX



Crestwood School District Crestwood High School Field Building & Site Improvements

Project No. 5622

M0.10

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VALVE - 2 WAY CONTROL VALVE

VALVE - 3 WAY CONTROL VALVE

(AS DEFINED ON TC DRAWINGS)

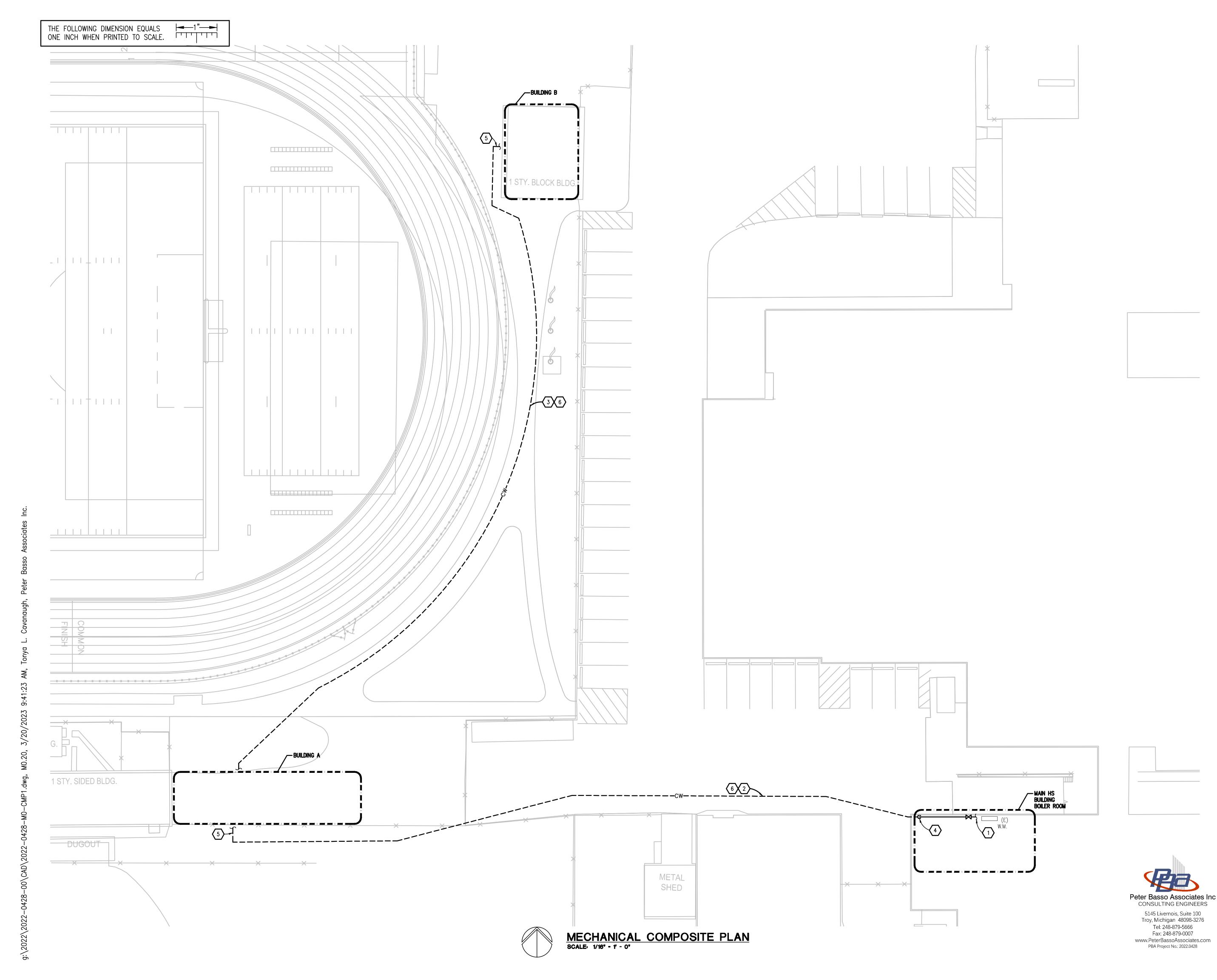
THERMOSTAT OR TEMPERATURE SENSOR

FLOW METER

GUARD FOR STAT OR SENSOR

HUMIDISTAT OR HUMIDITY SENSOR

(AS DEFINED ON TC DRAWINGS)



#### PLUMBING GENERAL NOTES:

- 1. THESE DRAWINGS ARE DIAGRAMMATIC, AND REPRESENT THE GENERAL INTENT AND ARRANGEMENT OF SYSTEMS. THEY ARE NOT TO BE CONSIDERED FABRICATION/COORDINATION/SHOP DRAWINGS. COORDINATION WITH OTHER TRADES IS REQUIRED. PROVIDE THE ADDITIONAL FITTINGS AND OFFSETS THAT WILL BE REQUIRED TO COMPLETE EACH SYSTEM AND TO AVOID INTERFERENCES WITH ALL OTHER SYSTEMS INCLUDING THE STRUCTURE, SHEET METAL, OTHER PIPING SYSTEMS, ELECTRICAL CONDUITS, BUS DUCTS, CABLE TRAY, LIGHT FIXTURES, ETC. AND/OR OTHER SPACE CONSTRAINTS.
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- 5. PROVIDE SUPPLEMENTARY STEEL AS REQUIRED FOR THE PROPER SUPPORT OF ALL SYSTEMS.
- 6. REFER TO ARCHITECTURAL PLANS FOR DIMENSIONED LOCATIONS OF PLUMBING FIXTURES.
- 7. HOT AND COLD WATER PIPING RUN-OUTS TO LAVATORIES AND SINKS SHALL BE
- 8. PLUMBING VENT PIPING THROUGH ROOF SHALL BE LOCATED A MINIMUM OF 10'-0" FROM ANY FRESH AIR INTAKE LOCATION AND A MINIMUM OF 18" CLEAR FROM THE INSIDE FACE OF PARAPET.
- 9. PROVIDE CODE REQUIRED CLEARANCE FOR ALL CLEANOUTS INSTALLED IN SANITARY WASTE AND VENT PIPING.
- 10. MINIMUM UNDERGROUND PIPE SIZE SHALL BE 2".

1/2" UNLESS OTHERWISE NOTED.

- 11. WATER SERVICE ENTRANCE PIPING SHALL BE BURIED WITH DEPTH OF COVER OVER TOP OF PIPE OF AT LEAST 60", OR WITH TOP OF PIPE AT LEAST 12" BELOW LEVEL OF MAXIMUM FROST PENETRATION, OR AS REQUIRED BY AUTHORITIES HAVING JURISDICTION, WHICHEVER IS DEEPEST.
- 12. PROVIDE ACCESS PANELS FOR ALL VALVES ABOVE HARD CEILINGS.

#### **#** CONSTRUCTION KEY NOTES:

- 1. CONNECT NEW 3 CW IN BOILER ROOM DOWNSTREAM OF WATER METER.
- 2. UNDERGROUND 3 CW LINE. REFER TO CIVIL DRAWINGS.
- 3. UNDERGROUND 2 CW LINE. REFER TO CIVIL DRAWINGS.
- 4. 3 CW IN BOILER ROOM DROP DOWN UNDERGROUND. PROVIDE COMPRESSED AIR FITTING BEFORE FLOOR PENETRATION.
- 5. PROVIDE YARD VALVE BOX. SEE DETAIL.
- 6. PIPE TO BE MINIMUM 60 INCHES BELOW GRADE.

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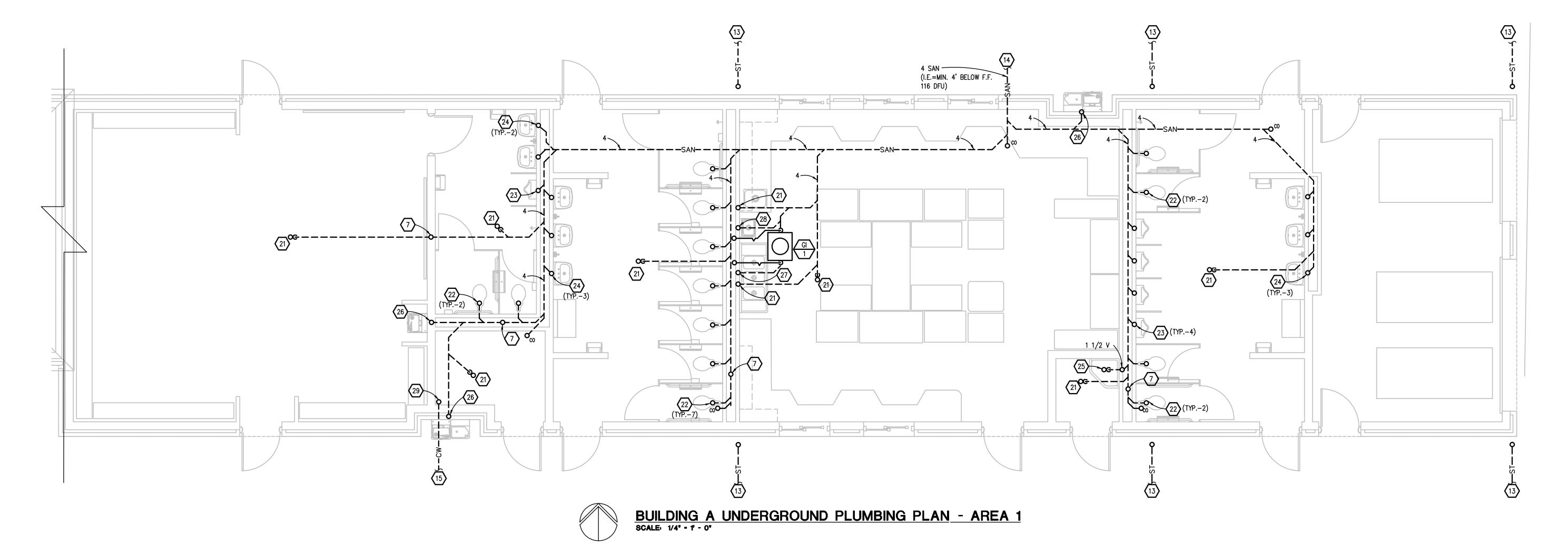
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M0.20

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Project No. 5622



BUILDING A UNDERGROUND PLUMBING PLAN - AREA 2

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

#### PLUMBING GENERAL NOTES:

- ARRANGEMENT OF SYSTEMS. THEY ARE NOT TO BE CONSIDERED FABRICATION/COORDINATION/SHOP DRAWINGS. COORDINATION WITH OTHER TRADES IS TO COMPLETE EACH SYSTEM AND TO AVOID INTERFERENCES WITH ALL OTHER SYSTEMS INCLUDING THE STRUCTURE, SHEET METAL, OTHER PIPING SYSTEMS, ELECTRICAL CONDUITS, BUS DUCTS, CABLE TRAY, LIGHT FIXTURES, ETC. AND/OR OTHER SPACE CONSTRAINTS.
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- 5. PROVIDE SUPPLEMENTARY STEEL AS REQUIRED FOR THE PROPER SUPPORT OF ALL SYSTEMS.
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- 7. HOT AND COLD WATER PIPING RUN-OUTS TO LAVATORIES AND SINKS SHALL BE 1/2" UNLESS OTHERWISE NOTED.
- 8. PLUMBING VENT PIPING THROUGH ROOF SHALL BE LOCATED A MINIMUM OF 10'-0" FROM ANY FRESH AIR INTAKE LOCATION AND A MINIMUM OF 18" CLEAR FROM THE INSIDE FACE OF PARAPET.
- 9. PROVIDE CODE REQUIRED CLEARANCE FOR ALL CLEANOUTS INSTALLED IN SANITARY WASTE AND VENT PIPING.
- 10. MINIMUM UNDERGROUND PIPE SIZE SHALL BE 2".
- 11. WATER SERVICE ENTRANCE PIPING SHALL BE BURIED WITH DEPTH OF COVER OVER TOP OF PIPE OF AT LEAST 60", OR WITH TOP OF PIPE AT LEAST 12" BELOW LEVEL OF MAXIMUM FROST PENETRATION, OR AS REQUIRED BY AUTHORITIES HAVING JURISDICTION, WHICHEVER IS DEEPEST.
- 12. PROVIDE ACCESS PANELS FOR ALL VALVES ABOVE HARD CEILINGS.

#### **\*** CONSTRUCTION KEY NOTES:

- 1. 3 V UP TO 3 VTR
- 2. 2 CW GOES DOWN UNDERGROUND TO SERVICE SMALLER FIELDHOUSE. SEE MO.2 FOR
- 3. 3 CW FROM UNDERGROUND. REFER TO U/G PLUMBING PLANS.
- 4. 2 CW LINE DROPS DOWN TO SERVE (7) WATER CLOSETS, TRIPLE—COMPARTMENT SINK, HAND SINK AND COUNTER SINK, REMAINING UNDIMINISHED. REFER TO FOOD SERVICE DRAWINGS FOR INDIVIDUAL CONNECTION SIZES.
- 5. 2 CW REMAINS UNDIMINISHED TO FARTHEST FIXTURE.
- 6. 2 CW LINE DROPS DOWN TO SERVE (4) URINALS AND (4) WATER CLOSETS REMAINING UNDIMINISHED. PROVIDE ISOLATION VALVE.
- 8. 2 CW LINE DROPS DOWN TO SERVE (5) LAVATORIES AND (1) URINAL REMAINING
- 9. 2 V FROM UNDERGROUND.
- 10. 1 1/4 HW LINE DROPS DOWN TO SERVE (5) LAVATORIES. PROVIDE 1070 A.S.S.E. THERMOSTATIC MIXING VALVE FOR EACH LAVATORY.
- 11. 1 1/2 140 HW LINE DROPS DOWN TO FEED TRIPLE COMPARTMENT SINK, HAND SINK AND SINGLE COMPARTMENT COUNTER SINK. PROVIDE 1070 A.S.S.E. THERMOSTATIC MIXING VALVE FOR HAND SINK.
- 12. 1/2 CW (FILTER) DOWN TO COFFEE MAKER, PROVIDE ASSOCIATED WALL MOUNTED INLINE FILTER 48" A.F.F.. PROVIDE CODE COMPLIANT BACKFLOW PREVENTION DEVICE FOR THE CW LINE TO THE COFFEE MAKER
- 13. 4 STORM. REFER TO CIVIL FOR INVERT ELEVATION.
- 14. 4 SANITARY. REFER TO CIVIL.
- 15. INCOMING 3 CW LINE. (FROM MAIN BOILER ROOM) REFER TO 'INCOMING DOMESTIC WATER PIPING DETAIL'.
- 16. EQUIPMENT TO SIT ON 4 INCH CONCRETE HOUSEKEEPING PAD.
- 17. SERVICE CLEARANCE.
- 18. BOOSTER PUMP CONTROL PANEL. (PROVIDE MIN. 42 INCH CLEARANCE IN FRONT)
- 19. INCOMING U/G 2 CW FROM LARGER 'BUILDING A'.
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- 21. 3 SAN UP TO FLOOR DRAIN OR FLOOR SINK.
- 22. 4 SAN UP TO WATER CLOSET.
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Peter Basso Associates Inc CONSULTING ENGINEERS 5145 Livernois, Suite 100 Troy, Michigan 48098-3276 Tel: 248-879-5666 Fax: 248-879-0007

www.PeterBassoAssociates.com PBA Project No.: 2022.0428

Bidding and Permits: 20 March 2023

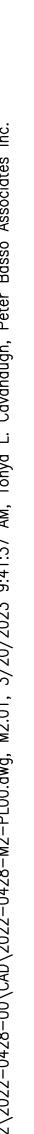
BUILDING A UNDERGROUND PLUMBING PLAN

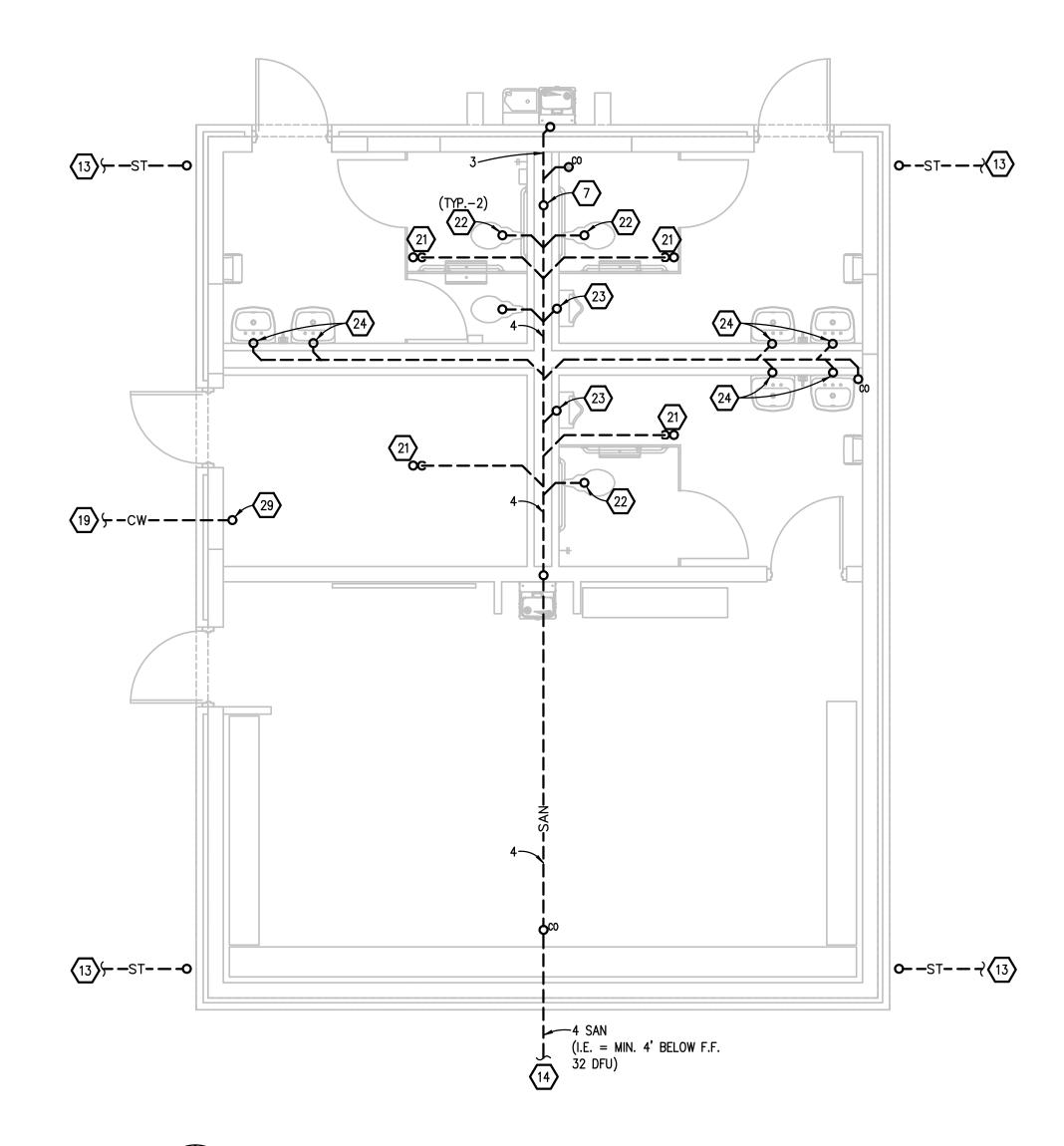


Crestwood School District Crestwood High School Field Building & Site Improvements

Project No. 5622

M2.00







BUILDING B UNDERGROUND PLUMBING PLAN SCALE: 1/4" - 1' - 0"

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Bidding and Permits: 20 March 2023



Crestwood School District Crestwood High School Field Building & Site Improvements

Project No. 5622

Peter Basso Associates Inc CONSULTING ENGINEERS

> 5145 Livernois, Suite 100 Troy, Michigan 48098-3276

> > Tel: 248-879-5666

Fax: 248-879-0007 www.PeterBassoAssociates.com PBA Project No.: 2022.0428

M2.01



#### SCALE: 1/4" - 1" - 0"

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- 2 V FROM UNDERGROUND.
- 10. 1 1/4 HW LINE DROPS DOWN TO SERVE (5) LAVATORIES. PROVIDE 1070 A.S.S.E. THÉRMOSTATIC MIXING VALVE FOR EACH LÁVATORY.
- 11. 1 1/2 140 HW LINE DROPS DOWN TO FEED TRIPLE COMPARTMENT SINK, HAND SINK AND SINGLE COMPARTMENT COUNTER SINK. PROVIDE 1070 A.S.S.E. THERMOSTATIC MIXING VALVE FOR HAND SINK.
- 12. 1/2 CW (FILTER) DOWN TO COFFEE MAKER, PROVIDE ASSOCIATED WALL MOUNTED INLINE FILTER 48" A.F.F.. PROVIDE CODE COMPLIANT BACKFLOW PREVENTION DEVICE FOR THE CW LINE TO THE COFFEE MAKER
- 13. 4 STORM. REFER TO CIVIL FOR INVERT ELEVATION.
- 14. 4 SANITARY. REFER TO CIVIL.
- 15. INCOMING 3 CW LINE. (FROM MAIN BOILER ROOM) REFER TO 'INCOMING DOMESTIC WATER PIPING DETAIL'.
- 16. EQUIPMENT TO SIT ON 4 INCH CONCRETE HOUSEKEEPING PAD.
- 17. SERVICE CLEARANCE.
- 18. BOOSTER PUMP CONTROL PANEL. (PROVIDE MIN. 42 INCH CLEARANCE IN FRONT)
- 19. INCOMING U/G 2 CW FROM LARGER 'BUILDING A'.
- 20. 2 CW FROM U/G. REFER TO 'INCOMING DOMESTIC WATER PIPING DETAIL'.
- 21. 3 SAN UP TO FLOOR DRAIN OR FLOOR SINK.
- 22. 4 SAN UP TO WATER CLOSET.
- 23. 3 SAN UP TO URINAL.
- 24. 3 SAN UP TO LAVATORY.
- 25. 3 SAN UP TO SERVICE SINK.
- 26. 3 SAN UP TO ELECTRIC WATER COOLER.
- 27. 3 SAN UP TO SINK BASIN.
- 28. 3 SAN UP TO HAND SINK.
- 29. CW LINE UP. SEE ABOVEGROUND PLUMBING PLANS FOR CONTINUATION.
- 30. PROVIDE A.S.S.E 1070 THERMOSTATIC MIXING VALVE FOR HAND SINK.

Peter Basso Associates Inc CONSULTING ENGINEERS 5145 Livernois, Suite 100 Troy, Michigan 48098-3276 Tel: 248-879-5666 Fax: 248-879-0007 www.PeterBassoAssociates.com

Bidding and Permits: 20 March 2023

BUILDING A PLUMBING PLAN

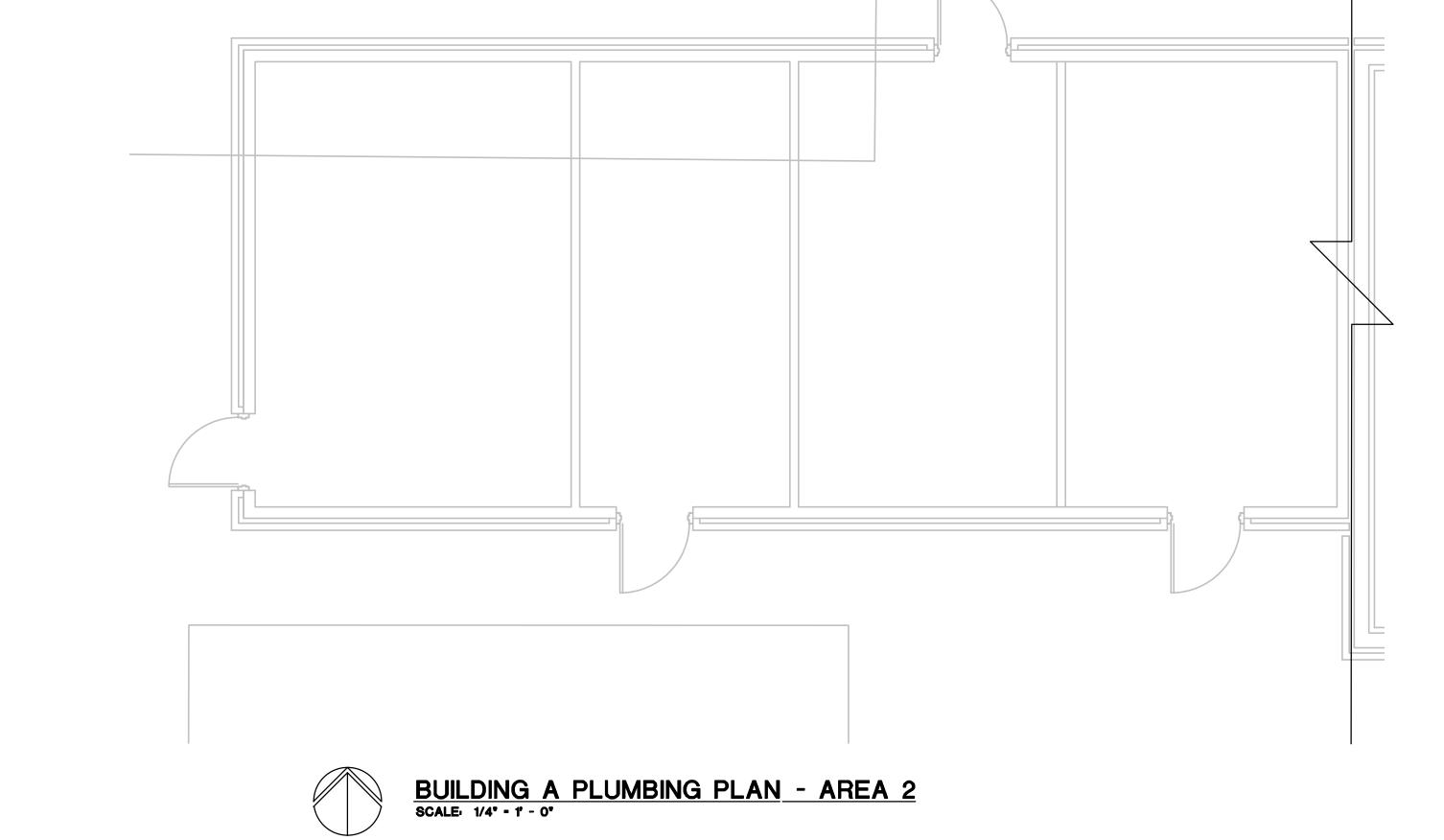


Crestwood School District Crestwood High School Field Building & Site Improvements

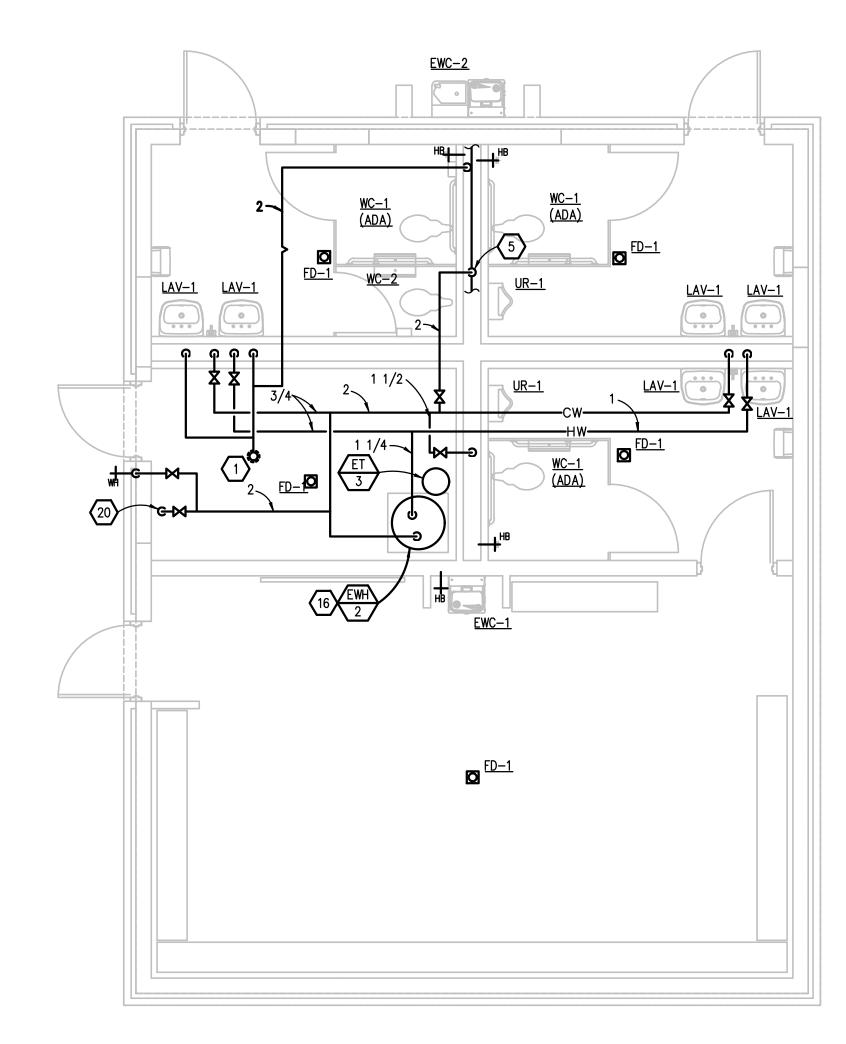
Project No. 5622

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PBA Project No.: 2022.0428





#### PLUMBING GENERAL NOTES:

- 1. THESE DRAWINGS ARE DIAGRAMMATIC, AND REPRESENT THE GENERAL INTENT AND ARRANGEMENT OF SYSTEMS. THEY ARE NOT TO BE CONSIDERED FABRICATION/COORDINATION/SHOP DRAWINGS. COORDINATION WITH OTHER TRADES IS REQUIRED. PROVIDE THE ADDITIONAL FITTINGS AND OFFSETS THAT WILL BE REQUIRED TO COMPLETE EACH SYSTEM AND TO AVOID INTERFERENCES WITH ALL OTHER SYSTEMS INCLUDING THE STRUCTURE, SHEET METAL, OTHER PIPING SYSTEMS, ELECTRICAL CONDUITS, BUS DUCTS, CABLE TRAY, LIGHT FIXTURES, ETC. AND/OR OTHER SPACE CONSTRAINTS.
- 2. INSTALL SYSTEMS SUCH THAT REQUIRED CLEARANCE AND SERVICE ACCESS SPACE IS PROVIDED AROUND ALL MECHANICAL AND ELECTRICAL EQUIPMENT, AND AROUND ANY COMPONENTS WHICH REQUIRE SERVICE ACCESS.
- 3. PIPING SHALL NOT BE INSTALLED ABOVE ELECTRICAL TRANSFORMERS, SWITCHBOARDS, PANELBOARDS OR MOTOR CONTROL CENTERS.
- 4. COORDINATE AND PROVIDE ACCESS DOORS WITHIN INACCESSIBLE CEILING, SHAFT, AND CHASE AREAS FOR ALL COMPONENTS WHICH REQUIRE SERVICE ACCESS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES.
- 5. PROVIDE SUPPLEMENTARY STEEL AS REQUIRED FOR THE PROPER SUPPORT OF ALL
- 6. REFER TO ARCHITECTURAL PLANS FOR DIMENSIONED LOCATIONS OF PLUMBING
- 7. HOT AND COLD WATER PIPING RUN-OUTS TO LAVATORIES AND SINKS SHALL BE 1/2" UNLESS OTHERWISE NOTED.
- 8. PLUMBING VENT PIPING THROUGH ROOF SHALL BE LOCATED A MINIMUM OF 10'-0" FROM ANY FRESH AIR INTAKE LOCATION AND A MINIMUM OF 18" CLEAR FROM THE INSIDE FACE OF PARAPET.
- 9. PROVIDE CODE REQUIRED CLEARANCE FOR ALL CLEANOUTS INSTALLED IN SANITARY WASTE AND VENT PIPING.
- 10. MINIMUM UNDERGROUND PIPE SIZE SHALL BE 2".
- 11. WATER SERVICE ENTRANCE PIPING SHALL BE BURIED WITH DEPTH OF COVER OVER TOP OF PIPE OF AT LEAST 60", OR WITH TOP OF PIPE AT LEAST 12" BELOW LEVEL OF MAXIMUM FROST PENETRATION, OR AS REQUIRED BY AUTHORITIES HAVING JURISDICTION, WHICHEVER IS DEEPEST.
- 12. PROVIDE ACCESS PANELS FOR ALL VALVES ABOVE HARD CEILINGS.

#### **\*** CONSTRUCTION KEY NOTES:

- 1. 3 V UP TO 3 VTR
- 2. 2 CW GOES DOWN UNDERGROUND TO SERVICE SMALLER FIELDHOUSE. SEE MO.2 FOR CONTINUATION.
- 3. 3 CW FROM UNDERGROUND. REFER TO U/G PLUMBING PLANS.
- 4. 2 CW LINE DROPS DOWN TO SERVE (7) WATER CLOSETS, TRIPLE-COMPARTMENT SINK, HAND SINK AND COUNTER SINK, REMAINING UNDIMINISHED. REFER TO FOOD SERVICE DRAWINGS FOR INDIVIDUAL CONNECTION SIZES.
- 5. 2 CW REMAINS UNDIMINISHED TO FARTHEST FIXTURE.
- 6. 2 CW LINE DROPS DOWN TO SERVE (4) URINALS AND (4) WATER CLOSETS REMAINING UNDIMINISHED. PROVIDE ISOLATION VALVE.
- 7. 2 V UP.
- 8. 2 CW LINE DROPS DOWN TO SERVE (5) LAVATORIES AND (1) URINAL REMAINING
- 9. 2 V FROM UNDERGROUND.
- 10. 1 1/4 HW LINE DROPS DOWN TO SERVE (5) LAVATORIES. PROVIDE 1070 A.S.S.E. THERMOSTATIC MIXING VALVE FOR EACH LAVATORY.
- 11. 1 1/2 140 HW LINE DROPS DOWN TO FEED TRIPLE COMPARTMENT SINK, HAND SINK AND SINGLE COMPARTMENT COUNTER SINK. PROVIDE 1070 A.S.S.E. THERMOSTATIC MIXING VALVE FOR HAND SINK.
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- 13. 4 STORM. REFER TO CIVIL FOR INVERT ELEVATION.
- 14. 4 SANITARY. REFER TO CIVIL.
- 15. INCOMING 3 CW LINE. (FROM MAIN BOILER ROOM) REFER TO 'INCOMING DOMESTIC WATER PIPING DETAIL'.
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- 21. 3 SAN UP TO FLOOR DRAIN OR FLOOR SINK.
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- 24. 3 SAN UP TO LAVATORY.
- 25. 3 SAN UP TO SERVICE SINK. 26. 3 SAN UP TO ELECTRIC WATER COOLER.
- 27. 3 SAN UP TO SINK BASIN.
- 28. 3 SAN UP TO HAND SINK.
- 29. CW LINE UP. SEE ABOVEGROUND PLUMBING PLANS FOR CONTINUATION.
- 30. PROVIDE A.S.S.E 1070 THERMOSTATIC MIXING VALVE FOR HAND SINK.

