

**NOTES:**

- STANDARDS. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 8TH EDITION, WITH 2022 CALTRANS AMENDMENTS, CITY OF LOS ANGELES BUREAU OF ENGINEERING STANDARD PLAN S-601, LATEST, MANUAL PART H, LADWP P 178, ASTM C-857. STRUCTURAL CALCS FOR BOX: #33718B.
- MATERIAL. CONCRETE, F<sub>c</sub>=5,500 PSI. MIX TO INCLUDE FLY ASH AND DCI. REINFORCEMENT PER ASTM A-706, F<sub>y</sub>=60,000.
- LOADS. VERTICAL LIVE LOAD: AASHTO HL-93. LIVE LOAD SURCHARGE: PER LA BOE PART H, FIGURE H 374.2A. MINIMUM 80 PSF (TO BOTTOM OF VAULT) OR LADWP P 178 (104 PSF). SOIL LATERAL LOADS: 40 PCF (DRY), 81 PCF (SATURATED). SATURATED SOIL CONDITIONS 3'-0" BELOW GRADE. SOIL BEARING CAPACITY = 1,500 PSF. DESIGN SOIL DENSITY IS 120 PCF.
- LOADS NOT INCLUDED. DESIGN DOES NOT INCLUDE COOPER E-80 RAILROAD LOADS OR LATERAL OR SURCHARGE LOADS THAT ARE PRODUCED BY FOOTING OR FOUNDATIONS ADJACENT TO THE STRUCTURE. THIS SUBSTRUCTURE SHALL BE KEPT AT LEAST IN A 1:1 RATIO AWAY FROM ALL FOOTINGS AND FOUNDATIONS, UNLESS THE ENGINEER OF RECORD APPROVES IN WRITING.
- INSTALLATION. VAULT TO BE PLACED ON WELL COMPACTED SOIL WITH MIN. 6" DEPTH OF TAMPED CRUSHED AGGREGATE BASE FOR EASE OF INSTALLATION AND EVEN LOAD DISTRIBUTION USING A VIBRATORY PLATE COMPACTOR IN A MIN. OF TWO PASSES. BASE TO EXTEND 12" BEYOND THE STRUCTURE. BASE MATERIAL IN ACCORDANCE WITH SECTION 200-2.2 OF THE SSPWC (GREEN BOOK) PER LADWP SPECIFICATION NO. 104.
- VAULTS LONGITUDINAL DIRECTION (18' LENGTH) SHALL BE INSTALLED PARALLEL TO THE TRAVEL DIRECTION OF THE STREET TO AVOID INTERFERENCE WITH ADJACENT UTILITIES.
- EACH CONCRETE SECTION SHALL BE MARKED ON THE INSIDE & OUTSIDE WITH "JENSEN PRECAST", THE DESIGNATION "DWPI/FA-CN", AND THE DATE OF THE POUR.
- EACH CONCRETE SECTION SHALL HAVE CAST-IN ON THE INSIDE "JENSEN", THE YEAR, AND THE DESIGNATION "FA-CN".
- NO SHARP OR ROUGH EDGES ON THE TERMINATORS ENTERING THE VAULT.
- K45-VN12-12T VAULT NECK AND COVER, WITH APPROVED CAST IRON COVER TO BE USED WITH THIS VAULT.
- EACH PIECE TO BE STENCILLED WITH ITS PART NO.
- MINIMUM EXCAVATION SIZE: 11'-0" X 21'-0" X DEPTH REQ'D.
- KPKINT-H172-12-G1-A-OP1, 200040902-INTERCEPT PACKAGE PLACED BY OTHERS.
- ADDITIONAL SUBMITTAL, PERMIT AND CONSTRUCTION PLAN REVIEW WILL BE REQUIRED FOR EACH PROJECT LOCATION. SUBMIT TO CITY ENGINEERS FOR APPROVAL PRIOR TO START OF ANY CONSTRUCTION.
- ALL INSTALLATIONS SHALL COMPLY WITH ALL OTHER LOCAL GOVERNING CODES AND REGULATION INCLUDING CALIFORNIA PUBLIC UTILITIES COMMISSION REGULATIONS.

