

UNIT COSTS
CHANGE UNIT COSTS ON THIS SHEET
CHANGE COST PERCENTAGES ON THIS SHEET

	ITEM	UNIT	ESTIMATED UNIT COST
I.	RIGHT OF WAY		
	RIGHT OF WAY (urban developed)	SF	\$45
	RIGHT OF WAY (urban undeveloped)	SF	\$20
	RELOCATIONS: BUSINESSES	EA	\$150,000
	RELOCATIONS: RESIDENCES	EA	\$110,000
	CONDEMNATION PROCEDURE	EA	\$100,000
	ADMINISTRATION (TITLES, APPRAISALS, ETC.)	EA	\$15,000
	RIGHT OF WAY TOTAL		
II.	CONSTRUCTION		
1	PREPARATION/GRADING/DRAINAGE		
1.1	PREPARATION		
	CLEAR & GRUB/DEMO	ACRE	\$6,000
	REMOVING EXISTING PAVEMENT	SY	\$10
	REMOVAL STRUCTURES & OBSTRUCTIONS	LS	NA
1.2	EARTHWORK		
	ROADWAY EXCAVATION INCL. HAUL	CY	\$20
	STRUCTURE EX. CL. A INCL. HAUL	CY	\$25
	BORROW INCL. HAUL	TON	\$16
	EMBANKMENT COMPACTION	CY	\$2
1.3	STORMWATER MITIGATION		
	DETENTION AND TREATMENT	SF	\$6
1.4	STORM SEWER		
	CATCH BASIN TYPE 1	EA	\$1,200
	CATCH BASIN TYPE 2	EA	\$2,200
	PLAIN CONC. STORM SEWER PIPE 12 IN. DIAM.	LF	\$35
	PLAIN CONC. STORM SEWER PIPE 18 IN. DIAM.	LF	\$45
	STRUCTURE EXCAVATION CL. B	CY	\$15
2	STRUCTURE		
	CONCRETE BRIDGES	LS	NA
	CONCRETE BRIDGES WIDENING	LS	NA
	PEDESTRIAN BRIDGES	SF	\$400
	STEEL BRIDGES	LS	NA
	BRIDGE ABUTMENT RETROFIT	SF	\$150
	RETAINING WALLS (Cast in Place)	SF	\$65
	RETAINING WALLS (Soil Nail with Cast in Place Facing)	SF	\$210
	BRIDGE REMOVAL	SF	\$30
	NOISE WALLS	SF	\$40
3	SURFACING		
	PORTLAND CEMENT CONCRETE	SF	\$10
	HOT MIX ASPHALT	TON	\$65
	CRUSHED SURFACING	TON	\$25
4	ROADSIDE DEVELOPMENT		
	FENCING	LF	\$15
	SEEDING, MULCHING & FERTILIZING	ACRE	\$2,000
	ENVIRONMENTAL PERMITS AND MITIGATION	LS	NA
	TEMPORARY WATER POLLUTION & EROSION CONTROL	LS	6%
	LANDSCAPING	LS	NA
5	TRAFFIC		
	GUARD RAIL	LF	\$20
	CONCRETE BARRIER	LF	\$65
	SIGNAL SYSTEMS	LS	NA
	ILLUMINATION	LS	NA
	SIGNING	LS	NA
	CURBS	LF	\$15
	SIDEWALKS	SY	\$25
	ITS FOR HOT-LANES	LS	NA
	SC&DI (ITS)	LS	NA
	TRAFFIC CONTROL	LS	10%
5.1	OTHER ITEMS		
	SURVEYING	LS	2%
	SPECIAL ITEMS	EST	NA
	UTILITY RELOCATIONS	EST	NA
6	MISCELLANEOUS	LS	30%
7	CONSTRUCTION SUBTOTAL (ITEMS 1 THRU 6)		
8	MOBILIZATION		
	MOBILIZATION	EST	10%
9	SUBTOTAL (ITEMS 7 & 8)		
10	SALES TAX		
	SALES TAX	EST	9.3%
11	AGREEMENTS (Utilities, WSP, etc.)		
		EST	NA
12	SUBTOTAL (ITEMS 9 THRU 11)		
13	CONSTRUCTION		
	ENGINEERING	EST	30%
	ENVIRONMENTAL COMPLIANCE	EST	0%
	DIRECT PROJECT SUPPORT	EST	0%
	PROGRAM MANAGEMENT - DURING CONST.	EST	0%
14	CONSTRUCTION TOTAL (ITEMS 12 & 13)		
III.	PRELIMINARY ENGINEERING		
	PROJECT ENGINEERING	EST	30%
	PROGRAM MANAGEMENT - PRE CONSTRUCTION	EST	0%
	REGIONAL ITS FACILITY	EST	0.5%
	ENVIRONMENTAL PERMITS		NA
	INFLATION RATE	%	3.00%

PLANNING LEVEL OPINION OF COST SUMMARY

Project Description: US 2 Corridor Plan	Client: WSDOT
Corridor Section: Segment 4	Date: 1/16/2007
Location: snomish to skykomish	Date of Cost Index: 2006
mp 45.9 add wb left turn lane	Calculated By/Entered By:
Project 29	Checked By:

