

Item No.	Work	Unit	Quantity	Foreign Currency ()		Local Currency (Rs)		Total Equivalent (Rs) or Sub-clause	Ref. Clause
				Unit Price	Amount	Unit Price	Amount		
F RIVER OUTLET WORKS									
F1 Earthwork									
/01	Excavation, underground in valve chamber access shaft	m3	420						T2.4.6
/02	Demolishing concrete lining of diversion tunnel	m3	10						T2.11
/03	Permanent steel support	ton	1						T2.5.6
<u>Subtotal of item F1</u>									
F2 Grouting									
/01	Contact grouting between lining and plug concrete	LS.	-						T3.12.7
/02	Backfill grouting	m3	3						T3.12.8
<u>Subtotal of item F2</u>									

Note: The Tenderer shall fill in JY or US\$ in brackets adjacent to "Foreign Currency" described above, which the Tenderer proposes to apply as the foreign currency in the Contract.

Item No.	Work	Unit	Quantity	Foreign Currency ()		Local Currency (Rs)		Total Equivalent (Rs)	Ref. Clause or Sub-clause
				Unit Price	Amount	Unit Price	Amount		
F3 Concrete Work									
/01	Concrete, class C, for lining of access shaft and valve chamber	m3	260						T4.1.18
/02	Concrete, class D, for plug concrete around steel pipe	m3	3,400						T4.1.18
/03	Form, F1 for item /01 and /02	m2	900						T4.1.18
/04	Form, F2 for item /01 and /02	m2	190						T4.1.18
/05	Reinforcing bar	ton	27						T4.1.18
/06	Cooling system and cooling operation for plug concrete including 40 mm ϕ thermometer, 200 ϕ drain pipe and drilling ϕ 46mm x 250mm depth hole (6 pieces)	L.S.							T4.3.3
<u>Subtotal of item F3</u>									
F4 Miscellaneous Metalwork									
/01	Embedded metalwork	kg	790						T9.6.2
/02	Stairway and handrail	kg	9,740						T9.6.2
<u>Subtotal of item F4</u>									

Note: The Tenderer shall fill in J¥ or US\$ in brackets adjacent to "Foreign Currency" described above, which the Tenderer proposes to apply as the foreign currency in the Contract.

Item No.	Work	Unit	Quantity	Foreign Currency ()		Local Currency (Rs)		Ref. Clause
				Unit Price	Amount	Unit Price	Amount Equivalent (Rs) or Sub-clause	
F5 Miscellaneous Work								
/01	Steel door for valve chamber (1,000 x 1,800)	m2	1.8					T6.13.5
/02	Steel door for valve chamber (1,800 x 800)	m2	1.5					T6.13.5
/03	Drain holes with perforated P.V.C. pipes downstream of plug portion in the diversion tunnel							
	- Drilling (hole diameter; 50 mm)	m	510					T3.13.2
	- Perforated P.V.C. pipe (length; 4 m)	m	510					T2.9.3

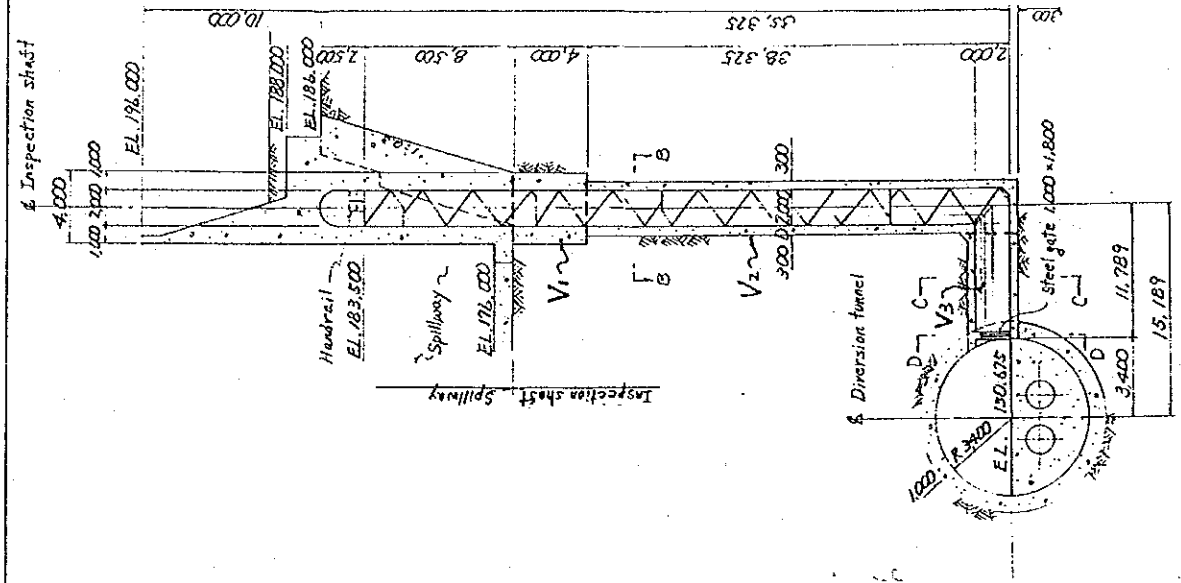
Subtotal of item F5

TOTAL OF ITEMS

Note: The Tenderer shall fill in JY or US\$ in brackets adjacent to "Foreign Currency" described above, which the Tenderer proposes to apply as the foreign currency in the Contract.

