

9/18/2025 10:11:42 AM

GENERAL NOTES

Preliminary Drawings:

Preliminary drawings may be provided with a quote to indicate the location of vacuum equipment, piping, and hoses. Drawings may be used in direct coordination with Architects' and Engineers' plans for city/AHJ/client approval. Accurate and complete site plans must be provided to ensure the quality of your vacuum area to coordinate issues such as vacuum parking space width/angle, traffic flow, and hose reach.

Drawings are preliminary until the final system order is signed by the client.

Changes made to a vacuum system without Vacutech's consultation voids all Vacutech responsibility as well as the system warranty.

INSTALLATION NOTES

Installation By Others:

Installation drawings are provided with each project. Most projects require 2 or more installers and a forklift. Buried pipe, footings and concrete equipment pad(s) should be completed before installing Vacutech systems. J-bolt template kits for footings for vacuum arches and stanchions are available for purchase from Vacutech. Refer to drawings for footing requirements. Changes to vacuum piping, vacuum equipment location, and vacuum equipment enclosure will effect the performance of your system. Changes made to a vacuum system without Vacutech's consultation voids all Vacutech responsibility and the system warranty.

Vacutech System Install:

Vacutech offers installation as an option when bidding a project.

Please note that the scope of Vacutech's installation only includes work above ground. Vacutech will install vacuum arches/stanchions to concrete footings, install vacuum piping and set vacuum equipment in place.

Vacutech does not dig trenches, auger footings, dig/backfill/bury pipe or conduit, or provide any work below grade.

Vacutech does not pour footings, install J-bolts, install concrete trenches with covers, pour concrete pads, pour grout or do concrete work of any kind. Vacutech does not do core drilling through walls or patch any type of wall coring.

Vacutech does not do any type of roof penetration sealing. I.e. rubber boots, flat room mating, or any other type of material.

Vacutech does not wire lights, producers, disconnects, VFDs , starters or any other electrical component. Vacutech does not pull wire through conduits. These items must be done by a Licensed Electrician.

WARRANTY NOTES

CHANGES MADE TO VACUUM SYSTEM WITHOUT VACUTECH CONSULTATION
VOIDS ALL VACUTECH RESPONSIBILITY AND SYSTEM WARRANTY

Equipment warranty information:

(if applicable)
When vacuum equipment is installed in an enclosure with 4 walls and a roof it must be ventilated. Enclosure door must be louvered and an exhaust fan with thermostat set at 85°f must be installed to turn over air every 15 min. Vacuum producer must be exhausted outside with metallic pipe no smaller than 6" with exhaust pipe opening protected from elements. Equipment pad must be flat and level.

Variable frequency drive (VFD) warranty information:

(if applicable)
VFDs must be wired from main distribution panel in separate conduit (sized per code; based on producer H.P. and voltage) to each VFD and from each VFD to producer motor.

A separate conduit, sized per code, must also be installed from VFD to vacuum pressure transducer installed on filter separator. If two (2) or more VFD's are installed in one (1) enclosure, a separate conduit must be installed for each VFD. Install separate conduit from enclosure to each producer motor, and each filter separator if there is more than one (1).

PIPE NOTES

Piping systems above ground

Piping system shall be schedule 40 (or sch 80) solid core PVC or ABS plastic pipe, with plastic D.W.V. (drain, waste and vent) fittings. Zinc, aluminum, or galvanized tubing, with directional flow zinc fittings of no less than 16 gauge, designed specifically for central vacuum systems are also acceptable.

Buried piping systems cast iron no-hub

In-ground piping systems that are subject to ground freeze/thaw conditions or excessive movement shall be cast iron with no-hub fittings and no-hub couplings (w/ stainless steel band).

Buried piping systems PVC sch 40 (or sch 80)

In-ground piping systems using PVC pipe shall be sch 40 (or sch 80) solid core, with PVC D.W.V. (drain, waste, and vent) fittings. Plastic pipe installed in-ground have a potential of possible cracking and wear. All plastic pipe systems in-ground must be below freeze line.

System notes:

All interior surfaces shall be free of burrs and obstructions for a non-restrictive air flow.ABS and PVC piping shall be cut straight and removed of burrs. Piping shall be attached together using a primer, and a cement (clear PVC cement for PVC/ black abs cement for abs) for a 100% tight seal.

Overhead piping systems shall be supported by means of approved pipe hangers, and shall be installed at a maximum of six feet O.C. when using abs or PVC pipe and ten feet when using zinc or aluminum tubing. All fittings supporting vacuum drop/hose assemblies shall be supported with within one foot on each side of fitting connection.

Piping systems shall be tested to hold 10 psi for a minimum of 24 hours.

When vacuum system is installed in potentially explosive environment, the following may be required as a minimum: Explosion proof motor Class I - Group D & Class II - Group E, F & G. Aluminum piping with zinc fittings. Primary and filtered separators and hose assemblies require special grounding. Verify all conditions.

PVC and ABS plastic pipe are not U.V. rated and will discolor and soften/cause bowing when exposed to direct sunlight. It is recommended that all exposed plastic pipe and fittings be primed and painted to help prevent this. It is recommended to use zinc, or aluminum tubing and zinc fittings be used when exposed to sun.

Plastic pipe exposed to elements:

PVC pipe will become brittle at 40° f and can crack/split when moving debris collides with it, it is recommended to use cast iron, zinc, or aluminum tubing for colder conditions.

ADDITIONAL NOTES

VFD Systems:

Instructions for wiring VFD to producer and Filter Separator are available for your electrician. After wiring is complete, call our customer service to complete programming.

Arch Systems: How Awnings are ordered (Coolaroo/Weblon)

Step 1: Arches are to be completely installed on site.

Step 2: After installation, Vacutech will send an awning measurement form to be filled out with instructions on how and where to measure. The awning form must be filled out entirely, signed, dated, and faxed or emailed to Vacutech for production.

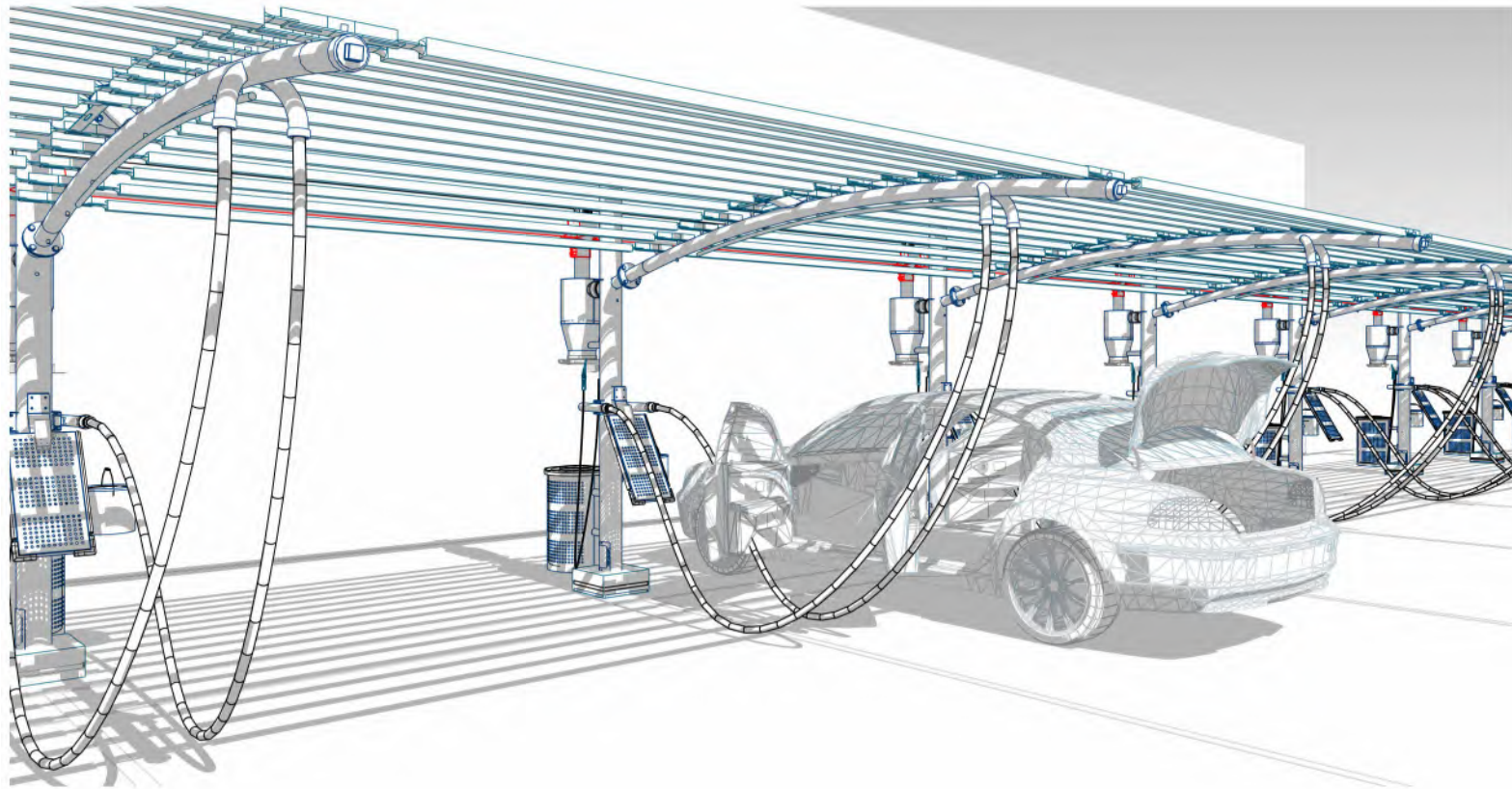
Step 3: Awnings are shipped to site w/ instructions.

Maintenance:

System longevity under continuous operation is extended by regular maintenance. Issues commonly result from failure to remove obstructions in the piping system, replace damaged or worn parts, or not regularly changing filter bags. Refer to Vacutech maintenance instructions

Assign a person to central vacuum maintenance:

To ensure continued trouble free central vacuum system operation and to avoid downtime during periods of heavy use, assign an employee to follow a strict maintenance schedule. Refer to Vacutech recommended maintenance schedule.



VACUTECH

Elevation: 1,027' ASL AN **NCS** COMPANY

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VACUTECH
AN **NCS** COMPANY

1350 HI-TECH DRIVE
SHERIDAN, WY 82801
PHONE: (307) 675-1982
EMAIL: vacinfo@ncswash.com
WEB: www.vacutechllc.com

CLUB CW - OLDHAM VILLAGE

1021 SOUTH WEST JEFFERSON STREET
LEES SUMMIT, MISSOURI 64081

#	Revision	By	Chk	Date
1	PREPPED FOR ENGINEERING. ADDED GENERAL STRUCTURAL NOTES	SL	RY	9/18/25

COVER SHEET

Project Number	1585523
Date	9/16/25
Drawn By	RY
Checked By	TD

V001

GENERAL STRUCTURAL NOTES

DESIGN CRITERIA:

BUILDING CODE: INTERNATIONAL BUILDING CODE, 2018 EDITION (2018 IBC)

ROOF D.L. = 1.1 PSF (TRELLIS AWNING)
ROOF L.L. = 20 PSF
GROUND S.L. = 20 PSF

WIND:
BASIC WIND SPEED V = 103 MPH; ALLOWABLE WIND SPEED VASD = 79.78 MPH
RISK CATEGORY = I; EXPOSURE = C

SEISMIC:
IMPORTANCE FACTOR, Ie = 1.0
MAPPED SPECTRAL RESPONSE ACCELERATION PARAMETERS Ss = 0.1 S1 = 0.068
DESIGN SPECTRAL RESPONSE ACCELERATION PARAMETERS SDS = 0.107 SD1 = 0.109
SITE CLASS = D; SEISMIC DESIGN CATEGORY = B
SEISMIC RESISTING SYSTEM = STEEL ORDINARY CANTILEVER COLUMN SYSTEM
SEISMIC BASE SHEAR = (W x Cs)
SEISMIC RESPONSE COEFFICIENT (Cs) = 0.09
RESPONSE MODIFICATION FACTOR (R) = 1.25
ANALYSIS METHOD: EQUIVALENT LATERAL-FORCE PROCEDURE

ENGINEERING DESIGN PROVIDED BY OTHERS SHALL BEAR THE SEAL OF AN ENGINEER REGISTERED IN THE STATE OF MISSOURI.

FOUNDATION:

FOOTINGS SHALL BE CONSTRUCTED IN UNDISTURBED SOIL. SOIL SHALL MEET THE FOLLOWING REQUIREMENTS:
- DESIGN SOIL PRESSURES PER IBC TABLE 1806.2; SOIL CLASS 5
- DESIGN VERTICAL BEARING PRESSURE = 1500 PSF
- DESIGN LATERAL BEARING PRESSURE = 100 PSF/FT (X2 INCREASE PER IBC 1806.3.4

PRESUMPTIVE LOAD BEARING VALUES WERE UTILIZED FOR THE FOUNDATION DESIGN. A SITE-SPECIFIC GEOTECHNICAL EVALUATION HAS NOT BEEN COMPLETED FOR THIS PROJECT. SML ENGINEERS ASSUMES NO LIABILITY WITH REGARD TO DIFFERENTIAL SETTLEMENT THAT COULD RESULT FROM FROST HEAVE OR THE PRESENCE OF EXPANSIVE OR COLLAPSIBLE SOILS. THIS STRUCTURE CAN TOLERATE SIGNIFICANT FOUNDATION MOVEMENT WITH A LITTLE EFFECT ON ITS INTEGRITY AND WITHOUT PRESENTING ANY UNDUE LIFE SAFETY HAZARDS.

PIER DESIGN IS BASED ON CONCRETE BEING CAST IN PLACE AGAINST EARTH. NO SONOTUBE OR CAISSON FROM SHALL BE PERMITTED.

SPECIAL STRUCTURAL INSPECTION:

CONTACT THIRD PARTY SPECIAL INSPECTION AGENCY

PROVIDE SAFE ACCESS TO THE WORK FACILITIES BY THE SPECIAL STRUCTURAL INSPECTOR. NOTIFY ENGINEER OF CONSTRUCTION START DATE AND COORDINATE INSPECTIONS. PROVIDE THE ENGINEER 24 HOURS NOTICE OF SPECIAL INSPECTIONS. SPECIAL INSPECTIONS MAY BE CONDUCTED AS NOTED IN PARENTHESES BELOW. SEE IBC CHAPTER 17 FOR MORE SPECIFIC INFORMATION

THE FOLLOWING ITEMS REQUIRE SPECIAL INSPECTION PER IBC CHAPTER 17:

- SPECIAL INSPECTION:
- 1. STEEL CONSTRUCTION PER IBC 1705.2 & IBC 1705.12.1
 - a. FABRICATOR DOCUMENTATION
 - b. HIGH STRENGTH BOLTING – PERIODIC
 - 2. CONCRETE CONSTRUCTION: TABLE 1705.3
 - a. INSPECTION OF REINFORCEMENT AND VERIFICATION OF PLACEMENT.
 - b. INSPECTION OF ANCHORS CAST IN CONCRETE.
 - c. VERIFY USE OF REQUIRED DESIGN MIX.
 - 3. PIER FOUNDATIONS: SECTION 1705.8 AND TABLE 1705.8
 - a. OBSERVATION, COMPLIANCE AND RECORDS PER PIER –CONTINUOUS
 - b. PLACEMENT LOCATION, PLUMBNESS, DIAMETER, LENGTH, EMBEDMENT REQUIREMENT - CONTINUOUS

CONCRETE:

- ACI MANUAL OF CONCRETE PRACTICE, TYPE V CEMENT.
MINIMUM 28 DAY STRENGTH AS FOLLOWS:
• CONCRETE SHALL BE 3,000 psi AT 28 DAYS. (EXPOSURE CATEGORY F0, S0, W0, AND C0)
* UNLESS ANY OF THE FOLLOWING CONDITIONS APPLY PER ACI 318 CONCRETE DURABILITY REQUIREMENTS.
- 1. CONCRETE EXPOSED TO FREEZE/THAW CYCLES
 - 1.1. LIMITED EXPOSURE TO WATER CONCRETE STRENGTH = 4,000 PSI., AIR ENTRAINMENT= 6% & W/CM= 0.55 (EXPOSURE CATEGORY F1)
 - 1.2. FREQUENT EXPOSURE TO WATER MIN CONCRETE STRENGTH = 4,500 PSI, AIR ENTRAINMENT= 7.5% & W/CM= 0.45 (EXPOSURE CATEGORY F2)
 - 2. LIMITED OR FREQUENT EXPOSURE TO WATER
 - 2.1. 4000 PSI W/OUT FREEZE/THAW EXPOSURE OR CHLORIDES. (EXPOSURE CATEGORY C1)
 - 2.2. W/ CHLORIDES (SUCH AS BRACKISH OR SALTWATER) =5,000 PSI. (EXPOSURE CATEGORY C2)
 - 3. IF SULFATES PRESENT REFER TO ACI 318 CHAPTER 19 FOR MIN. CONCRETE REQUIREMENTS (EXPOSURE CATEGORY S1, S2 & S3)

- ALL MIX DESIGNS SHALL BE ALKALI-SILICA REACTION (ASR) RESISTANT.
- WATER REDUCING ADMIXTURES SHALL CONFIRM TO ASTM C494
- FLY ASH: ASTM C-618 CLASS F, NOT TO EXCEED 15% OF THE CEMENTITIOUS MATERIALS BY WEIGHT.
- MECHANICALLY VIBRATE WHEN PLACED, EXCEPT SLABS ON GRADE. MAXIMUM SLUMP 5"
- NO ADDITIONAL ADMIXTURES WITHOUT APPROVAL.
- NO ADMIXTURES CONTAINING CHLORIDES

CONCRETE SHALL BE DEPOSITED AS CLOSE AS POSSIBLE TO ITS FINAL POSITION. CONCRETE WITHOUT TYPE F OR G WATER REDUCERS SHALL NOT BE ALLOWED TO DROP MORE THAN 5 FEET FROM A CHUTE OR “ELEPHANT TRUNK”. CONCRETE WITH TYPE F OR G WATER REDUCERS SHALL NOT BE ALLOWED TO DROP MORE THAN 12 FEET FROM THE CHUTE OR “ELEPHANT TRUNK”. IF CONCRETE MUST BE DROPPED MORE THAN ALLOWED ABOVE, HOPPERS, TREMIE AND CHUTES, “ELEPHANT TRUNKS” ETC. SHALL BE USED TO PREVENT SEGREGATION.

CONCRETE PLACED INTO CAISSONS SHALL EMPLOY THE USE OF A TREMIE. CONCRETE SHALL NOT BE PLACED INTO CAISSONS WITH MORE THAN 2 FEET OF STANDING WATER AT THE BOTTOM OF THE CAISSON.

DRYPACK: NON-SHRINK NON-METALLIC GROUT.
MINIMUM COMPRESSIVE STRENGTH OF 5,000 PSI AT 2 DAYS.
PLACE UNDER BEARING PLATES BEFORE INSTALLING FRAMING MEMBERS.

REINFORCING:

ASTM A615, GRADE 60 DEFORMED BARS. DETAIL PER LATEST A.C.I. CODE AND DETAILING MANUAL. PLACE REBAR PER C.R.S.I. STANDARDS.

** OWNER RESPONSIBILITIES**

**THE STRUCTURAL ENGINEERING DESIGN IS APPLICABLE FOR THE CONFIGURATION PRESENTED IN THESE DRAWINGS AND ONLY FOR THIS LOCATION. THE OWNER SHALL BEAR ALL RISK ASSOCIATED WITH ALTERNATE CONFIGURATIONS, LOADING AND/OR LOCATION.

THE STRUCTURAL PORTIONS OF THESE PLANS HAVE BEEN REVIEWED
BY STARLING MADISON LOFQUIST, INC. (SML) FOR COMPLIANCE
WITH THE STRUCTURAL CALCULATIONS. SML IS NOT RESPONSIBLE
FOR INFORMATION RELATED TO ANY OTHER DISCIPLINES.

SM

Consulting Structural and Forensic Engineers

Starling Madison Lofquist, Inc.

3600 E. University Dr. Suite 1400
Phoenix, Arizona 85034
(602) 438-2500
fax. (602) 438-2505

JOB # 25-0593



EXPIRES: 12/31/2026

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AN **NCS** COMPANY

1350 HI-TECH DRIVE
SHERIDAN, WY 82801
PHONE: (307) 675-1982
EMAIL: vacinfo@ncswash.com
WEB: www.vacutechllo.com

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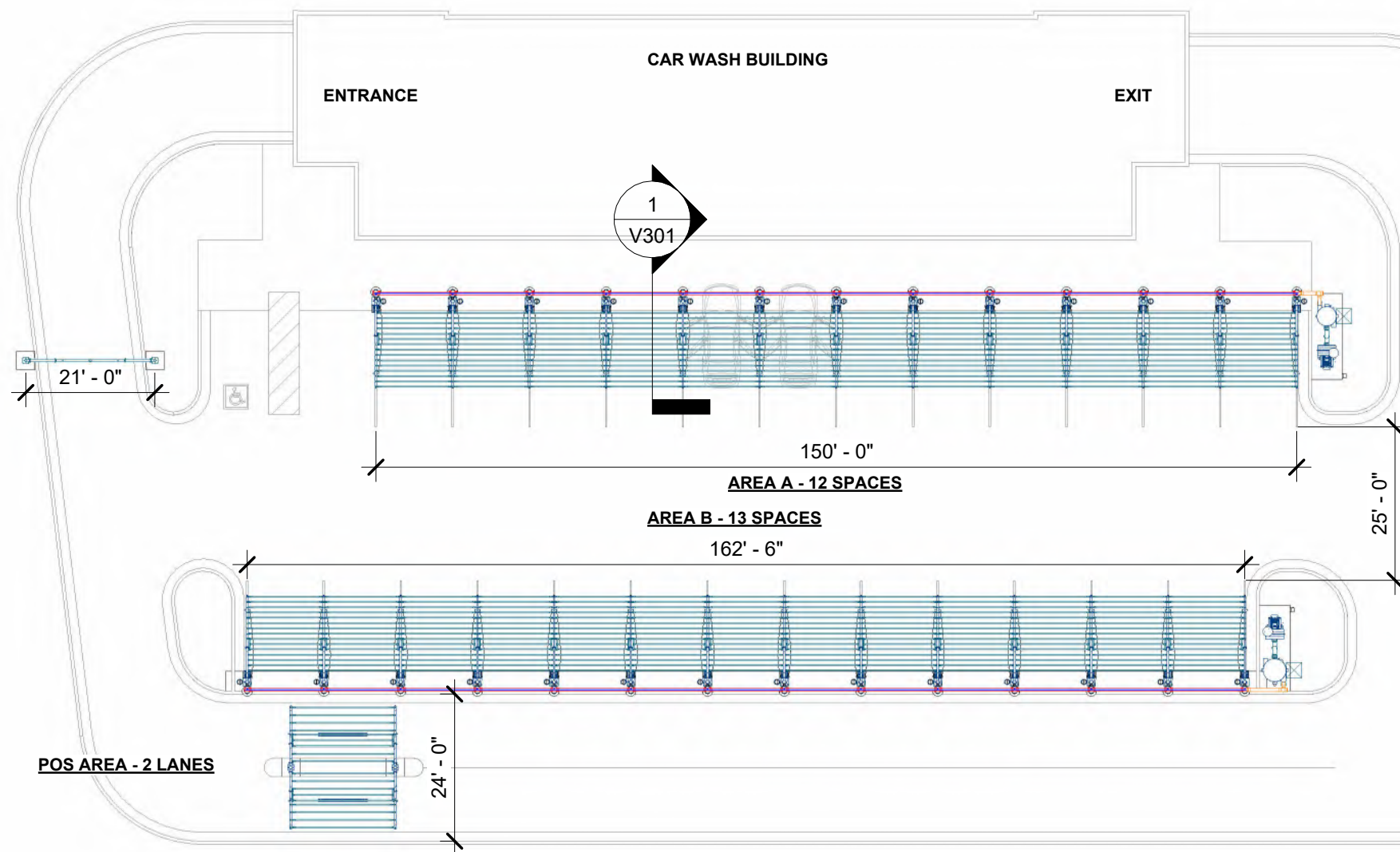
#	Revision	By	Chk	Date
1	PREPPED FOR ENGINEERING. ADDED GENERAL STRUCTURAL NOTES	SL	RY	9/18/25

GENERAL STRUCT. NOTES

Project Number	1585523
Date	9/16/25
Drawn By	SL
Checked By	RY

V002

- CONSTRUCTION NOTES**
- GENERAL NOTES:**
- a. ALL DIMENSIONS TO BE FIELD VERIFIED BY OWNER
 - b. IF VACUUM EQUIPMENT IS ENCLOSED WITH ROOF/CEILING, REFER TO VENTILATION REQUIREMENTS UNDER EQUIPMENT WARRANTY INFORMATION
 - c. PIER DESIGN AND REINFORCEMENT FOR CONCEPTUAL USE ONLY. CONSULT STRUCTURAL ENGINEER IN YOUR AREA FOR SPECIFIC DESIGN CRITERIA.
 - d. COMPLY WITH ALL STATE/ COUNTY BUILDING CODES IN YOUR AREA
- EQUIPMENT & MATERIAL:**
- a. RUN COMPRESSED AIR TO AIR COMPRESSOR LOCATION (BY OTHERS)
 - b. WALL PENETRATION: CORE DRILLING MAY BE REQUIRED
 - c. FIELD VERIFY HEIGHT
 - d. 14'Lx5'Wx4"H MINIMUM FLAT AND LEVEL CONCRETE FLOOR SPACE REQUIRED FOR VACUUM EQUIPMENT
 - e. 30"x30" MINIMUM SPACE REQUIRED TO REMOVE DEBRIS BUCKET FROM FILTER SEPARATOR
- VACUUM & PLUMBING:**
- a. SUPPORT SCHEDULE 40 PVC OVERHEAD DRY/WET VACUUM PIPE EVERY 6' MAXIMUM; USE UNISTRUT & CLAMP OR OTHER SUPPORT (**PROVIDED BY OTHERS**)
 - b. ALL FITTINGS TO BE 'DWV'