Segment 4

ITEM	UNIT	ESTIMATED UNIT COST	QTY	COST
I. RIGHT OF WAY				
RIGHT OF WAY (urban developed)	SF	\$45	-	\$0
RIGHT OF WAY (urban undeveloped)	SF	\$20	-	\$0
RELOCATIONS: BUSINESSES	EA	\$150,000	-	\$0
RELOCATIONS: RESIDENCES	EA	\$110,000	-	\$0
CONDEMNATION PROCEDURE	EA	\$100,000	-	\$0
ADMINISTRATION (TITLES, APPRAISALS, ETC.)	EA	\$15,000	-	\$0
RIGHT OF WAY TOTAL				\$0
II. CONSTRUCTION				
1 PREPARATION/GRADING/DRAINAGE				
1.1 PREPARATION				
CLEAR & GRUB, DEMO	ACRE	\$6,000	0.8	\$4,800
REMOVING EXISTING PAVEMENT	SY	\$10	-	\$0
REMOVAL STRUCTURES & OBSTRUCTIONS	LS	\$30,300	1	\$30,300
1.2 EARTHWORK				
ROADWAY EXCAVATION INCL. HAUL	CY	\$20	2,100	\$42,000
STRUCTURE EX. CL. A INCL. HAUL	CY	\$25	-	\$0
BORROW INCL. HAUL	TON	\$16	1,500	\$24,000
EMBANKMENT COMPACTION	CY	\$2	800	\$1,600
1.3 STORMWATER MITIGATION				
DETENTION AND TREATMENT	SF	\$6	12,000	\$72,000
1.4 STORM SEWER				
CATCH BASIN TYPE 1	EA	\$1,200	-	\$0
CATCH BASIN TYPE 2	EA	\$2,200	-	\$0
PLAIN CONC. STORM SEWER PIPE 12 IN. DIAM.	LF	\$35	-	\$0
PLAIN CONC. STORM SEWER PIPE 18 IN. DIAM.	LF	\$45	-	\$0
STRUCTURE EXCAVATION CL. B	CY	\$15	800	\$12,000
2 STRUCTURE				
CONCRETE BRIDGES	LS	\$0	-	\$0
CONCRETE BRIDGES WIDENING	LS	\$0	-	\$0
PEDESTRIAN BRIDGES	SF	\$400	-	\$0
STEEL BRIDGES	LS	\$0	-	\$0
BRIDGE ABUTMENT RETROFIT	SF	\$150	-	\$0
RETAINING WALLS (Cast in Place)	SF	\$65	2,000	\$130,000
RETAINING WALLS (Soil Nail with Cast in Place Facing)	SF	\$210	-	\$0
BRIDGE REMOVAL	SF	\$30	-	\$0
NOISE WALLS	SF	\$40	-	\$0
3 SURFACING				
PORTLAND CEMENT CONCRETE	SF	\$10	-	\$0
HOT MIX ASPHALT	TON	\$65	1,100	\$71,500
CRUSHED SURFACING	TON	\$25	1,000	\$25,000
4 ROADSIDE DEVELOPMENT				
FENCING	LF	\$15	-	\$0
SEEDING, MULCHING & FERTILIZING	ACRE	\$2,000	0.6	\$1,200
WETLAND MITIGATION	LS	\$0	-	\$0
TEMPORARY WATER POLLUTION & EROSION CONTROL (6%)	LS	\$27,000	-	\$0
LANDSCAPING	LS	\$21,000	-	\$0
5 TRAFFIC				
GUARD RAIL	LF	\$20	500	\$10,000
CONCRETE BARRIER	LF	\$65	-	\$0
SIGNAL SYSTEMS	LS	\$0	-	\$0
ILLUMINATION	LS	\$0	-	\$0
SIGNING	LS	\$10,000	1	\$10,000
CURBS	LF	\$15	-	\$0
SIDEWALKS	SY	\$25	-	\$0

PLANNING LEVEL OPINION OF COST SUMMARY

Project Description: US 2 Corridor Plan	Client: WSDOT
Corridor Section: Segment 4	Date: 1/16/2007
Location: snohomish to skykomish mp 45.9 add wb left turn lane Project 29	Date of Cost Index: 2006 Calculated By/Entered By: Checked By:

Segment 4

ITEM	UNIT	ESTIMATED UNIT COST	QTY	COST
ITS FOR HOT-LANES	LS	\$0	-	\$0
SC&DI (ITS)	LS	\$0	1	\$0
TRAFFIC CONTROL (10%)	LS	\$43,500	1	\$43,500
5.1 OTHER ITEMS				
SURVEYING (2%)	LS	\$9,600	1	\$9,600
SPECIAL ITEMS	EST	\$163,000	1	\$163,000
UTILITY RELOCATIONS	EST	\$0	-	\$0
6 MISCELLANEOUS (30%)	LS	\$195,200	1	\$195,200
7 CONSTRUCTION SUBTOTAL (ITEMS 1 THRU 6)				\$845,700
8 MOBILIZATION (10%)				
10% OF ITEM 7	EST	\$84,600	1	\$84,600
9 SUBTOTAL (ITEMS 7 & 8)				\$930,300
10 SALES TAX				
9.3% OF ITEM 9	EST	\$86,600	1	\$86,600
11 AGREEMENTS (Utilities, WSP, etc.)				
	EST	\$0	1	\$0
12 SUBTOTAL (ITEMS 9 THRU 11)				\$1,016,900
13 CONSTRUCTION				
ENGINEERING (30% OF ITEM 12)	EST	\$306,000	1	\$306,000
14 CONSTRUCTION TOTAL (ITEMS 12 & 13)				\$1,322,900
III. PRELIMINARY WORK				
PRELIMINARY ENGINEERING (30.0% OF ITEM 14)	EST	\$396,900	1	\$396,900
REGIONAL ITS FACILITY (0.5% OF ITEM 14)	EST	\$6,700	1	\$6,700
ENVIRONMENTAL PERMITS	EST	\$0	1	\$0
IV. TOTAL ESTIMATED COST (ITEMS I, 14 & III)				\$1,730,000
V. FUTURE ESTIMATED COST				
FUTURE COST BASED ON INFLATION RATE	Inflation	Const. Year	Cost Index	Future Cost
	3.00%	2010	2006	\$1,950,000

The above opinion of cost is a planning level estimate only. It is based on best available information and scope at the time, not on the results of a detailed engineering study, and is supplied as a budgeting guide only. Perteet, Inc. does not guarantee or warrant the accuracy of this planning level estimate.

