

DESIGN NOTES

- TUNNEL VAULT DESIGNED IN ACCORDANCE WITH LRFD HL-93 TRAFFIC WHEEL LOADS PER AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS 8TH EDITION WITH CALTRANS 2022 AMMENDMENTS AND THE LOS ANGELES CITY BUREAU OF ENGINEERING STANDARD PLAN S-601-3, OR LATEST EDITION, AND MANUAL PART H USING 5,500 PSI COMPRESSIVE STRENGTH CONCRETE AT 28 DAYS AND 60,000 PSI YEILD STRENGTH ASTM A-706 STEEL REINFORCEMENT PER CALCS. #35035.
- DESIGN ASSUMES 120 lb/ft³ SOIL DENSITY.
- MINIMUM 1500 LB/FT² SOIL BEARING PRESSURE.
- DESIGN ASSUMES THAT LATERAL SOIL PRESSURE INCLUDES A 80 lb/ft² LIVE LOAD SURCHARGE
- VAULT DESIGNED IN ACCORDANCE WITH LADWP SPEC. 9610 AND SPEC. P178.
- THE DESIGN CALCULATIONS DO NOT INCLUDE ANY LATERAL OR SURCHARGE LOADS THAT ARE PRODUCED BY FOOTINGS OR FOUNDATIONS ADJACENT TO THE STRUCTURE. THIS SUBSTRUCTURE SHALL BE KEPT AT LEAST IN A 1 TO 1 RATIO AWAY FROM ALL FOOTINGS AND FOUNDATIONS, UNLESS THE ENGINEER OF RECORD EXPRESSES THE ACCEPTANCE OF SUCH DESIGN IN WRITING.
- INSTALLATION LIMITS OF THE ROOF SECTION ARE 1'-6" MIN. TO 4'-0" MAX. FROM FINISHED GRADE. NO INSTALLATION SHALL BE ALLOWED IN PROJECT SITE WITH SLOPE EXCEEDING 10% WITHOUT THE APPROVAL OF THE CITY ENGINEER.
- NO SHARP OR ROUGH EDGES ON THE TERMINATORS ENTERING THE VAULT.
- ADDITIONAL SUBMITTAL, PERMIT AND CONSTRUCTION PLAN REVIEW WILL BE REQUIRED FOR EACH PROJECT LOCATION. SUBMIT TO CITY ENGINEER FOR APPROVAL PRIOR TO START OF ANY CONSTRUCTION.
- DESIGN CRITERIA DOES NOT INCLUDE COOPER E-80 RAILROAD LOADS.
- UNLESS APPROVED BY THE CITY ENGINEER, LONG SIDE OF THE VAULT SHALL BE PARALLEL WITH TRAFFIC LANES
- VAULT SHALL BE LOCATED WITHIN THE SAME TRAFFIC LANE. VAULT LOCATION SHALL BE SPECIFIED ON PERMIT DRAWING AND SHALL HAVE APPROVAL OF THE CITY ENGINEER.
- NO INSTALLATION SHALL INTERFERE WITH CURRENT AND FUTURE UTILITY INSTALLATION IN THE AREA.
- APPROVAL FOR PRODUCT IS FOR THE USE IN PUBLIC RIGHT OF WAYS.
- MINIMUM EXCAVATION SIZE: 33'-0" X 11'-0" DEPTH REQ'D.
- VAULT TO BE PLACED ON A MIN. 6" BASE OF CRUSHER RUN FOR EASE OF INSTALLATION AND EVEN LOAD DISTRIBUTION. BASE MATERIAL IN ACCORDANCE WITH SECTION 200-2.2 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (GREENBOOK).
- CONCRETE MIX USED IN POURING THIS PRODUCT SHALL USE FLY ASH AS AN ADMIXTURE.
- FINISH COATING: ALL INTERIOR WALLS AND CEILING SHALL BE PAINTED WHITE.
- ALL PARTS TO BE STENCILED: MFG DATE / JOB NUMBER / PRODUCT ID / WEIGHT.
- EACH CONCRETE SECTION SHALL HAVE CAST-IN ON THE INSIDE "JENSEN", THE YEAR, AND THE DESIGNATION "FA-CN".
- EACH CONCRETE SECTION SHALL BE MARKED ON THE INSIDE & OUTSIDE WITH "JENSEN PRECAST", THE DESIGNATION "DWP/FA-CN", AND THE DATE OF THE POUR.
- ALL INSTALLATIONS SHALL COMPLY WITH ALL OTHER LOCAL GOVERNING CODES AND REGULATION INCLUDING CALIFORNIA PUBLIC UTILITIES COMMISSION REGULATIONS.

