ASSTT. ENGINEER (PIA) IWMP P.S. OSIAN

DETAILED PROJECT REPORT

OF

JODHPUR-LV (IWMP)

(UNDER INTEGRATED WATERSHED MANAGEMENT PROGRAMME)

BLOCK: OSIAN DISTRICT : JODHPUR

AGRO CLIMATIC ZONE- 1A

TOTAL GEOGRAPHICAL AREA – 5678 Hac.

TOTAL EFFECTIVE AREA- 4500 Hac.

TOTAL COST- 757.71 Lacs.

COST FROM PROJECT FUND- 675.00Lacs

COST FROM CONVERGENCE FUND- 82.71Lacs

SUBMITTED BY

ASTT. ENGINEER, WDSC

PANCHAYAT SAMITI -OSIAN

JODHPUR, (RAJASTHAN)

20/12/2012 17:45

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CERTIFICATE

Certified that the undersigned have proposed the appropriate and need based activities required in the watershed project area with active participation of beneficiaries along with consultation of Watershed Committees (WCs). Approval of watershed project plan and DPR as been obtained from WC. Gram Sabha. The plan and DPR document of IWMP Jodhpur 55 project, at P.S. Osian District Jodhpur is technically sound, viable and appropriate for implementation during the period 2013 - 2020.

We recommend that this plan be sanctioned and put to implementation.

Signature	Signature	Signature	Signature	Signature	Signature
Chairman/	Secretary WC	WDT members	Junior Engineer	Assistant Engineer & PIA	Project Manager,WC DC
			P.S.Osian	P.S.Osian	Distt. Jodhpur
Manoharsingh	Sunder lal	1 Parveen Khoja	Jagdish Choudhary	Jagdish Choudhary	Sh.Gajender Chawla
		2 Chandram			
		3 Virender Singh			
		4 Hemlata			

INTRODUCTION

CHAPTER - I INTRODUCTION

Location.

Bhikamkor (Jodhpur-55): Project is located in OSIAN Block of JODHPUR

General features of watershed

S. No.	Name of Project (as per GOI)	Bhikamkor (Jodhpur - 55)
(a)	Name of Catchment	Bhikamkor
(b)	Name of watershed area (Local name)	Bhikamkor
(c)	Project Area	5678 Hact
(d)	Net Treatable Area	4500 Hact
(e)	Cost of Project	675 Lakh
(f)	Cost / Hectare	15000
(g)	Year of Sanction	2011-12
(h)	Watershed Code	6/1,2,3 & cluster
(i)	No. of Gram Panchayat in Project Area	1
(j)	No. of villages in Project Area	3
(k)	Type of Project	Desert
(l)	Elevation (metres)	25
(m)	Major streams	Local Streams
(n)	Slope range (%)	1 to 4 %

Macro/ micro	Name of Gram Panchyat	Name of Villages Covered	Census code of villages	Area (Hact.)
	Bhikamkor	Bhikamkor	815000201935200	1050
		Bhiyadiya	8150020201935100	1750
		Inda ki dhani I & II	185000201934900	1700
				4500

The watershed falls in Agroclimatic Zone IA . The Soil texture is Sandy to lomy sandy soil. The average rainfall is 307 mm. The temperatures in the area are in the range between 43.4 centigrade during summer and 26.3 centigrade during winter. The major Crops in the area are Bajara, Wheat,Moong, Moth, mustared ground nut, Gowar, Jeera,Lahsun, Oil sheed,Custor. 66% land is under Cultivation, 18.4% land fallow, 12.33% land is wasteland. 1810 of Household are small and marginal farmers (80.8% household). Average land holding in the area is 1.32 hact. Major area is single cropped area . The averrage annual rainfall (10 years) in the area is 307 mm. The Major festivals in the village are Holy, Deepawali,Id & Rakshabandhan.At present These villages are having 5792 population with Communities like Jat, Rajpoot,Bisanoi, Meghwal, Muslim.

Climatic and Hydrological information

1	**Average Annual Rainfall (mm)**	
S.No.	Year	Average Annual Rainfall (mm)
1	2003	484.5
2	2004	192
3	2005	260
4	2006	209.5
5	2007	200
6	2008	270
7	2009	138
8	2010	435
9	2011	502
10	2012	387
2	**Average Monthly Rainfall (mm)**	
	Month	**Rainfall (mm)**
i	June	35.42
ii	July	101.22
iii	August	92.22
iv	Septamber	29.39

3	**Maximum rainfall intensity (mm)**			
	Duration		**Rainfall (mm)**	
i	15 minute duration		63	
ii	30 minute duration		52	
iii	60 minute duration		48	
4	**Temperature (Degree C)**			
	Season		**Max.**	**Min.**
i	Summer Season		43.4	26.4
ii	Winter Season		26.3	9.6
iii	Rainy Season		35.5	15.5
5	**Potential Evaporation Transpiration (PET) (mm/day)**			
	Season		**PET**	
i	Summer Season		15	
ii	Winter Season		3.8	
iii	Rainy Season		8.8	
		Total PET	27.6	
6				
	Time of retun of maximum flood	5 year	10 years	In- Year
	Periodicity of Drought in village area	3 time in 5 year	7 time in 10 year	Alternate year

Other Development Schemes in the Project area

S.No.	Scheme	Name of the deprtment	Key interventions under the Scheme	Targated Beneficiaries	Provisions under the Scheme
1	IAY	Rural development	Avas	BPL	Construction of Avas
2	CMGY	Rural development	Avas	BPL	Construction of Avas
2	MGNREGA	Rural development	Providing employment	All section	Basic Infrastructure Development
3	SFC	Rural development	Providing employment	Village Leve	Community work
4	TFC	Rural development	Providing employment	Village Leve	Community work
5	SGSY	Rural development	Lively Hood	BPL	Providing Loan

Details of infrastructure in the Project areas

Parameters		Status			
i	No. of villages connected to the main road by an all weather road	3			
ii	No. of villages provided with electricity	3			
iii	No. of households without access to drinking water	Nil			
iv	No. of educational institutions :	P	S	HS	VI
	Primary(P)/Secondary(S),HigherSecondary(HS)/vocational institution (VI)	8	8	1	Nil
V	No. of villages with access to Primary Health Centre	Nil			
vi	No. of villages with access to Veterinary Dispensary	0			
vii	No. of villages with access to Post office	1			
viii	No. of villages with access to Banks	1			
ix	No. of villages with access to Markets/Mandis	Nil			

x	No. of villages with access to Agro-industries		Nil			
xi	Total quantity of surplus milk		Nil			
xii	No. of milk collection centres		U	S	PA	O
	(e.g. Union(U)/Society(S)/Private agency(PA)/Others(O)		Nil	Nil	Nil	Nil
xiii	No. of villages with access to Anganwadi Centre		7			
xiv	Any other facilities with no. of village (please specify)		Nil			
xv	Nearest KVK		Jodhpur (Mandore)			
xvi	Cooperative socity		Bhikamkor Gram Seva Sahakari Samiti			
xvii	NGOs		Nil			
xviii	Credit institutions		Nil			
	(i) Bank		ICICI			
	(ii) Cooperative Society		Bhikamkor Gram Seva Sahakari Samiti			
xix	Agro Service Centre's		Osian			

Institutional arrangements (SLNA,DWDU,PIA,WDT,WC,Secretary)

DWDU Detail

1	2	3
S.No.	**Particulars**	**Details of DWDU**
1	PM ,DWDU	Ex. En. Watershed Jodhpur
2	Address with contact No. website	Near RTO office, Jodhpur 0291-2544171
3	Telephone	0291-2544171
4	Fax	0291-2570746
5	E-mail	pm.dwdu.jodhpur@gmail.com

SLNA Detail

1	2	3
S.No.	**Particulars**	**Details of SLNA**
1	Member Secretary	Post-CEO
2	Designation and Address	Director Watershed development and soil Coservation
3	Telephone	0141-2227858
4	Fax	0141-2227189
5	E-mail	dir_wdsc@dataone.in

PIA Particulars

1	2	3
S.No.	**Particulars**	**Details of P.I.A.**
1	Name of PIA	Jagdish Choudhary (A.En.)
2	Designation	A. En.
3	Address with Contact No. website	P. S. Osian (Jodhpur)
4	Telephone	9414875132
5	Fax	…….
6	E-mail	iwmp.osian@gmail.com

WDT Particulars

1	2	3	4	5	6	7	8
S.No.	**Name of WDT member**	**M/F**	**Age**	**Quqlification**	**Experience in watershed (Yrs)**	**Description of professional training**	**Role/Function**
1	Parveen Khoja	M	23	Diploma in Civil Engg.	2	Engineering work	Social work
2	Virender Singh Rathor	M	21	Diploma in veterinary	1	Veterinary work	Veter. Work
3	Hemlata	F	26	B.A.B.Ed.	2	Social Scientist	Social work
4	Chandram Gurjar	M	27	M.Sc.(agri)	1	Agriculture Scientist	Agricultue work

Scheme :- **IWMP**

Panchayat Samiti **Osian**

Watershed :- **Bhikamkor (Jodhpur - 55)**

District : **Jodhpur**

Details of Watershed Committees (WC) Bhikamkor

S. No.	Name of WC's	Date of Gram Sabha for WCD	Date of Registration asvaSociety(dd/mm/yyyy)	Designation	Name	M/F	Name of UG/SHG	Sc/ST/OBC /General	Landless/ MF/SF/BF	Educational qualification	Khasra No.
1	Bhikamkor	27/02/2011	N.A.	President	Manohar singhS/0 Shayam singh	M	UG	Gen	SF	PUC	
2				Secretary	Sundar lalS/0Dhima ram	M	UG	OBC	SF	XII	
3				Member	Girdhari RamS/0Jetha Ram	M	UG	SC	MF	VII	
4				Member	Nukala RamS/0 Ramu Ram	M	SHG	OBC	MF	V	
5				Member	Chen singh S/0 Udai Singh	M	UG	Gen	LF	VIII	2234
6				Member	BhanwarlalS/0 Sawai Singh	M	UG	OBC	LF	X	2308
7				Member	Joga Ram S/0 Babu Ram	M	UG	OBC	LF	X	
8				Member	Santu S/0 Puna Ram Meghwal	F	UG	SC	SF	illetrate	
9				Member	Ramdevi W/0 Kila Ram Jat	F	UG	OBC	LF	illetrate	
10				Member	Kurnja W/0 Jetha Ram Meghawal	F	UG	SC	MF	literate	
11				Member	Padam Singh S/0 Pep Singh Rajput	M	SHG	Gen	SF	X	1030
12				Member	Ratni W/0 Manohar lal Brahamin	F	SHG	Gen	Landless	XII	
13				Member	Murlidhar S/0 Ranchandra Ratni	M	UG	Gen	Landless	IX	
14				Member	Mada Ram S/0 Barshinga ram Bhisnoi	M	UG	OBC	LF	X	
15				Member	Pirachand S/0 hiralal Darji	M	UG	OBC	SF	M.A	1125

16				Member	Vimla W/0 Sahi Ram	M	UG	OBC	SF	V	
17				Member	JAGDISH CHOUDHARY	M	Departmental Engg.			M.Tech.	

Problems and scope of improvement in the project area

The socio economic conditions of the area can be improved through increased production which can be achieved through expansion in cultivated area and productivity enhancement 450 hact. Land is arable wasteland and 828 hact. is fallow can be brought under cultivation.500 hact. is only irrigated and with efforts this can be increased to meet the productivity gap of major crops in the area as compared with district and with areas in the same agro climatic zones indicate potential to increase the productivity. The demonstration of improvedpackage of practices,improved varieties,increased irrigation facilities and soil conservation measures under the project can bridge this gap. Due to smal land holdings in the area focus of the project would be on diversification in agriculture (horticulture,vegitables,green housees,Agro forestry,fodder crops) and diversification in Livelihoods (Agriculture, Animal husbandry, self employment) 6407 Tonnes fodder scarcity can be met out through Pasture development. Improved animal Husbandry practices can increase the productivity of livstock. 315 no. of persons migrate due to Lack of Employment this migration can be checked through creation of employment opportunities in the project area through increase in production and diversification in agriculture and Livelihoods as mentioned above.

CHEPTER-II

Sosio economic

FEATURE,

PROBLEMS AND

SCOPE

CHEPTER-II Sosio economic Features, Problems and Scope

Tabe 2.1 Population & Household Details :

Village	Male	Female	Total	SC	ST
Bhikamkor	1520	1332	2852	574	97
Bhihadiya	840	784	1624	649	0
Inda ki Dhani	705	611	1316	119	0
	3065	2727	5792	1342	97

Household Details						
BPL household	Land less	Small Farmer	Marginal Farmer	Total household	SC household	ST household
401	28	123	1687	2240	308	21

Table 2.2 Development indicators

S.No	Development Indicators	State	Project Area
1	Per capita income (Rs.)	16260	8550
2	Poverty Ratio	0.22	0.33
3	Literacy (%)	60.40%	40%
4	Sex Ratio	921	899
5	Infant mortality Ratio		63/1000
6	Maternal mortality Ratio		4/1000

Table indicates poor socio economic conditions

Table 2.3 Land Use

Land Use	Total area in Hact.				
	Private	Panchayat	Government	Community	Total
Agriculture Land	**4250**				**4250**
Temporary follow	**350**				**350**
permanent follow	**478**				**478**
Cultivated Rainfed	**2375**				**2375**
Cultivated Irrigated	**597**				**597**
Net Sown area	**2972**				**2972**
Net area sown more than once	**597**				**597**
Forest Land	**0**				**0**
Waste Land	**450**		**105**		**555**
Pastures Land		**145**			**145**
Others					**0**
Total					**4500**

The project area has 450 Hact. Of cultivable wasteland 828 Hact. Of fallow land (Total 1278 Hact.) can be brought under cultivation if some irrigation source can be provided through Construction of WHS like Khadin, Tanka, Farm pond etc. and also through demnstration of rainfed varieties of crops. Construction of WHS can also increase in area under irrigation which is only 597. Hact. (.13.3. %) 105. Hact. (2.33.. %) is under wasteland s and can be brought under vegitative filter strip, V-ditches, staggered trenches, WHS (Johad) Afforestation of wastelands and Pasture development will be taken up on these land.

Pasture development the land use table shows that there is 145 Hectare pasture land (3.22 %) This emphasizes the need for taking up pastureland development works through sowing of promising species of grasses and plantation

Table 2.4.a Agriculture and horticulture status and fuel availability.

Cropping Status												
S.No.	Season	Crop sown	Reinfed				Irrigated				Total	
			Varieties	Area (Hact)	Production (Tone)	Productivity(qt./ha.)	Varieties	Area (Hact)	Production (Tone)	Productivity(qt./ha.)	Area (Hact)	Production (Tone)
1	Kharif	Bajara	WCC75 RSB2 RJ 171	685	411	6	HHB67,RJ171	_	_	_	685	411
	Moon		K851 RMG 62 SML 668 G-8	280	84	3	RMG-1	_	_	_	280	84
	Moth		RMO 40 RMO435	235	70.5	3	RMO-435	_	_	_	235	70.5
		Till	RT 127 RT 125 RT 46	215	64.5	3	RJ-46	_	_	_	215	64.5
	Gowa		RGC 936 RGC 986 RGC1003 HG 563 M 83	620	248	4	RGC-936	_	_	_	620	248
		Mongphali	M 13 GG 20 GG 10 M 335	130	104	8	M 13 GG 20	_	_	_	130	104
	Caste		GCH 4 RHC 8 Jayoti Mayco 6	205	205	10	GCH-4	_	_	_	205	205
	Chilly		NP 46A Mathania Long Jawar 218	5	100	200	NP 46A Mathania	_	_	_	5	100

	Gaja		Pusa Kesar Nentis Pusa Mandakani(S-5)	–	–	–	Pusa Kesar Nentis Pusa Mandakani(S-5)	155	186	12	155	186
2	Rabi	Whea	LOC 1 RJ 3077 HD 2329 RJ 1282	–	–	–	LOC 1 RJ 3077 HD 2329 RJ 1282	195	351	18	195	351
		Mu ster ed	Bio 902 RH 819 RN 505 T.59 (Varuna)	–	–	–	Bio 902 RH 819 RN 505 T.59 (Varuna)	94	112.8	12	94	112.8
	Jeera		RS-1 RZ-19 RZ-209	–	–	–	RS-1 RZ-19 RZ-209	105	63	6	105	63
	Lahsoo		Ymuna White G-1,2 (G-50) Gujrat	–	–	–	Ymuna White G-1,2 (G-50) Gujrat	48	240	50	48	240
3	Zaid	Rayda		–	–	–	–					
	Taramira			–	–	–	–					
				–	–	–	–					
	Total			**2375**				**597**			**2972**	**5944**

Table 2.4.b Abstract of cropped Area (hact.)	
Area under Single crop	2375

Area under Double crop	597
Area under Multiple crop	Nil

****Write for each crops :** The farmers are using **WCC 75. RJ 171** varieties of Bajra, where as varieties like **MH169, RHB 121** can increase the production.

Crop Rotation ** will vary from project to project

Fallow	.	Moth
Bajra	.	Jeera
Gawar	.	Lahsun
Fallow	.	Caster
Fallow	.	Groundnut
Ground nut	.	Wheet
Fallow	.	Moong
	.	
Cluster Bean	.	Fallow
Fallow	.	Tarameera
Till	.	Fallow
Caster	.	Caster
Moth	.	Fallow

The table 2.3 shows that only 597 hact. Is (13.3 %) is double crouped area. Also the crop rotation shows that fallow lands are there. This indicates that there is scope for change in crop rotation in fields where there are fallow lands through Soil and Water conservation measures, crop demonstration and diversification in agriculture.

Soil and Water conservation measures besides putting fallow lands under cultivation can change the area under single cropping to double and multiple cropping.

Table 2.4.c Productivity Gap Analysis (The table can also be given in bar chart form)

S.No	Name of the crop	India	Htghest Average in Rajasthan	District	Project Area
1	Bajra	802	655	750	590
2	Moong	317	159	320	295
3	Moth	144	122	270	230
4	Weath	2619	2762	2150	1850
5	Till	310	149	270	235
6	Gawar	510	525	515	380

Analysis of the above table indicate that besides national gap there is wide gap in productivity with in state and even with in same agro climatic zones.

The reasons for this variation are :-

1 The farmers are using vaing varieties WCC 75 of Bajara R1 171 whereas the recommended varities like **MH169, RHB 121** provided 7 qt./hact. Yield(write for all crops)

2 Lack of Availibility of good quality seeds of desired crop and variety in adequate quantities and time to the farmers.

3 Availability of water for cultivation (13.3 % is irrigated)

The productivity gap and reasons of indicate potential to increase the productivity through crop demonstration. Crop demonstrations would be carried out on improved crop/varieties, improved agronomic practices. INM,IPM, 'Mixed cropping, distribution of fodder seed mini kit.' Demonstration of improved methods and economics of fodder crops cultivation and also distribution foundation seeds of Forage Crops for further multiplication, introduction of fodder crops in the existing crop rotations

Table 2.5 Existing area under horticulture/Vegitables/Floriculture(hact.)

Activity	Area	Species	Varieties	Recommended varieties	Production
Horticulture	Nil	_	_	CAZRI Selected	20-25 kg /plant
Vegitable	Nil	_	_	NP-46A	100-150q/ha
	Nil	_	_		
Floriculture	Nil	_	_		
Medicinal Plants		_	_	CAZRI selected	

Table 2.6 Land holding Pattern in project area

S.No.	Type of Farmer	Total House Holds	Land holding(hact.) irrigation source wise			Land holding (hact.) Social group wise				
			Irrigated(source)	Rainfed	Total	General	SC	ST	OBC	BPL
i	Large farmer	73	120	475	595	235	80	0	280	
ii	Smal farmer	123	145	543	688	153	208	0	327	
iii	Marginal farmer	1687	332	1357	1689	326	843	0	520	
iv	Landless person	28	0	0	0	0	0	0	0	
v	No. of BPL house hold	401			0					
vi	Total	2240	597	2375	2972	714	1131	0	1127	0

2377. hact. Land holding belong to small and marginal farmers who own 80.00% of total cultivated area 2972 Hact. Horticulture/vegetables could be more economical to small & marginal farmers with irrigation source. For large farmers with no irrigation facility Horticulture/vegetables will be promoted in a part of land with farm pond / Tanka construction.

The following activities will be more beneficial for small land holdings and for diversification and income for large farmers.

Horticulture plantation, Medicinal and Aromatic Crops,floriculture:-

As discussed earlier Horticulture/ vegitables could be more economical to Small and marginal farmers with irrigation source.Also the project area has good potential for medicinal & aromatic crops like Sonamukhi, Issabgol,Aloveera, Kumat ,Ker, Anwola etc.

Agro forestry plantation:-

To increase the income of farmers and also for shelter belt plantation as wind velocity is hight in the project area.

Setting of vermi Compost Units :-

Keeping in view the side effect of residues of chemicals and fertilizers on human health the emphasis would be on cultivation of organic produce through motivating farmers and providing assistance for production of organic input, vermi compost.

Production and distribution of quality seed:-

There is need to ensure that good quality seed is available for cultivators for wich adequate seed production would be initiated in watershed areas with the assistance of private sector and agriculture department technologies.

Sprinklers and pipelines :-

For efficient water management practices emphasis on demonstration of sprinklers with adequate financial support and convergence/ private partnership.

Establishment of Green House :-

For growing off season vegitables seedlings and other horticultural crops under controlled atmospheric conditions of green house.

Establishment of nurseries :-

Most of the planting material is procured from other parts of the State/ Contry. The procurement of planting material from distant places causes damage to the planting material and often results in untimely supply. Hence nursery development activity in area.

Innovative hi - tech/ export oriented activities :-

Innovative hi - tech/ export oriented projects like mushroom cultivation, floriculture, etc which are in negligible existence at present, can be implemented by individual farmers / private companies.Storage structure like Onion storage ,fodder storage and grain storage can be constructed.

Drip irrigation:

Drip irrigation will be promoted in all horticulture plantations, vegitables, green houses and in nurseries for rational use of irrigation higher yields and quality produce.

Table 2.7 Livestock Status- animals / milk producton / average yield.

S. No.	Description of animal	Population in No.	Yield (Milk/Mutton/Wool)	Equ. Cow unit	Dry matter requirement per year (7 kg/animal)	Total requirement in M.T.
1	Cows	2418	9672 lit/day	4 lit/day	61779.9	6177.9
	Indigenou	2418	9672lit/day	4lit/day		
	Hybrid					
2	Buffaloes	622	3732 lit/day	6 lit/day	15892.2	1589.2
3	Goat	2175	1631 lit/day	Population/2	55571	5557.1
4	Sheep	4925	26595	Population/2	125833	12583.3
5	Camel	82			2095	209.5
6	Poultry	60		NA		
7	Piggery	0		NA		
	TOTAL	10282	41630		261170	26117

26117 Tone per year

In spite of large number of livestock, production is less hence increase in productivity across all species, is a major challenge. To reduce production of unproductive cattle and improve the productivity by improving the breeds by breeding management following activities will be taken up.

- Castration - Bardigo Castration
- Artificial insemination - HF Tharparkar
- Distribution of superior Breeding bulls for use in cattle and Buffalo
- Breeding distribution crossbred rams (Chokala,Marwari)

Cattle-Tharparkar,Gir,Ratthi
Baffalo-Murrah,

Besides breed improvement other animal husbandry practices like batter health, hygiene and feeding practices can increase productivity of livestock. Hence Activities like Animal health camps, Urea - Molasses treatment demonstration, demonstration of improved methods of conservation and utilization of Forage crops are proposed.

Table 2.8 Existing area under fodder (hact.)

S.No	Item	Unit	Area/Quantity
1	**Existing Cultivable area under Fodder**	**Hact.**	**250**
2	**Production of Green fodder**	**Tone/year**	**9500**
3	**Production of Dry fodder**	**Tone/year**	**10210**
4	**Area under Pastures**	**Hact.**	**20**
5	**Production of fodder**	**Tone/year**	**19710**
6	**Existing area under Fuel wood**	**Hact.**	**120**
7	**Supplementary feed**	**Kgs / day**	
8	**Silage Pits**	**No.**	**10**
9	**Availability of fodder**	**Tones**	**19710**
10	**Deficiency / excess of fodder**	**Tones**	**6407**

Thev table above shows there is fodder deficiency (Requirement is 26117 tone and availability 19710 tones)

To minimize the large and expanding gap between feed and fodder resource availability and demand there is need for :-

- Increase in area under fodder crops
- Increase in producttivity of fodder crops
- Development of pastures
- And reduction in large number of livestock production through replacement by few but productive animals.

Table 2.9 Agriculture Imlements :-

1	2	3
S.No	**Implements**	**Nos.**
1	Tractor	85
2	Sprayers-manual / power	36
3	Cultivators / Harrows	86/50
4	Seed drill	15
5	Any other trolley	85

Table 2.10 NREGA Status - No. of job card Holder, activities taken so far, employment status. :-

S.No	Name of village	Total No. of Job card	Employment Status	Activity taken up so far
1	**Bhikamkor**	**404**	**399**	**Civil Work Road connectivity**
2	**inda ki dhani 1**	**402**	**398**	**Nadi Bond Work Road connectivity**
3				
4	**bhihadiya**	**410**	**408**	**Nadi Pond Civil Working**
	Total	**1216**	**1205**	

Table 2.11 Migration Details :-

Name of village	No. of persons migrating	No. of days per year of migration	Major reason(s) for migrating	Distance of destination of migration from the village (km)	Occupation during migration	Income from such occupation (Rs. In lakh)
Bhikamkor	**90**	**9-12month**	**sales/labour**	**70-300**	**driver/labour**	**55**
Inda ki dhani 1	**65**	**9-12month**	**Truck driver/sales/labouer**	**65-450**	**driver/labur**	**50**
Inda ki dhani 2	**105**	**9-12month**	**driver/sales**	**70-350**	**driver/sales**	**85**
bhihadiya	**55**	**9-12month**	**Truck driver/sales/labouer**	**65-400**	**driver/labour**	**30**

The migration can be check by creation of employment opportunities,enhancing farm level economy, increases the income of the people engaged in animal husbandry by dairy, poultry and marketing and value addition,(As discussed earlier) and diversification in livelihoods.

The existing livelihoods Village are given below :-

Table 2.12 (a) Major activities (On Farm)

Name of activity	No. of House holds	Average annual income from the / Lacs
Cultivators	1883	0.70 Lacks
Dairying	10	0.60 lacks
Poultry	4	0.50 Lacks
Piggery	0	0
Landless Agri. Labourers	10	0.40 Lacks

Table 2.12 (b) Major activities (On Farm)		
Name of activity	**No. of House holds/individuals**	**Average annual income from the / Lacs**
Artisans	8	0.35 Lacks
Carpenter	10	0.45 Lacks
Black smith	3	0.35 Lacks
Leather Craft	5	0.25 Lacks
Porter	11	0.40 Lacks
Mason	20	0.75 Lacks
Others specify(Cycle Repair, STD, Craft etc)	42	0.50 Lacks

The efforts for increase in income through off farm activities will be made under livelihood component through assistance to SHG or individuals.

Table 2.13 (a) Status of Existing SHG :-

S.No	No. of SHG	Members	Activity involved	Monthly income	Fund available	Assistance available	Source of assistance	Training received
1	21	210	Papad badi/Achar/Dairy	-	-	–	–	2

The table indicates existance of number of groups in the area also these need to be strengthened through trainings and financial assistance.

II. Technical Features

Table 2.14 Ground Water :-

S.No	Source	No.	Functional depth	Dry	Area irrigated	Water availablity(days)
i	Dug wells	13	200	all	Nil	Nil
ii	Shallow tube wells	Nil			Nil	Nil
iii	Pumping sets	Nil			Nil	Nil
iv	Deep tube wells	205	350ft	5	597	12 Month
	Total					

Table 2.15 Availability of drinking water :-

S.No	Name of the village	Drinking water requirement Lts/day	Present availibility of drinking ltrs/day	No. of drinking water sources available	No. functional	No. requires repaires	No. defunctional
1	Bhikamkor	250000	200000	5 Deep Tube well	1	.	1
2	Bhihadiya	150000	120000	3 Deep Tube well	1	1	
3	Inda Ki Dhani	150000	120000	2 Deep Tube well	1	1	

Table 2.16 Water use efficiency :-

Name of Major Crop	Area (Hectare)		
	Through water saving devices (Sprinklers)	Through water conserving agronomic practices	Any other (pl specify)
Wheat	6.6/kg/ha/mm	2.5	_
Maize	5.5/kg/ha/mm	2.5	_
Vegitable	22.22/kg/ha/mm	10	_

- The table above indicate need for judicious use of available Water.
- Encouraging optimum use of water through installation of sprinklers on every operational wells.

Table 2.17 Slope details :-

Slope of Watershed		
S. No.	Slope percentage	Area in hectares
1	0 to 3 %	5000

As most of the area has slope less than 3% construction of contour bunds can solve the problem of water erosion in agriculture fields and protect washing of top soil and manures/fertilisers.

Table 2.18 Water Budgeting :-

Table 2.18(a) Total available runoff (cum) use Stranges table :-

Area	Type of Catchment	Yield of runoff from catchment per hect. (cum.) use Stranges table	Total Runoff(cum.)
	Average	93.27	563350
	Total		563350

Table 2.18(b) Details of already stored runoff (Surface Water structures :-

S.No.	Name	No.	Storage Capacity (cum)	Area irrigated (hect.)
i	Major irrigation Project	Nil	.	.
ii	Medium irrigation Project	Nil	.	.
iii	Farm Pond / Tanks (Nadi)	8	15700	.
iv	Anicuts	Nil	.	.
	Tatal	Nil	.	.

Table 2.18(c) Details of Proposed Structure for Surface Water Storage :-

S.No.	Name	No.	Storage Capacity (cum)	Area irrigated (hect.)
i	Major irrigation Project	Nil	_	–
ii	Khadeen and Percolation tank	9	6500	–
iii	Farm Pond / Tankas	100	5500	–
iv	MMS and WHS	6	3500	–
	Total		15500	

Runoff trapped in existing & proposed structure = 15700+15500=31200 cum

% Runoff trapped = 5.54 %

Table 2.18(d) Balance available runoff (cum) :-

Total rinoff (cum)	Net tapped Runoff (cum)	Balnce Runoff (cum)	Percentage of water stored w.r.t. runoff
1	2	3	4
563350	31200	532150	5.54

The water budgeting indicates potential for water harvesting in the area.

The need is :-

- To check land degration
- To reduce excessive biotic pressure by containing the number and increase of livestock
- To check cultivation on sloping lands without adequate precautions of soil and water conservation measures
- To discourage cultivation along susceptible nallah beds
- To check faulty agriculture techniques
- To check uncontrolled grazing and developedcattle tracks
- To check Deforestation of steep slopes

Tocheck erosive velocity of Runoff, store Runoff, to arrest silt carried by runoff and to recharge Ground Water structures life, Earthen check dams, Gully plugs,Bank stabilistion, Loose stone check dams, Gabions, Earthen embankment (Nadi) and MMS would be taken up.

Table 2. 19 Soil details

A	**Soil Prifile**	
S.No.	Major Soil Classes	Area in hectares
1	Sandy to loamy sand soils	4500
2		
B	**Soil Depth**	
	Depth (Cms)	Area in hectares
1	0.00 to 7.50	4500
2	7.5 to 45.00	
3	>45.00	

C	Soil fertility Status	Kg/hect.	Recommended
	N	0.52 to 0.22	–
	P	2.7 to 15.55	–
	K	16.00 to 28.00	–
	Micronutrients	PPM	–
	Iron	4.8 to 9.5	–
	MN	63.8 to 13.5	–
	CU	0.85 to 1.9	–
	Zn	0.8 to 2.2	–

The analysis of table shows need to improve and maintain soil fertility. Soil health card to every farmer every crop season will be provided, which will include the recommendation for Application micro nutrient and fertilizers.

Table 2.20 Erosion details :-

Erosion status in Project Area				
Cause	**Type of erosion**	**Area affected (hect.)**	**Runoff (mm/year)**	**Average soil loss (Tonnes/hect/year)**
Water erosion				
a	Sheet	3000	250	3 to 7
b	Rill	1000	250	3 to 5
c	Gully	500		
Sub Total				
Wind erosion		100		4 to 8
Total for Project				3 to 8

CHAPTER = III Proposed Development Plan: The Activities are indicative addition/deletion in activities will be as per local conditions.

(A) Preparatory phase activities Capacity Building Trainings and EPA

The IEC activities like Kalajathas, Groupmeetings, door to door compaogn, slogans, and wall writings etc. were carried out in all the habitations of Bhikamkor watershed. A seriese of meetings were conducted with GP members, community and discussed about the implementation of IWMP programme. User groups were also formed.

Gram Sabhas were conducted for approval of EPA (Village), for selecting the watershed committee and approval of DPR.

S.No.	Name of the Gram Panchayat	Date of which Gram Shabha approved EPA
1	Bhikamkor	27/02/2011

S.No.	Name of Village	Amount earmarked for EPA	Entry Point Activities planned	Estimated cost in lac.	Expenditure incurred	Balance	Expected outcome	Actual outcome
1	2	3	4	5	6	7	8	9
1	Bhikamkor		1.Instalation of Solar light DGSC item No. 27	2.61	2.61	Nil		Villagers are very happy
			2.Drinking water activities	7.50	2.5	5.00		
2	Bhiyadiya		1.Instalation of Solar light DGSC item No. 27	1.96	1.96	0.00		
			2.Drinking water activities	5.50	1.5	4.00		
3	Inda Ki Dhani		1.Instalation of Solar light DGSC item No. 27	1ण97	1ण96	छपस		
			2.Drinking water activities	7ण46	3ण3	4ण16		
	Total w/s		–	27.00	13.83			

S.No.	Name of the village/ Habitation	Date on which PRA conducted
1	Bhikamkor	05 -01-2012 to 20-12-2012
2	Bhiyadiya	5 -01-2012 to 20-12-2012
3	Inda Ki Dhani I & II	05 -01-2012 to 20-12-2012

The PRA exersise was carried out in all the villages on the dates shown below:

Transaot walk were carried out involving the community for Social mapping, Resource mapping, Detailed discussions and deliberations with all the primary stakeholders were carried out.

Socio-economic survey was carried out during 02 -04- 2012 to 30- 06-2012 period covering all the households and primary data on demography, Land holdings, Employmeng status, Community activities etc. was collected as mentioned in chapter 2.

PROPOSED DEVELOPMENTAL PLAN

. CAPACITY BUILDING

Table- List of approved Training Institutes[@] for Capacity Building in the project area

1	2	3	4	5	6	7	8
S. No.	Name of Stakeholders	Name of the Training Institute	Full Address with contact no., website & e-mail	Name & Designation of the Head of Institute	Type of Institute[#]	Area(s) of speciali-zation[$]	Accredita-tion details
1	PIAs	Gyanodaya Shikshan Sansthan	Kapasan, Bhilwara (Raj)	Arpit Kothari	NGO	In all field by using expert of different specialization	
2	WDTs	″	″	″	″	″	″
3	UGs	″	″	″	″	″	″
4	SHGs	″	″	″	″	″	″
5	WCs	″	″	″	″	″	″
6	GPs	″	″	″	″	″	″
7	Community	″	″	″	″	″	″
8	PM/SLNA	AAFRI	Jodhpur	Director	Central govt. Dept.	″	″

Table- Capacity Building activities in the project (PHYSICAL & FINANCIAL) *4% OF TOTAL PROJECT COST.

1	2	3	5						6						7					
S. No.	Project Stakeholders	Total no. of persons	No. of persons to be trained during project period						No. of Training to be organized during project period						No. of person days to be trained during project period					
			I year	II year	III year	IV year	V year	Total	I year	II year	III year	IV year	V year	Total	I year	II year	III year	IV year	V year	Total
1	PIAs	2	2	2	2			6						0	2	2	2	0	0	6
2	WDTs	4	4	4	4			5.25						0	4	4	4	0	0	5.25
3	UGs	90	630	720	810	360	270	2790	11	5.25	14	6	5	48	630	720	810	360	270	2790
4	SHGs	147	700	800	900	800	600	3800	14	16	18	8	6	62	700	800	900	800	600	3800
5	WCs	17	17	17	17			51	2	2	2	0	0	6	17	17	17	17	17	51
6	GPs	25	25	25	25	25	25	5.255	2	2	2	0	0	6	25	25	25	25	25	5.255
7	Community	3500	940	620	810	710	420	3500	14	23	27	16	19	99	1240	1330	1610	910	15.250	5810
8	EXPOSURE TOUR (INTER STATE)	170		170				170		2				2	0	170	0	0	0	170
9	EXPOSURE TOUR (INTRA STATE)	170		170				170		1				1	0	170	0	0	0	170
10	PM/SLNA	6	6	6	6			18						0	6	6	6	0	0	18
11	TOTAL PHYSICAL	4086	2324	2535	2574	1795	1315	10644	43	58	63	30	30	224	2324	2535	2574	1795	1315	10644
5.25	TOTAL FINANCIAL	27.00	5.90	6.35	6.40	4.50	3.85	27.00	5.90	6.35	6.40	4.50	3.85	27	5.90	6.35	6.40	4.50	3.85	27

Table-, Education & Communication (IEC) activities in the project area (1% of total Project cost.)

1	2	3	4	5						6
S. No.	Activity	Executing agency	Allocation out of 1% of total Project cost	Allocation in lacs						Expected Outcome (may quantify wherev possible
				I year	II year	III year	vI year	V year	Total	
1	मॉडल रुफटॉप वाटर हारर्वेटिग स्ट्रक्चर्स (पंचायत समितिए राजीव गॉधी सेवा केन्द्र या अन्य पंचायत समिति स्तरीय नजदीकी सरकारी भवन)।		1.35	0.45	0.45	0.45			1.35	
2	जलग्रहण क्षेत्र गतिविधियों को दर्शाता हुआ POP / CLAY / WOOD / PLASTIC से		0.70	0.15	0.15	0.05			0.35	

	बना हुआ मॉडल।									
3	डीस्पले बोर्डे/प्लेगक्सी बोर्ड/			0.15	0.15	0.05			0.35	
4	वॉल पेन्टिंग–जलग्रहण गतिविधियों, लक्ष्यो व प्राप्ति आदि को दर्शाती हुई ।		1.68	0.25	0.25	0.06			0.56	
5	जलग्रहण विकास संबंधी मुद्रित पम्पलेटस/लिफ लेटस/चार्ट/पोस्टर/आदि।			0.25	0.25	0.06			0.56	
6	नारा लेखन			0.25	0.25	0.06			0.56	
7	सफलता की कहानीयों की वीडियोंग्राफी/फोटोग्राफी/ लघुफिल्म एवं कृषको से साक्षरातकार / वार्ता ।		1.00	0.07	0.07	0.07	0.07	0.06	0.34	
8	निबन्ध व वाद–विवाद प्रतियोगिता			0.07	0.07	0.07	0.07	0.05	0.33	
9	रेडियों/दूरदर्शन पर वार्ता व विज्ञापन			0.07	0.07	0.07	0.07	0.05	0.33	

10	सांस्कृतिक त्यौहार / मेले आदि के अवसर पर प्रर्दद्यानी		0.670	0.08	0.09	0.05			0.22	
11	नुक्कड़ नाटक			0.08	0.09	0.06			0.23	
5ण्25	कटपुतली प्रदर्द्यन			0.08	0.08	0.06			0.22	
13	रात्रि गोष्ठी		1.35	0.05	0.05	0.05	0.06	0.06	0.27	
14	भू संरक्षण सप्ताह			0.05	0.05	0.05	0.06	0.06	0.27	
15	चेतना रैली			0.05	0.05	0.05	0.06	0.06	0.27	
16	जलग्रहण विकास का संदेद्या देने वाले सांस्कृतिक कार्यक्रम			0.05	0.05	0.05	0.06	0.06	0.27	
17	कृषक दिवस का आयोजन एवं क्षेत्र भ्रमण दिवस का आयोजन इत्यादि			0.05	0.05	0.05	0.06	0.06	0.27	
18	कुल	1.00	6.75	2.20	2.22	1.40	0.51	0.41	6.75	

PDCOR was assigned the work of preparing various thematic layers using Cartosat-1 and LISS-3 imageries for Creation, development and management of geo-spatial database depicting present conditions of land (terrain), water and vegetation with respect to watershed under different ownerships at village level

Various thematic layers provided by PDCOR are :

- Delineation of Macro/Micro watershed boundaries.
- Digitised Khasara maps of the villages falling in project area.
- Network of Drainage lines, existing water bodies, falling in the project area.
- Base maps (transport network, village/boundaries, and settlements).
- Land Use / Land cover map.
- Contours at 1 meter interval, slope map **(in delineated watershed projects)**

Based on GIS thematic layers, Field visits , PRA and analysis of benchmark data (as discussed in chapter 2) final Treatment plan on revenue map for implementation has been framed. Thus each intervention identified has been marked on revenue map (map enclosed in DPR as annexure).The GIS based intervention map, PRA based intervention map are annexed.

A) Livelihood Action Plan (LAP):

An awareness programme has been undertaken at Gram Sabha for communication & sensitization of the target beneficiaries. Livelihood Action Plan is a pre requisite for availing the funds under the livelihood component. LAP has been prepared by the PIA in consultation with WDT, WC & the members of SHG, SC/ST, women, landless/ asset less households. Details of funds available & their utilisation are as under:

(i) Total project cost Rs. 675.00 Lacs.

(ii) Funds available under livelihood component is 9% of total project cost = Rs.60.75 Lacs.

(a) Seed money for SHGs as revolving fund = Rs.36.45 Lacs.

(Minimum 60% of livelihood component)

147 No. of SHG to be formed147 Nos.

1450 No of persons (members) in SHGs147 Nos.

(b) Seed money for enterprising individuals = Rs. 6.075 Lacs

(Maximum 10% of livelihood component)

24 No of persons identified as enterprising individuals 24 Nos.

S.	Item	Numbers	Revolving fund/Seed money	% of LAP
1	SHG			
a	Existing	21	5.25.00	
b	New	126	31.20	
	Sub Total	147	36.45	60%
2	Enterprising individuals	24	6.075	10%
3	Enterprising SHG/Federations of SHG	10	18.225	30%
	Total	181	60.75	

Proposed Activities (On Farm)*		
Name of activity*	No of SHGs	Revolving fund
Fisheries		
Dairying	70	17.50
Poultry	10	02.50
Piggery		
Goatry	20	5.00
Bee keeping		
Sericulture		
Nursery	5	01.25

Maize dehusker		
Dal mill		
Oil mill		
Others (specify) Vegetable & masala drying	42	16.20
Total	147	36.45

Proposed Major activities (Off Farm)**		
Name of activity*	No of SHGs	Revolving fund
Artisans		
Carpenter	3	0.75
Blacksmith	2	0.50
Leather Craft	2	0.50
Porter	2	0.50
Mason	4	1.00
Eco tourism		
Agro processing	2	0.50
Candle making		
Dona Pattal		
Sewing / Knitting	2	0.50
Tea Stall	2	0.50
General Store	2	0.50
Mobile repair		
Mechanic / Misc. shop	4	0.825
Others (specify)		
Total	24	6.075

List of persons & Proposed Activities. (10% of (9%)

S. No.	Activity Proposed	No. of Person	Category SC /ST /Others	Project fund Revolving	Contribution
1	10	24	SC / ST / Other	6.075	5.00

(c) Funds for Enterprising SHG/Federations of SHG
(Maximum 30 % of livelihood activities)= Rs.18.225 Lacs

The funding for major livelihood activities will enable the enterprising SHGs/SHG federation to avail a composite loan for undertaking major livelihood activities or to upscale activities as recommended by the WC & approved by WCDC in consultation with line departments.

Details of enterprising SHG/federation is given below:-

S.No.	Name of SHG/ SHG federation	Project Name	Project Cost in lacs	Grant in aid 50% of project cost or 2 lacs whichever is less	Bank loan
1	9	Jodhpur 55	50.00	18.225	55.63

* Details of project activities can be prepared in coming years after formation of SHG federation or as the case may be.

C) Production Plan:

An awareness programme has been undertaken at Gram Sabha for communication & sensitization of the target beneficiaries. Production System & micro enterprises Action Plan is pre-requisite for availing the funds under the Production System & micro enterprises component. Production plan has been prepared by the PIA in consultation with WDT, WC & the members of Users Group. Details of funds available & their utilisation is as under:-

(iii) Total project cost Rs.675.00 Lacs.

(iv) Funds available under Production System & Micro enterprises component is 10% of total project cost = Rs.67.50 Lacs.

Proposed Activities for production system & Micro enterprises

	Name of activity*	No. of house holds	Cost of activity	WDF
A	**Production System**			
1	Fisheries			
2	Dairying	10	3.00	0.60
3	Poultry	10	3.00	0.60
4	Piggery			
5	Goatry	10	3.00	0.60
6	Bee keeping			
7	Sericulture			
8	Bio fuel , Medicinal plantation	10	3.00	0.60

B	**Others**			
1	**Crop Demontration**			
a	Integrated Nutrient Management			
b	Integrated Pest Management			
c	Distribution of seed / Mini kit of HYV	150	7.50	1.50
2	Introduction of Innovative Agri. Activities			
3	Distribution of Seed cum ferti drill			
4	Distribution of other Agricultural & plant protection equipment			
5	Fodder production			
6	Agro forestry			
7	Agro Horticulture	10	3.00	0.60
8	Floriculture			
9	Vegetable cultivation			
10	Organic farming (Green Manuaring, Vermi compost, Nadep Compost)	10	3.00	0.60
11	Green House	5	5.00	5.00
5.25	Shed net			

13	Nursery	5	5.00	
	Others (specify)	5	5.00	
	Total			
C	**Microenterprises**			
1	Agro processing	10	6.00	1.20
2	Value Addition	10	6.00	1.20
3	Fruit preservation (Chatni, Achar, Murabba, Jam, Jelly, Etc.)			
4	Flour Mill			
5	Dal mill			
6	Oil mill			
7	Maize dehusker			
8	**Para Vatnery services**			
a	AI			
b	Castration			
c	Demo. Urea Molasis			
9	Manger	50	5.00	4.00
10	Fodder Storage & Animal Breed Improvement	2	10.00	

	Centre /Animal Shed			
	Others			

Awareness Programme

-Slogan Wall Painting,

Scientific Animal Husbandry Practices, Seminars / Debates / Pamphlet distribution/ Stickers/ Chetana Rally

Broadcasting / Telecasting Film Show

Visit- intra/ inter/ out of State/ Abroad

Fortnightly Meetings with Livestock keeper to discuss and decide all breedable females to be covered.

Creation Of Disease Free Zone: Livestock's health coverage

Establishment of Pashudhan Seva Kendra (PSK) (Convergence with peer department)

Deworming to reduce worm load and enhance disease resistance. (Convergence with peer department)

Distribution of mineral mixture. (Convergence with peer department)

Free of Cost Vaccination in IWMP area Livestock for H.S., B.Q., F.M.D., PPR, ETV and Sheep Pox.

