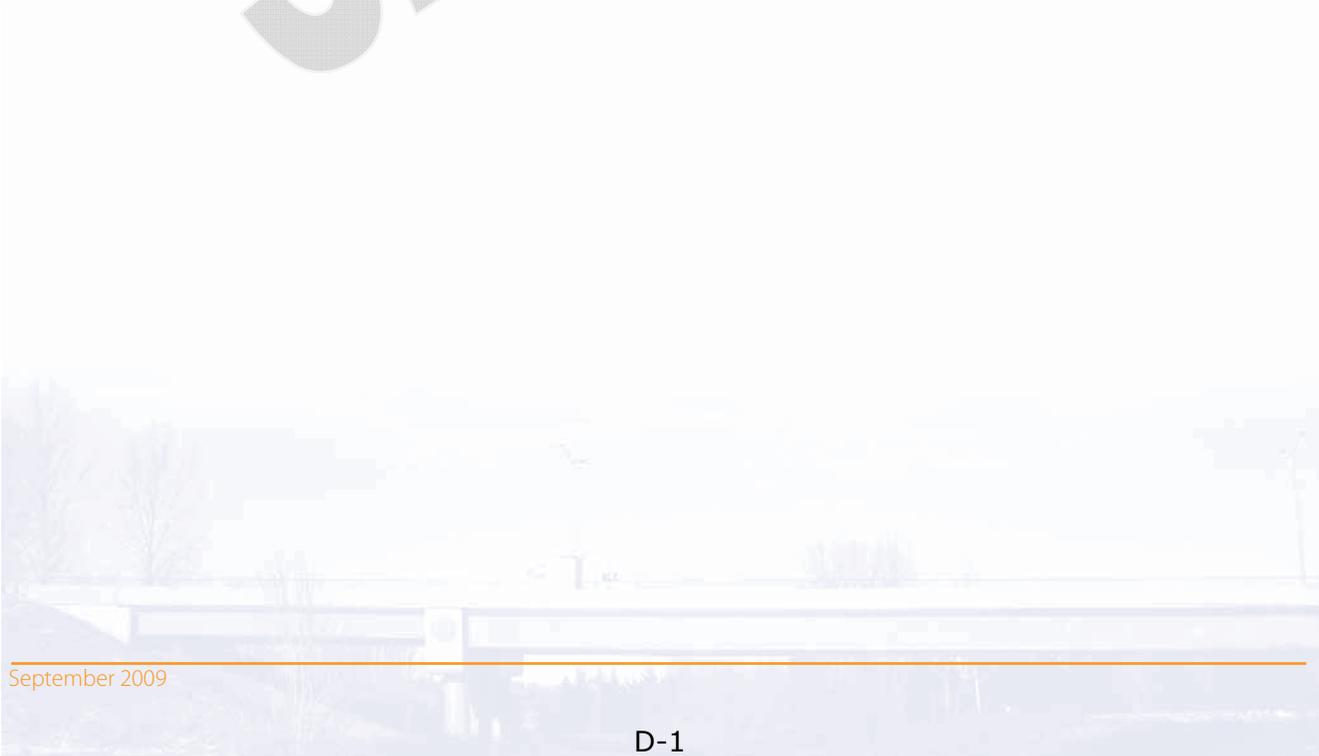


**APPENDIX D: ENGINEER COST ESTIMATE FORM**

*(All appendix documents are samples only and subject to change without notice)*

SAMPLE





**INSTRUCTIONS FOR ENGINEER COST ESTIMATE & BOND QUANTITY WORKSHEET**

- 1) Based on permit type requested (Grade & Fill, Civil Construction, etc.), complete the form as follows:
  - For Grade & Fill permits, complete the Erosion Control section
  - For Civil Construction permits, complete the Erosion Control and General sections
- 2) Complete the 'Quantity' columns for the appropriate section(s). If you are completing the 'General' section, you will be asked to identify those quantities and costs that apply to Existing Right-of-Way, Future Public Improvements and Private Improvements.
- 3) The 'Quantity Remaining' column is only to be used when a project is under construction. The City allows one (1) bond reduction during the life of the project with the exception of the maintenance period reduction.
- 4) Excel will auto-calculate the relevant fields throughout the document. Only the 'Quantity' columns should need completing.
- 5) The summary page calculates the Public Works fees due at intake for civil construction permits only. This does not include fees required by other departments. Please contact the Permit Center at (253) 856-5300 for a fee estimate on Grade & Fill permits, as well as fees due for other departments.
- 6) Printing: To print all tabs of the spreadsheet (Instructions, ENGR COST ESTIMATE SUMMARY, COVER SHEET & BOND CALC, etc) From the 'File' Menu, select 'Print', then select 'Entire Workbook.'