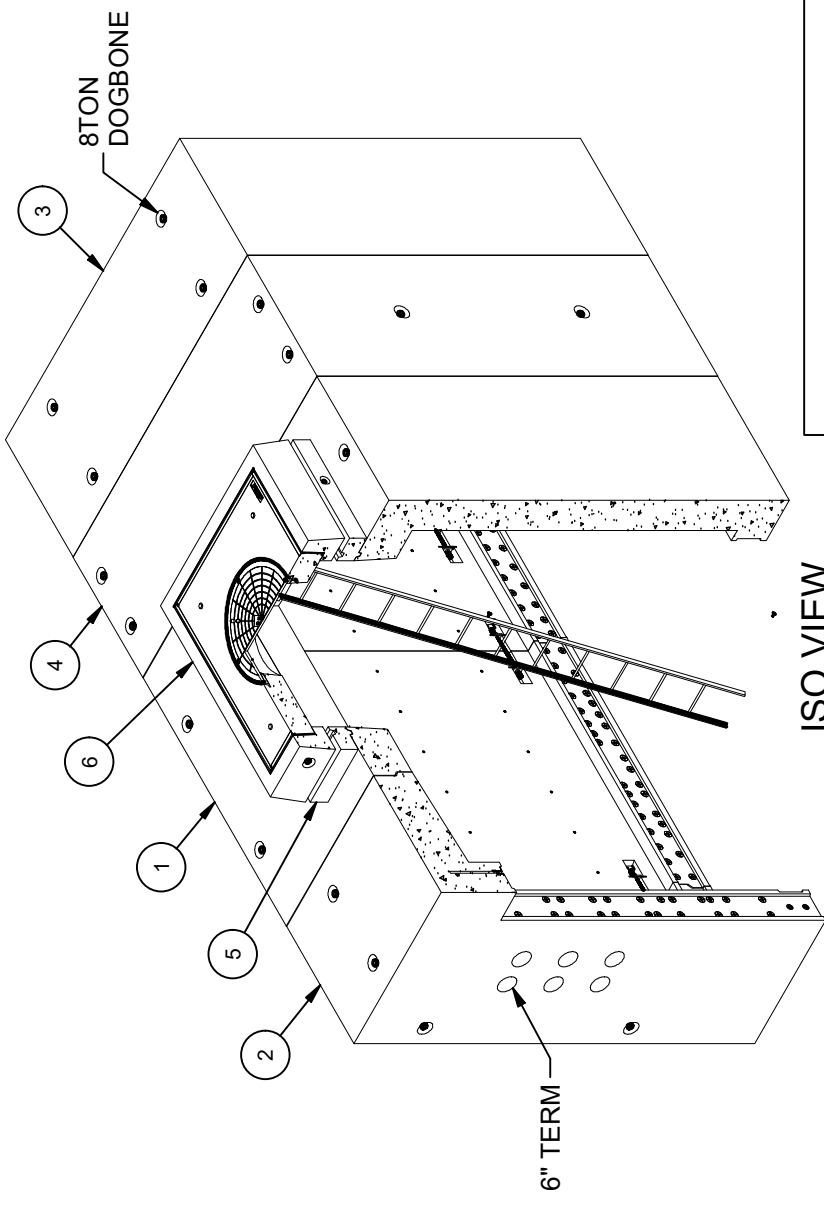
**LIFTING NOTES**

THIS CONCRETE PRODUCT IS DESIGNED TO BE LIFTED WITH 4 EQUALLY LOADED RIGGINGS LEGS MIN. 90° SLING ANGLE, MEASURED FROM HORIZONTAL.

