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project description:

Large rentable storage units suitable for contractor storage and private use - Buildings 1, 2, 3, 4, 5, 8, 9, 10, 13, 14, & 15

const. schedule

sitework:	spring 2022
building envelope:	spring 2022
estimated duration:	6 months

schedule indications are estimated and shall be the responsibility of the contractor.

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C2.3	erosion control plan - phase II
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E1.0	electrical site plan
E2.0	electrical lighting plan
E3.0	electrical power plan
E4.0	electrical schedules
E5.0	electrical schedules

davidson
architecture & engineering

client:

Kevin Henter
Mega Storage USA
577 Villa Ct
West Des Moines, IA 50266
p: 515-250-4051

architect:

Christopher L. Hafner
Davidson Architecture & Engineering
4301 Indian Creek Parkway
Overland Park, Kansas 66207
p: 913.451.9390 f: 913.451.9391

STATE OF MISSOURI
ARCHITECT
03.09.2022

civil engineer:

Paul Miller, PE
Davidson Architecture & Engineering
4301 Indian Creek Parkway
Overland Park, Kansas 66207
p: 913.451.9390 f: 913.451.9391

structural engineer:

Bryce D. Crady, PE
Apex Engineers, Inc.
1625 Locust St.
Kansas City, MO 64108
p: 816-421-3222

electrical engineer:

Darin T. Seidel, PE
BC Engineers Incorporated
5720 Reeder Shawnee, KS 66203
p: 913-262-1772

a new development for
Mega Storage
520 NE Town Centre Drive, Lee's Summit, Missouri

A0.0
cover sheet

project synopsis

Municipality:	Lee's Summit, Missouri
Applicable Building Codes & Ordinances:	2018 International Building Code (IBC) 2018 International Plumbing Code (IPC) 2018 International Mechanical Code (IMC) 2018 International Fuel Gas Code (IFGC) 2018 International Fire Code (IFC) 2017 National Electrical Code (NEC) ICC/ANSI A117.1-2009, Accessible and Usable Buildings and Facilities Lee's Summit Unified Development Ordinance (UDO)
Project Address:	520 NE Town Centre Drive Lee's Summit, Missouri 64064
Project Description:	Construction of storage units sized for contractor and private use - phase I of 2 phases
Property Owner:	WHD Management LLC PO Box 1059 Lee's Summit, MO 64063
Existing Zoning:	PI - Planned Industrial
Existing Land Use:	Undeveloped
Proposed Land Use:	Storage

Building Setbacks:

Street	20 ft
Side Yard	10 ft
Rear Yard	20 ft

Landscaping Setbacks:

Street Frontage	20 ft

Height Requirements:	N/A
Number of Dwelling Units:	N/A

Special Conditions Met:
Special use permit issued for storage use

Adjacent Zoning (within 185'):	CP-2, RP-4
Adjacent Land Use (within 185'):	Commercial, Undeveloped, Residential, Government

Assumed Building Occupancy:

Mega Storage Site:	Commercial Storage, Private Storage
Pad Site A:	Limited Indoor Recreation - Batting Cages
Pad Site B:	Warehouse with Small Office

Site Area

Mega Storage Site	348,356 sq. ft.	7.98 ac.
Phase I	186,363	
Phase 2	161,993	

Building Area

Mega Storage Site Total	53,040	sq. ft.
Building 1	5,000	sq. ft.
Building 2	5,000	sq. ft.
Building 3	5,000	sq. ft.
Building 4	4,480	sq. ft.
Building 5	4,480	sq. ft.
Building 8	4,995	sq. ft.
Building 9	4,550	sq. ft.
Building 10	4,550	sq. ft.
Building 13	4,995	sq. ft.
Building 14	4,995	sq. ft.
Building 15	4,995	sq. ft.

Floor Area Ratio - Maximim 1.0

Mega Storage Site	53,040	/	348,356	0.15

Pervious/Impervious Areas

	pervious			impervious		
Mega Storage Site (total future)	74,396	sq. ft.	21%	273,960	sq. ft.	79%
phase I	47,378	sq. ft.	25%	138,985	sq. ft.	75%

Parking

Mega Storage Site: Warehouse Storage Facility	0 required

+ provided loading and unloading areas for parking as needed

Mega Storage Site - Storage Quantities (phase I)

Private	84
Commercial	18
Total Storage Units	102

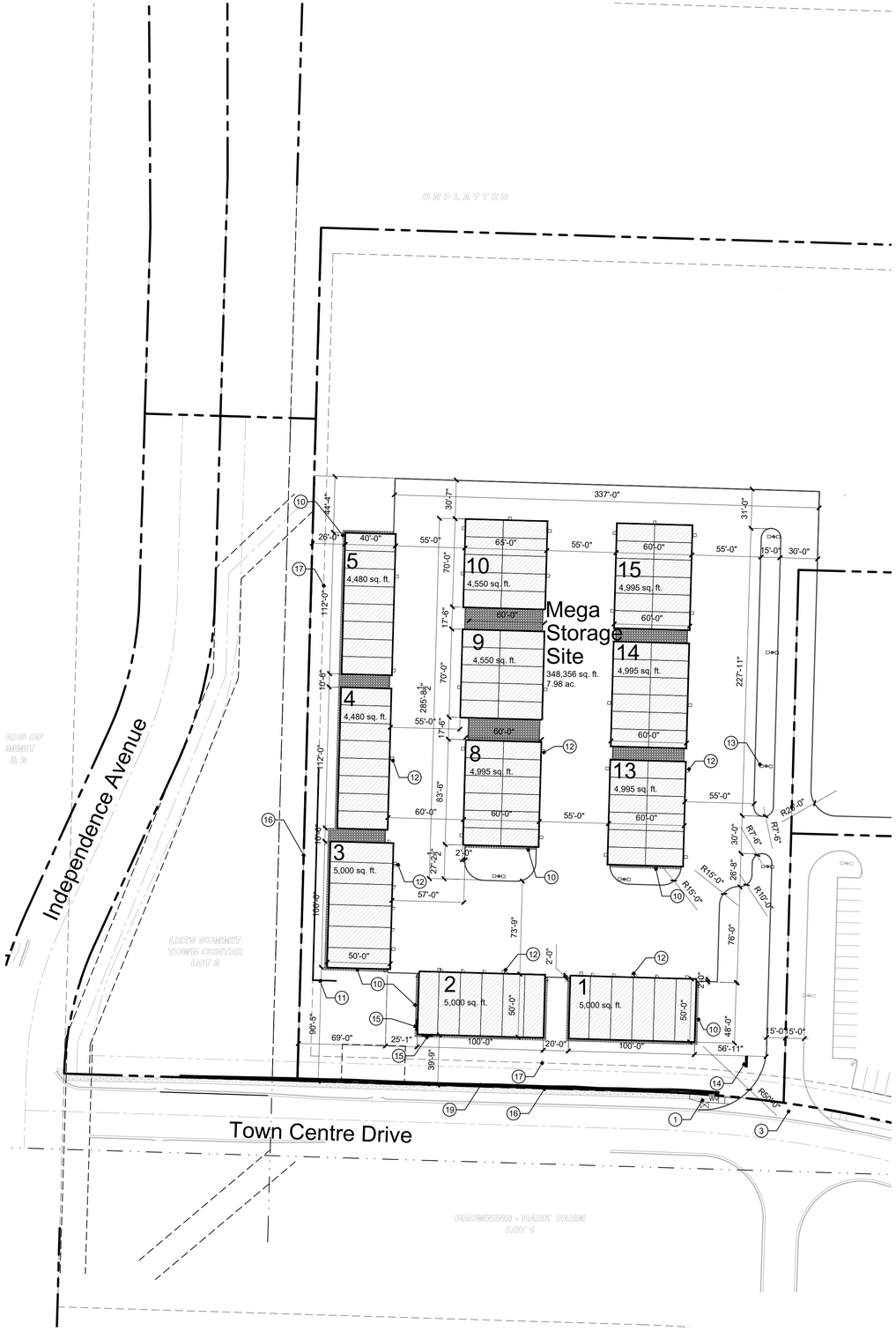
Building Construction Type: IIB
Minimum Fire Separation
Distance: ≥ 10'-0"

general notes

- All construction shall conform to the standards and specifications of Lee's Summit, Missouri.
- The general contractor shall contact all utility companies prior to the start of construction and verify the location and depth of any utilities that may be encountered during construction.
- The contractor shall field verify exist. surface & subsurface ground conditions prior to start of construction.
- Slopes shall maintain a maximum 3:1 slope.
- The contractor shall be responsible for obtaining all required permits, paying all fees, and otherwise complying with all applicable regulations governing the project.
- Place silt fence per civil for erosion control.
- Provide a temporary gravel access drive to prevent mud from being deposited onto the adjacent road.
- Prior to installing any structure on a public storm sewer, the contractor shall submit shop drawings for the structure(s). Installation shall not occur until drawings have been approved by public works.
- Prior to installing, constructing, or performing any work on the public storm sewer line (including connecting private drainage to the storm system) contact the city for inspection of the work. Contact must be made at least 48 hours prior to the start of work.
- Connections to the public storm sewer between structures will not be permitted.
- All exterior utility services shall be painted to match the primary building color.
- Signage shall comply with Lee's Summit Signage Ordinance.
- The property owner's association shall have ownership and maintenance responsibilities for the common area tract.
- Reference electrical plans for ground mounted equipment.

plan notes

1. Furnish and install 5'-0" wide concrete sidewalk with broom finish per city of Lee's Summit standards to connect to existing sidewalk.
2. Furnish and install 5'-0" wide concrete sidewalk with broom finish per city of Lee's Summit standards. Sidewalk shall be in the r.o.w. offset by 1'-0" from the property line.
3. Furnish and install new curb cut per city of Lee's Summit standards. Align with access across the street.
4. Furnish and install new curb cut per city of Lee's Summit standards.
5. Not used.
6. Not used.
7. Not used.
8. Not used.
9. Not used.
10. Furnish and install strip of clean rock at perimeter of building for drainage and maintenance if required by the geotechnical report.
11. Location of block retaining wall; reference civil drawings.
12. Furnish and install UDO compliant building mounted area light.
13. Furnish and install UDO compliant pole mounted area light; maximum top of pole height to be 18'-0".
14. Furnish and install ground mounted monument sign to meet ordinance requirements. Provide electrical to sign as required.
15. Furnish and install wall mounted sign to meet ordinance requirements. Provide electical as required.
16. Property line.
17. Building setback line.
18. Not used.
19. Existing retaining wall to remain.



1 Site Plan
scale: 1" = 50'-0"
north

davidson
architecture&engineering
4301 Indian Creek Parkway
Overland Park, KS 66207
phone: 913.451.9380
fax: 913.451.9381
www.davidsonae.com

STATE OF MISSOURI
CHRISTOPHER LEE HAPNER
NUMBER A-2007020152
ARCHITECT
03.09.2022

a new development for
Mega Storage - Town Centre Lot 1
520 NE Town Centre Drive
Lee's Summit, Missouri

date
02.11.2022
drawn by
DAE
checked by
DAE
revisions

sheet number
A1.1
drawing type
FDP & permit
project number
20231

RELEASED FOR CONSTRUCTION
As Noted on Plans Review
City of Lee's Summit, Missouri
Development Services Department
3/28/2022

davidson
architecture&engineering
4301 Indian Creek Parkway
Overland Park, KS 66207
phone: 913.451.9390
fax: 913.451.9391
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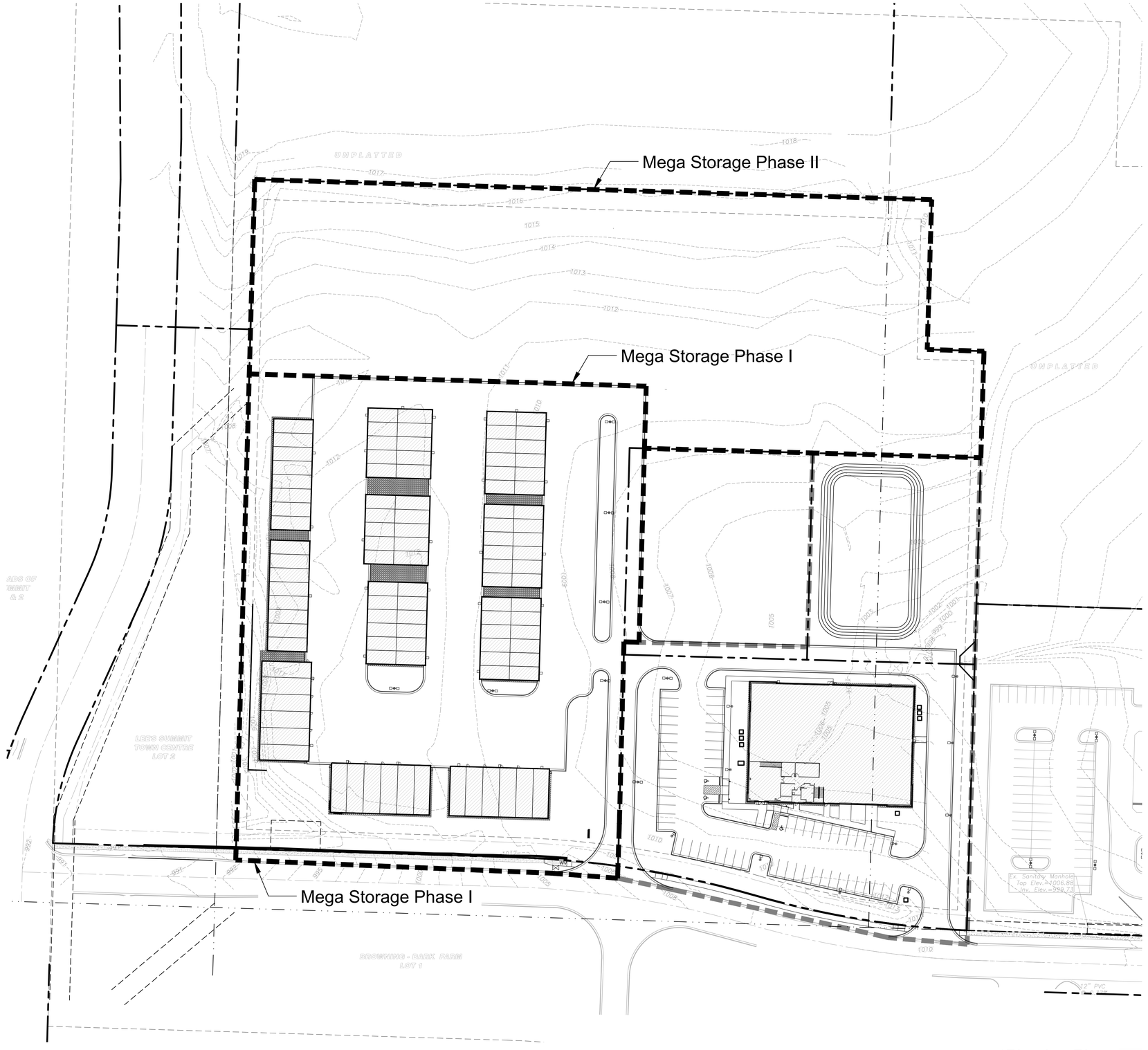

1 Phasing Plan
scale: 1" = 50'-0"
north

Mega Storage -Town Centre Lot 1

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△

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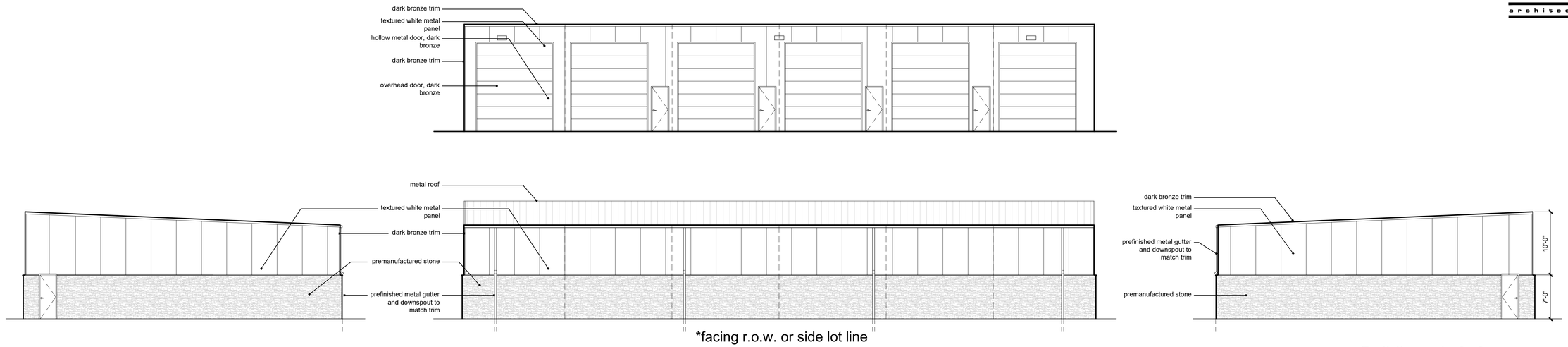
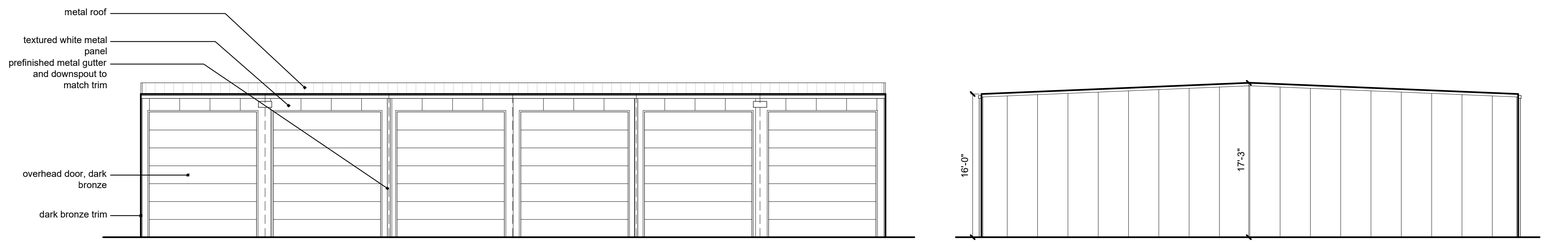


