SOIL & WATER CONSERVATION OFFICER

RI-BHOI DISTRICT, MEGHALAYA

DETAIL PROJECT REPORT

ON INTEGRATED WATERSHED MANAGEMENT PROJECT

I.W.M.P. - PROJECT - VII (2011-2012)

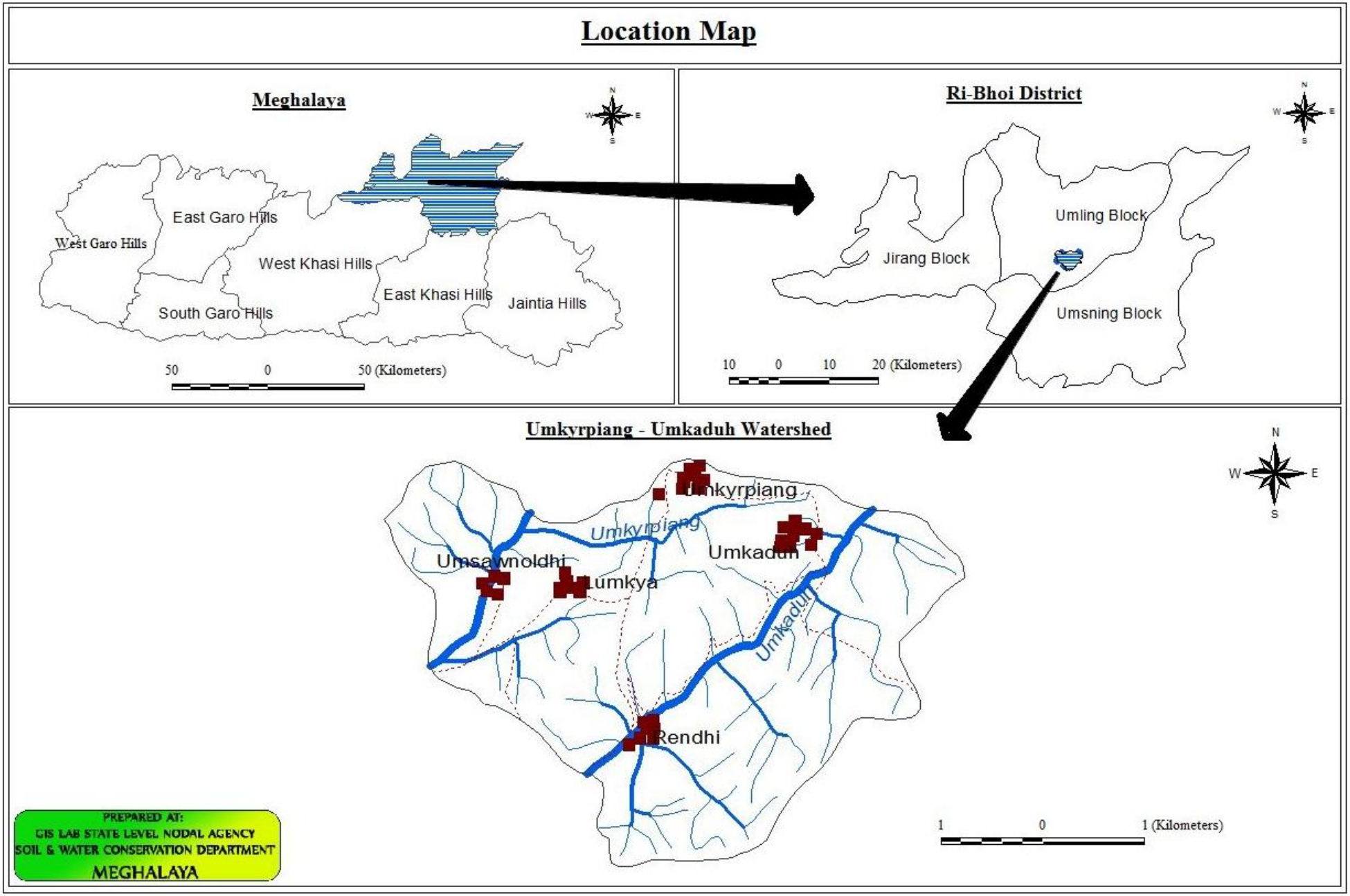
UMLING & JIRANG C&RD BLOCK

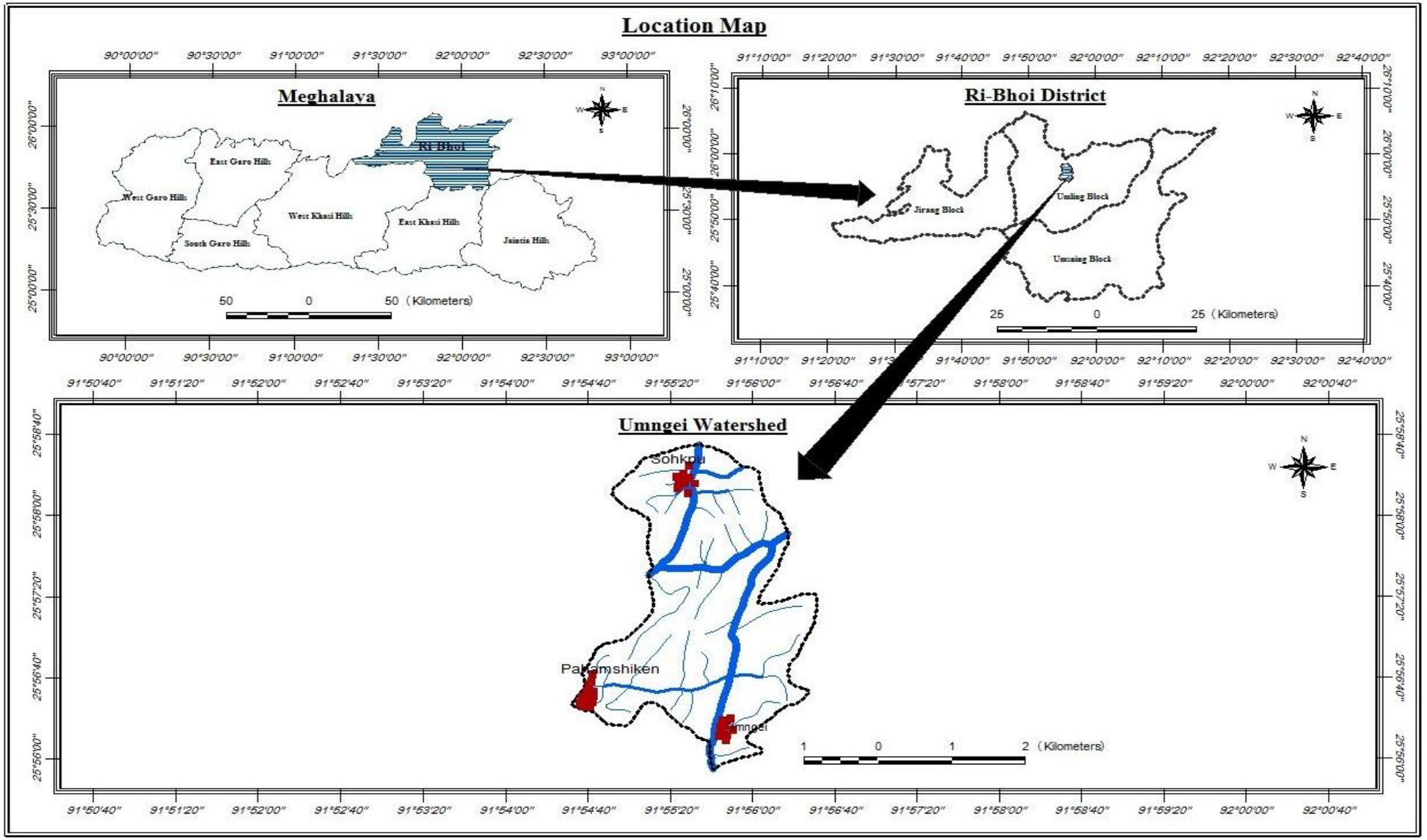
RI-BHOI DISTRICT, MEGHALAYA

SUMMARY

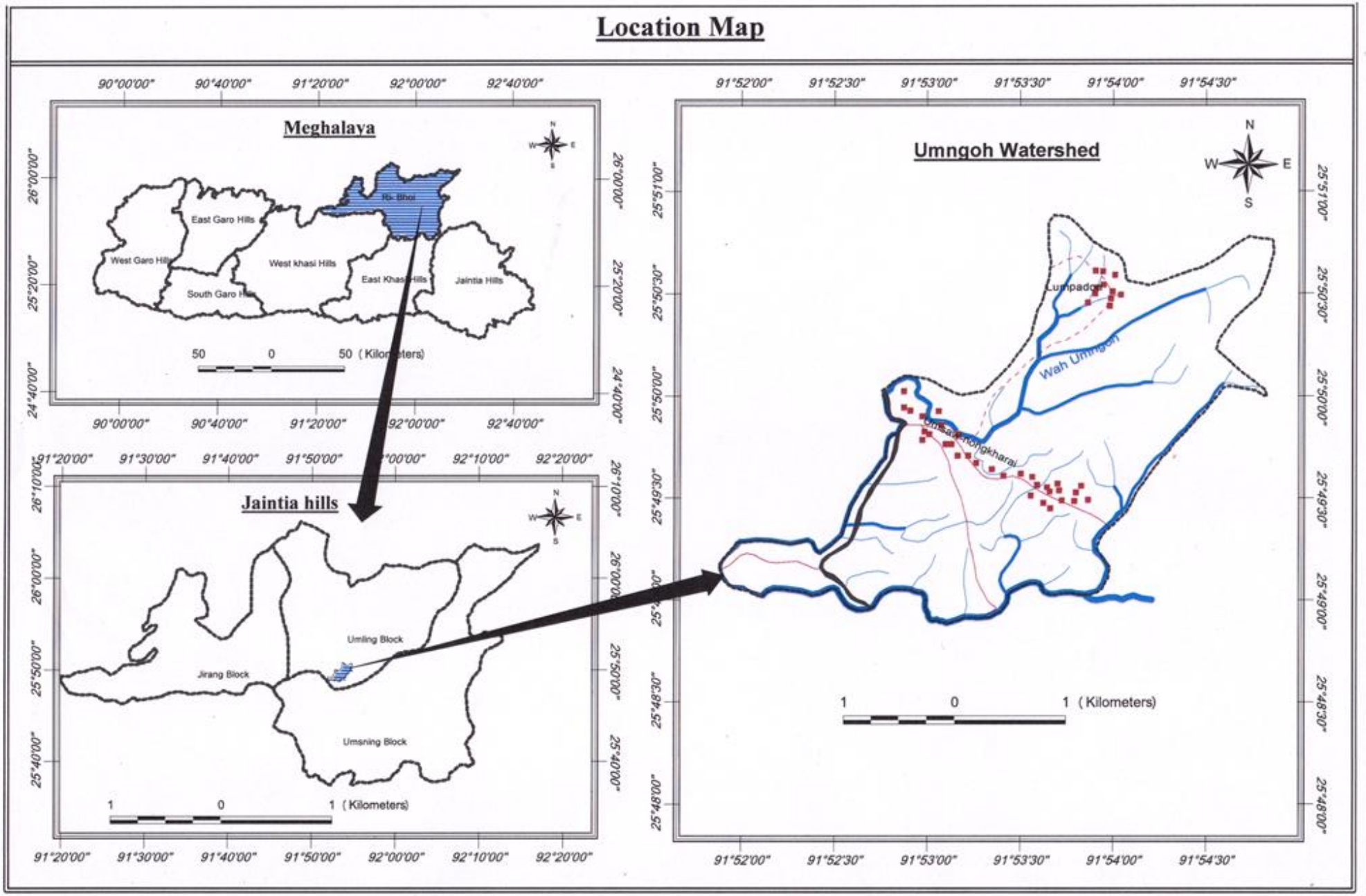
Name of the Sate	:	*Meghalaya*
Name of the District	:	*Ri Bhoi District*
Name of the C&RD Block	:	*Umling & Jirang C&RD Block*
Name of the Villages	:	*(i) Umkaduh (ii) Umkyrpiang (iii) Lumkya (iv) Umsaw Noldhi. (v) Rendhi (vi) Pahamshiken (vii) Umngei (viii) Sohkpu (ix) Umsaw Nongkharai (x) Langpohdon (xi) Nongwah Mawlein (xii) Pahamryngkang*
Name of the Project	:	*Ri Bhoi – IWMP – VII*
Total Geographical Area	:	*3749 Ha*
Total Treatment Area	:	*2500 Ha*
Total Project Cost	:	*375.00 lakhs*
Project Duration	:	*5 Years*
Project Implementing Agency	:	*Soil & Water Conservation Ri Bhoi Division, Nongpoh.*

Location Map

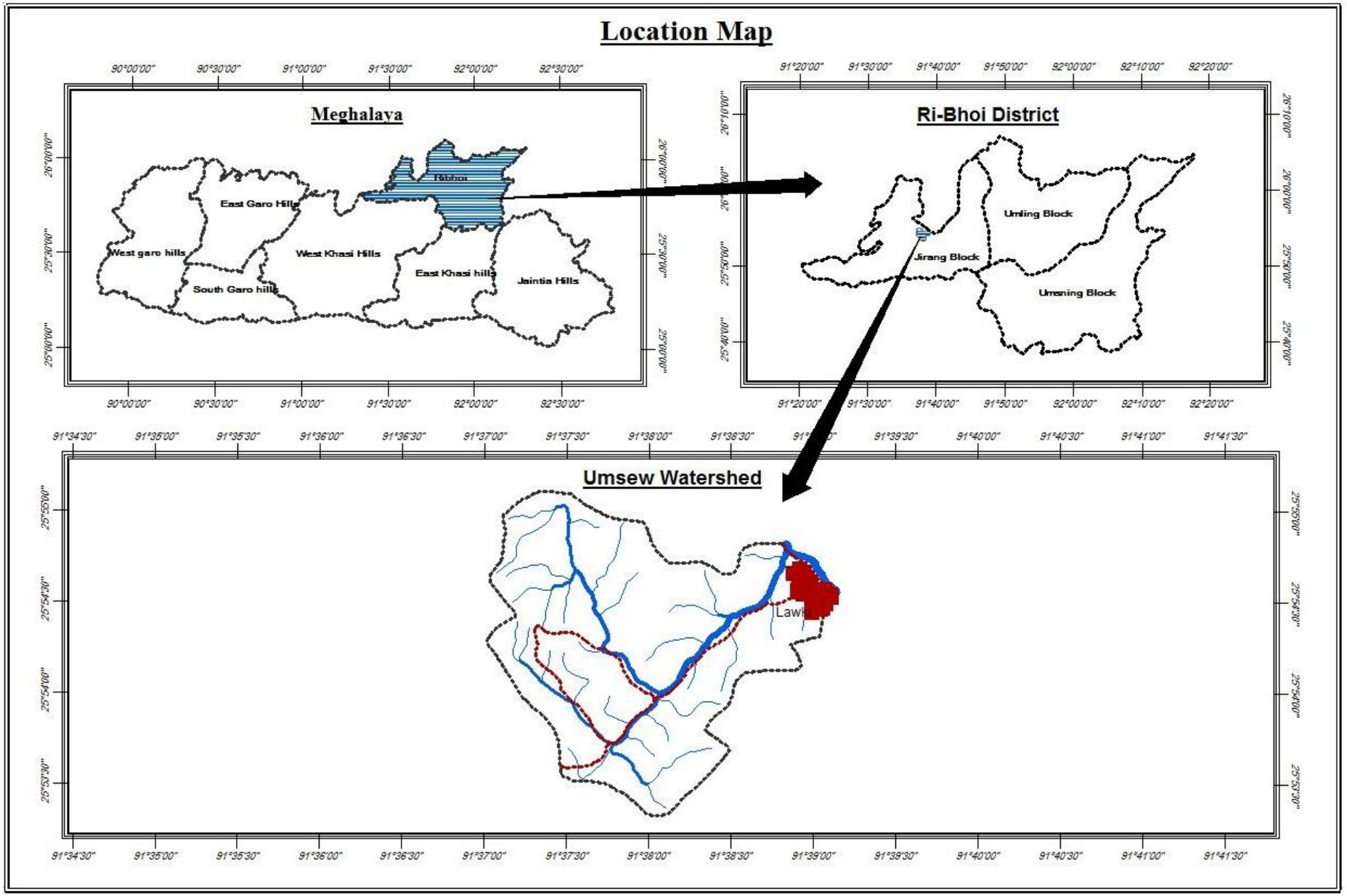



Location Map
Meghalaya
Ri Bhoi
East Garo Hills
West Garo Hills
West Khasi Hills
East Khasi Hills
South Garo Hills
Jaintia Hills
50 0 50 (Kilometers)
Ri-Bhoi District
Jirang Block
Umling Block
Umsning Block
25 0 25 (Kilometers)
Umngei Watershed
Sohkpu
Pamshiken
Umngei
1 0 1 2 (Kilometers)
N
S
E
W

Location Map



Location Map



CHAPTER - I

INTRODUCTION & BACKGOUND

CHAPTER I

INTRODUCTION AND BACKGROUND

1.1 Project Background:

The (IWMP-VII) project are located in Umling and Jirang C&RD Block, Ri-Bhoi District of Meghalaya. Consisting of a four micro-watershed, Umkyrpiang-Umkaduh, Umngei, Umngoh and Umsew micro Watersheds. The total area is 3749 Ha. with 2500 ha to be treated under the Integrated Watershed Management Programme (IWMP) Project - VII.

The Project area are located at a distance of about 70 km from Nongpoh the District Head Quarter and about 120 km from Shillong the State Capital. A total of twelve villages are covered under the project. The following villages are under Umling C&RD Block –

(i) Umkaduh (ii) Umkyrpiang (iii) Lumkya (iv) Umsaw Noldhi (v) Rendhi (vi) Pahamshiken (vii) Umngei (viii) Sohkpu (ix) Umsaw Nongkharai (x) Langpohdon.

The following villages are under Jirang C&RD Block:-

(i) Nongwahmawlein and Pahamryngkang

1.2 Micro-watershed Information:

The micro-watershed code is 3B2A2a3a for Umkyrpiang-Umkaduh, 3B2A1a3a for Umngei, 3B2A2a2g for Umngoh and 3B1C6IJ for Umsew Watershed as codified by the North East Space Application Centre (NESAC).

1.3 Need and Scope for Watershed Development:

The micro-watersheds falls under the Medium Priority category as per the prioritization of watersheds by the North East Space Application Centre (NESAC). Out of the 12 villages 8 villages have kutcha road connectivity where as another 4 villages not motorable. The farmers are all marginal and 547 households are below the poverty line, which is 40 % of the total households.

Even though the area receives ample rainfall during the monsoons, there is acute shortage of water during the dry seasons and the villagers have to travel long distances for fetching water even for domestic use.

1.4 Other developmental projects/schemes running in the Project Area:

The other developmental projects/schemes undertaken in the Project Area are:-

i. MGNREGS

ii. Total Sanitation Campaign (TSC)

iii. Swarnjayanti Gram Swarozgar Yojana (SGSY)

iv. Indira Awas Yojana (IAY)

CHAPTER - II

BASIC INFORMATION OF THE AREA

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BASIC INFORMATION OF THE PROJECT AREA

2.1 Location:

The Project area is located within the area Umling C&RD Block and Jirang C&RD Block of Ri Bhoi District. It is situated at a distance of about 70 km from Nongpoh the district Head Quarter and about 120 km from Shillong the State Capital. The geographical location of Umkaduh Umkyrpiang is between 91^0 54'00" to 91^0 59'E Longitude and 25^0 49'60" to 25^0 51' 60"N Latitude, Umngei is between 91^0 54'25.17" to 91^0 55'29.25"E Longitude and 25^0 56'12.87" to 25^0 58' 33.51"N Latitude, Umngoh is between 91°51′50″ to 91°54′45″ E Longitude and 25°48′20″ to 25°50′20″ N Latitude and Umsew is between 91^0 37'30" to 91^0 39'.30"E Longitude and 25^0 53'00 to 25^0 54' 00"N Latitude . There are 12 villages within the Watershed which are as follows –

1. Umkyrpiang Umkaduh Watershed
(i) Umkaduh (ii) Umkyrpiang (iii) Lumkya (iv) Umsaw Noldhi (v) Rendhi

2. Umngei Watershed
(i) Pahamshiken (ii) Umngei (iii) Sohkpu

3. Umngoh Watershed
(i) Umsaw Nongkharai (ii) Langpohdon.

4. Umsew Watershed
(i) Nongwahmawlein (ii) Pahamryngkang

2.2 Physiography:

The physiography of the micro-watershed is moderately undulating. The altitude ranges from a minimum of 560 m to a high of 860 m above mean sea level. In the lower reaches (valley lands) the slope ranges from 0% to 60%,

Table 2.1: Physiographic details

Elevation (metres)	Slope Range (%)	Order of watershed Sub/Micro-watershed	Major streams	Topography
600 m to 700 m	0% to 60 %	Micro Watershed	Umkyrpiang, Umkaduh	Moderately Sloping
400 m to 650 m	0% to 60 %	Micro Watershed	Umngei	Moderately Sloping
540 m to 840 m	0% to 70 %	Micro Watershed	Umngoh	Moderately Sloping
300 m to 600m	0-8 % to 58-67 %	Micro Watershed	Umsew	Moderately Sloping

a. **Drainage:** The major stream draining the micro-watershed are Umkyrpiang – Umkaduh, Umngei, Umngoh and Umsew flowing in a south- west direction. The slopes of the micro-watershed are dissected by numerous small tributaries flowing to these Streams.

b. **Soil:** The Soils are in general deep to very deep with loamy to clay loam/clay in surface texture. Soils are acidic in nature. Soils are generally well drained except in low land where water table fluctuate. Owing to moderately undulating land form and absence of good vegetation cover, the area is exposed to erosion hazards.

c. **Table 2.2: Details of soil erosion in the project areas:**

1	2	3	4	5	6	7	8	9
Sl. No.	Names of State	Names of District	Names of Projects	Cause	Types of erosion	Area affected (ha)	Run-off (mm/ year)	Average soil loss (Tonnes/ ha/ year)
1	Meghalaya	Ri Bhoi	RB-IWMP-VII	Water erosion:				
				a	Sheet			
				b	Rill	2500	2500-4000	10.50 to 32.50
				c	Gully			
				Sub total		2500	2500-4000	10.50 to 32.50
				Wind erosion		Nil	Nil	Nil

2.6. CLIMATE:

The climate in this area is per humid subtropical, which is directly influence by the South West Monsoon; Originally from Bay of Bengal and Arabian Sea. The whole year can be divided into four seasons – summer, monsoon (rainy), autumn and winter. The summer season extend from the last part of March to Mid May, is characterized relatively high temperature, occasionally thunder storm and high wind velocity. Te rainy season commence with the onset south west monsoon in April/May and last upto October/November, though it rain intermittently for the whole year but this is the wettest period of the year. The rainy season is followed by short autumn from Mid October to November which a sharp decline of temperature then the winter season start which is extend to the start of March. This is the coldest season of the year, but the winter is not that severe. The average rainfall in this area is 1000mm to 2500mm

Table 2.3: Agro-climatic zones of the project areas, soil types, average rainfall and major crops.

1	2	3	4	5	6	7		8	9	
Sl. No.	Name of State	Name of the Agro-climatic zone	Area (in ha)	Names of the districts	Names of the Projects	Major soil types		Average annual rainfall in mm (preceding 5 years' average)	Major crops	
						a) Type	b) Area (ha)		a) Name	b) Area (ha)
1	Meghalaya	Hot and Moist	3749 Ha	Ri bhoi	RB- IWMP VII	Moderate shallow, excessively drained, fine – loamy soil on moderately steep side slopes of hills having loamy surfaces with severe erosion hazard and strong stoniness associated with moderately Shallow, moderately drained, loamy skeletal soils on gently sloping hill tops with very severe erosion hazard and slight stoniness	3749 Ha	1500 mm	Paddy	890
									Ginger	455
									Maize	160
									Broomstick	425
									Betelnut	20
									Betel leaf	20
									Orange	40
									Bay leaf	10
									Black pepper	20
									Litchi	20
									Banana	50
									Pineapple	15
									Tomato	20
								Total		**2145 Ha**

2.6 AGRICULTURE:

The economy of the area is predominantly agrarian. Majority of the people of the region depends on Agriculture and allied activities. Inspite of the problems such as the geographical isolation, the infrastructural deficiencies, socio – economic structures, etc there are most potentialities for the development of agriculture in the areas. The main agriculture crops are paddy, maize, ginger, turmeric, varieties of chilies, pumpkin ,pineapple, and variety of vegetables etc.

Table 2.4: Crop yield and production

Crops	Area (ha)	Average Yield (kg) per ha.	Total Production (Qtl.)
paddy	890	1800-2500	40312.50
ginger	455	7500-8734	94652.50
maize	160	1000-1140	3480.50
Broomstick	425	20000-30000	62500
Betelnut	20	15	300
Betel leaf	20	10	300
Orange	40	80	1200
Black pepper	20	6.05	121
Bay leaf	10	23.50	235
Banana	50	72.71	3630.50
Pineapple	15	41	1230
Tomato	20	60	9600
Pineapple	164	20000-30000	146250

d. NATURAL VEGETATION:

The Natural Vegetation of the project area is fairly poor due to tremendous biotic factors such as recurring fire hazards, overgrazing and browsing. Over exploitation of timber and fuel wood particularly charcoal burning etc. have destroyed the economical species and left scrub vegetation in most of the area. The following species are available in the Watershed area:

Schima Wallichi (Diengngan)
Michelus species (Diengrang)
Erithana sps (Diengsong)
Duabanga grandiflora (Dieng kokon)
Legestromia sps (Dieng lynshing).
Melinia arboera (Dieng phing)
Vitex penduncularis (Dieng shyrtoh)
Bauhimia Spp.
Bamboo

2.7 Socio-Economic Profile: The socio economic set up of the people are very poor .The average annual income is about Rs. 25,000.The prime occupation of the people is Agriculture(Mono-Agriculture).The main crop is paddy .Other crops include maize, potato, sweet potato. The fruit available are pineapple, pear, peach. Majority of people are keeping livestock and poultry. There are very limited infrastructures available. Drinking water supply is being met through the source within the surrounding area of the villages. There are

2.8 DEMOGRAPHIC FEATURES:

The total population of the Watershed is 4267.Nos belonging to 757 families of which 2131 are males and 2136 are females. The average size of the family is 5. The entire population is tribal, the predominant being the Khasi Tribe. The number of households as per village wise are as follows:

Sl No	Name of Villages	No. of Household	Population		Total
			Male	Female	
1	Umkaduh	152	511	474	985
2	Umkyrpiang	73	224	232	456
3	Lumkya	56	173	166	339
4	Umsaw Noldhi	29	108	98	206
5	Rendhi	19	61	63	124
6	Pahamshiken	44	141	138	279
7	Umngei	10	33	33	66
8	Sohkpu	10	35	30	65
9	Umsaw Nongkharai	117	275	257	532
10	Langpohdon	36	110	112	222
11	Pahamryngkang	120	279	323	602
12	Nongwahmawlein	91	181	210	391
	Total	**757**	**2131**	**2136**	**4267**

Infrastructure facilities **:**

2.1.1 *Roads:* Eight villages within the Project Area are connected by Kutcha road but four villages has no proper road connectivity.

2.1.2 *School:* There are only 13 L.P Schools and 4 upper primary within the Project Area run either by the Mission or by the Government.

2.1.3 *Electricity:* Connections have been provided to all the villages.

2.1.4 *Health:* There four three Health Centre situated at Marngar CHC, Nongpoh CHC, Juntru PHC and Patharkhmah CHC which are nearest to these village

2.1.5 *Water Supply:* Drinking water supply have been provided by the PHE Dept. However, during lean season the entire populations have to depend on springs available in the area as the supply is not sufficient to meet the daily requirement.

2.1.6 *Market:* The weekly markets held once in a week at Nongpoh and Patharkhmah, However, the main market where the people sell their produces is at Shillong.

Table 2.5: Infrastructure Status.

1	2	3		4			
Name of District	**Name of Project**	**Parameters:**		**Status**			
Ribhoi district	RB IWMP VII	(i)	No. of villages connected to the main road by an all-weather road.	8 villages connected by road motorable and 4 villages have to travelled half and hour to reach to the road junction			
		(ii)	No. of village provided with electricity	All villages are electrified			
		(iii)	No. of households without access to drinking water	47 nos.			
		(iv)	No. of educational institutions: Primary (P)/ Secondary (S)/ Higher Secondary (HS)/ Vocational institution (VI)	(P)	(S)	(HS)	(VI)
				17 Nos.	-	-	-
		(v)	No. of village with access to Primary Health Centre	Nil			
		(vi)	No. of village with access Veterinary Dispensary	Nil			
		(vii)	No. of village with access Post Office	Nil			
		(viii)	No. of village with access Banks	Nil			
		(ix)	No. of village with access Markets/ mandis	Nil			
		(x)	No. of village with access Agro-Industries	Nil			
		(xi)	Total quantity of surplus milk	Nil			
		(xii)	No. of milk collection centres (e.g. Union (U)/ Society (S)/ Private agency (PA)/ Others (O))	(U)	(S)	(PA)	(O)
				Nil	Nil	Nil	Nil
		(xiii)	No. of villages with access to Aganwadi Centres	8 Nos.			
		(xiv)	Any other facilities with no. of villages (please specify)	Nil			

2.6 Livestock: there are only 4 kinds of livestock farming being farmed in the area viz. pig, cow, sheep

Table 2.6: Existing livestock population

Type of Animal	Population
Pig	227
Sheep	5
Cow	252
Poultry	1030
TOTAL	**1514**

e. Land ownership: There are primarily two types of land holding system, namely private lands (Ri Kynti i.e. individually owned land) and community lands (Ri Kur i.e. clan land and Ri Raid i.e. village community land).

Table 2.7: Land Holding:

1	2	3	4	5	6		
Name of District	**Name of the Project**	**Types of Farmer**	**No. of households**	**No. of BPL households**	**Land holding (ha)**		
					Irrigated	**Rainfed**	**Total**
Ribhoi	RB IWMP VII	(i) Large	32	-			
		(ii) Small	48	-			
		(iii) Medium	44				
		(iv) Marginal	575	313	-	1930 ha.	1930 ha.
		(v) Landless	58	53	-		
		Sub - Total	757	366			

Table 2.8: Common Property Resources in the Project Area

1	2	3	4				5			
Name of District	Name of the Projects	CPR Particulars	Total Area (ha) Area owned/ In possession of				Area available for treatment (ha)			
			Pvt. Person	Govt. (specify deptt.)	PRI	Any other (Community)	Pvt. Person	Govt. (specify deptt.)	PRI	Any other (Community)
Ribhoi District	RB IWMP VII	(i) Wasteland/ degraded land	378 ha	-			117 ha	-	-	513 ha
		(ii) Pastures	-	-	-	-	-	-	-	-
		(iii) Private Agriculture land	628 ha	-	-	-	715 ha			
		(iv) Village woodlot	-	-	-	-	-			
		(v) Forest	2036 ha	-	-	553 ha	678 ha			
		(vi) Village Ponds/ Tanks	-	-	-	-				
		(vii) Community Buildings	-	-	-	-.				
		(viii) Weekly Markets	-	-	-	Nongpoh & Patharkhmah				
		(ix) Permanent Markets	-	-	-	Nongpoh & Patharkhmah				
		(x) Temples/ Places of worship	-	-	-	Church- 8 nos.				
		(xi) Others (Pl. specify)	154	-	-		477 ha			
		Total	**3196 ha.**	**-**	**-**	**553 ha.**	**1987 ha**	**-**	**-**	**513 ha**

f. **Land use and land cover :** As per the land use land cover map generated by NESAC, Meghalaya from Satellite Image taken during 2005 – 2006 (LISS – III, Image) the Watershed area has been broadly classified into the following land uses.

Area Description	Umkyrpiang-Umkaduh	Umngei	Umngoh	Umsew
Built-up Area	20 Ha	15 Ha	108 Ha	11 Ha
Agricultural land	327 Ha	105 Ha	87 Ha	109 Ha
Tree clad Area-close	639 Ha	413 Ha	357 Ha	160 Ha
Tree clad Area-open	372 Ha	86 Ha	169 Ha	393 Ha
Wastelands-barren /Dense scrub	37 Ha	292 Ha	49 Ha	
Total	**1395 Ha.**	**911 ha.**	**770 ha.**	**673 Ha.**

2.12 PROBLEMS OF THE AREA:

The problem of the area of the Watershed as in the general common problems in the state is the unrepairable exploitation of natural resources like soil, water and vegetation. The entire watershed suffers from problems of mismanagement of lands, unscientific land use, frequently forest fires, indiscriminate tree felling, uncontrolled grazing, etc. have already given rise to much soil erosion and increase runoff in the area.

In addition to the above mentioned problems, farmers' unawareness of the seriousness of the problem of mismanagement of land hence their lack of motivation and willingness to change their tradition method of farming and adopt another alternative and sustainable method of farming in arable land is another hurdle. Lack of extension, demonstration and infrastructure facilities also contributed to low yield in agriculture production.

The aforesaid problems need to be integrated in the process of farming of land use which will be acceptable to the village communities as a whole.

CHAPTER - III

PROJECT PLANNING & INSTITUTION BUILDING

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3.1 Scientific Planning

i) Base Line Survey: To establish a benchmark for assessing the impact of any intervention (pre-project & post project) a baseline survey is essential. The baseline survey included household census & socio-economic survey by using structured and semi –structured questionnaires, bio-physical survey to identify and assess the status of natural resources in the project area.

ii) Participatory Rural Appraisal: To further obtain information on the project area, the people, resources, various PRA techniques like resource mapping, social mapping, seasonal calendars, matrix ranking, Venn diagrams were used.

iii) GIS & Remote Sensing: To facilitate the process of prioritization and planning Geographic Information System was use. The land use and land cover (LULC) maps were prepared by the North Eastern Space Application Centre (NESAC) using the LISS III images (2006). The activities were located on the field by using GPS and accordingly transferred to the maps on GIS platform.

Table 3.1: Details of Scientific Planning and Inputs in IWMP projects:

1	2	2
Sl. No.	**Scientific criteria/ inputs used**	**No. of projects in which scientific criteria were used**
A.	**Planning**	
	Cluster approach	3
	Whether technical back-stopping for the project has been arranged? If yes, mention the name of the Institute.	Yes, NESAC, Nongsder
	Baseline survey	Yes
	Hydro-geological survey	No
	Contour mapping	No
	Participatory Net Planning (PNP)	No

1	2	2
	Remote sensing data-especially soil/ crop/run-off cover	Yes
	Ridge to Valley treatment	Yes
	Online IT connectivity between	
	(1) Project and DRDA cell/ZP	Yes
	(2) DRDA and SLNA	Yes
	(3) SLNA and DoLR	Yes
	Availability of GIS layers	
	1. Cadastral map	No
	2. Village boundaries	No
	3. Drainage	Yes
	4. Soil (Soil nutrient status)	Yes
	5. Land use	Yes
	6. Ground water status	No
	7. Watershed boundaries	Yes
	8. Activity	Yes
	Crop simulation models#	No
	Integrated coupled analyzer/ near infrared visible spectroscopy/ medium spectroscopy for high speed soil nutrient analysis	No
	Normalized difference vegetation index (NDVI)#	Yes
	Weather Stations	No
B.	**Inputs**	
	1. Bio-pesticides	No
	2. Organic manures	Yes
	3. Vermi-compost	Yes
	4. Bio-fertilizer	Yes
	5. Water saving devices	No
	6. Mechanized tools/ implements	No
	7. Bio-fencing	Yes
	8. Nutrient budgeting	Yes
	9. Automatic water level recorders & sediment samplers	No
	Any other (please specify)	-

3.2 Project Implementing Agency:

The PIA is the Soil & Water Conservation Ri-bhoi Division, Nongpoh, Ri-bhoi District of Meghalaya. The Project Manager will be the Divisional Soil and Water Conservation Officer and will be assisted by an Asst. Soil & Water Conservation Officer along with WDT members in which expertise is drawn from the relevant fields for achieving smooth and successful implementation of the project.

1	2	3		
Names of Districts	**Names of projects**	**Details of PIA**		
Ribhoi	RB – IWMP VII	(i)	Type of organization#	Government
		(ii)	Name of organization	Soil & Water Conservation Ribhoi Division, Nongpoh
		(iii)	Designation & Address	Divisional Soil & Water Conservation Officer, Ribhoi,Nongpoh
		(iv)	Telephone	0364 – 2591085
		(v)	Fax	Do
		(vi)	E-mail	Dswco_ribhoi@yahoo.com

3.3 Institution Building

i) Watershed Committee (WC)

The Watershed Committees had been formed Umkyrpiang-Umkaduh, Umngei, Umngoh and Umsew, IWMP VII (2011-12) with the active involvement of the villagers with strong support of the Traditional Institutions (Village Durbar/Council). The four Watershed Committees has been registered under the Society Registration Act 1883.

Table 3.2: Details of Watershed Committees (WC):

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Names of the Districts	Names of projects	Names of WCs	Date of Registration as a Society (dd/mm/ yyyy)	Designation	M/F	SC	ST	SF	MF	LF	Land-less	UG	SHG	GP	Any other	Educational Qualification	Function/s assigned#
Ribhoi District	RB – IWMP – VII	1. Umkyrpiang-Umkaduh 2. Umngoh 3. Umngei 4. Umsew		President	M	-	ST							4		Class VIII, & Class X	A to I
				Secretary	M & FM	-	ST								4	BSC. Agri, MSC, PU & Class X	A to I
				Member	34 M	-	ST				2	2	4	16		Cl-VI to M.A	A to I
				Member	16 F	-	ST					5	6					A to I

A. PNP and PRA
B. Planning
C. Maintenance of Accounts
D. Signing of cheques and making payments
E. Supervision of construction activities
F. Cost Estimation
G. Verification & Measurement
H. Record of labour employed
I. Social Audit
J. Any other (please specify).

ii) Self Help Group

Awareness programmes were organized in the villages to inform and sensitize the people on the essence of organizing themselves in to homogenous groups for uplifting their livelihood especially for the women and the landless. Discussions were held at length with the WDT on the scope and procedure of group formation, availing credit, grading of the groups and so on.

Table 3.3: Details of Self Help Groups (SHGs) in the project areas:

1	2	3				4				5			6		
Names of the Districts	Names of projects	Total no. of registered SHGs				No. of members				No. of SC/ST in each category			No. of BPL in each category		
		With only Men	With only Women	With both	Total	Categories	M	F	Total	M	F	Total	M	F	Total
Ribhoi	RB IWMP VII	4 nos.	10 nos.	4 nos.	18 Nos.	(i) Landless									
						(ii) SF									
						(iii) MF	42	103	145	42	103	145	NA	NA	NA
						(iv) LF									

iii) User Group

To manage the assets created and ensure their sustainability User Groups will be formed. The people have been sensitized on the importance of ensuring that the assets created are sustainably used and the essentiality of having User Groups for maintenance and operation of their assets.

Table 3.4: User Group Details

1	2	3				4				5			6		
Names of Districts	Names of Projects	Total no. of Ugs				No. of members				No. of SC/ST in each category			No. of BPL in each category		
		Men	Wo men	Both	Total	Categories	M	F	Total	M	F	Total	M	F	Total
						(i)Landless									
						(ii) SF									
						(iii) MF									
						(iv) LF									
Total		Nil	Nil	Nil	Nil				Nil			Nil			Nil

CHAPTER - IV

PROJECT ACTIVITIES

CHAPTER IV

PROJECT ACTIVITIES

4.1 Preparatory Phase:

Entry Point Activities (EPA)

(Financial – Rs. in lakh)

1	2	3	4	5	6
Names of Project	Amount earmarked for EPA	Entry Point Activities planned	Estimated cost	Expected outcome	Geographical Location
Ri Bhoi IWMP VII	15.0 Lakhs	1. Drinking water tank with washing platform (5 nos.)	2,04,300		Umkaduh Umkyrpiang-91^0 54'00" to 91^0 59'E Longitude and 25^0 49'60" to 25^0 51' 60"N Latitude Umngei-91^0 54'25.17" to 91^0 55'29.25"E Longitude and 25^0 56'12.87" to 25^0 58' 33.51"N Latitude Umngoh-91°51'50" to 91°54'45" E Longitude and 25°48'20" to 25°50'20" N Latitude Umsew-91^0 37'30" to 91^0 39'.30"E Longitude and 25^0 53'00 to 25^0 54' 00"N Latitude
		2. Drinking Water Tank (4 nos.)	3,60,000		
		2. Drinking water tank with washing platform and bathing shed. (7 nos.)	3,68,800	N.A	
		3.Water harvesting structure (2 nos.)	1,52,100		
		4. Foot Bridge (1 No.)	1,14,800		
		Drinking well and protection wall (2 nos.)	1,00,000		
		Bathing place (1 no.)	1,00,000		
		Drinking well with footpath (4 nos.)	1,00,000		
		TOTAL	**15,00,000**		

i) Other activities of Preparatory Phase:

1	2	3	4	5	6	7
Initiation of village level institution	**Capacity building**	**IEC activities**	**Baseline survey**	**Hydro-geological survey**	**Identifying technical support agencies**	**Resource agreements**
4 nos. W/C 12 nos. Sub Watershed Committee at each benefiting village	13 nos.	11 nos.	Participatory Rural Appraisals	N.A	Done	Done

4.2 Watershed Works Phase:

4.2.1 Activities related to surface water resources in the project areas:

1	2	3			4											
Name of Projects	Type of structures	Pre Project			Proposed Project											
					Augmentation/ repair of existing structures				Construction of new structures				Total target			
		No	Area irrigated (ha)	Storage capacity	No	Area to be treated (ha)	Storage capacity	Estimated cost (in lakhs)	No	Area to be treated(ha)	Storage capacity (per unit)	Estimated cost (in lakhs)	No	Area to be treated (ha)	Storage capacity (m^3)	Estimated cost
RB – IWMP VII	(i) Tank	-	-	-												
	(ii) Pond	-	-	-	-	-	-	-	86 nos.	291.20 Ha	1500 m^3	43.68	86 nos.	291.20 Ha	1500 m^3	43.68
	(iii) Lake	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	(iv) Check Dam	-	-	-	-	-	-	-	42 nos.	223.17 Ha	3000 m^3	33.47514	42 nos.	223.17 Ha	3000 m^3	33.47514
	(v) Protection wall	-	-	-	-	-	-	-	35 nos.	144.59		21.688	35 nos.	144.59		21.688
	(vi) Channel	-	-	-	-	-	-	-	19 nos.	56.50	-	8.476	19 nos.	56.50	-	8.476
	(vii) Any others (please specify)								4 nos.	38.88		5.832	4 nos.	38.88		5.832
Total									**186 nos**	**754.34 Ha**	**4500 m^3**	**113.15114**	**186 nos**	**754.34 Ha**	**4500 m^3**	**113.15114**

4.2.2 Activities related to recharging ground water resources in the project areas:

1	2	3		4							
Names of projects	Type of structures	Pre-project		Proposed target							
		No.	Area irrigated (ha)	Augmentation/ repair of existing recharging structures			Construction of new recharging structures			Total target	
				No.	Area to be irrigated (ha)	Estimated cost	No.	Area to be irrigated (ha)	Estimated cost	Area to be irrigated (ha)	Estimated cost
RB – IWMP VII	(i)Open wells		Nil		Nil			Nil		Nil	
	(ii)Bore wells										
	(iii)Any others (Pl. specify)										
	Total for the project										

4.2.3 Activities executed by User Groups in the Project Areas

User Groups will be formed accordingly for operation and maintenance of community assets created under the project, like community drinking water source, . The capacity of the user groups will be built through awareness and training programmes. User fees will be charged accordingly and fixed by the User Groups as per the requirement for maintenance of the assets created.

4.2.4 Activities related to livelihoods by Self Help Groups (SHGs) in the project areas:

Awareness programmes will be conducted to sensitize the people on various aspects of SHGs. Training programmes shall be from time to time to further build the capacity of the SHGs. Besides, skill development training shall also be conducted for promoting income generation of the SHGs such as Piggery, handicrafts, poultry, integrated farming system, fruit processing etc.

4.2.5 Other activities of watershed works phase:

1	2		3		4		5		6		7		8		9		10		11		12
Names of projects	Ridge area treatment		Drainage line treatment		Nursery raising		Land development		Crop demonstrations		Pasture development		Veterinary services		Fishery development		Non-conventional energy		Any other (please specify)		Total estimated cost (Rs. In lakhs)
	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	
RB IWMP -VII	495 Ha	23.345	186 Nos./ 754.34 ha	113.15114	-	-	847.50 Ha	73.50386			-	-	233 units	32.53	5 units	0.50	-	-	496 units	38.22	281.25

4.2.6 Details of engineering structures in watershed works:

1	2	3			4			5					
Project	Name of structures	Type of treatment			Type of land			Target					
		(i) Ridge area (R)	(ii) Drainage line (D)	(iii) Land Dev. (L)	(i) Private	(ii) Community	(iii) Others (pl. specify)	No. of units (No./ cum./ rmt)	Estimated cost (Rs. in lakh)				Expected month & year of completion (mm/yyyy)
									M	W	O	T	
RB IWMP VII	Staggered trenching												
	Loose boulder			130 ha					9.75				3 Yrs
	Contour bunding			65 ha					4.875				3 Yrs
	Box terracing			20 ha					1.50				3 Yrs
	Water Harvesting		56 nos.						33.93				3 Yrs
	checks dams		42 nos.						33.47514				3 Yrs
	Protection wall		35 nos						21.688				3 Yrs
	Small dug-out ponds		30 nos						9.75				3 Yrs
	C.C. Channel		15 nos						8.326				3 Yrs
	Earthen Channel		4 nos						0.15				3 Yrs
	Aqueduct		4 nos						5.832				3 Yrs
	Field bunds			185 ha.					7.955				3 Yrs
	Any others (pl. specify)	495 ha.		447.5 ha.					72.76886				3 Yrs

4.2.7 Details of activities connected with vegetative cover in watershed works:

1	2	3			4			5			
		Type of treatment			Type of land			Target			
Project	Name of structure/ work	(i) Ridge area (R)	(ii) Drainage line (D)	(iii) Land dev. (L)	(i) Private	(ii) Community	(iii) Others (pl. specify)	Area (ha)	No. of plants	Estimated cost (Rs. in lakh)	Expected month & year of completion (mm/ yyyy)
RB IWMP -VII	Afforestation		ii		i	ii		85	61562	8.585	3 yrs.
	Regeneration										
	Agro-forestry										
	Fuel wood										
	Fodder										
	Agro- Horticulture			iii	i			425 ha	210200	36.55	3 yrs.
	Pasture dev.										
	Nursery raising										
	Others (Coffee)										

in case two or more activities are executed over same area, the figures in area treated should be accounted only once and should reflect only the actual watershed area treated.

4.2.8 Details of allied / other activities:

1	2	3			4	
Project	Name of activity@	Type of land			Target	
		(i) Private	(ii) Community	(iii) Others (landless)	Estimated cost (Rs. in lakh)	Expected month & year of completion (mm/yyyy)
RB IWMP VII	Tailoring	-	-	58 units	4.96	3 yrs.
	Carpentry			86 units	4.30	3 yrs.
	Kitchen gardening			210 units	5.25	3 yrs.
	Apiculture			25 units	2.36	3 yrs.
	Piggery Farming			169 units	19.68	3 yrs.
	Poultry			51 units	6.50	3 yrs.
	Seed and plants			31 units	4.35	3 yrs
	Fisheries			5 units	0.50	3 yrs.
	Agri Implement			19 units	0.95	3 yrs.
	Hallow Block Making			12 units	0.60	3 yrs.
	Fruit /food processing			5 units	2.50	3 yrs.
	Milch Cow			12 units	6.00	3 Yrs
	Other			51 units	13.30	3 Yrs

* from column no. 2, no. of States; from column no. 3, no. of Districts; from column no. 4, total no. of Projects; from column no. 5, activity-wise totals, from column no. 6, type-wise totals, from column no. 7, agency-wise totals, from column no. 8, total estimated cost, from column no. 9, total expenditure incurred, structure-wise no. of completed works, from column no. 10, item-wise totals, for the entire country may be indicated at the end of the table

@The activities given in this column are merely indicative and States are free to choose any other activity suited to the project area.

4.3 Consolidation and withdrawal phase

Details of activities in the CPRs in the project areas:

1	2	3	4	5			
Names of projects	Name(s) of the villages	CPR particulars	Activity proposed	Target			
				Target area under the activity (ha)	Estimated expenditure (Rs.)	Expected no. of beneficiaries	Estimated contribution to WDF (Rs.)
RB-IWMP VII	Pahamshiken	D/Water			0.40	44	2000
	Umngei	D/Water			0.30	09	1500
	Sohkpu	D/Water			0.30	10	1500
	Umsaw Nongkharai	D/ water			0.603	117	3015
	Langpohdon	D/ water			0.603	36	3015
	Nongwahmawlein	W/H		-	1.00		5000
	Pahamryngkang	W/H		-	1.50		5000

CHAPTER - V

PROJECT PHASING & BUDGETING

PROJECT PHASING & BUDGETING

ACTION PLAN OF INTEGRATED WATERSHED MANAGEMENT PROJECT – VII. RI BHOI DIVISION : NONGPOH

No. of Micro Watersheds:
1.Umkyrpiang Umkaduh(900ha), 2. Umngei(500ha),3. Umngoh (600ha) 4. Umsew (500ha)

No. of villages – 12 nos.
Project Area – 2500 ha.