Bidding and Permits: 20 March 2023



PBA Project No.: 2022.0428

BUILDING B PLUMBING PLAN

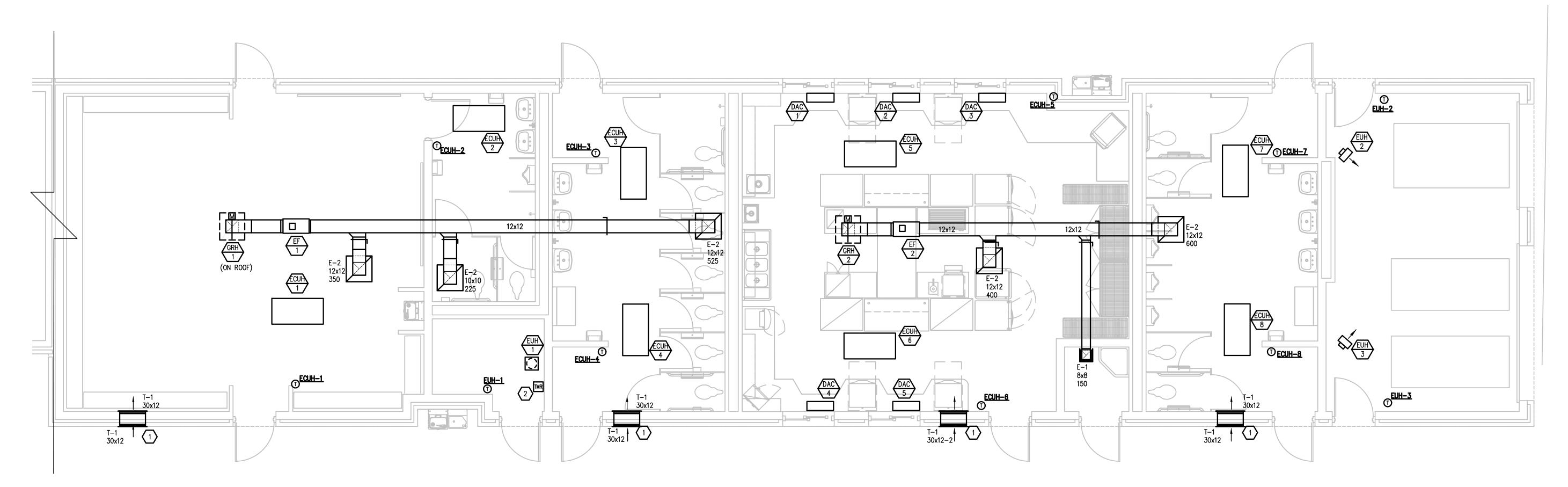


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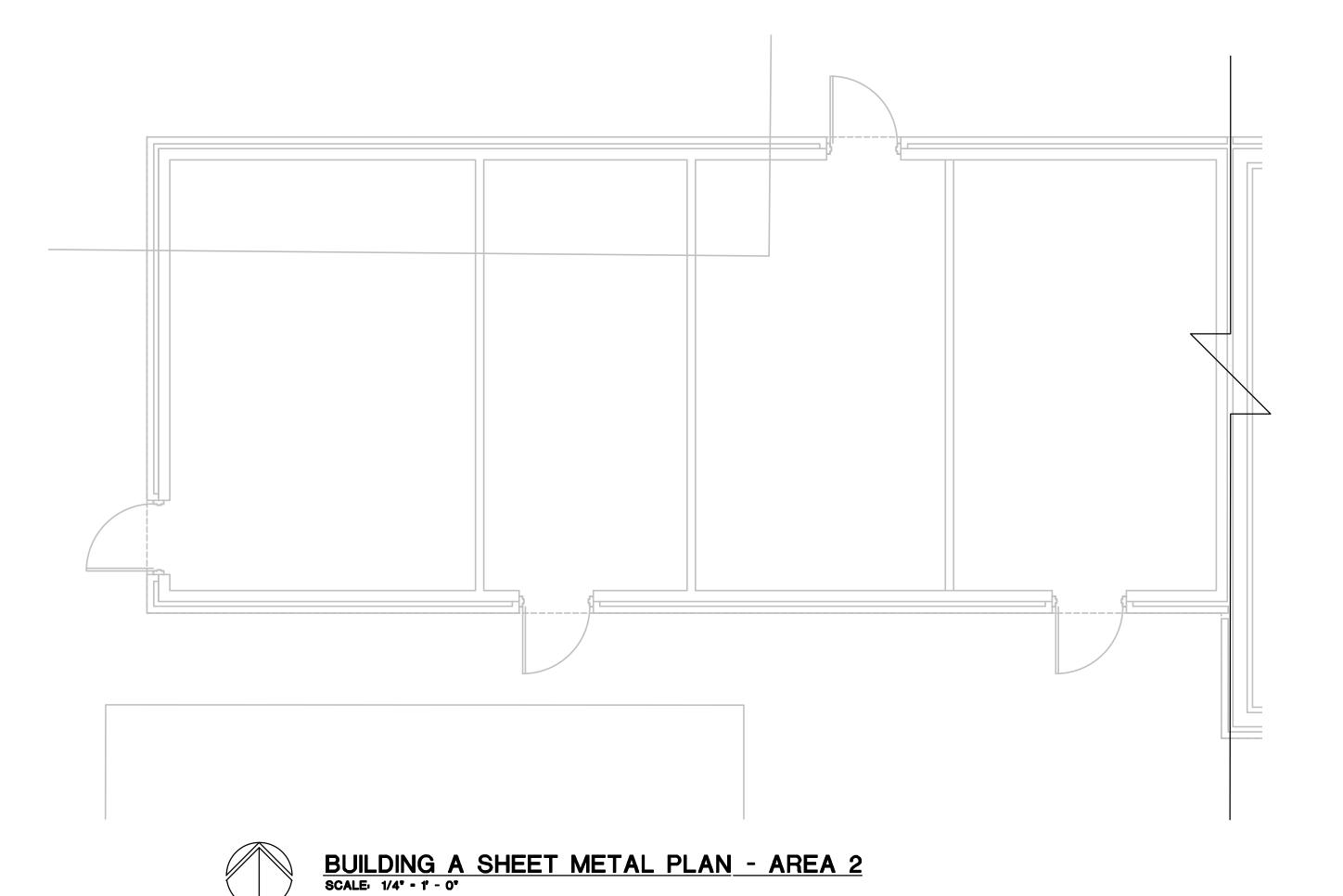
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#### SHEET METAL GENERAL NOTES:

- 1. THESE DRAWINGS ARE DIAGRAMMATIC, AND REPRESENT THE GENERAL INTENT AND ARRANGEMENT OF SYSTEMS. THEY ARE NOT TO BE CONSIDERED FABRICATION/COORDINATION/SHOP DRAWINGS. COORDINATION WITH OTHER TRADES IS REQUIRED. PROVIDE THE ADDITIONAL FITTINGS AND OFFSETS THAT WILL BE REQUIRED TO COMPLETE EACH SYSTEM AND TO AVOID INTERFERENCES WITH ALL OTHER SYSTEMS INCLUDING THE STRUCTURE, PIPING SYSTEMS, ELECTRICAL CONDUITS, BUS DUCTS, CABLE TRAY, LIGHT FIXTURES, ETC. AND/OR OTHER SPACE CONSTRAINTS.
- 2. INSTALL SYSTEMS SUCH THAT REQUIRED CLEARANCE AND SERVICE ACCESS SPACE IS PROVIDED AROUND ALL MECHANICAL AND ELECTRICAL EQUIPMENT, AND AROUND ANY COMPONENTS WHICH REQUIRE SERVICE ACCESS.
- 3. PIPING AND DUCTWORK SHALL NOT BE INSTALLED ABOVE ELECTRICAL TRANSFORMERS, SWITCHBOARDS, PANELBOARDS OR MOTOR CONTROL CENTERS.
- 4. COORDINATE AND PROVIDE ACCESS DOORS WITHIN INACCESSIBLE CEILING, SHAFT, AND CHASE AREAS FOR ALL COMPONENTS WHICH REQUIRE SERVICE ACCESS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES.
- 5. PROVIDE SUPPLEMENTARY STEEL AS REQUIRED FOR THE PROPER SUPPORT OF ALL SYSTEMS.
- 6. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR DIMENSIONED LOCATION OF GRILLES, REGISTERS, AND DIFFUSERS.
- 7. REFER TO TEMPERATURE CONTROLS STANDARD MOUNTING HEIGHTS DETAIL FOR ELEVATIONS OF WALL MOUNTED TEMPERATURE CONTROL DEVICES.
- 8. PROVIDE ACCESS PANELS FOR BALANCING DAMPERS, MOTORIZED CONTROL DAMPERS AND EXHAUST FANS ABOVE HARD CEILINGS.

#### **#** CONSTRUCTION KEY NOTES:

- 1. TRANSFER GRILLE HIGH ON WALL. REFER TO ARCHITECTURAL FOR ELEVATIONS.
- 2. EXHAUST FAN CONTROL TIMER.

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#### BUILDING A SHEET METAL PLAN

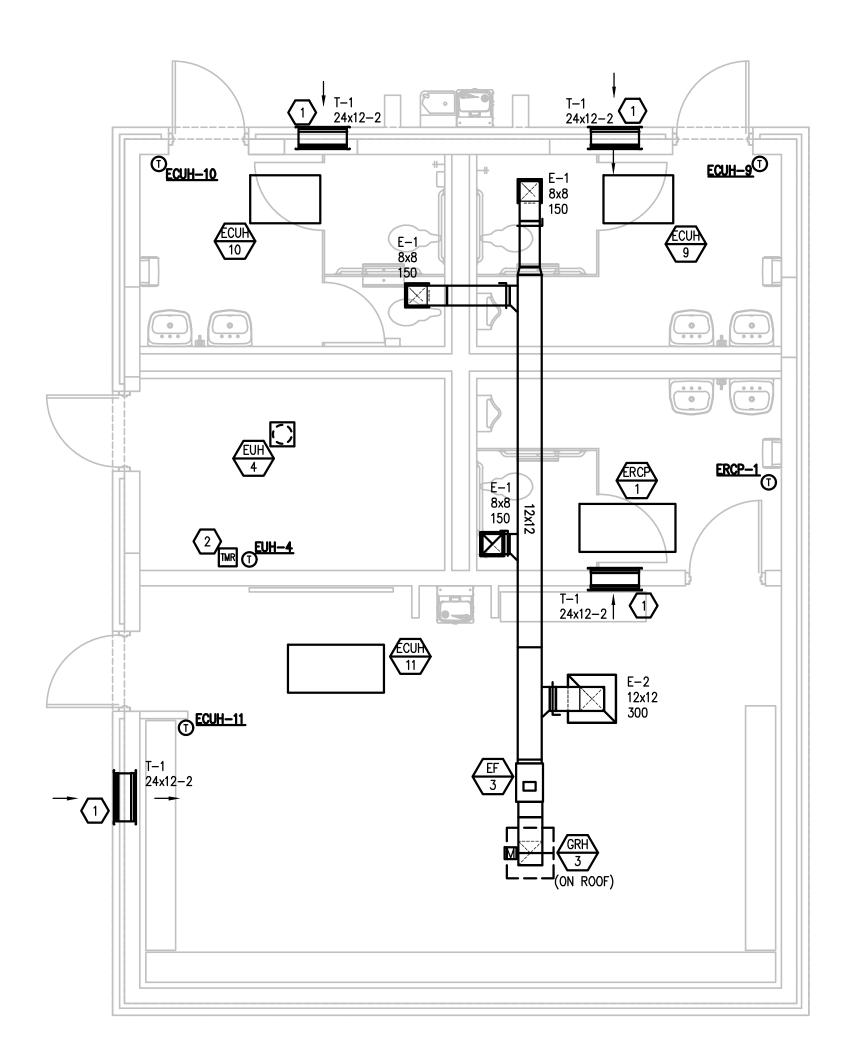


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#### SHEET METAL GENERAL NOTES:

- 1. THESE DRAWINGS ARE DIAGRAMMATIC, AND REPRESENT THE GENERAL INTENT AND ARRANGEMENT OF SYSTEMS. THEY ARE NOT TO BE CONSIDERED FABRICATION/COORDINATION/SHOP DRAWINGS. COORDINATION WITH OTHER TRADES IS REQUIRED. PROVIDE THE ADDITIONAL FITTINGS AND OFFSETS THAT WILL BE REQUIRED TO COMPLETE EACH SYSTEM AND TO AVOID INTERFERENCES WITH ALL OTHER SYSTEMS INCLUDING THE STRUCTURE, PIPING SYSTEMS, ELECTRICAL CONDUITS, BUS DUCTS, CABLE TRAY, LIGHT FIXTURES, ETC. AND/OR OTHER SPACE CONSTRAINTS.
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- 5. PROVIDE SUPPLEMENTARY STEEL AS REQUIRED FOR THE PROPER SUPPORT OF ALL SYSTEMS.
- 6. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR DIMENSIONED LOCATION OF GRILLES, REGISTERS, AND DIFFUSERS.
- 7. REFER TO TEMPERATURE CONTROLS STANDARD MOUNTING HEIGHTS DETAIL FOR ELEVATIONS OF WALL MOUNTED TEMPERATURE CONTROL DEVICES.
- 8. PROVIDE ACCESS PANELS FOR BALANCING DAMPERS, MOTORIZED CONTROL DAMPERS AND EXHAUST FANS ABOVE HARD CEILINGS.

#### **EXAMPLE 2** CONSTRUCTION KEY NOTES:

- 1. TRANSFER GRILLE HIGH ON WALL. REFER TO ARCHITECTURAL FOR ELEVATIONS.
- 2. EXHAUST FAN CONTROL TIMER.

Bidding and Permits: 20 March 2023



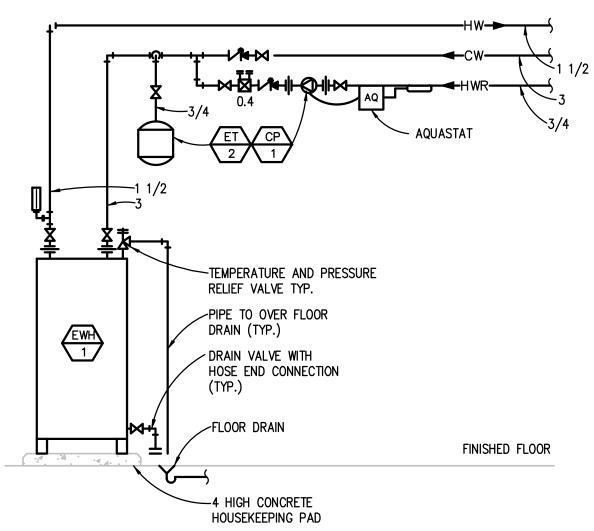
BUILDING B SHEET METAL PLAN



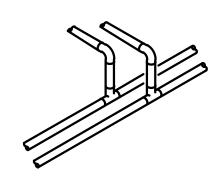
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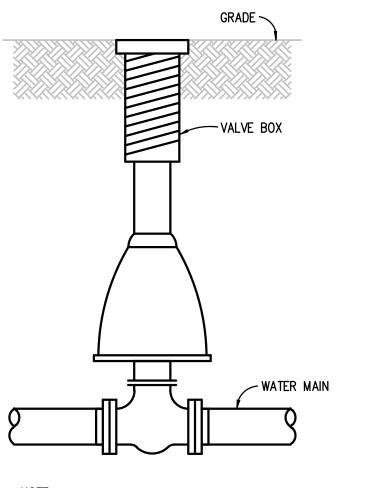


**ELECTRIC WATER HEATER** PIPING DIAGRAM NO SCALE



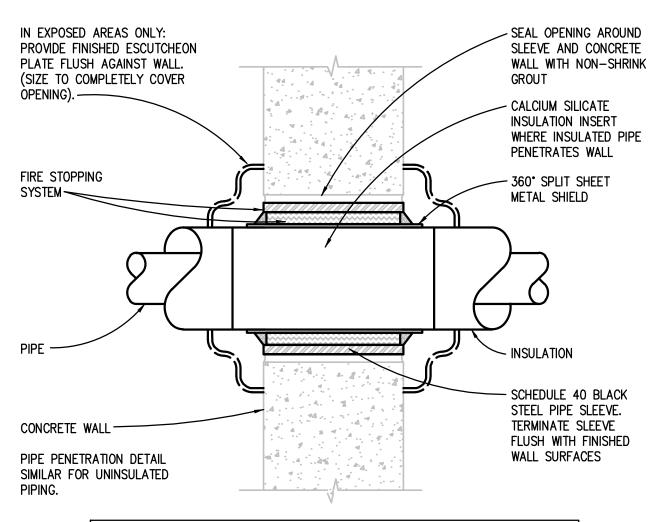
**BRANCH CONNECTION OFF TOP** APPLIES TO THE FOLLOWING SYSTEMS: DOMESTIC WATER

TYPICAL BRANCH TAKE-OFF CONNECTION PIPING DETAIL
NO SCALE



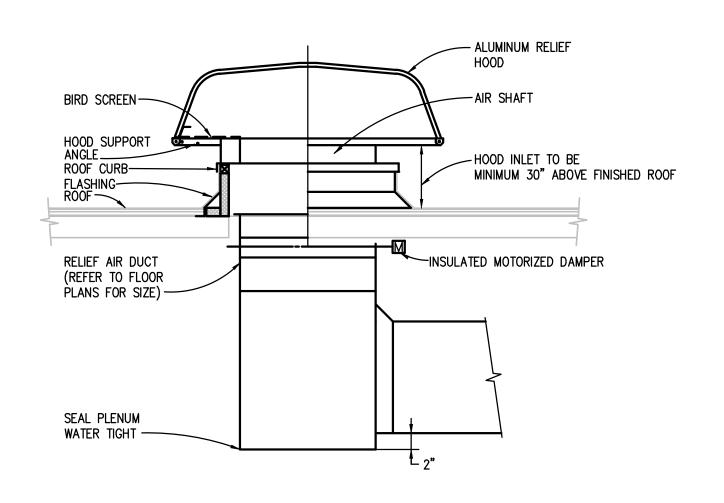
NOTE: SHALL BE CONSTRUCTED PER CITY OF DEARBORN HEIGHTS CODE.

**VALVE BOX DETAIL** 

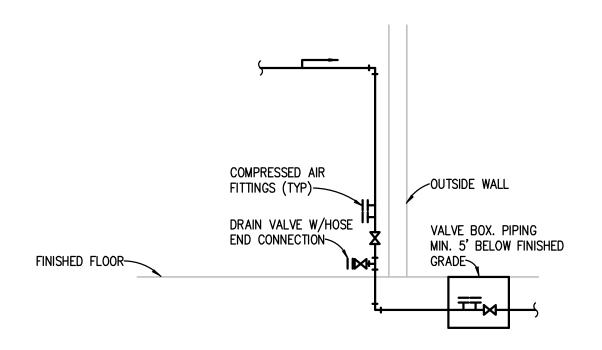


DETAIL INDICATES THE INSTALLATION REQUIREMENTS FOR A FIRE RATED ASSEMBLY. FOR A NON-FIRE RATED ASSEMBLY PACK SLEEVED OPENING WITH INSULATION MATERIAL AND CAULK WITH NON—HARDENING SEALANT.

FIRE RATED AND NON-FIRE RATED POURED CONCRETE OR BLOCK WALL PIPE PENETRATION DETAIL NO SCALE

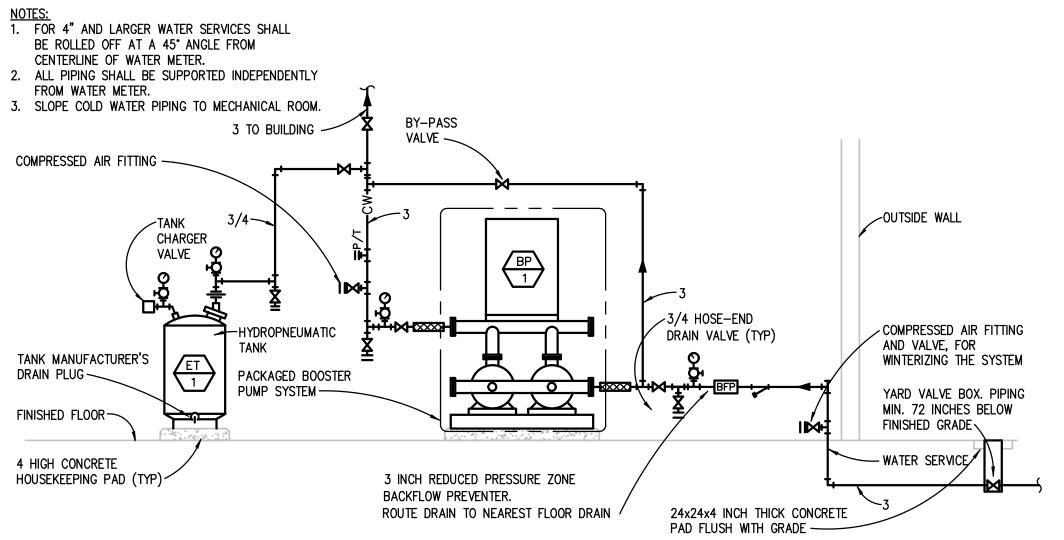


DUCTED INTAKE OR RELIEF HOOD INSTALLATION DETAIL NO SCALE

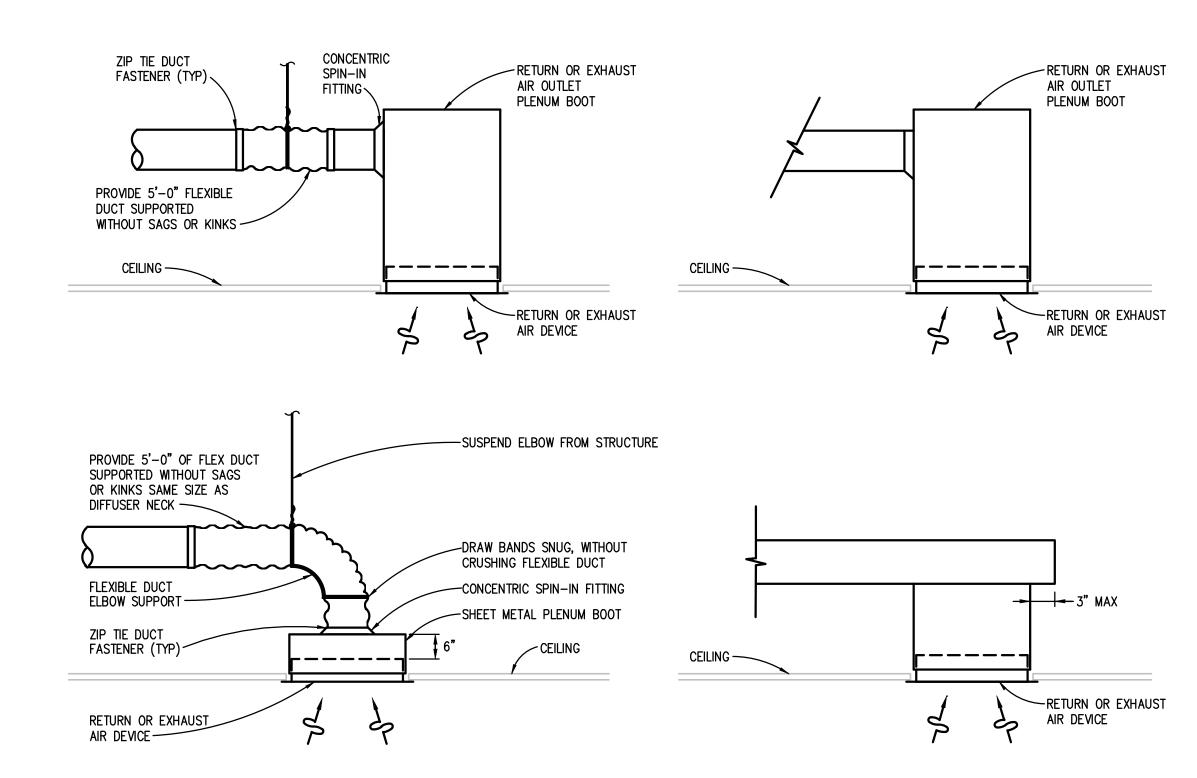


#### **INCOMING DOMESTIC WATER PIPING DIAGRAM** NO SCALE

1. DETAIL SHALL APPLY TO BUILDING A & B INCOMING DOMESTIC WATER. ALL DOMESTIC WATER PIPING SHALL BE PITCHED 1/8 INCH PER FOOT TOWARDS WATER SERVICE ROOM FOR WINTERIZATION.

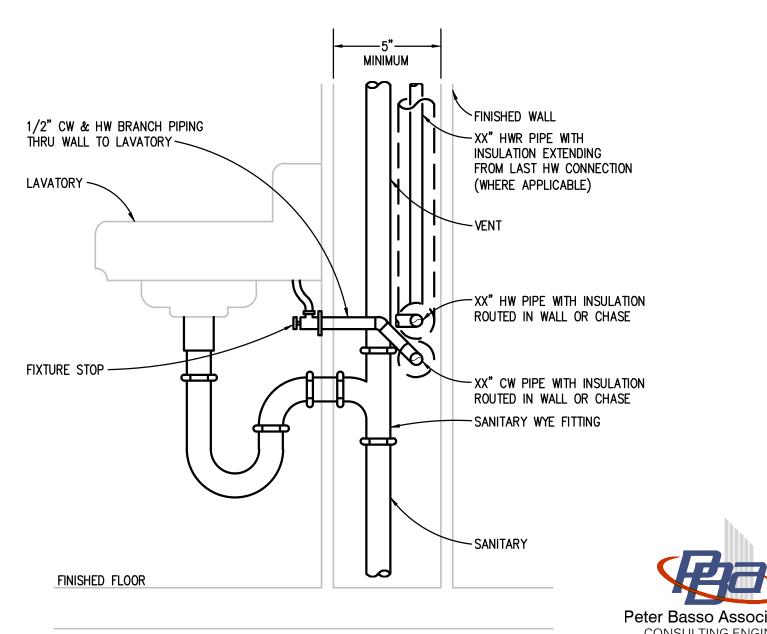


DOMESTIC WATER METER AND BOOSTER PUMP PIPING DIAGRAM NO SCALE





NOTE: PAINT INTERIOR SURFACE OF PLENUM BOX FLAT BLACK.



TYPICAL LAVATORY DETAIL



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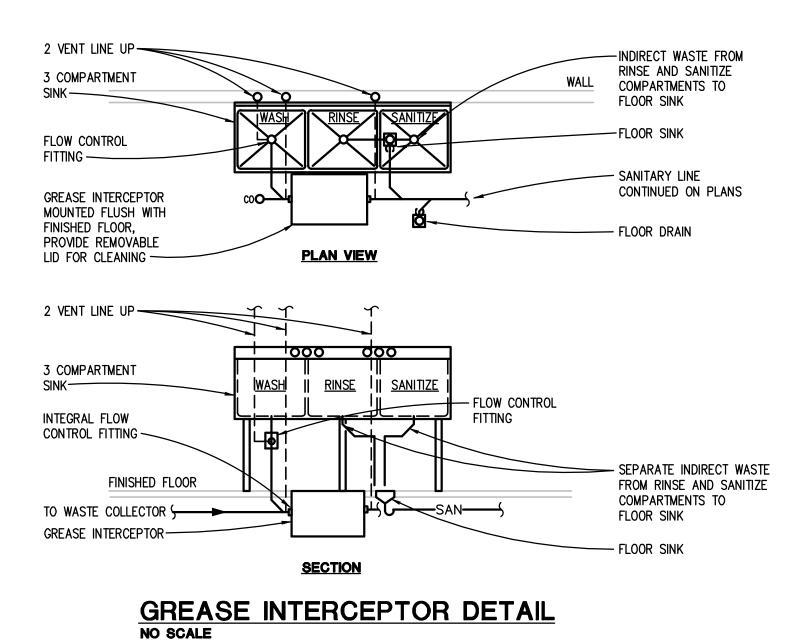


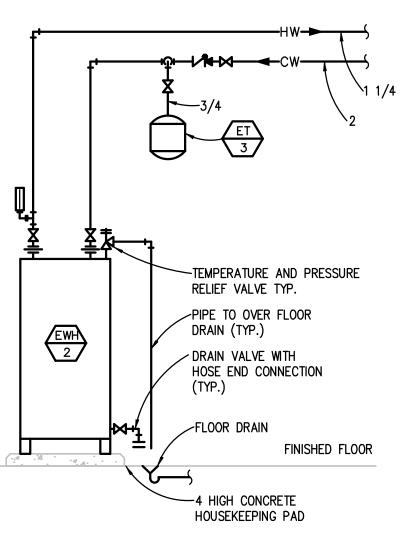
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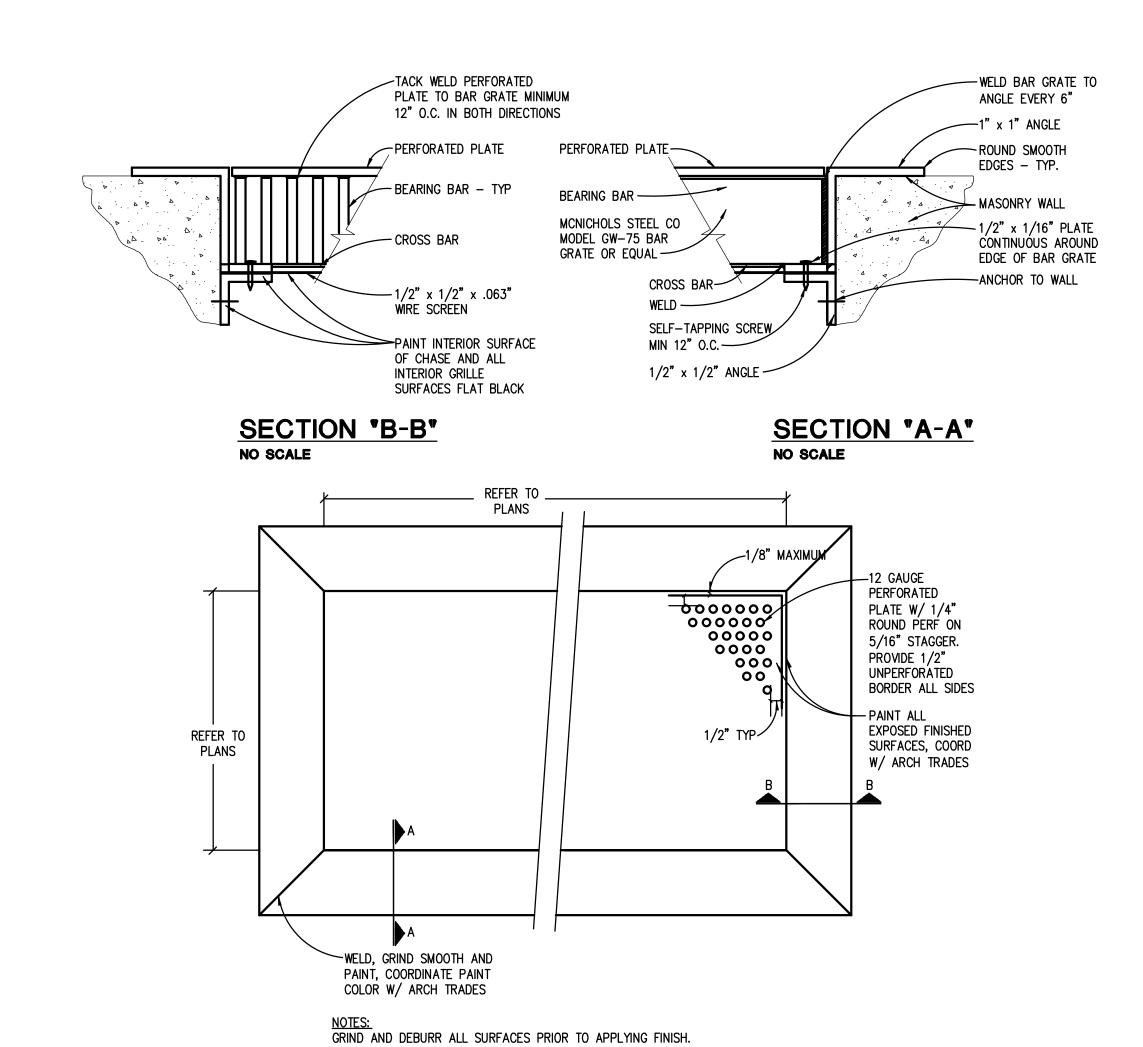
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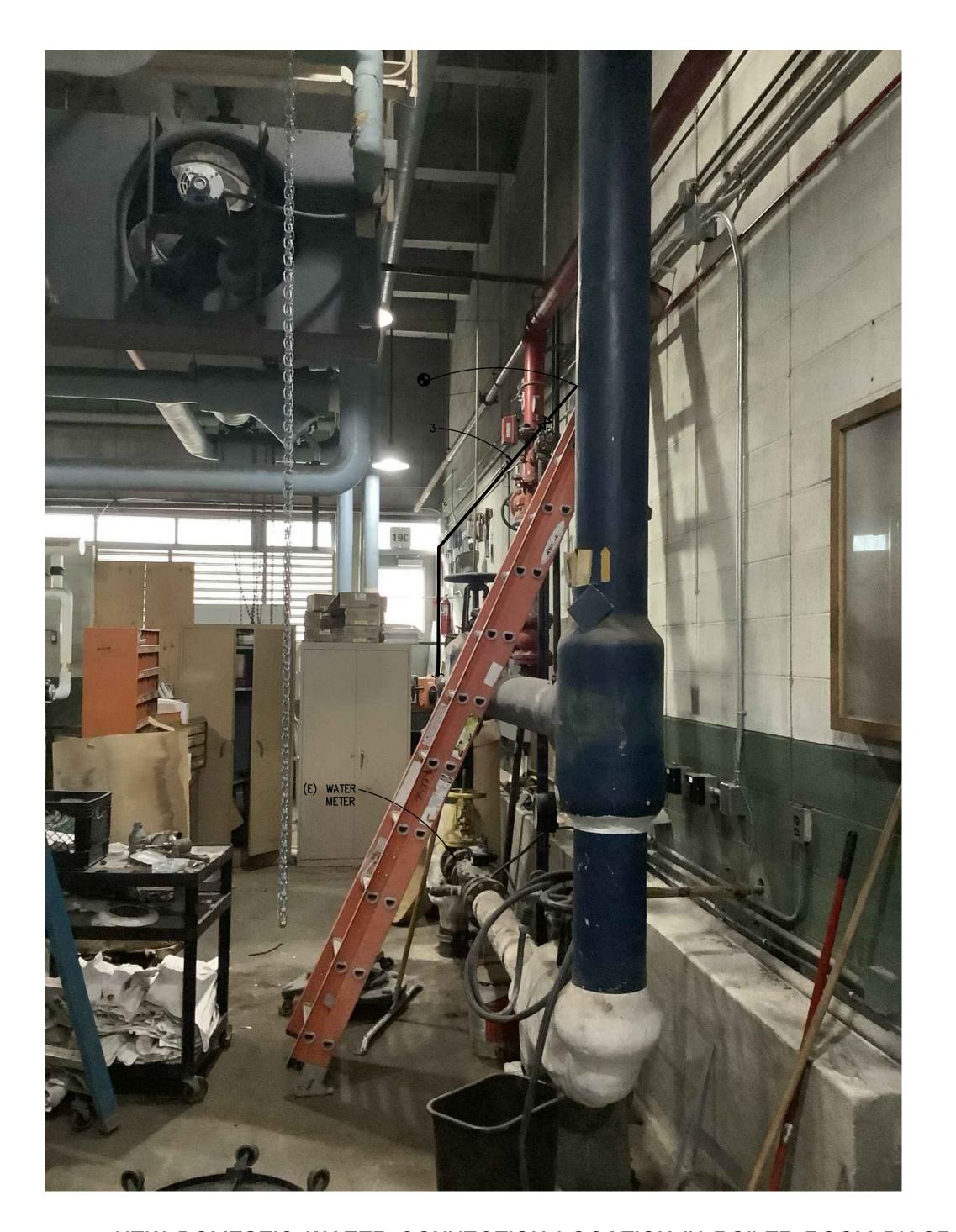




