

CONSTRUCTION COST FOR ROAD

Segment 6(4-lane) (No.100' - No.143')

Item	Sub-Item	Class	Unit	Quantity	Unit Cost			Construction Cost				Remarks
					F.C	L.C	Tax	F.C	L.C	Tax	Total	
Site Clearing	Residential		m ²	0	1.80	1.20	0.15	0	0	0	0	
	Field		m ²	0	0.25	0.16	0.02	0	0	0	0	
	Mountain		m ²	163,130	0.35	0.20	0.03	57,095.50	32,626	4,893.90	94,615.40	
Excavation	Soil		m ³	353,000	1.18	0.85	0.10	416,540	300,050	35,300	751,890	
	Rock		m ³	223,500	5.51	10.68	0.81	1,231,485	2,386,980	181,035	3,799,500	
Embankment			m ³	164,200	1.40	0.90	0.11	229,880	147,780	18,062	395,722	
Slope	Grass		m ²	29,850	0	5.00	0.30	0	149,250	8,955	158,205	
	Concrete		m ²	21,590	4.80	3.80	0.70	103,632	82,042	15,113	200,787	
Turfing	Sidewalk	Grass & Tree	m ²	0	1.20	4.70	0.30	0	0	0	0	
	Open Space	Grass	m ²	0	0	5.00	0.30	0	0	0	0	
Drainage	Roadside	0.5 x 1.0	m	1,600	48.50	101.30	6.10	77,600	162,080	9,760	249,440	
		1.0 x 1.0	m	7,000	54.00	99.10	6.60	378,000	693,700	46,200	1,117,900	
	Pipe Culvert	600	m	344	59.30	91.40	6.80	20,399.20	31,441.60	2,339.20	54,180	
	Box Culvert	3.0 x 3.0	m	265	609.50	702.15	77.40	161,517.50	186,069.75	20,511	368,098.25	
		5.0 x 5.0	m	0	1,374.30	1,563.90	162.70	0	0	0	0	
Demolishing	0.5 x 1.0	m	0	6.80	3.10	0.90	0	0	0	0		
Wall	Concrete	H = 5.0	m	0	459.60	557.90	58.30	0	0	0	0	
	Masonry	H = 5.0	m	0	76.00	116.80	9.70	0	0	0	0	
	Revetment	Stone	m	0	671.10	1,110.50	123.60	0	0	0	0	

CONSTRUCTION COST FOR ROAD (CON'T)

Segment 6 (4-lane) (No.100' - No.143')

Item	Sub-Item	Class	Unit	Quantity	Unit Cost			Construction Cost				Remarks
					F.C	L.C	Tax	F.C	L.C	Tax	Total	
Pavement	Carriageway	Asphalt	m ²	50,240	15.9	11.6	1.3	798,816	582,784	65,312	1,446,912	
	Shoulder	Asphalt	m ²	7,080	12.4	8.3	1.0	87,792	58,764	7,080	153,636	
	Service Road	Asphalt	m ²	0	12.4	8.3	1.0	0	0	0	0	
	Sidewalk	Concrete Block	m ²	6,400	6.1	8.4	0.8	39,040	53,760	5,120	97,920	
	Overlay	Asphalt	m ²	0	2.5	10.3	1.4	0	0	0	0	
Additional Facility	Kerb	Concrete	m	8,600	5.7	12.6	0.9	49,020	108,360	7,740	165,120	
	Central Reserved	Concrete	m	4,300	10.4	25.2	1.8	44,720	108,360	7,740	160,820	
	Guard Rail	Steel	m	4,300	34.5	10.3	4.4	148,350	44,290	18,920	211,560	
	Lighting	Steel	m	0	11.0	9.0	1.0	0	0	0	0	
	Lane-Marks	Paint	m	4,300	0.3	0.6	0.05	1,290	2,580	215	4,085	
Intersection	At-Grade		No.	3	30,534.8	59,728.4	2,706.2	91,604.4	179,185.2	8,118.6	278,908.2	
	Interchange		Vol.	0	705,314.0	775,542.6	74,928.8	0	0	0	0	
Bridge	L ≤ 50	Concrete	m ²	-	-	-	-	-	-	-	-	
	L > 50	Concrete	m ²	-	-	-	-	-	-	-	-	
Approach	Road		m	0	428.2	461.3	45.1	0	0	0	0	
TOTAL								3,936,781	5,310,102	462,414.7	9,709,298	

CONSTRUCTION COST FOR ROAD

Segment 6 (2-lane) (No.100' - No.143')

Item	Sub-Item	Class	Unit	Quantity	Unit Cost			Construction Cost				Remarks
					F.C	L.C	Tax	F.C	L.C	Tax	Total	
Site Clearing	Residential		m ²	0	1.80	1.20	0.15	0	0	0	0	
	Field		m ²	0	0.25	0.16	0.02	0	0	0	0	
	Mountain		m ²	118,125	0.35	0.20	0.03	41,343.75	23,625	3,543.75	68,512.50	
Excavation	Soil		m ³	272,050	1.18	0.85	0.10	321,019	231,242.50	27,205	579,466.50	
	Rock		m ³	178,700	5.51	10.68	0.81	984,637	1,908,516	144,747	3,037,900	
Embankment			m ³	102,160	1.40	0.90	0.11	143,024	91,944	11,237.60	246,205.60	
Slope	Grass		m ²	30,170	0	5.00	0.30	0	150,850	9,051	159,901	
	Concrete		m ²	23,050	4.80	3.80	0.70	110,640	87,590	16,135	214,365	
Turfing	Sidewalk	Grass & Tree	m ²	0	1.20	4.70	0.30	0	0	0	0	
	Open Space	Grass	m ²	0	0	5.00	0.30	0	0	0	0	
Drainage	Roadside	0.5 x 1.0	m	1,600	48.50	101.30	6.10	77,600	162,080	9,760	249,440	
		1.0 x 1.0	m	7,000	54.00	99.10	6.60	378,000	693,700	46,200	1,117,900	
	Pipe Culvert	600	m	229	59.30	91.40	6.80	13,579.70	20,930.60	1,557.20	36,067.50	
	Box Culvert	3.0 x 3.0	m	205	609.50	702.15	77.40	124,947.50	143,940.75	15,867	284,755.25	
		5.0 x 5.0	m	0	1,374.30	1,563.90	162.70	0	0	0	0	
	Demolishing	0.5 x 1.0	m	0	6.80	3.10	0.90	0	0	0	0	
Wall	Concrete	H = 5.0	m	0	459.60	557.90	58.30	0	0	0	0	
	Masonry	H = 5.0	m	0	76.00	116.80	9.70	0	0	0	0	
	Revetment	Stone	m	0	671.10	1,110.50	123.60	0	0	0	0	