EXPIRES: 12/31/2026

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1 OVERALL SITE PLAN

POS AREA	
QTY	ITEM
2	10' FULL POS ARCH, TRELLIS
1	21 FT CAMERA ARCH
2	8' POS LED LIGHT W/ CROSSBAR MOUNT
18	SQUARE TUBE CROSSBAR

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AN **NCS** COMPANY

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EMAIL: vacinfo@ncswash.com
WEB: www.vacutecnhc.com

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OVERALL SITE PLAN		
Project Number	1585523	V101
Date	9/16/25	
Drawn By	RY	
Checked By	TD	

VACUUM AREA A

QTY	ITEM
2	SINGLE USER PALM ARCH - TRELLIS
11	DUAL USER PALM ARCH - TRELLIS
24	CREVICE VACUUM TOOL & HOLDER
24	1-1/2"x15' RAPIDLOCK HOSE
13	AIR NOZZLE & HOSE
13	13" MAT RACK W/ DOOR PROTECTION
13	30 GALLON WASTE RECEPTACLE
13	TIGER EXPRESS TOWEL BIN
13	8' LED LIGHT
13	AIR TOOL HANGER
180	SQUARE TUBE CROSSBAR

VACUUM AREA B

QTY	ITEM
2	SINGLE USER PALM ARCH - TRELLIS
12	DUAL USER PALM ARCH - TRELLIS
26	CREVICE VACUUM TOOL & HOLDER
26	1-1/2"x15' RAPIDLOCK HOSE
14	AIR NOZZLE & HOSE
14	13" MAT RACK W/ DOOR PROTECTION
14	30 GALLON WASTE RECEPTACLE
14	TIGER EXPRESS TOWEL BIN
14	8' LED LIGHT
14	AIR TOOL HANGER
195	SQUARE TUBE CROSSBAR

VACUUM EQUIPMENT A

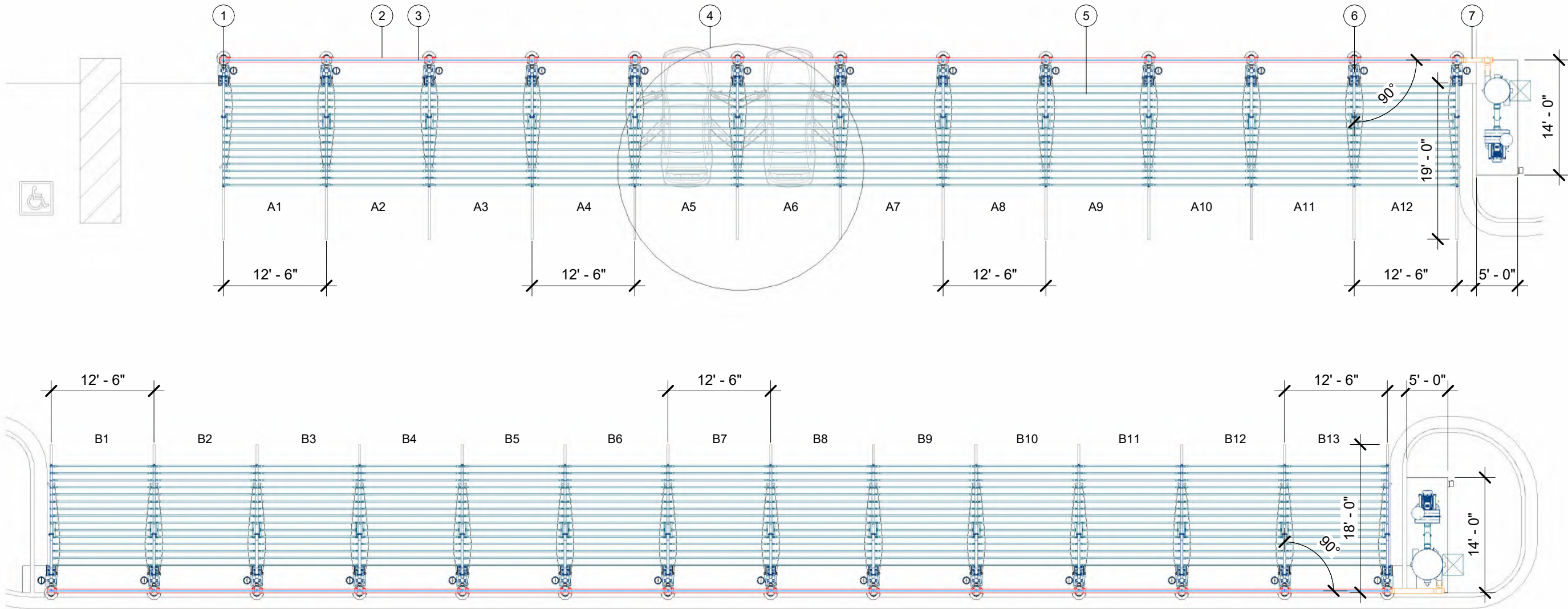
QTY	ITEM
1	60HP T5 DIRECT DRIVE PRODUCER
1	8" T5 OUTDOOR EXHAUST MUFFLER
1	38x88 FILTER SEPARATOR
1	3" PRESSURE RELIEF VALVE

VACUUM EQUIPMENT B

QTY	ITEM
1	60HP T5 DIRECT DRIVE PRODUCER
1	8" T5 OUTDOOR EXHAUST MUFFLER
1	45x96 FILTER SEPARATOR
1	3" PRESSURE RELIEF VALVE

SITE PLAN

ITEM	DESCRIPTION
1	SINGLE USER PALM ARCH AT ENDS OF VACUUM SPACES
2	6" OVERHEAD ALUMINUM VACUUM TUBE
3	1" OVERHEAD AIR TUBE
4	15' HOSE REACH
5	SQUARE TUBE CROSSBAR
6	DUAL USER PALM ARCH BETWEEN VACUUM SPACES
7	6" OVERHEAD SCH. 40 SOLID CORE PVC VACUUM PIPE



1 SITE PLAN

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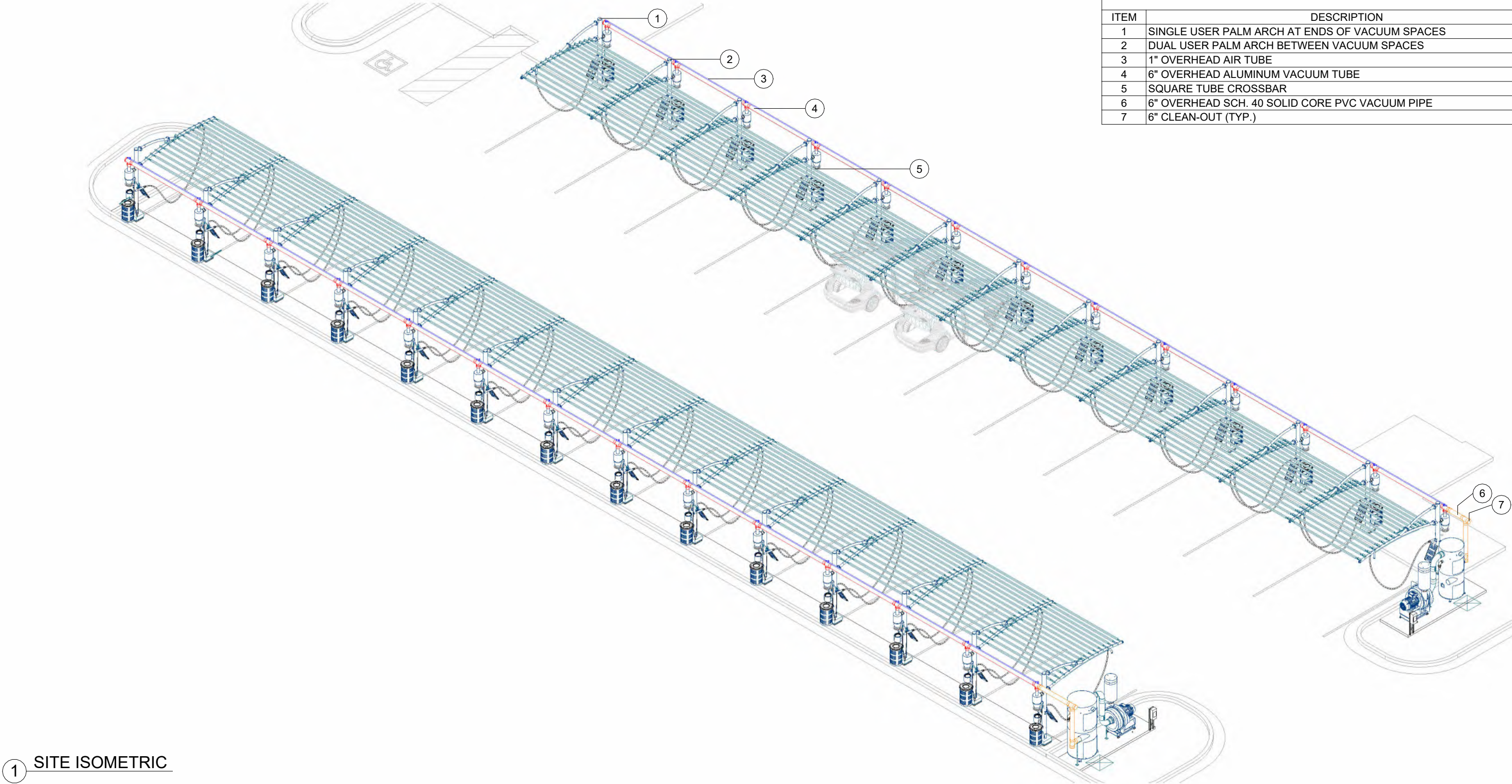
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VACUUM SITE PLAN

Project Number	1585523
Date	9/16/25
Drawn By	RY
Checked By	TD

V111

SITE ISOMETRIC	
ITEM	DESCRIPTION
1	SINGLE USER PALM ARCH AT ENDS OF VACUUM SPACES
2	DUAL USER PALM ARCH BETWEEN VACUUM SPACES
3	1" OVERHEAD AIR TUBE
4	6" OVERHEAD ALUMINUM VACUUM TUBE
5	SQUARE TUBE CROSSBAR
6	6" OVERHEAD SCH. 40 SOLID CORE PVC VACUUM PIPE
7	6" CLEAN-OUT (TYP.)



1 SITE ISOMETRIC

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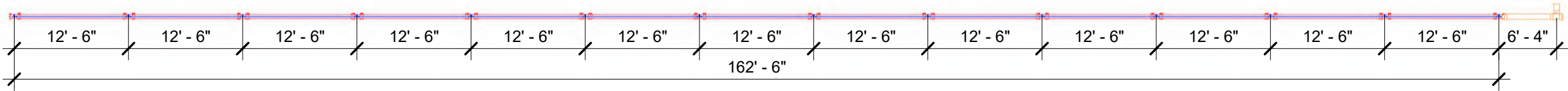
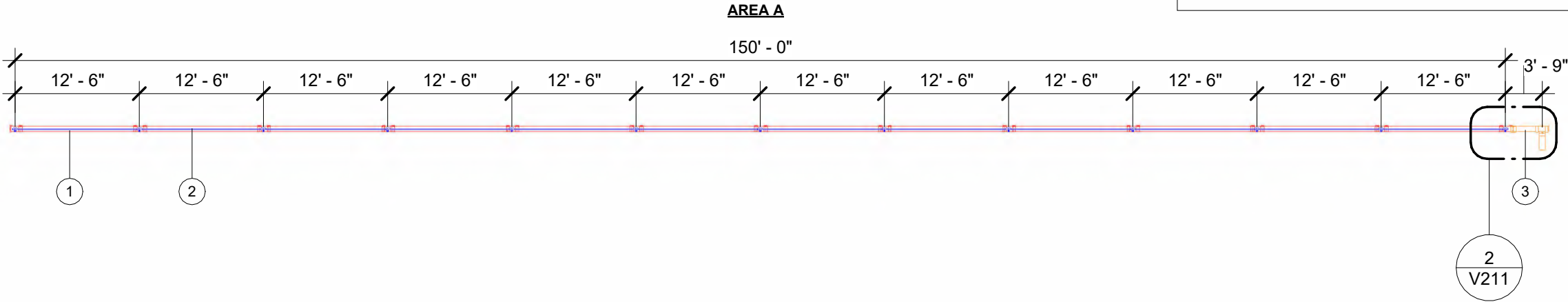
VACUUM SITE ISOMETRIC

Project Number	1585523
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V121

PIPE LAYOUT	
ITEM	DESCRIPTION
1	6" OVERHEAD ALUMINUM VACUUM TUBE
2	1" OVERHEAD AIR TUBE
3	6" OVERHEAD SCH. 40 SOLID CORE PVC VACUUM PIPE

- PIPE NOTES:**
- a. FIELD VERIFY ALL DIMENSIONS
 - b. SUPPORT SCHEDULE 40 PVC OVERHEAD DRY/WET VACUUM PIPE EVERY 6' MAXIMUM; USE UNISTRUT & CLAMP OR OTHER SUPPORT (**PROVIDED BY OTHERS**)
 - c. RUN COMPRESSED AIR TO AIR COMPRESSOR LOCATION (**BY OTHERS**)
 - d. COMPRESSED AIR RECOMMENDED WORKING PRESSURE IS 75PSIG AND 10SCFM AT INTERFACE
 - e. WALL PENETRATION: CORE DRILLING MAY BE REQUIRED FIELD VERIFY HEIGHT
 - f. REFER TO SHEET V721 FOR PIPE ASSEMBLY CUTSHEETS
 - g. ALL FITTINGS TO BE 'DWV'



AREA B

1 PIPE LAYOUT

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AN **NCS** COMPANY

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SHERIDAN, WY 82801
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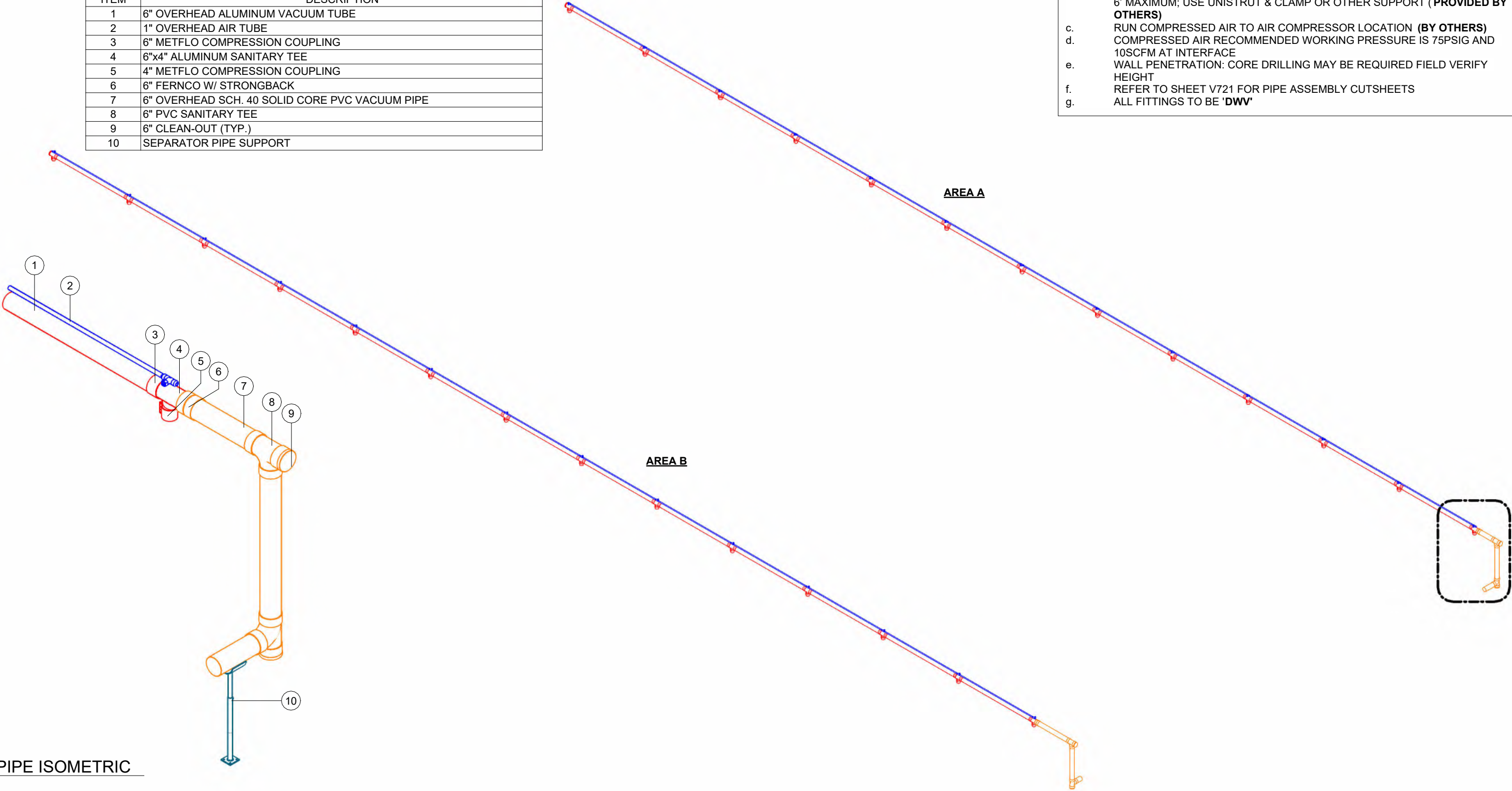
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PIPE LAYOUT		
Project Number	1585523	V201
Date	9/16/25	
Drawn By	RY	
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PIPE ISOMETRIC	
ITEM	DESCRIPTION
1	6" OVERHEAD ALUMINUM VACUUM TUBE
2	1" OVERHEAD AIR TUBE
3	6" METFLO COMPRESSION COUPLING
4	6"x4" ALUMINUM SANITARY TEE
5	4" METFLO COMPRESSION COUPLING
6	6" FERNCO W/ STRONGBACK
7	6" OVERHEAD SCH. 40 SOLID CORE PVC VACUUM PIPE
8	6" PVC SANITARY TEE
9	6" CLEAN-OUT (TYP.)
10	SEPARATOR PIPE SUPPORT

- PIPE NOTES:**
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1 PIPE ISOMETRIC

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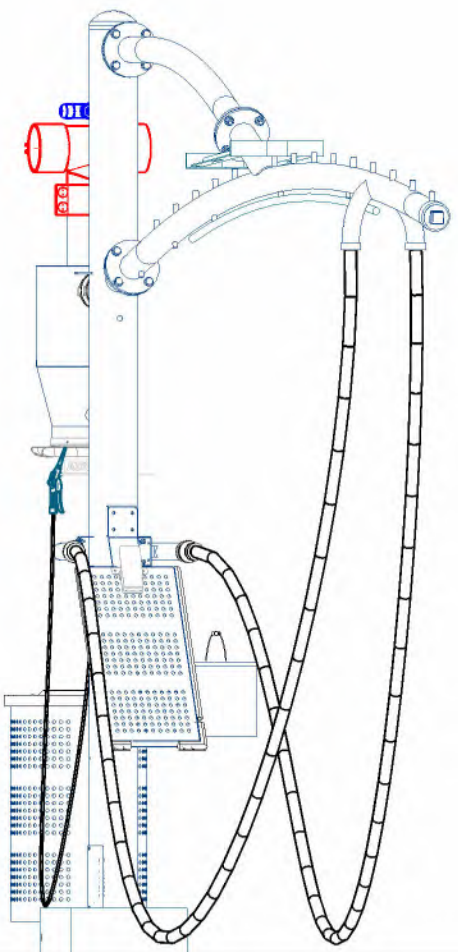
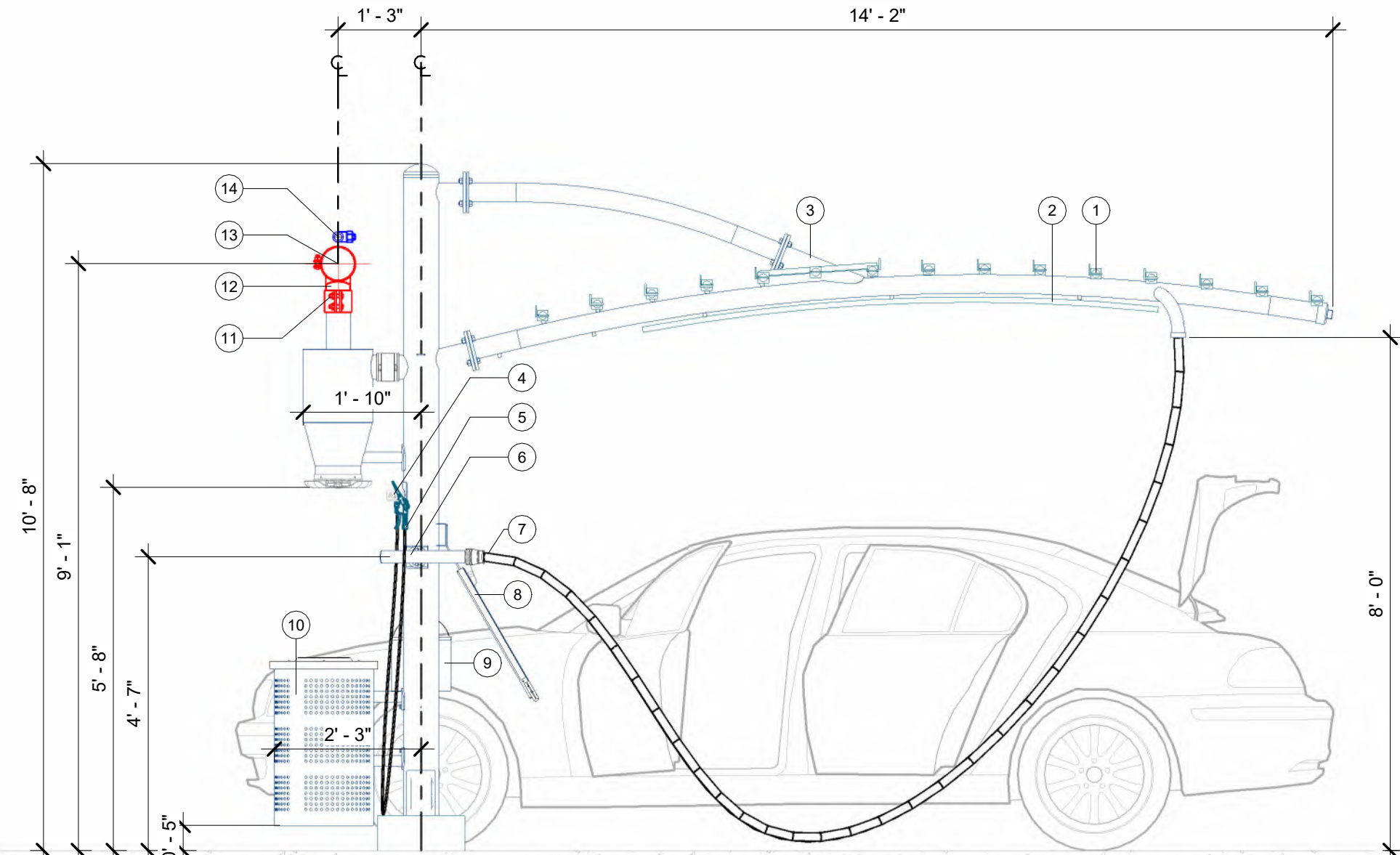
1350 HI-TECH DRIVE
SHERIDAN, WY 82801
PHONE: (307) 675-1982
EMAIL: vacinfo@ncswash.com
WEB: www.vacutechllc.com

CLUB CW - OLDHAM VILLAGE

1021 SOUTH WEST JEFFERSON STREET
LEES SUMMIT, MISSOURI 64081

#	Revision	By	Chk	Date
1	PREPPED FOR ENGINEERING. ADDED GENERAL STRUCTURAL NOTES	SL	RY	9/18/25

PIPE ISOMETRIC		
Project Number	1585523	V211
Date	9/16/25	
Drawn By	RY	
Checked By	TD	

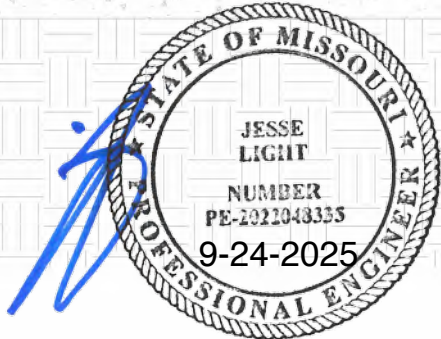


F.G.
0' - 0"

1 PARKING ELEVATION

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SML Starling Madison Lofquist, Inc.
3600 E. University Dr. Suite 1400
Phoenix, Arizona 85034
(602) 438-2500
fax. (602) 438-2505
JOB # 25-0593