*facing r.o.w. or side lot line

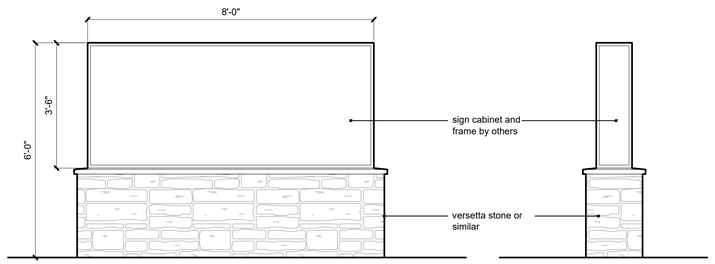
1 Buildings 1, 2, 3
scale: 1/8" = 1'-0"



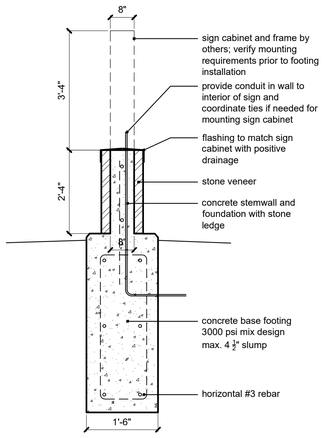
East/West

North/South

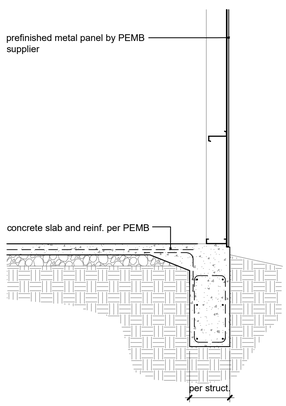
2 Buildings 8,13,14,15
scale: 1/8" = 1'-0"



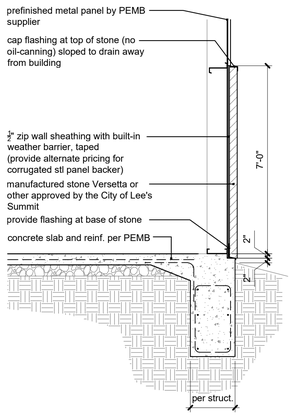
6 Monument Sign Elevations
scale: 1/2" = 1'-0"



5 Sign Detail
scale: 1/2" = 1'-0"



4 Typ. Metal Panel Dtl
scale: 3/8" = 1'-0"



3 Typ. Stone Dtl
scale: 3/8" = 1'-0"

General Notes:

- All construction shall conform to the standards and specifications of the city of Shawnee, Kansas.
- All exterior utility service equipment shall be painted to match the primary building color.
- All existing conditions per survey provided by owner.
- Refer to site dimension plan for all dimensions.
- Reference landscaping plan for required plantings.
- The contractor shall be responsible for obtaining all required permits, paying all fees, and otherwise complying with all applicable regulations governing the project.
- Provide a temporary gravel access drive to prevent mud from being deposited onto the adjacent road.
- Reference PEMB drawings for framing, roofing and door jamb details.

Material List:

Metal: Embossed white metal panel (per PEMB supplier)

Gutter and Downspouts: Bronze (per PEMB supplier)

Flashing: Bronze color to match accent

Caulk: Color to match adjacent material

Roofing: Metal Roof, color Galvalume (silver)

Manufactured Stone: Versetta Stone color 'Sterling' or city approved substitute

Overhead Doors: Bronze (per PEMB supplier)

Man Doors: White to match metal panel (per PEMB supplier)

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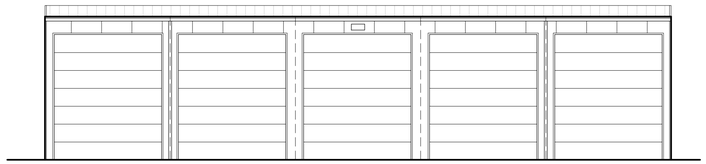
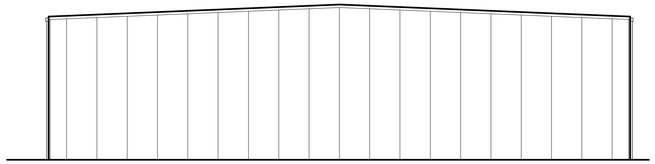
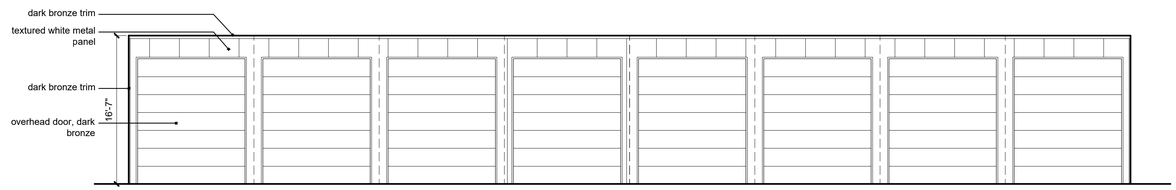


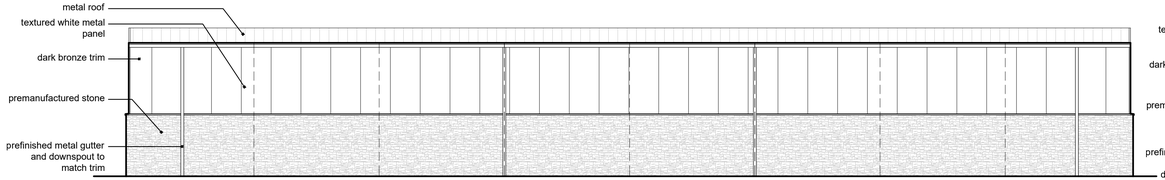
East/West



North/South

1 Building 9&10
scale: 1/8" = 1'-0"





West

South/
North Mirr.

2 Building 4 & 5
scale: 1/8" = 1'-0"

General Notes:

- All construction shall conform to the standards and specifications of the city of Shawnee, Kansas.
- All exterior utility service equipment shall be painted to match the primary building color.
- All existing conditions per survey provided by owner.
- Refer to site dimension plan for all dimensions.
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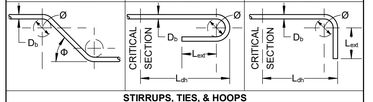

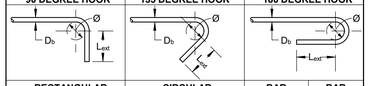

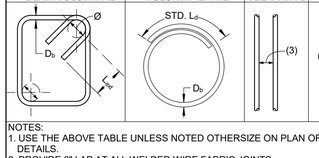

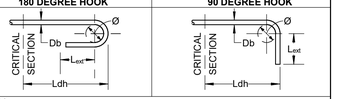

SCHEDULE - CONCRETE REBAR

DEVELOPMENT LENGTHS - L_d

f'c = 3000 PSI					f'c = 4000 PSI				
BAR SIZE	STD. L_d		CLASS B		BAR SIZE	STD. L_d		CLASS B	
	TYP.	TOP	TYP.	TOP		TYP.	TOP	TYP.	TOP
#3	17"	22"	22"	28"	#3	15"	19"	19"	25"
#4	22"	29"	29"	38"	#4	19"	25"	25"	33"
#5	28"	36"	37"	47"	#5	24"	31"	32"	41"
#6	33"	43"	43"	56"	#6	29"	37"	38"	49"
#7	48"	63"	63"	82"	#7	42"	54"	55"	71"
#8	55"	72"	72"	94"	#8	48"	62"	63"	81"
#9	62"	81"	81"	106"	#9	54"	70"	71"	91"

STANDARD HOOKS & BAR BENDS

f'c = 3000 PSI					f'c = 4000 PSI				
BAR SIZE	L_{dh}	"Ø"	L_{ext}		BAR SIZE	L_{dh}	"Ø"	L_{ext}	
			180	90				180	90
#3	6"	2 1/4"	2 1/2"	4 1/2"	#3	6"	2 1/4"	2 1/2"	4 1/2"
#4	8"	3"	2 1/2"	6"	#4	7"	3"	2 1/2"	6"
#5	10"	3 3/4"	2 1/2"	7 1/2"	#5	9"	3 3/4"	2 1/2"	7 1/2"
#6	12"	4 1/2"	3"	9"	#6	10"	4 1/2"	3"	9"
#7	14"	5 1/4"	3 1/2"	10 1/2"	#7	12"	5 1/4"	3 1/2"	10 1/2"
#8	16"	6"	4"	12"	#8	14"	6"	4"	12"
#9	18"	9"	4 1/2"	13 1/2"	#9	15"	9"	4 1/2"	13 1/2"

BAR BENDS — **180 DEGREE HOOK** — **90 DEGREE HOOK**

STIRRUPS, TIES, & HOOPS

BAR SIZE	Ø	L_{ext}			BAR SIZE	Ø	L_{ext}		
		90	135	180			90	135	180
#3	1 1/2"	3"	3"	2 1/2"	#6	4 1/2"	9"	4 1/2"	3"
#4	2"	3"	3"	2 1/2"	#7	5 1/4"	10 1/2"	5 1/4"	3 1/2"
#5	2 1/2"	3 3/4"	3 3/4"	2 1/2"	#8	6"	12"	6"	4"

90 DEGREE HOOK — **135 DEGREE HOOK** — **180 DEGREE HOOK**

RECTANGULAR BEAM/COLUMN TIE — **CIRCULAR COLUMN/PIER TIE** — **BAR CLEARANCE** — **BAR SPLICE**

NOTES:

1. USE THE ABOVE TABLE UNLESS NOTED OTHERSIZE ON PLAN OR IN DETAILS.
2. PROVIDE 6" LAP AT ALL WELDED WIRE FABRIC JOINTS.
3. PROVIDE 1 D_b (1" MINIMUM) CLEARANCE BETWEEN ADJACENT BARS.
4. PROVIDE WIRE TIES AT EACH END OF BAR SPLICE.
5. DO NOT PROVIDE CLASS A SPLICE UNLESS SPECIFICALLY DETAILED.

SCHEDULE - MASONRY REBAR

f'm = 2000 PSI

BAR SIZE	DEVELOPMENT LENGTH - L_d									L_{ext}	
	6"CMU	8" CMU		10" CMU		12" CMU					
	CTR	CTR	EDGE	CTR	EDGE	CTR	EDGE	L_{dh}	"Ø"	90°	180°
#3	12"	12"	12"	12"	12"	12"	12"	8"	8"	2"	5"
#4	12"	12"	20"	12"	20"	12"	20"	14"	14"	3"	6"
#5	28"**	20"	45"	16"	45"	13"	45"	37"	37"	4"	8"
#6	53"**	38"	54"	29"	54"	24"	54"	45"	45"	5"	9"
#7	NP	52"	63"	40"	63"	33"	63"	52"	52"	6"	11"
#8	NP	72"	72"	61"	72"	50"	72"	59"	59"	6"	12"
#9	NP	NP	NP	79"	82"	64"	82"	68"	68"	10"	14"
#10	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
#11	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP

180 DEGREE HOOK — **90 DEGREE HOOK**

NOTES:

1. NP = NOT PERMITTED
2. ** = BAR SIZE PERMITTED ONLY IF ALL MORTAR FINS ARE REMOVED FROM THE CELLS TO BE GROUTED
3. EDGE CONDITION SHALL MEET MINIMUM COVER OF 1 1/2" FOR #3-#5 BARS AND 2" FOR #6 AND LARGER, UNO.

SCHEDULE - TRENCH FOOTINGS

MARK	WIDTH	DEPTH	LONG BARS	STIRRUPS
TF1	1' - 0"	9"	(2) #4 BARS	N/A
TF2	1' - 0"	36"	(4) #4 CONT [(2) AT T&B]	#4 VERT AT 18" OC

SCHEDULE - SLAB ON GRADE

MARK	SLAB DEPTH	WEIGHT CLASS	SLAB REINFORCING	ADDITIONAL REQUIREMENTS
SG5	5"	NW	#3 AT 18"OC EA WAY OR 6X6 W2.1XW2.1 WWF	10 MIL. VAPOR BARRIER ON 4" OF 3/4" CLEAN, GRADED ROCK.

AISC TABLE N5.4-1

INSPECTION TASKS PRIOR TO WELDING	QC	QA
1. WELDING PROCEDURE SPECIFICATIONS (WPSs) AVAILABLE	P	P
2. MANUFACTURER CERTIFICATIONS FOR WELDING CONSUMABLES AVAILABLE	P	P
3. MATERIAL IDENTIFICATION (TYPE/GRADE)	O	O
4. WELDER IDENTIFICATION SYSTEM[1]	O	O
5. FIT-UP OF GROOVE WELDS (INCLUDING JOINT GEOMETRY) • JOINT PREPARATION • DIMENSIONS (ALIGNMENT, ROOT OPENING, ROOT FACE, BEVEL) • CLEANLINESS (CONDITION OF STEEL SURFACES) • TACKING (TACK WELD QUALITY AND LOCATION) • BACKING TYPE AND FIT (IF APPLICABLE)	O	O
6. CONFIGURATION AND FINISH OF ACCESS HOLES	O	O
7. FIT-UP OF FILLET WELDS • DIMENSIONS (ALIGNMENT, GAPS AT ROOT) • CLEANLINESS (CONDITION OF STEEL SURFACES) • TACKING (TACK WELD QUALITY AND LOCATION)	O	O
8. CHECK WELDING EQUIPMENT	O	-

[1] THE FABRICATOR OR ERECTOR, AS APPLICABLE, SHALL MAINTAIN A SYSTEM BY WHICH A WELDER WHO HAS WELDED A JOINT OR MEMBER CAN BE IDENTIFIED. STAMPS, IF USED, SHALL BE THE LOW-STRESS TYPE

AISC TABLE N5.4-2

INSPECTION TASKS DURING WELDING	QC	QA
1. USE OF QUALIFIED WELDERS	O	O
2. CONTROL AND HANDLING OF WELDING CONSUMABLES • PACKAGING • EXPOSURE CONTROL	O	O
3. NO WELDING OVER CRACKED TACK WELDS	O	O
4. ENVIRONMENTAL CONDITIONS • WIND SPEED WITHIN LIMITS • PRECIPITATION AND TEMPERATURE	O	O
5. WPS FOLLOWED • SETTINGS ON WELDING EQUIPMENT • TRAVEL SPEED • SELECTED WELDING MATERIALS • SHIELDING GAS TYPE/FLOW RATE • PREHEAT APPLIED • INTERPASS TEMPERATURE MAINTAINED (MIN./MAX.) • PROPER POSITION (F, V, H, OH)	O	O
6. WELDING TECHNIQUES • INTERPASS AND FINAL CLEANING • EACH PASS WITHIN PROFILE LIMITATIONS • EACH PASS MEETS QUALITY REQUIREMENTS	O	O

AISC TABLE N5.4-3

INSPECTION TASKS AFTER WELDING	QC	QA
1. WELDS CLEANED	O	O
2. SIZE, LENGTH AND LOCATION OF WELDS	P	P
3. WELDS MEET VISUAL ACCEPTANCE CRITERIA • CRACK PROHIBITION • WELD/BASE-METAL FUSION • CRATER CROSS SECTION • WELD PROFILES • WELD SIZE • UNDERCUT • POROSITY	P	P
4. ARC STRIKES	P	P
5. K-AREA[1]	P	P
6. BACKING REMOVED AND WELD TABS REMOVED (IF REQUIRED)	P	P
7. REPAIR ACTIVITIES	P	P
8. DOCUMENT ACCEPTANCE OR REJECTION OF WELDED JOINT OR MEMBER	P	P

[1] WHEN WELDING OF DOUBLER PLATES, CONTINUITY PLATES OR STIFFENERS HAS BEEN PERFORMED IN THE K-AREA, VISUALLY INSPECT THE WEB K-AREA FOR CRACKS WITHIN 3 IN. (75 MM) OF THE WELD

AISC TABLE N5.6-1

INSPECTION TASKS PRIOR TO BOLTING	QC	QA
1. MANUFACTURER'S CERTIFICATIONS AVAILABLE FOR FASTENER MATERIALS	O	P
2. FASTENERS MARKED IN ACCORDANCE WITH ASTM REQUIREMENTS	O	O
3. PROPER FASTENERS SELECTED FOR THE JOINT DETAIL (GRADE, TYPE, BOLT LENGTH IF THREADS ARE TO BE EXCLUDED FROM SHEAR PLANE)	O	O
4. PROPER BOLTING PROCEDURE SELECTED FOR JOINT DETAIL	O	O
5. CONNECTING ELEMENTS, INCLUDING THE APPROPRIATE FAYING SURFACE CONDITION AND HOLE PREPARATION, IF SPECIFIED, MEET APPLICABLE REQUIREMENTS	O	O
6. PRE-INSTALLATION VERIFICATION TESTING BY INSTALLATION PERSONNEL OBSERVED AND DOCUMENTED FOR FASTENER ASSEMBLIES AND METHODS USED	P	O
7. PROPER STORAGE PROVIDED FOR BOLTS, NUTS, WASHERS AND OTHER FASTENER COMPONENTS	O	O

AISC TABLE N5.6-2

INSPECTION TASKS DURING BOLTING	QC	QA
1. FASTENER ASSEMBLIES, OF SUITABLE CONDITION, PLACED IN ALL HOLES AND WASHERS (IF REQUIRED) ARE POSITIONED AS REQUIRED	O	O
2. JOINT BROUGHT TO THE SNUG-TIGHT CONDITION PRIOR TO THE PRETENSIONING OPERATION	O	O
3. FASTENER COMPONENT NOT TURNED BY THE WRENCH PREVENTED FROM ROTATING	O	O
FASTENERS ARE PRETENSIONED IN ACCORDANCE WITH THE RCSC SPECIFICATION, PROGRESSING SYSTEMATICALLY FROM THE MOST RIGID POINT TOWARD THE FREE EDGES	O	O

AISC TABLE N5.6-3

INSPECTION TASKS AFTER BOLTING	QC	QA
1. DOCUMENT ACCEPTANCE OR REJECTION OF BOLTED CONNECTIONS	P	P

AISC TABLE N6.1

INSPECTION OF STEEL ELEMENTS OF COMPOSITE CONSTRUCTION PRIOR TO CONCRETE PLACEMENT	QC	QA
1. PLACEMENT AND INSTALLATION OF STEEL DECK	P	P
2. PLACEMENT AND INSTALLATION OF STEEL HEADED STUD ANCHORS	P	P
3. DOCUMENT ACCEPTANCE OR REJECTION OF STEEL ELEMENTS	P	P

