

Fiscal Year 2005 Kansas State Cost Estimate  
for Practice Components

1. Corrugated Metal Pipe (CMP) Riser Dollars per linear foot (Does not include riser base, tees for principal spillway barrel or drawdown pipe, trash rack, or backfill)	Dia. Inches	16 Gauge			14 Gauge			12 Gauge		
		Plain Galv.	Polymer Coated	Alum. Steel	Plain Galv.	Polymer Coated	Alum. Steel	Plain Galv.	Polymer Coated	Alum. Steel
		12	\$16	\$23	\$19					
15	\$18	\$25	\$21							
18	\$19	\$27	\$22							
21	\$21	\$30	\$25							
24	\$24	\$34	\$28	\$29	\$41	\$34				
30	\$31	\$44	\$36	\$38	\$53	\$43				
36	\$40	\$55	\$46	\$47	\$66	\$54				
42	\$47	\$66	\$54	\$55	\$78	\$64				
48				\$62	\$87	\$72	\$83	\$116	\$95	
54				\$77	\$107	\$88	\$99	\$139	\$114	

2. Principal Spillway Tee Dollars per each (Includes 4 feet of pipe and fabrication--add these costs to the CMP riser to determine total riser cost)	Dia. Inches	16 Gauge			14 Gauge			12 Gauge		
		Plain Galv.	Polymer Coated	Alum. Steel	Plain Galv.	Polymer Coated	Alum. Steel	Plain Galv.	Polymer Coated	Alum. Steel
		8	\$146							
10	\$156									
12	\$190	\$217	\$200							
15	\$222	\$251	\$233							
18	\$252	\$282	\$263							
21	\$286	\$320	\$299							
24	\$297	\$335	\$311	\$317	\$364	\$335				
30	\$325	\$376	\$344	\$350	\$411	\$373				
36	\$358	\$422	\$382	\$388	\$464	\$417				
42	\$387	\$462	\$415	\$422	\$511	\$455				
48				\$449	\$549	\$487	\$530	\$662	\$580	

3. CMP Principal Spillway Barrel, Drawdown Pipe, or Underground Outlet Dollars per linear foot (Includes pipe and cost of laying--does not include 4 feet of pipe in principal spillway tee, 2 feet of pipe in drawdown pipe tee, or vertical pipe under floor of fish pond outlet structure)	Dia. Inches	16 Gauge			14 Gauge			12 Gauge		
		Plain Galv.	Polymer Coated	Alum. Steel	Plain Galv.	Polymer Coated	Alum. Steel	Plain Galv.	Polymer Coated	Alum. Steel
		6	\$9		\$10					
8	\$12		\$13							
10	\$14		\$16							
12	\$16	\$23	\$19							
15	\$18	\$25	\$21							
18	\$19	\$27	\$22							
21	\$21	\$30	\$25							
24	\$24	\$34	\$28	\$29	\$41	\$34				
30	\$31	\$44	\$36	\$38	\$53	\$43				
36	\$40	\$55	\$46	\$47	\$66	\$54				
42	\$47	\$66	\$54	\$55	\$78	\$64				
48				\$62	\$87	\$72	\$83	\$118	\$95	

4. Drawdown Pipe Tee Dollars per each (Includes 2 feet of pipe, cover plate and flange, one slotted flange attached, and fabrication--add these costs to the CMP riser to determine total riser cost)	Dia. Inches	16 Gauge		
		Plain Galv.	Polymer Coated	Alum. Steel
		6	\$218	
8	\$256		\$289	
10	\$292		\$330	
12	\$333	\$339	\$376	
15 1/2	\$366	\$381	\$413	

1/ Slotted flanges not used--add corrugated metal (CM) connecting band

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5. Connecting Bands		Dia. Inches	16 Gauge			14 Gauge			12 Gauge			
			Plain Galv.	Polymer Coated	Alum. Steel	Plain Galv.	Polymer Coated	Alum. Steel	Plain Galv.	Polymer Coated	Alum. Steel	
A. Corrugated metal (CM) connecting bands Dollars per each (Includes 2 feet of corrugated metal, 4 rods, and gasket)		12	\$108	\$124	\$122							
		15	\$119	\$135	\$135							
		18	\$131	\$148	\$149							
		21	\$143	\$161	\$162							
		24	\$156	\$176	\$176							
		30	\$181									
		36	\$217			\$234	\$269	\$265				
		42				\$269			\$291	\$337	\$328	
		48							\$323	\$376	\$365	
		B. Hugger bands Dollars per each (Includes band, 2 "O" ring gaskets, and 2 rods)				16 Gauge						
Dia. Inches	Plain Galv.			Polymer Coated	Alum. Steel							
12	\$72			N/A	\$81							
15	\$79			N/A	\$89							
18	\$87			N/A	\$98							
21	\$95			N/A	\$107							
24	\$104			N/A	\$117							
30	\$120			N/A	\$136							
36	\$142			N/A	\$160							
42	\$165			N/A	\$186							
48	\$183	N/A	\$207									

