



社会開発調査部報告書

No. 04

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
COMISION EJECUTIVA PORTUARIA AUTONOMA (CEPA)

THE DETAILED DESIGN
ON
PORT REACTIVATION PROJECT IN LA UNION PROVINCE
OF
THE REPUBLIC OF EL SALVADOR

FINAL REPORT

QUANTITY CALCULATION REPORT

Civil Works (4/4)

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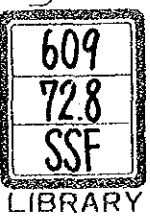
NIPPON KOEI CO., LTD.

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OCTOBER 2002 NIPPON KOEI



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BOQ Item	Work Section Title	Quantity Item	Quantity	Unit	Remarks
	Drainage Work				
2H-01	Pipe culvert 457mm		1,070	m	
2H-0101		Excavation and Disposal	4,450	m3	
2H-0102		Crushed stone for foundation	92.5	m3	
2H-0103		Lean concrete	93.3	m3	
2H-0104		Installation drainage pipe	1,070	m	
2H-010501		Backfill sand	3,990	m3	
2H-010502		Compaction	3,080	m2	
2H-02	Pipe culvert 610mm		810	m	
2H-0201		Excavation and Disposal	5,390	m3	
2H-0202		Crushed stone for foundation	110	m3	
2H-0203		Lean concrete	122	m3	
2H-0204		Installation drainage pipe	810	m	
2H-020501		Backfill sand	4,810	m3	
2H-020502		Compaction	2,970	m2	
2H-03	Pipe culvert 762mm		174	m	
2H-0301		Excavation and Disposal	1,620	m3	
2H-0302		Crushed stone for foundation	29.2	m3	
2H-0303		Lean concrete	39.1	m3	
2H-0304		Installation drainage pipe	174	m	
2H-030501		Backfill sand	1,430	m3	
2H-030502		Compaction	762	m2	
2H-04	Pipe culvert 914mm		866	m	
2H-0401		Excavation and Disposal	6,380	m3	
2H-0402		Crushed stone for foundation	174	m3	
2H-0403		Lean concrete	261	m3	
2H-0404		Installation drainage pipe	866	m	
2H-040501		Backfill sand	5,100	m3	
2H-040502		Compaction	3,440	m2	
2H-05	Pipe culvert 1219mm		580	m	
2H-0501		Excavation and Disposal	5,720	m3	
2H-0502		Crushed stone for foundation	170	m3	
2H-0503		Lean concrete	288	m3	
2H-0504		Installation drainage pipe	580	m	
2H-050501		Backfill sand	4,270	m3	
2H-050502		Compaction	2,700	m2	
2H-06	<i>Diversion canal type A</i>		580	m	
2H-0601		Excavation and Disposal	7,800	m3	
2H-060201		Compaction	4,800	m2	
2H-060202		Clay	240	m3	
2H-060203		Rubble	1,340	m3	
2H-060204		Masonry cement	696	m3	
2H-060301	Outlet type A	Excavation and Disposal	208	m3	
2H-060302		Compaction	180	m2	
2H-060303		Clay	9.0	m3	
2H-060304		Rubble	18.6	m3	
2H-060305		Masonry cement	74.4	m3	
2H-0604	Canal Branch type A-1		210	m	

BOQ Item	Work Section Title	Quantity Item	Quantity	Unit	Remarks
2H-060401		Excavation and Disposal	1,300	m3	
2H-060402		Compaction	1,200	m2	
2H-060403		Clay	60	m3	
2H-060404		Rubble	168	m3	
2H-060405		Masonry cement	252	m3	
2H-0605	Canal Branch type A-2		270	m	
2H-060501	U type ditch	Excavation and Disposal	954	m3	
2H-060502		Compaction	432	m2	
2H-060503		Crushed stone	64.8	m3	
2H-060504		Lean concrete	43.2	m3	
2H-060505		Form	1,250	m2	
2H-060506		Reinforcement	8,870	kg	
2H-060507		Concrete	189	m3	
2H-060508		Elas tigh board	18.9	m2	
2H-060509		Backfill	374	m3	
2H-060510	Plate type ditch	Compaction	1,220	m2	
2H-060511		Concrete	168	m3	
2H-060512	Vertical drainage	Excavation and Disposal	179	m3	
2H-060513		Compaction	288	m2	
2H-060514		Form	642	m2	
2H-060515		Concrete	94.3	m3	
2H-060516		Backfill	50.2	m3	
2H-060601	Catch basin	Excavation and Disposal	615	m3	
2H-060602		Compaction	398	m2	
2H-060603		Clay	19.9	m3	
2H-060604		Rubble	58.0	m3	
2H-060605		Masonry cement	120.0	m3	
2H-060606		H shaped steel	974	kg	H300x300 L=2m x 5
2H-07	Diversion canal type B		675	m	
2H-0701		Excavation and Disposal	4,200	m3	
2H-070201		Compaction	3,700	m2	
2H-070202		Clay	185	m3	
2H-070203		Rubble	540	m3	
2H-070204		Masonry cement	810	m3	
2H-070301	Outlet type B	Excavation and Disposal	105	m3	
2H-070302		Compaction	109	m2	
2H-070303		Clay	5.5	m3	
2H-070304		Rubble	11.2	m3	
2H-070305		Masonry cement	37.9	m3	
2H-0704	Canal Branch type B		365	m	
2H-070401	U type ditch	Excavation and Disposal	1,290	m3	
2H-070402		Compaction	584	m2	
2H-070403		Crushed stone	87.6	m3	
2H-070404		Lean concrete	58.4	m3	
2H-070405		Form	1,680	m2	
2H-070406		Reinforcement	11,990	kg	
2H-070407		Concrete	256	m3	
2H-070408		Elas tigh board	25.9	m2	