STATEMENT OF SPECIAL INSPECTION

IBC CODE REFERENCE	CONSTRUCTION TYPE	FREQUENCY	
		CONT.	PER.
1705.2	**STEEL CONSTRUCTION**		
1705.2.1	**STRUCTURAL STEEL**		
1. SPECIAL INSPECTION FOR STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH THE QUALITY ASSURANCE INSPECTION REQUIREMENTS OF AISC 360. (**REFER TO AISC CHARTS ON THIS SHEET**)			
1705.2.2	**COLD-FORMED STEEL DECK**		
1. SPECIAL INSPECTIONS AND QUALIFIACTIONS OF WELDING SPECIAL INSPECTORS FOR COLD-FORMED STEEL FLOOR AND ROOF DECK SHALL BE IN ACCORDANCE WITH THE QUALITY ASSURANCE INSPECTION REQUIREMENTS OF SDI QA/QC. **(REFER TO SDI CHARTS ON THIS SHEET)**			
1705.3	**REINFORCED CONCRETE**		
1. INSPECTION OF REINFORCING STEEL, INCLUDING PRESTRESSING TENDONS, AND PLACEMENT.			X
2. INSPECTION OF REINFORCING STEEL WELDING:			
A. VERIFICATION OF WELDABILITY OF REINFORCING STEEL OTHER THAN ASTM A 706.			X
B. INSPECT SINGLE-PASS FILLET WELDS, MAXIMUM 5/16"			X
C. INSPECT ALL OTHER WELDS		X	
3. INSPECTION OF ANCHORS CAST IN CONCRETE:			X
4. INSPECTION OF ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS.			
A. ADHESIVE ANCHORS INSTALLED IN HOIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS.		X	
B. MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN 4.A			X
5. VERIFYING USE OF REQUIRED MIX DESIGN			X
6. PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFOR SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE.		X	
7. INSPECTION OF CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.		X	
8. VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.			X
9. INSPECTION OF PRESTRESSED CONCRETE:			
A. APPLICATION OF PRESTRESSING FORCES.		X	
B. GROUTING OF BONDED PRESTRESSING TENDONS IN THE SEISMIC-FORCE-RESISTING SYSTEM.		X	
10. ERECTION OF PRECAST CONCRETE MEMBERS.			X
11. VERIFICATION OF IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POST-TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORING.			X
12. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.			X
SPECIAL INSPECTION AGENCY TO PERFORM TESTS AT SEVEN (7) DAYS AND AT TWENTY EIGHT (28) DAYS. A STRENGTH TEST SHALL BE THE AVERAGE OF THE STRENGTHS OF AT LEAST TWO (2) 6"x12" CYLINDERS OR AT LEAST THREE (3) 4"x8" CYLINDERS MADE FROM THE SAME SAMPLE OF CONCRETE. HOLD ONE ADDITIONAL CYLINDER IN RESERVE UNTIL PROJECT IS COMPLETED. TESTING LABORATORY IS TO FURNISH ARCHITECT/ENGINEER WITH TEST RESULTS PROMPTLY.			
FREQUENCY OF TESTING IS TO BE IN ACCORDANCE WITH ACI 318:			
A. ONCE EACH DAY A GIVEN CLASS IS PLACED, NOR LESS THAN.			
B. ONCE FOR EACH 150 CUBIC YDS OF EACH CLASS PLACED EACH DAY. NOR LESS THAN.			
C. ONCE FOR EACH 5000 SQFT OR SLAB WALL OR SURFACE AREA PLACED EACH DAY.			
1705.4	**REINFORCED MASONRY**		
1. SPECIAL INSPECTIONS AND TESTS OF MASONRY CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH THE QUALITY ASSURANCE PROGRAM REQUIREMENTS OF TMS 402 AND TMS 602. **(REFER TO TMS CHARTS ON THIS SHEET)**			
1705.6	**SOILS**		
1. VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY.			X
2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL.			X
3. PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS.			X
4. VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL.		X	
5. PRIOR TO PLACEMENT OF COMPACTED FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.			X

NOTES - SHOP DRAWING SUBMITTALS

1. SHOP DRAWINGS SHALL BE SUBMITTED FOR ALL STRUCTURAL ITEMS IN ADDITION TO ITEMS REQUIRED BY ARCHITECTURAL SPECIFICATIONS. SHOP DRAWING REVIEW IS INTENDED FOR VERIFICATION OF DESIGN CONCEPT CONVEYANCE AND GENERAL CONFORMANCE TO CONTRACT DOCUMENTS ONLY.

2. CHANGES, SUBSTITUTIONS, OR DEVIATIONS FROM CONTRACT DOCUMENTS SHALL BE CLOUDED BY MANUFACTURER/FABRICATOR. ANY OF THE AFOREMENTIONED WHICH ARE NOT CLOUDED OR FLAGGED BY SUBMITTING PARTIES SHALL NOT BE CONSIDERED APPROVED AFTER ENGINEER'S REVIEW, UNO.

3. SHOP DRAWINGS DO NOT REPLACE THE CONTRACT DOCUMENTS. ITEMS SHOWN INCORRECTLY OR OMITTED AND NOT FLAGGED BY THE ENGINEER DURING REVIEW ARE NOT TO BE CONSIDERED CHANGES TO THE CONTRACT DOCUMENTS.

4. THE ADEQUACY OF ENGINEERING DESIGNS AND LAYOUT PERFORMED BY OTHERS RESTS WITH THE DESIGNING OR SUBMITTING AUTHORITY. DESIGNED SHOP DRAWINGS SHALL BE PREPARED UNDER THE SUPERVISION OF A LICENSED PROFESSIONAL ENGINEER.

5. SHOP DRAWINGS MUST BE ORIGINAL DOCUMENTS. REPRODUCTION OF ANY PORTION OF THE CONTRACT DOCUMENTS FOR USE IN SUBMITTALS IS NOT PERMITTED AND MAY RESULT IN REJECTION.

6. THE ENGINEER HAS THE RIGHT TO APPROVE OR DISAPPROVE ANY CHANGES TO CONTRACT DOCUMENTS AT ANY TIME BEFORE OR AFTER SHOP DRAWING REVIEW.

7. CONTRACTOR SHALL SUBMIT STRUCTURAL SHOP DRAWINGS FOR THE FOLLOWING:

- CONCRETE MIX DESIGN, MATERIALS, AND TEST REPORTS
- CONCRETE REINFORCING STEEL, HARDWARE, AND FASTENERS
- PRE-ENGINEERED METAIL BUILDING

NOTES - SHALLOW FOUNDATIONS

1. CONTRACTOR SHALL BE FULLY FAMILIAR WITH ALL ASPECTS OF THE SOILS REPORT BEFORE BEGINNING CONSTRUCTION.

2. CONTRACTOR SHALL USE THE SOILS REPORT FOR SPECIFICATIONS AND DETAILS FOR PLACEMENT OF PERIMETER DRAINS, UNDER-SLAB DRAINS, AND ANY OTHER SOILS RELATED ITEMS.

3. CONTRACTOR SHALL REFER TO THE SOILS REPORT FOR ALL SOIL CONDITIONING REQUIREMENTS PRIOR TO PLACING BUILDING FOUNDATIONS.

4. ALL FOOTING EXCAVATIONS TO BE APPROVED BY GEOTECHNICAL ENGINEER PRIOR TO PLACING CONCRETE.

5. ALL EXTERIOR AND PERIMETER FOOTINGS SHALL EXTEND BELOW FROST DEPTH, REFERENCE DESIGN INFORMATION FOR FROST DEPTH.

NOTES - CONCRETE

1. ALL CONCRETE CONSTRUCTION TO CONFORM TO ACI "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE", THE GOVERNING EDITION OF THE ACI 318, AND ACI "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS" ACI 301, UNLESS NOTED OTHERWISE.

2. WATER REDUCING ADD MIXTURES ARE ALLOWED IN CONCRETE MIX DESIGNS.

3. SYNTHETIC MICRO-FIBERS ARE NOT ALLOWED UNLESS SPECIFICALLY NOTED IN THESE DRAWINGS.

4. UNLESS OTHERWISE SHOWN IN THE ARCHITECTURAL DRAWINGS, PROVIDE 3/4" CHAMFERS AT THE EDGES THAT ARE EXPOSED TO VIEW IN THE FINISHED STRUCTURE.

5. REFERENCE ARCHITECTURAL DRAWINGS FOR DOOR AND WINDOW OPENINGS, DRIP SLOTS, REGLETS, MASONRY, ANCHORS, BRICK LEDGE ELEVATIONS AND FOR MISCELLANEOUS EMBEDDED PLATES, BOLTS, ANCHORS, ANGLES, ETC.

6. REFERENCE ARCHITECTURAL DRAWINGS FOR CONCRETE FINISHES. WHERE FINISH IS NOT SPECIFIED, CONFORM TO REQUIREMENTS OF ACI 301.

7. REFERENCE MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS FOR DRAINS, SLEEVES, OUTLET BOXES, CONDUIT, ANCHORS, ETC.

8. CONTACT APEX ENGINEERS, INC. IF HOUSE KEEPING PADS OR INERTIA BASES ARE REQUIRED BEYOND WHAT IS SHOWN IN THE STRUCTURAL CONTRACT DOCUMENTS.

9. ALL REINFORCING STEEL TO BE DETAILED IN ACCORDANCE WITH ACI "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES."

10. REINFORCING SHALL BE CONTINUOUS WHEREVER POSSIBLE. SPLICES AND LAPS TO CONFORM TO ACI 318. REFER TO CONCRETE REBAR SCHEDULE.

11. DOWELS IN FOOTING, WALLS, AND DRILLED PIERS MUST BE IN POSITION BEFORE PLACING CONCRETE WHENEVER POSSIBLE.

12. REFERENCE TYPICAL FOUNDATION DETAILS FOR INFORMATION ON REINFORCING REQUIREMENTS AT WALL AND SLAB OPENINGS.

13. REFERENCE TYPICAL FOUNDATION DETAILS FOR INFORMATION ON REINFORCING REQUIREMENTS AT CORNER AND TEE INTERSECTIONS.

14. PROVIDE VERTICAL CONTROL JOINTS ON ALL POURED CONCRETE WALLS AND BASEMENT WALLS, EXCEPT FOUNDATION STEM WALLS LOCATED IN THE GROUND. SPACE JOINTS AT 3 x WALL HEIGHT FOR WALLS LESS THAN 10'-0" AND WALL HEIGHT FOR TALLER WALLS. PROVIDE ADDITIONAL JOINT WITHIN 10'-0" OF CORNERS.

15. OPENINGS IN SLAB OF 1'-4" AND LESS ON A SIDE ARE GENERALLY NOT SHOWN ON THE STRUCTURAL DRAWINGS. REFERENCE ARCHITECTURAL AND MECHANICAL DRAWINGS FOR SUCH OPENINGS.

NOTES - MASONRY VENEER

1. PROVIDE MINIMUM 1" AIR SPACE BETWEEN BRICK AND SHEATHING.

2. REFERENCE ARCHITECTURAL DRAWINGS FOR ADDITIONAL BRICK NOTES AND/OR REQUIREMENTS.

3. PROVIDE MINIMUM W1.7 (9 GAGE, MW11) ADJUSTABLE WIRE ANCHORS, HOT-DIPPED GALVANIZED, TWO-PIECE PER ASTM A-153, CLASS B-2.

4. ANCHORS ATTACHED TO WALL STUDS THROUGH SHEATHING, NOT SHEATHING ALONE.

5. PROVIDE MINIMUM ONE ANCHOR PER 2.67 FT² OF WALL AREA. MAXIMUM VERTICAL SPACING IS 18" OC MAXIMUM HORIZONTAL SPACING IS 32" OC.

6. PROVIDE ADDITIONAL ANCHORS AROUND OPENINGS LAGER THAN 16" IN EITHER DIMENSION . SPACE ANCHORS AROUND PERIMETER OF OPENINGS AT A MAXIMUM OF 36" OC. PLACE ANCHORS WITHIN 12" OF OPENINGS.

NOTES - GENERAL

1. THESE DRAWINGS ARE INTENDED TO BE USED WITH ARCHITECTURAL AND MECHANICAL DRAWINGS. CONTRACTOR IS RESPONSIBLE FOR COORDINATING SUCH REQUIREMENTS INTO THEIR SHOP DRAWINGS AND WORK.

2. NO OPENING SHALL BE MADE IN ANY STRUCTURAL MEMBER WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER.

3. NO CHANGE IN SIZE OR DIMENSION OF STRUCTURAL MEMBERS SHALL BE MADE WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER.

4. THE CONTRACTOR IS RESPONSIBLE FOR LIMITING THE AMOUNT OF CONSTRUCTION LOAD IMPOSED UPON STRUCTURAL FRAMING. CONSTRUCTION LOADS SHALL NOT EXCEED THE DESIGN CAPACITY OF THE FRAMING AT THE TIME THE LOADS ARE IMPOSED.

5. THE STRUCTURE IS DESIGNED TO FUNCTION AS A UNIT UPON COMPLETION. THE CONTRACTOR IS RESPONSIBLE FOR FURNISHING ALL TEMPORARY BRACING AND/OR SUPPORT THAT MAY BE REQUIRED AS THE RESULT OF THE CONTRACTOR'S CONSTRUCTION METHODS AND/OR SEQUENCES.

6. UNLESS OTHERWISE NOTED, FIREPROOFING METHODS AND MATERIALS FOR STRUCTURAL MEMBERS ARE NOT SHOWN ON STRUCTURAL DRAWINGS. REFERENCE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR FIRE RATING REQUIREMENTS, FIRE PROOFING METHODS AND MATERIALS.

7. DO NOT SCALE THESE DRAWINGS. USE DIMENSIONS SHOWN ON PLANS.

8. THE CONTRACTOR SHALL INFORM THE ARCHITECT/ENGINEER OF ANY DEVIATION FROM THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL NOT BE RELIEVED OF THE RESPONSIBILITY FOR SUCH DEVIATION BY THE ARCHITECT/ENGINEER'S APPROVAL OF SHOP DRAWINGS, PRODUCT DATA, ETC., UNLESS HE HAS SPECIFICALLY INFORMED THE ARCHITECT/ENGINEER OF SUCH DEVIATION AT THE TIME OF SUBMISSION, AND THE ARCHITECT/ENGINEER HAS GIVEN WRITTEN APPROVAL TO THE SPECIFIC DEVIATION.

9. ALL THINGS WHICH, IN THE OPINION OF THE CONTRACTOR, APPEAR TO BE DEFICIENCIES, OMISSIONS, CONTRADICTIONS, BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER. PLANS AND/OR SPECIFICATIONS WILL BE CORRECTED, OR WRITTEN INTERPRETATION OF THE ALLEGED DEFICIENCY, OMISSION, CONTRADICTION OR AMBIGUITY WILL BE MADE BY THE ARCHITECT/ENGINEER BEFORE THE AFFECTED WORK PROCEEDS.

10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ERRORS OF DETAILING, FABRICATION AND INSTALLATION. THE CONTRACTOR SHALL MAKE ALL MEASUREMENTS IN THE FIELD NECESSARY TO VERIFY OR SUPPLEMENT DIMENSIONS SHOWN ON THE CONTRACT DRAWINGS AND HE SHALL VERIFY THAT ALL DIMENSIONS SHOWN ON THE SHOP DRAWINGS ARE COORDINATED WITH THE DIMENSIONS AND REQUIREMENTS OF THE CONTRACT DRAWINGS. REVIEW OF THE SHOP DRAWINGS DOES NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR COMPLETING THE WORK SUCCESSFULLY IN ACCORDANCE WITH THE CONTRACT DRAWINGS AND SPECIFICATIONS.

11. SUBMIT PRINTS OR ELECTRONIC COPIES OF EACH SHOP DRAWINGS. REPRODUCIBLE COPIES OF CONTRACT DOCUMENTS SHALL NOT BE USED AS SHOP DRAWINGS. SHOP DRAWINGS SHALL BE REVIEWED BY CONTRACTOR PRIOR TO SUBMISSION. CONTRACTOR STAMP SHOP DRAWINGS ACCEPTING RESPONSIBILITY FOR COORDINATION OF DIMENSIONS SHOWN IN THE CONTRACT DOCUMENTS, QUANTITIES AND COORDINATION WITH OTHER TRADES. DRAWINGS NOT BEARING CONTRACTOR'S STAMP MAY BE REJECTED AT THE DISCRETION OF THE ARCHITECT OR STRUCTURAL ENGINEER.

12. REVIEW AND RETURN OF SHOP DRAWINGS SHALL BE BASED ON A MINIMUM OF TEN (10) WORKING DAYS IN THE STRUCTURAL ENGINEER'S OFFICE FROM RECEIPT OF SUBMISSION TO RETURN TO THE NEXT PARTY FOR THEIR ACTION. SHOP DRAWINGS SHOULD BE SUBMITTED INCREMENTALLY AS APPROPRIATE PACKAGES ARE PREPARED TO EQUALIZE THE WORKLOAD FOR REVIEW OF THE DRAWINGS. SUBMISSION OF A LARGE VOLUME OF SHOP DRAWINGS AT ONE TIME MAY RESULT IN REVIEW TIMES WHICH WILL EXCEED THOSE NOTED ABOVE. DEFINITION OF A "LARGE VOLUME" OF SHOP DRAWINGS IS SUBJECT TO INTERPRETATION.

NOTES - DEFERRED SUBMITTALS

1. THE ARCHITECT OR ENGINEER OF RECORD SHALL LIST THE DEFERRED SUBMITTALS ON THE PLANS FOR REVIEW BY THE BUILDING OFFICIAL.

2. DOCUMENTS FOR DEFERRED SUBMITTAL ITEMS SHALL BE SUBMITTED TO THE ARCHITECT OR ENGINEER OF RECORD WHO SHALL REVIEW THEM AND FORWARD THEM TO THE BUILDING OFFICIAL WITH A NOTATION INDICATING THAT THE DEFERRED SUBMITTAL DOCUMENTS HAVE BEEN REVIEWED AND FOUND TO BE IN THE GENERAL CONFORMANCE TO THE DESIGN OF THE BUILDING.