Sl. No	Activities	Ist Year		IInd Year		IIIrd Year		IVth Year		Vth Year		Total	
		Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	2	3	4	5	6	7	8	9	10	11	12	13	14
I	**MANAGEMENT COST:**												
A.	**Administrative cost:**												
i.	Hon^{rm} of WDT Members @ Rs. 5000/ month – 1 no.			12 months	2.1	12 months	2.1	12 months	2.1			3 yrs	6.3
ii.	Hon^{rm} of Watershed Volunteers @ Rs. 2500/-month – 1 no.			12 months	0.84	12 months	0.96	12 months	0.96			3 yrs	2.76
iii.	Hon^{rm} WCO's @ Rs. 750/ month.			12 months	.255	12 months	.255	12 months	.255			3 yrs	.765
iv.	Hon^{rm} WCM @ Rs. 100/members/ month for 20 nos.			12 months	0.51	12 months	0.63	12 months	0.63			3 yrs	1.77
v	Hon^{rm} Office assistant @ Rs. 3000/- month.			12 months	0.84	12 months	1.1232	12 months	.7992			3 yrs	2.7624
vi	Hon^{rm} Chartered Accountant			12 months	.375	12 months	.661	12 months	.391			3 yrs	1.427
vii	TA/DA of Field Asstt. @ 5000/ month			12 months	.45	12 months	.90	12 months	.90			3 yrs	2.25
viii	Hiring charges of office building @ 1000			12 months	.18	12 months	.18	12 months	.18			3 yrs	0.54
ix.	Hiring charges of vehicle @ 5000/ month			12 months	.45	12 months	.90	12 months	.90			3 yrs	2.25
x	Office expenses, POL, Stationeries, printing of SHG's books, pamphlets, tea, snacks etc, cost of camera.				1.50		11.0408		4.1348				16.6756
	Total of A:			**2%**	**7.5**	**5%**	**18.75**	**3%**	**11.25**			**10%**	**37.5**
	PREPARATORY PHASE :												
B.	**Entry Point Activities:**												
i.	Drinking water tank with washing platform	5 Nos	2.043									5 Nos	2.043
ii	Drinking water tank	4 Nos	3.60									4 Nos	3.60
iii	Drinking water tank with wasing platform and bathing shed	7 Nos	3.688									7 Nos	3.688
iv	Water harvesting structure	2 Nos	1.521									2 Nos	1.521
V	Footbridge	1 No	1.148									1 No	1.148
Vi	Drinking well with protection wall	2 Nos	1.00									2 Nos	1.00
Vii	Bathing place	1 No	1.00									1 No	1.00
viii	Drinking well with footpath	4 Nos	1.00									4 Nos	1.00

Total of B:		**26 Nos (4%)**	**15.00**									**26 Nos (4%)**	**15.00**
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**
C.	**Training:**												
i.	Awareness Campaign & Capacity building	4 Nos	1.08	7 Nos	1.10			2 Nos	0.40			13 Nos	2.58
ii.	Exposure visits – off. Campus	4 Nos	0.78	4 Nos	1.05	4 Nos	0.66	9 Nos	1.26			21 Nos	3.75
iii.	Capacity building of SHG's/ UG's.	8 Nos	0.63	14 Nos	3.225	10 Nos	2.18	7 Nos	1.13			39 Nos	7.165
iv.	Capacity building of WC Members.	4 Nos	0.325	3 Nos	0.75	2 Nos	0.125	1 No	0.15			10 Nos	1.35
v.	Capacity of WDT/WV/WC and field functionaries	2 Nos	0.33	4 Nos	0.725							6 Nos	1.055
Vi	Capacity of WDT/WV	3 Nos	0.275	3 Nos	0.65	2 Nos	0.125	1 No	0.15			9 Nos	1.20
vii	Vocational Training of SHGs for different Livelihood Activities and micro enterprise	2 Nos	0.33			4 Nos	0.66	12 Nos	0.66			18 Nos	1.65
Total of C:		**27 Nos. (1%)**	**3.75**	**35 Nos (2%)**	**7.50**	**22 Nos. (1%)**	**3.75**	**32 Nos 1%**	**3.75**			**116 Nos. (5%)**	**18.75**
D.	**Detailed Project Report:**												
i.	Cost of Resources Inventories works		0.525										0.525
ii.	Cost of PRA Exercises		1.25										1.25
iii.	Cost of Land use Survey works		0.725										0.725
iv.	Cost of formulating		1.25										1.25
Total of D:		**1%**	**3.75**									**1%**	**3.75**
E.	**Monitoring & Evaluation:**												
i.	Monitoring			.2%	.750	.5%	1.875	.3%	1.125			1%	3.75
ii.	Evaluation			.3%	1.125	.5%	1.875	.2%	0.75			1%	3.75
Total of E:				**.5%**	**1.875**	**1%**	**3.75**	**0.5%**	**1.875**			**2%**	**7.5**
Total of I (A to E)		**6%**	**22.5**	**4.5%**	**16.875**	**7%**	**26.25**	**4.5%**	**16.875**			**22%**	**82.50**
II	**PROJECT COST/WATERSHED WORKS PHASE :**												
A.	**Arable Land Treatment:**												
i.	Agro-Hort Creation @ Rs. 5900/ha.			167 ha	9.853	258 ha	18.506		8.191			425 ha	36.55
ii	Peripheral Bunding @ Rs. 50/Rm			3516 Rm	1.758	10666 Rm	5.33286	2566 Rm	1.283			16748 Rm	8.37386
iii	Impt. of Existing Paddy field (Wet Terrace) @ Rs. 4300/ha.			45 ha	1.935	55 ha	2.365	85 ha	3.655			185 ha	7.955
iv	Box Terrace @ Rs. 7500/ ha.			20 ha	1.50							20 ha	1.50
v	Contour Bunding @ Rs. 7500/ha.			11 ha	.825	54 ha	4.05					65 ha	4.875
vi	Terracing @ Rs. 20,000/ha			5 ha	1.00	15 ha	3.00	2.5 ha	0.50			22.5 ha	4.50

vii	Loose boulder @ Rs. 7500/ha					100 ha	7.50	30 ha	2.25			130 ha	9.75
Total of A :				**248 ha**	**16.871**	**482 ha**	**40.75386**	**117.50 ha**	**15.879**			**847.5 ha**	**73.50386**
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**
B.	**Non- Arable Land Treatment:**												
i	Afforestation Creation @ Rs. 7200/ha.			28.1 ha	2.023	56.9	4.7205		1.8415			85 ha	8.585
ii.	Impt. Degraded forest Creation @ Rs. 2600/ha.			189.75	5.081	220.25	7.497		2.182			410	14.76
Total of B:				**217.85 ha**	**7.104**	**277.15 ha**	**12.2175**		**4.0235**			**495 ha**	**23.345**
C	**Drainage Line Treatment:**												
i.	Water Harvesting Structures as per Estimates			1 No	3.50	40 Nos	22.1565	15 Nos	8.2735			56 Nos	33.93
ii.	Check Dam					29 Nos	29.77014	13 Nos	3.705			42 Nos	33.47514
iii.	Protection wall			1 No	0.65	34 Nos	21.038					35 Nos	21.688
iv.	Small dug out pond/farm pond					20 Nos	5.45	10 Nos	4.30			30 Nos	9.75
v.	C.C. Channel					10 Nos	5.906	5 Nos	2.42			15 Nos	8.326
vi	Earthen Channel							4 Nos	0.15			4 Nos	0.15
vii	Aqueduct					1 No	1.458	3 Nos	4.374			4 Nos	5.832
Total of C :				**2 Nos**	**4.15**	**134 Nos**	**85.77864**	**50 Nos**	**23.2225**			**186 Nos**	**113.15114**
Total of A + B + C					**28.125**		**138.75**		**43.125**				**210.00**
D	**Livelihood Activities for landless persons:**												
i.	Tailoring @ Rs.8,000/unit			5 units	0.40	18 units	1.44	34 units	2.72			57 units	4.56
ii.	Carpentry/ Agri- Impts/ Basket Making etc @ Rs. 5,000/unit			25 units	1.25	20 units	1.00	41 units	2.05			86 units	4.30
iii.	Kitchen Gardening/Seed & Manure @ Rs. 2500/unit			10 units	0.25	118 units	2.95	82 units	2.05			210 units	5.25
iv	Apiculture @ Rs. 8000/ unit					12 units	0.96	5 units	0.40			17 units	1.36
v	Piggery @ 8,000/ unit			5 units	0.40	35 units	2.80	101 units	8.08			141 units	11.28
vi	Poultry @ Rs. 8,000/ unit					10 units	0.80	30 units	2.40			40 units	3.20
vii	Seeds and plants @ Rs. 5,000/unit			5 units	0.25			12 units	0.60			17 units	0.85
viii	Fisheries @ Rs. 5,000/ unit			2 units	0.20			3 units	0.30			5 units	0.50
viii	Agri Implement @ Rs. 5,000/ unit.			10 units	0.50	8 units	0.40	1 units	0.05			19 units	0.95
ix	Hallow Block making @ Rs. 5,000/unit			10 units	0.50			2 units	0.10			12 units	0.60

x	Rearing of eri silk work @ Rs. 5,000/ unit					18 units	0.90					18 units	0.90
Total of D:				**72 units**	**3.75**	**239 units**	**11.25**	**311 units**	**18.75**			**622 units**	**33.75**
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**
E.	**Production System and Micro Enterprises (SHG's):**												
i	Milch cow @ Rs. 50,000/ unit			2 units	1.00	5 units	2.50	5 units	2.50			12 units	6.00
ii	Grocery shop @ Rs. 30,000/unit			1 unit	0.30	1 unit	0.30	1 unit	0.30			3 units	0.90
iii	Food/Fruit Processing unit @ Rs. 50,000/ unit							5 units	2.50			5 units	2.50
iv	Mushroom cultivation @ Rs. 30,000/unit					1 unit	0.20	1 unit	0.20			2 units	0.40
v	Black smith @ Rs. 15,000/ unit							1 unit	0.15			1 unit	0.15
vi	Poultry @ Rs. 30,000/unit			2 units	0.60			9 units	2.70			11 units	3.30
vii	Rabbit rearing @ Rs. 35,000/ unit			1 unit	0.35							1 unit	0.35
viii	Rice mill operation @ Rs. 35,000/unit			1 unit	0.50	1 unit	0.50					2 units	1.00
Ix	Sericulture @ Rs. 50,000/unit					3 units	1.50					3 units	1.50
X	Piggery @ 30,000/ unit					5 units	1.50	23 units	6.90			28 units	8.40
Xi	Apiculture @ Rs. 10,000/unit			2 units	0.20	4 units	0.40	4 units	0.40			8 units	1.00
Xii	Pisiculture @ Rs. 30,000/unit			1 unit	0.30	2 units	0.60	4 units	1.20			7 units	2.10
Xiii	Weaving/handloom @ Rs. 30,000/ unit					2 units	0.60	3 units	0.90			5 units	1.50
Xiv	Seeds and Plants @ Rs. 25,000/ unit			2 units	0.50	7 units	1.75	5 units	1.25			14 units	3.50
Xv	Tailoring @ Rs. 40,000/unit					1 unit	0.40					1 unit	0.40
Xvi	Betelnut soaking tank @ Rs. 520,000/unit							7 units	3.50			7 units	3.50
Xvii	Rural Godown @ Rs. 50,000/unit					2 units	1.00					2 units	1.00
Total of E :				**12 units**	**3.75**	**34 units**	**11.25**	**68 units**	**22.50**			**112**	**37.50**
F.	**Consolidation & Exit Phase:**									3%	11.25	3 %	11.25
Total of F:										**3%**	**11.25**	3 %	11.25
Total of II (A+B+C+D+E+F)				**9.5%**	**35.625**	**43%**	**161.25**	**22.5%**	**84.375**	**3%**	**11.25**	**78%**	**292.50**
Grand Total (I + II)		**6%**	**22.50**	**14%**	**52.50**	**50%**	**187.50**	**27%**	**101.25**	**3%**	**11.25**	**100%**	**375.00**
Convergence													

Divisional Officer
Soil & Water Conservation Division
Ri-Bhoi : Nongpoh

Deputy Commissioner
Ri - Bhoi District Nongpoh

PROJECT PHASING & BUDGETING

ACTION PLAN OF UMKYRPIANG UMKADUH WATERSHED UNDER IWMP – VII. RI BHOI DIVISION : NONGPOH

Name of District: Ri Bhoi District **No. of villages** – 5 nos.

Name of C&RD Block: Umling Block **Project Area** – 900 ha.

Sl. No	Activities	Ist Year		IInd Year		IIIrd Year		IVth Year		Vth Year		Total	
		Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	2	3	4	5	6	7	8	9	10	11	12	13	14
I	**MANAGEMENT COST:**												
A.	**Administrative cost:**												
i.	Hon^{rm} of WDT Members @ Rs. 5000/ month – 1 no.			12 months	0.60	12 months	0.60	12 months	0.60	-	-	3 yrs.	1.8
ii.	Hon^{rm} of Watershed Volunteers @ Rs. 2500/-month – 1 no.			6 months	0.15	12 months	0.30	12 months	0.30	-	-	2 ½ yrs.	0.75
iii.	Hon^{rm} WCO's @ Rs. 750/ month.			12 months	0.09	12 months	0.09	12 months	0.09	-	-	3 yrs.	0.27
iv.	Hon^{rm} WCM @ Rs. 100/members/ month for 20 nos.			12 months	0.24	12 months	0.24	12 months	0.24	-	-	3 yrs.	0.72
v	Hon^{rm} Office assistant @ Rs. 3000/- month.			12 months	0.36	12 months	0.36	12 months	0.36	-	-	3 yrs.	1.08
vi	Hon^{rm} Chartered Accountant			-	0.10	-	0.10	-	0.10	-	-	3 yrs.	0.3
vii	TA/DA of Field Asstt. @ 5000/ month			6 months	0.30	12 months	0.60	12 months	0.60	-	-	2 ½ yrs.	1.5
viii	Hiring charges of office building @ 1000			12 months	0.12	12 months	0.12	12 months	0.12	-	--	3 yrs.	0.36
ix.	Hiring charges of vehicle @ 5000/ month			6 months	0.30	12 months	0.60	12 months	0.60	-		2 ½ yrs.	1.5
x	Office expenses, POL, Stationeries, printing of SHG's books, pamphlets, tea, snacks etc, cost of camera.			-	0.44	-	3.74	-	1.04	-	-	-	5.22
	Total of A:			**2%**	**2.7**	**5%**	**6.75**	**3%**	**4.05**			**10%**	**13.50**
	PREPARATORY PHASE :												
B.	**Entry Point Activities:**	**4%**										**4%**	
i.	Drinking water tank with washing platform	2 nos.	1.043									5 nos.	2.731
ii	Drinking water tank with wasing platform and bathing shed	2 nos	1.688										
iii	Water harvesting structure	2 nos.	1.521									2 nos.	1.521
iv	Footbridge	1 no.	1.148									1 no.	1.148
	Total of B:	**8 nos.**	**5.40**									**8 nos.**	**5.40**

1	2	3	4	5	6	7	8	9	10	11	12	13	14
C.	**Training:**	**1%**		**2%**		**1%**		**1%**				**5%**	
i.	Awareness Campaign & Capacity building	1 no.	0.50					1 no.	0.25			2 nos.	0.75
ii.	Exposure visits – off. Campus	1 no.	0.30	2 nos.	0.80			1 no.	0.45			4 nos.	1.55
iii.	Capacity building of SHG's/ UG's.	3 nos.	0.20	4 nos.	1.00	4 nos.	1.35	3 nos.	0.65			14 nos.	3.2
iv.	Capacity building of WC Members.	2 nos.	0.20	2 nos.	0.50							4 nos.	0.7
v.	Capacity of WDT/WV	1 no.	0.15	2 nos.	0.40							3 nos.	0.55
	Total of C:	**8 nos.**	**1.35**	**10 nos**.	**2.7**	**4 nos**.	**1.35**	**5 nos**.	**1.35**			**27 nos**.	**6.75**
D.	**Detailed Project Report:**												
i.	Cost of Resources Inventories works		0.25										0.25
ii.	Cost of PRA Exercises		0.40										0.40
iii.	Cost of Land use Survey works		0.20										0.20
iv.	Cost of formulating		0.50										0.50
	Total of D:	**1%**	**1.35**									**1%**	**1.35**
E.	**Monitoring & Evaluation:**												
i.	Monitoring			0.2%	0.275	0.5%	0.675	0.3%	0.405			1%	1.35
ii.	Evaluation			0.3%	0.405	0.5%	0.675	0.2%	0.270			1%	1.35
	Total of E:			**0.5%**	**0.675**	**1%**	**1.35**	**0.5%**	**0.675**			**2%**	**2.70**
	Total of I (A to E)	**6%**	**8.1**	**4.5%**	**6.075**	**7%**	**9.45**	**4.5%**	**6.075**			**22%**	**29.7**
II	**PROJECT COST/WATERSHED WORKS PHASE :**												
A.	**Arable Land Treatment:**												
i.	Agro-Hort Creation @ Rs. 5900/ha.			65 ha.	3.835	40 ha.	2.36					105 ha.	6.195
ii	Agro-Hort Maintenance @ Rs. 2700/ha.					65 ha.	1.755	40 ha.	1.08			105 ha.	2.835
iii	Peripheral Bunding @ Rs. 50/Rm			2476 Rm	1.238	9312 Rm	4.65586	960 Rm	0.48			12748 Rm	6.37386
iv	Impt. of Existing Paddy field @ Rs. 4300/ha.							75 ha.	3.225			75 ha.	3.225
v	Box Terrace @ Rs. 7500/ ha.			20 ha.	1.50							20 ha.	1.50
vi	Contour Bunding @ Rs. 7500/ha.					20 ha.	1.50					20 ha.	1.50
	Total of A :			**85 ha.**	**6.573**	**60 ha.**	**10.27086**	**75 ha.**	**4.785**			**220 ha.**	**21.62886**

1	2	3	4	5	6	7	8	9	10	11	12	13	14
B.	**Non- Arable Land Treatment:**												
i	Afforestation Creation @ Rs. 7200/ha.			6 ha.	0.432	4 ha.	0.288					10 ha.	0.72
i	Afforestation Maintenance @ Rs. 2900/ha.					6 ha.	0.174	4 ha.	0.116			10 ha.	0.29
ii.	Impt. Degraded forest Creation @ Rs. 2600/ha.			120 ha.	3.12	100 ha.	2.60					220 ha.	5.72
ii.	Impt. Degraded forest Maintenance @ Rs. 1000/ha.					120 ha.	1.20	100 ha.	1.00			220 ha.	2.2
	Total of B:			**126 ha.**	**3.552**	**104 ha.**	**4.262**		**1.116**			**230 ha.**	**8.93**
C	**Drainage Line Treatment:**												
i.	Water Harvesting Structures as per Estimates					1 no.	0.75	7 nos.	5.25			8 nos.	6.0
ii.	Check Dam					22 nos.	17.63514					22 nos.	17.63514
iii.	Protection wall					9 nos.	7.218					9 nos.	7.218
iv.	Small dug out pond/farm pond					18 nos.	4.95					18 nos.	4.95
v.	C.C. Channel					5 nos.	3.406					5 nos.	3.406
vi	Aqueduct					1 no.	1.458	3 nos.	4.374			4 nos.	5.832
	Total of C :					**56 nos**.	**35.41714**	**10 nos**.	**9.624**			**66 nos.**	**45.04114**
	Total of A + B + C			**211 ha.**	**10.125**	**164 ha.**	**49.95**	**75 ha.**	**15.525**			**450 ha.**	**75.60**
D	**Livelihood Activities for landless persons:**												
i.	Tailoring @ Rs.8,000/unit					8 units	0.64	3 units	0.24			11 units	0.88
ii.	Carpentry/ Agri- Impts/ Basket Making etc @ Rs. 5,000/unit			17 units	0.85							17 units	0.85
iii.	Kitchen Gardening/Seed & Manure @ Rs. 2500/unit					46 units	1.15					46 units	1.15
iv	Apiculture @ Rs. 8000/ unit					12 units	0.96					12 units	0.96
v	Piggery @ 8,000/ unit							66 units	5.28			66 units	5.28
vi	Poultry @ Rs. 8,000/ unit							11 units	0.88			11 units	0.88
vii	Fisheries @ Rs. 10,000/ unit							3 units	0.30			3 units	0.30
viii	Agri Implement @ Rs. 5,000/ unit.			10 units	0.50	8 units	0.40	1 unit	0.05			19 units	0.95
viii	Rearing of eri silk work @ Rs. 5,000/ unit					18 units	0.90					18 units	0.9
	Total of D:			**27 units**	**1.35**	**92 units**	**4.05**	**84 units**	**6.75**			**203 units**	**12.15**

1	2	3	4	5	6	7	8	9	10	11	12	13	14
E.	**Production System and Micro Enterprises (SHG's):**												
i	Milch cow @ Rs. 50,000/ unit			2 units	1.00	3 units	1.50					5 units	2.5
ii	Rabbit rearing @ Rs. 35,000/ unit			1 unit	0.35							1 unit	0.35
iii	Food/Fruit Processing unit @ Rs. 50,000/ unit							5 units	2.50			5 units	2.5
iv	Weaving/handloom @ Rs. 30,000/ unit					2 units	0.60					2 units	0.6
v	Seeds and Plants @ Rs. 25,000/ unit					5 units	1.25	5 units	1.25			10 units	2.5
vi	Tailoring @ Rs. 40,000/unit					1 unit	0.40					1 unit	0.4
vii	Piggery @ 30,000/ unit					1 unit	0.30	14 units	4.20			15 units	4.5
viii	Black smith @ Rs. 15,000/ unit							1 unit	0.15			1 unit	0.15
Total of E :				**3 units**	**1.35**	**12 units**	**4.05**	**25 units**	**8.1**			**40 units**	**13.50**
F.	**Consolidation & Exit Phase:**												
i.	Repairs, Maintenance of CPR's.										3.00		3.00
ii.	Improving the sustainability of various Interventions										0.65		0.65
iii.	Documentation of successful experiences & Preparation of Completion Report										0.40		0.40
Total of F:										**3%**	**4.05**	**3%**	**4.05**
Total of II (A+B+C+D+E+F)					**12.825**		**58.05**		**30.375**		**4.05**		**105.3**
Grand Total (I + II)		**6%**	**8.1**	**211 ha.**	**18.9**	**164 ha.**	**67.50**	**75 ha.**	**36.45**		**4.05**	**450 ha.**	**135.0**

Divisional Officer
Soil & Water Conservation Division
Ri-Bhoi : Nongpoh

Deputy Commissioner
Ri - Bhoi District Nongpoh

ACTION PLAN OF UMNGEI WATERSHED UNDER INTEGRATED WATERSHED MANAGEMENT PROGRAMME
RI BHOI DISTRICT – MEGHALAYA

NAME OF DISTRICT ~ Ri-Bhoi District
NAME OF C&RD BLOCK ~ Umling C&RD Block
TREATABLE AREA ~ 500 Ha.
TOTAL PROJECT COST ~ 75.00 Lakhs

NAME OF VILLAGE ~ Pahamshiken
~ Umngei
~ Sohkpu

Sl. No.	Activities	First year 2011-12		Second year 2012-13		Third year 2013-14		Fourth year 2014-15		Fifth year 2015-16		Total	
		Phy	Fin (lakhs)	Phy	Fin (lakhs)	Phy	Fin (lakhs)	Phy	Fin (lakhs)	Phy	Fin (lakhs)	Phy	Fin (lakhs)
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*
		6%		**14%**		**50%**		**25%**		**5%**		**100%**	
1	**ADMINISTRATION** **ADMINISTRATIVE COST**												
I	Honorarium to Watershed Development Team – 1 Nos. @ Rs. 5000/- per month for 6 month			12 month	0.60	12 month	0.60	12 month	0.60			3 years	1.8
Ii	Honorarium to Watershed volunteer 3 Nos. @ Rs. 1500/- per month each for 6 month			6 month	0.27	12 month	0.18	12 month	0.18			2 ½ years	0.63
Iii	Honorarium to Chairman Watershed Committee 1 Nos. @ Rs. 500/- per month			12 month	0.06	12 month	0.06	12 month	0.06			3 years	0.18
Iv	Honorarium to Watershed Committee members for attending Watershed Committee meeting @ Rs. 100/- per month each			6 month	0.06	12 month	0.12	12 month	0.12			2 ½ years	0.3
V	Fees to chartered Accountant				0.20		0.486		0.216				0.902
Vi	Office Expenses – Purchase of Computer, Digital Camera, Printing of Booklets for SHGs, cost of P.O.L., survey instruments, equipment for monitoring station and hydrological studies, equipment for metrological stations etc.				0.31		2.304		1.074				3.688
Total of A				**2.0%**	**1.5**	**5.00%**	**3.75**	**3.0%**	**2.25**			**10.0%**	**7.5**
B.	Monitoring			0.20%	0.15	0.50%	0.375	0.30%	0.225			1.00%	0.75
C.	Evaluation			0.30%	0.225	0.50%	0.375	0.20%	0.15			1.00%	0.75
TOTAL OF ADMINISTRATION				**2.50%**	**1.875**	**6.00%**	**4.5**	**3.50%**	**2.625**			**12.00%**	**9.00**

Sl. No.	Activities	First year 2011-12		Second year 2012-13		Third year 2013-14		Fourth year 2014-15		Fifth year 2015-16		Total	
		Phy	Fin (lakhs)	Phy	Fin (lakhs)	Phy	Fin (lakhs)	Phy	Fin (lakhs)	Phy	Fin (lakhs)	Phy	Fin (lakhs)
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*
2	**PREPARATORY PHASE** **a. Entry point Activities**												
	Pahanshiken village	3 nos Drinkingwell 1no footpath	1.00										1.00
	Umngei village	1 nos P/Wall 1 nos Drinkingwell	1.00										1.00
	Sohkpu village	1 nos Bathing place	1.00										1.00
	Total of a.	**4.0%**	**3.00**									**4.0%**	**3.00**
B	**Institutional, capacity Building, Training and IEC Activities**												
I	Awareness campaign on IWMP Project, Health and sanitations, Training for preparation of MPR, QPR, online Reporting, printing of Booklets, cover guidelines etc.	1 nos. 0.20%	0.15	5 nos. 0.667%	0.50							6 nos. 0.867%	0.65
Ii	Capacity Building for WDT, WC,WV and field functionaries	1 nos. 0.20%	0..15	2 nos. 0.433%	0.325							3 nos. 0.633%	0.475
Iii	Capacity Building for SHGs, UGs	1 nos. 0.20%	0.15	3 nos. 0.90%	0.675	1 nos. 0.20%	0.15	2 no. 0.20%	0.15			7 nos 1.5 %	1.125
Iv	Field visit cum Exposure trips of WC, SHGs, UGs, WDT	1 nos. 0.20%	0.15			2 nos. 0.40%	0.30	4 nos. 0.40%	0.30			7 nos. 1.00%	0.75
V	Vocational training of SHGs for different livelihood Activities and Micro-enterprises	1 nos. 0.20%	0.15			2 nos. 0.40%	0.30	8 nos. 0.40%	0.30			11 nos. 1.00%	0.75
	Total of b	**5 nos. 1.00%**	**5 nos. 1.00%**	**0.75**	**10 nos. 2.00%**	**1.5**	**5 nos. 1.00%**	**0.75**	**14 nos. 1.00%**	**0.75**			**34 nos. 5.00%**
C	**Preparation of Detailed Project Report (DPR)**												
	Survey projectisation, PRA Exercises etc.	1.0%	0.75									1.0%	0.75
	Total of c	**1.0%**	**0.75**									**1.0%**	**0.75**
	Total of Preparatory Phase	**5 nos. 6.0%**	**4.5**	**10 nos. 2.00%**	**1.5**	**5 nos. 1.00%**	**0.75**	**14 nos. 1.0%**	**0.75**			**34 nos. 10.00%**	**7.5**

Sl. No.	Activities	First year 2011-12		Second year 2012-13		Third year 2013-14		Fourth year 2014-15		Fifth year 2015-16		Total	
		Phy	Fin (lakhs)	Phy	Fin (lakhs)	Phy	Fin (lakhs)	Phy	Fin (lakhs)	Phy	Fin (lakhs)	Phy	Fin (lakhs)
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*
3	**WATERSHED WORK PHASE** **Watershed Development Work**												
A	**Arable land treatment**												
I	Agro- horticulture 120 ha												
	Pahamshiken . 60 ha			20 ha	1.18	20 ha(m) 40 ha (c)	0.54 2.36	40 ha (m)	1.08			60 ha	5.16
	Umngei. 35 ha			15 ha	0.885	15 ha (m) 20 ha (c)	0.405 1.18	20 ha (m)	0.54			35 ha	3.01
	Sohkpu . 25 ha			10 ha	0.59	10 ha (m) 15 ha (c)	0.27 0.885	15 ha (m)	0.405			25 ha	2.15
Ii	**Improvement of Existing Paddy field 54.0 ha. @ Rs. 4300/- per ha.**												
	Pahamshiken 38 ha			15 ha	0.645	18 ha	0.774	5 ha	0.215			38 ha	1.634
	Umngei. 12 ha			9 ha	0.387			3 ha	0.129			12 ha	0.516
	Sohkpu. 10 ha			6 ha	0.258	2 ha	0.086	2 ha	0.086			10 ha	0.43
Iii	**Contour bund. 26 ha**												
	Pahamshiken . 9 ha			5 ha	0.375	4 ha	0.30					9 ha	0.675
	Umngei. 7 ha			3 ha	0.225	3 ha	0.225					6 ha	0.45
	Sohkpu .10 ha			3 ha	0.225	2 ha	0.15					5 ha	0.37
Iv	**Terracing. 10 ha @ Rs 20,000/ha**												
	Pahamshiken . 5 ha					5 ha	1.00					5 ha	1.00
	Umngei. 3 ha					3 ha	0.60					3 ha	0.60
	Sohkpu .2 ha					2 ha	0.40					2 ha	0.40
	Total of A			**86 ha**	**4.77**	**114 ha**	**9.175**	**10 ha**	**2.455**			**210 ha**	**16.40**
B	**NON-ARABLE LAND TREATMENT.**												
I	**Afforestation (Non-Pine) 10 ha**												
	Pahamshiken. 4 ha			2 ha	0.144	2 ha(m) 2 ha (c)	0.058 0.144	2 ha	0.058			4 ha	0.404
	Umngei. 3.5 ha			1.5 ha	0.108	1.5(m) 2 ha(c)	0.0435 0.144	2 ha (m)	0.058			3.5 ha	0.3535
	Sohkpu 2.5 ha			1 ha	0.072	1ha(m) 1.5ha(c)	0.029 0.108	1.5 ha (m)	0.0435			2.5 ha	0.2525

Sl. No.	Activities	First year 2011-12		Second year 2012-13		Third year 2013-14		Fourth year 2014-15		Fifth year 2015-16		Total	
		Phy	Fin (lakhs)	Phy	Fin (lakhs)	Phy	Fin (lakhs)	Phy	Fin (lakhs)	Phy	Fin (lakhs)	Phy	Fin (lakhs)
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*
Ii	**Improvement of degraded forest. (60 ha)**												
	Pahamshiken. 35 ha			14.75 ha	0.531	15.25 ha	0.549	5 ha	0.18			35 ha	1.26
	Umngei. 15 ha					10 ha	0.36	5 ha	0.18			15 ha	0.54
	Sohkpu 10 ha					8 ha	0.288	2 ha	0.072			10 ha	0.36
	Total of B			**19.25 ha**	**0.855**	**38.75 ha**	**1.7235**	**12.0 ha**	**0.5915**			**70 ha**	**3.17**
C	**Drainage Line Treatment**												
I	**Water harvesting structure.**												
	Pahamshiken. 17 nos					13 nos	5.08775	4 nos	1.4785			17 nos	6.56625
	Umngei. 3 nos					1 nos	0.38625	2 nos	0.77250			3nos	1.15875
	Sohkpu 4 nos					2 nos	0.77250	2 nos	0.77250			4 nos	1.545
Ii	**Check dam .**												
	Pahamshiken. 5 nos					4nos	2.22	1nos	0.555			5nos	2.775
	Umngei. 2 nos					2 nos	1.11					2 nos	1.11
	Sohkpu 1 nos					1 nos	0.555					1 nos	0.555
Iii	**Protection wall**												
	Pahamshiken. 1 nos					1 nos	0.93					1 nos	0.93
	Umngei. 2 nos					2nos	1.86					2nos	1.86
	Sohkpu 1 nos					1 nos	0.93					1 nos	0.93
Iv	**Small dug out pond.**												
	Pahamshiken.												
	Umngei.												
	Sohkpu 2 nos					2 no	0.50					2 no	0.50
V	**C.C. Channel.**												
	Pahamshiken. 3nos					2 nos	1.00	1no	0.50			3nos	1.5
	Umngei. 2nos					1no	0.50	1no	0.50			2nos	1.0
	Sohkpu 4 nos					2nos	1.00	2nos	1.00			4nos	2.0

Total of C						**140 ha**	**16.8515**	**80 ha**	**5.5785**			**220 ha**	**22.43**
Total of A+B+C				**105.25ha**	**5.625**	**292.75 ha**	**27.75**	**102 ha**	**8.625**			**500 ha**	**42**
Sl. No.	**Activities**	**First year 2011-12**		**Second year 2012-13**		**Third year 2013-14**		**Fourth year 2014-15**		**Fifth year 2015-16**		**Total**	
		Phy	**Fin**	**Phy**	**Fin**	**Phy**	**Fin**	**Phy**	**Fin**	**Phy**	**Fin**	**Phy**	**Fin**
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*
D	**LIVELIHOOD ACTIVITIES**												
I	**Tailoring @ 8,000/- per unit**												
	Pahamshiken.							11 nos	0.88			11 nos	0.88
	Umngei.												
	Sohkpu												
Ii	**Carpentry @ 5000/- per unit**												
	Pahamshiken.			3 nos	0.15							3 nos	0.15
	Umngei.												
	Sohkpu												
Iii	**Kitchen Garden/growing of Rabi crops @ 2500/- per unit**												
	Pahamshiken.					5 unit	0.125	11 unit	0.275			16 unit	0.4
	Umngei.					3 unit	0.075	6 unit	0.15			9 unit	0.225
	Sohkpu					2 unit	0.05	5 unit	0.125			7 unit	0.175
Iv	**Piggery @ Rs. 8000/- per unit.**												
	Pahamshiken.					15 unit	1.20	10 unit	0.80			25 unit	2.00
	Umngei.					10 unit	0.80	2 unit	0.16			12 unit	0.96
	Sohkpu			5 unit	0.40			8 unit	0.64			13 unit	1.04
V	**Poultry @ Rs. 8000/- per unit.**												
	Pahamshiken.							2 nos	0.16			2 nos	0.16
	Umngei.							2 nos	0.16			2 nos	0.16
	Sohkpu												
Vi	**Apiculture @ Rs. 8000/- per unit.**												
	Pahamshiken.							2 nos	0.16			2 nos	0.16
	Umngei.							1 nos	0.08			1 nos	0.08
	Sohkpu							2 nos	0.16			2 nos	0.16
Vii	**Pisciculture @ Rs 10,000/- per unit.**												
	Pahamshiken.												
	Umngei.												

	Sohkpu			2 nos	0.20							2 nos	0.20
	Total of (D) LIVELIHOOD ACTIVITIES			**10 unit**	**0.75**	**35 unit**	**2.25**	**62 unit**	**3.75**			**107 unit**	**6.75**
Sl. No.	**Activities**	**First year 2011-12**		**Second year 2012-13**		**Third year 2013-14**		**Fourth year 2014-15**		**Fifth year 2015-16**		**Total**	
		Phy	**Fin**	**Phy**	**Fin**	**Phy**	**Fin**	**Phy**	**Fin**	**Phy**	**Fin**	**Phy**	**Fin**
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*
E	**PRODUCTION SYSTEM AND MICRO- ENTERPRISES**												
I	**Grocery shop @ 30,000/- per unit**												
	Pahamshiken.							1 unit	0.30			1 unit	0.30
	Umngei.												
	Sohkpu												
Ii	**Poultry @ 30,000/- per unit**												
	Pahamshiken.							1 unit	0.30			1 unit	0.30
	Umngei.							1 unit	0.30			1 unit	0.30
	Sohkpu							1 unit	0.30			1 unit	0.30
Iii	**Rice mill @ Rs 50,000/- per unit**												
	Pahamshiken.					1 unit	0.50					1 unit	0.50
	Umngei.			1 unit	0.50							1 unit	0.50
	Sohkpu												
Iv	**Sericulture @ Rs 50,000/- per unit**												
	Pahamshiken.					1 unit	0.50					1 unit	0.50
	Umngei.					1 unit	0.50					1 unit	0.50
	Sohkpu					1 unit	0.50					1 unit	0.50
V	**Piggery @ Rs 30,000/- per unit**												
	Pahamshiken.							2 unit	0.60			2 unit	0.60
	Umngei.							2 unit	0.60			2 unit	0.60
	Sohkpu							1 unit	*0.30*			1 unit	0.30
Vi	**Pisciculture @ Rs 30,000/- per unit.**												
	Pahamshiken.							1 unit	0.30			1 unit	0.30
	Umngei.							1 unit	0.30			1 unit	0.30
	Sohkpu							1 unit	0.30			1 unit	0.30
Vii	**Weaving @ Rs 30,000/- per unit.**												
	Pahamshiken.							1 unit	0.30			1 unit	0.30

	Umngei.							1 unit	0.30			1 unit	0.30
	Sohkpu							1 unit	0.30			1 unit	0.30
Sl. No.	**Activities**	**First year 2011-12**		**Second year 2012-13**		**Third year 2013-14**		**Fourth year 2014-15**		**Fifth year 2015-16**		**Total**	
		Phy	**Fin**	**Phy**	**Fin**	**Phy**	**Fin**	**Phy**	**Fin**	**Phy**	**Fin**	**Phy**	**Fin**
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*
viii	**Seeds and plants @ Rs 5000/- per unit**												
	Pahamshiken.					I unit	0.25					I unit	0.25
	Umngei.												
	Sohkpu			I unit	0.25							I unit	0.25
	Total of (E) PRODUCTION SYSTEM AND MICRO- ENTERPRISES			**2 unit**	**0.75**	**5 unit**	**2.25**	**15 unit**	**4.5**			**22 unit**	**7.5**
	Total of Watershed work phase (A+B+C+D+E)			**105.25ha/ 12 unit**	**7.125**	**292.75ha/ 40 unit**	**32.25**	**102 ha/ 77 unit**	**16.875**			**500 ha/ 129 units**	**56..25**
F	**CONSOLIDATION AND WITHDRAWAL PHASE**												
a	Preparation of project completion Report with details the status of each intervention									0.73%	0.55	0.73%	0.55
b	Documentation of Success Stories									0.73%	0.55	0.73%	0.55
c	Repair, maintenance and protection of CPRs									1.34%	1.0	1.34%	1.0
d	Capacity Building for WC, SHGs, UGs for post project management									0.2%	0.15	0.2%	0.15
	Total of consolidation and withdrawal phase									**3%**	**2.25**	**3%**	**2.25**
	Total Administration			**2.50%**	**1.875**	**6.00%**	**4.5**	**3.50%**	**2.625**			**12.00%**	**9**
	Total Preparatory phase	**5 nos. 6.0%**	**4.5**	**10 nos. 2.00%**	**1.5**	**5 nos. 1.00%**	**0.75**	**14 nos. 1.0%**	**0.75**			**34 nos. 10.00%**	**7.5**
	Total of Watershed work phase			**105.25ha/ 12 unit**	**7.125**	**292.75ha/ 40 unit**	**32.25**	**102 ha/ 77 unit**	**16.875**			**500 ha/ 129 units**	**56.25**
	Total of consolidation and withdrawal phase									**3%**	**2.25**	**3%**	**2.25**
	Grand Total	**6.0%**	**4.5**	**14.0%**	**10.5**	**50.0%**	**37.5**	**27.0%**	**20.25**	**3.0%**	**2.25**	**100.0%**	**75**

Divisional Officer
Soil & Water Conservation Division
Ri-Bhoi : Nongpoh

Deputy Commissioner
Ri - Bhoi District Nongpoh

PROJECT PHASING & BUDGETING

ACTION PLAN OF UMNGOH WATERSHED UNDER IWMP – VII RI BHOI DIVISION : NONGPOH

Name of District: Ri Bhoi District — No. of villages – 2 nos.
Name of C&RD Block: Umling Block — Project Area – 600 Ha.

Sl. No	Activities	Ist Year		IInd Year		IIIrd Year		IVth Year		Vth Year		Total	
		Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	2	3	4	5	6	7	8	9	10	11	12	13	14
I	**MANAGEMENT COST:**												
A.	**Administrative cost:**												
i.	Honourarium of WDT Members @ Rs. 5000/ month – 1 no.			12 months	0.60	12 months	0.60	12 months	0.60			3 yrs.	1.8
ii.	Hon^{rm} of Watershed Volunteers @ Rs. 1500/- month – 3 nos.			6 months	0.27	12 months	0.18	12 months	0.18			2 ½ yrs.	0.63
iii.	Hon^{rm} WCO's @ Rs. 500/ month. – 1 No.			12 months	0.06	12 months	0.06	12 months	0.06			3 yrs.	0.18
iv.	Hon^{rm} WCM @ Rs. 100/members/ month			6 months	0.06	12 months	0.12	12 months	0.12			2 ½ yrs.	0.3
v	Hon^{rm} Office assistant @ Rs. 3000/- month.				0.30		0.5832		0.2592				1.1424
vi	Hon^{rm} Chartered Accountant												
vii	Office Expenses- Purchase of Computer, Digital Camera, Printing of Booklets for SHGs, cost of P.O.L., survey instruments, equipment for monitoring station and hydrological studies, equipment for metrological stations etc.				0.51		2.9568		1.4808				4.9476
Total of A:				**2%**	**1.80**	**5%**	**4.50**	**3%**	**2.70**			**10%**	**9.00**
B	Monitoring			0.20%	0.18	0.50%	0.45	0.30%	0.27			1.0%	0.9
C.	Evaluation			0.30%	0.27	0.50%	0.45	0.20%	0.18			1.0%	0.9
Total of Administration				**2.50%**	**2.25**	**6.00%**	**5.4**	**3.50%**	**3.15**			**12.0%**	**10.80**
D.	**Entry Point Activities:**	**4%**										4%	
i.	Drinking water tank with washing platform												
ii.	Drinking water tank	4 nos.	3.60									4 nos.	3.60
iii	Footbridge												
Total of D:		**4 nos.**	**3.60**									**4 nos.**	**3.60**

1	2	3	4	5	6	7	8	9	10	11	12	13	14
E.	**Institutional, capacity Building, Training and IEC Activities**												
i.	Awareness campaign on IWMP Project, Health and sanitations, Training for preparation of MPR, QPR, online Reporting, printing of Booklets, cover guidelines etc.	1 nos. 0.20%	0.18	2 nos. 0.667%	0.60							3 nos. 0.867%	0.78
ii.	Capacity Building for WDT, WC,WV and field functionaries	1 nos. 0.20%	0.18	2 nos. 0.433%	0.40							3 nos. 0.633%	0.58
iii.	Capacity Building for SHGs, UGs	1 nos. 0.20%	0.18	3 nos. 0.90%	0.8	1 nos. 0.20%	0.18	1 no. 0.20%	0.18			6 nos 1.5 %	1.34
iv.	Field visit cum Exposure trips of WC, SHGs, UGs, WDT	1 nos. 0.20%	0.18			2 nos. 0.40%	0.36	3 nos. 0.40%	0.36			6 nos. 1.00%	0.90
v.	Vocational training of SHGs for different livelihood Activities and Micro-enterprises	1 nos. 0.20%	0.18			2 nos. 0.40%	0.36	4 nos. 0.40%	0.36			7 nos. 1.00%	0.90
Total of C:		**1%**	**0.90**	**2%**	**1.80**	**1%**	**0.90**	**1%**	**0.90**			**5%**	**4.50**
F.	**Preparation of Detailed Project Report (DPR)**												
i.	Cost of Resources Inventories works	0.167%	0.15									0.167%	0.15
ii.	Cost of PRA Exercises	0.333%	0.30									0.333%	0.30
iii.	Cost of Land use Survey works	0.167%	0.15									0.167%	0.15
iv.	Cost of formulating	0.333%	0.30									0.333%	0.30
	Total of D:	**1.0%**	**0.90**									**1.0%**	**0.90**
Total of I (A to F)		**6%**	**5.4**	**4.5%**	**4.05**	**7.0%**	**6.3**	**4.5%**	**4.05**			**22%**	**19.8**
II	**PROJECT COST/WATERSHED WORKS PHASE :**												
A.	**Arable Land Treatment:**												
i.	Agro-Hort @ Rs. 8600/ha.			57 ha.(c)	3.363	43 ha.(c) 57 ha.(m)	2.537 1.539	43 ha.(m)	1.161			100 ha.	8.60
ii	Peripheral Bunding @ Rs. 50/Rm			1040 Rm	0.52	1354 Rm	0.677	1606 Rm	0.803			4000 Rm	2.0
iv	Impt. of Existing Paddy field @ Rs. 4300/ha.			15 ha.	0.645	35 ha.	1.505					50 ha.	2.15
v	Loose Boulder @ Rs. 7500/ha.					30 ha.	2.25					30 ha.	2.25
vi	Contour Bunding @ Rs. 7500/ha.					25 ha.	1.875					25 ha.	1.875
Total of A :				**72 ha.**	**4.528**	**133 ha.**	**10.383**		**1.964**			**205 ha.**	**16.875**

1	2	3	4	5	6	7	8	9	10	11	12	13	14
B.	**Non- Arable Land Treatment:**												
i	Afforestation creation @ Rs. 10,100/ha.			11 ha.(c)	0.792	4 ha.(c) 11 ha.(m)	0.288 0.319	4 ha.(m)	0.116			15 ha.	1.515
ii.	Impt. Degraded forest Creation @ Rs. 3600/ha.			55 ha.(c)	1.43	25 ha.(c) 55 ha.(m)	0.65 0.55	25 ha.(m)	0.25			80 ha.	2.88
Total of B:				**66 ha.**	**2.222**	**29 ha.**	**1.807**		**0.366**			**95 ha.**	**4.395**
C	**Drainage Line Treatment:**												
i.	Water Harvesting Structures as per Estimates					22 nos.	11.66					22 nos.	11.66
ii.	Check Dam							5 nos.	3.15			5 nos.	3.15
iii.	Protection wall					20 nos.	9.45					20 nos.	9.45
iv.	Small dug out pond/farm pond							10 nos.	4.30			10 nos.	4.30
v.	C.C. Channel							1 no.	0.42			1 no.	0.42
vi.	Earthen Channel							4 nos.	0.15			4 nos.	0.15
Total of C						**42 nos.**	**21.11**	**20 nos.**	**8.02**			**62 nos.**	**29.13**
Total of A+B+C				**138 ha.**	**6.75**	**162 ha.**	**33.30**		**10.35**			**300 ha.**	**50.40**
D	**Livelihood Activities for landless persons:**												
i.	Tailoring @ Rs.8,000/unit			5 units	0.40	10 units	0.80	15 units	1.20			30 units	2.4
ii.	Carpentry @ Rs. 5,000/unit			5 units	0.25			6 units	0.30			11 units	0.55
iii.	Kitchen Gardening/Seed & Manure @ Rs. 2500/unit					12 units	0.30					12 units	0.3
iv	Piggery @ 8,000/ unit					10 units	0.80	15 units	1.20			25 units	2.0
v	Poultry @ Rs. 8,000/ unit					10 units	0.80	15 units	1.20			25 units	2.0
vi	Seeds and plants @ Rs. 5,000/ unit			5 units	0.25			12 units	0.60			17 units	0.85
Total of D:				**15 units**	**0.90**	**42 units**	**2.70**	**63 units**	**4.50**			**120 units**	**8.10**
E.	**Production System and Micro Enterprises (SHG's):**												
i	Milch cow @ Rs. 50,000/ unit					2 units	1.0	5 units	2.50			7 units	3.5
ii	Piggery @ Rs. 30,000/ unit					3 units	0.90	4 units	1.20			7 units	2.1
iii	Fishery @ Rs. 30,000/unit			1 unit	0.30	2 units	0.60	1 unit	0.30			4 units	1.2
iv	Poultry @ 30,000/ unit			2 units	0.60			4 units	1.20			6 units	1.8
v	Mushroom @ 20,000/ unit					1 unit	0.20	1 unit	0.20			2 units	0.40
Total of E :				**3 units**	**0.90**	**8 units**	**2.70**	**15 units**	**5.40**			**26 units**	**9.0**

1	2	3	4	5	6	7	8	9	10	11	12	13	14
F.	**Consolidation & Exit Phase:**												
i.	Preparation of Project completion Report with details the status of each intervention									0.73%	0.657	0.73%	0.657
ii.	Documentation of Success Stories									0.73%	0.657	0.73%	0.657
iii.	Repairs, Maintenance and protection of CPR's.									1.34%	1.206	1.34%	1.206
iv.	Capacity Building for WC, SHGs, UGs for post project management									0.20%	0.18	0.20%	0.18
Total of F:										**3%**	**2.70**	**3%**	**2.70**
Total of II (A+B+C+D+E+F)					**8.55**		**38.70**		**20.25**		**2.70**		**70.20**
Grand Total (I + II)			**5.40**	**138 ha.**	**12.60**	**162 ha.**	**45.00**		**24.30**		**2.70**	**300 ha.**	**90.00**

Divisional Officer
Soil & Water Conservation Divis on
Ri-Bh.i : Nongpoh

Deputy Commissioner
Ri - Bhoi District Nongpoh

CHAPTER V-PROJECT PHASING AND BUDGETING

ACTION PLAN OF UMSEW WATERSHED UNDER IWMP –VII, RI BHOI DIVISION : NONGPOH

Name of District: Ri Bhoi District — No. of villages –2 nos.