ELECTRIC WATER HEATER
PIPING DIAGRAM
NO SCALE



HEAVY DUTY RETURN AIR GRILLE DETAIL
NO SCALE



NEW DOMESTIC WATER CONNECTION LOCATION IN BOILER ROOM DIAGRAM NO SCALE

Bidding and Permits: 20 March 2023







Crestwood School District Crestwood High School Field Building & Site Improvements

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#### GENERAL NOTES

- 1. 'X' INDICATES ACCEPTABLE SELECTION. IF MORE THAN ONE SELECTION IS INDICATED FOR A PIPING SYSTEM, CONTRACTOR MAY
- SELECT FROM THOSE INDICATED SELECTIONS. 2. DISSIMILAR-METAL PIPING JOINTS: CONSTRUCT JOINTS USING DIELECTRIC FITTINGS COMPATIBLE WITH BOTH PIPING MATERIALS.
  - a. NPS 2 AND SMALLER: USE DIELECTRIC NIPPLE/WATERWAY.
- b. NPS 2-1/2 AND LARGER: USE DIELECTRIC FLANGE KITS.
- 3. USE UNIONS OR FLANGES AT VALVE AND EQUIPMENT CONNECTIONS.
- 4. PLUMBING EQUIPMENT DRAINS, VENTS, SAFETY VALVE PIPING, BLOWDOWN PIPING AND THE LIKE SHALL BE SAME PIPING MATERIAL AS ASSOCIATED
- 5. GROOVED END VALVES MAY BE USED WITH GROOVED PIPING

#### KEYED NOTES

- A. GROOVED AND FLANGED FITTINGS, JOINTS, AND COUPLINGS, IF INDICATED AS AN ACCEPTABLE SELECTION, MAY BE USED IN ACCESSIBLE LOCATIONS
- ONLY FOR THIS PIPING SYSTEM. ACCESSIBLE LOCATIONS ARE DEFINED AS EXPOSED CONSTRUCTION OR ABOVE LAY-IN CEILINGS. B. JOINTS ARE NOT PERMITTED ON UNDERGROUND WATER PIPING.
- C. USE CAST IRON DRAINAGE PATTERN (DURHAM) FITTINGS.
- D. INSTALL IN CONTAINMENT JACKET, REFER TO SPECIFICATIONS.
- E. VALVES, UNIONS, AND FLANGED JOINTS MAY BE USED IN ACCESSIBLE LOCATIONS ONLY, EXCLUDING CEILINGS USED AS AIR PLENUMS. ACCESSIBLE LOCATIONS ARE DEFINED AS EXPOSED CONSTRUCTION OR ABOVE LAY-IN CEILINGS. USE ONLY STEEL WELDED FITTINGS AND WELDED JOINTS IN CEILING USED AS AIR PLENUMS.
- F. NO JOINTS ALLOWED UNDERGROUND.

DUCT SYSTEM INSULATION A	<b>\PP</b>	LIC	AT	IOI	<b>V</b> S	3CH	HED	DUL	E.	
	(INCHES) A							API	ELD PLIED	
						BLANKET			CKET ERIAL	
	FIBERGLASS BLANKET 0.75 LB/CU FT	FIBERGLASS BLANKET 1.0 LB/CU FT	FIBERGLASS BOARD 2.25 LB/CU FT	FIBERGLASS BOARD 6.0 LB/CU FT	FLEXIBLE ELASTOMERIC	ASTM E2336 2-HOUR FIRE RATED BL	2—HOUR FIRE RATED BLANKET	ALUMINUM	SELF—ADHESIVE (FOR OUTDOOR APPLICATIONS)	KEYED NOTES
DUCT SYSTEMS LOCATED IN ATTICS HAVING NATURAL OR MECHANICAL VE	NTILAT	ION								
RECTANGULAR DUCTS AND AIR PLENUMS, ALL TYPES	3			2						
ROUND & FLAT OVAL SUPPLY AIR	3									
ROUND & FLAT OVAL RETURN & EXHAUST AIR	3									
PLENUMS, DUCTS, AND DUCT ACCESSORIES NOT REQUIRING INSULATION:										

PLENUMS, DUCTS, AND DUCT ACCESSORIES NOT REQUIRING INSULATION:

- FIBROUS-GLASS DUCTS
- DOUBLE-WALL METAL DUCTS WITH INSULATION OF SUFFICIENT THICKNESS TO COMPLY WITH ENERGY CODE AND ASHRAE/IESNA 90.1 2013 METAL DUCTS WITH DUCT LINER OF SUFFICIENT THICKNESS TO COMPLY WITH ENERGY CODE AND ASHRAE/IESNA 90.1 - 2013
- FABRIC SUPPLY DUCTS FACTORY-INSULATED FLEXIBLE DUCTS
- FACTORY-INSULATED PLENUMS AND CASINGS FLEXIBLE CONNECTORS
- VIBRATION-CONTROL DEVICES
- FACTORY-INSULATED ACCESS PANELS AND DOORS

#### **GENERAL NOTES**

- 1. 'X' OR THICKNESS IN INCHES INDICATE ACCEPTABLE SELECTION. IF MORE THAN ONE SELECTION IS INDICATED FOR A DUCT SYSTEM, CONTRACTOR MAY SELECT FROM
- THOSE INDICATED SELECTIONS. 2. REFER TO METAL DUCT SECTION OF SPECIFICATIONS FOR DUCT LINING AND DOUBLE-WALL INSULATED DUCT.
- 3. REFER TO HVAC CASINGS SECTION OF SPECIFICATIONS FOR DOUBLE—WALL INSULATED PLENUMS.

#### <u>KEYED NOTES</u>

- A. INCLUDE INSULATION AROUND DUCT MOUNTED COILS AND AIR TERMINAL UNIT COILS.
- B. NUMBER OF LAYERS AND TOTAL INSULATION THICKNESS AS RECOMMENDED BY SELECTED MANUFACTURER.
- C. DOES NOT APPLY TO PREFABRICATED, ZERO-CLEARANCE GREASE DUCT. D. PROVIDE MANUFACTURER'S RECOMMENDED PROTECTIVE COATING FOR FLEXIBLE ELASTOMERIC THERMAL DUCT INSULATION.
- E. EXPOSED SUPPLY DUCTWORK LOCATED IN CONDITIONED SPACE SERVED BY THAT SYSTEM IS NOT REQUIRED TO BE INSULATED.

#### ABOVEGROUND PLUMBING PIPE & ACCESSORY INSULATION **APPLICATION SCHEDULE** INICIU ATIONI MATERIAL & THICKNESS

	IN	SULATI		ATERIAL INCHES		IICKNE:	SS	FIEL	D-APF	PLIED J	IACKET	MATE		
	FLEXIBLE ELASTOMERIC	FIBERGLASS	MINERAL WOOL	POLYISOCYANURATE	PHENOLIC	CELLULAR GLASS	CALCIUM SILICATE	ALUMINUM	STAINLESS STEEL	PVC	SELF—ADHESIVE (FOR OUTDOOR APPLICATIONS)	PVDC (INDOOR)	PVDC (OUTDOOR)	KEYED NOTES
INDOOR PIPE SYSTEM AND SIZE (INCHES)														
DOMESTIC COLD WATER	1	1						Х		Х				Α
DOMESTIC HOT WATER SUPPLY & RETURN 140 DEG F AND LESS:														
NPS 1-1/4 AND SMALLER	1	1						Х		Х				Α
NPS 1-1/2 AND LARGER	1.5	1.5						Х		Χ				Α
ATTIC AREA PIPE SYSTEM AND SIZE (INCHES)														
DOMESTIC COLD WATER	2	2						Х		Х	Х			В
DOMESTIC HOT WATER SUPPLY & RETURN	2	2						Х		Х	Х			В

UNLESS OTHERWISE INDICATED OR SCHEDULED, DO NOT INSULATE THE FOLLOWING UNDERGROUND PIPING

#### GENERAL NOTES

- 1. 'X' OR THICKNESS IN INCHES INDICATES ACCEPTABLE SELECTION. IF MORE THAN ONE SELECTION IS INDICATED FOR A SYSTEM, CONTRACTOR MAY SELECT
- FROM THOSE INDICATED SELECTIONS. 2. INSULATE PIPING WITHIN AIR HANDLING EQUIPMENT THE SAME AS INDOOR PIPING. PROVIDE ALUMINUM OR STAINLESS STEEL JACKET.

#### KEYED NOTES

A. PROVIDE FIELD APPLIED JACKET FOR PIPING EXPOSED IN EQUIPMENT ROOMS, STORAGE ROOMS, JANITORS CLOSETS, RECEIVING ROOMS, TEST AREAS, CIRCULATION AREAS AND SUCH AREAS SUBJECT TO DAMAGE, WITHIN 10 FEET (3 METERS) OF FINISHED FLOOR. B. PROVIDE MANUFACTURER'S RECOMMENDED PROTECTIVE COATING FOR FLEXIBLE ELASTOMERIC THERMAL INSULATION.

#### GRAVITY RELIEF HOOD SCHEDULE THROAT THROAT STATIC HOOD SIZE VELOCITY | PRESSURE HEIGHT IDENTIFICATION SERVED CONSTRUCTION NUMBER **INCHES** WIDTH LENGTH HEIGHT FPM DROP INCHES IN. W.G. INCHES INCHES INCHES 1100 16x18 560 0.070 ALUMINUM FGR GRH-1 EF-1 16 12 1150 18x18 560 0.075 ALUMINUM FGR GRH-2 EF-2 28 36 16 12

36

ALUMINUM

12

FGR

0.060

<u>GENERAL NOTES:</u> 1. MODEL NUMBERS ARE GREENHECK UNLESS OTHERWISE NOTED. 2. PROVIDE WITH BIRD SCREEN.

750

14x18

660

EF-3

GRH-3

HORIZONTAL PIPIN		ANI				)R1	ΓΑ	PP	LIC	CATION
	H	HANGEF	R OR S	SUPPOF	RT TYP	E	SHI	ELD T	YPE	
METAL PIPE TYPE & SIZE UNINSULATED SINGLE PIPE	MSS TYPE 1 CLEVIS HANGER	MSS TYPE 10 SWIVEL RING BAND HANGER	MSS TYPE 41 DOUBLE ROD PIPE ROLLER	MSS TYPE 43 SINGLE ROD ROLLER HANGER	MSS TYPE 44 PIPE ROLLER & STAND	MSS TYPE 46 ADJUSTABLE PIPE ROLL STAND	MSS TYPE 39 PROTECTION SADDLE	MSS TYPE 40 INSULATION PROTECTION SHIELD	THERMAL-HANGER SHIELD	KEYED NOTES
UP TO 2 INCH	Х	Х								
2-1/2 INCH TO 4 INCH	Х	Х								
INSULATED SINGLE COLD PIPES										•
UP TO 2 INCH	Х	Х						Х	Х	Α
2-1/2 INCH TO 4 INCH	Х								Х	
INSULATED SINGLE HOT PIPES										
UP TO 2 INCH	Х	Х					Х	Х	Χ	A, C
2-1/2 INCH TO 4 INCH			Х	Χ	Х	Х	Х		Χ	B, C

#### GENERAL NOTES

- 1. "X" INDICATES APPROVED HANGER OR SUPPORT ELEMENTS. IF MORE THAN ONE HANGER OR SUPPORT ELEMENT
- IS INDICATED, SELECTION FROM APPROVED ELEMENTS IS CONTRACTOR'S OPTION.
- 2. REFER TO HANGER AND SUPPORT SECTION FOR APPROVED MANUFACTURERS. . HANGERS AND SUPPORTS USED FOR FIRE PROTECTION SERVICES SHALL BE UL LISTED OR FMG APPROVED. 4. HANGER ELEMENTS IN CONTACT WITH BARE COPPER PIPE SHALL BE COPPER PLATED, PLASTIC COATED, FELT
- LINED, OR USE MANUFACTURED COPPER TUBE ISOLATORS.
- 5. REFER TO INDIVIDUAL PIPING SPECIFICATION SECTIONS FOR HANGER SPACING. 6. MULTIPLE PARALLEL COLD PIPES MAY BE TRAPEZE SUPPORTED FROM BELOW USING U-BOLTS OR STRUT CLAMPS
- AND THERMAL HANGER SHIELDS. REFER TO KEYED NOTE A.
- 7. MULTIPLE PARALLEL COLD PIPES MAY BE TRAPEZE SUPPORTED FROM ABOVE USING STANDARD HANGER ELEMENTS INDICATED FOR SINGLE COLD PIPES.
- 8. MULTIPLE PARALLEL HOT PIPES MAY BE TRAPEZE SUPPORTED FROM BELOW USING ROLLER ELEMENTS AND THERMAL HANGER SHIELD OR INSULATION PROTECTION SADDLE. REFER TO KEYED NOTES B AND C. MULTIPLE PARALLEL HOT PIPES MAY BE TRAPEZE SUPPORTED FROM ABOVE USING STANDARD ROLLER HANGERS INDICATED AND THERMAL HANGER SHIELD OR INSULATION PROTECTION SADDLE, REFER TO KEY NOTES B AND C.

10. REFER TO INDIVIDUAL PIPING SPECIFICATION SECTIONS FOR ADDITIONAL SYSTEM SPECIFIC HANGER APPLICATIONS.

#### KEYED NOTES

A. USE THERMAL HANGER SHIELD ON TRAPEZE SUPPORTED INSULATED PIPE TO PREVENT CRUSHING OF INSULATION. B. USE THERMAL HANGER SHIELD DESIGNED FOR USE ON ROLLER SUPPORTS FOR INSULATED HOT PIPE. C. USE TYPE 39 PROTECTION SADDLES IF INSULATION WITHOUT VAPOR BARRIER IS INDICATED. FILL INTERIOR VOIDS WITH INSULATION MATCHING ADJOINING INSULATION.

PLUI	PLUMBING CONNECTION SCHEDULE														
UNIT IDENTIFICATION	CW INCHES	HW INCHES	SAN INCHES	VENT INCHES	REMARKS										
WC-1/WC-2	1 1/2	-	4	2											
LAV-1	1/2	1/2	1 1/2	1 1/2	1										
SS-1	3/4	3/4	3	1 1/2											
EWC-1	1/2	-	1 1/2	1 1/2											
WH/HB	3/4	_	-	-	2										
FD-1/FD-2/ FD-3	-	-	3	-											
FS-1		-	3												

NOTE: INDIVIDUAL WATER LINE BRANCHES, WASTE LINES, VENTS, AND TRAPS FOR CONNECTION TO INDIVIDUAL FIXTURES, FIXTURE FITTINGS, AND SPECIALTIES SHALL BE IN ACCORDANCE WITH THE FOLLOWING SCHEDULE OR AS INDICATED ON DRAWINGS, WHICHEVER IS GREATER.

1. PROVIDE A.S.S.E. 1070 THERMOSTATIC MIXING VALVE 2. WITHIN LOCKABLE ENCLOSURE

Peter Basso Associates Inc CONSULTING ENGINEERS 5145 Livernois, Suite 100 Troy, Michigan 48098-3276 Tel: 248-879-5666 Fax: 248-879-0007 www.PeterBassoAssociates.com

PBA Project No.: 2022.0428

#### SCHEDULES GENERAL NOTES:

TYPICAL FOR ALL SCHEDULE SHEETS:

- 1. REFER TO ELECTRICAL STANDARD SCHEDULES, ONE LINE DIAGRAM AND PANEL SCHEDULES FOR ADDITIONAL ELECTRICAL INFORMATION
- 2. PROVIDE THE FOLLOWING FACTORY-WIRED ELECTRICAL OPTIONS/ACCESSORIES WHERE INDICATED IN SCHEDULE:
  - A NON-FUSED DISCONNECT SWITCH
  - B UNIT SHALL BE SINGLE POINT ELECTRICAL CONNECTION WITH FACTORY INSTALLED DISCONNECTING MEANS AND ALL REQUIRED STARTERS AND
  - C SERVICE RECEPTACLE
  - D FUSED DISCONNECT SWITCH E - COMBINATION STARTER
  - F UNIT SHALL HAVE (2) SINGLE POINT CONNECTIONS WITH FACTORY INSTALLED DISCONNECTING MEAN'S AND ALL REQUIRED STARTERS AND CONTROLS. (1) CONNECTION SHALL BE FOR CONDENSING SECTION AND (1) CONNECTION SHALL BE FOR THE REMAINDER OF THE UNIT.
- 3. FOR MODULATION/CONTROL TYPE COLUMN, "VFC" INDICATES VARIABLE FREQUENCY CONTROLLERS, "AUTO" INDICATES AUTOMATIC OPERATION (CONTROLLED BY TEMPERATURE CONTROLS OR SELF CONTAINED CONTROLS), "MANUAL" INDICATES HAND OPERATION.
- 4. IF VARIABLE FREQUENCY CONTROLLERS ARE INDICATED TO BE PROVIDED AND ARE NOT INSTALLED INTEGRAL TO THE UNIT, VARIABLE FREQUENCY CONTROLLERS SHALL BE SUPPLIED BY THE MECHANICAL CONTRACTOR (UNLESS OTHERWISE NOTED) AND INSTALLED BY THE ELECTRICAL CONTRACTOR INCLUDING THE LINE SIDE AND LOAD SIDE WIRING TO THE MOTOR AND INCLUDING MISCELLANEOUS STEEL REQUIRED FOR THE SUPPORT AND MOUNTING OF THE VFC. REFER TO FLOOR PLANS FOR LOCATION.
- 5. WHERE EQUIPMENT IS INDICATED TO HAVE A SINGLE POINT ELECTRICAL CONNECTION. THAT EQUIPMENT SHALL COME COMPLETE WITH FACTORY INSTALLED STARTERS, MOTOR OVERLOAD PROTECTION. CONTACTORS. FUSING AND ALL NECESSARY INTERNAL WIRING AND CONTROLS. PROVIDE A FACTORY MOUNTED UNIT DISCONNECTING MEANS WHERE THE ELECTRICAL CONTRACTOR SHALL MAKE SINGLE POINT CONNECTION. INSTALL PACKAGED EQUIPMENT SUCH THAT THE ELECTRICAL CONNECTION AND CONTROLS ARE ACCESSIBLE AND HAVE CLEARANCES MEETING THE NATIONAL ELECTRICAL CODE.
- 6. WHERE PACKAGED EQUIPMENT IS PROVIDED, NAMEPLATE MUST INDICATE MAXIMUM OVERCURRENT PROTECTION BY HACR RATED CIRCUIT BREAKERS OR FUSES. IF FUSE PROTECTION ONLY IS INDICATED, PROVIDE A FUSIBLE DISCONNECT AND FUSES WITH
- 7. WHERE EQUIPMENT IS DESIGNATED BY MANUFACTURER AND MODEL NUMBER, THIS IS THE BASIS OF DESIGN. IF THE CONTRACTOR ELECTS TO PROVIDE EQUIPMENT BY OTHER SPECIFIED MANUFACTURERS OR PROPOSED ALTERNATE EQUIPMENT BY THE BASIS OF DESIGN MANUFACTURER, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY REVISIONS TO ELECTRICAL REQUIREMENTS, STRUCTURAL LOADING, OR ARCHITECTURAL APPURTENANCES AND SHALL INCLUDE THE COST OF SUCH REVISIONS IN HIS BID.
- WHERE EQUIPMENT IS SCHEDULED TO INCLUDE A SERVICE RECEPTACLE, PROVIDE A FACTORY MOUNTED SERVICE RECEPTACLE WITH APPROPRIATE FUSES AND TRANSFORMERS CONNECTED ON THE LINE SIDE OF THE UNIT DISCONNECT. PROVIDE A NAMEPLATE ON THE DISCONNECT SWITCH INDICATING THE PRESENCE OF LIVE POWER TO THE SERVICE RECEPTACLE WHEN THE UNIT DISCONNECT IS IN THE OFF
- 9. SIZE ALL EQUIPMENT FEEDERS BASED ON THE LISTED MOP (MAXIMUM OVERCURRENT PROTECTION). REFER TO THE FEEDER AND BRANCH CIRCUIT SIZING SCHEDULE ON THE ELECTRICAL STANDARD SCHEDULES SHEET.

Bidding and Permits: 20 March 2023

MECHANICAL SCHEDULES



Crestwood School District Crestwood High School Field Building & Site Improvements

Project No. 5622

M7.10

UNIT IDENTIFICATION	CAPACITY MBH		AIR			HEATING	ELEMENT		DIMENSIONS		RECESS DEPTH	FILTER	MODULATION/ CONTROL TYPE			ELI	ECTRICAL			MODEL NUMBER	REMARKS
		AIRFLOW CFM	E.D.B. F	L.D.B. F	R.P.M.	1ST STAGE KW	TOTAL KW	LENGTH INCHES	HEIGHT INCHES	DEPTH INCHES	INCHES	TYPE		VOLTS	PHASE	FLA	MOP	SCCR KA	OPTIONS/ ACCESSORIES		
ECUH-1	20.5	500	60	123	1550	6	10	46	25	9	_	MERV 5 THROWAWAY	AUTO	480	3	15.4	20	5	В	6346D104833B30D0F	SURFACE MOUNTED AT CEILING, AIRFLOW CONFIGURATION 'A'
ECUH-2	20.5	500	60	123	1550	6	10	46	25	9	-	MERV 5 THROWAWAY	AUTO	480	3	15.4	20	5	В	6346D104833B30D0F	SURFACE MOUNTED AT CEILING, AIRFLOW CONFIGURATION 'A'
ECUH-3	20.5	500	60	123	1550	6	10	46	25	9	_	MERV 5 THROWAWAY	AUTO	480	3	15.4	20	5	В	6346D104833B30D0F	SURFACE MOUNTED AT CEILING, AIRFLOW CONFIGURATION 'A'
ECUH-4	20.5	500	60	123	1550	6	10	46	25	9	_	MERV 5 THROWAWAY	AUTO	480	3	15.4	20	5	В	6346D104833B30D0F	SURFACE MOUNTED AT CEILING, AIRFLOW CONFIGURATION 'A'
ECUH-5	20.5	500	60	123	1550	6	10	46	25	9	_	MERV 5 THROWAWAY	AUTO	480	3	15.4	20	5	В	6346D104833B30D0F	SURFACE MOUNTED AT CEILING, AIRFLOW CONFIGURATION 'A'
ECUH-6	20.5	500	60	123	1550	6	10	46	25	9	_	MERV 5 THROWAWAY	AUT0	480	3	15.4	20	5	В	6346D104833B30D0F	SURFACE MOUNTED AT CEILING, AIRFLOW CONFIGURATION 'A'
ECUH-7	20.5	500	60	123	1550	6	10	46	25	9	_	MERV 5 THROWAWAY	AUTO	480	3	15.4	20	5	В	6346D104833B30D0F	SURFACE MOUNTED AT CEILING, AIRFLOW CONFIGURATION 'A'
ECUH-8	20.5	500	60	123	1550	6	10	46	25	9	_	MERV 5 THROWAWAY	AUT0	480	3	15.4	20	5	В	6346D104833B30D0F	SURFACE MOUNTED AT CEILING, AIRFLOW CONFIGURATION 'A'
ECUH-9	17.07	250	60	123	1550	3	5	33	25	9	_	MERV 5 THROWAWAY	AUTO	480	3	7.8	20	5	В	6333D054833B30D0F	SURFACE MOUNTED AT CEILING, AIRFLOW CONFIGURATION 'A'
ECUH-10	17.07	250	60	123	1550	3	5	33	25	9	-	MERV 5 THROWAWAY	AUTO	480	3	7.8	20	5	В	6333D054833B30D0F	SURFACE MOUNTED AT CEILING, AIRFLOW CONFIGURATION 'A'
ECUH-11	34	500	60	123	1550	6	10	46	25	9	-	MERV 5 THROWAWAY	AUTO	480	3	15.4	20	5	В	6346D104833B30D0F	SURFACE MOUNTED AT CEILING, AIRFLOW CONFIGURATION 'A'

DUC	ΓS	SYS	STE	M	AP	PLI	CA	TIC	NC	SC	CHE	EDL	JLE					
		DUCT MATERIAL																
AIR SYSTEMS	G90 GALV. SHEET METAL	DOUBLE—WALL LINED G90 GALV. SHEET METAL (SOLID INNER WALL)	DOUBLE—WALL LINED G90 GALV. SHEET METAL (PERF. INNER WALL)	G90 GALV. SHEET METAL WITH 1-INCH LINING	GALVANNEALED SHEET METAL	ALUMINUM	TYPE 304 STAINLESS STEEL	TYPE 316 STAINLESS STEEL	PVC COATED GALV. SHEET METAL (4X1)	PVC COATED GALV. SHEET METAL (1X4)	PVC COATED GALV. SHEET METAL (4X4)	16 GA. CARBON STEEL	ZERO-CLEARANCE PREFABRICATED RANGE HOOD EXHAUST DUCT	FABRIC	DESIGN PRESSURE CLASS (INCHES WG)	SEAL CLASS	MAX. ALLOWABLE LEAKAGE RATE (PERCENT)	KEYED NOTES
EXHAUST AIR WITHOUT TERMINAL UNITS	Х														-2	A	5	
AIR TRANSFER DUCT	Х														+2	Α	5	

- 1. 'X' INDICATES ACCEPTABLE SELECTION. IF MORE THAN ONE SELECTION IS INDICATED FOR A DUCT SYSTEM, CONTRACTOR MAY SELECT FROM THOSE INDICATED SELECTIONS.
- A. SCREWS, DAMPERS, OR PROJECTIONS OF ANY TYPE ON INTERIOR OF DUCT SURFACE ARE PROHIBITED. B. DUCT SHALL BE LINED WITHIN 25 FEET UPSTREAM OF FANS.
- C. ALL WELDED CONSTRUCTION.

				DOOF	RAIR	CUR1	AIN SCH	EDULI	E						
UNIT	NTIFICATION CONTROL TYPE														
IDENTIFICATION	AIRFLOW CFM	AVERAGE OUTLET VELOCITY FPM	B.H.P EACH FAN	H.P. EACH FAN	WIDTH INCHES	HEIGHT FT.	CONTROL TIPE	VOLTS	PHASE	OPTIONS/ ACCESSORIES	NUMBER				
DAC-1	200	1045	0.1	1 @ 1/12 1 @ 1/20	26	3	MANUAL	120	1	-	DTU03-2026A				
DAC-2	200	1045	0.1	1 @ 1/12 1 @ 1/20	26	3	MANUAL	120	1	ı	DTU03-2026A				
DAC-3	200	1045	0.1	1 @ 1/12 1 @ 1/20	26	3	MANUAL	120	1	I	DTU03-2026A				
DAC-4	200	1045	0.1	1 @ 1/12 1 @ 1/20	26	3	MANUAL	120	1	-	DTU03-2026A				
DAC-5	200	1045	0.1	1 @ 1/12 1 @ 1/20	26	3	MANUAL	120	1	-	DTU03-2026A				

	DAC-5	200	1	1045	0.1	1 @ 1/20	26	3	MANUAL	120	1	-	DTU03-2026A	
Ġ		TO SCHEDUI			THERWISE N	OTED.								
				ELE	CTRIC	RAI	DIANT	CEILI	NG PANE	L SCI	HEDUL	<b>.</b> E		
		APACITY WATTS	DIMEN		CTRIC	RA	DIANT		NG PANE	L SCI	HEDUL	_E MOD		EMARKS

750

1. REFER TO SCHEDULES GENERAL NOTES.
2. MODEL NUMBERS ARE MARKEL UNLESS OTHERWISE NOTED.
3. PROVIDE LINE VOLTAGE THERMOSTATS WHERE INDICATED ON PLANS.

			GRE	ASE T	RAP S	SCHED	ULE			
UNIT IDENTIFICATION	BODY MATERIAL	FLOWRATE GPM	GREASE CAPACITY LBS	INLET/OUTLET SIZE INCHES	BODY HEIGHT INCHES	DIMENSIONS  BODY LENGTH X WIDTH INCHES	EXTENSION HEIGHT INCHES	MOUNTING STYLE	MODEL NUMBER	REMARKS
GT-1	POLYETHYLENE	25	70	3	12	27x23	FIELD VERIFY	RECESSED	GB-1	

15

1. REFER TO SCHEDULES GENERAL NOTES.

2. MODEL NUMBERS ARE SCHIER PRODUCTS UNLESS OTHERWISE NOTED.
3. MANUFACTURER SHALL PROVIDE INTEGRAL FLOW CONTROL FITTING AND RISER ASSEMBLY.
4. CONTRACTOR TO FIELD CUT MANUFACTURER PROVIDED RISER ASSEMBLY TO REQUIRED HEIGHT TO BE FLUSH WITH FINISHED FLOOR.

**GENERAL NOTES** 

OTE:						
1.	PROVIDE	LINE VOLTAG	E THERMOST	ATS WHERE IN	NDICATED ON	PLANS.
2.	MODEL N	IUMBERS ARI	E MARKEL UN	LESS OTHERW	ise noted.	

								PL	JMP SC	HEDULE										
UNIT IDENTIFICATION	SYSTEM SERVED	LOCATION	TYPE	COUPLING TYPE	WATERFLOW GPM		SYSTEM OPERATING		OVERLOAD GPM	MINIMUM EFFICIENCY %		MOTOR		MODULATION/ CONTROL TYPE		ELE	CTRICAL		MODEL NUMBER	KEYED NOTES
							TEMP. "F FOR PUMP SELECTION				BHP	HP	RPM		VOLTS	PHASE	SCCR KA (NOTE 4)	OPTIONS/ ACCESSORIES		
CP-1	EWH-1	MECH ROOM	INLINE	CLOSE	10	W	90	20	NON- OVERLOADING			1/6	3300	AUTO	120	1	5		E-30.2	

GENERAL NOTES:

1. REFER TO SCHEDULES GENERAL NOTES.

2. MODEL NUMBER ARE ARMSTRONG UNLESS OTHERWISE NOTED.

3. FLUID TYPE: W = WATER, PGXX = PROPYLENE GLYCOL SOLUTION XX PERCENTAGE OF GLYCOL, EGXX = ETHYLENE GLYCOL SOLUTION XX PERCENTAGE OF GLYCOL.

4. CONTROLLER (E.G. VARIABLE FREQUENCY CONTROLLER, MOTOR STARTER) FOR SPECIFIED EQUIPMENT SHALL BE MANUFACTURED AND MARKED PER NEC WITH A MINIMUM SHORT CIRCUIT CURRENT RATING AS INDICATED.