PLANNING LEVEL OPINION OF COST

Project Description:	US 2 Corridor Plan	Client:	WSDOT
Corridor Section:	Segment 4	Date:	39098
Location:	snohomish to skykomish	Date of Cost Index:	2006
		Calculated By/Entered By:	0
		Checked By:	0

Segment 4

PLANNING LEVEL OPINION OF COST

Project | US 2 Corridor Plan
 Corridor Segment 4
 Location snohomish to skykomish

Client: WSDOT
 Date: 39098
 Date of Cost Index: 2006
 Calculated By/Entered By: 0
 Checked By: 0

Segment 4

DESIGN ASSUMPTIONS

1	Assumption for:	Design
2	Assumption for:	ROAD DESIGN SPEED Design Speed Mainline: MPH Posted Speed Mainline: MPH
3	Assumption for:	Roadway Horizontal Alignment
4	Assumption for:	Roadway Vertical Alignment Vertical Alignments will not be designed for this stage of planning estimates. Assumptions will be made as to design profile on a level of assumed maximum grades of 5% to 7%.
5	Assumption for:	Existing cross section Mainline travel lanes: 12' It is assumed that existing shoulder pavement is not structurally sound and will be removed, new shoulders will be full depth.
6	Assumption for:	Proposed cross section Mainline travel lanes: 12' Medians: 12' Mainline Shoulders: 6' Turn lane: 12' Sidewalk: 6' Parking: 8'
7	Assumption for:	Walls
8	Assumption for:	Signal/Illumination
9	Assumption for:	Pavement 0.9' HMA 0.7' CSBC
10	Assumption for:	Storm Drainage Assume 1 CB every 200' Assume minimum cover is required.

ESTIMATING ASSUMPTIONS

I.	RIGHT OF WAY Per square foot costs are based on average commercial and residential assessed property tax values of similar properties. Special consideration should be taken for large businesses or elaborate homes. Costs for relocations, condemnations, and administration are based on similar projects in the area. R/W estimated using available WSDOT Right-of-Way plans, GIS Parcel layers and existing ground features from aerial photos.
II.	CONSTRUCTION
	PREPARATION - REMOVAL OF STRUCTURES AND OBSTRUCTIONS. A lump sum of \$10,000 is assumed for large jobs in developed areas. This should be adjusted if there is special knowledge of removals or if the area is very clear of any possible obstructions.
	STORMWATER MITIGATION - DETENTION AND TREATMENT Storm water detention and treatment is used for all new impervious surface area. \$6 per square foot of impervious area is an estimate of what the detention and treatment systems cost for the typical large road job. This cost includes pond excavation and conveyance. This number has been tested and confirmed during SCORE reviews and provides a good approximation of the actual stormwater mitigation costs. If it is known that ROW will have to be purchased and that ROW cost is not included in section I, then \$10 per square foot of impervious area would provide for ROW cost as well as stormwater mitigation costs.
	STRUCTURE Bridge SF is the square footage of the entire new bridge. Bridge widening SF is the square footage of the new portion of the bridge. Bridge abutment retrofit SF would be for retrofitting an existing bridge abutment for earthquake standards or for rebuilding the last span of an abutment for bridge lengthening.
	SURFACING Hot Mix Asphalts are estimated by the ton of HMA. This HMA tonnage should include all bituminous material. It is usually not necessary to break this down beyond this. The item Crushed Surfacing includes all crushed rock base course and / or top course.
	ROADSIDE DEVELOPMENT

PLANNING LEVEL OPINION OF COST

Project | US 2 Corridor Plan
 Corridor Segment 4
 Location snohomish to skykomish

Client: WSDOT
 Date: 3/9/08
 Date of Cost Index: 2006
 Calculated By/Entered By: 0
 Checked By: 0

Segment 4

	Environmental permits and mitigation
	Temporary water pollution and erosion control is estimated at 2% of the total project cost. This is a typical cost of temporary water pollution and erosion control for the typical road project. This number has gone through the SCORE review process. If there is special knowledge that the area is not sensitive and will not require much TESC then this number could be decreased.
	TRAFFIC
	OTHER ITEMS
	Utility Relocation is the cost of relocating a major utility as part of the project, and due to special circumstances is paid for by the client and not the utility.
	UNCERTAINTY FACTOR
	The Uncertainty Factor is to take into account any uncertainty in the quantity of the item that it is being applied to. The Uncertainty Factor takes into account variability due to limited information available, preliminary or incomplete design, very preliminary review of site conditions, etc. and utilizes a scale from 1 to 2. Applying these factors involves the use of Engineering Judgment. The following is a summary of factors (see more detailed information regarding Uncertainty Factor values, attached sheet).
	General values to use are as follows:
	1 = The quantity is fairly accurate for preliminary design and the calculated quantity is unlikely to change within 10% if the design remains the same.
	1.2 = The calculated quantity could vary due to actual site conditions at the time of construction and due to details of actual design, and there is some variability due to information available.
	1.4 = There is a good deal of uncertainty in the calculated quantity and there is a possibility that the quantity will change.
	2.0 = It is very uncertain as to the calculated quantity and it is very likely that the number will probably be higher, however it is difficult to calculate this number in preliminary design stages.
	SIGNIFICANT DIGITS AND ROUNDING
	Special attention needs to be given to the significant digits used and when rounding is applied to numbers used within this spreadsheet. This is a preliminary opinion of cost. Thus the accuracy of the numbers used within this cost estimate are usually not to the nearest dollar. A good rule of thumb is as follows:
	- Round individual entries (Roadway Ex., Gravel Borrow, etc.) to a decent round number that represents the level of accuracy, and should be done within the individual quantity sheets. For example, round 399 CY to 400 CY, or round 526,345 CY to 526,000 CY.
	- Round up the final total of the estimate. Round the final number to two or three significant digits, or use half of the numbers left of the decimal point as significant digits.
	- Rounding at intermediate totals and summaries within the spreadsheet should be avoided as these will just introduce compounding error. The only numbers that should be rounded are the values input into the summary spreadsheet and the final cost number.