Name of C&RD Block: Jirang Block — Project Area – 500 Ha.

Sl. No	Activities	I st Year		II nd Year		III rd Year		IV th Year		V th Year		Total	
		Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**
I	**MANAGEMENT COST:**												
A.	**Administrative cost:**			**2 %**	**1.5**	**5 %**	**3.75**	**3 %**	**2.25**	**-**	**-**	**10 %**	**7.5**
i.	Honourarium of WDT Members @ Rs. 5000/ month – 1 no.	-	-	6 months	0.30	6 months	0.30	6 months	0.30	-	-	1 ½ yrs	0.90
ii.	Hon rm of Watershed Volunteers @ Rs. 2500/- month – 2 nos.	-	-	3 months	0.15	6 months	0.30	6 months	0.30	-	-	15month	0.75
iii.	Hon rm WCO's @ Rs. 750/ month.			6 months	0.045	6 months	0.045	6 months	0.045	-	-	1 ½ yrs	0.135
iv.	Hon rm WCM @ Rs. 100/members/ month for 25 nos.	-	-	6 months	0.15	6 months	0.15	6 months	0.15	-	-	1 ½ yrs	0.45
V	Hon rm Office assistant @ Rs. 3000/- month.	-	-	6 months	0.18	6 months	0.18	6 months	0.18	-	-	1 ½ yrs	0.54
vi	Hon rm Chartered Accountant	-	-	-	0.075	-	0.075	-	0.075	-	-	1 ½ yrs	0.225
vii	TA/DA of Field Asstt. @ 5000/ month	-	-	3 months	0.15	6 months	0.30	6months	0.30	-	-	15month	0.75
viii	Hiring charges of office building @ 1000	-	-	6 months	0.06	6 months	0.06	6 months	0.06	-	-	1 ½ yrs	0.18
ix.	Hiring charges of vehicle @ 5000/ month	-	-	3 months	0.15	6 months	0.30	6 months	0.30	-	-	15month	0.75
X	Office expenses, POL, Stationeries, printing of SHG's books, pamphlets, tea, snacks etc, cost of camera.	-		-	0.24	-	2.04	-	0.54	-	-	-	2.82
	Total of A:	**-**	**-**	**2 %**	**1.5**	**5 %**	**3.75**	**3 %**	**2.25**	**-**	**-**	**10 %**	**7.5**
	PREPARATORY PHASE :												
B.	**Entry Point Activities:**	**4 %**	**3.00**	-	-	-	-	-	-	-	-	**4 %**	**3.00**
i.	Construction of Community Drinking Water & Washing platform	3 units	1.0	-	-	-	-	-	-	-	-	3 units	1.0
ii.	Construction of Communty Drinkinng Water&washing platform and Bathing shed	5 units	2.0	-	-	-	-	-	-	-	-	5 units	2.0
	Total of B:	**4 %**	**3.00**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**4 %**	**3.00**
C.	**Training:**	**1 %**	**0.75**	**2 %**	**1.5**	**1 %**	**0.75**	**1%**	**0.75**	**-**	**-**	**5 %**	**3.75**
i.	Awareness Campaign & Capacity building	1 no	0.25	-	-	-	-	1 no.	0.15	-	-	2 no	0.40
ii.	Exposure visits – off. Campus	1 no	0.15	2 nos.	0.25	-	-	1 no.	0.15	-	-	2 no	0.55
iii.	Capacity building of SHG's/ UG's.	3 nos.	0.10	4 nos.	0.75	4 nos.	0.50	1 no.	0.15	-	-	12 nos.	1.50
iv.	Capacity building of WC Members.	2 nos.	0.125	1no.	0.25	2nos.	0.125	1 no.	0.15	-	-	6 nos.	0.65
v.	Capacity of WDT/WV	2 nos.	0.125	1 no.	0.25	2nos.	0.125	1 no.	0.15	-	-	6 nos.	0.65
	Total of C:	**1 %**	**0.75**	**2 %**	**1.5**	**1 %**	**0.75**	**1 %**	**0.75**	**-**	**-**	**5 %**	**3.75**

D.	**Detailed Project Report:**	**1 %**	**0.75**	-	-	-	-	-	-	-	-	1 %	0.75
i.	Cost of Resources Inventories works	-	0.125	-	-	-	-	-	-	-	-	-	0.125
ii.	Cost of PRA Exercises	-	0.25	-	-	-	-	-	-	-	-	-	0.25
iii.	Cost of Land use Survey works	-	0.125	-	-	-	-	-	-	-	-	-	0.125
iv.	Cost of formulating	-	0.25	-	-	-	-	-	-	-	-	-	0.25
	Total of D:	**1 %**	**0.75**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**1 %**	**0.75**
E.	**Monitoring & Evaluation:**	-	-	**0.5%**	**0.375**	**1%**	**0.75**	**0.5%**	**0.375**	**-**	**-**	**2 %**	**1.50**
i.	Monitoring	-	-	0.2%	0.15	0.5%	0.375	0.3%	0.225	-	-	-	0.75
ii.	Evaluation	-	-	0.3%	0.225	0.5%	0.375	0.2%	0.15	-	-	-	0.75
	Total of E:	**-**	**-**	**0.5%**	**0.375**	**1%**	**0.75**	**0.5%**	**0.375**	**-**	**-**	**2 %**	**1.50**
	Total of I (A to E)	**6%**	**4.50**	**4.5%**	**3.375**	**7 %**	**5.25**	**4.5 %**	**3.375**	**-**	**-**	**22 %**	**16.50**
II	**PROJECT COST/WATERSHED WORKS PHASE :**	-	-	-	-	-	-	-	-	-	-	-	-
A.	**Arable Land Treatment:**	-	-	-	-	-	-	-	-	-	-	-	-
i.	Loose Boulder Contour Bounds @ Rs 7,500/ ha 100 ha	-	-	-	-	70 ha	5.25	30 ha	2.25	-	-	100 ha	**7.50**
Ii	Agro- Horticulture Devt. Rs 8600/ ha for 100 ha	-	-	-	-	100 ha	4.675	100 ha	3.925	-	-	100 ha	**8.60**
	Total of A :	**-**	**-**	**-**	**-**	**170 ha**	**9.925**	**130 ha**	**6.175**	**-**	**-**	**200Ha**	**16.10**
B.	**Non- Arable Land Treatment:**												
i.	Agro- Forestry Devt Wok @ 10,100/ ha for 50 ha	-	-	6.60 ha(c)	0.475	43.40 ha(c)	3.125	50 ha(m)	1.45	-	-	50 ha	5.05
ii.	Improvement of existing degraded forest @ Rs 3600/ ha for 50 ha	-	-	-	-	50 ha(c)	1.30	50 ha(m)	0.50	-	-	50 ha	1.80
iii..	Bench Terracing. for 12.5 ha @ Rs.20,000/ ha.	-	-	5 ha	1.00	5 ha	1.00	2.5 ha	0.50	-	-	25 ha	2.50
	Total of B:	-	-	**60 ha**	**1.475**	**110 ha**	**5.425**	**105 ha**	**2.45**	**-**	**-**	**12.5 ha**	**9.35**
C	**Drainage Line Treatment:**												
i.	W/ Harvesting Structures 130 ha	-	-	1 No	3.50	1 No	3.50	-	-	-	-	2 Nos	7.00
ii.	Water distribution work @ Rs 50 ha	-	-	-	-	7 Nos	8.25	-	-	-	-	6 Nos	8.25
iii.	Protection Wall 5 ha	-	-	1 No	0.65	1 No	0.65	-	-	-	-	2 Nos	1.30
	Total of C :	-	-	**2 Nos**	**4.15**	**4 Nos**	**12.40**	**-**	**-**	**-**	**-**	**6 Nos**	**16.55**
	Total of A + B + C	-	-	**7.5 %**	**5.625**	**37 %**	**27.75**	**11.5 %**	**8.625**	**-**	**-**	**56%**	**42.00**

	2	3	4	5	6	7	8	9	10	11	12	13	14
D	**Livelohood Activities for Landless persons (9%)**												
I	Tailoring @ Rs 8000 /-	-	-	-	-	-	-	5 units	0.40			5 units	0.40
Ii	Carpentry/Agri impliments/Basket/ @Rs 5000/-	-	-	-	-	20 units	1.00	35 units	1.75			55 unit	2.75
Iii	Haloow Block making @ Rs 5000/-			10 units	0.50	-	-	2 unit	0,10			12 unit	0.60
Iv	**Vermi Composting @ Rs 12500/-**			-	-	-	-	-	-			-	-
v	**Kitchen Gardening @ Rs 2500/-**			**10 units**	**0.25**	**50 units**	**1.25**	**60 units**	**1.50**			**120 unit**	**3.00**
	Total of D			**1 %**	**0.75**	**3 %**	**2.25**	**5 %**	**3.75**			**9 %**	**6.75**
E	**Production system and Micro Enterprises (SHG) (10%)**												
I	**Betlenut socking tank @ Rs 50000/-**			-	-	-	-	7 units	3.50			7 units	3.50
Ii	**Fruit Processing unit @ Rs 50000/-**			-	-	-	-	-	-	-	-	-	-
Iii	**Rural Godown @ Rs 50000/-**			-	-	2 unit	1.00	-	-	-	-	2 unit	1.00
Iv	**Seeds & Plants**			-	0.25	-	0.25	-	-	-	-	-	0.50
V	Apiculture @ Rs10000/-			2 units	0.20	4 units	0.40	4 units	0.40			10 units	1.00
Vi	Piggery @ Rs 30000/-			-	-	1 unit	0.30					1 units	**0.30**
Vii	**Poaltry @ Rs 30000/-**			-	-	-	-	**2 unit**	**0.60**			2 units	**0.60**
Vii i	Grocery **shop @ Rs 30000/-**			1 unit	0.30	1 unit	0.30	-	-			2 units	0.60
	Total of E			**1 %**	**0.75**	**3 %**	**2.25**	**6 %**	**4.50**			**10 %**	**7.50**
F	Consolidation & exit phase(3%)												
I	Repairs,Maints of CPR's									1%	0.75		
Ii	**Improving the sustainability of V1I**									**1%**	**0.75**		
Iii	**Ducumentation of successful experiences&PCR**									**1%**	**0.75**		
	Total of F									3%	2.25		
	Total of II (A+B+C+D+E+F)			**9.5 %**	7.125	**43 %**	32.25	**22.5 %**	16.875	**3 %**	2.25	**78 %**	**58.5**
	Grand Total I+II)	**6 %**	**4.5**	**14 %**	**10.5**	**50 %**	**37.5**	**27 %**	**20.25**	**3 %**	**2.25**	**100 %**	**75.00**

Divisional Officer
Soil & Water Conservation Divn. no

Deputy Commissioner
RI - Bhoi District Nongpoh

Details of the types of areas covered under the IWMP Programme:

1	2	3		4	8	6	7				8				
Names of Projects	Year of sanction	Project duration (dd/mm/ yyyy)		Area of the projects to be treated(Treatable area)	Project cost (Rs. In lakh)	Names of Micro watersheds & Code nos. (as per DoLR's unique codification)	Area (ha) of the projects- as per LULC				Area details (ha) (falling within the projects) as per ownership				
		From	To				Cultivated rainfed area	Cultivated irrigated area	Uncultivated wasteland		Pvt. Agri. Land	Forest land	Community land	Others (pl. specify)	Total area (ha)
									a) Temporary fallow	b) Permanent					
RB – IWMP VII	2011-12	2011-12	2015-16	2500 Ha	375.00 Lakhs	1. Umkyrpiang-Umkaduh 3B2A2a3a 2. Umngoh 3B2A2a2g 3. Umsew watershed 3B1C6a1J 4. Umngei 3B2A1a3a	1447.50 Ha	Nil	418 Ha		1000	1560	208	316	3084 Ha

Fund provision for the IWMP projects from all sources:

1	2		3										4
Name of Projects	IWMP Fund		Funds from other sources in addition to IWMP funds										Total
			Convergence funds		PPP		Community		Institutional finance		Others (Pl. specify)		
	Central Share	State Share	Name of Scheme	Amount (Lakhs)	Name of private sector	Financial contri-bution	Name	Financial contri-bution	Name	Financial contri-bution	Name	Financial contri-bution	
RB IWMP VII	337.50 lakhs	37.50 lakhs	MGNEGRA	39.754	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	414.754

Details of Project Fund Accounts of Distt. Agency and Watershed Committees:

1	2				3				
Names of Projects	Distt. Agency's Project Account details				Watershed Committee (WC) account details:				
	Name of the Bank and Branch where project account has been opened	Account Number (to be obtained confiden-tially)	Account type (Savings/ Current/ Others)	Name & Designation of authorized persons who operate the account.	Name of Watershed Committee	Name of the Bank and Branch where project account has been opened	Account number (to be obtained confiden-tially	Account type (Savings/ current others)	Name & Designation of authorized persons who operate the account.
RB – IWMP VII	Indian Bank Nongpoh-IDIB000U024		Saving	Smt V. Pang. DS&WCO	1. Umkyrpiang-Umkaduh 2. Umngoh 3. Umsew 4. Umngei	Indian Bank Nongpoh		Saving	Chairman W.C, Secretary W.C, Project Leader

Details of Convergence of IWMP with other Schemes:

	1	2	3	4	5	6	7
Sl. No.	District	Names of projects	Names of Departments with Schemes converging with IWMP	Fund made available to IWMP due to convergence (Rs. in lakh)	Name of activity/task/structure undertaken with converged funds (a) Structures (b) livelihoods (c) Any other (pl. specify)#	Reference no. of activity/ task/ structure in DPR@	Level at which decision for convergence was taken$
1	Ribhoi	RB – IWMP VII	* Community Rural Development Department MGNERGA	39.754	Construction of Protection wall, Check dam, Water harvesting Structure	-	VEC

ACTION PLAN OF CONVERGENCE OF I.W.M.P WITH MGNREGA UNDER UMKYRPIANG – UMKADUH RB-IWMP VII

Financial year	Name of activities	Name of Village	Physical Target	Amount to converge (Rs in lakhs)
2012-2013	1.Check Dam	1.Umsaw Noldhi	1 No.	0.74
		2.Umkyrpiang	2 Nos.	1.20
		3.Umkaduh	2 Nos.	1.20
	Total		5	3.14
	2.Water harvesting structure	1.Umkaduh	2 Nos.	1.50
		2.Umkyrpiang	2 Nos.	1.50
		3.Lumkya	2 Nos.	1.50
	Total		6 Nos.	4.50
	3. Protection wall	1. Rendhi	1 No.	1.20
		2. Umsaw Noldhi	1 No.	1.20
		3. Lumkya	1. No.	1.20
	Total		3 Nos.	3.60
	Grant Total		14 Nos.	11.24
2013-2014	1. Check Dam	Umkyrpiang	2. Nos.	1.20
		Umkaduh	1 No.	0.60
	Total		3 Nos.	1.80
	2. Water Harvesting Structure	Umkaduh	3 Nos.	2.25
		Umkyrpiang	1 No.	0.75
		Lumkya	2 Nos.	1.50
	Total		6 Nos.	4.50
	3. Protection wall	Umkaduh	1 No.	1.20
		Lumkya	1 No.	1.20
		Umsaw Noldhi	1 No.	1.20
			3 Nos.	3.60
	Grant Total		12 Nos.	9.90
2014-2015	1. Check Dam	1. Umkyrpiang	1 No.	0.60
		2.Umkaduh	1 No.	0.60
	Total		2 Nos.	1.20
	2. Water Harvesting	1.Umkaduh	1 No.	1.50
		2.Lumkya	1 No.	2.25
	Total		2 Nos.	3.75
	3. Protection wall	1. Umkaduh	2 Nos.	2.40
	Total		2 Nos.	2.40
	Grant Total		6 Nos.	7.35
			Grand Total:-	28.49

1. Rangbs Shnong
Umkaduh
Ri Bhoi District

2. Rangbah Shnong
Rynthi, Raid Nongsohbar
Mylliem Syiemshie

3. Rungbah Shnong
Umsawnoldhi
Nongpoh Sirdarshie
Date

4. Rangbah Shnong
Umkya Raid Nongsohbar
Mylliem Syiemshie

5. Sloron
Umkyrpiang
Mylliem Syiemshie
Date

DETAILS OF CONVERGENCE FOR UMKYRPIANG – UMKADUH I.W.M.P. PROJECT – VII UNDER THE OFFICE OF SOIL & WATER CONSERVATION OFFICER, RI-BHOI DIVISION, NONGPOH WITH MGNRGA

District	Name of Project with Name of village and C & RD Block	Year of implement ation of the Scheme	Name of Deptt. With Schemes convergence with IWMP	Fund made available to IWMP due to convergence		Name of activity task/structure undertake with converged fund	Reference no. of activity/task/structure in DPR	Level at which decision for converge was taken	Remarks
				Phy (Unit)	Fin (Rs. In lakhs)				
1	2	3	4	5	6	7	8	9	10
Ri-Bhoi	IWMP PROJECT VII Umling C&RD Block 1. Umkyrpiang 2. Umkaduh 3. Lumkya 4. Umsaw Noldhi 5. Rendhi	2012-2013	C&RD Deptt	14 units	11.24	a) Check Dam b) Water Harvesting Structure c) Protection Wall	Nil	Deputy Commissioner & Block Development Officer	The activity to be taken involves both earth work as well as the material amount, the amount remark is for labour component only
		2013-2014	C&RD Deptt	12 units	9.90	a) Check Dam b) Water Harvesting Structure c) Protection Wall	Nil	Deputy Commissioner & Block Development Officer	
		2014-2015	C&RD Deptt	6 units	7.35	a) Check Dam b) Water Harvesting Structure c) Protection Wall	Nil	Deputy Commissioner & Block Development Officer	
	Total			**32 units**	**28.49**				

Divisional Soil & Water Conservation Officer
Ri-Bhoi Division, Nongpoh

Divisional Officer
Soil & Water Conservation Divis on
Ri-Bhoi : Nongpoh

Deputy Commissioner
Ri - Bhoi District Nongpoh

ACTIVITIES FOR CONVERGENCE OF IWMP WITH NREGA SCHEMES UNDER, JIRANG BLOCK
UMSEW WATERSHED IWMP PROJECT - VII

Sl. No	Name of Activities	Name of Beneficiaries	Materials Estimate	Labours Estimate	Total Target	
					Physical Implication	Financial Implication
1	**2**	**3**	**4**	**5**	**6**	
1	Water Harvesting structure of Pahamryngkang	Kyntiewlang SHG		1.306	1 No.	1.306
2	- *do* -	Community	-	3.259	1 No..	3.259
3	- *do* -	Community	1.150	1.720	1 No.	2.870
4	*Water Harvesting structure of Nongwahmawlein*	Shynroplang SHG	-	3.259	1 No.	3.259
5	- *do* -	Community	1.150	1.720	1 No.	2.870
	Total		**2.30**	**11.264**	**5 Nos**	**13.564**

Rupees (Thirteen Lakhs Fifty Six Thousand Four Hundred) only.

VILLAGE WISE ACTION PLAN OF NONGWAH MAWLEIN & PAHAMRYNGKANG UNDER CONVERGENE IWMP WITH NERGA SCHEMES OF UMSEW WATERSHED-VII 2011-2012

Name of District: **Ribhoi**

No. of Villages: **2**

Name of C&RD Block: **Jirang**

Project Area: **500 Ha**

Sl. No	Drainage line treatment	Target		1st yr		2nd yr		3rd yr		4th yr		5th yr		Total	
				Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1`	2	3		4		5		6		7		8		9	
1	**Pahamryngkang A** Development of Water Bodies					1	1.306	1	3.259	1	2.877	-	-	3	7.442
	Total of A					1	1.306	1	3.259	1	2.877	-	-	3	7.442
2	**Nongwah Mawlein B** Development of Water Bodies					-	-	1	3.259	1	2.877	-	-	2	6.136
	Total of B					-	-	1	3.259	1	2.877	-	-	2	6.136
	Total of A + B					1	1.306	2	6.518	2	5.754	-	-	5	13.578

Rupees (Thirteen lakhs Fifty Seven Thousand Eight Hundred) Only

Deputy Commissioner
Ri-Bhoi District Nongpoh

Divisional Officer
Soil & Water Conservation Divis.on
Ri-Bhoi : Nongpoh

CHAPTER - VI

CAPACITY BUILDING

CHAPTER VI

CAPACITY BUILDING

Capacity Building is a process to systematically upgrade the skill of individuals or groups for achieving a specific target. Capacity building in the project has been planned for all the stake holders involved i.e. State Level, District Level, Project Level and Village Level. The relevant details pertaining to Capacity Building has been shown below.

Table 6.1: List of approved Training Institutes for Capacity Building:

1	2	3	4	5	6	7
S. No	State	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 specialization$
1	Meghalaya	NIRD (NER)	Guwahati	Director	Central Govt.	Remote Sensing, Rural Devt.
2		SIRD	Nongsder	Director	State Govt.	Capacity Building
3		RRTC	Umran	Director	Don-Bosco	Agri-Horti, Animal Husbandry, Entrepreneurship
4		ICAR	Umiam	Director	Central Govt.	-do-
5		VTC	Kyrdem Kulai	Director	State Govt.	Animal Husbandry
6		Fruit Garden	Shillong	Director	State Govt.	Agri-Horti, Fruit Processing

- From Column no. 2, total no. of States implementing the programme, from Column no. 3, no. of training institutes, from column No. 9, total no. of category-wise trainings and trainees may be given at the end of the table for the entire country
- # Central govt. Dept./ State govt. Dept./ Autonomous Body/ Research Institutes/ Universities/ Others (pl. specify)

$ Capacity Building/ Agriculture/ Horticulture/ Animal Husbandry/ Pisciculture/ Remote Sensing/ Water conservation/ Ground water/ Forestry/ livelihoods/ entrepreneurship development/ others (pl. specify)

@ The training institutes must fulfill the conditions mentioned in the operations guidelines.

(i) Technical experts in fields required by IWMP
(ii) Past experiences
(iii) Annual Turnover
(iv) Receives funds either from the Central or State Government
(v) Publications
(vi) Not blacklisted by any Govt. organizations
(vii) Audited accounts
(viii) Organizational structure

Table 6.2: Capacity Building Plan for the year 2011 – 12 as on 31/03/2012 (dd/mm/yyyy)*

1	2	3	4					5
Project Stakeholders	**Type of Training\Capacity Building**	**Agency\Institution to provide Training\Capacity Building**	**No. of Trainings targeted during each Financial Year**					**Total**
			1st year	**2nd year**	**3rd year**	**4th year**	**5th year**	
PIAs								
WDTs	Capacity Building	PIA, SIRD, MRDS	5nos	7nos	2nos	1no		15nos
UGs	Capacity Building	PIA, SIRD, MRDS	4nos	7nos	5nos	3nos		19nos
SHGs	Capacity Building	PIA, SIRD, MRDS	4nos	7nos	5nos	4nos		20nos
WCs	Capacity Building	PIA, SIRD	4nos	3nos	2nos	1no		10nos
GPs								
Community	Awareness Programmes, Capacity Building and Exposure visits	PIA, ICAR, SIRD, RRTC, VTC	10nos	11nos	8nos	23nos		52nos
Others Pl. specify)								

Table 6.3: Information, Education & Communication (IEC) activities for the year 2011-12 as on 31/03/2012(dd/mm/yyy)*

	1	2	3
	Activity	**Executing agency**	**Estimated expenditure (Rs.)**
1.	Awareness	PIA Ri-Bhoi District, Nongpoh	2.58
2.	Exposure Visits	PIA Ri-Bhoi District, Nongpoh	3.75
3.	Capacity Building	PIA Ri-Bhoi District, Nongpoh	12.42

CHAPTER - VII

EXPECTED OUTCOME

CHAPTER VII

EXPECTED OUTCOME

Table 7.1 Employment related outcomes:

Sl No	Name of Village	1												2					
		Wage employment												Self employment					
		No. of mandays						No. of beneficiaries						No. of beneficiaries					
		SC	ST	Others	Men	Women	Total	SC	ST	Others	Men	Women	Total	SC	ST	Others	Men	Women	Total
1.	Umkaduh		100 %						100 %						100 %				
2.	Umkyrpiang		100 %						100 %						100 %				
3.	Lumkya		100 %						100 %						100 %				
4.	Umsaw Noldhi		100 %						100 %						100 %				
5.	Rendhi		100 %						100 %						100 %				
6	Umsaw Nongkharai		100 %	73489		72843	146332		100 %	477		147	624		100 %	335		6	341
7	Langpohdon		100 %						100 %						100 %				
8	Nongwahmawlein		100 %						100 %						100 %				
9	Pahamryngkang		100 %						100 %						100 %				
10	Pahamshiken		100%						100%						100%				
11	Sohkpu		100%						100%						100%				
12	Umngei		100%						100%						100%				

Table 7.2 Migration Details:

1	2	3	4	5	6	7	8	
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)**	**For reduced migration identify major activities of IWMP responsible**	
							(a) Structures	**(b) Livelihoods**
		N	I	L				

* From column no. 2, total number of States; from column no. 3, total no. of Districts; from column no. 4, total no. of projects; from column no. 5, total no. of villages; from column no. 6, total no. of persons migrating; from column no. 7, average no. of days for annual migration; from column no. 9, average distance of migration from the village and form column no. 11, average income from occupation during migration, for the entire country may be given at the end of the Table.

Table 7.3 Water related outcomes:

Table 7.3.1 Status of Drinking water:

1			2			3
Availability of drinking water			**Quality of drinking water**			**Comments**
Pre-project	**Post-project**	**Change in availability**	**Pre-project**	**Post-project**	**Change in quality**	
Insufficient	Sufficient	10 – 12 months	Moderate	Improved	Improved	-

* From column no. 2, total number of States implementing the programme, from column no. 3, total no. of Districts; from column no. 4, category-wise no. of projects, from column no. 5, average no. of months may be given at the end of the table for the entire country.

Table 7.3.2 Water Use efficiency:

The over water availability in the project area will improve due to the soil and water conservation measures. Water use efficiency and management will also be better with the active involvement of the people and formation of user groups to maintain the assets created.

Table 7.4: Vegetation/ crop related outcomes:

Table 7.4.1 Details of Kharif crop area and yield in the project areas:

1	2	3						4						5					
Name of Project	Name of crops	Pre-project						Mid-term						Post-project					
		Area (ha)		Average Yield (Qtl) per ha.		Total Production (Qtl)		Area (ha)		Average Yield per ha (Qtl)		Total Production (Qtl)		Area (ha)		Average Yield per ha (Qtl)		Total Production (Qtl)	
		Irri	Rf.	Irri	Rf.	Irri	Rf.	Irri	Rf.	Irri	Rf.	Irri	Rf.	Irri	Rf.	Irri	Rf.	Irri	Rf.
RB IWMP-VII	Paddy	-	955		57		15130	250	1010	61	77	5000	20060	450	1050	70	88	10500	23700
	Ginger	-	380		105		9875	165	417	36	96	1980	8844	288	438	45	105	4320	11070
	Maize	-	245		52		3870	190	210	42	42	2870	3030	350	210	46	46	5900	3300
	Banana	-	52	-	80	-	4160		`52		80		4160		80		82		6560
	Betel nut	-	20	-	15	-	300		20		15		300		40		15.20		608
	Betel leaf	-	30	-	10	-	300		30		10		300		50		10.50		525
	orange		75		81.6		3855	15	175	19	91.6	285	6005	25	205	20	93	500	8340
	tomato	-	20		20		400	05	07	50	45	250	315	10		60		60	

* From column no. 2, total number of States; from column no. 3, total no. of Districts; from column no. 4, total no. of projects, from column no. 5, total no. of crops; from column no. 6 to 8, the totals for the area, average yield per ha and total production, category-wise, for the entire country may be given at the end of the Table.

Irri. – Irrigated Rf – Rainfed

Table 7.4.2 Details of Rabi crop area and yield in the project areas:

1	2	3						4						5					
Name of Project	Name of crops	Pre-project						Mid-term						Post-project					
		Area (ha)		Average Yield (Qtl) per ha.		Total Production (Qtl)		Area (ha)		Average Yield per ha (Qtl)		Total Production (Qtl)		Area (ha)		Average Yield per ha (Qtl)		Total Production (Qtl)	
		Irri	Rf.	Irri	Rf.	Irri	Rf.	Irri	Rf.	Irri	Rf.	Irri	Rf.	Irri	Rf.	Irri	Rf.	Irri	Rf.
RB IWMP-VII	Tomato							13		78		390		69		110		2970	
	Potato							10		60		600		40		80		3260	
	Cabbage							17		102		1020		62		140		5660	
	Betel leaf		30		10		300		10		30		300		50		10.50		525

* From column no. 2, total number of States; from column no. 3, total no. of Districts; from column no. 4, total no. of projects, from column no. 5, total no. of crops; from column no. 6 to 8, the totals for the area, average yield per ha and total production, category-wise, for the entire country may be given at the end of the Table.

Irri. – Irrigated Rf – Rainfed

Table 7.4.3 Details of Zaid crop area and yield in the project areas of the Country: State-wise:

1	2						3						4					
Name of crops	Pre-project						Mid-term						Post-project					
	Area (ha)		Average Yield (Qtl) per ha.		Total Production (Qtl)		Area (ha)		Average Yield per ha (Qtl)		Total Production (Qtl)		Area (ha)		Average Yield per ha (Qtl)		Total Production (Qtl)	
	Irri	Rf.	Irri	Rf.	Irri	Rf.	Irri	Rf.	Irri	Rf.	Irri	Rf.	Irri	Rf.	Irri	Rf.	Irri	Rf.

* From column no. 2, total number of States; from column no. 3, total no. of Districts; from column no. 4, total no. of projects, from column no. 5, total no. of crops; from column no. 6 to 8, the totals for the area, average yield per ha and total production, category-wise, for the entire country may be given at the end of the Table.

Irri. – Irrigated Rf – Rainfed

Table 7.4.4 Availability of fodder area (t/ha):

1	2	3	4			5		
			Pre-Project			Post Project		
District	Name of project	Duration of Project	Source/Name of report	Year of reference	Area already under fodder	Area under fodder proposed to be covered through IWMP	Area under fodder actually covered through IWMP	Change in area under fodder
Ribhoi	RB-IWMP VII	5 yrs	NA	NA	NA	nil	nil	nil

* From column no. 2, total number of States implementing the programme, from column no. 3, total no. of Districts; from column no. 4, total no. of projects, from column nos. 6 & 7, total area in ha may be given at the end of the table for the entire country.

Table 7.4.5 Increase/Decrease of forest/vegetation cover:

1	2	3			4		
		Pre-Project			Post Project		
Name of project	Duration of Project	Source/Name of report	Year of reference	Area already under forest/vegetative cover	Forest/vegetative cover area proposed to be covered under IWMP	Forest/vegetative cover area actually covered under IWMP	Change in forest/vegetative cover area
RB-IWMP VII	5 yrs	LULC Map NESAC	2005-06	1495	495	495	495

* From column no. 2, total number of States implementing the programme, from column no. 3, total no. of Districts; from column no. 4, total no. of projects, from column nos. 6 & 7, total area in ha may be given at the end of the table for the entire country.

Table 7.4.6 Increase/Decrease in area under horticulture:

1	2	3			4		
Name of project	Duration of Project	Pre-project			Post project		
		Source/Name of report	Year of reference	Area already under horticulture	Area under horticulture proposed to be covered through IWMP	Area under horticulture actually covered through IWMP	Change in area under horticulture
RB-IWMP VII	5 yrs				425 ha	425 ha	425 ha

* From column no. 2, total number of States implementing the programme, from column no. 3, total no. of Districts; from column no. 4, total no. of projects, from column nos. 6 & 7, total area in ha may be given at the end of the table for the entire country.

Table 7.4.7 Increase/ Decrease in area under fuel-wood:

1	2	3			4		
Name of project	Duration of Project	Pre- Project			Post Project		
		Source/Name of report	Year of reference	Area already under fuel-wood	Area under fuel-wood proposed to be covered under IWMP	Area under fuel-wood actually covered under IWMP	Change in area under fuel-wood
RB-IWMP VII	5 yrs			86	160	613	160

* From column no. 2, total number of States implementing the programme, from column no. 3, total no. of Districts; from column no. 4, total no. of projects, from column nos. 6 & 7, total area in ha may be given at the end of the table for the entire country.

Table 7.7 Livelihood related outcomes:

Table 7.7.1 Details of livestock in the project areas (for fluids please mention in litres, for solids please mention in kgs. and income in Rs.):

1	2	3			4			5
Name of Projects	**Type of Animal**	**Pre-project**			**Post-project**			**Remarks**
		No.	**Yield**	**Income**	**No.**	**Yield**	**Income**	
RB-IWMP VII	Milch Cow				5	3900	1.56	
	Pig	132			81	1620	2.916	
	Sheep	5						
	Cow	242		2.032				
	Poultry	230		1.3875				
Total for all projects								
Total for all Districts								

* From column no. 2, total number of States; from column no. 3, total no. of Districts; from column no. 4, total no. of projects, from column nos. 5 to 8, the total nos. of animals and the average yield and incomes, category-wise, for the entire country may be given at the end of the Table.

Table 7.8.1 Benefit Cost Analysis*

1	2	3	4	5	6	7
District	**Name of project**	**Name of WC**	**Name of structure/ activity**	**Estimated cost (Rs.)**	**Expected quantifiable benefits (Rs.)**	**Benefit: Cost ratio#**
Ribhoi	RB-IWMP VII	Umkyrpiang-Umkaduh	As per Treatment Plan	391.5	512.66	1:1.30
		Umngoh				
		Umsew				
		Umngei				

***** from column no. 2, total no. of States implementing the programme, from column no. 3, total no. of Districts; from Column no. 4, no. of projects, from column no. 5, no. of WCs, from column no. 6, no. of structures/ activities, from column no. 7 to 10, category-wise# totals, may be mentioned at the end of the table for the entire country.

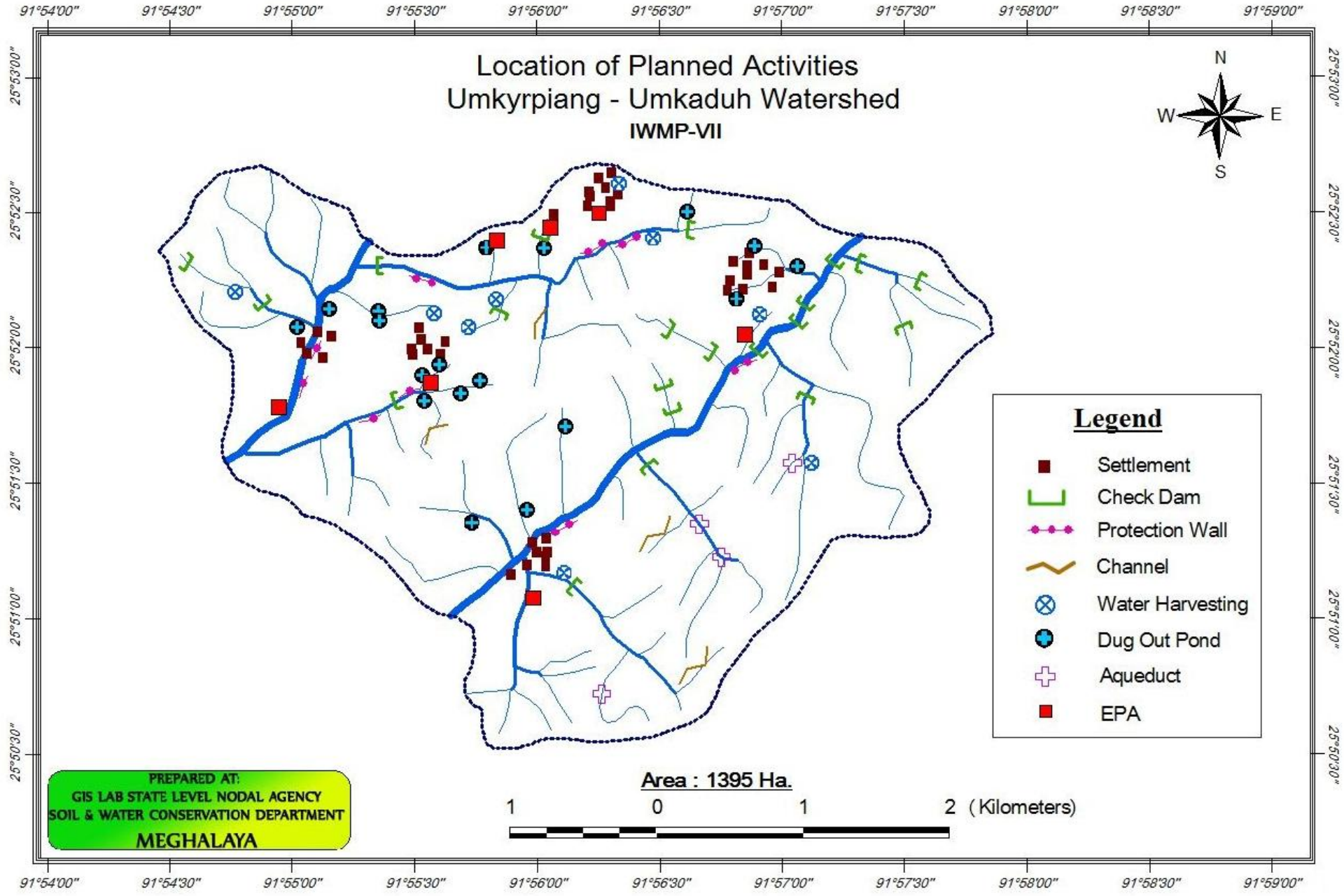
B:C ratio more than 1 – cost effective
less than 1 – Not cost effective

SUMMARY OF SOCIO-ECONOMIC SURVEY FOR UMNGEI IWMP – VII

Sl. No.	Name of Village	Population						Total	Land holding			Average Annul income
		Male			Female							
		Adult	Minor	Total	Adult	Minor	Total		Settled (ha.)	Jhum (ha.)	Total	
1	Pahamshiken	96	45	141	83	56	139	280	79	146	225	36,818/-
2	Sohkpu	18	17	35	14	16	30	65	4.6	18	22.6	27,800/-
3	Umngei	18	15	33	16	17	33	66	14.5	45	59.5	28,500/-
4	Langpohdon	54	56	110	64	48	112	222	21.5	97.5	119	41,555/-
5	Umsaw Nongkharai	122	153	275	119	138	257	532	28.5	319.5	348	26,743/-
6	Umkadhor	229	284	513	207	263	470	983	176	88.25	264.25	31,255/-
7	Umkyrpiang	114	110	224	120	112	232	456	54.5	133	187.50	39,518/-
8	Lumkya	57	116	173	63	103	166	339	26	76	102	26,911/-
9	Umsaw Noldhi	52	56	108	44	54	98	206	53	41	94	21,207/-
10	Rendhi	19	42	61	19	34	53	114	25	73	98	34,737/-
11	Nongwah Mawlein	159	120	279	183	140	323	602	100	250	350	39,000/-
12	Pahamryngkang	111	70	181	135	75	210	391	85	230	315	35,000/-

ANNEXURE - I

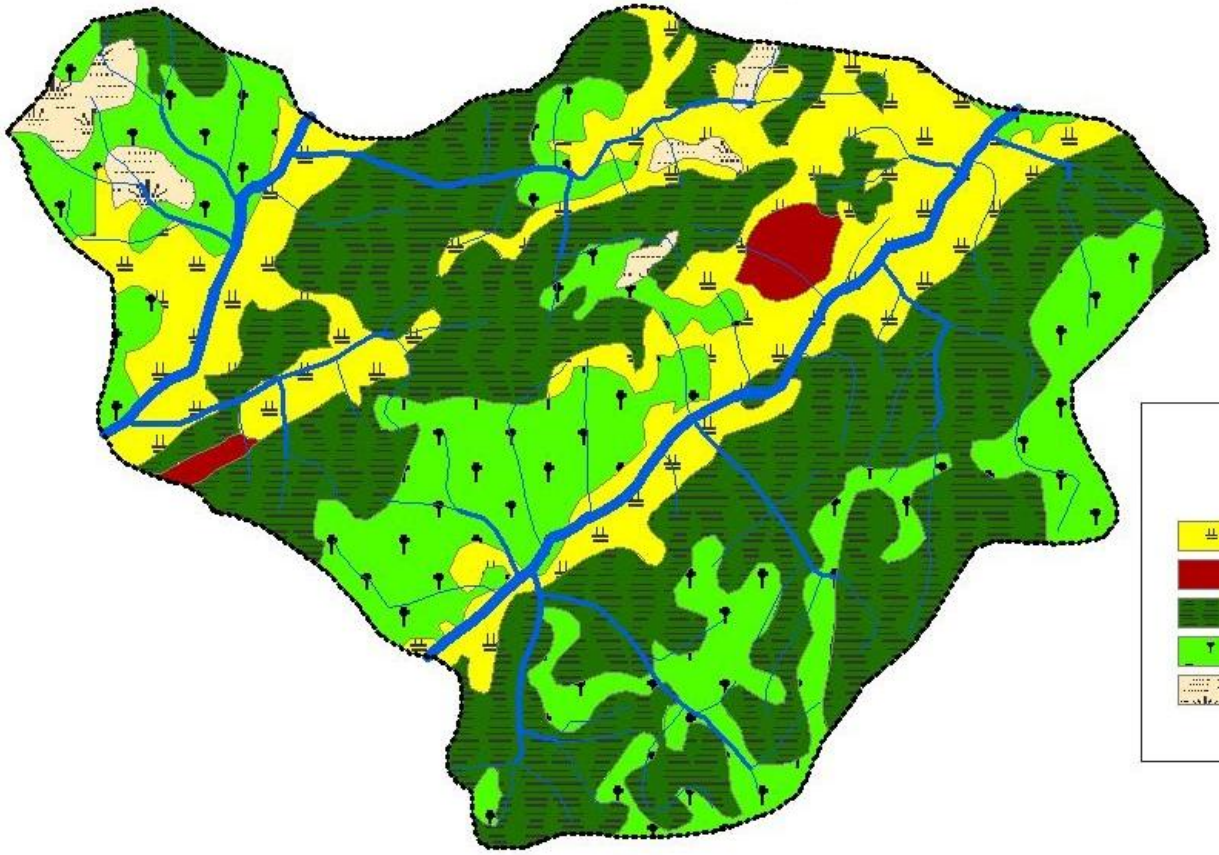
MAPS


Location of Planned Activities
Umkyrpiang - Umkaduh Watershed
IWMP-VII
N
W
E
S
91°54'00"
91°54'30"
91°55'00"
91°55'30"
91°56'00"
91°56'30"
91°57'00"
91°57'30"
91°58'00"
91°58'30"
91°59'00"
25°53'00"
25°52'30"
25°52'00"
25°51'30"
25°51'00"
25°50'30"
Legend
Settlement
Check Dam
Protection Wall
Channel
Water Harvesting
Dug Out Pond
Aqueduct
EPA
Area : 1395 Ha.
1 0 1 2 (Kilometers)
PREPARED AT:
GIS LAB STATE LEVEL NODAL AGENCY
SOIL & WATER CONSERVATION DEPARTMENT
MEGHALAYA

Land Use Land Cover Map

Umkyrpiang - Umkaduh Watershed

IWMP-VII



N
W E
S

Legend

Agriculture	- 327 Ha
Builtup Rural	- 20 Ha
Tree Clad Close	- 639 Ha
Tree Clad Open	- 372 Ha
Wasteland / Dense Srcub	- 37 Ha

PREPARED AT:
GIS LAB STATE LEVEL NODAL AGENCY
SOIL & WATER CONSERVATION DEPARTMENT
MEGHALAYA

Area : 1395 Ha.

