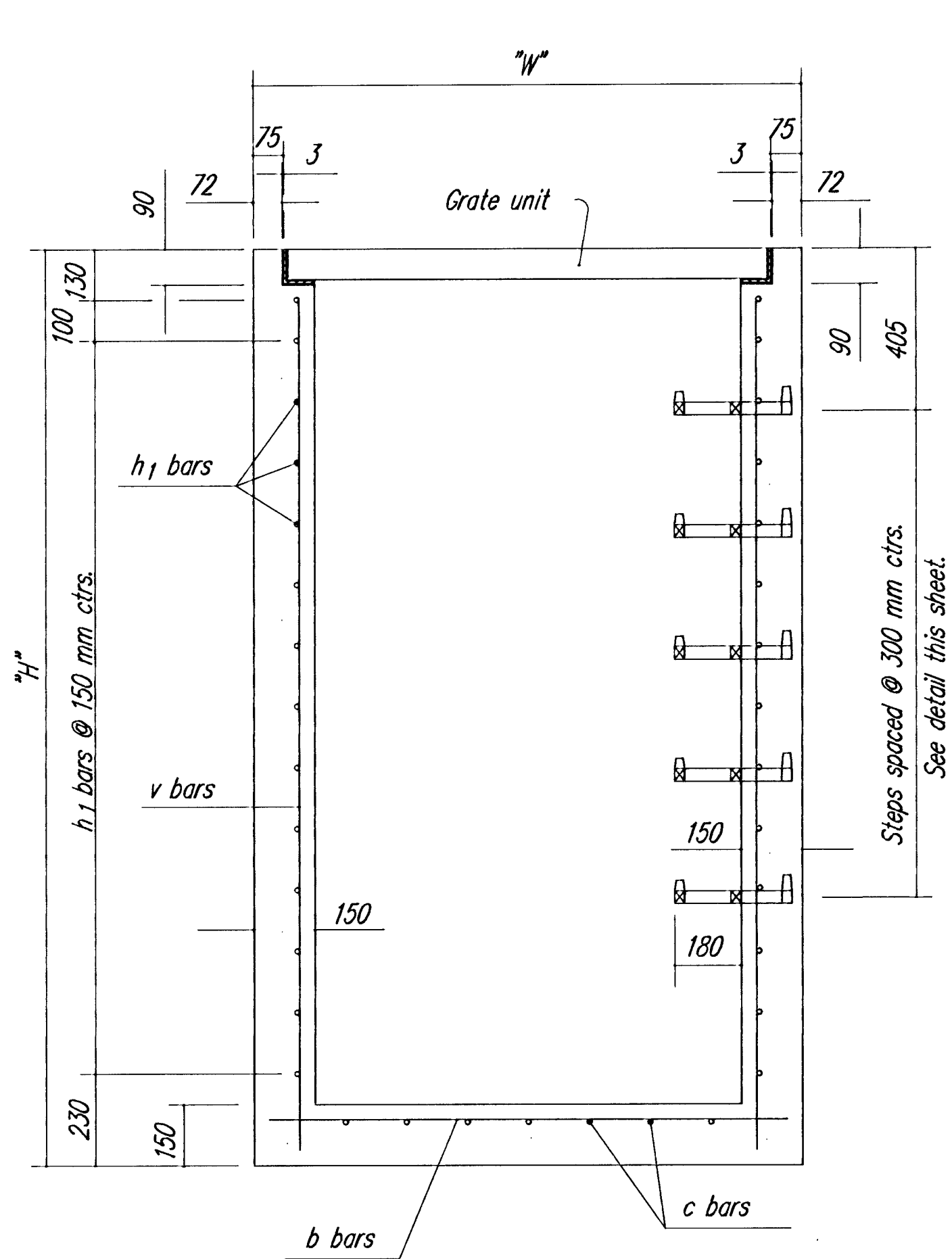