EXPIRES: 12/31/2026

PARKING ELEVATION	
ITEM	DESCRIPTION
1	SQUARE TUBE CROSSBAR
2	8' LED LIGHT
3	DUAL USER PALM ARCH
4	AIR TOOL HANGER
5	AIR NOZZLE & HOSE
6	CREVICE VACUUM TOOL
7	1-1/2"x15' RAPIDLOCK HOSE

PARKING ELEVATION	
ITEM	DESCRIPTION
8	13" MAT RACK W/ DOOR PROTECTION
9	TIGER TOWEL BIN
10	30 GALLON WASTE RECEPTACLE
11	4" METFLO COMPRESSION COUPLING
12	6"x4" ALUMINUM SANITARY TEE
13	6" OVERHEAD ALUMINUM VACUUM TUBE
14	1" OVERHEAD AIR TUBE

9/18/2025 10:11:52 AM

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CLUB CW - OLDHAM VILLAGE
1021 SOUTH WEST JEFFERSON STREET
LEES SUMMIT, MISSOURI 64081

#	Revision	By	Chk	Date
1	PREPPED FOR ENGINEERING. ADDED GENERAL STRUCTURAL NOTES	SL	RY	9/18/25

PARKING ELEVATION
Project Number 1585523
Date 9/16/25
Drawn By RY
Checked By TD

V301

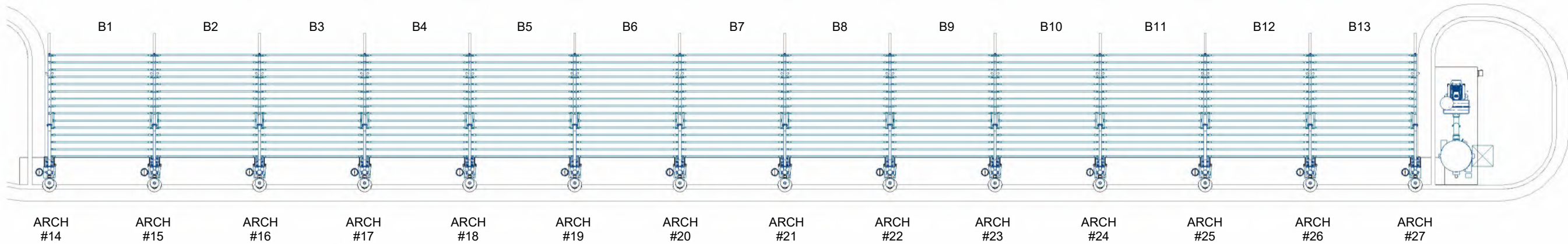
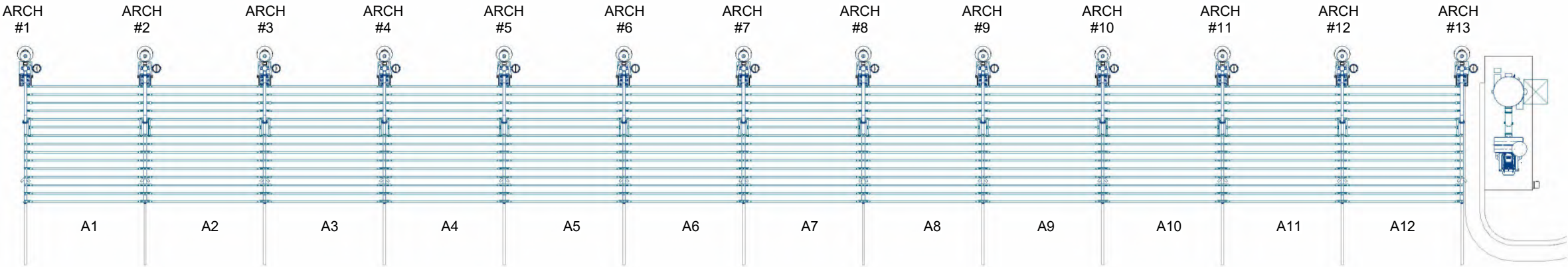


EXPIRES: 12/31/2026

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1 ARCH NUMBERING PLAN

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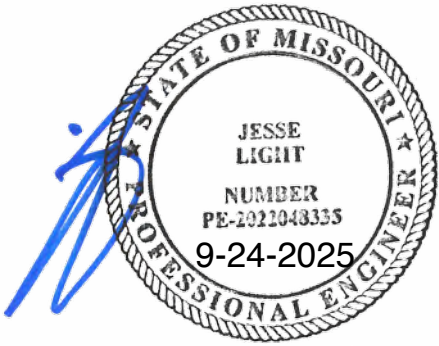
CLUB CW - OLDHAM VILLAGE

1021 SOUTH WEST JEFFERSON STREET

LEES SUMMIT, MISSOURI 64081

#	Revision	By	Chk	Date
1	PREPPED FOR ENGINEERING. ADDED GENERAL STRUCTURAL NOTES	SL	RY	9/18/25

ARCH NUMBERING PLAN		
Project Number	1585523	V311
Date	9/16/25	
Drawn By	RY	
Checked By	TD	



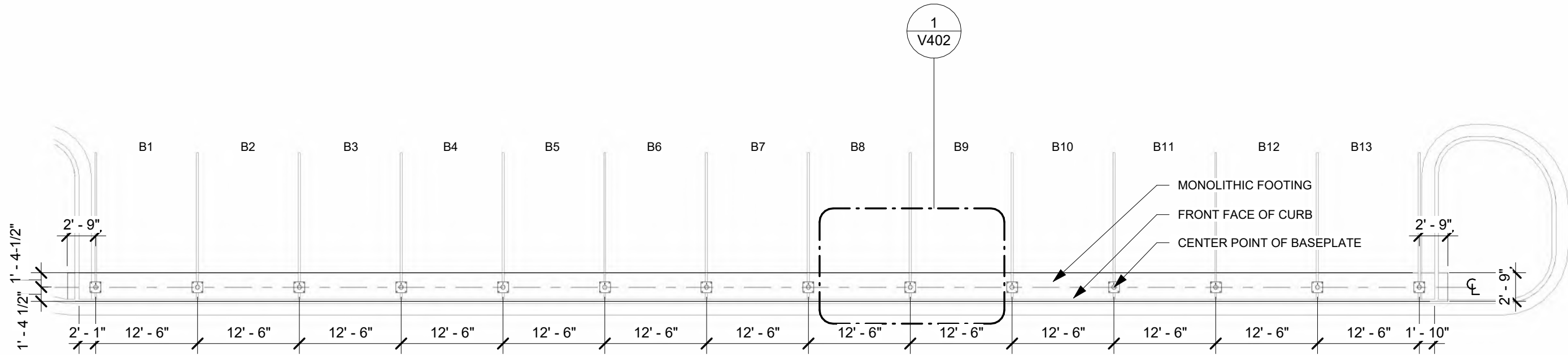
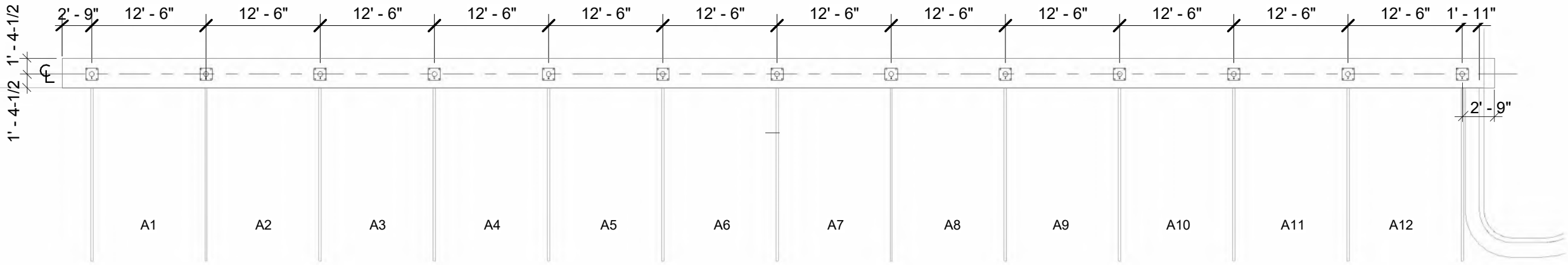
EXPIRES: 12/31/2026

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1 FOOTING LOCATION PLAN

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CLUB CW - OLDHAM VILLAGE

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#	Revision	By	Chk	Date
1	PREPPED FOR ENGINEERING. ADDED GENERAL STRUCTURAL NOTES	SL	RY	9/18/25

FOOTING LOCATION PLAN

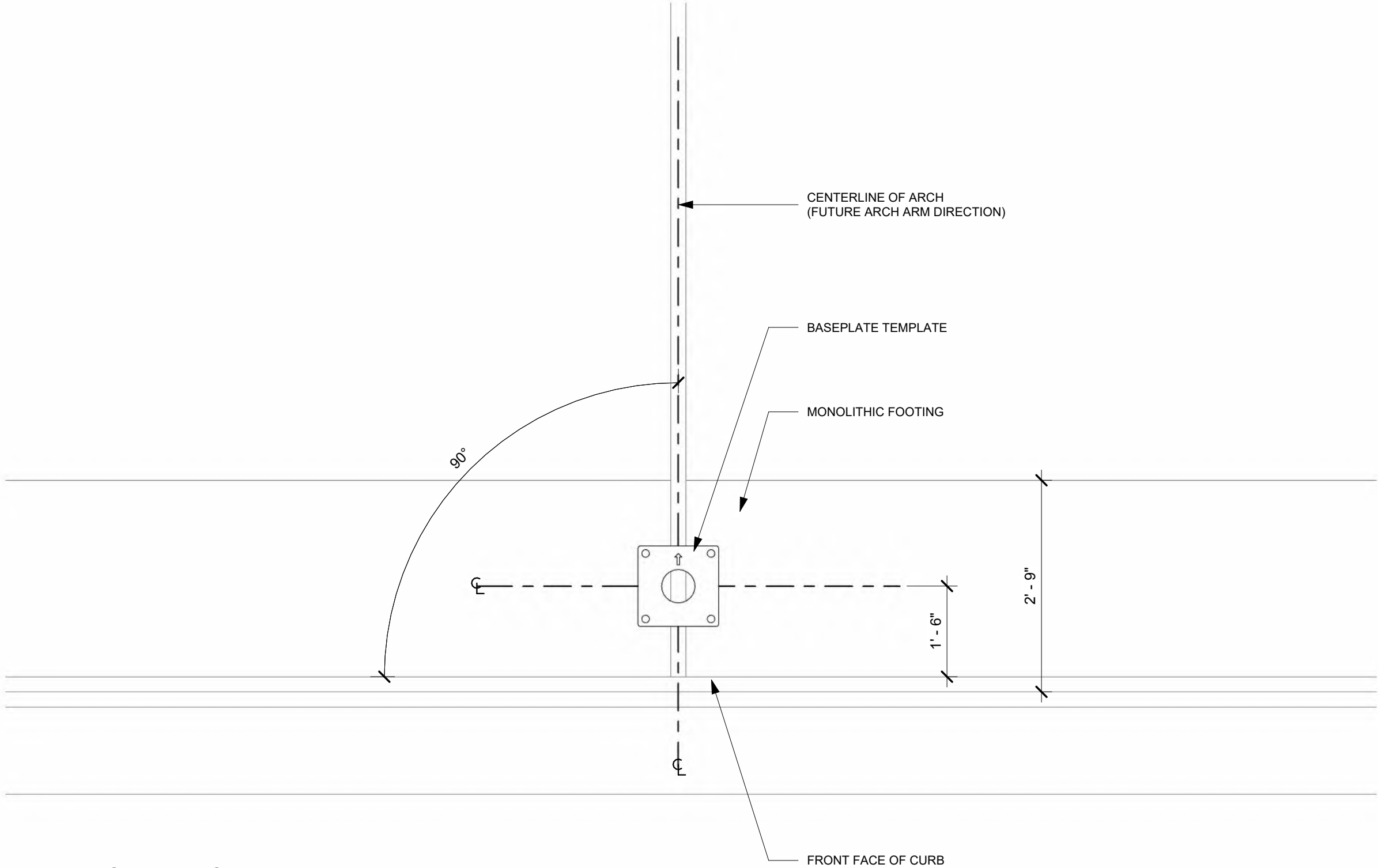
Project Number1585523

Date9/16/25

Drawn ByRY

Checked ByTD

V401



1 BASEPLATE TEMPLATE ORIENTATION

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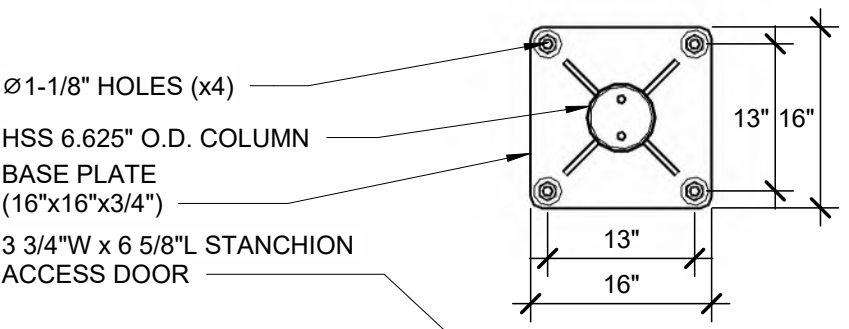
1350 HI-TECH DRIVE
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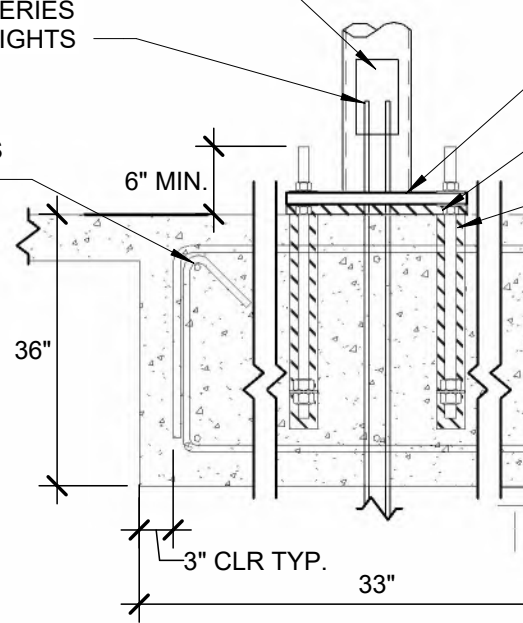
#	Revision	By	Chk	Date
1	PREPPED FOR ENGINEERING. ADDED GENERAL STRUCTURAL NOTES	SL	RY	9/18/25

BASEPLATE TEMPLATE		
Project Number	1585523	V402
Date	9/16/25	
Drawn By	RY	
Checked By	TD	



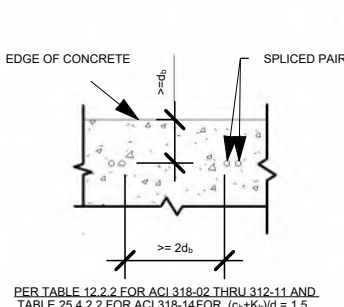
Ø1-1/8" HOLES (x4)
HSS 6.625" O.D. COLUMN
BASE PLATE
(16"x16"x3/4")
3 3/4"W x 6 5/8"L STANCHION
ACCESS DOOR

CONDUIT STUB-UP. RUN 2
CONDUITS FOR A SERIES
OF ARCHES WITH LIGHTS

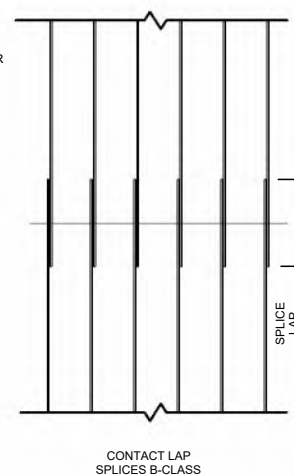


SPLICE DETAILS

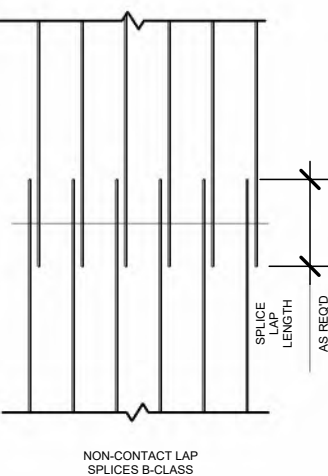
TENSION LAP SPLICE LENGTHS							
FOR UNCOATED BARS IN NORMAL WEIGHT CONCRETE WITH NO MORE THAN 12" OF CONCRETE BELOW HORIZ. REINF. BASED ON ACI 318-02 THRU 318-11 SECTION 12.2 AND 318-14 SECTION 25.4 FOR $(c_b + K_{tr})/d = 1.5$							
CONC. PSI			f'_c (PSI)				
			3,000	3,500	4,000	4,500	5,000
SPLICE TYPE			CLASS B	CLASS B	CLASS B	CLASS B	CLASS B
SIZE	d_b	$2d_b$					
#4 (60ksi)	0.5"	1.0"	30"	29"	26"	24"	24"
#5 (60ksi)	0.625"	1.25"	37"	34"	32"	30"	29"
#6 (60ksi)	0.75"	1.5"	43"	41"	38"	36"	34"



PER TABLE 12.2.2 FOR ACI 318-02 THRU 312-11 AND
TABLE 25.4.2.2 FOR ACI 318-14 FOR $(c_b + K_{tr})/d = 1.5$

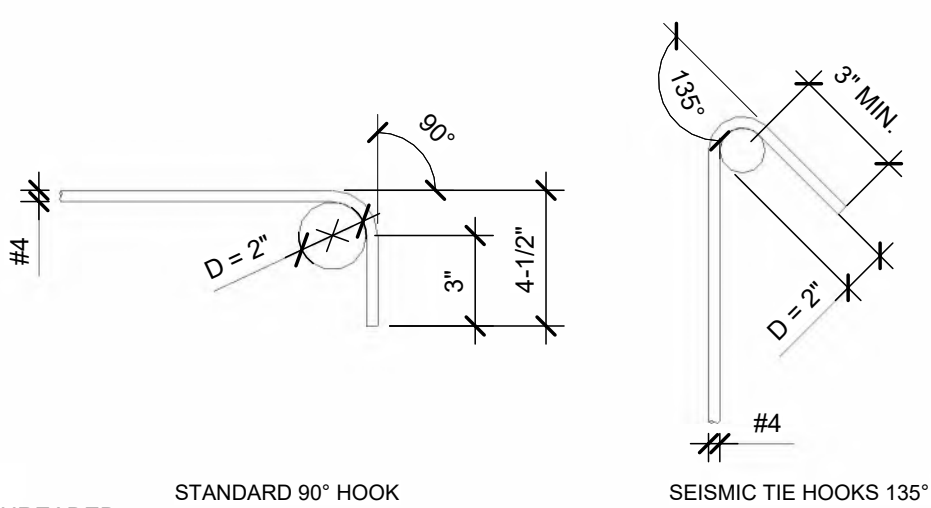


CLR DIST. SHALL BE
NO MORE THAN
20% OF SPLICE LENGTH
OR 6" MAX



SPLICE LAP
LENGTH
AS REQD
PER SCH.

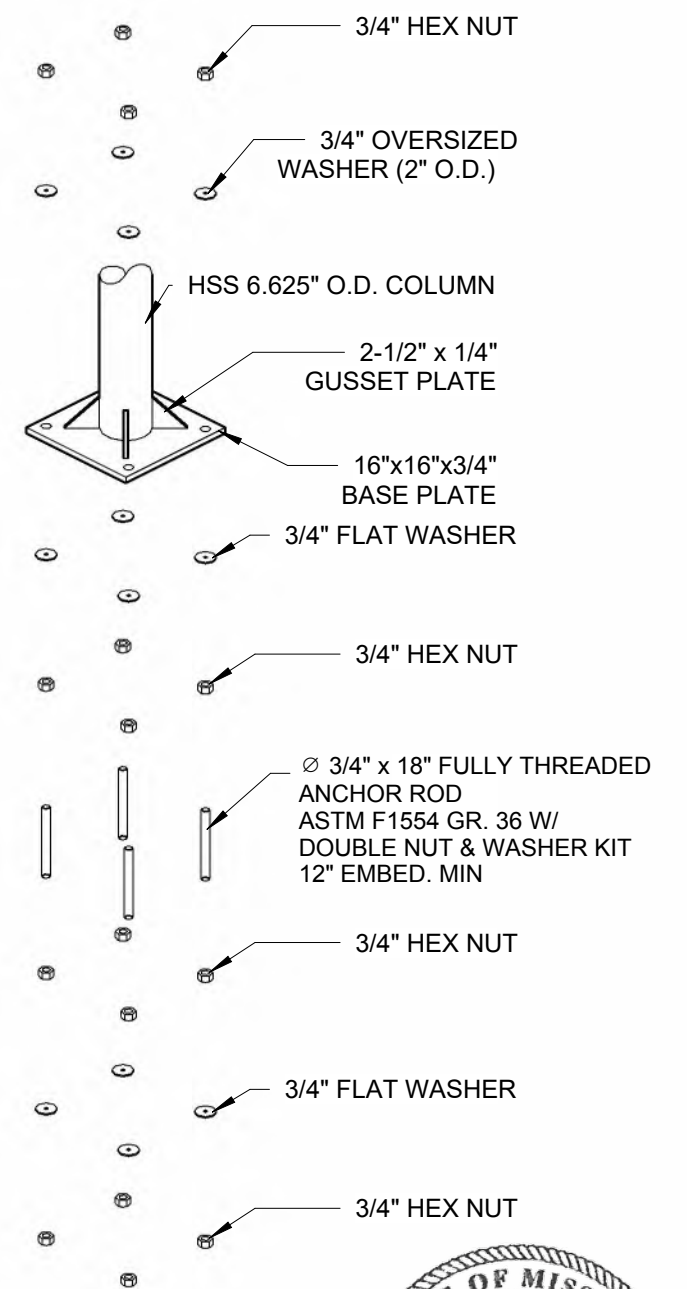
HOOK DETAILS



STANDARD 90° HOOK

SEISMIC TIE HOOKS 135°

CONSTRUCTION NOTES:
REFER TO SHEET V721 FOR ASSEMBLY CUTSHEETS



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JOB # 25-0593

EXPIRES: 12/31/2026

1 MONOLITHIC FOOTING - PALM ARCH - SCH. 40 - ANCHOR RODS

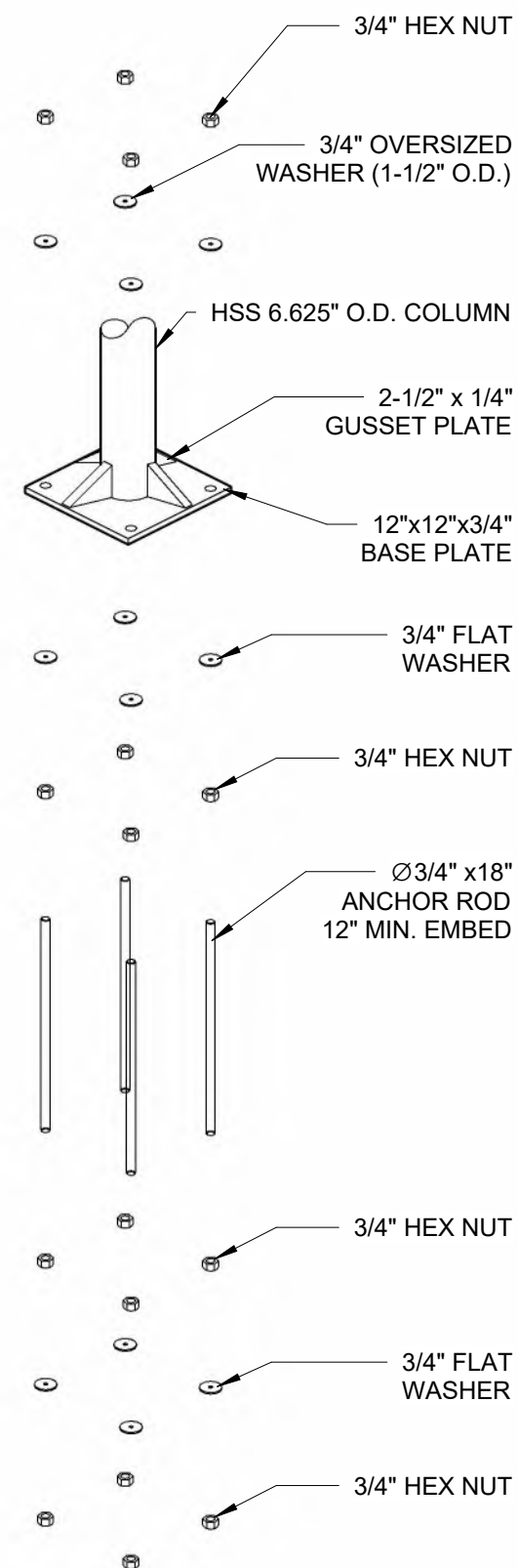
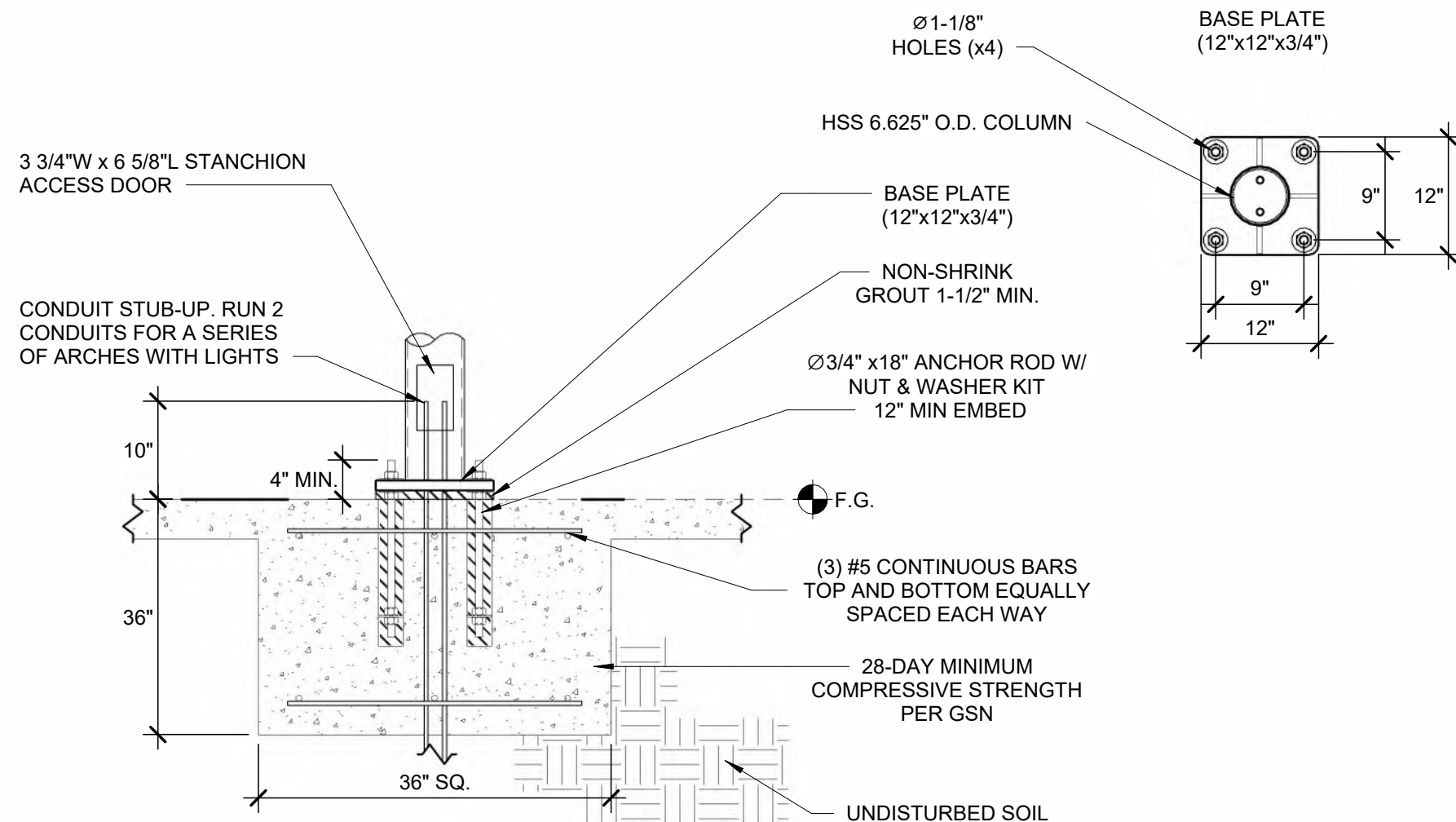
VACUTECH
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1350 HI-TECH DRIVE
SHERIDAN, WY 82801
PHONE: (307) 675-1982
EMAIL: vacinfo@ncswash.com
WEB: www.vacutecnhllc.com