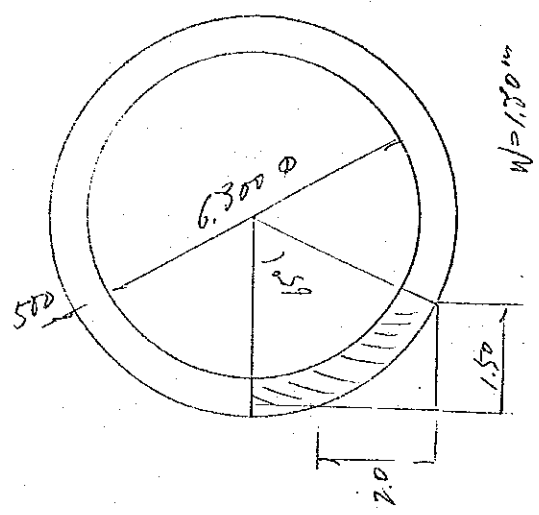
Working Division: Valve Chamber Access Shaft and Tunnel

Description	Calculation Details	Unit	Quantity	Remarks
F1. Earthwork				
F1/01	Excavation underground in valve chamber access shaft and tunnel	m ³	401!	
	$D_1 = (2.0 + 1.0 \times 2 + 0.15 \times 2) = 4.3 \text{ m (B-line)}$			
	$A_1 = 4.3^2 / 4 \times 3.14 = 14.51 \text{ m}^2$			
	$V_1 = 14.51 \times 4.0 = 58.04$			
	$D_2 = (2.0 + 0.3 \times 2 + 0.15 \times 2) = 2.9 \text{ m (B-line)}$			
	$A_2 = 2.9^2 / 4 \times 3.14 = 6.60 \text{ m}^2$			
	$V_2 = 6.60 \times (38.325 + 2.0 + 0.3 + 0.15) = 271.76 \text{ m}^3$			
	$A_3 = (2.6 + 0.15 \times 2) \times (1.3 + 0.15) + (1.3 + 0.15)^2 \times 3.14 / 2 = 7.51 \text{ m}^2$			
	$V_3 = 7.51 \times (11.789 - 1.0 - 1.0 - 0.3) = 71.26 \text{ m}^3$			
	Total V = 58.04 + 271.76 + 71.26 = 401.06 m ³			



Working Division: F RIVER OUTLET WORKS

Description	Calculation Details	Unit	Quantity	Remarks
	F1 Earth work			
	Valve chamber			
F1/02	Demolishing concrete lining of diversion tunnel			
	$\pi (0.80 + 0.50) \times \frac{2.50}{3} \times 0.50 \times 1.80 = 3.727$	m^3		
	$2.600 \times 0.50 \times 0.15 = 1.602$	m^3		
	Total 5.329	m^3	60	
F1/01	Excavation underground in valve chamber			
	$\frac{1}{2} \times 1.50 \times 2.00 \times 1.80 = 2.700$	m^3	110	



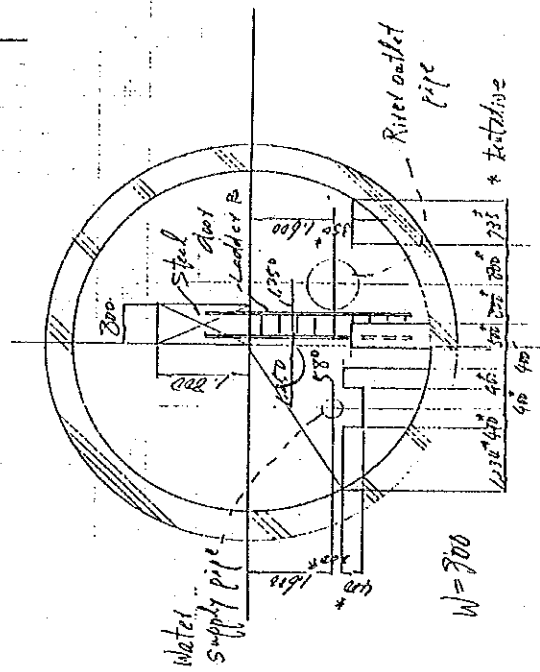
Working Division:

Description	Calculation Details	Unit	Quantity	Remarks
F1/02	Demolishing concrete lining of diversion tunnel	m ³	3.9	
	$A = 2.6 \times 1.3 + 1.3^2 \times 3.14 / 2 = 6.03 \text{ m}^2$			
	$V = 6.03 \times 0.65 = 3.92 \text{ m}^3$			
F1/03	Permanent steel support	ton	1.0	
	$L = (0.30 + 1.30 \times 3.14 / 4) \times 2 = 4.64 \text{ m/section}$			
	$W = 31.5 \text{ kg/m}$			
	$n = (11.789 - 1.3 - 1.0) / 1.5 = 7 \text{ sets}$			
	$W = 4.64 \times 7 \times 31.5 = 1,023 \text{ kg} = 1.02 \text{ ton}$			
F2. Grouting				
F2/01 Backfill grouting	$V = \text{concrete volume} \times 0.06 \text{ m}^3/\text{m}^3$ $= 41.65 \times 0.06 = 2.50 \text{ m}^3$	m ³	2.5	

Description	Calculation Details	Unit	Quantity	Remarks
F3. Concrete Work				
F3/01	Concrete, class C, for lining of access shaft and valve chamber	m^3	228.5	
	1) Access shaft			
	$A_1 = \{(4.00 + 0.15 \times 2)^2 - 2.00^2\} \times 3.14/4$			
	$= 11.87 \text{ m}^2 \text{ (B-line)}$			
	$V_1 = 11.87 \times 4.00 = 47.48 \text{ m}^3$			
	$A_2 = \{(2.60 + 0.15 \times 2)^2 - 2.00^2\} \times 3.14/4$			
	$= 3.46 \text{ m}^2 \text{ (B-line)}$			
	$V_2 = 3.46 \times (3.8.325 + 2.0 + 0.30 + 0.15) = 141.08$			
	$V = 47.48 + 141.08 = 186.56 \text{ m}^3$			
	2) Access Tunnel			
	$A_1 = 1.45 \times 2.9 + 1.45^2 \times 3.14/2 - 2.0 \times 1.0$			
	$- 1.0^2 \times 3.14/2 - 0.10 \times 0.20 = 3.92 \text{ m}^2$			
	$V_1 = 3.92 \times (11.789 - 1.3) = 41.12 \text{ m}^3$			
	$A_2 = 2.0 \times 1.0 + 1.0^2 \times 3.14/2 - 1.8 \times 1.0 = 1.77 \text{ m}^2$			
	$V_2 = 1.77 \times 0.30 = 0.53 \text{ m}^3 \text{ (at gate)}$			
	$V = 41.12 + 0.53 = 41.65 \text{ m}^3$			
	3) Total			
	$V = 186.56 + 41.65 = 228.21 \text{ m}^3$			