1 0 1 2 (Kilometers)

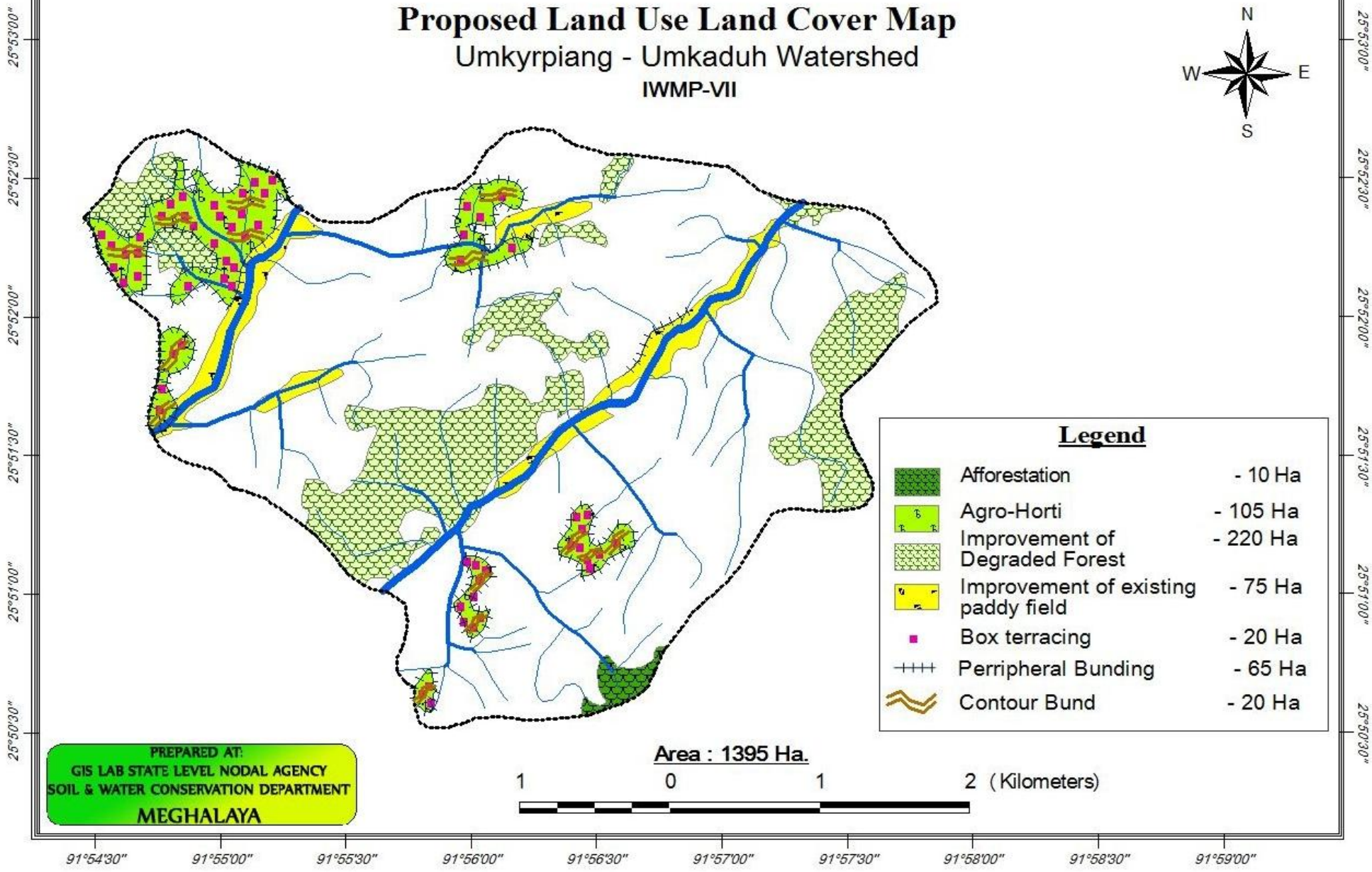
91°54'30" 91°55'00" 91°55'30" 91°56'00" 91°56'30" 91°57'00" 91°57'30" 91°58'00" 91°58'30" 91°59'00"

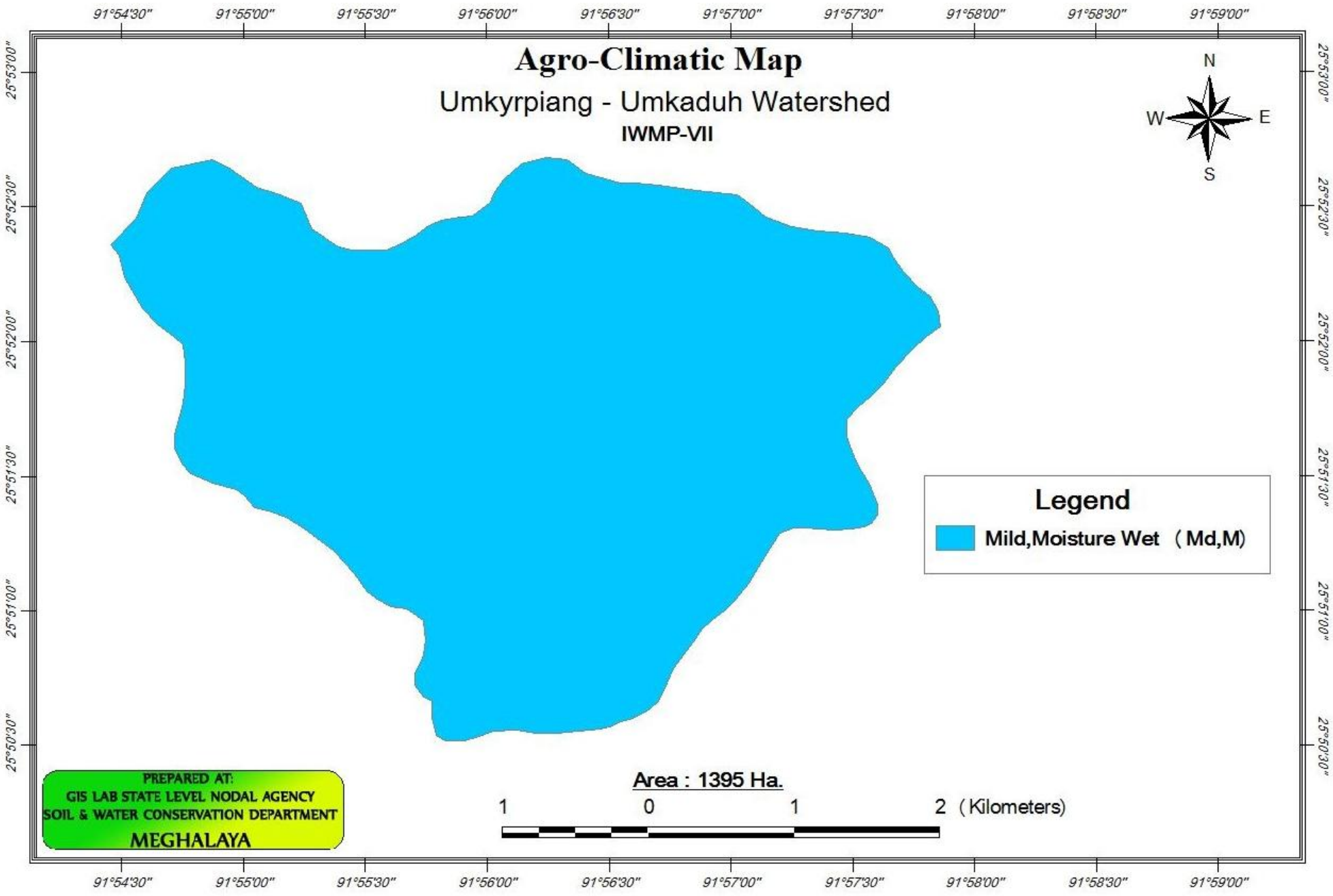
25°53'00" 25°52'30" 25°52'00" 25°51'30" 25°51'00" 25°50'30"

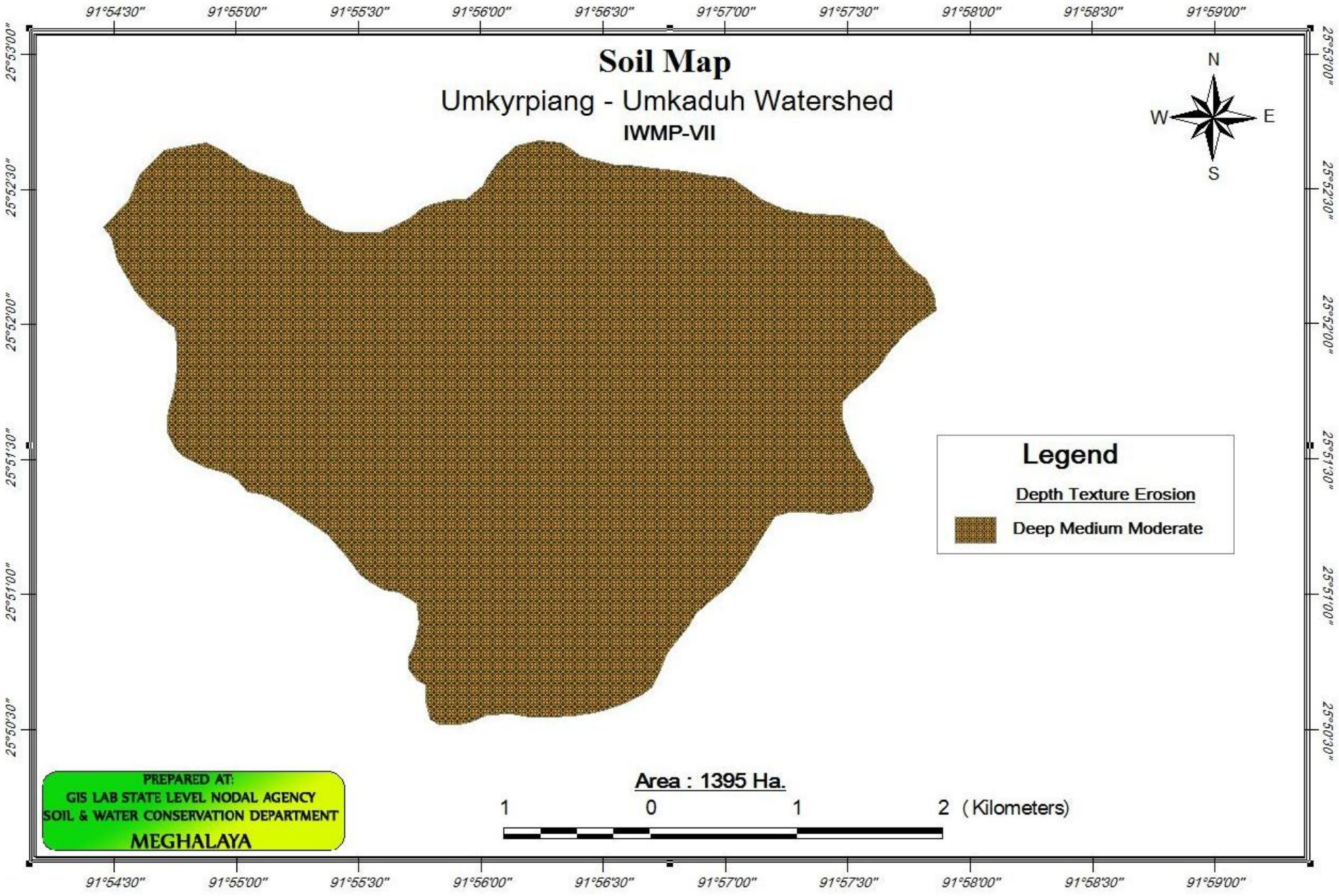
Proposed Land Use Land Cover Map

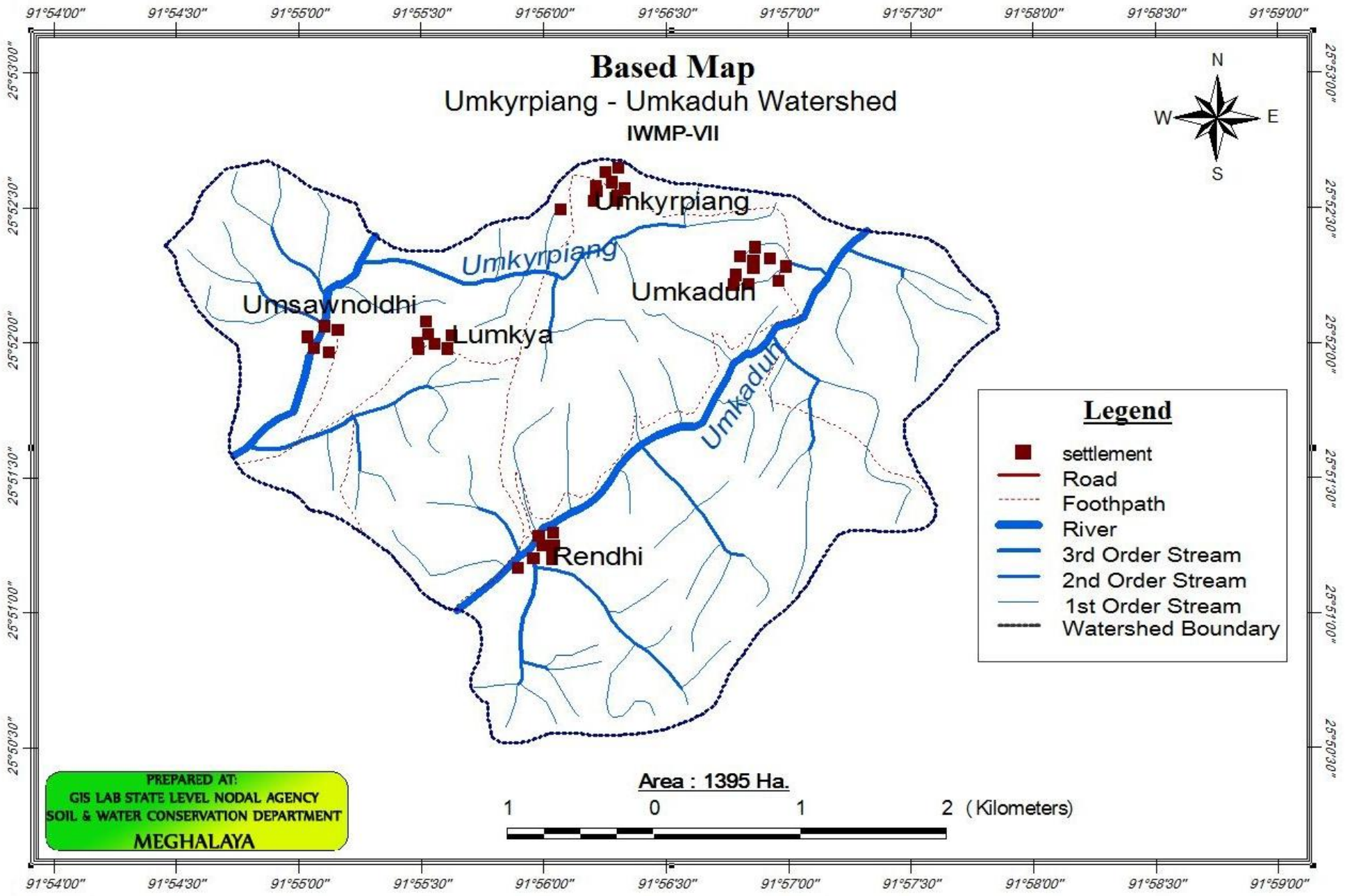
Umkyrpiang - Umkaduh Watershed

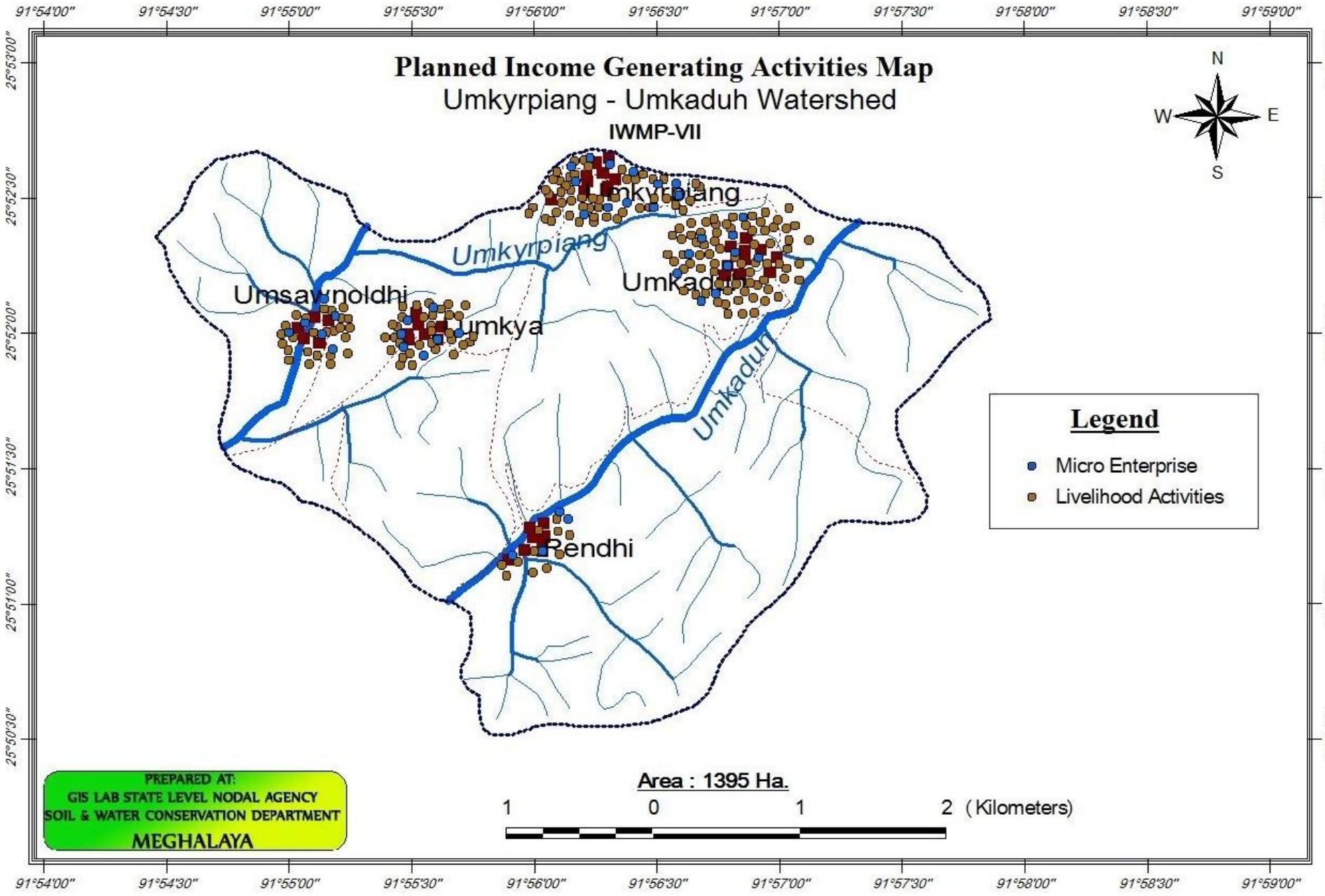
IWMP-VII




Agro-Climatic Map
Umkyrpiang - Umkaduh Watershed
IWMP-VII
N
W
E
S
91°54'30"
91°55'00"
91°55'30"
91°56'00"
91°56'30"
91°57'00"
91°57'30"
91°58'00"
91°58'30"
91°59'00"
25°53'00"
25°52'30"
25°52'00"
25°51'30"
25°51'00"
25°50'30"
Legend
Mild,Moisture Wet (Md,M)
PREPARED AT:
GIS LAB STATE LEVEL NODAL AGENCY
SOIL & WATER CONSERVATION DEPARTMENT
MEGHALAYA
Area : 1395 Ha.
1 0 1 2 (Kilometers)


Soil Map
Umkyrpiang - Umkaduh Watershed
IWMP-VII
91°54'30"
91°55'00"
91°55'30"
91°56'00"
91°56'30"
91°57'00"
91°57'30"
91°58'00"
91°58'30"
91°59'00"
25°53'00"
25°52'30"
25°52'00"
25°51'30"
25°51'00"
25°50'30"
N
W
E
S
Legend
Depth Texture Erosion
Deep Medium Moderate
PREPARED AT:
GIS LAB STATE LEVEL NODAL AGENCY
SOIL & WATER CONSERVATION DEPARTMENT
MEGHALAYA
Area : 1395 Ha.
1 0 1 2 (Kilometers)

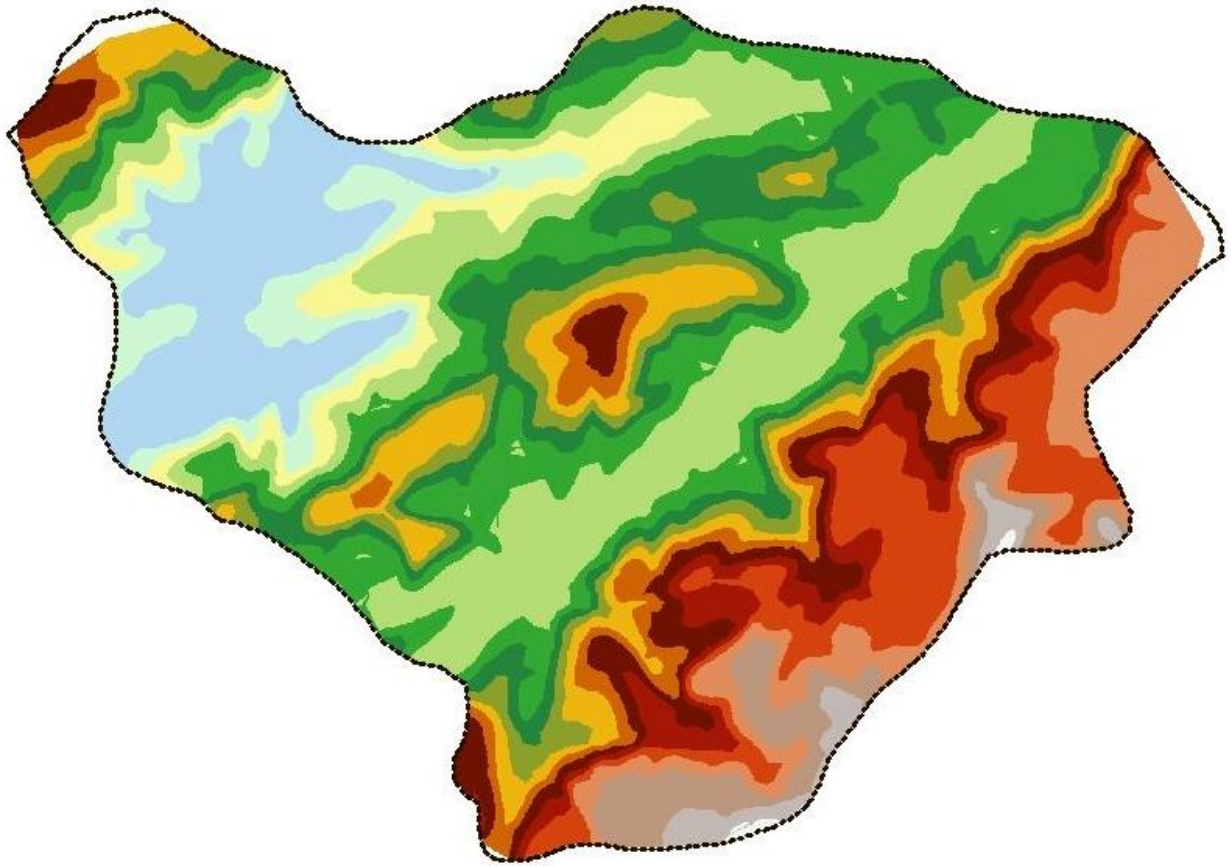

Based Map
Umkyrpiang - Umkaduh Watershed
IWMP-VII
N
W
E
S
Umkyrpiang
Umkyrpiang
Umsawnoldhi
Lumkya
Umkaduh
Umkadun
Rendhi
Legend
settlement
Road
Foothpath
River
3rd Order Stream
2nd Order Stream
1st Order Stream
Watershed Boundary
PREPARED AT:
GIS LAB STATE LEVEL NODAL AGENCY
SOIL & WATER CONSERVATION DEPARTMENT
MEGHALAYA
Area : 1395 Ha.
1 0 1 2 (Kilometers)
91°54'00"
91°54'30"
91°55'00"
91°55'30"
91°56'00"
91°56'30"
91°57'00"
91°57'30"
91°58'00"
91°58'30"
91°59'00"
25°53'00"
25°52'30"
25°52'00"
25°51'30"
25°51'00"
25°50'30"


Planned Income Generating Activities Map
Umkyrpiang - Umkaduh Watershed
IWMP-VII
N
W
E
S
Umkyrpiang
Umkyrpiang
Umsawynoldhi
umkya
Umkadun
Umkadun
Rendhi
Legend
Micro Enterprise
Livelihood Activities
PREPARED AT:
GIS LAB STATE LEVEL NODAL AGENCY
SOIL & WATER CONSERVATION DEPARTMENT
MEGHALAYA
Area : 1395 Ha.
1 0 1 2 (Kilometers)
91°54'00"
91°54'30"
91°55'00"
91°55'30"
91°56'00"
91°56'30"
91°57'00"
91°57'30"
91°58'00"
91°58'30"
91°59'00"
25°53'00"
25°52'30"
25°52'00"
25°51'30"
25°51'00"
25°50'30"

Elevation

Umkyrpiang - Umkaduh Watershed

IWMP-VII



N
W E
S

Legend

Elevation In Metres

- 579
- 579 - 604
- 604 - 629
- 629 - 655
- 655 - 680
- 680 - 706
- 706 - 731
- 731 - 756
- 756 - 782
- 782 - 807
- 807 - 833
- 833 - 858
- 858 - 883
- 883 - 909
- 909 - 934
- 934 - 960

91°54'30" 91°55'00" 91°55'30" 91°56'00" 91°56'30" 91°57'00" 91°57'30" 91°58'00" 91°58'30" 91°59'00"

25°53'00" 25°52'30" 25°52'00" 25°51'30" 25°51'00" 25°50'30"

PREPARED AT:
GIS LAB STATE LEVEL NODAL AGENCY
SOIL & WATER CONSERVATION DEPARTMENT
MEGHALAYA

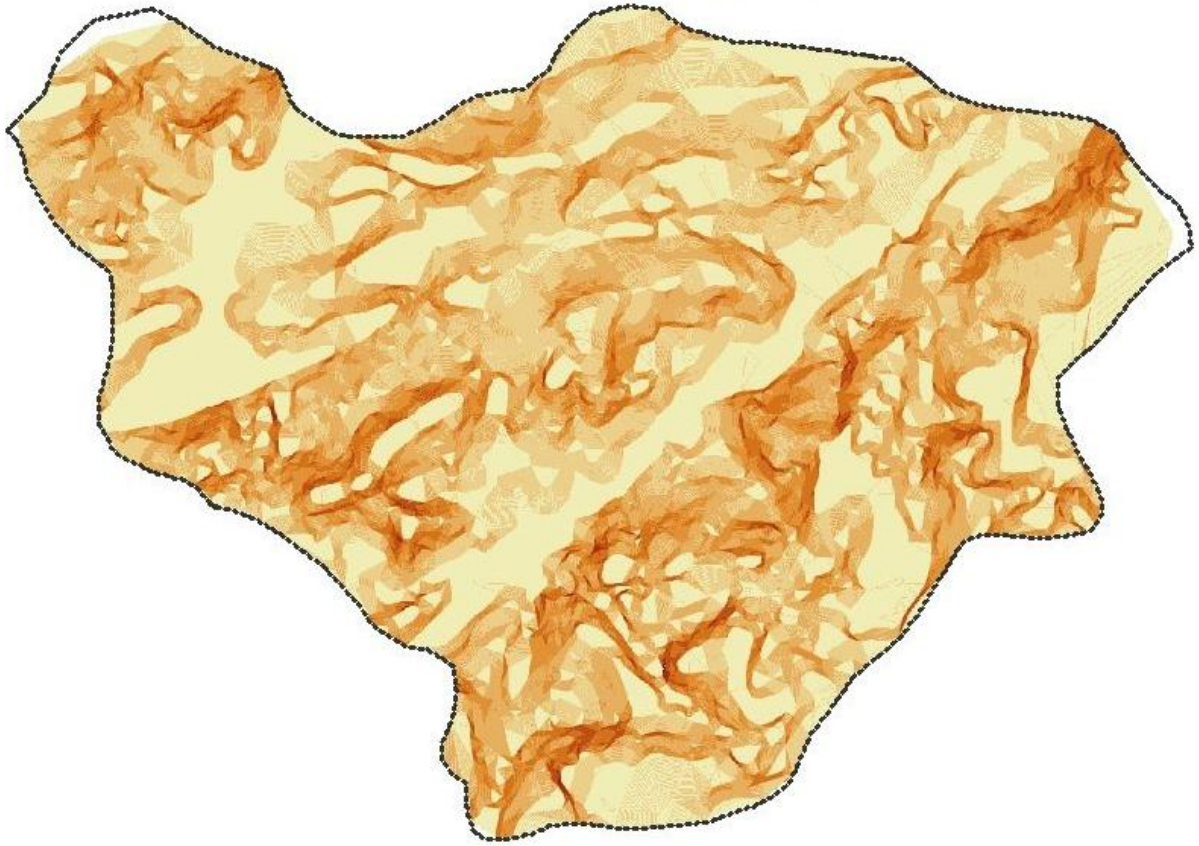
Area : 1395 Ha.

1 0 1 2 (Kilometers)

Slope

Umkyrpiang - Umkaduh Watershed

IWMP-VII



N

W E

S

Legend

Slope in Percentage

- 0 - 9
- 9 - 18
- 18 - 27
- 27 - 36
- 36 - 45
- 45 - 55
- 55 - 64
- 64 - 73

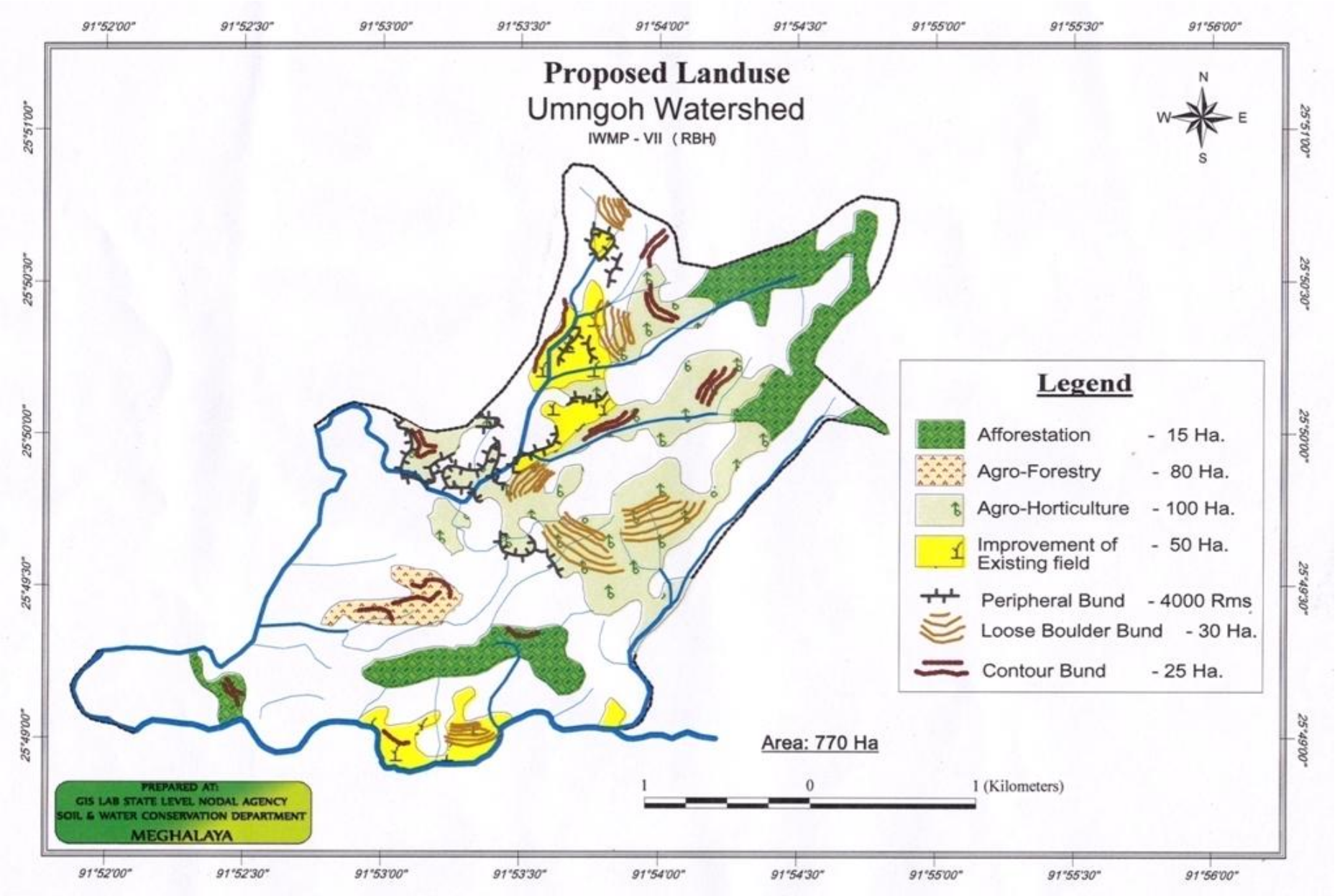
91°54'30" 91°55'00" 91°55'30" 91°56'00" 91°56'30" 91°57'00" 91°57'30" 91°58'00" 91°58'30" 91°59'00"

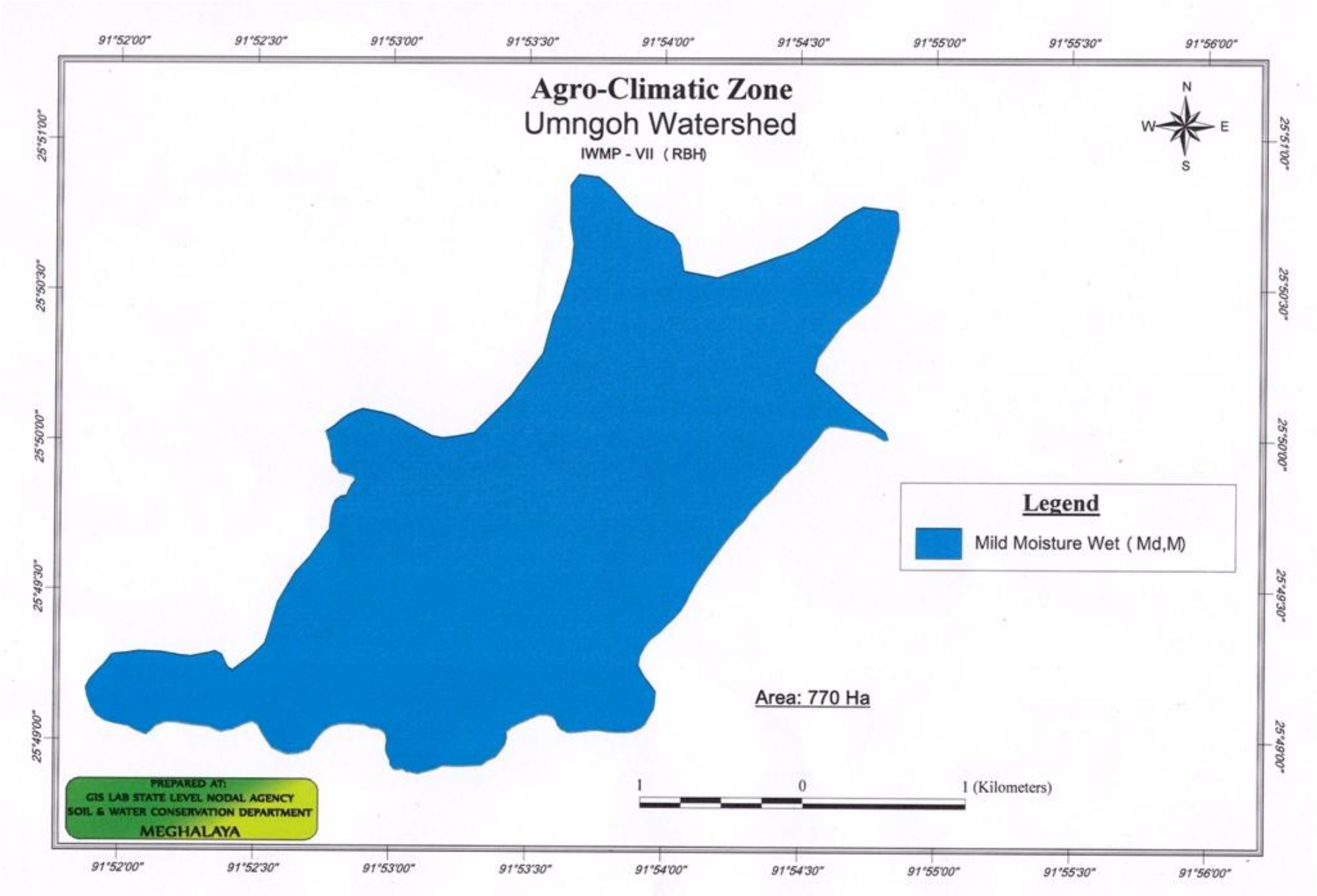
25°53'00" 25°52'30" 25°52'00" 25°51'30" 25°51'00" 25°50'30"

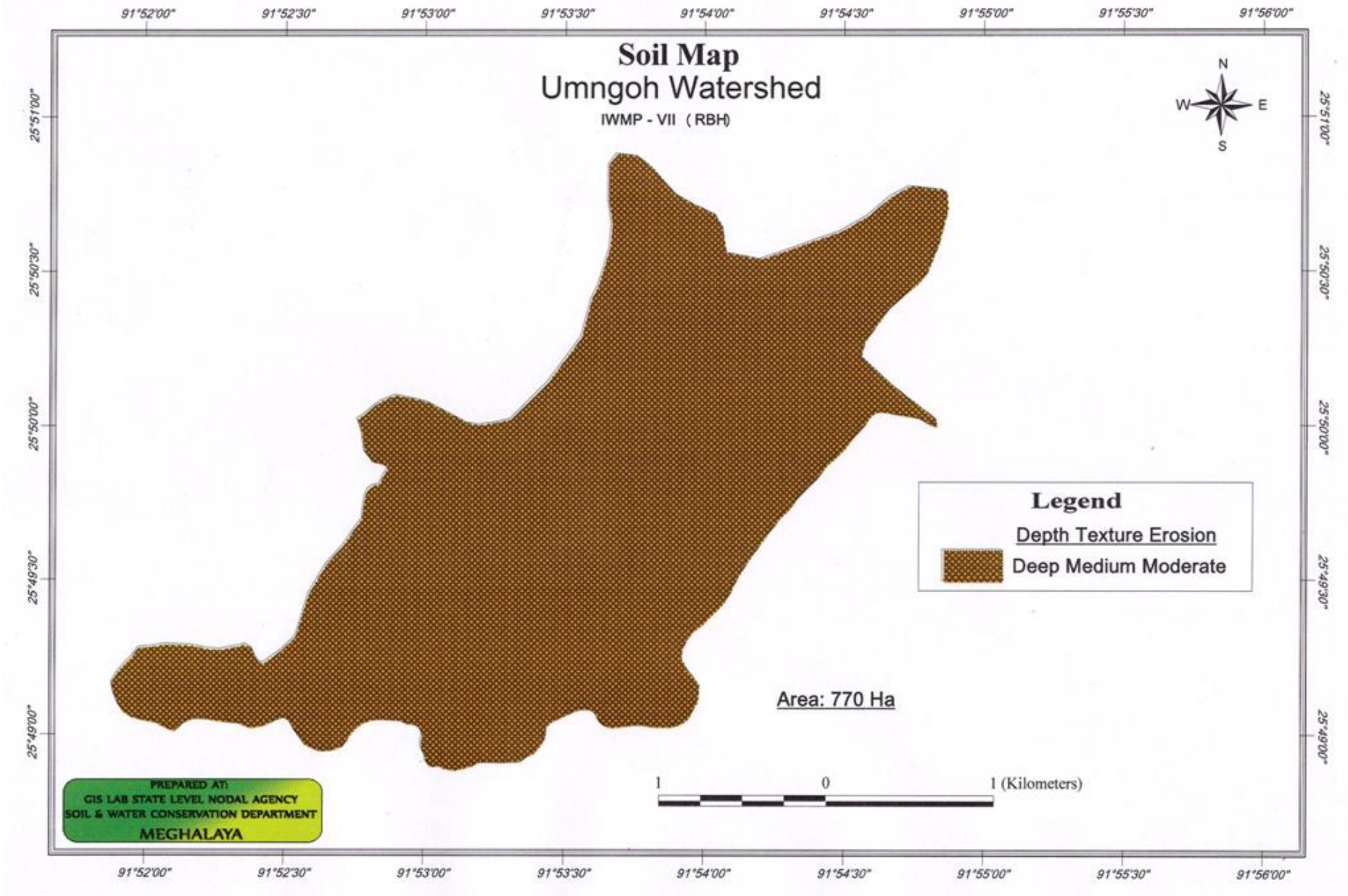
PREPARED AT:
GIS LAB STATE LEVEL NODAL AGENCY
SOIL & WATER CONSERVATION DEPARTMENT
MEGHALAYA

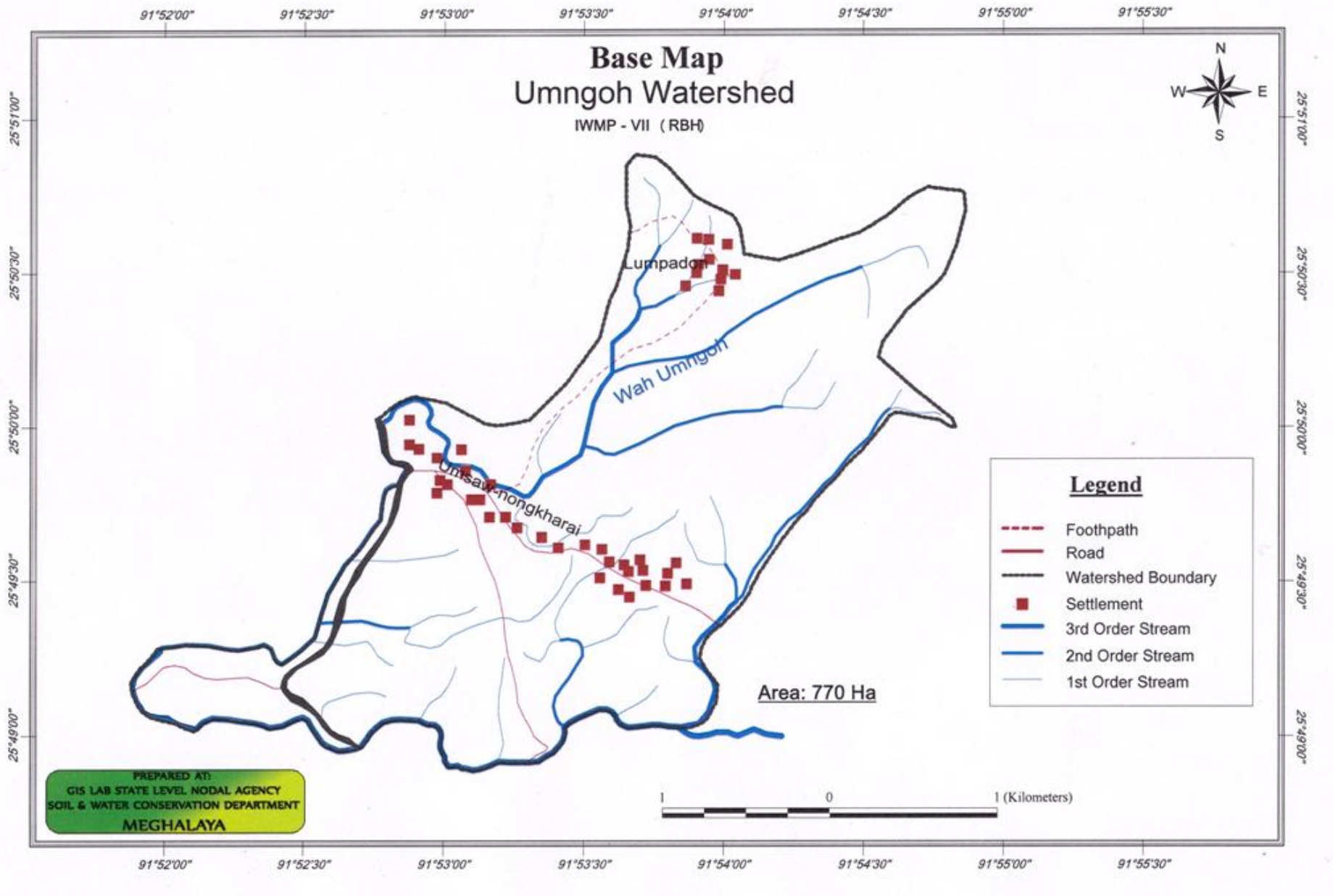
Area : 1395 Ha.

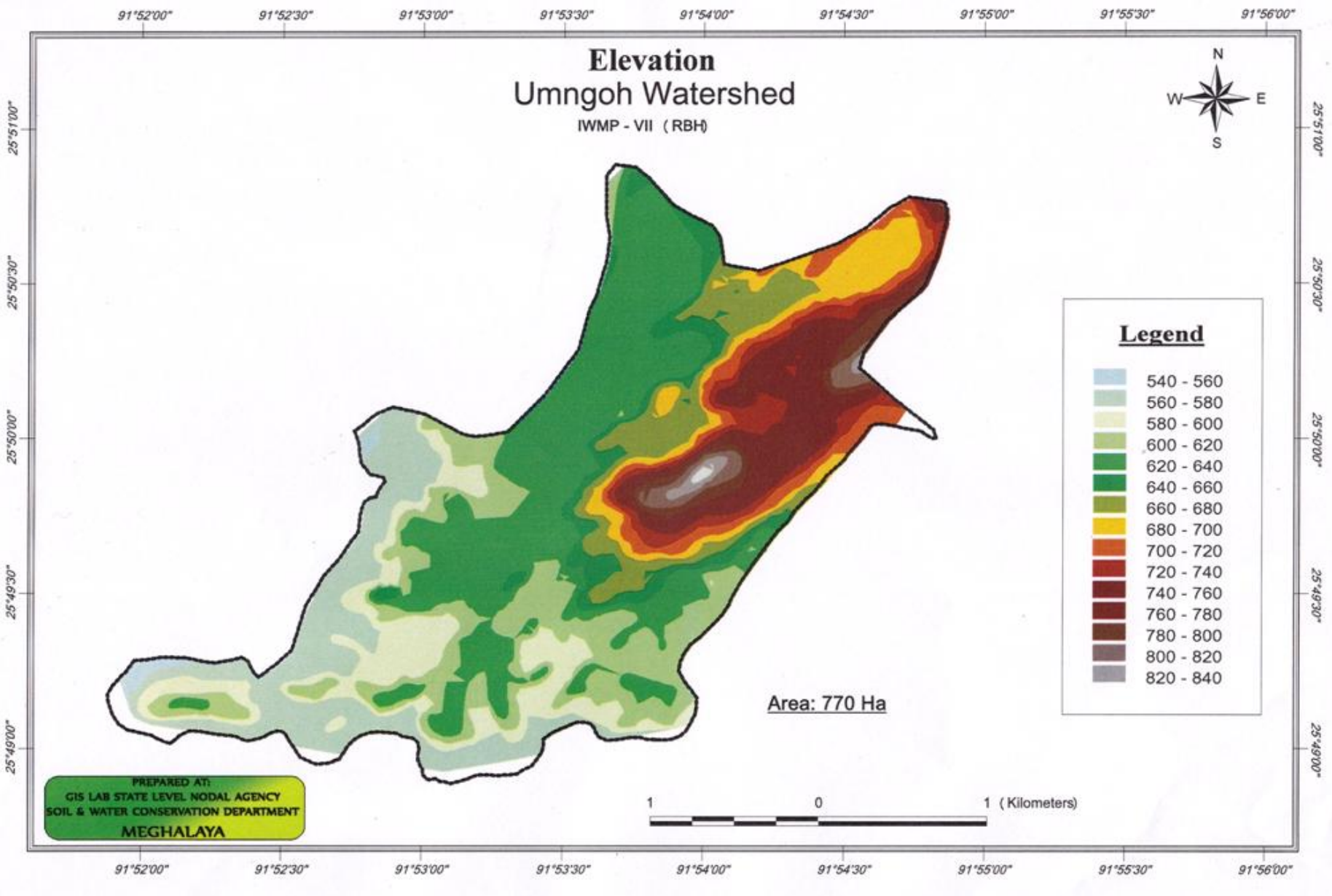
1 0 1 2 (Kilometers)

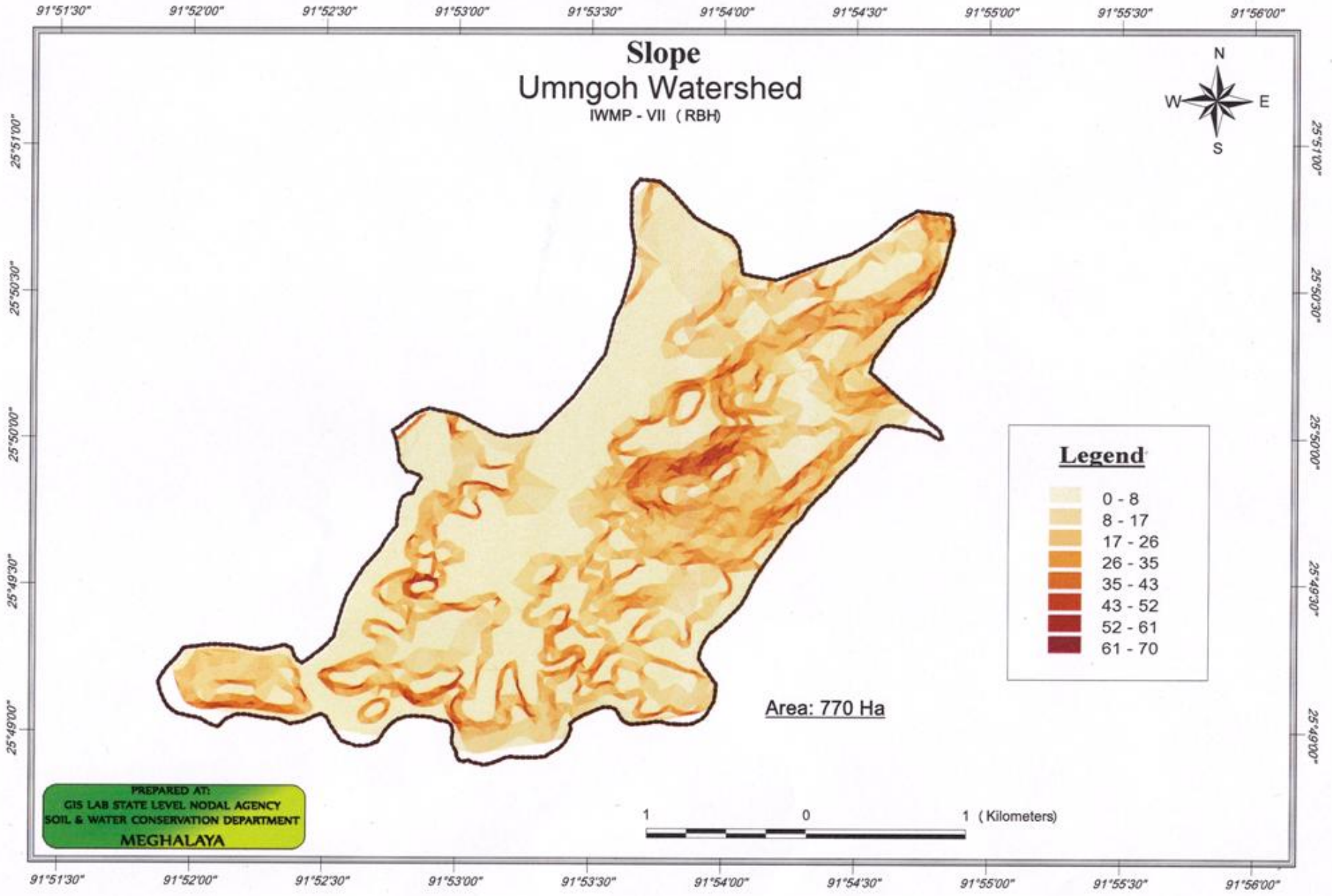

Proposed Landuse
Umngoh Watershed
IWMP - VII (RBH)
N
W
E
S
91°52'00"
91°52'30"
91°53'00"
91°53'30"
91°54'00"
91°54'30"
91°55'00"
91°55'30"
91°56'00"
25°51'00"
25°50'30"
25°50'00"
25°49'30"
25°49'00"
Legend
Afforestation - 15 Ha.
Agro-Forestry - 80 Ha.
Agro-Horticulture - 100 Ha.
Improvement of Existing field - 50 Ha.
Peripheral Bund - 4000 Rms
Loose Boulder Bund - 30 Ha.
Contour Bund - 25 Ha.
Area: 770 Ha
1 0 1 (Kilometers)
PREPARED AT:
GIS LAB STATE LEVEL NODAL AGENCY
SOIL & WATER CONSERVATION DEPARTMENT
MEGHALAYA