CLUB CW - OLDHAM VILLAGE
1021 SOUTH WEST JEFFERSON STREET
LEES SUMMIT, MISSOURI 64081

#	Revision	By	Chk	Date
1	PREPPED FOR ENGINEERING. ADDED GENERAL STRUCTURAL NOTES	SL	RY	9/18/25

FOOTING DETAIL
Project Number 1585523
Date 9/16/25
Drawn By RY
Checked By TD
V411

CONSTRUCTION NOTES:
REFER TO SHEET V721 FOR ASSEMBLY CUTSHEETS



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JOR # 25-0593



EXPIRES: 12/31/2026

1 SPREAD FOOTING - POS ARCH - ANCHOR RODS

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1021 SOUTH WEST JEFFERSON STREET
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POS FOOTING DETAIL

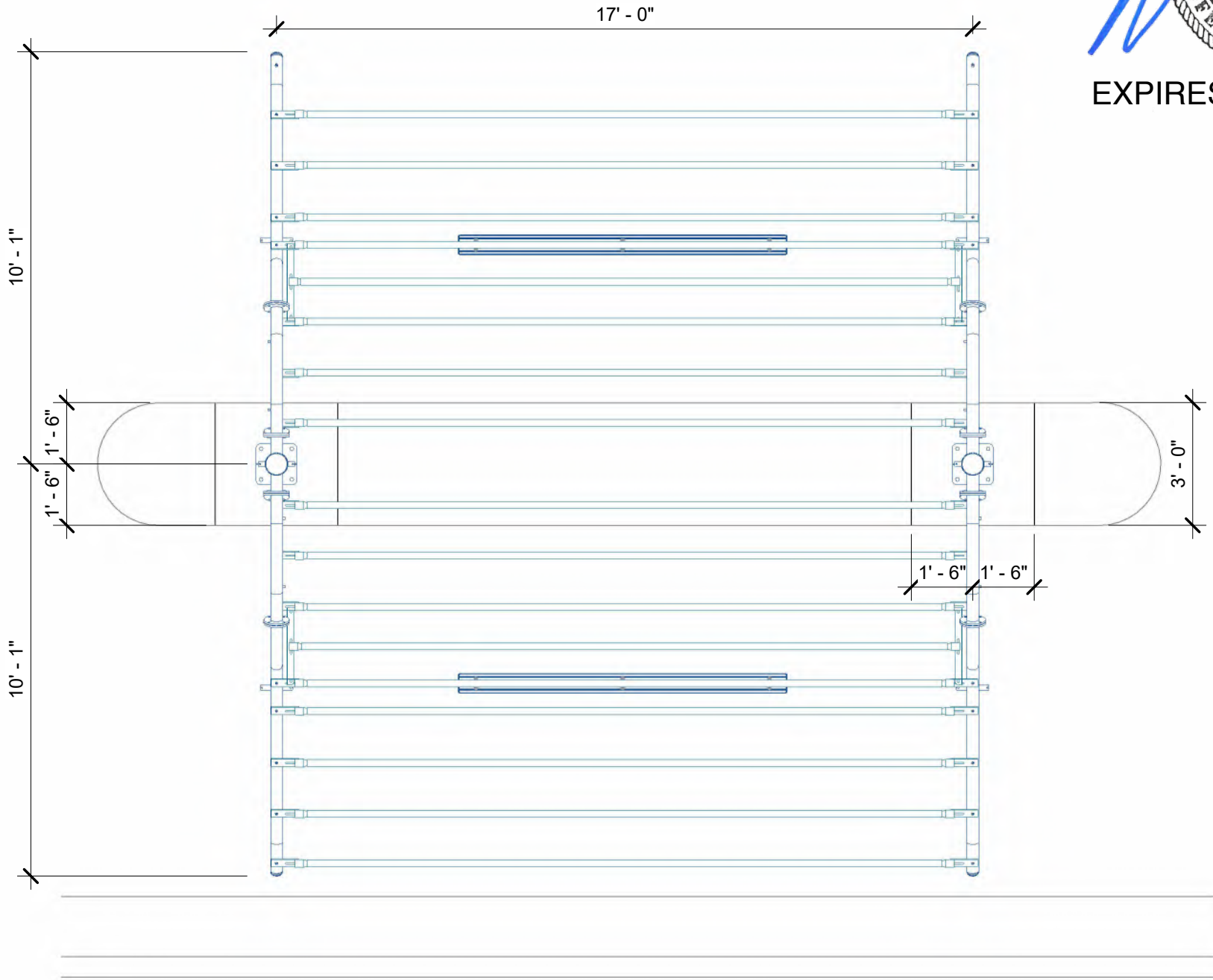
Project Number	1585523
Date	9/16/25
Drawn By	RY
Checked By	TD

V421

9/18/2025 10:11:57 AM

POS AREA

QTY	ITEM
2	10' FULL POS ARCH, TRELLIS
1	21 FT CAMERA ARCH
2	8' POS LED LIGHT W/ CROSSBAR MOUNT
18	SQUARE TUBE CROSSBAR



1 POS SITE PLAN



EXPIRES: 12/31/2026

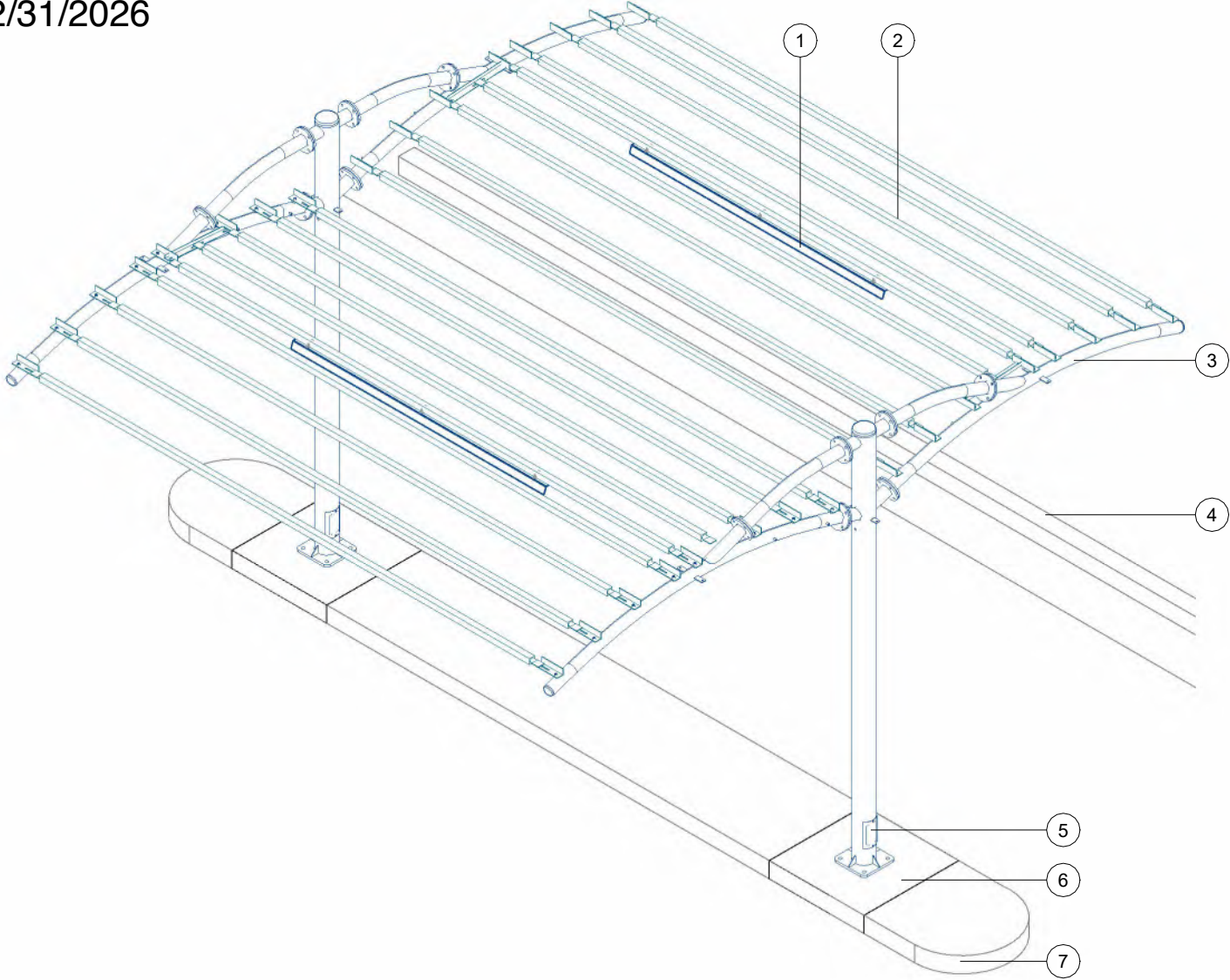
POS SITE ISOMETRIC	
ITEM	DESCRIPTION
1	8' POS LED LIGHT W/ CROSSBAR MOUNT
2	SQUARE TUBE CROSSBAR
3	POS ARCH
4	CURB
5	ELECTRICAL ACCESS DOOR
6	SPREAD FOOTING
7	POS ISLAND

FIELD VERIFY ALL DIMENSIONS

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2 POS SITE ISOMETRIC

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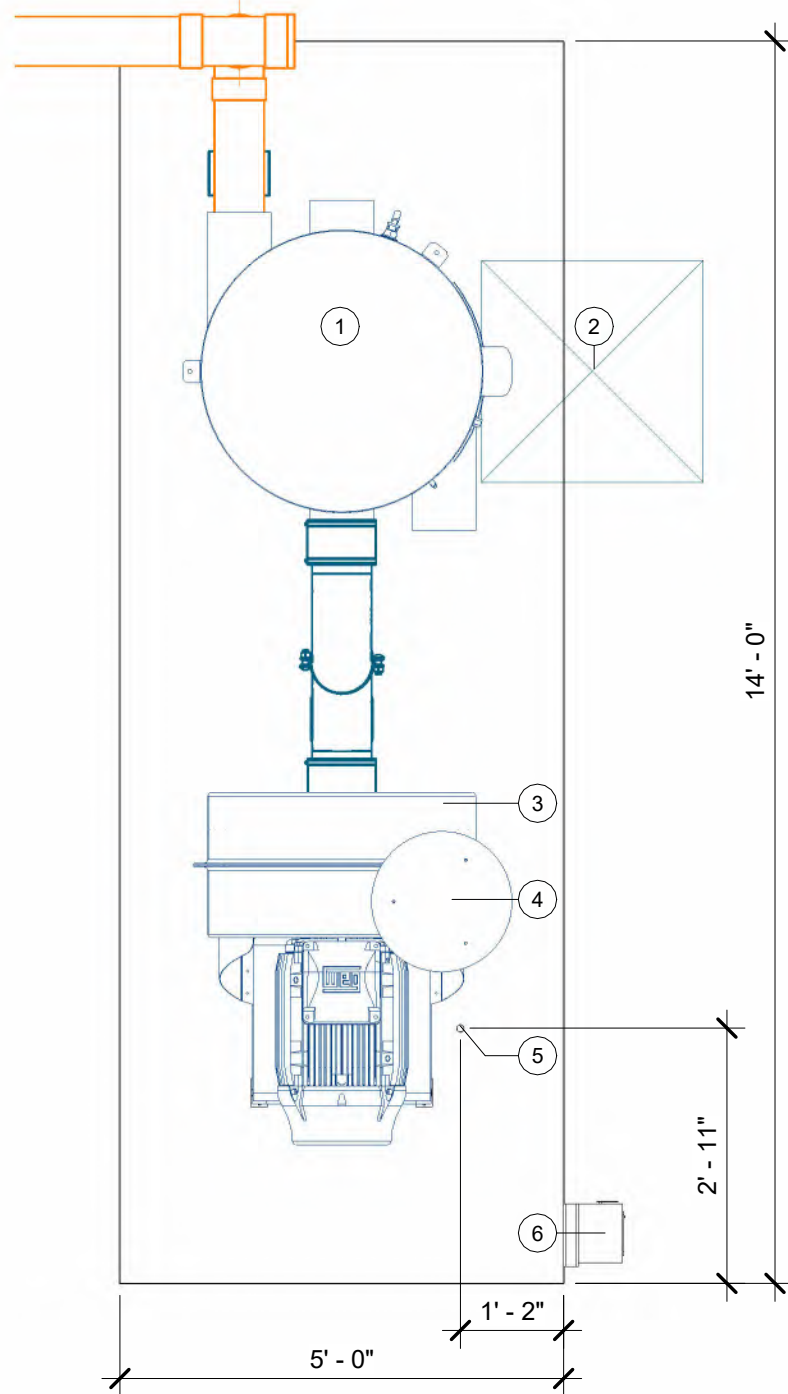
CLUB CW - OLDHAM VILLAGE
1021 SOUTH WEST JEFFERSON STREET
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1	PREPPED FOR ENGINEERING. ADDED GENERAL STRUCTURAL NOTES	SL	RY	9/18/25

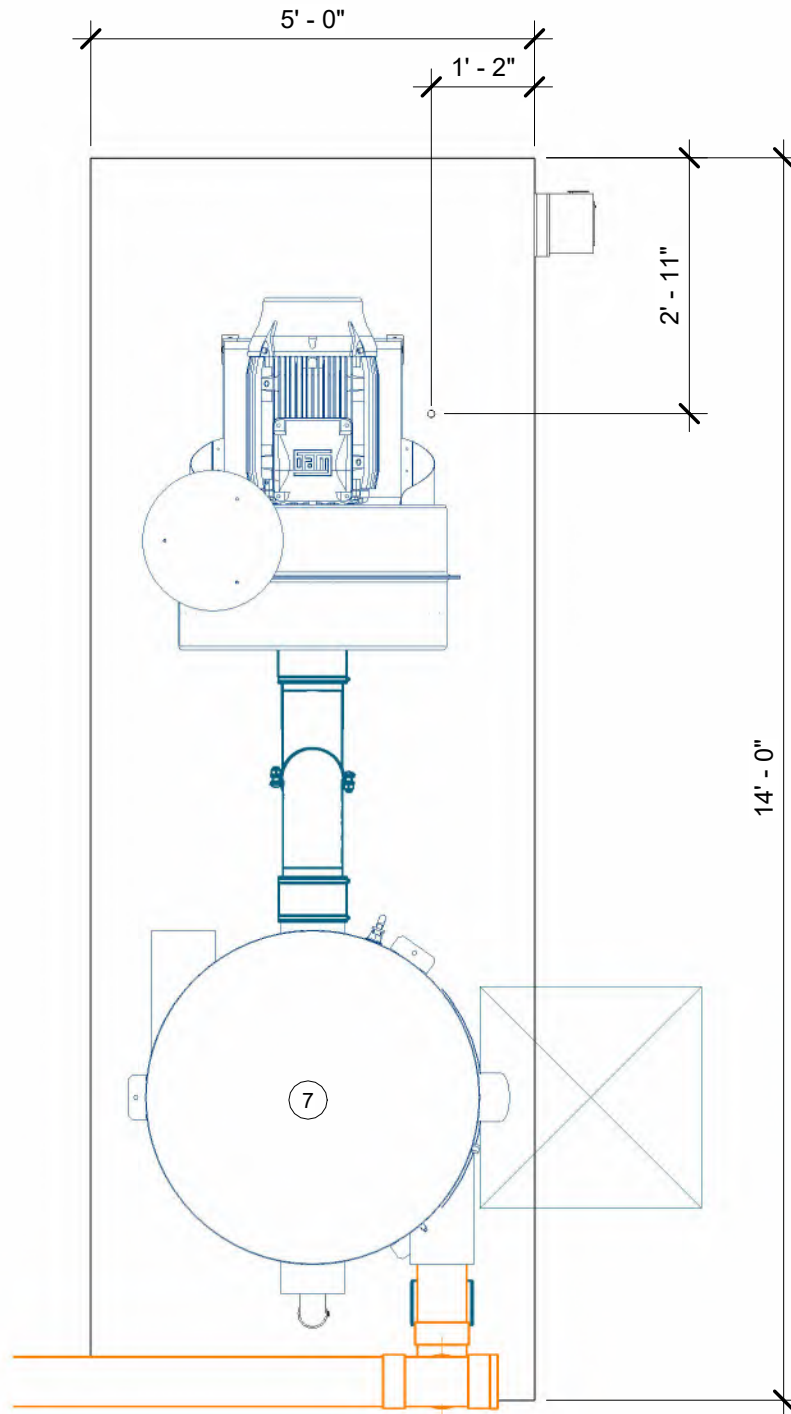
POS DETAILS

Project Number	1585523
Date	9/16/25
Drawn By	RY
Checked By	TD

V501



1 EQUIPMENT PLAN A



2 EQUIPMENT PLAN B

- EQUIPMENT NOTES:**
- 14'Lx5'Wx4"H MINIMUM FLAT AND LEVEL CONCRETE FLOOR
 - SPACE REQUIRED FOR VACUUM EQUIPMENT
 - WALL PENETRATION: CORE DRILLING MAY BE REQUIRED
 - FIELD VERIFY HEIGHT
 - NOTE: IF VACUUM EQUIPMENT IS ENCLOSED WITH ROOF/CEILING, REFER TO VENTILATION REQUIREMENTS UNDER EQUIPMENT WARRANTY INFORMATION
 - EXHAUST PRODUCER TO OUTSIDE AIR OR ATMOSPHERE W/ 8 " ALUMINUM TUBE OR METAL PIPE
 - FIELD VERIFY ALL DIMENSIONS
 - SEE POWER EQUIPMENT DETAILS ON V701

EQUIPMENT SITE PLAN	
ITEM	DESCRIPTION
1	38x88 FILTER SEPARATOR
2	30"x30" MINIMUM SPACE REQUIRED TO REMOVE DEBRIS BUCKET
3	60HP T5 DIRECT DRIVE PRODUCER
4	8" T5 OUTDOOR EXHAUST MUFFLER
5	RECOMMENDED PRODUCER MOTOR CONDUIT STUB-UP LOCATION, SIZE PER N.E.C.
6	RECOMMENDED DISCONNECT LOCATION (WITHIN SIGHT OF PRODUCER), CLEARANCE REQUIRED IN FRONT
7	45x96 FILTER SEPARATOR

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CLUB CW - OLDHAM VILLAGE

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LEES SUMMIT, MISSOURI 64081

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1	PREPPED FOR ENGINEERING. ADDED GENERAL STRUCTURAL NOTES	SL	RY	9/18/25