BURY DEPTH:	1.5' - 4.0' to Top
WATER LEVEL:	3.0'
DESIGN SPEC:	AASHTO LRFD, ACI 318
AGENCY:	LADWP
APPROX. WEIGHT:	111686.98 Lbs
LOADING SPEC:	AASHTO HL-93
AGENCY SPEC:	H-172 G-1A-18' OP1

**BILL OF MATERIALS**

ITEM	UNIT QTY	QTY	PART NUMBER	DESCRIPTION	MASS (lb)
1	1	1	100013865	Tunnel Vault Intercept TVI96112 Center - Groove Groove 96Wx112Hx96L LADWP H-172 G-1A	36278
2	1	1	200047863	Tunnel Vault Intercept TVI96112 End - Tongue 96Wx112Hx36L LADWP TypeA H-172 G-1A OP1	25197
3	1	1	200047865	Tunnel Vault Intercept TVI96112 End - Tongue 96Wx112Hx36L Terminators, Slot LADWP H-172 G-1A OP1	25199
4	1	1	200047918	Tunnel Vault Intercept TVI96112 Extension 96Wx112Hx48L LADWP H-172 G-1A	19539
5	1	1	200012851	Riser 4860X6 LADWP 1-802 2B	1169
6	1	1	200081398	Vault Neck and Plug Cover Assembly 4860x12 30°C LADWP 1-802 G-2B R-1581	3939
7	1	12	100007114	ROD THREADED COIL YELLOW DIP 3/4 X 20"	
8	1	24	100008121	WASHER 3X3X.5 W.875 HOLE GALV	
9	1	32	100007010	HEX COIL NUT 3/4-4.5 POST YELLOW DIP	
10	1	4	100009239	ROD THREADED COIL YELLOW DIP 3/4 X 10-1/2"	
11	1	8	100007136	WASHER FLAT 3/4 REGULAR TYPE A ZINC	
12	1	6	100006069	STRUT SLOTTED C-CHANNEL 1-5/8 X 1-5/8 12GA BOLT-ON GALV 92IN	
13	1	6	100006065	STRUT SLOTTED C-CHANNEL 1-5/8 X 1-5/8 12GA BOLT-ON GALV 36IN	
14	1	12	100006063	STRUT SLOTTED C-CHANNEL 1-5/8 X 1-5/8 12GA BOLT-ON GALV 22IN	
15	1	102	100004339	BOLT HEX 1/2-13 UNC 2 304SS	
16	1	102	100007135	WASHER FLAT 1/2 TYPE A 304SS	
17	1	12	100006091	STRUT C-CHANNEL CONCRETE INSERT 1-5/8 X 1-5/8 12GA W/ANCHORS N-3200 24IN GALV	
18	1	2	100003033	PULL IRON OFFSET .875DIA 6H X 5W X 10.875L 316SS MB BC153230	
19	1	1	100005940	PULL IRON OFFSET WITH REBAR .875DIA 4.5H 316SS LADWP	
20	1	4	100005716	FITTING PVC SCH 40 CAPPED ENDS 2 X 13	
21	1	1	100007585	LADDER HANGER ASSEMBLY GALV	
22	1	1	100009251	LADDER HOOKED GALV 12FT ED/LA 13382	
23	4,000 gal	4,000 gal	100006420	COATING PAINT LATEX WHITE	
24	1,000 ul	1,000 ul	100005749	SEALANT JOINT BUTYL RUBBER ASTM C-990 AND M198 CS-102 1IN EQUIV X14.5FT PER BOX 118FT	



**ISO VIEW**

**REVISION HISTORY**

REV	DESCRIPTION	DATE	APPROVED
C	ADDED INSERT FOR TUNNEL VAULT BRACKET	12/1/2023	

**DESCRIPTION:**  
Tunnel Vault Intercept Layout TV96112x18' Terminators, Slot 48"x60"E LADWP H-172 G-1A-18' OP1 Int. Paint - White Latex LAYOUT REVIEW