3. THE DEFERRED SUBMITTAL ITEMS SHALL NOT BE INSTALLED UNTIL THE DEFERRED SUBMITTAL DOCUMENTS HAVE BEEN APPROVED BY THE BUILDING OFFICIAL.

4. DEFERRED SUBMITTALS ARE DEFINED AS THOSE PORTIONS OF THE DESIGN THAT ARE NOT SUBMITTED AT THE TIME OF THE APPLICATION AND THAT ARE TO BE SUBMITTED TO THE BUILDING OFFICIAL WITHIN A SPECIFIED PERIOD.

5. DEFERRAL OF ANY SUBMITTAL ITEMS SHALL HAVE THE PRIOR APPROVAL OF THE BUILDING OFFICIAL.

6. SUBMITTALS SHALL INCLUDE DETAILED DRAWINGS OF EACH MEMBER AND ITS CONNECTIONS ALONG WITH SUPPORTING CALCULATIONS PREPARED UNDER THE SUPERVISION, BEARING THE SEAL AND SIGNATURE, OF A LICENSED PROFESSIONAL ENGINEER IN THE PROJECT JURISDICTION.

7. CONTRACTOR SHALL SUBMIT STRUCTURAL DEFERRED SUBMITTAL FOR THE FOLLOWING:

- PRE-ENGINEERED METAL BUILDINGS
- STEEL GUARDRAILS AND HANDRAILS
- STEEL FABRICATED STAIRS AND LADDERS
- PRE-MANUFACTURED CANOPIES AND AWNINGS

SHEET LIST - STRUCTURAL

SHEET NUMBER	SHEET NAME
S100	GENERAL NOTES, SPECIFICATIONS, SPECIAL INSPECTIONS, AND SCHEDULES
S200	FOUNDATION PLAN - BLDGS 1, 2 & 3
S201	FOUNDATION PLAN - BLDGS 4 & 5
S202	FOUNDATION PLAN - BLDGS 9 & 10
S203	FOUNDATION PLAN - BLDGS 8, 13, 14 & 15
S500	TYPICAL FOUNDATION DETAILS
S501	TYPICAL FOUNDATION DETAILS
S510	COLD-FORM FRAMING AT FOUNDATION DETAILS

DESIGN INFORMATION

BUILDING CODE:	
2018 INTERNATIONAL BUILDING CODE AS ADOPTED AND/OR AMENDED BY LOCAL BUILDING CODES	
SOILS INFORMATION:	
THE FOUNDATION DESIGN PROVIDED IS BASED OFF OF A MINIMUM ALLOWABLE PRESUMPTIVE LOAD-BEARING VALUE AS INDICATED BY IRC TABLE R401.4.1 IN LIEU OF A SITE BASE GEOTECHNICAL EVALUATION. IT IS RECOMMENDED THAT A QUALIFIED GEOTECHNICAL ENGINEER BE RETAINED TO VERIFY THESE ASSUMPTIONS PRIOR TO CONSTRUCTION. BY USE OF THIS FOUNDATION DESIGN WITHOUT PROVIDING SUCH VERIFICATION, APEX WILL NOT BE LIABLE FOR THIS DESIGN PARAMETER, AND THE OWNER SHALL ACCEPT ALL RISKS ASSOCIATED WITH DAMAGE TO THE STRUCTURE AS A RESULT OF EXPANSIVE, COMPRESSIBLE, SHIFTING AND/OR OTHER QUESTIONABLE SOILS CHARACTERISTICS THAT MAY BE PRESENT ON-SITE.	
FROST DEPTH	36"
PRESUMPTIVE LOAD-BEARING PRESSURE	1500 psf
WIND DESIGN DATA:	
OCCUPANCY CATEGORY	II
ULTIMATE WIND SPEED (3 SECOND GUST), V	115 mph
WIND EXPOSURE CATEGORY	B
VELOCITY PRESSURE, q_z	30.0 psf
INTERNAL PRESSURE COEFFICIENT, GC_{pi}	+/-0.18
SEISMIC DESIGN SITE DATA:	
SPECTRAL RESPONSE COEFFICIENTS	S_S = 0.186 S_1 = 0.059
SITE CLASS (PER SOILS REPORT)	D
DESIGN SPECTRAL RESPONSE ACCELERATIONS	S_{DS} = 0.199 S_{D1} = 0.095

SYMBOLS / ABBREVIATIONS

SYMBOL/TAG	DESCRIPTION	APPLIES TO
X SX.X	DETAIL ON SHEET SHEET NUMBER	DETAILS, SECTIONS, & ELEVATIONS
T.O.W. = XXX' - XX" B.O.W. = XXX' - XX"	ELEVATION (TOP) ELEVATION (BOTTOM)	FOUNDATION WALLS AND LEDGES (SIM)
T.O.X. XXX' - XX"	ELEVATION MARK	LEVELS, SPOT ELEVATIONS, & PLAN ELEVATIONS
T.O.S. = XXX' - XX"	TOP OF STEEL ELEVATION	PLAN VIEW NOTATIONS
JST BRG = XXX' - XX"	JOIST BEARING ELEVATION	PLAN VIEW NOTATIONS
X	REVISION MARK	SHEET REVISIONS

ABV	DEFINITION	ABV	DEFINITION
AB	ANCHOR BOLT	SIM	SIMILAR CONDITION
CJ	CONTRACTION JOINT	STD	STANDARD
CL	CENTERLINE	TOC	TOP OF CONCRETE
DIA	DIAMETER	TOD	TOP OF DECK
EOD	EDGE OF DECK ANGLE	TOL	TOP OF LEDGE
EOS	EDGE OF SLAB	TOM	TOP OF MASONRY
EXT	EXTERIOR	TOS	TOP OF STEEL
GA	GAUGE	TOW	TOP OF WALL
HAS	HEADED ANCHOR STUDS	TYP	TYPICAL CONDITION
OC	ON CENTER	UNO	UNLESS NOTED OTHERWISE
PAF	POWDER ACTUATED FASTNR	WP	WORK POINT

MATERIAL SPECIFICATIONS

STEEL MATERIAL SPECIFICATIONS

STEEL MEMBERS	MATERIAL
WIDE FLANGE SHAPES (W)	ASTM A992
CHANNELS (C), ANGLES (L)	ASTM A36
PLATES	ASTM A36
HOLLOW STRUCTURAL SHAPES (HSS)	ASTM A500, GRADE C
HIGH STRENGTH BOLTS	ASTM F3125, GRADE A325
ANCHOR BOLTS (HEX-HEAD UNO)	ASTM F1554 (55 ksi) "S1"
EPOXY ANCHOR RODS	ASTM A36
STEEL DECK, PLAIN STEEL	ASTM A1008, (33 ksi)
STEEL DECK, GALVANIZED	ASTM A653, (33 ksi)
NON-SHRINK GROUT, COL. BASES	5000 psi (28 DAY STRENGTH)

CONCRETE & REINFORCING STEEL SPECIFICATIONS

MATERIAL	SPECIFICATION
REINFORCING BARS	ASTM A615, GRADE 60
WELDED REBAR	ASTM A706
WELDED WIRE FABRIC	ASTM A1064
PORTLAND CEMENT	ASTM C 150
FLY ASH	ASTM C 618, 15% MAX
CONCRETE AGGREGATES	ASTM C 33, 3/4" MAX AGG. SIZE.
EPOXY - THREADED ROD ANCHORS	HILTI HIT-HY 200 A OR SIMPSON SET 3G
EPOXY - REINFORCING BARS	HILTI HIT-HY 200 R OR SIMPSON SET 3G
REBAR CONDITION	**MINIMUM CONCRETE COVER**
FORMED SURFACES EXPOSED TO GROUND OR WEATHER	2"
UNFORMED SURFACE IN CONTACT WITH THE GROUND	3"
WALLS AND SLABS NOT EXPOSED TO GROUND OR WEATHER	1"
INTERIOR BEAMS AND COLUMNS (TO TIES OF STIRRUPS)	1 1/2"

CONCRETE MIX DESIGN REQUIREMENTS

CONCRETE USE	WEIGHT	28 DAY f'c	CEMENT TYPE	MAX W/C RATIO	SLUMP (+/- 1")	% AIR
FOOTINGS/PIERS	NW	3500 psi	I/II	0.55	5"	6% MAX
FOUNDATION WALLS	NW	3500 psi	I/II	0.50	4"	6% +/- 1%
INT. SLAB-ON-GRADE	NW	4000 psi	I/II	0.45	5"	3% MAX
ELEVATED SLABS	NW	5000 psi	I/II	0.45	5"	1.5% +/-
TILT-UP WALLS	NW	4000 psi	I/II	0.45	4"	5% +/- 1.5%

CONCRETE SLAB SPECIFICATIONS

FLOOR FLATNESS, F_F	SOV: 35 | MLV: 25
FLOOR LEVELNESS, F_L	SOV: 24 | MLV: 17

STRUCTURAL MASONRY MATERIAL SPECIFICATIONS

MATERIAL	SPECIFICATION
CONCRETE MASONRY UNITS	ASTM C-90
NET AREA COMPRESSIVE STRENGTH	2000 psi
MORTAR	ASTM C-270, TYPE M OR S
GROUT	ASTM C-476
MIN. 28 DAY COMPRESSIVE STRENGTH	3000 psi
MAX AGGREGATE SIZE	3/8"
SLUMP LIMIT	8" TO 11"

VENEER MASONRY MATERIAL SPECIFICATIONS

MATERIAL	SPECIFICATION
BRICK MASONRY UNITS	ASTM C-62
MORTAR	ASTM C-270, TYPE N OR S

RELEASED FOR CONSTRUCTION
As Noted on Plans Review
Development Services Department
Lee's Summit, Missouri
04/19/2022

davidson
architecture & engineering

4301 Indian Creek Parkway
Overland Park, KS 66207
phone: 913.451.9390
fax: 913.451.9391
www.davidsonae.com

APEX
ENGINEERS, INC.
1625 LOCUST ST
KANSAS CITY, MO 64108
816.421.3222
www.apex-engineers.com

BRYCE D. CRABY
PE-2006026494
03.02.22

a new development for
Mega Storage - Town Centre Lot 1
520 NE Town Centre Drive
Lee's Summit, Missouri

date
Issue Date
drawn by
APEX
checked by
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revisions

sheet number
S100

drawing type
FDP & PERMIT

project number
20231

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PLAN NOTES - FOUNDATIONS

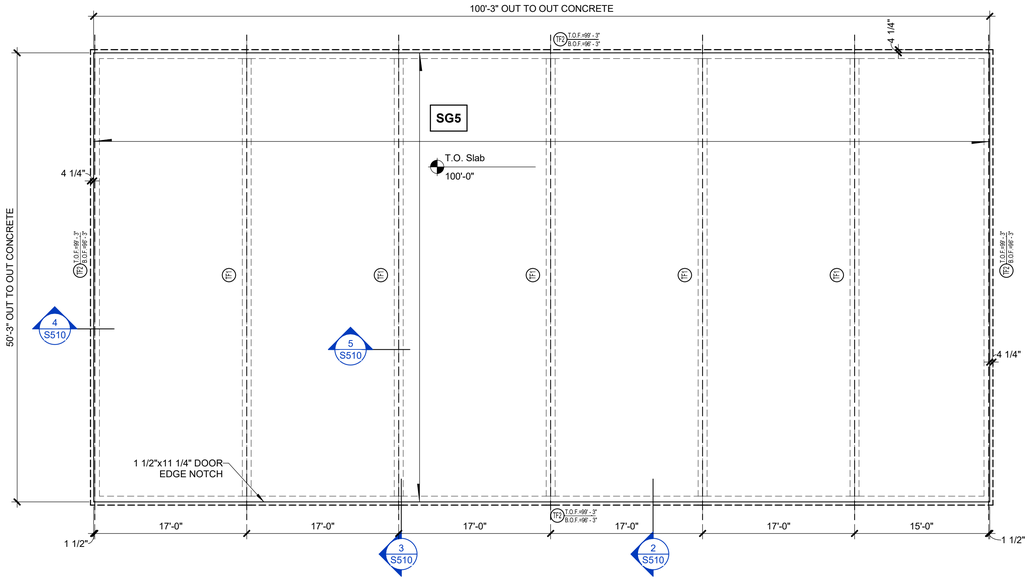
1. PROVIDE CONTROL JOINTS (1/4 SLAB DEPTH) AT 10'-0" OC BOTH WAYS, NOT SHOWN FOR CLARITY.
2. CONTRACTOR TO VERIFY ALL FOUNDATION ELEVATIONS AND STEPS PER SITE CONDITIONS.
3. TOP OF SLAB ELEVATION SHOWN IN PLAN IS FOR REFERENCE ONLY.
4. REFERENCE ARCHITECTURAL DRAWINGS FOR WALL OPENING DIMENSIONS, EXTERIOR FINISHES AND ADDITIONAL NOTES.
5. REFERENCE GENERAL NOTES SHEET FOR ADDITIONAL FOUNDATION SPECIFICATIONS.
6. CONTRACTOR TO CONTACT APEX ENGINEERS, INC AT LEAST 48 HRS IN ADVANCE OF ANY CONCRETE POUR.

SCHEDULE - TRENCH FOOTINGS

MARK	WIDTH	DEPTH	LONG BARS	STIRRUPS
TF1	1' - 0"	9"	(2) #4 BARS	N/A
TF2	1' - 0"	36"	(4) #4 CONT [(2) AT T&B]	#4 VERT AT 18" OC

SCHEDULE - SLAB ON GRADE

MARK	SLAB DEPTH	WEIGHT CLASS	SLAB REINFORCING	ADDITIONAL REQUIREMENTS
SG5	5"	NW	#3 AT 18"OC EA WAY OR 6X6 W2.1XW2.1 WWF	10 MIL. VAPOR BARRIER ON 4" OF 3/4" CLEAN, GRADED ROCK.



FOUNDATION PLAN - BLDGS 1, 2 & 3

1/8" = 1'-0"

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BRYCE R. CRABB
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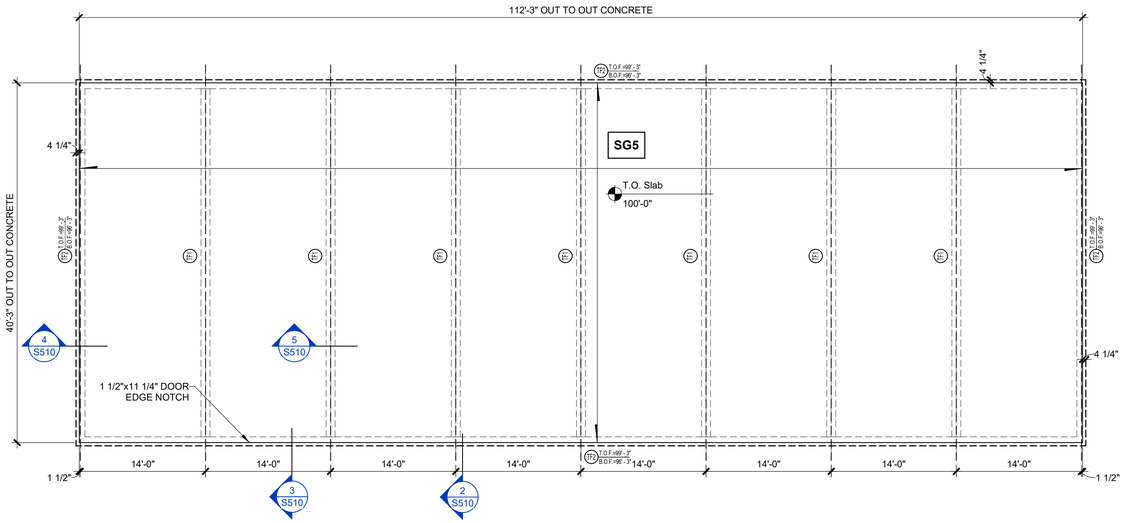

PLAN NOTES - FOUNDATIONS

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SCHEDULE - TRENCH FOOTINGS

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TF2	1' - 0"	36"	(4) #4 CONT [(2) AT T&B]	#4 VERT AT 18" OC

SCHEDULE - SLAB ON GRADE

MARK	SLAB DEPTH	WEIGHT CLASS	SLAB REINFORCING	ADDITIONAL REQUIREMENTS
SG5	5"	NW	#3 AT 18"OC EA WAY OR 6X6 W2.1XW2.1 WWF	10 MIL. VAPOR BARRIER ON 4" OF 3/4" CLEAN, GRADED ROCK.