BOQ Item	Work Section Title	Quantity Item	Quantity	Unit	Remarks
2H-070409		Backfill	505	m3	
2H-070410	Plate type ditch	Compaction	1,700	m2	
2H-070411		Concrete	233	m3	
2H-070412	Vertical drainage	Excavation and Disposal	137	m3	
2H-070413		Compaction	220	m2	
2H-070414		Form	489	m2	
2H-070415		Concrete	71.9	m3	
2H-070416		Backfill	38.3	m3	
2H-08	Manhole 1200mm		34	Nos	
2H-0801		Excavation and Disposal	1,090	m3	
2H-0802		Crushed stone for foundation	18.7	m3	
2H-0803		Lean concrete	12.6	m3	
2H-0804		Reinforcement	22,600	kg	
2H-0805		Corner Angle	905	kg	
2H-080601		Form for Manhole	1,040	m2	
2H-080602		Concrete for Manhole	87.0	m3	
2H-080603		Form for concrete cover	73.3	m2	
2H-080604		Reinforcement for concrete cover	735	kg	
2H-080605		Concrete for concrete cover	5.61	m3	
2H-080701		Backfill sand	883	m3	
2H-080702		Compaction	662	m2	
2H-09	Manhole 1500mm with concrete cover		24	Nos	
2H-0901		Excavation and Disposal	1,110	m3	
2H-0902		Crushed stone for foundation	17.6	m3	
2H-0903		Lean concrete	11.8	m3	
2H-0904		Reinforcement	19,600	kg	
2H-0905		Corner Angle	766	kg	
2H-090601		Form for Manhole	1,000	m2	
2H-090602		Concrete for Manhole	85	m3	
2H-090603		Form for concrete cover	90.1	m2	
2H-090604		Reinforcement for concrete cover	760	kg	
2H-090605		Concrete for concrete cover	6.00	m3	
2H-090701		Backfill sand	880	m3	
2H-090702		Compaction	600	m2	
2H-10	Manhole 1500mm with grating cover		12	Nos	
2H-1001		Excavation and Disposal	730	m3	
2H-1002		Crushed stone for foundation	8.8	m3	
2H-1003		Lean concrete	5.9	m3	
2H-1004		Reinforcement	11,300	kg	
2H-1005		Corner Angle	86.4	kg	
2H-100601		Form for Manhole	576	m2	
2H-100602		Concrete for Manhole	49	m3	
2H-100603		grating cover	24	Nos	1594x795x100
2H-100701		Backfill sand	600	m3	
2H-100702		Compaction	360	m2	

BOQ Item	Work Section Title	Quantity Item	Quantity	Unit	Remarks
2H-11	Manhole connecting to oil separator		4	Nos	
2H-1101		Excavation and Disposal	380	m3	
2H-1102		Crushed stone for foundation	4.4	m3	
2H-1103		Lean concrete	3.0	m3	
2H-1104		Reinforcement	6,020	kg	
2H-1105		Corner Angle	128.0	kg	
2H-110601		Form for Manhole	296	m2	
2H-110602		Concrete for Manhole	38	m3	
2H-110603		Form for concrete cover	10.0	m2	
2H-110604		Reinforcement for concrete cover	87.6	kg	
2H-110605		Concrete for concrete cover	0.70	m3	
2H-110606		grating cover	8	Nos	1594x795x100
2H-110701		Backfill sand	273	m3	
2H-110702		Compaction	167	m2	
2H-12	Trench 300mm without cover		1,110	m	
2H-1201		Excavation and Disposal	723	m3	
2H-1202		Crushed stone for foundation	65.7	m3	
2H-1203		Reinforcement	21,100	kg	
2H-120401		Form for trench	3,300	m2	
2H-120402		Concrete for trench	210	m3	
2H-120403		Elas tigh board	16.6	m2	
2H-120501		Backfill sand	222	m3	
2H-120502		Compaction	1,640	m2	
2H-13	Trench 300mm with concrete cover		2,902	m	
2H-1301		Excavation and Disposal	2,070	m3	
2H-1302		Crushed stone for foundation	173	m3	
2H-1303		Reinforcement	55,300	kg	
2H-130401		Form for trench	9,150	m2	
2H-130402		Concrete for trench	574	m3	
2H-130403		Elas tigh board	45.8	m2	
2H-130404		Form for concrete cover	2,170	m2	
2H-130405		Reinforcement for concrete cover	16,900	kg	
2H-130406		Concrete for concrete cover	111	m3	
2H-130501		Backfill sand	695	m3	
2H-130502		Compaction	4,420	m2	
2H-14	Trench 300mm with grating cover		308	m	
2H-1401		Excavation and Disposal	182	m3	
2H-1402		Crushed stone for foundation	18.2	m3	
2H-1403		Reinforcement	5,870	kg	
2H-140401		Form for trench	864	m2	
2H-140402		Concrete for trench	55.6	m3	
2H-140403		Elas tigh board	4.4	m2	
2H-140404		grating cover	308	Nos	395x995x100
2H-140501		Backfill sand	50.2	m3	
2H-140502		Compaction	438	m2	