  

6. Metal Anti-Seep Collars		Dia. Inches	Size Inches	One-Piece		Two-Piece					
				16 Gauge		16 Gauge			14 Gauge		
Dollars per each (Includes materials and fabrication)		Dia. Inches	Size Inches	Plain Galv.	Alum. Steel	Plain Galv.	Polymer Coated	Alum. Steel	Plain Galv.	Polymer Coated	Alum. Steel
				6	48	\$101	\$114				
60	\$148	\$168									
8	48	\$102	\$115								
	60	\$149	\$169								
10	48	\$103	\$116								
	60	\$151	\$170								
12	48	\$127	\$144								
	60	\$151	\$171	\$305	\$372	\$345					
	72	\$210	\$237	\$352	\$396	\$398					
15	60			\$314	\$378	\$355					
	72			\$362	\$402	\$409					
18	60			\$324	\$386	\$366					
	72			\$371	\$410	\$419					
21	60			\$334	\$396	\$377					
	72			\$381	\$418	\$431					
24	60			\$345	\$404	\$390					
	72			\$392	\$427	\$443					
	84						\$512	\$644	\$579		
30	72										
	84						\$456	\$651	\$516		
	96						\$590	\$733	\$666		
36	72			\$497	\$649	N/A					
	84						\$571	\$667	\$646		
	96						\$508	\$744	\$574		
42	84						\$588	\$678	\$664		
	96						\$646	\$768	\$730		
48	84						\$535	\$690	\$605		
	96						\$669	\$780	\$756		

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	Unit	Pipe Diameter - Inches														
		4	5	6	8	10	12	15	18	21	24	30	36	42	48	54
7. Steel Base for CMP Riser	each							\$53	\$70	\$111	\$136	\$158	\$301	\$461		
8. Slotted Flanges for CMP 1/	pair			\$56	\$73	\$83	\$92									
9. Trash Rack for CMP Riser	each						\$240	\$283	\$320	\$432	\$538	\$744	\$944	\$1,737	\$2,088	\$2,113
10. Trash Rack for Canopy Inlet	each			\$127	\$134	\$156	\$192	\$222	\$268	\$325	\$410					
11. Guard Rail for CMP Riser	each												\$1,526	\$1,526	\$1,849	\$1,849
12. CMP Pipe Support																
A. 6 feet of length below pipe	each			\$213	\$219	\$224	\$232	\$270	\$313	\$361	\$371					
B. Each additional foot	lin. ft.			\$28	\$29	\$32	\$35	\$38	\$40	\$43	\$46					
13. Timber Pipe Support																
A. 5 feet of length below pipe	each			\$137	\$137	\$137	\$137	\$193	\$193	\$193	\$239	\$239				
B. Each additional foot	lin. ft.			\$12	\$12	\$12	\$12	\$15	\$15	\$15	\$19	\$19				
14. Fabrication of CMP Elbow																
A. Plain galvanized	each			\$48	\$60	\$72	\$85	\$103	\$121	\$140	\$158	\$206	\$245	\$284	\$368	
B. Polymer coated	each			\$69	\$86	\$104	\$122	\$148	\$174	\$201	\$227	\$295	\$352	\$409	\$529	
C. Aluminized steel	each			\$54	\$68	\$81	\$96	\$117	\$137	\$158	\$178	\$232	\$277	\$321	\$416	
15. Fabrication of Canopy Inlet																
A. PVC or plain galvanized	each			\$34	\$39	\$50	\$60	\$66	\$72	\$77	\$88	\$104				
B. Polymer coated	each			\$49	\$57	\$72	\$87	\$96	\$105	\$110	\$126	\$155				
C. Aluminized steel	each						\$68	\$75	\$82	\$87	\$99	\$117				
16. Manually Tamped Backfill																
A. Riser for drop inlet spillways	lin. ft.						\$6	\$8	\$9	\$11	\$12	\$15	\$18	\$21	\$24	\$27
B. CMP and plastic pipe barrels	lin. ft.			\$3	\$3	\$4	\$5	\$6	\$8	\$9	\$10	\$13	\$15	\$18	\$20	\$23
C. Inlet, outlet, and culvert under embankment	lin. ft.	\$0.60	\$0.70	\$0.80	\$1.10	\$1.40	\$1.70	\$2.10	\$2.50	\$3.00	\$3.50	\$4.20	\$5.00	\$6.00	\$7.00	\$8.00
17. Metal End Section	each			\$80	\$80	\$85	\$85	\$90	\$110	\$130	\$170	\$300	\$480			