FOUNDATION PLAN - BLDGS 4 & 5

1/8" = 1'-0"

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PLAN NOTES - FOUNDATIONS

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SCHEDULE - SLAB ON GRADE

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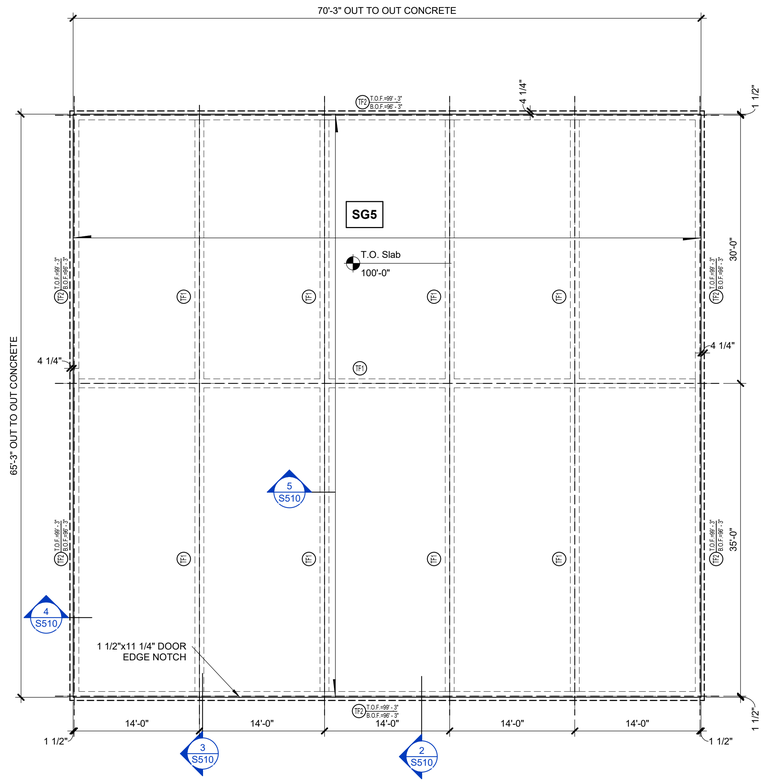

FOUNDATION PLAN - BLDGS 9 & 10

1/8" = 1'-0"

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PLAN NOTES - FOUNDATIONS

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SCHEDULE - SLAB ON GRADE

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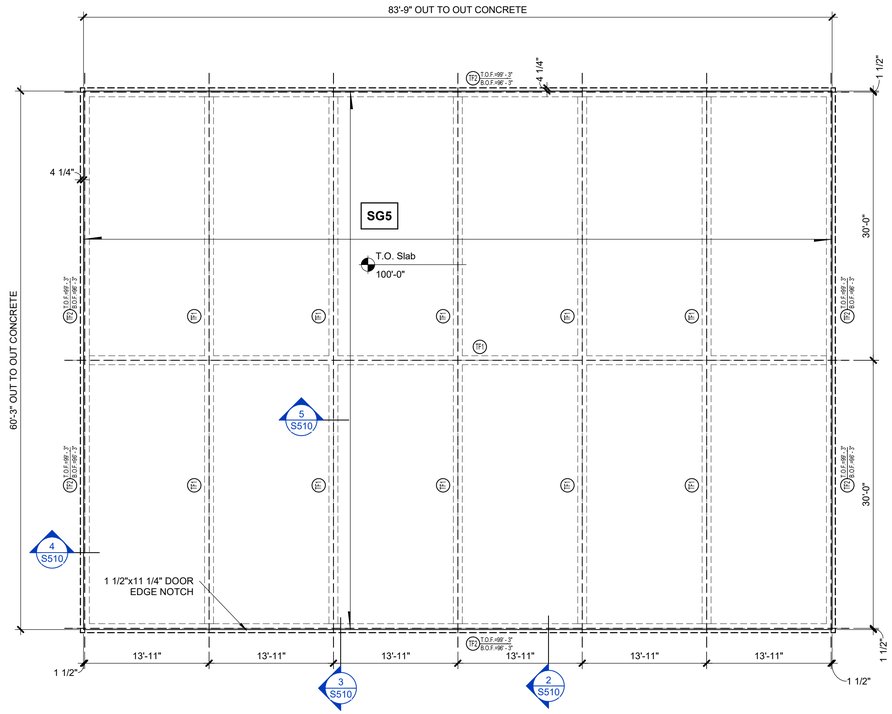

FOUNDATION PLAN - BLDGS 8, 13, 14 & 15

1/8" = 1'-0"

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architecture&engineering
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ENGINEERS,INC.
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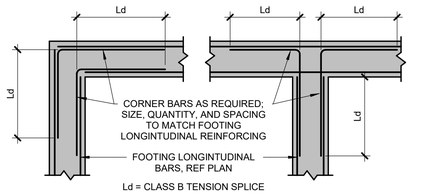
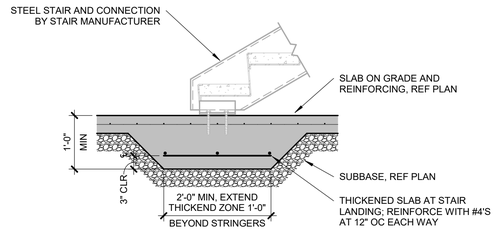
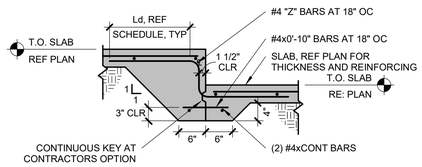


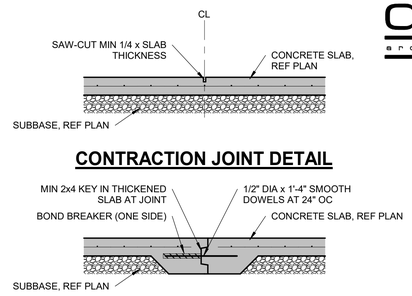
16 | S500 TYP FOUNDATION CORNER DETAIL
NO SCALE — *THIS DETAIL IS TYPICAL TO THE PROJECT AND MAY NOT BE CUT OR CALLED OUT ON PLANS*



12 | S500 TYPICAL THICKENED SLAB AT STEEL STAIR LANDING
NO SCALE — *THIS DETAIL IS TYPICAL TO THE PROJECT AND MAY NOT BE CUT OR CALLED OUT ON PLANS*



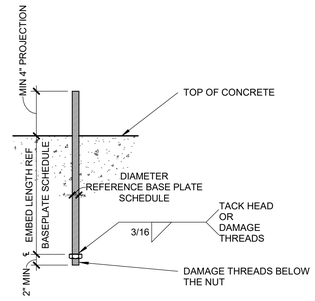
8 | S500 TYP CONCRETE SLAB ON GRADE STEP
NO SCALE — *THIS DETAIL IS TYPICAL TO THE PROJECT AND MAY NOT BE CUT OR CALLED OUT ON PLANS*



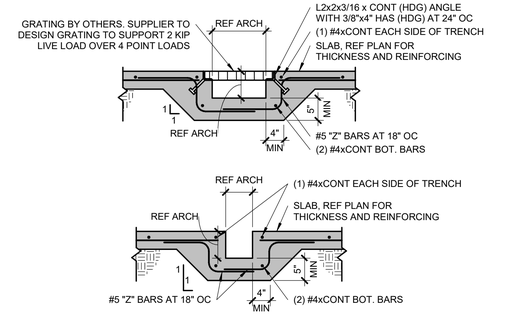
CONTRACTION JOINT DETAIL

CONSTRUCTION JOINT DETAIL

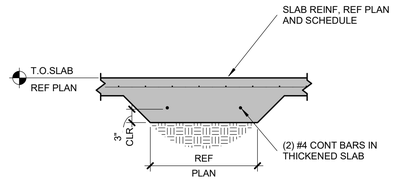
4 | S500 SLAB ON GRADE CONTROL JOINT
NO SCALE — *THIS DETAIL IS TYPICAL TO THE PROJECT AND MAY NOT BE CUT OR CALLED OUT ON PLANS*



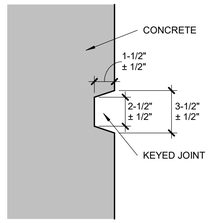
14 | S500 TYP ANCHOR BOLT
NO SCALE — *THIS DETAIL IS TYPICAL TO THE PROJECT AND MAY NOT BE CUT OR CALLED OUT ON PLANS*



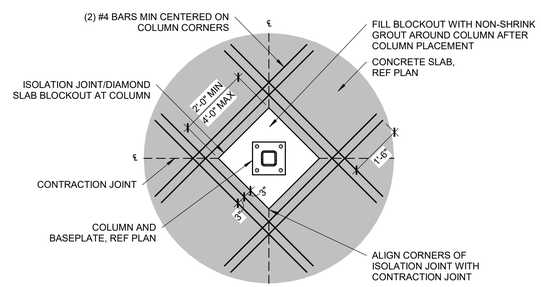
11 | S500 TYP SLAB AT TRENCH
NO SCALE — *THIS DETAIL IS TYPICAL TO THE PROJECT AND MAY NOT BE CUT OR CALLED OUT ON PLANS*



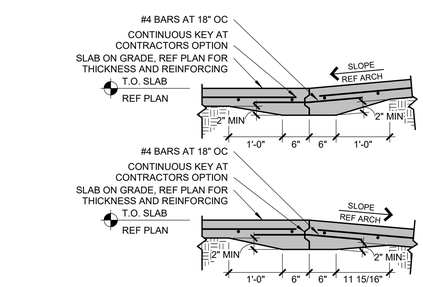
7 | S500 TYPICAL THICKENED SLAB ON GRADE
NO SCALE — *THIS DETAIL IS TYPICAL TO THE PROJECT AND MAY NOT BE CUT OR CALLED OUT ON PLANS*



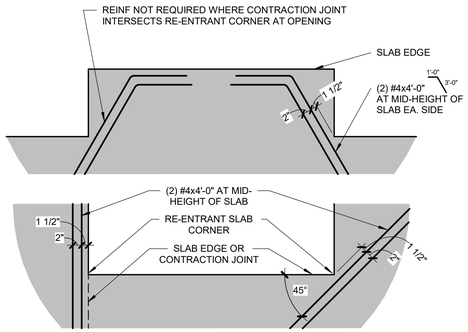
3 | S500 TYP KEY IN CONCRETE
NO SCALE — *THIS DETAIL IS TYPICAL TO THE PROJECT AND MAY NOT BE CUT OR CALLED OUT ON PLANS*



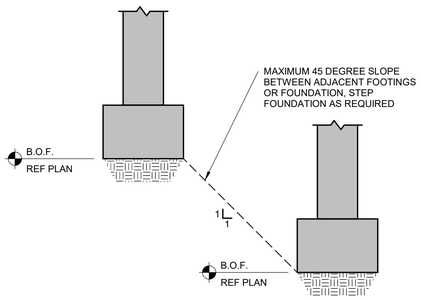
13 | S500 TYP COLUMN ISOLATION JOINT
NO SCALE — *THIS DETAIL IS TYPICAL TO THE PROJECT AND MAY NOT BE CUT OR CALLED OUT ON PLANS*



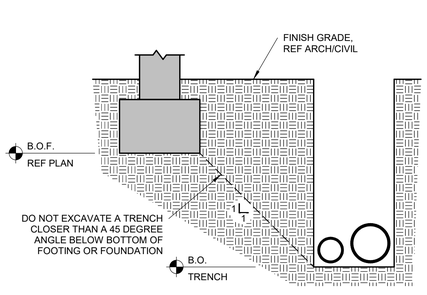
9 | S500 SLAB ON GRADE AT RAMP
NO SCALE — *THIS DETAIL IS TYPICAL TO THE PROJECT AND MAY NOT BE CUT OR CALLED OUT ON PLANS*



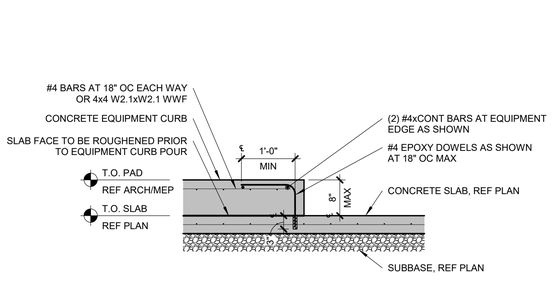
5 | S500 TYP RE-ENTRANT CORNER IN CONCRETE SLAB
NO SCALE — *THIS DETAIL IS TYPICAL TO THE PROJECT AND MAY NOT BE CUT OR CALLED OUT ON PLANS*



1 | S500 MAXIMUM SLOPE BETWEEN ADJACENT FOUNDATIONS
NO SCALE — *THIS DETAIL IS TYPICAL TO THE PROJECT AND MAY NOT BE CUT OR CALLED OUT ON PLANS*



2 | S500 MAXIMUM SLOPE BETWEEN FOUNDATION AND TRENCH
NO SCALE — *THIS DETAIL IS TYPICAL TO THE PROJECT AND MAY NOT BE CUT OR CALLED OUT ON PLANS*



15 | S500 TYPICAL SUMP PIT REINFORCEMENT
NO SCALE — *THIS DETAIL IS TYPICAL TO THE PROJECT AND MAY NOT BE CUT OR CALLED OUT ON PLANS*

10 | S500 TYPICAL SOG EQUIPMENT PAD
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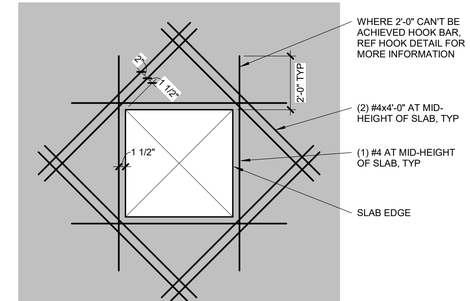

6 | S500 TYP OPENING IN CONCRETE SLAB ON GRADE
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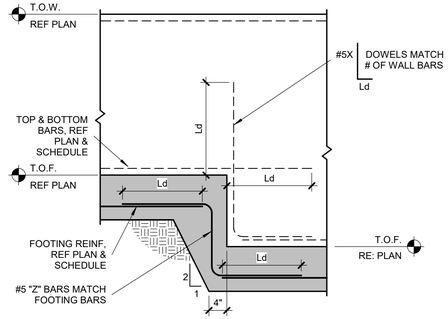

5 FOUNDATION WALL FOOTING STEP
S501 NO SCALE
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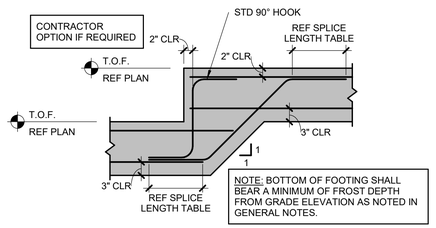

4 TYP FOOTING STEP
S501 NO SCALE
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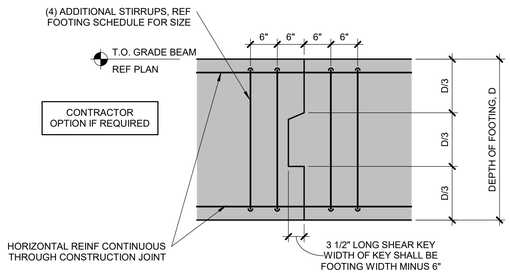

3 TYP GRADE BEAM CONSTRUCTION JOINT
S501 NO SCALE
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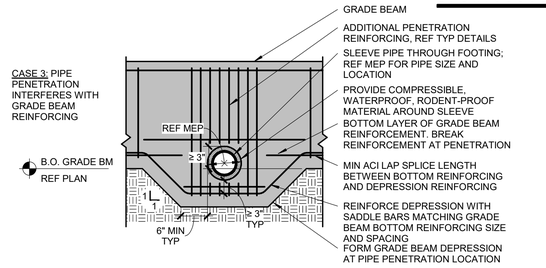
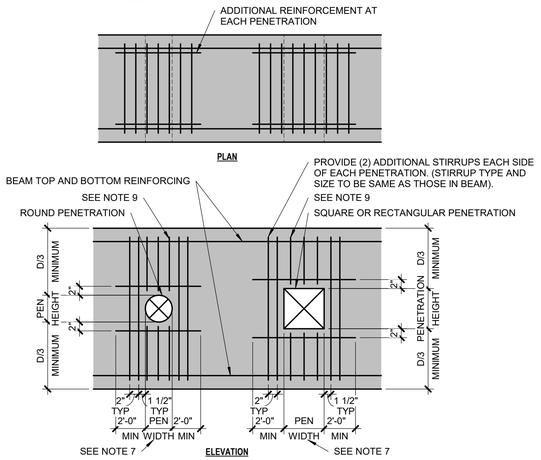


2 GRADE BEAM AT PIPE PENETRATION
S501 NO SCALE
THIS DETAIL IS TYPICAL TO THE PROJECT AND MAY NOT BE CUT OR CALLED OUT ON PLANS

NOTES:

1. CONTRACTOR TO COORDINATE LOCATION, SIZE AND ELEVATION AND INCLUDE IN HIS CONTRACT PRICE ALL REQUIRED HORIZONTAL PENETRATIONS THROUGH CONCRETE BEAMS WHETHER SHOWN ON STRUCTURAL DRAWINGS OR NOT.
2. WHERE BEAM PENETRATIONS ARE REQUIRED BUT ARE NOT SPECIFICALLY DETAILED ON THE STRUCTURAL DRAWINGS, SUBMIT DRAWINGS, SHOWING DIMENSIONS AND LOCATIONS OF ALL REQUIRED PENETRATIONS, FOR REVIEW AND APPROVAL.
3. "D" DENOTES THE DEPTH OF BEAM.
4. CLEAR SPACING BETWEEN PENETRATIONS SHALL BE 24" MINIMUM UNLESS DESIGNED OTHERWISE BY THE ENGINEER.
5. PENETRATIONS SHALL BE LOCATED ACCORDING TO THE FOLLOWING CRITERIA:
   A. FOR BEAMS NOT SUPPORTING INTERSECTING BEAMS: LOCATE PENETRATIONS WITHIN TWO FEET EITHER SIDE OF BEAM MIDSPAN.
   B. FOR BEAMS SUPPORTING INTERSECTING BEAMS: CHECK WITH STRUCTURAL ENGINEER .
6. AT EACH SLEEVE, UNLESS REQUIRED OTHERWISE BY NOTE #7 BELOW, PROVIDE THE FOLLOWING:
   - (1) #5 TOP AND BOTTOM AT BEAMS WITH WIDTHS LESS THAN 9".
   - (2) #5 TOP AND BOTTOM AT BEAMS WITH (2) LEG STIRRUPS.
   - (4) #5 TOP AND BOTTOM AT BEAMS WITH (4) LEG STIRRUPS.
   - (N) #5 TOP AND BOTTOM AT BEAMS WITH (N) LEG STIRRUPS.
7. PENETRATION WIDTH <= PENETRATION DEPTH (UNLESS SHOWN OTHERWISE ON THE STRUCTURAL DRAWINGS).
8. FOR LOCATIONS AND/OR SIZES OF PENETRATIONS NOT CONFORMING TO THE ABOVE CRITERIA AND NOT OTHERWISE DETAILED ON THE STRUCTURAL DRAWINGS, CONTRACTOR SHALL COORDINATE REQUIRED ADDITIONAL REINFORCEMENT WITH THE ENGINEER ON THE SHOP DRAWINGS.
9. PROVIDE ADDITIONAL STIRRUPS AT SPACING NOT TO EXCEED ONE HALF OF THE SCHEDULED STIRRUP SPACING (UNLESS DETAILED OTHERWISE ON THE STRUCTURAL DRAWINGS).
10. SEPARATE THE UTILITIES PASSING THRU SLEEVES / PENETRATIONS TO ADEQUATELY ACCOMMODATE ANY POTENTIAL SWELL FROM THE ON-SITE SOILS.