Engineer's Cost Estimate Summary

Date: \_\_\_\_\_

Prepared by:	Project Information
Name: _____ PE Registration No: _____ Firm Name: _____ Firm Address: _____ Phone No. _____ Email Address: _____	Project Name: _____ Project No: _____ Project Address: _____
SAMPLE	
Fee Calculation Worksheet	Fee Amount
Site Restoration/Erosion Sediment Control Subtotal Existing Right-of-Way Improvements Subtotal Future Public Improvements Subtotal Private Improvements Subtotal Total Improvement Cost	(A) \$ _____ (B) \$ _____ (C) \$ _____ (D) \$ _____ (A)+(B)+(C)+(D) \$ _____

Engineer Stamp Required (all cost estimates must be stamped and signed by a licensed Washington State Engineer)



City of Kent  
Engineer's Cost Estimate

(A)	Reference #	Unit Price	Unit	Quantity	Cost
<b>EROSION/SEDIMENT CONTROL</b>					
Backfill & compaction-embankment					
Check dams, 4" minus rock	SWDM 5.4.6.3	\$6.50	CY		
Catch Basin Protection		\$78.00	Each		
Crushed surfacing 1 1/4" minus	WSDOT 9-03.9(3)	\$35.50	Each		
Ditching		\$98.00	CY		
Excavation-bulk		\$8.00	CY		
Fence, silt	SWDM 5.4.3.1	\$3.00	CY		
Fence, Temporary (NGPE)		\$2.00	LF		
Geotextile Fabric		\$2.00	LF		
Hay Bale Silt Trap		\$2.50	SY		
Hydroseeding	SWDM 5.4.2.4	\$0.50	Each		
Interceptor Swale / Dike		\$1.00	SY		
Jute Mesh	SWDM 5.4.2.2	\$1.00	LF		
Level Spreader		\$2.00	SY		
Mulch, by hand, straw, 3" deep	SWDM 5.4.2.1	\$1.75	LF		
Mulch, by machine, straw, 2" deep	SWDM 5.4.2.1	\$3.00	SY		
Piping, temporary, CPP, 6"		\$12.50	LF		
Piping, temporary, CPP, 8"		\$19.00	LF		
Piping, temporary, CPP, 12"		\$24.00	LF		
Plastic covering, 6mm thick, sandbagged	SWDM 5.4.2.3	\$3.00	SY		
Rip Rap, machine placed; slopes	WSDOT 9-13.1(2)	\$50.00	CY		
Rock Construction Entrance, 50'x15'x1'	SWDM 5.4.4.1	\$1,800.00	Each		
Rock Construction Entrance, 100'x15'x1'	SWDM 5.4.4.1	\$3,600.00	Each		
Sediment pond riser assembly	SWDM 5.4.5.2	\$3,050.00	Each		
Sediment trap, 5' high berm	SWDM 5.4.5.1	\$21.00	LF		
Sed. trap, 5' high, riprapped spillway berm section	SWDM 5.4.5.1	\$79.00	LF		
Seeding, by hand	SWDM 5.4.2.4	\$1.00	SY		
Sodding, 1" deep, level ground	SWDM 5.4.2.5	\$8.00	SY		
Sodding, 1" deep, sloped ground	SWDM 5.4.2.5	\$9.50	SY		
TESC Supervisor		\$84.00	HR		
Water truck, dust control	SWDM 5.4.7	\$130.00	HR		
<b>WRITE-IN-ITEMS</b>					

EROSION/SEDIMENT SUBTOTAL: \$ -  
 30% CONTINGENCY & MOBILIZATION: \$ -  
 SALES TAX @ 9%: \$ -  
 EROSION/SEDIMENT TOTAL: \$ - (A)