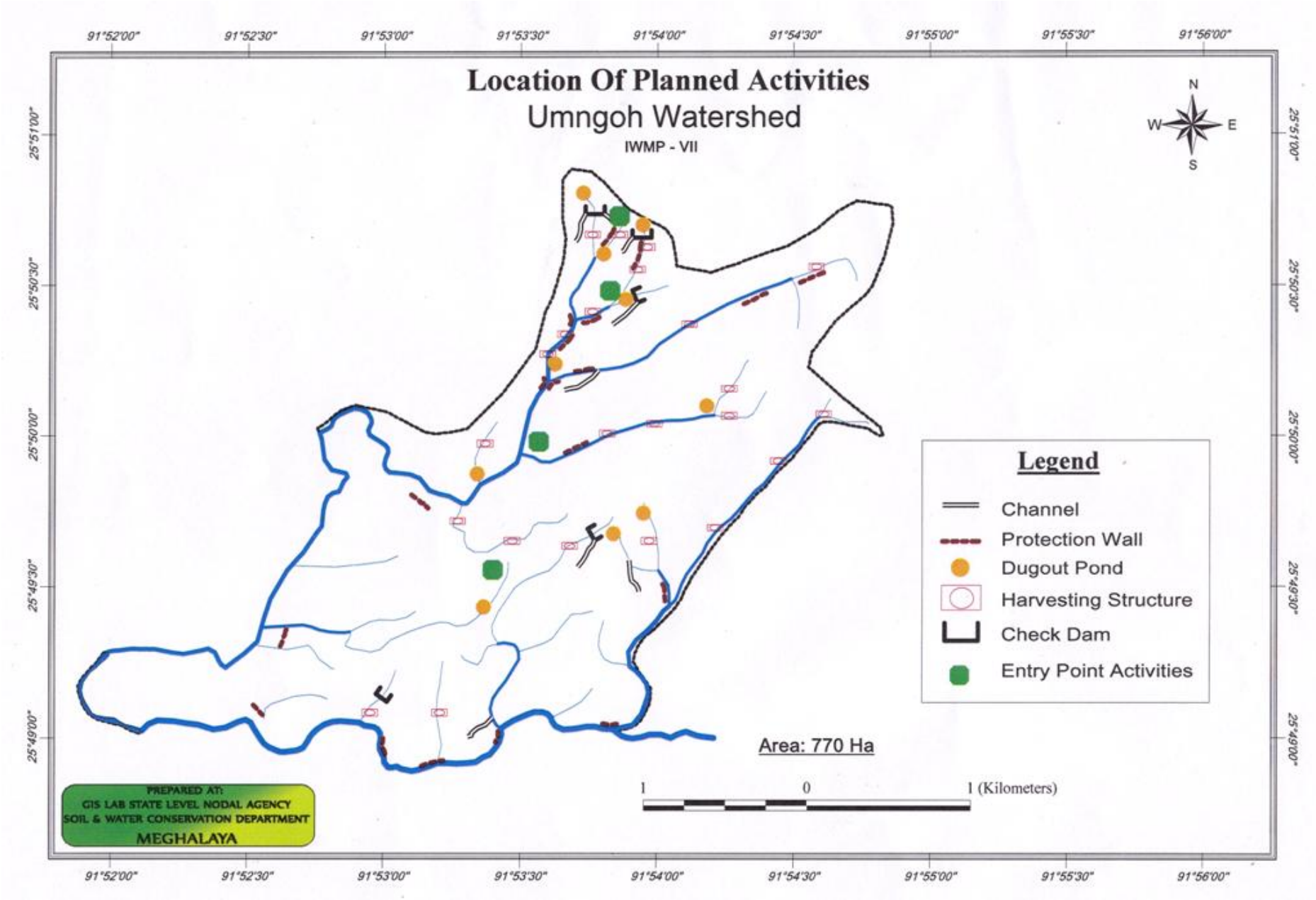

Agro-Climatic Zone
Umngoh Watershed
IWMP - VII (RBH)
N
W
E
S
91°52'00"
91°52'30"
91°53'00"
91°53'30"
91°54'00"
91°54'30"
91°55'00"
91°55'30"
91°56'00"
25°51'00"
25°50'30"
25°50'00"
25°49'30"
25°49'00"
Legend
Mild Moisture Wet (Md,M)
Area: 770 Ha
1 0 1 (Kilometers)
PREPARED AT:
GIS LAB STATE LEVEL NODAL AGENCY
SOIL & WATER CONSERVATION DEPARTMENT
MEGHALAYA

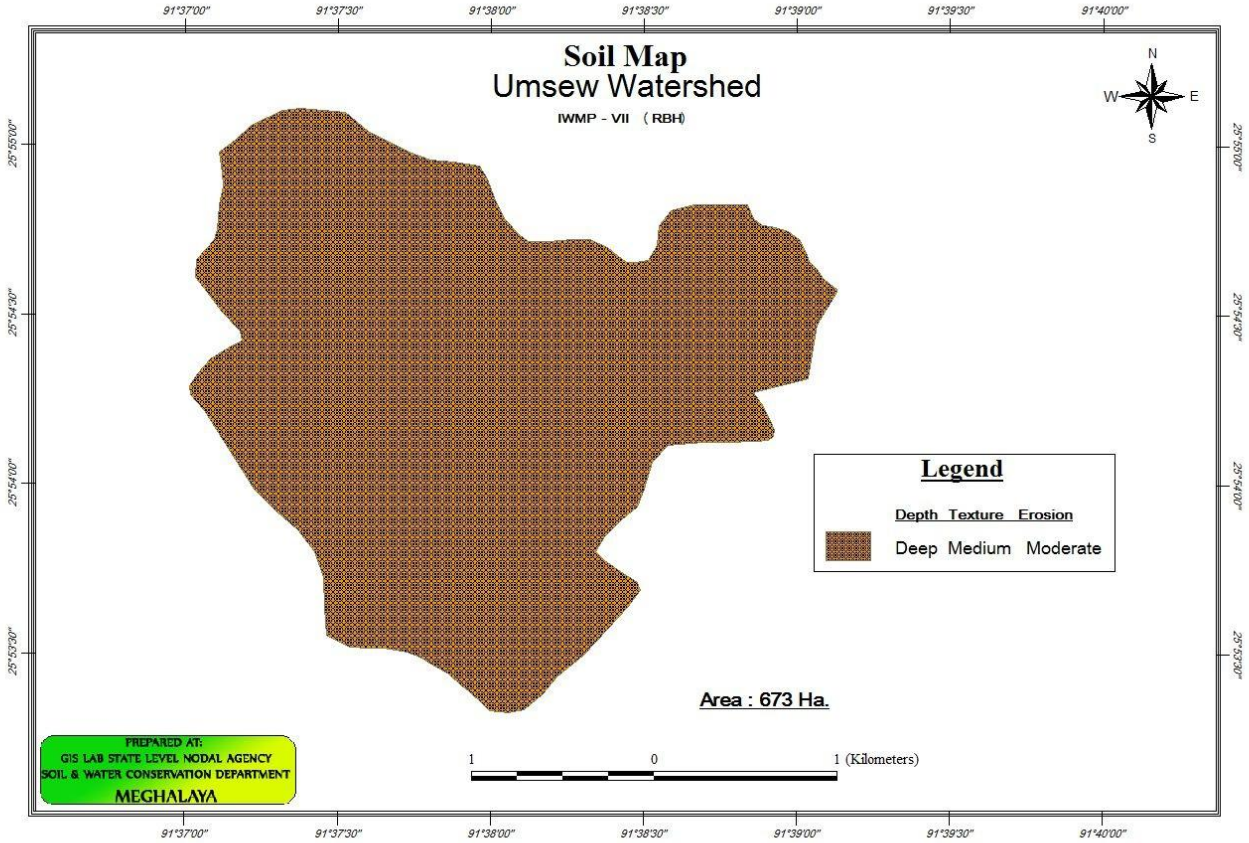

Soil Map
Umngoh Watershed
IWMP - VII (RBH)
N
W
E
S
91°52'00"
91°52'30"
91°53'00"
91°53'30"
91°54'00"
91°54'30"
91°55'00"
91°55'30"
91°56'00"
25°51'00"
25°50'30"
25°50'00"
25°49'30"
25°49'00"
Legend
Depth Texture Erosion
Deep Medium Moderate
Area: 770 Ha
1 0 1 (Kilometers)
PREPARED AT:
GIS LAB STATE LEVEL NODAL AGENCY
SOIL & WATER CONSERVATION DEPARTMENT
MEGHALAYA

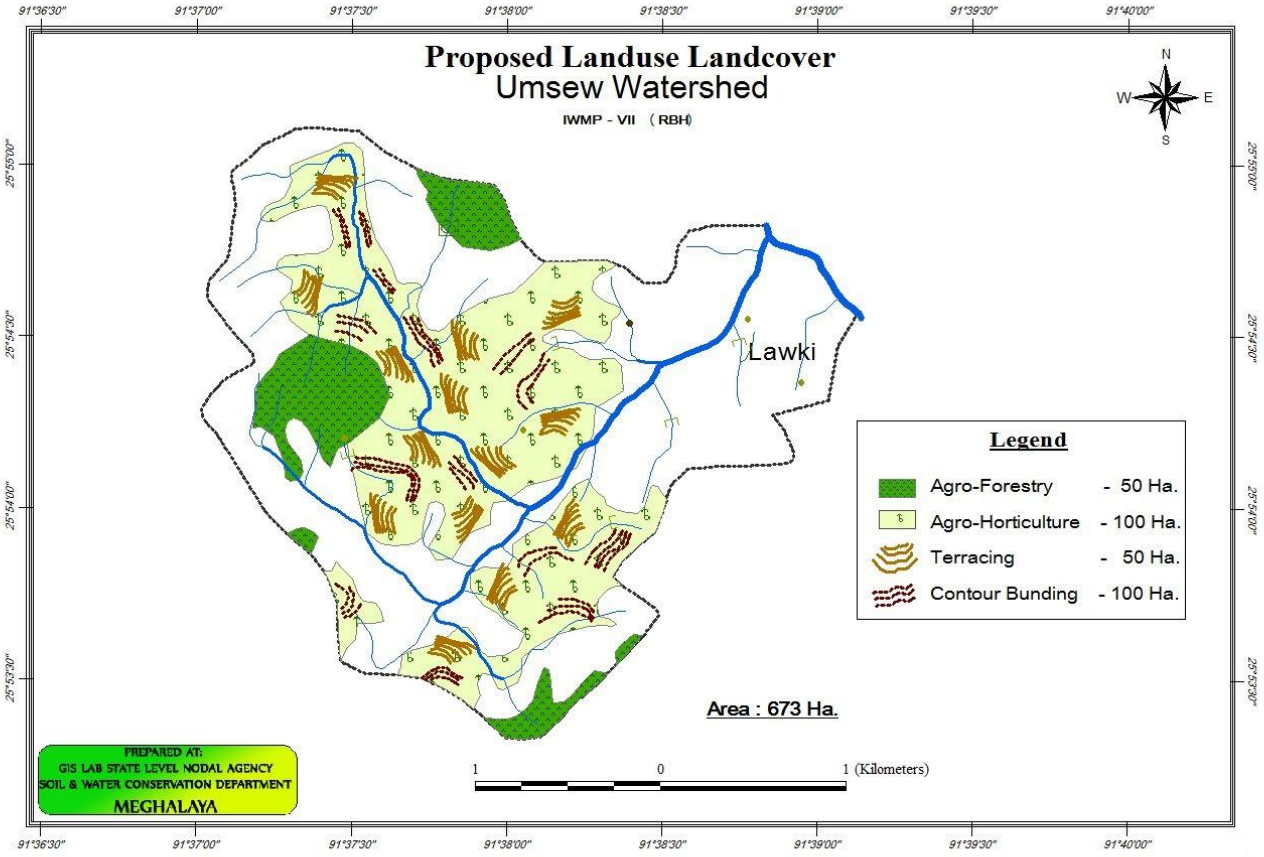

Base Map
Umngoh Watershed
IWMP - VII (RBH)
N
W
E
S
91°52'00"
91°52'30"
91°53'00"
91°53'30"
91°54'00"
91°54'30"
91°55'00"
91°55'30"
25°51'00"
25°50'30"
25°50'00"
25°49'30"
25°49'00"
Lumpadon
Wah Umngoh
Umsaw-nongkharai
Area: 770 Ha
Legend
Foothpath
Road
Watershed Boundary
Settlement
3rd Order Stream
2nd Order Stream
1st Order Stream
1 0 1 (Kilometers)
PREPARED AT:
GIS LAB STATE LEVEL NODAL AGENCY
SOIL & WATER CONSERVATION DEPARTMENT
MEGHALAYA

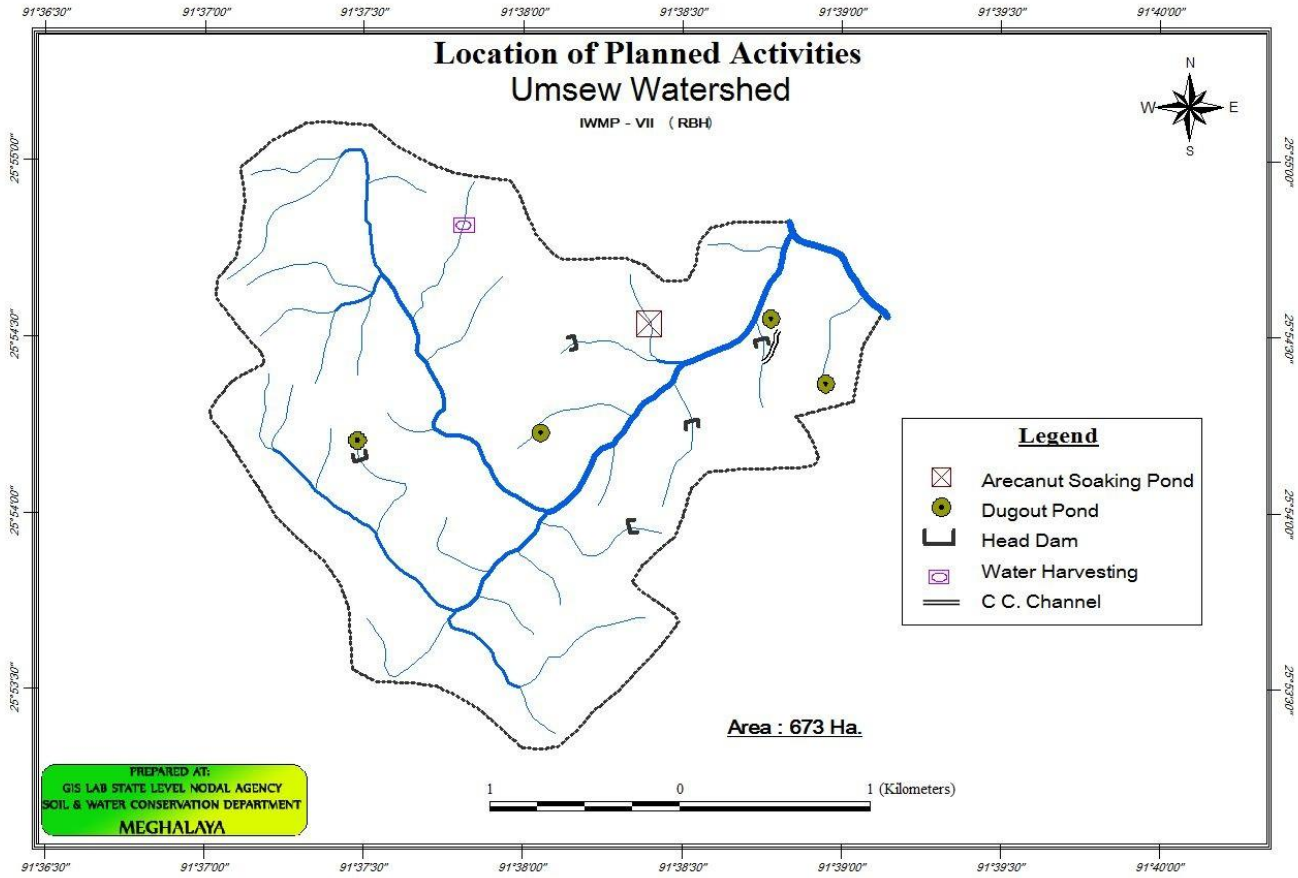

Elevation
Umngoh Watershed
IWMP - VII (RBH)
N
W
E
S
91°52'00"
91°52'30"
91°53'00"
91°53'30"
91°54'00"
91°54'30"
91°55'00"
91°55'30"
91°56'00"
25°51'00"
25°50'30"
25°50'00"
25°49'30"
25°49'00"
Legend
540 - 560
560 - 580
580 - 600
600 - 620
620 - 640
640 - 660
660 - 680
680 - 700
700 - 720
720 - 740
740 - 760
760 - 780
780 - 800
800 - 820
820 - 840
Area: 770 Ha
PREPARED AT:
GIS LAB STATE LEVEL NODAL AGENCY
SOIL & WATER CONSERVATION DEPARTMENT
MEGHALAYA
1 0 1 (Kilometers)

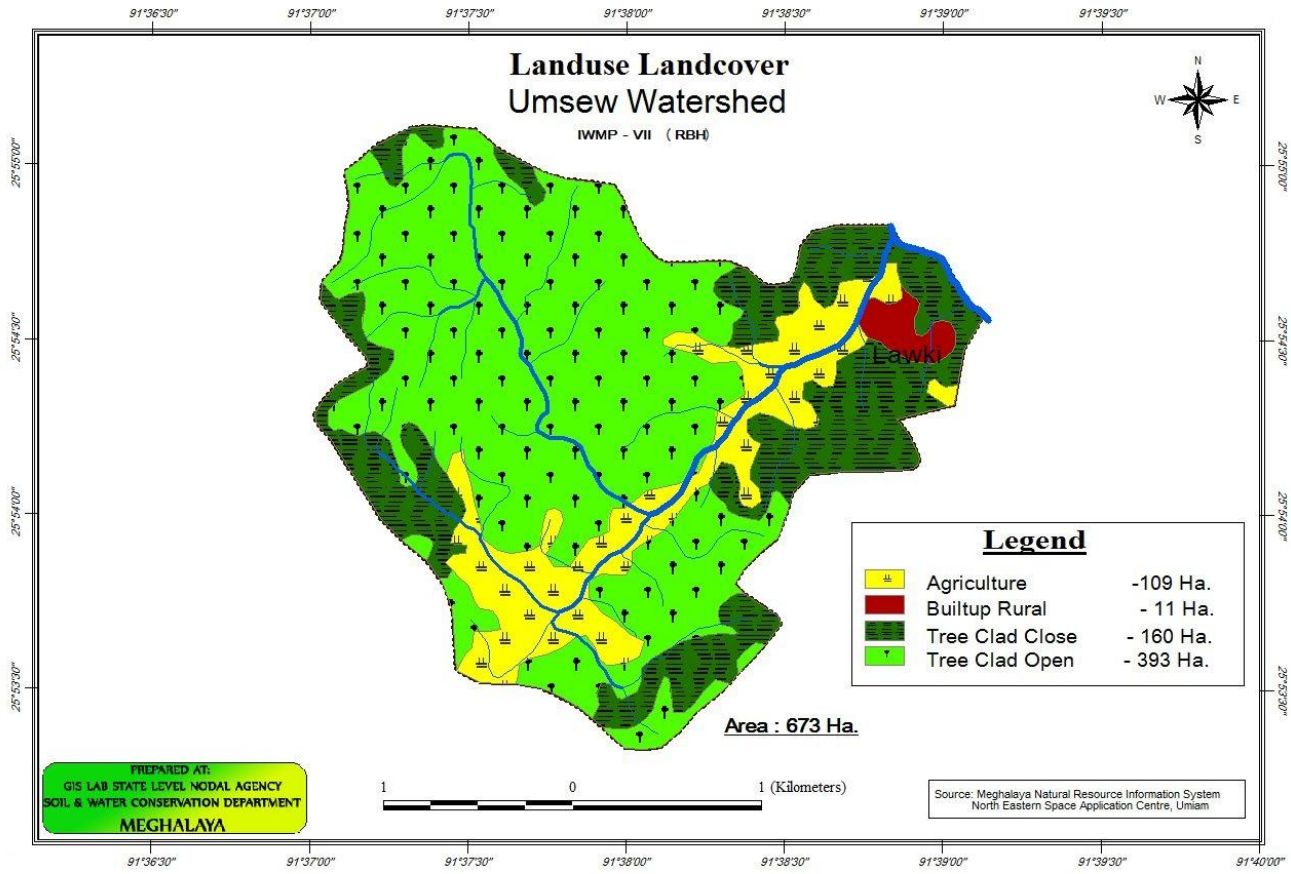

Slope
Umngoh Watershed
IWMP - VII (RBH)
N
W
E
S
91°51'30"
91°52'00"
91°52'30"
91°53'00"
91°53'30"
91°54'00"
91°54'30"
91°55'00"
91°55'30"
91°56'00"
25°51'00"
25°50'30"
25°50'00"
25°49'30"
25°49'00"
Legend
0 - 8
8 - 17
17 - 26
26 - 35
35 - 43
43 - 52
52 - 61
61 - 70
Area: 770 Ha
PREPARED AT:
GIS LAB STATE LEVEL NODAL AGENCY
SOIL & WATER CONSERVATION DEPARTMENT
MEGHALAYA
1 0 1 (Kilometers)

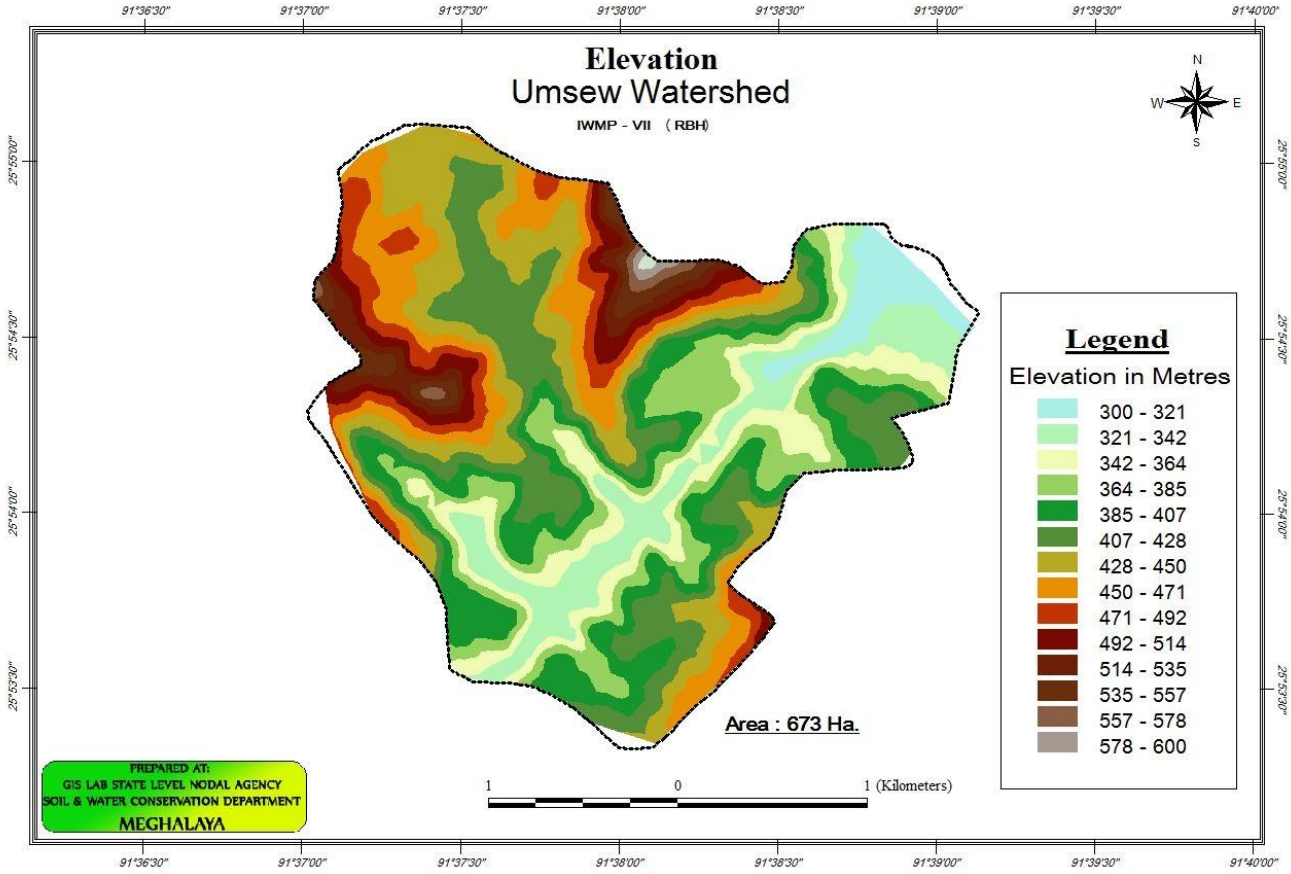

Location Of Planned Activities
Umngoh Watershed
IWMP - VII
N
W
E
S
91°52'00"
91°52'30"
91°53'00"
91°53'30"
91°54'00"
91°54'30"
91°55'00"
91°55'30"
91°56'00"
25°51'00"
25°50'30"
25°50'00"
25°49'30"
25°49'00"
Legend
Channel
Protection Wall
Dugout Pond
Harvesting Structure
Check Dam
Entry Point Activities
Area: 770 Ha
1 0 1 (Kilometers)
PREPARED AT:
GIS LAB STATE LEVEL NODAL AGENCY
SOIL & WATER CONSERVATION DEPARTMENT
MEGHALAYA

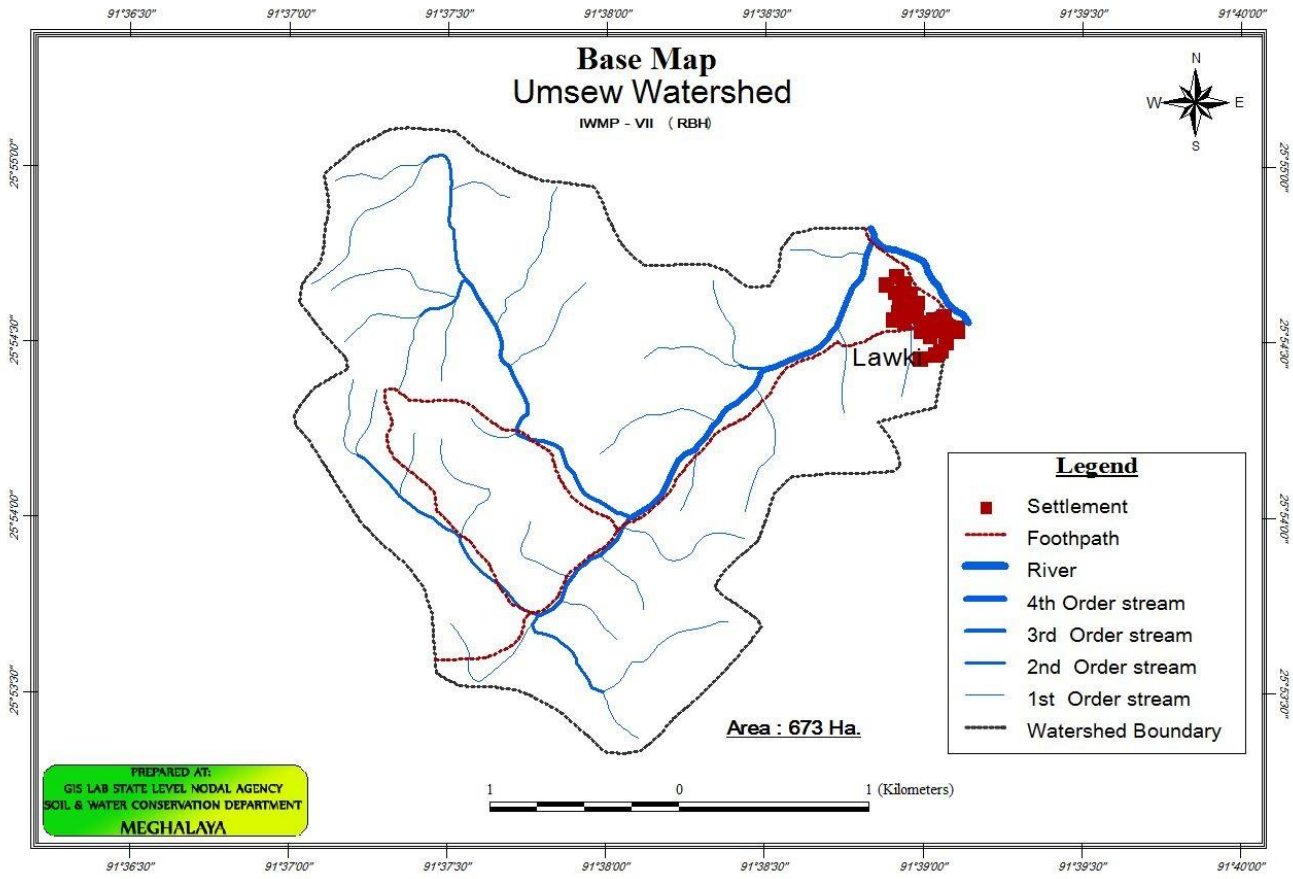

Soil Map
Umsew Watershed
IWMP - VII (RBH)
N
W
E
S
91°37'00"
91°37'30"
91°38'00"
91°38'30"
91°39'00"
91°39'30"
91°40'00"
25°55'00"
25°54'30"
25°54'00"
25°53'30"
Legend
Depth Texture Erosion
Deep Medium Moderate
Area : 673 Ha.
PREPARED AT:
GIS LAB STATE LEVEL NODAL AGENCY
SOIL & WATER CONSERVATION DEPARTMENT
MEGHALAYA
1 0 1 (Kilometers)

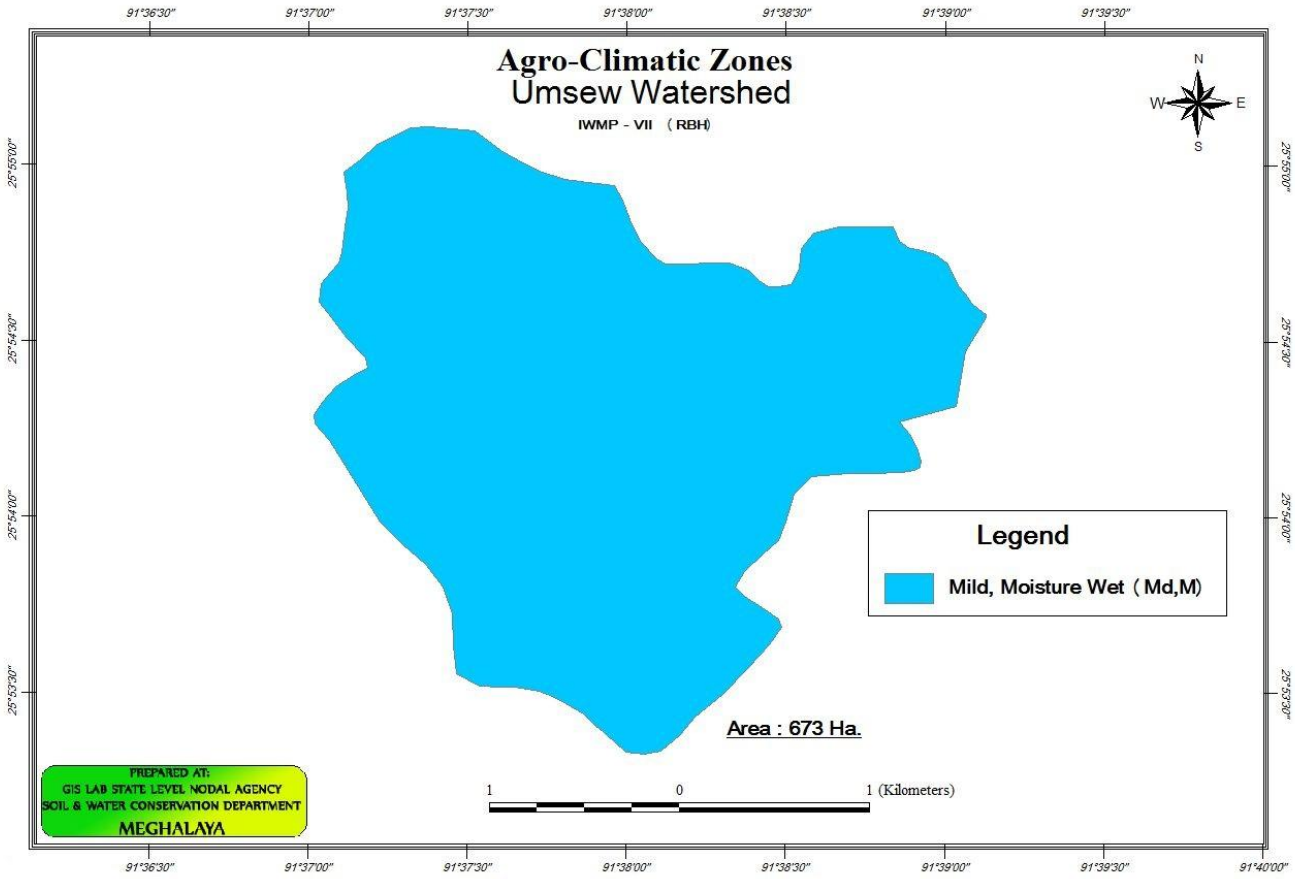

Proposed Landuse Landcover
Umsew Watershed
IWMP - VII (RBH)
N
W
E
S
Lawki
Legend
Agro-Forestry - 50 Ha.
Agro-Horticulture - 100 Ha.
Terracing - 50 Ha.
Contour Bunding - 100 Ha.
Area : 673 Ha.
1 0 1 (Kilometers)
PREPARED AT:
GIS LAB STATE LEVEL NODAL AGENCY
SOIL & WATER CONSERVATION DEPARTMENT
MEGHALAYA
91°36'30"
91°37'00"
91°37'30"
91°38'00"
91°38'30"
91°39'00"
91°39'30"
91°40'00"
25°55'00"
25°54'30"
25°54'00"
25°53'30"

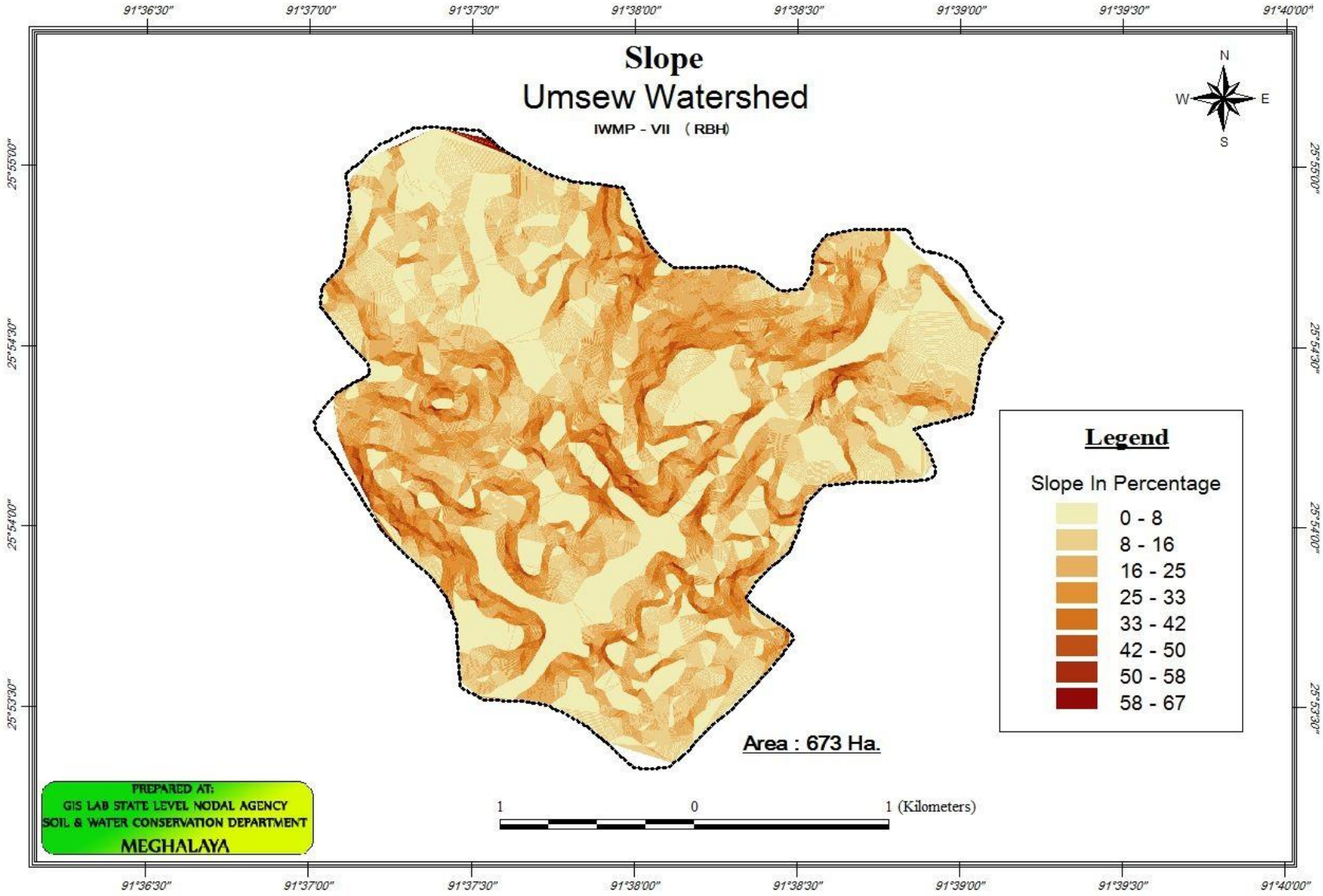

Location of Planned Activities
Umsew Watershed
IWMP - VII (RBH)
N
W
E
S
Legend
Arecanut Soaking Pond
Dugout Pond
Head Dam
Water Harvesting
C C. Channel
Area : 673 Ha.
PREPARED AT:
GIS LAB STATE LEVEL NODAL AGENCY
SOIL & WATER CONSERVATION DEPARTMENT
MEGHALAYA
1 0 1 (Kilometers)
91°36'30"
91°37'00"
91°37'30"
91°38'00"
91°38'30"
91°39'00"
91°39'30"
91°40'00"
25°55'00"
25°54'30"
25°54'00"
25°53'30"

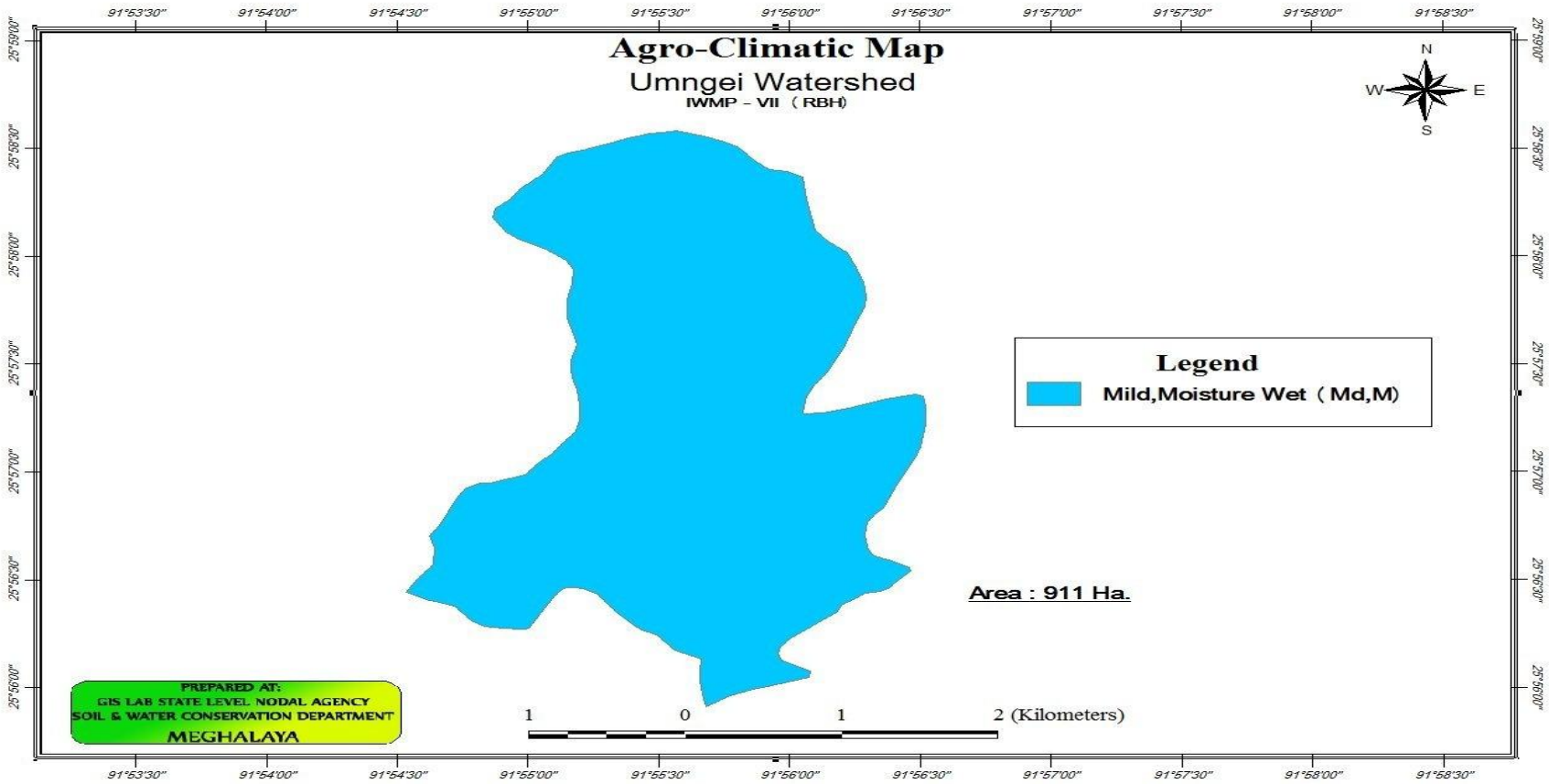

Landuse Landcover
Umsew Watershed
IWMP - VII (RBH)
N
W
E
S
91°36'30"
91°37'00"
91°37'30"
91°38'00"
91°38'30"
91°39'00"
91°39'30"
91°40'00"
25°55'00"
25°54'30"
25°54'00"
25°53'30"
Lawki
Legend
Agriculture -109 Ha.
Builtup Rural - 11 Ha.
Tree Clad Close - 160 Ha.
Tree Clad Open - 393 Ha.
Area : 673 Ha.
PREPARED AT:
GIS LAB STATE LEVEL NODAL AGENCY
SOIL & WATER CONSERVATION DEPARTMENT
MEGHALAYA
1 0 1 (Kilometers)
Source: Meghalaya Natural Resource Information System
North Eastern Space Application Centre, Umiam

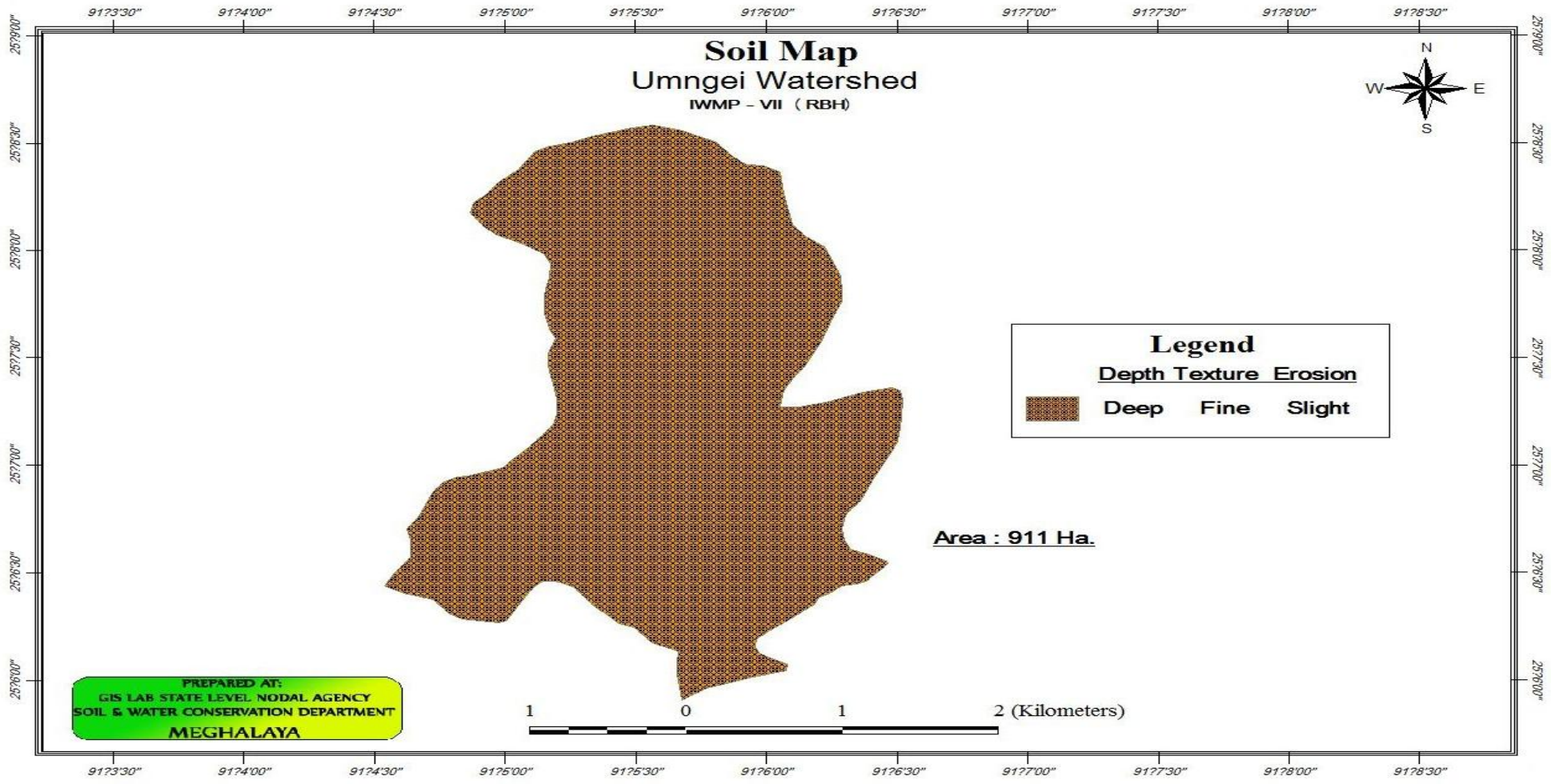

Elevation
Umsew Watershed
IWMP - VII (RBH)
N
W
E
S
91°36'30"
91°37'00"
91°37'30"
91°38'00"
91°38'30"
91°39'00"
91°39'30"
91°40'00"
25°55'00"
25°54'30"
25°54'00"
25°53'30"
Legend
Elevation in Metres
300 - 321
321 - 342
342 - 364
364 - 385
385 - 407
407 - 428
428 - 450
450 - 471
471 - 492
492 - 514
514 - 535
535 - 557
557 - 578
578 - 600
Area : 673 Ha.
1 0 1 (Kilometers)
PREPARED AT:
GIS LAB STATE LEVEL NODAL AGENCY
SOIL & WATER CONSERVATION DEPARTMENT
MEGHALAYA


Base Map
Umsew Watershed
IWMP - VII (RBH)
N
W
E
S
91°36'30"
91°37'00"
91°37'30"
91°38'00"
91°38'30"
91°39'00"
91°39'30"
91°40'00"
25°55'00"
25°54'30"
25°54'00"
25°53'30"
Lawki
Legend
Settlement
Foothpath
River
4th Order stream
3rd Order stream
2nd Order stream
1st Order stream
Watershed Boundary
Area : 673 Ha.
1 0 1 (Kilometers)
PREPARED AT:
GIS LAB STATE LEVEL NODAL AGENCY
SOIL & WATER CONSERVATION DEPARTMENT
MEGHALAYA


Agro-Climatic Zones
Umsew Watershed
IWMP - VII (RBH)
N
W
E
S
Legend
Mild, Moisture Wet (Md,M)
Area : 673 Ha.
PREPARED AT:
GIS LAB STATE LEVEL NODAL AGENCY
SOIL & WATER CONSERVATION DEPARTMENT
MEGHALAYA
1 0 1 (Kilometers)
91°36'30"
91°37'00"
91°37'30"
91°38'00"
91°38'30"
91°39'00"
91°39'30"
91°40'00"
25°55'00"
25°54'30"
25°54'00"
25°53'30"


Slope
Umsew Watershed
IWMP - VII (RBH)
N
W
E
S
91°36'30"
91°37'00"
91°37'30"
91°38'00"
91°38'30"
91°39'00"
91°39'30"
91°40'00"
25°55'00"
25°54'30"
25°54'00"
25°53'30"
Legend
Slope In Percentage
0 - 8
8 - 16
16 - 25
25 - 33
33 - 42
42 - 50
50 - 58
58 - 67
Area : 673 Ha.
1 0 1 (Kilometers)
PREPARED AT:
GIS LAB STATE LEVEL NODAL AGENCY
SOIL & WATER CONSERVATION DEPARTMENT
MEGHALAYA


Agro-Climatic Map
Umngei Watershed
IWMP - VII (RBH)
N
W
E
S
Legend
Mild,Moisture Wet (Md,M)
Area : 911 Ha.
PREPARED AT:
GIS LAB STATE LEVEL NODAL AGENCY
SOIL & WATER CONSERVATION DEPARTMENT
MEGHALAYA
1 0 1 2 (Kilometers)
91°53'30" 91°54'00" 91°54'30" 91°55'00" 91°55'30" 91°56'00" 91°56'30" 91°57'00" 91°57'30" 91°58'00" 91°58'30"
25°59'00" 25°58'30" 25°58'00" 25°57'30" 25°57'00" 25°56'30" 25°56'00"