**PART NUMBER:** 200047921  
**DRAWN BY:** J. Prado

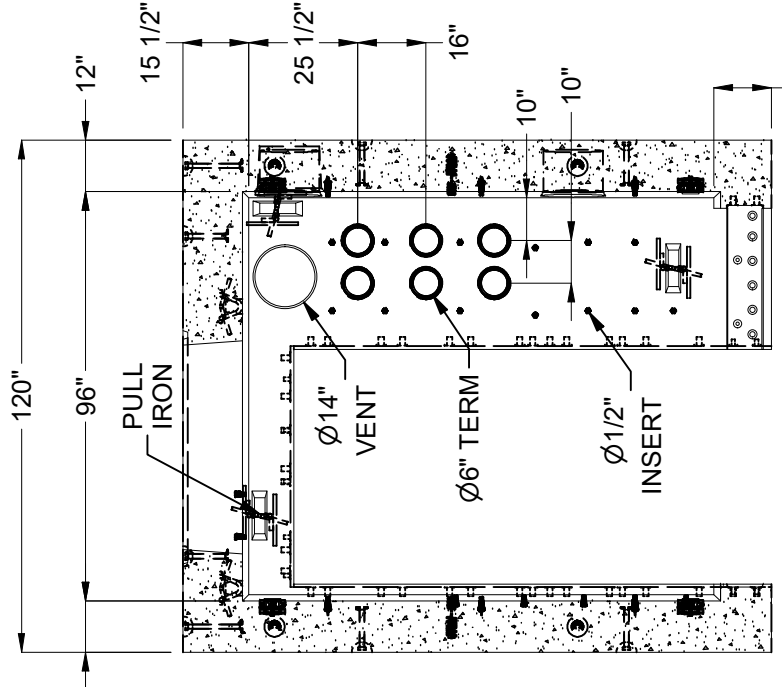
**CREATED:** 6/24/2020  
**MODIFIED:** 12/1/2023