BOQ Item	Work Section Title	Quantity Item	Quantity	Unit	Remarks
2H-15	Trench 450mm without cover		355	m	
2H-1501		Excavation and Disposal	453	m3	
2H-1502		Crushed stone for foundation	26.6	m3	
2H-1503		Reinforcement	8,670	kg	
2H-150401		Form for trench	1,520	m2	
2H-150402		Concrete for trench	95.3	m3	
2H-150403		Elas tigh board	8.2	m2	
2H-150501		Backfill sand	170	m3	
2H-150502		Compaction	696	m2	
2H-16	Trench 450mm with concrete cover		645	m	
2H-1601		Excavation and Disposal	598	m3	
2H-1602		Crushed stone for foundation	47.8	m3	
2H-1603		Reinforcement	15,800	kg	
2H-160401		Form for trench	2,220	m2	
2H-160402		Concrete for trench	147	m3	
2H-160403		Elas tigh board	12.1	m2	
2H-160404		Form for concrete cover	588	m2	
2H-160405		Reinforcement for concrete cover	6,020	kg	
2H-160406		Concrete for concrete cover	34	m3	
2H-160501		Backfill sand	173	m3	
2H-160502		Compaction	1,130	m2	
2H-17	Trench 450mm with grating cover		650	m	
2H-1701		Excavation and Disposal	567	m3	
2H-1702		Crushed stone for foundation	48.0	m3	
2H-1703		Reinforcement	16,000	kg	
2H-170401		Form for trench	2,160	m2	
2H-170402		Concrete for trench	145	m3	
2H-170403		Elas tigh board	11.8	m2	
2H-170404		grating cover	650	Nos	545x995x100
2H-170501		Backfill sand	155	m3	
2H-170502		Compaction	1,110	m2	
	Navigation Work				
2I-0101	Light House	Excavation of foundation	16.5	m3	
2I-0102		Crushed Stone	2.2	m3	
2I-0103		Leveling concrete	0.73	m3	
2I-0104		Form of foundation	10.0	m2	
2I-0105		Concrete of foundation	6.25	m3	
2I-0106		Backfill	7.32	m3	
2I-0107		Compaction	10.6	m2	
2I-0108		Structure	1	set	3t aluminium
2I-02	Light Beacon	Structure	3	sets	240kg x 3, steel
2I-0301	Channel Entrance Maker Buoy	Maker Buoy	2	sets	(high wave type)
	Concrete Sinker (40t)		2	Nos	
2I-0302		Form for sinker	42.4	m2	
2I-0303		Concrete for sinker	35	m3	
2I-0304		Lifting Bar (SUS304)	137	kg	stainless steel

BOQ Item	Work Section Title	Quantity Item	Quantity	Unit	Remarks
2I-0401	Channel Maker Buoy (high wave)	Maker Buoy	7	sets	(high wave type)
	Concrete Sinker (40t)		7	Nos	
2I-0402		Form for sinker	149	m2	
2I-0403		Concrete for sinker	123	m3	
2I-0404		Lifting Bar (SUS304)	480	kg	stainless steel
2I-0501	Channel Maker Buoy	Maker Buoy	5	sets	
	Concrete Sinker (40t)		5	Nos	
2I-0502		Form for sinker	34.2	m2	
2I-0503		Concrete for sinker	16.3	m3	
2I-0504		Lifting Bar (SUS304)	253	kg	stainless steel
2I-0601	Turning Basin Maker Buoy	Maker Buoy	2	sets	
	Concrete Sinker (40t)		2	Nos	
2I-0602		Form for sinker	13.7	m2	
2I-0603		Concrete for sinker	6.5	m3	
2I-0604		Lifting Bar (SUS304)	101	kg	stainless steel
2I-07	AIS base unit and VTS display		1	set	
2I-08	Spare parts for 5 years operation for above instruments		1	set	
2I-09	VHF radio		2	set	
2I-10	Anemometer		1	set	
2I-11	Barometer		1	set	
2I-12	Clock		1	set	
2I-13	Binocular		1	set	
	Security Fence		1,362	m	
2J-01	Excavation		192	m3	
2J-02	Concrete		63.6	m3	
2J-03	Form		690	m2	
2J-04	Re-bar		6,540	kg	
2J-05	Backfill		142	m3	
2J-06	Compaction		477	m2	