PLANNING LEVEL OPINION OF COST

Project Description: US 2 Corridor Plan
 Corridor Section: Segment 4
 Location: snohomish to skykomish

Segment 4

Planning Level Opinion of Cost - Uncertainty Factor Values

ITEM	U _f	Comment
ROW	1.?	If you get exact land values you could use 1.2 or ? to adjust for inflation and actual sale price. If using some estimated value per SF and you are confident in your areas then I would use 1. Any fluff factor is in the SF value.
Clearing and Grubbing	1.?	User specified. If you're already estimating very high then use 1.
Removing Pavement	1	This should be a pretty specific value.
Removal of Structures and Obstructions	1	We're using a big lump sum value and there are contingencies being added to this in the summary sheet.
Roadway Excavation	1.?	User specified. If you're estimating high then use 1.
Structure Ex. Cl. A	1.?	User specified. If you're estimating high then use 1.
Gravel Borrow	1.15	This should be a pretty specific value.
Embankment Compaction	1.15	This should be a pretty specific value.
Detention and Treatment	1	The area should be pretty specific. There are already contingencies in the cost / SF value.
Storm Sewer Items	1.?	User specific.
Structure Ex. Cl. B	1.?	Same as used for pipe length.
Bridge	1	This should be a very specific value.
Retaining Wall	1.0-1.1	This should be pretty specific.
Remove Bridge	1	This should be a very specific value.
Noise Wall	1.0-1.1	This should be pretty specific.
Pavement	1.15	This should be pretty specific. Same as in bid estimate.
CSBC	1.15	This should be pretty specific. Same as in bid estimate.
Fencing	1.?	User specific.
Seeding, Mulching	1.?	User specific.
Environmental Permits	1	We're using a big lump sum value and there are contingencies being added to this in the summary sheet.
Temporary Water Pollution and Erosion Control	1	We're using a big lump sum value and there are contingencies being added to this in the summary sheet.
Landscaping	1.?	User specific.
Guardrail	1.0-1.1	This should be pretty specific.
Barrier	1.0-1.1	This should be pretty specific.
Signal System	1	This should be a very specific value.
Illumination	1.0-1.1	This should be pretty specific.
Signing	1	We're using a big lump sum value and there are contingencies being added to this in the summary sheet.
Curbs	1.0-1.1	This should be pretty specific.
Sidewalk	1.0-1.1	This should be pretty specific.
Traffic Control	1	We're using a big lump sum value and there are contingencies being added to this in the summary sheet.
Survey	1	We're using a big lump sum value and there are contingencies being added to this in the summary sheet.
Special Items	1.?	User specific.
Utility Agreements	1.?	User specific.

PLANNING LEVEL OPINION OF COST SUMMARY

Project Description: US 2 Corridor Plan	Client: WSDOT
Corridor Section: Segment 4	Date: 39098
Location: snohomish to skykomish	Date of Cost Index: 2006
	Calculated By/Entered By: 0
	Checked By: 0

Segment 4

RIGHT OF WAY

DESCRIPTION	ROW ACQUISITION AREA (SF)	(ACRE)
Urban Developed		
turn around	0	0.0
Additional 10' of R/W from east of 5th to almostMain	0	

Sub Total	0	SF
Uncertainty Factor (U _i)	1.0	
TOTAL	0	SF

DESCRIPTION	ROW ACQUISITION AREA (SF)	(ACRE)
Urban Undeveloped		
Detention and Water Quality	0	0.0
Wetland Mitigation	0	

Sub Total	0	SF
Uncertainty Factor (U _i)	1.0	
TOTAL	0	SF

DESCRIPTION	ROW ACQUISITION AREA (EA)	
Relocations: Businesses	0	Parcel acquisitions only

Sub Total	0	EA
TOTAL	0	

DESCRIPTION	ROW ACQUISITION TYPE (EA)	
Relocations: Residences	0	Parcel acquisitions only

Sub Total	0	EA
TOTAL	0	

DESCRIPTION	ROW ACQUISITION TYPE (EA)	
Condemnations	0	Assume that 30% of all properties acquired will require condemnations

Sub Total	0	EA
TOTAL	0	

DESCRIPTION	ROW ACQUISITION TYPE (EA)	
Administration	0	All properties acquired will require administration (title search, etc.)

Sub Total	0	EA
TOTAL	0	

PLANNING LEVEL OPINION OF COST SUMMARY

Project Description:	US 2 Corridor Plan	Client: WSDOT
Corridor Section:	Segment 4	Date: 39098
Location:	snohomish to skykomish	Date of Cost Index: 2006
		Calculated By/Entered By: 0
		Checked By: 0

Segment 4

ACRE CLEARING AND GRUBBING

DESCRIPTION	AREA			
	Length 1,000	Width 12	SF 12000	(ACRE) 0.3
				0.3
		sub-total		0.3

DETENTION PONDS

POND LOCATION	BOTTOM OF POND		SIDE SLOPES 1 : H	HEIGHT (FT)	LENGTH (FT)	TOP OF POND		AREA (ACRE)
	LENGTH (FT)	WIDTH (FT)				WIDTH (FT)	AREA (SF)	
	1500	12	0	6	1500	12	18,000	0.4
							sub-total	0.5
							Sub Total	0.8
							Uncertainty Factor (U)	1
							TOTAL	0.8

PLANNING LEVEL OPINION OF COST SUMMARY

Project Description:	US 2 Corridor Plan	Client: WSDOT
Corridor Section:	Segment 4	Date: 39098
Location:	snohomish to skykomish	Date of Cost Index: 2006
		Calculated By/Entered By: 0
		Checked By: 0

Segment 4

SY REMOVING EXISTING PAVEMENT

DESCRIPTION	LENGTH (FT)	WIDTH (FT)	AREA (SF)	AREA (SY)
	0	12	0	0

Sub Total	0
Uncertainty Factor (U_i)	1
TOTAL	0

PLANNING LEVEL OPINION OF COST SUMMARY

Project Description:	US 2 Corridor Plan	Client: WSDOT
Corridor Section:	Segment 4	Date: 39098
Location:	snohomish to skykomish	Date of Cost Index: 2006
		Calculated By/Entered By: 0
		Checked By: 0

Segment 4

LS REMOVAL OF STRUCTURES AND OBSTRUCTIONS

General removal of structures and obstructions is based on general items, see assumptions sheet.
 Assume \$15,000 for small building, \$30,000 for small commercial building, use best engineering judgement for a large commercial building (hotel, strip mall, etc.)
 For project of \$3 million or more, assume \$10,000 of unknown structures and obstructions.