Ensure Hygenic measures to check Zonosis. (DAH/ IWMP)

Construction of Animal Sheds with Manger and Portable Manger With accessories

Provision of Cattle Water Troughs.

Infertility Management: To ensure Livestock's Productivity

Expansion of AI Coverage / reduction in no.of infertile females.

PCPD+ COMBAT INFERTILITY+ CAMPS INFERTILITY RLDB+ CAMPS INFERTILITY SC COMPONENT

Breed Improvment: To ensure Livestock's Productivity enhancement

A.I. (Convergence with peer department)

Incentive based Mass Castration at Door Step of Scrub Bulls to Check ND Recycling.

Registration of bulls (Convergence with peer department)

Bull / Buck Distribution for NS-.Gir, Murrah And Sirohi /Jamunapari Breed Bulls/ Bucks Should Be Distributed For 3yrs 6 (3 In Each Iwmp Area, Where Ever A.I. Facility Is Not Available Round's O Clock. On 100% Subsidized Rate To WC.

Financial Incentive to the Inseminator for Calf Borns.

Convergence with peer Department/DAH/Agriculture/ATMA/ Board/ Trust/ Goseva

An Assistance to control Malnutrition: Protein Supplementation

Feed & fodder production enhancement.

Proposed Development Plan GP Bhikamkor, Panchyat Samiti - Osian, Jodhpur

(A)	Preparatory phase activities						
			GP Bhikamkor			Area	4500
Activity	Unit	Unit Cost	Quantity	Total Cost	Project Fund	Convergence Fund	Beneficiary Contribution
Admn.		10%		67.50	67.50	0.00	0.00
Monitoring		1%		6.75	6.75	0.00	0.00
Evaluation		1%		6.75	6.75	0.00	0.00
EPA		4%		27.00	27.00	0.00	0.00
I & CB		5%		33.75	33.75		0.00
DPR		1%		6.75	6.75	0.00	0.00
Total (A)				**148.50**	**148.50**	**0.00**	**0.00**
(B)	**Natural resource management (56%)**					**378.00**	**Lacs**
Conservation measures for arable land(private land)							5-10% WDF
Earthen Bund	Ha	0.37	147	54.40	54.40	8.00	4.08
Tanka	No.	2.07	100	207.00	207.00	30.43	15.53
Khadeen with Waste Weir	No.	3.62	5	18.10	18.10		1.36
Bank Stabilisation/ Peripheral Bunds/Percolation tank		1	5	5.00	5.00		0.38
Conservation measures for non arable land							
Pasture Development	Ha.	10.32	10	20.64	20.64	8.54	0.00
V - ditch	Ha.	Cost in PD	10	0.00	0.00		0.00
Water Harvesting Structure	No.	Cost in PD	2	0.00	0.00		0.00
Afforestation	Ha.	Cost in PD	10	0.00	0.00		0.00
Drainage line treatment							
MMS	No.	7.2	2.00	14.40	14.40		0.00
LSCD	No.	0.2	100.00	20.00	20.00		0.00
WHS	No.	3.62	4.00	14.46	14.46		0.00
Gully Plugs(ECD)	No.	0.2	40	8.00	8.00		0.00
Ground water recharge Structure/Dugout shunkan pond		2	8	16.00	16.00		0.00
Total (B)				**378.00**	**378.00**	**46.97**	**21.35**
(C)	**Production System (10%)**					**67.50**	**Lacs**
arable land							10-20% project
Horticulture plantation	Ha.	0.3	20	6.00	6.00	1.27	0.90
Sprinklers and Drip irrigation	Unit	0.3	10	3.00	3.00	0.64	0.45
Plantation at Tanka	No.	0.3	15	4.50	4.50	0.96	0.68
Animal Husbandry Camp	No.	0.24	40	9.60	9.60	2.04	0.00

Fodder storage & Breed improvement Centre		10	1	10.00	10.00	0.00	0.00
Crop Demonstration		0.02	1020	20.40	20.40	4.33	3.06
Medicinal plants		0.3	10.00	3.00	3.00	0.00	0.45
Vermi compost		0.3	20.00	6.00	6.00	0.00	0.90
Distribution of Manger		0.1	50.00	5.00	5.00	0.00	0.75
Total Production System				**67.50**	**67.50**	**9.24**	**7.19**
(D)	**Livelihood System 9 %**					**60.75**	**Lacs**
Revolving Fund to SHG (60 % minimum)	No.	0.25	147	36.75	36.75	14.00	0.00
Revolving Fund to enterprising individual (10 % maximum)	No.	0.25	24	6.00	6.00	0.50	0.00
Grant in aid to enterprising SHG or Federation of SHGs individual (30 % maximum)	No.	2.00	9	18.00	18.00	12.00	0.00
Total Livelihood				**60.75**	**60.75**	**26.50**	**0.00**
(E) Consolidation 3%			20.25	20.25	20.25	0.00	0.00
Grand Total				**675.00**	**675.00**	**82.71**	**28.54**

Assistant Engineer, PIA
WD&SC P.S. Osian

Project Manager, WCDC
WD&SC.Distt. Jodhpur

Proposed Development Plan **Bhikamkor GP, Panchyat Samiti - Osian, Jodhpur**

(A)	Preparatory phase activities						
			Bhikamkor			Area	4500
Activity	Unit	Unit Cost	Quantity	Total Cost	Project Fund	Convergence Fund	Beneficiary Contribution
Admn.		10%		67.50	67.50	0.00	0.00
Monitoring		1%		6.75	6.75	0.00	0.00
Evaluation		1%		6.75	6.75	0.00	0.00
EPA		4%		27.00	27.00	0.00	0.00
I & CB		5%		33.75	33.75	0.00	0.00
DPR		1%		6.75	6.75	0.00	0.00
Total (A)				**148.50**	**148.50**	**0.00**	**0.00**
(B)	**Natural resource management (56%)**					**378.00**	**Lacs**
Conservation measures for arable land(private land)							5-10% WDF
Earthen Bund	Ha	0.37	147	54.40	54.40	8.00	4.08
Tanka	No.	2.07	100	207.00	207.00	30.43	15.53
Khadeen with Waste Weir	No.	3.62	5	18.10	18.10	0.00	1.36
Bank Stabilisation/ Peripheral Bunds/Percolation tank		1	5	5.00	5.00	0.00	0.38
Conservation measures for non arable land							
Pasture Development	Ha.	10.32	10	20.64	20.64	8.54	0.00
V - ditch	Ha.	Cost in PD	10	0.00	0.00	0.00	0.00
Water Harvesting Structure	No.	Cost in PD	2	0.00	0.00	0.00	0.00
Afforestation	Ha.	Cost in PD	10	0.00	0.00	0.00	0.00
Drainage line treatment							
MMS	No.	7.2	2.00	14.40	14.40	0.00	0.00
LSCD	No.	0.2	100.00	20.00	20.00	0.00	0.00
WHS	No.	3.62	4.00	14.46	14.46	0.00	0.00
Gully Plugs(ECD)	No.	0.2	40.00	8.00	8.00	0.00	0.00
Ground water recharge Structure/dugout shunkan pond		2	8.00	16.00	16.00	0.00	0.00
Total (B)				**378.00**	**378.00**	**46.97**	**21.35**
(C)	**Production System (10%)**					**67.50**	**Lacs**
arable land							10-20% project
Horticulture plantation	Ha.	0.3	20	6.00	6.00	**1.27**	**0.90**
Sprinklers and Drip irrigation	Unit	0.3	10	3.00	3.00	**0.64**	**0.45**
Plantation at Tanka	No.	0.3	15	4.50	4.50	**0.96**	**0.68**
Animal Husbandry Camp	No.	0.24	40	9.60	9.60	**2.04**	**0.00**

Fodder storage & Breed improvement Centre		10	1	10.00	10.00	**0.00**	**0.00**
Crop Demonstration		0.02	1020	20.40	20.40	**4.33**	**3.06**
Medicinal plants		0.3	10	3.00	3.00	**0.00**	**0.45**
Vermi compost		0.3	20	6.00	6.00	**0.00**	**0.90**
Distribution of Manger		0.1	50.00	5.00	5.00	**0.00**	**0.75**
Total Production System				**67.50**	**62.50**	**9.24**	**7.19**
(D)	**Livelihood System 9 %**					**60.75**	**Lacs**
Revolving Fund to SHG (60 % minimum)	No.	0.25	147	36.75	36.75	**14.00**	**0.00**
Revolving Fund to enterprising individual (10 % maximum)	No.	0.25	24	6.00	6.00	**0.50**	**0.00**
Grant in aid to enterprising SHG or Federation of SHGs individual (30 % maximum)	No.	2	9	18.00	18.00	**12.00**	**0.00**
Total Livelihood				**60.75**	**60.75**	**26.50**	**0.00**
(E) Consolidation 3%			20.25	20.25	20.25	0.00	0.00
Grand Total				**675.00**	**670.00**	**82.71**	**28.54**

Assistant Engineer, PIA
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WD&SC.Distt. Jodhpur

CHAPTER-IV

PROJECT NAME :- IWMP Jodhpur 55 **BLOCK :- Osian** **Dist. :- Jodhpur**

AREA OF PROJECT :- 4500 Ha **COST OF PROJECT :- 675 lac**

Activity wise Total Abstract of cost

Activity	Unit	Unit Cost	Cost from Project fund					Area	4500
			Quantity	Total Cost	Labour	material	from Project	Convergence Fund	Beneficiary Contribution
Admn.		10%		67.50		67.50	67.50	0.00	0.00
Monitoring		1%		6.75		6.75	6.75	0.00	0.00
Evaluation		1%		6.75		6.75	6.75	0.00	0.00
EPA		4%		27.00		27.00	27.00	0.00	0.00
I & CB		5%		33.75		33.75	33.75	0.00	0.00
DPR		1%		6.75		6.75	6.75	0.00	0.00
Total (A)				**148.50**	**0.00**	**148.50**	**148.50**	**0.00**	**0.00**
(B)	**Natural resource management (56%)**							**378.00**	**Lacs**
Conservation measures for arable land(private land)									5-10% WDF
Earthen Bund	Ha	0.37	147	54.40	52.77	1.63	54.40	8.00	4.08
Tanka	No.	2.07	100	207.00	124.20	82.80	207.00	30.43	15.53
Khadeen with Waste Weir	No.	3.62	5	18.10	11.77	6.33	18.10	0.00	1.36
Bank Stabilisation/ Peripheral Bunds/Percolation tank		1	5	5.00	3.00	2.00	5.00	0.00	0.38
Conservation measures for non arable land									
Pasture Development	Ha.	10.3	10	20.64	12.38	8.26	20.64	8.54	0.00
V - ditch	Ha.	Cost	10	0.00	0.00	0.00	0.00	0.00	0.00
Water Harvesting Structure	No.		2	0.00	0.00	0.00	0.00	0.00	0.00
Afforestation	Ha.	in PD	10	0.00	0.00	0.00	0.00	0.00	0.00
Drainage line treatment									
MMS	No.	7.2	2.00	14.40	8.64	5.76	14.40	0.00	0.00
LSCD	No.	0.2	100.00	20.00	12.00	8.00	20.00	0.00	0.00
WHS	No.	3.62	4.00	14.46	8.68	5.78	14.46	0.00	0.00
Gully Plugs(ECD)	No.	0.2	40.00	8.00	4.80	3.20	8.00	0.00	0.00
Ground water recharge Structure/dugout shunkan pond		2	8.00	16.00	10.40	5.60	16.00		
Total (B)				**378.00**	**233.44**	**120.56**	**378.00**	**46.97**	**21.35**
(C)	**Production System (10%)**							**67.50**	**Lacs**
arable land									10-20% WDF
Horticulture plantation	Ha.	0.3	20	6.00	3.90	2.10	6.00	1.27	0.90
Sprinklers and Drip irrigation	Unit	0.3	10	3.00	0.75	2.25	3.00	0.64	0.45

Plantation at Tanka	No.	0.3	15	4.50	2.93	1.57	4.50	0.96	0.68
Animal Husbandry Camp	No.	0.24	40	9.60	0.00	9.60	9.60	2.04	0.00
Fodder storage & Breed improvement Centre		10	1	10.00	6.00	4.00	10.00	0.00	0.00
Crop Demonstration		0.02	1020	20.40	0.00	20.40	20.40	4.33	3.06
Medicinal plants		0.3	10	3.00	3.00	0.00	3.00	0.00	0.45
Vermi compost		0.3	20	6.00	6.00	0.00	6.00	0.00	0.90
Distribution of Manger		0.1	50	5.00	5.00	1.06	5.00	0.00	0.75
Total Production System				**67.50**	**13.58**	**39.92**	**67.50**	**9.24**	**7.19**
(D)	**Livelihood System 9 %**							**60.75**	**Lacs**
Revolving Fund to SHG (60 % minimum)	No.	0.25	147	36.75	0.00	36.75	36.75	14.00	0.00
Revolving Fund to enterprising individual (10 % maximum)	No.	0.25	24	6.00	0.00	6.00	6.00	0.50	0.00
Grant in aid to enterprising SHG or Federation of SHGs individual (30 % maximum)	No.	2	9	18.00	0.00	18.00	18.00	12.00	0.00
Total Livelihood				**60.75**	**0.00**	**60.75**	**60.75**	**26.50**	**0.00**
(E) Consolidation 3%			20.25	20.25	0.00	20.25	20.25	0.00	0.00
Grand Total				**675.00**	**247.02**	**389.98**	**675.00**	**82.71**	**28.54**

Assistant Engineer, PIA

Project Manager, WCDC

CHAPTER -V (A)

PROJECT NAME : IWMP- Jodhpur 55 BLOCK: Osian DISTRICT : Jodhpur Area of Project : 4500 Ha

ANNUAL ACTION PLAN THROUGH PROJECT FUND COST OF PROJECT : 675 Lacs

(A)	Preparatory phase activities capacity building trainings & EPA															
					1st year		2nd year		3rd year		4th year		5th year		Total	
Activity	**Unit**	**Quantity**	**Unit Cost**	**Total cost**	**Phy**	**Fin**	**Phy**	**Fin**	**Phy**	**Fin**	**Phy**	**Fin**	**Phy**	**Fin**	**Phy**	**Fin**
Admn.	10%			67.50		13.50		13.50		13.50		13.50		13.50		67.50
Monitoring	1%			6.75		1.35		1.35		1.35		1.35		1.35		6.75
Evaluation	1%			6.75		1.35		1.35		1.35		1.35		1.35		6.75
EPA	4%			27.00		27.00										27.00
I & CB	5%			33.75		16.88		16.87								33.75
DPR	1%			6.75		6.75										6.75
Total (A) 22%				**148.50**		**66.83**		**33.07**		**16.20**		**16.20**		**16.20**		**148.50**
(B)	Natural resource management(56%)															
Conservation measures for arable land(private land)																
Earthen Bund	Ha	147	0.37	54.40			58	21.76	29	10.88	29	10.88	29	10.88	145	54.40
Tanka	No.	100	2.07	207.00			40	82.80	20	41.40	20	41.40	20	41.40	100	207.00
Khadeen with Waste Weir	No.	5	3.62	18.08			2	7.24	1	3.62	1	3.62	1	3.60	5	18.08
Bank Stabilisation/ Peripheral Bunds/Percolation tank	No.	5	1	5.00			2	2.00	1	1.00	1	1.00	1	1.00	5	5.00
Conservation measures for non arable land																
Pasture Development for 5 ha	Ha.	10	10.32	20.64			4	8.26	2	4.13	2	4.13	2	4.12	10	20.64
V - ditch	Ha.	10	cost	0.00			0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Water Harvesting Structure	No.	6	include in	0.00			0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Afforestation	Ha.	10	PD	0.00			0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Drainage line treatment																
MMS	No.	2	7.20	14.40			1	5.76	1	2.88	0	2.88	0	2.88	2	14.40
LSCD	No.	100	0.20	20.00			40	8.00	20	4.00	20	4.00	20	4.00	100	20.00
WHS	No.	4	3.62	14.48			2	5.80	1	2.90	1	2.90	1	2.88	5	14.48
Gully Plugs(ECD)	No.	40	0.2	8.00			16	3.20	8	1.60	8	1.60	8	1.60	40	8.00
Ground water recharge Structure		8	2	16.00			4	6.40	2	3.20	2	3.20	2	3.20	10	16.00
Total (B)				**378.00**		**0.00**		**151.22**		**75.61**		**75.61**		**75.56**		**378.00**

CHAPTER -V (A)																
(C)	Production System (10%)															
Production measures for arable land																
Horticulture plantation	Ha.	20	0.30	6.00			8	2.40	4	1.20	4	1.20	4	1.20	20	6.00
Sprinklers and Drip irrigation		10	0.30	3.00			4	1.20	2	0.60	2	0.60	2	0.60	10	3.00
Plantation at Tanka	No.	15	0.30	4.50			6	1.80	3	0.90	3	0.90	3	0.90	15	4.50
Animal Husbandry Camp	No.	40	0.24	9.60			16	3.84	8	1.92	8	1.92	8	1.92	40	9.60
Fodder storage & Breed improvement Centre	No.	1	10.00	10.00			0	4.00		2.00		2.00		2.00		10.00
Crop Demonstration	No.	1020	0.02	20.40			408	8.16	204	4.08	204	4.08	204	4.08	1020	20.40
Medicinal plants	No.	10	0.30	3.00			4	1.20	2	0.60	2	0.60	2	0.60	10	3.00
Vermi compost	No.	20	0.30	6.00			8	2.40	4	1.20	4	1.20	4	1.20	20	6.00
Distribution of Manger	No.	50	0.10	5.00			20	2.00		1.00		1.00		1.00		5.00
Livelihood System 9%																
Revolving Fund to SHG (minmun 60 % amt.)	No.	147	0.25	36.75			58	14.70	29	7.35	29	7.35	29	7.35	145	36.75
Revolving Fund to enterprising individual (maximum 10 % amount)	No.	24	0.25	6.00			10	2.40	5	1.20	5	1.20	5	1.20	25	6.00
Grant in aid to enterprising SHG or Federation of SHG individual (maximum 30 % amount)	No.	9	2.00	18.00			4	7.20	2	3.60	2	3.60	2	3.60	10	18.00
Total (C)				**128.25**		**0.00**		**51.30**		**25.65**		**25.65**		**25.65**	**0**	**128.25**
(D) Consolidation				20.25	0		0	8.10	0	4.05	0	4.05	0	4.05	0	20.25
Grand Total				**675.00**		**66.83**		**243.69**		**121.51**		**121.51**		**121.46**	**0**	**675.00**
% Targets					NA		NA		NA		NA		NA			

Assistant Engineer, PIA
WD&SC P.S. Osian

Project Manager, WCDC
WD&SC.Distt. Jodhpur

CHAPTER -V (B)

PROJECT NAME : IWMP- Jodhpur 55 BLOCK: Osian DISTRICT : Jodhpur Area of Project : 4500 Ha

Annual Action Plan (Through Convergence) COST OF PROJECT : 675 Lacs

(A)	Preparatory phase activities capacity building trainings & EPA															
					1st year		2nd year		3rd year		4th year		5th year		Total	
Activity	Unit	Quantity	Unit Cost	Total cost	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
Admn.	10%			0.00		0.00		0.00		0.00		0.00		0.00		0.00
Monitoring	1%			0.00		0.00		0.00		0.00		0.00		0.00		0.00
Evaluation	1%			0.00		0.00		0.00		0.00		0.00		0.00		0.00
EPA	4%			0.00		0.00										0.00
I & CB	5%			0.00		0.00		-0.01								-0.01
DPR	1%			0.00		0.00										0.00
Total (A) 22%				**0.00**		**0.00**		**-0.01**		**0.00**		**0.00**		**0.00**		**-0.01**
(B)	Natural resource management(56%)															
Conservation measures for arable land(private land)																
Earthen Bund	Ha	21.62	0.37	8			8	3.20	4	1.60	4	1.60	4	1.60	20	8.00
Tanka	No.	14.7	2.07	30.43			6	12.18	3	6.09	3	6.09	3	6.07	15	30.43
Khet talai		0	0	0.00			0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Bank Stabilisation/ Peripheral Bunds	No.	0	0	0.00			0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Conservation measures for non arable land																
Pasture Development for 5 ha	Ha.	10	10.32	8.54			4	3.42	2	1.71	2	1.71	2	1.70	10	8.54
V - ditch	Ha.	10	cost	0.00			0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Water Harvesting Structure	No.	2	include in	0.00			0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Afforestation	Ha.	10	PD	0.00			0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Drainage line treatment																
MMS	No.	0	7.20	0.00			0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
LSCD	No.	0	0.00	0.00			0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
WHS	No.	0	3.62	0.00			0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Gully Plugs(ECD)	No.	0					0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Ground water recharge Structure		0					0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Total (B)				**46.97**		**0.00**		**18.80**		**9.40**		**9.40**		**9.37**		**46.97**

CHAPTER -V (B)

(C)	Production System (10%)															
Production measures for arable land																
Horticulture plantation	Ha.	4.23	0.30	1.27			2	0.50	1	0.25	1	0.25	1	0.25	5	1.25
Sprinklers and Drip irrigation		2.13	0.30	0.64			0	0.26	0	0.13	0	0.13	0	0.13	0	0.65
Floriculture	No.	3.2	0.30	0.96			2	0.38	1	0.19	1	0.19	1	0.19	5	0.95
Vermi compost	No.	8.5	0.24	2.04			4	0.82	2	0.41	2	0.41	2	0.41	10	2.05
Crop Demonstration		216.5	0.02	4.33			86	1.74	43	0.87	43	0.87	43	0.87	215	4.35
Livelihood System 9%																
Revolving Fund to SHG (minmun 60 % amt.)	No.	56	0.25	14.00			22	5.60	11	2.80	11	2.80	11	2.80	55	14.00
Revolving Fund to enterprising individual (maximum 10 % amount)	No.	2	0.25	0.50			0	0.20	0	0.10	0	0.10	0	0.10	0	0.50
Grant in aid to enterprising SHG or Federation of SHG individual (maximum 30 % amount)	No.	6	2.00	12.00			2	4.80	1	2.40	1	2.40	1	2.40	5	12.00
Total (C)				**35.74**		**0.00**		**14.30**		**7.15**		**7.15**		**7.15**	**0**	**35.75**
(D) Consolidation					0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Grand Total				**82.71**		**0.00**		**33.09**		**16.55**		**16.55**		**16.52**	**0**	**82.71**
% Targets					NA		NA		NA		NA		NA			

Assistant Engineer, PIA
WD&SC P.S. Osian

Project Manager, WCDC
WD&SC.Distt. Jodhpur

CHAPTER – VI EXPECTED OUT COMES

1	2		3	4	5	6
S. No.	**Item**		**Unit of measurement**	**Pre-project Status**	**Expected Post-project Status**	**Remarks**
1	Status of water table (Depth to Ground water level)		Meters	180	170	Due to Increase in Number of Deep Tube wells
2	Ground water structures repaired/ rejuvenated		No.	-		
3	Quality of drinking water		Description	Unsatisfactory	Satisfactory	
4	Availability of drinking water		Description	9 Month	12 month	
5	Change in irrigated Area		Ha	597	1250	
6	Change in cropping/ land use pattern		Description			
7	Area under agricultural crop		Ha			
	I	Area under single crop	Ha	2375	3350	
	Ii	Area under double crop	Ha	597	1250	
	Iii	Area under multiple crop	Ha	-	-	
8	Change in cultivated Area		Ha	-	-	
9 yield of major crops of area	Yield of Bajra		q/ha	6	8	
	Yield of Wheat		q/ha	18	21	
	Yield of Gram		q/ha	-	-	
	Yield of Mustard		q/ha	12	14	
10 production of major crops of area	Production of Bajra		ton	48.12	52.50	
	Production of Wheat		ton	10.08	15.20	
	Production of Gram		ton	-	-	
	Production of Mustard		ton	8.40	12.20	
11	Area under vegetation		Ha	-	35	
12	Area under horticulture		Ha	-	30	
13	Area under fuel		Ha	-	20	
14	Area under Fodder		Ha	-	35	
15	Fodder production		M.T.	4800	8250	
16	Milk production		Litres/day	2756	4350	
17	SHGs Active		No.	2	147	
18	No. of livelihoods		No.	-	15	
19	Income		Rs.in lakh	-	75	
20	Migration		No.	315	20	
21	SHG Federations formed		No.	Nil	9	

Critical Assumption

- No severe droughts/ unexpected floods/ natural disasters
- Adequate funds are allocated for the same and released on time.
- There is no significant pest/ disease attack, and if so, then it will have been contained before irreversible damage is done.
- Adverse market conditions do not persist long.
- Sound macro-economic and growth conditions continue and the benefits are widely distributed particularly in the rural areas.
- Facilitating agencies and resource providers have the required competent staff so that timely and appropriate technical advice and services are provided to farmers whenever required.
- The Capacity Building Plan is implemented, monitored and modified to address evolving needs and feedback from participants.
- The execution of the Women's Empowerment Pedagogy is regularly monitored by the District and State level Implementing Agencies

Means of Verification of **indicators**

- Baseline surveys like household income ,expenditure, health and nutrition etc at the beginning, mid-term and end of the project period
- Annual participatory assessment by communities during project period.
- Regular project monitoring reports prepared by project monitoring teams/ agencies.
- Membership and other Records, Minutes of Meetings maintained by the SHGs, WCs/ Individual beneficiaries/project-related village and local bodies/PRIs.
- External review missions
- Data maintained by Government department (Revenue, Agriculture, Groundwater, Irrigation, Animal Husbandry

CHAPTER VII TECHNICAL DESIGNS AND ESTIMATES

Technical designs and estimates for proposed activities. Estimates are prepared on the basis of GKN of Jodhpur district.

TECHNICAL REPORT

NAME OF WORK Construction of Water Harvesting structure MMS
Panchayat Bhikamkor
District Jodhpur
Name of Scheme IWMP
Name of watershed Bhikamkor
Panchayat Samiti Osian

This project is taken in IWMP Scheme.The proposed anicut will not only reduce velocity of the runoff but also prevent the gullies from furthure soil erosion at the same time it will be very much fruitful in recharging of downstream wells as well as it will increase the moisture content of the soil . So an it improve its productivity the retain water behind the structure can also be used for irrigation , and driniking water for anmimals . The cross section and L-section have been surveyed by dumpy level and catchment area has been taken from G.T. sheet / Revenue map.

Basic Data of Project

		=		
1	Catch ment Area	=	200	Ha.
2	Maxmium Rain fall intencity	=	3	Cm./hr.
3	General nature of catchment Area			
a.	Agricultural land	=	120	Ha.
b.	Nonarable land Land	=	80	Ha.
4	Height of crest above G.L.	=	1.2	M.
5	Flood lift	=	0.4	M.
6	Free board	=	0.2	M.
7	Top width of Head wall	=	0.8	M.
8	Bottom width of Head wall	=	2.40	M.
9	Width of concrete Bed	=	2.70	M.
10	Length of crest	=	16	M.
11	Percentage slope of land	=	8.00	
12	No. of well benifited	=	12	
13	No of farmer benifited	=		
a.	S.C.	=	25	
b.	S.T.	=	0	
c.	Others	=	45	
	Total	=	70	

14	Area to be benifited	=	
a.	S.C.	=	
b.	S.T.	=	25
c.	Others	=	0
	Total	=	125
15		=	
a.	a)Raito of concrete at bed	=	
	(Cement : Sand :Aggregate)(1:4:8)	=	
b.	b) Raito of Masonary fondation & Super structure	=	
	Cement Mortar(1:6)	=	
c.	c) Raito of plastering and flush pointing of 25 mm.	=	
	Cement Mortar(1:6)	=	
d	Raito of Kharanja in cement mortar	=	
16	Cost of Project	=	600000.00
a.	Labour component	=	219657
b.	Material component	=	362884
c.	Contingency	=	17458

Rates are as per GKN 2013 Jodhpur wef 1.4.2013

The Estimate are here with submitted for technical approvel an necessary action

Preapared By Recommended By

J.En. A.En.

Name of work Construction of MMS

Catch ment Area	200	Ha.
Maxmium Rain fall intencity	3	Cm/hr
General nature of catchment Area		
Agricultural land	120	
Non arable land Land	80	
Height of crest above G.L.	1.2	
Length of crest	16	
Percentage slope of land	8.00	
No. of well benifited	12	
No of farmer benifited	70	
S.C.	25	
S.T.		
Others	45	
Total	70	
Area to be benifited		
S.C.	25	
S.T.	0	
Others	125	
Total	150	

GKN 2013 Jodhpur

Desgin calculation of WHS

A

Name of work-: Construction of MMS

I Available crest length 16 M

ii Total catchment Area 200 Ha. As per G.T.Sheet

iii Peak Runoff Rate

a) By Rational Method Use when catchment is <1300Ha.

Q_p = 0.0276 CIA Q=Run off in m3/sec.

C= Coefficient of runoff 0.5

K = $L^{3/2}/H^{1/2}$ I= Intensity of rain fall in cm/hr. 3

K = 3535.5 A= Catchment Area in Ha. 200

Tc = $0.0195K^{0.77}$ L=Maxmium length of travel by runoff water in m. 1000

Tc = 10.53 H= Difference in elevation between most remote point and and outlet point in meter 80

$Q_{p=}$ 0.0276 0.50 X 3 X 200

Q_p = 8.28

b) By weir formula

$Q = 1.71Lh^{3/2}$

$8.28 = 1.71 \quad 16 \; h^{3/2}$

h 0.45

Say h= 0.4

3 Free Board hw= Wave height in meter

F_b= $1.5h_w$ Df= Fetch length in meter 120 Meter.

$1.5X0.014(D_f)^{1/2}$

F_b= 0.23

Say Fb= 0.2

(B) STRUCTURAL DESGIN

1 Head wall

a) Height of Head wall H= 1.2

b) Top width(Tw) = $\frac{h}{(P-1)^{1/2}}$ P= Sp.ht. Of masonary 2.3

Tw= 0.35

Top width= 0.8

© Bottom width Bw Tw+0.8H

Bw= 1.76

So Bottom Width= 2.40 Meter

2 Head wall extension

a) Length= H+h+1+Fb

1.2 + 0.4 + 1 + = 2.60 Meter

say Length of Right side wall = 5 Meter

say Length of left side wall = 8.0 Meter

b) Height of Head Extensionwall = H+h+Fb

1.2 + 0.4 + 0.2 = 1.8 Meter

c) Top width 0.6 Meter

d) Bottom Width= 0.5(H+h) = 0.5(1.2 + 0.4)= 0.80 Meter

3 Side wall

a) Length= 1.75H+0.75h+0.45 = 2.85

But as per site condition= 2.7 Meter

b) Height:

At H.W.End= H+h+Fb 1.2 + 0.4 + 0.2 = 1.8 Meter

At W.W.End= h+fb = 0.4 + 0.2 = 0.6 Meter

c) Top width= 0.6 Meter

d) Bottom width=

At H.W.End= 0.6+0.4(H+h) 1.2 Meter

At W.W.End= 0.6+0.4(1.5h) 0.8 Meter

But taken as= 1.0 Meter

4 Wing wall

a) Height h+Fb 0.4 + 0.2 = 0.6 Meter

b) Length= 2.25h 2.25 X 0.4 = 0.90 Meter Say 2.00 M

c) Top width 0.6 Meter

Bottom width of wing wall 0.6 Meter

5 Apron

a) Length= 16 Meter

b) Width= H+h+Fb 1.2 + 0.4 + 0.2 1.8 Meter

c) Thickness 0.6 Meter

6 Toe wall

a) Length= 16 Meter

b) Width= 0.3 Meter

c) Height= 0.3 Meter

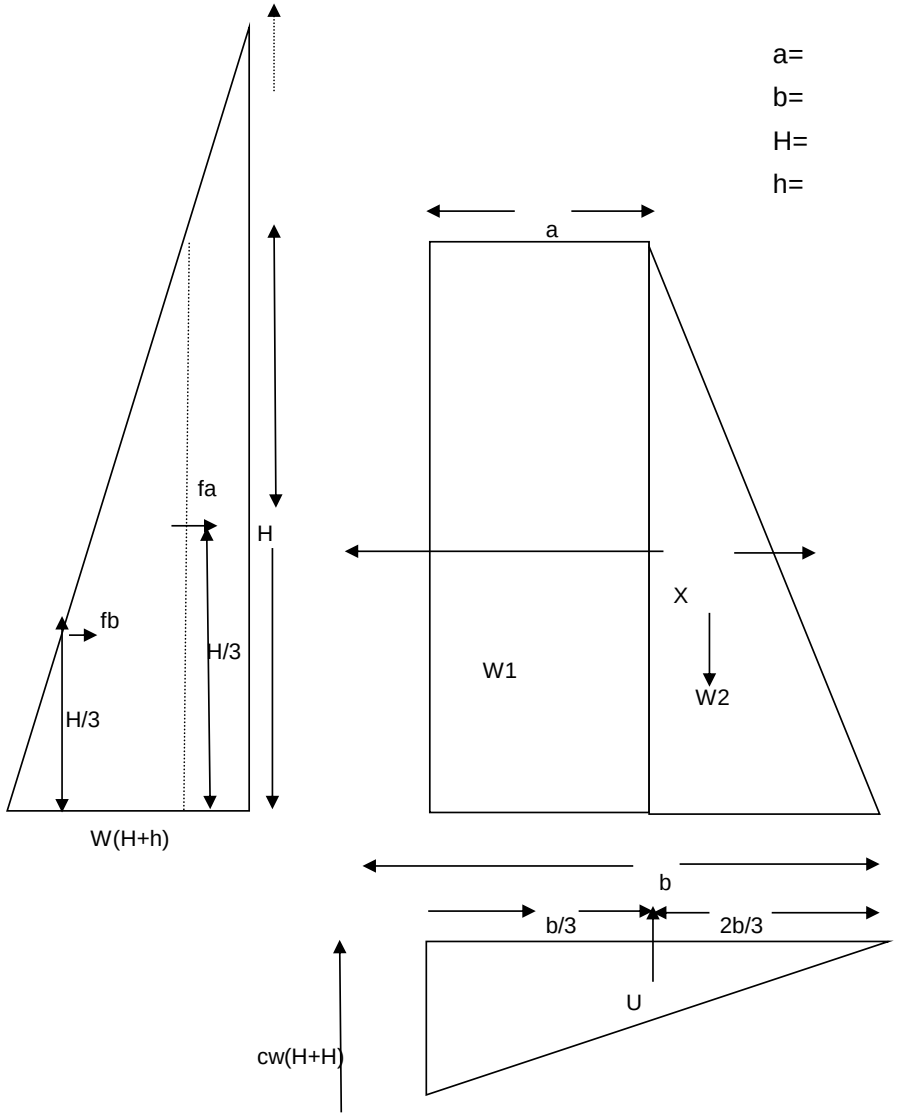
Preapared By Recommended By

J.En. A.En.

C= Coefficient of runoff		0.5
I= Intensity of rain fall in cm/hr.		3
A= Catchment Area in Ha.		200
L=Maxmium length of travel by runoff water in m.		1000
H= Difference in elevation between most remote point and and outlet point in meter		80
h= Head over the crest in mtr.	0.45	0.4
Df= Fetch length in meter		120
Fb =Free board	0.23	0.2
Top width Tw=	0.80	0.8
Height of cerst	1.2	1.2
Bottom Width of Head wall Bw	1.76	2.40
Lenth of Head wall extension Left=	2.60	5
Lenth of Head wall extension Right=		8.0
Length of side wall=	2.85	2.65
Bottom Width of Side wall	1.24	1
	0.8	
Length of wing wall	0.90	2

FREE BODY DIAGRAM

a=	0.8
b=	2.40
H=	1.2
h=	0.4



Specific Wt. Of masonary P= 2.3 T/m^3

Specific Wt. of water w= 1 T/m^3

Cofficient of uplift pressure c= 0.6

cofficient of friction atbed surface and creep length = 0.75

Weight of Dam-:

Weight of Dam-:

W_1= aHP

W_1= T 2.208 T

W_2= $\frac{b-a}{2}$ HP= 2.208 T

W= W_1+W_2= 2.208 + 2.208 = 4.416 T

Water pressure

At Depth h= P_1 = wh = 1 X 0.4 = 0.4 T/m^2

At Depth H+h= P2 = w(H+h) =

1(1.20 + 0.4) = 1.6 T/m^2

Force aching due to water pressure I.e. Net horizontal

Water force $P = \frac{P1+P2}{2} H$ = 1.2 T/m^2

Horizontal water pressure at depth h =Fa= wHh = 0.48 T

At depth H+h = Fb= $\frac{P2-P1}{2} H$ = 0.72 T

Force due to water column at crest F3 = wha= = 0.32 T

Up lift pressure U = 1/2 cwb (H+h) = 1.152 T

Preapared By

J.En.

Recommended By

A.En.

STABILITY CHECKS

1 Safety against over turning

Over turning moment Mo = $Fa \frac{H}{2} + Fb \frac{H}{3} + u \frac{2}{3} b$

$0.48 \frac{1.2}{2} + 0.720 \frac{1.2}{3} + 1.15 \frac{2}{3} 2.40$

Mo= 2.419

Restoring Moment Mr = W1 (b-a/2) + W2 (b-a)2/3 + F3 (b-a/2)

Mr=

Mr= 4.416 + 2.355 + 0.640 = 7.41

Factor of safety $\frac{Mr}{Mo}$ $\frac{7.411}{2.419}$ = 3.063 >1.5 Hence

Structure is safe against over turning

2 Safety against Rupture from tension

Net Vertical Pressure V = W1+W2+F3-U

2.208 + 2.208 + 0.32 - 1.152 = 3.584

Position of resultant where it cut the base

$X = \frac{\text{Excess moment(Mr-Mo)}}{\text{Net vertical force}} = \frac{7.411 - 2.419}{3.584} = 1.39$

TRUE

3 Safety against crusing

Eccentricity e = b/2-X

-0.19

Crusting stress at the toe of theHead wall

$Pc = \frac{V}{b} (1 +_ 6e/b)$

Pc= 0.773333

Pc<<20 Hence it is safe

4 Safety against sliding

Net vertical Force V= 3.584 T

Restorin force = uV = 0.70 X 3.584 (u=0.65 to 0.75)

2.5088 T

Sliding force Net horizontal force= Fa+Fb

0.48 + 0.72 = 1.2 T

Factor of safety = Restoring force / Sliding force = 2.509 / 1.2 = 2.091 >1.3 Hence

Hence it is safe

Preapared By

J.En.

Recommended By

A.En.

DETAILED ESTIMATE OF WHS

NAME OF WATERSHED: Bhikamkor(JODHPUR -55)

NAME OF WORK **Construction of Water Harvesting structure MMS**

Name of watershed **Bhikamkor**

Name of Scheme **IWMP**

General features of anicut-:

Height of crest=	1.2	M.			
Length of Crest	16	M.			
Depth of foundation for H.W. =	2.0	M.	Length of wing wall=	2.0	M.
Bottom width of H.W. =	2.4	M.	Height of Wing wall=	0.6	M.
Top of H.W =	0.8	M.	Bopttom width of Wing wall=	0.6	M.
Length of H.W.Ext =	5.0	M.	Depth of foundation for Wing wall =	0.9	M.
Height of H.W.Ext. at H.W. =	1.8	M.	Height of Toewall=	0.30	M.
Top Width of H.W.Ext.=	0.6	M.	Top & Bopttom width of Toe wall=	0.30	M.
Bottom width for H.W.Ext.	0.8	M.	Depth of foundation for Toe wall =	0.9	M.
Depth of foundation for H.W.Ext.:	1.2	M.	Thickness of Apron=	0.6	M.
Length of side wall=	2.7	M.	Width of Apron =	1.8	M.
Bottom Width of S.W.	1.00	M.	Berm for H.W Ext.	2.0	M.
Height of side wall at W.W.End=	0.60	M.			
Depth of foundation for side wall :	1.2	M.			

S.No.	Item		No	L	B	H	Quantity
1	Dag belling 5cm. To 7.5cm deep(As per item no. page of W.D.& S.C. BSR of Jodhpur circle					Total	
2	Cutting and clearing of ordinary jungle includling bushes shrubs and disposal as per instructrion of engineer incharge		0	X	0.0	=	0 Sqm.

S.No.	Item		No		L		B		H		Quantity	
3	Benching of the base and depositing the execavated material for bund for bund canal dressing etc. all components									Total		Cum.
4	Earth work excavation for bund in hard dry or moist soil including laying in layer of 15cm. Breaking of clods dressing to require profile with manual compaction including intial lift up to 1.5 m and lead up to 30M.									Total		Cum
5	Earth work excavation for foundation in dry or moist soil including ramming of bottom scrapping of sides dipodal of soil intial lift up to 1.5 m and lead up to 30M.											
		H.W.	1	X	16	X	2.7	X	2.0	=	86.40	Cum.
		H.W.Ext Left	1	X	5.0	X	0.8	X	3.2	=	12.80	Cum.
		H.W.Ext Right	1	X	8.0	X	0.8	X	1.2	=	7.68	Cum.
		S.W.	2	X	2.7	X	1.20	X	3.2	=	20.35	Cum.
		W.W.	2	X	2.0	X	0.6	X	0.90	=	2.16	Cum.
		Apron	1	X	16	X	1.8	X	0.60	=	17.28	Cum.
		T.W.	1	X	16	X	0.30	X	0.9	=	4.32	Cum.
										Total	150.99	Cum.
1	Execavation in Hard soil								30%		45.30	Cum.
2	Execavation in ordinary murram								40%		45.30	Cum.
3	Execavation in compacted murram								30%		60.40	Cum.
	Extra Lift of execavcated soil from foundation abiove 1.5 M.						70% of total soil				105.69	Cum

S.No.	Item		No		L		B		H		Quantity	
6	Providing and laying of cement concrete well mixed in cement mortar 1:3:6 laying in position complete excluding curing with maxmium size of aggregate up to 50 mm. etc. complete using											
		H.W.	1	X	16.0	X	2.7	X	0.3	=	12.96	Cum.
		H.W.Ext	1	X	5	X	0.8	X	0.3	=	1.20	Cum.
			1	X	8	X	0.8	X	0.3	=	1.92	Cum.
		S.W.	2	X	2.65	X	0.80	X	0.3	=	1.27	Cum.
		W.W.	2	X	2	X	0.6	X	0.3	=	0.72	Cum.
		Apron	1	X	16.0	X	1.8	X	0.3	=	8.64	Cum.
		T.W.	1	X	16.0	X	0.30	X	0.3	=	1.44	Cum.
										Total	28.15	Cum.
7	I n Foundation Stone masonary cement sand mortar(1:6) for above 30 cm. Thick wall											
		H.W.	1	X	16.0	X	2.4	X	1.7	=	65.28	Cum.
		H.W.Ext	1	X	5.0	X	0.8	X	0.9	=	3.60	Cum.
		H.W.Ext	1	X	8.0	X	0.8	X	0.9	=	5.76	Cum.
		S.W.	2	X	2.7	X	0.80	X	0.9	=	3.82	Cum.
		W.W.	4	X	2.0	X	0.6	X	0.6	=	2.88	Cum.
		T.W.	1	X	16.0	X	0.15	X	0.6	=	1.44	Cum.
										Total	82.78	Cum.
8	In super structure Stone masonary above 30 cm. Thick in cement sand mortar(1:6)											
		H.W.	1	X	16.0	X	1.6	X	1.2	=	30.72	Cum.
		H.W.Ext	1	X	5.0	X	0.7	X	1.8	=	6.30	Cum.
		H.W.Ext	1	X	8.0	X	0.7	X	1.8	=	10.08	Cum.
		S.W.	2	X	2.7	X	0.8	X	1.20	=	5.09	Cum.
		W.W.	2	X	2.0	X	0.6	X	0.6	=	1.44	Cum.
		T.W.	1	X	16.0	X	0.30	X	0.30	=	1.44	Cum.
										Total	55.07	Cum.

S.No.	Item		No		L		B		H		Quantity	
9	Stone Kharanja in cement mortar 1:6 for bed and floor including cpaction etc. complete apron											
		Apron	1	X	16.0	X	1.8	X	0.30		8.64	Cum.
										Total	8.64	Cum.
10	Providing and laying of cement concrete well mixed in cement mortar 1:2:4 laying in position complete excluding curing with maxmium size of aggregate up to 20 mm. etc. complete											
		H.W.	1	X	16.0	X	0.8	X	0.05	=	0.64	Cum.
		H.W.Ext	1	X	5.0	X	0.6	X	0.05	=	0.15	Cum.
			1	X	8.0	X	0.6	X	0.05	=	0.24	Cum.
		S.W.	2	X	2.7	X	0.6	X	0.05	=	0.16	Cum.
		W.W.	2	X	2.0	X	0.6	X	0.05	=	0.12	Cum.
		T.W.	1	X	16.0	X	0.30	X	0.05	=	0.24	Cum.
		Apron	1	X	16.0	X	1.80	X	0.1	=	2.88	Cum.
										Total	4.43	Cum.
11	Flush pointing in cement motar (1:3)											
		H.W.	1	X	16.0	X	2			=	32.00	Sqm.
										Total	32.00	Sqm.
12	20 m.m thick plastering on new surface in cement mortar (1:4)											
		H.W.	1	X	16.0	X	1.2			=	19.20	Sqm.
		H.W.Ext.	1	X	5.0	X	1.8			=	9.00	Sqm.
		H.W.Ext.	1	X	8.0	X	1.8			=	14.40	Sqm.
		S.S	2	X	2.7	X	1.8			=	9.54	Sqm.
		W.W.	2	X	2.0	X	0.6			=	2.40	Sqm.
		T.W.	2	X	16.0	X	0.3			=	9.60	Sqm.
									Total	=	64.14	Sqm.
	E/W in excavation for embakement		2	X	24.5	X	5.75	X	2.15		605.76	cum
13	Dry stone pitching of Hammer dressed witch packing of voids of small stone including all lifts in require profile (23 cm depth)		16.0		X 10.00	X	0.23				36.80	Cum

Height of crest=	1.2	
Thickness of C.C. in (1:4:8)	0.3	M.
Length of Crest	16	M.
Depth of foundation for H.W. =	2.0	M
Bottom width of H.W. =	2.4	M
Top of H.W =	0.8	M
Length of H.W.Ext =	5.0	M
Height of H.W.Ext. at H.W. =	1.8	M
Top Width of H.W.Ext.=	0.6	M
Bottom width for H.W.Ext.	0.8	M
Depth of foundation for H.W.Ext.=	1.2	M
Length of side wall=	2.7	M
Bottom Width of S.W.	1.0	M
Height of side wall at W.W.End=	0.6	M
Depth of foundation for side wall =	1.2	M
Length of wing wall=	2.0	M
Height of Wing wall=	0.6	M
Bopttom width of Wing wall=	0.6	M
Depth of foundation for Wing wall =	0.9	M
Height of Toewall=	0.30	M
Top & Bopttom width of Toe wall=	0.3	M
Depth of foundation for Toe wall =	0.9	M
Thickness of Apron=	0.6	M
Width of Apron =	1.8	M
Embackment L	24.5	m

Height of Wing wall=				0.6	M
BW	9.5	TW	2	5.75	m
H				2.15	m

Height of Wing wall= 0.6 M

Height of Wing wall= 0.6 M

Abstract of Cost of Anicut

NAME OF WORK **Construction of Water Harvesting structure MMS**

Name of watershed **Bhikamkor**

Name of Scheme **IWMP**

S.No	Item	Quatity	Unit	Lab.rate	L.Amount	Rate	Amount
1	Dag belling 5cm. To 7.5cm deep(As per item no. page of W.D.& S.C.	0.00	Cum.			0.38	0
2	Cutting and clearing of ordinary jungle includling bushes shrubs and disposal as per instructrion of engineer	0	Sqm.			0.70	0
3	Benching of the base and depositing the execavated material for bund for bund canal dressing etc. all	0	Cum.				0
4	Earth work excavation for bund in hard dry or moist soil including laying in layer of 15cm. Breaking of clods	0	Cum.			92.00	0
5	Earth work excavation for foundation in dry or moist soil including ramming of bottom scrapping of sides dipodal	150.99	Cum.				0
	Execavation in Hard soil	45.30	Cum.	113.00	5118.63	113.00	5118.6288
	Disintigrated rock	45.30	Cum.	165.00	7474.1	165.00	7474.104
	Ordinary rock	60.40	Cum.	218.00	13166.5	218.00	13166.502
6	Extra Lift of execavcated soil from foundation abiove 1.5 M.	105.69	Cum.	13.30	1405.74	13.30	1405.7355
7	Providing and laying of cement concrete well mixed in cement mortar 1:3:6 laying in position complete excluding curing with maxmium size	28.15	Cum.	353.6	9954.55	2459.0	69225.768
8	I n Foundation Stone masonary cement sand mortar(1:6) for above 30	82.78	Cum.	658.4	54499.7	2392.00	198000.19
9	In super structure Stone masonary above 30 cm. Thick in cement sand mortar(1:6)	55.07	Cum.	878.4	48371.7	2615.00	144002.82

10	Stone Kharanja in cement mortar 1:6 for bed and floor including cpaction etc. complete apron	8.64	Cum.	658.4	5688.58	2392.0	20666.88
11	Providing and laying of cement concrete well mixed in cement mortar 1:2:4 laying in position complete excluding curing with maxmium size	4.43	Cum.	423.4	1875.24	3027.0	13406.583
12	Flush pointing in cement motar (1:3)	32.00	Sqm.	65	2080	76.00	2432
13	20 m.m thick plastering on new surface in cement mortar (1:4)	64.14	Sqm.	109.5	7023.33	176.00	11288.64
14	E/W forEmbakment	605.76	Cum.	104	62999.3	104.00	62999.3
15	Dry stone pitching of Hammer dressed witch packing of voids of small stone including all lifts in require profile (23 cm depth)	36.80	Cum.	281		890.00	32752
					219657	Total	581939.15

TOTAL	581939
Contingency %	17458
Say total Cost	599397
	600000.00

Prepared By

J.En.