	Unit	Pipe Diameter - Inches														
		1½	2	4	6	8	10	12	14	15	18	21	24			
18. Butyl Rubber Anti-Seep Collars																
A. 36" x 36"	each	\$50	\$50	\$50	\$50											
B. 48" x 48"	each	\$60	\$60	\$60	\$60	\$60	\$60	\$60								
C. 60" x 60"	each	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100					
D. 72" x 72"	each	\$115	\$115	\$115	\$115	\$115	\$115	\$115	\$115	\$115	\$115	\$115	\$115			
19. Polyethylene Anti-Seep Collars																
A. 30" x 30"	each	\$111														
B. 48" x 48"	each	\$116	\$117	\$118	\$119	\$121	\$126	\$129								
C. 60" x 60"	each	\$152	\$155	\$159	\$161	\$168	\$171	\$178	\$184							
D. 72" x 72"	each		\$187	\$190	\$193	\$200	\$203	\$209	\$215							
20. Rodent Guard for Terrace Outlet	each			\$10	\$10	\$11	\$13	\$21		\$35	\$57	\$61	\$76			

	Pipe Dia. Inches	Riser Height - Feet								Add for Back Flap						
		2	3	4	5	6	7	8	9		10					
21. Inline Water Level Control Structure Components																
A. Inline water level control structure (To be placed in the embankment)																
	4	\$438	\$471	\$512	\$552	\$592	\$633	\$673	\$807	\$847						\$50
	6	\$450	\$492	\$535	\$578	\$621	\$663	\$706	\$835	\$878						\$50
	8	\$483	\$542	\$601	\$668	\$734	\$794	\$860	\$1,005	\$1,072						\$50
	10	\$516	\$584	\$654	\$716	\$784	\$846	\$914	\$1,062	\$1,131						\$50
	12	\$621	\$699	\$777	\$841	\$919	\$998	\$1,062	\$1,219	\$1,290						\$65
	15	\$670	\$767	\$841	\$923	\$1,004	\$1,072	\$1,154	\$1,322	\$1,403						\$65
	18	\$735	\$827	\$919	\$1,012	\$1,105	\$1,196	\$1,289	\$1,467	\$1,559						\$65
	24	\$1,029	\$1,243	\$1,463	\$1,677	\$1,891	\$2,111	\$2,325	\$2,547	\$2,761						\$100
		Pipe Diameter - Inches														
		3	4	6	8	10	12	15	18							
B. Check valve		\$32	\$37	\$63	\$95	\$126	\$137	\$326	\$404							
C. Bar guard		\$21	\$21	\$24	\$25	\$29	\$36	\$52	\$58							

1/ Includes a pair of flanges welded to the pipe, gasket, or mastic and cost of bolting together