Engineer's Cost Estimate

	Unit Price	Unit	Existing Right-of-Way (B)		Future Public Improvements (C)		Private Improvements (D)		Quantity/Remaining (Bond Reduction) (E)	
			Quant.	Cost	Quant.	Cost	Quant.	Cost	Quant.	Cost
<b>GENERAL ITEMS</b>										
Backfill & Compaction-embankment	\$ 8.00	CY								
Backfill & Compaction-trench	\$ 11.00	CY								
Clear/Remove Brush, by hand (acre)	\$ 2,363.00	Acre								
Bollards - fixed	\$ 325.00	Each								
Bollards - removable	\$ 600.00	Each								
Clearing/Grubbing/Tree Removal	\$ 13,000.00	Acre								
Excavation - bulk	\$ 2.50	CY								
Excavation - Trench	\$ 5.00	CY								
Fencing, cedar, 6' high	\$ 25.00	LF								
Fencing, chain link, 4'	\$ 19.50	LF								
Fencing, chain link, vinyl coated, 6' high	\$ 18.00	LF								
Fencing, chain link, gate, vinyl coated, 20'	\$ 1,563.00	Each								
Fencing, split rail, 3' high	\$ 14.00	LF								
Fill & compact - common borrow	\$ 27.00	CY								
Fill & compact - gravel base	\$ 30.00	CY								
Fill & compact - screened topsoil	\$ 45.00	CY								
Gabion, 12" deep, stone filled mesh	\$ 62.00	SY								
Gabion, 18" deep, stone filled mesh	\$ 86.00	SY								
Gabion, 36" deep, stone filled mesh	\$ 152.00	SY								
Grading, fine, by hand	\$ 2.00	SY								
Grading, fine, with grader	\$ 1.25	SY								
Guard Post	\$ 90.00	Each								
Monuments	\$ 104.00	Each								
Sensitive Areas Sign	\$ 20.00	Each								
Sodding, 1" deep, sloped ground	\$ 10.00	SY								
Topsoil Type A (imported)	\$ 30.00	CY								
Traffic control crew ( 2 flaggers )	\$ 98.00	HR								
Trail, 4" chipped wood	\$ 9.00	SY								
Trail, 4" crushed cinder	\$ 10.00	SY								
Trail, 4" top course	\$ 9.50	SY								
Wall, retaining, concrete	\$ 66.00	SF								
Wall, rockery	\$ 13.00	SF								
<b>SUBTOTAL</b>										

FOR OFFICIAL USE

(B) (C) (D) (E)



City of Kent  
Engineer's Cost Estimate

	Unit Price	Unit	Existing Right-of-way (B)		Future Public Improvements (C)		Private Improvements (D)		Quantity Remaining (Bond Reduction) (E)	
			Quant.	Cost	Quant.	Cost	Quant.	Cost	Quant.	Cost
<b>STREET IMPROVEMENT</b>										
AC Grinding, 4' wide machine < 1000sy	\$ 35.00	SY								
AC Grinding, 4' wide machine 1000-2000sy	\$ 8.50	SY								
AC Grinding, 4' wide machine > 2000sy	\$ 2.50	SY								
AC Removal/Disposal/Repair	\$ 60.00	SY								
Barricade, Type I	\$ 36.00	LF								
Barricade Type II	\$ 25.00	LF								
Barricade, Type III ( Permanent )	\$ 55.00	LF								
Conduit, 2"	\$ 5.00	LF								
Curb & Gutter, rolled	\$ 20.00	LF								
Curb & Gutter, vertical	\$ 15.00	LF								
Curb and Gutter, demolition and disposal	\$ 20.00	LF								
Curb, extruded asphalt	\$ 5.00	LF								
Curb, extruded concrete	\$ 4.50	LF								
Guard Rail	\$ 30.00	LF								
Sawcut, asphalt, 3" depth	\$ 3.50	LF								
Sawcut, concrete, per 1" depth	\$ 3.00	LF								
Sealant, asphalt	\$ 2.00	LF								
Shoulder, gravel, 4" thick	\$ 11.00	SY								
Sidewalk, 4" thick	\$ 40.00	SY								
Sidewalk, 4" thick, demolition and disposal	\$ 36.00	SY								
Sidewalk, 5" thick	\$ 45.00	SY								
Sidewalk, 5" thick, demolition and disposal	\$ 45.00	SY								
Signs		LS								
Sign, Handicap	\$ 100.00	Each								
Striping, per stall	\$ 7.50	Each								
Street Light System		LS								
Traffic Signal		LS								
Traffic Signal Modification		LS								
Striping, thermoplastic, ( for crosswalk )	\$ 3.50	SF								
Striping, 4" reflectorized line	\$ 0.40	LF								
<b>SUBTOTAL</b>										