CONSTRUCTION COST FOR ROAD (CON'T)

Segment 6 (2-lane) (No.100' - No.143')

Item	Sub-Item	Class	Unit	Quantity	Unit Cost			Construction Cost				Remarks
					F.C.	L.C.	Tax	F.C.	L.C.	Tax	Total	
Pavement	Carriageway	Asphalt	m ²	25,120	15.9	11.6	1.3	399,408	291,392	32,656	723,456	
	Shoulder	Asphalt	m ²	9,420	12.4	8.3	1.0	116,808	78,186	9,420	204,414	
	Service Road	Asphalt	m ²	0	12.4	8.3	1.0	0	0	0	0	
	Sidewalk	Concrete Block	m ²	6,400	6.1	8.4	0.8	39,040	53,760	5,120	97,920	
	Overlay	Asphalt	m ²	0	2.5	10.3	1.4	0	0	0	0	
Additional Facility	Kerb	Concrete	m	8,600	5.7	12.6	0.9	49,020	108,360	7,740	165,120	
	Central Reserved	Concrete	m	0	10.4	25.2	1.8	0	0	0	0	
	Guard Rail	Steel	m	4,300	34.5	10.3	4.4	148,350	44,290	18,920	211,560	
	Lighting	Steel	m	0	11.0	9.0	1.0	0	0	0	0	
	Lane-Marks	Paint	m	4,300	0.3	0.6	0.05	1,290	2,580	215	4,085	
Intersection	At-grade		No.	4	30,534.8	59,728.4	2,706.2	122,139.2	238,913.6	10,824.8	371,877.6	
	Interchange		Vol.	0	705,314.0	775,542.6	74,928.8	0	0	0	0	
Bridge	L ≤ 50	Concrete	m ²	-	-	-	-	-	-	-	-	
	L > 50	Concrete	m ²	-	-	-	-	-	-	-	-	
Approach	Road		m	0	428.2	461.3	45.1	0	0	0	0	
TOTAL								3,070,846	4,331,900	370,199	7,772,945	

CONSTRUCTION COST FOR ROAD

Segment 7 (4-lane) (No.143' - No.154' + 50')

Item	Sub-Item	Class	Unit	Quantity	Unit Cost			Construction Cost				Remarks
					F.C	L.C	Tax	F.C	L.C	Tax	Total	
Site Clearing	Residential		m ²	0	1.80	1.20	0.15	0	0	0	0	
	Field		m ²	0	0.25	0.16	0.02	0	0	0	0	
	Mountain		m ²	0	0.35	0.20	0.03	0	0	0	0	
Excavation	Soil		m ³	0	1.18	0.85	0.10	0	0	0	0	
	Rock		m ³	0	5.51	10.68	0.81	0	0	0	0	
Embankment			m ³	273,250	1.40	0.90	0.11	382,550	245,925	30,057.50	658,532.50	
Slope	Grass		m ²	0	0	5.00	0.30	0	0	0	0	
	Concrete		m ²	0	4.80	3.80	0.70	0	0	0	0	
Turfing	Sidewalk	Grass & Tree	m ²	1,150	1.20	4.70	0.30	1,380	5,405	345	7,130	
	Open Space	Grass	m ²	0	0	5.00	0.30	0	0	0	0	
Drainage	Roadside	0.5 x 1.0	m	1,150	48.50	101.30	6.10	55,775	116,495	7,015	179,285	
		1.0 x 1.0	m	0	54.00	99.10	6.60	0	0	0	0	
	Pipe Culvert	600	m	92	59.30	91.40	6.80	5,455.60	8,408.80	625.60	14,490	
	Box Culvert	3.0 x 3.0	m	325	609.50	702.15	77.40	198,087.50	228,198.75	25,155	451,441.25	
		5.0 x 5.0	m	0	1,374.30	1,563.90	162.70	0	0	0	0	
Demolishing	0.5 x 1.0	m	0	6.80	3.10	0.90	0	0	0	0		
Wall	Concrete	H = 5.0	m	200	459.60	557.90	58.30	91,920	111,580	11,660	215,160	
	Masonry	H = 5.0	m	0	76.00	116.80	9.70	0	0	0	0	
	Revetment	Stone	m	1,150	671.10	1,110.50	123.60	771,765	1,277,075	142,140	2,190,980	

CONSTRUCTION COST FOR ROAD (CON'T)

Segment 7 (4-lane) (No.143' - No.154 + 50')

Item	Sub-Item	Class	Unit	Quantity	Unit Cost			Construction Cost				Remarks
					F.C.	L.C.	Tax	F.C.	L.C.	Tax	Total	
Pavement	Carriageway	Asphalt	m ²	18,400	15.9	11.6	1.3	292,560	213,440	23,920	529,920	
	Shoulder	Asphalt	m ²	3,450	12.4	8.3	1.0	42,780	28,635	3,450	74,865	
	Service Road	Asphalt	m ²	0	12.4	8.3	1.0	0	0	0	0	
	Sidewalk	Concrete Block	m ²	11,500	6.1	8.4	0.8	70,150	96,600	9,200	175,950	
	Overlay	Asphalt	m ²	0	2.5	10.3	1.4	0	0	0	0	
Additional Facility	Kerb	Concrete	m	2,300	5.7	12.6	0.9	13,110	28,980	2,070	44,160	
	Central Reserved	Concrete	m	1,150	10.4	25.2	1.8	11,960	28,980	2,070	43,010	
	Guard Rail	Steel	m	2,300	34.5	10.3	4.4	79,350	23,690	10,120	113,160	
	Lighting	Steel	m	1,150	11.0	9.0	1.0	12,650	10,350	1,150	24,150	
	Lane-Marks	Paint	m	1,150	0.3	0.6	0.05	345	690	57.5	1,092.5	
Intersection	At-grade		No.	0	30,534.8	59,728.4	2,706.2	0	0	0	0	
	Interchange		Vol.	0	705,314.0	775,542.6	74,928.8	0	0	0	0	
Bridge	L ≤ 50	Concrete	m ²	-	-	-	-	-	-	-	-	
	L > 50	Concrete	m ²	-	-	-	-	-	-	-	-	
Approach	Road		m	0	428.2	461.3	45.1	0	0	0	0	
TOTAL								2,029,838	2,424,452	269,035.6	4,723,326	