			DOME	STIC	C W	ATER H	EATE	R SC	HEDUI	LE (EI	ECTF	RIC)		
UNIT IDENTIFICATION	STORAGE CAPACITY	KW INPUT	RECOVERY GPH	E.W.T. °F	L.W.T. °F	MODULATION/ CONTROL TYPE			ELE	CTRICAL			MODEL NUMBER	REMARKS
	GALLONS						VOLTS	PHASE	FLA	OPTIONS/ ACCESSORIES				
EWH-1	120	15	59	40.0	140.0	AUTO	480	3	20	45	5		LHC-119X15	
EWH-2	50	8	25	40.0	140.0	AUTO	480	3	12.5	25	5		LDT-50 XJ	

UNIT IDENTIFICATION	TYPE	FACE SIZE	NECK SIZE	FRAME TYPE	ACCESSORY	CONSTRUCTION	FINISH	MODEL NUMBER	REMARKS
E-1	GRILLE	12x12	SEE PLANS	SURFACE	OPPOSED BLADE DAMPER	ALUMINUM	WHITE	PDDR	
E-2	GRILLE	24x24	SEE PLANS	SURFACE	OPPOSED BLADE DAMPER	ALUMINUM	WHITE	PDDR	
T-1	GRILLE	NECK SIZE + 2 1/2	SEE PLANS	SURFACE		ALUMINUM	WHITE	91	

GRILLE, REGISTER, AND DIFFUSER SCHEDULE

NOTE:

1. MODEL NUMBERS ARE PRICE UNLESS OTHERWISE NOTED.

NOTE:

1. REFER TO SCHEDULES GENERAL NOTES.
2. MODEL NUMBERS ARE LOCHINVAR UNLESS OTHERWISE NOTED.

							PACKAG	ED BOO	STER	PUM	P SCHE	DULE								
UNIT IDENTIFICATION	SYSTEM SERVED	LOCATION	TYPE	NUMBER OF PUMPS	DISCHARGE WATERFLOW GPM TOTAL		PUMP DISCHARGE PRESSURE HEAD		МО	TOR	CAPACITY CONTROL	MODULATION/			ELE	CTRICAL			MODEL NUMBER	REMARKS
IDENTIFICATION	SERVED			OF FUMPS	GFM TOTAL	HEAD PSIG EACH	PSIG (MINIMUM)		RPM EACH	HP EACH	CONTROL	CONTROL TYPE	VOLTS	PHASE	FLA	MOP	SCCR KA	OPTIONS/ ACCESSORIES		
BP-1	FIELD HOUSE	MECH ROOM	DUPLEX	2	81	21	48	NON-OVERLOADING	3500	1 1/2	DIRECT ACTING	VARIABLE SPEED	480	3	8.4	30	5	А	6800G-PM230302	

REFER TO SCHEDULES GENERAL NOTES.
 MODEL NUMBERS ARE ARMSTRONG UNLESS OTHERWISE NOTED.

										PO	WER VE	NTILATO	R SCHE	EDULE												
UNIT SYSTEM TYPE AIRFLOW T.S.P. TIP SPEED FAN RPM BHP HP RPM DRIVE TYPE BHP HP RPM DRIVE TYPE VOLTS PHASE SCCR KA OPTIONS/ UNIT INLET LW BY OCTAVE BAND															REMARKS											
							BHP	HP	RPM	DRIVE TYPE			VOLTS	PHASE	SCCR KA	OPTIONS/			UNIT	INLET Lw B	Y OCTAVE	BAND				
																ACCESSORIES	63 HZ (DB)	125 HZ (DB)	250 HZ (DB)	500 HZ (DB)	1000 HZ (DB)	2000 HZ (DB)	4000 HZ (DB)	8000 HZ (DB)		
EF-1	BUILDING A	INLINE	1100	0.3	4697	1725	0.28	1/3	1725	BELT	18	AUTO	120	1	5	В	83	82	79	75	69	64	60	54	BSQ-100	
EF-2	BUILDING A	INLINE	1150	0.3	4645	1725	0.28	1/3	1725	BELT	18	AUTO	120	1	5	В	83	82	79	75	69	64	60	54	BSQ-100	
EF-3	BUILDING B	INLINE	750	0.3	3850	1725	0.19	1/4	1725	BELT	18	AUTO	120	1	5	В	82	82	79	74	69	63	60	54	BSQ-90	
NOTE:			_	_	_		_			_		_		_		_				<u> </u>						

REFER TO SCHEDULES GENERAL NOTES.
 MODEL NUMBERS ARE GREENHECK UNLESS OTHERWISE NOTED.

			E	LECTRIC	PROPE	LLER FAI	N UNI	T HEA	TER	SCHE	DULE			
UNIT DENTIFICATION	CAPACITY MBH	CFM	HEATING ELEMENT	FINAL AIR TEMPERATURE	MOTOR HP	MODULATION/ CONTROL TYPE			ELE	CTRICAL			MODEL NUMBER	REMARKS
			KW	F			VOLTS	PHASE	FLA	MOP	SCCR KA	OPTIONS/ ACCESSORIES		
EUH-1	17.07	490	5	81.0	1/25	AUTO	480	3	6.02	20	5	В	P3P2605CA1	
EUH-2	11.3	400	3.3	81.0	1/25	AUTO	480	3	4	20	5	В	P3PUH03CA1	
EUH-3	11.3	400	3.3	81.0	1/25	AUTO	480	3	4	20	5	В	P3PUH03CA1	
EUH-4	17.07	490	5	81.0	1/25	AUTO	480	3	6.02	20	5	В	P3P2605CA1	

				EXPANS	SION TA	ANK SC	HEDU	LE				
UNIT IDENTIFICATION	SYSTEM SERVED	TYPE	OPERATIN	NG PRESSURE	OPERATING 1	TEMPERATURE	TANK VOLUME	ACCEPTANCE VOLUME	DIMEN	SIONS	MODEL NUMBER	REMARKS
1	SERVES		MINIMUM PSIG	MAXIMUM PSIG	MINIMUM *F	MAXIMUM F	GALLON	GALLON	DIAMETER INCHES	HEIGHT INCHES		
ET-1	DOMESTIC WATER BOOSTER PUMP	DIAPHRAGM	25	55	45	80	15	10.0	16	24	AST-30	
ET-2	EWH-1	DIAPHRAGM	25	55	45	140	5.0	3.3	12	14	AST-12	
ET-3	EWH-2	DIAPHRAGM	25	55	45	140	5.0	3.3	12	14	AST-12	
NOTE: 1. MODEL NUMBE	RS ARE BELL & GOSSE	TT UNLESS OTH	HERWISE NOTE	ED.			-		-		-	

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MECHANICAL SCHEDULES

EHRESMAN ---- ARCHITECTS

Crestwood School District Crestwood High School Field Building & Site Improvements

Project No. 5622

M7.11

Bidding and Permits: 20 March 2023

CP127

SURFACE MOUINTED

1. PROVIDE LINE VOLTAGE THERMOSTATS WHERE INDICATED ON PLANS. 2. MODEL NUMBERS ARE MARKEL UNLESS OTHERWISE NOTED.

803 W. Big Beaver Road, Suite 350, Troy, MI 48084 | 248.244.9710 © Ehresman 2022

#### EF-1 & EF-2 CONTROL

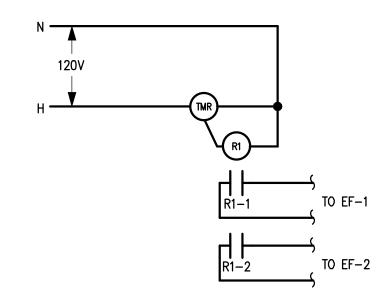
TYPICAL EXCEPT WHERE NOTED

EF-1 SERVES BUILDING A TEAM LOCKER ROOM & WOMEN'S RESTROOMS EF-2 SERVES BUIDLING A FOOD SERVICE AREA & MEN'S RESTROOMS

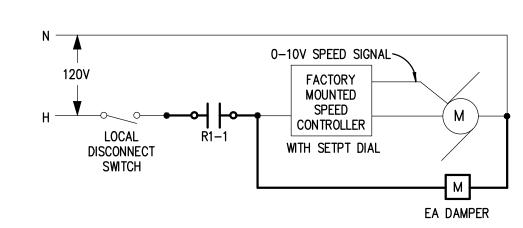
- 1. REFER TO MECH FLOOR PLANS FOR LOCATIONS.
- 2. CONTROL DAMPER FURNISHED BY TC CONTRACTOR.
- 3. EXHAUST FAN SPEED SHALL BE MANUALLY SET VIA ON BOARD POTENTIOMETER DIAL DURING SYSTEM BALANCING.

#### SEQUENCE OF OPERATION:

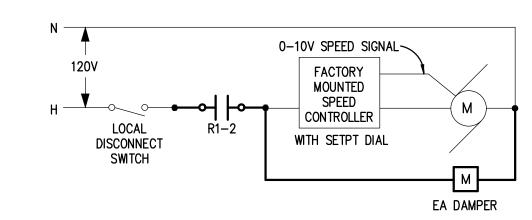
1. EXHAUST FANS SHALL BE STARTED AND STOPPED BY LOCAL COUNTDOWN TIMER LOCALLY SELECTABLE FROM 1 TO 8 HOURS. INTERLOCK WIRING SHALL OPEN DAMPERS.



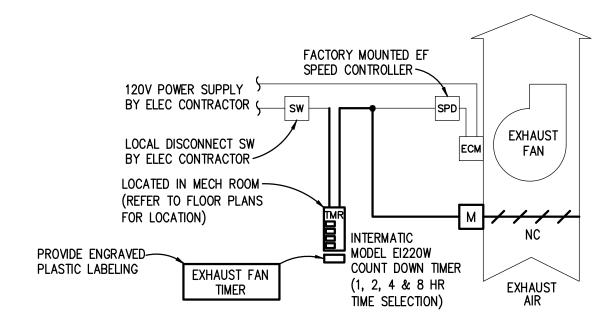
#### DIGITAL COUNTDOWN TIMER WIRING



#### EF-1 M/S WIRING



EF-2 M/S WIRING



#### **EF-3 CONTROL**

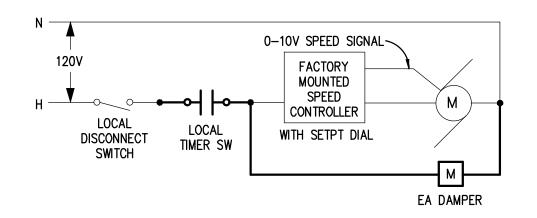
#### SERVES BUILDING B

#### NOTES:

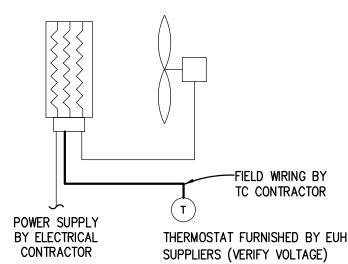
- 1. REFER TO MECH FLOOR PLANS FOR LOCATIONS.
- 2. CONTROL DAMPER FURNISHED BY TC CONTRACTOR.
- 3. EXHAUST FAN SPEED SHALL BE MANUALLY SET VIA ON BOARD POTENTIOMETER DIAL DURING SYSTEM BALANCING.

#### **SEQUENCE OF OPERATION:**

EXHAUST FAN SHALL BE STARTED AND STOPPED BY LOCAL COUNTDOWN TIMER LOCALLY SELECTABLE FROM 1 TO 8 HOURS. INTERLOCK WIRING SHALL OPEN DAMPERS.



EF-3 M/S WIRING



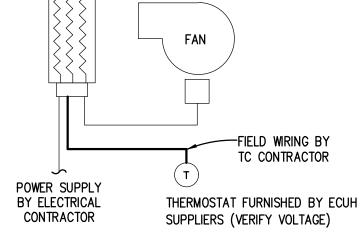
#### **ELECTRIC UH CONTROL**

#### **TYPICAL**

REFER TO FLOOR PLANS FOR QUANTITY AND LOCATION OF UNITS.

#### SEQUENCE OF OPERATION:

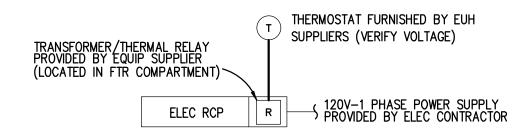
SPACE THERMOSTAT SHALL ENERGIZE UNIT HEATER CONTROL CIRCUIT TO MAINTAIN SPACE TEMPERATURE SETPOINT.



#### **ELECTRIC CUH CONTROL**

REFER TO FLOOR PLANS FOR QUANTITY AND LOCATION OF UNITS. SEQUENCE OF OPERATION:

SPACE THERMOSTAT SHALL ENERGIZE CABINET UNIT HEATER CONTROL CIRCUIT TO MAINTAIN SPACE TEMPERATURE



#### ELEC RADIANT CEILING PANEL CONTROL

#### NOTES:

- REFER TO FLOOR PLANS FOR LOCATION OF UNITS AND THERMOSTATS.
- 2. COORDINATE TRANSFORMER/THERMAL RELAY DETAILS AND TERMINATIONS REQUIREMENTS WITH EQUIPMENT SUPPLIER.

#### SEQUENCE OF OPERATION:

- 1. THERMOSTAT SHALL ENABLE/DISABLE RADIANT CEILING PANEL UNIT AS REQUIRED TO MAINTAIN SPACE TEMP SETPOINT OF 68°F (ADJUSTABLE).
- 2. THERMOSTAT SHALL PROVIDE 2°F DEADBAND FOR CONTROL.

# TMR TIMER SWITCH TC GENERAL NOTES

**DESCRIPTION** 

DAMPER MOTOR

RELAY, ELECTRIC

SWITCH

DAMPER - PARALLEL BLADE

THERMOSTAT OR TEMPERATURE SENSOR

(AS DEFINED ON TC DRAWINGS)

**SCHEMATIC SYMBOLS** 

<u>SYMBOL</u>

sw

<del>////</del>

LABELED PER SPECIFICATIONS.

TEMPERATURE CONTROL - SYMBOLS LIST

1. THESE GENERAL NOTES SHALL BE APPLICABLE FOR ALL TEMPERATURE CONTROL (TC)

WIRING SYMBOLS

**DESCRIPTION** 

COIL - RELAY

DIGITAL TIMER

MOTOR, SINGLE PHASE

**GROUND** 

CONTACT - INSTANT OPERATING, NO

<u>SYMBOL</u>

- 2. "PROVIDE" IS DEFINED AS "FURNISH AND INSTALL"
- 3. TEMPERATURE CONTROLS CONTRACTOR (TC CONTRACTOR) SHALL BE RESPONSIBLE TO COMPLY WITH ALL APPLICABLE CODES AND STANDARDS.
- 4. FOR TEMPERATURE CONTROL DRAWINGS ONLY: ALL DETAILED INFORMATION IDENTIFIED WITH HEAVY LINE WEIGHT SHALL BE PROVIDED BY TC CONTRACTOR. ALL OTHER INFORMATION IDENTIFIED WITH LIGHT LINE WEIGHT SHALL BE PROVIDED BY OTHER TRADES.
- 5. ALL CONTROL SCHEMATICS AND WIRING DIAGRAMS ARE FOR THE CLARIFICATION OF EQUIPMENT INTERLOCKING FUNCTIONS AND THE INTERFACE OF VARIOUS CONTRACTORS' WORK AND SHALL NOT BE MISTAKEN AS SHOP DRAWINGS FOR ACTUAL INSTALLATION.
- 6. ALL TC PROVIDED COMPONENTS AND ALL TC CONTRACTOR INSTALLED WIRING SHALL BE
- 7. ALL WIRING AND SYSTEM CONTROL VOLTAGES SHALL BE IN ACCORDANCE WITH THE EQUIPMENT MANUFACTURER'S RECOMMENDATION AND THE ELECTRICAL SPECIFICATIONS.
- 8. ALL CONTROL INTERLOCK WIRING BETWEEN COMPONENTS SHALL BE INSTALLED WITHOUT INTERMEDIATE STOPS. WIRE SPLICING AT INTERMEDIATE TERMINAL STRIPS IS NOT ACCEPTABLE.
- 9. ALL ELECTRICAL WIRING AND RACEWAY SYSTEMS SHALL COMPLY WITH ELECTRICAL SPECIFICATION REQUIREMENTS. WHERE RACEWAY IS REQUIRED, TWO SEPARATE ELECTRICAL RACEWAY SYSTEMS SHALL BE PROVIDED: ONE FOR 120V WIRING AND THE OTHER FOR 24V
- 10. TC CONTRACTOR SHALL BE RESPONSIBLE FOR ALL POWER SUPPLIES REQUIRED FOR TC SYSTEM UNLESS OTHERWISE NOTED. REFER TO ELECTRICAL PANEL SCHEDULES FOR SPARE CIRCUITS OR CIRCUITS DEDICATED TO TEMPERATURE CONTROLS. COORDINATE CIRCUIT USE WITH ELECTRICAL CONTRACTOR.
- 11. TC CONTRACTOR SHALL VERIFY EXACT LOCATION OF ALL FIELD MOUNTED COMPONENTS.
- 12. REFER TO TEMPERATURE CONTROLS STANDARD MOUNTING HEIGHTS DETAIL FOR ELEVATIONS OF WALL MOUNTED TEMPERATURE CONTROL DEVICES. PROVIDE WALL MOUNTED DEVICE GUARDS WHERE INDICATED ON TC DETAILS OR AT SPECIFIC LOCATIONS INDICATED ON MECHANICAL FLOOR PLANS.
- 13. TC CONTRACTOR SHALL PROVIDE AUXILIARY PANELS FOR REQUIRED PANEL MOUNTED EQUIPMENT SUCH AS RELAYS, TRANSDUCERS, CONTROL TRANSFORMERS, ETC. AUXILIARY PANELS SHALL BE LOCATED NEXT TO ASSOCIATED DDC PANEL. DEPENDING ON WIRE QUANTITY OR COMPLEXITY, PROVIDE CONDUITS BETWEEN PANELS OR WIRING THROUGH WITH CONDUIT STUBS ABOVE ALL ASSOCIATED PANELS.
- 14. REMOTELY MOUNTED FIELD DEVICES SUCH AS RELAYS, CONTROL TRANSFORMERS, ETC., SHALL BE HOUSED IN AN ENCLOSURE PROVIDED BY THE TC CONTRACTOR.
- 15. CONTROL TRANSFORMERS WHEN REQUIRED SHALL BE SIZED FOR 150% OF ACTUAL LOAD.
- 16. ALL CONTROL DAMPERS AND ASSOCIATED CONTROL ACTUATORS IDENTIFIED ON TO DRAWINGS SHALL BE FURNISHED BY TC CONTRACTOR UNLESS OTHERWISE NOTED. DAMPER SIZE AND LOCATIONS ARE INDICATED ON MECHANICAL FLOOR PLAN DRAWINGS.
- 17. ALL CONTROL DAMPERS FURNISHED BY THE TC CONTRACTOR SHALL BE INSTALLED BY THE MECHANICAL CONTRACTOR.
- 18. DAMPER ACTUATORS SHALL BE INSTALLED BY TC CONTRACTOR WHEN FURNISHED BY TC
- 19. TC CONTRACTOR SHALL FIELD MOUNT ALL REQUIRED "SHIPPED LOOSE" PACKAGED CONTROL COMPONENTS FURNISHED BY EQUIPMENT SUPPLIERS WHERE INDICATED. ALL REQUIRED 24V AND 120V FIELD WIRING SHALL BE PROVIDED BY TC CONTRACTOR UNLESS NOTED OTHERWISE. TC CONTRACTOR SHALL COORDINATE SPECIFIC SYSTEM WIRING REQUIREMENTS WITH PACKAGED EQUIPMENT SUPPLIERS.

TEMPERATURE TEMPERATURE CONTROL DEVICES NOT CONTROL DEVICES TO BE MOUNTED BEHIND TELEVISIONS, NOT TO BE OTHER PERMANENT FIXTURES, OR MOUNTED BEHIND NEAR COPY MACHINES. DOOR SWINGS EXCEPTION: WITHIN 72", TC DEVICE 48" A.F.F. TO TOP OF BOX MOUNTING HEIGHT TO MATCH HEIGHT UNLESS OTHERWISE NOTED OF ANY LIGHTING CONTROL DEVICE NOT MOUNTED AT 48" A.F.F. REFER TO ELECTRICAL STANDARD MOUNTING HEIGHTS

> TC DEVICE STANDARD MOUNTING HEIGHTS DETAIL NO SCALE

Bidding and Permits: 20 March 2023

#### TEMPERATURE CONTROLS, STANDARDS AND GENERAL NOTES



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**Crestwood School District** Crestwood High School Field Building & Site Improvements

Project No. 5622

M8.10

ehresmanarchitects.con



ENCLOSURE, U.O.N.

#### **ELECTRICAL DRAWING INDEX**

SHEET NO. SHEET TITLE E0.10 ELECTRICAL STANDARDS AND DRAWING INDEX E0.12 ELECTRICAL STANDARD SCHEDULES E0.13 ELECTRICAL STANDARD SCHEDULES E0.14 ELECTRICAL SITE PLAN ED1.11 BUILDING B ELECTRICAL DEMOLITION PLAN E2.10 BUILDING A LIGHTING PLAN E2.11 BUILDING B LIGHTING PLAN E3.10 BUILDING A POWER AND AUXILIARY SYSTEMS PLAN E3.11 BUILDING B POWER AND AUXILIARY SYSTEMS PLAN E5.10 ONE LINE DIAGRAM E5.11 PANEL SCHEDULES

ELECTRICAL DETAILS AND DIAGRAMS

#### **ELECTRICAL ABBREVIATION LIST**

E7.10

FIRE ALARM

FI OOR

GROUND

HERTZ

FULL LOAD AMPS

FRONT OF HOUSE

HAND-OFF-AUTO

ISOLATED GROUND

HORSEPOWER

HIGH VOLTAGE

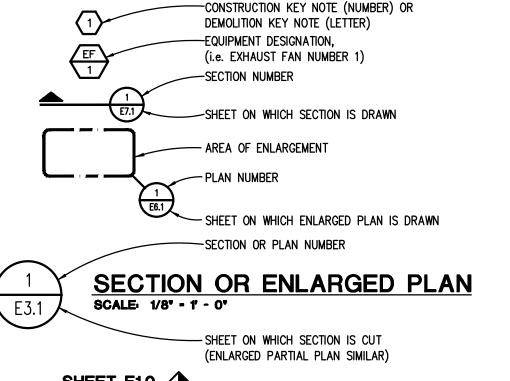
FOOD SERVICE EQUIPMENT CONTRACTOR

GROUND FAULT CIRCUIT INTERRUPTER

GROUND FAULT PROTECTION

DESCRIPTION	<u>ABBREVIATION</u>	DESCRIPTION	ABBREVIATION	DESCRIPTION
AMPERES	JB	JUNCTION BOX	Р	POLE
ARC ENERGY REDUCTION			PB	PUSHBUTTON STATION
AMPERES FRAME (BREAKER RATING)	KA	THOUSAND AMP	PH	PHASE
ARC FAULT CIRCUIT INTERRUPTER	KV	KILOVOLT	PT	POTENTIAL TRANSFORMER
ABOVE FINISH FLOOR	KVA	KILOVOLT - AMPERES	PDP	POWER DISTRIBUTION PANEL
AMPS INTERRUPTING CAPACITY	KW	KILOWATT	RECEPT.	RECEPTACLE
AUDIENCE LEFT	KWH	KILOWATT - HOURS	RDP	RECEPTACLE DISTRIBUTION PANEL
AUTOMATIC LOAD CONTROL RELAY	LA	LIGHTNING ARRESTOR	RP	RECEPTACLE PANEL
AUDIENCE RIGHT	LP	LIGHTING PANEL	RSC	RIGID STEEL CONDUIT
AMPERES TRIP (BREAKER SETTING)	LDP	LIGHTING DISTRIBUTION PANEL	SCCR	SHORT CIRCUIT CURRENT RATING
AUTOMATIC TRANSFER SWITCH			SCHED	SCHEDULE
AUXILIARY	MAX	MAXIMUM	SPD	SURGE PROTECTION DEVICE
BRANCH CIRCUIT EMERGENCY	MCA	MINIMUM CIRCUIT AMPACITY	ST ST	SHUNT TRIP
LIGHTING TRANSFER SWITCH	MCB	MAIN CIRCUIT BREAKER	SW	SMTCH
BREAKER	MCC	MOTOR CONTROL CENTER	SWBD	SWITCH
BOLTED PRESSURE SWITCH	MDP	MAIN DISTRIBUTION PANEL	SWGR	SWITCHGEAR
CONDUIT	MECH	MECHANICAL		
CIRCUIT BREAKER	MIN MISC.	MINIMUM	TB	TERMINAL BOX
CONTRACTOR FURNISHED,		MISCELLANEOUS	TELECOM	TELECOMMUNICATIONS
CONTRACTOR INSTALLED	MLO MOP	MAIN LUGS ONLY MAXIMUM OVERCURRENT PROTECTION	TR	TAMPER RESISTANT
CIRCUIT	MTD	MOUNTED	TTB	TELEPHONE TERMINAL BACKBOARI
CURRENT TRANSFORMER	MTG	MOUNTING	TYP	TYPICAL
DEMOLITION	MTR	MOTOR	U.O.N.	UNLESS OTHERWISE NOTED
DIMENSION			US	UPSTAGE
DISCONNECT	N	NEUTRAL	٧	VOLTS
DISTRIBUTION PANEL	NC	NORMALLY CLOSED		
DOWNSTAGE	NEC	NATIONAL ELECTRICAL CODE	W	WIRE OR WATTS
DRAWING	NF	NON-FUSIBLE	WG	WIRE GUARD
	NIC	NOT IN CONTRACT	WP	WEATHERPROOF
EMERGENCY BATTERY UNIT	NL	NIGHT LIGHT	WR	WEATHER RESISTANT
ELECTRICAL CONTRACTOR	NO	NORMALLY OPEN	XFMR	TRANSFORMER
ELECTRICAL	NTS	NOT TO SCALE	XP	EXPLOSION PROOF
EMERGENCY	OC	ON CENTER		
ELECTRICAL METALLIC TUBING	OFCI	OWNER FURNISHED,	(E)	EXISTING
ELECTRICALLY OPERATED	J. 01	CONTRACTOR INSTALLED	(R)	RELOCATED
EMERGENCY POWER OFF	OFOI	OWNER FURNISHED,		
ELECTRIC WATER COOLER	J. 0.	OWNER INSTALLED		
EXISTING				

#### STANDARD METHODS OF NOTATION



HEAVY LINE WEIGHT INDICATES NEW WORK LIGHT LINE WEIGHT INDICATES EXISTING EQUIPMENT OR REFERENCED INFORMATION GRAY LINE INDICATES BACKGROUND INFORMATION THIN GRAY LINE INDICATES CEILING GRID -----DASHED LINES INDICATE CONDUIT ROUTED IN OR BELOW SLAB OR GRADE

> HATCH MARKS INDICATE EQUIPMENT OR MATERIALS TO BE DISCONNECTED AND REMOVED. CIRCUIT HOMERUN



 IN USE SPARE

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DUCT BANK - CONCRETE ENCASED / DIRECT BURIED ELECTRICAL STANDARDS AND DRAWING INDEX



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E0.10

ehresmanarchitects.com

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CENTER OF BOX,

6" A.F.F. HORIZONTALLY

TO TOP OF BOX, U.O.N.

			FEEDER A	ND BRANCI	H CIRCUIT	SIZING SCHEI	DULE - GE	ENERAL PU	RPOSE			
			COPPER CO	ONDUCTORS			KEYED NOTES		ALU	JMINUM CONDU	CTORS	
OVERCURRENT		E SIZE PR KCMIL)		CON	DUIT SIZE				SIZE R KCMIL)		CONDUIT SIZ	E
DEVICE RATING (AMPERES)	PHASE & NEUTRAL	GROUND	SINGLE PHASE 2 WIRE+G (1PH, 1N, 1G, 2PH, 1G)	SINGLE PHASE 3 WIRE+G (2PH, 1N, 1G)	THREE PHASE 3 WIRE+G (3PH, 1G)	THREE PHASE & NEUTRAL 4 WIRE+G (3PH, 1N, 1G)		PHASE & NEUTRAL	GROUND	SINGLE PHASE 3 WIRE+G (2PH, 1N, 1G)	THREE PHASE 3 WIRE+G (3PH, 1G)	THREE PHASE & NEUTRAL 4 WIRE+G (3PH, 1N, 1G)
15–20	12	12	3/4"	3/4"	3/4"	3/4"				•		
25-30	10	10	3/4"	3/4"	3/4"	3/4"		1				
35-40	8	10	3/4"	3/4"	3/4"	3/4"		1				
45-50	8 (6)	10	3/4"	3/4"	3/4"	3/4"	1	1		NOT ACCEPTABL	E	
60	6 (4)	10	3/4" (1")	3/4" (1")	3/4" (1")	1" (1 1/4")	1	1				
70	4	8	1"	1 1/4"	1 1/4"	1 1/4"		1				
80	4 (3)	8	1"	1 1/4"	1 1/4"	1 1/4"	1	1				
90–100	3 (2)	8	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1	1	6	1 1/2"	1 1/2"	1 1/2"
110	2 (1)	6	-	1 1/4"	1 1/4"	1 1/4" (1 1/2")	1	1/0	4	1 1/2"	1 1/2"	2"
125	1 (1/0)	6	-	1 1/4" (1 1/2")	1 1/4" (1 1/2")	1 1/2"	1	2/0	4	1 1/2"	1 1/2"	2"
150	1/0	6	-	1 1/2"	1 1/2"	1 1/2"		3/0	4	2"	2"	2 1/2"
175	2/0	6	-	2"	2"	2"		4/0	4	2"	2"	2 1/2"
200	3/0	6	-	2"	2"	2 1/2"		250	4	2"	2"	3"
225	4/0	4	-	2"	2"	2 1/2"		300	2	2 1/2"	2 1/2"	3"
250	250	4	-	2 1/2"	2 1/2"	2 1/2"		350	2	2 1/2"	2 1/2"	3"
300	350	4	-	2 1/2"	2 1/2"	3"		500	2	3"	3"	3 1/2"
350	500	3	-	3"	3"	3"		2-4/0	2-1/0	2-2"	2-2"	2-2"
400	500	3	-	3"	3"	3"		2-250	2-1/0	2-2 1/2"	2-2 1/2"	2-2 1/2"
450	2-4/0	2–2	-	2-2"	2-2"	2-2 1/2"		2-300	2-1/0	2-2 1/2"	2-2 1/2"	2-3"
500	2-250	2–2	-	2-2" 1/2"	2-2 1/2"	2-2 1/2"		2-350	2-1/0	2-2 1/2"	2-2 1/2"	2-3"
600	2-350	2–1	-	2-2" 1/2"	2-2 1/2"	2-3"		2-500	2-2/0	2-3"	2-3"	2-3 1/2"
700	2-500	2-1/0	-	2-3"	2-3"	2-3"		2-600	2-3/0	2-3"	2-3"	2-3 1/2"
800	2-500	2-1/0	-	2-3"	2-3"	2-3 1/2"		3–400	3-3/0	3–3"	3–3"	3–3 1/2"
1000	3-400	3-2/0	-	3–3"	3–3"	3–3"		3–600	3-4/0	-	3–3 1/2"	3–3 1/2"
1200	3-600	3–3/0	-	3-3 1/2"	3-3 1/2"	3–3 1/2"		4-500	4-250	-	4-3"	4-3 1/2"
1600	4-600	4-4/0	-	4-3 1/2"	4-3 1/2"	4-3 1/2"		5-600	5-350	-	5-3 1/2"	5-4"
2000	5-600	5–250	-	5-3 1/2"	5-3 1/2"	5-3 1/2"		6-600	6-400	-	6-3 1/2"	6-4"

GENERAL NOTES:
1. CONTRACTOR TO SIZE FEEDERS AND BRANCH CIRCUITS BASED ON THIS SCHEDULE AND OVER CURRENT DEVICE SIZE, UNLESS NOTED OTHERWISE.

2. CONTRACTOR MAY COMBINE 20A CIRCUITS AS NOTED IN SPECIFICATION. 3. COPPER CONDUCTORS ARE BASED ON THHN/THWN UP TO AND INCLUDING #4/O. COPPER CONDUCTORS LARGER THAN #4/O AND ALUMINUM CONDUCTORS ARE BASED ON XHHW-2.
4. CONDUIT SIZES ARE VALID FOR EMT OR RGS. CONDUIT SIZES SHALL BE ADJUSTED AS REQUIRED FOR OTHER TYPES OF CONDUIT.

5. ELECTRICAL CONTRACTOR TO COORDINATE WITH MECHANICAL CONTRACTOR AND PROVIDE REQUIRED WIRE SIZES TO ACCOMMODATE MECHANICAL EQUIPMENT LUG SIZES.

6. SIZE OF DISCONNECT SWITCH LOCATED AT EQUIPMENT SHALL BE SIZED BASED UPON OVERCURRENT PROTECTION OF THAT DEVICE.

7. OBTAIN APPROVAL FROM ENGINEER PRIOR TO INSTALLING DIFFERENT SIZE/QUANTITY OF CONDUCTORS TO OBTAIN AN EQUIVALENT AMPACITY. 8. SPLICE FROM ALUMINUM TO COPPER PRIOR TO ENTERING EQUIPMENT LISTED FOR USE WITH COPPER CONDUCTORS ONLY OR USE COPPER CONDUCTORS FOR THE ENTIRE LENGTH OF FEEDER.

1. CONDUCTORS ARE BASED ON 90°C, 600V. INSULATED WIRE APPLIED AT 75°C FOR TERMINATION RATED 60/75°C OR 75°C. FOR TERMINATION RATED AT 60°C, USE CONDUCTORS AND CONDUIT SIZES INDICATED IN PARENTHESES.