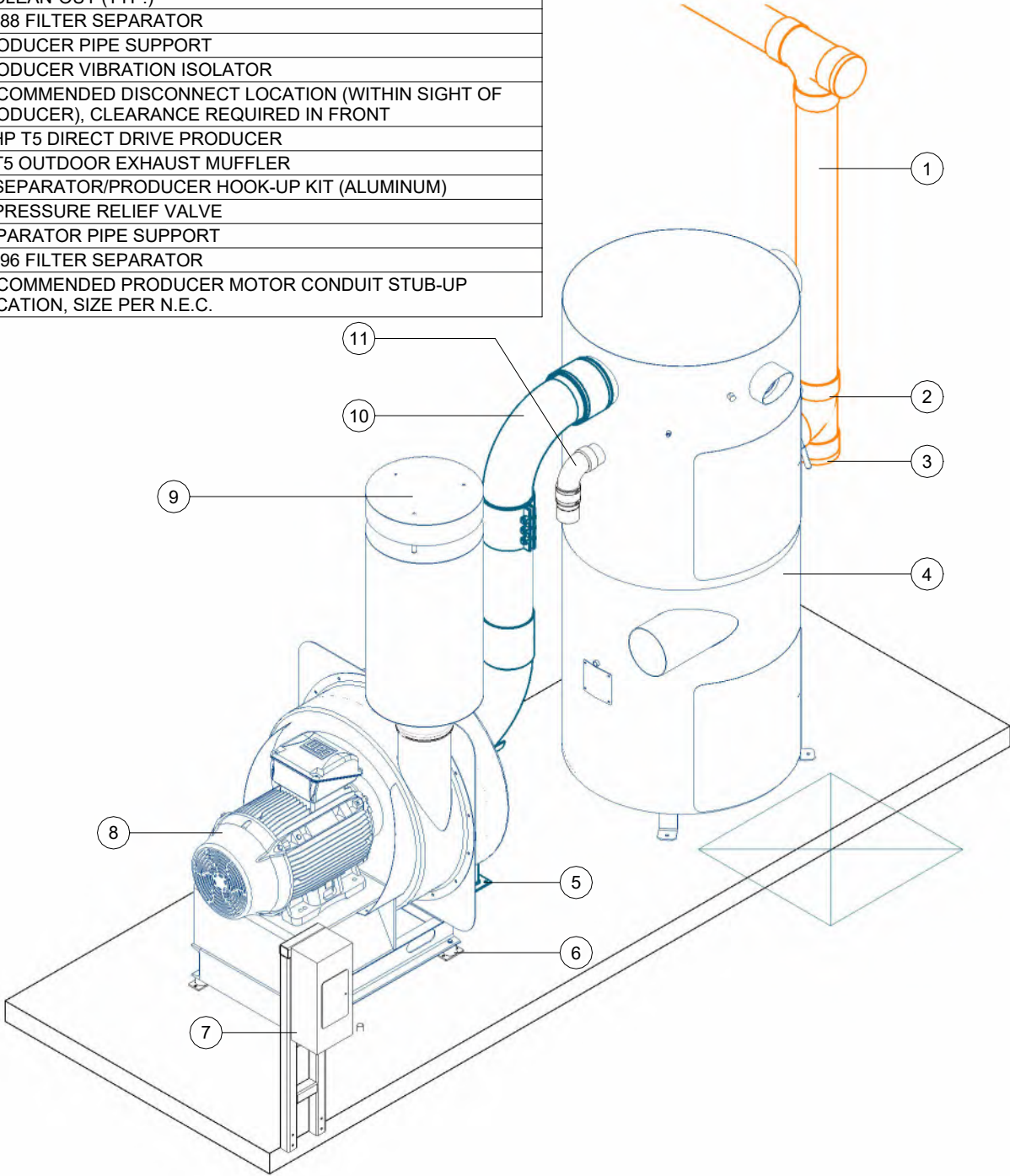
EQUIPMENT SITE PLAN

Project Number	1585523
Date	9/16/25
Drawn By	RY
Checked By	TD

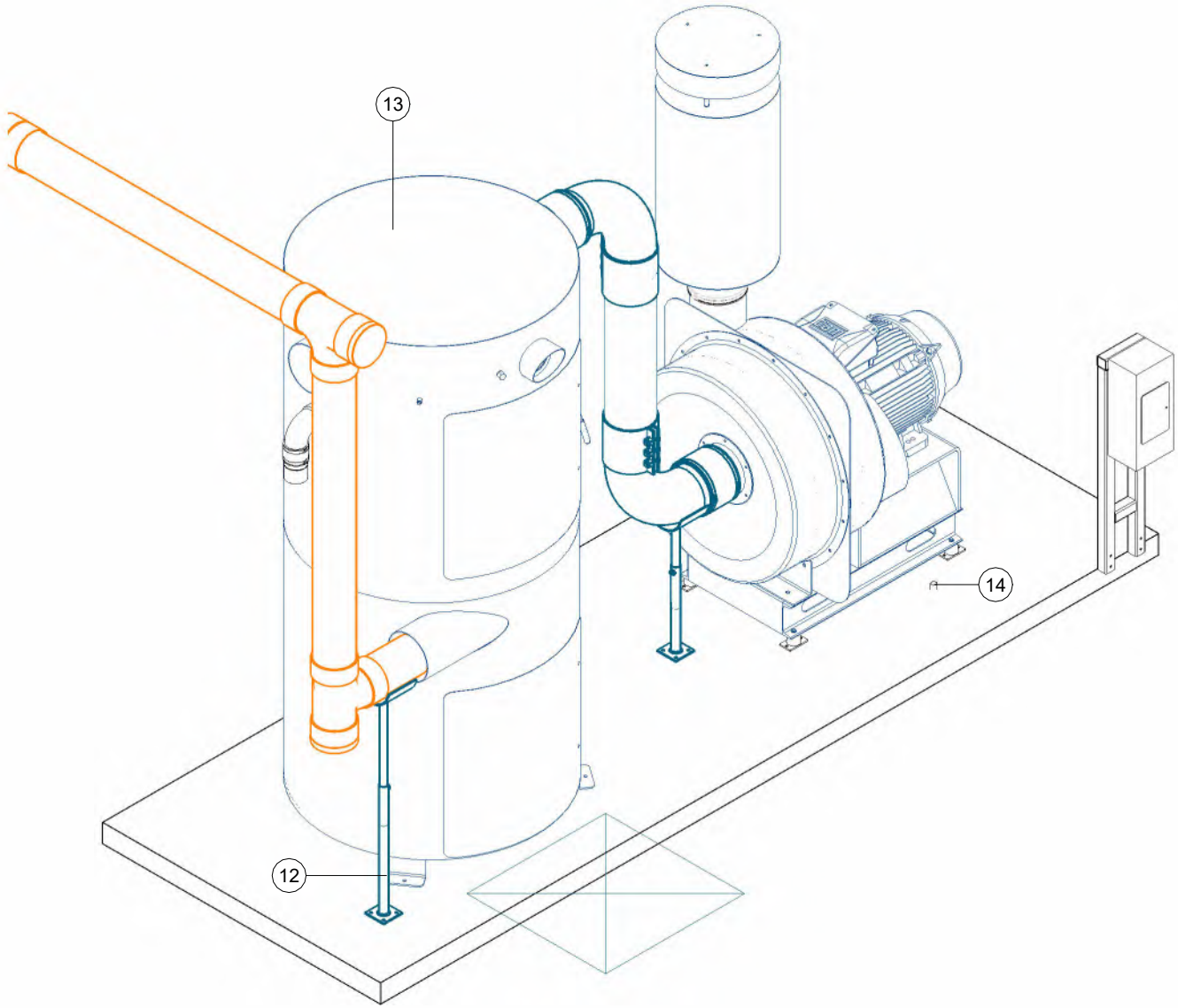
V601

EQUIPMENT SITE ISOMETRIC	
ITEM	DESCRIPTION
1	6" OVERHEAD SCH. 40 SOLID CORE PVC VACUUM PIPE
2	6" PVC SANITARY TEE
3	6" CLEAN-OUT (TYP.)
4	38x88 FILTER SEPARATOR
5	PRODUCER PIPE SUPPORT
6	PRODUCER VIBRATION ISOLATOR
7	RECOMMENDED DISCONNECT LOCATION (WITHIN SIGHT OF PRODUCER), CLEARANCE REQUIRED IN FRONT
8	60HP T5 DIRECT DRIVE PRODUCER
9	8" T5 OUTDOOR EXHAUST MUFFLER
10	8" SEPARATOR/PRODUCER HOOK-UP KIT (ALUMINUM)
11	3" PRESSURE RELIEF VALVE
12	SEPARATOR PIPE SUPPORT
13	45x96 FILTER SEPARATOR
14	RECOMMENDED PRODUCER MOTOR CONDUIT STUB-UP LOCATION, SIZE PER N.E.C.

- EQUIPMENT NOTES:**
- 14'Lx5'Wx4"H MINIMUM FLAT AND LEVEL CONCRETE FLOOR
 - **SPACE REQUIRED FOR VACUUM EQUIPMENT**
 - WALL PENETRATION: CORE DRILLING MAY BE REQUIRED
 - FIELD VERIFY HEIGHT
 - NOTE: IF VACUUM EQUIPMENT IS ENCLOSED WITH ROOF/CEILING, REFER TO VENTILATION REQUIREMENTS UNDER EQUIPMENT WARRANTY INFORMATION
 - EXHAUST PRODUCER TO OUTSIDE AIR OR ATMOSPHERE W/ 8 " ALUMINUM TUBE OR METAL PIPE
 - FIELD VERIFY ALL DIMENSIONS
 - SEE POWER EQUIPMENT DETAILS ON V701



1 EQUIPMENT ISOMETRIC A



2 EQUIPMENT ISOMETRIC B

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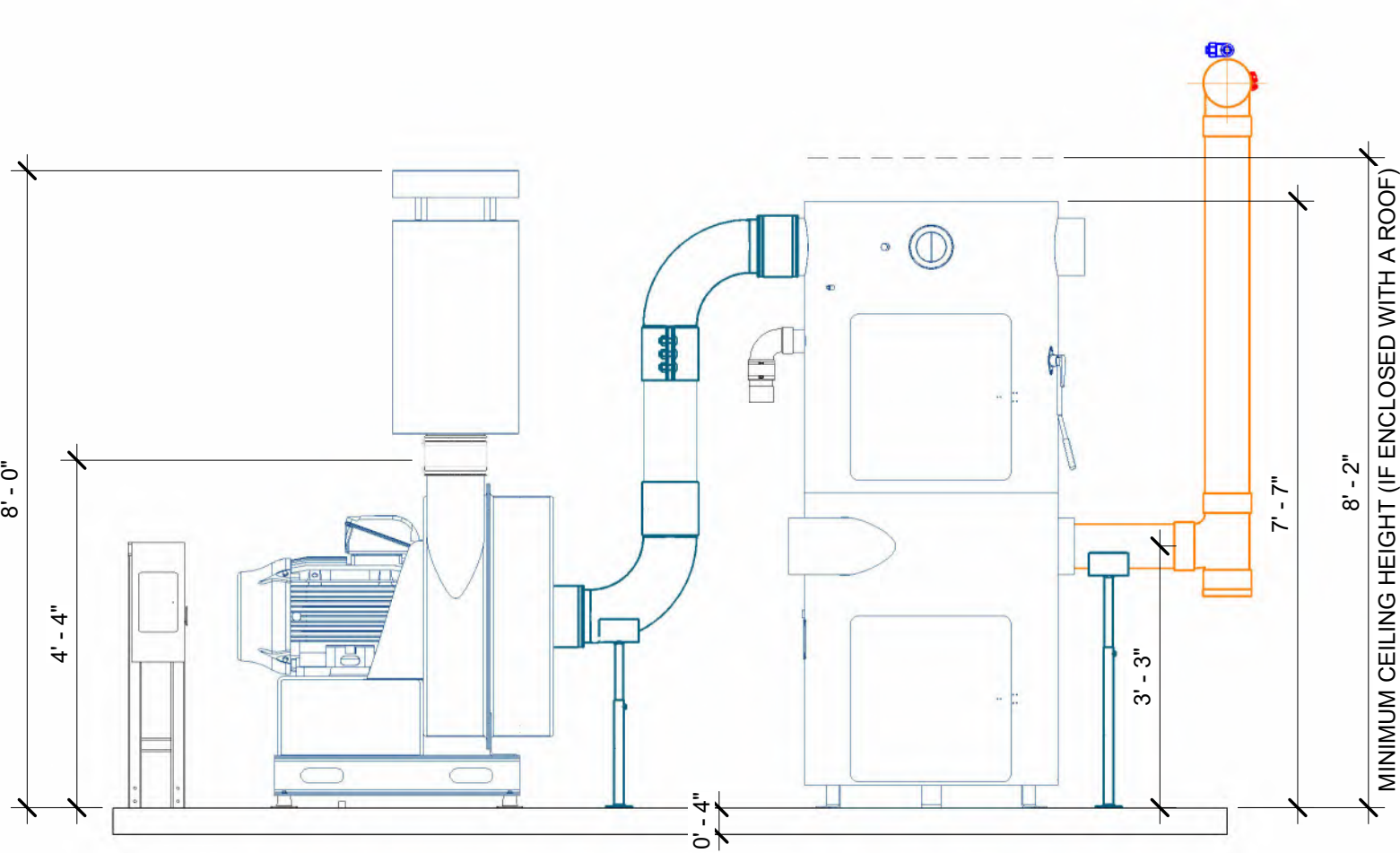
#	Revision	By	Chk	Date
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EQUIP. SITE ISOMETRIC

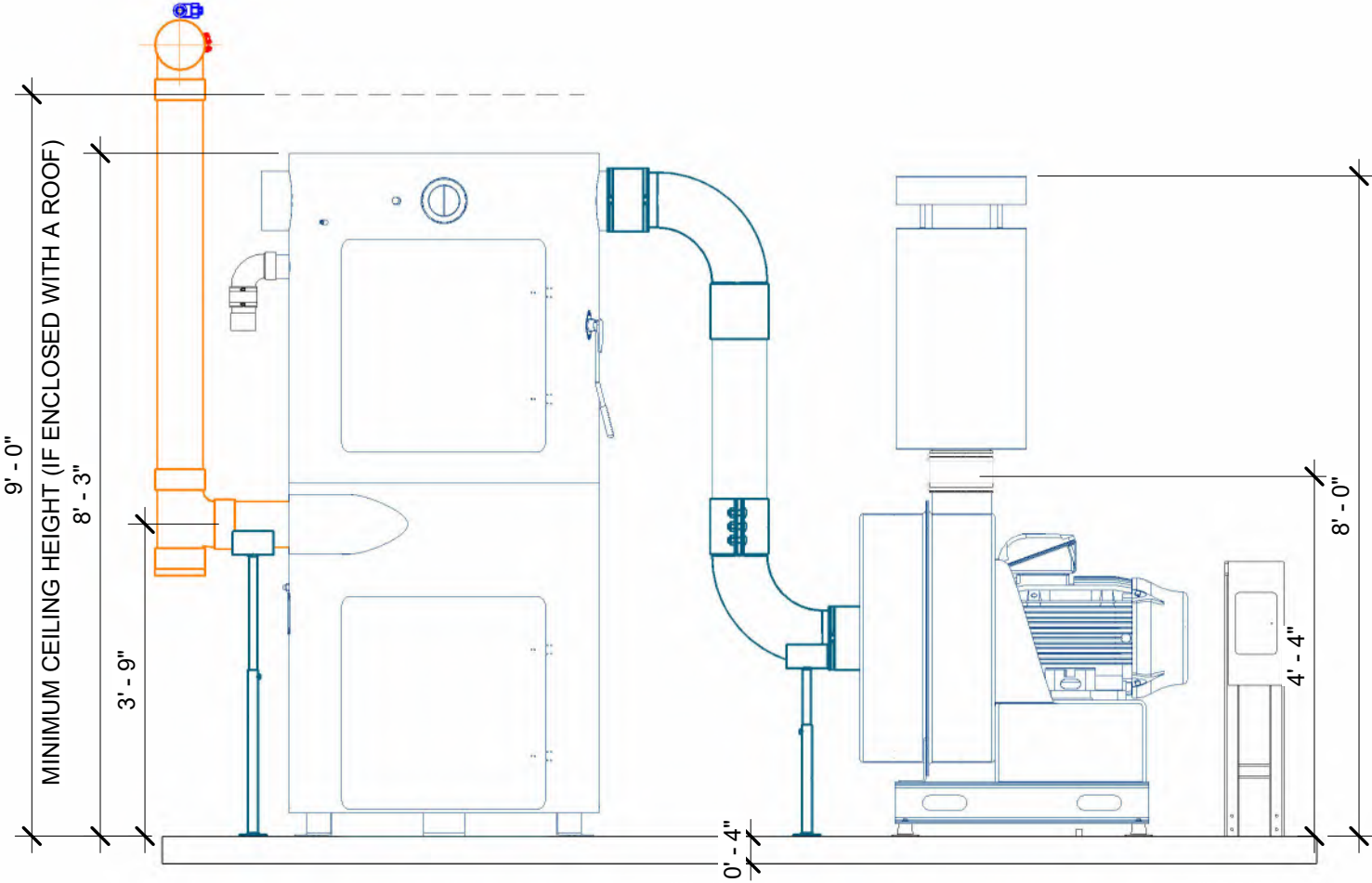
Project Number	1585523
Date	9/16/25
Drawn By	RY
Checked By	TD

V611

- EQUIPMENT NOTES:**
- 14'Lx5'Wx4"H MINIMUM FLAT AND LEVEL CONCRETE FLOOR
 - SPACE REQUIRED FOR VACUUM EQUIPMENT
 - WALL PENETRATION: CORE DRILLING MAY BE REQUIRED
 - FIELD VERIFY HEIGHT
 - NOTE: IF VACUUM EQUIPMENT IS ENCLOSED WITH ROOF/CEILING, REFER TO VENTILATION REQUIREMENTS UNDER EQUIPMENT WARRANTY INFORMATION
 - EXHAUST PRODUCER TO OUTSIDE AIR OR ATMOSPHERE W/ 8 " ALUMINUM TUBE OR METAL PIPE
 - FIELD VERIFY ALL DIMENSIONS
 - SEE POWER EQUIPMENT DETAILS ON V701



1 EQUIPMENT ELEVATION A



2 EQUIPMENT ELEVATION B

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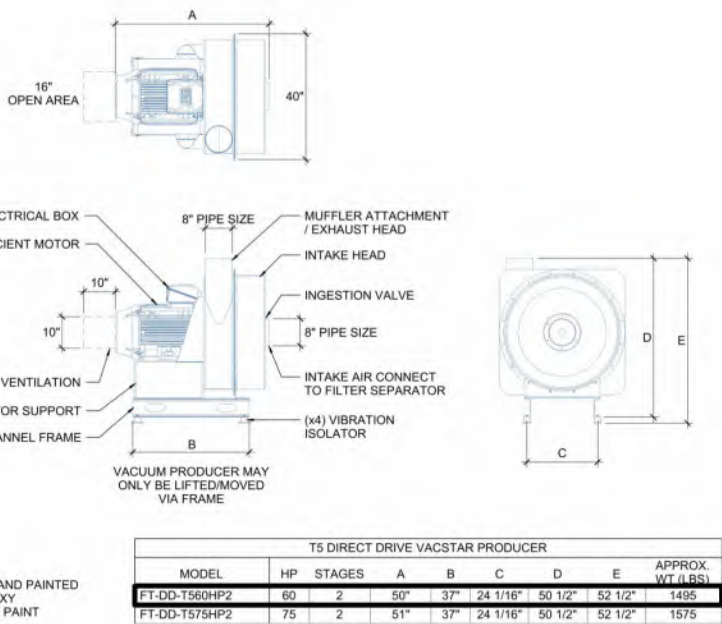
#	Revision	By	Chk	Date
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EQUIPMENT ELEVATION

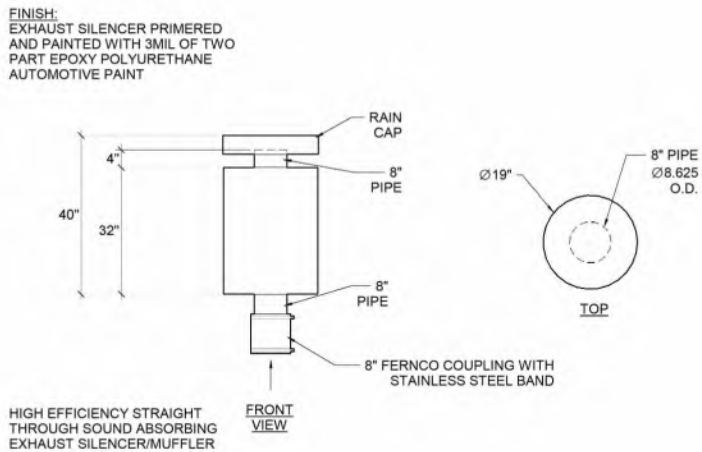
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Date	9/16/25
Drawn By	RY
Checked By	TD

V621

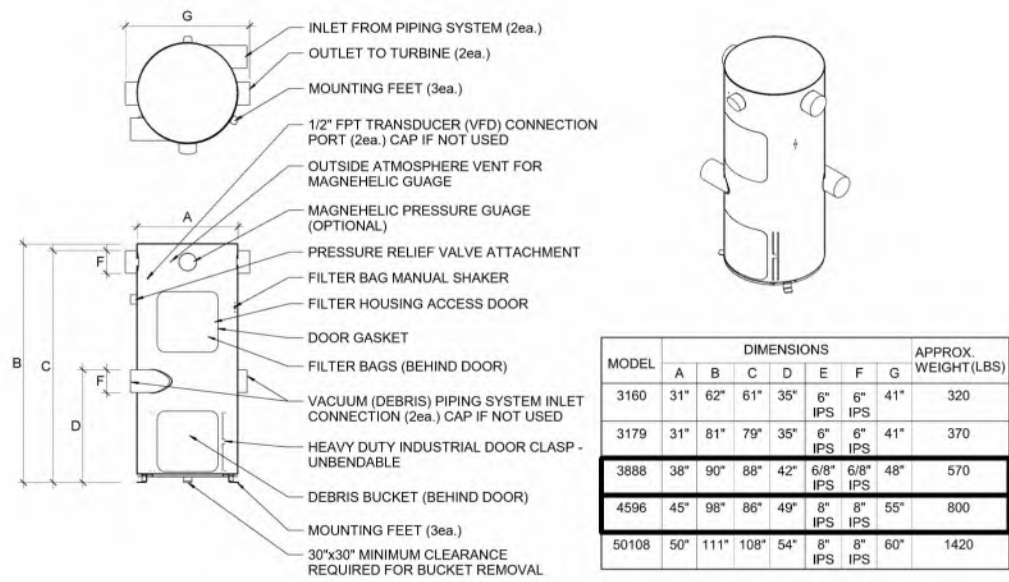
9/18/2025 10:12:03 AM



1 PRODUCER - T5 DD



2 EXHAUST SILENCER - T5 OUTDOOR



3 SEPARATOR - FILTER

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EQUIPMENT DETAILS

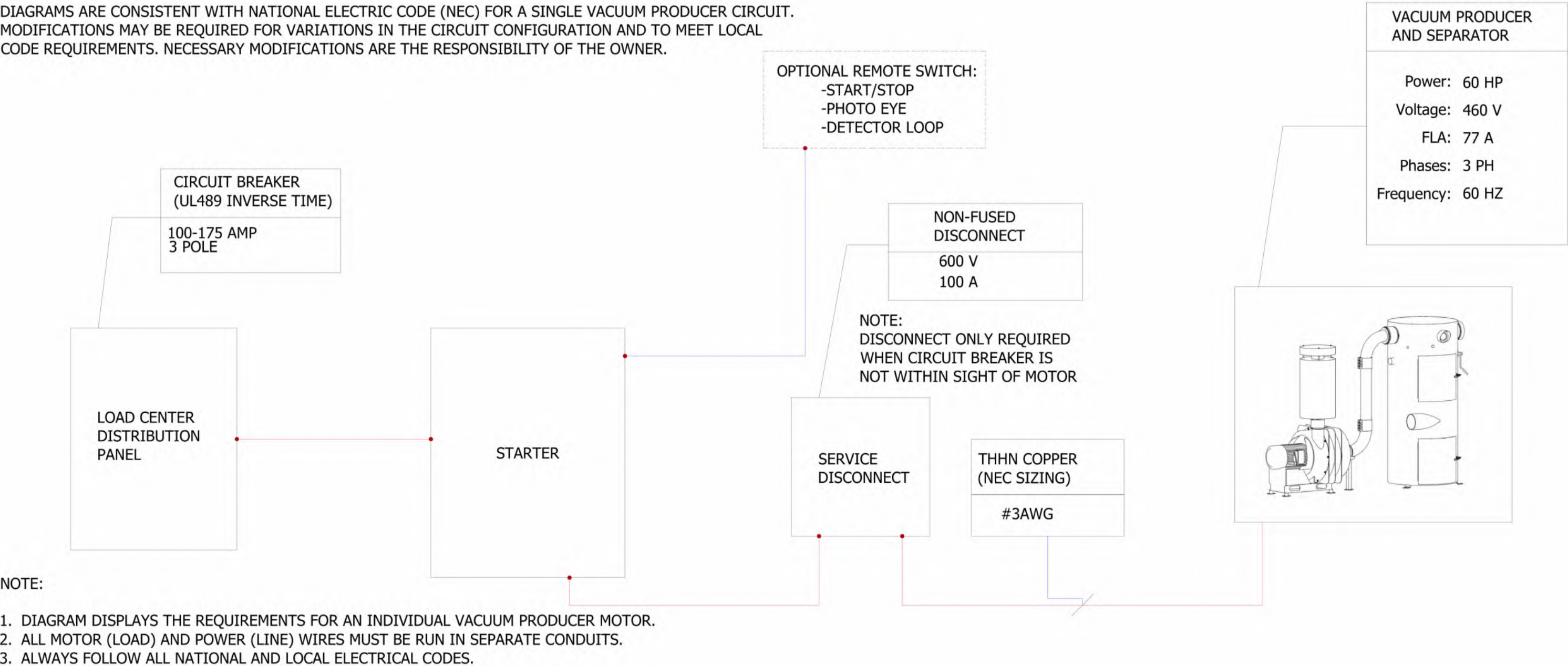
Project Number	1585523
Date	9/16/25
Drawn By	RY
Checked By	TD

V701

NOTE: ELECTRICAL CONTROLS PROVIDED BY OTHERS

DISCLAIMER:

DIAGRAMS ARE CONSISTENT WITH NATIONAL ELECTRIC CODE (NEC) FOR A SINGLE VACUUM PRODUCER CIRCUIT. MODIFICATIONS MAY BE REQUIRED FOR VARIATIONS IN THE CIRCUIT CONFIGURATION AND TO MEET LOCAL CODE REQUIREMENTS. NECESSARY MODIFICATIONS ARE THE RESPONSIBILITY OF THE OWNER.