CONSTRUCTION COST FOR ROAD

Segment 7 (2-lane) (No.143' - No.154 + 50')

Item	Sub-Item	Class	Unit	Quantity	Unit Cost			Construction Cost				Remarks
					F.C	L.C	Tax	F.C	L.C	Tax	Total	
Site Clearing	Residential		m ²	0	1.80	1.20	0.15	0	0	0	0	
	Field		m ²	0	0.25	0.16	0.02	0	0	0	0	
	Mountain		m ²	0	0.35	0.20	0.03	0	0	0	0	
Excavation	Soil		m ³	0	1.18	0.85	0.10	0	0	0	0	
	Rock		m ³	0	5.51	10.68	0.81	0	0	0	0	
Embankment			m ³	273,250	1.40	0.90	0.11	382,550	245,925	30,057.50	658,532.50	
Slope	Grass		m ²	0	0	5.00	0.30	0	0	0	0	
	Concrete		m ²	0	4.80	3.80	0.70	0	0	0	0	
Turfing	Sidewalk	Grass & Tree	m ²	1,150	1.20	4.70	0.30	1,380	5,405	345	7,130	
	Open Space	Grass	m ²	0	0	5.00	0.30	0	0	0	0	
Drainage	Roadside	0.5 x 1.0	m	1,150	48.50	101.30	6.10	55,775	116,495	7,015	179,285	
		1.0 x 1.0	m	0	54.00	99.10	6.60	0	0	0	0	
	Pipe Culvert	600	m	92	59.30	91.40	6.80	5,455.60	8,408.80	625.60	14,490	
	Box Culvert	3.0 x 3.0	m	325	609.50	702.15	77.40	198,087.50	228,198.75	25,155	451,441.25	
		5.0 x 5.0	m	0	1,374.30	1,563.90	162.70	0	0	0	0	
	Demolishing	0.5 x 1.0	m	0	6.80	3.10	0.90	0	0	0	0	
Wall	Concrete	H = 5.0	m	0	459.60	557.90	58.30	0	0	0	0	
	Masonry	H = 5.0	m	0	76.00	116.80	9.70	0	0	0	0	
	Revetment	Stone	m	1,150	671.10	1,110.50	123.60	771,765	1,277,075	142,140	2,190,980	

CONSTRUCTION COST FOR ROAD (CON'T)

Segment 7 (2-lane) (No.143' - No.154 + 50')

Item	Sub-Item	Class	Unit	Quantity	Unit Cost			Construction Cost				Remarks
					F.C	L.C	Tax	F.C	L.C	Tax	Total	
Pavement	Carriageway	Asphalt	m ²	9,200	15.9	11.6	1.3	146,280	106,720	11,960	264,960	
	Shoulder	Asphalt	m ²	1,725	12.4	8.3	1.0	21,390	14,317.5	1,725	37,432.5	
	Service Road	Asphalt	m ²	0	12.4	8.3	1.0	0	0	0	0	
	Sidewalk	Concrete Block	m ²	11,500	6.1	8.4	0.8	70,150	96,600	9,200	175,950	
	Overlay	Asphalt	m ²	0	2.5	10.3	1.4	0	0	0	0	
Additional Facility	Kerb	Concrete	m	2,300	5.7	12.6	0.9	13,110	28,980	2,070	44,160	
	Central Reserved	Concrete	m	0	10.4	25.2	1.8	0	0	0	0	
	Guard Rail	Steel	m	2,300	34.5	10.3	4.4	79,350	23,690	10,120	113,160	
	Lighting	Steel	m	1,150	11.0	9.0	1.0	12,650	10,350	1,150	24,150	
	Lane-Marks	Paint	m	1,150	0.3	0.6	0.05	345	690	57.5	1,092.5	
Intersection	At-Grade		No.	1	30,534.8	59,728.4	2,706.2	30,534.8	59,728.4	2,706.2	92,969.4	
	Interchange		Vol.	0	705,314.0	775,542.6	74,928.8	0	0	0	0	
Bridge	L ≤ 50	Concrete	m ²	-	-	-	-	-	-	-	-	
	L > 50	Concrete	m ²	-	-	-	-	-	-	-	-	
Approach	Road		m	0	428.2	461.3	45.1	0	0	0	0	
TOTAL								1,788,822	2,222,583	244,326.8	4,255,733	

CONSTRUCTION COST FOR ROAD

Segment 8 (4-lane) (No.100 - No.112)

Item	Sub-Item	Class	Unit	Quantity	Unit Cost			Construction Cost				Remarks
					F.C	L.C	Tax	F.C	L.C	Tax	Total	
Site Clearing	Residential		m ²	0	1.80	1.20	0.15	0	0	0	0	
	Field		m ²	0	0.25	0.16	0.02	0	0	0	0	
	Mountain		m ²	45,670	0.35	0.20	0.03	15,984.50	9,134	1,370.10	26,488.60	
Excavation	Soil		m ³	88,000	1.18	0.85	0.10	103,840	74,800	8,800	187,440	
	Rock		m ³	169,400	5.51	10.68	0.81	933,394	1,809,192	137,214	2,879,800	
Embankment			m ³	13,550	1.40	0.90	0.11	18,970	12,195	1,490.50	32,655.50	
Slope	Grass		m ²	9,400	0	5.00	0.30	0	47,000	2,820	49,820	
	Concrete		m ²	14,470	4.80	3.80	0.70	69,456	54,986	10,129	134,571	
Turfing	Sidewalk	Grass & Tree	m ²	0	1.20	4.70	0.30	0	0	0	0	
	Open Space	Grass	m ²	0	0	5.00	0.30	0	0	0	0	
Drainage	Roadside	0.5 x 1.0	m	0	48.50	101.30	6.10	0	0	0	0	
		1.0 x 1.0	m	1,120	54.00	99.10	6.60	60,480	110,992	7,392	178,864	
	Pipe Culvert	600	m	89	59.30	91.40	6.80	5,277.70	8,134.60	605.20	14,017.50	
	Box Culvert	3.0 x 3.0	m	0	609.50	702.15	77.40	0	0	0	0	
		5.0 x 5.0	m	0	1,374.30	1,563.90	162.70	0	0	0	0	
	Demolishing	0.5 x 1.0	m	0	6.80	3.10	0.90	0	0	0	0	
Wall	Concrete	H = 5.0	m	200	459.60	557.90	58.30	91,920	111,580	11,660	215,160	
	Masonry	H = 5.0	m	0	76.00	116.80	9.70	0	0	0	0	
	Revetment	Stone	m	0	671.10	1,110.50	123.60	0	0	0	0	