1 GRADE BEAM PIPE SLEEVE
S501 NO SCALE
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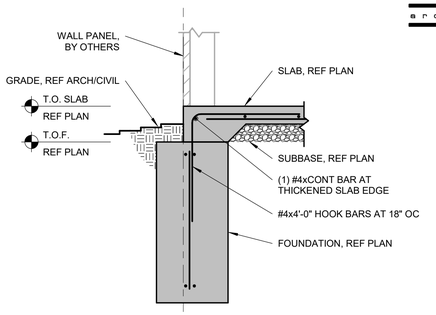
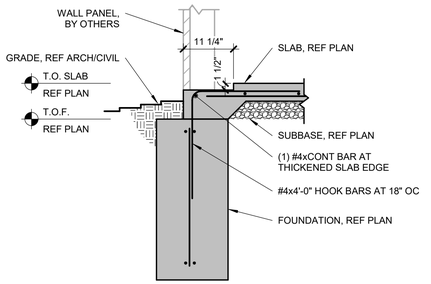
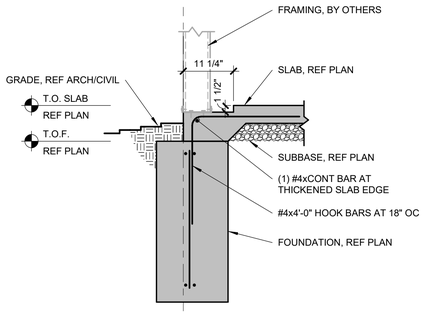
sheet number
S501
drawing type
FDP & PERMIT
project number
20231



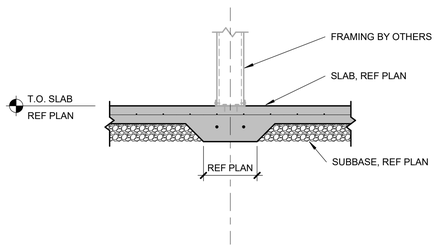
4 SHEETED WALL EDGE BASE
S510 3/4" = 1'-0"



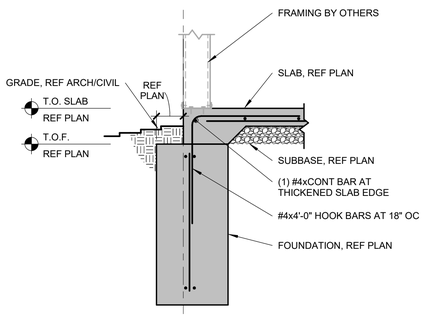
3 DOOR EDGE BASE
S510 3/4" = 1'-0"



2 DOOR EDGE SLAB NOTCH
S510 3/4" = 1'-0"



5 CFS FRAMING AT INTERIOR BEARING WALL FOOTING
S510 3/4" = 1'-0"



1 CFS FRAMING ON TRENCH FOOTING
S510 3/4" = 1'-0"

davidson
architecture & engineering
4301 Indian Creek Parkway
Overland Park, KS 66207
phone: 913.451.9390
fax: 913.451.9391
www.davidsonae.com

APEX
ENGINEERS, INC.
1625 LOCUST ST
KANSAS CITY, MO 64108
816.421.3222
www.apex-engineers.com

STATE OF MISSOURI
BRYCE R. CRABB
NUMBER PE-2006026494
03.02.22
PROFESSIONAL ENGINEER

Mega Storage - Town Centre Lot 1

a new development for

520 NE Town Centre Drive
Lee's Summit, Missouri

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ELECTRICAL SPECIFICATIONS

1. GENERAL PROVISIONS:
   A. PROVIDE ALL LABOR, MATERIALS, EQUIPMENT, NECESSARY FOR THE COMPLETE INSTALLATION OF THE ELECTRICAL SYSTEMS OUTLINED.
   B. OBTAIN ALL PERMITS, FEES, LICENSES, INSPECTIONS, AND CERTIFICATES OF COMPLIANCE OR APPROVAL AS REQUIRED BY THE AUTHORITIES.
   C. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST APPROVED EDITION OF THE NATIONAL ELECTRIC CODE (NEC), AND ALL APPLICABLE LAWS, CODES AND REGULATIONS OF THE GOVERNMENTAL BODIES HAVING JURISDICTION OVER THE SITE.
   D. ALL TESTING REQUIRED BY AUTHORITIES SHALL BE CONSIDERED PART OF THIS WORK.
   E. DURING CONSTRUCTION, ALL FIXTURES, EQUIPMENT, CONDUIT, ETC. SHALL BE COVERED, PLUGGED, OR CAPPED AS REQUIRED TO KEEP CLEAN AND UNDAMAGED. ALL DAMAGED ITEMS SHALL BE RESTORED TO ORIGINAL CONDITION OR REPLACED. ALL PROTECTIVE COVERING SHALL BE REMOVED BEFORE FINAL ACCEPTANCE.
   F. PROVIDE ALL NECESSARY CUTTING AND PATCHING OF WALLS, FLOORS, CEILINGS, AND ROOFS AS NECESSARY. PATCH AROUND ALL OPENINGS SHALL MATCH ADJACENT AREA. COORDINATE ALL ROOFING WORK WITH OWNER OR RESPONSIBLE PARTY, SO THAT THE EXISTING ROOFING WARRANTY ALL BE MAINTAINED.
   G. CONTRACTOR SHALL GUARANTEE ALL WORK AND MATERIALS AGAINST DEFECTS FOR A PERIOD OF ONE YEAR FROM FINAL ACCEPTANCE.
   H. CONTRACTOR SHALL PROVIDE ACCESS PANELS WHERE NECESSARY FOR CONCEALED ELECTRIAL COMPONENTS.
2. OPERATION AND MAINTENANCE MANUALS:
   A. DURING THE COURSE OF CONSTRUCTION, COLLECT AND COMPILE OPERATING INSTRUCTIONS, WIRING DIAGRAMS, CATALOG CUTS, LUBRICATION AND PREVENTIVE MAINTENANCE INSTRUCTIONS, PARTS LISTS, ETC. FOR ALL EQUIPMENT FURNISHED UNDER THIS CONTRACT.
   B. ALL LITERATURE AND INSTRUCTIONS SHIPPED WITH THE EQUIPMENT SHALL BE SAVED FOR INCLUSION IN THE OPERATION AND MAINTENANCE MANUALS.
   C. ALL LITERATURE LISTED ABOVE AND ALL PAPERS LISTING WARRANTIES, ETC. SHALL BE COLLATED AND LABELED WITH THE PROJECT NAME, ADDRESS, ARCHITECT, ENGINEER, CONTRACTORS, ETC. CONTRACTORS, ETC. DOCUMENTS SHALL BE COMPILED AND BOUND IN DIGITAL FILE OR 3 RING BINDER.
3. MANUFACTURERS:
   A. MANUFACTURERS, MODEL NUMBERS, ETC. INDICATED OR SCHEDULED ON THE DRAWINGS SHALL BE INTERPRETED AS HAVING ESTABLISHED A STANDARD OF QUALITY AND SHALL NOT BE CONSTRUED AS LIMITING COMPETITION. ARTICLES, FIXTURES, ETC. OF EQUAL QUALITY BY MANUFACTURERS SHALL BE ACCEPTABLE, SUBJECT TO STRUCTURAL AND ELECTRICAL CONSTRAINTS OF THE PROJECT DESIGN, UNLESS NOTED OTHERWISE.
4. TESTING, AND BALANCING:
   A. ALL CIRCUITS SHALL BE TESTED FOR CONTINUITY, SHORTS, AND GROUNDS BEFORE CONNECTING TO THE PROPER PHASE AS DESIGNED TO BALANCE THE LOADING BETWEEN PHASES.
   B. POWER AND LIGHTING PANELS SHALL BE PROPERLY PHASED TO DISTRIBUTE THE LOAD AND SHALL BE CONNECTED AND ADJUSTED TO OPERATE AS SPECIFIED.
   C. ALL MOTORS AND SIMILAR EQUIPMENT SHALL BE CHECKED FOR PROPER PHASE ROTATION AND OPERATION.
5. RACEWAYS:
   A. CONDUIT INSIDE THE BUILDING SHALL BE METALLIC TUBING (EMT), BEARING THE UL LABEL, WITH COMPRESSION TYPE FITTINGS OR SCREW SET FITTINGS.
   B. CONDUIT EXPOSED TO THE WEATHER, INSTALLED UNDERGROUND, IN CONCRETE, OR USED FOR SERVICE ENTRANCE SHALL BE STANDARD RIGID CONDUIT (GALVANIZED) WITH THREADED FITTINGS.
   C. UNDERGROUND CONDUIT MAY BE POLYVINYL CHLORIDE WITH A DEFLECTION TEMPERATURE, UNDER LOAD AT 264 PSI, OF 76 DEGREES C, AND A TENSILE STRENGTH OF 5,200 PSI. JOINTS SHALL BE FLUSH SOLVENT WELDED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. CONDUIT SHALL BE EQUAL TO CARLON PIONEER AND COMMUNICATIONS DUCT TYPE DB (DIRECT BURIAL). CONDUIT AND FITTINGS SHALL BE PRODUCED BY THE SAME MANUFACTURER.
   D. FLEXIBLE METAL CONDUIT SHALL ONLY BE USED FOR CONNECTIONS TO MOTORS, TRANSFORMERS, AND LIGHT FIXTURES. MAXIMUM LENGTH SHALL BE 6'-0".
6. CONDUCTORS:
   A. WIRES SHALL BE CONTINUOUS WITHOUT SPLICES OR TAPS IN CONDUIT RUNS. ALL SPLICES SHALL BE MADE IN JUNCTION, PULL, OR OUTLET BOXES. ALL WIRE SHALL BE INSTALLED IN CONDUIT, WIREWAYS, OR OTHER PROTECTIVE COVER SANCTIONED BY CODES.
   B. CONDUCTORS FOR LIGHTING AND POWER SHALL BE COPPER, MINIMUM NO. 12 A.W.G., 600 VOLT.
   C. NO. 10 GAUGE AND SMALLER CONDUCTORS SHALL BE TYPE THWN (WET LOCATIONS) OR THHN (DRY LOCATIONS), SOLID CONDUCTOR, UNLESS OTHERWISE INDICATED.
   D. NO. 8 GAUGE AND LARGER CONDUCTORS SHALL BE TYPE THAN (WET LOCATIONS) OR THHN (DRY LOCATIONS), STRANDED, UNLESS OTHERWISE INDICATED.
   E. SERVICE ENTRANCE AND PANEL FEEDER CONDUCTORS, NO. 3 GAUGE AND LARGER SHALL BE TYPE XHHN-2 (WET LOCATIONS) OR THHN (DRY LOCATIONS), STRANDED COPPER, UNLESS OTHERWISE INDICATED.
7. MC CABLE:
   A. MC CABLE SHALL CONSIST OF INTERLOCK ARMORED CABLE MADE OF THREE OR FOUR TYPE THHN SOLID (10 AWG AND LARGER MAY BE STRANDED) COPPER CONDUCTORS RATED 90°C FOR DRY LOCATIONS, WITH NYLON OR EQUIVALENT UL LISTED JACKET, PER UL STANDARD 83 THE THREE CONDUCTORS SHALL BE TWISTED TOGETHER WITH THE COPPER GROUNDING CONDUCTOR, SUITABLE FILLERS, AND WRAPPED IN BINDER TAPE. THE ASSEMBLY SHALL BE ARMORED WITH SPIRALLY WRAPPED INTERLOCKED ARMOR OF ALUMINUM OR GALVANIZED STEEL.
   B. CABLES SHALL BE TESTED IN ACCORDANCE WITH UL STANDARD 1569 FOR TYPE MC CABLE AND RATED AT 600 VOLTS, 90 DEG. C FOR DRY LOCATIONS AND 75 DEG. C FOR WET LOCATIONS.
8. WIRING DEVICES:
   A. WALL SWITCHES SHALL BE SPECIFICATION GRADE, QUIET TYPE, FLUSH TOGGLE SWITCH, RATED FOR 20 AMPS, WITH THERMOPLASTIC COVER PLATES.
      1) SINGLE POLE: HUBBELL #CS1221-X, OR EQUAL.
      2) THREE WAY: HUBBELL #CS1223-X, OR EQUAL.
      3) AS SPECIFIED ON PLANS
   B. RECEPTACLES SHALL BE SPECIFICATION GRADE, DUPLEX, GROUNDING, THREE-WIRE TYPE, RATED FOR 20 AMPS, WITH THERMOPLASTIC COVER PLATES. HUBBELL #CR5352-X, OR EQUAL.
   C. GROUND FAULT INTERRUPTER RECEPTACLES (GFI) SHALL BE HUBBELL #GF20-XL. DEVICE COVER PLATES SHALL BE AS HEREINBEFORE SPECIFIED.
   D. ISOLATED GROUND RECEPTACLES (IG) SHALL BE HUBBELL #CR5352IG, ORANGE COLOR. DEVICE COVER PLATES SHALL BE AS HEREINBEFORE SPECIFIED.
   E. RECEPTACLES OUTSIDE BUILDING AND WHERE NOTED AS WEATHERPROOF, SHALL BE LISTED WEATHER-RESISTANT HUBBELL #GFTR20-X OR EQUAL AND SHALL BE INSTALLED IN A WEATHERPROOF ENCLOSURE WHICH SHALL BE INTERMATIC #WP1010MXD OR #WP1010HMXD DIECAST METAL WEATHERPROOF RECEPTACLE COVER. COVER SHALL BE WEATHER PROOF RATED WHILE IN USE.
   F. VERIFY DEVICES AND DEVICE COVERPLATES COLOR AND STYLE WITH ARCHITECT.
9. BOXES:
   A. HOT DIPPED GALVANIZED STEEL BOXES. PROVIDE TYPE TO SUIT CONDITIONS FOR INSTALLATION.
   B. ALL BOXES SHALL BE FLUSH MOUNTED, UNLESS INDICATED OTHERWISE.
10. PANELBOARDS:
   A. FURNISH AND INSTALL CIRCUIT BREAKER PANELBOARDS AS SHOWN ON THE DRAWINGS. PANELBOARDS SHALL BE LISTED BY UL AND SO LABELED, AND SHALL BE FULLY RATED FOR THE VOLTAGE AND CURRENT CAPACITY INDICATED ON THE PANEL SCHEDULE. PANELBOARDS SHALL BE EQUAL TO SQUARE D TYPE NQ OR NF WITH BOLT IN TYPE BREAKERS. PANELBOARD LUGS SHALL BE RATED AT 75°C.
      1) CIRCUIT BREAKER INTERRUPTING CAPACITIES SHALL MEET OR EXCEED THE AVAILABLE RMS SYMMETRICAL FAULT CURRENTS INDICATED AND AS REQUIRED TO MEET OR EXCEED THE AVAILABLE FAULT CURRENT FROM LOCAL UTILITY.
   B. CIRCUIT BREAKERS SHALL MEET APPLICABLE PORTIONS OF UL STANDARD 489 AND NEMA AB-1. CIRCUIT BREAKERS SHALL BE BOLT-ON, GROUP MOUNTED, AMBIENT MAGNETIC, WITH COMMON TRIP, UL RATED TO CARRY 80% OF NAMEPLATE RATING CONTINUOUSLY IN FREE AIR AT 40° C. CIRCUIT BREAKERS SHALL BE TRIP INDICATING AND FULLY INTERCHANGEABLE WITHOUT DISTURBING ADJACENT UNITS. WIRE TERMINALS SHALL BE RATED 75 DEGREES C. THE OPERATING MECHANISM SHALL BE TRIP-FREE SO THAT CONTACTS CANNOT BE HELD CLOSED AGAINST ANY ABNORMAL OVERCURRENT OR SHORT CIRCUIT CONDITION.
      a) BREAKERS SHALL MEET APPLICABLE NEMA AND/OR UL SPECIFICATIONS.
   C. PANELBOARD BOXES SHALL BE GALVANIZED SHEET STEEL WITH AMPLE WIRING GUTTER SPACE IN ACCORDANCE WITH NEC. FRONTS SHALL BE OF SHEET STEEL PAINTED LIGHT GREY OVER A SUITABLE RUST INHIBITOR PRIMER. PANELBOARDS SHALL BE EQUIPPED WITH ONE PIECE DOOR, CYLINDER TUMBLER TYPE LOCK, DIRECTORY CARD-HOLDER AND QUARTER-TURN ADJUSTABLE TRIM CLAMPS.
   D. PANELBOARD INTERIORS SHALL CONSIST OF REINFORCED GALVANIZED SHEET STEEL FRAMES WITH ALUMINUM BUS BARS AND CIRCUIT BREAKERS, PROPERLY SUPPORTED TO PREVENT VIBRATIONS AND BREAKAGE IN HANDLING. BUS BARS SHALL BE SEQUENCE PHASED. PANELBOARD SHALL HAVE A FULL SIZED SOLID ALUMINUM NEUTRAL AND GROUND BUS.
   E. BUS BAR BRACING SHALL BE UL LISTED AS INDICATED ON DRAWINGS. ADDITIONAL BRACING SHALL BE PROVIDED AS REQUIRED TO MEET OR EXCEED INDICATED AVAILABLE FAULT CURRENTS.
   F. DIRECTORY CARDS SHALL BE COMPLETELY FILLED IN BY TYPEWRITER, LISTING CIRCUIT NUMBERS AND LOAD SERVED, INCLUDING EXISTING CIRCUITS. CIRCUIT BREAKERS SHALL BE IDENTIFIED BY CIRCUIT NUMBER LABELS AS HEREINBEFORE SPECIFIED.