STANDARD

(B) (C) (D) (E)



Engineer's Cost Estimate

	Unit Price	Unit	Existing Right-of-way (B)		Future Public Improvements (C)		Private Improvements (D)		Quantity Remaining (Bond Reduction) (E)	
			Quant.	Cost	Quant.	Cost	Quant.	Cost	Quant.	Cost
<b>STREET SURFACING/PAVEMENT</b>										
For KCRS '93, (additional 2.5" base) add:										
AC Overlay, 1.5" AC	\$ 6.00	SY								
AC Overlay, 2" AC	\$ 12.00	SY								
AC Overlay, 2" AC	\$ 15.00	SY								
AC Road, 2", 4" rock, First 2500 SY	\$ 25.00	SY								
AC Road, 2", 4" rock, Qty. over 2500 SY	\$ 20.00	SY								
AC Road, 3", 4" rock, First 2500 SY	\$ 30.00	SY								
AC Road, 3", 4" rock, Qty. over 2500 SY	\$ 24.00	SY								
AC Road, 5", First 2500 SY	\$ 22.00	SY								
AC Road, 5", Qty. Over 2500 SY	\$ 25.00	SY								
AC Road, 6", Qty. Over 2500 SY	\$ 24.00	SY								
Asphalt Treated Base, 4" thick	\$ 14.00	SY								
Gravel Road, 4" rock, First 2500 SY	\$ 15.00	SY								
Gravel Road, 4" rock, Qty. over 2500 SY	\$ 11.00	SY								
PCC Road, 5", no base, over 2500 SY	\$ 22.00	SY								
PCC Road, 6", no base, over 2500 SY	\$ 32.00	SY								
Thickened Edge	\$ 11.00	LF								

SMAAS

(A)      (B)      (C)      (D)      (E)  
 SUBTOTAL      \_\_\_\_\_      \_\_\_\_\_      \_\_\_\_\_      \_\_\_\_\_



City of Kent  
Engineer's Cost Estimate

Page 9 of 13

	Unit Price	Unit	Existing Right-of-way (B)		Future Public Improvements (C)		Private Improvements (D)		Quantity Remaining (Bond Reduction) (E)	
			Quant.	Cost	Quant.	Cost	Quant.	Cost	Quant.	Cost
<b>DRAINAGE</b>										
Access Road, R/D	\$ 26.00	SY								
* (CBs include frame and lid)										
Beehive	\$ 90.00	Each								
CB Type I	\$ 1,650.00	Each								
CB Type IL	\$ 1,850.00	Each								
CB Type II, 48" diameter for additional depth over 4'	\$ 2,550.00	Each								
CB Type II, 54" diameter for additional depth over 4'	\$ 650.00	FT								
CB Type II, 60" diameter for additional depth over 4'	\$ 2,700.00	Each								
CB Type II, 60" diameter for additional depth over 4'	\$ 600.00	FT								
CB Type II, 60" diameter for additional depth over 4'	\$ 2,900.00	Each								
CB Type II, 72" diameter for additional depth over 4'	\$ 750.00	FT								
CB Type II, 72" diameter for additional depth over 4'	\$ 4,000.00	Each								
Through-curb Inlet Framework (Add)	\$ 900.00	FT								
Cleanout, PVC, 4"	\$ 550.00	Each								
Cleanout, PVC, 4"	\$ 200.00	Each								
Cleanout, PVC, 6"	\$ 250.00	Each								
Cleanout, PVC, 8"	\$ 300.00	Each								
Culvert, Box _____ ft x _____ ft (PROVIDE BID)		LS								
Culvert, PVC, 4"	\$ 12.00	LF								
Culvert, PVC, 6"	\$ 17.00	LF								
Culvert, PVC, 8"	\$ 19.00	LF								
Culvert, PVC, 12"	\$ 30.00	LF								
Culvert, CMP, 8"	\$ 23.00	LF								
Culvert, CMP, 12"	\$ 35.00	LF								
Culvert, CMP, 15"	\$ 42.00	LF								
Culvert, CMP, 18"	\$ 47.00	LF								
Culvert, CMP, 24"	\$ 69.00	LF								
Culvert, CMP, 30"	\$ 100.00	LF								
Culvert, CMP, 36"	\$ 150.00	LF								
Culvert, CMP, 48"	\$ 194.00	LF								
Culvert, CMP, 60"	\$ 310.00	LF								
Culvert, CMP, 72"	\$ 400.00	LF								
Culvert, Concrete, 8"	\$ 36.00	LF								