CONSTRUCTION COST FOR ROAD (CON'T)

Segment 8 (4-lane) (No.100 - No.112)

Item	Sub-Item	Class	Unit	Quantity	Unit Cost			Construction Cost				Remarks
					F.C	L.C	Tax	F.C	L.C	Tax	Total	
Pavement	Carriageway	Asphalt	m ²	18,400	15.9	11.6	1.3	292,560	213,440	23,920	529,920	
	Shoulder	Asphalt	m ²	2,400	12.4	8.3	1.0	29,760	19,920	2,400	52,080	
	Service Road	Asphalt	m ²	0	12.4	8.3	1.0	0	0	0	0	
	Sidewalk	Concrete Block	m ²	0	6.1	8.4	0.8	0	0	0	0	
	Overlay	Asphalt	m ²	0	2.5	10.3	1.4	0	0	0	0	
Additional Facility	Kerb	Concrete	m	2,240	5.7	12.6	0.9	12,768	28,224	2,016	43,008	
	Central Reserved	Concrete	m	1,120	10.4	25.2	1.8	11,648	28,224	2,016	41,888	
	Guard Rail	Steel	m	0	34.5	10.3	4.4	0	0	0	0	
	Lighting	Steel	m	0	11.0	9.0	1.0	0	0	0	0	
	Lane-Marks	Paint	m	0	0.3	0.6	0.05	0	0	0	0	
Intersection	At-Grade		No.	0	30,534.8	59,728.4	2,706.2	0	0	0	0	
	Interchange		Vol.	0	705,314.0	775,542.6	74,928.8	0	0	0	0	
Bridge	L ≤ 50	Concrete	m ²	-	-	-	-	-	-	-	-	
	L > 50	Concrete	m ²	-	-	-	-	-	-	-	-	
Approach	Road		m	0	428.2	461.3	45.1	0	0	0	0	
TOTAL								1,646,058	2,527,821	211,832.8	4,385,712	

CONSTRUCTION COST FOR ROAD

Segment 8 (2-lane) (No.100 - No.112)

Item	Sub-Item	Class	Unit	Quantity	Unit Cost			Construction Cost				Remarks
					F.C	L.C	Tax	F.C	L.C	Tax	Total	
Site Clearing	Residential		m ²	0	1.80	1.20	0.15	0	0	0	0	
	Field		m ²	0	0.25	0.16	0.02	0	0	0	0	
	Mountain		m ²	35,170	0.35	0.20	0.03	12,309.50	7,034	1,055.10	20,398.60	
Excavation	Soil		m ³	64,350	1.18	0.85	0.10	75,933	54,697.50	6,435	137,065.50	
	Rock		m ³	13,200	5.51	10.68	0.81	72,732	140,976	10,692	224,400	
Embankment			m ³	6,900	1.40	0.90	0.11	9,660	6,210	759	16,629	
Slope	Grass		m ²	9,720	0	5.00	0.30	0	48,600	2,916	51,516	
	Concrete		m ²	16,470	4.80	3.80	0.70	79,056	62,586	11,529	153,171	
Turfing	Sidewalk	Grass & Tree	m ²	0	1.20	4.70	0.30	0	0	0	0	
	Open Space	Grass	m ²	0	0	5.00	0.30	0	0	0	0	
Drainage	Roadside	0.5 x 1.0	m	0	48.50	101.30	6.10	0	0	0	0	
		1.0 x 1.0	m	1,120	54.00	99.10	6.60	60,480	110,992	7,392	178,864	
	Pipe Culvert	600	m	89	59.30	91.40	6.80	5,277.70	8,134.60	605.20	14,017.50	
	Box Culvert	3.0 x 3.0	m	0	609.50	702.15	77.40	0	0	0	0	
		5.0 x 5.0	m	0	1,374.30	1,563.90	162.70	0	0	0	0	
Demolishing	0.5 x 1.0	m	0	6.80	3.10	0.90	0	0	0	0		
Wall	Concrete	H = 5.0	m	0	459.60	557.90	58.30	0	0	0	0	
	Masonry	H = 5.0	m	0	76.00	116.80	9.70	0	0	0	0	
	Revetment	Stone	m	0	671.10	1,110.50	123.60	0	0	0	0	

CONSTRUCTION COST FOR ROAD (CON'T)

Segment 8 (2-lane) (No.100 - No.112)

Item	Sub-Item	Class	Unit	Quantity	Unit Cost			Construction Cost				Remarks
					F.C	L.C	Tax	F.C	L.C	Tax	Total	
Pavement	Carriageway	Asphalt	m ²	9,700	15.9	11.6	1.3	154,320	112,520	12,610	279,450	
	Shoulder	Asphalt	m ²	3,645	12.4	8.3	1.0	45,198	30,253.5	3,645	79,096.5	
	Service Road	Asphalt	m ²	0	12.4	8.3	1.0	0	0	0	0	
	Sidewalk	Concrete Block	m ²	0	6.1	8.4	0.8	0	0	0	0	
	Overlay	Asphalt	m ²	0	2.5	10.3	1.4	0	0	0	0	
Additional Facility	Kerb	Concrete	m	2,240	5.7	12.6	0.9	12,768	28,224	2,016	43,008	
	Central Reserved	Concrete	m	0	10.4	25.2	1.8	0	0	0	0	
	Guard Rail	Steel	m	0	34.5	10.3	4.4	0	0	0	0	
	Lighting	Steel	m	0	11.0	9.0	1.0	0	0	0	0	
	Lane-Marks	Paint	m	0	0.3	0.6	0.05	0	0	0	0	
Intersection	At-Grade		No.	1	30,534.8	59,728.4	2,706.2	30,354.8	59,728.4	2,706.2	92,789.4	
	Interchange		Vol.	0	705,314.0	775,542.6	74,928.8	0	0	0	0	
Bridge	L ≤ 50	Concrete	m ²	-	-	-	-	-	-	-	-	
	L > 50	Concrete	m ²	-	-	-	-	-	-	-	-	
Approach	Road		m	0	428.2	461.3	45.1	0	0	0	0	
TOTAL								558,089	669,956	62,360.5	1,290,405	