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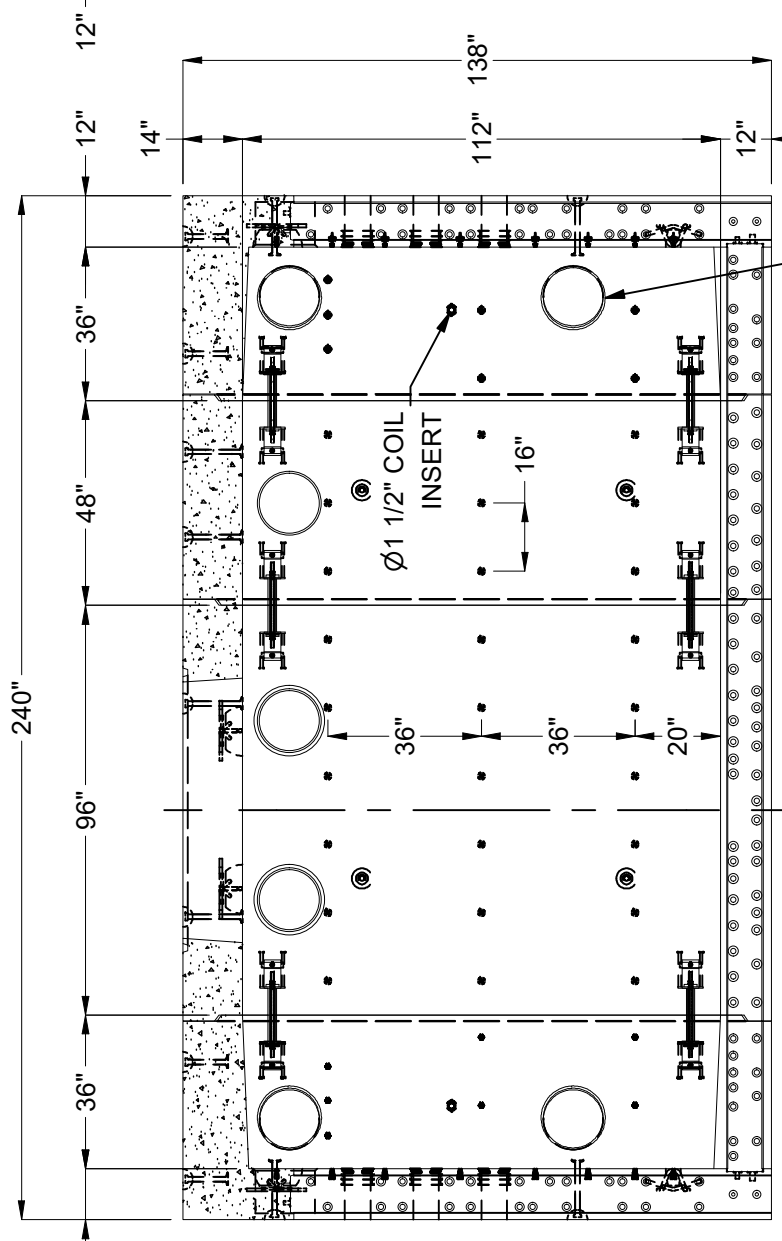
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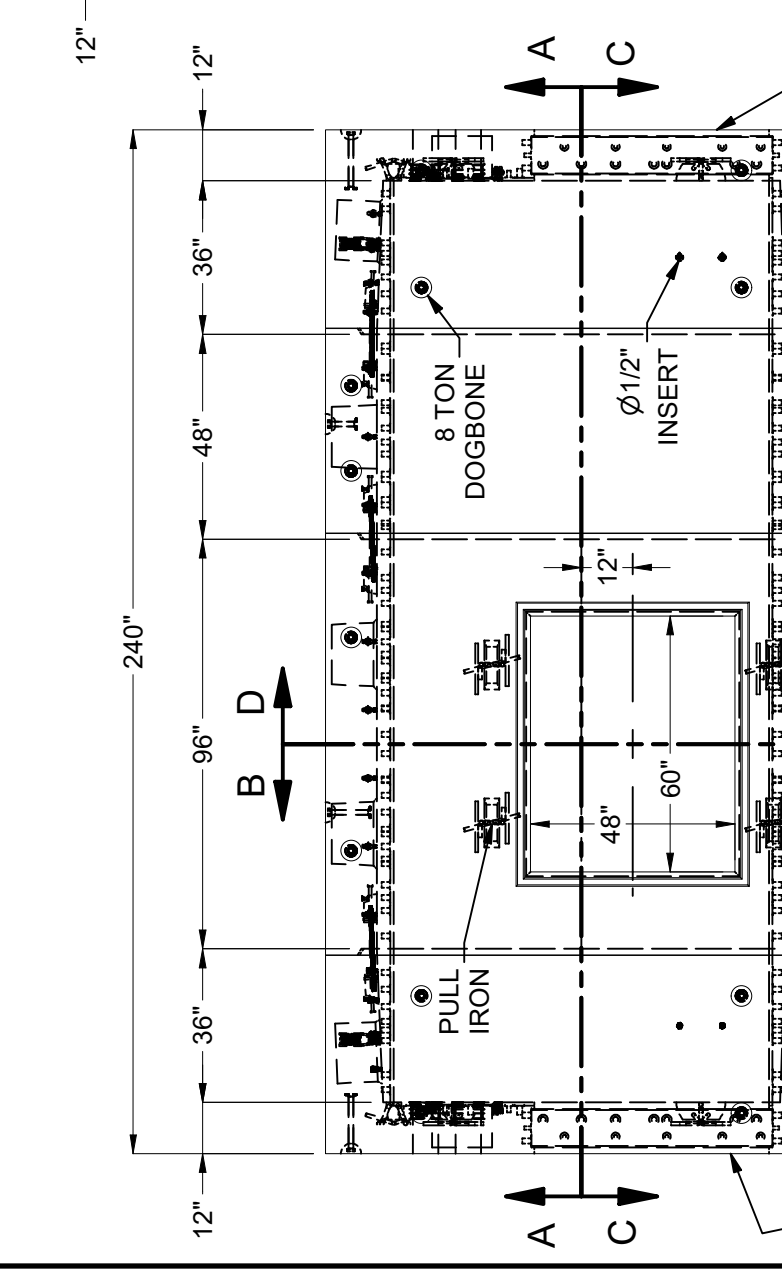
REV:	C-105
SHEET:	1 OF 2