1 ELECTRICAL DIAGRAM - MAG - 60HP 460V

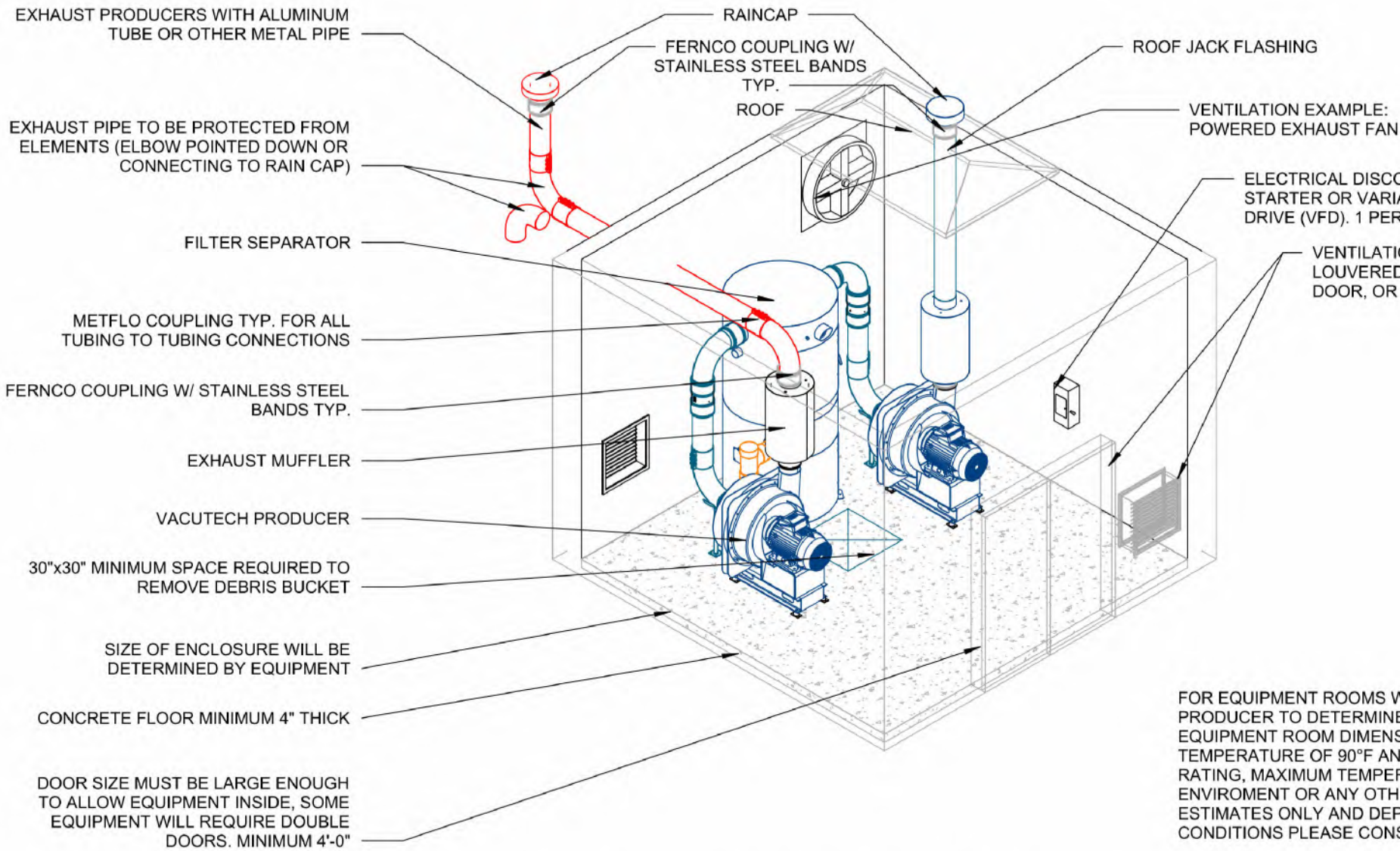
#	Revision	By	Chk	Date
1	PREPPED FOR ENGINEERING. ADDED GENERAL STRUCTURAL NOTES	SL	RY	9/18/25

ELECTRICAL DIAGRAM

Project Number	1585523
Date	9/16/25
Drawn By	RY
Checked By	TD

V702

9/18/2025 10:12:04 AM



HP	ACROSS THE LINE STARTER		VARIABLE FREQUENCY DRIVE (VFD)	
	HEAT LOAD (BTU/HR)	REQUIRED AIR FLOW (CFM)	HEAT LOAD (BTU/HR)	REQUIRED AIR FLOW (CFM)
10	12722	915	2544	284
15	19084	1373	3817	426
20	25444	1830	5089	568
25	31805	2288	6361	710
30	38166	2745	7633	852
40	50889	3660	10178	1163
50	63611	4575	12722	1704
60	7633	5490	15267	1704
75	95416	6863	19083	2130
100	127222	9150	25444	2840

FOR EQUIPMENT ROOMS WITH MULTIPLE PRODUCER SETUPS, ADD THE CFM REQUIREMENT PER PRODUCER TO DETERMINE TOTAL CFM REQUIREMENT FOR THE EQUIPMENT ROOM. THIS ASSUMES EQUIPMENT ROOM DIMENSIONS 15'x15'X WITH 10' CEILINGS. THIS ASSUMES AN OUTSIDE AIR TEMPERATURE OF 90°F AND A MAXIMUM ROOM TEMPERATURE OF 104°F (NEMA CLASS F INSULATION RATING, MAXIMUM TEMPERATURE) AND DOES NOT ACCOUNT FOR RADIANT HEATING FROM THE ENVIROMENT OR ANY OTHER EQUIPMENT INSTALLED IN THE EQUIPMENT ROOM. THESE VALUES ARE ESTIMATES ONLY AND DEPEND ON EQUIPMENT ROOM DIMENSIONS, GEOGRAPHIC LOCATION AND SITE CONDITIONS PLEASE CONSULT YOUR MECHANICAL HVAC DESIGNER AND ASHRAE STANDARDS.

VACUUM EQUIPMENT INSTALLED IN AN ENCLOSURE WITH 4 WALLS AND A ROOF MUST BE ADEQUATELY VENTILATED OR ROOM CONDITIONED IN ORDERED TO PROPERLY DISSIPATE THE HEAT GENERATED BY THE MECHANICAL AND ELECTRICAL EQUIPMENT. IMPROPER VENTILATION AND HEAT DISSIPATION CAN AND WILL RESULT IN DAMAGE TO THE MECHANICAL AND ELECTRICAL EQUIPMENT INCLUDING VFD'S, MOTOR STARTERS, ELECTRIC MOTORS AND VACUUM PRODUCERS. PLEASE REFERENCE THE HEAT GENERATION TABLE INCLUDED IN THIS DETAIL TO DETERMINE THE AMOUNT OF HEAT LOAD THAT THE PRODUCER(S) AND STARTING EQUIPMENT WILL GENERATE AND THE CORRESPONDING REQUIRED AIR FLOW OF EXHAUST AND AIR INTAKE TO DISSIPATE THE HEAT GENERATED BY THE VACUTECH EQUIPMENT. IF ADDITIONAL EQUIPMENT IS INSTALLED IN THE EQUIPMENT ROOM (AIR COMPRESSORS, ELECTRICAL PANELS, TUNNEL CONTROLS, ETC.) PLEASE CONSULT YOUR HVAC DESIGN ENGINEER FOR PROPER TEMPERATURE CONTROL DESIGN OF YOUR EQUIPMENT ROOM. OPERATING TEMPERATURES ABOVE 104°F (TYPICAL MAXIMUM ENVIROMENTAL TEMPERATURE FOR ELECTRICAL EQUIPMENT) WILL SHORTEN THE LIFE SPAN OF THE VACUUM EQUIPMENT AND MAY INVALIDATE THE VACUTECH LLC WARRANTY.

THE VACUUM PRODUCER MUST BE EXHAUSTED OUTSIDE WIHT METALLIC PIPE NO SMALLER THAN THE DIAMETER OF THE EXHAUST OUTLET OF THE PRODUCER. THE EXHAUST PIPE OPENING MUST BE PROTECTED FROM ELEMENTS. IF EXHAUST DISTANCE IS GREATER THAN 20 FEET USE ONE PIPE SIZE LARGER AFTER 10 FEET OF RUN (I.E. FOR A 20 FOOT RUN OF 8" EXHAUST, USE 8" FOR FIRST 10 FEET AND 10" FOR REMAININNING 10 FEET OF THE OVERALL 20 FOOT RUN).

1 ENCLOSURE - TYPICAL REQUIREMENTS

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AN **NCS** COMPANY

1350 HI-TECH DRIVE
SHERIDAN, WY 82801
PHONE: (307) 675-1982
EMAIL: vacinfo@ncswash.com
WEB: www.vacutechllc.com

CLUB CW - OLDHAM VILLAGE

1021 SOUTH WEST JEFFERSON STREET
LEES SUMMIT, MISSOURI 64081

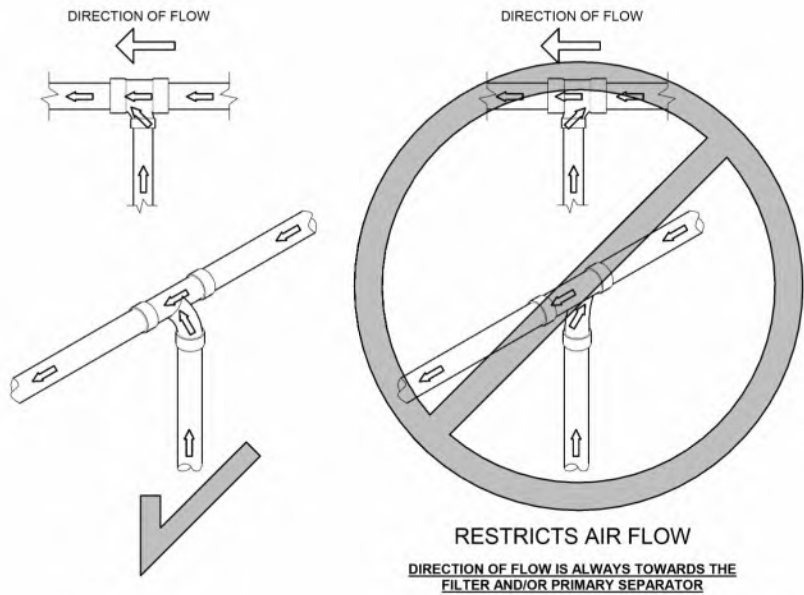
#	Revision	By	Chk	Date
1	PREPPED FOR ENGINEERING. ADDED GENERAL STRUCTURAL NOTES	SL	RY	9/18/25

ENCLOSURE DETAIL

Project Number	1585523
Date	9/16/25
Drawn By	RY
Checked By	TD

V711

9/18/2025 10:12:06 AM

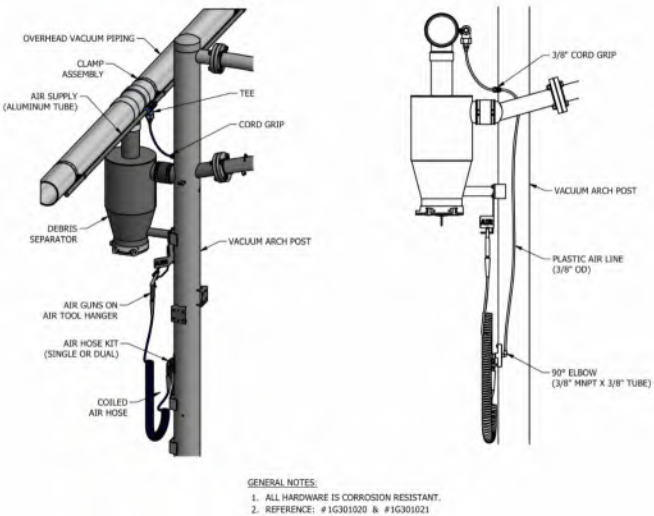


1 PIPE - PIPE FLOW

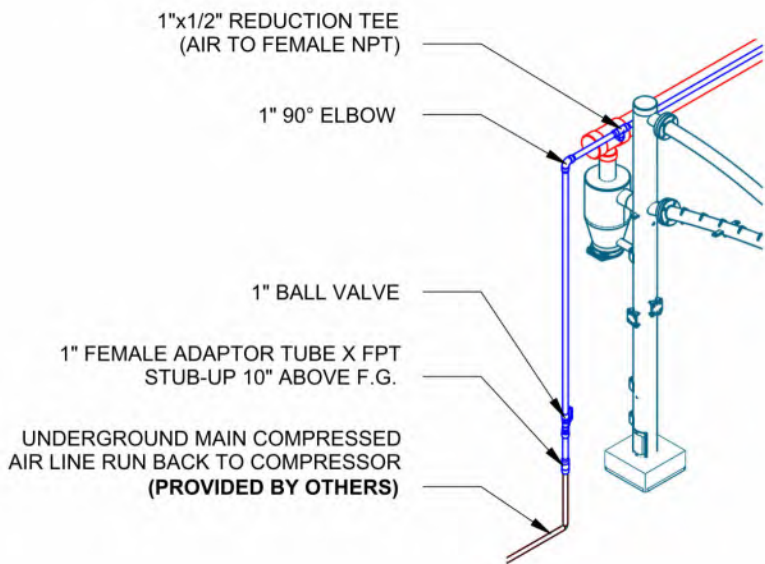
ALUMINUM SANITARY TEE & ALUMINUM TUBING CONNECTION



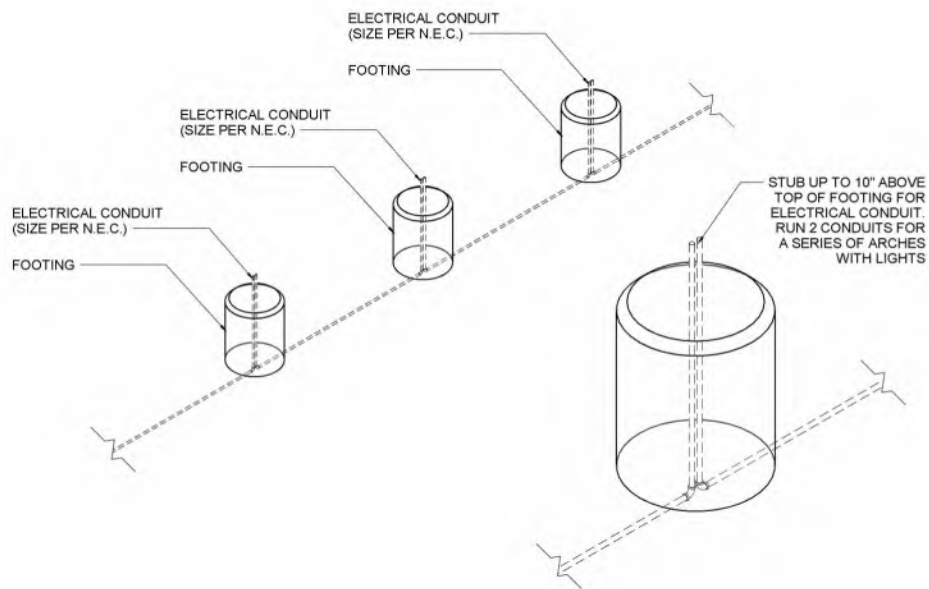
2 PIPE - 6x4 ALUMINUM TEE KIT



3 PIPE - RAPID AIR INSTALLATION



4 PIPE - RAPID AIR STUB-UP



5 TRENCH - CONDUIT STUB-UP

- PIPE NOTES:**
- a. FIELD VERIFY ALL DIMENSIONS
 - b. SUPPORT SCHEDULE 40 PVC OVERHEAD DRY/WET VACUUM PIPE EVERY 6' MAXIMUM; USE UNISTRUT & CLAMP OR OTHER SUPPORT (**PROVIDED BY OTHERS**)
 - c. RUN COMPRESSED AIR TO AIR COMPRESSOR LOCATION (**BY OTHERS**)
 - d. COMPRESSED AIR RECOMMENDED WORKING PRESSURE IS 75PSIG AND 10SCFM AT INTERFACE
 - e. WALL PENETRATION: CORE DRILLING MAY BE REQUIRED FIELD VERIFY HEIGHT
 - f. REFER TO SHEET V721 FOR PIPE ASSEMBLY CUTSHEETS
 - g. ALL FITTINGS TO BE 'DWV'

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CLUB CW - OLDHAM VILLAGE

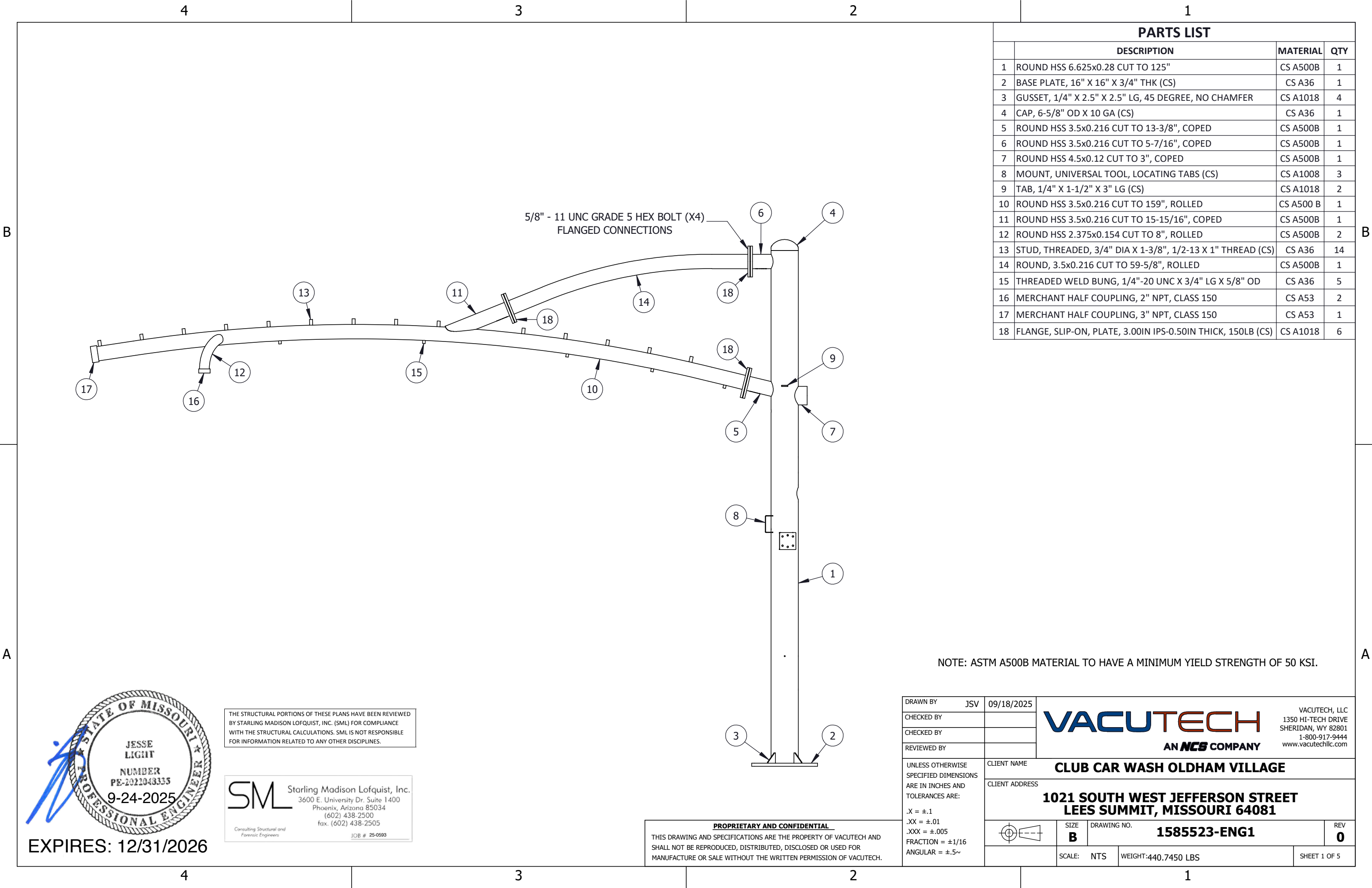
1021 SOUTH WEST JEFFERSON STREET
LEES SUMMIT, MISSOURI 64081

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1	PREPPED FOR ENGINEERING. ADDED GENERAL STRUCTURAL NOTES	SL	RY	9/18/25

PIPE DETAILS

Project Number	1585523
Date	9/16/25
Drawn By	RY
Checked By	TD

V721



PARTS LIST			
	DESCRIPTION	MATERIAL	QTY
1	ROUND HSS 6.625x0.28 CUT TO 125"	CS A500B	1
2	BASE PLATE, 16" X 16" X 3/4" THK (CS)	CS A36	1
3	GUSSET, 1/4" X 2.5" X 2.5" LG, 45 DEGREE, NO CHAMFER	CS A1018	4
4	CAP, 6-5/8" OD X 10 GA (CS)	CS A36	1
5	ROUND HSS 3.5x0.216 CUT TO 13-3/8", COPED	CS A500B	1
6	ROUND HSS 3.5x0.216 CUT TO 5-7/16", COPED	CS A500B	1
7	ROUND HSS 4.5x0.12 CUT TO 3", COPED	CS A500B	1
8	MOUNT, UNIVERSAL TOOL, LOCATING TABS (CS)	CS A1008	3
9	TAB, 1/4" X 1-1/2" X 3" LG (CS)	CS A1018	2
10	ROUND HSS 3.5x0.216 CUT TO 159", ROLLED	CS A500 B	1
11	ROUND HSS 3.5x0.216 CUT TO 15-15/16", COPED	CS A500B	1
12	ROUND HSS 2.375x0.154 CUT TO 8", ROLLED	CS A500B	2
13	STUD, THREADED, 3/4" DIA X 1-3/8", 1/2-13 X 1" THREAD (CS)	CS A36	14
14	ROUND, 3.5x0.216 CUT TO 59-5/8", ROLLED	CS A500B	1
15	THREADED WELD BUNG, 1/4"-20 UNC X 3/4" LG X 5/8" OD	CS A36	5
16	MERCHANT HALF COUPLING, 2" NPT, CLASS 150	CS A53	2
17	MERCHANT HALF COUPLING, 3" NPT, CLASS 150	CS A53	1
18	FLANGE, SLIP-ON, PLATE, 3.00IN IPS-0.50IN THICK, 150LB (CS)	CS A1018	6

NOTE: ASTM A500B MATERIAL TO HAVE A MINIMUM YIELD STRENGTH OF 50 KSI.



EXPIRES: 12/31/2026

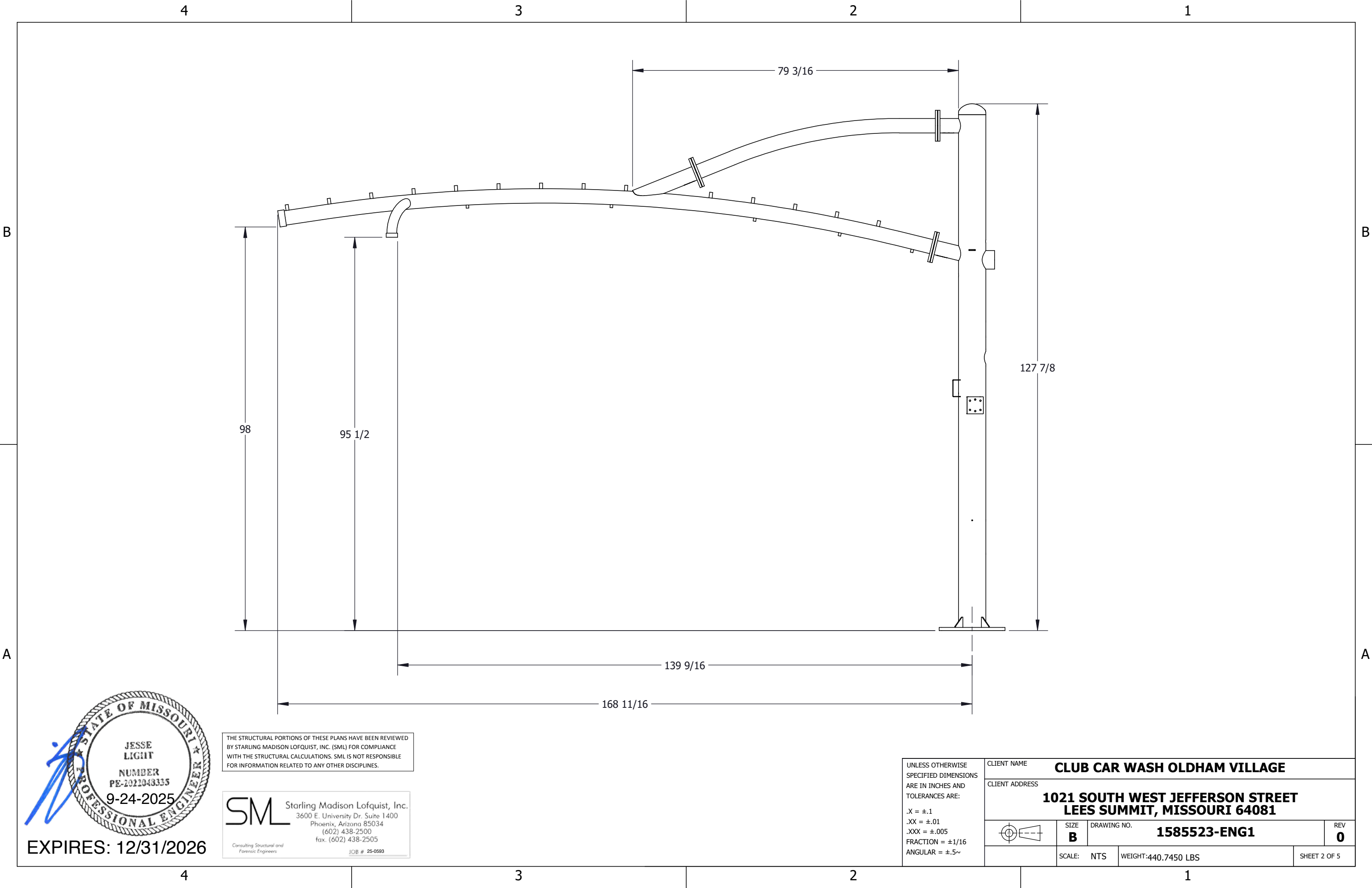
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SML
Consulting Structural and Forensic Engineers

Starling Madison Lofquist, Inc.
3600 E. University Dr. Suite 1400
Phoenix, Arizona 85034
(602) 438-2500
fax. (602) 438-2505
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UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND TOLERANCES ARE: .X = ±.1 .XX = ±.01 .XXX = ±.005 FRACTION = ±1/16 ANGULAR = ±.5~			CLIENT NAME	
			CLIENT ADDRESS	
			DRAWING NO.	
			REV	
			SCALE: NTS	WEIGHT: 440.7450 LBS
			SHEET 1 OF 5	

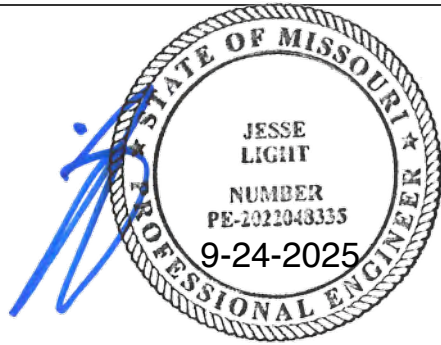


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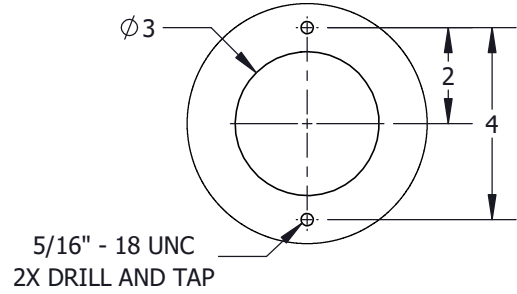
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CLIENT ADDRESS 1021 SOUTH WEST JEFFERSON STREET LEES SUMMIT, MISSOURI 64081			
	SIZE B	DRAWING NO. 1585523-ENG1	REV 0
	SCALE: NTS	WEIGHT: 440.7450 LBS	SHEET 2 OF 5