CONSTRUCTION COST FOR ROAD

Segment 9 (4-lane) (No.112 - No.128) Improvement of Gottlieb Road

Item	Sub-Item	Class	Unit	Quantity	Unit Cost			Construction Cost				Remarks
					F.C	L.C	Tax	F.C	L.C	Tax	Total	
Site Clearing	Residential		m ²	15,000	1.80	1.20	0.15	27,000	18,000	2,250	47,250	
	Field		m ²	0	0.25	0.16	0.02	0	0	0	0	
	Mountain		m ²	0	0.35	0.20	0.03	0	0	0	0	
Excavation	Soil		m ³	11,250	1.18	0.85	0.10	13,275	9,562.5	1,125	23,962.5	
	Rock		m ³	0	5.51	10.68	0.81	0	0	0	0	
Embankment			m ³	0	1.40	0.90	0.11	0	0	0	0	
Slope	Grass		m ²	0	0	5.00	0.30	0	0	0	0	
	Concrete		m ²	0	4.80	3.80	0.70	0	0	0	0	
Turfing	Sidewalk	Grass & Tree	m ²	1,500	1.20	4.70	0.30	1,800	7,050	450	9,300	
	Open Space	Grass	m ²	0	0	5.00	0.30	0	0	0	0	
Drainage	Roadside	0.5 x 1.0	m	1,500	48.50	101.30	6.10	72,750	151,950	9,150	233,850	
		1.0 x 1.0	m	0	54.00	99.10	6.60	0	0	0	0	
	Pipe Culvert	600	m	90	59.30	91.40	6.80	5,337	8,226	612	14,175	
	Box Culvert	3.0 x 3.0	m	0	609.50	702.15	77.40	0	0	0	0	
		5.0 x 5.0	m	0	1,374.30	1,563.90	162.70	0	0	0	0	
Demolishing	0.5 x 1.0	m	1,500	6.80	3.10	0.90	10,200	4,650	1,350	16,200		
Wall	Concrete	H = 5.0	m	0	459.60	557.90	58.30	0	0	0	0	
	Masonry	H = 5.0	m	0	76.00	116.80	9.70	0	0	0	0	
	Revetment	Stone	m	0	671.10	1,110.50	123.60	0	0	0	0	

CONSTRUCTION COST FOR ROAD (CON'T)

Segment 9 (4-lane) (No.112 - No.128) Improvement of Gottlieb Road

Item	Sub-Item	Class	Unit	Quantity	Unit Cost			Construction Cost				Remarks
					F.C	L.C	Tax	F.C	L.C	Tax	Tota-	
Pavement	Carriageway	Asphalt	m ²	12,000	15.9	11.6	1.3	190,800	139,200	15,600	345,600	
	Shoulder	Asphalt	m ²	2,250	12.4	8.3	1.0	27,900	18,675	2,250	48,825	
	Service Road	Asphalt	m ²	0	12.4	8.3	1.0	0	0	0	0	
	Sidewalk	Concrete Block	m ²	6,000	6.1	8.4	0.8	36,600	50,400	4,800	91,800	
	Overlay	Asphalt	m ²	13,500	2.5	10.3	1.4	33,750	139,050	18,900	191,700	
Additional Facility	Kerb	Concrete	m	3,000	5.7	12.6	0.9	17,100	37,800	2,700	57,600	
	Central Reserved	Concrete	m	1,500	10.4	25.2	1.8	15,600	37,800	2,700	56,100	
	Guard Rail	Steel	m	3,000	34.5	10.3	4.4	103,500	30,900	13,200	147,600	
	Lighting	Steel	m	0	11.0	9.0	1.0	0	0	0	0	
	Lane-Marks	Paint	m	1,500	0.3	0.6	0.05	450	900	75	1,425	
Intersection	At-Grade		No.	3	30,534.8	59,728.4	2,706.2	91,604.4	179,185.2	8,118.6	278,908.2	
	Interchange		Vol.	0	705,314.0	775,542.6	74,928.8	0	0	0	0	
Bridge	L ≤ 50	Concrete	m ²	-	-	-	-	-	-	-	-	
	L > 50	Concrete	m ²	-	-	-	-	-	-	-	-	
Approach	Road		m	0	428.2	461.3	45.1	0	0	0	0	
TOTAL								647,666.4	833,348	83,280.6	1,564,295	

CONSTRUCTION COST FOR ROAD

Segment 10 (4-lane) (No.128-No.129 + 10)

