



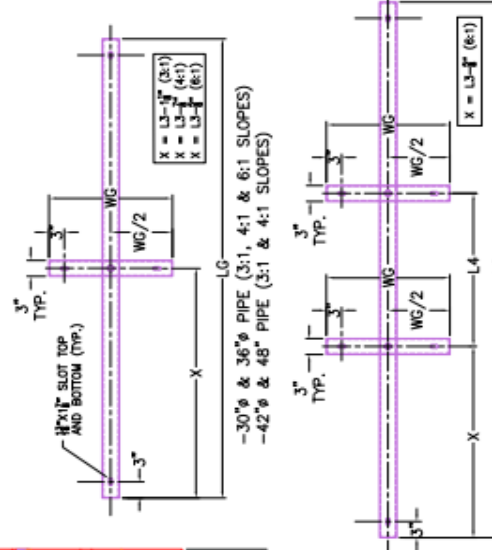
Structure ID: 132-5 HW

P1 HWTDOT3-1TU36

36" - HW TDOT 3:1 Type U Cross Drain Endwall F/F

GENERAL NOTES

- DRAWING TO BE USED FOR ALL 12" THROUGH 48" SIDE DRAIN CONCRETE ENDWALLS. MANUFACTURING, FOR CROSS DRAINS ONLY. CONCRETE: $F_c = 4,500$ PSI @ 28 DAYS.
- REINFORCING STEEL: ASTM A615, $F_y=60,000$ PSI. SEE STD. DWGS. D-PE-15A, D-PE-18, D-PE-24A, D-PE-30A, D-PE-36A, D-PE-42A & D-PE-48A FOR BILL OF STEEL.
- SPLICING OF REINFORCEMENT IS ACCEPTABLE PROVIDED THAT A MINIMUM 21" SPLICE LENGTH IS USED.
- APPROPRIATE SIZING AND LOCATIONS OF THE LIFTING INSERTS WILL BE THE RESPONSIBILITY OF INFRASTRUCTURE PRECAST, INC.
- LIFTING INSERT POCKETS SHALL BE GROUTED ON SITE BY THE CONTRACTOR AFTER THE ENDWALL IS SET AS PER TDOT REQUIREMENTS.
- DIMENSIONAL AND REINFORCING TOLERANCES WILL BE AS SHOWN IN STANDARD OPERATING PROCEDURE (SOP) 5-3.
- PIPE OPENINGS FOR HEADWALLS ARE BASED ON REINFORCED CONCRETE PIPE WITH TYPE "B" WALL AS PER AMERICAN CONCRETE PIPE ASSOCIATION (ACPA). OUTSIDE DIAMETER + 3"-4". TOE WALL BACK SLOPE MAY BE CONSTRUCTED VARIABLE FROM VERTICAL UP TO 15°.

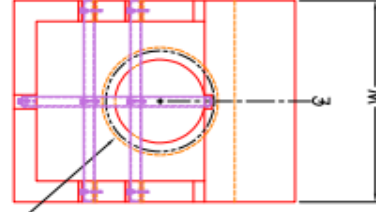


STEEL PIPE GRATE PLAN VIEWS
 (SEE D-PE-99 FOR MOUNTING STEEL GRATES)
 (PROVIDED BY OTHERS)