DESCRIPTION	LS PRICE
General items, see assumptions sheet.	\$30,300
Commercial Buildings	\$0

Sub Total	\$30,300
Uncertainty Factor (U_i)	1
TOTAL	\$30,300

PLANNING LEVEL OPINION OF COST SUMMARY

Project Description:	US 2 Corridor Plan	Client: WSDOT
Corridor Section:	Segment 4	Date: 01/16/07
Location:	snohomish to skykomish	Date of Cost Index: 2006
		Calculated By/Entered By: 0
		Checked By: 0

Segment 4

C.Y. ROADWAY EXCAVATION INCL. HAUL

ROADWAY	LENGTH	WIDTH	DEPTH	VOLUME	
	(LF)	(FT)	(FT)	(CF)	(CY)
Section 1	1,500	16	2.0	48000	1778

Sub Total	1,778	CY
Uncertainty Factor (U)	1.15	
TOTAL	2,100	CY

PLANNING LEVEL OPINION OF COST SUMMARY

Project Description:	US 2 Corridor Plan	Client: WSDOT
Corridor Section:	Segment 4	Date: 01/16/07
Location:	snohomish to skykomish	Date of Cost Index: 2006
		Calculated By/Entered By: 0
		Checked By:

Segment 4

TON BORROW INCL. HAUL
C.Y. EMBANKMENT COMPACTION

Fill for shoulders

DESCRIPTION	WIDTH (FT)	LENGTH (FT)	MAX DEPTH (FT)	MIN DEPTH (FT)	VOLUME (CF)	SELECT BORROW		COMPACTION VOLUME (CY)
						VOLUME (CY)	VOLUME (TON)	
	12	1,000	3	3	18,000	667	1,240	667

	BORROW VOLUME (TON)	COMPACTION VOLUME (CY)
Sub Total	1,240	667
Uncertainty Factor (U)	1.15	1.15
TOTAL	1,500	800

PLANNING LEVEL OPINION OF COST SUMMARY

Project Description: US 2 Corridor Plan	Client: WSDOT
Corridor Section: Segment 4	Date: 01/16/07
Location: snohomish to skykomish	Date of Cost Index: 2006
	Calculated By/Entered By: 0
	Checked By: 0

Segment 4

SF DETENTION & TREATMENT

12' lane + 8' shoulder

DESCRIPTION	Length FT	Width FT	AREA (SF)
	1000	12	12,000

This table for calculating Pond ROW requirements only.

Pond Area Calculations

Prorated Detention Volume Required	5,280	CF
Prorated Water Quality Volume Required	1032	CF
Detention Bottom Area (based on 3' depth)	1760	SF
WQ Surface Area (Based on 3' WQ depth)	344	SF
Greater of Detention and WQ areas	1760	SF
Pond Bottom Length (3:1 aspect ratio)	73	FT
Pond Bottom Width	24	FT
Pond Top Length (3' depth +1' Freeboard @3:1)	97	FT
Pond Length Outside of Berm (1-6' berm +1-15' berm for acces.)	118	FT
Pond Length at Outside to of Berm (4' @2:1)	134	FT
Pond Top Width (3' depth +1' Freeboard @3:1)	48	FT
Pond Width Outside of Berm (1-6' berm +1-15' berm for acces.)	69	FT
Pond Width at Outside to of Berm (4' @2:1)	85	FT

Pond Footprint Dimensions	90 x140	FTxFT
Pond Footprint Area	12,600	SF
	0.29	Ac.

Sub Total	12,000
Uncertainty Factor (U_i)	1
TOTAL	12,000

PLANNING LEVEL OPINION OF COST SUMMARY

Project Description:	US 2 Corridor Plan	Client: WSDOT
Corridor Section:	Segment 4	Date: 01/16/07
Location:	snohomish to skykomish	Date of Cost Index: 2006
		Calculated By/Entered By: 0
		Checked By: 0

Segment 4

DRAINAGE

Drainage estimate is based on the length of road
 Assume 1 CB every 200', both sides of roadway, unless superelevated.

DESCRIPTION	LENGTH (LF)	12" Plain Conc Pipe (LF)	18" Plain Conc Pipe (LF)	Type 1 CB (EA)	Type 2 CB (EA)
Section 1	0	0	0	0	0

	12" PIPE (LF)	18" PIPE (LF)	CB Type 1 (EA)	CB Type 2
Sub Total	0	0	0	0
Uncertainty Factor (U)	1.1	1.1	1.1	1.1
TOTAL	0	0	0	0

PLANNING LEVEL OPINION OF COST SUMMARY

Project Description:	US 2 Corridor Plan	Client: WSDOT
Corridor Section:	Segment 4	Date: 01/16/07
Location:	snohomish to skykomish	Date of Cost Index: 2006
		Calculated By/Entered By: 0
		Checked By: 0

Segment 4

CY STRUCTURE EXCAVATION CLASS B INCL. HAUL

DESCRIPTION	PIPE LENGTH (FT)	TRENCH WIDTH (FT)	AVERAGE DEPTH BELOW EX. GROUND (FT)	TOTAL VOLUME (CF)	TOTAL VOLUME (CY)
	1,000	6.0	3	18,000	667
	0	4.0	5	0	0