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22. Plastic Pipe		Pipe Diameter - Inches															
Unit	4	5	6	8	10	12	14	15	16	18	21	24	30	36			
<b>A. Principal spillway barrel 1/</b>																	
(1) Standard Dimension Ratio (SDR) 17 or Schedule 80	lin. ft.			\$5.90	\$10.00	\$15.50	\$22.00										
(2) SDR 21	lin. ft.			\$4.80	\$8.10	\$12.60	\$17.80										
(3) Schedule 40	lin. ft.			\$4.20	\$6.30	\$9.00	\$11.90										
(4) SDR 26	lin. ft.			\$3.90	\$6.50	\$10.20	\$14.40										
(5) Dimension Ratio (DR) 25	lin. ft.			\$4.30	\$7.50	\$11.30	\$16.10	\$23.00	N/A	\$28.00	\$33.00						
(6) DR 18	lin. ft.			\$5.90	\$10.20	\$15.50	\$22.00	\$28.00	N/A	\$38.00	\$45.00						
<b>B. Underground outlet main conduit 2/</b>																	
<b>(1) Poly (Vinyl Chloride) (PVC)</b>																	
(i) SDR 21	lin. ft.	\$3.10	\$3.90	\$4.80	\$8.10	\$12.60	\$17.80										
(ii) SDR 26	lin. ft.	\$2.60	\$3.20	\$3.90	\$6.50	\$10.20	\$14.40										
(iii) SDR 32.5 and 35	lin. ft.	\$2.30	N/A	\$2.60	\$4.60	\$7.30	\$10.50	N/A	\$15.50	N/A	\$23.00	\$32.00	\$42.00				
(iv) SDR 41	lin. ft.	\$2.00	\$2.20	\$2.40	\$4.10	\$6.50	\$9.10	N/A	\$13.90	N/A	\$20.00	N/A					
(2) Corrugated PVC, smooth interior	lin. ft.	\$2.90	N/A	\$3.60	\$4.50	\$7.20	\$10.20	N/A	\$14.80	N/A	\$20.00	N/A	\$29.00				
(3) Single wall corrugated Polyethylene (PE)	lin. ft.	\$1.30	\$1.60	\$2.00	\$2.30	\$3.80	\$5.20	N/A	\$7.20	N/A	\$9.90	N/A	\$13.30				
(4) Dual wall corrugated PE, smooth interior	lin. ft.	\$1.80	N/A	\$3.00	\$3.90	\$5.00	\$6.20	N/A	\$8.10	N/A	\$10.60	N/A	\$16.30	\$26.00	\$33.00	\$46.00	\$54.00
<b>C. Underground outlet connections 3/</b>																	
<b>(1) Underground outlet riser and tee 4/</b>																	
Size Inches	Prefabricated or PVC Riser Diameter - Inches					PVC Riser Diameter - Inches											
	5	6	8	10	12	15											
4	\$95	\$110	\$133	\$158	\$288	\$365											
6	\$101	\$117	\$140	\$164	\$294	\$371											
8	\$133	\$148	\$171	\$196	\$326	\$403											
10	\$171	\$186	\$209	\$234	\$364	\$441											
12	\$233	\$249	\$272	\$296	\$426	\$503											
15	\$299	\$315	\$337	\$362	\$492	\$569											
18	\$403	\$418	\$441	\$466	\$596	\$673											
24	\$496	\$512	\$534	\$559	\$689	\$766											
<b>(2) PE tee assemblies for main line connections</b>																	
Tee Size Inches	Upstream Inlet Size Inches		Side Inlet Size - Inches														
	4	5	4	5	6	8	10	12									
4	4		\$50														
5	4		\$57	\$56													
	5		\$56	\$54													
6	4		\$61	\$61	\$61												
	5		\$61	\$61	\$61												
	6		\$58	\$58	\$58												
8	4				\$77	\$78											
	5			\$77	\$77	\$78											
	6		\$75	\$75	\$75	\$77											
	8		\$72	\$72	\$72	\$73											
10	6				\$95	\$96	\$94										
	8				\$92	\$93	\$90										
	10				\$85	\$87	\$84										
12	8				\$158	\$159	\$155	\$155									
	10				\$151	\$152	\$150	\$150									
	12				\$143	\$144	\$142	\$142									

- 1/ Does not include manually tamped backfill
- 2/ Includes trenching and machine-placed backfill
- 3/ When risers are used as "bubble up" structures, add 10 percent if gravel is used as backfill.
- 4/ Use for PVC tee, PE smooth inside corrugated outside tee, PE single wall tee, prefabricated tee, or PVC smooth inside and corrugated outside tee

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22. Plastic Pipe (Continued)	Unit	Pipe Diameter - Inches													
		1	1¼	1½	2	4	6	8	10	12	14	15	18	21	24
D. Water supply line under dam															
(1) 50 feet, Schedule 40, PVC 1/	each			\$313	\$331	\$676									
(2) Each additional foot of pipe	lin. ft.			\$3.20	\$3.30	\$6.20									
E. Siphon supply line under dam															
(1) 50 feet, 60 psi, PE pipe 2/	each		\$499	\$514	\$557										
(2) Each additional foot of pipe	lin. ft.		\$2.80	\$2.90	\$3.10										
F. Slotted flume															
(1) Fixed cost for each installation	each					\$103	\$114	\$125							
(2) Additional cost per foot	lin. ft.					\$12.80	\$17.50	\$18.70							

23. Gated Irrigation Pipe	Unit	Pipe Diameter - Inches		
		6	8	10
For surface irrigation and wastewater treatment strip				
A. PVC 3/	lin. ft.	\$2.40	\$3.10	\$3.70
B. Aluminum 3/	lin. ft.	\$3.50	\$4.50	\$5.20

- 1/ Complete with intake, valve, operating rod, valve box and lid, and manually tamped backfill
- 2/ Complete with intake, valves, valve box, filler pipe assembly, testing, excavation, and manually tamped backfill
- 3/ Includes tee and end plugs, 30-foot lengths, 30-inch gate spacing