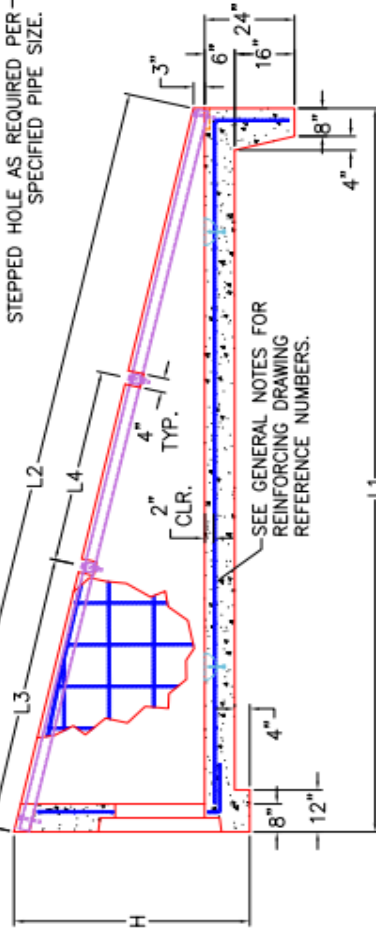


INFRASTRUCTURE PRECAST, INC.
 981 WEST 7TH ST., BEAVER DAM, KY. 42320
 PHONE: (270) 383-2238, FAX: (270) 298-7424

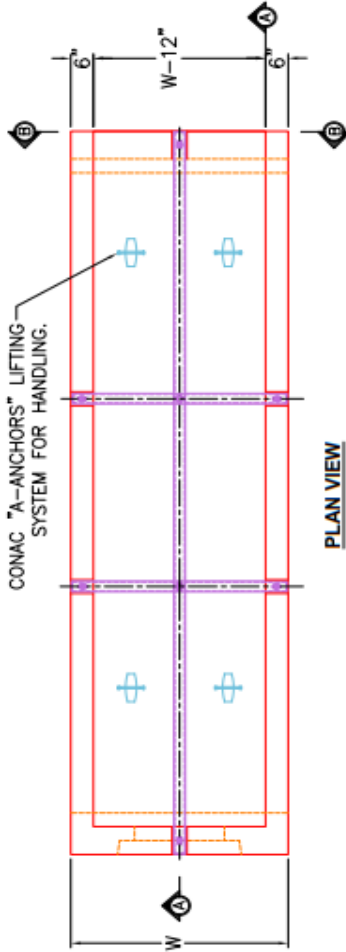
TDOT TYPE "U" CROSS DRAIN ENDWALL WITH STEEL PIPE GRATE FOR 15" THROUGH 48" PIPES
DRAWING NO.: ET-TDOT-202
DATE: 11-24-25
REVIEWED BY: J.H. ROSS, PE
DRAWN BY: N. RICHARDS
SCALE: NTS
WEB: WWW.ICASTINC.COM



ELEVATION B-B



SECTION A-A



PLAN VIEW

STEPPED HOLE AS REQUIRED PER SPECIFIED PIPE SIZE.

SEE GENERAL NOTES FOR REINFORCING DRAWING REFERENCE NUMBERS.

DIMENSIONS & QUANTITIES FOR ONE ENDWALL 4:1

PIPE DIA. (D)	CONCRETE ENDWALL DIMENSIONS				GRATE DISPLACEMENT DIMENSIONS				STRUCT. STEEL	WEIGHT LBS.
	H	W	L1	L2	L3	L4	L3	L4		
15"	2'-11"	2'-8"	8'-0"	8'-3"	N/A	N/A	N/A	N/A	N/A	3,484
18"	3'-2"	2'-11"	8'-8"	8'-11"	N/A	N/A	N/A	N/A	N/A	4,228
24"	3'-9"	3'-6"	11'-0"	11'-4"	N/A	N/A	N/A	N/A	N/A	6,303
30"	4'-5"	4'-1"	13'-8"	14'-1"	N/A	N/A	N/A	N/A	N/A	9,083
36"	5'-0"	4'-8"	16'-0"	16'-5"	8'-2"	N/A	160	12,058	N/A	15,073
42"	5'-6"	5'-3"	18'-0"	18'-6"	9'-2"	N/A	180	15,073	N/A	18,073
48"	6'-1"	5'-10"	20'-4"	20'-11"	10'-3"	N/A	203	18,910	N/A	23,910

DIMENSIONS & QUANTITIES FOR ONE ENDWALL 3:1

PIPE DIA. (D)	CONCRETE ENDWALL DIMENSIONS				GRATE DISPLACEMENT DIMENSIONS				STRUCT. STEEL	WEIGHT LBS.
	H	W	L1	L2	L3	L4	L3	L4		
15"	2'-11"	2'-8"	6'-0"	6'-3"	N/A	N/A	N/A	N/A	N/A	2,819
18"	3'-2"	2'-11"	6'-8"	7'-0"	N/A	N/A	N/A	N/A	N/A	3,406
24"	3'-9"	3'-6"	8'-5"	8'-10"	N/A	N/A	N/A	N/A	N/A	5,011
30"	4'-5"	4'-1"	10'-5"	10'-11"	5'-2"	N/A	114	7,204	N/A	11,4
36"	5'-0"	4'-8"	12'-2"	12'-8"	6'-0"	N/A	132	9,513	N/A	13,2
42"	5'-6"	5'-3"	13'-8"	14'-4"	7'-0"	N/A	148	11,862	N/A	14,8
48"	6'-1"	5'-10"	15'-5"	16'-3"	7'-0"	N/A	167	14,836	N/A	16,7

STEEL PIPE GRATE DIMENSIONS

PIPE DIA.	ALL SLOPES			LG	LG	LG
	3:1	4:1	6:1			
30"	4'-1"	10'-10"	14'-0"	20'-8"	20'-8"	20'-8"
36"	4'-8"	12'-8"	16'-5"	23'-11"	23'-11"	23'-11"
42"	5'-3"	14'-3"	18'-0"	26'-11"	26'-11"	26'-11"
48"	5'-10"	16'-11"	20'-10"	30'-0"	30'-0"	30'-0"

DIMENSIONS & QUANTITIES FOR ONE ENDWALL 6:1

PIPE DIA. (D)	CONCRETE ENDWALL DIMENSIONS				GRATE DISPLACEMENT DIMENSIONS				STRUCT. STEEL	WEIGHT LBS.
	H	W	L1	L2	L3	L4	L3	L4		
15"	2'-11"	2'-8"	11'-2"	11'-3"	N/A	N/A	N/A	N/A	N/A	4,737
18"	3'-2"	2'-11"	12'-8"	12'-10"	N/A	N/A	N/A	N/A	N/A	5,833
24"	3'-9"	3'-6"	16'-2"	16'-4"	N/A	N/A	N/A	N/A	N/A	8,848
30"	4'-5"	4'-1"	20'-2"	20'-5"	10'-1"	N/A	186	12,880	N/A	17,188
36"	5'-0"	4'-8"	23'-8"	23'-11"	12'-0"	N/A	217	17,188	N/A	21,7
42"	5'-6"	5'-3"	26'-8"	27'-0"	9'-1"	N/A	284	21,532	N/A	21,5
48"	6'-1"	5'-10"	30'-2"	30'-7"	10'-0"	N/A	320	27,092	N/A	27,0