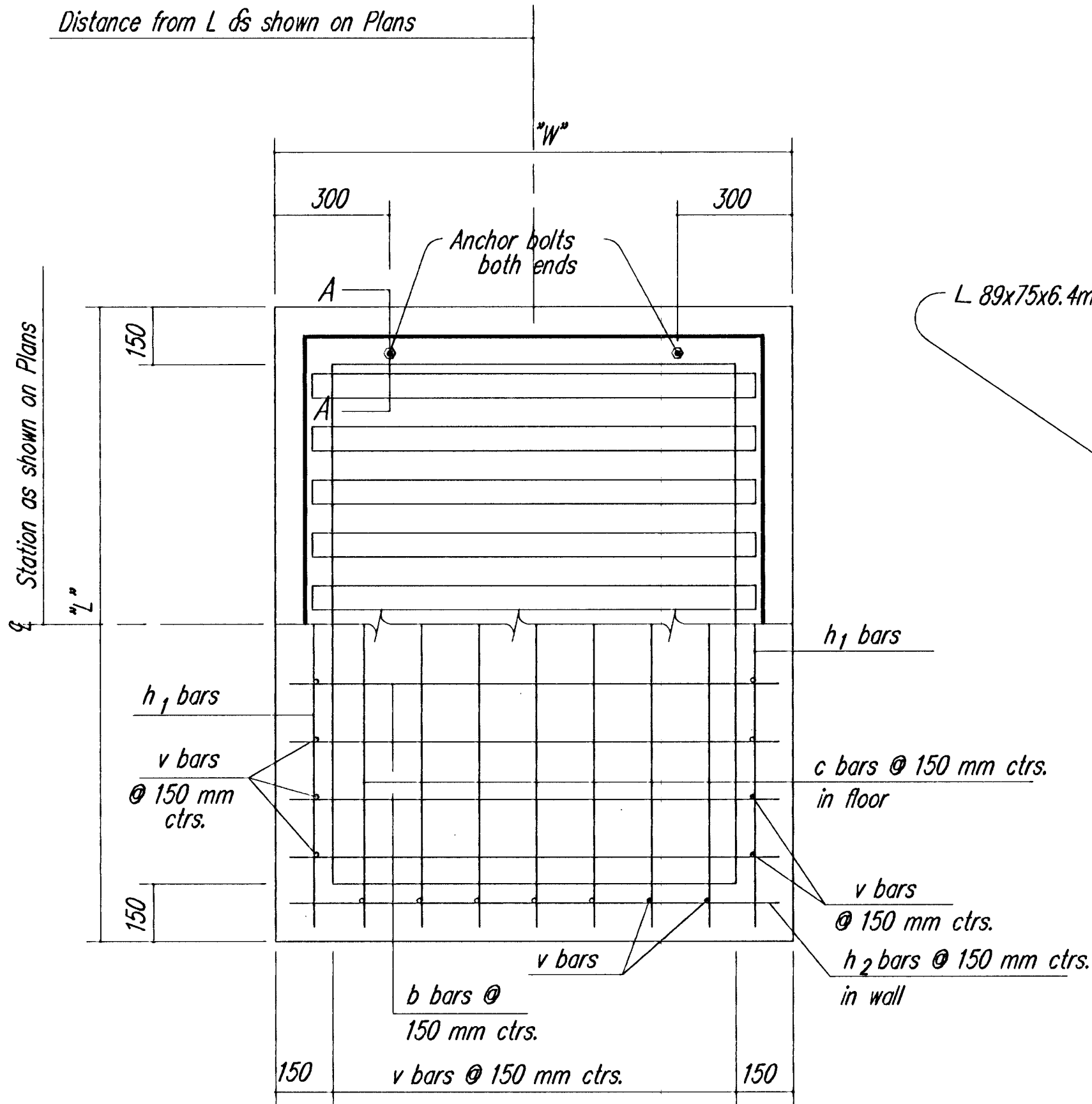