Soil Map
Umngei Watershed
IWMP – VII (RBH)
N
W
E
S
Legend
Depth Texture Erosion
Deep Fine Slight
Area : 911 Ha.
PREPARED AT:
GIS LAB STATE LEVEL NODAL AGENCY
SOIL & WATER CONSERVATION DEPARTMENT
MEGHALAYA
1 0 1 2 (Kilometers)
91?3'30" 91?4'00" 91?4'30" 91?5'00" 91?5'30" 91?6'00" 91?6'30" 91?7'00" 91?7'30" 91?8'00" 91?8'30"
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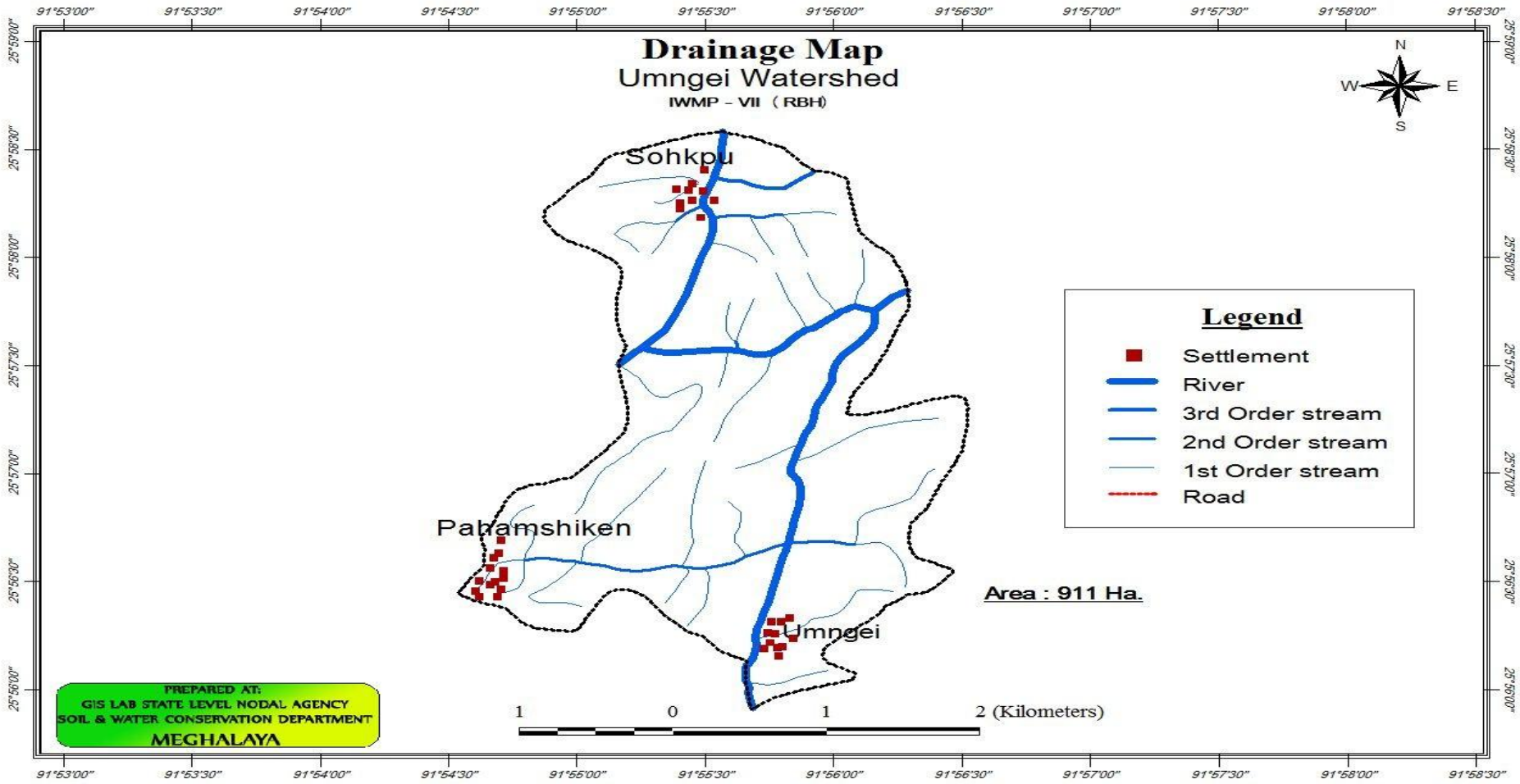
Drainage Map
Umngei Watershed
IWMP - VII (RBH)
N
W
E
S
Sohkpu
Pahamshiken
Umngei
Legend
Settlement
River
3rd Order stream
2nd Order stream
1st Order stream
Road
Area : 911 Ha.
1 0 1 2 (Kilometers)
PREPARED AT:
GIS LAB STATE LEVEL NODAL AGENCY
SOIL & WATER CONSERVATION DEPARTMENT
MEGHALAYA
91°53'00"
91°53'30"
91°54'00"
91°54'30"
91°55'00"
91°55'30"
91°56'00"
91°56'30"
91°57'00"
91°57'30"
91°58'00"
91°58'30"
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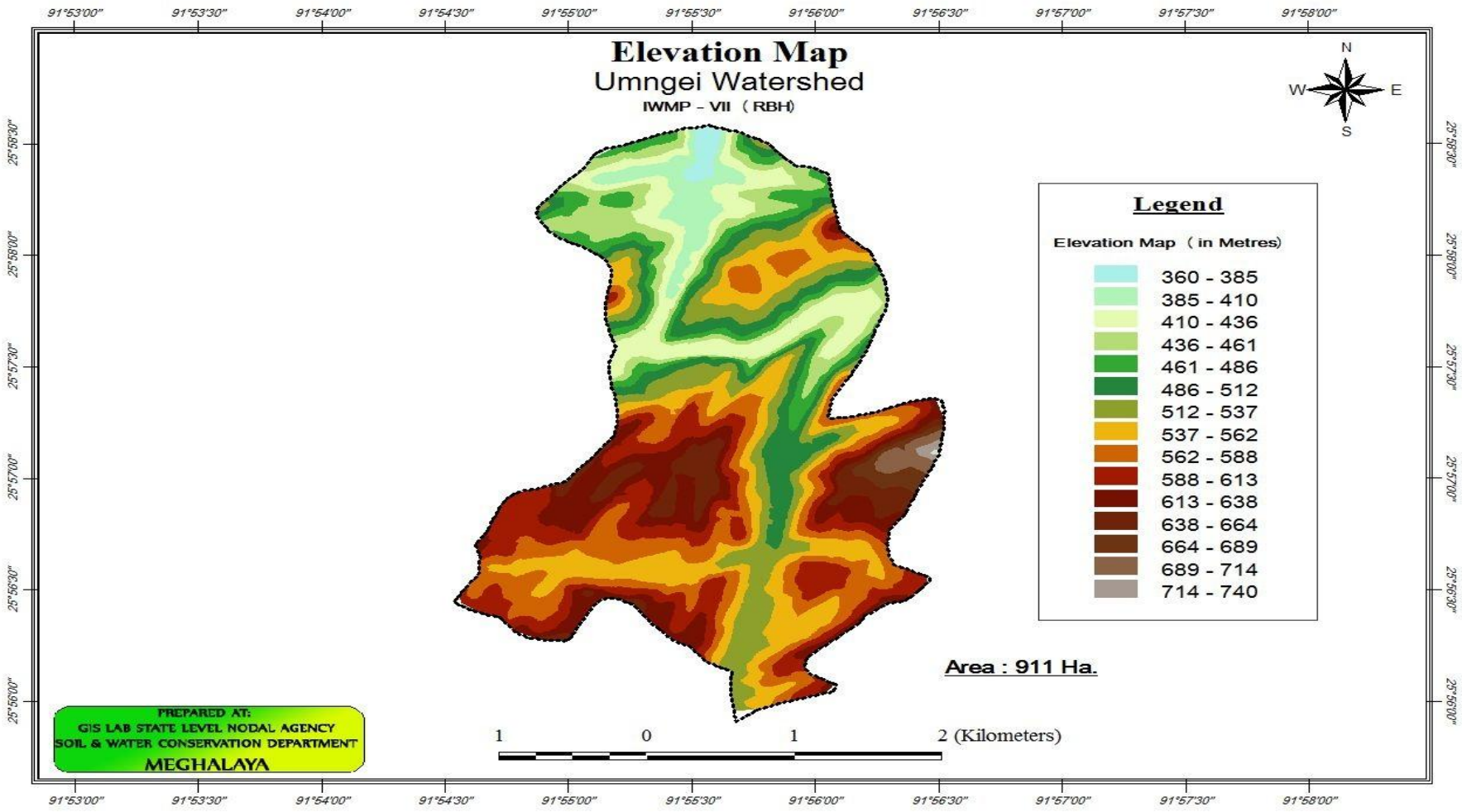
25°57'30"
25°57'00"
25°56'30"
25°56'00"


Elevation Map
Umngei Watershed
IWMP - VII (RBH)
N
W
E
S
Legend
Elevation Map (in Metres)
360 - 385
385 - 410
410 - 436
436 - 461
461 - 486
486 - 512
512 - 537
537 - 562
562 - 588
588 - 613
613 - 638
638 - 664
664 - 689
689 - 714
714 - 740
Area : 911 Ha.
PREPARED AT:
GIS LAB STATE LEVEL NODAL AGENCY
SOIL & WATER CONSERVATION DEPARTMENT
MEGHALAYA
1 0 1 2 (Kilometers)
91°53'00"
91°53'30"
91°54'00"
91°54'30"
91°55'00"
91°55'30"
91°56'00"
91°56'30"
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91°57'30"
91°58'00"
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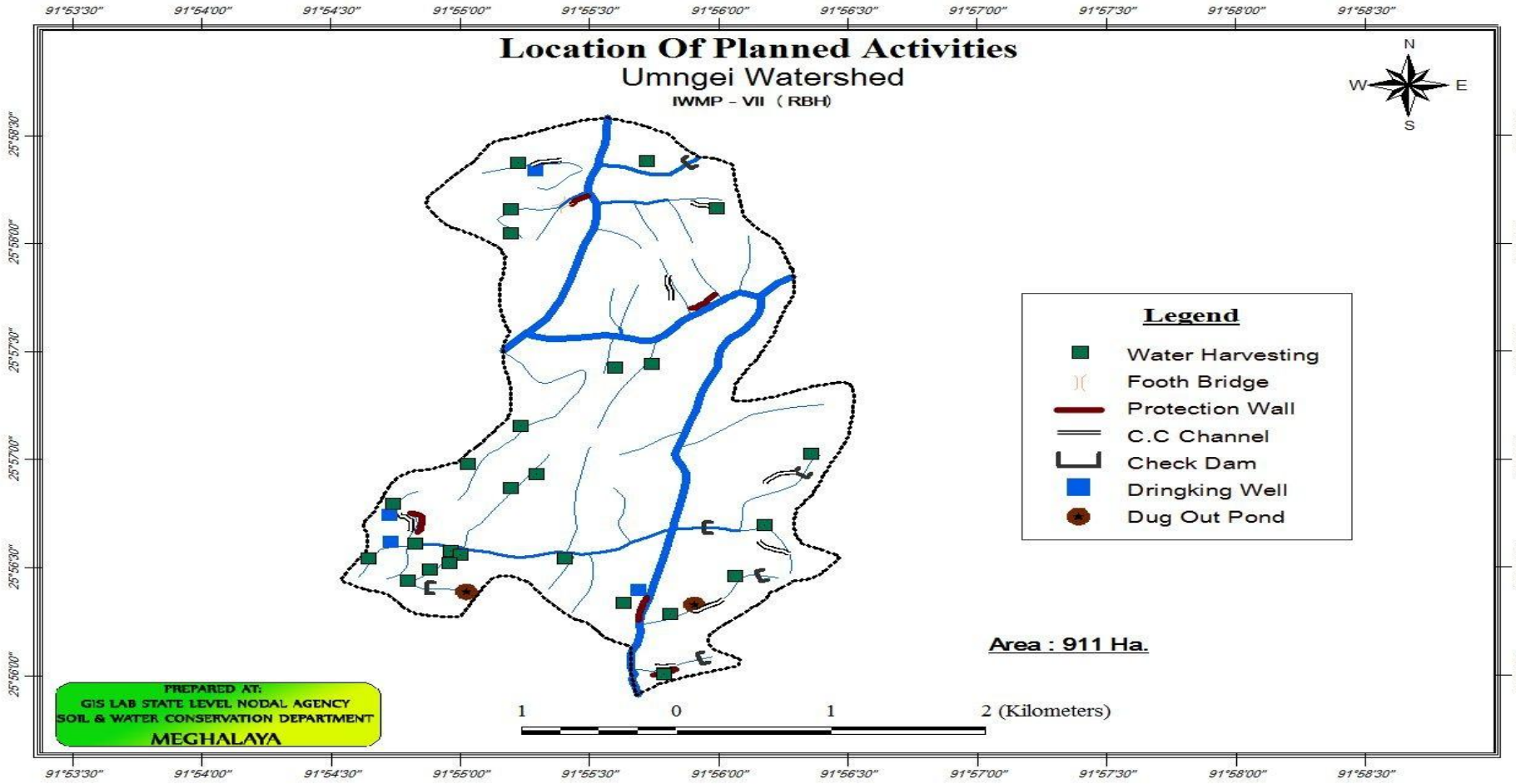
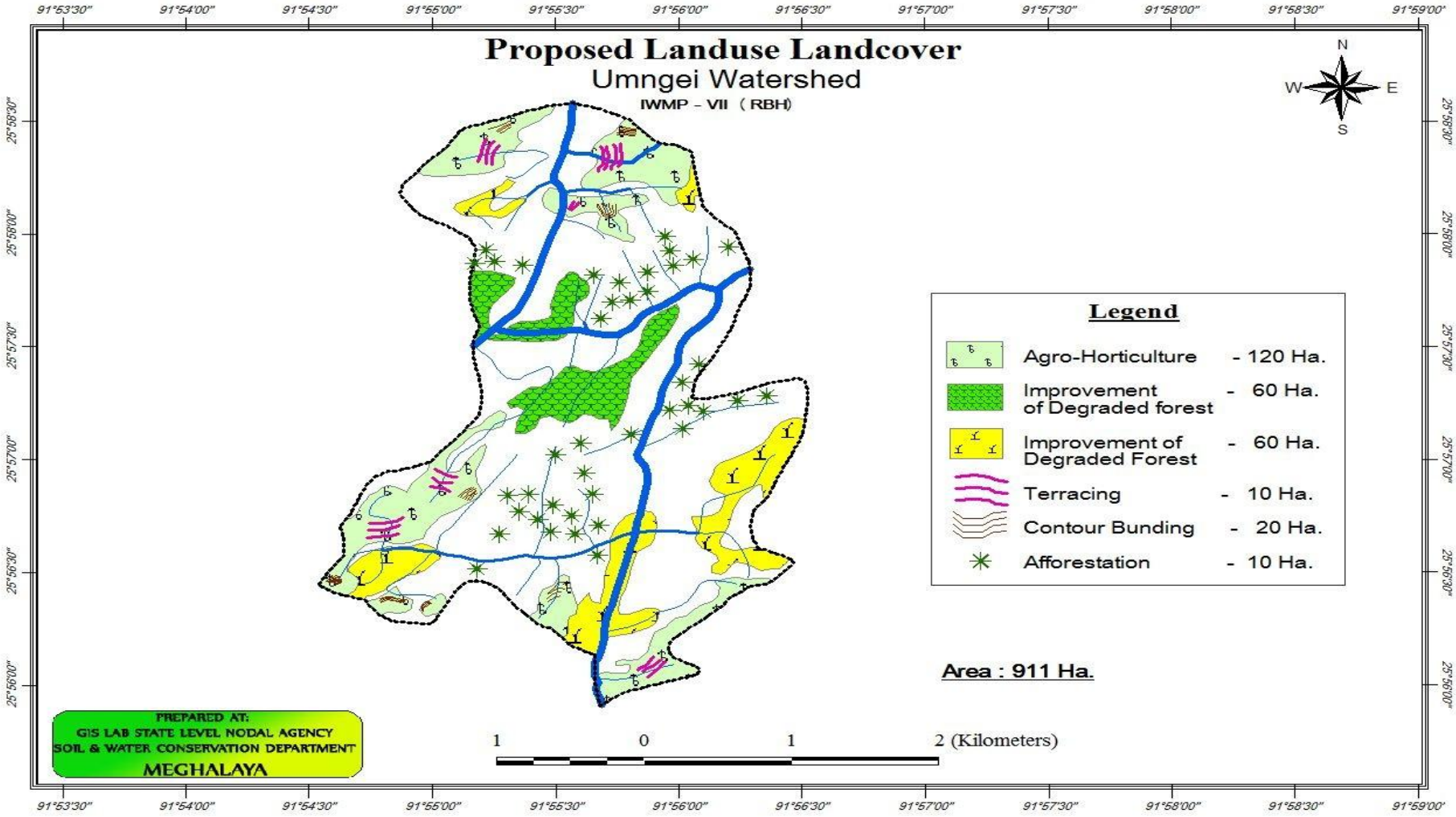
25°58'00"
25°57'30"
25°57'00"
25°56'30"
25°56'00"


Location Of Planned Activities
Umngei Watershed
IWMP – VII (RBH)
N
W
E
S
91°53'30"
91°54'00"
91°54'30"
91°55'00"
91°55'30"
91°56'00"
91°56'30"
91°57'00"
91°57'30"
91°58'00"
91°58'30"
25°58'30"
25°58'00"
25°57'30"
25°57'00"
25°56'30"
25°56'00"
Legend
Water Harvesting
Footh Bridge
Protection Wall
C.C Channel
Check Dam
Dringking Well
Dug Out Pond
Area : 911 Ha.
PREPARED AT:
GIS LAB STATE LEVEL NODAL AGENCY
SOIL & WATER CONSERVATION DEPARTMENT
MEGHALAYA
1 0 1 2 (Kilometers)


91°53'30"
91°54'00"
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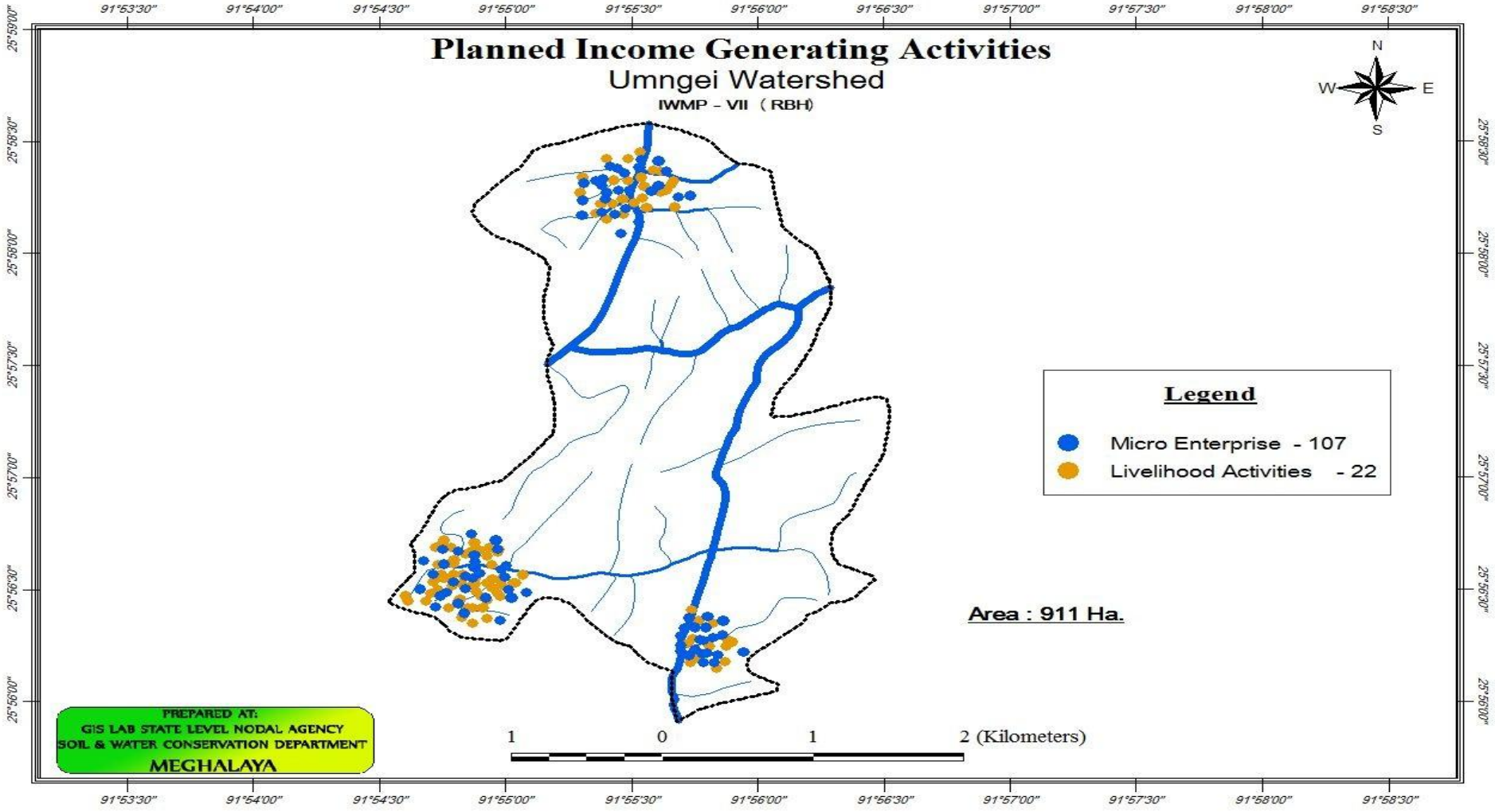
91°57'30"
91°58'00"
91°58'30"
91°59'00"
25°58'30"
25°58'00"
25°57'30"
25°57'00"
25°56'30"
25°56'00"
Proposed Landuse Landcover
Umngei Watershed
IWMP - VII (RBH)
N
W
E
S
Legend
Agro-Horticulture - 120 Ha.
Improvement of Degraded forest - 60 Ha.
Improvement of Degraded Forest - 60 Ha.
Terracing - 10 Ha.
Contour Bunding - 20 Ha.
Afforestation - 10 Ha.
Area : 911 Ha.
PREPARED AT:
GIS LAB STATE LEVEL NODAL AGENCY
SOIL & WATER CONSERVATION DEPARTMENT
MEGHALAYA
1 0 1 2 (Kilometers)


Planned Income Generating Activities
Umngei Watershed
IWMP - VII (RBH)
N
W
E
S
Legend
Micro Enterprise - 107
Livelihood Activities - 22
Area : 911 Ha.
PREPARED AT:
GIS LAB STATE LEVEL NODAL AGENCY
SOIL & WATER CONSERVATION DEPARTMENT
MEGHALAYA
1 0 1 2 (Kilometers)
91°53'30"
91°54'00"
91°54'30"
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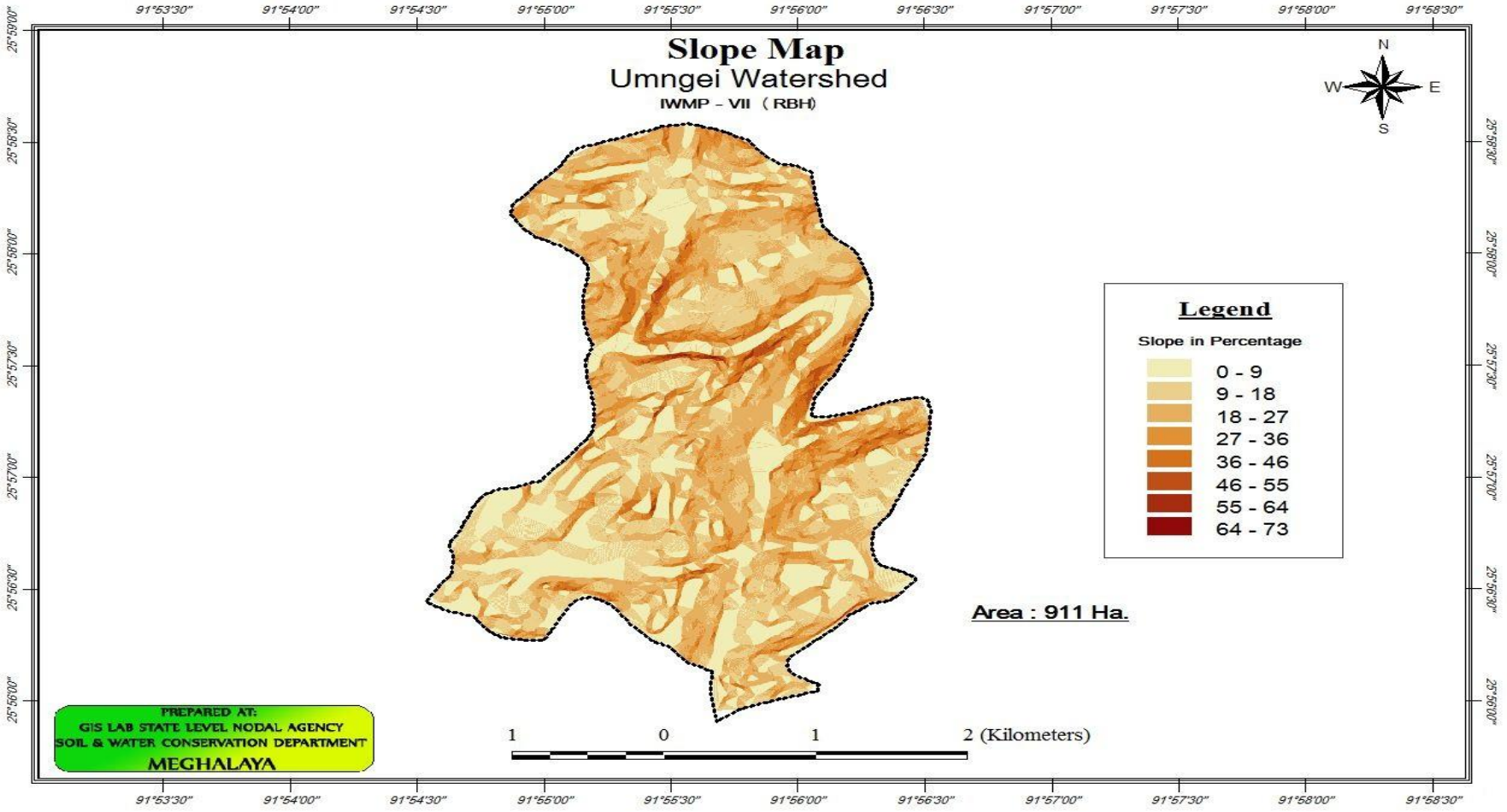

Slope Map
Umngei Watershed
IWMP - VII (RBH)
N
W
E
S
Legend
Slope in Percentage
0 - 9
9 - 18
18 - 27
27 - 36
36 - 46
46 - 55
55 - 64
64 - 73
Area : 911 Ha.
1 0 1 2 (Kilometers)
PREPARED AT:
GIS LAB STATE LEVEL NODAL AGENCY
SOIL & WATER CONSERVATION DEPARTMENT
MEGHALAYA
91°53'30" 91°54'00" 91°54'30" 91°55'00" 91°55'30" 91°56'00" 91°56'30" 91°57'00" 91°57'30" 91°58'00" 91°58'30"
25°59'00" 25°58'30" 25°58'00" 25°57'30" 25°57'00" 25°56'30" 25°56'00"

ANNEXURE - II

COST ESTIMATES

COST NORMS FOR LOOSE BOULDER BUNDS (IWMP)
(Rate as per PWD, SOR for R&B 2008 – 2009)

A. SPECIFICATIONS & COSTS OF LOOSE BOULDER BUNDS

Top Width	=	0.4 m
Bottom Width	=	1.0 m
Height	=	0.9 m
Length	=	10 m

1/3.11 Providing dry stone masonry walls etc….

10m x $\frac{0.4+1.0}{2}$ m x 0.90 = 6.30m^3 @ Rs.1191/m^3 = Rs.7,500.00

Total = Rs.7,500.00

(Rupees Seven Thousand Five Hundred) only.

MODEL NORMS PER HECTARE FOR AGRO – HORTICULTURE WITH CITRUS FRUIT
(INTEGRATED WATERSHED MANAGEMENT PROGRAMME)

Spacing - 8m x 6.3m

Plant Density - 200 Nos.

A. Creation			
I. Site clearance 3 mandays @ Rs.100/- per manday		-	Rs. 300.00
II. Pit digging (pit size 0.45m x 0.45m x 0.45m) 200 Nos. @ Rs.5/- each		-	Rs. 1000.00
III. Cost of planting materials 200 Nos. @ Rs.10/- each		-	Rs. 2000.00
IV. Cost of planting 200 Nos. @ Rs. 3/- each		-	Rs. 600.00
V. Weeding two times 20 mandays @ Rs.100/- per manday		-	Rs. 2000.00
	Total	-	**Rs. 5900.00**
B. Maintenance			
I. Refilling vacancy (10%)		-	Rs. 360.00
II. Weeding two times 20 mandays @ Rs.100/- per manday		-	Rs. 2000.00
III Plant protection measures including cost of chemical		-	Rs. 340.00
	Total	-	**Rs. 2700.00**
Grand Total	**A+B = Rs. 5900.00 + Rs. 2700.00**	**=**	**Rs. 8600.00**

(Rupees Eight thousand six hundred) only.

MODEL NORMS PER HECTARE FOR AFFORESTATION WITH PINE/ NON-PINE
(INTEGRATED WATERSHED MANAGEMENT PROGRAMME)

Spacing - 6m x 5.5m

Plant Density – 300 Nos.

A Creation

I	Jungle clearance etc.5 mandays @ Rs.100/- per manday	-	Rs. 500.00
II.	Pit digging (pit size 0.30m x 0.30m x 0.30m) 300 Nos. @ Rs.4/- each	-	Rs. 1200.00
III.	Cost of planting materials 300 Nos. @ Rs.8/- each	-	Rs. 2400.00
IV.	Cost of planting 300 Nos. @ Rs. 2/- each	-	Rs. 600.00
V	Weeding two times 20 mandays @ Rs.100/- per manday	-	Rs. 2000.00
VI.	Fire protection measures 5 mandays @ Rs.100/- per manday	-	Rs. 500.00
	Total	**-**	**Rs. 7200.00**

B. Maintenance

I.	Vacancy refilling (10%)	-	Rs. 400.00
II.	Weeding two times 20 mandays @ Rs.100/- per manday	-	Rs. 2000.00
III.	Fire protection measures 5 mandays @ Rs.100/- per manday	-	Rs. 500.00
	Total	**-**	**Rs. 2900.00**
Grand Total	**A+B = Rs. 7200.00 + Rs. 2900.00**	**=**	**Rs.10,100.00**

(Rupees Ten thousand one hundred) only

MODEL NORMS PER HECTARE FOR IMPROVEMENT OF DEGRADED FOREST
(INTEGRATED WATERSHED MANAGEMENT PROGRAMME)

A Creation

I	Site clearance 3 mandays @ Rs.100/- per manday	-	Rs. 300.00
II.	Pit digging (pit size 0.30m x 0.30m x 0.30m) 100 Nos. @ Rs.4/- each	-	Rs. 400.00
III.	Cost of planting materials 100 Nos. @ Rs.8/- each	-	Rs. 800.00
IV.	Cost of planting 100 Nos. @ Rs. 2/- each	-	Rs. 200.00
V.	Round Weeding around the plant four times 5 mandays @ Rs.100/- per manday	-	Rs. 500.00
VI.	Fire protection measures 4 mandays @ Rs.100/- per manday	-	Rs. 400.00
	Total	**-**	**Rs. 2600.00**

B. Maintenance

I.	Refilling vacancy (10%)	-	Rs. 100.00
III.	Round Weeding around the plant four times 5 mandays @ Rs.100/- per manday	-	Rs. 500.00
III.	Fire protection measures 4 mandays @ Rs.100/- per manday	-	Rs. 400.00
	Total	**-**	**Rs. 1000.00**
Grand Total	**A+B = Rs. 2600.00 + Rs. 1000.00**	**=**	**Rs. 3600.00**

(Rupees Three thousand six hundred) only

ESTIMATE FOR CONSTRUCTION OF C.C. HEAD WATER DAM (BASED FROM P.W.D. SCHEDULE OF RATES FOR ROADS BRIDGES FOR EASTERN SHILLONG CIRCLE FOR THE YEAR 2008-09)

1/4 Earth work in excavation for dam below the lowest bed level including making coffer dam, dewatering and boiling out water in order to keep the foundation trenches free of water and protection the sides of foundation by adequate shoring scaffolding including leveling the foundation and removal of spoil within a lead of 30 m and all lift etc. complete as directed.

(a) Ordinary soil

Dam	- 3.5 m x 0.8 m x 1 m	= 2.80 m^3
W/W & G/W	- 2 x 2 x 2 m x 0.6 m x 1 m	= 4.80 m^3
Toe wall	- 2.3 m x 0.15 m x 0.45 m	= 0.16 m^3
	Total	**= 7.76 m^3**

@ Rs. 185.00/m^3 ---------- = Rs. 1435.60/-

2/3 Earthwork in excavation to the proper grade including light dressing etc. as directed and removal of spoil upto 30 m lead and all lift.

(a) Ordinary soil

C.C. lead channel	-10 m x 0.8 m x 0.8 m	= 6.4 m^3

@ Rs. 26.00/m^3 ---------- = Rs. 166.40/-

3/24 Providing stone pitching with one man size boulder not less than 25cm x 25 cm x 30 cm long filling the interstices with spoils and carriage of stone with in a distance of 200 m complete as directed.

Stone Soling

Dam	- 3.5 m x 0.8 m x 0.1 m	= 0.28 m^3
W/W & G/W	- 2 x 2 x 2 m x 0.6 m x 0.1 m	= 0.48 m^3
Apron	- 2.3 m x 2 m x 0.1 m	= 0.46 m^3
C.C. Channel	- 10 m x 0.8 m x 0.1 m	= 0.8 m^3
	Total	**= 2.02 m^3**

@ Rs. 512.00/m^3 ---------- = Rs. 1034.24/-

4/26 Providing cement concrete works prop.1:4:8 with hard broken stone aggregate 40 mm down graded including necessary carriage of stone and sand with in a distance of 200 m and curing complete (excluding shuttering) as directed.

Foundation bed

Dam	- 3.5 m x 0.8 m x 0.1 m	= 0.28 m^3
W/W & G/W	- 2 x 2 x 2 m x 0.6 m x 0.1 m	= 0.48 m^3
	Total	**= 0.76 m^3**

@ Rs. 2136.00/m^3 ---------- = Rs. 1623.36/-

5/29 Proving C.C. 1:2:4 corresponding to M 150 stone aggregate of 20 mm down graded including curing and necessary carriage of stone and sand with in a distance 200 m (excluding shuttering and re-enforcement) complete as directed.

Dam - 3.5 m x 0.8 m x 0.8 m = 2.24 m^3
- 3.5 m x (0.4 + 0.8)/2 x 2 m = 4.20 m^3
- 2 m x 0.4 m x 0.3 m = 0.24 m^3

Apron - 2.3 m x 2 m x 0.10 m = 0.46 m^3

Toe wall - 2.3 m x 0.15 m x 0.65 m = 0.23 m^3

C.C. Channel- 10 m x 0.8 m x 0.1 m = 0.80 m^3
- 2 x 10 m x 0.6 m x 0.1 m = 1.20 m^3

Total = 9.37 m^3

@ Rs. 2880.00/m^3 ---------- = Rs. 26,985.60/-

6/20 Providing regular stone masonry in wing wall Guide wall with hammer dressed or blunt chisel dressed stone of heavy section (size not less than 25 cm x 25 cm x 30 cm) with proper keys stones of size not less than 25cm x 25 cm x 75 cm long in cement mortar1:6 including carriage of stone with 200 m filling in trenches providing weep holes etc. complete as directed.

(a) With new stone

W/W & G/W - 2 x 2 x 2 m x 0.6 m x 0.8 m = 3.84 m^3
- 2 x 2 x 2 m x (0.3 + 0.6)/2 x 2.3 m = 8.28 m^3

Total = 12.12 m^3

@ Rs. 1060.00/m^3 ---------- = Rs. 12,847.20/-

7/41a Providing shuttering with dressed planks not less than 25 mm thick properly jointed, including bottom, props to the proper level and removing the same after concrete hardened complete as directed.

Dam - 2 x 3.5 m x 2.3 m = 16.10 m^2

Toe wall - 2.3 m x 0.4 m = 0.92 m^2
- 2.3 m x 0.2 m = 0.46 m^2

C.C. Channel - 2 x 10 m x 0.60 m = 12.00 m^2

*D/*Spillway *opening* - 2 x 1.5 m x 0.3 m= 0.90 m^2

Total = 28.58 m^2

@ Rs. 295.00/m^2 ---------- = Rs. 8431.10/-

8/27 Providing 12 mm thick cement plastering including cleaning surface, curing, carriage of sand within 200 m complete.

(b) Proportion 1:3

Dam - 2 x 3.5 m x 2.3 m = 16.10 m^2
- 1 x 3.5 m x 0.4 m = 1.40 m^2

C.C. Channel - 2 x 10 m x 0.6 m = 12.00 m^2
- 2 x 10 m x 0.1 m = 2.00 m^2
- 1 x 10 m x 0.6 m = 6.00 m^2

D/Spillway opening- 2 x 1.5 m x 0.3 m = 0.90 m^2

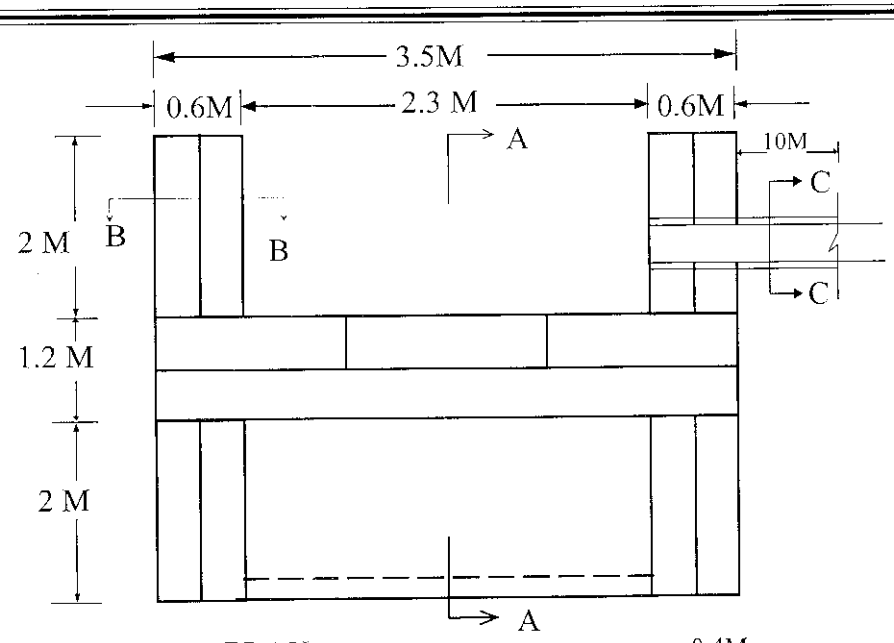
Total = 36.60 m^2

@ Rs. 92.00/m^2 ---------- = Rs. 3367.20/-

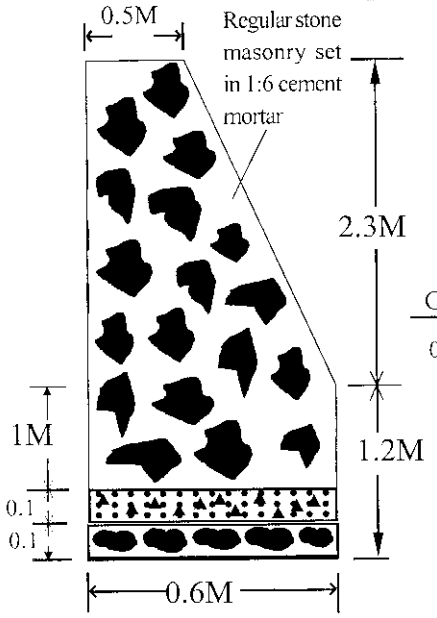
Total = Rs. 55,890.70/-

Say = Rs. 55,800.00/-

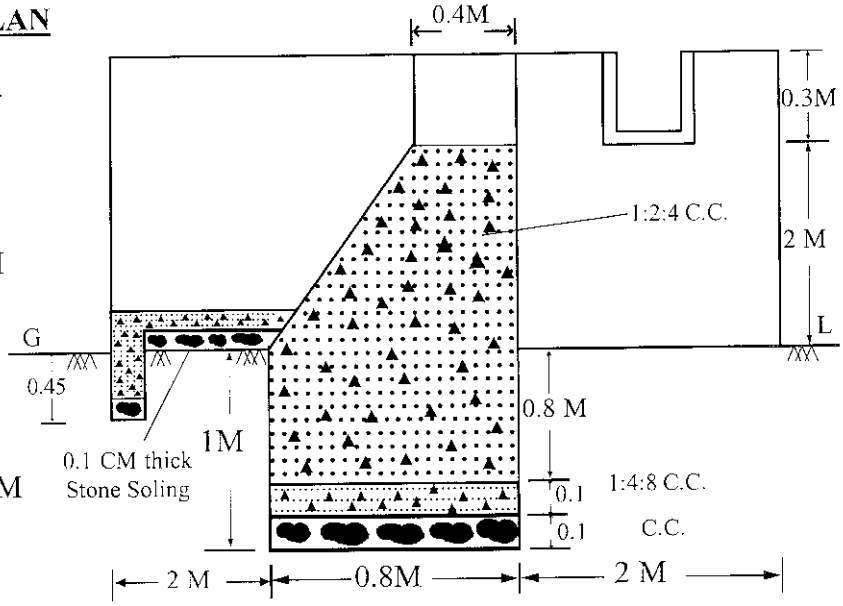
Rupees (fifty five thousand eight hundred) only



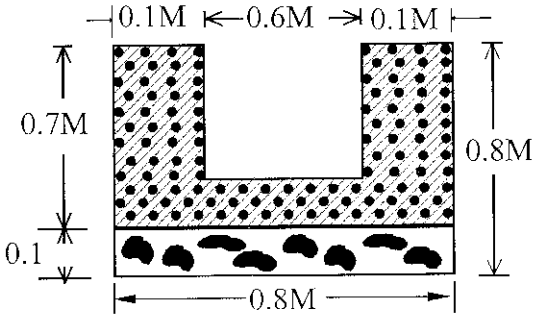
PLAN



C/S AT B-B



C/S AT A-A



C/S AT C-C

C.C. DAM

ALL DIMENSIONS IN METRE

NOT TO SCALE

ESTIMATE FOR CONSTRUCTION OF HEAD WATER DAM
(BASED FROM P.W.D. SCHEDULE OF RATES FOR ROADS & BRIDGES FOR EASTERN SHILLONG CIRCLE FOR THE YEAR 2008-09)

1/4(b) Earth work in excavation for dam below the lowest bed level including dewatering and boiling out water in or order to keep the foundation trenches free of water and protection the sixes of foundation by adequate shoring scaffolding including leveling the foundation and complete as directed.

(b) Soft or laminated rock or medium shale.

Dam: 10 m x 0.60 m x 0.90 m = 5.4 m^3
Curtain Wall: 4 m x 0.10 m x 0.25 m = 0.10 m^3
Total **= 5.5 m^3**

@ Rs. 152.00/m^3…….……..…….. Rs. 836.00/-

2/24 Providing stone pitching with one man size boulder not less than 25cm x 25 cm x 30 cm long filling the interstices with spoils and carriage of stone with in a distance of 200m complete.

Stone soling

Dam: 10 m x 0.60 m x 0.10 m = 0.6 m^3
Apron : 4 m x 2 m x 0.10 m = 0.8 m^3
Total **= 1.4 m^3**

@ Rs. 512.00/m^3…….…….. Rs. 716.80/-

3/26 Providing cement concrete works prop.1:4:8 with hard broken stone aggregate river shingle 40 mm down graded including necessary carriage of stone and sand with in a distance of 200 m and curing complete.

Foundation bed Dam : 10 m x 0.60 m x 0.10 m = 0.6 m^3

@ Rs. 2136.00/m^3…….…….. Rs. 1281.60/-

4/28 Providing stone concrete works in abutments wing walls and return in prop. 1:3:6 with hard broken stone aggregate 40mm down graded including necessary local carriage of stone aggregate and sand with in 200m and curing complete.

Dam:	10 m x 0.60 m x 0.70 m	= 4.20 m^3
	10 m x $\frac{0.40 + 0.60}{2}$ x 1.20 m	= 6 m^3
	2 x 3 m x 0.40 m x 0.30 m	= 0.72 m^3
Apron :	2 m x 4 m x 0.1 m	= 0.8 m^3
Curtain wall :	4 m x 0.10 m x 0.25 m	= 0.1 m^3
	Total	**= 11.82 m^3**

@ Rs. 2344.00/m^3…….…..……..…….. Rs. 27,706.08/-

5/41(a) Providing shuttering with dress planks not less than 25 mm thick properly jointed, level and removing the same after the concrete leak proof sheet.

Dam:	2 x 10 m x 2.2 m	= 44 m^2
Deduction spill way opening:	2 x 4 m x 0.3 m	= 2.4 m^2
	Total	**= 41.6 m^2**

@ Rs. 295.00/m^2……..……...…….....…….. Rs. 12,272.00/-

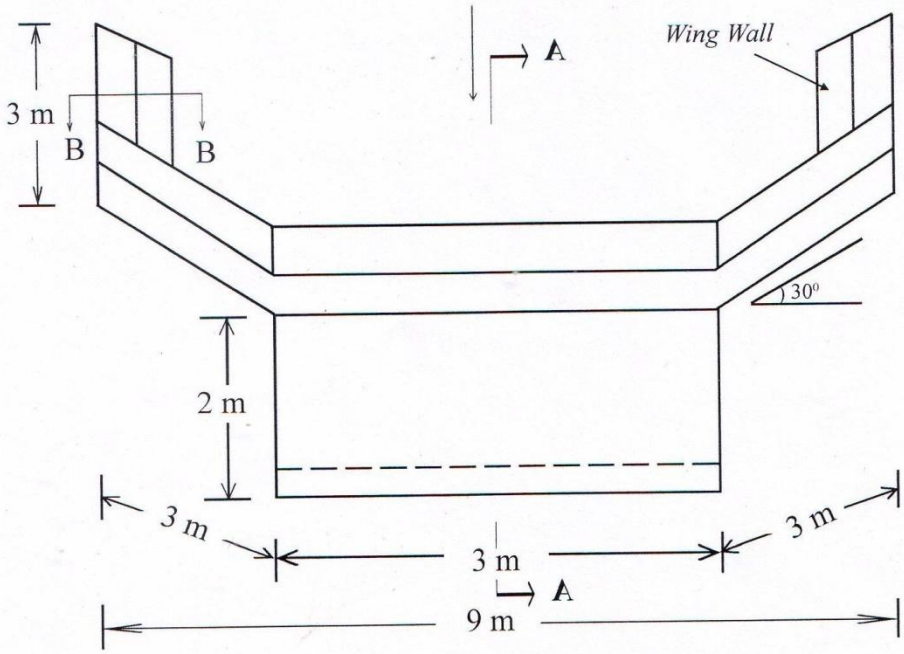
6/27(ii) 12mm thick cement plastering including clearing surface prop. 1:3 including carriage of sand with in 200 m complete.

Dam:	2 x 10 m x 1.5 m	= 30 m^2
	1 x 10 m x 0.4 m	= 4 m^2
Deduction spill way opening :	2 x 4 m x 0.3 m	= 2.4 m^2
	Total	**= 31.6 m^2**

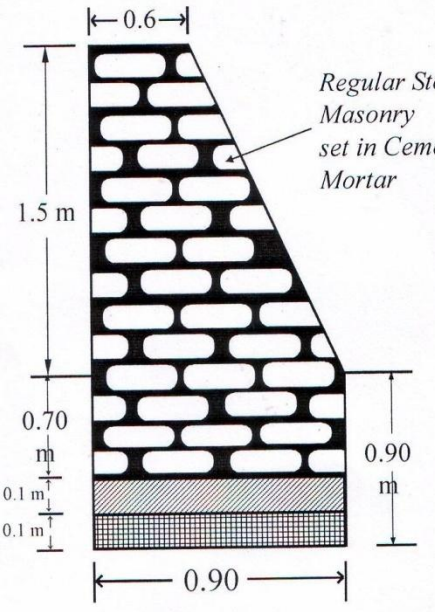
@ Rs. 92.00/m^2……..……..... Rs. 2907.20/-

Total = Rs. 45,719.68/-
Say = Rs. 45,700.00/-

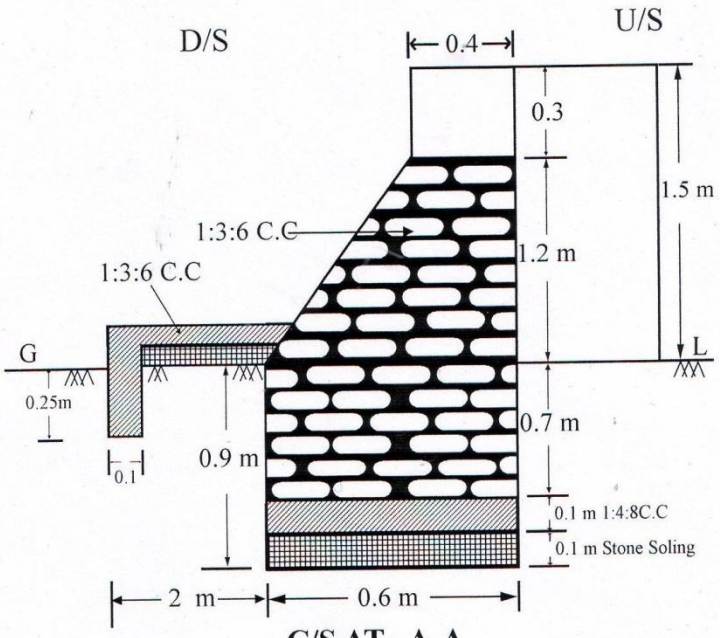
Rupees (forty five thousand seven hundred) only.