MOTOR HP	SWITCH/ FUSE	CIRCUIT BREAKER	STARTER SIZE/TYPE	MOTOR DISCONNEC
1/2	30/3A	15A	1	30A
3/4	30/3A	15A	1	30A
1	30/6A	15A	1	30A
1 1/2	30/6A	15A	1	30A
2	30/6A	15A	1	30A
3	30/10A	15A	1	30A
5	30/15A	15A	1	30A
7 1/2	30/20A	20A	1	30A
10	30/20A	25A	1	30A
15	30/30A	40A	2	30A
20	60/40A	60A	2	60A
25	60/50A	70A	2	60A
30	60/60A	80A	3	60A
40	100/80A	90A	3	100A
50	100/100A	100A	3	100A
60	200/125A	125A	4	200A
75	200/150A	150A	4	200A
100	200/200A	200A	4	200A
125	200/200A	225A	5	200A
150	400/250A	250A	5	400A
200	400/350A	350A	5	400A

<u>GENERAL NOTES:</u>
1. BASED ON MOTOR FULL LOAD AMPERES AS PROVIDED BY THE NEC 2. BASED ON MOTOR RUNNING OVERLOAD PROTECTIONS PROVIDED BY THERMAL OVERLOAD

3. WHERE THE STARTER IS LOCATED REMOTE FROM THE MOTOR, PROVIDE DISCONNECT LOCATED AT THE MOTOR, SIZE AS INDICATED.

мото	R CIRCUIT	SIZING SCHEE	OULE (120V, S	SINGLE PHASE)
MOTOR HP	CIRCUIT BREAKER	MANUAL MOTOR STARTER SIZE	COMBINATION STARTER SIZE	MOTOR DISCONNECT (NOTE 3)
1/6	15A	1 HP	0	20A
1/4	15A	1 HP	0	20A
1/3	15A	1 HP	0	20A
1/2	20A	1 HP	0	20A

1. BASED ON MOTOR FULL LOAD AMPERES AS PROVIDED BY THE NEC 2. BASED ON MOTOR RUNNING OVERLOAD PROTECTIONS PROVIDED BY THERMAL OVERLOAD RELAYS. 3. WHERE THE STARTER IS LOCATED REMOTE FROM THE MOTOR, PROVIDE DISCONNECT LOCATED AT THE MOTOR, SIZE AS INDICATED.

		FOR SING	LE PHASE	CIRCUITS		
BRANCH CKT	WIRE SIZE (AWG)	M	AXIMUM BRAN	ICH CIRCUIT LE	ENGTH (IN FEE	T)
RATING (A)		120V	208V	240V	277V	480V
20A	12	83	143	165	191	331
	10	128	222	256	295	511
	8	201	348	402	464	804
	6	313	542	625	721	1250
30A	10	85	148	170	197	341
	8	134	232	268	309	536
	6	208	361	417	481	833

313 542 625 721 1250

BRANCH CIRCUIT VOLTAGE DROP WIRING SCHEDULE

GENERAL NOTES:

1. THE ABOVE TABLE VALUES ARE BASED ON COPPER CONDUCTORS, IN STEEL CONDUIT, WITH A LOAD POWER FACTOR OF 0.85 PER NEC CHAPTER 9, TABLE 9.

2. PROVIDE BRANCH CIRCUIT CONDUCTORS AS INDICATED IN THE TABLE ABOVE FOR ALL LIGHTING AND RECEPTACLE BRANCH CIRCUITS. WHERE BRANCH CIRCUITS SERVE DEDICATED EQUIPMENT, THE CONTRACTOR MAY PERFORM VOLTAGE DROP CALCULATIONS BASED ON ACTUAL EQUIPMENT CONNECTED LOAD AND PROVIDE CONDUCTORS APPROPRIATELY SIZED TO LIMIT VOLTAGE DROP TO A MAXIMUM OF 3%.

3. CONDUCTOR SIZES ARE BASED ON MAXIMUM OF 9 CURRENT CARRYING CONDUCTORS IN A SINGLE CONDUIT. 4. LIMITS FOR CONDUCTOR LENGTHS SHOWN ARE BASED ON A MAXIMUM BRANCH CIRCUIT LOADING OF 64% OF THE BRANCH BREAKER RATING AND A MAXIMUM OF 3 PERCENT VOLTAGE DROP TO COMPLY WITH ASHRAE 90.1 AND THE NEC. FOR CIRCUITS LOADED GREATER THAN 64% OF BRANCH BREAKER RATING, THE CONTRACTOR SHALL PROVIDE CONDUCTORS APPROPRIATELY SIZED TO LIMIT VOLTAGE DROP TO 3%.

			WIRE	,						RA	CEW	AY						CAB	LE/ RD
		COPPER, TYPE THHN/THWN-2	COPPER, TYPE XHHW-2	ALUMINUM, TYPE XHHW—2 (100A AND ABOVE ONLY)	ELECTRICAL METALLIC TUBING (EMT)	INTERMEDIATE METAL CONDUIT (IMC)	RIGID STEEL CONDUIT (RSC)	PVC COATED RIGID STEEL CONDUIT	RIGID NON-METALLIC CONDUIT (RNC) TYPE EPC-40	RIGID NON-METALLIC CONDUIT (RNC) TYPE EPC-80	HIGH DENSITY POLYETHYLENE (HDPE) SCHEDULE 40	HIGH DENSITY POLYETHYLENE (HDPE) SCHEDULE 80	REINFORCED THERMOSET RESIN CONDUIT (RTRC) TYPE AG	REINFORCED THERMOSET RESIN CONDUIT (RTRC) TYPE BG	FLEXIBLE METAL CONDUIT (FMC)	LIQUID TIGHT FLEXIBLE METAL CONDUIT (LFMC)	SURFACE RACEWAY	METAL CLAD TYPE CABLE WITH INSULATED GROUND WIRE (TYPE MC)	POWER LIMITED CABLE
	EXPOSED, SURFACE MOUNTED TO STRUCTURE		Х	Χ		Х	Х	Χ					Χ						
RIOR	EXPOSED, WITH FREESTANDING SUPPORT		Х	Х		Х	Х	Х					Х						
exterior	CONCEALED IN RETAINING WALL OR SIMILAR ELEMENT		Х	Х			Х	Х	Х	Х									
1	BELOW PARKING LOTS AND ROADWAYS		Χ	Χ				Χ		Χ		Χ		Х					
FEEDERS	BELOW GREEN SPACE		Χ	Х				Χ	Χ		Х			Χ					
Æ	WITHIN 5' OF FOUNDATION WALL		Х	Х			Х	Х											
	ROOFTOPS (WHEN APPROVED BY ENGINEER)		Χ	Х		Х	Х	Χ											
	CONCEALED, ACCESSIBLE CEILINGS	Χ		Х	Х	Х													
	CONCEALED, INACCESSIBLE CEILINGS	Χ		Х	Х	Х													
ሯ	CONCEALED IN GYPSUM BOARD PARTITION WALLS	Χ		Х	Χ	Х													
- Interior	CONCEALED IN CMU WALLS	Х		Х	Х	Х													
<u>.</u> _	EXPOSED, BELOW 10' AFF AND SUBJECT TO DAMAGE	Х		Х		Х	Х	Х											
ERS	EXPOSED, BELOW 10' AFF AND NOT SUBJECT TO DAMAGE	Χ		Х	Χ	Х													
FEEDERS	EXPOSED, ABOVE 10' AFF UNFINISHED SPACES	Х		Х	Χ	Х													_
	EXPOSED, FINISHED SPACES	Х		Х													Х		_
	BELOW SLAB ON GRADE	Х		Х			Х	Х	Х	Х									_
	DAMP AND WET LOCATIONS	Χ		Х		Х	Х	Х	Х										_
EXTERIOR	EXPOSED, SURFACE MOUNTED TO STRUCTURE		Х			Х	Х	Х		Х									_
EXTE	EXPOSED, WITH FREESTANDING SUPPORT		Х			Х	Х	Х											_
- S	CONCEALED IN RETAINING WALL OR SIMILAR ELEMENT		Х				Х	Х	Х										_
BRANCH CIRCUITS	BELOW PARKING LOTS AND ROADWAYS		Х				Х	Х	Х		Х								_
H CIF	BELOW GREEN SPACE		Х						Х										$\blacksquare$
ANC	WITHIN 5' OF FOUNDATION WALL		Х				Х	X											$\dashv$
B.	ROOFTOPS (WHEN APPROVED BY ENGINEER)		Х			Х	Х	Х											_
	CONCEALED, ACCESSIBLE CEILINGS	X			X	Х												Х	$\dashv$
S.	CONCEALED, INACCESSIBLE CEILINGS	X			X	X													$\dashv$
Interior	CONCEALED IN GYPSUM BOARD PARTITION WALLS	X			X	X									Х			Х	$\dashv$
1	CONCEALED IN CMU WALLS	X			Х	X	V												$\dashv$
UITS	EXPOSED, BELOW 10' AFF AND SUBJECT TO DAMAGE	X			v	X	Х	Х											$\dashv$
BRANCH CIRCUITS	EXPOSED, BELOW 10' AFF AND NOT SUBJECT TO DAMAGE  EXPOSED, ABOVE 10' AFF UNFINISHED SPACES	X			X	X											X		$\dashv$
NCH	EXPOSED, FINISHED SPACES				^	^											Х		$\dashv$
BR/	BELOW SLAB ON GRADE	X							Х								_		$\dashv$
	DAMP AND WET LOCATIONS	<u>х</u>				Х	Х	Х	X							Х			$\dashv$
	CLASS 1 CONTROL CIRCUITS	×			Х	X	X	^	^										$\dashv$
SPECIAL APPLICATIONS	CLASS 2 CONTROL CIRCUITS				<u>^</u>	^ Х	^ Х				-								X
LICA]	CLASS 3 CONTROL CIRCUITS	<u>х</u>			<u>^</u>	X	^ Х												×
APP	CONNECTIONS TO TRANSFORMERS, MOTORS AND VIBRATING EQUIPMENT		Х			<u> </u>	<u> </u>									Х			$\stackrel{\sim}{+}$
	GENERAL NOTES:			<u> </u>		I	I												

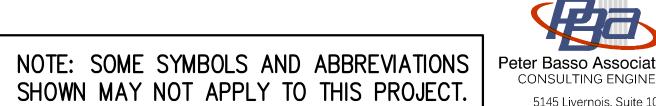
RACEWAY / CONDUCTOR / CABLE APPLICATION SCHEDULE

**GENERAL NOTES:** 1. TRANSITION FROM PVC/HDPE AND PROVIDE RIGID STEEL OR RTRC SWEEPS WHERE CONDUITS PENETRATE WALLS, CONCRETE SLABS, CONCRETE BASES,

2. REFER TO SPECIFICATIONS FOR RESTRICTIONS ON MC/AC CABLE INSTALLATION.

3. EMT SHALL NOT BE USED ON THE EXTERIOR OF A BUILDING OR IN AREAS SUBJECT TO DAMAGE BELOW 10' AFF. 4. INSTALL SURFACE RACEWAYS ONLY WHERE INDICATED ON DRAWINGS.

Bidding and Permits: 20 March 2023



Peter Basso Associates Inc CONSULTING ENGINEERS 5145 Livernois, Suite 100 Troy, Michigan 48098-3276 Tel: 248-879-5666 Fax: 248-879-0007 www.PeterBassoAssociates.com

PBA Project No.: 2022.0428

ELECTRICAL STANDARD SCHEDULES

EHRESMAN ARCHITECTS

Crestwood School District Crestwood High School
Field Building & Site Improvements

Project No. 5622

E0.12

			INTERIO	R LIGHTI	NG CON	ITROL S	CHEDULE	<b>=</b>						
PLAN	ROOM TYPE	LOCA	AL CONTROL	CONTROL	SENSOR TYPE	TURN ON LIGHTING	BI-LEVEL		DAYLIG		NO DETECTION FULL OFF	EMERGENCY LIGHTING	HVAC	NOTES
REFERENCE	NOOM III L	SWITCH TYPE	SWITCH CONTROL	ON / OFF	SENSON THE	TO %	CONTROL	SIDE LIGHT	TOP LIGHT	MAINTAIN FC LEVEL	(MIN)	CIRCUIT CONTROL	CONTROL	NOTES
A	ELECTRICAL/MECHANICAL ROOM	LINE VOLTAGE	ON-OFF	MANUAL ON / MANUAL OFF	N/A	FULL 100%	N/A	N/A	N/A	N/A	N/A	BATTERY	N/A	
В	FOOD PREPARATION AREA	LOW VOLTAGE	ON-OFF-DIM	MANUAL ON / SENSOR OFF	DUAL TECHNOLOGY	FULL 100%	CONTINUOUS DIM	N/A	N/A	N/A	20	BATTERY	YES	
С	LOCKER ROOM	LOW VOLTAGE	ON-OFF-DIM	MANUAL ON / SENSOR OFF	DUAL TECHNOLOGY	FULL 100%	CONTINUOUS DIM	N/A	N/A	N/A	20	BATTERY	YES	
D	LOCKER ROOM	LOW VOLTAGE	ON-OFF-DIM	MANUAL ON / MANUAL OFF	N/A	FULL 100%	CONTINUOUS DIM	N/A	N/A	N/A	N/A	BATTERY	N/A	
E	RESTROOM (ALL OTHER RESTROOMS)	LINE VOLTAGE	ON-OFF	SENSOR ON / SENSOR OFF	DUAL TECHNOLOGY	FULL 100%	N/A	N/A	N/A	N/A	20	BATTERY	YES	
F	STORAGE ROOM ( < 50 SQFT)	LINE VOLTAGE	ON-OFF	SENSOR ON / SENSOR OFF	ULTRASONIC	FULL 100%	N/A	N/A	N/A	N/A	20	BATTERY	N/A	

1. REFER TO PLANS FOR LOCATION OF LOCAL CONTROL.

2. REFER TO PLANS FOR PRIMARY AND SECONDARY DAYLIGHT ZONES. 3. CONTRACTOR SHALL PROVIDE FLOOR PLAN INDICATING SENSOR AND EQUIPMENT LOCATIONS OF CHOSEN CONTROL SYSTEM.

4. REFER TO LUMINAIRE SCHEDULE FOR FIXTURE CHARACTERISTICS.

5. LIGHTING SENSOR SHALL HAVE CONTACT FOR HVAC CONTROL WHEN A "YES" SELECTION IS MADE IN THE HVAC CONTROL COLUMN. 6. REFER TO TEMPERATURE CONTROL DRAWINGS AND DIAGRAMS FOR ADDITIONAL SENSOR REQUIREMENTS.
7. PROVIDE WIRING CONTROL DIAGRAM FOR APPLICABLE CONTROL SYSTEM(S).

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N/A = NOT APPLICABLE

		LUMINAIRE S	SCHE	DULE			
TYPE	DESCRIPTION	MANUFACTURER(S)	WATTAGE	VOLTAGE	LIGHT CHARACTERISTICS	CONTROLS	REMARKS
L1	8"x48" VANDAL RESISTANT SURFACE MOUNT FIXTURE: DIE CAST ALUMINUM HOUSING, UV STABILIZED IMPACT RESISTANT POLYCARBONATE LENS FULLY GASKETED WITH ALLEN PIN FASTENERS. FIXTURE SHALL BE WHITE.  NOTE: PROVIDE (3) ALLEN PIN SCREW DRIVERS AND TURN OVER TO OWNER.	1. KENALL MLHA SERIES 2. NEW STAR VICTORY SERIES 3. FAIL SAFE HVL SERIES	45	MULTI	LED 4000K 80CRI 5,000 LUMENS	0-10V 10% DIMMING	FOR FIXTURES INDICATED AS EMERGENCY PROVIDE 1,400 LUMENS OUTPUT EMERGENCY COLD WEATHER BATTERY PACK.
L2	48" CHAIN HUNG STRIP LIGHT FIXTURE: STEEL HOUSING PAINTED AFTER FABRICATION. FROSTED LENS WITH WIRE GUARD. FIXTURE SHALL BE WHITE	1. LITHONIA CLX SERIES 2. COLUBIA LCL SERIES 3. METALUX FP SERIES	37	MULTI	LED 4000K 80CRI 5,000 LUMENS	0-10V 10% DIMMING	FOR FIXTURES INDICATED AS EMERGENCY PROVIDE 1,400 LUMENS OUTPUT EMERGENCY COLD WEATHER BATTERY PACK.
L3	2'X4' RECESSED FLAT PANEL: ALUMINUM BEZEL WITH STEEL BACKING AND WHITE FROST ACRYLIC DIFFUSER.	1. LITHONIA CPX SERIES 2. METALUX CGT SERIES 3. COLUMBIA CBT SERIES	39	MULTI	LED 4000K 80CRI 4,000 LUMENS	0-10 VOLT 10% DIMMING	FOR FIXTURES INDICATED AS EMERGENCY ON PLAN PROVIDE 1,400 LUMEN OUTPUT EMERGENCY WEATHER BATTERY PACK.
	WHITE DIE CAST ALUMINUM FACE, RED LETTERS, HIGH OUTPUT LED DIFFUSE LIGHT PANEL, NICKEL—CADMIUM BATTERY BACK UP. SINGLE OR DOUBLE STENCIL WITH DIRECTIONAL ARROWS AS INDICATED ON PLAN. PROVIDE MOUNTING AS INDICATED ON PLAN.	1. LITHONIA SIGNATURE SERIES 2. DUAL—LITE SEMPRA SERIES 3. SURELITE CX SERIES	2	MULTI	HIGH OUTPUT LED LIGHT PANEL		
OL1	ARCHITECTURAL WALL PACK FIXTURE: TYPE IV FORWARD THROW DISTRIBUTION, WEATHER RESISTANT ALUMINUM HOUSING, IP65 RATED. COLOR SHALL BE BRONZE.	LITHONIA WST SERIES     MCGRAW EDISON IST SERIES     SPAULDING TRP SERIES	30	MULTI	LED 4000K 70 CRI 3,000 LUMENS	INTEGRAL PHOTOCELL	FOR FIXTURES INDICATED AS EMERGENCY PROVIDE 1,400 LUMENS OUTPUT EMERGENCY COLD WEATHER BATTERY PACK.
OL2	6" DIAMETER RECESSED VANDAL RESISTANT DOWN LIGHT: LENSED AND GASKETED, WET LOCATION LISTED. TEMPERED PRISMATIC GLASS LENS. WIDE DISTRIBUTION. VENTILATED DIE CAST ALUMINUM HEAT SINK SELF FLANGED REFLECTOR WITH MATTE WHITE FINISH.	1. GOTHAM EVO VR SERIES 2. FAIL—SAFE FLD6B SERIES 3. MAXILUME HL6—IP—VR SERIES	19.7	MULTI	LED 4000K 80CRI 2,000 LUMENS		FOR FIXTURES INDICATED AS EMERGENCY ON PLAN PROVIDE 1,400 LUMENS OUTPUT REMOTE COLD WEATHER BATTERY PACK.

<u>GENERAL NOTES:</u>

1. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR CEILING TYPES.

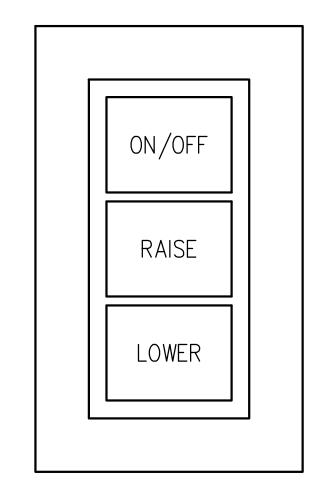
2. WATTAGE LISTED IS FROM THE BASIS OF DESIGN MANUFACTURER. 3. FINISH TO BE APPROVED BY ARCHITECT.

4. ALL LUMINAIRES TO BE AS SPECIFIED OR EQUAL APPROVED BY PBA.

#### DTE LIGHTING INCENTIVES PROGRAM

THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND MEETING ALL REQUIREMENTS FOR THE OWNER TO PARTICIPATE IN THE CURRENT DTE ENERGY SAVINGS PROGRAM. THE FOLLOWING ITEMS WILL BE REQUIRED BUT NOT LIMITED TO, FOR PARTICIPATE IN THIS PROGRAM:

- 1. ON BEHALF OF THE OWNER, PROVIDE ALL REQUIRED INFORMATION FOR THE RESERVATION APPLICATION. REFER TO DTE ENERGY PROGRAM APPLICATION AT
- www.dtetradeally.com 2. CONTRACTOR BUSINESS INFORMATION.
- 3. LIGHTING INCENTIVES WORKSHEET.
- 4. TYPE OF FIXTURES REMOVED, WATTAGE AND LAMP SIZE. 5. EASY TO READ ITEMIZED INVOICES WITH PART NUMBERS OF ALL LED LIGHT FIXTURES,
- 6. MANUFACTURERS CUT SHEETS WITH HIGHLIGHTED FIGURES, TYPES OF LED FIXTURES,
- DRIVERS, AND CONTROLS, ETC. AS REQUIRED BY DTE. 7. MEASURES ARE COMPLETELY INSTALLED WITH 90 DAYS OF PROJECT APPROVAL.
- IT IS THE ELECTRICAL CONTRACTORS RESPONSIBILITY TO CONTACT DTE'S ENERGY SAVINGS TEAM OR ASSIGNED REPRESENTATIVE IF A PROJECT IS DELAYED, OR SUBSTANTIALLY
- THE ELECTRICAL CONTRACTOR SHALL WORK WITH AND COORDINATE WITH THE OWNER FOR THE RESERVATION PROCESS PRIOR TO SITE WORK BEING CONDUCTED AND POST REVIEW INSPECTION FOR REMOVAL AND INSTALLATION OF ALL EQUIPMENT RELATED TO THE INCENTIVE PROGRAM.



TYPICAL DIMMING LIGHTING CONTROL STATION

Bidding and Permits: 20 March 2023



ELECTRICAL STANDARD SCHEDULES



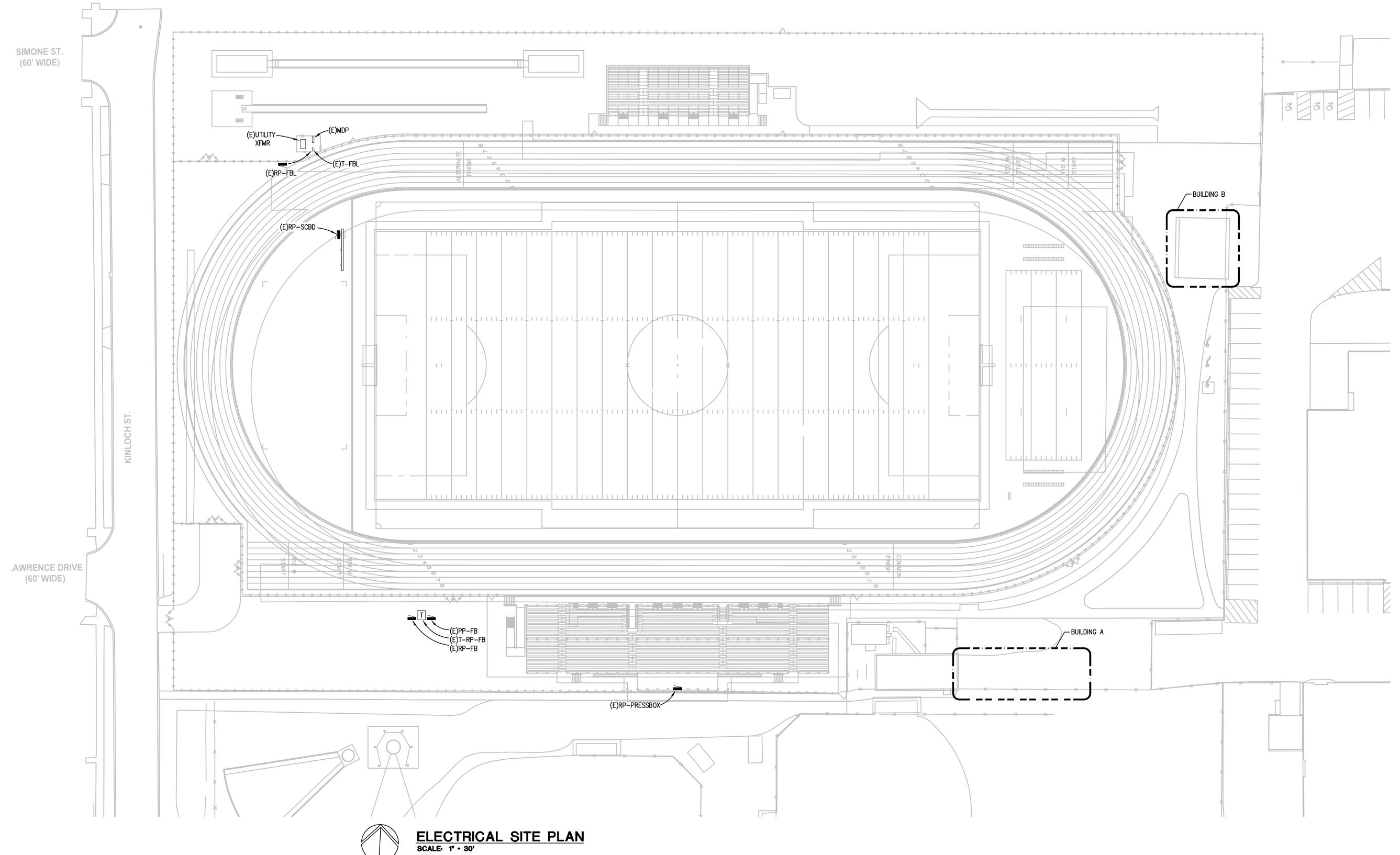
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Project No. 5622

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THE FOLLOWING DIMENSION EQUALS ONE INCH WHEN PRINTED TO SCALE.





- 1. THESE NOTES ARE GENERIC GUIDELINES ONLY. ELECTRICAL CONTRACTOR'S PERSONNEL ON SITE SHALL BE THOROUGHLY FAMILIAR WITH THE PUBLISHED SPECIFICATIONS FOR EXACT DESCRIPTIONS OF SCOPE, METHODS, AND MATERIAL.
- 2. THESE DRAWINGS REPRESENT THE GENERAL EXTENT AND ARRANGEMENT OF SYSTEMS. COORDINATE EXACT EQUIPMENT LOCATIONS, ELEVATIONS, AND FINAL CONNECTION REQUIREMENTS. PROVIDE EACH SYSTEM COMPLETE, INCLUDING ALL NECESSARY COMPONENTS, FITTINGS AND OFFSETS.
- 3. CONDUCT A SURVEY TO IDENTIFY ALL UNDERGROUND UTILITIES. CALL 811 PRIOR TO EXCAVATION.
- 4. UTILITIES SHOWN ON THESE DRAWINGS ARE FOR REFERENCE ONLY. COORDINATE EXACT LOCATION OF ALL EXISTING UTILITIES, AND ROUTING OF ALL NEW UNDERGROUND UTILITIES PRIOR TO EXCAVATION.
- 5. DEWATER TRENCHES PRIOR TO INSTALLATION OF CONDUITS. PROVIDE WATER TIGHT FITTINGS ON ALL UNDERGROUND CONDUITS.
- 6. COORDINATE DEMOLITION WORK, AND ELECTRICAL AND TELEPHONE SERVICES TO THE SITE, WITH THE RESPECTIVE LOCAL UTILITY COMPANY REPRESENTATIVES PRIOR TO COMMENCEMENT OF WORK. INCLUDE ALL ASSOCIATED COST/FEES BY THE UTILITY COMPANIES IN THE BID PRICE.
- 7. INSTALL UNDERGROUND CONDUITS 42" BELOW FINISHED GRADE, MINIMUM, UNLESS NOTED OTHERWISE.
- 8. COORDINATE SERVICE SHUT-DOWNS WITH ALL TRADES INVOLVED ON SITE AND OBTAIN WRITTEN AUTHORIZATION FROM OWNER 72 HOURS PRIOR TO ANY ELECTRICAL AND/OR TELEPHONE SHUT-DOWN.
- 9. REMOVE ALL DE-ENERGIZED CONDUCTORS FROM SITE AT COMPLETION OF THE
- 10. SPARE CONDUITS SHALL INCLUDE PULL STRING AND SHALL BE TERMINATED WITH A
- 11. EXCAVATE THE ENTIRE LENGTH OF TRENCH TO PROPERLY SET DUCT ELEVATIONS.





#### ELECTRICAL SITE PLAN



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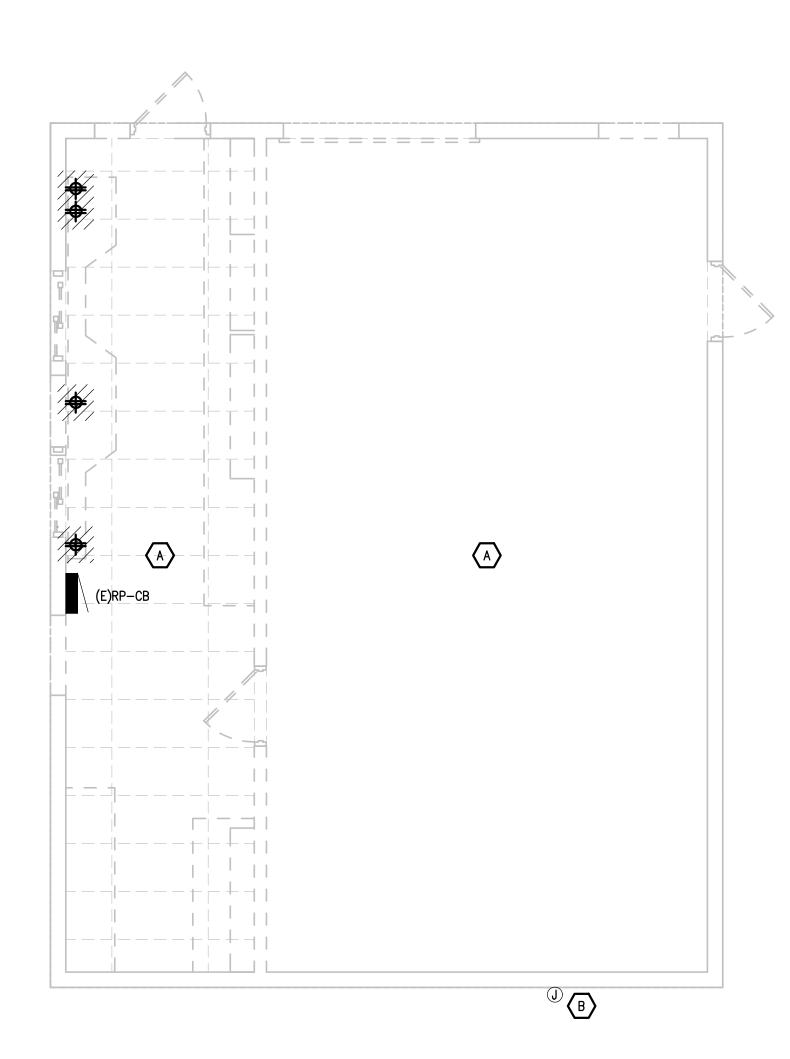
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#### **ELECTRICAL DEMOLITION GENERAL NOTES:**

- 1. VISIT THE SITE PRIOR TO SUBMISSION OF BID TO EXAMINE THE EXISTING CONDITIONS AND THE EXTENT OF DEMOLITION WORK.
- 2. EXAMINE THE DRAWINGS OF OTHER TRADES AND BE FAMILIAR WITH THE DEMOLITION REQUIRED BY OTHER TRADES. PERFORM ALL INCIDENTAL ELECTRICAL DEMOLITION AND/OR RELOCATION REQUIRED TO FACILITATE THE DEMOLITION WORK OF OTHER TRADES, WHETHER OR NOT SPECIFICALLY INDICATED.
- 3. REMOVE EQUIPMENT OR MATERIALS AS INDICATED ON PLAN WITH CROSS HATCHING. DEMOLITION SHALL INCLUDE, BUT NOT BE LIMITED TO, THOSE COMPONENTS SHOWN.
- 4. COORDINATE WITH NEW WORK PLANS, ONE LINE DIAGRAMS AND RISER DIAGRAMS FOR EXTENT OF DEMOLITION WORK.
- 5. PROVIDE PROPER SUPPORT FOR EXISTING TO REMAIN CONDUITS AND BOXES WHERE EXISTING SUPPORT IS TO BE REMOVED. RE-ROUTE BRANCH CIRCUIT CONDUITS AND RELOCATE JUNCTION BOXES AS REQUIRED TO FACILITATE INSTALLATION OF NEW EQUIPMENT AND SYSTEMS IN CEILING SPACES.
- 6. REMOVE ALL CONDUIT AND WIRE BACK TO THE SOURCE OR NEAREST UPSTREAM DEVICE REMAINING IN SERVICE.
- 7. MAINTAIN ELECTRICAL SERVICE TO ALL LIGHTING FIXTURES, DEVICES AND EQUIPMENT THAT ARE TO REMAIN. EXTEND CONDUIT AND WIRE AS REQUIRED WHERE DEMOLITION WORK AFFECTS ELECTRICAL SERVICE TO DOWNSTREAM LOADS THAT ARE TO REMAIN.
- 8. DISPOSE OF ALL MATERIALS OFF SITE AND INCLUDE ALL COSTS FOR DISPOSAL IN BID. ALL MATERIALS SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS, INCLUDING TCLP TESTING, PROPER DISPOSAL AND/OR RECYCLING OF FLUORESCENT LAMPS.
- 9. PROVIDE BLANK COVER PLATES WHERE SWITCHES AND DEVICES ARE REMOVED BUT EXISTING WALLS REMAIN INTACT.
- 10. RING OUT AND TAG ALL CIRCUITS AFFECTED BY THIS ALTERATION AT BOTH ENDS. MARK ALL UNUSED CIRCUIT BREAKERS "SPARE".
- 11. PROVIDE UPDATED TYPED-IN DIRECTORIES FOR ALL PANELS AFFECTED BY THIS ALTERATION.
- 12. VERIFY ALL UNDERGROUND AND IN SLAB UTILITY LOCATIONS PRIOR TO SAW-CUTTING OR PENETRATING ANY FLOOR SLAB.
- 13. COORDINATE ANY SHUT DOWN OF EXISTING SERVICES AND EQUIPMENT THAT ARE REMAINING IN USE WITH THE OWNER'S REPRESENTATIVE. WHERE EXISTING BUILDING SERVICE IS REQUIRED TO BE SHUT DOWN, INCLUDE ALL ASSOCIATED OVERTIME COSTS TO PERFORM THIS WORK DURING WEEKENDS AND EVENINGS INCLUDE ALL COSTS FOR PROVIDING TEMPORARY POWER WHERE SHUT DOWNS MUST OCCUR FOR PERIODS LONGER THAN THESE HOURS. COORDINATE ELECTRICAL SHUT DOWNS WITH THE OWNER 72 HOURS PRIOR TO SHUT DOWN.