Item	Sub-Item	Class	Unit	Quantity	Unit Cost			Construction Cost				Remarks
					F.C	L.C	Tax	F.C	L.C	Tax	Total	
Site Clearing	Residential		m ²	0	1.80	1.20	0.15	0	0	0	0	
	Field		m ²	0	0.25	0.16	0.02	0	0	0	0	
	Mountain		m ²	0	0.35	0.20	0.03	0	0	0	0	
Excavation	Soil		m ³	0	1.18	0.85	0.10	0	0	0	0	
	Rock		m ³	0	5.51	10.68	0.81	0	0	0	0	
Embankment			m ³	0	1.40	0.90	0.11	0	0	0	0	
Slope	Grass		m ²	0	0	5.00	0.30	0	0	0	0	
	Concrete		m ²	0	4.80	3.80	0.70	0	0	0	0	
Turfing	Sidewalk	Grass & Tree	m ²	200	1.20	4.70	0.30	240	940	60	1,240	
	Open Space	Grass	m ²	0	0	5.00	0.30	0	0	0	0	
Drainage	Roadside	0.5 x 1.0	m	400	48.50	101.30	6.10	19,400	40,520	2,440	62,360	
		1.0 x 1.0	m	0	54.00	99.10	6.60	0	0	0	0	
	Pipe Culvert	600	m	0	59.30	91.40	6.80	0	0	0	0	
	Box Culvert	3.0 x 3.0	m	200	609.50	702.15	77.40	121,900	140,430	15,480	277,810	
		5.0 x 5.0	m	0	1,374.30	1,563.90	162.70	0	0	0	0	
Demolishing	0.5 x 1.0	m	400	6.80	3.10	0.90	2,720	1,240	360	4,320		
Wall	Concrete	H = 5.0	m	0	459.60	557.90	58.30	0	0	0	0	
	Masonry	H = 5.0	m	0	76.00	116.80	9.70	0	0	0	0	
	Revetment	Stone	m	0	671.10	1,110.50	123.60	0	0	0	0	

CONSTRUCTION COST FOR ROAD (CON'T)

Segment 10 (4-lane) (No.128 - No.129 + 10)

Item	Sub-Item	Class	Unit	Quantity	Unit Cost			Construction Cost				Remarks
					F.C.	L.C.	Tax	F.C.	L.C.	Tax	Total	
Pavement	Carriageway	Asphalt	m ²	0	15.9	11.6	1.3	0	0	0	0	
	Shoulder	Asphalt	m ²	0	12.4	8.3	1.0	0	0	0	0	
	Service Road	Asphalt	m ²	0	12.4	8.3	1.0	0	0	0	0	
	Sidewalk	Concrete Block	m ²	0	6.1	8.4	0.8	0	0	0	0	
	Overlay	Asphalt	m ²	3,600	2.5	10.3	1.4	9,000	37,080	5,040	51,120	
Additional Facility	Kerb	Concrete	m	400	5.7	12.6	0.9	2,280	5,040	360	7,680	
	Central Reserved	Concrete	m	200	10.4	25.2	1.8	2,080	5,040	360	7,480	
	Guard Rail	Steel	m	200	34.5	10.3	4.4	6,900	2,060	880	9,840	
	Lighting	Steel	m	0	11.0	9.0	1.0	0	0	0	0	
	Lane-Marks	Paint	m	200	0.3	0.6	0.05	60	120	10	190	
Intersection	At-grade		No.	1	30,534.8	59,728.4	2,706.2	30,534.8	59,728.4	2,706.2	92,969.4	
	Interchange		Vol.	0	705,314.0	775,542.6	74,928.8	0	0	0	0	
Bridge	L ≤ 50	Concrete	m ²	-	-	-	-	-	-	-	-	
	L > 50	Concrete	m ²	-	-	-	-	-	-	-	-	
Approach	Road		m		428.2	461.3	45.1	0	0	0	0	
TOTAL								195,144.8	292,198.4	27,696.2	515,009.4	

CONSTRUCTION COST FOR ROAD

Segment 11 (4-lane) (No.129 + 10 - No. 173)

Item	Sub-Item	Class	Unit	Quantity	Unit Cost			Construction Cost				Remarks
					F.C	L.C	Tax	F.C	L.C	Tax	Total	
Site Clearing	Residential		m ²	0	1.80	1.20	0.15	0	0	0	0	
	Field		m ²	0	0.25	0.16	0.02	0	0	0	0	
	Mountain		m ²	0	0.35	0.20	0.03	0	0	0	0	
Excavation	Soil		m ³	0	1.18	0.85	0.10	0	0	0	0	
	Rock		m ³	0	5.51	10.68	0.81	0	0	0	0	
Embankment			m ³	1,490,660	2.50	1.90	0.20	3,726,650	2,832,254	298,132	6,857,036	
Slope	Grass		m ²	0	0	5.00	0.30	0	0	0	0	
	Concrete		m ²	0	4.80	3.80	0.70	0	0	0	0	
Turfing	Sidewalk	Grass & Tree	m ²	44,500	1.20	4.70	0.30	53,400	209,150	13,350	275,900	
	Open Space	Grass	m ²	157,400	0	5.00	0.30	0	787,000	47,220	834,220	
Drainage	Roadside	0.5 x 1.0	m	8,900	48.50	101.30	6.10	431,650	901,570	54,290	1,387,510	
		1.0 x 1.0	m	0	54.00	99.10	6.60	0	0	0	0	
	Pipe Culvert	600	m	360	59.30	91.40	6.80	21,348	32,904	2,448	56,700	
	Box Culyert	3.0 x 3.0	m	180	609.50	702.15	77.40	109,710	126,387	13,932	250,029	
		5.0 x 5.0	m	0	1,374.30	1,563.90	162.70	0	0	0	0	
Demolishing	0.5 x 1.0	m	0	6.80	3.10	0.90	0	0	0	0		
Wall	Concrete	H = 5.0	m	0	459.60	557.90	58.30	0	0	0	0	
	Masonry	H = 5.0	m	0	76.00	116.80	9.70	0	0	0	0	
	Revetment	Stone	m	4,450	671.10	1,110.50	123.60	2,986,395	4,941,725	550,020	8,478,140	

CONSTRUCTION COST FOR ROAD (CON'T)

Segment 11 (4-lane) (No.129 + 10 - No. 173)