Recommonded By

A.En.

Material Statement

NAME OF WORK — Construction of Water Harvesting structure MMS

Name of watershed — Bhikamkor

Name of Scheme — IWMP

S.No.	ITEM	Quantity Cum / Sqm	Cement Begs	Sand Cum	Aggrigate Cum	Stone Cum
1	Cement Concrete (1:4:8)	28.15	90.09	12.67	25.34	–
2	Plaster in C.C. (1:4)	64.14	10.88	1.54	–	–
3	Massonary in Cement sand mortar 1:6	137.84	192.98	41.35	–	137.84
4	Pointing in Cement	32.00	1.32	0.13	–	–
5	Stone Kharanja in cement mortar (1:6)	8.64	12.096	2.592	–	8.64
6	Cement concrete coping(1:2:4)	4.43	25.87	1.82	3.63	
7	Dry Stone Pitching	36.80	–	–	–	36.80
		TOTAL	333.23	60.10	28.97	183.28
		Say Bags or	334 16.70	MT.		

1	Cement	16.7	MT.
2	Sand	60.10	Cum.
3	Stones	183.28	Cum.
4	Aggregates	28.97	Cum.

Prepared By — Recommonded By

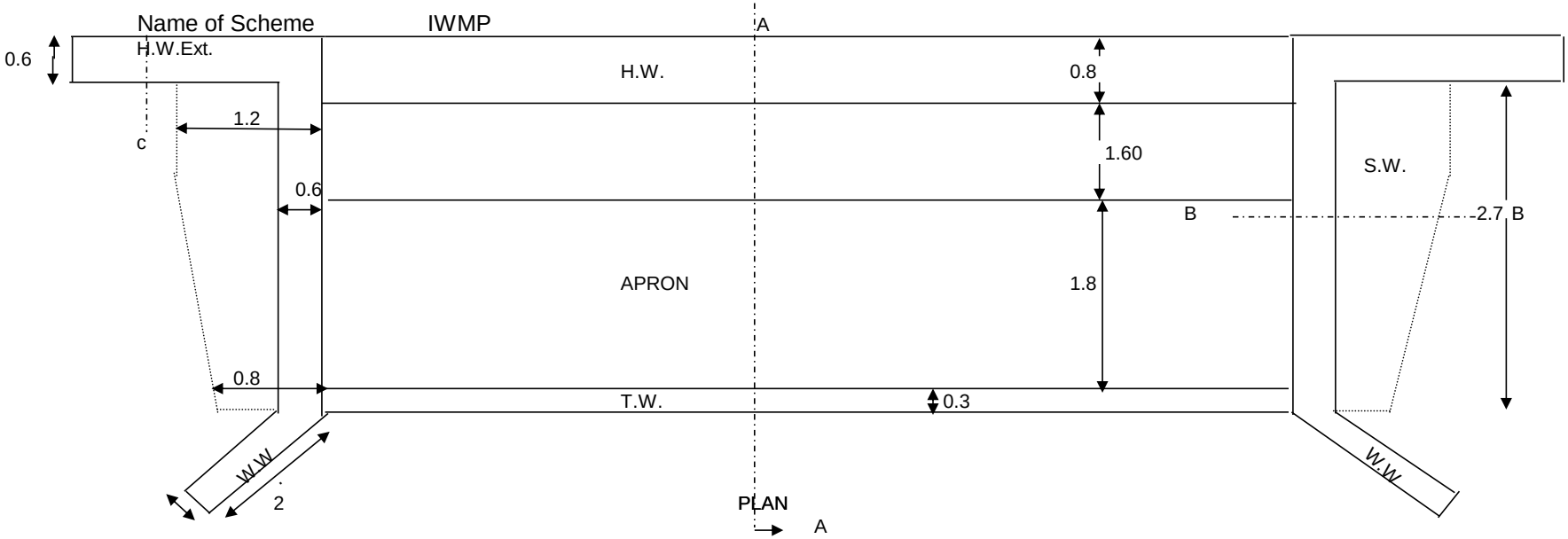
J.En. — A.En.

TYPICAL PLAN AND SECTION OF ANICUT

NAME OF WORK — Construction of Water Harvesting structure MMS Bhikamkor

Name of watershed

Name of Scheme — IWMP

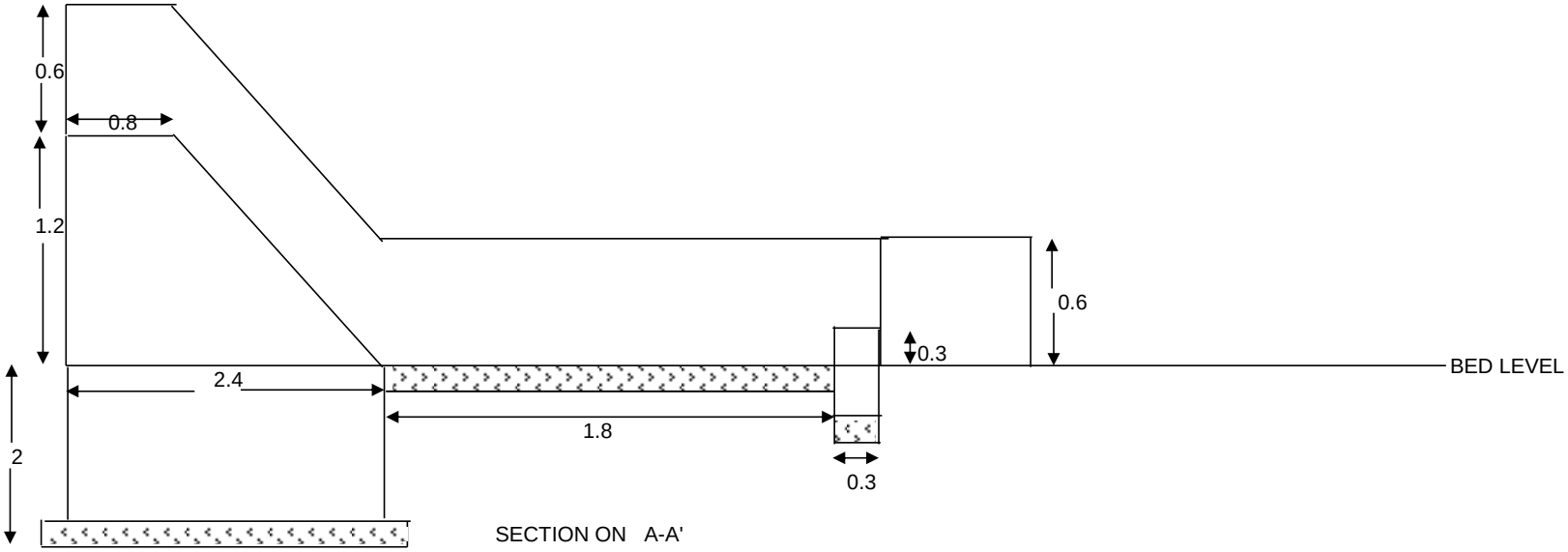


Preapared By

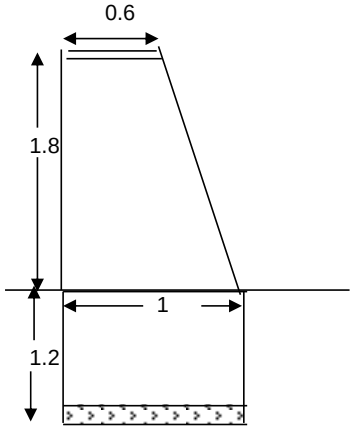
J.En.

Recommended By

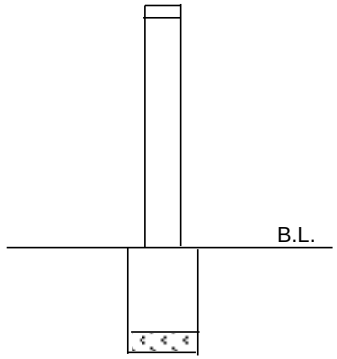
A.En.



SECTION ON A-A'



B-B' SECTION OF S.W.



C-C' SECTION ON H.W.Ext.

TECHNICAL REPORT

NAME OF WORK Construction of Water Harvesting structure Panchayat
District Jodhpur
Name of Scheme IWMP
Name of Gram Panchayat Bhikamkor
Panchayat Samiti Osian
Name of Project Bhikamkor (Jodhpur 55)

This project is taken in IWMP Scheme.The proposed anicut will not only reduce velocity of the runoff but also prevent the gullies from furthure soil erosion at the same time it will be very much fruitful in recharging of downstream wells as well as it will increase the moisture content of the soil . So an it improve its productivity the retain water behind the structure can also be used for irrigation , and driniking water for anmimals . The cross section and L-section have been surveyed by dumpy level and catchment area has been taken from G.T. sheet / Revenue map.

Basic Data of Project

		=		
1	Catch ment Area	=	60	Ha.
2	Maxmium Rain fall intencity	=	5	Cm./hr.
3	General nature of catchment Area			
a.	Agricultural land	=	10	Ha.
b.	Nonarable land Land	=	50	Ha.
4	Height of crest above G.L.	=	0.9	M.
5	Flood lift	=	0.4	M.
6	Free board	=	0.2	M.
7	Top width of Head wall	=	0.8	M.
8	Bottom width of Head wall	=	1.80	M.
9	Width of concrete Bed	=	2.10	M.
10	Length of crest	=	10	M.
11	Percentage slope of land	=	2.00	
12	No. of well benifited	=	4	
13	No of farmer benifited	=		
a.	S.C.	=	7	
b.	S.T.	=	0	
c.	Others	=	33	
	Total	=	40	

14	Area to be benifited	=	
a.	S.C.	=	
b.	S.T.	=	20
c.	Others	=	0
	Total	=	110
15		=	
a.	a)Raito of concrete at bed	=	
	(Cement : Sand :Aggregate)(1:4:8)	=	
b.	b) Raito of Masonary fondation & Super structure	=	
	Cement Mortar(1:6)	=	
c.	c) Raito of plastering and flush pointing of 25 mm.	=	
	Cement Mortar(1:6)	=	
d	Raito of Kharanja in cement mortar	=	
16	Cost of Project	=	200000.00
a.	Labour component	=	74150
b.	Material component	=	118167
c.	Contingency	=	7682

Rates are as per GKN 2011 Jodhpur wef 1.1.2011

The Estimate are here with submitted for technical approvel an necessary action

Preapared By Recommended By

J.En. A.En.

Name of work Construction of WHS

Catch ment Area	60	Ha.
Maxmium Rain fall intencity	5	Cm/hr
General nature of catchment Area		
Agricultural land	10	
Non arable land Land	50	
Height of crest above G.L.	0.9	
Length of crest	10	
Percentage slope of land	2.00	
No. of well benifited	4	
No of farmer benifited	40	
S.C.	7	
S.T.		
Others	33	
Total	40	
Area to be benifited		
S.C.	20	
S.T.	0	
Others	110	
Total	130	

GKN 2011 Jodhpur

Desgin calculation of WHS

A

Name of work-: Construction of WHS

I Available crest length 10 M

ii Total catchment Area 60 Ha. As per G.T.Sheet

iii Peak Runoff Rate

a) By Rational Method — Use when catchment is <1300Ha.

Q_p = 0.0276 CIA — Q=Run off in m3/sec.

C= Coefficient of runoff

K = $L^{3/2}/H^{1/2}$ — I= Intensity of rain fall in cm/hr.

K = 3535.5 — A= Catchment Area in Ha.

Tc = $0.0195K^{0.77}$ — L=Maxmium length of travel by runoff water in m.

Tc = 10.53 — H= Difference in elevation between most remote point and and outlet point in meter

$Q_{p=}$ 0.0276 0.50 X 5 X 60

Q_p = 4.14

b) By weir formula

Q = $1.71Lh^{3/2}$

4.14 = 1.71 10 $h^{3/2}$

h 0.39

Say h= 0.4

3 Free Board — hw= Wave height in meter

F_b= $1.5h_w$ — Df= Fetch length in meter 120 Meter.

$1.5X0.014(D_f)^{1/2}$

F_b= 0.23

Say Fb= 0.2

(B) STRUCTURAL DESGIN

1 Head wall

a) Height of Head wall H= 0.9

b) Top width(Tw) = $\frac{h}{(P-1)^{1/2}}$ P= Sp.ht. Of masonary 2.3

Tw= 0.35

Top width= 0.8

© Bottom width Bw Tw+0.8H

Bw= 1.52

So Bottom Width= 1.80 Meter

C= Coefficient of runoff			0.5
I= Intensity of rain fall in cm/hr.			5
0.5 A= Catchment Area in Ha.			60
5 L=Maxmium length of travel by runoff water in m.			500
60 H= Difference in elevation between most remote point and and outlet point in meter			10
500			
10 h= Head over the crest in mtr.		0.39	0.4
Df= Fetch length in meter			120
Fb =Free board	10	0.23	0.2
Top width Tw=		0.80	0.8
Height of cerst		0.9	0.9
Bottom Width of Head wall Bw		1.52	1.80
Lenth of Head wall extension Left=		2.30	3
Lenth of Head wall extension Right=			3.0
Length of side wall=		2.33	2.65
Bottom Width of Side wall		1.12	1
		0.8	
Length of wing wall		0.90	1

2 Head wall extension

a) Length= H+h+1+Fb

0.9 + 0.4 + 1 + = 2.30 Meter

say Length of Right side wall = 3 Meter

say Length of left side wall = 3.0 Meter

b) Height of Head Extensionwall = H+h+Fb

0.9 + 0.4 + 0.2 = 1.5 Meter

c) Top width 0.6 Meter

d) Bottom Width= 0.5(H+h) = 0.5(0.9 + 0.4)= 0.65 Meter

3 Side wall

a) Length= 1.75H+0.75h+0.45 = 2.33

But as per site condition= 2.7 Meter

b) Height:

At H.W.End= H+h+Fb 0.9 + 0.4 + 0.2 = 1.5 Meter

At W.W.End= h+fb = 0.4 + 0.2 = 0.6 Meter

c) Top width= 0.6 Meter

d) Bottom width=

At H.W.End= 0.6+0.4(H+h) 1.1 Meter

At W.W.End= 0.6+0.4(1.5h) 0.8 Meter

But taken as= 1.0 Meter

4 Wing wall

a) Height h+Fb 0.4 + 0.2 = 0.6 Meter

b) Length= 2.25h 2.25 X 0.4 = 0.90 Meter Say 1.00 M

c) Top width 0.6 Meter

Bottom width of wing wall 0.6 Meter

5 Apron

a) Length= 10 Meter

b) Width= H+h+Fb 0.9 + 0.4 + 0.2 1.5 Meter

c) Thickness 0.6 Meter

6 Toe wall

a) Length= 10 Meter

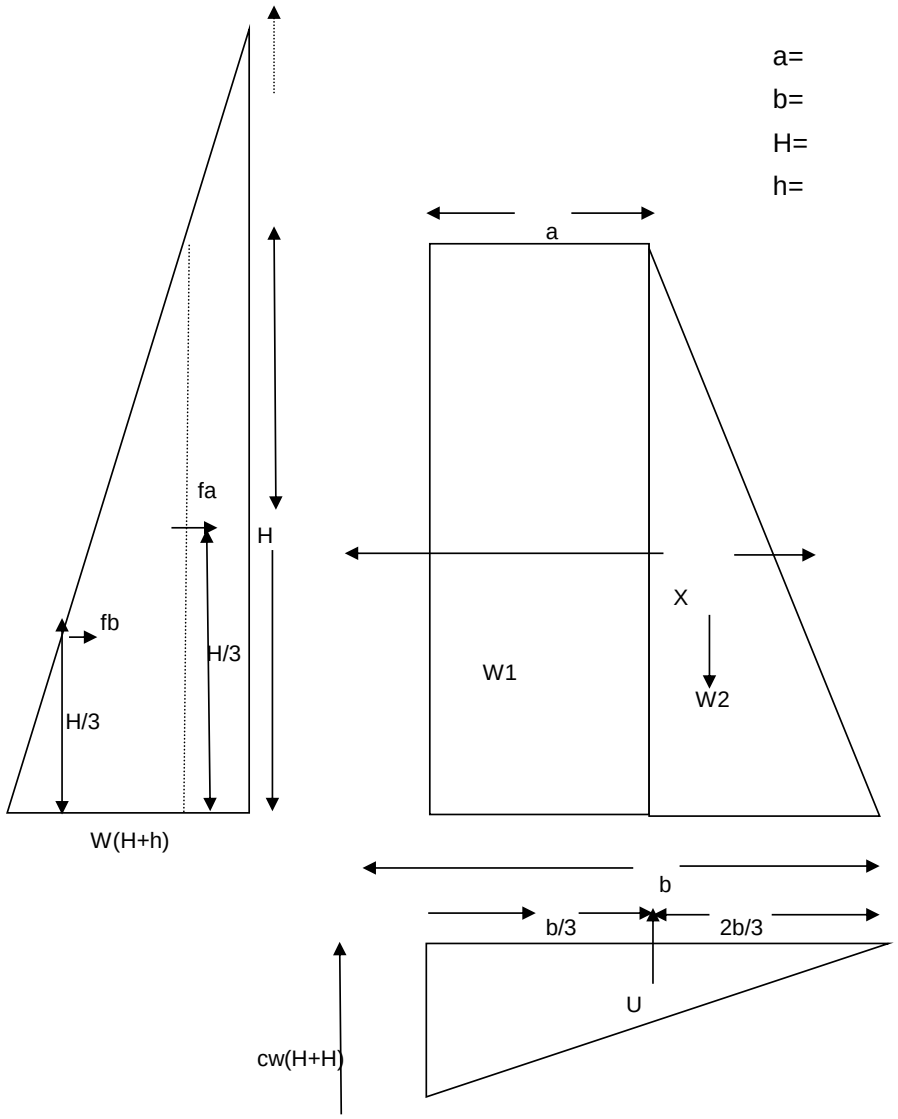
b) Width= 0.3 Meter

c) Height= 0.3 Meter

Preapared By Recommended By

J.En. A.En.

FREE BODY DIAGRAM



Specific Wt. Of masonary P= 2.3 T/m^3

Specific Wt. of water w= 1 T/m^3

Cofficient of uplift pressure c= 0.6

cofficient of friction atbed surface and creep length = 0.75

Weight of Dam-:

Weight of Dam-:

W_1= aHP

W_1= T 1.656 T

W_2= $\frac{b-a}{2}$ HP= 1.035 T

W= W_1+W_2= 1.656 + 1.035 = 2.691 T

Water pressure

At Depth h= P_1 = wh = 1 X 0.4 = 0.4 T/m^2

At Depth H+h= P2 = w(H+h) =

1(0.90 + 0.4) = 1.3 T/m^2

Force aching due to water pressure I.e. Net horizontal

Water force $P = \frac{P1+P2}{2} H$ = 0.765 T/m^2

Horizontal water pressure at depth h =Fa= wHh= = 0.36 T

At depth H+h = Fb= $\frac{P2-P1}{2}$ H = 0.405 T

Force due to water column at crest F3 = wha= = 0.32 T

Up lift pressure U = 1/2 cwb (H+h) = 0.702 T

Preapared By

Recommended By

J.En.

A.En.

STABILITY CHECKS

1 Safety against over turning

Over turning moment Mo = $Fa \frac{H}{2} + Fb \frac{H}{3} + u \frac{2}{3} b$

$0.36 \frac{0.9}{2} + 0.405 \frac{0.9}{3} + 0.7 \frac{2}{3} 1.80$

Mo= 1.126

Restoring Moment Mr = W1 (b-a/2) + W2 (b-a)2/3 + F3 (b-a/2)

Mr=

Mr= 2.318 + 0.690 + 0.448 = 3.46

Factor of safety $\frac{Mr}{Mo}$ $\frac{3.456}{1.126}$ = 3.07 >1.5 Hence

Structure is safe against over turning

2 Safety against Rupture from tension

Net Vertical Pressure V = W1+W2+F3-U

1.656 + 1.035 + 0.32 - 0.702 = 2.309

Position of resultant where it cut the base

$X = \frac{\text{Excess moment(Mr-Mo)}}{\text{Net vertical force}} = \frac{3.456 - 1.126}{2.309} = 1.01$

TRUE

3 Safety against crusing

Eccentricity e = b/2-X

-0.11

Crusting stress at the toe of theHead wall

$Pc = \frac{V}{b} (1 +_ 6e/b)$

Pc= 0.81537

Pc<<20 Hence it is safe

4 Safety against sliding

Net vertical Force V= 2.309 T

Restorin force = uV = 0.70 X 2.309 (u=0.65 to 0.75)

1.6163 T

Sliding force Net horizontal force= Fa+Fb

0.36 + 0.405 = 0.765 T

Factor of safety = Restoring force / Sliding force = 1.616 / 0.765 = 2.113 >1.3 Hence

Hence it is safe

Preapared By

Recommended By

J.En.

A.En.

DETAILED ESTIMATE OF WHS

NAME OF WORK **Construction of Water Harvesting structure**

Name of Gram Panch **Bhikamkor**

Name of Scheme **IWMP**

Name of Project **Bhikamkor (jodhpur 55)**

General features of anicut-:

Height of crest=	0.9	M.					Height of crest=	0.9
Length of Crest	10	M.					Thickness of C.C. in (1:4:8)	0.3 M.
Depth of foundation for H.W. =	2.0	M.	Length of wing wall=	1.0	M.		Length of Crest	10 M.
Bottom width of H.W. =	1.8	M.	Height of Wing wall=	0.6	M.		Depth of foundation for H.W. =	2.0 M
Top of H.W =	0.8	M.	Bopttom width of Wing wall=	0.6	M.		Bottom width of H.W. =	1.8 M
Length of H.W.Ext =	3.0	M.	Depth of foundation for Wing wall =	0.9	M.		Top of H.W =	0.8 M
Height of H.W.Ext. at H.W. =	1.5	M.	Height of Toewall=	0.30	M.		Length of H.W.Ext =	3.0 M
Top Width of H.W.Ext.=	0.6	M.	Top & Bopttom width of Toe wall=	0.30	M.		Height of H.W.Ext. at H.W. =	1.5 M
Bottom width for H.W.Ext.	0.7	M.	Depth of foundation for Toe wall =	0.9	M.		Top Width of H.W.Ext.=	0.6 M
Depth of foundation for H.W.Ext.:	1.2	M.	Thickness of Apron=	0.6	M.		Bottom width for H.W.Ext.	0.7 M
Length of side wall=	2.7	M.	Width of Apron =	1.5	M.		Depth of foundation for H.W.Ext.=	1.2 M
Bottom Width of S.W.	1.00	M.	Berm for H.W Ext.	2.0	M.		Length of side wall=	2.7 M
Height of side wall at W.W.End=	0.60	M.					Bottom Width of S.W.	1.0 M
Depth of foundation for side wall	1.2	M.					Height of side wall at W.W.End=	0.6 M
							Depth of foundation for side wall =	1.2 M
							Length of wing wall=	1.0 M
							Height of Wing wall=	0.6 M
							Bopttom width of Wing wall=	0.6 M
							Depth of foundation for Wing wall =	0.9 M
							Height of Toewall=	0.30 M
							Top & Bopttom width of Toe wall=	0.3 M
							Depth of foundation for Toe wall =	0.9 M
							Thickness of Apron=	0.6 M
							Width of Apron =	1.5 M
							Embackment L	18 m

S.No.	Item		No	L	B	H	Quantity
1	Dag belling 5cm. To 7.5cm deep(As per item no. page of W.D.& S.C. BSR of Jodhpur circle					Total	
2	Cutting and clearing of ordinary jungle includling bushes shrubs and disposal as per instructrion of engineer incharge		0	X 0.0		=	0 Sqm.

S.No.	Item		No		L		B		H		Quantity	
3	Benching of the base and depositing the execavated material for bund for bund canal dressing etc. all components									Total		Cum.
4	Earth work excavation for bund in hard dry or moist soil including laying in layer of 15cm. Breaking of clods dressing to require profile with manual compaction including intial lift up to 1.5 m and lead up to 30M.									Total		Cum
5	Earth work excavation for foundation in dry or moist soil including ramming of bottom scrapping of sides dipodal of soil intial lift up to 1.5 m and lead up to 30M.											
		H.W.	1	X	10	X	2.1	X	2.0	=	42.00	Cum.
		H.W.Ext Left	1	X	3.0	X	0.7	X	3.2	=	6.24	Cum.
		H.W.Ext Right	1	X	3.0	X	0.7	X	1.2	=	2.34	Cum.
		S.W.	2	X	2.7	X	1.20	X	3.2	=	20.35	Cum.
		W.W.	2	X	1.0	X	0.6	X	0.90	=	1.08	Cum.
		Apron	1	X	10	X	1.5	X	0.60	=	9.00	Cum.
		T.W.	1	X	10	X	0.30	X	0.9	=	2.70	Cum.
										Total	83.71	Cum.
1	Execavation in Hard soil								60%		50.23	Cum.
2	Disintigrated rock								30%		25.11	Cum.
3	Ordinary rock								10%		8.37	Cum.
	Extra Lift of execavcated soil from foundation abiove 1.5 M.				70% of total soil						58.60	Cum

Height of Wing wall=				0.6 M
BW	7 TW		1.5	4.25 m
H				2 m

S.No.	Item		No		L		B		H		Quantity	
6	Providing and laying of cement concrete well mixed in cement mortar 1:3:6 laying in position complete excluding curing with maxmium size of aggregate up to 50 mm. etc. complete using											
		H.W.	1	X	10.0	X	2.1	X	0.3	=	6.30	Cum.
		H.W.Ext	1	X	3	X	0.7	X	0.3	=	0.59	Cum.
			1	X	3	X	0.7	X	0.3	=	0.59	Cum.
		S.W.	2	X	2.65	X	0.65	X	0.3	=	1.03	Cum.
		W.W.	2	X	1	X	0.6	X	0.3	=	0.36	Cum.
		Apron	1	X	10.0	X	1.5	X	0.3	=	4.50	Cum.
		T.W.	1	X	10.0	X	0.30	X	0.3	=	0.90	Cum.
										Total	14.26	Cum.
7	I n Foundation Stone masonary cement sand mortar(1:6) for above 30 cm. Thick wall											
		H.W.	1	X	10.0	X	1.8	X	1.7	=	30.60	Cum.
		H.W.Ext	1	X	3.0	X	0.7	X	0.9	=	1.76	Cum.
		H.W.Ext	1	X	3.0	X	0.7	X	0.9	=	1.76	Cum.
		S.W.	2	X	2.7	X	0.65	X	0.9	=	3.10	Cum.
		W.W.	4	X	1.0	X	0.6	X	0.6	=	1.44	Cum.
		T.W.	1	X	10.0	X	0.15	X	0.6	=	0.90	Cum.
										Total	39.55	Cum.
8	In super structure Stone masonary above 30 cm. Thick in cement sand mortar(1:6)											
		H.W.	1	X	10.0	X	1.3	X	0.9	=	11.70	Cum.
		H.W.Ext	1	X	3.0	X	0.63	X	1.5	=	2.81	Cum.
		H.W.Ext	1	X	3.0	X	0.63	X	1.5	=	2.81	Cum.
		S.W.	2	X	2.7	X	0.8	X	1.05	=	4.45	Cum.
		W.W.	2	X	1.0	X	0.6	X	0.6	=	0.72	Cum.
		T.W.	1	X	10.0	X	0.30	X	0.30	=	0.90	Cum.
										Total	23.40	Cum.

Height of Wing wall= 0.6 M

S.No.	Item		No		L		B		H		Quantity	
9	Stone Kharanja in cement mortar 1:6 for bed and floor including cpaction etc. complete apron											
		Apron	1	X	10.0	X	1.5	X	0.30		4.50	Cum.
										Total	4.50	Cum.
10	Providing and laying of cement concrete well mixed in cement mortar 1:2:4 laying in position complete excluding curing with maxmium size of aggregate up to 20 mm. etc. complete											
		H.W.	1	X	10.0	X	0.8	X	0.05	=	0.40	Cum.
		H.W.Ext	1	X	3.0	X	0.6	X	0.05	=	0.09	Cum.
			1	X	3.0	X	0.6	X	0.05	=	0.09	Cum.
		S.W.	2	X	2.7	X	0.6	X	0.05	=	0.16	Cum.
		W.W.	2	X	1.0	X	0.6	X	0.05	=	0.06	Cum.
		T.W.	1	X	10.0	X	0.30	X	0.05	=	0.15	Cum.
		Apron	1	X	10.0	X	1.50	X	0.1	=	1.50	Cum.
										Total	2.45	Cum.
11	Flush pointing in cement motar (1:3)											
		H.W.	1	X	10.0	X	1.35			=	13.45	Sqm.
										Total	13.45	Sqm.
12	20 m.m thick plastering on new surface in cement mortar (1:4)											
		H.W.	1	X	10.0	X	0.9			=	9.00	Sqm.
		H.W.Ext.	1	X	3.0	X	1.5			=	4.50	Sqm.
		H.W.Ext.	1	X	3.0	X	1.5			=	4.50	Sqm.
		S.S	2	X	2.7	X	1.5			=	7.95	Sqm.
		W.W.	2	X	1.0	X	0.6			=	1.20	Sqm.
		T.W.	2	X	10.0	X	0.3			=	6.00	Sqm.
									Total	=	33.15	Sqm.
	E/W in excavation for embakement		2	X	18	X	4.25	X	2		306.00	cum
13	Dry stone pitching of Hammer dressed witch packing of voids of small stone including all lifts in require profile (23 cm depth)		10.0		X 10.00	X	0.23				23.00	Cum

Height of Wing wall= 0.6 M

Abstract of Cost of WHS

NAME OF WORK **Construction of Water Harvesting structure**

Name of Gram Panchayat

Name of Scheme **IWMP**

S.No.	Item	Quatity	Unit	Lab.rate	L.Amount	Rate	Amount
1	Dag belling 5cm. To 7.5cm deep(As per item no. page of W.D.&	0.00	Cum.			0.38	0
2	Cutting and clearing of ordinary jungle includling bushes shrubs and disposal as per instructrion of	0	Sqm.			0.70	0
3	Benching of the base and depositing the execavated material for bund for bund canal	0	Cum.				0
4	Earth work excavation for bund in hard dry or moist soil including laying in layer of 15cm. Breaking	0	Cum.			92.00	0
5	Earth work excavation for foundation in dry or moist soil including ramming of bottom	83.71	Cum.				0
	Execavation in Hard soil	50.23	Cum.	92.00	4620.9	92.00	4620.9024
	Disintigrated rock	25.11	Cum.	134.00	3365.22	134.00	3365.2224
	Ordinary rock	8.37	Cum.	178.00	1490.07	178.00	1490.0736
6	Extra Lift of execavcated soil from foundation abiove 1.5 M.	58.60	Cum.	10.80	632.863	10.80	632.86272
7	Providing and laying of cement concrete well mixed in cement mortar 1:3:6 laying in position complete excluding curing with	14.26	Cum.	320.1	4565.75	1894.0	27015.069
8	I n Foundation Stone masonary cement sand mortar(1:6) for	39.55	Cum.	419.8	16603.3	1503.00	59444.402
9	In super structure Stone masonary above 30 cm. Thick in cement sand mortar(1:6)	23.40	Cum.	554.8	12980.7	1641.00	38394.477

10	Stone Kharanja in cement mortar 1:6 for bed and floor including cpaction etc. complete apron	4.50	Cum.	419.8	1889.1	1503.0	6763.5
11	Providing and laying of cement concrete well mixed in cement mortar 1:2:4 laying in position complete excluding curing with	2.45	Cum.	247.1	605.148	2324.0	5691.476
12	Flush pointing in cement motar (1:	13.45	Sqm.	39.8	535.454	48.00	645.77395
13	20 m.m thick plastering on new surface in cement mortar (1:4)	33.15	Sqm.	25.7	851.955	133.00	4408.95
14	E/W forEmbakment	306.00	Cum.	85	26010	85.00	26010
15	Dry stone pitching of Hammer dressed witch packing of voids of small stone including all lifts in require profile (23 cm depth)	23.00	Cum.	174.8		590.00	13570
					74150.4	Total	192052.71

TOTAL	192053
Contingency %	7682
Say total Cost	199735
	200000.00

Prepared By

J.En.

Recommonded By

A.En.

Material Statement

NAME OF WORK — Construction of Water Harvesting structure

Name of Gram Panchayat

Name of Scheme — IWMP

S.No.	ITEM	Quantity Cum / Sqm	Cement Begs	Sand Cum	Aggrigate Cum	Stone Cum
1	Cement Concrete (1:4:8)	14.26	45.64	6.42	12.84	–
2	Plaster in C.C. (1:4)	33.15	5.62	0.80	–	–
3	Massonary in Cement sand mortar 1:6	62.95	88.13	18.88	–	62.95
4	Pointing in Cement	13.45	0.55	0.06	–	–
5	Stone Kharanja in cement mortar (1:6)	4.50	6.3	1.35	–	4.5
6	Cement concrete coping(1:2:4)	2.45	14.30	1.00	2.01	
7	Dry Stone Pitching	23.00	–	–	–	23.00
		TOTAL	160.55	28.51	14.85	90.45
		Say Bags or	161 8.05	MT.		

1	Cement	8.05	MT.
2	Sand	28.51	Cum.
3	Stones	90.45	Cum.
4	Aggregates	14.85	Cum.

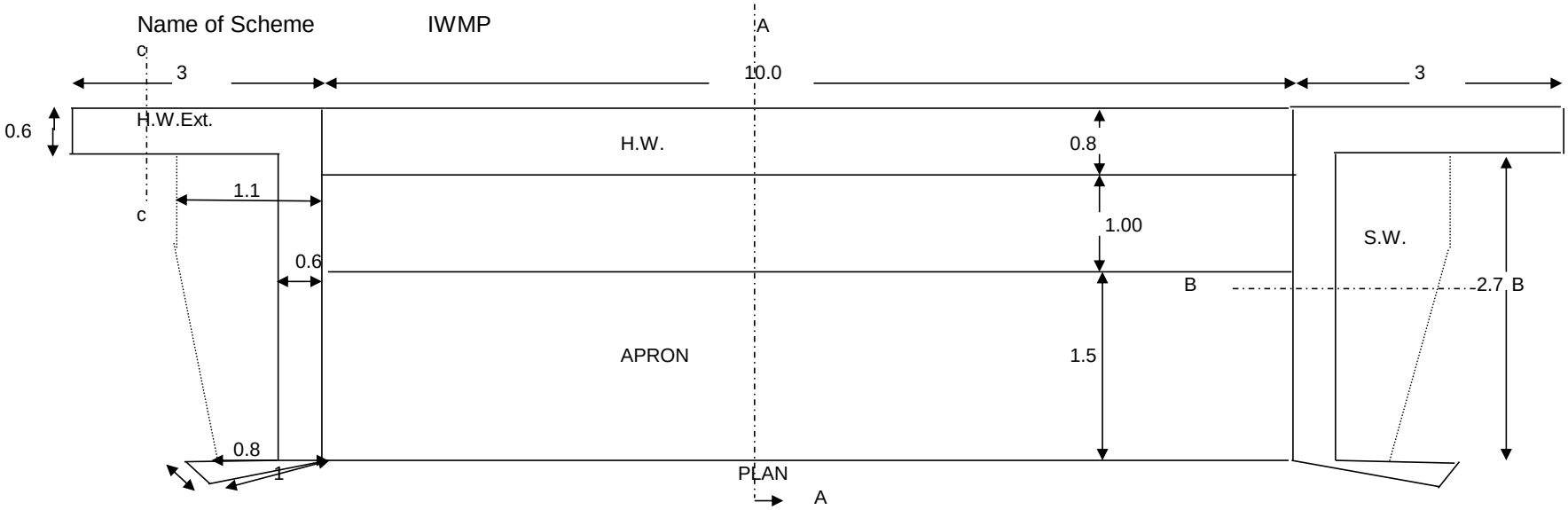
Prepared By — Recommonded By

J.En. — A.En.

TYPICAL PLAN AND SECTION OF WHS

NAME OF WORK Construction of Water Harvesting structure
Name of Gram Panchayat Bhikamkor

Name of Scheme IWMP

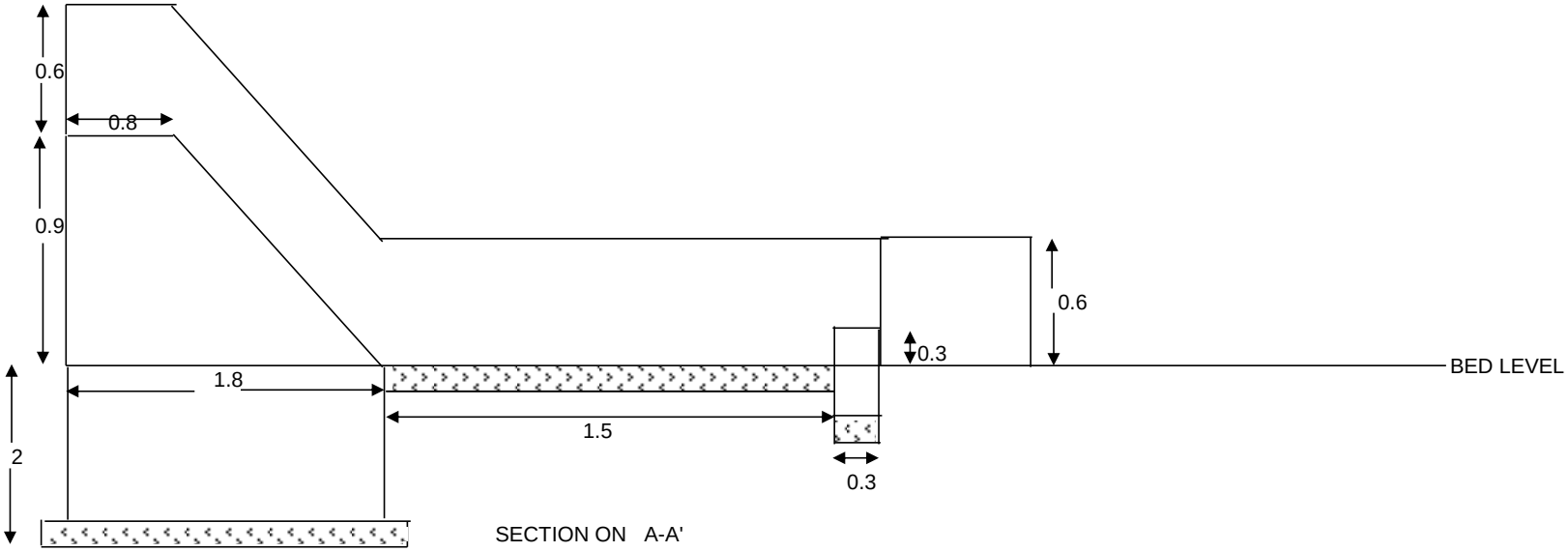


Preapared By

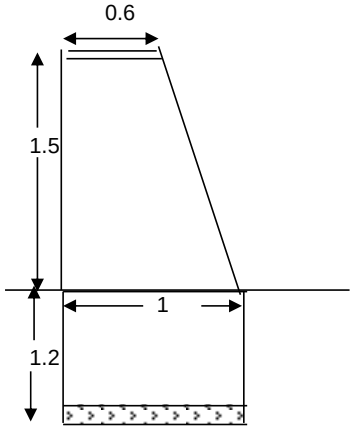
J.En.

Recommended By

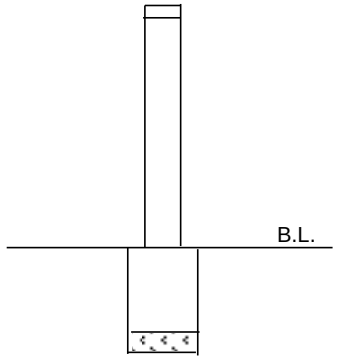
A.En.



SECTION ON A-A'



B-B' SECTION OF S.W.



C-C' SECTION ON H.W.Ext.

SUMMARY 0F WATER POND & HUT

1 जलग्रहण का नाम	:-	आई. डब्ल्यू. एम. पी., जोधपुर 55, भीकमकोर
2 पंचायत समिति	:-	ओसिया
3 लाभान्वितों की संख्या	:-	जलग्रहण जोधपुर 55 भीकमकोर
4 कार्य का प्रकार	:-	अर्दन स्ट्क्चर बनाने का कार्य
5 स्थान का नाम	:-	काश्तकारों के खेत में अर्दन बण्ड का कार्य
6 कुल लम्बाई	:-	233.5 Meter
7 कुल लागत	:-	41600.00 रू
8 श्रम घटक	:-	40300.00 रू
9 सामग्री घटक	:-	0.00 रू
10 3: विविध मद	:-	1200.00 रू
11 अप्रवेश्य सतह की गहराई	:-	0.50 मीटर
12 औसत वर्षा	:-	300 मी.मी.
13 अधिकतम वर्षा	:-	500 मी.मी.
14 न्यूनतम वर्षा	:-	22 मी.मी.

अर्दन स्ट्रक्चर

DETAIL ESTIMATE

कार्य का नाम	रू अर्दन स्ट्क्चर बनाने का कार्य
योजना	रू आई. डब्ल्यू. एम. पी., जोधपुर 55, भीकमकोर
जलग्रहण का नाम	रू आई. डब्ल्यू. एम. पी., जोधपुर 55, भीकमकोर

S.No.	Item	Length	Breadth	Height	Quantity
1	साघारण जगंल कंटिग का कार्य मय झाडि घास इत्यादि बण्ड के उपर से।	100.00	6.00		600.00
2	मिट्ठी का बांध बनाने का कार्य ' मिट्टी खुदाई एंव 15-15 से.मी. परतों में कुटाई कराना इत्यादि सहित	100.00	(0.4+3.1) /2	0.90	157.50

अर्दन स्ट्क्चर

ABSTRACT ESTIMATE

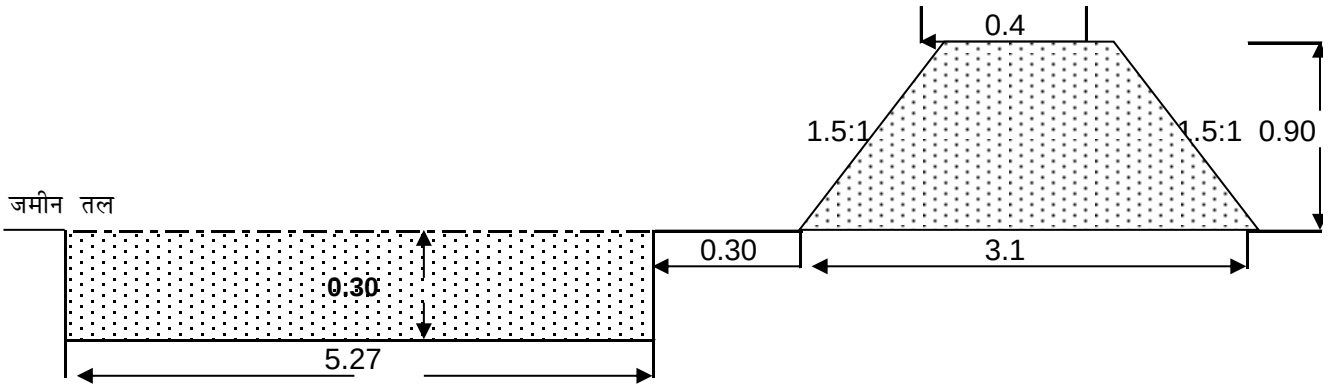
कार्य का नाम	रू अर्दन स्ट्क्चर बनाने का कार्य
योजना	रू आई. डब्ल्यू. एम. पी., जोधपुर 55, भीकमकोर
जलग्रहण का नाम	रू आई. डब्ल्यू. एम. पी., जोधपुर 55, भीकमकोर

S.N.	Item	Quantity	Unit	Rate	Amount
1	साघारण जगंल कंटिग का कार्य मय झाडि घास इत्यादि बण्ड के उपर से।	600.00	Sqm.	1.50	900.00
2	मिट्ठी का बांध बनाने का कार्य ' मिट्टी खुदाई एंव 15-15 से.मी. परतों में कुटाई कराना इत्यादि सहित	157.50	cum.	104.00	16380.00
				Total	17280.00
				Add 3.0% contingency charges	518.40
				Grand total	17798.4
				Say Rs. 0.178 lacs per 100 meter	

बण्ड की कुल लम्बाई	233.50	मीटर
लागत पर 100 मीटर	0.178	लाख रू
अत: कार्य की कुल लागत	0.416	लाख रू

आई. डब्ल्यू. एम. पी., जोधपुर 55, भीकमकोर

अर्दन बण्ड का क्रास-सेक्शन



बण्ड का क्रा-सेक्शन Ú ((3.1 + 0.4) / 2) X 0.9

= 1.58 Sqm

8.67 meter

(स्केल के अनुसार नहीं)

(सभी नाप मीटर में)

DESIGN OF BUND IN ARABLE LAND TYPE-I

Name of Water Shed : Bhikamkor (Jodhpur -55) IWMP Name of P.S. Osian

$$V.I = 0.305\ (XS+Y)$$

$$0.305(\ 0.8 \times\ 1+\ 1.0)$$

V.I = 0.549

V.I	Vertical interval	
X=	Rain Fall Factor	0.8
Y=	Factor due to soil infiltration & Crop cover	1
S=	Percent slope	1

$$He = \frac{(Rex\ VI)^{1/2}}{(50)^{1/2}}$$

He= 0.549 Say 0.50 Cm.