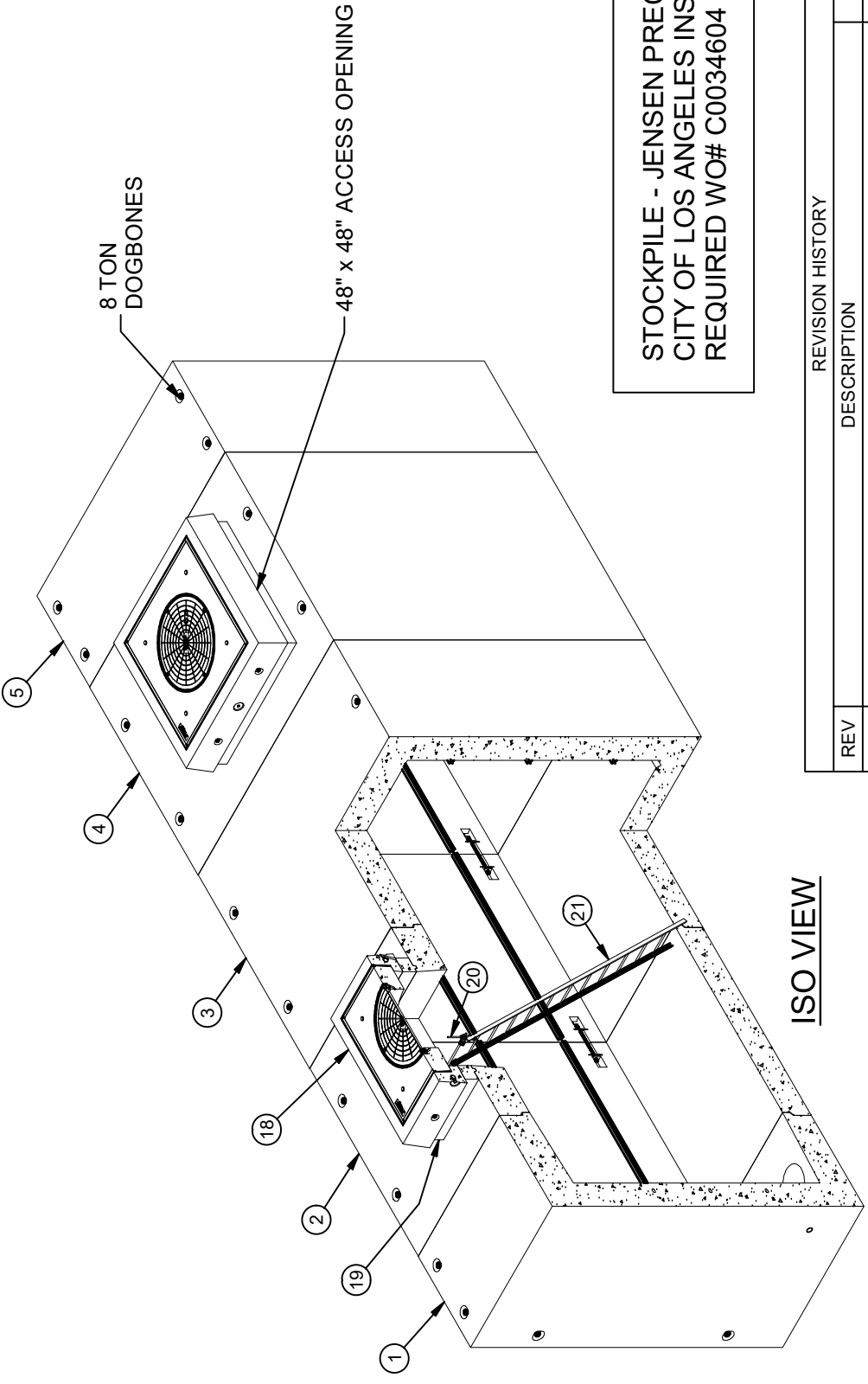
LIFTING NOTES

- FIELD INSTALLATION: PLANT DEMOLING: MINIMUM HANDLING CONCRETE STRENGTH F_c = 5500 PSI RIGGING EQUALIZER REQUIRED TO EQUALIZE LOAD TO 4 LIFTING POINTS WITH A SLING ANGLE BETWEEN 60° AND 90°

BURY DEPTH:	1.5' - 4.0' to Top
WATER LEVEL:	3.0'
DESIGN SPEC:	AASHTO LRFD
AGENCY:	LADWP
APPROX. WEIGHT:	218858.07 Lbs
LOADING SPEC:	AASHTO HL-93
AGENCY SPEC:	H-248 REV 2 COLA

BILL OF MATERIALS

ITEM	UNIT QTY	QTY	PART NUMBER	DESCRIPTION	MASS (lb)
1	1	1	200069935	Tunnel Vault TV96112 End - Tongue 96Wx112Hx36L Knockout, Terminators LADWP H-248 REV 2 COLA	35074
2	1	1	200084347	Tunnel Vault TV96112 Center 96Wx112Hx96L LADWP H-248 COLA	45196
3	1	1	200069931	Tunnel Vault TV96112 Extension 96Wx112Hx96L LADWP H-248 REV 2 COLA	49425
4	1	1	200084345	Tunnel Vault TV96112 Center 96Wx112Hx96L LADWP H-248 COLA	45196
5	1	1	200069937	Tunnel Vault TV96112 End - Tongue 96Wx112Hx36L Knockout, Terminators LADWP H-248 REV 2 COLA	35077
6	1	16	100007113	ROD THREADED COIL YELLOW DIP 3/4 X 18"	