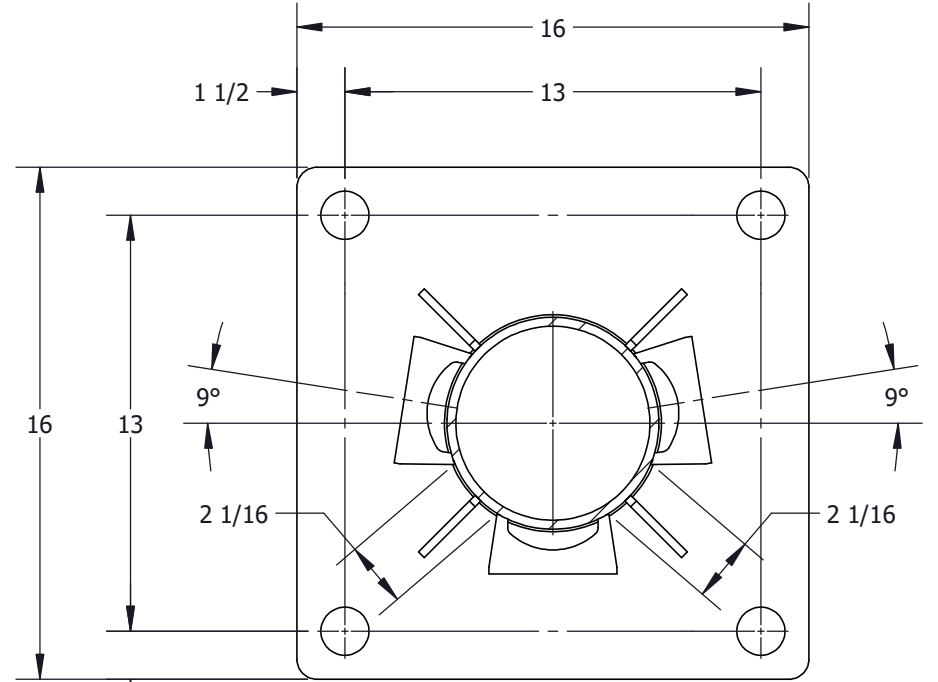
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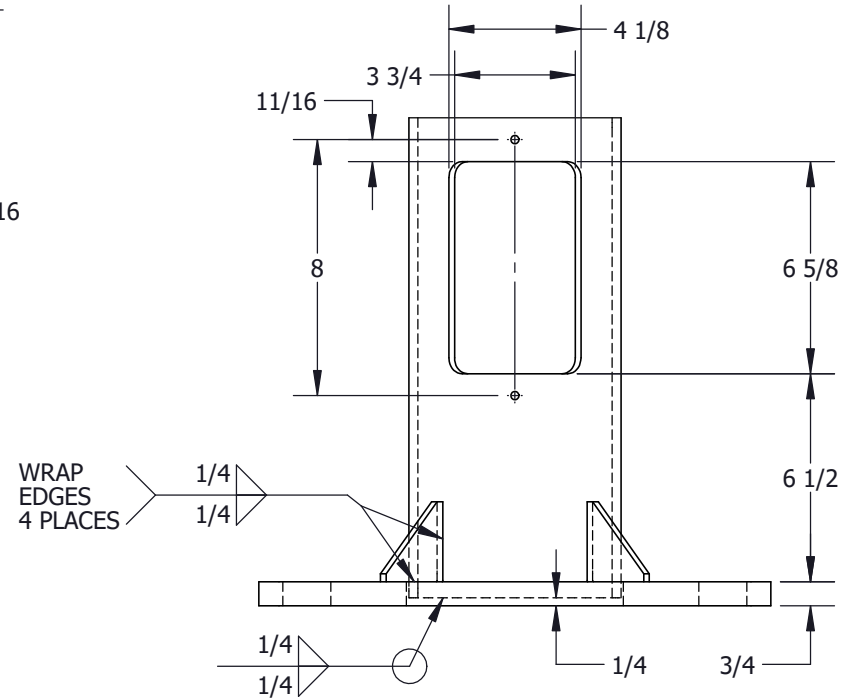
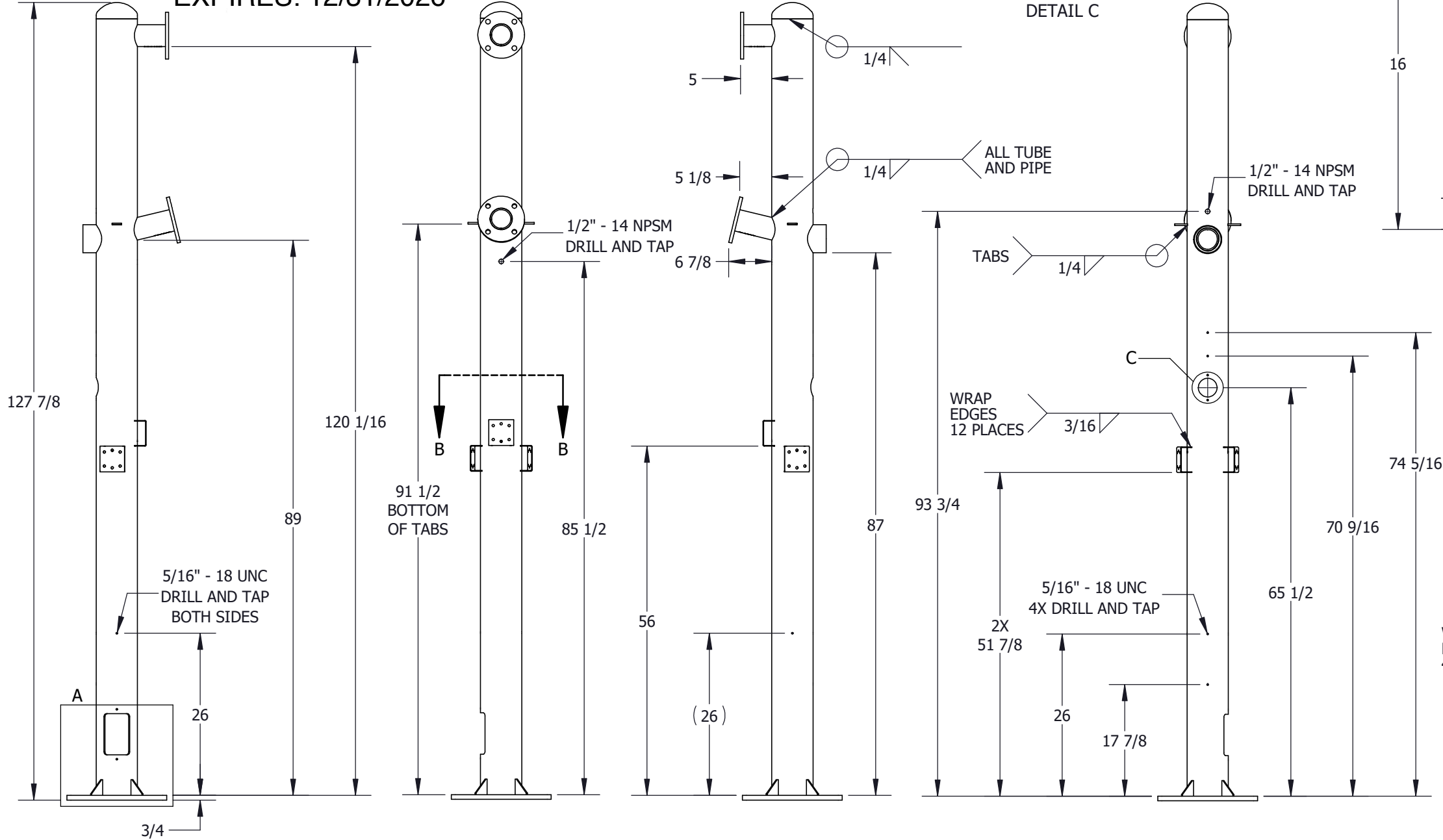
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DETAIL C



SECTION B-B



DETAIL A
UTILITY ACCESS HOLE

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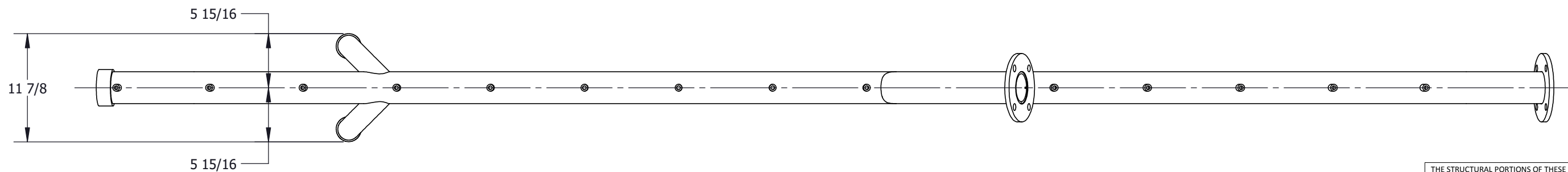
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CLIENT ADDRESS		1021 SOUTH WEST JEFFERSON STREET LEES SUMMIT, MISSOURI 64081		
	SIZE	DRAWING NO.	REV	
	B	1585523-ENG1	0	
SCALE: NTS		WEIGHT: 440.7450 LBS	SHEET 3 OF 5	

4

3

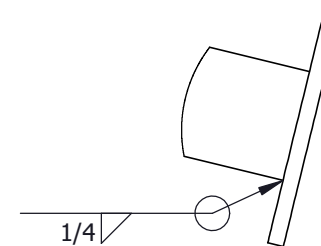
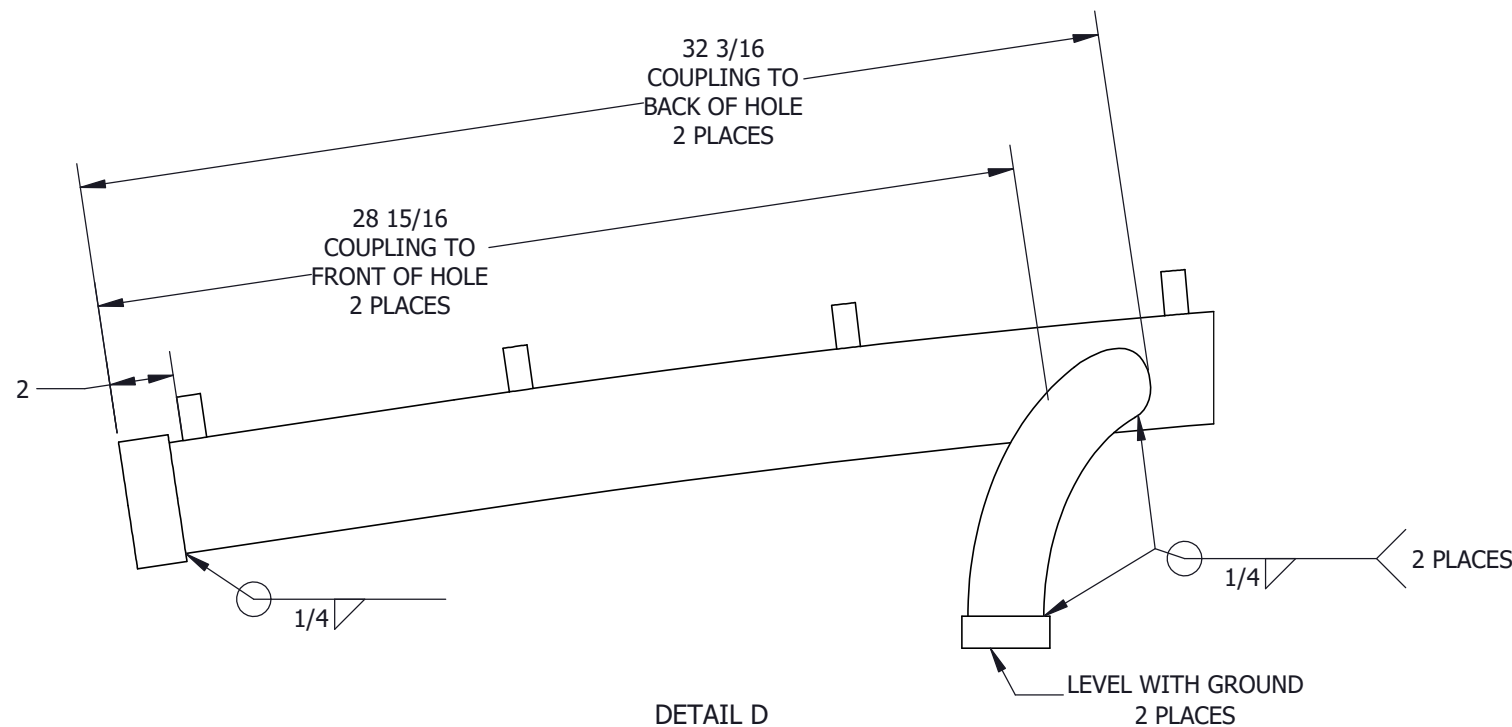
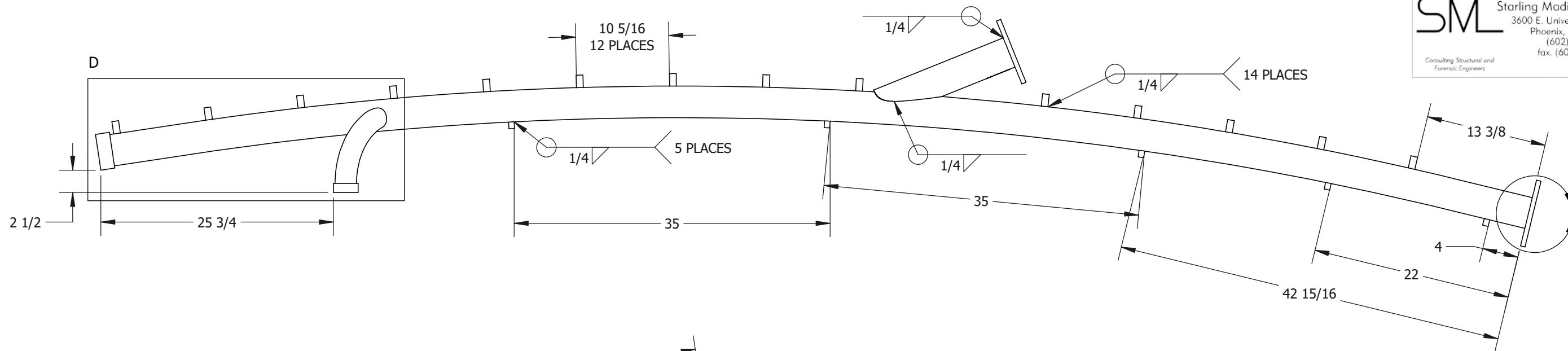
2

1



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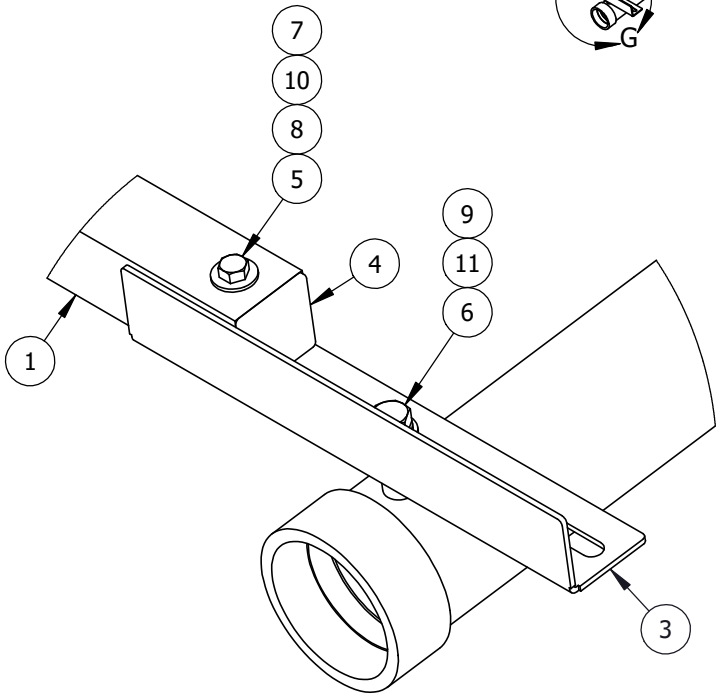
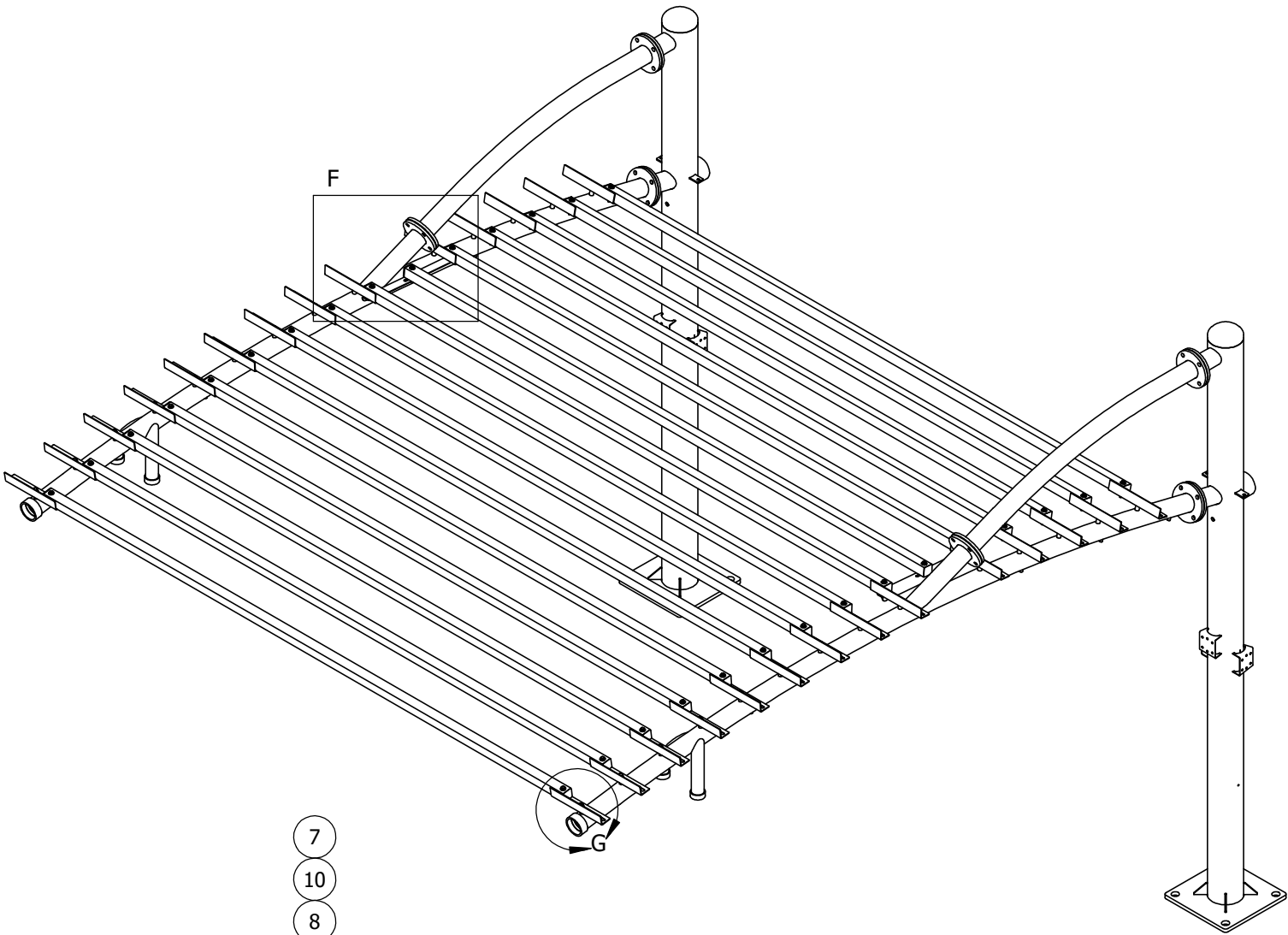
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CLIENT ADDRESS		1021 SOUTH WEST JEFFERSON STREET LEES SUMMIT, MISSOURI 64081		
	SIZE	DRAWING NO.	REV	
	B	1585523-ENG1	0	
SCALE: NTS		WEIGHT: 440.7450 LBS		SHEET 4 OF 5

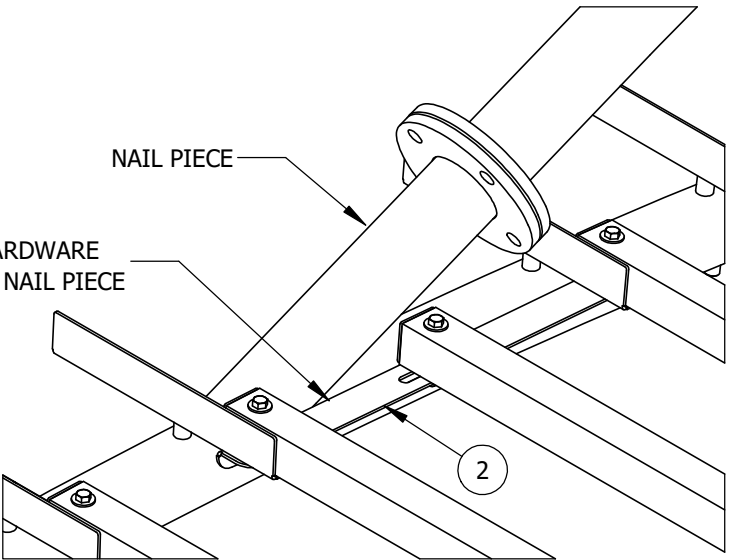
PARTS LIST

	DESCRIPTION	MATERIAL	QTY
1	SQUARE HSS 2x2x0.125 CUT TO 134-1/4"	AL B211 6061-T6	15
2	BENT, SHEET, 2x1x0.1345 NAIL BRACKET FOR TRELLIS (CS)	CS A1008	2
3	BENT, SHEET, 2x2x0.1345 ANGLE BRACKET FOR TRELLIS, 2 SIDED (CS)	CS A1008	28
4	SQUARE FINISHING PLUG FOR TUBING	PE PLASTIC, BLACK	30
5	HEX BOLT, 3/8"-16 UNC X 3" LG. (ZS GR 5)	ZS GR 5	30
6	HEX BOLT, 1/2"-13 UNC X 1" LG. (ZS GR 5)	ZS GR 5	28
7	HEX NUT, 3/8"-16 UNC (ZS GR 5)	ZS GR 5	30
8	WASHER, FLAT, USS, 3/8" X 1.000" OD X .083" THK. (ZS)	ZS	60
9	WASHER, FLAT, SAE, 1/2" X 1.062" OD X .095" THK	ZS	28
10	WASHER, SPLIT LOCK, 3/8" (ZS)	ZS	30
11	WASHER, SPLIT LOCK, 1/2"	ZS	28



DETAIL G
TRELLIS BAR CONNECTION
ATTACHMENT DETAIL

NAIL SPAN MOUNT IS ATTACHED USING HARDWARE
FROM TRELLIS BARS ON BOTH SIDES OF THE NAIL PIECE



DETAIL F
NAIL SPAN CONNECTION
DETAIL



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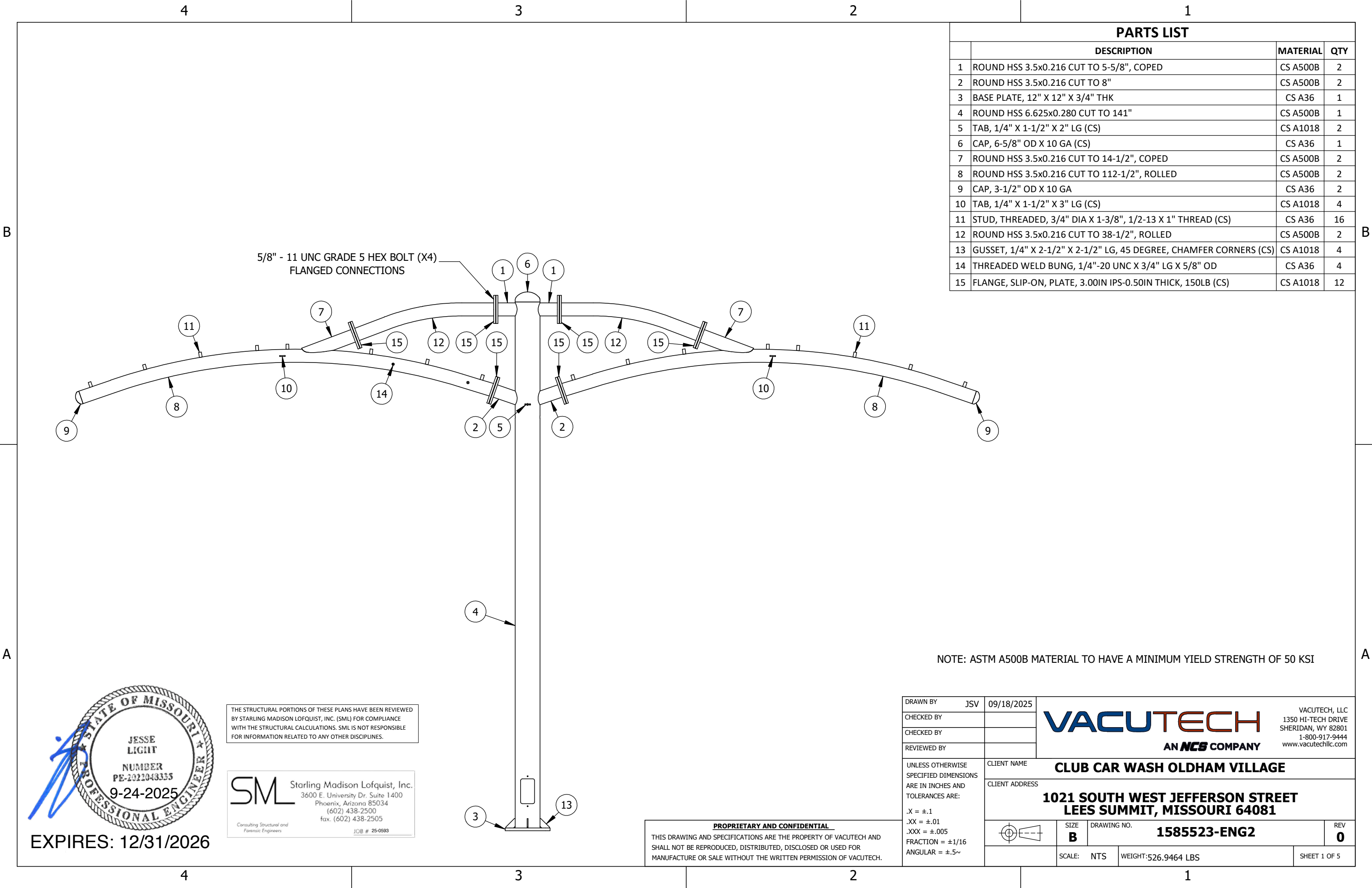
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NOTE: ASTM A500B MATERIAL TO HAVE A MINIMUM YIELD STRENGTH OF 50 KSI.