PLAN



C/S AT B-B



C/S AT A-A

C.C. DAM

ALL DIMENSIONS IN METRE

NOT TO SCALE

ESTIMATE FOR CONSTRUCTION OF HEAD WATER DAM
(BASED FROM P.W.D. SCHEDULE OF RATES FOR ROADS & BRIDGES FOR EASTERN SHILLONG CIRCLE FOR THE YEAR 2008-09)

1/4 Earth work in excavation for dam below the lowest bed level including dewatering and boiling out water in or order to keep the foundation trenches free of water and protection the sides of foundation by adequate shoring scaffolding including leveling the foundation and complete as directed.

(b) Soft or laminated rock or medium shale.

Dam:	10 m x 0.6 m x 0.90 m	= 5.4 m^3
Curtain wall:	4 m x 0.10 m x 0.25 m	= 0.1 m^3
Wing wall:	2 x 3 m x 0.9 m x 0.9 m	= 4.86 m^3
	Total	**= 10.36 m^3**

@ Rs. 152.00/m^3…….……...……...…….. Rs. 1574.72/-

2/24 Providing stone pitching with one man size boulder not less than 25cm x 25 cm x 30 cm long filling the interstices with spoils and carriage of stone with in a distance of 200m complete.

Stone soling:

Dam:	10 m x 0.6 m x 0.1 m	= 0.6 m^3
Wing wall:	2 x 3 m x 0.9 m x 0.1 m	= 0.54 m^3
Apron:	4 m x 2 m x 0.1 m	= 0.8 m^3
	Total	**= 1.94 m^3**

Rs. 512.00/m^3…….……...……...…….. Rs. 993.28/-

3/26 Providing cement concrete works prop.1:4:8 with hard broken stone aggregate river shingle 40 mm down graded including necessary carriage of stone and sand with in a distance of 200 m and curing complete.

Foundation bed Dam:	10 m x 0.6 m x 0.1 m	= 0.6 m^3
Wing wall:	2 x 3 m x 0.9 m x 0.1 m	= 0.54 m^3
	Total	**= 1.14 m^3**

@ Rs. 2136.00/m^3…….……...…….. Rs. 2435.04/-

4/28 Providing stone concrete works in abutments wing walls and return in prop. 1:3:6 with hard broken stone aggregate 40mm down graded including necessary local carriage of stone aggregate and sand with in 200m and curing complete.

Dam:	10 m x 0.6 m x 0.70 m	= 4.20 m^3
	10 m x $\frac{0.4 + 0.6}{2}$ x 1.2 m	= 6 m^3
	2 x 3 m x 0.4 m x 0.3 m	= 0.72 m^3
Apron:	2 m x 4 m x 0.1 m	= 0.8 m^3
Curtain wall:	4 m x 0.10 m x 0.25 m	= 0.1 m^3
	Total	**= 11.82 m^3**

@ Rs. 2344.00/m^3…….…...……...…….. Rs. 27,706.08/-

5/20(a) Providing regular stone masonry in retaining walls coursed with hammer dressed or blunt chisel dressed stone of heavy section not less than 25cm X 25 cm X 30 cm with proper keys stones, each not less than 25cm X 25 cm X 30 cm long set in cement mortar1:6 including carriage of stone with 200m, filling in trenches and providing weep holes at 1.2 to 1.5m apart staggered complete as directed.

Wing wall: 2 m x 3 m x 0.9 m x 0.70 m = 3.78 m^3

2 x 3 m x $\frac{0.6 + 0.9}{2}$ x 1.5 m = 6.75 m^3

Total **= 10.53 m^3**

@ Rs. 1060.00/m^3……..……..……... Rs. 1116.18/-

6/41(a)Providing shuttering with dress planks not less than 25 mm thick properly jointed, level and removing the same after the concrete leak proof sheet

Dam: 2 x 10 m x 2.2 m = 44 m^2

Deduct spillway opening: 2 x 4 m x 0.3 m = 2.4 m^2

Total **= 41.6 m^2**

@ Rs. 295.00/m^2……..……..…….. Rs. 12,272.00/-

7/27(ii)12mm thick cement plastering including clearing surface prop. 1:3 including carriage of sand with in 200 m complete.

Dam: 2 x 10 m x 1.5 m = 30 m^2

1 x 10 m x 0.4 m = 4 m^2

Deduct spillway opening: 2 m x 4 m x 0.3 m = 2.4 m^2

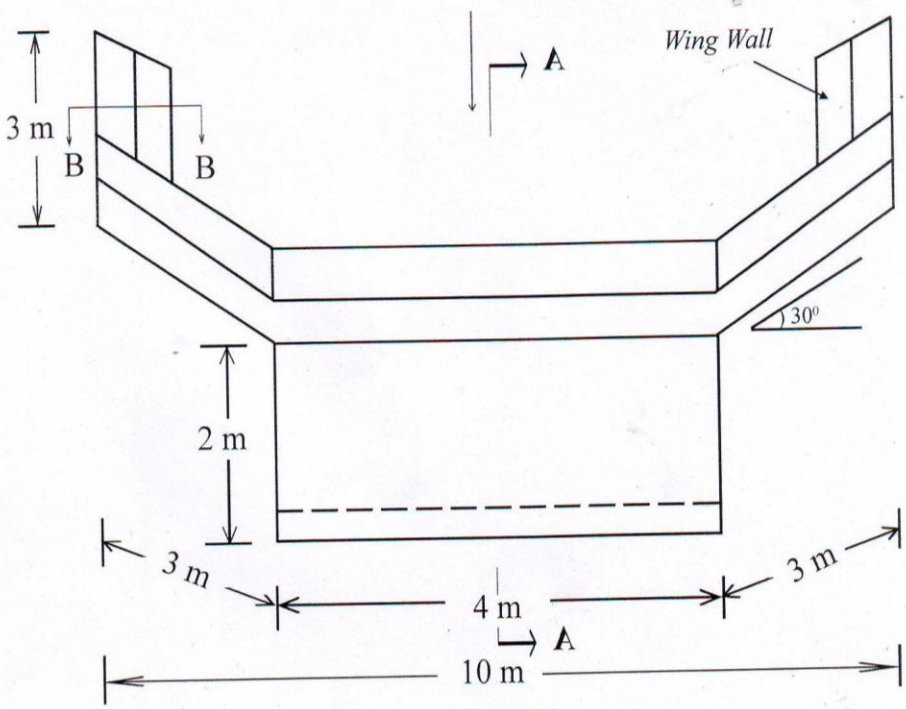
Total **= 31.6 m^2**

@ Rs. 92.00/m^2……...…….. Rs. 29,072.00/-

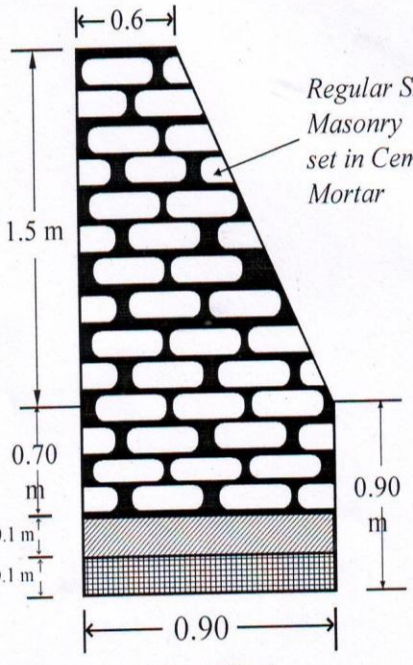
Total = Rs. 74,169.30/-

Say = Rs. 74,000.00/-

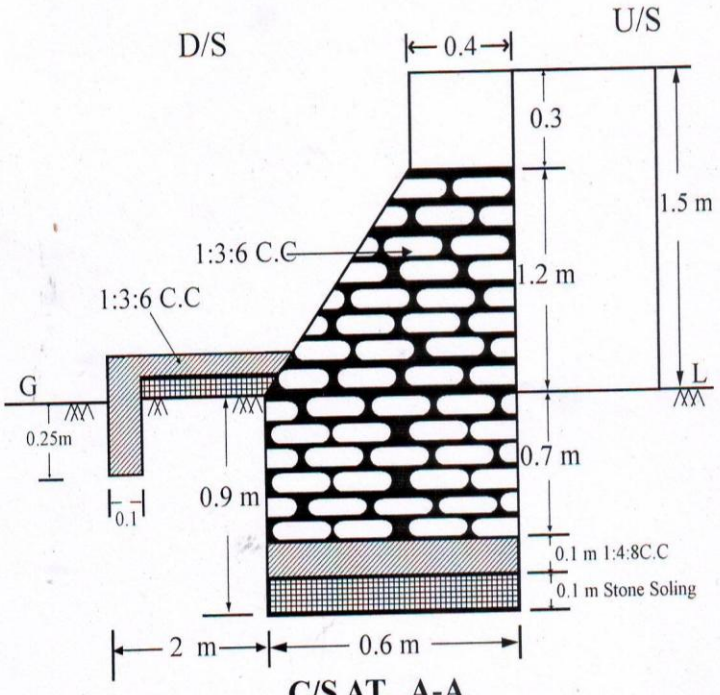
Rupees (Seventy four thousand) only.



PLAN



C/S AT B-B



C/S AT A-A

C.C. DAM

ALL DIMENSIONS IN METRE

NOT TO SCALE

ESTIMATE FOR CONSTRUCTION OF C.C. HEAD WATER DAM (BASED FROM P.W.D. SCHEDULE OF RATES FOR ROADS BRIDGES FOR EASTERN SHILLONG CIRCLE FOR THE YEAR 2008-09)

1/4 Earth work in excavation for dam below the lowest bed level including making coffer dam, dewatering and boiling out water in order to keep the foundation trenches free of water and protection the sides of foundation by adequate shoring scaffolding including leveling the foundation and removal of spoil within a lead of 30 m and all lift etc. complete as directed.

(a) Ordinary soil

Dam - 4 m x 0.8 m x 1.2 m = 3.84 m^3
W/W & G/W- 2 x 2 x 2 m x 0.8 m x 1.2 m = 7.68 m^3
Toe wall - 4 m x 0.15 m x 0.45 m = 0.27 m^3
Total = 11.79 m^3

@ Rs. 185.00/m^3 ---------- = Rs. 2181.15/-

2/3 Earthwork in excavation to the proper grade including light dressing etc. as directed and removal of spoil upto 30 m lead and all lift.

(a) Ordinary soil

C.C. lead channel -10 m x 0.8 m x 0.8 m = 6.4 m^3

@ Rs. 26.00/m^3 ---------- = Rs. 166.40/-

3/24 Providing stone pitching with one man size boulder not less than 25cm x 25 cm x 30 cm long filling the interstices with spoils and carriage of stone with in a distance of 200 m complete as directed.

Stone Soling

Dam - 4 m x 0.8 m x 0.1 m = 0.32 m^3
W/W & G/W- 2 x 2 x 2 m x 0.8 m x 0.1 m = 0.64 m^3
Apron - 4 m x 2 m x 0.1 m = 0.8 m^3
C.C. Channel- 10 m x 0.8 m x 0.1 m = 0.8 m^3
Total = 2.56 m^3

@ Rs. 512.00/m^3 ---------- = Rs. 1310.72/-

4/26 Providing cement concrete works prop.1:4:8 with hard broken stone aggregate 40 mm down graded including necessary carriage of stone and sand with in a distance of 200 m and curing complete (excluding shuttering) as directed.

Foundation bed

Dam - 4 m x 0.8 m x 0.1 m = 0.62 m^3
W/W & G/W- 2 x 2 x 2 m x 0.8 m x 0.1 m = 0.64 m^3
Total = 0.96 m^3

@ Rs. 2136.00/m^3 ---------- = Rs. 2050.56/-

5/29 Proving C.C. 1:2:4 corresponding to M 150 stone aggregate of 20 mm down graded including curing and necessary carriage of stone and sand with in a distance 200 m (excluding shuttering and re-enforcement) complete as directed.

Dam	- 4 m x 0.8 m x 1 m	=	3.20 m^3
	- 4 m x (0.4 + 0.8)/2 x 1.5 m	=	3.60 m^3
	- 2 m x 0.4 m x 0.3 m	=	0.24 m^3
Apron	- 4 m x 2 m x 0.10 m	=	0.80 m^3
Toe wall	- 4 m x 0.15 m x 0.65 m	=	0.39 m^3
C.C. Channel-	10 m x 0.8 m x 0.1 m	=	0.80 m^3
	- 2 x 10 m x 0.6 m x 0.1 m	=	1.20 m^3
		Total	**= 10.23 m^3**

@ Rs. 2880.00/m^3 ---------- = Rs. 29,462.40/-

6/20 Providing regular stone masonry in wing wall Guide wall with hammer dressed or blunt chisel dressed stone of heavy section (size not less than 25 cm x 25 cm x 30 cm) with proper keys stones of size not less than 25cm x 25 cm x 75 cm long in cement mortar1:6 including carriage of stone with 200 m filling in trenches providing weep holes etc. complete as directed.

(a) With new stone

W/W & G/W	- 2 x 2 x 2 m x 0.8 m x 1 m	=	6.4 m^3
	- 2 x 2 x 2 m x (0.5 + 0.8)/2 x 1.5 m	=	7.8 m^3
		Total	**= 14.2 m^3**

@ Rs. 1060.00/m^3 ---------- = Rs. 15,052.00/-

7/41a Providing shuttering with dressed planks not less than 25 mm thick properly jointed, including bottom, props to the proper level and removing the same after concrete hardened complete as directed.

Dam	- 2 x 4 m x 1.5 m	=	12.0 m^2
Toe wall	- 1 x 4 m x 0.4 m	=	1.60 m^2
	- 1 x 4 m x 0.2 m	=	0.80 m^2
C.C. Channel	- 2 x 10 m x 0.60 m	=	12.00 m^2
*D/*Spillway *opening*	- 2 x 4 m x 0.3 m	=	2.40 m^2
		Total	**= 28.80 m^2**

@ Rs. 295.00/m^2 ---------- = Rs. 8496.00/-

8/27 Providing 12 mm thick cement plastering including cleaning surface, curing, carriage of sand within 200 m complete.

(b) Proportion 1:3

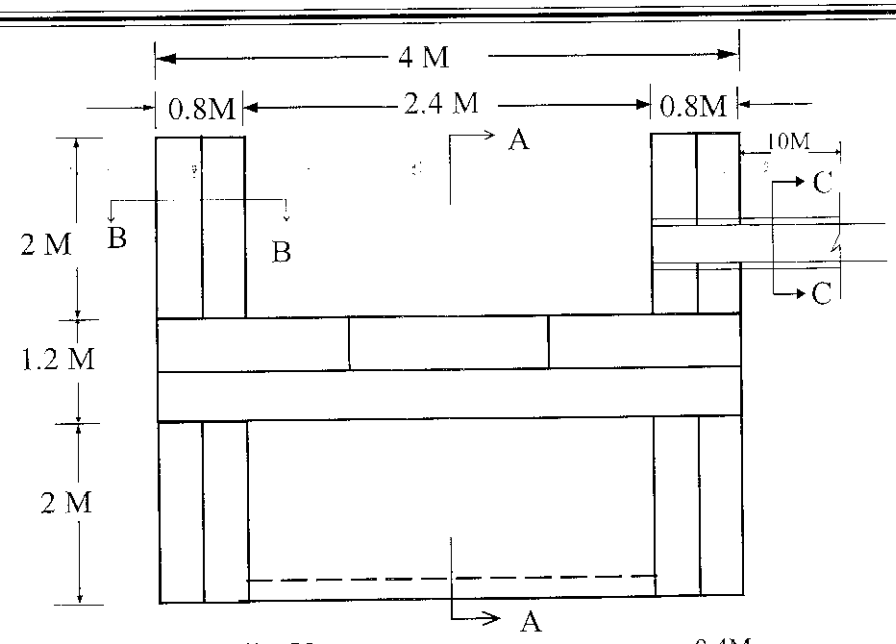
Dam	- 2 x 4 m x 1.5 m	=	12.00 m^2
	- 1 x 4 m x 0.4 m	=	1.60 m^2
C.C. Channel	- 2 x 10 m x 0.6 m	=	12.00 m^2
	- 2 x 10 m x 0.1 m	=	2.00 m^2
	- 1 x 10 m x 0.6 m	=	6.00 m^2
D/Spillway opening-	2 x 4 m x 0.3 m	=	2.40 m^2
		Total	**= 31.20 m^2**

@ Rs. 92.00/m^2 ---------- = Rs. 2870.40/-

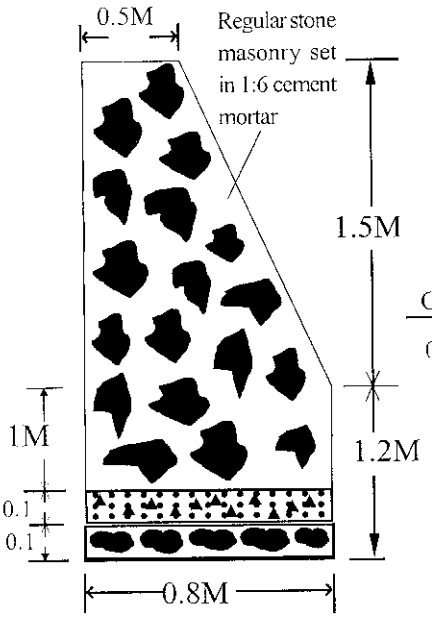
Total = Rs. 60,173.63/-

Say = Rs. 60,000.00/-

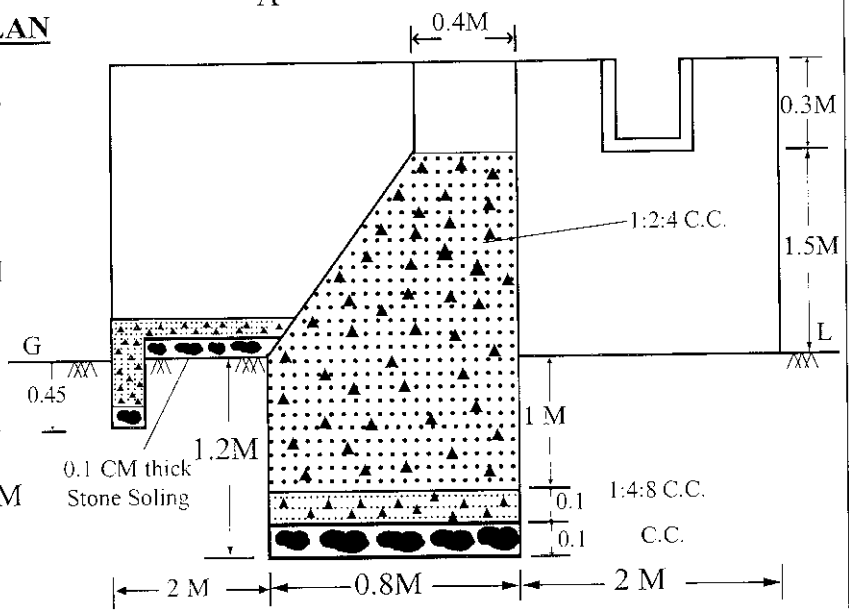
Rupees (sixty thousand) only



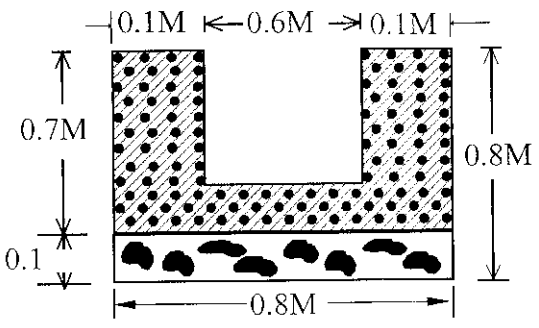
PLAN



C/S AT B-B



C/S AT A-A



C/S AT C-C

C.C. DAM

ALL DIMENSIONS IN METRE

NOT TO SCALE

ESTIMATE FOR CONSTRUCTION OF CHECK DAM WITH SIDE WALL (BASED FROM P.W.D. SCHEDULE OF RATES FOR ROADS BRIDGES FOR EASTERN SHILLONG CIRCLE FOR THE YEAR 2008-09)

1/4 Earthwork in excavation for foundation of bridges and culvert upto the founding level including making of coffer dam, dewatering and bailing out and diverting of water, in order to keep the foundation trenches free of water and protecting the side of foundation by adequate shoring, scaffolding, and including leveling the foundation.

1 x 13.00 x 1.20 x 0.65 = 10.14m^3

@ Rs.152.00/m^3 ***Rs.1541.28***

2/6 Earthwork in excavation for foundation of Hume Pipe Culvert, slab drain, retaining wall, face wall up to the desired founding level, including dewatering and bailing out of water in order to keep the foundation dry, protecting the sides of foundation by adequate shoring scaffolding. The foundation is leveled both longitudinally and transversely as directed including removal of spoil up to 30.00m and all lifts.

S/Wall: 2 x 3.00 x 0.80 x 0.65 = 3.12m^3
Apron: 1 x 8.00 x 0.30 x 0.20 = 0.48m^3
Channel: 1 x 2.50 x 0.80 x 0.60 = 1.20m^3
Total = 4.80m^3

@ Rs.93.00/m^3 ***Rs.446.40***

3/26 Providing cement concrete work in proportion 1:4:8: with hard broken stone aggregates 40mm downgraded including necessary carriage of stone and sand within a distance of 200mm and curing complete and as directed.

Dam: 1 x 13.00 x 1.20 x 0.10 = 1.56 m^3
S/Wall: 2 x 3.00 x 0.80 x 0.10 = 0.48 m^3
Total = 2.04 m^3

@ Rs.2136.00/m^3 ***Rs.4357.44***

4/41 Providing shuttering with dressed planks not less than 25mm thick properly joint, including battens, props to the proper level and removing the same after the concrete hardened complete as directed.

Dam: 1 x 13.00 x 1.75 = 22.75 m^2
F/Board: 2 x 4.50 x 0.35 = 3.15 m^2
G/Wall: 4 x 3.74 x 0.30 = 4.49 m^2
2 x 0.50 x 0.30 = 0.30 m^2
Channel: 2 x 2.50 x 0.35 = 1.75 m^2
Total = 32.44 m^2

@ Rs.295.00/m^2 ***Rs.9569.80***

5/28 Providing cement concrete work in abutments wing walls and return walls in proportion 1:3:6: with hard broken stone aggregates 40mm down graded including necessary carriage of stone and sand in abutments, well piers, retaining walls and wing walls.

Dam:	1 x 13.00 x 1.20 x 0.10	= 1.56 m^3
	1 x 13.00 x 1.75 x 0.15	= 3.41 m^3
F/Board:	2 x 4.50 x 0.35 x 0.15	= 0.47 m^3
G/Wall:	2 x 3.74 x 0.50 x 0.30	= 1.12 m^3
Apron:	1 x 4.00 x 1.70 x 0.10	= 0.68 m^3
Channel:	1 x 2.50 x 0.80 x 0.10	= 0.20 m^3
	2 x 2.50 x 0.35 x 0.10	= 0.17 m^3
	Total	***= 7.61 m^3***

@ Rs.2344.00/m^3 ***Rs.17837.84***

6/20 Providing regular stone masonry in returning walls, breast wall and wing walls with hammer dressed or blunt chisel dressed stones of heavy section (size not less than 25cm x 25cm x 30cm) with proper key stone of size not less than 25cm x 25cm x 75cm long in cement mortar 1:6 including carriage and providing weep holes at 1.2 to 1.5m apart staggered complete as directed.

Dam:	1 x 13.00 x 0.95 x 0.45	= 5.557 m^3
	1 x 13.00 x (0.45 + 0.95)/2 x 1.30	= 11.830 m^3
F/Board:	2 x 4.50 x 0.45 x 0.35	= 1.417 m^3
S/Wall:	2 x 3.00 x 0.80 x 0.55	= 2.640 m^3
	2 x 3.00 x (0.50 + 0.80)/2 x 1.30	= 5.070 m^3
Apron:	1 x 8.00 x 0.30 x 0.45	= 1.08 m^3
	Total	**= 27.59 m^3**

@ Rs.1060.00/m^3 ***Rs.29249.64***

7/25 Providing boulder or stone filling with unsized Stone of one man size of 60cm behind the apartment wing retaining wall etc.

Apron: 1 x 4.00 x 1.70 x 0.25 = 1.70 m^3

@ Rs.322.00/m^3 ***Rs.547.40***

8/24 Providing stone pitching with one man size boulders not less than 25cm x 25cm x 30cm long including filling the interstices with spoils and carriage of stone within a distance of 200m.complete.

Channel :	1 x 2.50 x 0.80 x 0.15	= 0.30 m^3
	2 x 2.50 x 0.35 x 0.15	= 0.26 m^3
	Total	**= 0.56 m^3**

@ Rs.512.00/m^3 ***Rs.286.72***

9/27 Providing 12mm thick cement plastering including cleaning surface, curing, carriage of sand within 200m complete.

Dam:	1 x 13.00 x 1.30	= 16.90 m^2
	1 x 13.00 x 1.39	= 18.07 m^2
F/Board:	4 x 4.50 x 0.35	= 6.30 m^2
	2 x 0.60 x 0.35	= 0.42 m^2
	1 x 13.00 x 0.60	= 7.80 m^2
G/Wall:	2 x 3.74 x 1.10	= 8.23 m^2
	4 x 0.50 x 0.30	= 0.60 m^2
S/Wall:	2 x 3.00 x 1.80	= 10.80 m^2
Apron:	1 x 4.60 x 2.00	= 9.20 m^2
	1 x 8.60 x 0.25	= 2.15 m^2
Channel:	1 x 2.50 x 1.50	= 2.75 m^2
	Total	**= 83.22 m^2**

@ Rs.92.00/m^2 ***Rs.7656.24***

10/14 Cutting roadside drain including dressing, grading and removal of spoil upto 15.0m complete as directed.

1 x 15.00 = 15.00 Rm

@ Rs.29.00/Rm ***Rs. 435.00***

Total = ***Rs.71,927.76***

Say = ***Rs.70,000.00***

(Rupees Seventy Thousand) only

Submitted:

ESTIMATE FOR CONSTRUCTION OF CHECK DAM WITH SIDE WALL (BASED FROM P.W.D. SCHEDULE OF RATES FOR ROADS BRIDGES FOR EASTERN SHILLONG CIRCLE FOR THE YEAR 2008-09)

1/4b Earthwork in excavation for foundation of bridges and culvert upto the founding level including making of coffer dam, dewatering and bailing out and diverting of water, in order to keep the foundation trenches free of water and protecting the side of foundation by adequate shoring, scaffolding, and including leveling the foundation.

Dam 1 x 13.00 x 1.30 x 0.70 = 11.83 m^3

@ Rs. 152.00/m^3 ***Rs. 1,798.16***

2/6 Earthwork in excavation for foundation of Hume Pipe Culvert, slab drain, retaining wall, face wall up to the desired founding level, including dewatering and bailing out of water in order to keep the foundation dry, protecting the sides of foundation by adequate shoring scaffolding. The foundation is leveled both longitudinally and transversely as directed including removal of spoil up to 30.00m and all lifts.

W/Wall 2 x 3.00 x 0.90 x 0.70 = 3.78 m^3
Apron 1 x 9.00 x 0.35 x 0.25 = 0.79 m^3
Total = 4.57 m^3

@ Rs. 93.00/m^3 ***Rs. 425.01***

3/26 Providing cement concrete work in proportion 1:4:8: with hard broken stone aggregates 40mm downgraded including necessary carriage of stone and sand within a distance of 200mm and curing complete and as directed.

Dam 1 x 13.00 x 1.30 x 0.10 = 1.69 m^3
W/Wall 2 x 3.00 x 0.90 x 0.10 = 0.54 m^3
Total = 2.23 m^3

@ Rs. 2136.00/m^3 ***Rs. 4,763.28***

4/41 Providing shuttering with dressed planks not less than 25mm thick properly joint, including battens, props to the proper level and removing the same after the concrete hardened complete as directed.

Dam 1 x 13.00 x 2.00 = 26.00 m^2
F/Board 2 x 4.00 x 0.35 = 2.80 m^2
G/Wall 1 x 3.60 x 0.50 = 7.20 m^2
2 x 0.50 x 0.30 = 0.30 m^2
Total = 36.30 m^2

@ Rs. 295.00/m^2 ***Rs. 10,708.50***

5/28 Providing cement concrete work in abutments wing walls and return walls in proportion 1:3:6: with hard broken stone aggregates 40mm down graded including necessary carriage of stone and sand in abutments, well piers, retaining walls and wing walls.

Dam	1 x 13.00 x 1.30 x 0.10 = 1.69 m^3	
	1 x 13.00 x 2.00 x 0.15 = 3.90 m^3	
F/Board	2 x 4.00 x 0.35 x 0.15 = 0.42 m^3	
G/Wall	2 x 3.60 x 0.50 x 0.30 = 1.08 m^3	
Apron	1 x 5.00 x 1.80 x 0.10 = 0.90 m^3	
	Total = 7.99 m^3	
	@ Rs. 2344.00/m^3	***Rs. 18,728.56***

6/20 Providing regular stone masonry in returning walls, breast wall and wing walls with hammer dressed or blunt chisel dressed stones of heavy section (size not less than 25cm x 25cm x 30cm) with proper key stone of size not less than 25cm x 25cm x 75cm long in cement mortar 1:6 including carriage and providing weep holes at 1.2 to 1.5m apart staggered complete as directed.

Dam	1 x 13.00 x 0.95 x 0.50	= 6.18 m^3
	1 x 13.00 x (0.45 + 0.95)/2 x 1.50	= 13.65 m^3
F/Board	2 x 4.00 x 0.45 x 0.35	= 1.26 m^3
W/Wall	2 x 3.00 x 0.90 x 0.60	= 3.24 m^3
	2 x 3.00 x (0.50 + 0.90)/2 x 1.85	= 7.77 m^3
Apron	1 x 9.00 x 0.30 x 0.45	= 1.22 m^3
	Total	**= 33.32 m^3**
	@ Rs. 1060.00/m^3	***Rs. 35,319.20***

7/25 Providing boulder or stone filling with unsized Stone of one man size of 60cm behind the apartment wing retaining wall etc.

Apron 1 x 5.00 x 1.80 x 0.25 = 2.25 m^3

@ Rs. 322.00/m^3 ***Rs. 724.50***

8/27 Providing 12mm thick cement plastering including cleaning surface, curing, carriage of sand within 200m complete.

Dam	1 x 13.00 x 1.50 = 19.50 m^2	
	1 x 13.00 x 1.58 = 20.54 m^2	
	1 x 13.00 x 0.60 = 7.80 m^2	
F/Board	4 x 4.00 x 0.35 = 5.60 m^2	
	2 x 0.60 x 0.30 = 0.42 m^2	
G/Wall	4 x 3.60 x 0.50 = 7.20 m^2	
	2 x 3.60 x 0.30 = 2.16 m^2	
	2 x 0.50 x 0.30 = 0.30 m^2	
Apron	1 x 5.60 x 2.10 = 11.76 m^2	
	1 x 9.60 x 0.20 = 1.92 m^2	
	Total = 77.20 m^2	
	@ Rs. 92.00/m^2	***Rs. 7,102.40***

9/14 Cutting roadside drain including dressing, grading and removal of spoil upto 15.0m complete as directed.

1 x 32.00 = 32.00 Rm

@ Rs. 29.00/Rm	***Rs.***	***928.00***
Total	***= Rs.***	***80,497.61***
Say	***= Rs.***	***80,000.00***

(Rupees Eighty Thousand) only.

ESTIMATE FOR CONSTRUCTION OF C.C. DIVERSION DAM (BASED FROM P.W.D. SCHEDULE OF RATES FOR ROADS BRIDGES FOR EASTERN SHILLONG CIRCLE FOR THE YEAR 2008-09)

1/4 Earth work in excavation for dam below the lowest bed level including making coffer dam, dewatering and boiling out water in order to keep the foundation trenches free of water and protection the sides of foundation by adequate shoring scaffolding including leveling the foundation and removal of spoil within a lead of 30 m and all lift etc. complete as directed.

(a) Ordinary soil

Dam	- 23 m x 1 m x 1.2 m	= 27.60 m^3
Toe wall	- 8 m x 0.15 m x 0.45 m	= 0.54 m^3
	Total	**= 28.14 m^3**

@ Rs. 185.00/m^3 ---------- = Rs. 5205.90/-

2/24 Providing stone pitching with one man size boulder not less than 25cm x 25 cm x 30 cm long filling the interstices with spoils and carriage of stone with in a distance of 200 m complete as directed.

Stone Soling

Dam	- 23 m x 1 m x 0.1 m	= 2.30 m^3
Apron	- 8 m x 2 m x 0.1 m	= 1.60 m^3
	Total	**= 3.90 m^3**

@ Rs. 512.00/m^3 ---------- = Rs. 1996.80/-

3/26 Providing cement concrete works prop.1:4:8 with hard broken stone aggregate 40 mm down graded including necessary carriage of stone and sand with in a distance of 200 m and curing complete (excluding shuttering) as directed.

Foundation bed

Dam	- 23 m x 1 m x 0.1 m	= 2.30 m^3

@ Rs. 2136.00/m^3 ---------- = Rs. 4912.80/-

4/29 Proving C.C. 1:2:4 corresponding to M 150 stone aggregate of 20 mm down graded including curing and necessary carriage of stone and sand with in a distance 200 m (excluding shuttering and re-enforcement) complete as directed.

Dam	- 23 m x 1 m x 1 m	= 23.0 m^3
	- 23 m x (0.4 + 1)/2 x 3 m	= 48.3 m^3
	- 15 m x 0.4 m x 0.3 m	= 1.80 m^3
Apron	- 8 m x 2 m x 0.10 m	= 1.60 m^3
Toe wall	- 8 m x 0.15 m x 0.45 m	= 0.54 m^3
	Total	**= 75.24 m^3**

@ Rs. 2880.00/m^3 ---------- = Rs. 2,16,691.20/-

5/41a Providing shuttering with dressed planks not less than 25 mm thick properly jointed, including bottom, props to the proper level and removing the same after concrete hardened complete as directed.

Dam	- 2 x 23 m x 3.3 m	= 151.8 m^2
Toe wall	- 1 x 8 m x 0.2 m	= 1.60 m^2
*D/*Spillway *opening*	- 2 x 8 m x 0.3 m	= 4.80 m^2
	Total	**= 148.6 m^2**

@ Rs. 295.00/m^2 ---------- = Rs. 43,837.00/-

6/27 Providing 12 mm thick cement plastering including cleaning surface, curing, carriage of sand within 200 m complete.

(b) Proportion 1:3

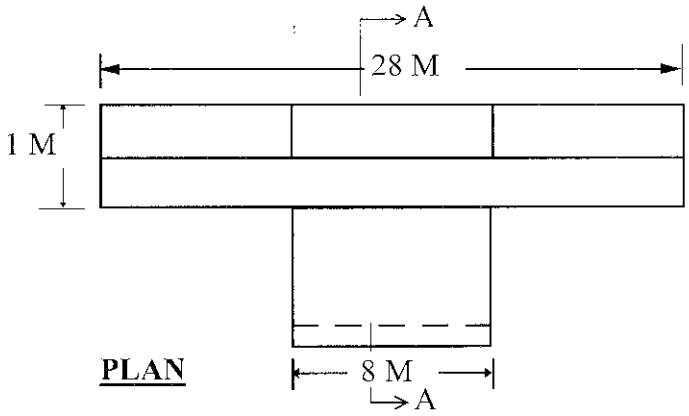
Dam	- 2 x 23 m x 3.3 m	= 151.80 m^2
	- 1 x 23 m x 0.4 m	= 9.20 m^2
D/Spillway opening	- 2 x 8 m x 0.3 m	= 4.80 m^2
	Total	**= 156.20 m^2**

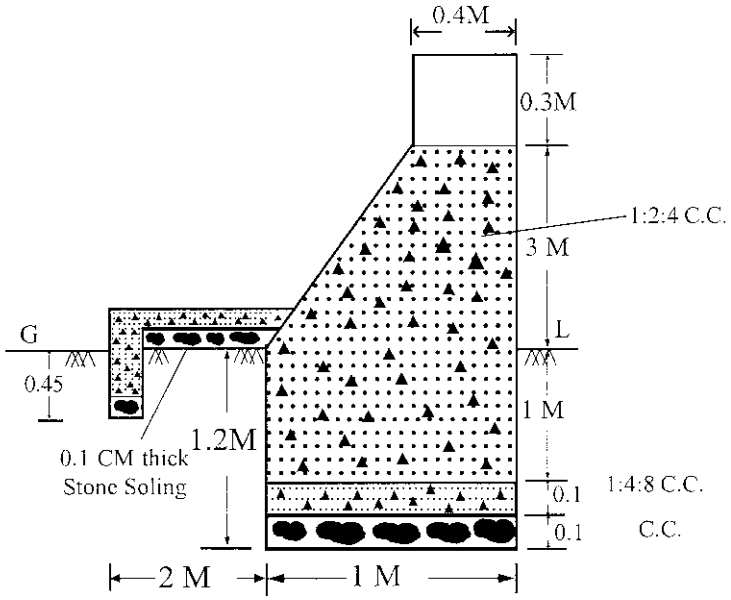
@ Rs. 92.00/m^2 ---------- = Rs. 14,370.40/-

Total = Rs. 2,87,014.10/-

Say = Rs. 2,87,000.00/-

Rupees (two lakhs eighty seven thousand) only





C/S AT A-A

C.C. DIVERSION DAM

ALL DIMENSIONS IN METRE

NOT TO SCALE

ESTIMATE FOR CONSTRUCTION OF C.C. CHANNEL
(BASED FROM P.W.D. SCHEDULE OF RATES FOR ROADS BRIDGES FOR EASTERN SHILLONG CIRCLE FOR THE YEAR 2008-09)

1/3 Earthwork in excavation to the proper grade including light dressing etc. as directed and removal of spoil upto 30 m lead and all lift.

(a) Ordinary soil

C.C. channel: 90 m x 0.8 m x 0.8 m = 57.6 m^3

@ Rs. 26.00/m^3 ---------- = Rs. 1497.60/-

2/24 Providing stone pitching with one man size boulder not less than 25cm x 25 cm x 30 cm long filling the interstices with spoils and carriage of stone with in a distance of 200 m complete as directed.

Stone Soling

90 m x 0.8 m x 0.1 m = 7.2 m^3

@ Rs. 512.00/m^3 ---------- = Rs. 3686.40/-

3/28 Providing cement concrete works prop.1:3:6 including necessary carriage of stone and sand with in a distance of 200 m and curing complete (excluding shuttering)

Channel Bed - 90 m x 0.8 m x 0.1 m = 7.2 m^3
Side - 2 x 90 m x 0.6 m x 0.1 m = 10.8 m^3
Total = 18.0 m^3

@ Rs. 2344.00/m^3 ---------- = Rs. 42,192.00/-

4/41a Providing shuttering with dressed planks not less than 25 mm thick properly jointed, including bottom, props to the proper level and removing the same after concrete hardened complete as directed.

- 2 x 90 m x 0.6 m = 108 m^2

@ Rs. 295.00/m^2 ---------- = Rs. 31,860.00/-

5/27 Providing 12 mm thick cement plastering including cleaning surface, curing, carriage of sand within 200 m complete.

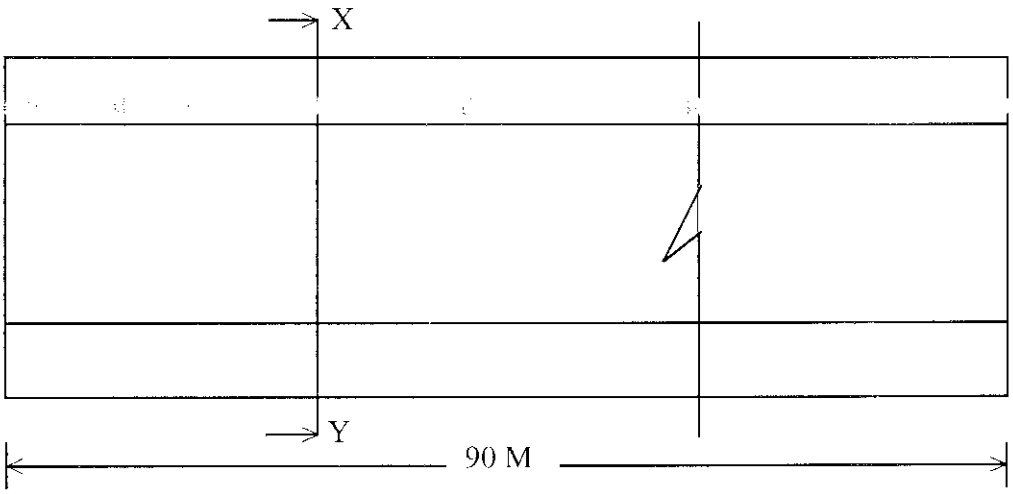
(b) Proportion 1:3

Channel inside - 3 x 90 x 0.6 m = 162 m^2
- 2 x 90 m x 0.1 m = 18 m^2
Total = 180 m^2

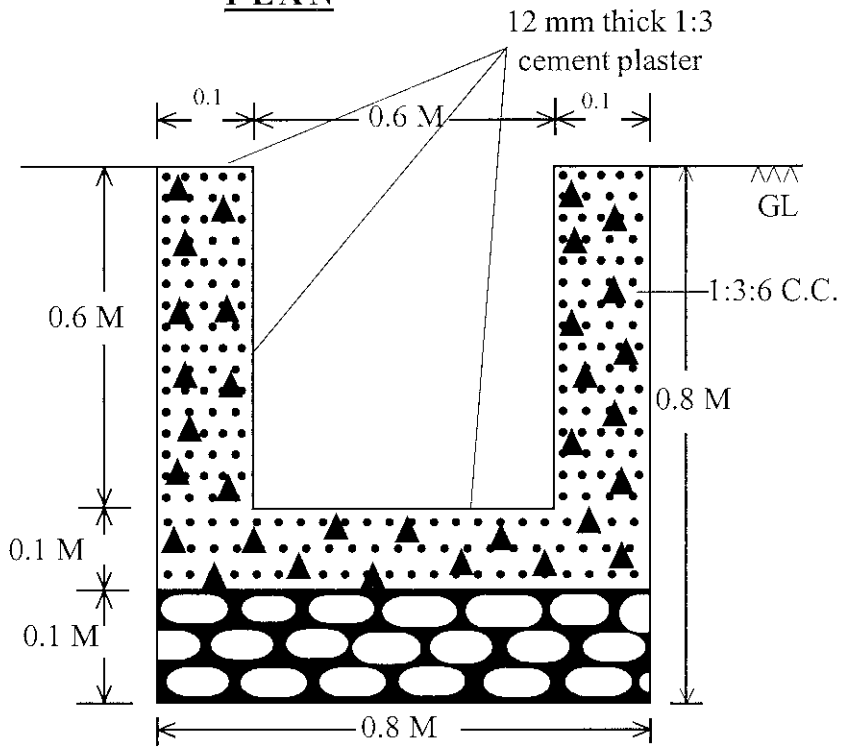
@ Rs. 92.00/m^2 ---------- = Rs. 16,560.00/-

Total = Rs. 95,796.00/-
Say = Rs. 95,700.00/-

Rupees (ninety five thousand seven hundred) only



PLAN



SECTION OF C.C. CHANNEL AT X - Y

C.C. CHANNEL

ALL DIMENSIONS IN METRE

NOT TO SCALE

PROVISIONAL ESTIMATE FOR CONSTRUCTION OF C.C. CHANNEL (BASED FROM P.W.D. SCHEDULE OF RATES FOR ROADS BRIDGES FOR EASTERN SHILLONG CIRCLE FOR THE YEAR 2008-09)

1/3 Earthwork in excavation to the proper grade including light dressing etc. as directed and removal of spoil upto 30 m lead and all lift.

(a) Ordinary soil

C.C. channel: 64 m x 0.8 m x 0.8 m = 40.96 m^3

@ Rs. 26.00/m^3 ---------- = Rs. 1064.96/-

2/24 Providing stone pitching with one man size boulder not less than 25cm x 25 cm x 30 cm long filling the interstices with spoils and carriage of stone with in a distance of 200 m complete as directed.

Stone Soling

64 m x 0.8 m x 0.1 m = 5.12 m^3

@ Rs. 512.00/m^3 ---------- = Rs. 2621.44/-

3/28 Providing cement concrete works prop.1:3:6 including necessary carriage of stone and sand with in a distance of 200 m and curing complete (excluding shuttering)

Channel Bed - 64 m x 0.8 m x 0.1 m = 5.12 m^3
Side - 2 x 64 m x 0.6 m x 0.1 m = 7.68 m^3
Total = 12.8 m^3

@ Rs. 2344.00/m^3 ---------- = Rs. 30,003.20/-

4/41a Providing shuttering with dressed planks not less than 25 mm thick properly jointed, including bottom, props to the proper level and removing the same after concrete hardened complete as directed.

- 2 x 64 m x 0.6 m = 76.8 m^2

@ Rs. 295.00/m^2 ---------- = Rs. 22,656.00/-

5/27 Providing 12 mm thick cement plastering including cleaning surface, curing, carriage of sand within 200 m complete.

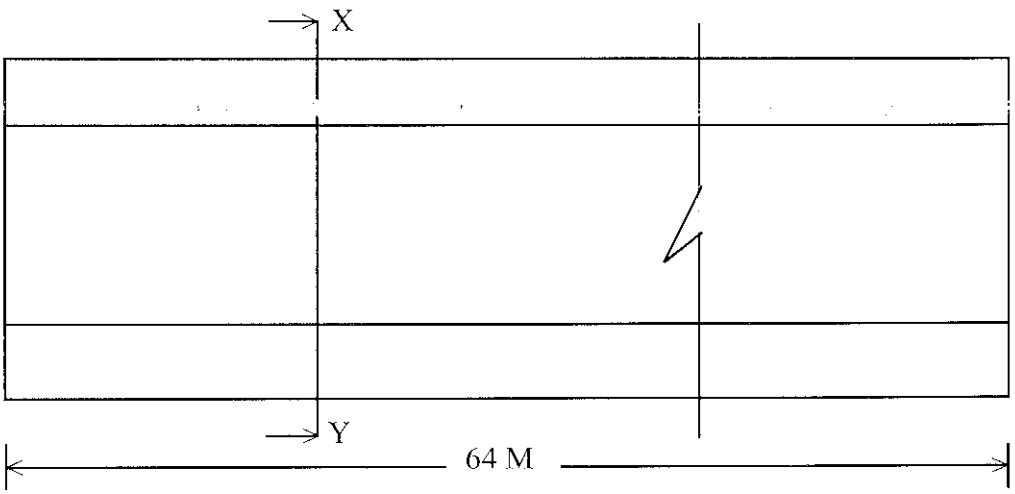
(b) Proportion 1:3

Channel inside - 3 x 64 x 0.6 m = 115.2 m^2
- 2 x 64 m x 0.1 m = 12.8 m^2
Total = 128.0 m^2

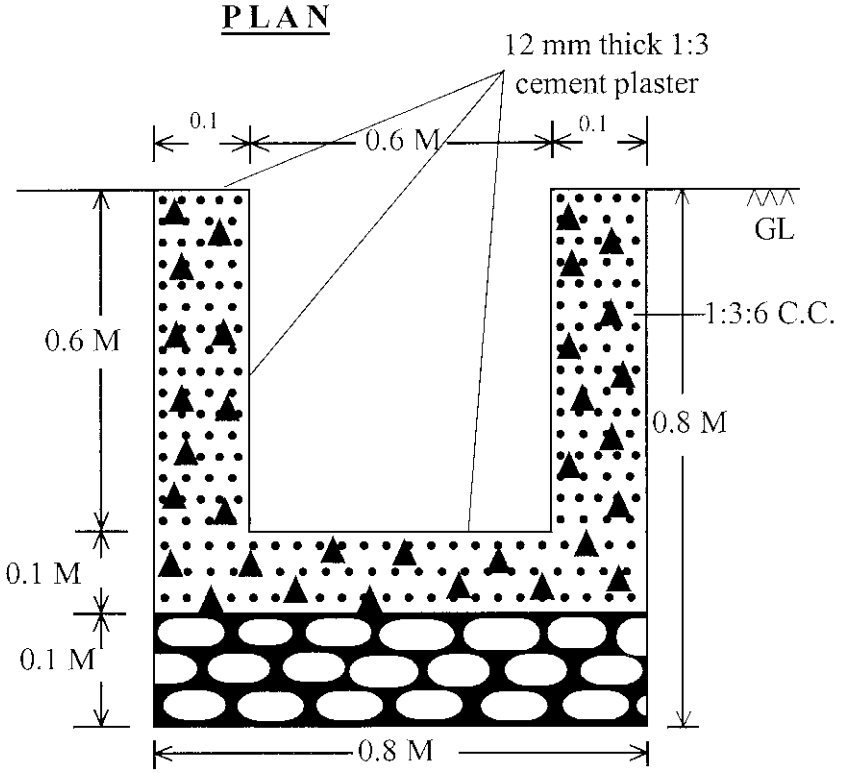
@ Rs. 92.00/m^2 ---------- = Rs. 11,776.00/-

Total = Rs. 68,121.60/-
Say = Rs. 68,120.00/-

Rupees (sixty eight thousand one hundred twenty) only



PLAN



SECTION OF C.C. CHANNEL AT X - Y

C.C. CHANNEL

ALL DIMENSIONS IN METRE

NOT TO SCALE

ESTIMATE FOR CONSTRUCTION OF DUG-OUT POND
(BASED FROM P.W.D. SCHEDULE OF RATES FOR ROADS & BRIDGES FOR EASTERN SHILLONG CIRCLE FOR THE YEAR 2008-09)

1/3(a) Earth work in excavation to the proper grade including light dressing, providing cambering and super elevation as directed, and removal of spoils upto 30 m lead and all lift.