Working Division:

Description	Calculation Details	Unit	Quantity	Remarks
F3 Concrete Works				
F3/01 Concrete class c	$\text{Wall } (2.235^2 - 1.80 \times 0.80) \times 0.50 = 19.076 \text{ m}^3$ $\text{Plinth } (7.340^2 \times \frac{50}{700} - \frac{1}{2} \times 7.340 \times 9.1458 \times 0.058 - 1.20 \times 0.40 - 0.80 \times 0.40) \times 0.80 = 1.873 \text{ m}^3$ $\text{Plinth } 1.50 \times 0.50 \times 0.60 + \frac{1}{2} \times 1.0 \times 0.753 \times 0.60 = 0.676 \text{ m}^3$ $\text{Total } 21.555 \text{ m}^3$	m ³	22	



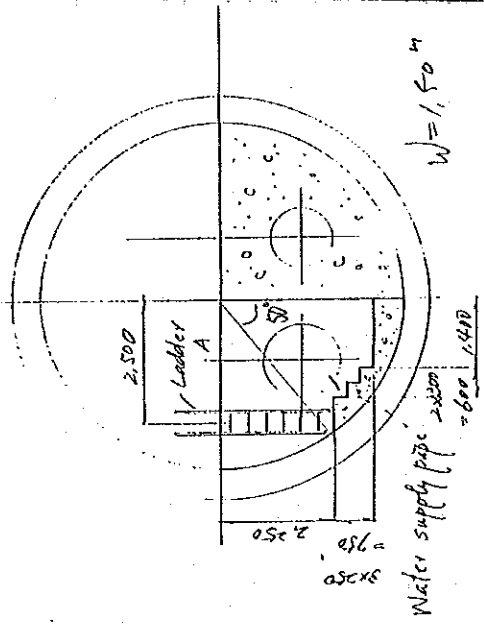
SECTION F-F SCALE A

Working Division: F River Outlet Works

Description	Calculation Details	Unit	Quantity	Remarks
	FV Concrete work			
	Inlet and main plug Summary			
F3/02	Concrete class D for plug concrete			
	Inlet 2,284.442 m ²			
	Main plug 1,006.518 m ²			
	Total 3,288.960 m ²	m ²	3,289.	✓
F3/03	Form Fl			
	Inlet 832.881 m ²			
	Main plug 60.427 m ²			
	Total 893.308 m ²	m ²	893	✓
F3/05	Reinforcing steel	ton	18	✓

Working Division: F River outlet works

Description	Calculation Details	Unit	Quantity	Remarks
F3/02	Concrete work			
	Concrete class D in lock chamber			
	$\left(\frac{1}{4} \pi \times 3.40^2 - 2 \times \phi 1.50\right) \times 1.50$ $- 1.0 \times 1.0 \times 1.0 = 20.936$	m ³		
	$\left(\frac{1}{4} \pi \times 3.40^2 - \phi 1.0\right) \times 1.450$ $- 1.0 \times 1.0 \times 0.5 - 1.20 \times 1.50 \times 2.30$ $= 32.682$	m ³		
	$\text{Step. } \left(\frac{1}{4} \pi \times 3.40^2 \times \frac{500}{300} - \frac{1}{2} \times 3.40^2 \times \sin 50^\circ \times 0.850\right)$ $- 2.0 \times 0.25 - 1.7 \times 0.25 - (4 \times 0.25)$ $\times 1.500 = 1.584$	m ³		
	Total	m ³	55.002	