FOR OFFICIAL USE

SUBTOTAL \_\_\_\_\_ (B) \_\_\_\_\_ (C) \_\_\_\_\_ (D) \_\_\_\_\_ (E)

Engineer's Cost Estimate



	Unit Price	Unit	Existing Right-of-way (B)		Future Public Improvements (C)		Private Improvements (D)		Quantity Remaining (Bond Reduction) (E)	
			Quant.	Cost	Quant.	Cost	Quant.	Cost	Quant.	Cost
<b>DRAINAGE (CONTINUED)</b>										
Culvert, Concrete, 12"	\$ 43.00	LF								
Culvert, Concrete, 15"	\$ 52.00	LF								
Culvert, Concrete, 18"	\$ 55.00	LF								
Culvert, Concrete, 24"	\$ 85.00	LF								
Culvert, Concrete, 30"	\$ 136.00	LF								
Culvert, Concrete, 36"	\$ 165.00	LF								
Culvert, Concrete, 42"	\$ 196.00	LF								
Culvert, Concrete, 48"	\$ 210.00	LF								
Culvert, CPP, 6"	\$ 16.00	LF								
Culvert, CPP, 8"	\$ 22.00	LF								
Culvert, CPP, 12"	\$ 28.00	LF								
Culvert, CPP, 15"	\$ 34.00	LF								
Culvert, CPP, 18"	\$ 39.00	LF								
Culvert, CPP, 24"	\$ 49.00	LF								
Culvert, CPP, 30"	\$ 62.00	LF								
Culvert, CPP, 36"	\$ 69.00	LF								
Ditching	\$ 12.00	CY								
Flow Dispersal Trench (1,436 base+)	\$ 40.00	LF								
French Drain (3' depth)	\$ 39.00	LF								
Geotextile, laid in trench, polypropylene	\$ 5.00	SY								
Infiltration pond testing	\$ 125.00	HR								
Mid-tank Access Riser, 48" dia, 6' deep	\$ 2,025.00	Each								
Pipe, High Density Water Pipe (HDWF)	\$ 160.00	LF								
Pipe, C900	\$ 90.00	LF								
Pond Overflow Spillway	\$ 18.00	SY								
Restrictor/Oil Separator, 12"	\$ 1,500.00	Each								
Restrictor/Oil Separator, 15"	\$ 1,550.00	Each								
Restrictor/Oil Separator, 18"	\$ 1,680.00	Each								
Riprap, placed	\$ 52.00	CY								
Tank End Reducer (36" diameter)	\$ 1,280.00	Each								
Thru-Inlet at CB	\$ 150.00	Each								
Trash Rack, 12"	\$ 320.00	Each								
Trash Rack, 15"	\$ 325.00	Each								
Trash Rack, 18"	\$ 350.00	Each								
Trash Rack, 21"	\$ 375.00	Each								
<b>SUBTOTAL</b>										

ESTIMATE

(B) (C) (D) (E)