ELECTRICAL SPECIFICATIONS (CONTINUED)

13. LIGHT FIXTURES:
   A. WHERE LIGHT FIXTURES ARE MOUNTED IN A LAY-IN CEILING, PROVIDE A MINIMUM OF 2 SUPPORT WIRES ATTACHED DIRECTLY BETWEEN EACH LIGHT FIXTURE AND THE BUILDING STRUCTURE. SUPPORT WIRES SHALL BE A MINIMUM OF 12 GAUGE GALVANIZED STEEL WIRE, SOFT ANNEALED.
   B. FIXTURES ARE REQUIRED AT ALL LIGHTING OUTLETS SHOWN ON THE DRAWINGS. APPROVED LIGHTING FIXTURE WIRE IS REQUIRED IN ALL FIXTURES AND FIXTURE RACEWAYS. WEATHERPROOF WIRING IS REQUIRED FOR EXTERIOR FIXTURES. ALL PARTS OF FIXTURES AND WIRING SHALL BE IN ACCORDANCE WITH NEC REQUIREMENTS.
   C. ALL FIXTURES SHALL CARRY UL AND ETL LABELS.
14. SLEEVES:
   A. PROVIDE, SET, AND PROPERLY LOCATE PIPE SLEEVES AS REQUIRED FOR THIS WORK.
   B. INTERIOR PARTITIONS: 16 GAGE GALVANIZED STEEL, PACK BETWEEN CONDUIT AND SLEEVE WITH FIRE SAFING AND CAULK AT EACH END WITH FIRE RESISTANT SEALANT.
   C. ROOF: PROSET OR EQUAL, MANUFACTURED PVC SCHEDULE 40 PIPE SLEEVE WITH WEATHERPROOF SEAL. COORDINATE WITH ROOFING CONTRACTOR AND FLASH AS REQUIRED TO MAINTAIN ROOF WARRANTY.
15. GROUNDING:
   A. GROUND ALL ELECTRICAL APPARATUS IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE (NEC) 250, AND ANY LOCAL REQUIREMENTS. INSURE CONTINUOUS BOND WHERE FLEXIBLE CONDUIT IS USED. PROVIDE BONDING JUMPER INSIDE ALL FLEXIBLE CONDUIT.
   B. BOND METAL PIPING SYSTEMS IN COMPLIANCE WITH NEC 250.4(A)(4).

ELECTRICAL SYMBOLS LIST

CIRCUITING & NOTES	
+46"	SPECIAL MOUNTING HEIGHT FOR ASSOCIATED DEVICE (CENTERLINE OF DEVICE)
GFI	GROUND FAULT CIRCUIT INTERRUPTER DEVICE
WP	WEATHERPROOF ENCLOSURE ON DEVICE
(TIE)	PARTIAL HOMERUN. REFER TO PLANS FOR ADDITIONAL DEVICES CONNECTED TO THIS CIRCUIT.
X	ELECTRICAL FLOOR PLAN NOTE WITH DESIGNATION
2 LP	CONDUIT CONCEALED WHERE POSSIBLE OR AS NOTED, ARROWS INDICATE HOME RUN TO PANEL. CIRCUIT NUMBERS INDICATED
	#12 WIRE IN CONDUIT, UNLESS NOTED OTHERWISE ON DRAWINGS OR SPECIFICATION
	GROUNDING CONDUCTOR, #12 WIRE UNLESS NOTED OTHERWISE ON DRAWINGS OR SPECIFICATION
	CONDUIT ROUTED UNDER FLOOR/GRADE
LIGHTING	
	EMERGENCY TWIN HEAD LIGHT FIXTURE
	EXIT LIGHT WITH DIRECTIONAL ARROWS INDICATED
A	STRIP FIXTURE WITH TYPE DESIGNATION
A	RECESSED OR SURFACE MOUNTED FIXTURE WITH TYPE DESIGNATION
A NL	NIGHT LIGHT, CONNECT TO UNSWITCHED CIRCUIT
A	CEILING OR RECESSED FIXTURE WITH TYPE DESIGNATION
A	WALL MOUNTED FIXTURE WITH TYPE DESIGNATION
POWER DEVICES & CONTROLS	
	DUPLEX RECEPTACLE, BOTTOM OF BOX AT 16" AFF, UNLESS NOTED OTHERWISE
	PANEL BOARD, TOP OF BOX 6'-0" AFF
	JUNCTION BOX
So	WALL MOUNTED DUAL-TECHNOLOGY OCCUPANCY SENSOR, WATT STOPPER #DW-100, TOP OF BOX AT 48" AFF
COMMUNICATIONS	
	DATA/TELEPHONE OUTLET WITH MINIMUM ¾" CONDUIT STUBBED UP TO ABOVE ACCESSIBLE CEILING, BOTTOM OF BOX AT 16", UNLESS NOTED OTHERWISE. PROVIDE WITH PULL STRING
TV	FLAT SCREEN TELEVISION - PROVIDE AND INSTALL ONE (1) HUBBELL #RR1510X RECESSED TAMPER-RESISTANT DUPLEX RECEPTACLE WITH COVERPLATE AND ONE(1) HUBBELL #HBL260 TWO GANG LARGE CAPACITY WALL BOX (UP TO 2" KNOCKOUT) W/ MUD RING AND COVERPLATE FOR DATA. PROVIDE 2"C WITH PULL STRING TO ABOVE ACCESSIBLE CEILING FOR DATA CABLES. MOUNT BOX AT 7'-6" AFF UNLESS NOTED OTHERWISE (VERIFY)
	PHOTOCELL MOUNTED ON NORTH SIDE OF BUILDING BELOW ROOF LINE.

LIGHT FIXTURE SCHEDULE

MARK NO.	MANUFACTURER & CATALOG NUMBER	VOLTS WATTS	LIGHT SOURCE	DESCRIPTION	EQUIVALENT MANUFACTURERS
A	COOPER CLC5175	120 40-60	LED 5500-8000 LUM 4000K	SURFACE MOUNTED CANOPY LIGHT	WILLIAMS LITHONIA OR EQUAL
B	CREE OSQ-M-B-9L-40K7-SQ-UL-NM-BK W/OSQ-ML-B-DA-BK	208 120	LED 9000 LUM 4000K	POLE MOUNTED DUAL LED FIXTURE MOUNTED AT 22' ABOVE GRADE (20 FOOT POLE AND 2 FOOT BASE) DIRECT ARM MOUNT (TO BE ORDERED SEPARATELY)	WILLIAMS LITHONIA OR EQUAL
C	CREE XSPW-B-XM-3ME-4L-40K	120 31	LED 4270 LUM 4000K	WALL MOUNTED LED FIXTURE MOUNTED AT 15' ABOVE GRADE	WILLIAMS LITHONIA OR EQUAL

NOTES:

ELECTRICAL GENERAL NOTES:

1. COORDINATE ALL WORK WITH OTHER TRADES AND EXISTING CONDITIONS AS REQUIRED TO PROPERLY INSTALL ALL SYSTEMS AS INTENDED, WITHIN THE CONFINES OF THE SPACES AVAILABLE, AND WITHOUT INTERFERENCES.
2. IT IS THE ELECTRICAL CONTRACTORS RESPONSIBILITY TO PROPERLY BALANCE ALL BRANCH CIRCUITS BETWEEN THE PHASES OF THE SYSTEM REGARDLESS OF CIRCUITING INDICATED.
3. ALL EXPOSED RACEWAYS SHALL BE EMT CONDUIT, MC CABLE IS NOT PERMITTED IN EXPOSED AREAS.
4. EACH BRANCH CIRCUIT SHALL HAVE A DEDICATED NEUTRAL PER NEC 210.4.
5. ALL BRANCH CIRCUITS SHALL BE SIZED TO ALLOW FOR A MAXIMUM OF 3% VOLTAGE DROP. ALL FEEDERS SHALL BE SIZED TO ALLOW FOR A MAXIMUM OF 2% VOLTAGE DROP. ELECTRICAL CONTRACTOR SHALL VERIFY WIRING INDICATED IS SUFFICIENT AND INCREASE CONDUCTOR SIZE AS REQUIRED BASED OFF ACTUAL INSTALLED LENGTH OF CONDUCTORS.

davidson
architecture&engineering
4301 Indian Creek Parkway
Overland Park, KS 66207
phone: 913.451.6380
fax: 913.451.6381
www.davidsonae.com

3/8/2022

Mega Storage - Town Centre Lot 1

a new development for

520 NE Town Centre Drive
Lee's Summit, Missouri

date
03.8.2022
drawn by
checked by
revisions △

BC ENGINEERS INCORPORATED
5720 Reeder Shawnee, KS 66203 (913)262-1772

sheet number
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drawing type
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project number
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davidson
architecture&engineering
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Overland Park, KS 66207
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fax: 913.451.6381
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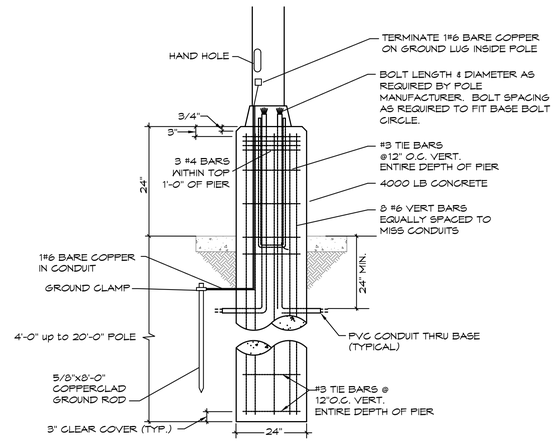
ELECTRICAL SITE PLAN
SCALE: 1" = 20'

SITE PLAN NOTES:

1. SEE CIVIL'S UTILITY SITE PLAN FOR CONTINUATION OF ELECTRICAL SERVICE.
2. PHOTOCELL LIKE INTERMATIC #EK42365 OR EQUAL MOUNTED ON SOUTH EAST SIDE OF BUILDING BELOW ROOF LINE.
3. ROUTE MONUMENT SIGN CIRCUIT THROUGH PHOTOCELL LIKE INTERMATIC #EK42365 OR EQUAL MOUNTED ON SIGN. VERIFY LOCATION OF SIGN WITH OWNER.
4. ROUTE 2"C WITH PULL STRING BETWEEN BUILDINGS TO BE USED FOR SECURITY CAMERA CABLING.
5. POWER FOR NEMA 3R SECURITY CABINET. VERIFY IF BOX IS BEING PROVIDED BY SECURITY VENDOR OR IF REQUIRED TO BE PROVIDED BY ELECTRICAL CONTRACTOR. IF PROVIDED BY EC PROVIDE ADEQUATE SIZE BOX WITH HEAT STRIP AND NECESSARY VENTILATION PER VENDOR REQUIREMENTS.
6. 2"C WITH PULL STRING FROM SECURITY CABINET TO COMMUNICATIONS SERVICE ENTRANCE.
7. PAD MOUNTED UTILITY TRANSFORMER - COORDINATE WITH LOCAL UTILITY.
8. UNDERGROUND CONDUIT FOR PANEL FEEDER, SEE RISER DIAGRAM.
9. UNDERGROUND CONDUIT FOR FUTURE PANEL. STUB UP AND CAP AT LOCATION INDICATED. SEE RISER DIAGRAM.



POLE FOUNDATION DETAIL
SCALE: NONE

3/8/2022
STATE OF MISSOURI
DARIN T. SEIDEL
NUMBER PE-2009030
REGISTERED PROFESSIONAL ENGINEER

Mega Storage - Town Centre Lot 1

a new development for

520 NE Town Centre Drive
Lee's Summit, Missouri

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BC PROJECT #: 22155
MISSOURI PE COA #2009003629

BC ENGINEERS INCORPORATED
5720 Reeder Shawnee, KS 66203 (913)262-1772

davidson
architecture&engineering
4301 Indian Creek Parkway
Overland Park, KS 66207
phone: 913.451.6380
fax: 913.451.6381
www.davidsonae.com

3/8/2022

STATE OF MISSOURI
REGISTERED PROFESSIONAL ENGINEER
DARIN T. SEIDEL
NUMBER PE-2009030
Darin T. Seidel Professional Engineer

NORTH

ELECTRICAL LIGHTING PLAN
SCALE: 1" = 20'

BC PROJECT #: 22155
MISSOURI PE COA #2009003629

BC ENGINEERS INCORPORATED
5720 Reeder Shawnee, KS 66203 (913)262-1772

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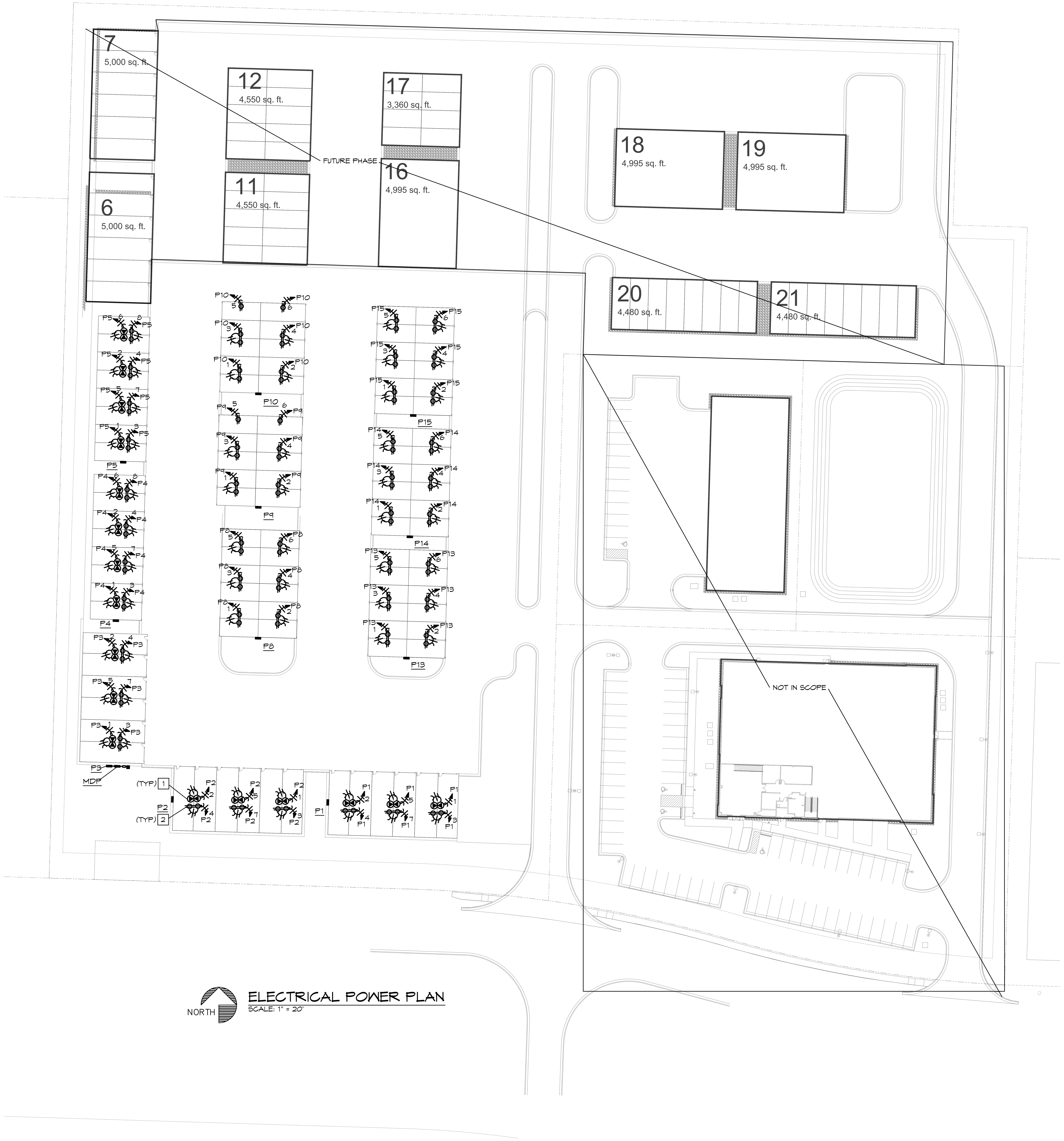
davidson
architecture & engineering
4301 Indian Creek Parkway
Overland Park, KS 66207
phone: 913.451.9390
fax: 913.451.9391
www.davidsonae.com

3/8/2022
STATE OF MISSOURI
DARIN T. SEIDEL
NUMBER PE-2009030047
REGISTERED PROFESSIONAL ENGINEER

POWER PLAN NOTES:

1. NEMA TT-30R RV RECEPTACLE (TYPICAL). MOUNT AT 48" AFF.
2. NEMA 5-20 GFCI RECEPTACLE (TYPICAL). MOUNT AT 48" AFF.



ELECTRICAL POWER PLAN
SCALE: 1" = 20'
NORTH

a new development for
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520 NE Town Centre Drive
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BC PROJECT #:	22155
MISSOURI	PE COA #2009003629

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5720 Reeder Shawnee, KS 66203 (913)262-1772

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3/8/2022

STATE OF MISSOURI
DARIN T. SEIDEL
NUMBER PE-2009030
REGISTERED PROFESSIONAL ENGINEER

PANEL: P1	VOLTS: 120/208V	PH: 3Ø	WIRE: 4W	LOCATION: BUILDING P1	MOUNTING: SURFACE
BUS: 100A	MAIN: 60A MCB	IC: 10,000	RMS SYM AMPS		FEEDER: SEE RISER DIAGRAM

CKT	DESCRIPTION	AMPS	POLE	WIRE	ØA	ØB	ØC	ØA	ØB	ØC	WIRE	POLE	AMPS	DESCRIPTION	CKT NO
1	RV RECEPTACLE	30	1	10	1,500			1,500			10	1	30	RV RECEPTACLE	2
3	CONV RECEPTACLE	20	1	12		360			360		12	1	20	CONV RECEPTACLE	4
5	RV RECEPTACLE	30	1	10			1,500					1	20	SPARE	6
7	CONV RECEPTACLE	20	1	12	360							1	20	SPARE	8
9	INTERIOR LIGHTING	20	1	12		360						1	20	SPARE	10
11	SPARE	20	1									1	20	SPARE	12
NOTES:					1,860	720	1,500	1,500	360	0					
					3,360		1,080		1,500					TOTAL CONNECTED LOAD:	5,940 VA
														NEC DEMAND LOAD:	6,030 VA
														DEMAND AMPS @ 208 VOLT / 3Ø:	16.74 A

PANEL: P2	VOLTS: 120/208V	PH: 3Ø	WIRE: 4W	LOCATION: BUILDING P2	MOUNTING: SURFACE
BUS: 100A	MAIN: 100A MCB	IC: 22,000	RMS SYM AMPS		FEEDER: SEE RISER DIAGRAM