#### **#** DEMOLITION KEY NOTES:

- A. REFER TO ARCHITECTURAL DEMOLITION PLANS FOR THIS AREA. IN ALL WALLS AND CEILINGS INDICATED FOR DEMOLITION, REMOVE ALL POWER, DATA AND LIGHTING DEVICES AND ASSOCIATED CONTROLS. MAINTAIN LIGHTING BRANCH CIRCUIT FOR REUSE. POWER AND DATA DEVICES LOCATED ON WALLS NOT BE DEMOLISHED ARE TO REMAIN UNLESS OTHERWISE NOTED. (WALLS TO BE DEMOLISHED ARE INDICATED AS DASHED.)
- B. VERIFY EXISTING FEED. REPLACE EXISTING CONDULET WITH BACK BOX WITH BLANK COVER PLATE AT NEW WALL FINISH. EXTEND CONDUIT AND WIRE AS REQUIRED. REMOVE IF NOT IN SERVICE.

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#### BUILDING B ELECTRICAL DEMOLITION PLAN



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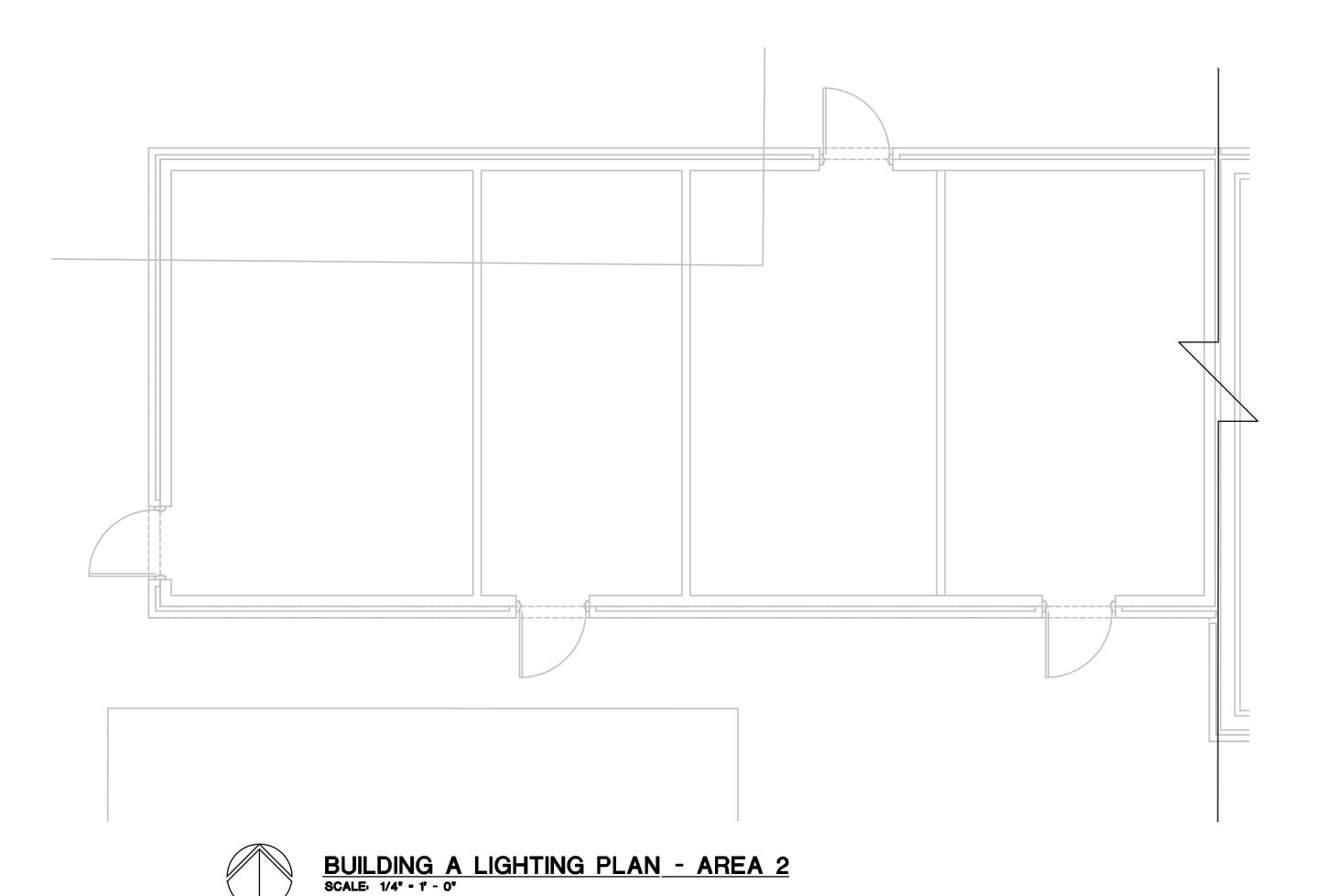
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BUILDING A LIGHTING PLAN - AREA 1
SCALE: 1/4' - 1' - 0'



#### **ELECTRICAL GENERAL NOTES:**

- 1. THESE DRAWINGS REPRESENT THE GENERAL EXTENT AND ARRANGEMENT OF SYSTEMS. COORDINATE EXACT EQUIPMENT LOCATIONS, ELEVATIONS, AND FINAL CONNECTION REQUIREMENTS. PROVIDE EACH SYSTEM COMPLETE, INCLUDING ALL NECESSARY COMPONENTS, FITTINGS AND OFFSETS.
- 2. INSTALL SYSTEMS SUCH THAT REQUIRED CLEARANCE AND SERVICE ACCESS SPACE IS PROVIDED AROUND ALL MECHANICAL AND ELECTRICAL EQUIPMENT, AND AROUND ANY COMPONENTS WHICH REQUIRE SERVICE ACCESS.
- 3. COORDINATE AND PROVIDE ACCESS DOORS WITHIN INACCESSIBLE CEILING, SHAFT, AND CHASE AREAS FOR ALL COMPONENTS WHICH REQUIRE SERVICE ACCESS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES.
- 4. PROVIDE SUPPLEMENTARY STEEL AS REQUIRED FOR THE PROPER SUPPORT OF ALL
- 5. MOTOR CIRCUIT PROTECTION SHALL BE SIZED IN ACCORDANCE WITH MOTOR CIRCUIT SIZING SCHEDULES SHOWN ON "ELECTRICAL STANDARD SCHEDULES DRAWING" UNLESS OTHERWISE NOTED.
- 6. COORDINATE THE MOUNTING HEIGHTS OF DEVICES WITH ARCHITECTURAL ELEVATIONS AND THE TRADES INSTALLING THE WORK.
- 7. REFER TO MECHANICAL SCHEDULE SHEETS FOR ELECTRICAL REQUIREMENTS FOR MECHANICAL EQUIPMENT. PROVIDE ALL CONNECTIONS, STARTERS, DISCONNECTS, ETC. AS REQUIRED BY SCHEDULES AND WHERE NOTED ELSEWHERE. VERIFY REQUIREMENTS OF ALL MECHANICAL EQUIPMENT WITH SHOP DRAWINGS SUBMITTALS. NOTIFY ENGINEER OF ANY CONFLICTS BETWEEN EQUIPMENT SUBMITTALS AND ELECTRICAL DRAWINGS. WHERE CIRCUIT SIZES ARE SHOWN ON THE ELECTRICAL DRAWINGS THAT DIFFER FROM WHAT IS INDICATED ON THE MECHANICAL SCHEDULES, PROVIDE THE CIRCUIT OF HIGHER AMPACITY.
- 8. REFER TO TEMPERATURE CONTROLS SHEETS FOR REQUIRED FIRE ALARM CONTROL MODULES, DUCT SMOKE DETECTORS, AND MOTOR CONTROLLERS. PROVIDE ALL ACCESSORIES INDICATED.
- 9. REFER TO LIGHTING CONTROL SCHEDULE FOR ROOM CONTROL AND EMERGENCY LIGHTING CIRCUIT CONTROL REQUIREMENTS. DESIGNATION FOR ROOM IS INDICATED AS A LETTERED OVAL SYMBOL.
- 10. WHERE EXISTING CIRCUITING IS BEING REUSED. PROVIDE GROUND WIRE, AS REQUIRED, PER NEC.

#### **EXECUTION KEY NOTES:**

1. CIRCUIT NEW LIGHTING TO MAINTAINED LIGHTING BRANCH CIRCUIT. MODIFY SWITCHLEG AS REQUIRED FOR WORK INDICATED. EXTEND CONDUIT AND WIRE AS REQUIRED.

Bidding and Permits: 20 March 2023



BUILDING A LIGHTING PLAN

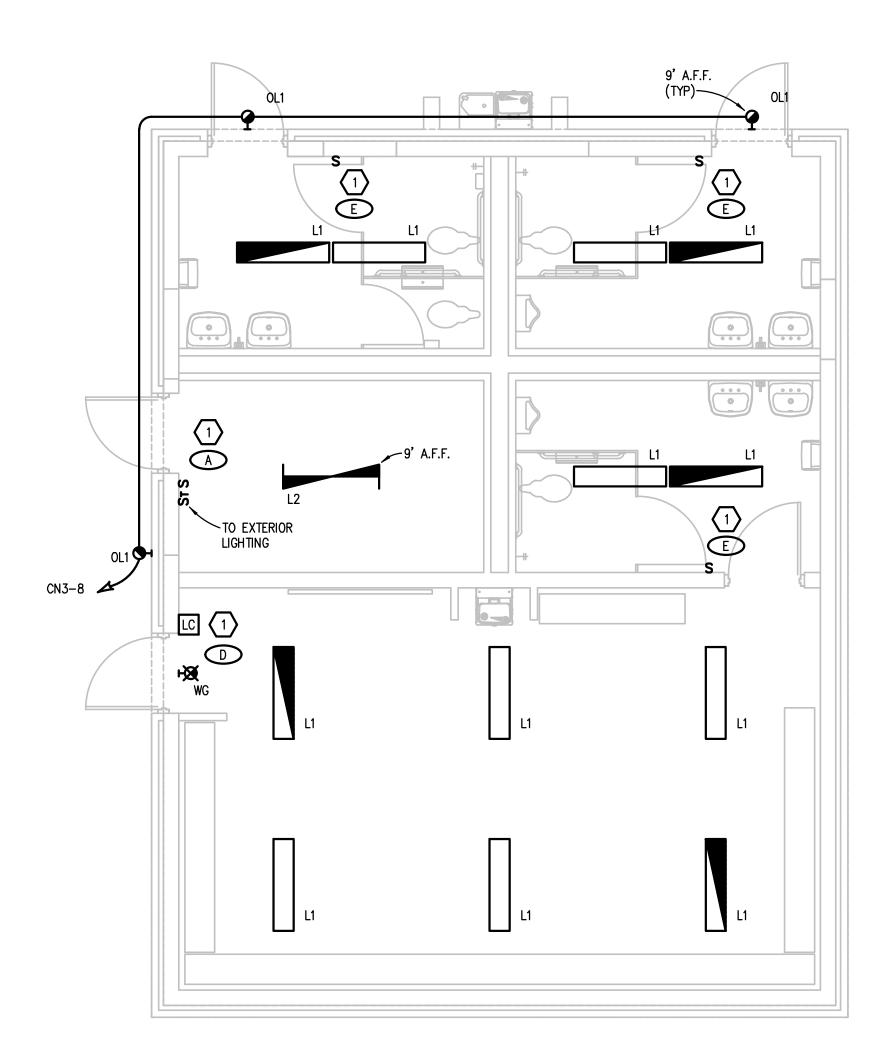


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#### **ELECTRICAL GENERAL NOTES:**

- 1. THESE DRAWINGS REPRESENT THE GENERAL EXTENT AND ARRANGEMENT OF SYSTEMS. COORDINATE EXACT EQUIPMENT LOCATIONS, ELEVATIONS, AND FINAL CONNECTION REQUIREMENTS. PROVIDE EACH SYSTEM COMPLETE, INCLUDING ALL NECESSARY COMPONENTS, FITTINGS AND OFFSETS.
- 2. INSTALL SYSTEMS SUCH THAT REQUIRED CLEARANCE AND SERVICE ACCESS SPACE IS PROVIDED AROUND ALL MECHANICAL AND ELECTRICAL EQUIPMENT, AND AROUND ANY COMPONENTS WHICH REQUIRE SERVICE ACCESS.
- 3. COORDINATE AND PROVIDE ACCESS DOORS WITHIN INACCESSIBLE CEILING, SHAFT, AND CHASE AREAS FOR ALL COMPONENTS WHICH REQUIRE SERVICE ACCESS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES.
- 4. PROVIDE SUPPLEMENTARY STEEL AS REQUIRED FOR THE PROPER SUPPORT OF ALL SYSTEMS.
- 5. MOTOR CIRCUIT PROTECTION SHALL BE SIZED IN ACCORDANCE WITH MOTOR CIRCUIT SIZING SCHEDULES SHOWN ON "ELECTRICAL STANDARD SCHEDULES DRAWING" UNLESS OTHERWISE NOTED.
- 6. COORDINATE THE MOUNTING HEIGHTS OF DEVICES WITH ARCHITECTURAL ELEVATIONS AND THE TRADES INSTALLING THE WORK.
- 7. REFER TO MECHANICAL SCHEDULE SHEETS FOR ELECTRICAL REQUIREMENTS FOR MECHANICAL EQUIPMENT. PROVIDE ALL CONNECTIONS, STARTERS, DISCONNECTS, ETC. AS REQUIRED BY SCHEDULES AND WHERE NOTED ELSEWHERE. VERIFY REQUIREMENTS OF ALL MECHANICAL EQUIPMENT WITH SHOP DRAWINGS SUBMITTALS. NOTIFY ENGINEER OF ANY CONFLICTS BETWEEN EQUIPMENT SUBMITTALS AND ELECTRICAL DRAWINGS. WHERE CIRCUIT SIZES ARE SHOWN ON THE ELECTRICAL DRAWINGS THAT DIFFER FROM WHAT IS INDICATED ON THE MECHANICAL SCHEDULES, PROVIDE THE CIRCUIT OF HIGHER AMPACITY.
- 8. REFER TO TEMPERATURE CONTROLS SHEETS FOR REQUIRED FIRE ALARM CONTROL MODULES, DUCT SMOKE DETECTORS, AND MOTOR CONTROLLERS. PROVIDE ALL ACCESSORIES INDICATED.
- 9. REFER TO LIGHTING CONTROL SCHEDULE FOR ROOM CONTROL AND EMERGENCY LIGHTING CIRCUIT CONTROL REQUIREMENTS. DESIGNATION FOR ROOM IS INDICATED AS A LETTERED OVAL SYMBOL.
- 10. WHERE EXISTING CIRCUITING IS BEING REUSED. PROVIDE GROUND WIRE, AS REQUIRED, PER NEC.

#### **\*** CONSTRUCTION KEY NOTES:

1. CIRCUIT NEW LIGHTING TO MAINTAINED LIGHTING BRANCH CIRCUIT. MODIFY SWITCHLEG AS REQUIRED FOR WORK INDICATED. EXTEND CONDUIT AND WIRE AS REQUIRED.

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PBA Project No.: 2022.0428

#### BUILDING B LIGHTING PLAN

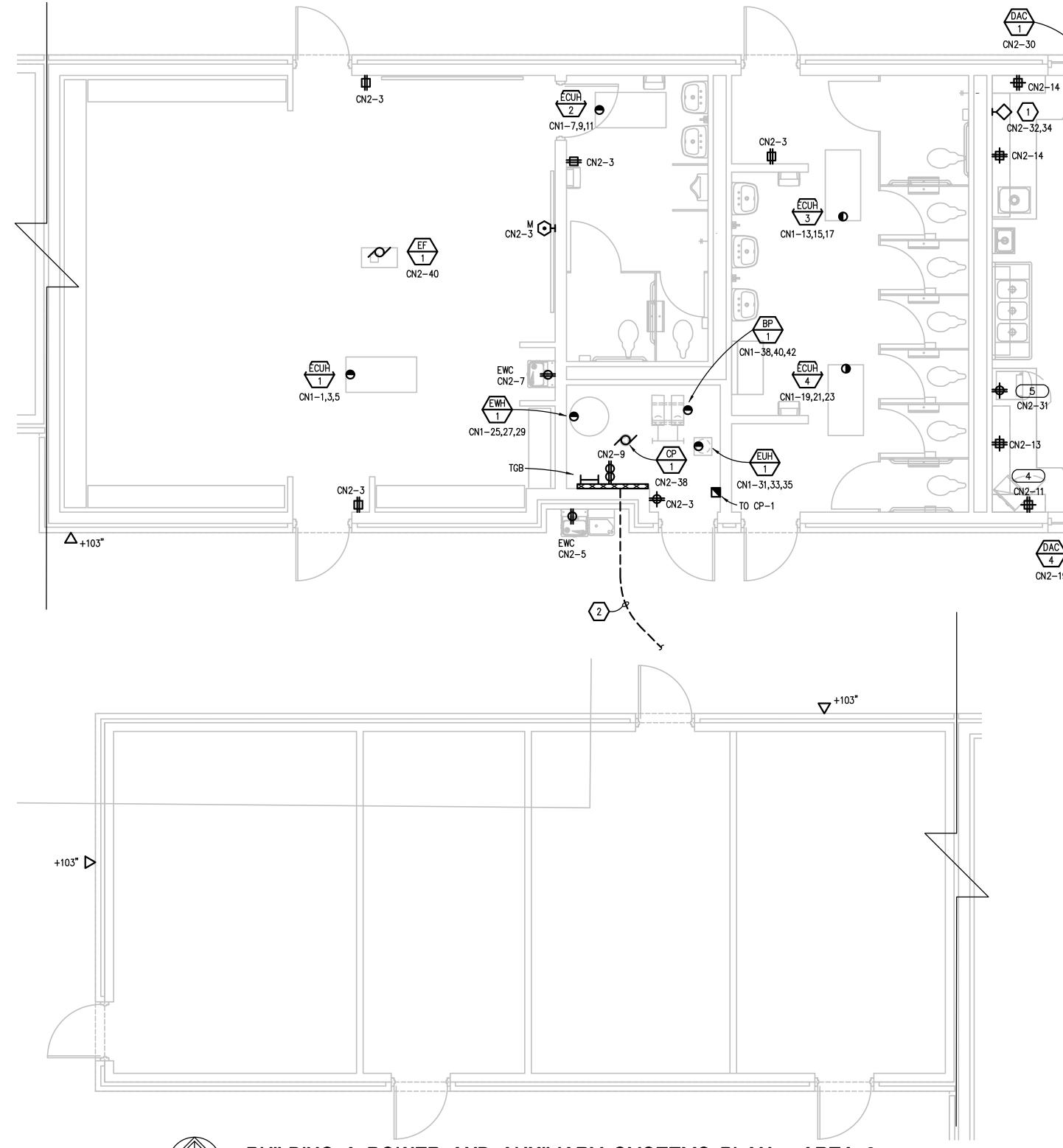


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FOOD SERVICE EQUIPME	ENT SCHEDULE																			
Item No Qty Equipment Category	Equipment Remarks	Hot Water Size (in)	Hot Water AFF (in)	Cold Water Size (in)	Cold Water AFF (in)	Direct Drain Siza (in)	Direct Drain	Indir Drain Size (in)	Gas Size (in)	Gas Use (MBTUH)	Gas AFF (in)	Plumbing Remarks	Volts	Phase	ΚW	웊	Amps	Electrical AFF (in)	Direct	Plug Electrical Remarks
1   1   SERVING COUNTER "A"																				
2 4 UNDERCOUNTER MOBILE HEATED DRAWERS													120	1	0.64		5.3	24		X
3 LOT WALL SHELVES "A"									<u> </u>											
4 1 MICROWAVE OVEN	EXISTING			L.,_									120	1		2.0	15.0 CIR.	50		X EXISTING - VERIFY
5   1 HOT BEVERAGE POWDER MIX DISPENSER		<u></u>		1/2	50	<u> </u>		<u> </u>					120	1	1.8		15.0 CIR.	50		X
6   1   THREE COMPARTMENT SINK		1/2	14	1/2	14	2.0(GT)	16	(2)2.0	1			* TO AIR GAP WASTE								
7 LOT WALL SHELVES "B"																				
8   1  HAND SINK		1/2	14	1/2	14	1.5	16					VERIFY								
9 1 SERVING COUNTER "B"		1/2	14	1/2	14			2.0*				* TO AIR GAP WASTE								
10 LOT WALL SHELVES "C"																				
11 - UNASSIGNED NUMBER																				
12 - UNASSIGNED NUMBER									1											
13 1 SPEED OVEN	FUTURE								1				208/240	1	3.5		30.0 CIR.	50		X
14 2 OPEN SHELVING									1											
15 1 MOBILE WORK TABLE "A"									1											
16 2 MOBILE WORK TABLE "B"									1											
17 4 MOBILE WORK TABLE "C"									1											
18 2 COLD BEVERAGE DISPLAY "A"									1				120	1		.5	6.3	DFC		Х
19 2 COLD BEVERAGE DISPLAY "B"	EXISTING								1				120	1		.5	6.3	DFC		X EXISTING - VERIFY
20 - UNASSIGNED NUMBER									1											
21 - UNASSIGNED NUMBER									1											
22 1 MOBILE HOT HOLDING CABINET									1				120	1 1	1.5		12.5	DFC		Х
23 2 SECURE REFRIGERATOR									1				120	1 1		.25	3.8	DFC		X
24 1 SECURE FREEZER									1				120	1 1		.5	6.8	DFC		X
25 1 HOT DOG ROLLER GRILL													120	1 1	1.32	-	11.0	DFC	1 1	X
26 1 NACHO BIN													120		1.08		9.0	DFC	1 1	X
27 1 NACHO CHEESE PUMP							1	1			1		120	1 1	0.4		3.3	DFC	1 1	X
28 1 PRETZEL DISPLAY	EXISTING												120	1 1	1.5			DFC	$\dagger$	X EXISTING - VERIFY
29 1 POPCORN MACHINE	EXISTING												120	1 1	1.6		13.7	DFC	† †	X EXISTING - VERIFY
30 2 SECURE SHELVING UNIT													† · <u></u>						1 1	(DFC = DOWN FROM CEILING)



CN2-14 2 CN2-26

ECUA 5

18

CN2-8

28 CN2-6

19 CN2-29

DAC 4 CN2-19

CN2-6 2 29 CN2-41 CN2-33 CI

CN1-37,39,41

2 CN2-24

CN2-10

CN2-4

19 23 CN2-25 CN2-23

27 26

CN2-27 CN2-35 CN2-37

CN2-27

13 CN2-15

DAC 5

CN2-21

e ECUH

CN1-2,4,6

2 +96 CN2-17

CN2-12

13 CN2-16,18

CN2-13 **€** 

**▼** TO EF-1

**⊠** T0 EF−2

**\\** CN2-14

# BUILDING A POWER AND AUXILIARY SYSTEMS PLAN - AREA 1 SCALE: 1/4\* - 1' - 0\*

 $\Delta_{+103}$ "

#### **ELECTRICAL GENERAL NOTES:**

- THESE DRAWINGS REPRESENT THE GENERAL EXTENT AND ARRANGEMENT OF SYSTEMS. COORDINATE EXACT EQUIPMENT LOCATIONS, ELEVATIONS, AND FINAL CONNECTION REQUIREMENTS. PROVIDE EACH SYSTEM COMPLETE, INCLUDING ALL NECESSARY COMPONENTS, FITTINGS AND OFFSETS.
- 2. INSTALL SYSTEMS SUCH THAT REQUIRED CLEARANCE AND SERVICE ACCESS SPACE IS PROVIDED AROUND ALL MECHANICAL AND ELECTRICAL EQUIPMENT, AND AROUND ANY COMPONENTS WHICH REQUIRE SERVICE ACCESS.
- 3. COORDINATE AND PROVIDE ACCESS DOORS WITHIN INACCESSIBLE CEILING, SHAFT, AND CHASE AREAS FOR ALL COMPONENTS WHICH REQUIRE SERVICE ACCESS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES.
- 4. PROVIDE SUPPLEMENTARY STEEL AS REQUIRED FOR THE PROPER SUPPORT OF ALL
- 5. MOTOR CIRCUIT PROTECTION SHALL BE SIZED IN ACCORDANCE WITH MOTOR CIRCUIT SIZING SCHEDULES SHOWN ON "ELECTRICAL STANDARD SCHEDULES DRAWING" UNLESS OTHERWISE NOTED.
- 6. COORDINATE THE MOUNTING HEIGHTS OF DEVICES WITH ARCHITECTURAL ELEVATIONS AND THE TRADES INSTALLING THE WORK.
- 7. REFER TO MECHANICAL SCHEDULE SHEETS FOR ELECTRICAL REQUIREMENTS FOR MECHANICAL EQUIPMENT. PROVIDE ALL CONNECTIONS, STARTERS, DISCONNECTS, ETC. AS REQUIRED BY SCHEDULES AND WHERE NOTED ELSEWHERE. VERIFY REQUIREMENTS OF ALL MECHANICAL EQUIPMENT WITH SHOP DRAWINGS SUBMITTALS. NOTIFY ENGINEER OF ANY CONFLICTS BETWEEN EQUIPMENT SUBMITTALS AND ELECTRICAL DRAWINGS. WHERE CIRCUIT SIZES ARE SHOWN ON THE ELECTRICAL DRAWINGS THAT DIFFER FROM WHAT IS INDICATED ON THE MECHANICAL SCHEDULES, PROVIDE THE CIRCUIT OF HIGHER AMPACITY.
- 8. REFER TO TEMPERATURE CONTROLS SHEETS FOR REQUIRED FIRE ALARM CONTROL MODULES, DUCT SMOKE DETECTORS, AND MOTOR CONTROLLERS. PROVIDE ALL ACCESSORIES INDICATED.
- 9. REFER TO LIGHTING CONTROL SCHEDULE FOR ROOM CONTROL AND EMERGENCY LIGHTING CIRCUIT CONTROL REQUIREMENTS. DESIGNATION FOR ROOM IS INDICATED AS A LETTERED OVAL SYMBOL.
- 10. WHERE EXISTING CIRCUITING IS BEING REUSED. PROVIDE GROUND WIRE, AS REQUIRED, PER NEC.

#### FOOD SERVICE GENERAL NOTES:

- 1. LOCATIONS, DIMENSIONS, UTILITY REQUIREMENTS, INTERCONNECTIONS, AND NEMA CONFIGURATIONS OF CORD AND PLUG ASSEMBLIES, ETC. ARE BASED ON BASIS OF DESIGN MANUFACTURER IN THE SPECIFICATIONS. COORDINATE FINAL LOCATIONS AND DEVIATIONS FROM BASIS OF DESIGN WITH FOOD SERVICE EQUIPMENT CONTRACTOR
- 2. PROVIDE GROUND-FAULT-CIRCUIT-INTERRUPTER (GFCI) FOR PERSONNEL PROTECTION, PER NEC, FOR ALL SINGLE-PHASE RECEPTACLES 150V TO GROUND OR LESS AND 50A OR LESS, AND FOR ALL THREE-PHASE RECEPTACLES 150V TO GROUND OR LESS AND 100A OR LESS. PROVIDE GFCI CIRCUIT BREAKER(S) OR REMOTE DEAD FRONT GFCI DEVICE(S), IN READILY ACCESSIBLE LOCATIONS, FOR ANY RECEPTACLE THAT CANNOT BE ACCESSED WITHOUT MOVING EQUIPMENT.

#### **#** CONSTRUCTION KEY NOTES:

1. COORDINATE NEMA CONFIGURATION WITH FSEC.

ECUH 7 CN1-8,10,12

CN1-14,16,18

2. 2" CONDUIT TO HIGH SCHOOL MDF. COORDINATE ROUTING WITH TECHNOLOGY

EUH 2 CN1-26,28,30

□ **□** CN2−36

 $\bigcirc \qquad \stackrel{\text{EUH}}{\longrightarrow} \qquad$ 

CN1-20,22,24

OVERHEAD DOOR

CN2-43

OVERHEAD DOOR

CN2-45

CN2-36

Bidding and Permits: 20 March 2023

Peter Basso Associates Inc CONSULTING ENGINEERS 5145 Livernois, Suite 100 Troy, Michigan 48098-3276 Tel: 248-879-5666 Fax: 248-879-0007

> www.PeterBassoAssociates.com PBA Project No.: 2022.0428

BUILDING A POWER AND AUXILIARY SYSTEMS PLAN

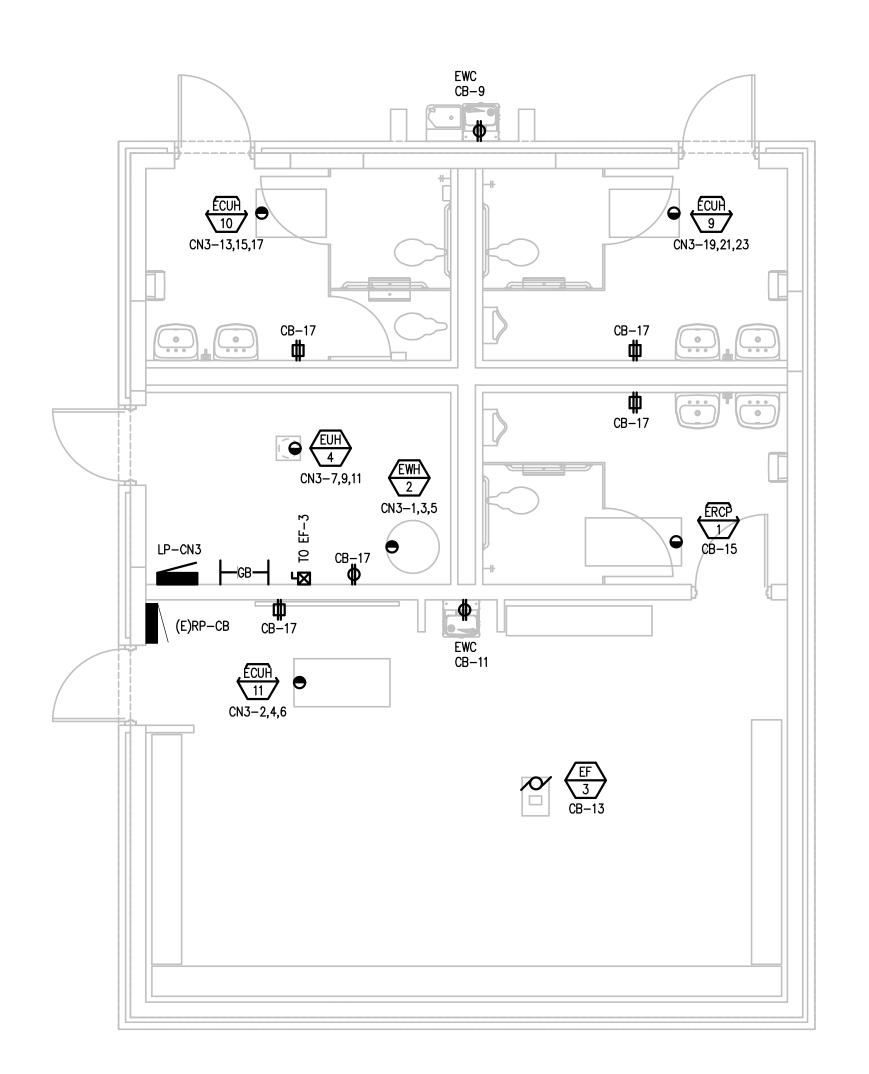
EHRESMAN - ARCHITECTS ehresmanarchitects.com

Crestwood School District Crestwood High School Field Building & Site Improvements

Project No. 5622

E3.10







BUILDING B POWER AND AUXILIARY SYSTEMS PLAN
SCALE: 1/4' - 1' - 0'

#### **ELECTRICAL GENERAL NOTES:**

- 1. THESE DRAWINGS REPRESENT THE GENERAL EXTENT AND ARRANGEMENT OF SYSTEMS. COORDINATE EXACT EQUIPMENT LOCATIONS, ELEVATIONS, AND FINAL CONNECTION REQUIREMENTS. PROVIDE EACH SYSTEM COMPLETE, INCLUDING ALL NECESSARY COMPONENTS, FITTINGS AND OFFSETS.
- 2. INSTALL SYSTEMS SUCH THAT REQUIRED CLEARANCE AND SERVICE ACCESS SPACE IS PROVIDED AROUND ALL MECHANICAL AND ELECTRICAL EQUIPMENT, AND AROUND ANY COMPONENTS WHICH REQUIRE SERVICE ACCESS.
- 3. COORDINATE AND PROVIDE ACCESS DOORS WITHIN INACCESSIBLE CEILING, SHAFT, AND CHASE AREAS FOR ALL COMPONENTS WHICH REQUIRE SERVICE ACCESS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES.
- 4. PROVIDE SUPPLEMENTARY STEEL AS REQUIRED FOR THE PROPER SUPPORT OF ALL SYSTEMS.
- 5. MOTOR CIRCUIT PROTECTION SHALL BE SIZED IN ACCORDANCE WITH MOTOR CIRCUIT SIZING SCHEDULES SHOWN ON "ELECTRICAL STANDARD SCHEDULES DRAWING" UNLESS OTHERWISE NOTED.
- 6. COORDINATE THE MOUNTING HEIGHTS OF DEVICES WITH ARCHITECTURAL ELEVATIONS AND THE TRADES INSTALLING THE WORK.
- 7. REFER TO MECHANICAL SCHEDULE SHEETS FOR ELECTRICAL REQUIREMENTS FOR MECHANICAL EQUIPMENT. PROVIDE ALL CONNECTIONS, STARTERS, DISCONNECTS, ETC. AS REQUIRED BY SCHEDULES AND WHERE NOTED ELSEWHERE. VERIFY REQUIREMENTS OF ALL MECHANICAL EQUIPMENT WITH SHOP DRAWINGS SUBMITTALS. NOTIFY ENGINEER OF ANY CONFLICTS BETWEEN EQUIPMENT SUBMITTALS AND ELECTRICAL DRAWINGS. WHERE CIRCUIT SIZES ARE SHOWN ON THE ELECTRICAL DRAWINGS THAT DIFFER FROM WHAT IS INDICATED ON THE MECHANICAL SCHEDULES, PROVIDE THE CIRCUIT OF HIGHER AMPACITY.
- 8. REFER TO TEMPERATURE CONTROLS SHEETS FOR REQUIRED FIRE ALARM CONTROL MODULES, DUCT SMOKE DETECTORS, AND MOTOR CONTROLLERS. PROVIDE ALL ACCESSORIES INDICATED.
- 9. REFER TO LIGHTING CONTROL SCHEDULE FOR ROOM CONTROL AND EMERGENCY LIGHTING CIRCUIT CONTROL REQUIREMENTS. DESIGNATION FOR ROOM IS INDICATED AS A LETTERED OVAL SYMBOL.
- 10. WHERE EXISTING CIRCUITING IS BEING REUSED. PROVIDE GROUND WIRE, AS REQUIRED, PER NEC.