Item	Sub-Item	Class	Unit	Quantity	Unit Cost			Construction Cost				Remarks
					F.C	L.C	Tax	F.C	L.C	Tax	Total	
Pavement	Carriageway	Asphalt	m ²	71,200	15.9	11.6	1.3	1,132,080	825,920	92,560	2,050,560	
	Shoulder	Asphalt	m ²	13,350	12.4	8.3	1.0	165,540	110,805	13,350	289,695	
	Service Road	Asphalt	m ²	0	12.4	8.3	1.0	0	0	0	0	
	Sidewalk	Concrete Block	m ²	44,500	6.1	8.4	0.8	271,450	373,800	35,600	680,850	
	Overlay	Asphalt	m ²	0	2.5	10.3	1.4	0	0	0	0	
Additional Facility	Kerb	Concrete	m	8,900	5.7	12.6	0.9	50,730	112,140	8,010	170,880	
	Central Reserved	Concrete	m	4,450	10.4	25.2	1.8	46,280	112,140	8,010	166,430	
	Guard Rail	Steel	m	8,900	34.5	10.3	4.4	307,050	91,670	39,160	437,880	
	Lighting	Steel	m	4,450	11.0	9.0	1.0	48,950	40,050	4,450	93,450	
	Lane-Marks	Paint	m	4,450	0.3	0.6	0.05	1,335	2,670	222.5	4,227.5	
Intersection	At-Grade		No.	3	30,534.8	59,728.4	2,706.2	91,604.4	179,185.2	274,813.2	545,602.8	
	Interchange		Vol.	0	705,314.0	775,542.6	74,928.8	0	0	0	0	
Bridge	L ≤ 50	Concrete	m ²	-	-	-	-	-	-	-	-	
	L > 50	Concrete	m ²	-	-	-	-	-	-	-	-	
Approach	Road		m	300	428.2	461.3	45.1	128,460	138,390	13,530	280,380	
TOTAL								9,572,632	11,817,760	1,469,097	22,859,490	

CONSTRUCTION COST FOR ROAD

Segment 11 (2-lane) (No. 129 + 10 - No. 173)

Item	Sub-Item	Class	Unit	Quantity	Unit Cost			Construction Cost				Remarks
					F.C	L.C	Tax	F.C	L.C	Tax	Total	
Site Clearing	Residential		m ²	0	1.80	1.20	0.15	0	0	0	0	
	Field		m ²	0	0.25	0.16	0.02	0	0	0	0	
	Mountain		m ²	0	0.35	0.20	0.03	0	0	0	0	
Excavation	Soil		m ³	0	1.18	0.85	0.10	0	0	0	0	
	Rock		m ³	0	5.51	10.68	0.81	0	0	0	0	
Embankment			m ³	1,242,720	2.50	1.90	0.20	3,106,800	2,361,168	248,544	5,716,512	
Slope	Grass		m ²	0	0	5.00	0.30	0	0	0	0	
	Concrete		m ²	0	4.80	3.80	0.70	0	0	0	0	
Turfing	Sidewalk	Grass & Tree	m ²	0	1.20	4.70	0.30	0	0	0	0	
	Open Space	Grass	m ²	157,400	0	5.00	0.30	0	787,000	47,220	834,220	
Drainage	Roadside	0.5 x 1.0	m	8,900	48.50	101.30	6.10	431,650	901,570	54,290	1,387,510	
		1.0 x 1.0	m	0	54.00	99.10	6.60	0	0	0	0	
	Pipe Culvert	600	m	180	59.30	91.40	6.80	10,674	16,452	1,224	28,350	
	Box Culvert	3.0 x 3.0	m	160	609.50	702.15	77.40	97,520	112,344	12,384	222,248	
		5.0 x 5.0	m	0	1,374.30	1,563.90	162.70	0	0	0	0	
Demolishing	0.5 x 1.0	m	0	6.80	3.10	0.90	0	0	0	0		
Wall	Concrete	H = 5.0	m	0	459.60	557.90	58.30	0	0	0	0	
	Masonry	H = 5.0	m	0	76.00	116.80	9.70	0	0	0	0	
	Revetment	Stone	m	4,450	671.10	1,110.50	123.60	2,986,395	4,941,725	550,020	8,478,140	

CONSTRUCTION COST FOR ROAD (CON'T)

Segment 11 (2-lane) (No. 129 + 10 - No. 173)

Item	Sub-Item	Class	Unit	Quantity	Unit Cost			Construction Cost				Remarks
					F.C	L.C	Tax	F.C	L.C	Tax	Total	
Pavement	Carriageway	Asphalt	m ²	35,600	15.9	11.6	1.3	566,040	412,960	46,280	1,025,280	
	Shoulder	Asphalt	m ²	6,675	12.4	8.3	1.0	82,770	55,402.5	6,675	144,847.5	
	Service Road	Asphalt	m ²	0	12.4	8.3	1.0	0	0	0	0	
	Sidewalk	Concrete Block	m ²	2,225	6.1	8.4	0.8	13,572.5	18,690	1,780	34,042.5	
	Overlay	Asphalt	m ²	0	2.5	10.3	1.4	0	0	0	0	
Additional Facility	Kerb	Concrete	m	0	5.7	12.6	0.9	0	0	0	0	
	Central Reserved	Concrete	m	0	10.4	25.2	1.8	0	0	0	0	
	Guard Rail	Steel	m	0	34.5	10.3	4.4	0	0	0	0	
	Lighting	Steel	m	0	11.0	9.0	1.0	0	0	0	0	
	Lane-Marks	Paint	m	0	0.3	0.6	0.05	0	0	0	0	
Intersection	At-Grade		No.	4	30,534.8	59,728.4	2,706.2	122,139.2	238,913.6	10,824.8	371,877.6	
	Interchange		Vol.	0	705,314.0	775,542.6	74,928.8	0	0	0	0	
Bridge	L ≤ 50	Concrete	m ²	-	-	-	-	-	-	-	-	
	L > 50	Concrete	m ²	-	-	-	-	-	-	-	-	
Approach	Road		m	300	428.2	461.3	45.1	128,460	138,390	13,530	280,380	
TOTAL								7,546,020	9,984,615	992,771	18,523,407	