Working Division: F River Outlet Works

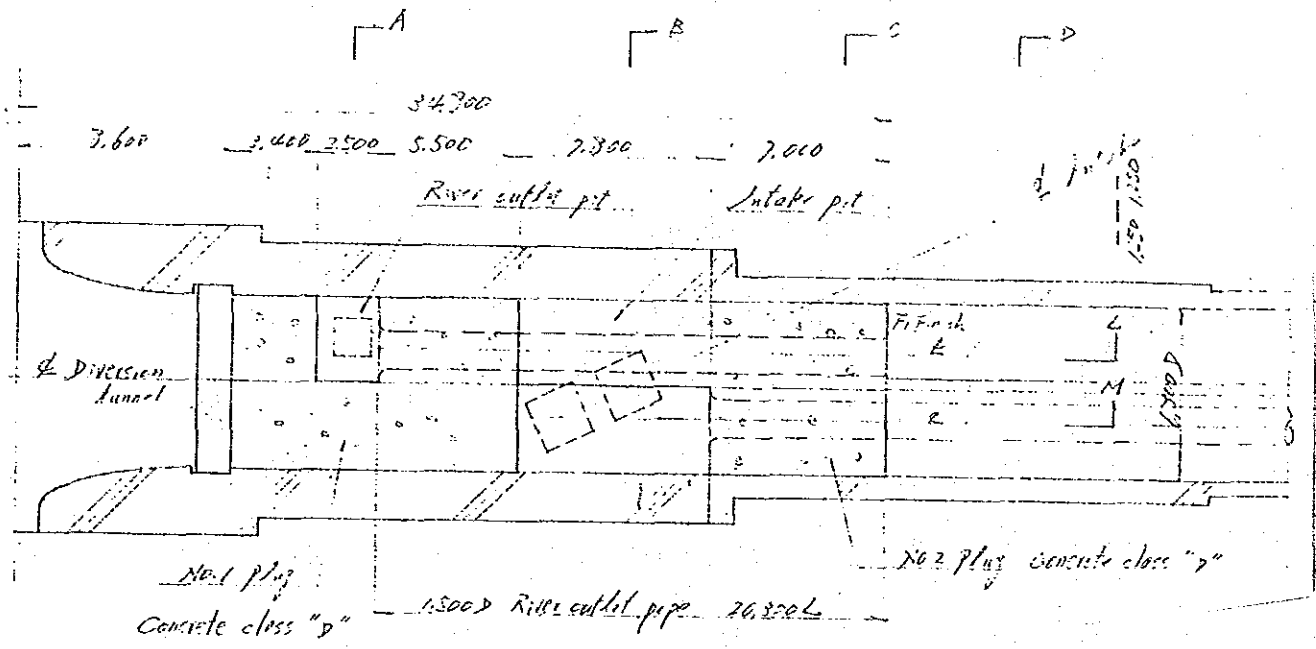
Description	Calculation Details	Unit	Quantity	Remarks
F3/02	FU Concrete Work			
	Concrete class D for plug concrete			
	Inlet portion			
	upper Sec. A $6.80 \times 6.80 \times 2.40 = 157.216$			
	Sec. A $3.40 \times 6.80 \times 2.50 = 57.800$			
	lower Sec. A $(6.80 \times 6.80 - 0.150) \times 5.50 = 244.601$			
	Sec. B $(\frac{1}{4} \pi \cdot 3.40^2 - 0.150) \times 2.80 = 55.630$			
	Sec. C $(\pi \cdot 3.40^2 - 2 \times 0.150) \times 11.0 = 360.608$			
	Sec. D $(\frac{1}{4} \pi \cdot 3.40^2 + 3.40 \times 0.40 - 0.150) \times (53.20 + 9.0) = 1,406.608$			
	Sub-total		2,284.442	

Working Division:

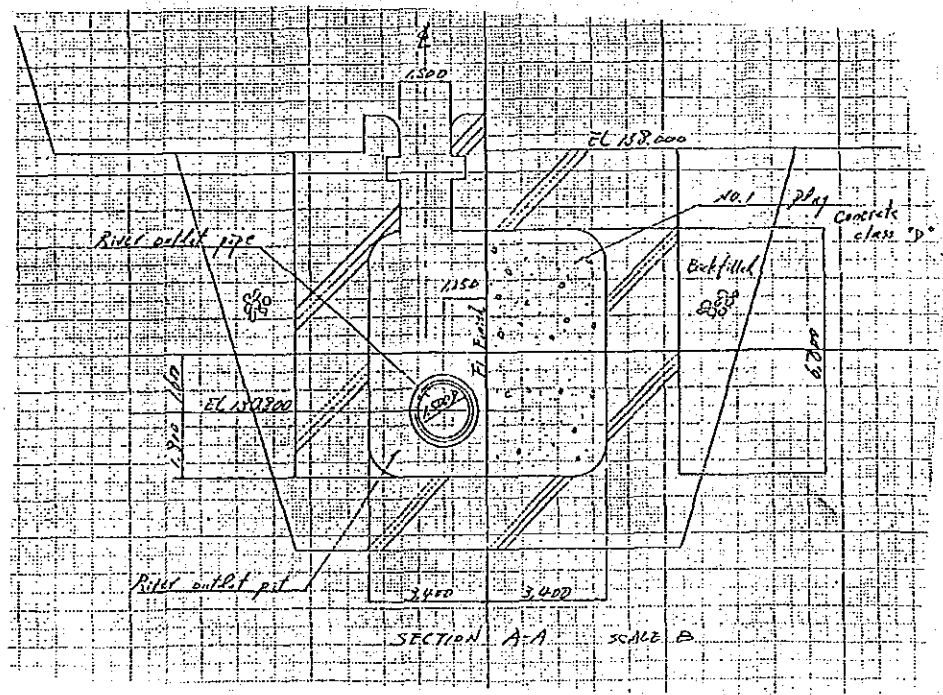
Description	Calculation Details	Unit	Quantity	Remarks
	F3 Concrete Work			
F3/02	Concrete class 1 for play concrete			
	Main play			
	Key position			
	$A_1 = \frac{\pi}{4} \cdot 7.20^2 + \frac{1}{6} \cdot \frac{\pi}{4} \cdot 6.60^2 = 39.65 \text{ m}^2$			
	Normal position			
	$A_2 = \frac{\pi}{4} \cdot 6.60^2 = 34.212 \text{ m}^2$			
	15.6 m			
	14.4 m			
	$T = A_1 \times 1.3 \times 1.2 + A_2 \times (3.0 - 1.3 \times 1.2)$			
	$\rightarrow 19.150 \times 0.50 = 1004.868$			
	Temporary diler			
	$3.30 \text{ m}^2 \times 0.5 \text{ m} = 1.65$			
	Sub-total 1,006.518			✓

Working Division:

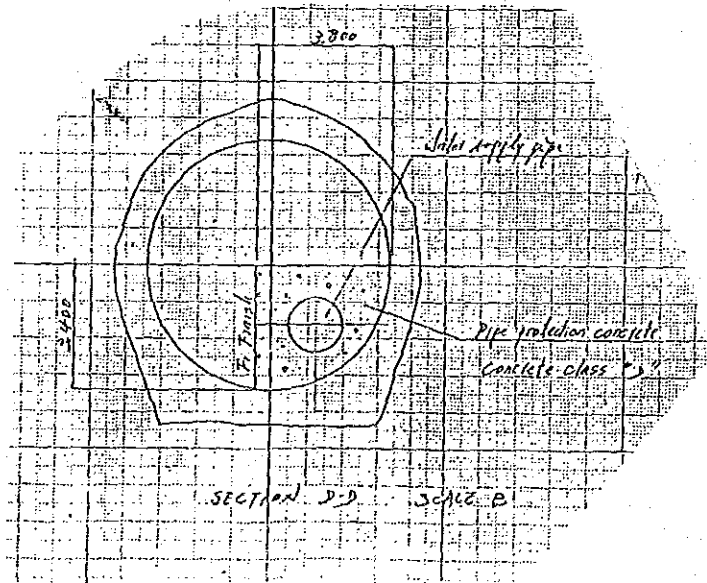
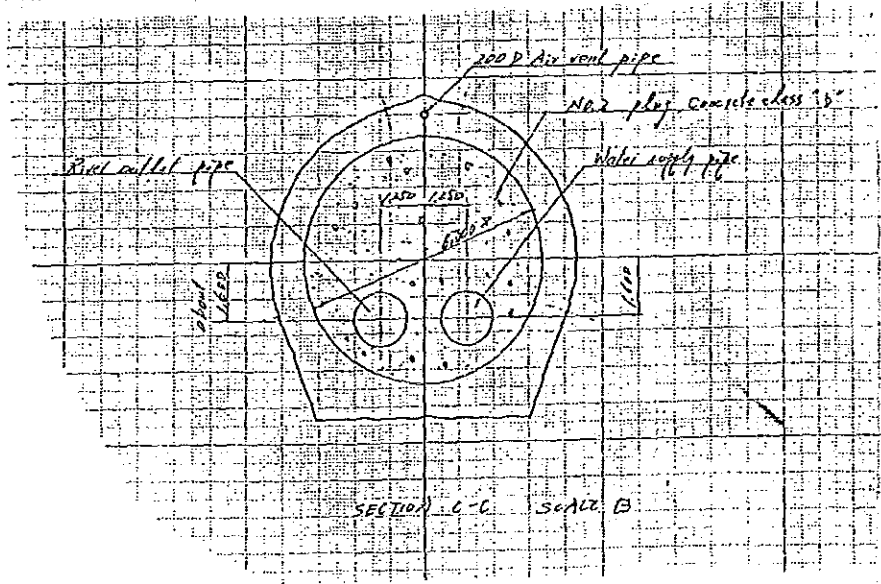
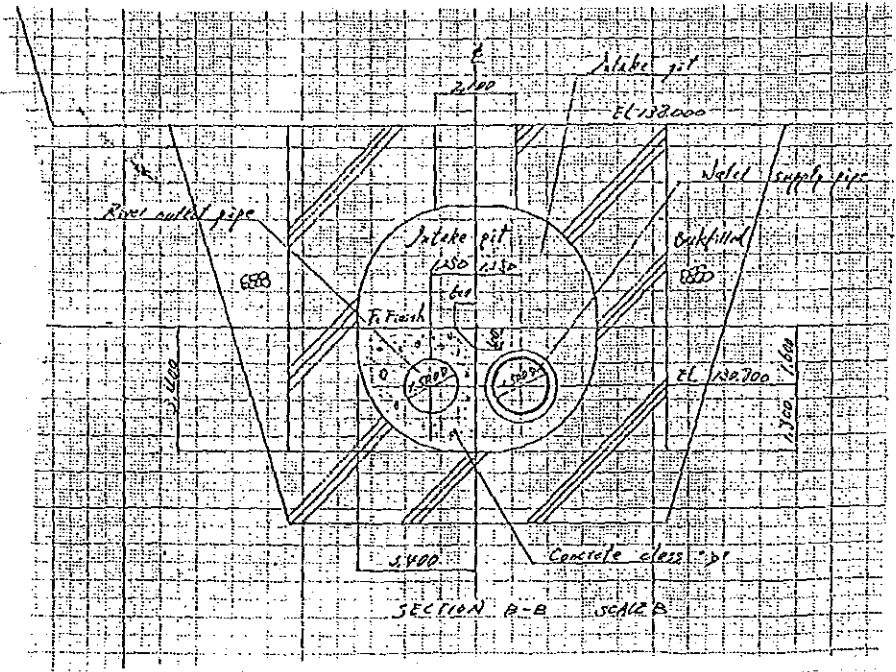
Description	Calculation Details	Unit	Quantity	Remarks
F/S Concrete work				
Form F1				
Inlet portion				
Rivet out let pit	$2 \times 3.40 \times 6.80 = 46.720$ $2.50 \times 6.80 = 17.000$	m ²		
Sewerage pit	$6.80 \times 6.80 - 0.150 = 44.673$ $\pi \times 3.40^2 - 0.150 = 34.550$ $3.40 \times 1.80 = 26.520$	m ²		
Perimeter surface of No. 2 plug	$\pi \times 3.40^2 - 0.150 = 34.550$	m ²		
Side face of pipe protection concrete	$3.40 \times (1.532 + 9.0) = 551.48$	m ²		
Construction joint of pipe protection concrete	$2 \times (\frac{1}{2} \times 3.40^2 + 3.40 \times 0.4)$ $- 0.150 = 78.048$	m ²		
Sub-total	0.32.88	m ²		