He	Depth of impounding	
Re	24Hour rainfall excess in Cms. for 10 year recurrence interval	45.62
V.I	Vertical interval	0.549

Total Height of Bund= 0.50 + 0.30 = 0.80 Cms
Top width of Bund = 0.35 Cms.
Bottom width of Bund = 2.75

$$\text{Cross section of bund} = \frac{(\text{Top width of Bund} + \text{Bottom width of Bund})}{2} \times \text{Height}$$

$$\text{X Section} = \frac{(\ 0.35+ 2.75)}{2} \times .8$$

X Section= 1.24 Sqmt.

DESIGN OF EARTHEN BUND TYPE-II

Name of Water Shed : Bhikamkor (Jodhpur -55) IWMP Name of P.S. Osian

$$V.I = 0.305 (XS+Y)$$

$$V.I = 0.305(0.8 \times 2 + 1.0)$$

$$V.I = 0.793$$

V.I	Vertical interval	
X=	Rain Fall Factor	0.8
Y=	Factor due to soil infiltration & Crop cover	1
S=	Percent slope	2

$$He = \frac{(Rex\ VI)^{1/2}}{(50)^{1/2}}$$

He= 0.723 Say 0.75 Cm.

He	Depth of impounding	
Re	24Hour rainfall excess in Cms. for 10 year recurrence interval	45.62
V.I	Vertical interval	1.037

Total Height of Bund= 0.75 + 0.45 = 1.20 Cms
Top width of Bund = 0.6 Cms.
Bottom width of Bund = 4.20

$$\text{Cross section of bund} = \frac{(\text{Top width of Bund} + \text{Bottom width of Bund})}{2} \times \text{Height}$$

$$\text{X Section} = \frac{(0.6 + 4.20)}{2} \times 1.20$$

X Section= 2.88 Sqmt.

DESIGN OF EARTHEN BUND TYPE -III

Name of Water Shed : Jodhpur -55 (IWMP) Name of Block: Osian

V.I = 0.305 (XS+Y)

V.I = 0.305(0.8 x 3+ 1.) / .946

V.I	Vertical interval	
X=	Rain Fall Factor	0.8
Y=	Factor due to soil infiltration & Crop cover	1
S=	Percent slope	3

$$He = \frac{(Rex\ VI)^{1/2}}{(50)^{1/2}}$$

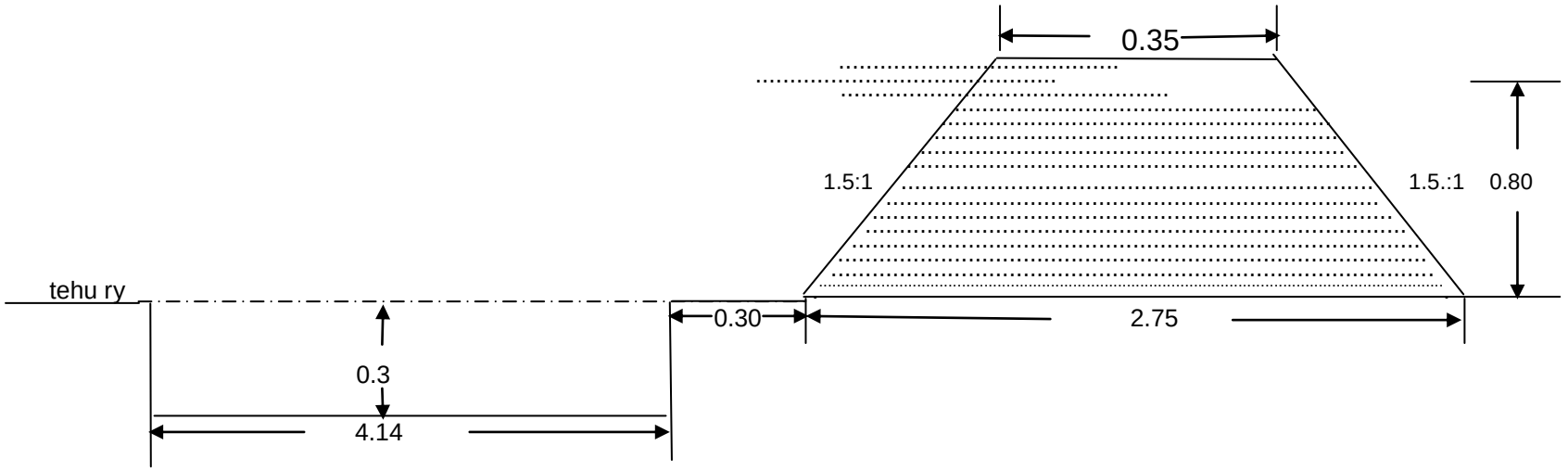
He= .946 Say 0.95Cm.

He	Depth of impounding	
Re	24Hour rainfall excess in Cms. for 10 year recurrence interval	45.62
V.I	Vertical interval	0.95

Total Height of Bund= 0.95 + 0.55 = 1.50 ms
Top width of Bund = 0.75 ms.
Bottom width of Bund = 5.25

Cross section of bund = (Top width of Bund +Bottom width of Bund) x Height/ 2 X Section= (0.75+ 5.25)x 1.50
2
X Section= 4.50 sqmt. Say 4.50 sqmt.

CROSS SECTION OF EARTHAN BUND TYPE I

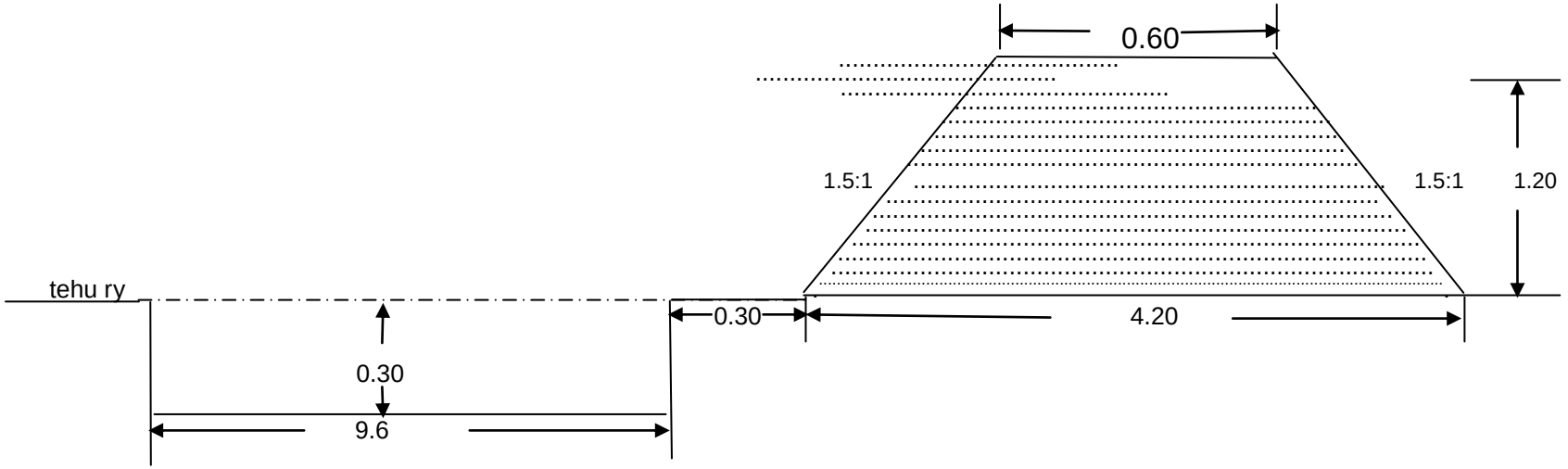


(All Measurement in Meter)

Cross Sec.= $\frac{((2.75+0.35))}{2} \times 0.80$

= 1.24 Sqm

CROSS SECTION OF EARTHAN BUND TYPE - II

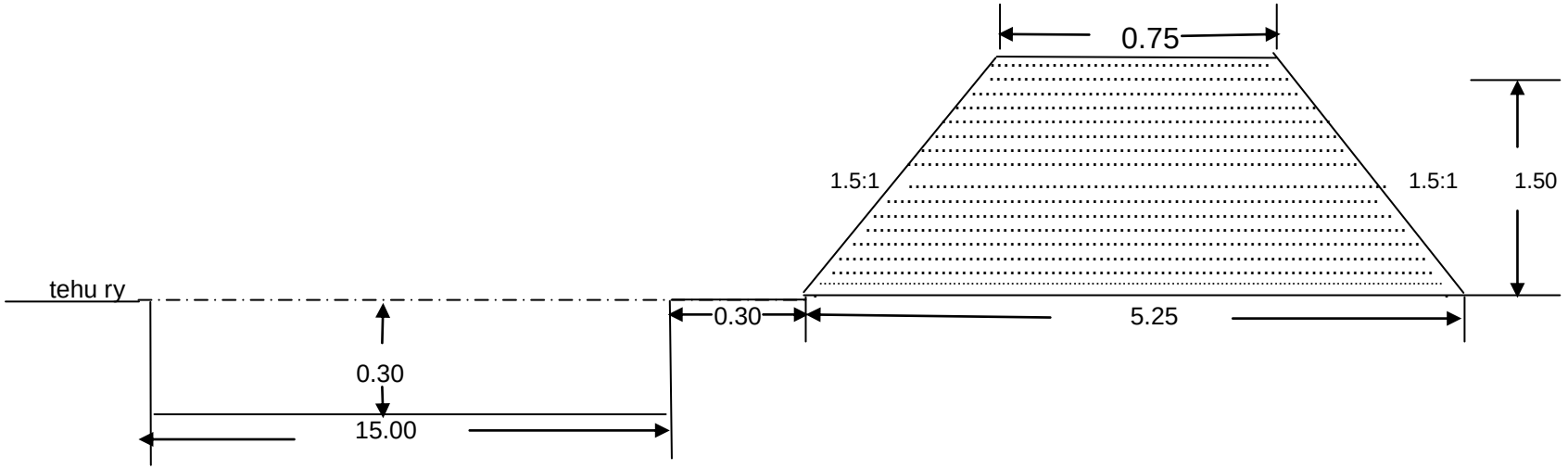


All Measurement in Meter)

Cross Sec.= $\frac{((4.20+0.60))}{2}$x1.20= 2.88 Say 2.88 sqmt.

Cross Sec.= 2.88 sqmt.

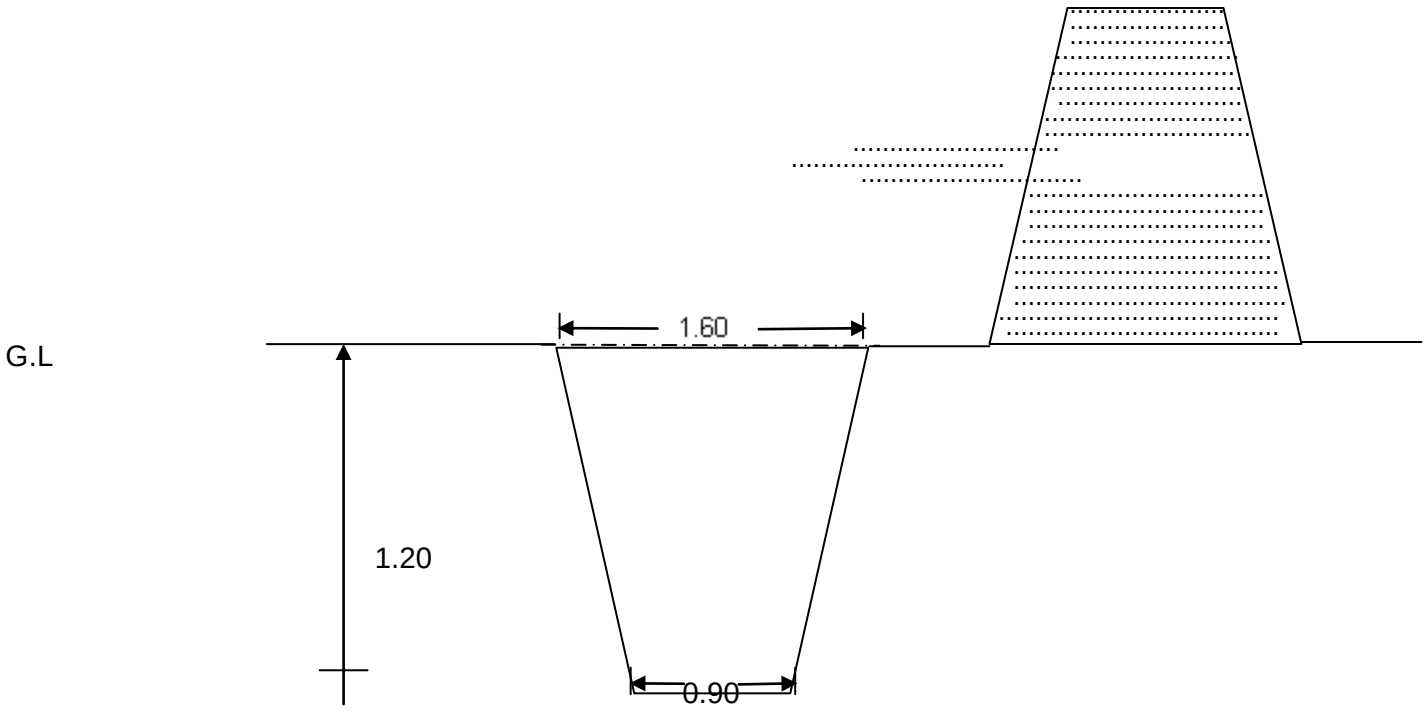
CROSS SECTION OF EARTHAN BUND TYPE - III



(All Measurement in Meter)

Cross Sec.= ((5.25+0.75) /2)x1.50
= 4.50 Sqm

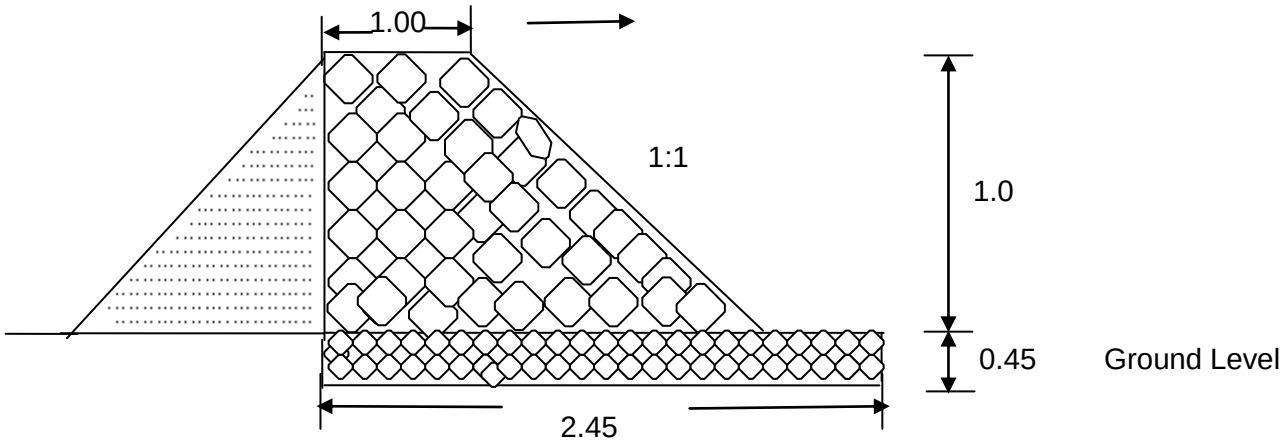
CROSS SECTION OF DITCH CUM BUND FENCINGH



Cross Sec.= $\frac{((1.50+0.0.90)}{2}$)x1.20

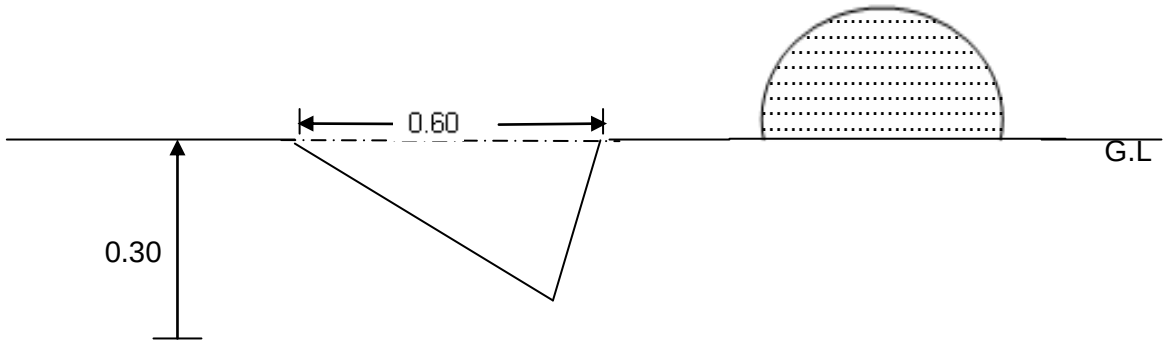
= 1.44 Sqm

CROSS SECTION OF L.S.C.D



Cross Sec.= ((1.00+2.00) /2)x1.00
= 1.50 Sqm

CROSS SECTION OF CONTOUR FURROW



Cross Sec.= 1/2x0.60x0.30

= 0.09 sqm.

लागत तकमीना

नाम जल ग्रहण क्षत्र : भीकमकोर

कार्य का नाम-चरागाह भूमि पर खाई फेंसिंग

क्षैत्रफल: 35 हैक्टेयर 35ण00

क्र.सं.	विवरण	मात्रा	इकाई	दर		राशि	
				श्रम	कुल	श्रम	कुल
1	डाग बेलिंग 2.5 से 5 सेमी गहराई तक (जि. स्त.दर.अनु.)	3530.00	मीटर	0.8	0.80	2824.00	2824.00
2	नीव, खाई परनाला में 1.5 गहराई तक मिटट्री का खुदाई करना, तल को कूटना, पानी डालना,बगल को संवारना,खुदी मिट्टीको बाहर निकालना, नीवं भरने के बाद खाली स्थानों को पुन: मिट्टी से भरना तथा बची हुई मिट्टी को 50 मीटर दूरी तक निस्तारण करना। सख्त मिट्टी में। खाई हेतु	5083.20	घ.मी.	113	113.00	574401.60	574401.60
3	डिबलिंग विधि से वानिकी बीज बुवाई कार्य	10500.00	मीटर	0.7	0.70	7350.00	7350.00
4	वानिकी बीजों की राशि	50.00	कि.ग्रा	-	60.00		3000.00
5							
	योग					**584575.60**	**587575.60**
	योग						**587575.60**
	जोडा 4: कन्टोजेन्सी						**23503.02**
	योग						**611078.62**
	लागत श्रम भाग						**584575.60**
	लागत सामग्री भाग						**26503.02**
	कुल योग						**611078.62**
						Say	**611000.00**

लागत तकमीना

नाम जल ग्रहण क्षेत्र- भीकमकोर कार्य का नाम- कृषि भूमि पर

1 85

क्र.सं.	विवरण	मात्रा	इकाई	दर		राशि	
				श्रम	कुल	श्रम	कुल
1	डाग बेलिंग 2.5 से 5 सेमी गहराई तक (जि. स्त.दर.अनु.2013)	170.00	मीटर	0.80	0.80	136.00	136.00
2	मिट्टी का कार्य बन्ध में (सूखी या गीली) 15 सेमी परत में डालना, ढेलों को तोडना, घास-पात तथा कंकर बीनकर अलग करना तथा मिट्टी की दरेसी करना 1.5 मी0 उठाना तथा 50 मीटर दूरी के लिए। कठोर मिट्टी में मिट्टी की कुटाई मानव द्वारा या प्लेन रोलर द्वारा ।(जि.स्त.दर.अनु.2013)	105.40	घ.मी.	104.00	104.00	10961.60	10961.60
3	धामन/घास बीज बुवाई बनाये गये रिज पर दो लाईनों में (जि.स्त.दर.अनु.2013)	255.00	मीटर	0.70	0.70	178.50	178.50
4	धामन घास बीज	1.00	कि.ग्रा	-	170.00		170.00
	योग					11276.10	11446.10
	योग						11446.10
	जोडा 3: कन्टोजेन्सी						343.38
	योग						11789.48
	लागत श्रम भाग						11276.10
	लागत सामग्री भाग						513.38
	कुल योग						11789.48
						Say	12000.00

लागत तकमीना

नाम जल ग्रहण क्षेत्र-भीकमकोर कार्य का नाम- कृषि भूमि पर वेजीटेटिव बन्ड

1.00 35.00

क्र.सं.	विवरण	मात्रा	इकाई	दर		राशि	
				श्रम	कुल	श्रम	कुल
1	डाग बेलिंग 2.5 से 5 सेमी गहराई तक (जि. स्त.दर.अनु.2010पृ.सं025 क्र.सं. 182)	70.00	मीटर	0.8	0.80	56.00	56.00
2	मिट्टी का कार्य बन्ध में (सूखी या गीली) 15 सेमी परत में डालना, ढेलों को तोडना, घास-पात तथा कंकर बीनकर अलग करना तथा मिट्टी की दरेसी करना 1.5 मी0 उठाना तथा 50 मीटर दूरी के लिए। कठोर मिट्टी में मिट्टी की कुटाई मानव द्वारा या प्लेन रोलर द्वारा ।(जि.स्त.दर	100.80	घ.मी.	113	113.00	11390.40	11390.40
3	धामन/घास बीज बुवाई बनाये गये रिज पर दो लाईनों में (जि.स्त.दर.अनु.2010पृ.सं020 क्र.सं. 129)	105.00	मीटर	0.7	0.70	73.50	73.50
4	धामन घास बीज	1.00	कि.ग्रा	-	170.00		170.00
	योग					**11519.90**	**11689.90**
	योग						**11689.90**
	जोडा 3: कन्टोजेन्सी						**350.70**
	योग						**12040.60**
	लागत श्रम भाग						**11519.90**
	लागत सामग्री भाग						**520.70**
	कुल योग						**12040.60**

Say 12000.00

लागत तकमीना

नाम जल ग्रहण क्षेत्र-भीकमकोर कार्य का नाम- कृषि भूमि पर वेजीटेटिव बन्ड

1.00 22.50

क्र.सं.	विवरण	मात्रा	इकाई	दर		राटि	
				श्रम	कुल	श्रम	कुल
1	डाग बेलिंग 2.5 से 5 सेमी गहराई तक (जि. स्त.दर.अनु.	45.00	मीटर	0.8	0.80	36.00	36.00
2	मिट्टी का कार्य बन्ध में (सूखी या गीली) 15 सेमी परत में डालना, ढेलों को तोडना, घास-पात तथा कंकर बीनकर अलग करना तथा मिट्टी की दरेसी करना 1.5 मी0 उठाना तथा 50 मीटर दूरी के लिए। कठोर मिट्टी में मिट्टी की कुटाई मानव द्वारा या प्लेन रोलर द्वारा ।(जि.स्त.दर	101.25	घ.मी.	113	113.00	11441.25	11441.25
3	धामन/घास बीज बुवाई बनाये गये रिज पर दो लाईनों में (जि.स्त.दर.अनु.)	67.50	मीटर	0.7	0.70	47.25	47.25
4	धामन घास बीज	1.00	कि.ग्रा	-	170.00		170.00
	योग					**11524.50**	**11694.50**
	योग						**11694.50**
	जोडा 4: कन्टोजेन्सी						**350.84**
	योग						**12045.34**
	लागत श्रम भाग						**11524.50**
	लागत सामग्री भाग						**520.83**
	कुल योग						**12045.34**
						Say	**12000.00**

MODEL ESTIMATE

नाम जल ग्रहण क्षेत्र- भीकमकोर

कार्य का नाम-कृषि भूमि पर वानिकी पौधारोपण

पौधो की संख्या: 100

क्र.सं.	विवरण	मात्रा	इकाई	दर		राशि	
				श्रम	कुल	श्रम	कुल
1	45ग45ग45 सेमी. माप के गड्डे करना कठोर मिट्टी 400 गड्डे/हैक्टर (जि.स्त.दर.अनु.	100	संख्या	7.50	7.50	750.00	750.00
2	पौधे रोपण करना (जि.स्त.दर.अनु.2013	100	संख्या	3.70	3.70	370.00	370.00
3	पौधों की कीमत	110	संख्या	-	10.00	-	1100.00
4	पौधों का परिवहन पौधे भराई एवं खाली कराई सहित 5 कि0मी. दूरी तक के लिए	110	संख्या/1000	-	908.21		99.90
5	पौधे रोपण के समय डीएपी डालना	3	कि.ग्रा.	-	10.00	-	30.00
6	दीमक नियन्त्रण हेतु एन्डोंसल्फान 4: चूर्ण	10	कि.ग्रा.	-	12.00	-	120.00
7	पौधो में उर्वरक एवं कीट नाटाक दवाई डालना	100	संख्या	0.21	0.21	21.00	21.00
	योग					**1141.00**	**2490.90**
	योग						**2490.90**
	जोडा 3: कन्टोजेन्सी						**74.73**
	योग						**2565.63**
	लागत श्राम भाग						**1141.00**
	लागत सामग्री भाग						**1424.63**
	कुल योग						**2565.63**
						Say	**2600.00**

Say Rs. 26/Plant

लागत तकमीना

कार्य का नाम – कम्पोस्ट पिट यूनिट

क्र.सं.	विवरण	मात्रा	इकाई	दर		राटि	
				श्रम	कुल	श्रम	कुल
1	नीव, खाई परनाला में 1.5 गहराई तक मिटट्री का खुदाई करना, तल को कूटना, पानी डालना,बगल को संवारना,खुदी मिट्टीको बाहर निकालना, नीवं भरने के बाद खाली स्थानों को पुनः मिट्टी से भरना तथा बची हुई मिट्टी को 50 मीटर दूरी तक निस्तारण करना। सख्त,चिकनी,	10.80	घ.मी	113.00	113.00	1220.40	1220.40
2	सिंगल सुपर फास्फेट	150.00	कि.ग्रा.	-	4.00	-	600.00
3	यूरिया	30.00	कि.ग्रा.		6.00	-	180.00
4	कल्चर पैकिंट	3.00	संख्या	-	20.00	-	60.00
	योग					**1220.40**	**2060.40**
	योग						**2060.40**
	जोडा 3: कन्टोजेन्सी						**61.81**
	योग						**2122.21**
	लागत श्रम भाग						**1220.40**
	लागत सामग्री भाग						**901.81**
	कुल योग						**2122.21**
						Say	**2100.00**

<u>विस्तृत तकमीना</u>

नाम जल ग्रहण क्षेत्र- जोधपुर-55 **(I.W.M.P)** कार्य का नाम-अकृषि भूमि पर कन्टूर फर्रो
गॉव का नाम : भीकमकोर क्षैत्रफल: 50 हैक्टर

क्र.सं.	विवरण	ल.गचौ.गग. त्र कुल मात्रा
1	ए फ्रेम लेवल से 8 से 15 मीटर क्षैतिज अन्तराल में समोच्च रेखा पर ले आउट का कार्य	50 हैक्टयर / 800मी0/हैक्टेयरत्र40000मी0
2	डाग बेलिंग 2.5 से 5 सेमी गहराई तक (जि.स्त.दर.अनु.2010पृ.सं0 25 क्र.सं. 182)	40000 मी.
3	नीव, खाई परनाला में 1.5 गहराई तक मिटट्री का खुदाई करना, तल को कूटना, पानी डालना,बगल को संवारना,खुदी मिट्टीको बाहर निकालना, नीवं भरने के बाद खाली स्थानों को पुन: मिट्टी से भरना तथा बची हुई मिट्टी को 50 मीटर दूरी तक निस्तारण करना।सख्त,चिकनी, कंकर, मिट्टी में। नीवं हेतु(जि.स्त.दर.अनु.2010पृ.सं0 5क्र.सं.	40000मीग1ध्2ग0ण्60ग0ण्30त्र3600
4	बीज बुवाई बनाये गये रिज पर	40000 मी.
5	बीज की मात्रा (धामण)	40000 मी. / 1 कि.ग्रा./100 मीटरत्र400

लागत तकमीना

नाम जल ग्रहण क्षेत्र- जोधपुर-55 **(I.W.M.P)** कार्य का नाम-अकृषि भूमि पर कन्टूर फर्रो
गॉव का नाम : भीकमकोर क्षैत्रफल: 50 हैक्टर

क्र.सं.	विवरण	मात्रा	इकाई	दर		राशि८	
				श्रम	कुल	श्रम	कुल
1	ए फ्रेम लेवल से 8 से 15 मीटर क्षैतिज अन्तराल में समोच्च रेखा पर ले आउट का कार्य	8000	मी.	0.85	0.85	6800.00	6800.00
2	डाग बेलिंग 2.5 से 5 सेमी गहराई तक (जि.स्त.दर.अनु.2013पृ.सं0 25 क्र.सं. 182)	16000	मी.	0.80	0.80	12800.00	12800.00
3	नीव, खाई परनाला में 1.5 गहराई तक मिटट्री का खुदाई करना, तल को कूटना, पानी डालना,बगल को संवारना,खुदी मिट्टीको बाहर निकालना, नीवं भरने के बाद खाली स्थानों को पुन: मिट्टी से भरना तथा बची हुई मिट्टी को 50 मीटर दूरी तक निस्तारण करना।सख्त,चिकनी, कंकर, मिट्टी में।नीवं हेतु(जि.स्त.दर.अनु.2013पृ.सं0 5 क्र.सं. 2ब)	3600	घ.मी.	113.00	113.00	406800.00	406800.00
4	बीज बुवाई बनाये गये रिज पर	40000	मी.	0.70	0.70	28000.00	28000.00
5	बीज की मात्रा (धामण)	400	कि.ग्रा.	-	170.00	-	68000.00
	योग					**454400.00**	**522400.00**
	योग						**522400.00**
	जोडा 3: कन्टोजेन्सी						**15672.00**
	योग						**538072.00**
	लागत श्रम भाग						**454400.00**
	लागत सामग्री भाग						**83672.00**
	कुल योग						**538072.00**
						Say	**538072.00**

Name of Watershed	IWMP Jodhpur 55			
Macro / Micro no.	**6/1-3 and Cluster**			
Rainfall =	0.3	Mtr		
No. of Plant	70.0	No		
Area Required	0.5	Ha	Horti	0.11
No. of Plant	50.0		Fencing	0.34
Area Required	0.35		Drip	0.15
				0.6

Abstruct cost of Plantation work

For Genaral & OBC Category

Sr. no	*Name of work*		*Project cost*			*Convergence with Ag.Ext dept.*			*Measures*
			Project	*Contribution*	*Total*	*Govt share*	*Farmer share*	*Total*	
			80%	*20%*					
1	*Cost of Horticulture plantation*	15400.00	12320.00	3080.00	15400.00				Production
2	*Cost of Barbered wire fencing with post fixing*	39968.00	31974.00	7994.00	39968.0				Production
3	*Cost of Drip irrigation system*	15000.00				13500.00	1500.00	15000.00	Production
	Total for production	**70368.00**	**44294.00**	**11074.00**	**55368.00**	**13500.00**	**1500.00**	**15000.00**	
	Say	***0.70***	***0.44***	***0.11***	***0.55***	***0.14***	***0.02***	***0.15***	Lacs

For SC/ BPL

Sr. no	*Name of work*		*Project cost*			*Convergence with Ag.Ext dept.*			*Measures*
			Project	*Contribution*	*Total*	*Govt share*	*Farmer share*	*Total*	
			90%	*10%*					
1	*Cost of Horticulture plantation*	15400.00	13860.00	1540.00	15400.00				Production
2	*Cost of Barbered wire fencing with post fixing*	39968.00	35971.00	3997.00	39968.0				Production
3	*Cost of Drip irrigation system*	15000.00				13500.00	1500.00	15000.00	Production
	Total for production	**70368.00**	**49831.00**	**5537.00**	**55368.00**	**13500.00**	**1500.00**	**15000.00**	
	Say	***0.70***	***0.50***	***0.06***	***0.55***	***0.14***	***0.02***	***0.15***	Lacs

Note :- 1 Rates are taken as per GKN Jodhpur & forest dept.

2 For Horticulture plantation is as per norms of Agriculture Dept.

3 For dovelopment of this unit drip irrigation will be taken in convergence with Agriculture Dept.

Abstruct cost of Plantation work

For Genaral & OBC Category

Sr. no	*Name of work*		*Project cost*			*Convergence with Ag.Ext dept.*			*Measures*
			Project	*Contribution*	*Total*	*Govt share*	*Farmer share*	*Total*	
			80%	*20%*					
1	*Cost of Horticulture plantation*	11000.00	8800.00	2200.00	11000.00				Production
2	*Cost of Barbered wire fencing with post fixing*	34134.00	27307.00	6827.00	34134.0				Production
3	*Cost of Drip irrigation system*	15000.00	9000.00	6000.00	15000.00				Production
	Total for production	**60134.00**	**45107.00**	**15027.00**	**60134.00**				
	Say	***0.60***	***0.45***	***0.15***	***0.60***	***0.00***	***0.00***	***0.00***	Lacs

For SC/ BPL

Sr. no	*Name of work*		*Project cost*			*Convergence with Ag.Ext dept.*			*Measures*
			Project	*Contribution*	*Total*	*Govt share*	*Farmer share*	*Total*	
			90%	*10%*					
1	*Cost of Horticulture plantation*	11000.00	9900.00	1100.00	11000.00				Production
2	*Cost of Barbered wire fencing with post fixing*	34134.00	30721.00	3413.00	34134.0				Production
3	*Cost of Drip irrigation system*	15000.00	12000.00	3000.00	15000.00				Production
	Total for production	**60134.00**	**52621.00**	**7513.00**	**60134.00**				
	Say	***0.60***	***0.53***	***0.08***	***0.60***	***0.00***	***0.00***	***0.00***	Lacs

Note :- 1 Rates are taken as per GKN Jodhpur & forest dept.

2 For Horticulture plantation is as per norms of Agriculture Dept.

3 For dovelopment of this unit drip irrigation will be taken in convergence with Agriculture Dept.

MODEL ESTIMATE OF HORTICULTURE PLANTATION

S.N	Details of work	Qty	Rate	Unit	Amount
1	Excavation of earth work in hard soil for digging of pits, 0.75 x0.75 x0.90 = 0.5062cum	0.51	92.00	cum	46.58
2	Treatment of pits				
a	Through chemicals	1.00	0.60	Per plant	0.60
b	Through mannure	1.00	0.30	Per plant	0.30
3	Planting of plant with rehandling upto 100m,refilling of soil & compaction etc	1.00	6.50	Per plant	6.50
4	Cost of Plant including transportation	1.00	40.00	Per plant	40.00
4	Making of thanwala,of 50 cm radious	1.00	1.80	Per plant	1.80
5	Watering of plant,15 lit per plant Tweleve times in the year	12.00	1.80	Per plant	21.60
6	Weeding & hoeing three times in the year	3.00	1.20	Per plant	3.60
7	Cost of Mannure including transportation	1.00	5.00	Per Kg	5.00
	Total				125.98
	Contengency 3%				3.78
	Grand total				**129.75**
				Per plant	**130.00**

Cost per Ha of Aawla Plant

S.No	Details of work	Qty	Rate	Unit	Amount
1	Plant spacing c/c 8mx8m	156	130.00	No	20280
2	20% Plant Gap filling in second year	31	130.00	No	4030
3	Protection Work of plant	156	5	Ha	780
4	Protection Work 20% in second year	31	5	Ha	155
	Total Amount				**25245**
				Say Rs	**25300**

MODEL ESTIMATE OF HORTICULTURE PLANTATION

S.N	Details of work	Qty	Rate	Unit	Amount
1	Excavation of earth work in hard soil for digging of pits, 0.75 x0.75 x0.90 = 0.5062cum	0.51	92.00	cum	46.58
2	Treatment of pits				
a	Through chemicals	1.00	0.60	Per plant	0.60
b	Through mannure	1.00	0.30	Per plant	0.30
3	Planting of plant with rehandling upto 100m,refilling of soil & compaction etc	1.00	6.50	Per plant	6.50
4	Cost of Plant including transportation	1.00	40.00	Per plant	40.00
4	Making of thanwala,of 50 cm radious	1.00	1.80	Per plant	1.80
5	Watering of plant,15 lit per plant five times in the year	5.00	1.80	Per plant	9.00
6	Weeding & hoeing three times in the year	3.00	1.20	Per plant	3.60
7	Cost of Mannure including transportation	1.00	5.00	Per Kg	5.00
	Total				113.38
	Contengency 3%				3.40
	Grand total				**116.78**
				Per plant	**117.00**

Cost per Ha of Orange Plant

S.No	Details of work	Qty	Rate	Unit	Amount
1	Plant spacing c/c 8mx8m	156	117.00	No	18252
2	20% Plant Gap filling in second year	31	117.00	No	3627
3	Protection Work of plant	156	5	Ha	780
4	Protection Work 20% in second year	31	5	Ha	155
	Total Amount				**22814**

Say Rs **22900**

MODEL ESTIMATE OF HORTICULTURE PLANTATION

S.N	Details of work	Qty	Rate	Unit	Amount
1	Excavation of earth work in hard soil for digging of pits, 0.45 x0.45 x0.45 = 0.091cum	0.09	92.00	cum	8.38
2	Treatment of pits				
a	Through chemicals	1.00	0.60	Per plant	0.60
b	Through mannure	1.00	0.30	Per plant	0.30
3	Planting of plant with rehandling upto 100m,refilling of soil & compaction etc	1.00	6.50	Per plant	6.50
4	Cost of Plant including transportation	1.00	15.00	Per plant	15.00
4	Making of thanwala,of 50 cm radious	1.00	1.80	Per plant	1.80
5	Watering of plant,15 lit per plant five times in the year	5.00	1.80	Per plant	9.00
6	Weeding & hoeing three times in the year	3.00	1.20	Per plant	3.60
7	Cost of Mannure including transportation	1.00	5.00	Per Kg	5.00
	Total				50.18
	Contengency 3%				1.51
	Grand total				**51.69**
				Per plant	**52.00**

Cost per Ha of Papaya Plant

	2500 Plant per Ha				
S.No	**Details of work**	**Qty**	**Rate**	**Unit**	**Amount**
1	Plant spacing c/c 2mx2m	2500	52	No	130000
2	20% Plant Gap filling in second year	500	52	No	26000
3	Protection Work of plant	2500	5	Ha	12500
4	Protection Work 20% in second year	500	5	Ha	2500
	Total Amount				**171000**

Say Rs **171000**

MODEL ESTIMATE OF HORTICULTURE PLANTATION

S.N	Details of work	Qty	Rate	Unit	Amount
1	Excavation of earth work in hard soil for digging of pits, 0.75 x0.75 x0.90 = 0.5062cum	0.51	92.00	cum	46.58
2	Treatment of pits				
a	Through chemicals	1.00	0.60	Per plant	0.60
b	Through mannure	1.00	0.30	Per plant	0.30
3	Planting of plant with rehandling upto 100m,refilling of soil & compaction etc	1.00	6.50	Per plant	6.50
4	Cost of Plant including transportation	1.00	15.00	Per plant	15.00
4	Making of thanwala,of 50 cm radious	1.00	1.80	Per plant	1.80
5	Watering of plant,15 lit per plant five times in the year	5.00	1.80	Per plant	9.00
6	Weeding & hoeing three times in the year	3.00	1.20	Per plant	3.60
7	Cost of Mannure including transportation	1.00	5.00	Per Kg	5.00
	Total				88.38
	Contengency 3%				2.65
	Grand total				**91.03**
				Per plant	**92.00**

Cost per Ha of Guava Plant

	277 Plant per Ha				
S.No	**Details of work**	**Qty**	**Rate**	**Unit**	**Amount**
1	Plant spacing c/c 6mx6m	277	92.00	No	25484
2	20% Plant Gap filling in second year	55	92.00	No	5060
3	Protection Work of plant	277	5	Ha	1385
4	Protection Work 20% in second year	55	5	Ha	275
	Total Amount				**32204**

Say Rs **32300**

MODEL ESTIMATE OF HORTICULTURE PLANTATION

S.N	Details of work	Qty	Rate	Unit	Amount
1	Excavation of earth work in hard soil for digging of pits, 0.75 x0.75 x0.90 = 0.5062cum	0.51	92.00	cum	46.58
2	Treatment of pits				
a	Through chemicals	1.00	0.60	Per plant	0.60
b	Through mannure	1.00	0.30	Per plant	0.30
3	Planting of plant with rehandling upto 100m,refilling of soil & compaction etc	1.00	6.50	Per plant	6.50
4	Cost of Plant including transportation	1.00	20.00	Per plant	20.00
4	Making of thanwala,of 50 cm radious	1.00	1.80	Per plant	1.80
5	Watering of plant,15 lit per plant five times in the year	5.00	1.80	Per plant	9.00
6	Weeding & hoeing three times in the year	3.00	1.20	Per plant	3.60
7	Cost of Mannure including transportation	1.00	5.00	Per Kg	5.00
	Total				93.38
	Contengency 3%				2.80
	Grand total				**96.18**
				Per plant	**97.00**

Cost per Ha of Ber Plant

	277 Plant per Ha				
S.No	**Details of work**	**Qty**	**Rate**	**Unit**	**Amount**
1	Plant spacing c/c 6mx6m	277	97.00	No	26869
2	20% Plant Gap filling in second year	55	97.00	No	5335
3	Protection Work of plant	277	5	Ha	1385
4	Protection Work 20% in second year	55	5	Ha	275
	Total Amount				**33864**

Say Rs **33900**

MODEL ESTIMATE OF HORTICULTURE PLANTATION

S.N	Details of work	Qty	Rate	Unit	Amount
1	Excavation of earth work in hard soil for digging of pits, 0.75 x0.75 x0.90 = 0.5062cum	0.51	92.00	cum	46.58
2	Treatment of pits				
a	Through chemicals	1.00	0.60	Per plant	0.60
b	Through mannure	1.00	0.30	Per plant	0.30
3	Planting of plant with rehandling upto 100m,refilling of soil & compaction etc	1.00	6.50	Per plant	6.50
4	Cost of Plant including transportation	1.00	30.00	Per plant	30.00
4	Making of thanwala,of 50 cm radious	1.00	1.80	Per plant	1.80
5	Watering of plant,15 lit per plant five times in the year	5.00	1.80	Per plant	9.00
6	Weeding & hoeing three times in the year	3.00	1.20	Per plant	3.60
7	Cost of Mannure including transportation	1.00	5.00	Per Kg	5.00
	Total				103.38
	Contengency 3%				3.10
	Grand total				**106.48**
				Per plant	**107.00**

Cost per Ha of Karonda Plant

	277 Plant per Ha				
S.No	**Details of work**	**Qty**	**Rate**	**Unit**	**Amount**
1	Plant spacing c/c 6mx6m	277	107.00	No	29639
2	20% Plant Gap filling in second year	55	107.00	No	5885
3	Protection Work of plant	277	5	Ha	1385
4	Protection Work 20% in second year	55	5	Ha	275
	Total Amount				**37184**

Say Rs **37200**

MODEL ESTIMATE OF HORTICULTURE PLANTATION

S.N	Details of work	Qty	Rate	Unit	Amount
1	Excavation of earth work in hard soil for digging of pits, 0.75 x0.75 x0.90 = 0.5062cum	0.51	92.00	cum	46.58
2	Treatment of pits				
a	Through chemicals	1.00	0.60	Per plant	0.60
b	Through mannure	1.00	0.30	Per plant	0.30
3	Planting of plant with rehandling upto 100m,refilling of soil & compaction etc	1.00	6.50	Per plant	6.50
4	Cost of Plant including transportation	1.00	40.00	Per plant	40.00
4	Making of thanwala,of 50 cm radious	1.00	1.80	Per plant	1.80
5	Watering of plant,15 lit per plant five times in the year	5.00	1.80	Per plant	9.00
6	Weeding & hoeing three times in the year	3.00	1.20	Per plant	3.60
7	Cost of Mannure including transportation	1.00	5.00	Per Kg	5.00
	Total				113.38
	Contengency 3%				3.40
	Grand total				**116.78**
				Per plant	**117.00**

Cost per Ha of Neebu Plant

	277 Plant per Ha				
S.No	**Details of work**	**Qty**	**Rate**	**Unit**	**Amount**
1	Plant spacing c/c 6mx6m	277	117.00	No	32409
2	20% Plant Gap filling in second year	55	117.00	No	6435
3	Protection Work of plant	277	5	Ha	1385
4	Protection Work 20% in second year	55	5	Ha	275
	Total Amount				**40504**

Say Rs **40600**

Abstract of Horticulture Plant

S.No	Plant Name	Qty	Unit	Rate	Amount
1	Aawla	1.00	No.	162	162.00
2	Orange	1.00	No.	739	739.00
3	Papaya	1.00	No.	68	68.00
4	Guava	1.00	No.	117	117.00
5	Ber	1.00	No.	122	122.00
6	Karonda	1.00	No.	134	134.00
7	Neembu	1.00	No.	146	146.00
	Average cost of one Horticulture Palnt	1.00	No.	213	213.00
	Amount for 70 Plant				14910.00
				Add 3% contengency	**447.3**
				Total	**15357.30**
				say	**15400.00**

Average cost of one Horticulture Palnt	220

Abstract of Horticulture Plant

S.No	Plant Name	Qty	Unit	Rate	Amount
1	Aawla	1.00	No.	162	162.00
2	Orange	1.00	No.	739	739.00
3	Papaya	1.00	No.	68	68.00
4	Guava	1.00	No.	117	117.00
5	Ber	1.00	No.	122	122.00
6	Karonda	1.00	No.	134	134.00
7	Neembu	1.00	No.	146	146.00
	Average cost of one Horticulture Palnt	1.00	No.	213	213.00
	Amount for 50 Plant				10650.00
				Add 3% contengency	**319.5**
				Total	**10969.50**
				say	**11000.00**

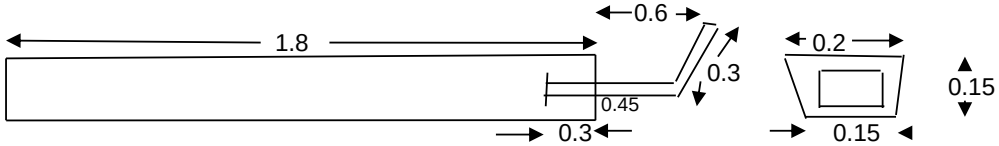
Average cost of one Horticulture Palnt	157

Calculation of B.C. ratio (Amount in lacs)

S. No.	Year	Discount factor 1/(1+.07)^n (n=No. of yr.)	Capital cost	Benefits	Present Worth of actual cost(3X4)	Present worth of Benefit(3X5)	B.C. Ratio
1	2	3	4	5	6	7	8
1	I	0.93	153000.00	0.00	142990.65	0.00	1.31
2	II	0.87	1020.00	0.00	890.91	0.00	
3	III	0.82	1020.00	37500.00	832.62	30611.17	
4	IV	0.76	1020.00	37500.00	778.15	28608.57	
5	V	0.71	1020.00	37500.00	727.25	26736.98	
6	VI	0.67	1020.00	37500.00	679.67	24987.83	
7	VII	0.62	1020.00	37500.00	635.20	23353.12	
8	VIII	0.58	1020.00	37500.00	593.65	21825.34	
9	IX	0.54	1020.00	37500.00	554.81	20397.52	
10	X	0.51	1020.00	37500.00	518.52	19063.10	
Total			162180	300000.00	149201.44	195583.63	

Model estimate

Fencing post *IWMP Jodhpur 55*



No of post 100

S.No	Name of work	Item no.	No	Lingth	Width	Hight	Qty	Unit	Rate	
1	Cement concrete 1:2:4	121 A	100	1.8	0.18	0.15	4.73	Cum	2744	12965.40
2	Centering & shutering	45A	100	1.8	0.3		54	Sqm	87	4698.00
3					Mtr	Kg/Mtr				
	Rain forcement with tor bar 8mm bar		400	1.8	720	0.5	360	KG		
	Ring specing 0.20 mtr & Hook 6mm		900	0.5	450	0.282	126.9	KG		
		46					486.9	KG	56.7	27607.23
4	Angle iron 25*25*3		100	1.05	105	1.176	123.48	Kg	47.7	5890.00
								Cost for 100 posts		**51160.63**
								Cost for one post		511.61
								Add 3% contengency		15.35
								Total		**526.95**
								Say		**527.00**

Area 0.50 *Ha*
Say 0.50 *Ha*

Length 283 mtr.
Say 280 mtr.
Specing 6.5 mtr.