CONSTRUCTION COST FOR ROAD

Segment 12 (4-lane) Improvement of Weld Quay

Item	Sub-Item	Class	Unit	Quantity	Unit Cost			Construction Cost				Remarks
					F.C	L.C	Tax	F.C	L.C	Tax	Total	
Site Clearing	Residential		m ²	0	1.80	1.20	0.15	0	0	0	0	
	Field		m ²	0	0.25	0.16	0.02	0	0	0	0	
	Mountain		m ²	0	0.35	0.20	0.03	0	0	0	0	
Excavation	Soil		m ³	0	1.18	0.85	0.10	0	0	0	0	
	Rock		m ³	0	5.51	10.68	0.81	0	0	0	0	
Embankment			m ³	0	1.40	0.90	0.11	0	0	0	0	
Slope	Grass		m ²	0	0	5.00	0.30	0	0	0	0	
	Concrete		m ²	0	4.80	3.80	0.70	0	0	0	0	
Turfing	Sidewalk	Grass & Tree	m ²	0	1.20	4.70	0.30	0	0	0	0	
	Open Space	Grass	m ²	0	0	5.00	0.30	0	0	0	0	
Drainage	Roadside	0.5 x 1.0	m	4,000	48.50	101.30	6.10	194,000	405,200	24,400	623,600	
		1.0 x 1.0	m	0	54.00	99.10	6.60	0	0	0	0	
	Pipe Culvert	600	m	0	59.30	91.40	6.80	0	0	0	0	
	Box Culvert	3.0 x 3.0	m	0	609.50	702.15	77.40	0	0	0	0	
		5.0 x 5.0	m	0	1,374.30	1,563.90	162.70	0	0	0	0	
Demolishing	0.5 x 1.0	m	4,000	6.80	3.10	0.90	27,200	12,400	3,600	43,200		
Wall	Concrete	H = 5.0	m	0	459.60	557.90	58.30	0	0	0	0	
	Masonry	H = 5.0	m	0	76.00	116.80	9.70	0	0	0	0	
	Revetment	Stone	m	0	671.10	1,110.50	123.60	0	0	0	0	

CONSTRUCTION COST FOR ROAD

Segment 12 (4-lane) Improvement of Weld Quay (cont'd)

Item	Sub-Item	Class	Unit	Quantity	Unit Cost			Construction Cost				Remarks
					F.C	L.C	Tax	F.C	L.C	Tax	Total	
Pavement	Carriageway	Asphalt	m ²	0	15.9	11.6	1.3	0	0	0	0	
	Shoulder	Asphalt	m ²	0	12.4	8.3	1.0	0	0	0	0	
	Service Road	Asphalt	m ²	0	12.4	8.3	1.0	0	0	0	0	
	Sidewalk	Concrete Block	m ²	3,000	6.1	8.4	0.8	18,300	25,200	2,400	45,900	
	Overlay	Asphalt	m ²	28,000	2.5	10.3	1.4	70,000	288,400	39,200	397,600	
Additional Facility	Kerb	Concrete	m	4,000	5.7	12.6	0.9	22,800	50,400	3,600	76,800	
	Central Reserved	Concrete	m	2,000	10.4	25.2	1.8	20,800	50,400	3,600	74,800	
	Guard Rail	Steel	m	4,000	34.5	10.3	4.4	138,000	41,200	17,600	196,800	
	Lighting	Steel	m	0	11.0	9.0	1.0	0	0	0	0	
	Lane-Marks	Paint	m	0	0.3	0.6	0.05	0	0	0	0	
Intersection	At-Grade		No	3	30,534.8	59,728.4	2,706.2	91,604.4	179,185.2	8,118.6	278,908.2	
	Interchange		Vol.	0	705,314.0	775,542.6	74,928.8	0	0	0	0	
Bridge	L ≤ 50	Concrete	m ²	-	-	-	-	-	-	-	-	
	L > 50	Concrete	m ²	-	-	-	-	-	-	-	-	
Approach	Road		m	0		428.2	461.3	45.1	0	0	0	
TOTAL								582,704.4	1,052,385	102,518.6	1,737,608	

CONSTRUCTION COST FOR BRIDGE

Station	Length (m)	Width (m)	Area (m ²)	Unit Cost			Cost			Total	Segment	Remarks
				L.C.	F.C.	TAX	L.C.	F.C.	TAX			
-NO4'+0.0 - NO1'+50.0	500	9.0 x 2 = 18.0	9,900	239.4	359.1	31.5	2,370,060	3,555,090	311,850	6,237,000	1	
-NO1+0.0 - NO1+0.0	200	9.0 x 2 = 18.0	3,600	239.4	359.1	31.5	861,840	1,292,760	113,400	2,268,000	2 & 3	Grade Separation
NO27+70 - NO30+40	270	9.0 x 2 = 18.0	4,860	272.1	418.5	36.9	1,322,693	2,033,927	179,412	3,536,032	4	Green Village Bridge
NO45+80 - NO46+30	50	9.0 x 2 = 18.0	900	295.6	443.4	38.9	266,040	399,060	35,010	700,110	4	
NO67+0 - NO67+20	20	9.5 x 2 = 19.0	380	238.6	358.0	31.4	90,668	136,040	11,932	238,640	4	
NO73+90 - NO74+15	25	9.5 x 2 = 19.0	475	238.6	358.0	31.4	113,335	170,050	14,915	298,300	4	
NO77+50 - NO79+50	200	9.0 x 2 = 18.0	3,600	239.4	359.1	31.5	861,840	1,292,760	113,400	2,268,000	4 & 5	Grade Separation
NO88+35 - NO92+70	435	9.0 x 2 = 18.0	7,830	294.9	480.3	43.5	2,309,430	3,760,420	340,808	6,410,658	5	Rifle Range Bridge
NO95+80 - NO96+10	30	9.0 x 2 = 18.0	540	238.6	358.0	31.4	128,844	193,320	16,956	339,120	5	
NO111+15 - NO111+40	25	9.0 x 2 = 18.0	450	238.6	358.0	31.4	107,370	161,100	14,130	282,600	8	
NO111+50 - NO113+50	200	9.0 x 2 = 18.0	3,600	239.4	359.1	31.5	861,840	1,292,760	113,400	2,268,000	8 & 9	Grade Separation
NO103'+50 - NO105'+50	200	9.0 x 2 = 18.0	3,600	295.6	443.4	38.9	1,064,160	1,596,240	140,040	2,800,440	6	
NO112'+40 - NO115'+50	310	9.0 x 2 = 18.0	5,580	236.0	316.7	26.8	1,316,820	1,767,171	149,581	3,233,572	6	Waterfall Road Bridge
NO143'	200	9.0 x 2 = 18.0	3,600	295.6	443.5	38.9	1,064,160	1,596,600	140,040	2,800,800	6 & 7	Grade Separation
NO129	200	9.0 x 2 = 18.0	3,600	295.6	443.5	38.9	1,064,160	1,596,600	140,040	2,800,800	7 & 11	Grade Separation

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