#### **\*** CONSTRUCTION KEY NOTES:

- 1. COORDINATE NEMA CONFIGURATION WITH FSEC.
- 2. 2" CONDUIT TO HIGH SCHOOL MDF. COORDINATE ROUTING WITH TECHNOLOGY CONTRACTOR.

Bidding and Permits: 20 March 2023



PBA Project No.: 2022.0428

BUILDING B POWER AND AUXILIARY SYSTEMS PLAN



Crestwood School District Crestwood High School Field Building & Site Improvements

Project No. 5622

E3.11

803 W. Big Beaver Road, Suite 350, Troy, MI 48084 | 248.244.9710 © Ehresman 2022

(E)METERED LOAD = 64.8VA X 125% METERED PER N.E.C. 220.87 81.0 KVA LP-CN1 RP-CN2 LP-CN3 140.6 KVA 22.5 KVA 41.1 KVA ---+--- (E)UTILITY XFMR | UUU | 300KVA 285.2 KVA MDP TOTAL CONNECTED LOAD 13.2/4.8KV-480/277V 3ø, 4W (E)MDP 480/277V 3ø, 4W, 600A 35,000 AIC 30A ∖ 30A 30A 30A **∑** 20A 100A 100A √ 60A 400A ---+--- (E)T-FBL | UUU | 9KVA FIELD FIELD FIELD 480V-208Y/120V LIGHTS LIGHTS LIGHTS LIGHTS i----- 3ø, 4W (1)2" CONDUIT WITH (4)2/0 AWG + (1)3 AWG GROUND (E)T-RP-FB 112.5KVA 480V-208Y/120V RP-FBL └──┼── 3ø, 4W LP-CN1 LP-CN3 RP-FB RP-PRESSBOX RP-SCBD RP-CN2

TO EXISTING UTILITY SERVICE

#### MDP CONNECTED LOAD CALCULATIONS

ONE LINE DIAGRAM NEW WORK



PBA Project No.: 2022.0428

Bidding and Permits: 20 March 2023

#### ONE LINE DIAGRAM



**DIAGRAM GENERAL NOTES:** 

NECESSARY COMPONENTS, FITTINGS AND OFFSETS.

UNLESS SPECIFICALLY NOTED OTHERWISE.

CLEARANCES WITHIN THE SPACE PROVIDED.

OTHERWISE.

1. THESE DRAWINGS REPRESENT THE GENERAL EXTENT AND ARRANGEMENT OF SYSTEMS. COORDINATE EXACT EQUIPMENT LOCATIONS, ELEVATIONS, AND FINAL

CONNECTION REQUIREMENTS. PROVIDE EACH SYSTEM COMPLETE, INCLUDING ALL

2. FEEDER AND BRANCH CIRCUIT CONDUCTORS SHALL BE SIZED IN ACCORDANCE WITH THE "FEEDER AND BRANCH CIRCUIT SIZING SCHEDULE-GENERAL PURPOSE" ON THE "ELECTRICAL STANDARD SCHEDULES DRAWING" UNLESS SPECIFICALLY NOTED

3. TRANSFORMER SECONDARY CONDUCTORS SHALL BE SIZED IN ACCORDANCE WITH THE "TRANSFORMER CIRCUIT SIZING SCHEDULE-GENERAL PURPOSE" ON THE "ELECTRICAL

STANDARD SCHEDULES DRAWING" UNLESS SPECIFICALLY NOTED OTHERWISE.

4. MOTOR CIRCUIT PROTECTION SHALL BE SIZED IN ACCORDANCE WITH THE MOTOR CIRCUIT SIZING SCHEDULES ON THE "ELECTRICAL STANDARD SCHEDULES DRAWING"

5. BASIS OF DESIGN IS SQUARE D DISTRIBUTION EQUIPMENT. IF THE CONTRACTOR

EQUIPMENT MEETING THE SPECIFICATIONS AND ACHIEVING CODE REQUIRED

ELECTS TO PROVIDE EQUIPMENT FROM OTHER APPROVED MANUFACTURERS, THE CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE THE LAYOUT AND CLEARANCE REQUIREMENTS IN ALL SPACES CONTAINING ELECTRICAL EQUIPMENT AND PROVIDE

Crestwood School District Crestwood High School Field Building & Site Improvements

Project No. 5622

E5.10

803 W. Big Beaver Road, Suite 350, Troy, MI 48084 | 248.244.9710

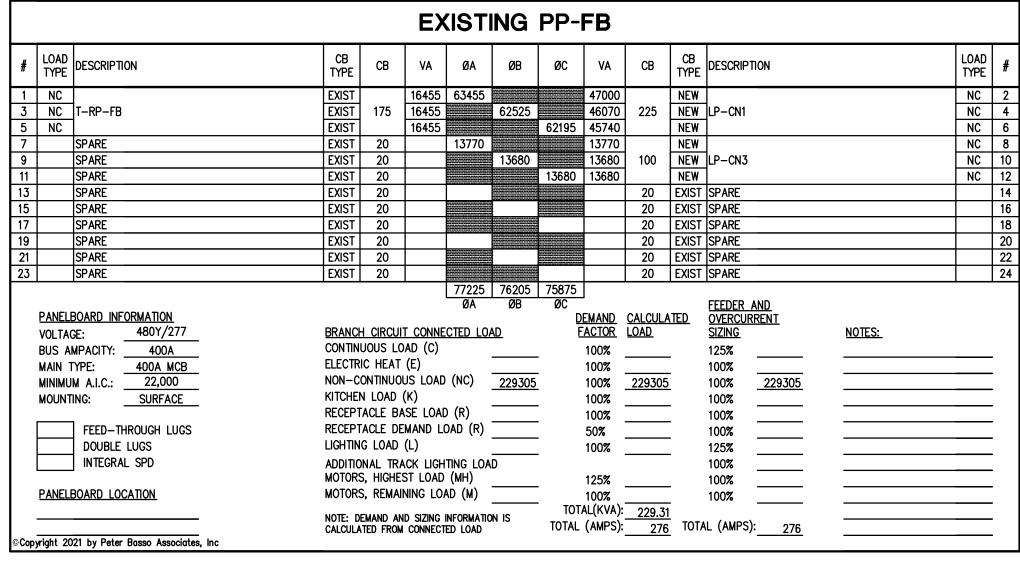
© Ehresman 2022

¥	LOAD TYPE	DESCRIPTION		CB YPE	СВ	VA	ØA	ØC	VA	СВ	CB TYPE	DESCRIPTI	ON			AD PE	
1							250		250	20		EXISTING	_OAD		<u> </u>	ıc	
3		SPARE			60			250	250	20		EXISTING				ıc	Γ
5	NC	EXISTING LOAD			20	250	500		250	20		EXISTING	_OAD		١	IC	T
7	NC	EXISTING LOAD			20	250		500	250	20		EXISTING	_OAD		١	IC	T
9	NC	EWC	G	FCI	20	500	750		250	20		EXISTING	_OAD		١	IC	
1	NC	EWC	G	GFCI	20	500		750	250	20		EXISTING	_OAD		N	1C	
3		EF-3			15	700	950		250	20		EXISTING				1C	
5		ERCP-1			20	750		1000	250	20		EXISTING				1C	
7		RECPTACLES			20	900	1150		250	20		EXISTING				1C	L
9	NC	EXISTING LOAD			20	250		500	250	20		EXISTING	_OAD		N	1C	
	MAIN 1 MINIMU MOUNT	MPACITY: 100A TYPE: 100A MCB JM A.I.C.: 10,000	BRANCH CIR CONTINUOUS ELECTRIC HE NON-CONTIN KITCHEN LOA RECEPTACLE RECEPTACLE LIGHTING LOA ADDITIONAL MOTORS, HIG	LOAD AT (E NUOUS AD (K) BASE DEMA AD (L) TRACK	(C): ) LOAD ( : LOAD ( ND LOAD): (LIGHTI	(NC): (R): .D (R): NG LOAD	6600		100% 100% 100% 100% 100% 50%	6600	· · · · ·	100% 100% 100% 100%	6600	NOTES:			
•		BOARD LOCATION  D21 by Peter Basso Associates, Inc	MOTORS, REI NOTE: DEMAND CALCULATED F	AND S	SIZING INF	ORMATION	I IS	TOTA	100% AL(KVA): (AMPS):			100% AL (AMPS):	32			_ 	

				LF	P-CN	13						
# LOAD DESCRIPTION	CB TYPE	СВ	VA	ØA	ØB	ØC	VA	СВ	CB TYPE	DESCRIPTION	LOAD TYPE	
1 NC 3 NC 5 NC		25	3460 3460 3460	7710	7710	7710	4250 4250 4250	20		ECUH-11	NC NC NC	2 4 6
7 NC 9 NC EUH-4 11 NC		20	1670 1670 1670	1760	1670	1670	90	20		EXTERIOR LIGHTING SPACE SPACE	L	8 10 12
13 NC 15 NC ECUH-10		20	2150 2150 2150	2150	2150	2150				SPACE SPACE SPACE		14 16 18
19 NC 21 NC ECUH-9 23 NC		20	2150 2150 2150	2150	2150	2150				SPACE SPACE SPACE		20 22 24
PANELBOARD INFORMATION  VOLTAGE: 480Y/277  BUS AMPACITY: 100A  MAIN TYPE: 100A MCB  MINIMUM A.I.C.: 10,000  MOUNTING: SURFACE  FEED—THROUGH LUGS  DOUBLE LUGS  INTEGRAL SPD	BRANCH CONTINUO ELECTRIC NON-CON KITCHEN RECEPTAC RECEPTAC LIGHTING ADDITIONA MOTORS,	DUS LOA HEAT ( NTINUOU LOAD (I CLE BAS CLE DEN LOAD ( AL TRAC HIGHES	AD (C) (E) S LOAD K) SE LOAE MAND LO CK LIGH T LOAD	O (NC) O (R) OAD (R) TING LOA	41040	Ē	100% 100% 100% 100% 100% 100% 50% 100%	41040 90	- - - -	FEEDER AND OVERCURRENT SIZING  125%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%		- - - - -
PANELBOARD LOCATION  Copyright 2021 by Peter Basso Associates, Inc	NOTE: DEM CALCULATE	IAND AND	SIZING	INFORMATIO	N IS		100% AL(KVA): (AMPS):		-	100% NL (AMPS):50		- - -

						L	P-Cl	N1						
#	LOAD TYPE	DESCRIPTION	CB TYPE	СВ	VA	ØA	ØB	ØC	VA	СВ	CB TYPE	DESCRIPTION	LOAD TYPE	#
1	NC	-			4250	8500			4250				NC	2
3		ECUH-1		20	4250		8500	0500	4250	20		ECUH-6	NC	4
5 7	NC NC				4250 4250	8500		8500	4250 4250				NC NC	8
9		ECUH-2		20	4250	0300	8500		4250	20		I ECUH-7	NC NC	10
11	NC				4250			8500	4250	1			NC	1.
13	NC				4250	8500			4250				NC	1.
15		ECUH-3		20	4250		8500	0500	4250	20		ECUH-8	NC	10
17 19	NC NC				4250 4250	5350		8500	4250 1100				NC NC	2
21		ECUH-4		20	4250	3330	5350		1100	20		I  EUH_3	NC NC	2:
23	NC				4250			5350	1100	1			NC	2
25	NC				5550	6650			1100				NC	2
27		EWH-1		45	5550		6650		1100	20		EUH-2	NC	2
29	NC				5550	20.70		6650	1100	20		INTERIOR LIGHTING	NC I	3
31   33	NC NC	EUH-1		20	1670 1670	2930	2000		1260 330	20		EXTERIOR LIGHTING		3
35	NC	2011		20	1670		2000	1670	330	20		SPACE		3
37	NC				4250	6570			2320				МН	3
39		ECUH-5		20	4250		6570		2320	30		BP-1	МН	4
41	NC				4250			6570	2320				MH	4.
43		SPACE SPACE										SPACE SPACE		4
45   47		SPACE										SPACE		4
49		SPACE						î.				SPACE		5
51		SPACE										SPACE		5:
53		SPACE										SPACE		5
55   57		SPACE										SPACE		50 50
57 59		SPACE SPACE							<b>3</b>			SPACE SPACE		6
<u> </u>		JF AOL				47000	46070	45740		<u> </u>	•			10
	PANELE	BOARD INFORMATION				ØA	ØB	ØC	FMAND	CALCULA		FEEDER AND OVERCURRENT		
	VOLTAG		BRANCE	H CIRCUI	T CONNE	CTED LO	<u>AD</u>			LOAD		SIZING NOTES:		
		MPACITY: 225A		UOUS LO				_	100%			125%		_
	MAIN T			IC HEAT	(E) US LOAD	(NC)		-	100%		-	100%		-
	MINIMUI Mounti	M A.I.C.: 10,000 ING: SURFACE		ON HINOU N LOAD		(NC)	130260	<u>)</u>	100%	130260	-	100% 130260		-
	MOUNII	NG: <u>SURFACE</u>			ASE LOAI	) (R)	-	-	100% 100%		-	100%		-
Γ		FEED-THROUGH LUGS				OAD (R)		-	50%		-	100%		•
		DOUBLE LUGS	LIGHTIN	G LOAD	(L)		1590	<u> </u>	100%	1590	-	125% 1988		
Į		INTEGRAL SPD				ITING LOA						100%		-
	DANELE	OCADO LOCATION			ST LOAD INING LO		6960	<u>)</u>	125%	<u>8700</u>	-	100%8700		-
	PANELE	BOARD LOCATION				, ,		- тот	100% AI (KVA):	140.55	-	100%		•
-			NOTE: D	EMAND AN	ND SIZING I CONNECT	INFORMATION	ON IS	TOTAL	(AMPS):	169		AL (AMPS): 170		•
Сору	right 20	21 by Peter Basso Associates, Inc			. 551111201				. ,			. ,		-
						R	P-CI	<b>N2</b>						

						R	P-CI	<b>\2</b>						
#	LOAD TYPE	DESCRIPTION	CB TYPE	СВ	VA	ØA	ØB	ØC	VA	СВ	CB TYPE	DESCRIPTION	LOAD TYPE	
1	NC	C-CNL		20	250	700			450	20		24 – SECURE FREEZER	К	2
3		RECEPTACLES		20	1080		2400		1320	20		25 - HOT DOG ROLLER GRILL	K	4
5		EWC	GFCI	20	750			2250	1500	20	†	28 - PRETZEL DISPLAY	K	6
7		EWC	GFCI	20	750	1500			750	20		18 - COLD BEVERAGE DISPLAY "A"	K	8
9		RECEPTACLES	0. 0.	20	360		1110		750	20		18 - COLD BEVERAGE DISPLAY "A"	K	10
11		4 – MICROWAVE		15	800		1110	1260	460	20	<del> </del>	23 - SECURE REFRIGERATOR	K	12
13		RECEPTACLES	GFCI	20	720	1800		1200	1080	20	<del> </del>	RECEPTACLES	R	14
15		2 - MOBILE HEATED DRAWERS	GFCI	20	640	1000	2390		1750	1 20	+	TAOLES	<del> </del>	16
17		2 - MOBILE HEATED DRAWERS	GFCI	20	640		2000	2390	1750	- 30		13 - SPEED OVEN	K	18
19		DAC-4	GIGI	15	100	850		2030	750	20	GFCI	I EWC	NC NC	20
		DAC-4			100	000	200		100	15		DAC-3	NC NC	22
21				15			200	4000	*					
23		23 — SECURE REFRIGERATOR		20	450	4700		1090	640	20	-	2 — MOBILE HEATED DRAWERS	K	24
25		19 - COLD BEVERAGE DISPLAY "B"		20	750	1390			640	20	<u> </u>	2 - MOBILE HEATED DRAWERS	K	26
27		RECEPTACLES		20	900		1000		100	15	<u> </u>	DAC-2	NC	28
29		19 – COLD BEVERAGE DISPLAY "B"		20	750			850	100	15	<u> </u>	DAC-1	NC	30
31		5 – HOT BEVERAGE DISPENSER		20	1800	1800				30		SCR(SPARE)		32
33		29 - POPCORN MACHINE		20	1600		1600							34
35		27 - NACHO CHEESE PUMP		20	400			1300	900	20		RECEPTACLES	R	36
37	K	26 - NACHO BIN		20	1080	1610			530	15		CP-1	M	38
39	K	22 - MOBILE HOT HOLDING CABINET		20	1500		2200		700	15		EF-1	NC	40
41	NC	EF-2		15	700			700		20		SPARE		42
43	NC	GARAGE DOOR		20	1150	1150						SPACE		44
45	NC	GARAGE DOOR		20	1150		1150					SPACE		46
47		SPACE										SPACE		48
49		SPACE										SPACE		50
51		SPACE									1	SPACE		52
53		SPACE							<u> </u>		<del> </del>	SPACE		54
55		SPACE										SPACE		56
57		SPACE			<del>                                     </del>						+	SPACE		58
59		SPACE			1						<del>                                     </del>	SPACE		60
<u> </u>		JEROL				10800 ØA	12050 ØB	9840 ØC		<u> </u>		FEEDER AND		1 00
	VOLTAG BUS AN MAIN T	MPACITY:         225A           YPE:         225A MCB	CONTINU ELECTRI	JOUS LO	OAD (C) (E)	CTED LO	<u>AD</u> 	<u>D</u> E -	100% 100%	LOAD	- -	OVERCURRENT           SIZING         NOTES:           125%            100%		<del>-</del>
	MOUNT	M A.I.C.: 10,000 ING: SURFACE	KITCHEN	N LOAD	us load (K) Ase loai		20420 5040	<u></u>	100% 65% 100%	6700 13273 5040	<u>-</u>	100%     6700       100%     13273       100%     5040		<u>-</u> -
		FEED-THROUGH LUGS DOUBLE LUGS		ACLE DE	EMAND L	` '		<u>-</u>	50% 100%		<u>-</u>	100% <u>5040</u> 100% 125%		- -
		INTEGRAL SPD	ADDITIO	NAL TRA		TING LOA	\D	_	125%		_	100%		<u>-</u>
	PANELE	BOARD LOCATION	MOTORS	S, REMAI	NING LO	AD (M)	530		100% AL(KVA):	530 25.54	_	100% 530		<b>-</b>
Con	vriaht 20	21 by Peter Basso Associates, Inc			ID SIZING I CONNECT	INFORMATION INFORM	JN IS		(AMPS):			L (AMPS): 71		<b>-</b>

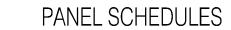


EXISTING RP-FB														
#	LOAD TYPE	DESCRIPTION	CB TYPE	СВ	VA	ØA	ØB	ØC	VA	СВ	CB TYPE	DESCRIPTION	LOAD TYPE	#
1	NC	-	EXIST		2690	2690				20	EXIST	SPARE		2
3	NC	RP-PRESSBOX	EXIST	200	2690		2690			20	EXIST	SPARE		4
5	NC		EXIST		2690			2690		20	EXIST	SPARE		6
7	NC		EXIST		6250	6250				20	EXIST	SPARE		8
9	NC	RP-SCBD	EXIST	100	6250		6250			20	EXIST	SPARE		10
11	NC		EXIST		6250			6250		20	EXIST	SPARE		12
13		SPARE	EXIST	20						20	EXIST	SPARE		14
15		SPARE	EXIST	20						20	EXIST	SPARE		16
17	NC		NEW		7515			7515				SPARE		18
19	NC	RP-CN2	NEW	225	7515	7515						SPARE		20
21	NC		NEW		7515		7515					SPARE		22
23		SPARE						***************************************				SPARE		24
25		SPARE										SPARE		26
27		SPARE										SPARE		28
29		SPARE										SPARE		30
16455   1645											- - - - -			
CALCULATED FROM CONNECTED LOAD  **COpyright 2021 by Peter Basso Associates, Inc													_	

Bidding and Permits: 20 March 2023



PBA Project No.: 2022.0428





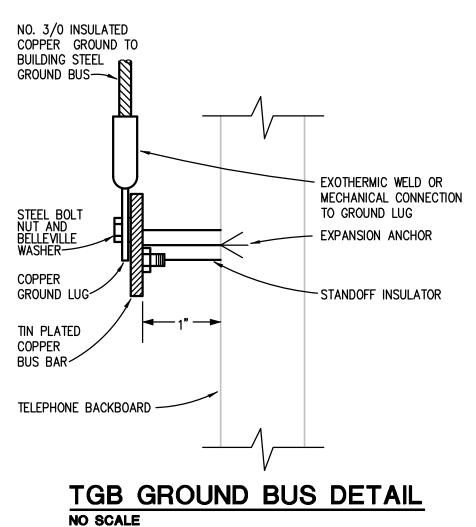
Crestwood School District Crestwood High School Field Building & Site Improvements

Project No. 5622

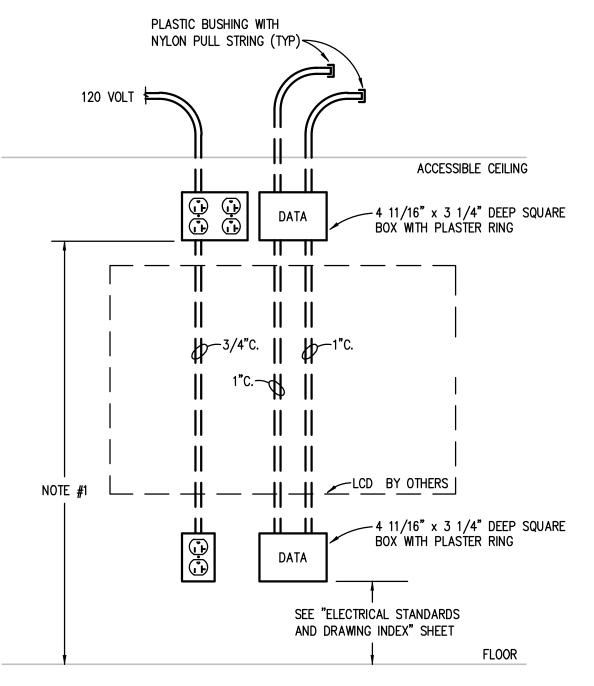
E5.11

#### TELECOMMUNICATION OUTLET DETAIL NO SCALE

IF CEILING IN ROOM IS NOT ACCESSIBLE, ROUTE CONDUIT TO NEAREST ACCESSIBLE CEILING IN DIRECTION OF AND WITH PATHWAY OR ACCESS TO TELECOMMUNICATION ROOM.

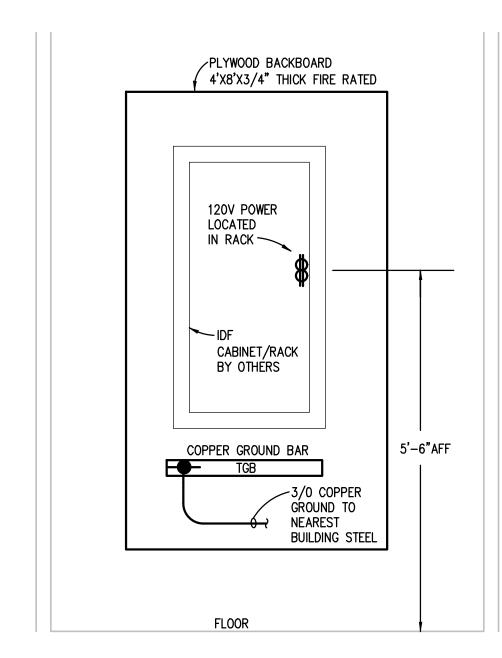


# NOTE: MOUNT TO BOTTOM OF TELEPHONE BACKBOARD, 24" AFF.



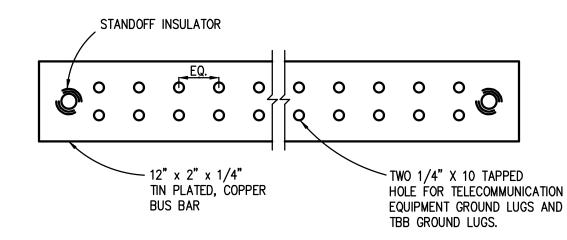
#### RECESSED MONITOR **WORKSTATION DETAIL** NO SCALE

- 1. COORDINATE FINAL LOCATION OF RECESSED POWER/AV DEVICES WITH OWNER TECHNOLOGY CONTRACTOR PRIOR TO ROUGH IN.
- 2. AV DEVICES AND COVER PLATES SHALL BE PROVIDED BY TECHNOLOGY CONTRACTOR.
- 3. ALL BLANK COVER PLATES SHALL BE STAINLESS STEEL.
- 4. RECEPTACLES SHALL BE GFCI TYPE.



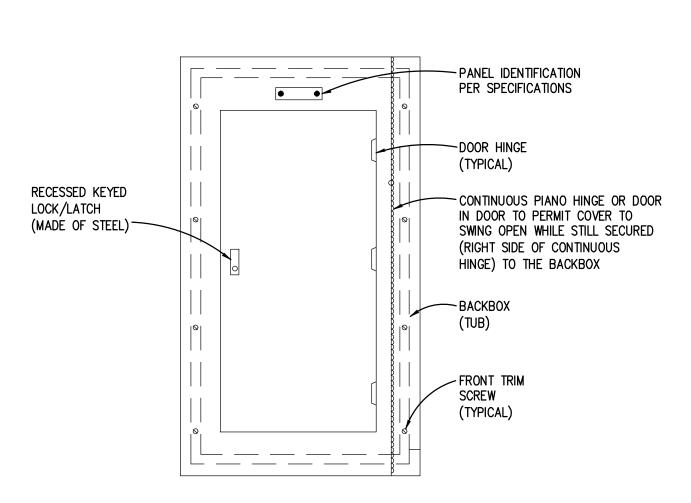
#### IDF RACK DETAIL NO SCALE

NOTE: COORDINATE EXACT LOCATION OF PLYWOOD BACKBOARD WITH OWNERS TECHNOLOGY REPRESENTATIVE PRIOR TO ROUGH-IN.

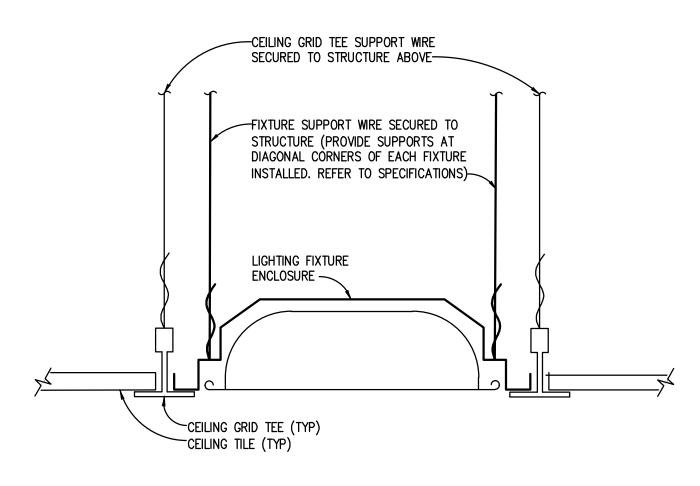


#### **TELECOMMUNICATIONS** GROUND BUS (TGB) DETAIL NO SCALE

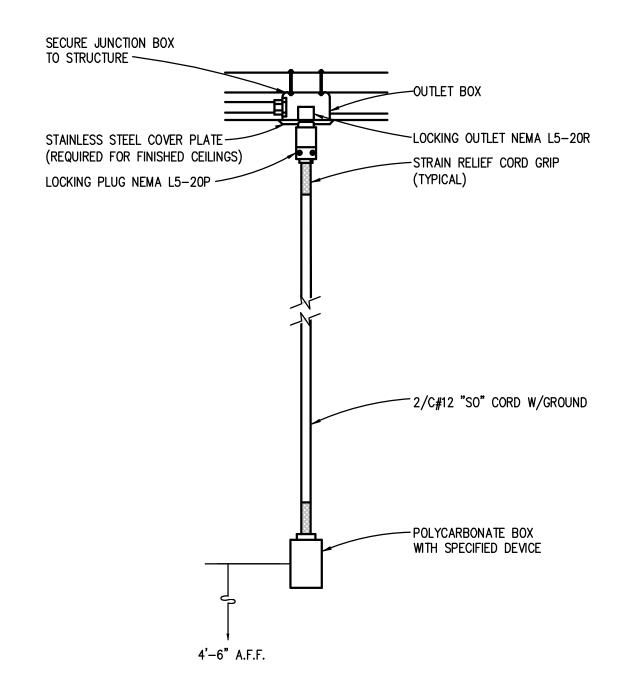
PROVIDE TWO HOLE LUGS FOR TBB CONNECTIONS, AND ONE HOLE LUGS FOR EQUIPMENT GROUND CONDUCTOR CONNECTIONS.



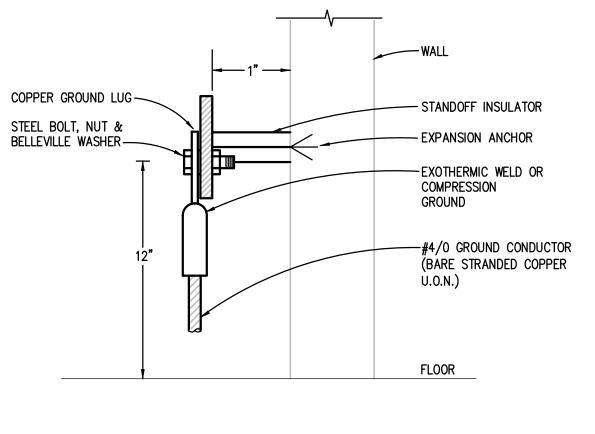
PANELBOARD FRONT COVER DETAIL NO SCALE

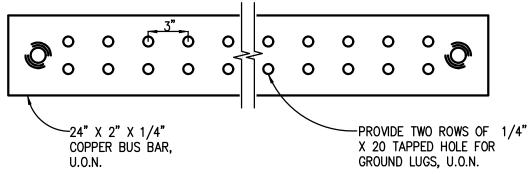


#### RECESSED LIGHTING FIXTURE **INSTALLATION DETAIL** NO SCALE

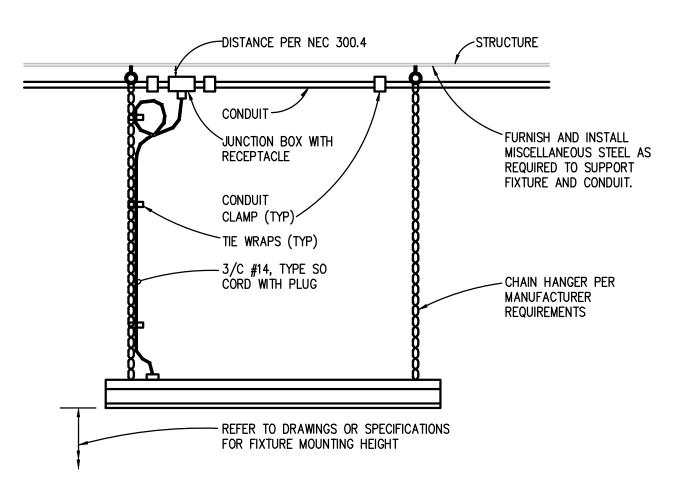


SUSPENDED OUTLET DETAIL NO SCALE

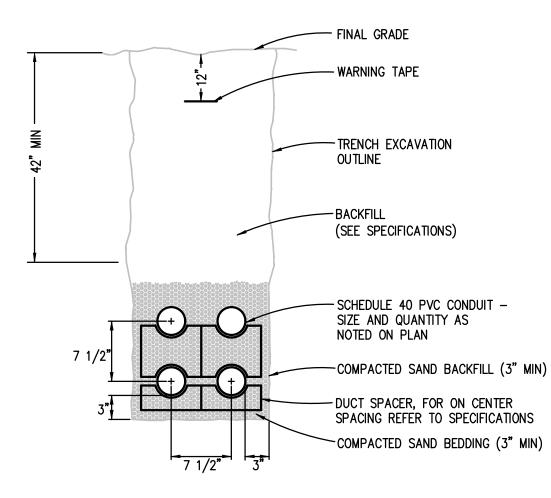




#### **ELECTRICAL GROUND BUS DETAIL** NO SCALE



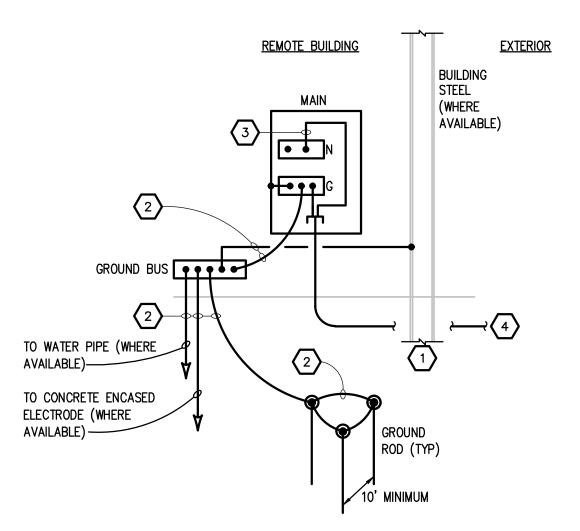
#### TYPICAL MOUNTING DETAIL FOR CHAIN **HUNG LIGHTING FIXTURES**



#### UNDERGROUND CONDUIT DETAIL NO SCALE

#### NOTES:

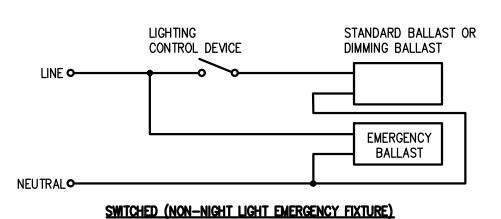
1. QUANTITY AND CONFIGURATION OF DUCTS SHALL BE AS SHOWN ON PLAN DRAWINGS. 12" MINIMUM SEPARATION SHALL BE MAINTAINED BETWEEN ELECTRICAL AND COMMUNICATIONS DUCTS.