City of Kent  
Engineer's Cost Estimate

	Unit Price	Unit	Existing Right-of-way (B)		Future Public Improvements (C)		Private Improvements (D)		Quantity/Remaining (Bond Reduction) (E)	
			Quant.	Cost	Quant.	Cost	Quant.	Cost	Quant.	Cost
<b>WATER SYSTEM</b>										
Blowoff	\$ 1,800.00	Each								
Connection to Concrete Cylinder Main	\$ 2,000.00	Each								
Ductile Iron Watermain, CL 52, 6 Inch Diameter	\$ 65.00	LF								
Ductile Iron Watermain, CL 52, 8 Inch Diameter	\$ 85.00	LF								
Ductile Iron Watermain, CL 52, 10 Inch Diameter	\$ 103.00	LF								
Ductile Iron Watermain, CL 52, 12 Inch Diameter	\$ 125.00	LF								
Gate Valve, 6 inch Diameter	\$ 250.00	Each								
Gate Valve, 8 inch Diameter	\$ 380.00	Each								
Gate Valve, 10 Inch Diameter	\$ 425.00	Each								
Gate Valve, 12 Inch Diameter	\$ 500.00	Each								
Fire Hydrant Assembly, with Guard Posts	\$ 3,000.00	Each								
Fire Hydrant Assembly, without Guard Posts	\$ 2,500.00	Each								
Air-Vac, 8 Inch Diameter	\$ 6,000.00	Each								
Air-Vac, 10 Inch Diameter	\$ 7,500.00	Each								
Air-Vac, 12 Inch Diameter	\$ 12,000.00	Each								
Pressure Reducing Valve Assembly, 8 In. Diam.	\$ 3,900.00	Each								
Pressure Reducing Valve Assembly, 10 In. Diam.	\$ 4,200.00	Each								
Pressure Reducing Valve Assembly, 12 In. Diam.	\$ 5,000.00	Each								
Valve Marker Post	\$ 350.00	Each								
<b>SUBTOTAL</b>										

SAMPLE

Engineer's Cost Estimate

Page 12 of 13



	Unit Price	Unit	Existing Right-of-way (B)		Future Public Improvements (C)		Private Improvements (D)		Quantity Remaining (Bond Reduction) (E)	
			Quant.	Cost	Quant.	Cost	Quant.	Cost	Quant.	Cost
<b>SANITARY SEWER</b>										
Clean Outs	\$ 500.00	Each								
Grease Interceptor, 500 gallon	\$ 6,000.00	Each								
Grease Interceptor, 1000 gallon	\$ 10,000.00	Each								
Grease Interceptor, 1500 gallon	\$ 15,000.00	Each								
Side Sewer Pipe, PVC, 4 Inch Diameter	\$ 8.00	LF								
Side Sewer Pipe, PVC, 6 Inch Diameter	\$ 12.00	LF								
Sewer Pipe, PVC, 8 inch Diameter	\$ 33.00	LF								
Sewer Pipe, PVC, 12 Inch Diameter	\$ 41.00	LF								
Sewer Pipe, PVC, _____ Inch Diameter		LF								
Lift Station (Entire System) (PROVIDE BID)		LS								
Manhole, 48 Inch Diameter	\$ 3,000.00	Each								
for additional depth over 4 feet/per foot	\$ 532.00	FEET								
Manhole, 54 Inch Diameter	\$ 3,500.00	Each								
for additional depth over 4 feet/per foot	\$ 532.00	FEET								
Manhole, 60 Inch Diameter	\$ 3,700.00	Each								
for additional depth over 4 feet/per foot	\$ 532.00	FEET								
Manhole, 72 Inch Diameter	\$ 4,000.00	Each								
for additional depth over 4 feet/per foot	\$ 625.00	FEET								
Manhole, 96 Inch Diameter	\$ 5,000.00	Each								
for additional depth over 4 feet/per foot	\$ 625.00	FEET								
Outside Drop (PROVIDE BID)		LS								
Inside Drop (PROVIDE BID)		LS								
Pipe, C-900	\$ 90.00	LF								
Pipe, High Density Water Pipe (HDW/P)	\$ 180.00	LF								
<b>SUBTOTAL</b>										

FORWARDS

(B) \_\_\_\_\_ (C) \_\_\_\_\_ (D) \_\_\_\_\_ (E) \_\_\_\_\_