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	CLIENT ADDRESS 1021 SOUTH WEST JEFFERSON STREET LEES SUMMIT, MISSOURI 64081		
		SIZE B	DRAWING NO. 1585523-ENG1
	SCALE: NTS	WEIGHT: 440.7450 LBS	REV 0 SHEET 5 OF 5



PARTS LIST			
	DESCRIPTION	MATERIAL	QTY
1	ROUND HSS 3.5x0.216 CUT TO 5-5/8", COPED	CS A500B	2
2	ROUND HSS 3.5x0.216 CUT TO 8"	CS A500B	2
3	BASE PLATE, 12" X 12" X 3/4" THK	CS A36	1
4	ROUND HSS 6.625x0.280 CUT TO 141"	CS A500B	1
5	TAB, 1/4" X 1-1/2" X 2" LG (CS)	CS A1018	2
6	CAP, 6-5/8" OD X 10 GA (CS)	CS A36	1
7	ROUND HSS 3.5x0.216 CUT TO 14-1/2", COPED	CS A500B	2
8	ROUND HSS 3.5x0.216 CUT TO 112-1/2", ROLLED	CS A500B	2
9	CAP, 3-1/2" OD X 10 GA	CS A36	2
10	TAB, 1/4" X 1-1/2" X 3" LG (CS)	CS A1018	4
11	STUD, THREADED, 3/4" DIA X 1-3/8", 1/2-13 X 1" THREAD (CS)	CS A36	16
12	ROUND HSS 3.5x0.216 CUT TO 38-1/2", ROLLED	CS A500B	2
13	GUSSET, 1/4" X 2-1/2" X 2-1/2" LG, 45 DEGREE, CHAMFER CORNERS (CS)	CS A1018	4
14	THREADED WELD BUNG, 1/4"-20 UNC X 3/4" LG X 5/8" OD	CS A36	4
15	FLANGE, SLIP-ON, PLATE, 3.00IN IPS-0.50IN THICK, 150LB (CS)	CS A1018	12

NOTE: ASTM A500B MATERIAL TO HAVE A MINIMUM YIELD STRENGTH OF 50 KSI



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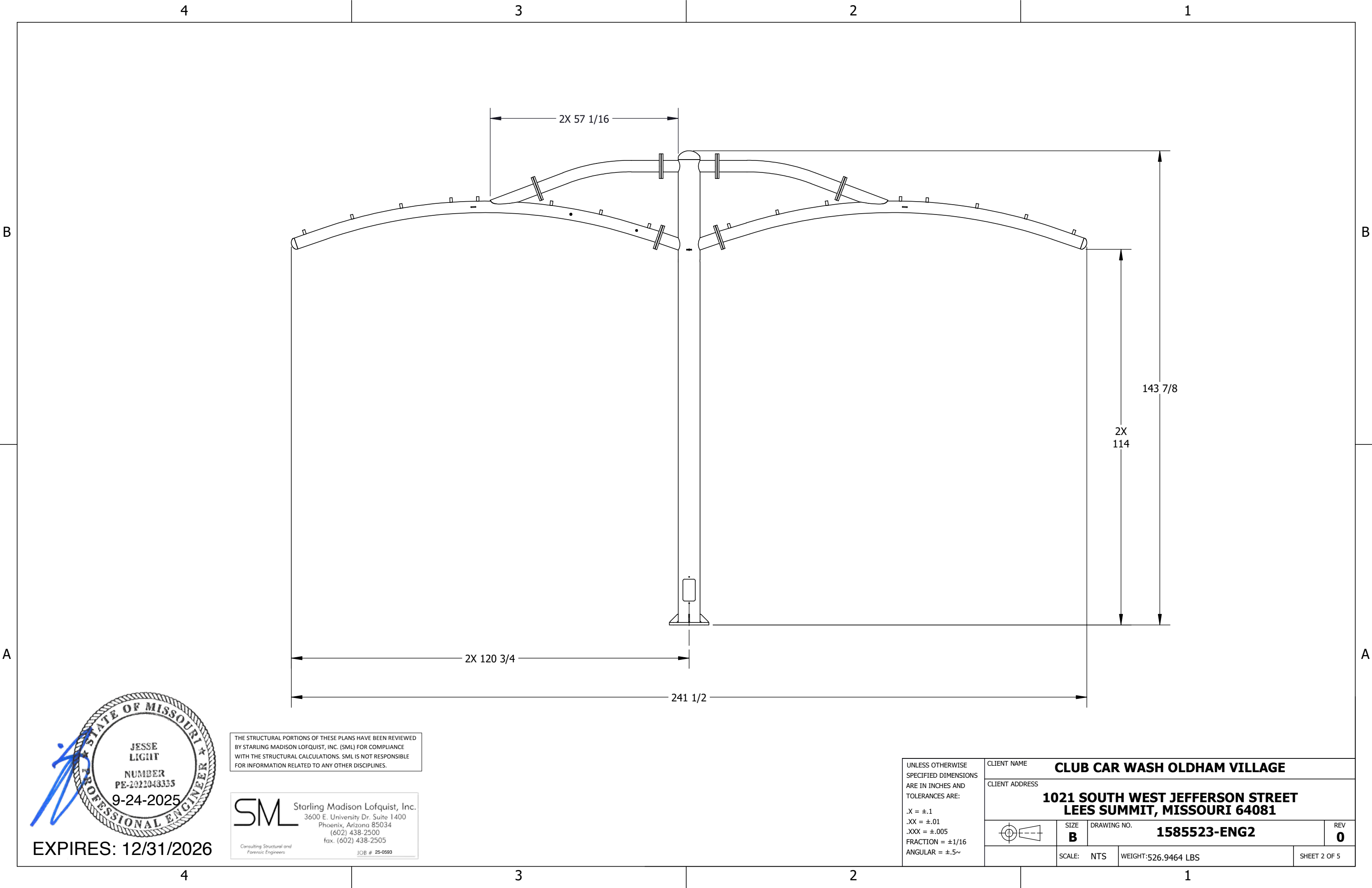
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			CLIENT ADDRESS		1021 SOUTH WEST JEFFERSON STREET LEES SUMMIT, MISSOURI 64081	
				SIZE	DRAWING NO.	REV
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EXPIRES: 12/31/2026

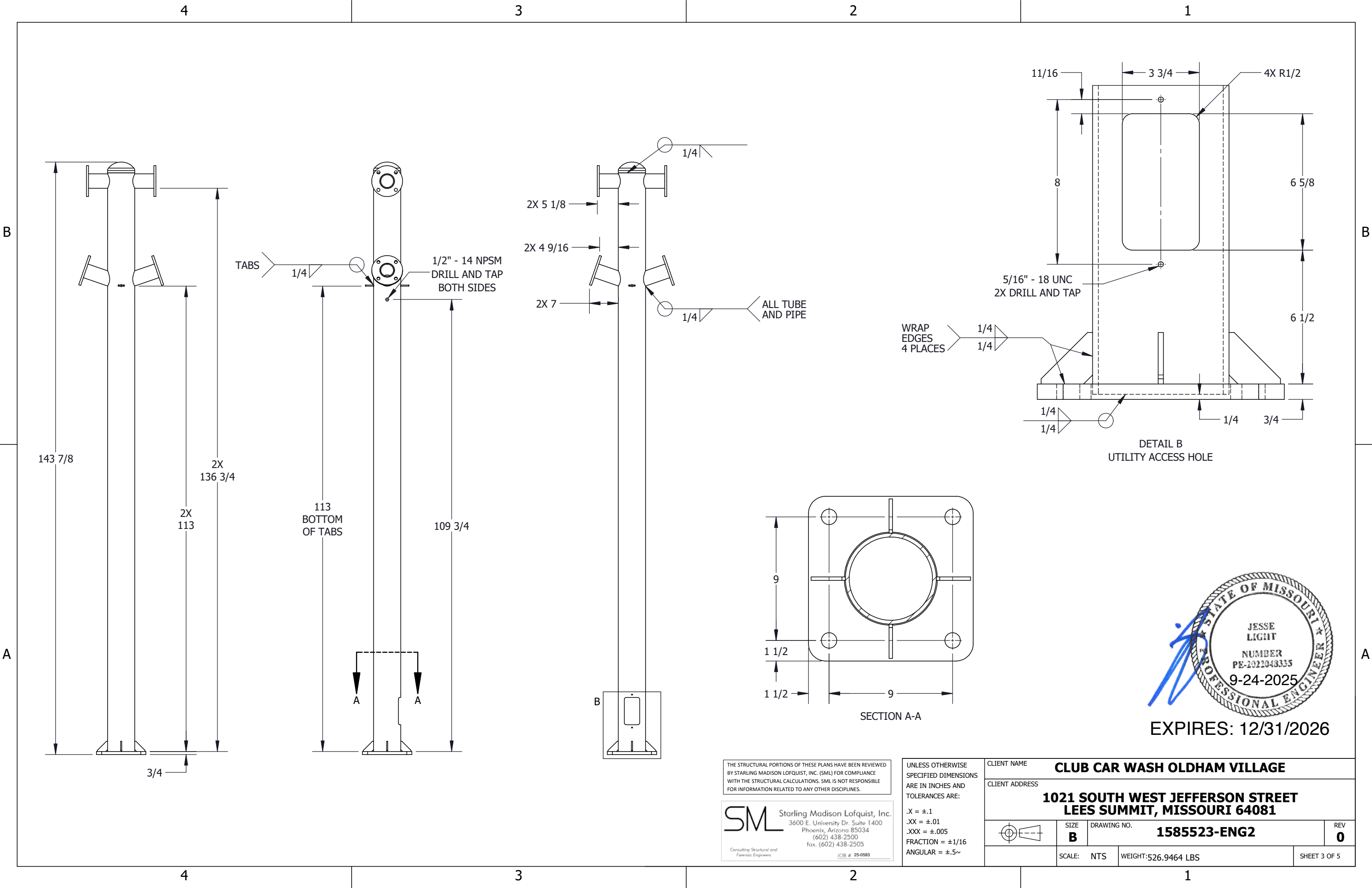
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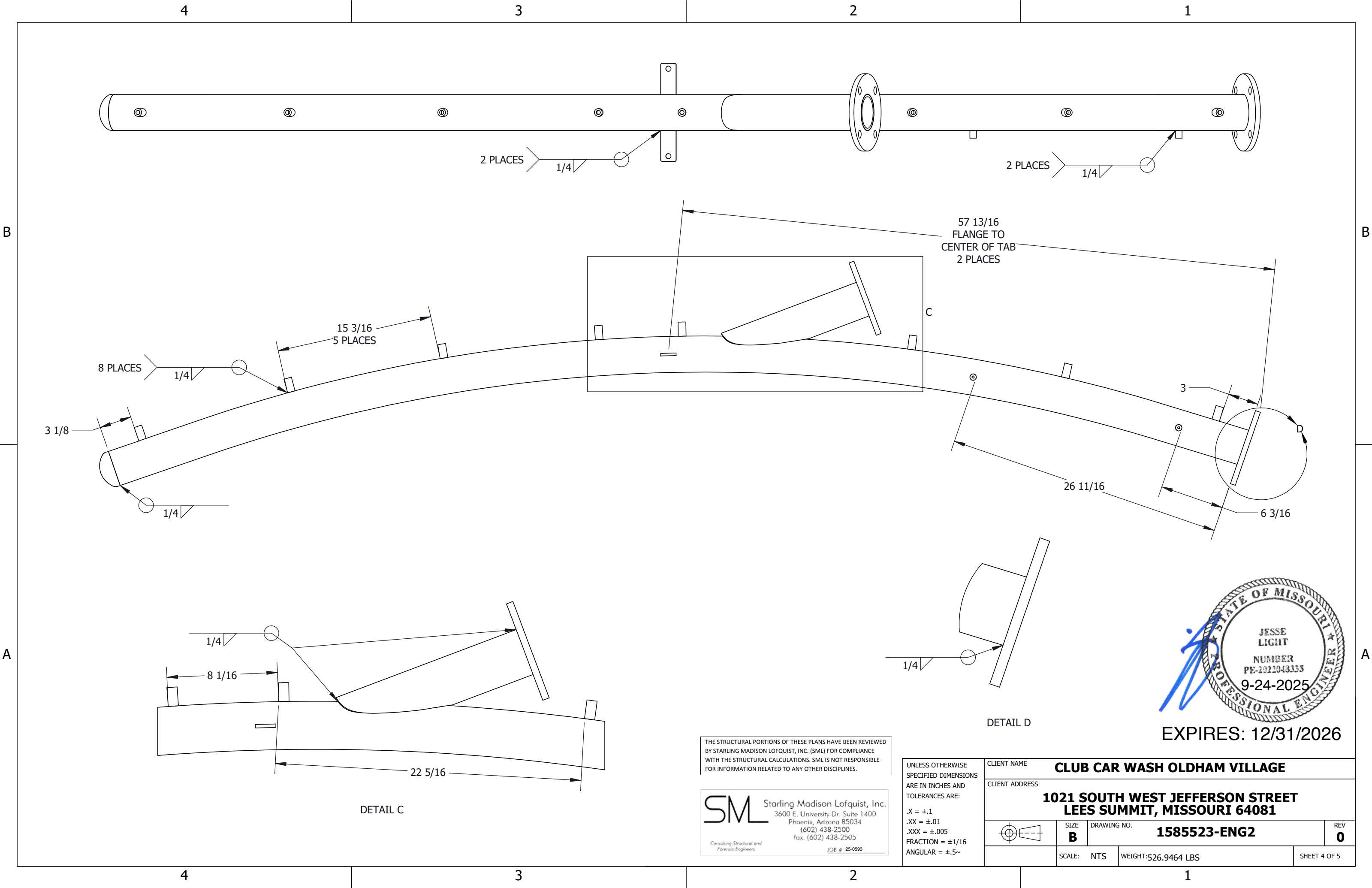
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SCALE: NTS		WEIGHT: 526.9464 LBS	SHEET 2 OF 5





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Consulting Structural and Forensic Engineers
JOB # 25-0593

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND TOLERANCES ARE:
.X = ±.1
.XX = ±.01
.XXX = ±.005
FRACTION = ±1/16
ANGULAR = ±.5°

CLIENT NAME CLUB CAR WASH OLDHAM VILLAGE			
CLIENT ADDRESS 1021 SOUTH WEST JEFFERSON STREET LEES SUMMIT, MISSOURI 64081			
	SIZE B	DRAWING NO. 1585523-ENG2	REV 0
SCALE: NTS		WEIGHT: 526.9464 LBS	SHEET 4 OF 5



EXPIRES: 12/31/2026

4

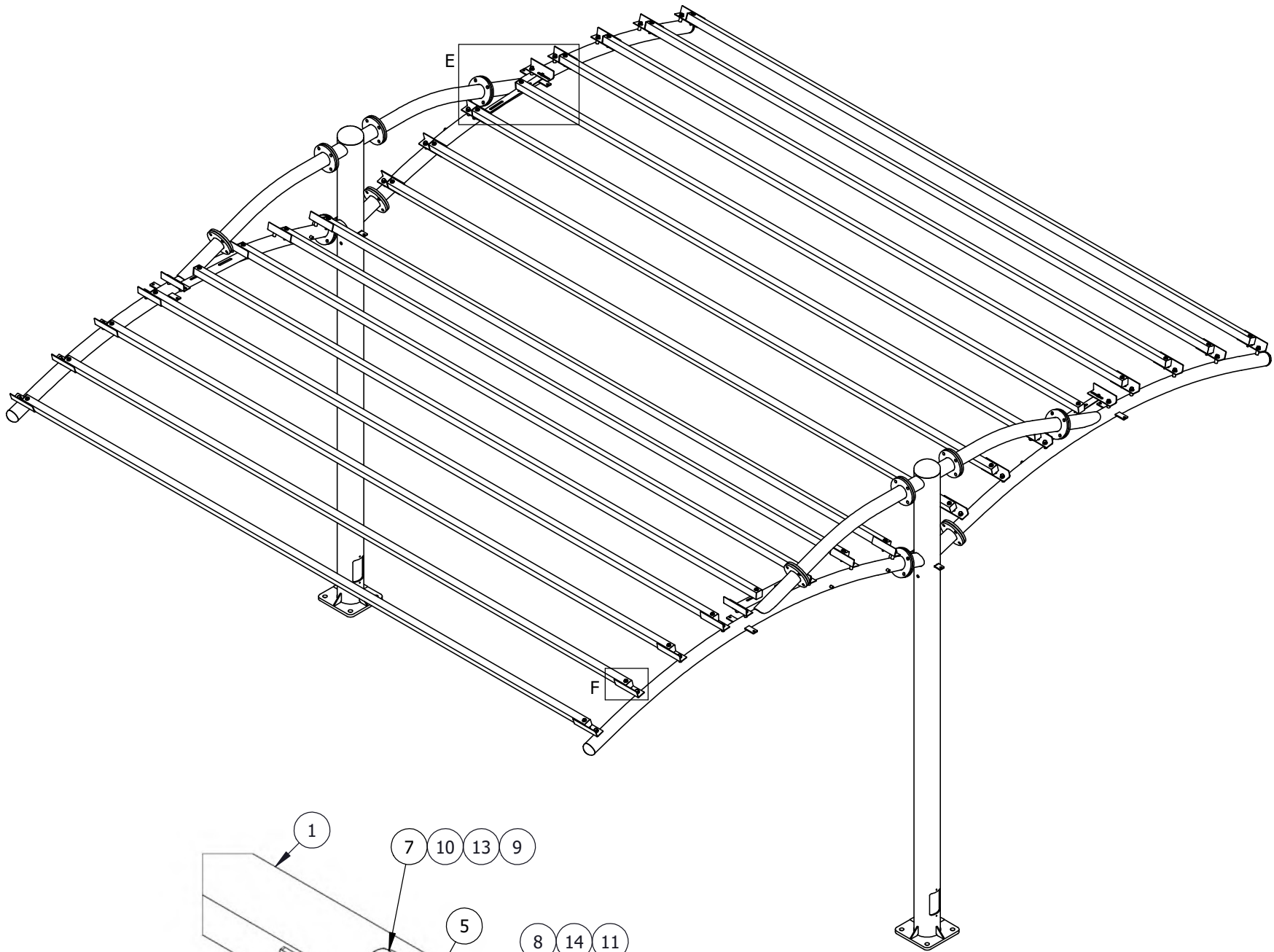
3

2

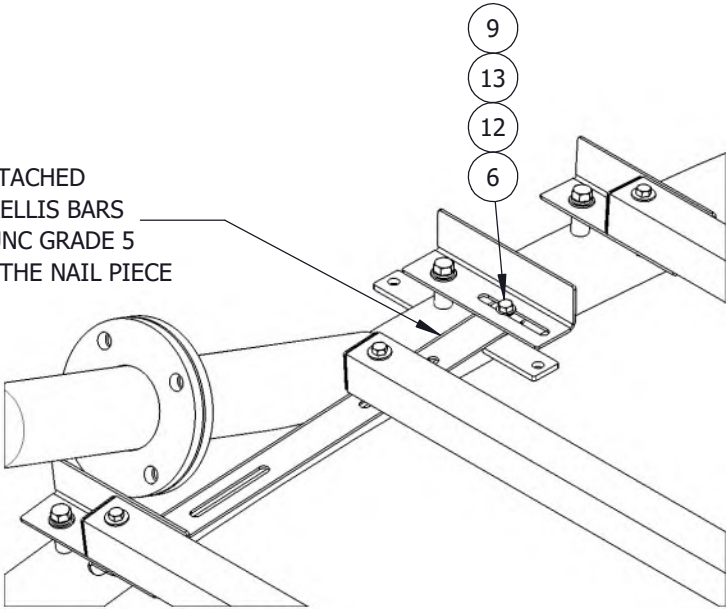
1

PARTS LIST

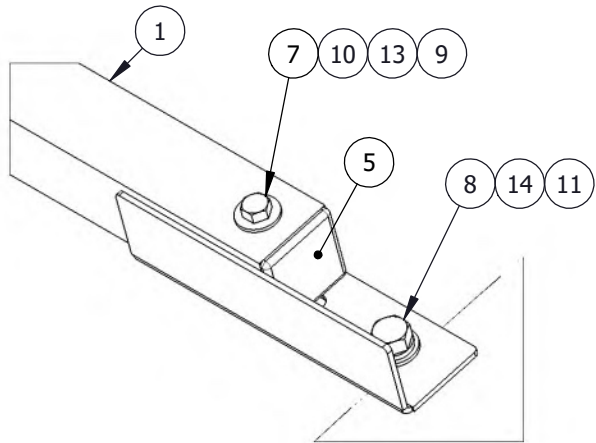
	DESCRIPTION	MATERIAL	QTY
1	SQUARE TUBE, 2" X 1/8" WALL X 199" LONG, 197" HOLE CENTERS (AL)	AL B211 6061-T6	16
2	BENT, SHEET, 10GA ANGLE BRACKET FOR TRELLIS, RIGHT (CS)	CS A1008	16
3	BENT, SHEET, 10GA ANGLE BRACKET FOR TRELLIS, LEFT (CS)	CS A1008	16
4	TRELLIS NAIL SPAN CONNECTOR, EXTENDED (CS)	CS A1008	4
5	SQUARE FINISHING PLUG FOR TUBING	PE PLASTIC, BLACK	32
6	HEX BOLT, 3/8"-16 UNC X 1" LG. (ZS GR 5)	ZS GR 5	4
7	HEX BOLT, 3/8"-16 UNC X 3" LG. (ZS GR 5)	ZS GR 5	32
8	HEX BOLT, 1/2"-13 UNC X 1" LG. (ZS GR 5)	ZS GR 5	32
9	HEX NUT, 3/8"-16 UNC (ZS GR 5)	ZN GR 5	36
10	WASHER, FLAT, USS, 3/8" X 1.000" OD X .083" THK. (ZS)	ZN GR 5	64
11	WASHER, FLAT, SAE, 1/2" X 1.062" OD X .095" THK	ZS	32
12	WASHER, FLAT, SAE, 3/8" X .812" OD X .065" THK. (ZS)	Zn GR 5	8
13	WASHER, SPLIT LOCK, 3/8" (ZS)	Zn GR 5	36
14	WASHER, SPLIT LOCK, 1/2"	ZS	32



NAIL SPAN MOUNT IS ATTACHED
USING HARDWARE FROM TRELLIS BARS
ON ONE SIDE AND 3/8" - 16 UNC GRADE 5
HARDWARE ON EITHER SIDE OF THE NAIL PIECE



DETAIL E



DETAIL F
TRELLIS BAR CONNECTOR
ATTACHMENT DETAIL



EXPIRES: 12/31/2026

THE STRUCTURAL PORTIONS OF THESE PLANS HAVE BEEN REVIEWED
BY STARLING MADISON LOFQUIST, INC. (SML) FOR COMPLIANCE
WITH THE STRUCTURAL CALCULATIONS. SML IS NOT RESPONSIBLE
FOR INFORMATION RELATED TO ANY OTHER DISCIPLINES.



NOTE: ASTM A500B MATERIAL TO HAVE A MINIMUM YIELD STRENGTH OF 50 KSI

UNLESS OTHERWISE
SPECIFIED DIMENSIONS
ARE IN INCHES AND
TOLERANCES ARE:
.X = ±.1
.XX = ±.01
.XXX = ±.005
FRACTION = ±1/16
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CLIENT NAME	CLUB CAR WASH OLDHAM VILLAGE		
CLIENT ADDRESS	1021 SOUTH WEST JEFFERSON STREET LEES SUMMIT, MISSOURI 64081		
	SIZE B	DRAWING NO. 1585523-ENG2	REV 0
SCALE: NTS	WEIGHT: 526.9464 LBS		SHEET 5 OF 5

4

3

2

1