Sub Total	667
Uncertainty Factor (U_i)	1.1
TOTAL	800

PLANNING LEVEL OPINION OF COST SUMMARY

Project Description:	US 2 Corridor Plan	Client: WSDOT
Corridor Section:	Segment 4	Date: 01/16/07
Location:	snohomish to skykomish	Date of Cost Index: 2006
		Calculated By/Entered By: 0
		Checked By: 0

Segment 4

SF BRIDGE STRUCTURE

DESCRIPTION	LENGTH (FT)	WIDTH (FT)	AREA (SF)
STEEL THRU TRUSS	0	0	0

Sub Total	0	SF
Uncertainty Factor (U_i)	1.1	
TOTAL	0	SF

DESCRIPTION	LENGTH (FT)	WIDTH (FT)	AREA (SF)
BRIDGE WIDENING Bridge No.	0	0	0

Sub Total	0	SF
Uncertainty Factor (U_i)	1.1	
TOTAL	0	SF

PLANNING LEVEL OPINION OF COST SUMMARY

Project Description:	US 2 Corridor Plan	Client: WSDOT
Corridor Section:	Segment 4	Date: 01/16/07
Location:	snohomish to skykomish	Date of Cost Index: 2006
		Calculated By/Entered By: 0
		Checked By: 0

Segment 4

MSE WALL WITH PRECAST PANELS

Use MSE with precast panels for fill structre

DESCRIPTION	LENGTH (FT)	LOW DEPTH (FT)	HIGH DEPTH (FT)	AREA (AVG DEPTH) (SF)	NO. OF SIDES	TOTAL (SF)
	1000	2 FT	2 FT	2000	1	2000

Sub Total	2,000
Uncertainty Factor (U _i)	1
TOTAL	2,000

PLANNING LEVEL OPINION OF COST SUMMARY

Project Description:	US 2 Corridor Plan	Client: WSDOT
Corridor Section:	Segment 4	Date: 01/16/07
Location:	snohomish to skykomish	Date of Cost Index: 2006
		Calculated By/Entered By: 0
		Checked By: 0

Segment 4

SF BRIDGE REMOVAL

DESCRIPTION	LENGTH (FT)	WIDTH (FT)	AREA (SF)
Bridge No.	0	0	0

Sub Total	0	SF
Uncertainty Factor (U_i)	1	
TOTAL	0	

PLANNING LEVEL OPINION OF COST SUMMARY

Project Description:	US 2 Corridor Plan	Client: WSDOT
Corridor Section:	Segment 4	Date: 01/16/07
Location:	snohomish to skykomish	Date of Cost Index: 2006
		Calculated By/Entered By: 0
		Checked By: 0
Segment 4		

SF NOISE WALL

Use a panel height of 15'

DESCRIPTION	LENGTH (FT)	Height (FT)	AREA (SF)
			0

Sub Total	0	SF
Uncertainty Factor (U_i)	1	
TOTAL	0	

PLANNING LEVEL OPINION OF COST SUMMARY

Project Description:	US 2 Corridor Plan	Client: WSDOT
Corridor Section:	Segment 4	Date: 01/16/07
Location:	snohomish to skykomish	Date of Cost Index: 2006
		Calculated By/Entered By: 0
		Checked By: 0

Segment 4

	HOT MIX ASPHALT						
DESCRIPTION	Length (FT)	Width (FT)	AREA (SF)	DEPTH (FT)	(CF)	VOLUME (CY)	(TON)
	1,000	12	12000	1.0	12000	444	911

Sub Total	911	TON
Uncertainty Factor (U)	1.1	
TOTAL	1100	TON

PLANNING LEVEL OPINION OF COST SUMMARY

Project Description: US 2 Corridor Plan	Client: WSDOT
Corridor Section: Segment 4	Date: 01/16/07
Location: snohomish to skykomish	Date of Cost Index: 2006
	Calculated By/Entered By: 0
	Checked By: 0

Segment 4

TON CRUSHED SURFACING BASE COURSE/TOP COURSE

DESCRIPITON	AREA (SF)	DEPTH (FT)	(CF)	VOLUME (CY)	(TON)
	12000	1.0	12000	444	822

Sub Total	822	TON
Uncertainty Factor (U)	1.15	
TOTAL	1000	TON

PLANNING LEVEL OPINION OF COST SUMMARY

Project Description:	US 2 Corridor Plan	Client: WSDOT
Corridor Section:	Segment 4	Date: 01/16/07
Location:	snohomish to skykomish	Date of Cost Index: 2006
		Calculated By/Entered By: 0
		Checked By: 0

Segment 4

LF FENCING

DESCRIPTION	LENGTH (LF)	NO. OF SIDES	TOTAL (LF)
		1	0

Sub Total	0
Uncertainty Factor (U_f)	1
TOTAL	0

PLANNING LEVEL OPINION OF COST SUMMARY

Project Description:	US 2 Corridor Plan	Client: WSDOT
Corridor Section:	Segment 4	Date: 01/16/07
Location:	snohomish to skykomish	Date of Cost Index: 2006
		Calculated By/Entered By: 0
		Checked By: 0

Segment 4

ACRE SEEDING, MULCHING & FERTILIZING

DESCRIPTION	SF	ACRE
Clearing/Grubbing Area	12,000	0.3
Landscape Area	12000	0.3

Sub Total	0.6
Uncertainty Factor (U_i)	1
TOTAL	0.6

PLANNING LEVEL OPINION OF COST SUMMARY

Project Description: US 2 Corridor Plan	Client: WSDOT
Corridor Section: Segment 4	Date: 01/16/07
Location: snohomish to skykomish	Date of Cost Index: 2006
	Calculated By/Entered By: 0
	Checked By: 0