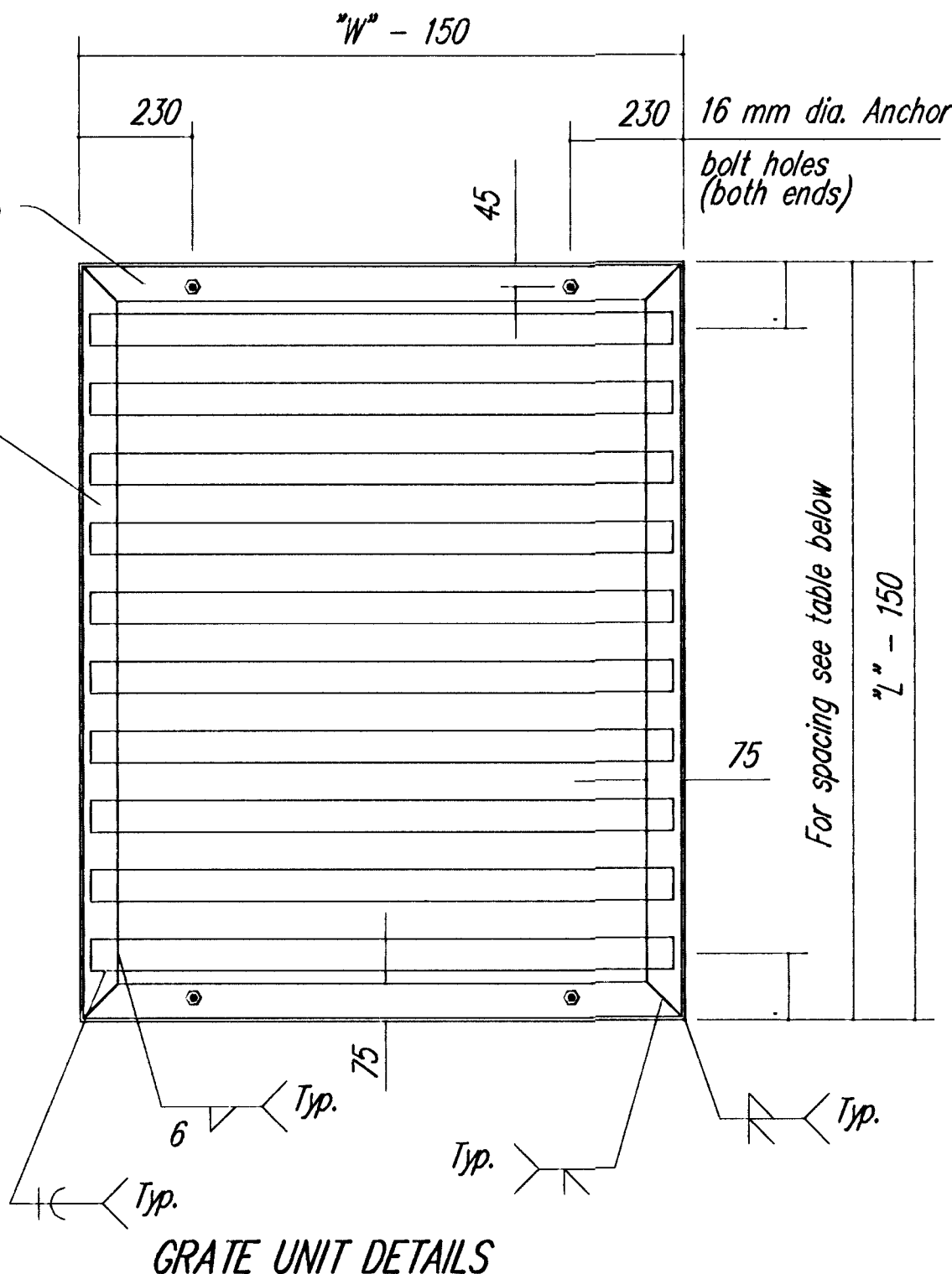
THMA REGION NO.	STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
7	KANSAS	87N-0195-01	2001	66	127