CKT	DESCRIPTION	AMPS	POLE	WIRE	ØA	ØB	ØC	ØA	ØB	ØC	WIRE	POLE	AMPS	DESCRIPTION	CKT NO
1	RV RECEPTACLE	30	1	10	1,500			1,500			10	1	30	RV RECEPTACLE	2
3	CONV RECEPTACLE	20	1	12		360			360		12	1	20	CONV RECEPTACLE	4
5	RV RECEPTACLE	30	1	10			1,500			155	12	1	20	EXTERIOR LIGHTING	6
7	CONV RECEPTACLE	20	1	12	360							1	20	SPARE	8
9	INTERIOR LIGHTING	20	1	12		360						1	20	SPARE	10
11	SPARE	20	1									1	20	SPARE	12
13	SPARE	20	1					3,360							14
15	SPARE	20	1						1,080		6	3	60	PANEL P1	16
17	SPARE	20	1							1,500					18
NOTES:					1,860	720	1,500	4,860	1,440	1,655					
					6,720		2,160		3,155					TOTAL CONNECTED LOAD:	12,035 VA
														NEC DEMAND LOAD:	12,254 VA
														DEMAND AMPS @ 208 VOLT / 3Ø:	34.01 A

PANEL: MDP	VOLTS: 120/208V	PH: 3Ø	WIRE: 4W	LOCATION: BUILDING P3	MOUNTING: SURFACE
BUS: 400A	MAIN: 400A MCB	IC: 22,000	RMS SYM AMPS		FEEDER: SEE RISER DIAGRAM

CKT	DESCRIPTION	AMPS	POLE	WIRE	ØA	ØB	ØC	ØA	ØB	ØC	WIRE	POLE	AMPS	DESCRIPTION	CKT NO
1					10,800			6,720							2
3	P3	100	3	3		3,480			2,160		3	3	100	P2	4
5							7,655			3,155					6
7					4,421			4,661							8
9	P3	100	3	3		2,160			2,160		3	3	100	P13	10
11							1,440			2,160					12
13	SITE LIGHTING	20	2	6	720			1,200			10	1	20	MONUMENT SIGN	14
15						720						1	20	SPARE	16
17												1	20	SPARE	18
19	SPARE	100	3									1	20	SPARE	20
21												1	20	SPARE	22
23	SPARE	20	1									1	20	SPARE	24
NOTES:					15,941	6,360	9,095	12,581	4,320	5,315					
					28,522		10,680		14,410					TOTAL CONNECTED LOAD:	53,612 VA
														NEC DEMAND LOAD:	51,870 VA
														DEMAND AMPS @ 208 VOLT / 3Ø:	143.45 A

PANEL: P5	VOLTS: 120/208V	PH: 3Ø	WIRE: 4W	LOCATION: BUILDING P5	MOUNTING: SURFACE
BUS: 100A	MAIN: 60A MCB	IC: 10,000	RMS SYM AMPS		FEEDER: SEE RISER DIAGRAM

CKT	DESCRIPTION	AMPS	POLE	WIRE	ØA	ØB	ØC	ØA	ØB	ØC	WIRE	POLE	AMPS	DESCRIPTION	CKT NO
1	RV RECEPTACLE	30	1	10	1,500			1,500			10	1	30	RV RECEPTACLE	2
3	CONV RECEPTACLE	20	1	12		360			360		12	1	20	CONV RECEPTACLE	4
5	RV RECEPTACLE	30	1	10			1,500			1,500	10	1	30	RV RECEPTACLE	6
7	CONV RECEPTACLE	20	1	12	360			360			12	1	20	CONV RECEPTACLE	8
9	INTERIOR LIGHTING	20	1	12		480						1	20	SPARE	10
11	SPARE	20	1									1	20	SPARE	12
NOTES:					1,860	840	1,500	1,860	360	1,500					
					3,720		1,200		3,000					TOTAL CONNECTED LOAD:	7,920 VA
														NEC DEMAND LOAD:	8,040 VA
														DEMAND AMPS @ 208 VOLT / 3Ø:	22.32 A

PANEL: P4	VOLTS: 120/208V	PH: 3Ø	WIRE: 4W	LOCATION: BUILDING P4	MOUNTING: SURFACE
BUS: 100A	MAIN: 100A MCB	IC: 10,000	RMS SYM AMPS		FEEDER: SEE RISER DIAGRAM

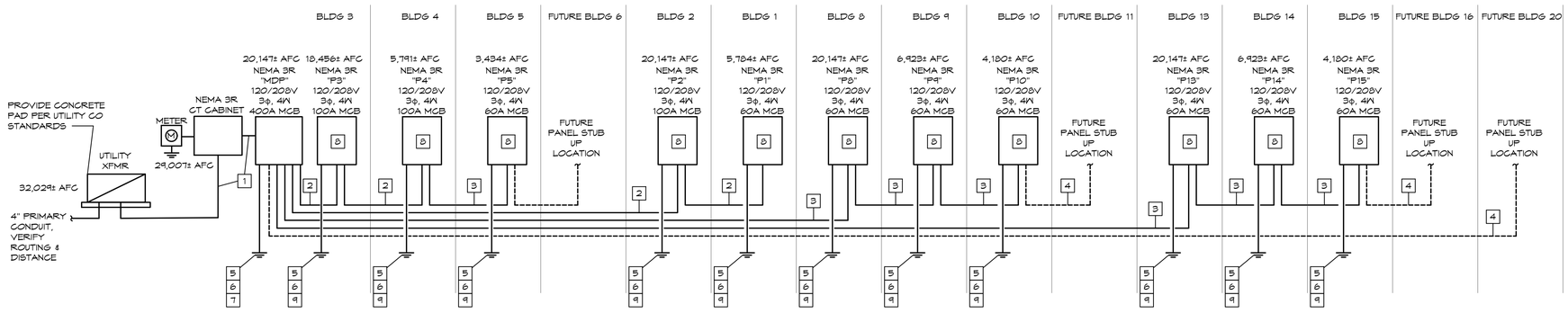
CKT	DESCRIPTION	AMPS	POLE	WIRE	ØA	ØB	ØC	ØA	ØB	ØC	WIRE	POLE	AMPS	DESCRIPTION	CKT NO
1	RV RECEPTACLE	30	1	10	1,500			1,500			10	1	30	RV RECEPTACLE	2
3	CONV RECEPTACLE	20	1	12		360			360		12	1	20	CONV RECEPTACLE	4
5	RV RECEPTACLE	30	1	10			1,500			1,500	10	1	30	RV RECEPTACLE	6
7	CONV RECEPTACLE	20	1	12	360			360			12	1	20	CONV RECEPTACLE	8
9	INTERIOR LIGHTING	20	1	12		480						1	20	SPARE	10
11	SPARE	20	1									1	20	SPARE	12
13	SPARE	20	1					3,720							14
15	SPARE	20	1						1,200		6	3	60	PANEL P5	16
17	SPARE	20	1							3,000					18
NOTES:					1,860	840	1,500	5,580	1,560	4,500					
					7,440		2,400		6,000					TOTAL CONNECTED LOAD:	15,840 VA
														NEC DEMAND LOAD:	16,080 VA
														DEMAND AMPS @ 208 VOLT / 3Ø:	44.63 A

PANEL: P3	VOLTS: 120/208V	PH: 3Ø	WIRE: 4W	LOCATION: BUILDING P3	MOUNTING: SURFACE
BUS: 100A	MAIN: 100A MCB	IC: 22,000	RMS SYM AMPS		FEEDER: SEE RISER DIAGRAM

CKT	DESCRIPTION	AMPS	POLE	WIRE	ØA	ØB	ØC	ØA	ØB	ØC	WIRE	POLE	AMPS	DESCRIPTION	CKT NO
1	RV RECEPTACLE	30	1	10	1,500			1,500			10	1	30	RV RECEPTACLE	2
3	CONV RECEPTACLE	20	1	12		360			360		12	1	20	CONV RECEPTACLE	4
5	RV RECEPTACLE	30	1	10			1,500			155	12	1	20	EXTERIOR LIGHTING	6
7	CONV RECEPTACLE	20	1	12	360							1	20	SPARE	8
9	INTERIOR LIGHTING	20	1	12		360						1	20	SPARE	10
11	SPARE	20	1									1	20	SPARE	12
13	SPARE	20	1					7,440							14
15	SPARE	20	1						2,400		3	3	100	PANEL P4	16
17	SPARE	20	1							6,000					18
NOTES:					1,860	720	1,500	8,940	2,760	6,155					
					10,800		3,480		7,655					TOTAL CONNECTED LOAD:	21,935 VA
														NEC DEMAND LOAD:	22,304 VA
														DEMAND AMPS @ 208 VOLT / 3Ø:	61.91 A

RISER NOTES

1. (4) #500 KCMIL AWG, 3"C COPPER OR (4) #800 KCMIL, 3"C ALUMINUM.
2. (4) #3 AWG, 2"C COPPER OR (4) #1 AWG, 2"C ALUMINUM.
3. (4) #4 AWG, 2"C COPPER OR (4) #4 AWG, 2"C ALUMINUM.
4. 2"C WITH PULL STRING CAP END FOR FUTURE USE.
5. #4 CU TO FOUNDATION STEEL REINFORCING PER NEC 250.52 (3) AND NEC 250.66 (B).
6. #6 CU GROUND TO DRIVEN GROUND ROD PER NEC 250.
7. #1/0 CU TO BLDG STEEL PER NEC 250.
8. ISOLATE NEUTRAL AND GROUND BUS AT REMOTE BLDG PANEL PER NEC 250.
9. #4 TO BLDG STEEL PER NEC 250.



ELECTRICAL RISER DIAGRAM

SCALE: NONE

BC PROJECT #: 22155
MISSOURI PE COA #2009003629

BC ENGINEERS INCORPORATED
5720 Reeder Shawnee, KS 66203 (913)262-1772

a new development for

Mega Storage - Town Centre Lot 1

520 NE Town Centre Drive
Lee's Summit, Missouri

date 03.8.2022
drawn by
checked by
revisions △

sheet number
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drawing type
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project number
22155

davidson
architecture&engineering
4301 Indian Creek Parkway
Overland Park, KS 66207
phone: 913.451.6380
fax: 913.451.6381
www.davidsonae.com

3/8/2022

STATE OF MISSOURI
DARIN T. SEIDEL
NUMBER PE-2009030629
REGISTERED PROFESSIONAL ENGINEER

PANEL: P10		VOLTS: 120/208V		PH: 3Ø		WIRE: 4W		LOCATION: BUILDING P10			MOUNTING: SURFACE			
BUS: 100A		MAIN: 60A MCB		IC: 10,000 RMS SYM AMPS							FEEDER: SEE RISER DIAGRAM			
CKT	DESCRIPTION	AMPS	POLE	WIRE	ØA	ØB	ØC	ØA	ØB	ØC	WIRE	POLE	AMPS	DESCRIPTION	CKT NO
1	CONV RECEPTACLE	20	1	12	360			360			12	1	20	CONV RECEPTACLE	2
3	CONV RECEPTACLE	20	1	12		360			360		12	1	20	CONV RECEPTACLE	4
5	CONV RECEPTACLE	20	1	12			180			180	12	1	20	CONV RECEPTACLE	6
7	INTERIOR LIGHTING	20	1	12	600							1	20	SPARE	8
9	SPARE	20	1									1	20	SPARE	10
11	SPARE	20	1									1	20	SPARE	12
NOTES:					960	360	180	360	360	180					
					1,320		720		360					TOTAL CONNECTED LOAD:	2,400 VA
														NEC DEMAND LOAD:	2,550 VA
														DEMAND AMPS @ 208 VOLT / 3Ø:	7.08 A

PANEL: P9		VOLTS: 120/208V		PH: 3Ø		WIRE: 4W		LOCATION: BUILDING P9			MOUNTING: SURFACE			
BUS: 100A		MAIN: 60A MCB		IC: 10,000 RMS SYM AMPS							FEEDER: SEE RISER DIAGRAM			
CKT	DESCRIPTION	AMPS	POLE	WIRE	ØA	ØB	ØC	ØA	ØB	ØC	WIRE	POLE	AMPS	DESCRIPTION	CKT NO
1	CONV RECEPTACLE	20	1	12	360			360			12	1	20	CONV RECEPTACLE	2
3	CONV RECEPTACLE	20	1	12		360			360		12	1	20	CONV RECEPTACLE	4
5	CONV RECEPTACLE	20	1	12			180			180	12	1	20	CONV RECEPTACLE	6
7	INTERIOR LIGHTING	20	1	12	600							1	20	SPARE	8
9	SPARE	20	1									1	20	SPARE	10
11	SPARE	20	1									1	20	SPARE	12
13	SPARE	20	1					1,320							14
15	SPARE	20	1						720		12	3	20	PANEL P10	16
17	SPARE	20	1							360					18
NOTES:					960	360	180	1,680	1,080	540					
					2,640		1,440		720					TOTAL CONNECTED LOAD:	4,800 VA
														NEC DEMAND LOAD:	5,100 VA
														DEMAND AMPS @ 208 VOLT / 3Ø:	14.16 A

PANEL: P8		VOLTS: 120/208V		PH: 3Ø		WIRE: 4W		LOCATION: BUILDING P8			MOUNTING: SURFACE			
BUS: 100A		MAIN: 60A MCB		IC: 22,000 RMS SYM AMPS							FEEDER: SEE RISER DIAGRAM			
CKT	DESCRIPTION	AMPS	POLE	WIRE	ØA	ØB	ØC	ØA	ØB	ØC	WIRE	POLE	AMPS	DESCRIPTION	CKT NO
1	CONV RECEPTACLE	20	1	12	360			360			12	1	20	CONV RECEPTACLE	2
3	CONV RECEPTACLE	20	1	12		360			360		12	1	20	CONV RECEPTACLE	4
5	CONV RECEPTACLE	20	1	12			360			360	12	1	20	CONV RECEPTACLE	6
7	INTERIOR LIGHTING	20	1	12	720			341			10	1	20	EXTERIOR LIGHTING	8
9	SPARE	20	1									1	20	SPARE	10
11	SPARE	20	1									1	20	SPARE	12
13	SPARE	20	1					2,640							14
15	SPARE	20	1						1,440		6	3	60	PANEL P9	16
17	SPARE	20	1							720					18
NOTES:					1,080	360	360	3,341	1,800	1,080					
					4,421		2,160		1,440					TOTAL CONNECTED LOAD:	8,021 VA
														NEC DEMAND LOAD:	8,506 VA
														DEMAND AMPS @ 208 VOLT / 3Ø:	23.83 A

PANEL: P15		VOLTS: 120/208V		PH: 3Ø		WIRE: 4W		LOCATION: BUILDING P15			MOUNTING: SURFACE			
BUS: 100A		MAIN: 60A MCB		IC: 10,000 RMS SYM AMPS							FEEDER: SEE RISER DIAGRAM			
CKT	DESCRIPTION	AMPS	POLE	WIRE	ØA	ØB	ØC	ØA	ØB	ØC	WIRE	POLE	AMPS	DESCRIPTION	CKT NO
1	CONV RECEPTACLE	20	1	12	360			360			12	1	20	CONV RECEPTACLE	2
3	CONV RECEPTACLE	20	1	12		360			360		12	1	20	CONV RECEPTACLE	4
5	CONV RECEPTACLE	20	1	12			360			360	12	1	20	CONV RECEPTACLE	6
7	INTERIOR LIGHTING	20	1	12	720							1	20	SPARE	8
9	SPARE	20	1									1	20	SPARE	10
11	SPARE	20	1									1	20	SPARE	12
NOTES:					1,080	360	360	360	360	360					
					1,440		720		720					TOTAL CONNECTED LOAD:	2,880 VA
														NEC DEMAND LOAD:	3,060 VA
														DEMAND AMPS @ 208 VOLT / 3Ø:	8.49 A

PANEL: P14		VOLTS: 120/208V		PH: 3Ø		WIRE: 4W		LOCATION: BUILDING P14			MOUNTING: SURFACE			
BUS: 100A		MAIN: 60A MCB		IC: 10,000 RMS SYM AMPS							FEEDER: SEE RISER DIAGRAM			
CKT	DESCRIPTION	AMPS	POLE	WIRE	ØA	ØB	ØC	ØA	ØB	ØC	WIRE	POLE	AMPS	DESCRIPTION	CKT NO
1	CONV RECEPTACLE	20	1	12	360			360			12	1	20	CONV RECEPTACLE	2
3	CONV RECEPTACLE	20	1	12		360			360		12	1	20	CONV RECEPTACLE	4
5	CONV RECEPTACLE	20	1	12			360			360	12	1	20	CONV RECEPTACLE	6
7	INTERIOR LIGHTING	20	1	12	720							1	20	SPARE	8
9	SPARE	20	1									1	20	SPARE	10
11	SPARE	20	1									1	20	SPARE	12
13	SPARE	20	1					1,440							14
15	SPARE	20	1						720		6	3	60	PANEL P15	16
17	SPARE	20	1							720					18
NOTES:					1,080	360	360	1,800	1,080	1,080					
					2,880		1,440		1,440					TOTAL CONNECTED LOAD:	5,760 VA
														NEC DEMAND LOAD:	6,120 VA
														DEMAND AMPS @ 208 VOLT / 3Ø:	16.99 A

PANEL: P13		VOLTS: 120/208V		PH: 3Ø		WIRE: 4W		LOCATION: BUILDING P13			MOUNTING: SURFACE			
BUS: 100A		MAIN: 60A MCB		IC: 22,000 RMS SYM AMPS							FEEDER: SEE RISER DIAGRAM			
CKT	DESCRIPTION	AMPS	POLE	WIRE	ØA	ØB	ØC	ØA	ØB	ØC	WIRE	POLE	AMPS	DESCRIPTION	CKT NO
1	CONV RECEPTACLE	20	1	12	360			360			12	1	20	CONV RECEPTACLE	2
3	CONV RECEPTACLE	20	1	12		360			360		12	1	20	CONV RECEPTACLE	4
5	CONV RECEPTACLE	20	1	12			360			360	12	1	20	CONV RECEPTACLE	6
7	INTERIOR LIGHTING	20	1	12	720			341			10	1	20	EXTERIOR LIGHTING	8
9	SPARE	20	1									1	20	SPARE	10
11	SPARE	20	1									1	20	SPARE	12
13	SPARE	20	1					2,880							14
15	SPARE	20	1						1,440		12	3	20	PANEL P14	16
17	SPARE	20	1							1,440					18
NOTES:					1,080	360	360	3,581	1,800	1,800					
					4,661		2,160		2,160					TOTAL CONNECTED LOAD:	8,981 VA
														NEC DEMAND LOAD:	9,606 VA
														DEMAND AMPS @ 208 VOLT / 3Ø:	26.66 A

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5720 Reeder Shawnee, KS 66203 (913)262-1772

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