7	1	48	100007010	*Varies*	
8	1	32	100008121	WASHER 3X3X.5 W.875 HOLE GALV	
9	1	138	100008101	SCREW BUTT HEAD CAP 1/2-12 X 2 304SS	
10	1	138	100007135	WASHER FLAT 1/2 REGULAR TYPE A 304SS	
11	1	2	100006065	STRUT SLOTTED C-CHANNEL 1-5/8 X 1-5/8 12GA BOLT-ON GALV 36IN	
12	1	18	100006070	STRUT SLOTTED C-CHANNEL 1-5/8 X 1-5/8 12GA BOLT-ON GALV 94IN	
13	1	12	100006064	STRUT SLOTTED C-CHANNEL 1-5/8 X 1-5/8 12GA BOLT-ON GALV 27IN	
14	5,000 gal	5,000 gal	100006420	COATING PAINT LATEX WHITE	
15	2,000 ul	2,000 ul	100005749	SEALANT JOINT BUTYL RUBBER ASTM C-990 AND M198 CS-102 1IN EQUIV X14.5FT PER BOX 118FT	1
16	1	8	100009239	ROD THREADED COIL YELLOW DIP 3/4 X 10-1/2	0
17	1	16	100007136	WASHER FLAT 3/4 REGULAR TYPE A ZINC	3381
18	1	2	200047596	Vault Neck and Plug Cover Assembly 4848x12 30°C LADWP 1-802 G-1B COLA INSP R-1581	792
19	1	2	100012396	Riser 4848x6 LADWP COLA 1-802 G-1B	10
20	1	2	100007585	LADDER HANGER ASSEMBLY GALV	50
21	1	2	100009251	LADDER HOOKED GALV 12FT ED/LA I3382	