No of post As per length= Length/specing 43 Total
Two Aditional post require after every 10 Posts 11 54

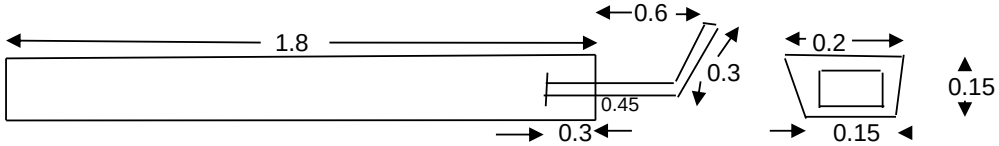
S.No	Discription	Item no.	No	Length of single wire	Total length	Kg/mtr	Quantity	Unit	Rate	Amount
1	Supply of barberbed wire fencing 14 gauge	65	6	280	1680	0.08	134.4	Kg	56	7526.40
2	Supply of cement concrete post	mo.est.	54				54.00	No	527.00	28458.00
3	Transpotation of posts 2 km.	107	54			0.04725	2.55	Cum	108.6	277.09
4	Transpotation of posts to pit up to one km.	107	54				2.55	No	98.8	252.09
5	fixing of Rcc post in 45 cm. deep pit	2B	54	0.45	0.45	0.45	4.92	Cum	92	452.71
6	Cost of binding wire	mo.est.					5.1	Kg	47.41	241.79
7	Tidening of barberded wire	5.5/forest					1680	mtr	0.95	1596.00
								Total		**38804.08**
								Add 3% contengency		1164.12
								G Total		**39968.20**
								Say		**39968.00**

Fencing will be done by Project

Model estimate

Fencing post

IWMP Jodhpur 55



No of post 100

S.No	Name of work	Item no.	No	Lingth	Width	Hight	Qty	Unit	Rate	
1	Cement concrete 1:2:4	121	100	1.8	0.18	0.15	4.73	Cum	2744	12965.40
2	Centering & shutering	45A	100	1.8	0.3		54	Sqm	87	4698.00
3					Mtr	Kg/Mtr				
	Rain forcement with tor bar 8mm bar		400	1.8	720	0.5	360	KG		
	Ring specing 0.20 mtr & Hook 6mm		900	0.5	450	0.282	126.9	KG		
		46					486.9	KG	56.7	27607.23
4	Angle iron 25*25*3		100	1.05	105	1.176	123.48	Kg	47.7	5890.00
								Cost for 100 posts		**51160.63**
								Cost for one post		511.61
								Add 3% contengency		15.35
								Total		**526.95**
								Say		**527.00**

Area 0.35 *Ha*

Say 0.35 *Ha*

Length 237 mtr.

Say 240 mtr.

Specing 6.5 mtr.

No of post As per length= Length/specing 37 Total

Two Aditional post require after every 10 Posts 9 46

S.No	Discription	Item no.	No	Length of single wire	Total length	Kg/mtr	Quantity	Unit	Rate	Amount
1	Supply of barberbed wire fencing 14 gauge	65	6	240	1440	0.08	115.2	Kg	56	6451.20
2	Supply of cement concrete post	mo.est.	46				46.00	No	527.00	24242.00
3	Transpotation of posts 2 km.	107	46			0.04725	2.17	Cum	108.6	236.04
4	Transpotation of posts to pit up to one km.	107	46				2.17	No	98.8	214.74
5	fixing of Rcc post in 45 cm. deep pit	2B	46	0.45	0.45	0.45	4.19	Cum	92	385.64
6	Cost of binding wire	mo.est.					5.1	Kg	47.41	241.79
7	Tidening of barberded wire	5.5/forest					1440	mtr	0.95	1368.00
								Total		**33139.41**
								Add 3% contengency		994.18
								G Total		**34133.59**
								Say		**34134.00**

Fencing will be done by Project

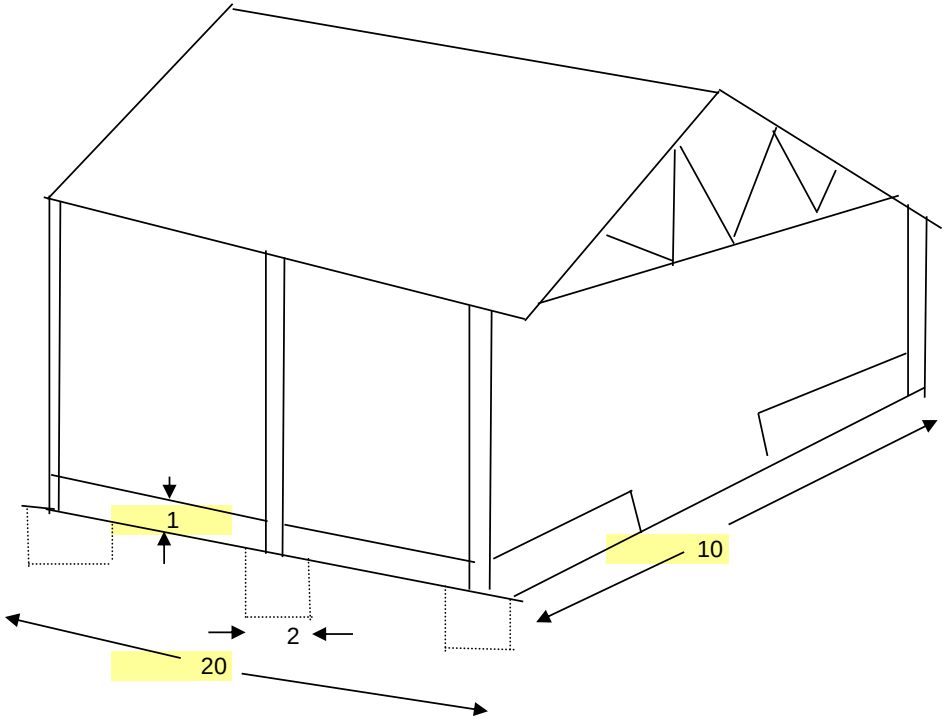
MODEL ESTIMATE OF AGRO FORESTY

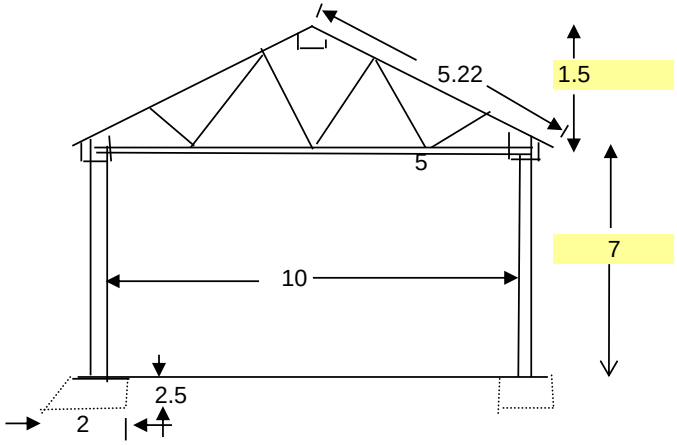
S.N	Details of work	Qty	Rate	Unit	Amount
1	CVH	112	47.59	PER MET.	5330.08
2	Excavation of earth work in hard soil for digging of pits, 0.45 x0.45 x0.45 = 0.0911X22 = 2 cum	2.00	92.00	cum	184.00
3	Treatment of pits				
A	Through chemicals	22.00	0.60	Per plant	13.20
B	Through mannure	22.00	0.30	Per plant	6.60
4	Planting of plant with rehandling upto 100m,refilling of soil & compaction etc	22.00	6.50	Per plant	143.00
5	Cost of Plant including transportation	22.00	6.00	Per plant	132.00
6	Cost of Mannure including transportation	22.00	6.00	Per Kg	132.00
	Total				5940.88
	Contengency 3%				178.23
	Grand total				**6119.11**
				Per Hac	**6120.00**
				20% GAPFILLING	1224
				Rs.	**7344.00**

Abstruct of cost Warmi compost unit

IWMP Jodhpur 55

Sr. no	Name of work	Project cost				Measures
		Unit cost	Project	Contribution	Total	
1	Warmi Compost Unit		60%	40%		
		36062.34	21637.4	14424.9358	36062.34	Production
	Say	**0.36**	**0.22**	**0.14**	**0.36**	Lacs





Model Estimate

IWMP Jodhpur 55 *Warmi Composte*

So.No	Name of work	Item no.	No	Length	width	Hight	Qty	Unit	Rate	Amount
1	Excavation	2B	6	2	2	2.5	60			
	Hard soil						1.70	Cum	92	156.46
2	C/C (1:5:10)	11B/B	6	2	2	1	24			
							0.68	Cum	1657	1127.21
3	Stone mesonary	24A/A	6	2	2	1.5	36			
		25	2	16.25	1	1	32.5			
	(1:6)		2	10	1	1	20			
							88.5	cuf		
							2.51	Cum	1988	4986.90
			6	1.25	1.25	7	65.625			
							1.86	Cum	2160	4017.86
4	Pillor mesonary	27					1.86	Cum	589	1095.61
5	Plaster	67A	6	5		7	210			
	(1:6)		2	16.25		3	97.5			
	25 mm		2	10		3	60			
							367.5	Sqf		
							34.15	Sqm	163	5567.15
6	Chenal				Length	Kg/feet	Kg			
	3" * 1.5"		3	20	60	1.25	75	Kg	51.9	3892.50
	Angle(1.5"*1.5")		6	5.22	31.32	0.9	28.19	Kg	51.9	1463.00
			3	10	30	0.9	27.00	Kg	51.9	1401.30
	Angle (1"*1")		3	8	24	0.35	8.40	Kg	51.9	435.96
7	PVC Nalidar Sheet		14	6	3		252			
							23.42	Sqm	400	9368.03
8	color and finising									500.00
9	Warmi						2	Kg	500	1000.00
									Total	35011.98
									Add 3% Contingency	1050.36
									Say	**36062.34**

Crop Demostration in Watershed Area

Crop Name :- Wheat

Veraity:- Raj-3077 / Raj-4037 / H.I.-153

S. No.	Activity	Type	Unit	Rate	Per Hactor		Demostration (0.%Ha.)		Sp. Detail
					Quantity	Amount	Quantity	Amount	
1	Land Treatmeent	Andosalphan 4	k.g	28/-kg.	25	700	12.5	350.0	
2	Seed		k.g	17.50/-kg.	125	2188	62.5	1093.8	
3	Seed Treatment								
(I)	Deemak Control	Clorofiorofas 20 E.C.	M.L.	300LIT.	600	180	300.0	90.0	
(II)	Diecies due to seed	Thairan	gm.	0.20/-gm.	312.5	62.5	156.3	31.3	
(B.)	Calture								
(I)	Ajotovector	Three packet is sufficient		10/Each		30		15.0	
(II)	P.S.B.	Three packet is sufficient		10/Each		30		15.0	
3	Fertilizer								
(I)	Nitrojan		k.g		80		40.0		
(II)	Phosphoras		k.g		35		17.5		
(III)	D.A.P.		k.g	9.30/kg.	77	716	38.5	358.1	
(IV)	Urea		k.g	5/kg.	146	730	72.8	365.0	
4	Small element	Zink Sulphate	k.g	45/kg.	25	1125	12.5	562.5	
5	Weed control								
(I)		2-4, D (A.I.)	M.L.	250/LIT.	500	125	250.0	62.5	
6	Plant conservation								
(I)	Deemak	Andosalfan 35EC	LIT.	280/LIT.	2.5	700	1.3	350.0	
					TOTAL	**6586**		**3293.0**	

Crop Demostration in Watershed Area

Crop Name :- Channa

Veraity:-Pratap Vhanna RSG -888

S. No.	Activity	Type	Unit	Rate	Per Hactor		Demostration (0.%Ha.)		Sp. Detail
					Quantity	Amount	Quantity	Amount	
1	Land Treatmeent	Qnalphas 1.5%	k.g	25/-kg	25	625	12.5	312.5	
2	Seed		k.g	31/kg.	80	2480	40.0	1240.0	
3	Seed Treatment								
(I)	Jadgalan rog	6 gm Tikodarma				10		5.0	
(B.)	Calture								
(I)	Raijobium Calture	Three packet is sufficient		10/Each		30		15.0	
(II)	PSM.	Three packet is sufficient		10/Each		30		15.0	
3	Fertilizer								
(I)	Nitrojan		k.g		20		10.0		
(II)	Phosphoras		k.g		40		20.0		
(III)	D.A.P.			9.30/kg.	88	818	44.0	409.2	
(IV)	Urea			5/kg.	186	930	92.8	465.0	
4	Crop Conservation								
(I)	Katvarm	Mithail Perathiya 2% mixture	k.g	16/-kg.	25	400	12.5	200.0	
(II)	Phali chedak	Melathiyan 5 % or Qnalfas 1.5%	k.g	25/-kg.	25	625	12.5	312.5	
				TOTAL	**5948**			**2974.0**	

Crop Demostration in Watershed Area

Crop Name :- Mustered

Veraity :- Bio 902 / Vashundhara

S. No.	Activity	Type	Unit	Rate	Per Hactor		Demostration (0.%Ha.)		Sp. Detail
					Quantity	Amount	Quantity	Amount	
1	Land Treatmeent	Andosalphan 4	k.g	28/-kg.	25	700	12.5	350.0	
		Zipsum	k.g		250	500	125.0	250.0	
2	Seed		k.g	38/-kg.	4	152	2.0	76.0	
3	Seed Treatment								
(I)		Menkojev 2gm/kg seed		400/-kg.		10		5.0	
(B.)	Calture								
(I)	PSM.	Three packet is sufficient		10/Each		30		15.0	
(II)	PSM.	Three packet is sufficient		10/Each		30		15.0	
3	Fertilizer								
(I)	Nitrojan		k.g		60		30.0		
(II)	Phosphoras		k.g		30		15.0		
(III)	D.A.P.			9.30/kg.	66	613.8	33.0	306.9	
(IV)	Urea			5/kg.	121	605	60.7	302.5	
4	Small element	Sulphar powder	gm.	10	40	400	20.0	200.0	
					TOTAL	**3040.8**		**1520.0**	

Crop Demostration in Watershed Area

Crop Name :- Macca

Veraity :- Pratap sankar macca 1/ Navjot

S. No.	Activity	Type	Unit	Rate	Per Hactor		Demostration (0.%Ha.)		Sp. Detail
					Quantity	Amount	Quantity	Amount	
1	Land Treatmeent	Andosalphan 4% Powder	k.g	28/-kg.	25	700	12.5	350.0	
2	Seed		k.g	27/-kg.	20	540	10.0	270.0	
3	Seed Treatment								
(I)	Tulasita Rog	Ridomil M Z 4gm/kg seed	gm.		80	120	40.0	60.0	
(II)	Deemak control	3 ml Andosalphan / kg seed		28/-kg.		25		12.5	
(III)		Thairam	gm.	20/-	3	60	1.5	30.0	
(B.)	Calture								
(I)		Treated with azotovector calture				100		50.0	
(II)	Phosphoras	Threepacket phashphovactin PSD		10/Each		30		15.0	
(III)	PSM.	Threepacket phashphovactin PSD		10/Each		30		15.0	
3	Fertilizer								
(I)	Nitrojan		k.g		60		30.0		
(II)	Phosphoras		k.g		30		15.0		
(III)	D.A.P.			9.30/kg.	66	614	33.0	306.9	
(IV)	Urea			5/kg.	121	605	60.7	302.5	
4	Small element	Difficiency of Zink	k.g	45/-kg.	25	1125	12.5	562.5	
5	Weed control	Phlookalorin (A.I.)	LIT.	180/-PKT.	600	108	300.0	54.0	
					TOTAL	**4057**		**2028.0**	

Crop Demostration in Watershed Area

Crop Name :- Urad

Veraity :- Krishana / T-9

S. No.	Activity	Type	Unit	Rate	Per Hactor		Demostration (0.%Ha.)		Sp. Detail
					Quantity	Amount	Quantity	Amount	
1	Land Treatment	Mithail Perathiyan 2% powder	k.g	16/-kg.	25	400	12.5	200.0	
2			k.g	47/-kg.	15	705	7.5	352.5	
3	Seed Treatment								
(I)			gm.	20	3	60	1.5	30.0	
(B.)	Calture								
(I)	Phasphoras	Threepacket phashphovactin PSD		10/Each		30		15.0	
(II)	PSM.	Threepacket phashphovactin PSD		10/Each		30		15.0	
3	Fertilizer								
(I)	Nitrojan		k.g		10		5.0		
(II)	Phosphoras		k.g		30		15.0		
(III)	D.A.P.			9.30/kg.	66	614	33.0	307.0	
(IV)	Urea			5/kg.	141.2	705	70.6	352.5	
4	Weed control	Phlookalorin (A.I.)	LIT.	500/-LIT.	1	500	0.5	250.0	
					TOTAL	**3044**		**1522.0**	

Crop Demostration in Watershed Area

Crop Name :- Moong

Veraity :- Pusha Beshakhi / Rmg -902

S. No.	Activity	Type	Unit	Rate	Per Hactor		Demostration (0.%Ha.)		Sp. Detail
					Quantity	Amount	Quantity	Amount	
1	Land Treatment	Mithail Perathiyan 2% powder	k.g	16/-kg.	25	400	12.5	200.0	
2	Seed		k.g	41/-kg.	15	615	7.5	307.5	
(A.)	Calture								
(I)	PSM.	Three packet is sufficient		10/Each		30		15.0	
(II)	Raizibium	Three packet is sufficient		10/Each		30		15.0	
3	Fertilizer								
(I)	Nitrojan		kg.		10		5.0		
(II)	Phosphoras		kg.		30		15.0		
(III)	D.A.P.			9.30/kg.	66	614	33.0	307.0	
(IV)	Urea			5/kg.	141	705	70.6	352.5	
					TOTAL	**2394**		**1197.0**	

Crop Demostration in Watershed Area

Crop Name :- Til

Veraity :- R T -46 / TC -25

S. No.	Activity	Type	Unit	Rate	Per Hactor		Demostration (0.%Ha.)		Sp. Detail
					Quantity	Amount	Quantity	Amount	
1	Land Treatment	Mithail Perathiyan 2% powder	k.g	16/-kg.	25	400	12.5	200.0	
		Zipsum	k.g		250	500	125.0	250.0	
2	Seed		k.g	127/-kg.	2	254	1.0	127.0	
3	SSSeed Treatment								
(I)		Thairam	gm.	20	3	60	1.5	30.0	
(II)	Jeevanu Angbhari Rog	Esdeptocycline 10 lit Water	gm.	35/-isdSV	2	70	1.0	35.0	
(B.)	Calture								
(I)	Ajotovector	Three packet is sufficient		10/Each		30		15.0	
(II)	PSM.	Three packet is sufficient		10/Each		30		15.0	
3	Fertilizer								
(I)	Nitrojan		k.g		20		10.0		
(II)	Phosphoras		k.g		25		12.5		
(III)	D.A.P.			9.30/kg.	55	512	27.5	256.0	
(IV)	Urea			5/kg.	113.1	565	56.5	282.5	
4	Weed control	Alakalor (A.I.)	k.g		1.5	100	0.8	50.0	

Crop Demostration in Watershed Area

Crop Name :- Gwar

Veraity :- Durgapura Saphed / Pusha Navbahar

S. No.	Activity	Type	Unit	Rate	Per Hactor		Demostration (0.%Ha.)		Sp. Detail
					Quantity	Amount	Quantity	Amount	
1	Land Treatment								
2	Seed		k.g	35/-kg.	15	525	7.5	262.5	
3	Seed Treatment								
(I)	Angmaro Rog	250 ppm Agrimicin		60		563		281.5	
(II)	Thairam		gm.	20	3	60	1.5	30.0	
(B.)	Calture								
(I)	Raizobium Calture	Three packet is sufficient		10/Each		30		15.0	
(II)	PSM.	Three packet is sufficient		10/Each		30		15.0	
3	Fertilizer								
(I)	Nitrojan		k.g		10		5.0		
(II)	Phosphoras		k.g		40		20.0		
(III)	D.A.P.			9.30/kg.	88	818	44.0	409.0	
(IV)	Urea			5/kg.	189.6	950	94.8	475.0	
4	Small element	Zink Sulphate	k.g	45/-kg.	25	1125	12.5	562.5	
5	Weed Control	2-4 D Aster salt	gm.	250/-kg.	500	125	250.0	62.5	
					TOTAL	**4226**		**2113.0**	

Crop Demostration in Watershed Area

Crop Name :- Jwar

Veraity :- Rajasthan Charri - 1,2 / CSH - 5,6

S. No.	Activity	Type	Unit	Rate	Per Hactor		Demostration (0.%Ha.)		Sp. Detail
					Quantity	Amount	Quantity	Amount	
1	Land Treatmeent	Andosalphan 4% Powder	k.g	28/-kg.	25	700	12.5	350.0	
2	Seed	For seed	k.g	26/-kg.	10	260	5.0	130.0	
		For Chara	k.g		25		12.5		
3	Seed Treatment								
(I)		Thairam	gm.	20	3	60	1.5	30.0	
(II)		Sulphar Powder	gm.		4	400	2.0	200.0	
(B.)	Calture								
(I)	Azotovector	Three packet is sufficient		10/Each		30		15.0	
(II)	PSM.	Three packet is sufficient		10/Each		30		15.0	
3	Fertilizer								
(I)	Nitrojan		k.g		80		40.0		
(II)	Phosphoras		k.g		45		22.5		
(III)	D.A.P.			9.30/kg.	99	920.7	49.5	460.4	
(IV)	Urea			5/kg.	186.1	930	93.1	465.0	
4	Small element	Zink Sulphate powder	k.g	45/-kg.	25	1125	12.5	562.5	
					TOTAL	**4455.7**		**2228.0**	

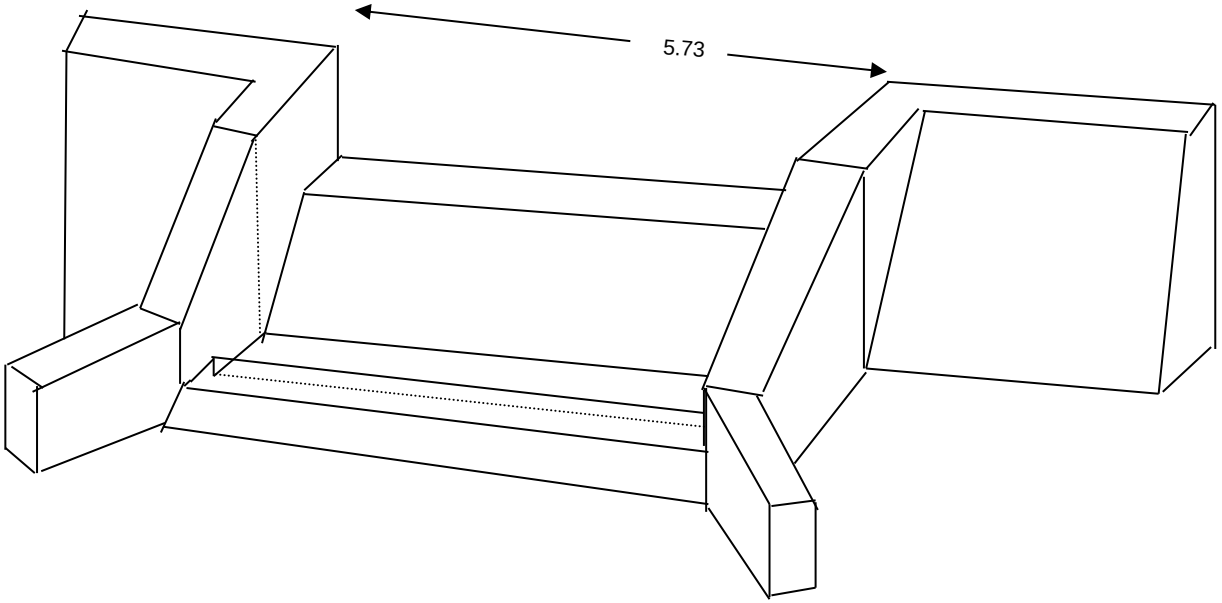
Crop Demostration in Watershed Area

S. No.	Activity	Type	Unit	Rate
1	2	3	4	5
1	Demostration of Wheat	Rabi Demostration	One	3293.00
2	Demostration of Channa	Rabi Demostration	One	2974.00
3	Demostration of Mustered	Rabi Demostration	One	1520.00
4	Demostration of Macca	Rabi Demostration	One	2028.00
			Avearge cost of one Demostration	**2454.00**
1	Demostration of Urad	Kharif Demostration	One	1522.00
2	Demostration of Moong	Kharif Demostration	One	1197.00
3	Demostration of Til	Kharif Demostration	One	1261.00
4	Demostration of Gwar	Kharif Demostration	One	2113.00
5	Demostration of Jwar	Kharif Demostration	One	2228.00
			Avearge cost of one Demostration	**1664.00**

Name of Watershed	IWMP Jodhpur 55	Masona Str	0.73		
Name of work	**Khadeen work 1 ha**	Bund Work	1.06		
Area	6.25		**1.79 lacs**		
Slope	up to 1% to 3%	Length of HW		5.73	Meter
maximum hight	0.8			18.79	Feet
maximum lenth of treval	100				
Df Fetch Length	40 m				
Deptyh of Foundation	1.25 m				
Height of Head Wall	0.6 m				
Length of Left Bund	200 m				
Length ofRightt Bund	100 m				
Lowest Height of Bund	0.5 m				

IWMP Jodhpur 55

Name of work :- Khadeen work 1 ha



Area	6.25
Slope	up to 1% to 3%
maximum hight	0.8
maximum lenth of treval	100

Cost of MMS	73467.91
Cost of earthen bund	106015.43
Total	**179483.34**
Say	**1.79 lacs**

Minor mesonary Structure *IWMP Jodhpur 55*

A	C	*L*	*H*	h	I	Df
6.25	0.3	100	0.8	0.4	48	40

Name of work :- Khadeen work 1 ha

Structural Design

Hydrologic Design

Q=0.0276 CIA

Q= Peak rate run off in Cum/Sec.

C= Weighted cofficient of run off

I= Intencity of rain fall in Cm./hr. for equal to time of constration at a given Frequency

A= Catchment area in Hectares

Q	=	2.48	Cu.m./sec

$TC=0.0195\ K^{0.77}$ TC=Time of constration in minute

TC=Time of constration in minute

$K= L^{3/2}/H^{½}$

L= Max. length of travel in Mtr.

H=Diffrence elevation in Mtr.

1.79 lacs

TC	=	4.34	Minuite

Hydraulic Design

$Q = 1.71\ L\ h^{1.5}$

h=head over the crest in mtr

L=length of the crest wall in mtr

F=free board in mtr

L	=	5.73	Meter
	=	18.79	Feet
F	=	0.1	Meter
Say F	=	0.1	Meter

$h_w = 0.014\ D_f^{0.5}$

D_f=fatch length in mtr

hw=wave length in mtr

H_w	=	0.09	Meter
d	=	0.5	Merer

H	h	d	p
0.60	0.40	0.50	2.30

1	Top width of head wall a		$a=h/(p-1)^{0.5}$	=	0.35
			Say	=	0.40
2	Bottom width of head wall b		$b=h+H/(p-1)^{0.5}$	=	0.93
			Say	=	0.93
3	Length of head wall ext l	=	l=H+d+1	=	2.10
4	Hight of head wall ext		H+d	=	1.10
5	Bottom width of head wall ext	=	0.5(H+h)	=	0.50
			Say	=	0.50
6	Top width of head wall ext	=	0.4*H	=	0.24
7	Length of basin LB	=	0.75(H+d)+H	=	1.43
8	Thickness of basin	=	t	=	0.50
9	Hight of the side wall at head wall joint	=	H+d	=	1.10
10	Hight of the side wall at toe wall joint	=	1.5*h	=	0.60
11	Length of wing wall	=	2.25*h	=	0.90
12	Height of wing wall	=	1.5*h	=	0.60

13	Top width of toe wall	=	0.45
14	Height of toe wall	=	0.3
15	Thickness of side wall	=	0.6

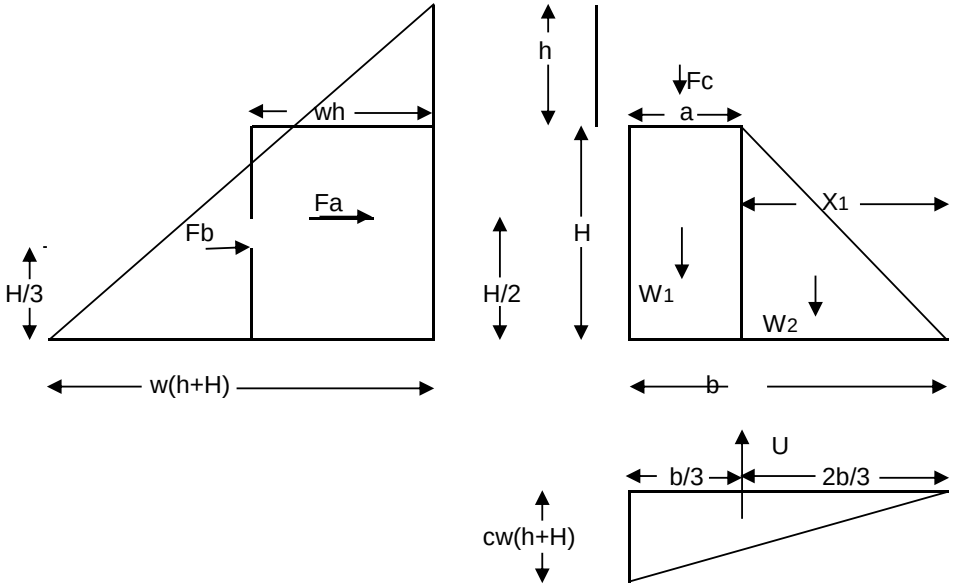
IWMP Jodhpur 55

Name of work :- Khadeen work 1 ha

a = Top width of head wall in m.
b = Bottom width of head wall in m.
Fa = Water force in Kg
Fb = Water force in Kg
Fc = Water force in Kg
U = uplift force in Kg
ρ = Specific gravity of dam material kg/cum(2300kg/cum)
w = Unit weight of water in kg/cum(1000 kg/cum)
H = Height of head wall
h = head over the crest
C = Coefficient in uplift (0.5)
μ = Coefficient of friction (0.65 to 0.75)

a	b	H	h	ρ	C	w
0.40	0.93	0.6	0.4	2300	0.5	1000

W1	=	a Hρ	=	552
W2	=	½(b-a)H	b	365.7
U	=	½Cw(H+	w	232.5
Fa	=	whH	w	240
Fb	=	$wH^2 / 2$	w	180
Fc	=	wah	w	160



IWMP Jodhpur 55

Name of work :- Khadeen work 1 ha

W1	x1	Fc	Fa	Fb	U	a	b	W_2	H	Frictional Coff
552	0.73	160	240	180	232.5	0.40	0.93	365.7	0.6	0.8

Safety against overturning

RM = $W_1x_1+Fcx_1+W_2.2(b-a)/3$ = 648.97

OM = $F_axH/2+F_bxH/3+Ux2b/3$ = 252.15

RM/OM = 2.57 >1.5 **Hance safe**

Safety against sliding

Tv **=** W1 + W2 + Fc - U = 845.2

Th = Fa + Fb = 420

C.F*Tv/Th = 1.61 >1.3 **Hence safe**

Safety against tension at base

X = (RM-OM)/Tv = 0.470

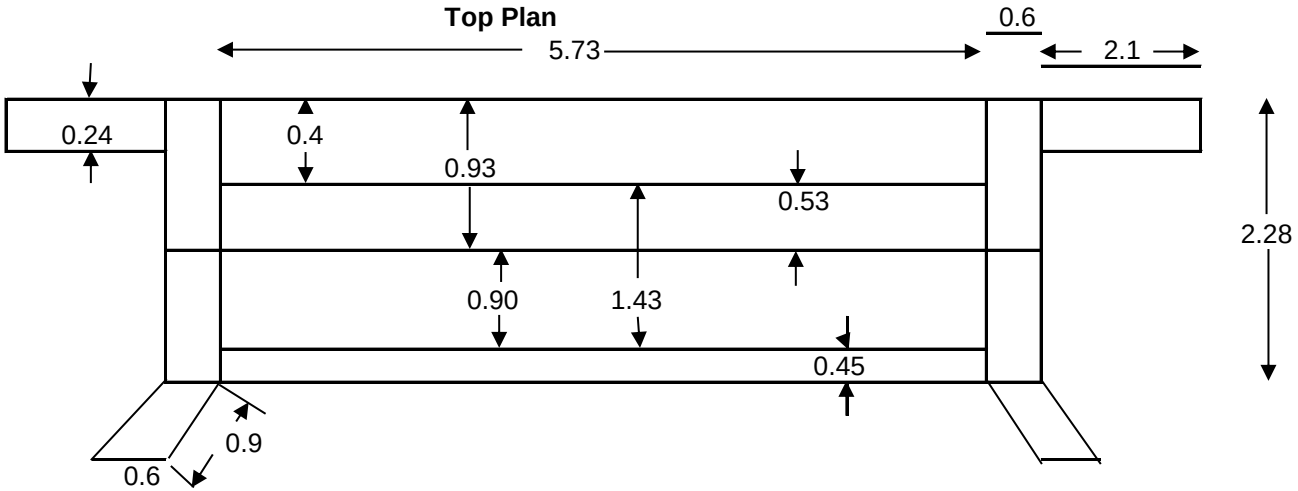
e = b/2-X = 0.000

b/6 = 0.155

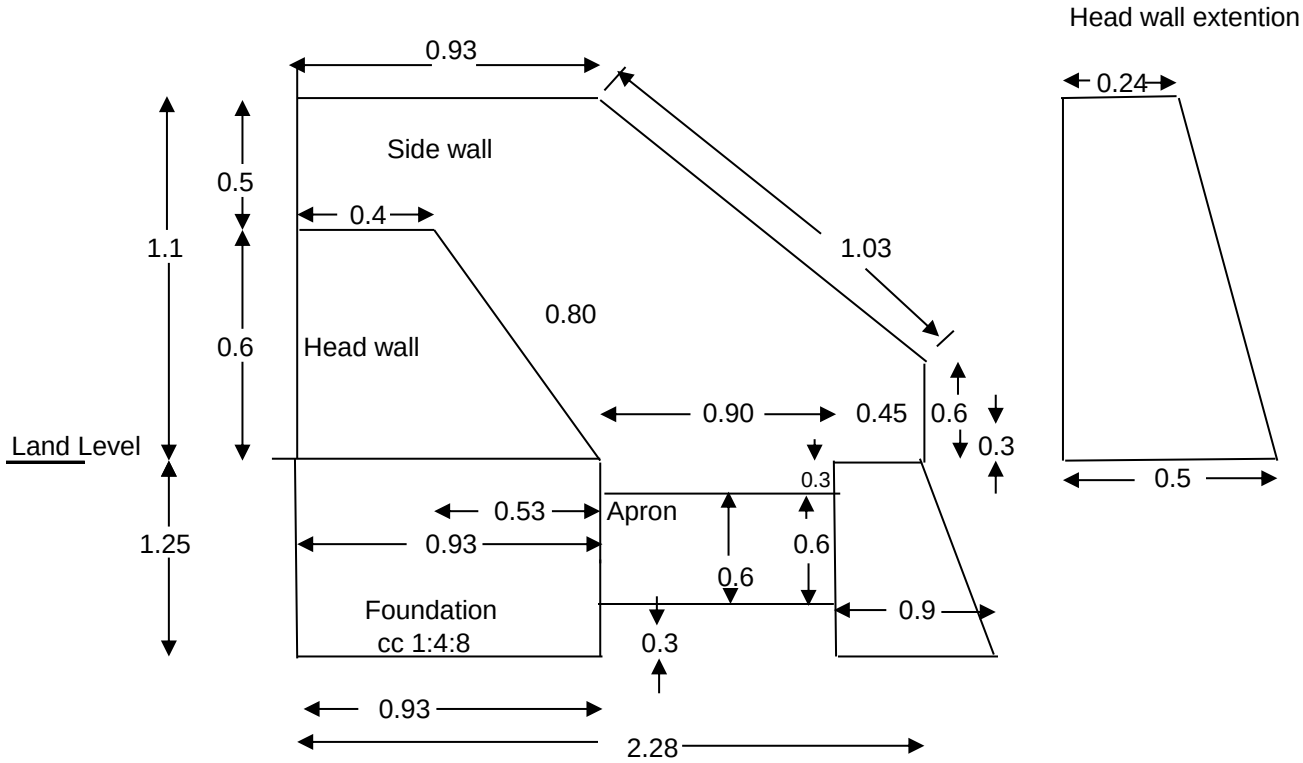
b/6>e **Hance safe**

Name of work :- Khadeen work 1 ha

Top Plan



Elivation



Head wall extention

Estimate

Name of work :- Khadeen work 1 ha

Sr. no.	Name of work	Item no.	No	Length	Width	Hight	Qty	rate	amount
1	Earth work Excavation in hard soil up to 1.5 mt Hight and deposited excavated meterial lead op to 150	2B							
	Head wall		1	5.73	0.93	1.25	6.66		
	Head wall extention		2	2.1	0.5	1.25	2.63		
	side wall		2	2.28	0.6	1.25	3.42		
	Appron		1	5.73	0.90	0.9	4.64		
	Toe wall		1	5.73	0.9	1.25	6.45		
	Wing Wall		1	0.9	0.6	0.6	0.32		
							24.12	100.00	2412
2	Cement concrete 1:4:8 (1cement:4 sand:8 concrete) 40/25 mm concrete Using mixture & vibrater	11.3 A							
	Head wall		1	5.73	0.93	0.3	1.60		
	Head wall extention		2	2.1	0.5	0.3	0.63		
	side wall		2	2.28	0.6	0.3	0.82		
	Appron		1	5.73	0.90	0.3	1.55		
	Toe wall		1	5.73	0.9	0.3	1.55		
	Wing Wall		1	0.90	0.6	0.3	0.16		
							6.31	1871.00	11806.01
3	RR stone mesonary in Cement sand mortar 1 : 6								
	Head wall	24A	1	5.73	0.93	0.95	5.06		
	Head wall extention		2	2.1	0.5	0.95	2.00		
	side wall		2	2.28	0.6	0.95	2.60		
	Appron		1	5.73	0.90	0.15	0.77		
	Toe wall		1	5.73	0.9	0.95	4.90		
	Wing Wall		1	0.90	0.6	0.3	0.16		
							15.49	2005.00	31057.45
4	RR stone mesonary in Cement sand mortar 1 : 6	24A&25							
	Head wall		1	5.73	0.665	0.6	2.29		
	Head wall extention		2	2.1	0.37	1.1	1.71		
	side wall		2	1.61	0.6	0.5	0.96		
	side wall		2	2.28	0.6	0.6	1.64		
	Appron		1	5.73	0.90		0.00		
	Toe wall		1	5.73	0.675	0	0.00		
	Wing Wall		1	0.90	0.6	0.6	0.32		
							6.92	2181.00	15092.52
								cf	60367.98

Sr. no.	Name of work	Item no.	No	Length	Width	Hight	Qty	rate	amount
5	50 mm Cement concrete 1:2:4 12 mm concrete complete	58 A					bf		60367.98
	Head wall		1	5.73	0.4		2.29		
	Head wall extention		2	2.10	0.24		1.01		
	side wall		2	0.93	0.6		1.12		
	side wall		2	1.03	0.6		1.24		
	Appron		1	5.73	0.90		5.16		
	Toe wall		1	5.73	0.45		2.58		
	Wing Wall		1	0.90	0.6		0.54		
							13.94	229.00	3192.26
6	Cement Plaster 1 : 6 (1 cement : 6 sand) 25 mm thick	68 A							
	Head wall		1	5.73	0.4		2.29		
	Head wall		1	5.73	0.6		3.44		
	Head wall extention		2	2.10	0.24		1.01		
	Head wall extention		2	2.10	1.1		4.62		
	side wall		2	0.93	0.6		1.12		
	side wall		2	1.03	0.6		1.24		
	side wall		2	2.28	0.6		2.74		
	side wall		2	1.61	0.5		1.61		
	side wall		2	0.60	1.1		1.32		
	Appron		1	5.73	0.90		5.16		
	Toe wall		1	5.73	1.05		6.02		
	Wing Wall		2	0.90	0.6		1.08		
	Wing Wall		2	0.90	0.6		1.08		
	Wing Wall		2	0.6	0.6		0.72		
							33.45	146.00	4883.7
7	Cement concrete 1:1.5:3 (1cement:1.5 sand:3 concrete) 25 mm concrete Using mixture & vibrater								
	Appron	37	1	5.73	0.9	0.15	0.77	3382.00	2604.14
8	Pointing 1:3 (1 Cement : 3 Sand)	70							
	Head wall		1	5.73	0.80		4.59	61.00	279.99
							Total		**71328.07**
							3% contingency		**2139.84**
							G Total		**73467.91**
								Say	**0.73 Lacs**

IWMP Jodhpur 55

Earthen bund

Name of work :- Khadeen work 1 ha

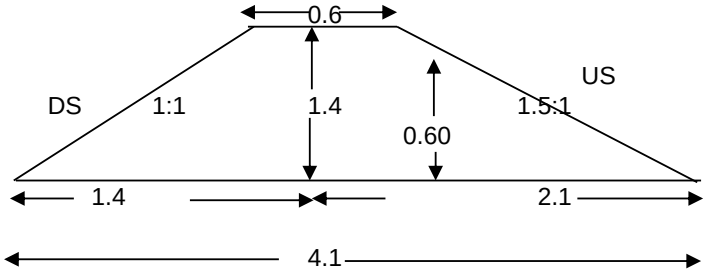
Length Left 200
Right 100

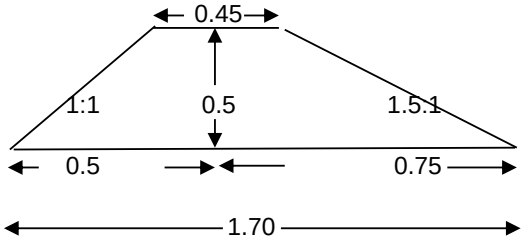
Maximum cross section

Minimum cross section

Top width = Based on seepage line check

Slope of seepage line 5:1





Cross Section = $\frac{(Tw+Bw)}{2}$ *Hight

Cross Section = 3.29 Sq m

Cross Section = 0.54 Sq m

Average Cross section = 1.92 Sq m

Sr.no.	Name of work	BSR Itam No	Length	Cross secction	Qty	Unit	Rate	Amount
1	Earth work Excavation in hard soil up to 1.5 mt Hight and deposited excavated meterial lead op to 50	119 B	200	1.92	384.00			
			100	1.92	192.00			
					576.00	Cum	92.0	52992.00
2	Ordinary jungle cutting	82	300	4.40	1320.00	Sqm	1.5	1980.00
2	supply of murram	97 C	300	0.77	231.00	Cum	45.0	10395.00
3	Transpotation of murram 5Km.	105			231.00	Cum	122.6	28320.60
4	Spreading of murram	5			231.00	Cum	40.0	9240.00
						Total		102927.60
						3% contingency		3087.83
						G Total		**106015.43**

आपुर्ति हेतु कार्यानुसार सामग्री विश्लेषण

Name of work :- Khadeen work 1 ha

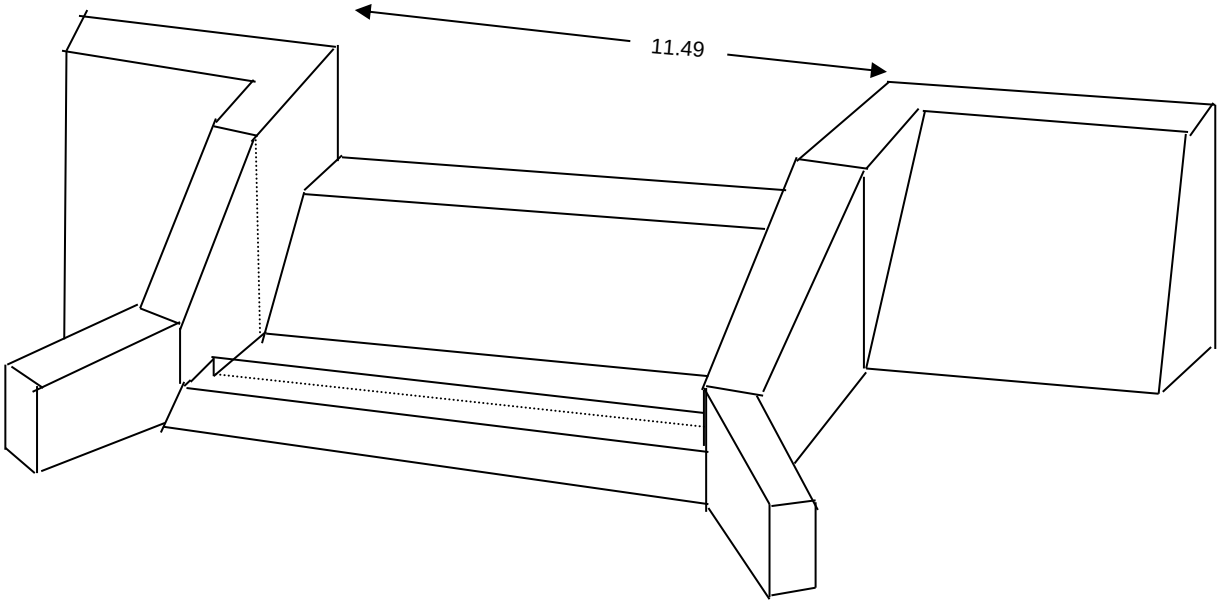
क्र.स.	विवरण	मात्रा	इकाई	सिमेन्ट थेले	बजरी घन मी.	रोडी घन मी. 40 मीमी	रोडी घन मी. 20 मीमी	पत्थर घन मी.	लिंटल धन. मी.	मुररम आपूर्ती
1	Cement Concrete (1:4:8)	6.31	घन मी.	20.19	2.84	5.68	-	-	-	-
2	Copping in C.C. (1:2:4)	13.94	वर्ग मी.	4.35	0.31	-	0.63	-	-	-
3	Massonary in Cement Mortar (1:6)	21.80	घन मी.	30.41	6.54	-	-	23.98	-	-
4	Plaster in Cement Mortar (1:4)	33.45	वर्ग मी.	5.13	1.10	-	-	-	-	-
5	Pointing in CM 1:3	4.59	वर्ग मी.	0.13	0.01	-	-	-		-
6	Cement Concrete (1:1.5:3)	0.77	घन मी.	5.88	0.30	-	0.60	-	0.77	-
7	Murrum Supply	231.00	घन मी.	-	-	-	-	-	-	231.00
		TOTAL		66.09	11.11	5.68	1.23	23.98	0.77	231.00
		Say Bags		66						

Name of Watershed	IWMP Jodhpur 55	Masona Str	1.34
Name of work	**Khadeen work 2 ha**	Bund Work	1.22
Area	12.5		**2.57 lacs**
Slope	up to 1% to 3%		
maximum hight	1		
maximum lenth of treval	100		
Df Fetch Length	60 m		
Deptyh of Foundation	1.25 m		
Height of Head Wall	0.7 m		
Length of Left Bund	200 m		
Length ofRightt Bund	100 m		
Lowest Height of Bund	0.5 m		

Length of HW	11.49	Meter
	37.69	Feet

IWMP Jodhpur 55

Name of work :- Khadeen work 2 ha



Area	12.5
Slope	up to 1% to 3%
maximum hight	1
maximum lenth of treval	100

Cost of MMS	134495.40
Cost of earthen bund	122204.25
Total	**256699.65**
Say	**2.57 lacs**

Minor mesonary Structure *IWMP Jodhpur 55*

A	C	*L*	*H*	h	I	Df
12.5	0.3	100	1	0.4	48	60

Name of work :- Khadeen work 2 ha

Structural Design

Hydrologic Design

Q=0.0276 CIA

Q= Peak rate run off in Cum/Sec.