SECTION



PLAN AND SECTION



GRATE UNIT DETAILS

GENERAL NOTES

Use Class A Concrete throughout. All exposed edges shall be finished with an edging tool.

At the contractors option, Class A Concrete (AE) or mix used in concrete pavement may be used throughout.

In general, pipes will enter and leave the manhole at various positions. Where possible bend bars around pipes.

Floor of inlet shall be shaped as shown in various "Examples" on Reinforced Concrete Manhole Standard No. 730.00 S.I. or latest revision. Concrete used for shaping shall be unreinforced Class "A" Concrete or concrete pavement mix. No addition in concrete quantities shall be made for shaping floor of inlets.

Manhole steps, where used, shall be placed to afford easy access to top of shaped invert.

No deductions in concrete quantities shall be made for pipe openings.

All bars are #10 @ 150 mm spacing and shall have a minimum clearance of 40 mm unless otherwise noted on the plans.

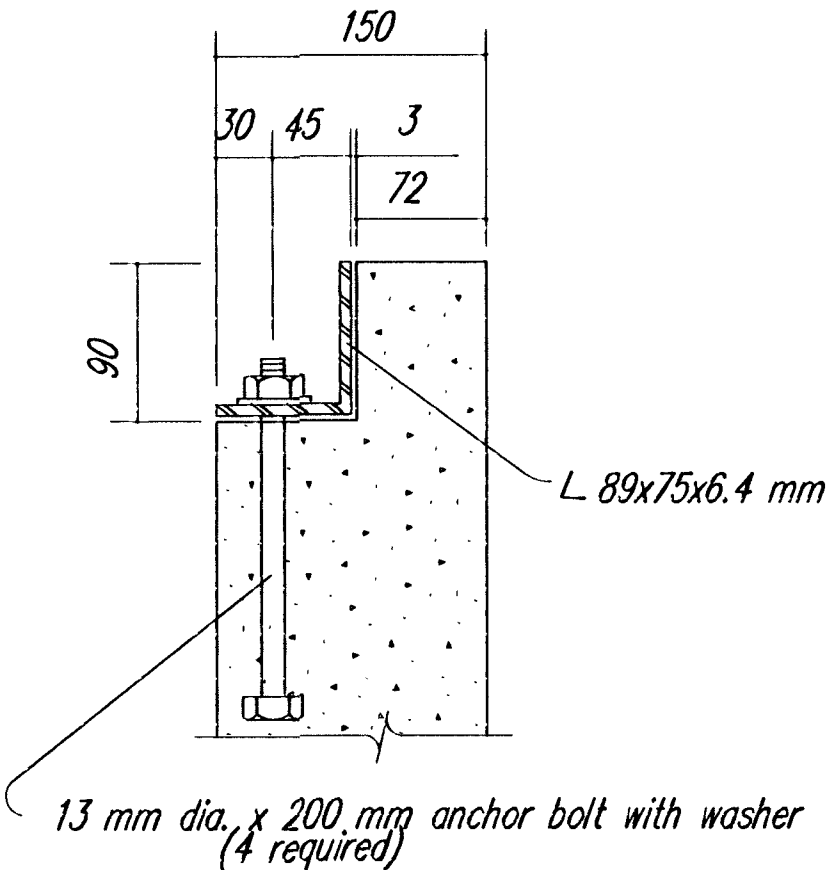
The top of the manhole shall be sloped slightly to approximately fit the ground line or other conditions as directed by the Engineer.

Steps shall be installed on all storm sewer inlets when specified in the plans or when "H" is equal to or greater than 1.8 m. Steps shall comply with the KDOT Standard Specification.

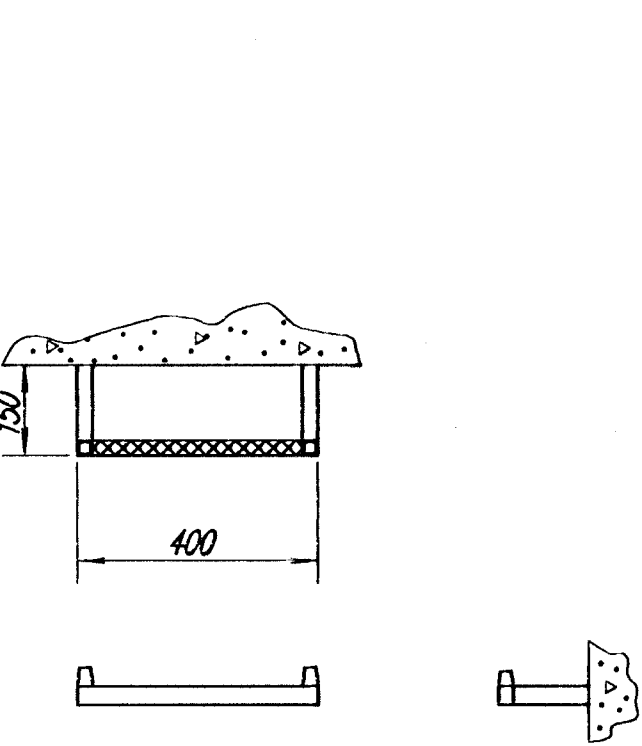
The grate shall be fabricated from standard or commercial grade structural steel and black steel pipe. The unit shall be hot dipped, galvanized after fabrication, in accordance with ASTM A123 except the mass of coating shall average not less than 0.61 kg/m² of actual surface and no individual test shall show less than 0.55 kg/m² of actual surface area.