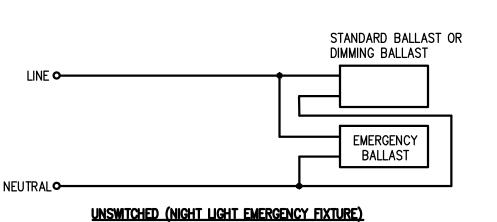


#### REMOTE BUILDING GROUNDING NO SCALE

#### # KEYED NOTES

- METAL IN-GROUND SUPPORT STRUCTURE IN DIRECT CONTACT WITH EARTH VERTICALLY
- FOR A MINIMUM OF 10FT, WHERE AVAILABLE.
- 2. GROUNDING ELECTRODE CONDUCTOR, #4/0 COPPER. 3. GROUNDED CONDUCTOR (NEUTRAL), SEE ONE LINE DIAGRAM.
- 4. PHASE CONDUCTORS, GROUNDED CONDUCTOR (NEUTRAL), AND EQUIPMENT GROUNDING CONDUCTOR IN CONDUIT TO MAIN BUILDING. SEE ONE LINE DIAGRAM.





### **EMERGENCY BALLAST WIRING DIAGRAM**

#### NO SCALE NOTE:

Peter Basso Associates Inc

CONSULTING ENGINEERS

5145 Livernois, Suite 100

Troy, Michigan 48098-3276

Tel: 248-879-5666

Fax: 248-879-0007

www.PeterBassoAssociates.com

PBA Project No.: 2022.0428

PRIMARY CIRCUIT ONLY. LAMP LEADS NOT SHOWN.

Bidding and Permits: 20 March 2023

# ELECTRICAL DETAILS AND DIAGRAMS



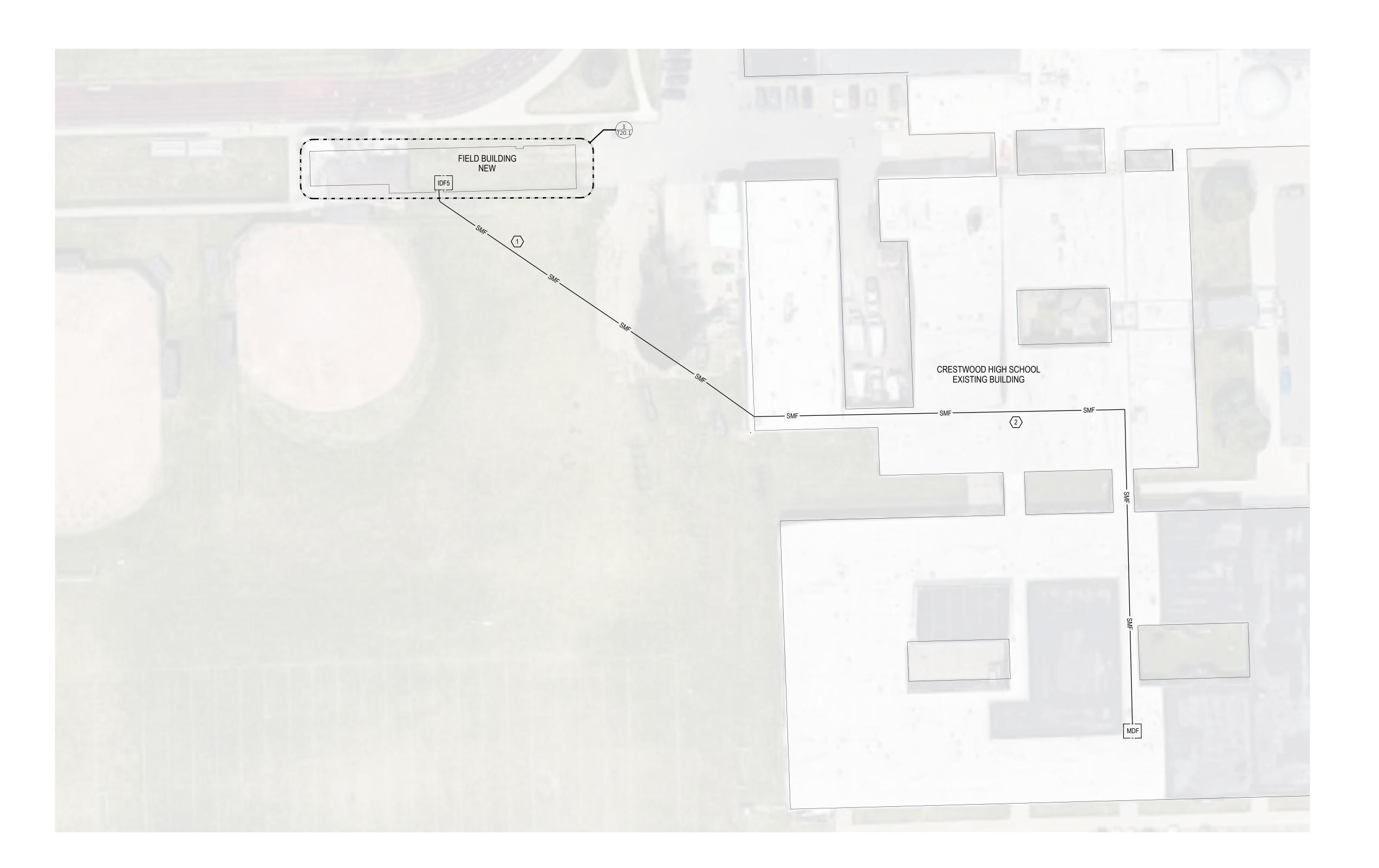
Crestwood School District Crestwood High School Field Building & Site Improvements

E7.10

803 W. Big Beaver Road, Suite 350, Troy, MI 48084 | 248.244.9710

Project No. 5622

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Field Building Communications Site Plan Scale: 1/32"=1'-0"

#### **GENERAL NOTES:**

- 1. E.C. TO PROVIDE ALL CONDUITS, SLEEVES, AND BACK BOXES FOR STRUCTURED CABLING. 2. STRUCTURED CABLING CONTRACTOR SHALL FIRESTOP ALL CONDUITS, SLEEVES, AND CORES PROVIDED FOR STRUCTURED CABLING WHETHER OR NOT THEY ARE UTILIZED.
- KEYED SHEET NOTES: ⟨#⟩
- 1. INSTALL 12 SINGLE-MODE FIBER IN 2" UNDERGROUND CONDUIT FROM IDF5 TO CRESTWOOD HIGH SCHOOL ENTRY. CONDUIT PROVIDED BY E.C.
- 2. INSTALL 12 SINGLEMODE FIBER WITHIN CORRIDOR SUSPENDED CEILING IN CRESTWOOD HIGH SCHOOL TO MDF. INSTALL AND SUPPORT AS REQUIRED PER SPECIFICATIONS.

#### STRUCTURED CABLING SYMBOL LEGEND:

- SINGLE DATA OUTLET ONE (1) CATEGORY 6 UTP SEE DETAIL 1 SHEET T95
- DOUBLE DATA OUTLET TWO (2) CATEGORY 6 UTP SEE DETAIL 2 SHEET T95
- WIRELESS ACCESS POINT ONE (1) CATEGORY 6 UTP
- ER EQUIPMENT RACK
- -SMF- SINGLE-MODE FIBER

#### STRUCTURED CABLING ABBREVIATIONS:

- MDF MAIN DISTRIBUTION FRAME INTERMEDIATE DISTRIBUTION FRAME
- ABOVE FINISH FLOOR
- AGL ABOVE GROUND LEVEL
- UNO UNLESS NOTED OTHERWISE E.C. ELECTRICAL CONTRACTOR







Bidding & Permits: 20 March 2023

Field Building Communications Site Plan

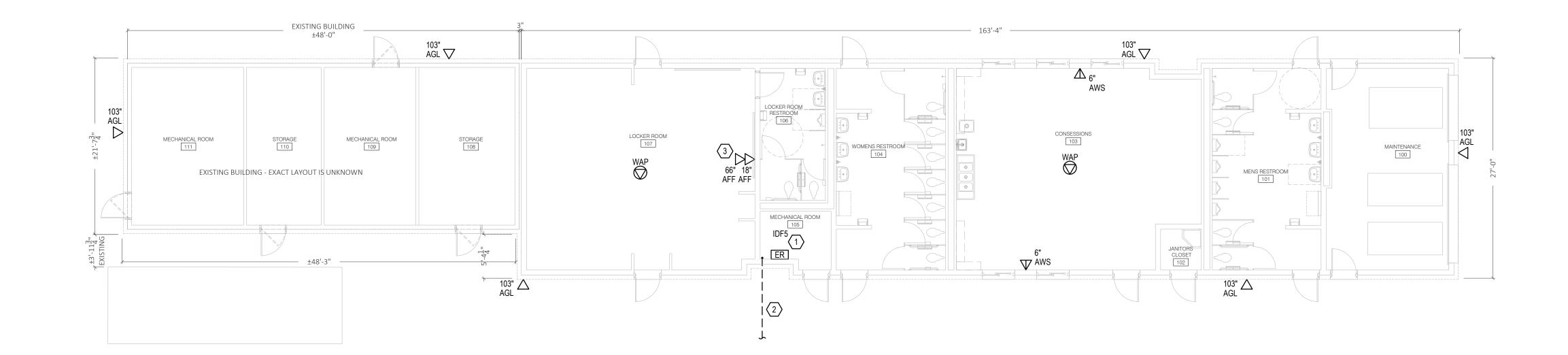


Crestwood School District Crestwood High School Field Building & Site Improvements

Project No. 5622

T0.11





Field Building Structured Cabling Plan
T20.1 Scale: 1/8"=1'-0"

#### **GENERAL NOTES:**

- 1. E.C. TO PROVIDE ALL CONDUITS, SLEEVES, AND BACK BOXES FOR STRUCTURED CABLING. 2. STRUCTURED CABLING CONTRACTOR SHALL FIRESTOP ALL CONDUITS, SLEEVES, AND CORES PROVIDED FOR STRUCTURED CABLING WHETHER OR NOT THEY ARE UTILIZED.
- KEYED SHEET NOTES: ⟨#⟩
- 1. COORDINATE EXACT LOCATION OF EQUIPMENT RACK WITH OWNER PRIOR TO INSTALLATION. 2. INSTALL 12 STRAND SINGLE-MODE FIBER AS SPECIFIED TO THE MDF IN CRESTWOOD HIGH
- SCHOOL. 2" CONDUIT PROVIDED BY E.C. 3. WALL MOUNTED SMART PANEL LOCATION. SEE DETAIL 3 ON SHEET T70.1.

#### STRUCTURED CABLING SYMBOL LEGEND:

- $\nabla$  SINGLE DATA OUTLET ONE (1) CATEGORY 6 UTP SEE DETAIL 1 SHEET T70.1
- DOUBLE DATA OUTLET TWO (2) CATEGORY 6 UTP SEE DETAIL 2 SHEET T70.1
- WIRELESS ACCESS POINT ONE (1) CATEGORY 6 UTP
- ER EQUIPMENT RACK

#### STRUCTURED CABLING ABBREVIATIONS:

- MDF MAIN DISTRIBUTION FRAME IDF INTERMEDIATE DISTRIBUTION FRAME
- ABOVE FINISH FLOOR AWS ABOVE WORK SURFACE
- AGL ABOVE GROUND LEVEL
- UNO UNLESS NOTED OTHERWISE E.C. ELECTRICAL CONTRACTOR



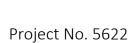


Bidding & Permits: 20 March 2023

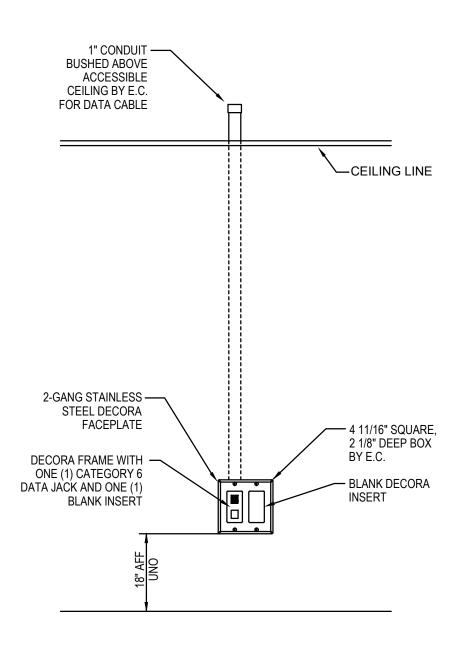
Field Building Structured Cabling Plan



Crestwood School District Crestwood High School Field Building & Site Improvements

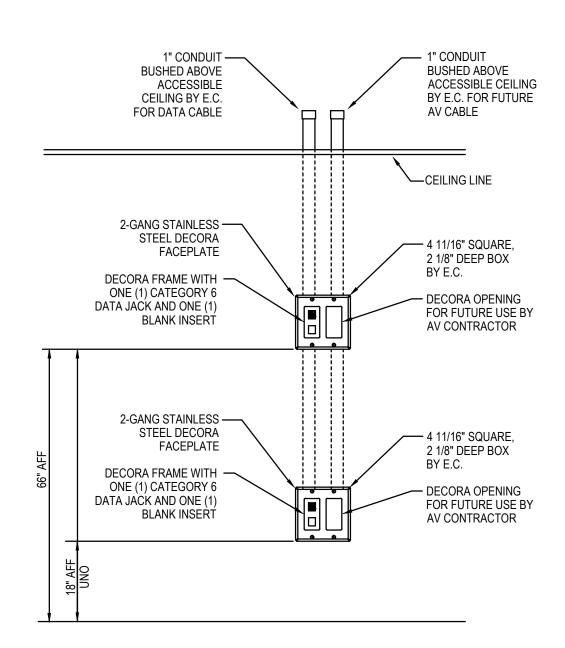


T20.1

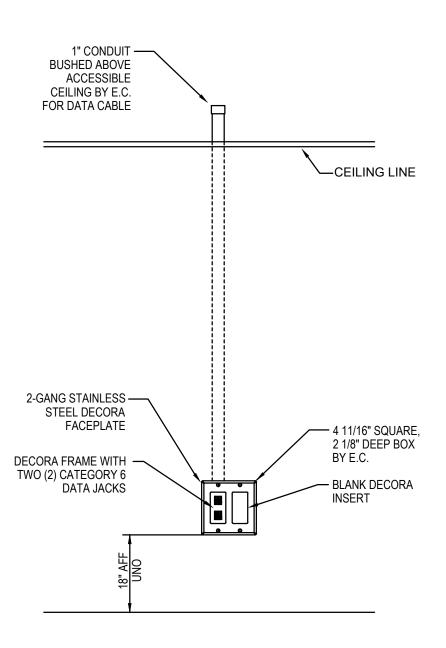


Single Data Outlet Detail

T20.1 Scale: NTS



3 Smart Panel Location Detail T20.1 Scale: NTS



Double Data Outlet Detail
Scale: NTS



**GENERAL NOTES:** 

1. E.C. TO PROVIDE ALL CONDUITS, SLEEVES, AND BACK BOXES FOR STRUCTURED CABLING. 2. STRUCTURED CABLING CONTRACTOR SHALL FIRESTOP ALL CONDUITS, SLEEVES, AND CORES PROVIDED FOR STRUCTURED CABLING WHETHER OR NOT THEY ARE UTILIZED.

STRUCTURED CABLING ABBREVIATIONS:

MDF MAIN DISTRIBUTION FRAME IDF INTERMEDIATE DISTRIBUTION FRAME

AFF ABOVE FINISH FLOOR

AGL ABOVE GROUND LEVEL

UNO UNLESS NOTED OTHERWISE E.C. ELECTRICAL CONTRACTOR



www.wrighthunter.com

Bidding & Permits: 20 March 2023

Field Building Structured Cabling Details

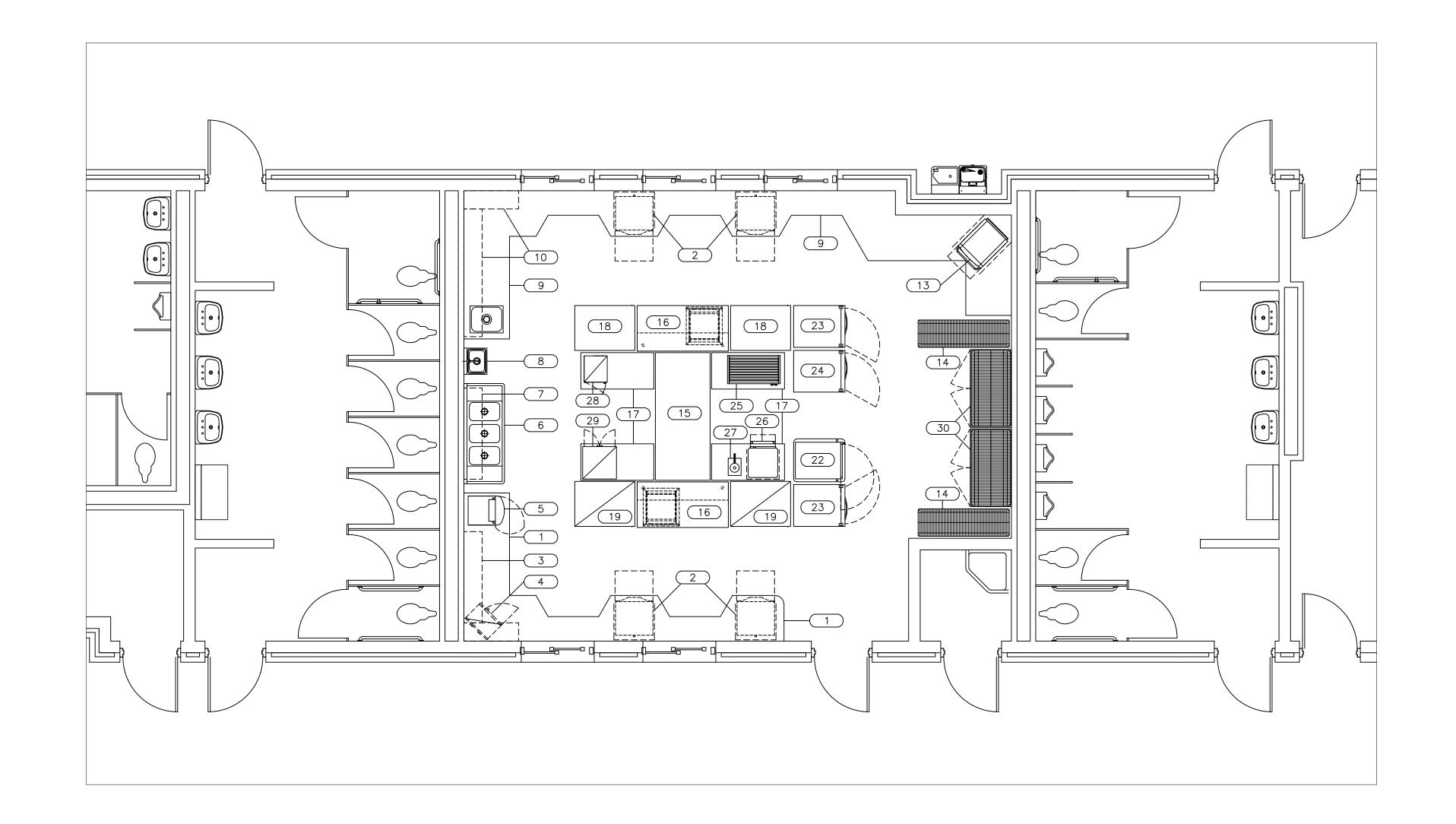


Crestwood School District Crestwood High School Field Building & Site Improvements

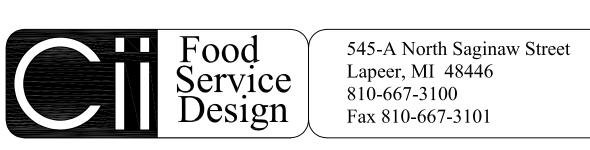
Project No. 5622

T70.1





ltem			Equipment
No	Otv	   Equipment Category	Remarks
1	_	SERVING COUNTER "A"	Kemarks
2		UNDERCOUNTER MOBILE HEATED DRAWERS	
3	<del>                                     </del>	WALL SHELVES "A"	
4	1	MICROWAVE OVEN	EXISTING
<del>.</del> 5	<del>-</del>	HOT BEVERAGE POWDER MIX DISPENSER	EXISTING
6	1	THREE COMPARTMENT SINK	
<del></del> 7	<b>├</b>	WALL SHELVES "B"	
8		HAND SINK	
9	<del>                                     </del>	SERVING COUNTER "B"	
10		WALL SHELVES "C"	
11	-	UNASSIGNED NUMBER	
12	-	UNASSIGNED NUMBER	
13	1	SPEED OVEN	FUTURE
14	2	OPEN SHELVING	
15	1	MOBILE WORK TABLE "A"	
16	2	MOBILE WORK TABLE "B"	
17	4	MOBILE WORK TABLE "C"	
18	2	COLD BEVERAGE DISPLAY "A"	
19	2	COLD BEVERAGE DISPLAY "B"	EXISTING
20	-	UNASSIGNED NUMBER	
21	-	UNASSIGNED NUMBER	
22	1	MOBILE HOT HOLDING CABINET	
23	2	SECURE REFRIGERATOR	
24	1	SECURE FREEZER	
25	1	HOT DOG ROLLER GRILL	
26	1	NACHO BIN	
27	1	NACHO CHEESE PUMP	
28	1	PRETZEL DISPLAY	EXISTING
29	1	POPCORN MACHINE	EXISTING
30	2	SECURE SHELVING UNIT	



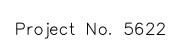


Bidding and Permits 20 March 2023

Food Service Floor Plan and Schedule



Crestwood School District Crestwood High School Field Building and Site Improvements



FS.



#### NOTES

1- LOCATIONS SHOWN ARE APPROXIMATE CONNECTION POINTS ON EQUIPMENT. FSEC TO PROVIDE FULLY DIMENSIONED ROUGH-IN PLAN.

2- UTILITY REQUIREMENTS, DIMENSIONS, INTERCONNECTIONS, AND SO ON ARE BASED ON THE FIRST-NAMED MANUFACTURER IN THE SPECIFICATIONS. THE FSEC IS RESPONSIBLE FOR ADVISING ANY DEVIATIONS THAT MAY RESULT FROM THE USE OF MANUFACTURERS OTHER THAN THE FIRST-NAMED, AND FOR ANY ADDITIONAL COSTS BY ANY TRADES INCURRED AS A RESULT OF USING MANUFACTURERS OTHER THAN THE FIRST-NAMED.

3- UTILITY REQUIREMENTS DO NOT NECESSARILY REFLECT EXISTING UTILITIES IN THE AREA. WHERE PRACTICAL, EXISTING UTILITIES SHALL BE USED IN LIEU OF PROVIDING NEW SERVICES.

4- THE FSEC SHALL VERIFY REQUIREMENTS FOR EXISTING EQUIPMENT.

5- MECHANICAL ENGINEER TO DETERMINE, PER LOCAL CODES, SIZE AND LOCATION OF GREASE INTERCEPTOR.

6- MECHANICAL ENGINEER TO DETERMINE, PER LOCAL REQUIREMENTS, DIRECT OR INDIRECT WASTE OUTLET CONFIGURATIONS FOR VARIOUS EQUIPMENT AND THE NEED FOR CONNECTION TO GREASE INTERCEPTORS.

7- GENERAL AREA FLOOR DRAINS NOT REQUIRED FOR FOOD SERVICE EQUIPMENT ARE NOT SHOWN.

8- PLUMBING CONTRACTOR TO EXTEND INDIRECT WASTE OUTLETS, AS LOCATED ON EQUIPMENT, TO BUILDING WASTE RECEPTACLES UNLESS OTHERWISE NOTED.

9- PLUMBING CONTRACTOR SHALL PROVIDE WATER PRESSURE REDUCING VALVES FOR PRESSURES IN EXCESS OF 50 PSI UNLESS OTHERWISE NOTED.

10- FSEC TO FURNISH AND INSTALL CORD AND PLUG AND COORDINATE MATCHING RECEPTACLE (NOT BY FSEC) TO FOOD SERVICE EQUIPMENT, AS INDICATED ON PLAN.

11- ELECTRICAL RECEPTACLES ARE INCLUDED WHERE REQUIRED TO ACCOMMODATE FOOD SERVICE EQUIPMENT. ELECTRICAL ENGINEER TO PROVIDE ADDITIONAL CONVENIENCE RECEPTACLES AS MAY BE NECESSARY.

12- FSEC WILL NOT BE RESPONSIBLE FOR FURNISHING ELECTRICAL COMPONENTS SUCH AS LINE OR DISCONNECT SWITCHES, SAFETY CUT-OUTS, CONTROL PANELS, FUSE BOXES, FITTINGS, WIRING OR PLUMBING COMPONENTS AND FIXTURES SUCH AS TEES, MIXING VALVES, ELBOWS, SHUT-OFF VALVES, COUPLINGS, AND FITTINGS OTHER THAN THOSE FURNISHED AS STANDARD WITH HIS EQUIPMENT OR AS OTHERWISE SPECIFIED.

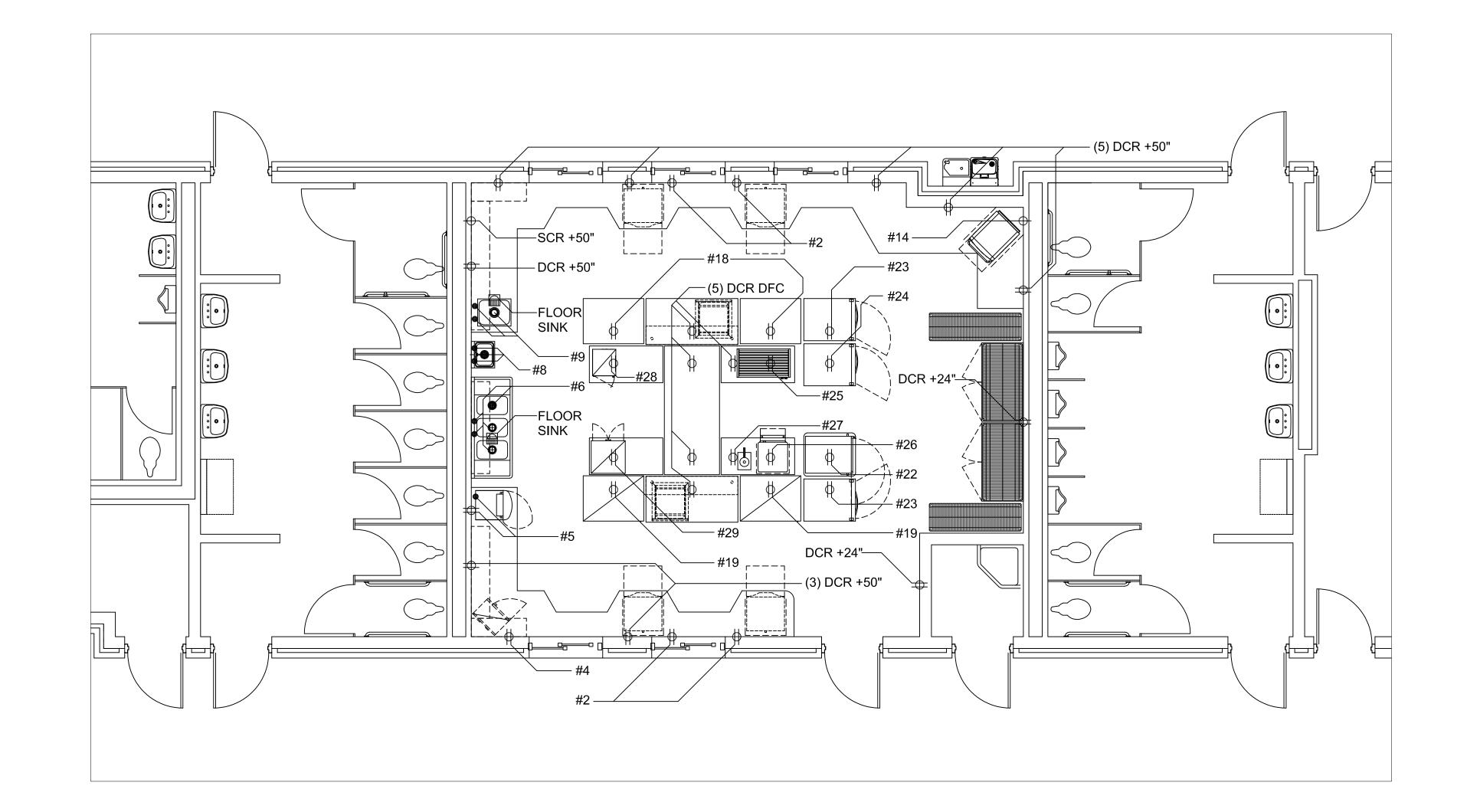
EQUIPM	MENT SCHEDULE	OV	VŅEI	R VE	ERIF	/ UT	ILITIE	S REQI	JIRED	FOR	REXI	ISTING	EQU	IPMENT			_	_			
Item No Qty	/ Equipment Category	Equipment Remarks	Size (in) Hot Water	AFF (in)	Cold Water Size (in)	Cold Water AFF (in)	Direct Drain Size (in)	Direct Drain AFF (in)	Indir Drain Size (in)	Gas Size (in)		Gas Use (MBTUH)	Gas AFF (in)	Plumbing Remarks	Volts	Phase	KW	윺	Amps	Electrical AFF (in)	Direct Plug Electrical Remarks
1 1	SERVING COUNTER "A"																				
2 4	UNDERCOUNTER MOBILE HEATED DRAWERS														120	1	0.64		5.3	24	X
3 LOT	「WALL SHELVES "A"																				
4 1	MICROWAVE OVEN	EXISTING													120	1		2.0	15.0 CIR.	50	X EXISTING - VERIFY
5 1	HOT BEVERAGE POWDER MIX DISPENSER				1/2	50									120	1	1.8		15.0 CIR.	50	X
6 1	THREE COMPARTMENT SINK	1/2	2 1	.4	1/2	14	2.0(GT	) 16	(2)2.0	)*				* TO AIR GAP WASTE							
7 LOT	T WALL SHELVES "B"																				
8 1	HAND SINK	1/2	2 1	.4	1/2	14	1.5	16						VERIFY							
9 1	SERVING COUNTER "B"	1/2	2 1	.4	1/2	14			2.0	:				* TO AIR GAP WASTE							
10 LOT	WALL SHELVES "C"																				
11 -	UNASSIGNED NUMBER																				
12 -	UNASSIGNED NUMBER																				
13 1	SPEED OVEN	FUTURE													208/240	1	3.5		30.0 CIR.	50	X
14 2	OPEN SHELVING																				
15 1	MOBILE WORK TABLE "A"																				
16 2	MOBILE WORK TABLE "B"																				
17 4	MOBILE WORK TABLE "C"																				
18 2	COLD BEVERAGE DISPLAY "A"														120	1		.5	6.3	DFC	X
19 2	COLD BEVERAGE DISPLAY "B"	EXISTING													120	1		.5	6.3	DFC	X EXISTING - VERIFY
20 -	UNASSIGNED NUMBER																				
21 -	UNASSIGNED NUMBER																				
22 1	MOBILE HOT HOLDING CABINET														120	1	1.5		12.5	DFC	X
	SECURE REFRIGERATOR												1		120	1		.25	3.8	DFC	X
24 1	SECURE FREEZER														120	1		.5	6.8	DFC	X
25 1	HOT DOG ROLLER GRILL														120	1	1.32		11.0	DFC	X
26 1	NACHO BIN														120	1	1.08		9.0	DFC	X
27 1	NACHO CHEESE PUMP														120	1	0.4		3.3	DFC	X
28 1	PRETZEL DISPLAY	EXISTING													120	1	1.5			DFC	X EXISTING - VERIFY
29 1	POPCORN MACHINE	EXISTING													120	1	1.6		13.7	DFC	X EXISTING - VERIFY
	SECURE SHELVING UNIT																				(DFA = DOWN FROM CEILING)

#### LEGEND

ELECTRICAL CONNECTION DUPLEX RECEPTACLE (120/1ø) DR → SR SINGLE RECEPTACLE (208/10) DCR DUPLEX CONVENIENCE RECEPTACLE (120/1ø)  $\rightarrow$  SCR SINGLE CONVENIENCE RECEPTACLE (208/10) HORSEPOWER KILOWATTS FULL LOAD AMPS HOT WATER CW COLD WATER DIRECT WASTE FD FLOOR DRAIN FUNNEL FLOOR DRAIN FLOOR SINK

MBTUH 1,000 BTU PER HOUR DOWN FROM ABOVE ABOVE FINISHED FLOOR

FSEC FOOD SERVICE EQUIPMENT CONTRACTOR



Bidding and Permits 20 March 2023

Food Service Utilities



803 W. Big Beaver Road, Suite 350, Troy, MI 48084 | 248.244.9710

Crestwood School District Crestwood High School
Field Building and Site Improvements

Project No. 5622

545-A North Saginaw Street Lapeer, MI 48446 810-667-3100 Fax 810-667-3101