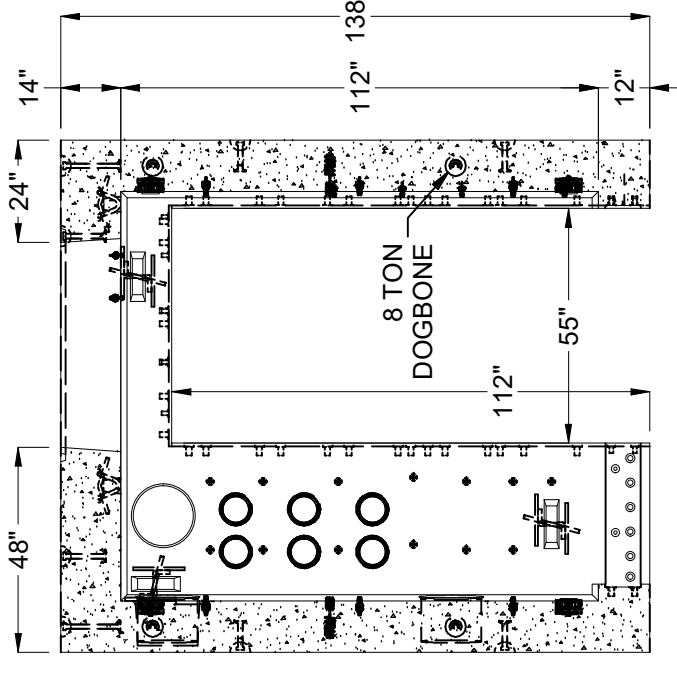
SECTION B-B



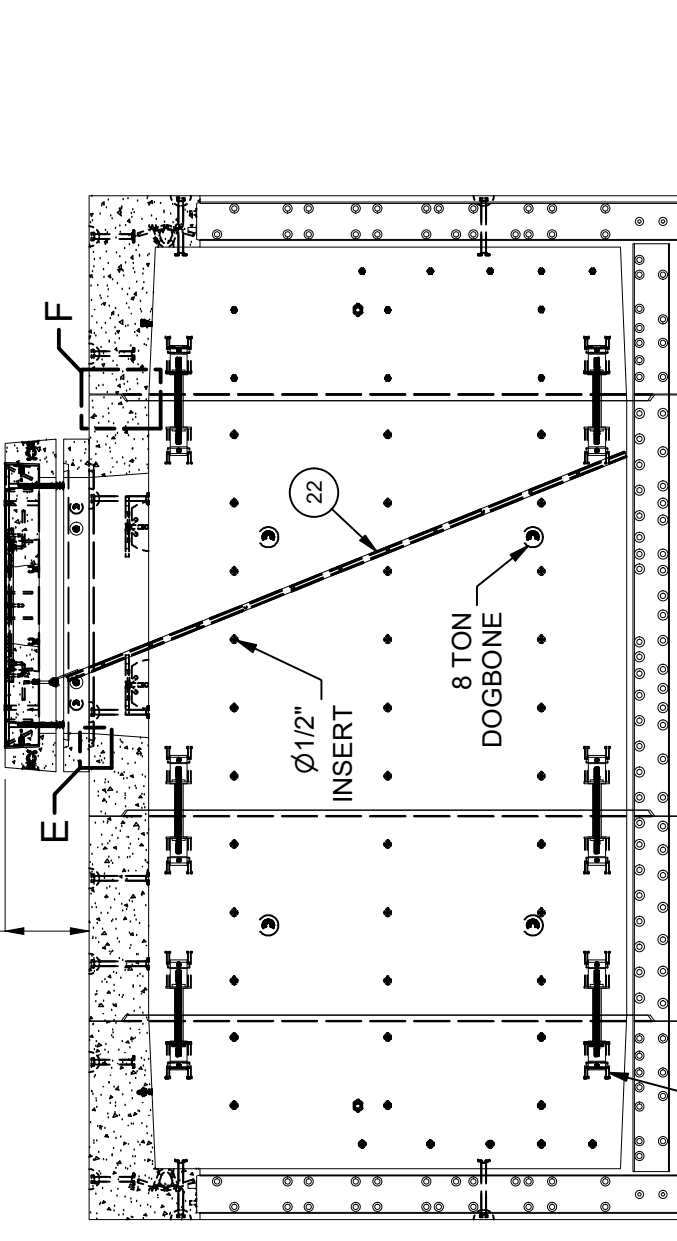
SECTION A-A



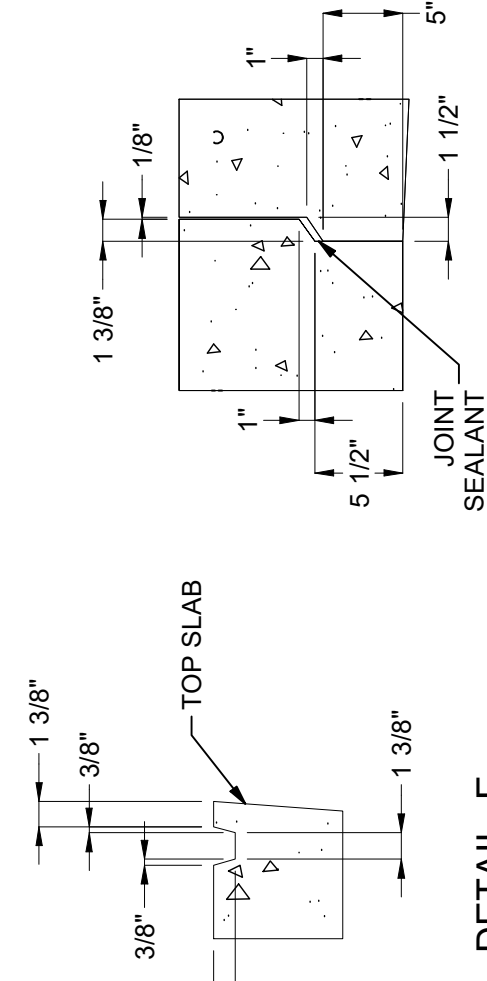
PLAN VIEW



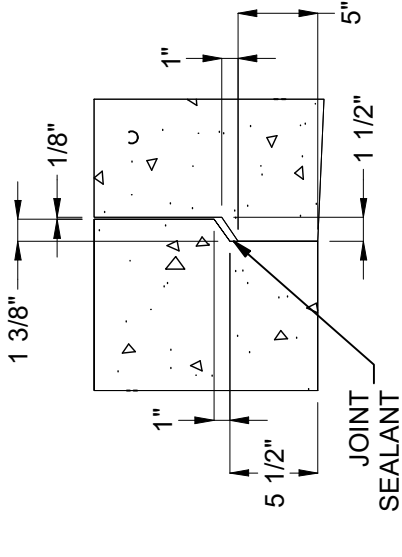
SECTION D-D



SECTION C-C



DETAIL E  
GROOVE DETAIL



DETAIL F  
WALL & TOP SLAB

BURY DEPTH:	1.5' - 4.0' to Top	DESIGNATION:	200047921	REV:	C-10
WATER LEVEL:	3.0'	APPROX. WEIGHT:	111686.98 Lbs	DESCRIPTION:	Tunnel Vault Intercept Layout TV96112x18' Terminators, Slot 48"x60"E LADWP H-172 G-1A-18' OP1 Int. Paint - White Latex
DESIGN SPEC:	AASHTO LRFD, ACI 318	LOADING SPEC:	AASHTO HL-93	LAYOUT DRAWING	SHEET: 106
AGENCY:	LADWP	AGENCY SPEC:	H-172 G-1A-18' OP1	DRAWN BY:	J. Prado
				MODIFIED:	12/1/2023
				CREATED:	6/24/2020

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