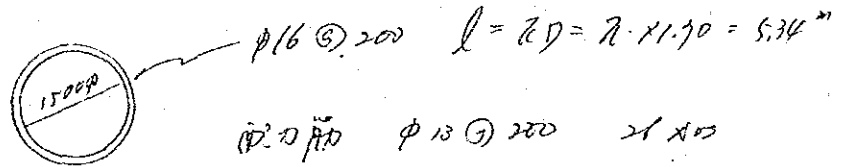
PLAN OF INLET



SECTION A-A SCALE B



Reinforcing bar in pipe protection concrete



$$D16 \quad 2.25 \frac{\text{kg/m}}{\text{m}} \times 5.60'' \times 5 = 63 \frac{\text{kg}}{\text{m}}$$

$$D13 \quad 0.975 \frac{\text{kg/m}}{\text{m}} \times 21 \text{ mm} \times 1.0 = 20.5 \frac{\text{kg}}{\text{m}}$$

$$\underline{83 \frac{\text{kg}}{\text{m}}}$$

$$\text{Total length} \quad 2.80'' + 153.20 + 90. = 170.0''$$

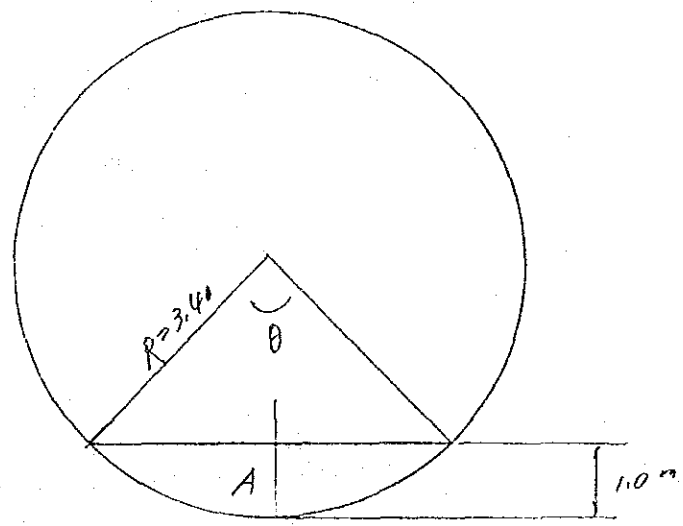
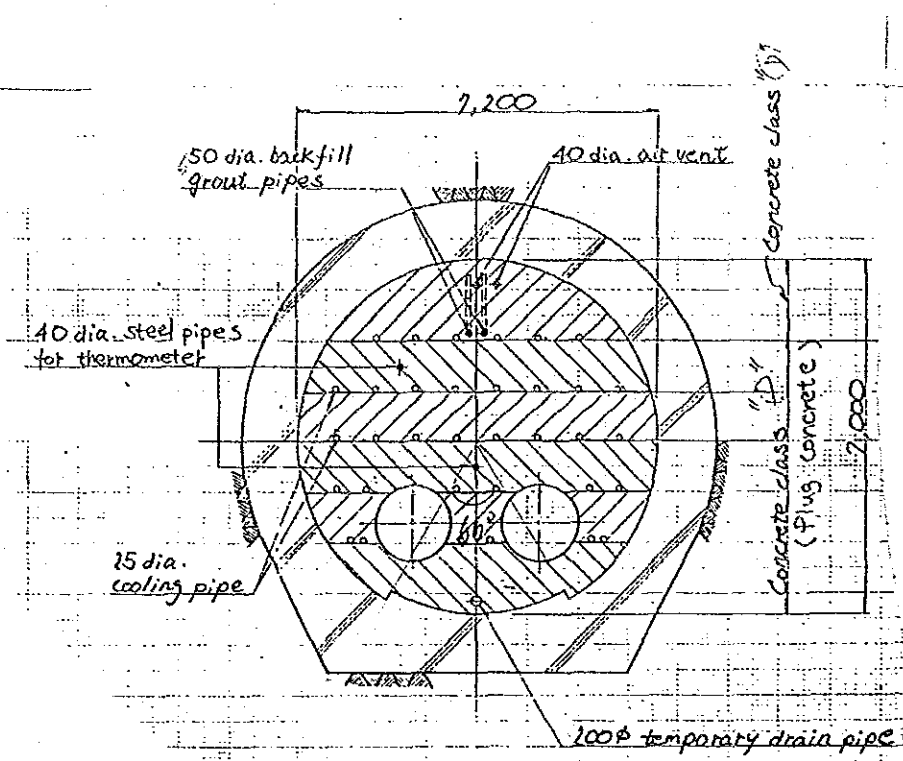
$$\text{Total weight} \quad 83 \frac{\text{kg}}{\text{m}} \times 170'' = 14,110 \frac{\text{kg}}{\text{m}}$$

$$\text{concrete} \quad 55.630 \text{ m}^3 + 1,406.608 \text{ m}^3 = 1,462.238 \text{ m}^3$$

$$10 \frac{\text{kg}}{\text{m}^3}$$

Working Division:

Description	Calculation Details	Unit	Quantity	Remarks
F3/03	F3 Concrete work			
	Form F1			
	Main plug			
	upstream end			
	$7.340^2 - 8.612^2 = 27.645^m$			
	cl. Sec page 2			
	downstream end			
	$7.340^2 - 2.9150 = 32.782^m$			
	Sub total 60.427 ^m			



$$3.40 \cdot \cos \frac{\theta}{2} = 2.40$$

$$\cos \frac{\theta}{2} = \frac{2.40}{3.40}$$

$$\theta = 2 \cdot \cos^{-1} \frac{2.40}{3.40} \div 90^\circ = \frac{2}{2}$$

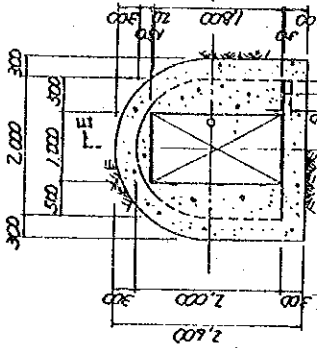
$$A = \frac{1}{4} \pi \cdot 3.40^2 - 2 \cdot \frac{1}{2} \cdot 3.40^2 \cdot \frac{1}{2} = \frac{1}{4} \cdot 3.40^2 (\pi - 2) = 3.90 \text{ m}^2$$

Working Division:

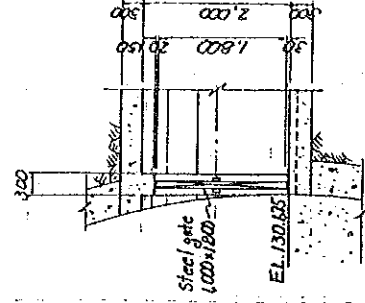
Description	Calculation Details	Unit	Quantity	Remarks
F3 Concrete Work				
F3/03 Form F1 in valve chamber				
	$\frac{1}{4} 2 \times 3.40^2 + 3 \times 1.0 \times 1.0 = 12.077$ m ²			
	Well $2 \times 2 \times 3.40^2 - 2 \times 1.80 \times 0.50$			
	+ $2 \times 1.80 \times 0.50$			
	+ $0.80 \times 0.50 = 71.954$			
	$4.50 \times 3.40 = 15.300$			
	$2 \times 1.50 \times 3.534 + 12 \times 3.534 = 14.893$			
	$4 \times 1.0 \times 0.50 + 1.0 \times 1.0 = 3.000$			
	Slop $2 \times 3.40^2 \cdot \frac{50}{360} - \frac{1}{2} \cdot 3.40^2 \cdot \sin 50^\circ \cdot 0.45 \cdot 0$			
	$- 2.0 \times 0.25 - 1.7 \times 0.25 - 1.4 \times 0.25$			
	+ $0.750 \times 1.50 = 2.040$			
	plinth $2 \times 3.40^2 \cdot \frac{50}{360} - \frac{1}{2} \cdot 3.40^2 \cdot \sin 50^\circ \cdot 0.45 \cdot 0$			
	$- 1.70 \times 0.40 - 0.80 \times 0.40$			
	+ $1.70 \times 0.20 + 2 \times 1.4 \times 0.20 = 4.254$			
	plinth $2 \times 0.5 \times 1.5 + 2 \times 0.60 \times 1.5$			
	+ $2 \times 1.0 \times 0.753 + 1.0 \times 0.60 = 5.406$			
	Total 128.884 m ²		109	

Working Division:

Description	Calculation Details	Unit	Quantity	Remarks
F3/04 Form FZ		m ²	183.6	
	$A_1 = 3.0^2 \times 3.14 / 4 \times (4.0 + 3.0 \times 2.5 + 2.0) = 139.18 \text{ m}^2$			
	$A_2 = (1.0 + 1.10 + 0.10 + 1.0 \times 3.14 / 2) \times (1.1789 - 1.0 - 0.3) = 39.54 \text{ m}^2$			
	$A_3 = (2.0 \times 1.0 + 1.0^2 \times 3.14 / 2 - 1.0 \times 1.8) \times 2 + (1.8 \times 2 + 1.0) \times 0.3 = 4.92 \text{ m}^2$			
	Total A = 139.18 + 39.54 + 4.92 = 183.64 m ²			
F3/05 Reinforcing bar		Ton	9.2	
	$W = \text{Concrete volume} \times 50 \text{ kg/m}^3$ $= 183.64 \times 0.05 = 9.18 \text{ Ton}$			



SECTION D-D



SECTION E-E

Working Division:

Description	Calculation Details	Unit	Quantity	Remarks
	F3 Concrete Work			
F3/05	Reinforcing bar in valve chamber			
	Wall and plinth			
	$22 \text{ m}^3 \times 0.0078 = 660 \text{ kg}$			
	Encasement			
	$55 \text{ m}^3 \times 10 \text{ kg/m}^3 = 550 \text{ kg}$			
	Total 1210 kg	ton	2	

Working Division:

Description	Calculation Details	Unit	Quantity	Remarks
F3/05	F3 Concrete Work			
	Reinforcing bar			
	Labour protection and pipe protection concrete			
	15 TA			

Working Division:

Description	Calculation Details	Unit	Quantity	Remarks
F 4 Miscellaneous Metalwork				
Fit/e1	Embedded metal work in false chamber			
	L 40x40x5 2.75 kg/m			
	$3^m + 4^m + 12^m + 15^m + 1.5^m = 11.2^m$			
	$2.75 \times 11.2 = 30.8$			
	F.B. 45 ^{mm} x 19 ^{mm}			
	$\frac{45}{1000} \times \frac{19}{1000} \times 7.85 \frac{\text{kg}}{\text{m}^2} = 0.691 \frac{\text{kg}}{\text{m}}$			
	$0.691 \times (11.2 - 1.5) = 6.509 \text{ kg}$			
	Steel cover			
	$0.767 \times 1.217 \times \frac{45}{1000} \times 7.85 \frac{\text{kg}}{\text{m}^2} = 32.974$			
	$0.246 \times 1.217 \times \frac{45}{1000} \times 7.85 \frac{\text{kg}}{\text{m}^2} = 32.071$			
	$1.017 \times 1.038 \times \frac{45}{1000} \times 7.85 \frac{\text{kg}}{\text{m}^2} = 37.271$			
	$1.038 \times 1.038 \times \frac{45}{1000} \times 7.85 \frac{\text{kg}}{\text{m}^2} = 38.061$			
	L 40x40x5 $2.75 \frac{\text{kg}}{\text{m}}$ x (12+12+10) = 10.03			
	L added			
	L 40x40x5 $2.75 \frac{\text{kg}}{\text{m}}$			
	$l = 2 \times (1.80 + 0.35 + 2.05)$			
	$+ 2 \times 2 \times 0.40 = 13.44^m \rightarrow 37.670$			
	$\phi 22 \times 410 \times 6 \text{ nos}$			
	7.337 kg			
	7.337 kg			