C= Weighted cofficient of run off

I= Intencity of rain fall in Cm./hr. for equal to time of constration at a given Frequency

A= Catchment area in Hectares

Q	=	4.97	Cu.m./sec

$TC=0.0195\ K^{0.77}$ TC=Time of constration in minute

TC=Time of constration in minute

$K= L^{3/2}/H^{½}$

L= Max. length of travel in Mtr.

H=Diffrence elevation in Mtr.

2.57 lacs

TC	=	3.98	Minuite

Hydraulic Design

$Q = 1.71\ L\ h^{1.5}$

h=head over the crest in mtr

L	=	11.49	Meter
	=	37.69	Feet

L=length of the crest wall in mtr

$F = 1.5\ h_w$

F=free board in mtr

F	=	0.2	Meter
Say F	=	0.2	Meter

$h_w = 0.014\ D_f^{0.5}$

D_f=fatch length in mtr

hw=wave length in mtr

H_w	=	0.11	Meter
d	=	0.6	Merer

H	h	d	p
0.70	0.40	0.60	2.30

1	Top width of head wall a		$a=h/(p-1)^{0.5}$	=	0.35
			Say	=	0.40
2	Bottom width of head wall b		$b=h+H/(p-1)^{0.5}$	=	1.01
			Say	=	1.01
3	Length of head wall ext l	=	l=H+d+1	=	2.30
4	Hight of head wall ext		H+d	=	1.30
5	Bottom width of head wall ext	=	0.5(H+h)	=	0.55
			Say	=	0.55
6	Top width of head wall ext	=	0.4*H	=	0.28
7	Length of basin LB	=	0.75(H+d)+H	=	1.68
8	Thickness of basin	=	t	=	0.50
9	Hight of the side wall at head wall joint	=	H+d	=	1.30
10	Hight of the side wall at toe wall joint	=	1.5*h	=	0.60
11	Length of wing wall	=	2.25*h	=	0.90
12	Height of wing wall	=	1.5*h	=	0.60

13	Top width of toe wall	=	0.45
14	Height of toe wall	=	0.3
15	Thickness of side wall	=	0.6

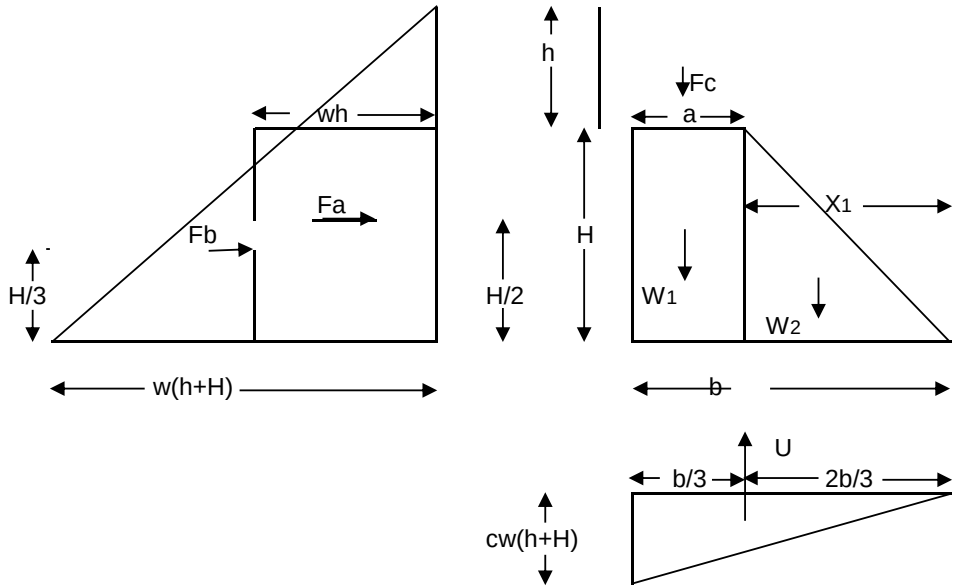
IWMP Jodhpur 55

Name of work :- Khadeen work 2 ha

a = Top width of head wall in m.
b = Bottom width of head wall in m.
Fa = Water force in Kg
Fb = Water force in Kg
Fc = Water force in Kg
U = uplift force in Kg
ρ = Specific gravity of dam material kg/cum(2300kg/cum)
w = Unit weight of water in kg/cum(1000 kg/cum)
H = Height of head wall
h = head over the crest
C = Coefficient in uplift (0.5)
μ = Coefficient of friction (0.65 to 0.75)

a	b	H	h	ρ	C	w
0.40	1.01	0.7	0.4	2300	0.5	1000

W1	=	a Hρ	=	644
W2	=	½(b-a)H	b	491.05
U	=	½Cw(H+	w	277.75
Fa	=	whH	w	280
Fb	=	$wH^2 / 2$	w	245
Fc	=	wah	w	160



IWMP Jodhpur 55

Name of work :- Khadeen work 2 ha

W1	x1	Fc	Fa	Fb	U	a	b	W_2	H	Frictional Coff
644	0.81	160	280	245	277.75	0.40	1.01	491.05	0.7	0.8

Safety against overturning

RM = $W_1x_1+Fcx_1+W_2.2(b-a)/3$ = 850.93

OM = $F_axH/2+F_bxH/3+Ux2b/3$ = 342.19

RM/OM = 2.49 >1.5 **Hance safe**

Safety against sliding

Tv **=** W1 + W2 + Fc - U = 1017.3

Th = Fa + Fb = 525

C.F*Tv/Th = 1.55 >1.3 **Hence safe**

Safety against tension at base

X = (RM-OM)/Tv = 0.500

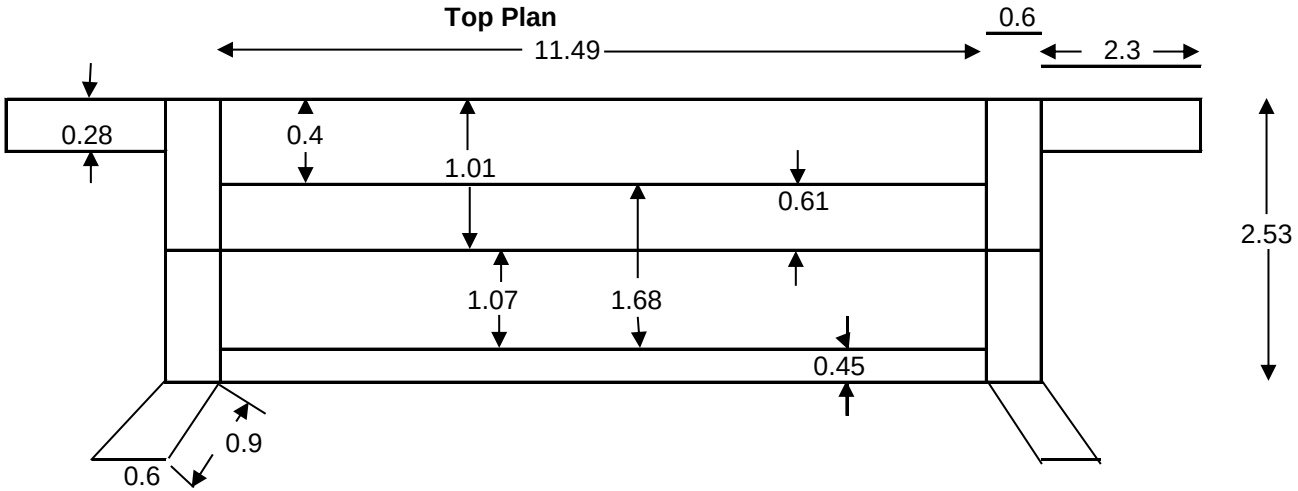
e = b/2-X = 0.010

b/6 = 0.168

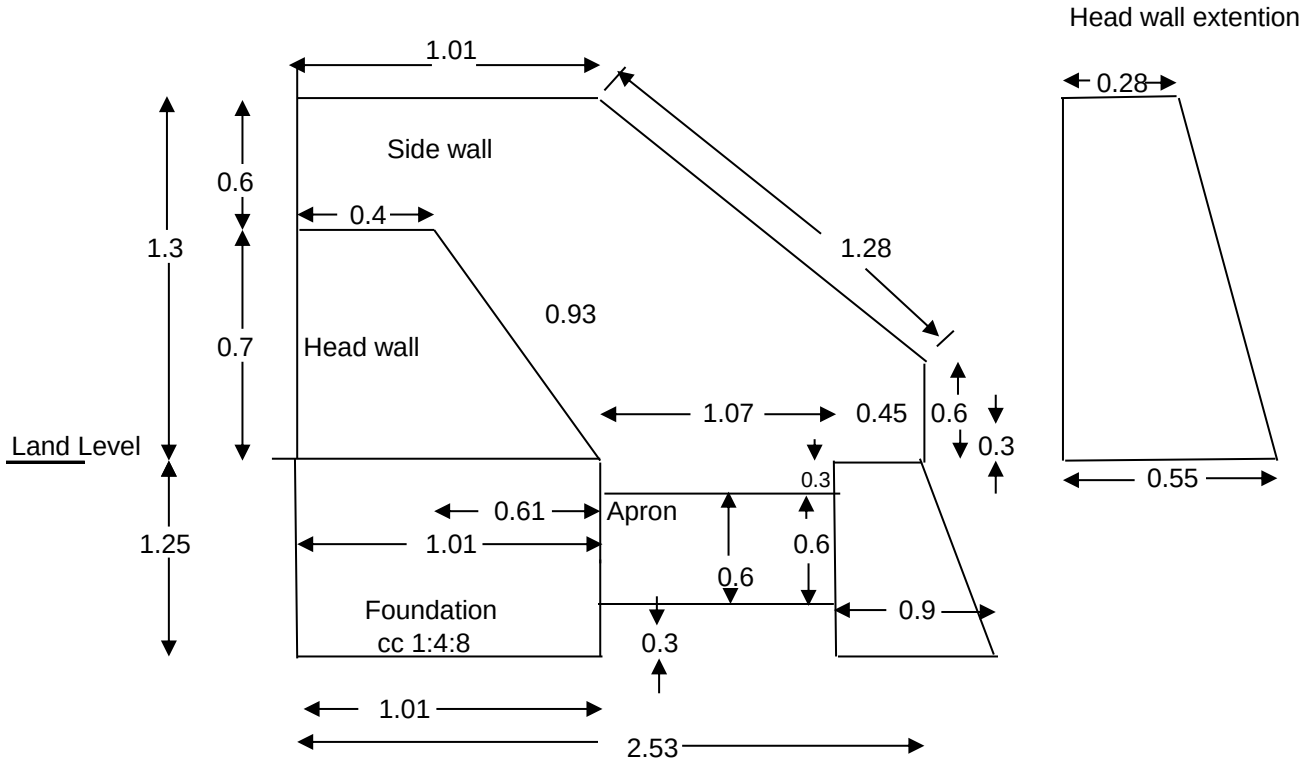
b/6>e **Hance safe**

Name of work :- Khadeen work 2 ha

Top Plan



Elivation



Head wall extention

Estimate

Name of work :- Khadeen work 2 ha

Sr. no.	Name of work	Item no.	No	Length	Width	Hight	Qty	rate	amount
1	Earth work Excavation in hard soil up to 1.5 mt Hight and deposited excavated meterial lead op to 150	2B							
	Head wall		1	11.49	1.01	1.25	14.51		
	Head wall extention		2	2.3	0.55	1.25	3.16		
	side wall		2	2.53	0.6	1.25	3.80		
	Appron		1	11.49	1.07	0.9	11.06		
	Toe wall		1	11.49	0.9	1.25	12.93		
	Wing Wall		1	0.9	0.6	0.6	0.32		
							45.78	100.00	4578
2	Cement concrete 1:4:8 (1cement:4 sand:8 concrete) 40/25 mm concrete Using mixture & vibrater	11.3 A							
	Head wall		1	11.49	1.01	0.3	3.48		
	Head wall extention		2	2.3	0.55	0.3	0.76		
	side wall		2	2.53	0.6	0.3	0.91		
	Appron		1	11.49	1.07	0.3	3.69		
	Toe wall		1	11.49	0.9	0.3	3.10		
	Wing Wall		1	0.90	0.6	0.3	0.16		
							12.10	1871.00	22639.1
3	RR stone mesonary in Cement sand mortar 1 : 6								
	Head wall	24A	1	11.49	1.01	0.95	11.02		
	Head wall extention		2	2.3	0.55	0.95	2.40		
	side wall		2	2.53	0.6	0.95	2.88		
	Appron		1	11.49	1.07	0.15	1.84		
	Toe wall		1	11.49	0.9	0.95	9.82		
	Wing Wall		1	0.90	0.6	0.3	0.16		
							28.12	2005.00	56380.6
4	RR stone mesonary in Cement sand mortar 1 : 6	24A&25							
	Head wall		1	11.49	0.705	0.7	5.67		
	Head wall extention		2	2.3	0.415	1.3	2.48		
	side wall		2	1.77	0.6	0.7	1.49		
	side wall		2	2.53	0.6	0.6	1.82		
	Appron		1	11.49	1.07		0.00		
	Toe wall		1	11.49	0.675	0	0.00		
	Wing Wall		1	0.90	0.6	0.6	0.32		
							11.78	2181.00	25692.18
								cf	109289.88

Sr. no.	Name of work	Item no.	No	Length	Width	Hight	Qty	rate	amount
5	50 mm Cement concrete 1:2:4 12 mm concrete complete	58 A					bf		109289.88
	Head wall		1	11.49	0.4		4.60		
	Head wall extention		2	2.30	0.28		1.29		
	side wall		2	1.01	0.6		1.21		
	side wall		2	1.28	0.6		1.53		
	Appron		1	11.49	1.07		12.29		
	Toe wall		1	11.49	0.45		5.17		
	Wing Wall		1	0.90	0.6		0.54		
							26.63	229.00	6098.27
6	Cement Plaster 1 : 6 (1 cement : 6 sand) 25 mm thick	68 A							
	Head wall		1	11.49	0.4		4.60		
	Head wall		1	11.49	0.7		8.04		
	Head wall extention		2	2.30	0.28		1.29		
	Head wall extention		2	2.30	1.3		5.98		
	side wall		2	1.01	0.6		1.21		
	side wall		2	1.28	0.6		1.53		
	side wall		2	2.53	0.6		3.04		
	side wall		2	1.77	0.7		2.48		
	side wall		2	0.60	1.3		1.56		
	Appron		1	11.49	1.07		12.29		
	Toe wall		1	11.49	1.05		12.06		
	Wing Wall		2	0.90	0.6		1.08		
	Wing Wall		2	0.90	0.6		1.08		
	Wing Wall		2	0.6	0.6		0.72		
							56.96	146.00	8316.16
7	Cement concrete 1:1.5:3 (1cement:1.5 sand:3 concrete) 25 mm concrete Using mixture & vibrater								
	Appron	37	1	11.49	1.07	0.15	1.84	3382.00	6222.88
8	Pointing 1:3 (1 Cement : 3 Sand)	70							
	Head wall		1	11.49	0.93		10.67	61.00	650.87
							Total		**130578.06**
							3% contingency		**3917.34**
							G Total		**134495.40**
								Say	**1.34 Lacs**

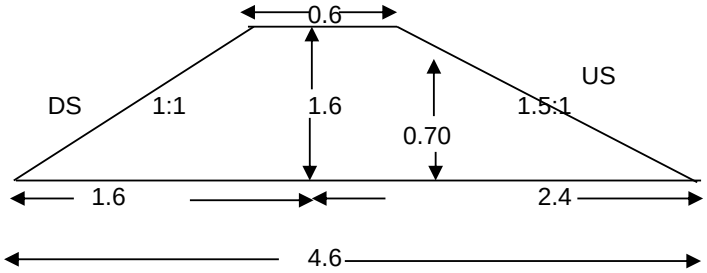
IWMP Jodhpur 55

Earthen bund

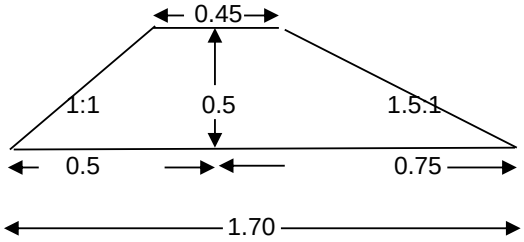
Name of work :- Khadeen work 2 ha

Length Left 200
Right 100

Maximum cross section



Minimum cross section



Top width = Based on seepage line check

Slope of seepage line 5:1

Cross Section = $\frac{(Tw+Bw)}{2}$ *Hight

Cross Section = 4.16 Sq m

Cross Section = 0.54 Sq m

Average Cross section = 2.35 Sq m

Sr.no.	Name of work	BSR Itam No	Length	Cross secction	Qty	Unit	Rate	Amount
1	Earth work Excavation in hard soil up to 1.5 mt Hight and deposited excavated meterial lead op to 50	119 B	200	2.35	470.00			
			100	2.35	235.00			
					705.00	Cum	92.0	64860.00
2	Ordinary jungle cutting	82	300	4.65	1395.00	Sqm	1.5	2092.50
2	supply of murram	97 C	300	0.83	249.00	Cum	45.0	11205.00
3	Transpotation of murram 5Km.	105			249.00	Cum	122.6	30527.40
4	Spreading of murram	5			249.00	Cum	40.0	9960.00
						Total		118644.90
						3% contingency		3559.35
						G Total		**122204.25**

आपुर्ति हेतु कार्यानुसार सामग्री विश्लेषण

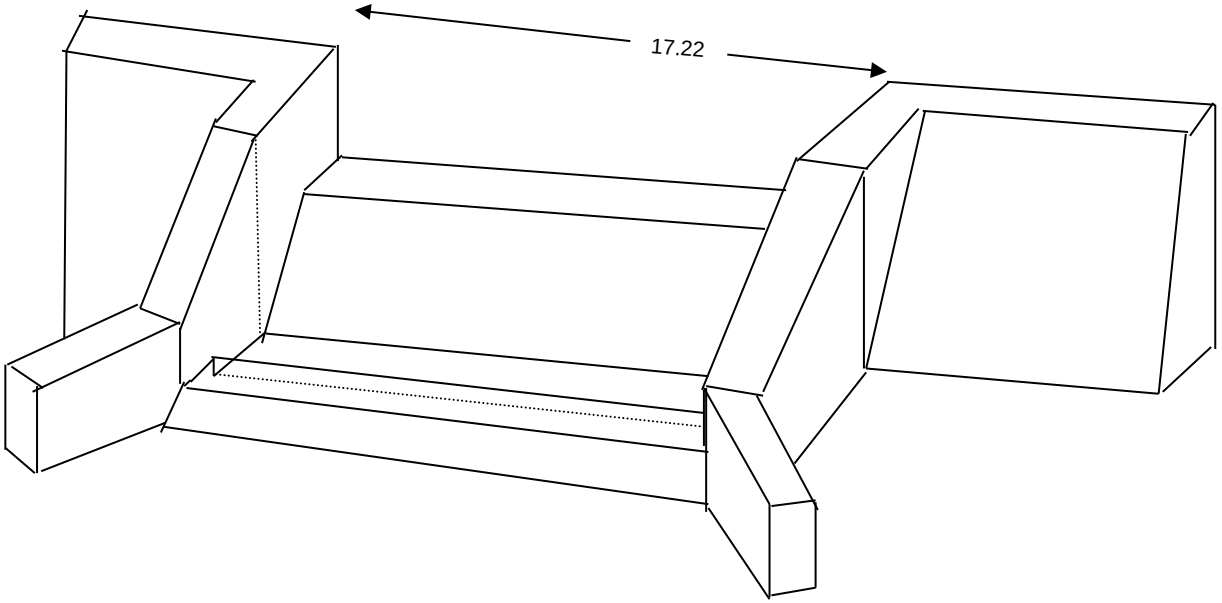
Name of work :- Khadeen work 2 ha

क्र.स.	विवरण	मात्रा	इकाई	सिमेन्ट थेले	बजरी घन मी.	रोडी घन मी. 40 मीमी	रोडी घन मी. 20 मीमी	पत्थर घन मी.	लिंटल धन. मी.	मुररम आपूर्ती
1	Cement Concrete (1:4:8)	12.10	घन मी.	38.72	5.45	10.89	-	-	-	-
2	Copping in C.C. (1:2:4)	26.63	वर्ग मी.	8.31	0.59	-	1.20	-	-	-
3	Massonary in Cement Mortar (1:6)	40.22	घन मी.	56.11	12.07	-	-	44.24	-	-
4	Plaster in Cement Mortar (1:4)	56.96	वर्ग मी.	8.74	1.88	-	-	-	-	-
5	Pointing in CM 1:3	10.67	वर्ग मी.	0.30	0.03	-	-	-		-
6	Cement Concrete (1:1.5:3)	1.84	घन मी.	14.04	0.72	-	1.44	-	1.84	-
7	Murrum Supply	249.00	घन मी.	-	-	-	-	-	-	249.00
		TOTAL		126.21	20.73	10.89	2.63	44.24	1.84	249.00
		Say Bags		126						

Name of Watershed	IWMP Jodhpur 55	Masona Str	2.01		
Name of work	**Khadeen work 3 ha**	Bund Work	1.76		
Area	18.75		**3.76 lacs**		
Slope	up to 1% to 3%	Length of HW		17.22	Meter
maximum hight	1.2			56.48	Feet
maximum lenth of treval	100				
Df Fetch Length	80 m				
Deptyh of Foundation	1.25 m				
Height of Head Wall	0.8 m				
Length of Left Bund	300 m				
Length ofRightt Bund	100 m				
Lowest Height of Bund	0.5 m				

IWMP Jodhpur 55

Name of work :- Khadeen work 3 ha



Area	18.75
Slope	up to 1% to 3%
maximum hight	1.2
maximum lenth of treval	100

Cost of MMS	200572.61
Cost of earthen bund	175537.54
Total	**376110.15**
Say	**3.76 lacs**

Minor mesonary Structure *IWMP Jodhpur 55*

A	C	*L*	*H*	h	I	Df
18.75	0.3	100	1.2	0.4	48	80

Name of work :- Khadeen work 3 ha

Structural Design

Hydrologic Design

Q=0.0276 CIA

Q= Peak rate run off in Cum/Sec.

C= Weighted cofficient of run off

I= Intencity of rain fall in Cm./hr. for equal to time of constration at a given Frequency

A= Catchment area in Hectares

Q	=	7.45	Cu.m./sec

$TC=0.0195\ K^{0.77}$ TC=Time of constration in minute

TC=Time of constration in minute

$K= L^{3/2}/H^{½}$

L= Max. length of travel in Mtr.

H=Diffrence elevation in Mtr.

3.76 lacs

TC	=	3.71	Minuite

Hydraulic Design

$Q = 1.71\ L\ h^{1.5}$

h=head over the crest in mtr

L=length of the crest wall in mtr

F=free board in mtr

L	=	17.22	Meter
	=	56.48	Feet
F	=	0.2	Meter
Say F	=	0.2	Meter

$h_w = 0.014\ D_f^{0.5}$

D_f=fatch length in mtr

hw=wave length in mtr

H_w	=	0.13	Meter
d	=	0.6	Merer

H	h	d	p
0.80	0.40	0.60	2.30

1	Top width of head wall a		$a=h/(p-1)^{0.5}$	=	0.35
			Say	=	0.40
2	Bottom width of head wall b		$b=h+H/(p-1)^{0.5}$	=	1.10
			Say	=	1.10
3	Length of head wall ext l	=	l=H+d+1	=	2.40
4	Hight of head wall ext		H+d	=	1.40
5	Bottom width of head wall ext	=	0.5(H+h)	=	0.60
			Say	=	0.60
6	Top width of head wall ext	=	0.4*H	=	0.32
7	Length of basin LB	=	0.75(H+d)+H	=	1.85
8	Thickness of basin	=	t	=	0.50
9	Hight of the side wall at head wall joint	=	H+d	=	1.40
10	Hight of the side wall at toe wall joint	=	1.5*h	=	0.60
11	Length of wing wall	=	2.25*h	=	0.90
12	Height of wing wall	=	1.5*h	=	0.60

13	Top width of toe wall	=	0.45
14	Height of toe wall	=	0.3
15	Thickness of side wall	=	0.6

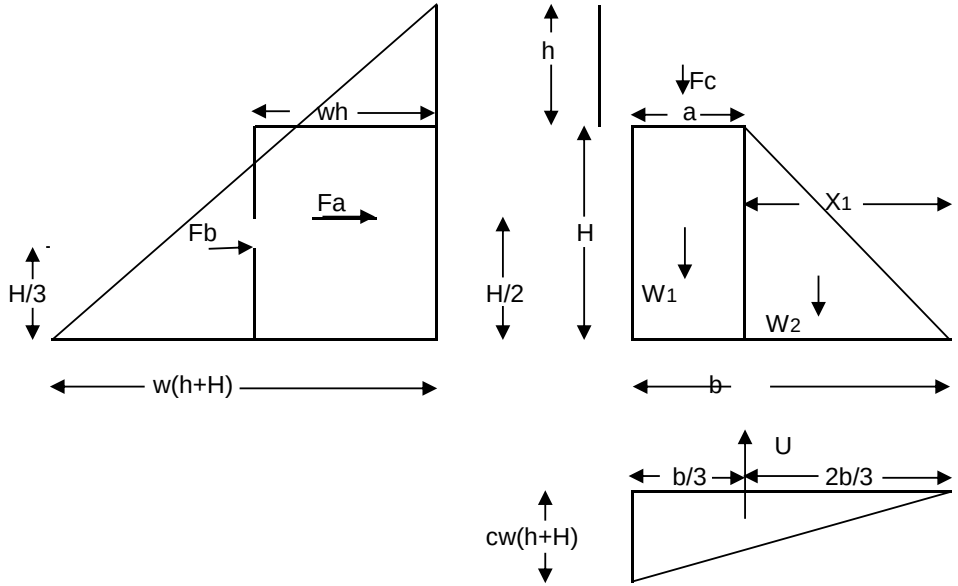
IWMP Jodhpur 55

Name of work :- Khadeen work 3 ha

a = Top width of head wall in m.
b = Bottom width of head wall in m.
Fa = Water force in Kg
Fb = Water force in Kg
Fc = Water force in Kg
U = uplift force in Kg
ρ = Specific gravity of dam material kg/cum(2300kg/cum)
w = Unit weight of water in kg/cum(1000 kg/cum)
H = Height of head wall
h = head over the crest
C = Coefficient in uplift (0.5)
μ = Coefficient of friction (0.65 to 0.75)

a	b	H	h	ρ	C	w
0.40	1.10	0.8	0.4	2300	0.5	1000

W1	=	a Hρ	=	736
W2	=	½(b-a)H	b	644
U	=	½Cw(H+	w	330
Fa	=	whH	w	320
Fb	=	$wH^2 / 2$	w	320
Fc	=	wah	w	160



IWMP Jodhpur 55

Name of work :- Khadeen work 3 ha

W1	x1	Fc	Fa	Fb	U	a	b	W2	H	Frictional Coff
736	0.9	160	320	320	330	0.40	1.10	644	0.8	0.8

Safety against overturning

RM = $W_1x_1+Fcx_1+W_2.2(b-a)/3$ = 1106.93

OM = $F_axH/2+F_bxH/3+Ux2b/3$ = 455.33

RM/OM = 2.43 >1.5 **Hance safe**

Safety against sliding

Tv **=** W1 + W2 + Fc - U = 1210

Th = Fa + Fb = 640

C.F*Tv/Th = 1.51 >1.3 **Hence safe**

Safety against tension at base

X = (RM-OM)/Tv = 0.540

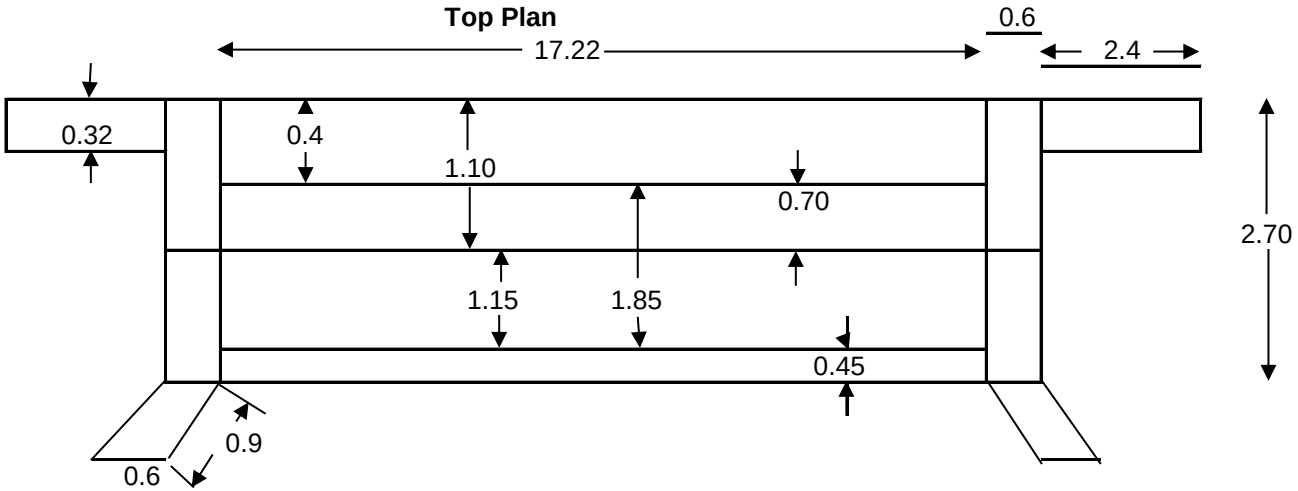
e = b/2-X = 0.010

b/6 = 0.183

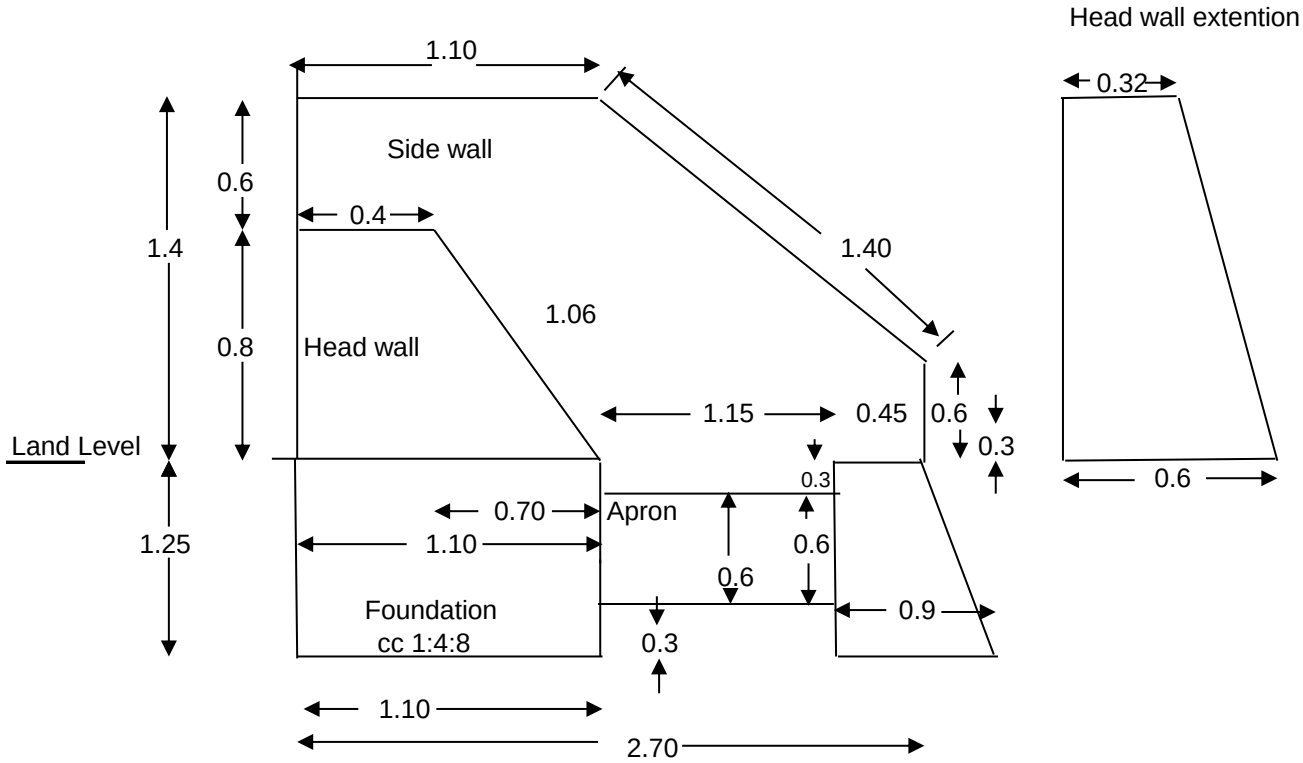
b/6>e **Hance safe**

Name of work :- Khadeen work 3 ha

Top Plan



Elivation



Head wall extention

Estimate

Name of work :- Khadeen work 3 ha

Sr. no.	Name of work	Item no.	No	Length	Width	Hight	Qty	rate	amount
1	Earth work Excavation in hard soil up to 1.5 mt Hight and deposited excavated meterial lead op to 150	2B							
	Head wall		1	17.22	1.10	1.25	23.68		
	Head wall extention		2	2.4	0.6	1.25	3.60		
	side wall		2	2.70	0.6	1.25	4.05		
	Appron		1	17.22	1.15	0.9	17.82		
	Toe wall		1	17.22	0.9	1.25	19.37		
	Wing Wall		1	0.9	0.6	0.6	0.32		
							68.84	100.00	6884
2	Cement concrete 1:4:8 (1cement:4 sand:8 concrete) 40/25 mm concrete Using mixture & vibrater	11.3 A							
	Head wall		1	17.22	1.10	0.3	5.68		
	Head wall extention		2	2.4	0.6	0.3	0.86		
	side wall		2	2.70	0.6	0.3	0.97		
	Appron		1	17.22	1.15	0.3	5.94		
	Toe wall		1	17.22	0.9	0.3	4.65		
	Wing Wall		1	0.90	0.6	0.3	0.16		
							18.26	1871.00	34164.46
3	RR stone mesonary in Cement sand mortar 1 : 6								
	Head wall	24A	1	17.22	1.10	0.95	17.99		
	Head wall extention		2	2.4	0.6	0.95	2.74		
	side wall		2	2.70	0.6	0.95	3.08		
	Appron		1	17.22	1.15	0.15	2.97		
	Toe wall		1	17.22	0.9	0.95	14.72		
	Wing Wall		1	0.90	0.6	0.3	0.16		
							41.66	2005.00	83528.3
4	RR stone mesonary in Cement sand mortar 1 : 6	24A&25							
	Head wall		1	17.22	0.75	0.8	10.33		
	Head wall extention		2	2.4	0.46	1.4	3.09		
	side wall		2	1.90	0.6	0.8	1.82		
	side wall		2	2.70	0.6	0.6	1.94		
	Appron		1	17.22	1.15		0.00		
	Toe wall		1	17.22	0.675	0	0.00		
	Wing Wall		1	0.90	0.6	0.6	0.32		
							17.50	2181.00	38167.5
								cf	162744.26

Sr. no.	Name of work	Item no.	No	Length	Width	Hight	Qty	rate	amount
5	50 mm Cement concrete 1:2:4 12 mm concrete complete	58 A					bf		162744.26
	Head wall		1	17.22	0.4		6.89		
	Head wall extention		2	2.40	0.32		1.54		
	side wall		2	1.10	0.6		1.32		
	side wall		2	1.40	0.6		1.68		
	Appron		1	17.22	1.15		19.80		
	Toe wall		1	17.22	0.45		7.75		
	Wing Wall		1	0.90	0.6		0.54		
							39.52	229.00	9050.08
6	Cement Plaster 1 : 6 (1 cement : 6 sand) 25 mm thick	68 A							
	Head wall		1	17.22	0.4		6.89		
	Head wall		1	17.22	0.8		13.78		
	Head wall extention		2	2.40	0.32		1.54		
	Head wall extention		2	2.40	1.4		6.72		
	side wall		2	1.10	0.6		1.32		
	side wall		2	1.40	0.6		1.68		
	side wall		2	2.70	0.6		3.24		
	side wall		2	1.90	0.8		3.04		
	side wall		2	0.60	1.4		1.68		
	Appron		1	17.22	1.15		19.80		
	Toe wall		1	17.22	1.05		18.08		
	Wing Wall		2	0.90	0.6		1.08		
	Wing Wall		2	0.90	0.6		1.08		
	Wing Wall		2	0.6	0.6		0.72		
							80.65	146.00	11774.9
7	Cement concrete 1:1.5:3 (1cement:1.5 sand:3 concrete) 25 mm concrete Using mixture & vibrater								
	Appron	37	1	17.22	1.15	0.15	2.97	3382.00	10044.54
8	Pointing 1:3 (1 Cement : 3 Sand)	70							
	Head wall		1	17.22	1.06		18.31	61.00	1116.91
							Total		**194730.69**
							3% contingency		**5841.92**
							G Total		**200572.61**
								Say	**2.01 Lacs**

IWMP Jodhpur 55

Earthen bund

Name of work :- Khadeen work 3 ha

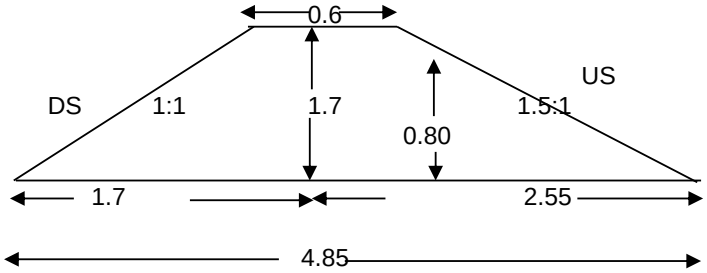
Length Left 300
Right 100

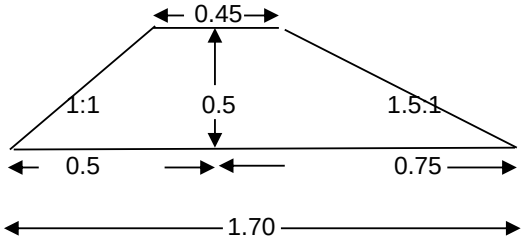
Maximum cross section

Minimum cross section

Top width = Based on seepage line check

Slope of seepage line 5:1





Cross Section = $\frac{(Tw+Bw)}{2}$ *Hight

Cross Section = 4.63 Sq m

Cross Section = 0.54 Sq m

Average Cross section = 2.59 Sq m

Sr.no.	Name of work	BSR Itam No	Length	Cross secction	Qty	Unit	Rate	Amount
1	Earth work Excavation in hard soil up to 1.5 mt Hight and deposited excavated meterial lead op to 50	119 B	300	2.59	777.00			
			100	2.59	259.00			
					1036.00	Cum	92.0	95312.00
2	Ordinary jungle cutting	82	400	4.78	1912.00	Sqm	1.5	2868.00
2	supply of murram	97 C	400	0.87	348.00	Cum	45.0	15660.00
3	Transpotation of murram 5Km.	105			348.00	Cum	122.6	42664.80
4	Spreading of murram	5			348.00	Cum	40.0	13920.00
						Total		170424.80
						3% contingency		5112.74
						G Total		**175537.54**

आपुर्ति हेतु कार्यानुसार सामग्री विश्लेषण

Name of work :- Khadeen work 3 ha

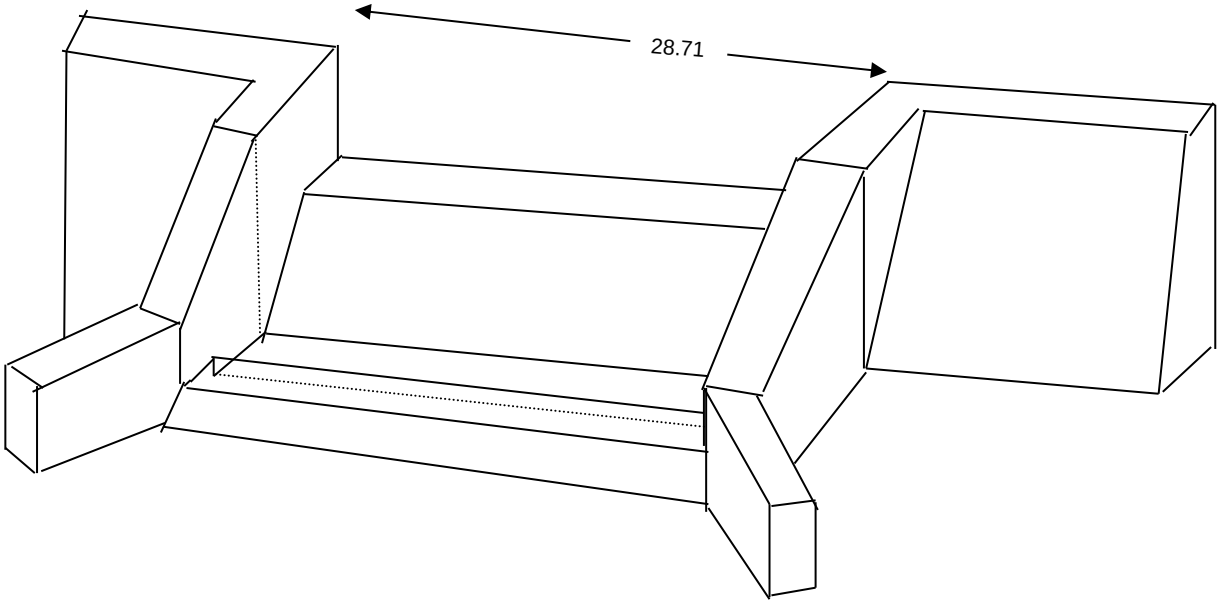
क्र.स.	विवरण	मात्रा	इकाई	सिमेन्ट थेले	बजरी घन मी.	रोडी घन मी. 40 मीमी	रोडी घन मी. 20 मीमी	पत्थर घन मी.	लिंटल धन. मी.	मुररम आपूर्ती
1	Cement Concrete (1:4:8)	18.26	घन मी.	58.43	8.22	16.43	-	-	-	-
2	Copping in C.C. (1:2:4)	39.52	वर्ग मी.	12.33	0.87	-	1.78	-	-	-
3	Massonary in Cement Mortar (1:6)	59.92	घन मी.	83.59	17.98	-	-	65.91	-	-
4	Plaster in Cement Mortar (1:4)	80.65	वर्ग मी.	12.37	2.66	-	-	-	-	-
5	Pointing in CM 1:3	18.31	वर्ग मी.	0.51	0.05	-	-	-		-
6	Cement Concrete (1:1.5:3)	2.97	घन मी.	22.66	1.17	-	2.32	-	2.97	-
7	Murrum Supply	348.00	घन मी.	-	-	-	-	-	-	348.00
		TOTAL		189.90	30.95	16.43	4.10	65.91	2.97	348.00
		Say Bags		190						

Name of Watershed	IWMP Jodhpur 55	Masona Str	3.59
Name of work	**Khadeen work 5 ha**	Bund Work	2.75
Area	31.25		**6.34 lacs**
Slope	up to 1% to 3%		
maximum hight	1.4		
maximum lenth of treval	100		
Df Fetch Length	130 m		
Deptyh of Foundation	1.25 m		
Height of Head Wall	1 m		
Length of Left Bund	400 m		
Length ofRightt Bund	150 m		
Lowest Height of Bund	0.5 m		

Length of HW	28.71	Meter
	94.17	Feet

IWMP Jodhpur 55

Name of work :- Khadeen work 5 ha



Area	31.25
Slope	up to 1% to 3%
maximum hight	1.4
maximum lenth of treval	100

Cost of MMS	358947.81
Cost of earthen bund	275213.06
Total	**634160.88**
Say	**6.34 lacs**

A	C	*L*	*H*	h	I	Df
31.25	0.3	100	1.4	0.4	48	130

Name of work :- Khadeen work 5 ha

Structural Design

Hydrologic Design

Q=0.0276 CIA

Q= Peak rate run off in Cum/Sec.