**STOCKPILE - JENSEN PRECAST
CITY OF LOS ANGELES INSPECTION
REQUIRED WO# C0034604**

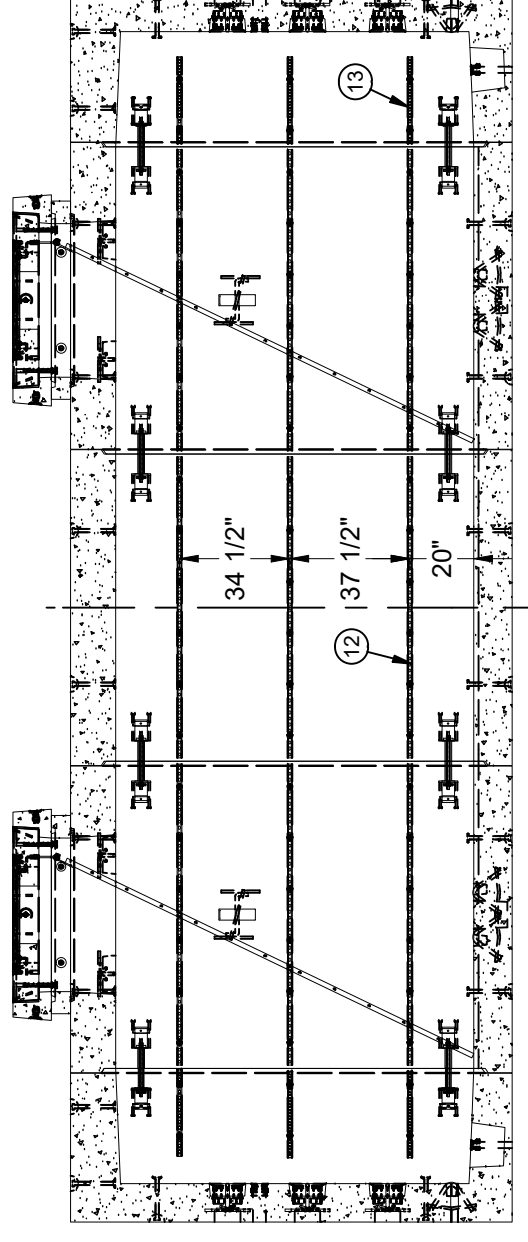
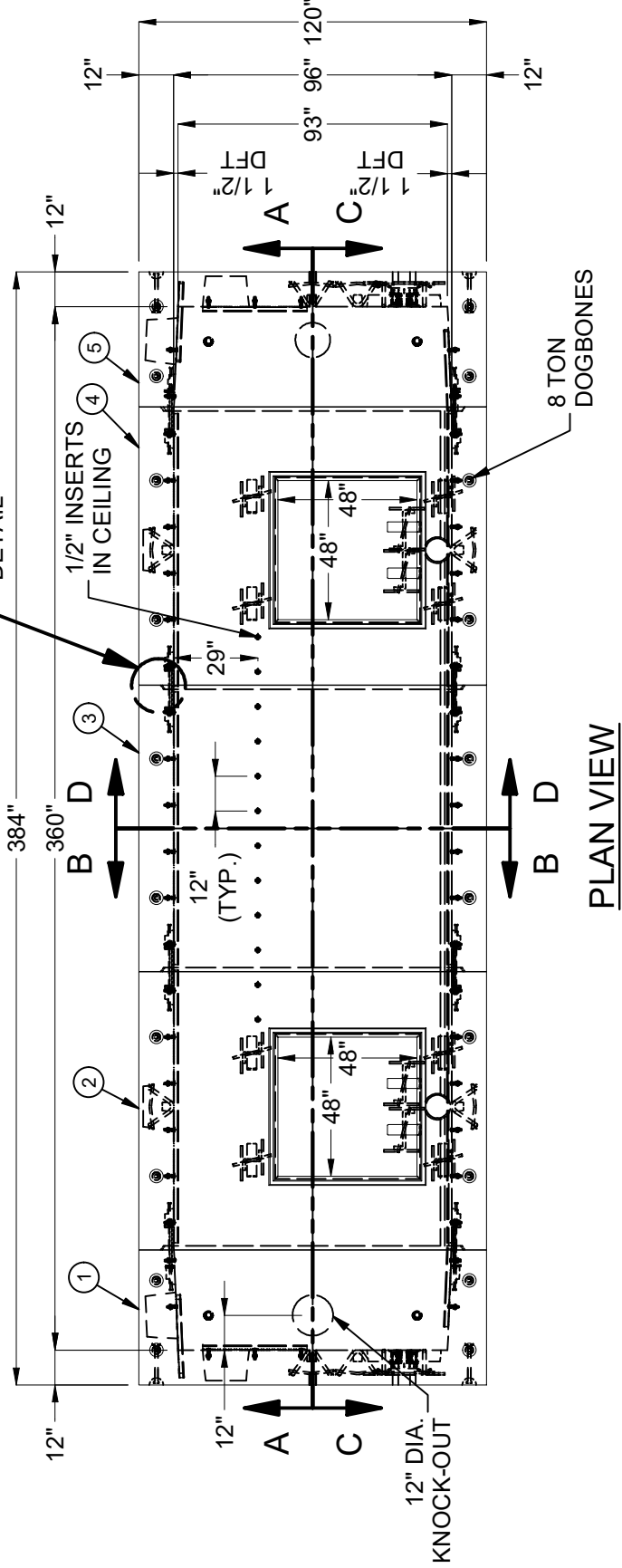
REVISION HISTORY