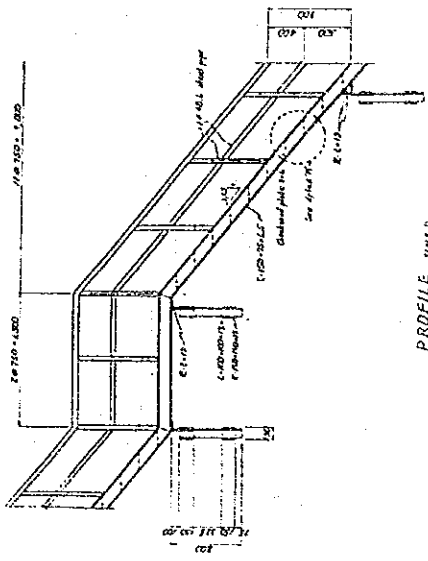
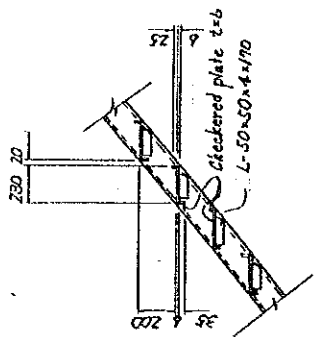
Working Division:

Description	Calculation Details	Unit	Quantity	Remarks
Ladder	2 sets			
	$2 \times 400 \times 400 \times 5 = 2,95 \text{ kg/m}$ $\times 2 = 5,90 \text{ kg}$			
	$2 \times 21 (0,1 + 3,1) + 6 \times 0,40$ $\times 2 = 208 \text{ m} \rightarrow 61,360$			
	$2 \times 21 \times 1,110 \times 18 \text{ Nos}$ $\rightarrow 2,682$			
	$2,98 \text{ kg}$			
	<u>Total</u>			
	$220,307 \text{ kg}$			
	$2,98 \text{ kg}$			
	$2,98 \text{ kg}$			
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Working Division:

Description	Calculation Details	Unit	Quantity	Remarks
FA Miscellaneous Metalwork				<p>PROFILE OF SPIRAL STAIRWAY SCALE 2</p>
101 Embedded metalwork	<p>Anchor plate for stairway (37 sets x 2 nos) $W_1 = 0.15 \times 0.15 \times 0.13 \times 37 \times 2 \times 7,850 = 170 \text{ kg}$ $W_2 = 0.10 \times 0.45 \times 0.01 \times 37 \times 2 \times 7,850 = 261 \text{ kg}$ Total $W = 170 + 261 = 431 \text{ kg}$</p>	kg	431.0	<p>SECTION E-E SCALE 1/2</p>
102 Stairway and handrail	<p>1) Support (37 sets) $L-100 \times 100 \times 13 \times 700$ $W = 19.1 \times 0.7 = 13.37 \text{ kg}$ $L-100 \times 100 \times 13 \times 800$ $W = 19.1 \times 0.8 = 15.28 \text{ kg}$ $L-75 \times 75 \times 12 \times 750$ $W = 13.0 \times 0.75 = 9.75 \text{ kg}$ PR-#13 $W = \{(0.10+0.20)/2 \times 0.3 + 0.075 \times 0.3/2\} \times 0.013 \times 7,850 = 5.74 \text{ kg}$ $W = \{(0.10+0.25)/2 \times 0.15 + 0.10 \times 0.25\} \times 0.013 \times 7,850 = 5.23 \text{ kg}$ $W = \{(0.10+0.20)/2 \times 0.275 + 0.275 \times 0.075\} \times 0.013 \times 7,850 = 6.31 \text{ kg}$ M-16 (60 nos) $W = 0.223 \times 7 = 1.56 \text{ kg}$</p>	kg	9,731.1	

Working Division:

Description	Calculation Details	Unit	Quantity	Remarks
IP-1/B	$W = (0.02 + 0.082) / 2 \times 0.077 \times 0.013$ $\times 7,850 \times 2 = 0.80 \text{ kg}$ $W = 0.092 \times (0.06 + 0.08) / 2 \times 0.013$ $\times 7,850 \times 2 = 1.31 \text{ kg}$			
Total	$W = (13.37 + 15.28 + 9.75 + 5.74 + 5.23$ $+ 6.31 + 1.56 + 0.80 + 1.31) \times 3.7$ $= 2,196 \text{ kg}$			
2) Stairway	$L = (1.0 + 1.5 \times 7) + (3.0 + 2.0 \times 7) \times \sqrt{(14.125^2)} / 1.25$ $= 96.02 \text{ m}$			
L-150 x 75 x 6.5	$W = 18.6 \times 96.02 \times 2 = 3,572 \text{ kg}$			
L-50 x 50 x 4	$W = 3.06 \times 96.02 \times 2 = 588 \text{ kg}$			
Total	$W = 3,572 + 588 = 4,160 \text{ kg}$			
3) Step	$W = 3.06 \times 0.17 = 0.52 \text{ kg/step}$			
Checkered plate t=6	$W = (0.23 + 0.025 + 0.035) \times 0.60 \times 48.77 \text{ kg/m}^2$ $= 8.49 \text{ kg/step}$			

Working Division:

Description	Calculation Details	Unit	Quantity	Remarks
	$Step = 76.50 / 0.25 = 306 \text{ steps}$			
	$W = (0.52 + 8.49) \times 306 = 2,757 \text{ kg}$			
4) Handrail				
	$L = 96.02 / 0.60 \times 0.265 = 42.41 \text{ m}$			
	$N = (76.5 + 1.0 + 1.265) / 0.75 + 1 = 106 \text{ nos.}$			
	Steel pipe $\phi 48.6 \text{ L-3.2}$ ($w = 3.58 \text{ kg/m}$)			
	$L = 42.41 \times 2 + 106 \times (0.90 - 0.098 \times 3/2)$			
	$= 172.59 \text{ m}$			
	$W = 172.59 \times 3.58 = 618 \text{ kg}$			
5) Total				
	$W = 2,196 + 4160 + 2,757 + 618$			
	$= 9,731 \text{ kg}$			