C= Weighted cofficient of run off

I= Intencity of rain fall in Cm./hr. for equal to time of constration at a given Frequency

A= Catchment area in Hectares

Q	=	12.42	Cu.m./sec

$TC=0.0195\ K^{0.77}$ TC=Time of constration in minute

TC=Time of constration in minute

$K= L^{3/2}/H^{½}$

L= Max. length of travel in Mtr. 6.34 lacs

H=Diffrence elevation in Mtr.

TC	=	3.5	Minuite

Hydraulic Design

$Q = 1.71\ L\ h^{1.5}$

h=head over the crest in mtr

L	=	28.71	Meter
	=	94.17	Feet

L=length of the crest wall in mtr

$F = 1.5\ h_w$

F=free board in mtr

F	=	0.2	Meter
Say F	=	0.2	Meter

$h_w = 0.014\ D_f^{0.5}$

D_f=fatch length in mtr

hw=wave length in mtr

H_w	=	0.16	Meter
d	=	0.6	Merer

H	h	d	p
1.00	0.40	0.60	2.30

1	Top width of head wall a		$a=h/(p-1)^{0.5}$	=	0.35
			Say	=	0.40
2	Bottom width of head wall b		$b=h+H/(p-1)^{0.5}$	=	1.28
			Say	=	1.28
3	Length of head wall ext l	=	l=H+d+1	=	2.60
4	Hight of head wall ext		H+d	=	1.60
5	Bottom width of head wall ext	=	0.5(H+h)	=	0.70
			Say	=	0.70
6	Top width of head wall ext	=	0.4*H	=	0.40
7	Length of basin LB	=	0.75(H+d)+H	=	2.20
8	Thickness of basin	=	t	=	0.50
9	Hight of the side wall at head wall joint	=	H+d	=	1.60
10	Hight of the side wall at toe wall joint	=	1.5*h	=	0.60
11	Length of wing wall	=	2.25*h	=	0.90
12	Height of wing wall	=	1.5*h	=	0.60

13	Top width of toe wall	=	0.45
14	Height of toe wall	=	0.3
15	Thickness of side wall	=	0.6

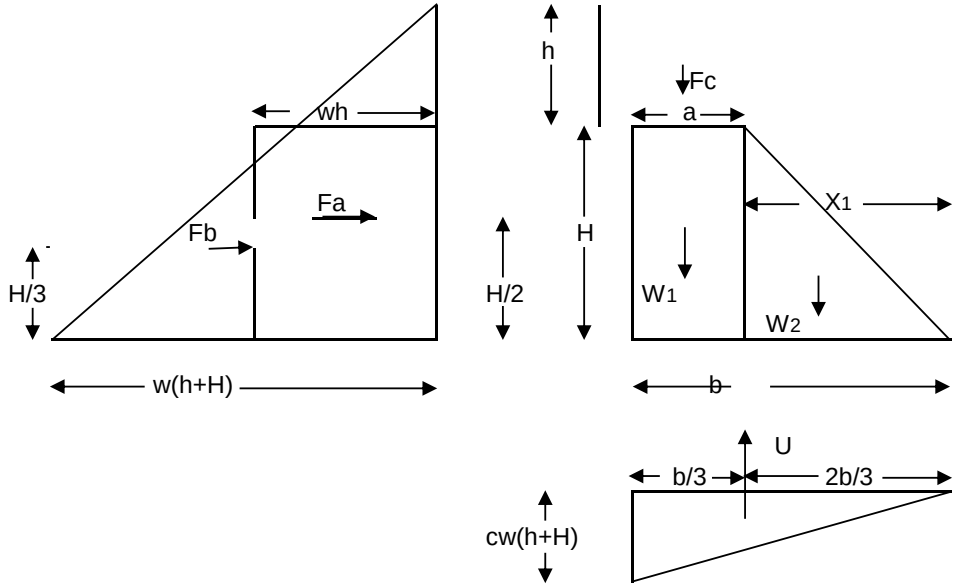
IWMP Jodhpur 55

Name of work :- Khadeen work 5 ha

a = Top width of head wall in m.
b = Bottom width of head wall in m.
Fa = Water force in Kg
Fb = Water force in Kg
Fc = Water force in Kg
U = uplift force in Kg
ρ = Specific gravity of dam material kg/cum(2300kg/cum)
w = Unit weight of water in kg/cum(1000 kg/cum)
H = Height of head wall
h = head over the crest
C = Coefficient in uplift (0.5)
μ = Coefficient of friction (0.65 to 0.75)

a	b	H	h	ρ	C	w
0.40	1.28	1	0.4	2300	0.5	1000

W1	=	a Hρ	=	920
W2	=	½(b-a)H	b	1012
U	=	½Cw(H+	w	448
Fa	=	whH	w	400
Fb	=	$wH^2 / 2$	w	500
Fc	=	wah	w	160



IWMP Jodhpur 55

Name of work :- Khadeen work 5 ha

W1	x1	Fc	Fa	Fb	U	a	b	W_2	H	Frictional Coff
920	1.08	160	400	500	448	0.40	1.28	1012	1	0.8

Safety against overturning

RM = $W_1x_1+Fcx_1+W_2.2(b-a)/3$ = 1760.11

OM = $F_axH/2+F_bxH/3+Ux2b/3$ = 748.96

RM/OM = 2.35 >1.5 **Hance safe**

Safety against sliding

Tv **=** W1 + W2 + Fc - U = 1644

Th = Fa + Fb = 900

C.F*Tv/Th = 1.46 >1.3 **Hence safe**

Safety against tension at base

X = (RM-OM)/Tv = 0.620

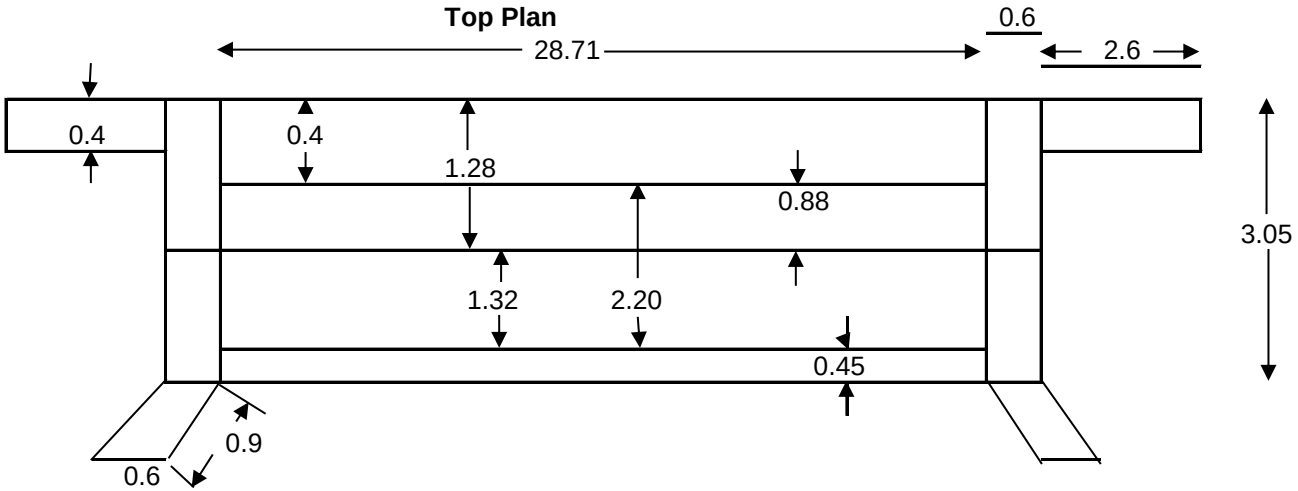
e = b/2-X = 0.020

b/6 = 0.213

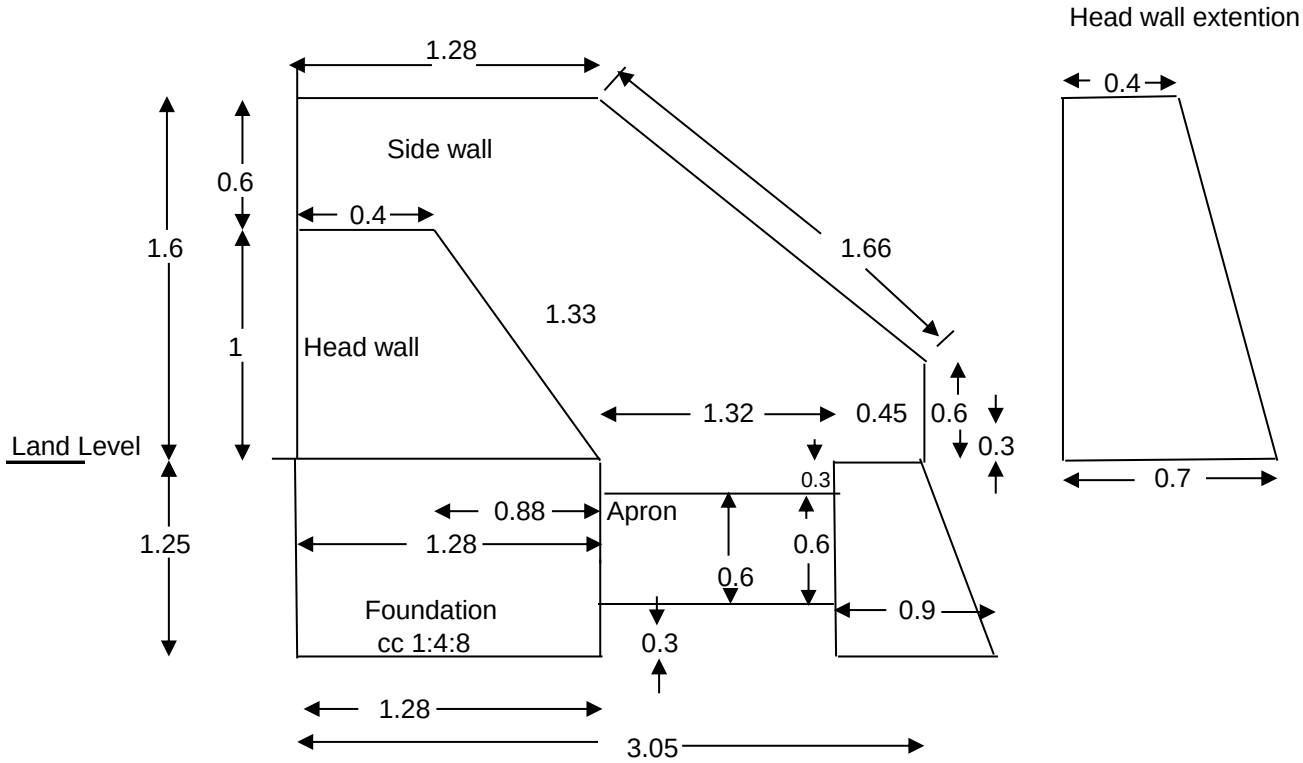
b/6>e **Hance safe**

Name of work :- Khadeen work 5 ha

Top Plan



Elivation



Head wall extention

Estimate

Name of work :- Khadeen work 5 ha

Sr. no.	Name of work	Item no.	No	Length	Width	Hight	Qty	rate	amount
1	Earth work Excavation in hard soil up to 1.5 mt Hight and deposited excavated meterial lead op to 150	2B							
	Head wall		1	28.71	1.28	1.25	45.94		
	Head wall extention		2	2.6	0.7	1.25	4.55		
	side wall		2	3.05	0.6	1.25	4.58		
	Appron		1	28.71	1.32	0.9	34.11		
	Toe wall		1	28.71	0.9	1.25	32.30		
	Wing Wall		1	0.9	0.6	0.6	0.32		
							121.80	100.00	12180
2	Cement concrete 1:4:8 (1cement:4 sand:8 concrete) 40/25 mm concrete Using mixture & vibrater	11.3 A							
	Head wall		1	28.71	1.28	0.3	11.02		
	Head wall extention		2	2.6	0.7	0.3	1.09		
	side wall		2	3.05	0.6	0.3	1.10		
	Appron		1	28.71	1.32	0.3	11.37		
	Toe wall		1	28.71	0.9	0.3	7.75		
	Wing Wall		1	0.90	0.6	0.3	0.16		
							32.49	1871.00	60788.79
3	RR stone mesonary in Cement sand mortar 1 : 6								
	Head wall	24A	1	28.71	1.28	0.95	34.91		
	Head wall extention		2	2.6	0.7	0.95	3.46		
	side wall		2	3.05	0.6	0.95	3.48		
	Appron		1	28.71	1.32	0.15	5.68		
	Toe wall		1	28.71	0.9	0.95	24.55		
	Wing Wall		1	0.90	0.6	0.3	0.16		
							72.24	2005.00	144841.2
4	RR stone mesonary in Cement sand mortar 1 : 6	24A&25							
	Head wall		1	28.71	0.84	1	24.12		
	Head wall extention		2	2.6	0.55	1.6	4.58		
	side wall		2	2.17	0.6	1	2.60		
	side wall		2	3.05	0.6	0.6	2.20		
	Appron		1	28.71	1.32		0.00		
	Toe wall		1	28.71	0.675	0	0.00		
	Wing Wall		1	0.90	0.6	0.6	0.32		
							33.82	2181.00	73761.42
								cf	291571.41

Sr. no.	Name of work	Item no.	No	Length	Width	Hight	Qty	rate	amount
5	50 mm Cement concrete 1:2:4 12 mm concrete complete	58 A					bf		291571.41
	Head wall		1	28.71	0.4		11.48		
	Head wall extention		2	2.60	0.4		2.08		
	side wall		2	1.28	0.6		1.54		
	side wall		2	1.66	0.6		1.99		
	Appron		1	28.71	1.32		37.90		
	Toe wall		1	28.71	0.45		12.92		
	Wing Wall		1	0.90	0.6		0.54		
							68.45	229.00	15675.05
6	Cement Plaster 1 : 6 (1 cement : 6 sand) 25 mm thick	68 A							
	Head wall		1	28.71	0.4		11.48		
	Head wall		1	28.71	1		28.71		
	Head wall extention		2	2.60	0.4		2.08		
	Head wall extention		2	2.60	1.6		8.32		
	side wall		2	1.28	0.6		1.54		
	side wall		2	1.66	0.6		1.99		
	side wall		2	3.05	0.6		3.66		
	side wall		2	2.17	1		4.33		
	side wall		2	0.60	1.6		1.92		
	Appron		1	28.71	1.32		37.90		
	Toe wall		1	28.71	1.05		30.15		
	Wing Wall		2	0.90	0.6		1.08		
	Wing Wall		2	0.90	0.6		1.08		
	Wing Wall		2	0.6	0.6		0.72		
							134.96	146.00	19704.16
7	Cement concrete 1:1.5:3 (1cement:1.5 sand:3 concrete) 25 mm concrete Using mixture & vibrater								
	Appron	37	1	28.71	1.32	0.15	5.68	3382.00	19209.76
8	Pointing 1:3 (1 Cement : 3 Sand)	70							
	Head wall		1	28.71	1.33		38.24	61.00	2332.64
							Total		**348493.02**
							3% contingency		**10454.79**
							G Total		**358947.81**
								Say	**3.59 Lacs**

IWMP Jodhpur 55

Earthen bund

Name of work :- Khadeen work 5 ha

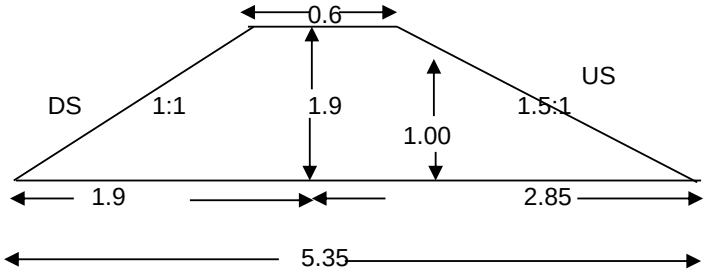
Length Left 400
Right 150

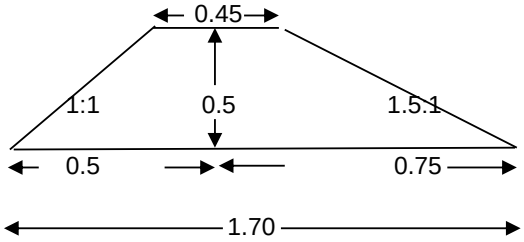
Maximum cross section

Minimum cross section

Top width = Based on seepage line check

Slope of seepage line 5:1





Cross Section = $\frac{(Tw+Bw)}{2}$ *Hight

Cross Section = 5.65 Sq m

Cross Section = 0.54 Sq m

Average Cross section = 3.1 Sq m

Sr.no.	Name of work	BSR Itam No	Length	Cross secction	Qty	Unit	Rate	Amount
1	Earth work Excavation in hard soil up to 1.5 mt Hight and deposited excavated meterial lead op to 50	119 B	400	3.10	1240.00			
			150	3.10	465.00			
					1705.00	Cum	92.0	156860.00
2	Ordinary jungle cutting	82	550	5.03	2766.50	Sqm	1.5	4149.75
2	supply of murram	97 C	550	0.93	511.50	Cum	45.0	23017.50
3	Transpotation of murram 5Km.	105			511.50	Cum	122.6	62709.90
4	Spreading of murram	5			511.50	Cum	40.0	20460.00
						Total		267197.15
						3% contingency		8015.91
						G Total		**275213.06**

आपुर्ति हेतु कार्यानुसार सामग्री विश्लेषण

Name of work :- Khadeen work 5 ha

क्र.स.	विवरण	मात्रा	इकाई	सिमेन्ट थेले	बजरी घन मी.	रोडी घन मी. 40 मीमी	रोडी घन मी. 20 मीमी	पत्थर घन मी.	लिंटल धन. मी.	मुररम आपूर्ती
1	Cement Concrete (1:4:8)	32.49	घन मी.	103.97	14.62	29.24	-	-	-	-
2	Copping in C.C. (1:2:4)	68.45	वर्ग मी.	21.36	1.51	-	3.08	-	-	-
3	Massonary in Cement Mortar (1:6)	104.73	घन मी.	146.10	31.42	-	-	115.20	-	-
4	Plaster in Cement Mortar (1:4)	134.96	वर्ग मी.	20.70	4.45	-	-	-	-	-
5	Pointing in CM 1:3	38.24	वर्ग मी.	1.07	0.11	-	-	-		-
6	Cement Concrete (1:1.5:3)	5.68	घन मी.	43.34	2.24	-	4.43	-	5.68	-
7	Murrum Supply	511.50	घन मी.	-	-	-	-	-	-	511.50
		TOTAL		336.53	54.34	29.24	7.51	115.20	5.68	511.50
		Say Bags		337						

Name of W/S :- Bhikamk (Jodhpur-55)
Name of Village :- Bhikamkor
Name of work :- Tanka construction

Amount : 125312

S. No	Details of work	No.	Measurements Dia	B	H		
1	Complete O/O	1	13	0	13		
2	Hall I/I	1	10		12.5		
5	E/W	1	132.71	1	11	2	Ordinary soil
6	Concrete	1	132.71	1	0.5	7	Hard soil
7	Masonary	1	36.122	1.5	12.5	2	Disintigrated rock
				0			
8	G.L to P.L	1			2		
9	Aslat Arou	2	11	1	0.5		
12	Door	1	1.5	1.5	1		
13	Ventilater	-2	0	1	1		
16	Flooring in side Cem	1	78.525	1	1		
17	Flooring on top Cem	1	132.71	1	1		
	Dedu	1	1.5	1.5	1		

DETAILS OF WORK AND ABSTRACT OF COST

S. no			no	L	B	W	Qty.	Qyy.m ks		Lab.rat e	total rate	lab amt	total amt.
	Earth work in excavation in		0.785	13.5	13.5	2	286.13						
1	foundatin lift 1.5m and lead up to 50m		0.785	13.5	13.5	7	1001.464	28.341	cum	113	113	3202.58	3202.5809
			0.785	13.5	13.5	2	286.1325	8.0975		165	165	1336.1	1336.0957
	Extra Lift												
		First lift 1	0.785	13.5	13.5	5	715.3313	20.244	cum.	13.30	13.30	269.244	269.24353
		Second lift 2	0.785	13.5	13.5		0	0	cum.	26.60	26.60	0	0
2	P/L cement concrete in 1:4:8		0.785	13.5	13.5	0.5	71.53313						0
							0						0
							0						0
							0						0
							0						0
							71.53313	2.02	cum.	413.60	2061.00	835.472	4163.22
3	RRSM in foundation in 1:6 cement mortar		3.14	11.75	1.5	12.5	691.7813						0
							0						0
													0
							0						0
							691.7813	19.58	cum.	658.40	2392.00	12891.5	46835.36
4	Lintel in cement mortar												0
			2	10	1	0.5	10						0
							10	0.280	cum.	1702.20	5182.00	476.616	1450.96
5	Jodhper stone patti roofing in 1:4 cement mortar		0.785	13	13	1	132.665						0
							0						0
		gat e	-1	1.5	1.5	1	-2.25						0
							130.415	12.11	sqm.	391.60	1017.00	4742.28	12315.87
6	P/L cement concrete in 1:2:4 50mm thick on rooffing		0.785	13	13	1	132.665						0
			-1	1.5	1.5	1	-2.25						0
							130.415	12.11	sqm.	128.20	266.00	1552.5	3221.26
7			0.785	10	10	1	78.5						0
													0
							0						0
							78.5	7.29	sqm.	128.20	266.00	934.578	1939.14

8	25mm cement plaster in 1:6 cement mortar	3.14	10	1	12.5	392.5					0	0
											0	0
						392.5	36.46	sqm.	109.50	176.00	3992.37	6416.96
9	Flush pointing in 1:3 cement mortar	3.14	13	1	2	81.64						0
						0						0
						81.64	7.58	sqm.	65.00	76.00	492.7	576.08
10	C.R. facingin II sort						7.58		159.00	159.00	1205.22	1205.22
												0
10	Providing and fixing of gate	1	1.5	1.5	1	2.25						0
												0
						2.25		sqm.			0	0
11		0	31	1	1.5	0	0	cum.	320.00	792.00	0	500
12	Catchment of gravel/murrum	3.14	39	13	0.5	2122.64	60.071	cum.		55	0	3303.8892
	Transportation lead 5km						60.071	cum.	56.4	139.7		8391.8785
							60.071	cum.	45	45	2703.18	2703.182
13	Stone chap Boundry	3.14	38.25	1	4	480.42	44.626	sqm.	213.2	478	9514.31	21331.33
14	Supply and fixing of Hand pump						1	Nos.			0	2000.00
15	Signe board and photographs					0					0	500
											44148.6	121662.27

	Quantity	Rate	Amount
Skille	46.00	600	27600
Unsk	106.00	166	17596
Water			
			45196

			44148.6	121662.27
Amt.				
Labour				
		A	44148.617	
Material		B	77513.653	
Total		C	121662.27	
D=(C*0.03)			3649.8681	
Total	(C+D)		125312.14	

S. no.	Material requried	Unit	Qty.	Rate	Amt.	
1	Sand	cum.	12.91	580	7489.55	
2	40mm aggregate	cum.	1.82	500	909	
3	20mm aggregate	cum.	0.93	700	653.485	
4	Stone	cum.	19.58	1020	19971.6	
5	Cement	bag	54.0	280	15120	
6	15cm. Thick lintel	cum.	0.28	3300	924	
7	Stone slab	sqm	14.53	430	6248.76	
8	Door	sqm.	1.000		500	
	Hand pump	Nos.	1.0	200.00	1500	
	Water transportation	No.	8.000	450.00	3600	
	signe board and Photographa				500	
					57416.4	
	Stone chap		44.6	200	8925.24	
	Supply of murrum				11695.8	
			Total		78037.4	

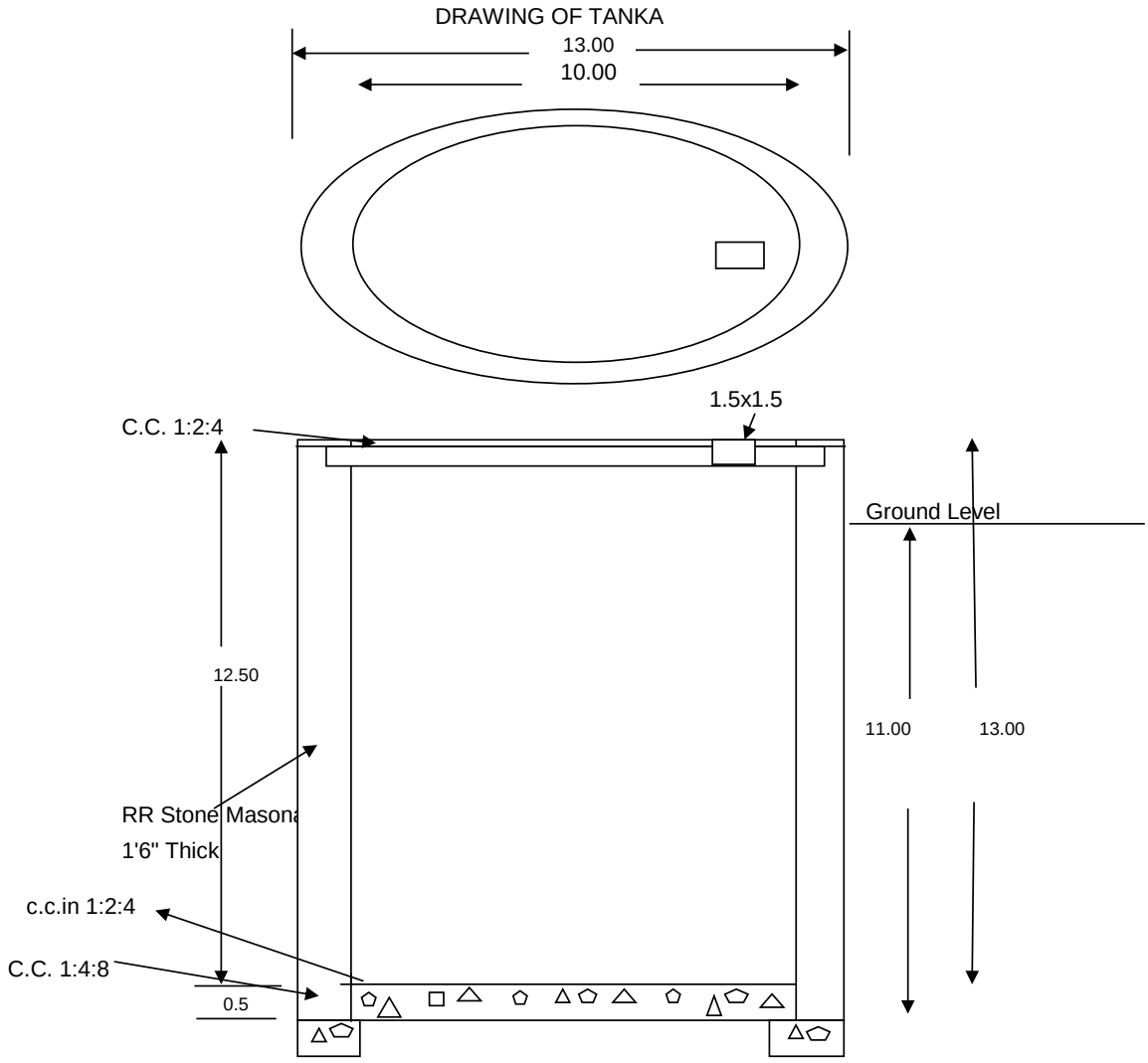
			M.Rate	Actual M.	T&P			
						कारीगर	मजदूर	पानी(राशी)
						0	0.6	0.005
						0		0
सीमेन्ट कि.ग्रा	बजरी घ.मी.	गट्टी पत्थर की				कारीगर	मजदूर	पानी(राशी)
160	0.45	0.9				0.1	1.63	0.0147
323.200	0.909	1.818	1647.40	1607		0.20	3.29	61.19933
सीमेन्ट कि.ग्रा	बजरी घ.मी.	पत्थर				कारीगर	मजदूर	पानी(राशी)
70	0.3	1				0.71	1.4	0.0145
1370.60	5.87	19.58	1733.60	1586		13.90	27.41	679.1127
सीमेन्ट कि.ग्रा	बजरी घ.मी.	थरके सिरदल				कारीगर	मजदूर	पानी(राशी)
		0.28	3479.80					
सीमेन्ट कि.ग्रा	बजरी घ.मी.	थर की पट्टियां				कारीगर	मजदूर	पानी(राशी)
3.42	0.09	1.2				0.55		0.005
41.4162	1.0899	14.532	625.40	587.352		6.66	0.00	61.57935
सीमेन्ट कि.ग्रा	बजरी घ.मी.	गट्टी पत्थर की				कारीगर	मजदूर	पानी(राशी)
25.67	0.057	0.05				0.19	0.41	0.01
310.8637	0.69027	0.6055	137.80	211.812		2.3009	4.9651	32.2126
सीमेन्ट कि.ग्रा	बजरी घ.मी.	गट्टी पत्थर की				कारीगर	मजदूर	पानी(राशी)
15.6	0.022	0.045				0.15	0.23	0.0145
113.724	0.16038	0.32805	137.80	131.62		1.09	1.68	28.11753

सीमेन्ट कि.ग्रा	बजरी घ.मी.					कारीगर	मजदूर	पानी(राशी)
7.67	0.032					0.13	0.2	0.015
279.6482	1.16672		66.50	61.512		4.74	7.29	96.2544
सीमेन्ट कि.ग्रा	बजरी घ.मी.					कारीगर	मजदूर	पानी(राशी)
1.4	0.003					0.08	0.11	0.015
10.612	0.02274		11.00	9.58		0.61	0.83	8.6412
						कारीगर	मजदूर	पानी(राशी)
		njokts]				0.3	0.3	0
		0	0.00	0		0.0	0.0	0
			7839.3	4194.876		29.50	45.47	967.12
					Total	5310.882	3319.471	967.12

-44.4444

15.00 -29

DRAWING OF TANKA



Scheme: IWMP
Watershed: Bhikamkor (Jodhpur-55)

Panchayat Samiti: Osian
District: Jodhpur

GULLY PLUGGING

DETAILED ESTIMATE AND ABSTRACT OF COST

Name Of Work: Construction Of Gully Plugging

क.सं.	कार्य विवरण	मात्रा	दर	प्रति	राशि
1	बण्ड का ले आउट	2x15=30.00	0.70	Met.	21.00
2	जगंल की सफाई, साधारण वनस्पति तथा झाड़ियों को काटने सहित।	15x5.10=76.50	1.40	Sqm.	107.10
4	मिट्टी का कार्य बन्ध मे (सूखी या गीली), 15 से.मी. परत मे डालना, ढेलों को तोड़ना, घास-पात तथा कंकर बीनकर अलग करना तथा मिट्टी की दरेसी करना, 1.5 मी उठान तथा 50 मी. दूरी के लिए। कठोर मिट्टी	$2 \times \frac{5.10 + 0.6 \times 1.50}{2} \times 15 = 64.13$	104.00	Cum.	6669.52
5	15 से 23 से.मी. मोटे, हथोडे से तरासे हुए एकल पत्थर की पिचिंग समस्त उठान के साथ, आपूर्त्ति के साथ।	15x2.10x0.23=7.24	890.00	Cum.	6443.60
				TOTAL	**13241.22**
				Add 3% Contigency	397.24
				G. TOTAL	13638.46
				Say Rs.	**13650.00**

(Rupees Ten Thousand Five Hundred only)

Labour	8500.00
Material	4753.00
Contigency	397.00
Total	13650.00

Note: Rate has been taken from the BSR issued by Zila Parishad Jodhpur on 1/4/2013.

W. D. T. (Technical)

A. En. & P. I. A.

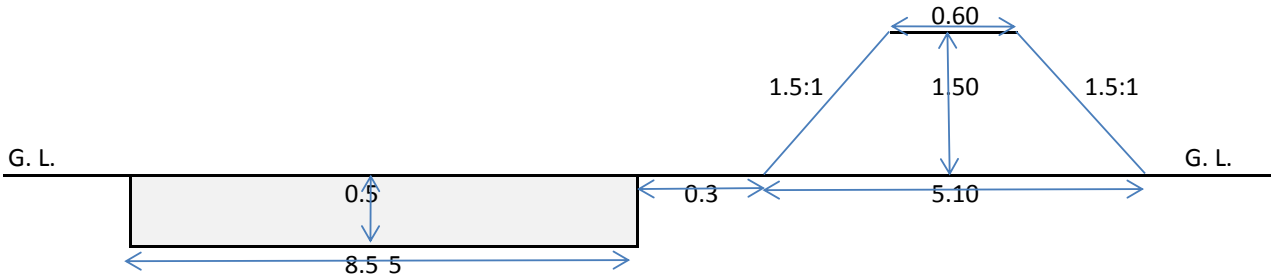
I. W. M. P.
P. S. Osian

4741

Scheme: IWMP
Watershed: Bhikamkor (Jodhpur-55)

Panchayat Samiti:Osian
District: Jodhpur

Name Of Work: Construction Of Gully Plugging



X-Section Of Gully Plugging

All Dimentions are in Meter
Not in Scale

W. D. T. (Technical)
I. W. M. P.
P. S. Osian

A. En. & P. I. A.
I. W. M. P.
P. S. Osian

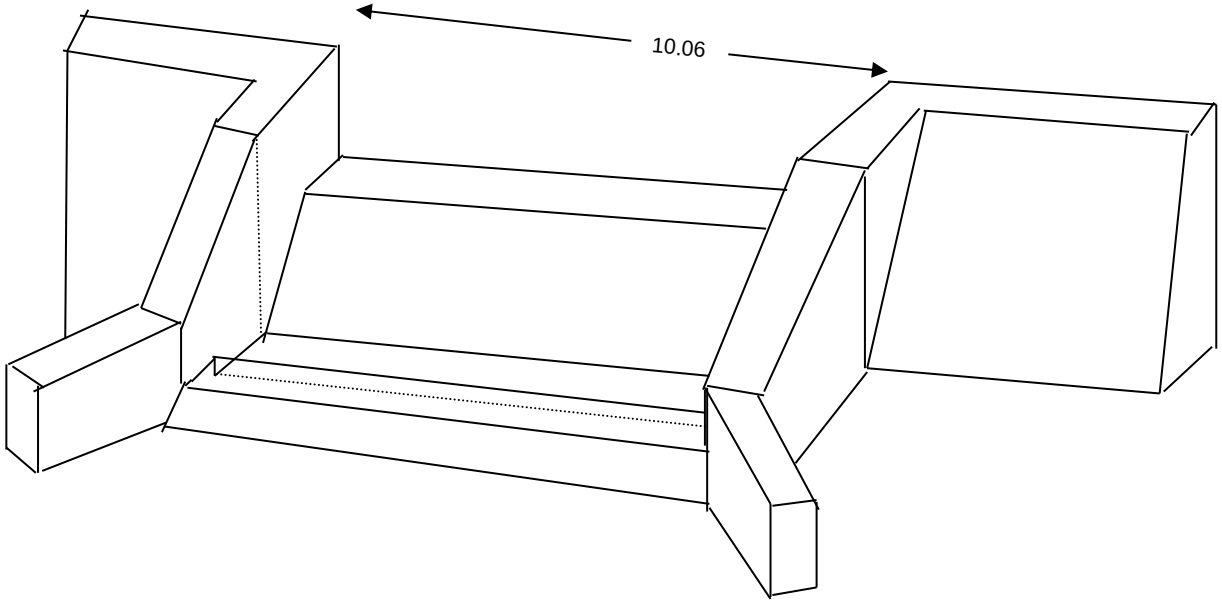
Name of Watershed	IWMP Jodhpur 55, Masonary Structure	
Macro / Micro no.	**6/1,2,3**	**7.2 lacs**
GIS based catchment area =	35 Ha	
GIS based lenth of trevel =	275 m	
Highest contour level	266 m	
lowest contour level	251 m	
Df Fetch Length	160 m	
Depth of Foundation	1.25 m	
Height of Head Wall	1.2 m	
Length of Left Bund	250 m	
Length ofRightt Bund	250 m	
Lowest Height of Bund	1.3 m	
Depyh of Flow over Head Wall	0.4	

Length of HW	10.06	Meter
	33.00	Feet

Model Estimate

IWMP Jodhpur 55, Masonary Structure

Macro / Micro no. 6/1,2,3



GIS based catchment area =	35
GIS based lenth of trevel =	275

Cost of MMS	203640.21
Cost of earthen bund	516614.40
Total	**720254.61**
Say	**7.2 lacs**

Highest contour level	lowest contour level	level Difference
266	251	15

A	C	*L*	*H*	h	I	Df
35	0.3	275	15	0.4	15	160

Macro / Micro no. *6/1,2,3*

Structural Design

Hydrologic Design

Q=0.0276 CIA Q= Peak rate run off in Cum/Sec.

C= Weighted cofficient of run off

I= Intencity of rain fall in Cm./hr. for equal to time of constration at a given Frequency

A= Catchment area in Hectares

Q	=	4.35	Cu.m./sec

$TC=0.0195\ K^{0.77}$ TC=Time of constration in minute

TC=Time of constration in minute

$K= L^{3/2}/H^{½}$

L= Max. length of travel in Mtr. 7.2 lacs

H=Diffrence elevation in Mtr.

TC	=	4.52	Minuite

Hydraulic Design

$Q = 1.71\ L\ h^{1.5}$ h=head over the crest in mtr

L	=	10.06	Meter
	=	32.997	Feet

L=length of the crest wall in mtr

$F = 1.5\ h_w$ F=free board in mtr

F	=	0.3	Meter
Say F	=	0.3	Meter

$h_w = 0.014\ D_f^{0.5}$ D_f=fatch length in mtr

H_w	=	0.18	Meter
d	=	0.7	Merer

hw=wave length in mtr

H	h	d	p
1.20	0.40	0.70	2.30

1	Top width of head wall a	$a=h/(p-1)^{0.5}$	=		0.35
		Say	=		0.80
2	Bottom width of head wall b	$b=h+H/(p-1)^{0.5}$	=		1.45
		Say	=		1.45
3	Length of head wall ext l	=	l=H+d+1	=	2.90
4	Hight of head wall ext		H+d	=	1.90
5	Bottom width of head wall ext	=	0.5(H+h)	=	0.80
			Say	=	0.80
6	Top width of head wall ext	=	0.4*H	=	0.48
7	Length of basin LB	=	0.75(H+d)+H	=	2.63
8	Thickness of basin	=	t	=	0.50
9	Hight of the side wall at head wall joint	=	H+d	=	1.90
10	Hight of the side wall at toe wall joint	=	1.5*h	=	0.60
11	Length of wing wall	=	2.25*h	=	0.90
12	Height of wing wall	=	1.5*h	=	0.60

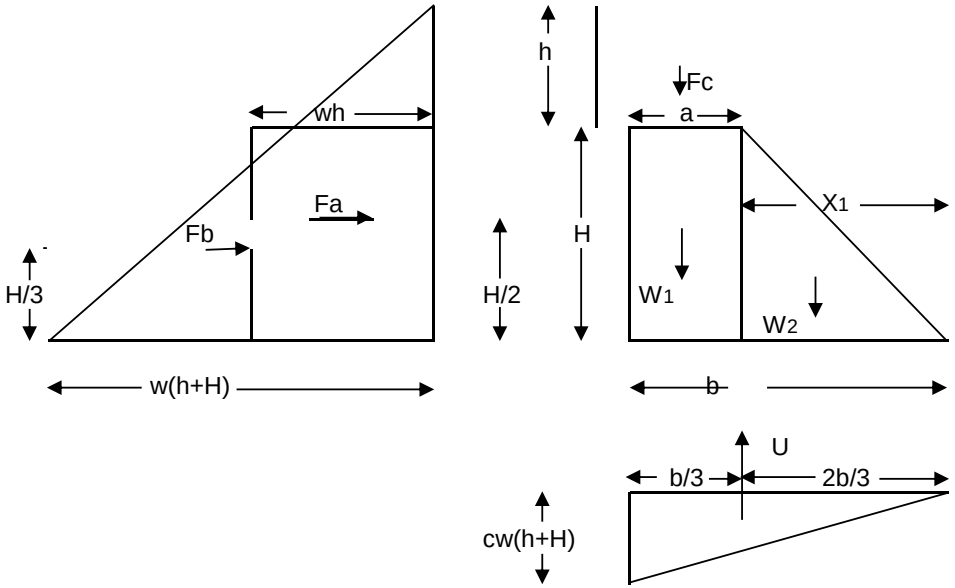
13	Top width of toe wall	=	0.45
14	Height of toe wall	=	0.3
15	Thickness of side wall	=	0.6

IWMP Jodhpur 55, Masonary Structure

a = Top width of head wall in m. Macro / Micro no. 6/1,2,3
b = Bottom width of head wall in m.
Fa = Water force in Kg
Fb = Water force in Kg
Fc = Water force in Kg
U = uplift force in Kg
ρ = Specific gravity of dam material kg/cum(2300kg/cum)
w = Unit weight of water in kg/cum(1000 kg/cum)
H = Height of head wall
h = head over the crest
C = Coefficient in uplift (0.5)
μ = Coefficient of friction (0.65 to 0.75)

a	b	H	h	ρ	C	w
0.80	1.45	1.2	0.4	2300	0.5	1000

W1	=	a Hρ	=	2208
W2	=	½(b-a)H	b	897
U	=	½Cw(H+	w	580
Fa	=	whH	w	480
Fb	=	$wH^2 / 2$	w	720
Fc	=	wah	w	320



IWMP Jodhpur 55, Masonary Structure

Macro / Micro no. 6/1,2,3

W1	x1	Fc	Fa	Fb	U	a	b	W2	H	Frictional Coff
2208	1.05	320	480	720	580	0.80	1.45	897	1.2	0.8

Safety against overturning

RM = $W_1x_1+Fcx_1+W_2.2(b-a)/3$ = 3043.1

OM = $F_axH/2+F_bxH/3+Ux2b/3$ = 1136.67

RM/OM = 2.68 >1.5 **Hance safe**

Safety against sliding

Tv **=** W1 + W2 + Fc - U = 2845

Th = Fa + Fb = 1200

C.F*Tv/Th = 1.90 >1.3 **Hence safe**

Safety against tension at base

X = (RM-OM)/Tv = 0.670

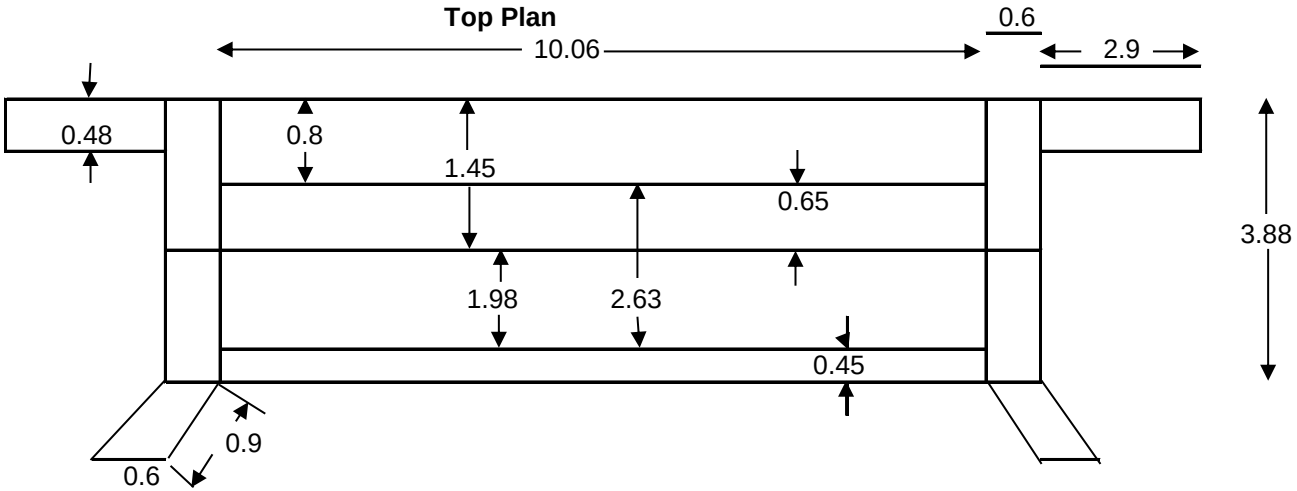
e = b/2-X = 0.050

b/6 = 0.242

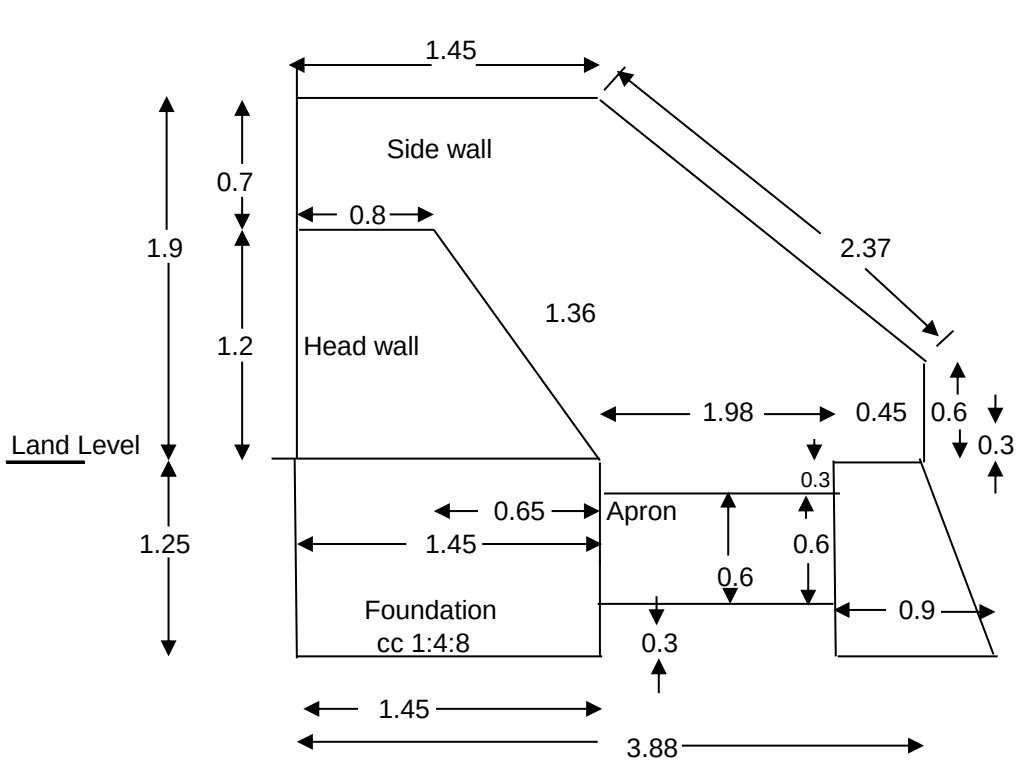
b/6>e **Hance safe**

Structural Design **Macro / Micro no. 6/1,2,3**

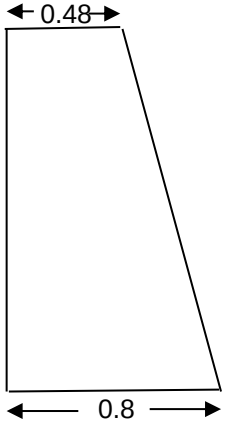
Top Plan



Elivation



Head wall extention



Estimate

Sr. no.	Name of work	Item no.	No	Length	Width	Hight	Qty	rate	amount
1	Earth work Excavation in hard soil up to 1.5 mt Hight and deposited excavated meterial lead op to 50	2B							
	Head wall		1	10.06	1.45	1.25	18.23		
	Head wall extention		2	2.9	0.8	1.25	5.80		
	side wall		2	3.88	0.6	1.25	5.82		
	Appron		1	10.06	1.98	0.9	17.93		
	Toe wall		1	10.06	0.9	1.25	11.32		
	Wing Wall		1	0.9	0.6	0.6	0.32		
							59.42	92	5466.84
2	Cement concrete 1:4:8 (1cement:4 sand:8 concrete) 40/25 mm concrete Using mixture & vibrater	11.3 A							
	Head wall		1	10.06	1.45	0.3	4.38		
	Head wall extention		2	2.9	0.8	0.3	1.39		
	side wall		2	3.88	0.6	0.3	1.40		
	Appron		1	10.06	1.98	0.3	5.98		
	Toe wall		1	10.06	0.9	0.3	2.72		
	Wing Wall		1	0.90	0.6	0.3	0.16		
							16.02	1845	29554.58
3	RR stone mesonary in Cement sand mortar 1 : 6								
	Head wall	24A	1	10.06	1.45	0.95	13.86		
	Head wall extention		2	2.9	0.8	0.95	4.41		
	side wall		2	3.88	0.6	0.95	4.42		
	Appron		1	10.06	1.98	0.15	2.99		
	Toe wall		1	10.06	0.9	0.95	8.60		
	Wing Wall		1	0.90	0.6	0.3	0.16		
							34.44	1988	68466.66
4	RR stone mesonary in Cement sand mortar 1 : 6	24A&25							
	Head wall		1	10.06	1.125	1.2	13.58		
	Head wall extention		2	2.9	0.64	1.9	7.05		
	side wall		2	2.67	0.6	1.3	4.16		
	side wall		2	3.88	0.6	0.6	2.79		
	Appron		1	10.06	1.98		0.00		
	Toe wall		1	10.06	0.675	0	0.00		
	Wing Wall		1	0.90	0.6	0.6	0.32		
							27.91	2160	60283.01
								cf	163771.09