Segment 4

ENVIRONMENTAL PERMITS - MITIGATION

DESCRIPTION		APPROXIMATE IMPACT AREA (SF)	REPLACEMENT RATIO X:1	MITIGATION AREA (SF)	
Wetland Mitigation					
Wetland Buffer		0	1	0	
Wetland	ditch N	0	1	0	
	ditch S	0	1	0	
				Sub Total	0 SF
				@	\$45.91 per SF
				Sub Total \$	\$0
				Uncertainty Factor (U_i)	1
				TOTAL \$	\$0 LS \$

DESCRIPTION		APPROXIMATE IMPACT AREA (SF)	REPLACEMENT RATIO X:1	MITIGATION AREA (SF)	
Wetland Mitigation					
Stream Buffer			1	0	
Stream			7	0	
				Sub Total	0 SF
				@	\$45.91 per SF
				Sub Total \$	\$0
				Uncertainty Factor (U_i)	1
				TOTAL \$	\$0 LS \$

Total Mitigation Cost	\$0 LS \$
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PERMITS	AGENCY	PERMIT FOR ENTIRE SEGMENT	PERMIT FOR INDIVIDUAL SEG.	Lump Sum	
401 Water Quality Certification	DOE			\$ -	
Local Agency Review	CAR, CG, FP			0 \$ -	
Hydraulic Permit Approval	WDFW			0 \$ -	
Section 404 Permit (NW or Indiv)	Army Corps			\$ -	
Shoreline Permit	Local Agency			\$ -	
NEPA/SEPA + DRs	WSDOT	0		\$ -	
Coastal Zone Management Certification	DOE			\$ -	
NPDES	DOE	0		\$ -	
				Sub Total \$	- LS \$
				Uncertainty Factor (U_i)	1
				TOTAL	\$0 LS \$

PLANNING LEVEL OPINION OF COST SUMMARY

Project Description:	US 2 Corridor Plan	Client: WSDOT
Corridor Section:	Segment 4	Date: 01/16/07
Location:	snohomish to skykomish	Date of Cost Index: 2006
		Calculated By/Entered By: 0
		Checked By: 0

Segment 4

LS LANDSCAPING

\$75,000 per acre

DESCRIPTION	Length FT	Width FT	Area SF	Area ACRE	LS PRICE
	1,000	12	12000	0.28	\$20,661

Sub Total	12000.00	\$20,661
	Uncertainty Factor (U_i)	1
	TOTAL	\$21,000

PLANNING LEVEL OPINION OF COST SUMMARY

Project Description:	US 2 Corridor Plan	Client: WSDOT
Corridor Section:	Segment 4	Date: 01/16/07
Location:	snohomish to skykomish	Date of Cost Index: 2006
		Calculated By/Entered By: 0
		Checked By: 0

Segment 4

Guardrail

DESCRIPTION	LENGTH (LF)	NO. OF SIDES	TOTAL (FT)
	500	1	500

Sub Total	500
Uncertainty Factor (U _i)	1
TOTAL	500

PLANNING LEVEL OPINION OF COST SUMMARY

Project Description:	US 2 Corridor Plan	Client: WSDOT
Corridor Section:	Segment 4	Date: 01/16/07
Location:	snohomish to skykomish	Date of Cost Index: 2006
		Calculated By/Entered By: 0
		Checked By: 0
Segment 4		

Barrier Required on fill structure/MSE wall

DESCRIPTION	LENGTH (LF)	NO. OF SIDES	TOTAL (LF)
	0	1	0

Sub Total	0
Uncertainty Factor (U_f)	1
TOTAL	0

PLANNING LEVEL OPINION OF COST SUMMARY

Project Description:	US 2 Corridor Plan	Client: WSDOT
Corridor Section:	Segment 4	Date: 01/16/07
Location:	snohomish to skykomish	Date of Cost Index: 2006
		Calculated By/Entered By: 0
		Checked By: 0

Segment 4

LS SIGNAL SYSTEM

Use \$250,000 for new signal systems
 Use \$150,000 for signal system revisions

NEW SIGNAL SYSTEMS	LS PRICE						
	\$0						
	\$0						
	\$0						
SIGNAL SYSTEM REVISIONS	LS PRICE						
	\$0						
	\$0						
	\$0						
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: right;">Sub Total</td> <td style="text-align: right;">\$0</td> </tr> <tr> <td style="text-align: right;">Uncertainty Factor (U_f)</td> <td style="text-align: right;">1</td> </tr> <tr> <td style="text-align: right;">TOTAL</td> <td style="text-align: right;">\$0</td> </tr> </table>		Sub Total	\$0	Uncertainty Factor (U_f)	1	TOTAL	\$0
Sub Total	\$0						
Uncertainty Factor (U_f)	1						
TOTAL	\$0						

PLANNING LEVEL OPINION OF COST SUMMARY

Project Description:	US 2 Corridor Plan	Client: WSDOT
Corridor Section:	Segment 4	Date: 01/16/07
Location:	snohomish to skykomish	Date of Cost Index: 2006
		Calculated By/Entered By: 0
		Checked By: 0

Segment 4

LS ILLUMINATION SYSTEM

*Use luminaire spacing of one every 250', one side

DESCRIPTION	LENGTH (LF)	NO. OF SIDES	TOTAL (EA)
Section 1	1,000	0	0
		Sub Total	0
		@	4,000 EA
		\$ Sub Total	\$0
		Uncertainty Factor (U_f)	1
		TOTAL	\$0

DESCRIPTION	LUMP SUM
	\$0

Sub Total	\$0
Uncertainty Factor (U_f)	1
TOTAL	\$0

TOTAL LUMP SUM \$0

PLANNING LEVEL OPINION OF COST SUMMARY

Project Description:	US 2 Corridor Plan	Client: WSDOT
Corridor Section:	Segment 4	Date: 01/16/07
Location:	snohomish to skykomish	Date of Cost Index: 2006
		Calculated By/Entered By: 0
		Checked By: 0