BILL OF MATERIALS FOR INLET-MANHOLE (SPECIAL)																			
"L" "W" "H"				"L" "W" "H"				"L" "W" "H"				"L" "W" "H"				"L" "W" "H"			
1 200 x 1 200 x 1 200	Bar	No.	Size	Length	1 600 x 1 400 x 1 500	Bar	No.	Size	Length	1 600 x 1 400 x 2 200	Bar	No.	Size	Length	1 600 x 1 400 x 2 200	Bar	No.	Size	Length
v	24	10M	1 030		v	30	10M	1 330		v	30	10M	2 030		v	30	10M	2 030	
c	6	10M	1 120		c	7	10M	1 320		c	7	10M	1 520		c	7	10M	1 520	
b	6	10M	1 120		b	8	10M	1 320		b	8	10M	1 320		b	8	10M	1 320	
h ₁	14	10M	1 120		h ₁	18	10M	1 320		h ₁	26	10M	1 520		h ₁	26	10M	1 520	
h ₂	14	10M	1 120		h ₂	18	10M	1 320		h ₂	26	10M	1 320		h ₂	26	10M	1 320	
Class "A" Conc.	0.8	m ³			Class "A" Conc.	1.4	m ³			Class "A" Conc.	2.0	m ³			Class "A" Conc.		m ³		
Reinf. steel	55	kg			Reinf. steel	88	kg			Reinf. steel	122	kg			Reinf. steel		kg		
Struct. steel	95	kg			Struct. steel	148	kg			Struct. steel	148	kg			Struct. steel		kg		
Class /// Excav.	3.9	m ³			Class /// Excav.	6.6	m ³			Class /// Excav.	9.7	m ³			Class /// Excav.		m ³		

BILL OF MATERIALS FOR INLET-MANHOLE (SPECIAL)																			
"L" "W" "H"				"L" "W" "H"				"L" "W" "H"				"L" "W" "H"				"L" "W" "H"			
1 200 x 1 200 x 1 400	Bar	No.	Size	Length	1 400 x 1 400 x 1 200	Bar	No.	Size	Length	1 400 x 1 400 x 1 400	Bar	No.	Size	Length	1 400 x 1 400 x 1 800	Bar	No.	Size	Length
v	24	10M	1 230		v	28	10M	1 030		v	28	10M	1 230		v	28	10M	1 630	
c	6	10M	1 120		c	7	10M	1 320		c	7	10M	1 320		c	7	10M	1 320	
b	6	10M	1 120		b	7	10M	1 320		b	7	10M	1 320		b	12	10M	1 320	
h ₁	16	10M	1 120		h ₁	14	10M	1 320		h ₁	16	10M	1 320		h ₁	22	10M	1 320	
h ₂	16	10M	1 120		h ₂	14	10M	1 320		h ₂	16	10M	1 320		h ₂	22	10M	1 320	
Class "A" Conc.	1.0	m ³			Class "A" Conc.	1.0	m ³			Class "A" Conc.	1.2	m ³			Class "A" Conc.	1.5	m ³		
Reinf. steel	62	kg			Reinf. steel	66	kg			Reinf. steel	75	kg			Reinf. steel	96	kg		
Struct. steel	95	kg			Struct. steel	124	kg			Struct. steel	124	kg			Struct. steel	124	kg		
Class /// Excav.	4.5	m ³			Class /// Excav.	4.8	m ³			Class /// Excav.	5.6	m ³			Class /// Excav.	7.2	m ³		



SECTION A-A
Note: Anchor bolts are subsidiary to the bid item "Inlet-Manhole, Special".



STEP DETAILS

PIPE DIMENSIONS AND SPACING				
L x W	No. of Bars	Dia. x Length	Spacing	
2 200x1 400	14	64 ø x 1 220	140	115
1 600x1 400	9	64 ø x 1 220	150	125
1 400x1 400	8	64 ø x 1 220	140	135
1 200x1 200	7	64 ø x 1 020	140	105

NO.	DATE	REVISIONS	BY	APP'D
3				
2				
1				
KANSAS DEPARTMENT OF TRANSPORTATION				
INLET - MANHOLE, SPECIAL				
RD732 SI				
THMA APPROVAL	1-10-95	APPROVED	James O. Brower	
DESIGNED	DETAILED	QUANTITIES	TRACED	Brower
DESIGN OK	DETAIL OK	QUANT OK	TRACE OK	Seitz