Sr. no.	Name of work	Item no.	No	Length	Width	Hight	Qty	rate	amount
5	50 mm thick Cement concrete 1:2:4 with 12 mm aggregate complete	58 A					bf		163771.09
	Head wall		1	10.06	0.8	0.1	8.05		
	Head wall extention		2	2.90	0.48	0.08	2.78		
	side wall		2	1.45	0.6	0.08	1.74		
	side wall		2	2.37	0.6	0.08	2.84		
	Appron		1	10.06	1.98	0.08	19.92		
	Toe wall		1	10.06	0.45	0.08	4.53		
	Wing Wall		1	0.90	0.6	0.08	0.54		
							40.40	226	9130.4
6	Cement Plaster 1 : 6 (1 cement : 6 sand) 25 mm thick	67A							
	Head wall		1	10.06	0.8		8.048		
	Head wall		1	10.06	1.2		12.07		
	Head wall extention		2	2.90	0.48		2.78		
	Head wall extention		2	2.90	1.9		11.02		
	side wall		2	1.45	0.6		1.74		
	side wall		2	2.37	0.6		2.84		
	side wall		2	3.88	0.6		4.66		
	side wall		2	2.67	1.3		6.93		
	side wall		2	0.60	1.9		2.28		
	Appron		1	10.06	1.98		19.92		
	Toe wall		1	10.06	1.05		10.56		
	Wing Wall		2	0.90	0.6		1.08		
	Wing Wall		2	0.90	0.6		1.08		
	Wing Wall		2	0.6	0.6		0.72		
							85.73	163	13974.5
7	Cement concrete 1:1.5:3 (1cement:1.5 sand:3 concrete) 25 mm concrete Using mixture & vibrater								
	Appron	37	1	10.06	1.98	0.15	2.99	3350	10009.2
8	Pointing 1:3 (1 Cement : 3 Sand)	68							
	Head wall		1	10.06	1.36		13.73	60	823.75
								Total	**197708.94**
								3% contingency	**5931.27**
								G Total	**203640.21**
								Say	**2.04 Lacs**

IWMP Jodhpur 55, Masonary Structure

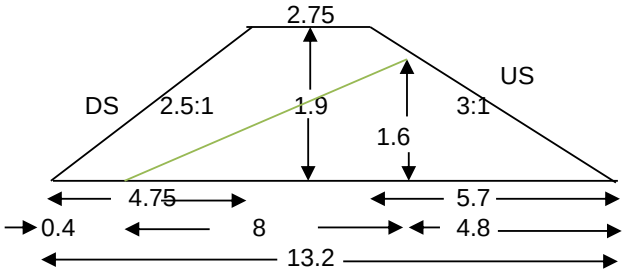
Earthen bund

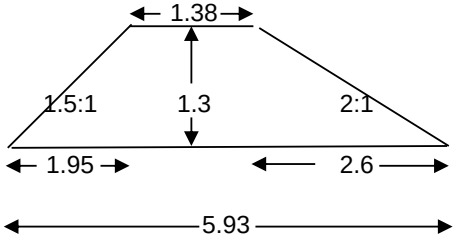
Macro / Micro no. 6/1,2,3

Length Left 250
Right 250

Maximum cross section Minimum cross section

Top width = Based on seepage line check Slope of seepage line 5:1





Cross Section = $\frac{(Tw+Bw)}{2}$ *Hight

Cross Section = 15.15 Sq. m Cross Section = 4.75 Sq. m

Average Cross section = 9.95 Sq. m

Sr.no.	Name of work			BSR Itam No	Length	Cross secction	Qty	Unit	Rate	Amount
	Earth work Excavation in hard soil up to 1.5 mt Hight and deposited excavated meterial			117 B	250	9.95	2487.50			
					250	9.95	2487.50			
1	lead op to 50						4975.00	Cum	85	422875.00
2	supply of murram			89B	500	0.62	309.75	Cum	95	29426.25
3	Transpotation of murram 5Km.			103			309.75	Cum	118.5	36705.38
4	Spreading of murram			5			309.75	Cum	37	11460.75
		Row	Length	To.length	interwell	No per kg				
5	cost of Cumath Seed	3	500	1500	1	450	3.33	Kg	60	200.00
6	Seed Sowing (Cumtha) 112			1500			1500	mtr	0.6	900.00
								Total		501567.38
								3% contingency		15047.02
								G Total		**516614.40**

Loose stone checkdam (L.S.C.D)

Name of watershed: Bhikamkor (Jodhpur-55)

Block:Osian **District: Jodhpur** **No.** 1

Length **9.000**

क्र.सं.	कार्य विवरण	नाप											मात्रा
1	डाग बेलिंग देना					1	X	2.00	X	9.000	=	18.000	18.000 मी.
2	नींव ट्रेंचेज में मिट्टी खुदाई का कार्य सख्त मिट्टी में			1	X	9.00	X	2.40	X	0.45	=	9.720	
				1	X	9.00	X	1.50	X	0.30	=	4.050	
		1	X	2.00	X	1.00	X	0.60	X	1.35	=	1.620	
												15.390	15.390 घ.मी.
3	सुखे पत्थर की चुनाई का कार्य 3 मी. की उचाई तक मुख्य दिवार एंव नींव हेतु			1	X	9.00	X	2.40	X	0.45	=	9.720	
				1	X	9.00	X	1.50	X	0.30	=	4.050	
	मुख्य दिवार प्रथम चरण	1	X	9.00	X (	2.4	+	0.6	) /2	X	0.75	=	10.125
	मुख्य दिवार द्वितीय चरण	1	X	2.00	X	1.00	X	0.60	X	1.35	=	1.620	
												25.515	25.515 घ.मी.

Loose stone checkdam (L.S.C.D)

Name of watershed: Bhikamkor (Jodhpur-55)

Block:Osian **District: Jodhpur**

L

क्र.सं.	कार्य विवरण	मात्रा	श्रम दर	कुल दर	प्रति	श्रम राशि	कुल राशि
1	डॉग बेलिंग देना	18.000	0.700	0.700	घ.मी.	12.600	12.600
2	नींव ट्रेंचेज में मिट्टी खुदाई का कार्य सख्त मिट्टी में	15.390	92.000	92.000	घ.मी.	1415.880	1415.880
3	सुखे पत्थर की चुनाई का कार्य 3 मी. की उचाई तक मुख्य दिवार एंव नींव हेतु	25.515	285.100	701.000	घ.मी.	7274.327	17886.015
	Total						19314.495
	contigency 4%						772.5798
	Grand total						20087.075
						Say	20000.000

Loose stone checkdam (L.S.C.D)
Name of watershed: Bhikamkor (Jodhpur-55)

Block:Osian **District: Jodhpur** **No.** 1

Length **4.000**

क्र.सं	कार्य विवरण	नाप											मात्रा
1	डाग बेलिंग देना					1	X	2.00	X	4.000	=	8.000	8.000 मी.
2	नींव ट्रेंचेज में मिट्टी खुदाई का कार्य सख्त मिट्टी में			1	X	4.00	X	2.40	X	0.45	=	4.320	
				1	X	4.00	X	1.50	X	0.30	=	1.800	
		1	X	2.00	X	1.00	X	0.60	X	1.35	=	1.620	
												7.740	7.740 घ.मी.
3	सुखे पत्थर की चुनाई का कार्य 3 मी. की उचाई तक मुख्य दिवार एंव नींव हेतु			1	X	4.00	X	2.40	X	0.45	=	4.320	
				1	X	4.00	X	1.50	X	0.30	=	1.800	
	मुख्य दिवार प्रथम चरण	1	X	4.00	X (	2.4	+	0.6	) /2	X	0.75	=	4.500	
	मुख्य दिवार द्वितीय चरण	1	X	2.00	X	1.00	X	0.60	X	1.35	=	1.620	
												12.240	12.240 घ.मी.

Loose stone checkdam (L.S.C.D)

Name of watershed: Bhikamkor (Jodhpur-55)

Block:Osian **District: Jodhpur**

क्र.सं.	कार्य विवरण	मात्रा	श्रम दर	कुल दर	प्रति	श्रम राशि	कुल राशि
1	डॉग बेलिंग देना	8.000	0.700	0.700	घ.मी.	5.600	5.600
2	नींव ट्रेंचेज में मिट्टी खुदाई का कार्य सख्त मिट्टी में	7.740	92.000	92.000	घ.मी.	712.080	712.080
3	सुखे पत्थर की चुनाई का कार्य 3 मी. की उचाई तक मुख्य दिवार एंव नींव हेतु	12.240	285.000	701.000	घ.मी.	3488.400	8580.240
	Total						9297.920
	contigency 4%						371.9168
	Grand total						9669.837
						Say	10000.000

Loose stone checkdam (L.S.C.D)
Name of watershed: Bhikamkor (Jodhpur-55)

Block:Osian **District: Jodhpur** **No.** 1

Length **6.500**

क्र.सं	कार्य विवरण	नाप											मात्रा
1	डाग बेलिंग देना					1	X	2.00	X	6.500	=	13.000	13.000 eh-
2	नींव ट्रेंचेज में मिट्टी खुदाई का कार्य सख्त मिट्टी में			1	X	6.50	X	2.40	X	0.45	=	7.020	
				1	X	6.50	X	1.50	X	0.30	=	2.925	
		1	X	2.00	X	1.00	X	0.60	X	1.35	=	1.620	
												11.565	11.565 ?k-eh-
3	सुखे पत्थर की चुनाई का कार्य 3 मी. की उचाई तक मुख्य दिवार एंव नींव हेतु			1	X	6.50	X	2.40	X	0.45	=	7.020	
				1	X	6.50	X	1.50	X	0.30	=	2.925	
	मुख्य दिवार प्रथम चरण	1	X	6.50	X (	2.4	+	0.6	) /2	X	0.75	=	7.313	
	मुख्य दिवार द्वितीय चरण		1	X	2.00	X	1.00	X	0.60	X	1.35	=	1.620	
												18.878	18.878 ?k-eh-

Loose stone checkdam (L.S.C.D)

Name of watershed: Bhikamkor (Jodhpur-55)

Block:Osian **District: Jodhpur**

क्र.सं.	कार्य विवरण	मात्रा	श्रम दर	कुल दर	प्रति	श्रम राशि	कुल राशि
1	डॉग बेलिंग देना	13.000	0.700	0.700	?k-eh-	9.100	9.100
2	नींव ट्रेंचेज में मिट्टी खुदाई का कार्य सख्त मिट्टी में	11.565	92.000	92.000	?k-eh-	1063.980	1063.980
3	सुखे पत्थर की चुनाई का कार्य 3 मी. की उचाई तक मुख्य दिवार एंव नींव हेतु	18.878	285.000	701.000	?k-eh-	5380.088	13233.128
	Total						14306.208
	contigency 4%						572.2483
	Grand total						14878.456
						Say	15000.000

Construction of Waste Weir

NAME OF WATERSHED: Bhikamkor(JODHPUR 55)

SCHEME : IWMP BLOCK: OSIAN

DETAILS OF WORK AND ABSTRACT OF COST

L of HW	Ht of SW	Ht of HW
18	5	2.5

NAME OF WATERSHED: Bhikamkor(JODHPUR 55)

क्र.सं.	कार्य का विवरण	सं.	विशेष विवरण			मात्रा		ईकाई	दर		राशि	
			ल.	चौ.	ऊं/ग.	फीट	कुल मी.		श्रम	कुल	श्रम	कुल
1	नींव, खाई तथा नाला आदि के लिए 1.5 मी. गहराई तक मिट्टी की खुदाई करना, तल को कुटना, पानी डालना बगल को संवारना, खुदी मिट्टी को बाहर निकालना नीवं भरने के बाद खाली स्थानों को पुन: मिट्टी से भरना तथा बची हुई मिट्टी को 50 मीटर की दूरी तक निस्तारण करना	2	8	3	3.25	156						
		4	3.5	3	3.25	136.5						
		1	17.5	4	3.5	245						
						0						
						0						
						0						
						537.5	15.21	cum.	92.00	92.00	1399.32	1399.32
2	सीमेन्ट कांक्रीट नीव या फर्श में 40 मि. मी. नामीय माप की पत्थर गिऑी/ईट गिऑी, सीमेन्ट - रेत मसाला में 1 सीमेन्ट : 4 रेत : 8 गिऑी अनुपात में मिलाकर डालना तथा कुटाई करना, तराई समेत।	2	8	3	0.5	24						
		4	3.5	3	0.5	21						
		1	17.5	4	0.5	35						
						0						
						0						
						80	2.26	cum.	320.10	1586.00	723.426	3584.36
3	नींव तथा कुर्सी मे पत्थर की वे रद्धा-ढ़ोका सीमेंट-बजरी 1 : 3, 1 : 6 या 1 : 8 मसाले मे, मय बगल की झिरी बन्द करना तथा तराई आदि।	2	8	2.5	2.75	110						
		4	3.5	2.5	2.75	96.25						
		2	17.5	3.5	3	367.5						
						0						
						573.75	16.23	cum.	419.80	1503.00	6813.35	24393.7
4	अधिरचना में सीमेंट मसाला 1:8 मे पत्थर की चुनाई का कार्य	2	8	1.25	5	100						
		4	3.5	1.5	5	105						
		1	18	2.5	2.5	112.5						
			(3+2)/2									
	योग					317.5	8.98	cum.	554.80	1641.00	4982.1	14736.2
5	फर्श के नीचे सुखे पत्थरो का खंरजा डालना।	1	18	2.75	0.33333	16.5						
						0						
						16.5	0.46	cum.	174.80	590.00	80.408	271.4
6	कोपिंग का कार्य ब्रूब ;1रू2रू4द्ध	1	18	2.75	1	49.5						
		1	18	2	1	36						
		1	30	1.5	1	45						
						130.5	12.12	sqm.	79.80	186.00	967.176	2254.32

7	पत्थर की चुनाई पर सीमेण्ट मसाला 1रू3 से टीपो का कार्य	2	8	5	1	80						
		4	4	5	1	80	7.432	sqm.				
		2	18	2.5	1	90						
	उप योग					250						
	कटोतियां	2	2	2.5	1	10						
	शेष					240	22.29	sqm.	39.80	48.40	887.142	1078.84
											15852	47718

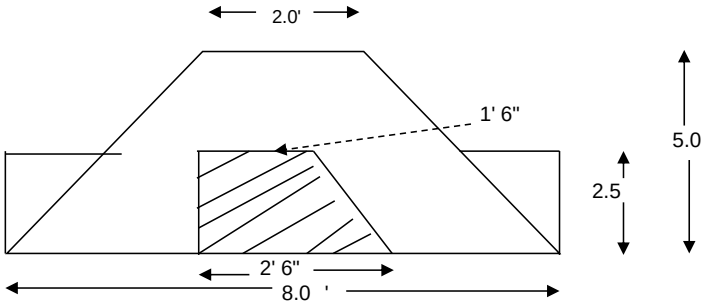
	Quantity	Rate	Amount
Skilled labour	24.00	325	7800
Unskilled labour	57.00	135	7695
Water			546
			16041

Upto plinth	सीमेंट	2	
	सीमेंट	2	

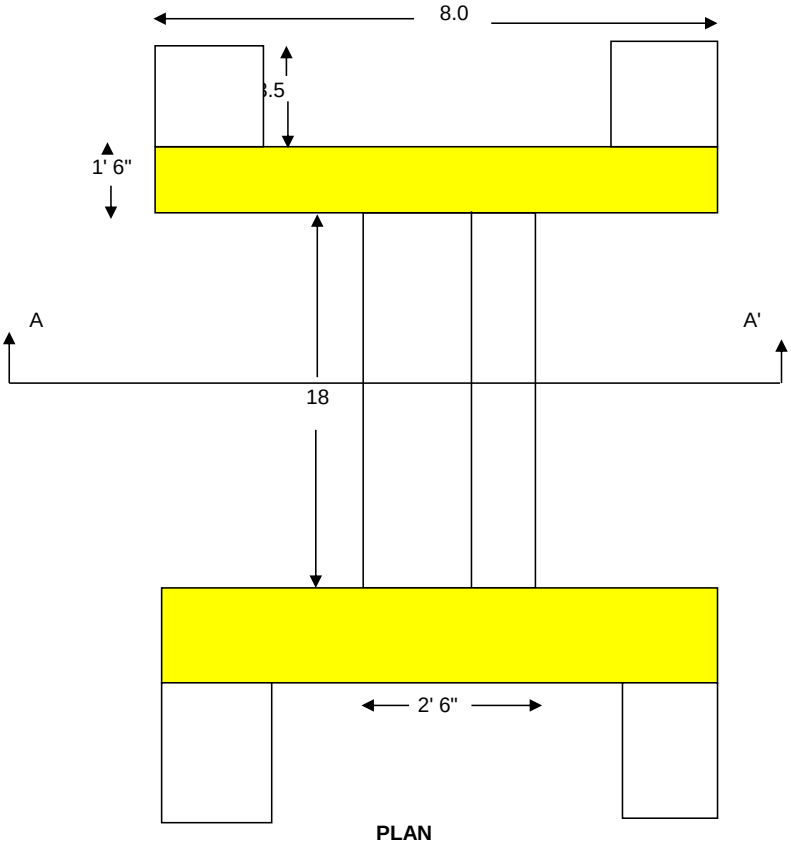
राशि		
श्रम	A	15852
सामग्री	B	31866
कुल	C	47718
Add 3% for conti. D=(C*0.04)		1908.72
कुल (C+D)		49626.7
	Say	50000

क.सं.	कुल सामग्री आवश्यकता	ईकाई	मात्रा	दर	राशि	cft	
1	चूना	कि.ग्रा.	0.0	2.25	0		
2	रेत/बजरी	घ.मी.	8.910000	380	3385.8	315	
3	गिट्टी पत्थर की 40 मि.मी. नामीय माप की	घ.मी.	2.0	400	800	70.7	
4	गिट्टी पत्थर की 20 मि.मी. नामीय माप की	घ.मी.	0.55	550	302.5	19.4	
5	पत्थर	घ.मी.	25.2	575	14490	890	
6	सीमेन्ट	कि.ग्रा.	1980.61	220	8714.68	39.6	Bag
					27693		
	अन्य				1908.72		
			कुल योग		29601.7		

CROSS SECTION AT A A'



Construction of Waste Weir



PLAN

Construction of Waste Weir

Scheme: IWMP Panchayat Samiti: OSIAN
Watershed: bhikamkor (jodhpur-55) District: Jodhpur

PLANTATION

DETAILED ESTIMATE AND ABSTRACT OF COST

Name Of Work: Plantation Works in Non Arable land

(A) I st Year

क.सं.	कार्य विवरण	प्रति	मात्रा	दर	राशि
1	45 ग 45 ग 45 सेमी माप के गड्डे करना कठोर मिट्टी कंकर/मुरम मिट्टी (बी.एस.आर. आइटम नं. 2 ब व स)	Nos.	300 200	6.80 13.40	2040.00 2680.00
2	पौधा रोपित करना (ब) सामान्य जमान म पथरीली जमीन (बी.एस.आर. आइटम नं. 113 ब व स)	Nos.	300 200	3.60 3.00	1080.00 600.00
3	पौधों की निराई गुडाई करना 15 सेमी गहराई तक तथा 45 सेमी अर्द्धव्यास तक (बी.एस.आर. आइटम नं. 116)	Nos.	2x500= 1000	1.20	1200.00
4	पौधों को कीटनाद्गाक देना मय कीटनाद्गाक की कीमत (बाजार दर के अनुसार)	Nos.	500.00	2.00	1000.00
5	थांवला बनाना, कम से कम 50 सेमी अर्द्धव्यास पथरीली जमीन अन्य जमीन (बी.एस.आर. आइटम नं. 117 अ व ब)	Nos.	200 300	2.40 1.80	480.00 540.00
6	पौधों को पानी पिलाना 15 लीटर प्रति पौधा (वर्ष मे 12 बार) 500ग6त्र3000 (बी.एस.आर. आइटम नं. 115)	Nos.	6000.00	1.80	10800.00
7	पौधे की लागत मय परिवहन (बाजार दर के अनुसार)	Nos.	500.00	20.00	10000.00
8	पौधों का परिवहन नर्सरी से वृक्षारोपण स्थल तक (लोडिंग व अनलोडिंग सहित) 1 कि.मी. ऊँट गाड़ी द्वारा	Nos.	500.00	1.00	500.00
9	पानी की लागत मय परिवहन 5 कि.मी. तक 15 ली ग 3000 त्र 45000 ली. (बी.एस.आर. आइटम नं. 108)	Liter	45000.00	42.2/1000	1899.00
10	पाले व लू से बचाव हेतु झोंपे बनाना	Nos.	100.00	3.62	362.00
11	100 पौघो के पुर्निग करना (माडल एस्टीमेट वन विभाग)	Nos.	100.00	0.96	96.00
12	पौधो की देखभाल व सुरक्षा	Nos.	500.00	LS	5300.00

TOTAL(A) 38557.00

Scheme: IWMP
Watershed: bhikamkor (jodhpur-55)

Panchayat Samiti: OSIAN
District: Jodhpur

DETAILED ESTIMATE AND ABSTRACT OF COST

Name Of Work: Plantation Works in Non Arable land

(B) II nd Year

क.सं.	कार्य विवरण	प्रति	मात्रा	दर	राशि
1	100 पौधो का केजुयल्टी रिपलेसमेंट करना	Nos.	100.00	1.35	135.00
2	पौधे की लागत मय परिवहन (बाजार दर के अनुसार)	Nos.	100.00	20.00	2000.00
3	पौधो का परिवहन नर्सरी से वृक्षरोपण स्थल तक (लोडिंग व अनलोडिंग सहित)	Nos.	100.00	1.00	100.00
4	पौधों की निराई गुडाई करना 15 सेमी गहराई तक तथा 45 सेमी अर्द्धव्यास तक 2ग500त्र1000 (बी.एस.आर. आइटम नं. 116)	Nos.	1000.00	1.20	1200.00
5	पौधों को पानी पिलाना 15 लीटर प्रति पौधा (वर्ष मे 6 बार) 500 ग 3 त्र1500 (बी.एस.आर. आइटम नं. 115)	Nos.	3000.00	1.80	5400.00
6	पानी की लागत मय परिवहन 5 कि.मी. तक 15 ली ग 1500 त्र 22500 ली. (बी.एस.आर. आइटम नं. 108)	Nos.	22500.0	37.4/100	841.50
7	100 पौधों के लिए पाले/लू से सुरक्षा हेतु झौंपे बनाना	Nos.	100.0	3.62	362.00
8	100 पौधों की पुर्निग करना	Nos.	100.0	0.96	96.00
9	पौधो की देखभाल व सुरक्षा	Nos.	500.0	LS	5300.00
				TOTAL(B)	**15434.50**

Scheme: IWMP
Watershed: bhikamkor (jodhpur-55)

Panchayat Samiti: OSIAN
District: Jodhpur

DETAILED ESTIMATE AND ABSTRACT OF COST

Name Of Work: Plantation Works in Non Arable land

(C) III rd Year

क.सं.	कार्य विवरण	प्रति	मात्रा	दर	राशि
1	पौधों को पानी पिलाना 15 लीटर प्रति पौधा (वर्ष मे 2 बार) 500 ग 2 त्र1000 (बी.एस.आर. आइटम नं. 115)	Nos.	1000.00	1.80	1800.00
2	पानी की लागत मय परिवहन 5 कि.मी. तक 15 ली ग 1000 त्र 15000 ली. (बी.एस.आर. आइटम नं. 108)	Nos.	15000.0	37.4/100	561.00
3	पौधों की निराई गुडाई करना 15 सेमी गहराई तक तथा 45 सेमी अर्द्धव्यास तक 1ग500त्र1000 (बी.एस.आर. आइटम नं. 116)	Nos.	500.00	1.20	600.00
4	200 पौधों की पुर्निग करना	Nos.	200.0	0.96	192.00
5	पौधो की देखभाल व सुरक्षा	Nos.	500.0	LS	5300.00
				TOTAL(C)	**8453.00**

Scheme: IWMP
Watershed:bhikamkor (jodhpur-55)

Panchayat Samiti: OSIAN
District: Jodhpur

DETAILED ESTIMATE AND ABSTRACT OF COST

Name Of Work: Plantation Works in Non Arable land

(D) **IV th Year**

क.सं.	कार्य विवरण	प्रति	मात्रा	दर	राशि
1	पौधो की देखभाल व सुरक्षा	Nos.	500.0	LS	5300.00
				TOTAL(D)	5300.00

Total Cost Per Ha. (A+B+C)=38457+15434.5+8453+5300=56229.50

	67744.50
Add 4% Contigency	2709.78
G. TOTAL	70454.28

Say Rs. **70500.00**
Per Ha.

(Rupees Forty Eight Thousand Five hundred only)

Labour	45500.00
Material	22290.00
Contigency	2710.00
Total	**70500.00**

Note: Rate has been taken from the BSR issued by Zila Parishad Jodhpur on 1/4/2013.

W. D. T. (Technical)
I. W. M. P.
P. S. OSIAN

A. En. & P. I. A.
I. W. M. P.
P. S. Osian

Model Estimate of Tool Kit

Household Production System (for Marginal farmer and Land iess labour)

Service sector- Tool Kit Specification Trade wise Detail of tools requirement in one set

1. One set of carpentry tools — COST Rs. 4000/= per Kit

S.No.	Name of tools	Specfication	Quantity
1	Hand saw	Size 15"	1 No.
2	Hand saw	Size 12"	1 No.
3	Screw driver	Size 8" x 25 mm	1 No.
4	Combination pliers	Size 8" Make - Taparia	1 No.
5	Charsi with handle	Size 25 mm	1 No.
6	Charsi with handle	Size 18 mm	1 No.
7	Charsi with handle	Size 10 mm	1 No.
8	Wooden Randda	Big - Made of Sagwan	1 No.
9	Wooden Randda	Small - Made of Sagwan	1 No.
10	File half round	Make JK	1 No.
11	File regular	Make JK	1 No.
12	Tee bar carpenter frame(sikanja) for wooden	Size 4' x 2"	1 No.
13	Stone silly	size 6" - ISI Mark	1 No.
14	Basola with handle	Weight 800 gram	1 No.
15	Ball peen hammer	Weight 300 gram -Make Ambica	1 No.
16	Cross peen hammer	Weight 500 gram -Make Ambica	1 No.
17	Measurement tape	Size 10 feet- Make freeman	1 No.
18	Pincer	Size 200 mm	1 No.
19	Girmt	Size 1/2"	1 No.
20	Tri Square	Size 8"	1 No.
21	Hand operated drill	Size 1/4"	1 No.
22	Steel box for Tools	Size (22" x 11")- G.I. sheet	1 No.

2. One set of Mason tools — COST Rs. 2000/= per Kit

S.No.	Name of tools	Specfication	Quantity
1	Karni	Size - Big	1 No.
2	Karni	Size - small	1 No.
3	Mashtar wooden	Size 36" Made of Sagwan	1 No.
4	Mashtar wooden	Size 24" Made of Sagwan	1 No.
5	Mashtar wooden	Size 15" Made of Sagwan	1 No.
6	Gurmala		1 No.
7	Soot		1 No.
8	Sabble	Heavy iron	1 No.
9	L shape measurement (Gunia)		1 No.
10	Level pipe (25 Foot)	5 mm	1 No.
11	Chiesal	Size 6" , 8" Make - Taparia	1 No.
12	Ball pine hammer	Weight 500 gm Make - Ambica	1 No.
13	Cross pine hammer	Weight 300 gm Make - Ambica	1 No.
14	Aluminium rib	Size 60" x 4" x 1.5"	1 No.
15	Measurement Tape	Size 10 feet Make freemans	1 No.
16	Canvas bag for above tools	Made of Heavy canvas	1 No.

3. One set of Pottery tools

COST Rs. 12000/= per Kit

S.No.	Name of tools	Specfication	Quantity
1	Clay lump beating hammer	MS pat. Size - D100 - 120mm X T5-6 mm with iron pipe handle	1 No.
2	Wooden hammer (Thapa)	Sheesam Woodv . Size - D6-7" X T1.25".handle-L6"	1 No.
3	Tasla	MS sheet. Size - 15", SWG-20	1 No.
4	Spade (Phawda)	MS sheet. Size - L 10"x w10", SWG-20.fitted with wooden Handle	1 No.
5	Kamdai	Wooden Size - 2"x1-1.25" approx. Arch shap	1 No.
6	Pindi Cement	Varius Size	3 No.
7	Decoration tools	MS (Banki, Sua, Piyali, Patti)	8 No.
8	Decoration Wheel	Size-H 16" x D 12-15". Tripod Structure. Fittedv withb double Ball Bearing.Iron sheet 5mm	1 No.
9	Manual Potter Wheel	Outer Dia-inner Plate size- D 300mm x T-20mm. T-WT-17 Kg minimum(Cast iron body). Tripod Casted iron Structure with Ball bearing . 2 nos. of outer rings made of T or steal of 12mm Dia. Cross Wooden Support Structure	1 No.

4. One set of Footwear (Mojari) tools COST Rs. 12000/= per Kit

S.No.	Name of tools	Specfication	Quantity
1	Ball pine hammer	Drop forged steel ,Induction hardened, Seasoned wood handle,WT-300 gms with wood handle, Nilon hammer(L 240mm, head size L80xD300mm)	1 No.
2	Wooden Block	Size- 18"x W4"xT4"	1 No.
3	Pincer	Size- 8"	1 No.
4	Scissors	Size- 9", Steel Body, Brass Handle	1 No.
5	Bodam/Shoeanvil	Graded CI with 3 phases,WT-4 kg. approx	1 No.
6	Cutting Blade Set (Ramp)	Steel with Wooden Handle, Size-L 150x W 30x T 6mm	1 set
7	Stitching Awl	Steel with Sheesam Wood Handle.	1 No.
8	Sharpening Stone	Size 150x50x25mm,109 no.	1 No.
9	Shoe measuring Tape	Size-2' fibre/good quality plastic material	1 No.
10	Lock Punch Set	Steel	1 No.
11	Bye let setting tool	Steel	1 No.
12	Round whole punch set	Steel, Size- L 100 Range-1 to 10	1 set (10 pcs.)
13	Design punch set	En-9 steel, Size- L100	1 set (3 pcs.)
14	Zig zag Steel Scissors	Steel, Size- 81/2". Grooves on cutting edge.	1 No.
15	Pattern cutting Knife	Steel, Size-6"	1 No.
16	PP Block	Size-L 6"x W 6" T 20mm	1 No.
17	Steel Scale	Size - 12" and 24".	1 No.
18	Leather Scraping Brush	Size-8" with wooden Handle	1 No.
19	Adhesive Brush	Size-10 mm,12mm, 25mm.	1 No.
20	Spring Driver	Steel -Size 9"	1 No.
21	Sant	Steel - H 6" WT-1 kg.	1 No.
22	Sizzeore Passing	Steel -Size 8"	1 No.
23	Thread cutter	Steel with plastic Handle, Size-L 100 mm.	1 No.
24	Number sety	Steel	1 set (10 pcs.)
25	Capsol Punch	Size (8-10-12-16)	1 set
26	Brush	Size-10 mm,12mm, 25mm.	1 No.
	Machine Tools		
27	HD Flat Bad Swing Machine	31 K. Branded Company	1 No.

5.One set of Blacksmith Tools

COST Rs. 6000/= per Kit

S.No.	Name of tools	Specfication	Quantity
1	Big Hammer	Ghon-5 kg	1 No.
2	Hammer	Ghon-1 kg	1 No.
3	Hammer	Ghon- 1/2 kg	1 No.
4	Anvil - chouka	Ghon-10 kg	1 No.
5	Chisrl-3Nos	Ghon-1 kg, 500 kg.,750 kg.	1 No.
6	Measurement Tape	3 MTR	1 No.
7	Triangle	6"	1 No.
8	plie Taparia	8"	1 No.
9	Screw driver Taparia	10"	1 No.
10	Tin	10"	1 No.
11	Hand operated electric hand drill	&	1 No.
12	Sansasi-flat and round	&	1 No.
13	Table Vice	&	1 No.
14	Haksa Frame Poland type	&	1 No.

5.One set of Blacksmith Tools

COST Rs. 6000/= per Kit

S.No.	Name of tools	Specfication	Quantity
1	Hammer	500 gm	1 No.
2	Hammer	1 kg	1 No.
3	Plies Taparia	8"	1 No.
4	Screw driver Taparia	6"-8"-12"	1 No.
5	Pincer - 6"	6"	1 No.
6	Nose plier-6"	6"	1 No.
7	Alignment equipment cycle wheel		1 No.
8	Anivil-Chowka	5 kg.	1 No.
9	Screw wrench	10"	1 No.
10	Hexa Frame poloud type		1 No.
11	Spanner Set fix type 8 pcs	8 pcs	1 No.
12	Electric hand drill machine		1 No.
13	Hand Skipper	10"	1 No.
14	Solution		
15	Water Pump Plier		1 No.
16	Punch	6"	1 No.
17	Hand Scissors	8"	1 No.
18	Oil cane	250 gm	1 No.

MODEL ESTIMATE FOR ANIMAL HEALTH CAMP

In western Rajasthan due to lack of rainfall the climate is very drastic. Due to wich the live stock of western Rajasthan face many problems related to their feed & to maintain their body immunity against climate. Due to wich they ca n face many tipes of disease due to unfaverable climate condition and mostly by the owner who can use the animals till the animal can gave milk after that he can not take care of the animals. Due this many type type of diseases like parasitic diseases it may be inner or outer, milk fever, Mtitis, Manage, tympany, Diahorria, fever, Infertility, Pyrometra, Indigestion, FMD, Hs, BQ, ETV, etc. are many types of diseases wich the animal can generally face due to wich owner can face double loss first loss of money on treatment & on effect on animal production. For this in IWMP scheeme the animal health camp can be organised in the villages which can comes under this scheme. For this one or two camps at Rs. 15,000/- each is organized. Before this first the information of the camp date can be informed to the villagers by various means like posters, banner, ghosthi & various other means. After than camp can be organised in wich free medicine can be distributed.

Besids that for the seasonal diseases & many other diseases wich can be controlled through vaccination the vaccination camp can also be organized in which vaccine for various controlled diseases like FMD,HD & BQ, ETV, Sheep pox, PPR etc. animals can be vaccinated yearly or half yearly.

Per camp cost :-	Madicine	=	21500.00
	Rent of Jeep (for two days)	=	1500.00
	Govt. Doctor or Staff	=	1000.00
		Total =	24000.00

- General Madicine:-
  - Antibiotic :- - inj. - OTC - 100 ml.
    - inj. - Enrocin - 100 ml.
  - Ointment :- - ont. - Loroxine - 100 gm.
    - ont. - Vetmox - 50 gm.
  - Cottons :- 100 gm.

Instruments :-

- Catha tor
- Trokar Canvla
- Forseps
- Teat Syphin

- Bandage :- 6"
- Syringe :- 50 ml.
- Needle :- 16"
- Mineral Mixture :- pow. = Calfos Ao3 = 1 Kg.
- Vitamin :- inj. = Vitasef

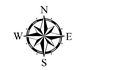
- Primary Treatment
  - P.P :- 100 gm. (5)
  - Mag sulph :- 101 gm. (20)
  - Soda by Carb :- 102 gm. (20)
  - T.T. Oil :- 100 ml (3)
  - Liq :- Notaodom (3)
  - Bolus :- Feedone/Rumtrion

- Milk Fever :- inj. - omifex - 450 ml.
  CBG - 1000 ml
- Mastitis :- Tub. - Penclastin & H - Z gm
- Mange :- inj. - avil 100 ml.
  inj. - Dexona/ 100 ml.
- Tympany :- Liq. - Afanil - 100 ml.
  Bolus - Boost nix
  Bolus - Ruwi nox
- Dishorria :- Bolus - Botrim
  Bolus - SDM

inj. - Bi0tin 3

- Fever :- inj. - proxyvet mp.
  inj. - Oxy
  Tab. - Proxyvet mp.
- Inferility :- inj. -Lutalysis - 10 ml.
  Tab. -Cocuplus
  Bolus - Cyclomin
- Pyometra/metritis :- Surp. - Luracin - 60 ml.
  Liq. - Betadine 100 ml.
  Bolus - Furia/ Urimine/ Liton
- Indiestion :- Pow. - Soda by carb.- 100 gm.
  Pow. - Mag. Sulph - 100 gm.
  inj. - B complex (Belayle) 100 ml.
  inj. - Oxy. 100 ml.
- Deworning :- Pow.-Albedazole-30 g
  Liq.-Suprazole-1000 ml
  inj.-mect/Ivemaction-100 ml
  Bolus -Albemor 1.5 g
  Pow.- Neilverm(Sheep & Goat)
- Vaccination :-
  - **Sheep pox** = .50p/dose
  - **PPR** = 1 Rs./dose
  - **HS** = 1 Rs./dose
  - **BQ** = 1 Rs./dose
  - **FMD** = 12 Rs./dose
  - **ETV** = .50 p/dose

BASE MAP



0 0.125 0.25 0.5 0.75 1 Km

72°44'0"E 72°45'0"E 72°46'0"E 72°47'0"E 72°48'0"E 72°49'0"E 72°50'0"E 72°51'0"E 72°52'0"E 72°53'0"E

26°9'0"N 26°8'0"N 26°7'0"N 26°6'0"N 26°5'0"N

Mangaliyan Ki Dhani

Bheekam Kor

Bheeyadiya

Indon Ki Dhani

Indon Ki Dhani

Police Station Bheekam Kor

Bheekam Kor

Om Shiv Temple

Veterinary Hospital

Temple

Dispensary

Overhead Tank

Bheekam Kor

Temple

Temple

Bheeyadiya

Karmon Ki Dhani

97

97/97

06/01

06/02

06

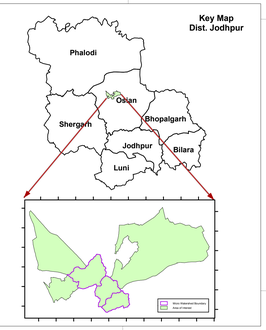
06/03

PROJECT	JODHPUR / OSAIN / IWMP - LV / 2011-12
SUBMITTED TO	WATERSHED DEPARTMENT GOVERNMENT OF RAJASTHAN
SUBMITTED BY	PDCOR Limited

Legend

- Macro Watershed Number (2 Nos)
- Micro Watershed Number (4 Nos)
- Census Village Location (5 Nos)
- Health Centre (2 Nos)
- Overhead Tank and Towers (1 Nos)
- Worship Place (5 Nos)
- Major Road (19.23 Km)
- Medium Road (35.97 Km)
- Other Road (127.36 Km)
- Railway Line (8.83 Km)
- State Highway (4.92 Km)
- Village Road (24.79 Km)
- Macro Watershed Boundary (25588.56 Ha)
- Micro Watershed Boundary (25588.56 Ha)
- Village Boundary (6860.83 Ha)
- Gram Panchayat Boundary (6860.83 Ha)
- Area of Interest (6860.83 Ha)
- Habitation/Settlement (8.75 Ha)

Key Map
Dist. Jodhpur



CONTOUR MAP

N
W E
S

0 0.1250.25 0.5 0.75 1 Km

72°44'0"E 72°45'0"E 72°46'0"E 72°47'0"E 72°48'0"E 72°49'0"E 72°50'0"E 72°51'0"E 72°52'0"E 72°53'0"E

26°14'0"N 26°13'0"N 26°12'0"N 26°11'0"N

Indon Ki Dhani

Bheeyadiya

Bheekam Kor

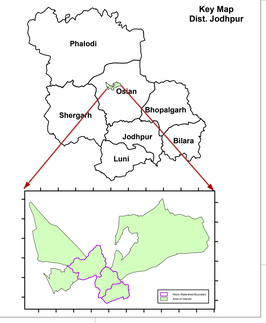
97 97/B 06/01 06/02 06 06/03

PROJECT	JODHPUR / OSAIN / IWMP - LV / 2011-12
SUBMITTED TO	WATERSHED DEPARTMENT GOVERNMENT OF RAJASTHAN
SUBMITTED BY	PDCOR Limited

Legend

- Macro Watershed Number (2 Nos)
- Micro Watershed Number (4 Nos)
- Census Village Location (5 Nos)
- Nadi (1.38 Ha)
- Tank for Cattle Drinking (3.34 Ha)
- Major Contour - 5m interval (HL -368), (LL -304)
- Minor Contour - 1m interval (HL -368), (LL -304)
- First Order Drainage (25285.18 Mtr)
- Second Order Drainage (12662.94 Mtr)
- Third Order Drainage (1045.04 Mtr)
- First Order Drainage (1.49 Ha)
- Second Order Drainage (3.84 Ha)
- Third Order Drainage (7.64 Ha)
- Water Body (11.02 Ha)
- Macro Watershed Boundary (25588.56 Ha)
- Micro Watershed Boundary (25588.56 Ha)
- Village Boundary (6860.83 Ha)
- Khasra Boundary (6860.83 Ha)
- Area of Interest (6860.83 Ha)

Key Map
Dist. Jodhpur



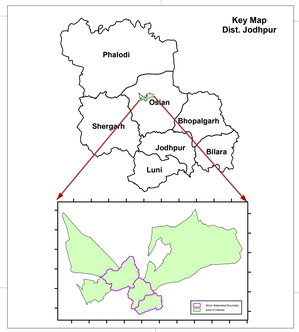
Drainage & Surface Water Bodies Map

0 0.1250.25 0.5 0.75 1 Km

PROJECT	JODHPUR / OSAIN / IWMP - LV / 2011-12
SUBMITTED TO	WATERSHED DEPARTMENT GOVERNMENT OF RAJASTHAN
SUBMITTED BY	EPDCOR Limited

Legend

- Macro Watershed Number (2 Nos)
- Micro Watershed Number (4 Nos)
- As Drainage Number (112 Nos)
- First Order Drainage (25285.18 Mtr)
- Second Order Drainage (12662.94 Mtr)
- Third Order Drainage (1045.04 Mtr)
- First Order Drainage (1.49 Ha)
- Second Order Drainage (3.84 Ha)
- Third Order Drainage (7.64 Ha)
- Water Body (11.02 Ha)
- Macro Watershed Boundary (25588.56 Ha)
- Micro Watershed Boundary (25588.56 Ha)
- Area of Interest (6860.83 Ha)



LANDUSE / LANDCOVER MAP

N
W E
S

0 0.125 0.25 0.5 0.75 1 Km

72°44'0"E 72°45'0"E 72°46'0"E 72°47'0"E 72°48'0"E 72°49'0"E 72°50'0"E 72°51'0"E 72°52'0"E 72°53'0"E

26°18'0"N 26°17'0"N 26°16'0"N 26°15'0"N

Indon Ki Dhani
Bheeyadiya
Bheeyadiya
Bheeyadiya

SLOPE MAP

N
W E
S

0 0.1250.25 0.5 0.75 1 Km

72°44'0"E 72°45'0"E 72°46'0"E 72°47'0"E 72°48'0"E 72°49'0"E 72°50'0"E 72°51'0"E 72°52'0"E 72°53'0"E

26°4'0"N 26°3'0"N 26°2'0"N 26°1'0"N

97/97 06/01 06 06/03 97

PROJECT	JODHPUR / OSAIN / IWMP - LV / 2011-12
SUBMITTED TO	WATERSHED DEPARTMENT GOVERNMENT OF RAJASTHAN
SUBMITTED BY	RPDCOR Limited

Legend

- ② Macro Watershed Number (2 Nos)
- 9 Micro Watershed Number (4 Nos)
- Macro Watershed Boundary (25588.56 Ha)
- Micro Watershed Boundary (25588.56 Ha)
- Khasra Boundary (6860.83 Ha)
- Area of Interest (6860.83 Ha)
- 0-1 % (3044.04 Ha)
- 1-3 % (1834.64 Ha)
- 3-5 % (796.95 Ha)
- 5-10 % (767.23 Ha)
- >10 % (417.96 Ha)

Key Map
Dist. Jodhpur