REV	DESCRIPTION	DATE	APPROVED
A-1	INITIAL RELEASE	5/7/2024	

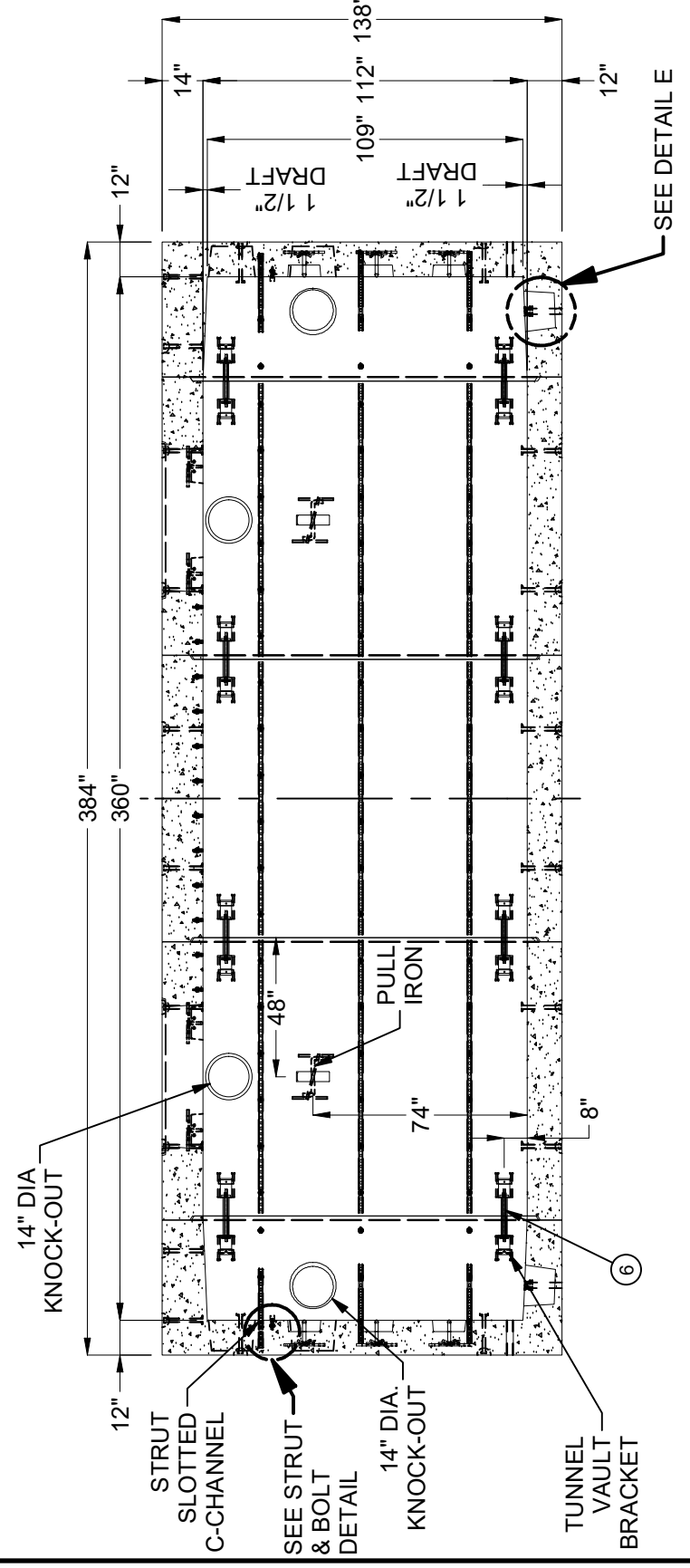
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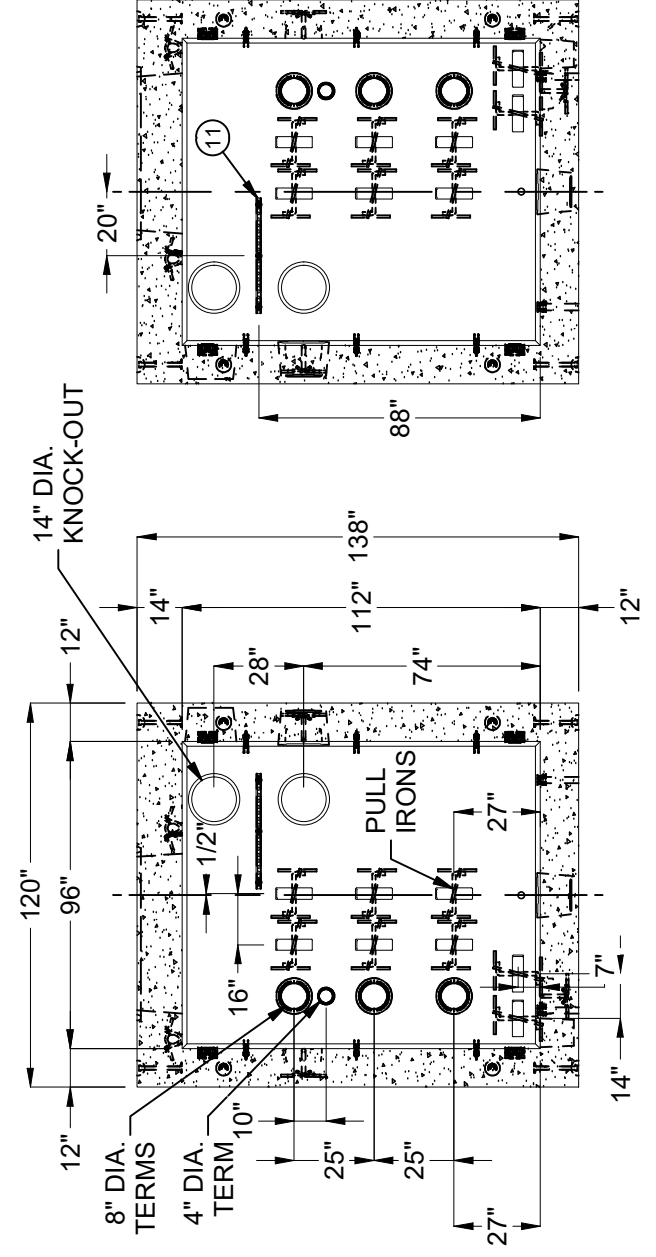
DESIGNATION: Tunnel Vault Layout TV96112x30' 48"x48"E LADWP H-248 REV 2 COLA
PART NUMBER: 200084344 LAYOUT REVIEW
DRAWN BY: R. Ramos
CREATED: 12/18/2023 MODIFIED: 5/7/2024



SECTION C-C



SECTION A-A



SECTION B-B

SECTION D-D

BURY DEPTH:	1.5' - 4.0' to Top
WATER LEVEL:	3.0'
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AGENCY:	LADWP
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