Segment 4

LS SIGNING

DESCRIPTION	Length		LS PRICE
	FT	Mile	
	1,000	0.19	\$10,000
			\$0
			\$0
			\$0

Sub Total	\$10,000
Uncertainty Factor (U_i)	1
TOTAL	\$10,000

PLANNING LEVEL OPINION OF COST SUMMARY

Project Description:	US 2 Corridor Plan	Client: WSDOT
Corridor Section:	Segment 4	Date: 01/16/07
Location:	snohomish to skykomish	Date of Cost Index: 2006
		Calculated By/Entered By: 0
		Checked By: 0

Segment 4

LF CURBS

Includes all types of curb used in project

DESCRIPTION	LENGTH (LF)	NO. OF SIDES	TOTAL (LF)
Cement Conc Curb & Gutter Section 1	1,000	0	0

DESCRIPTION	LENGTH (LF)	NO. OF SIDES	TOTAL (LF)
Roundabout 1	0	0	0
Roundabout 2	0	0	0

Extruded Curb	0	1	0
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Sub Total	0
Uncertainty Factor (U_f)	1.1
TOTAL	0

PLANNING LEVEL OPINION OF COST SUMMARY

Project Description: US 2 Corridor Plan	Client: WSDOT
Corridor Section: Segment 4	Date: 01/16/07
Location: snohomish to skykomish	Date of Cost Index: 2006
	Calculated By/Entered By: 0
	Checked By: 0

Segment 4

SF SIDEWALK

DESCRIPTION	LENGTH (FT)	WIDTH (FT)	No. of Sides	AREA (SY)
Section 1	1,000	0	0	0

	LENGTH (FT)	WIDTH (FT)	AREA (SY)
Roundabout 1	0	0	0
Roundabout 2	0	0	0

Sub Total	0	SY
Uncertainty Factor (U_f)	1.1	
TOTAL	0	

PLANNING LEVEL OPINION OF COST SUMMARY

Project Description:	US 2 Corridor Plan	Client:	WSDOT
Corridor Section:	Segment 4	Date:	01/16/07
Location:	snohomish to skykomish	Date of Cost Index:	2006
		Calculated By/Entered By:	0
		Checked By:	0

Segment 4

LS ITS Hot Lanes

DESCRIPTION	LS PRICE
	\$0
	\$0

Sub Total	\$0
Uncertainty Factor (U_i)	1
TOTAL	\$0

PLANNING LEVEL OPINION OF COST SUMMARY

Project Description:	US 2 Corridor Plan	Client:	WSDOT
Corridor Section:	Segment 4	Date:	01/16/07
Location:	snohomish to skykomish	Date of Cost Index:	2006
		Calculated By/Entered By:	0
		Checked By:	0

Segment 4

LS SC&DI (ITS)

DESCRIPTION	LS PRICE
ITS Traveler Information	\$0
	\$0
	\$0
	\$0

Sub Total	\$0
Uncertainty Factor (U _i)	1
TOTAL	\$0

PLANNING LEVEL OPINION OF COST SUMMARY

Project Description:	US 2 Corridor Plan	Client: WSDOT
Corridor Section:	Segment 4	Date: 01/16/07
Location:	snohomish to skykomish	Date of Cost Index: 2006
		Calculated By/Entered By: 0
		Checked By: 0

Segment 4

LS TRAFFIC CONTROL

Use 10% of Construction Costs	Construction	10%
	Items	
Total Const items from summary sheet	\$ 434,400	\$ 43,440

Sub Total	\$ 43,440
Uncertainty Factor (U_i)	1
TOTAL	\$ 43,500

PLANNING LEVEL OPINION OF COST SUMMARY

Project Description:	US 2 Corridor Plan	Client: WSDOT
Corridor Section:	Segment 4	Date: 01/16/07
Location:	snohomish to skykomish	Date of Cost Index: 2006
		Calculated By/Entered By: 0
		Checked By: 0

Segment 4

LS SURVEY

Use 2% of Construction Costs	Construction	2%
	Items	
Total Const items from summary sheet	\$ 477,900	\$ 9,558

Sub Total	\$	9,558
Uncertainty Factor (U_i)		1
TOTAL	\$	9,600

PLANNING LEVEL OPINION OF COST SUMMARY

Project Description:	US 2 Corridor Plan	Client: WSDOT
Corridor Section:	Segment 4	Date: 01/16/07
Location:	snohomish to skykomish	Date of Cost Index: 2006
		Calculated By/Entered By: 0
		Checked By: 0
Segment 4		

LS SPECIAL ITEMS

Identify any special items included in the project.

DESCRIPTION	LS PRICE
Rumble Strip	\$800
unsuitable foundation excavation	\$5,500
Training	\$2,500
Soil residual herbicide	\$4,000.00
pavement marking	\$20,000
traffic control labor and safety	100000
shoring and extra excavation	20000
trim	10000
<hr/>	
Sub Total	\$162,800
Uncertainty Factor (U_i)	1
TOTAL	\$163,000

PLANNING LEVEL OPINION OF COST SUMMARY

Project Description: US 2 Corridor Plan	Client: WSDOT
Corridor Section: Segment 4	Date: 01/16/07
Location: snohomish to skykomish	Date of Cost Index: 2006
	Calculated By/Entered By: 0
	Checked By: 0
Segment 4	

LS UTILITY RELOCATIONS / AGREEMENTS

Explain any obvious utility work. If outside existing ROW that will be impacted it will cost WSDOT and will need an estimate. If State Patrol will be needed for traffic control give an estimate based on working days.

DESCRIPTION RELOCATIONS	LS PRICE
Relocate Utility Poles	\$0

Sub Total	\$0
Uncertainty Factor (U_i)	1
TOTAL	\$0

DESCRIPTION AGREEMENTS	LS PRICE
	\$0

Sub Total	\$0
Uncertainty Factor (U_i)	1
TOTAL	\$0