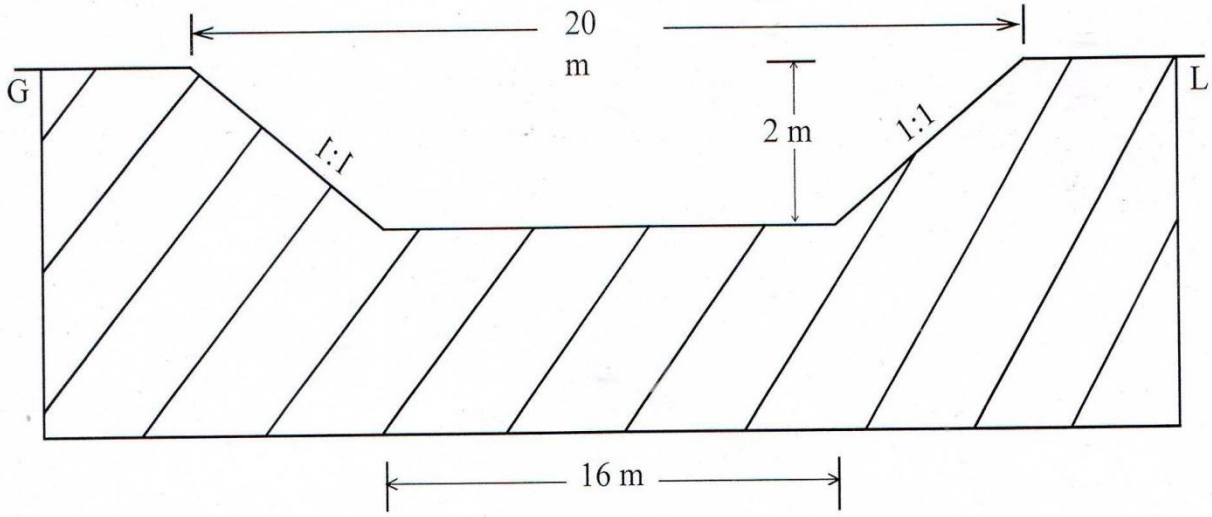
(c) Loose boulders above one man size or soil mixed with boulders above one man size or soft shale.

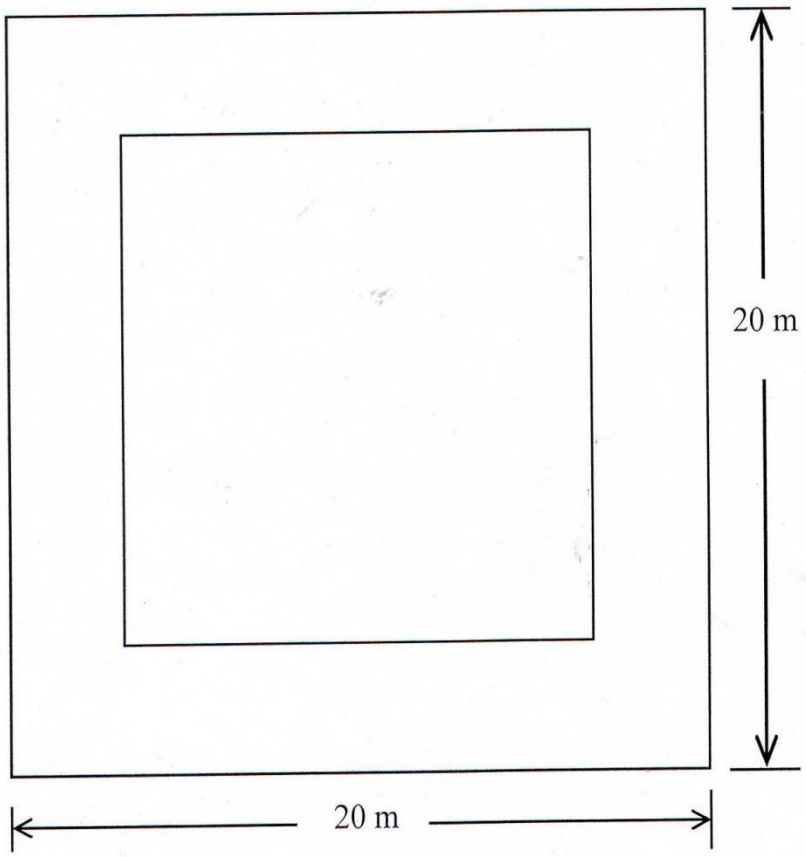
$$\frac{(16\text{ m} \times 16\text{ m}) + (20\text{ m} \times 20\text{ m})}{2} \times 2\text{ m} = 656\text{ m}^3$$

@ Rs. 42.00/m^3……..……...……...…….....…….. Rs. 27,552.00/-

Total = Rs. 27,500.00/-

Rupees (Twenty seven thousand five hundred) only.





DUG-OUT TYPE POND

ALL DIMENSIONS IN METRE

NOT TO SCALE

PROVISIONAL ESTIMATE FOR CONSTRUCTION OF WATER HARVESTING STRUCTURE (BASED FROM P.W.D. SCHEDULE OF RATES FOR ROADS BRIDGES FOR EASTERN SHILLONG CIRCLE FOR THE YEAR 2008-09)

1/3(d) Earthwork in excavation for foundation of bridges and culvert up to the founding level including making of coffer dam, dewatering and bailing out and diverting of water, in order to keep the foundation trenches free of water and protecting the sides of foundation by adequate shoring, scaffolding, and including leveling the foundation longitudinally and transversely as directed.

$$(24.00 \times 24.00) = + \frac{4\ (22.20 \times 22.20)}{6} + (20.40 \times 20.40) \times 1.80 = 889.05 m3$$

@ Rs. 63.00/m3 ***Rs. 56,010.53***

2/3(i) Earthwork in excavation for foundation of Hume Pipe culvert, slab drain, retaining wall, face wall up to the desired founding level, including dewatering and bailing out of water in order to keep the foundation dry, protecting the sides of foundation by adequate shoring scaffolding. The foundation is leveled both longitudinally and transversely as directed.

Item No. 1/3 (d) = 736.41

@ Rs. 13.00/m^3 ***Rs. 11,557.65***

3/26 Providing cement concrete work in proportion 1:4:8 with hard broken aggregates 40mm down graded including necessary carriage of stone and sand within a distance 200mm and curing complete.

1 x 256.28 = 256.28 Rm

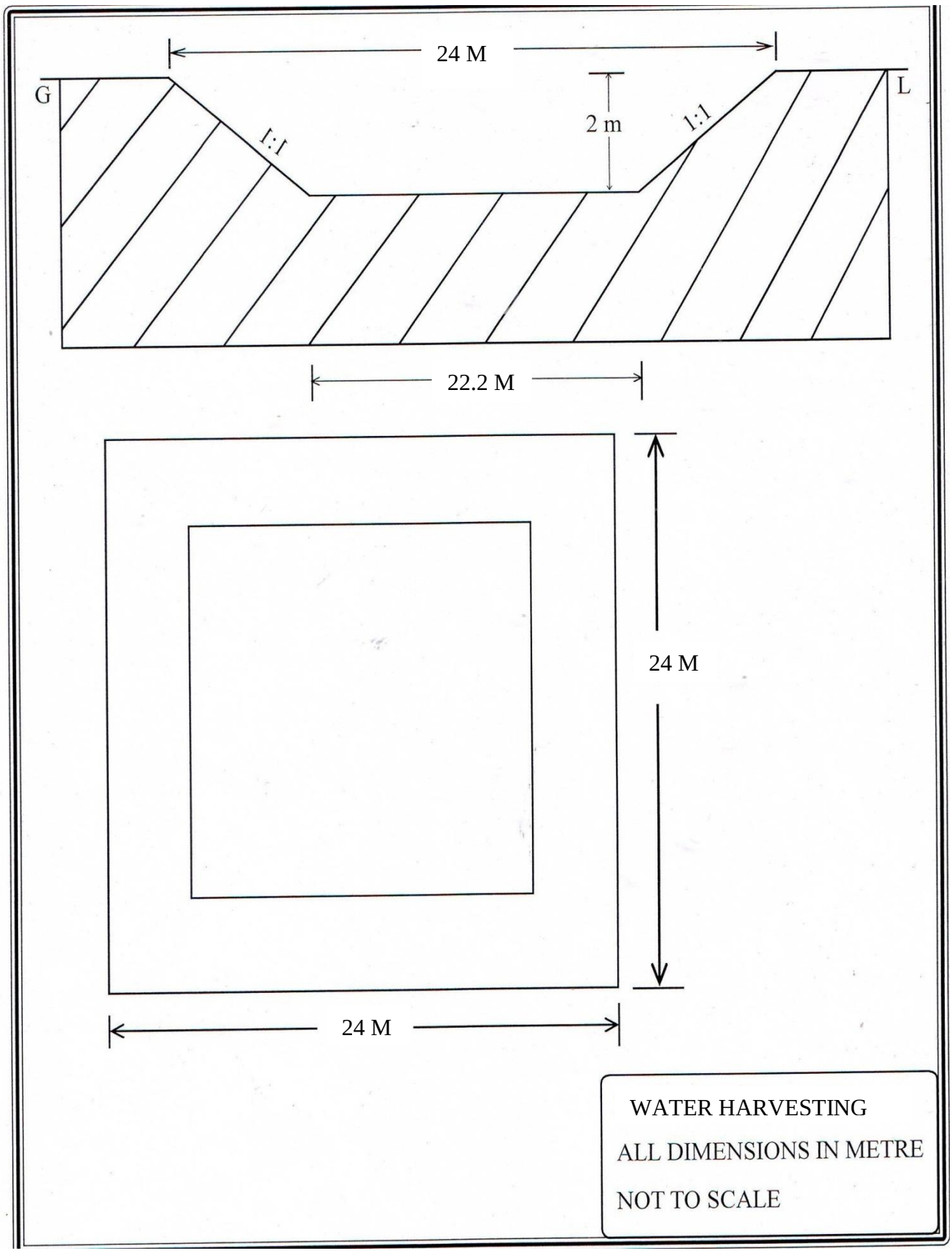
@ Rs. 29.00/m^3 ***Rs. 7432.35***

Total Rs. 75,000.00

Say Rs. 75,000.00

(Rupees Seventy five thousand) only.

Submitted:


24 M
G
L
2 m
1:1
1:1
22.2 M
24 M
24 M
WATER HARVESTING
ALL DIMENSIONS IN METRE
NOT TO SCALE

ESTIMATE FOR CONSTRUCTION OF STONE MASONRY DAM FOR WATER HARVESTING STRUCTURE (BASED FROM P.W.D. SCHEDULE OF RATES FOR ROADS & BRIDGES FOR EASTERN SHILLONG CIRCLE FOR THE YEAR 2008-09)

1/4(b) Earth work in excavation for dam below the lowest bed level including dewatering and boiling out water in or order to keep the foundation trenches free of water and protection the sixes of foundation by adequate shoring scaffolding including levelling the foundation and complete as directed.

(b) Soft or laminated rock or medium shale.

Dam: 12 m x 1.9 m x 1 m = 22.8 m^3

@ Rs. 152.00/m^3…….……..…….. Rs. 3465.60/-

2/24 Providing stone pitching with one man size boulder not less than 25cm x 25 cm x 30 cm long filling the interstices with spoils and carriage of stone with in a distance of 200m complete.

Stone soling

Dam: 12 m x 1.9 m x 0.1 m = 2.28 m^3
Apron : 3 m x 2 m x 0.25 m = 1.5 m^3
Total **= 3.78 m^3**

@ Rs. 512.00/m^3……... Rs. 1935.36/-

3/26 Providing cement concrete works prop.1:4:8 with hard broken stone aggregate river shingle 40 mm down graded including necessary carriage of stone and sand with in a distance of 200 m and curing complete.

Foundation bed Dam : 12 m x 1.9 m x 0.1 m = 2.28 m^3

@ Rs. 2136.00/m^3…….. Rs. 4870.08/-

4/29 Proving C.C. 1:2:4 corresponding to M in very hard stone aggregate of 20mm down graded including curing and necessary local carriage of stones aggregates and sand with in 200m (excluding shuttering and re-enforcement) complete as directed.

Face wall: 12 m x 2.6 m x 0.1 m = 3.12 m^3

@ Rs. 2880.00/m^3…….. Rs. 8985.60/-

5/20(a) Providing regular stone masonry in retaining walls coursed with hammer dressed or blunt chisel dressed stone of heavy section not less than 25cm X 25 cm X 30 cm with proper keys stones, each not less than 25cm X 25 cm X 30 cm long set in cement mortar1:6 including carriage of stone with 200m, filling in trenches and providing weep holes at 1.2 to 1.5m apart staggered complete as directed.

Dam: 12 m x 1.8 m x 1.1 m = 23.76 m^3
12 m x 1.5 m x 0.3 m = 5.4 m^3
12 m x 1.2 m x 0.3 m = 4.32 m^3
12 m x 0.9 m x 0.3 m = 3.24 m^3
12 m x 0.6 m x 0.6 m = 4.32 m^3
Over flow out let side wall: 2 x 2.7 m x 0.3 m x 0.3 m = 0.486 m^3
Deduction overflow outlet opening: 2 m x 0.6 m x 0.3 m = 0.36 m^3
Total **= 41.166 m^3**

@ Rs. 1060.00/m^3……... Rs. 43,635.96/-

6/41(a) Providing shuttering with dress planks not less than 25 mm thick properly jointed, level and removing the same after the concrete leak proof sheet.

Face wall:	1 x 12 m x 2.6 m	= 31.2 m^2
Deduction overflow outlet opening:	2 m x 0.3 m	= 0.6 m^2
	Total	**= 30.6 m^2**

@ Rs. 295.00/m^2……. Rs. 9027.00/-

7/27(ii) 12mm thick cement plastering including clearing surface prop. 1:3 including carriage of sand with in 200 m complete.

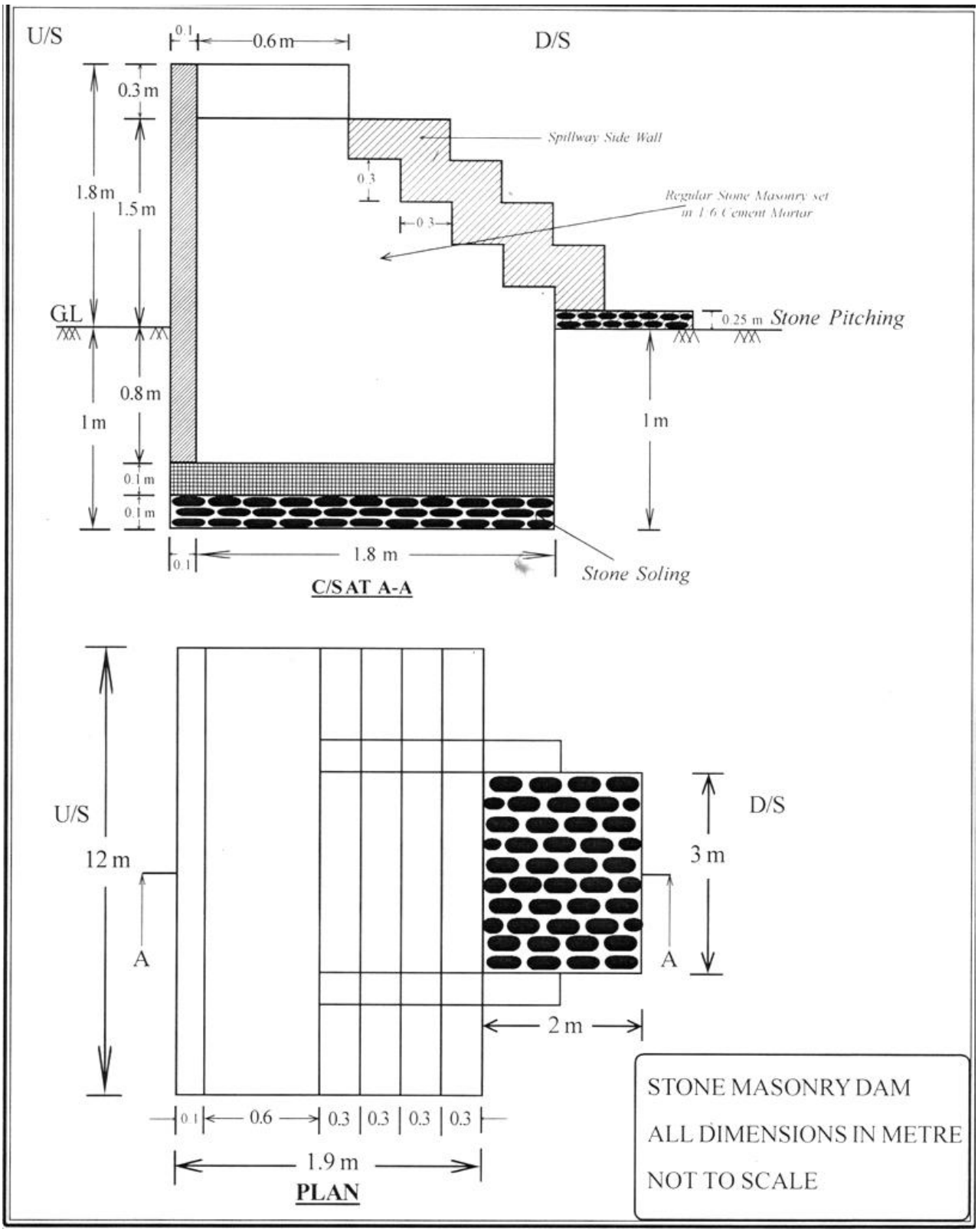
Dam:	2 x 12 m x 1.8 m	= 43.2 m^2
Top:	1 x 12 m x 0.7 m	= 8.4 m^2
Step:	4 x 12 m x 0.3 m	= 14.4 m^2
Deduction overflow outlet opening :	2 m x 0.3 m	= 0.6 m^2
	Total	**= 65.4 m^2**

@ Rs. 92.00/m^2……. Rs. 6016.80/-

Total = Rs. 77,936.40/-

Say = Rs. 77,940.00/-

Rupees (seventy seven thousand nine hundred forty) only.


U/S
D/S
0.1
0.6 m
0.3 m
1.8 m
1.5 m
GL
0.8 m
1 m
0.1 m
0.1 m
0.1
1.8 m
Spillway Side Wall
0.3
0.3
Regular Stone Masonry set in 1:6 Cement Mortar
0.25 m
Stone Pitching
1 m
Stone Soling
C/S AT A-A
U/S
12 m
A
A
D/S
3 m
2 m
0.1
0.6
0.3
0.3
0.3
0.3
1.9 m
PLAN
STONE MASONRY DAM
ALL DIMENSIONS IN METRE
NOT TO SCALE

ESTIMATE FOR CONSTRUCTION OF STONE MASONRY DAM FOR WATER HARVESTING STRUCTURE (BASED FROM P.W.D. SCHEDULE OF RATES FOR ROADS & BRIDGES FOR EASTERN SHILLONG CIRCLE FOR THE YEAR 2008-09)

1/4(b) Earth work in excavation for dam below the lowest bed level including dewatering and boiling out water in or order to keep the foundation trenches free of water and protection the sixes of foundation by adequate shoring scaffolding including levelling the foundation and complete as directed.

(b) Soft or laminated rock or medium shale.

Dam: 11.40 m x 1.9 m x 1 m = 21.66 m^3

@ Rs. 152.00/m^3…….……..…….. Rs. 3292.32/-

2/24 Providing stone pitching with one man size boulder not less than 25cm x 25 cm x 30 cm long filling the interstices with spoils and carriage of stone with in a distance of 200m complete.

Stone soling

Dam: 11.40 m x 1.9 m x 0.1 m= 2.16 m^3
Apron : 3 m x 2 m x 0.25 m = 1.5 m^3
Total **= 3.66 m^3**

@ Rs. 512.00/m^3……...…….. Rs. 1873.92/-

3/26 Providing cement concrete works prop.1:4:8 with hard broken stone aggregate river shingle 40 mm down graded including necessary carriage of stone and sand with in a distance of 200 m and curing complete.

Foundation bed Dam : 11.40 m x 1.9 m x 0.1 m = 2.16 m^3

@ Rs. 2136.00/m^3…….…….. Rs. 4613.76/-

4/29 Proving C.C. 1:2:4 corresponding to M in very hard stone aggregate of 20mm down graded including curing and necessary local carriage of stones aggregates and sand with in 200m (excluding shuttering and re-enforcement) complete as directed.

Face wall: 11.40 m x 2.6 m x 0.1 m = 2.96 m^3

@ Rs. 2880.00/m^3…….…...……...……..…….. Rs. 8524.80/-

5/20(a) Providing regular stone masonry in retaining walls coursed with hammer dressed or blunt chisel dressed stone of heavy section not less than 25cm X 25 cm X 30 cm with proper keys stones, each not less than 25cm X 25 cm X 30 cm long set in cement mortar1:6 including carriage of stone with 200m, filling in trenches and providing weep holes at 1.2 to 1.5m apart staggered complete as directed.

Dam:	11.40 m x 1.8 m x 1.1 m	= 22.57 m^3
	11.40 m x 1.5 m x 0.3 m	= 5.13 m^3
	11.40 m x 1.2 m x 0.3 m	= 4.10 m^3
	11.40 m x 0.9 m x 0.3 m	= 3.07 m^3
	11.40 m x 0.6 m x 0.6 m	= 4.10 m^3
Over flow out let side wall:	2 x 2.7 m x 0.3 m x 0.3 m	= 0.48 m^3
Deduction overflow outlet opening:	2 m x 0.6 m x 0.3 m	= 0.36 m^3
	Total	**= 39.81 m^3**

@ Rs. 1060.00/m^3…….……...……...…….. Rs. 42,198.60/-

6/41(a)Providing shuttering with dress planks not less than 25 mm thick properly jointed, level and removing the same after the concrete leak proof sheet.

Face wall:	1 x 11.40 m x 2.6 m	= 29.64 m^2
Deduction overflow outlet opening:	2 m x 0.3 m	= 0.6 m^2
	Total	**= 30.24 m^2**

@ Rs. 295.00/m^2…….……...……...…..…... Rs. 8920.80/-

7/27(ii) 12mm thick cement plastering including clearing surface prop. 1:3 including carriage of sand with in 200 m complete.

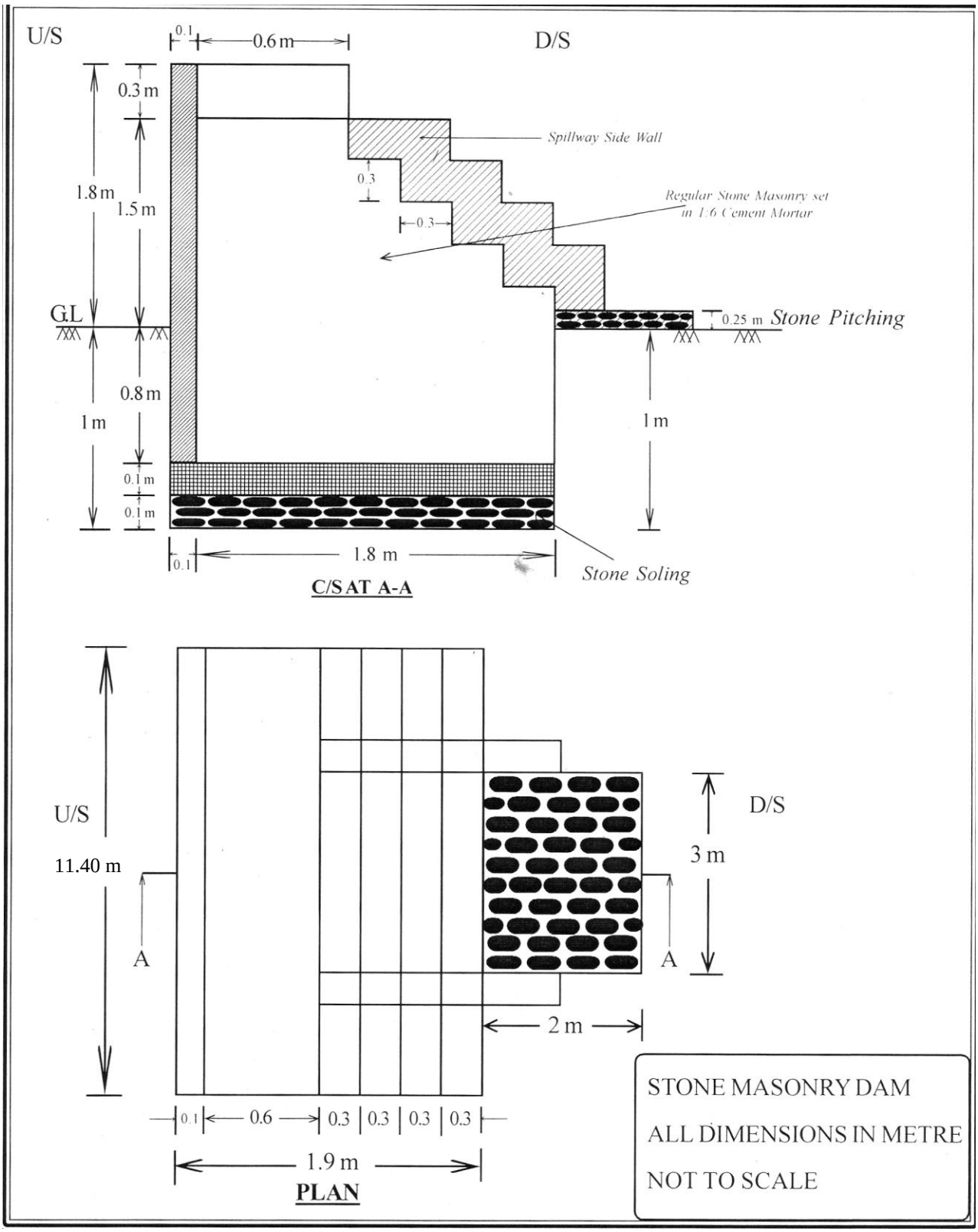
Dam:	2 x 11.40 m x 1.8 m	= 41.04 m^2
Top:	1 x 11.40 m x 0.7 m	= 7.98 m^2
Step:	4 x 11.40 m x 0.3 m	= 13.68 m^2
Deduction overflow outlet opening :	2 m x 0.3 m	= 0.6 m^2
	Total	**= 63.30 m^2**

@ Rs. 92.00/m^2…….……..……... Rs. 5823.60/-

Total = Rs. 74,167.80/-

Say = Rs. 74,160.00/-

Rupees (seventy four thousand one hundred sixty) only.


U/S
D/S
0.1
0.6 m
0.3 m
1.8 m
1.5 m
G.L
0.8 m
1 m
0.1 m
0.1 m
0.1
1.8 m
Spillway Side Wall
0.3
0.3
Regular Stone Masonry set in 1:6 Cement Mortar
0.25 m
Stone Pitching
1 m
Stone Soling
C/S AT A-A
U/S
11.40 m
A
A
D/S
3 m
2 m
0.1
0.6
0.3
0.3
0.3
0.3
1.9 m
PLAN
STONE MASONRY DAM
ALL DIMENSIONS IN METRE
NOT TO SCALE

ESTIMATE FOR CONSTRUCTION OF AQUEDUCT
(BASED FROM P.W.D. SCHEDULE OF RATES FOR ROADS BRIDGES FOR EASTERN SHILLONG CIRCLE FOR THE YEAR 2008-09)

1/3 Earth work in excavation to the proper grade including light dressing etc. as directed and removal of spoil upto 30 m lead and all lift.

(c) Loose boulders above one man size or soil mixed with boulder above one man size or soft shale.

Column: 12 x 0.80 m x 0.80 m x 0.90 m = 6.912 m^3

@ Rs. 42.00/m^3……..……..……..…….. Rs. 290.30/-

2/26 Providing C.C. work in prop 1:4:8 with hard broken stone aggregates 40 mm down graded including necessary carriage of stone and sand within a distance of 200 m and curing complete (excluding shuttering) as directed.

Column foundation bed

12 x 0.80 m x 0.80 m x 0.10 m = 0.768 m^3

@ Rs. 2136.00/m^3……..……...…….. Rs. 1640.44/-

3/29 Providing C.C. work in prop 1:2:4 corresponding to M 150 stone aggregates 20 mm down graded including curing and necessary carriage of stone and sand within a distance of 200 m (excluding shuttering and reinforcement) etc. as directed.

Column:	12 x 0.80 m x 0.80 m x 0.25 m	= 1.92 m^3
	12 x 0.20 m x 0.20 m x 3.35 m	= 1.608 m^3
T/Beam:	32 m x 0.20 m x 0.20 m	= 1.28 m^3
Channel		
Slab:	32 m x 0.80 m x 0.10 m	= 2.56 m^3
Side:	2 x 32 m x 0.60 m x 0.10 m	= 3.84 m^3
	Total	**= 11.208 m^3**

@ Rs. 2880.00/m^3……..……...…….. Rs. 32,279.04/-

4/42 Supplying fitting and fixing including bending, cranking and placing in position as per design drawing including supplying of tying wire 20 gauge complete as directed.

(b) Tor steel

Column:	4 - 16 mm dia tor steel	
	14 x 4 x 4.2 m x 1.58 kg/m	= 318.53 kg
T/Beam:	4 – 12 mm dia tor steel	
	4 x 32 m x 0.89 kg/m	= 113.92 kg
Channel:		
L – Sec:	10 mm dia @ 10 cm C/C	
	2 x 7 x 32 m x 0.62 kg/m	= 277.76 kg
S – Sec:	8 mm dia @ 10 cm C/C	
	321 x 2.1 m x 0.39 kg/m	= 262.90 kg
Column foundation Jali 8 mm dia tor @ 10 cm C/C 2 way		
	2 x 12 x 9 x 0.80 m x 0.39 kg/m	= 67.40 kg
Stirrups 8 mm dia tor @ 20 cm C/C		
Column:	12 x 18 x 1 m x 0.39 kg/m	= 84.24 kg
T/Beam:	161 x 1.3 m x 0.39 kg/m	= 81.63 kg
	Total	**= 1206.38 kg or 12.07 qtl.**

@ Rs. 5174.00/Qtl……..……..…….. Rs. 62,450.18/-

5/41 a Providing shuttering with dressed planks not less than 25 mm thick properly jointed, including bottom, props to the proper level and removing the same after the concrete hardened complete as directed.

Column:	4 x 12 x 3.35 m x 0.20 m	= 32.16 m^2
T/Beam:	1 x 29.6 m x 0.2 m	= 5.92 m^2
Channel:	1 x 32 m x 0.8 m	= 25.60 m^2
	2 x 32 m x 0.7 m	= 44.80 m^2
	2 x 32 m x 0.6 m	= 38.40 m^2
	Total	**= 146.88 m^2**

@ Rs. 295.00/m^2……..…..….. Rs. 43,329.60/-

6/27 Providing 12 mm thick cement plastering including cleaning surface, curing, carriage of sand within 200 m complete.

(b) Prop 1:3

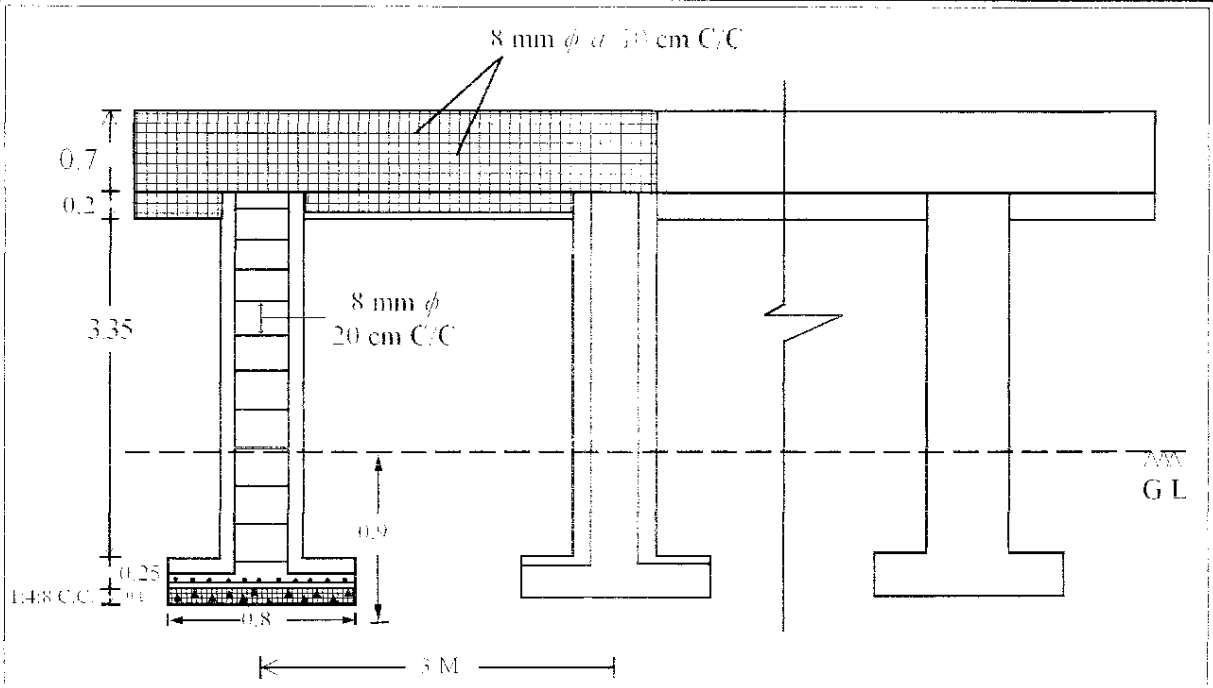
Channel inside:	3 x 32 m x 0.60 m	= 57.60 m^2
Top	2 x 32 m x 0.10 m	= 6.40 m^2
	Total	**= 64.00 m^2**

@ Rs. 92.00/m^2…….…..…….. Rs. 5888.00/-

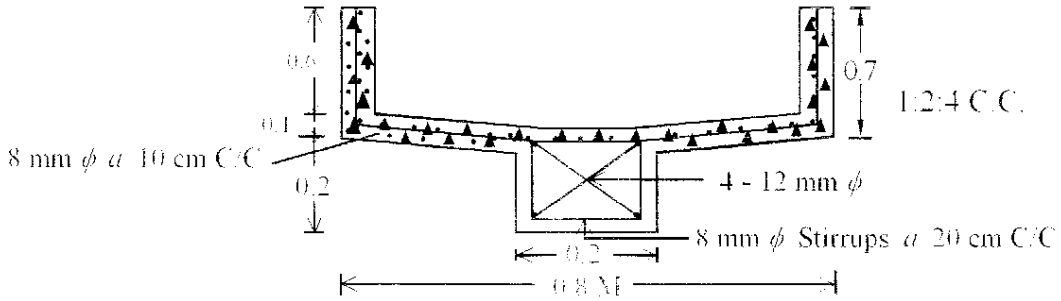
Total = Rs. 1,45,877.56/-

Say = Rs. 1,45,800.00/-

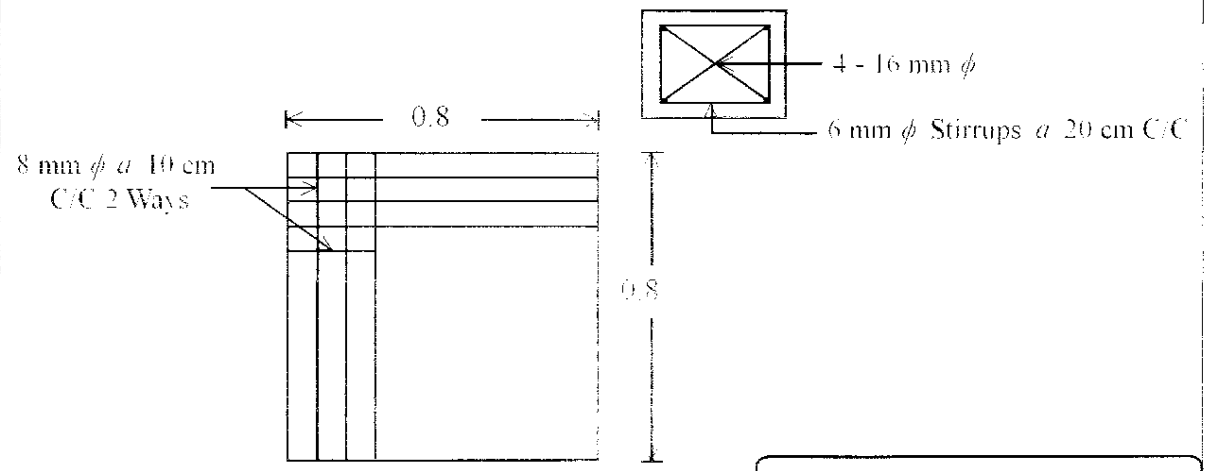
Rupees (one lakh forty five thousand eight hundred) only.



HALF SECTIONAL VIEW OF R.C.C. AQUEDUCT



C/S OF T-BEAM CHANNEL



C/S OF COLUMN FOOTING

AQUEDUCT
ALL DIMENSIONS IN METER
NOT TO SCALE

ESTIMATE FOR CONSTRUCTION OF PROTECTION WALL
(BASED FROM P.W.D. SCHEDULE OF RATES FOR ROADS BRIDGES FOR EASTERN SHILLONG CIRCLE FOR THE YEAR 2008-09)

1/3(a) Earth work in excavation to the proper grade including light dressing etc. as directed, complete and removal of spoils up to 30m load to all lift.

(c) Loose boulders above one man size or soil mixed with boulders above one man size:

32 m x 1 m x 1.2 m = 38.4 m^3

@ Rs. 42.00/m^3…….……..…….. Rs. 1612.80/-

2/24 Providing stone pitching with one man size boulder not less than 25cm x 25 cm x 30 cm long filling the interstices with spoils and carriage of stone with in a distance of 200m complete.

Stone Soling

32 m x 1 m x 0.1 m = 3.2 m^3

@ Rs. 512.00/m^3……...…..….. Rs. 1638.40/-

3/26 Providing cement concrete works prop.1:4:8 with hard broken stone aggregate river shingle 40 mm down graded including necessary carriage of stone and sand with in a distance of 200 m and curing complete.

Foundation bed: 32 m x 1 m x 0.1 m = 3.2 m^3

@ Rs. 2136.00/m^3…….……..…….. Rs. 6835.20/-

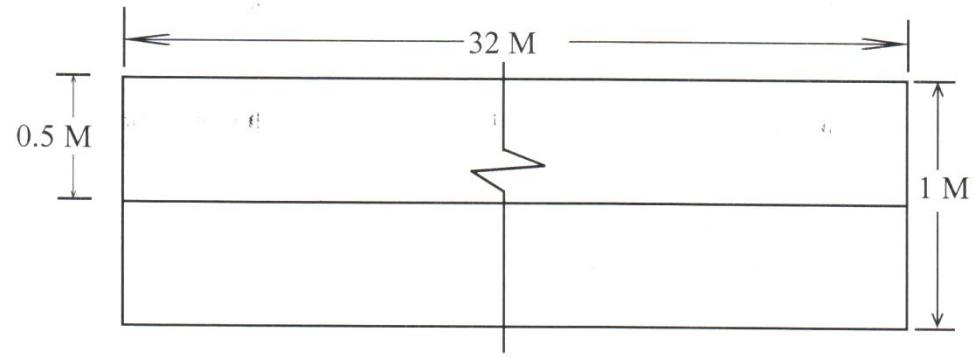
4/20(a) Providing regular stone masonry in retaining walls coursed with hammer dressed or blunt chisel dressed stone of heavy section not less than 25cm X 25 cm X 30 cm with proper keys stones, each not less than 25cm X 25 cm X 30 cm long set in cement mortar1:6 including carriage of stone with 200m, filling in trenches and providing weep holes at 1.2 to 1.5m apart staggered complete as directed.

a) with new stones

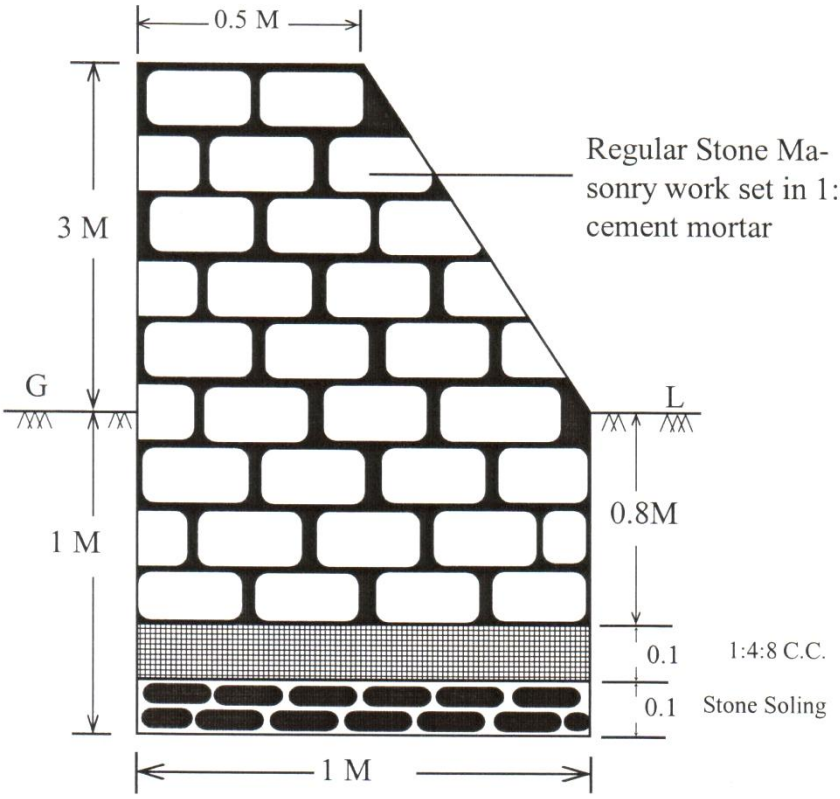
32 m x 1 m x 1.00 m = 32 m^3
32 m x (0.5+1)/2 x 3 m = 72 m^3
Total = 104 m^3

@ Rs. 1060.00/m^3…….…….. Rs. 1,10,240.00/-
Total = Rs. 1,20,326.40/-
Say = Rs. 1,20,000.00/-

Rupees (one lakh twenty thousand) only.



PLAN



Regular Stone Masonry work set in 1:6 cement mortar

C/S A - A

PROTECTION WALL

ALL DIMENSIONS IN METRE

NOT TO SCALE

ESTIMATE FOR CONSTRUCTION OF PROTECTION WALL
(BASED FROM P.W.D. SCHEDULE OF RATES FOR ROADS BRIDGES FOR EASTERN SHILLONG CIRCLE FOR THE YEAR 2008-09)

1/3(a) Earth work in excavation to the proper grade including light dressing etc. as directed, complete and removal of spoils up to 30m load to all lift.

(c) Loose boulders above one man size or soil mixed with boulders above one man size:

30 m x 1 m x 1.2 m = 36 m^3

@ Rs. 42.00/m^3…….……..…….. Rs. 1512.00/-

2/24 Providing stone pitching with one man size boulder not less than 25cm x 25 cm x 30 cm long filling the interstices with spoils and carriage of stone with in a distance of 200m complete.

Stone Soling

30 m x 1 m x 0.1 m = 3 m^3

@ Rs. 512.00/m^3……...…..….. Rs. 1536.00/-

3/26 Providing cement concrete works prop.1:4:8 with hard broken stone aggregate river shingle 40 mm down graded including necessary carriage of stone and sand with in a distance of 200 m and curing complete.

Foundation bed: 30 m x 1 m x 0.1 m = 3 m^3

@ Rs. 2136.00/m^3…….……..…….. Rs. 6408.00/-

4/20(a) Providing regular stone masonry in retaining walls coursed with hammer dressed or blunt chisel dressed stone of heavy section not less than 25cm X 25 cm X 30 cm with proper keys stones, each not less than 25cm X 25 cm X 30 cm long set in cement mortar1:6 including carriage of stone with 200m, filling in trenches and providing weep holes at 1.2 to 1.5m apart staggered complete as directed.

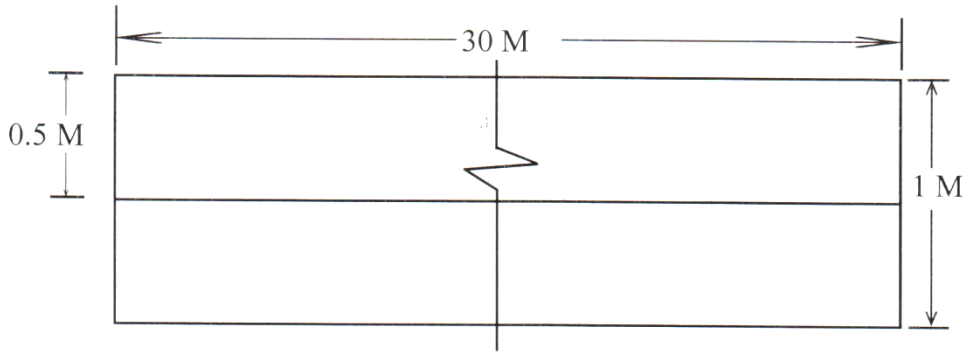
a) with new stones

30 m x 1 m x 1.00 m = 30.00 m^3
30 m x (0.5+1)/2 x 3 m = 67.50 m^3
Total = 97.50 m^3

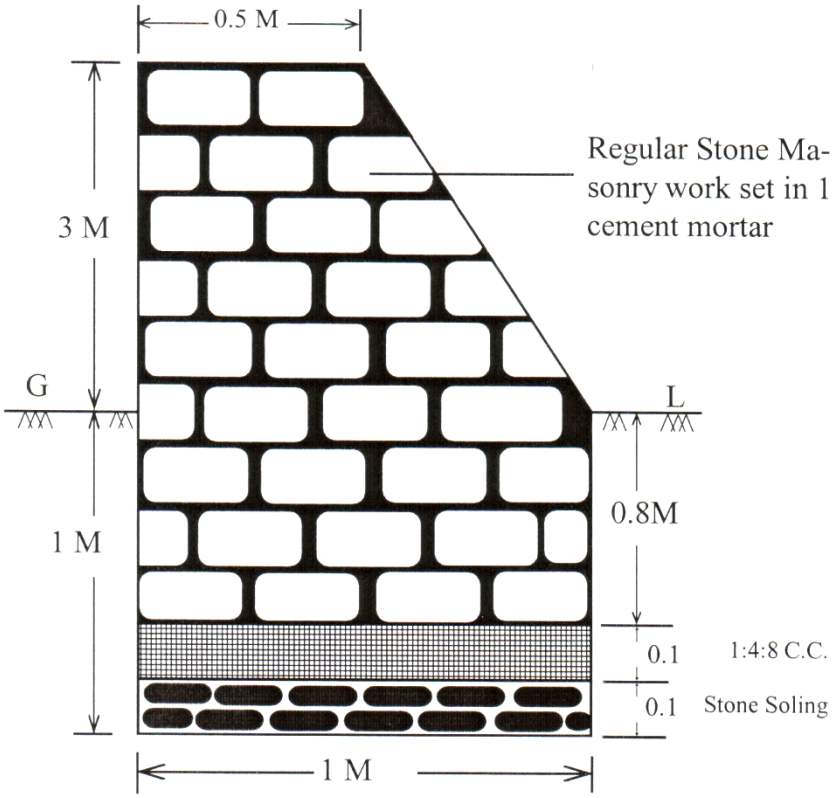
@ Rs. 1060.00/m^3……..…….. Rs. 1,03,350.00/-

Total = Rs. 1,12,806.00/-
Say = Rs. 1,12,800.00/-

Rupees (one lakh twelve thousand eight hundred) only.



PLAN



Regular Stone Masonry work set in 1:6 cement mortar

C/S A - A

PROTECTION WALL

ALL DIMENSIONS IN METRE

NOT TO SCALE

ESTIMATE FOR CONSTRUCTION OF PROTECTION WALL
(BASED FROM P.W.D. SCHEDULE OF RATES FOR ROADS BRIDGES FOR EASTERN SHILLONG CIRCLE FOR THE YEAR 2008-09)

1/3(a) Earth work in excavation to the proper grade including light dressing etc. as directed, complete and removal of spoils up to 30m load to all lift.

(c) Loose boulders above one man size or soil mixed with boulders above one man size:

17 m x 1 m x 1.2 m = 20.4 m^3

@ Rs. 42.00/m^3…….……..……... Rs. 856.80/-

2/24 Providing stone pitching with one man size boulder not less than 25cm x 25 cm x 30 cm long filling the interstices with spoils and carriage of stone with in a distance of 200m complete.

Stone Soling

17 m x 1 m x 0.1 m = 1.7 m^3

@ Rs. 512.00/m^3……...…..…... Rs. 870.40/-

3/26 Providing cement concrete works prop.1:4:8 with hard broken stone aggregate river shingle 40 mm down graded including necessary carriage of stone and sand with in a distance of 200 m and curing complete.

Foundation bed: 17 m x 1 m x 0.1 m = 1.7 m^3

@ Rs. 2136.00/m^3…….……...…….. Rs. 3631.20/-

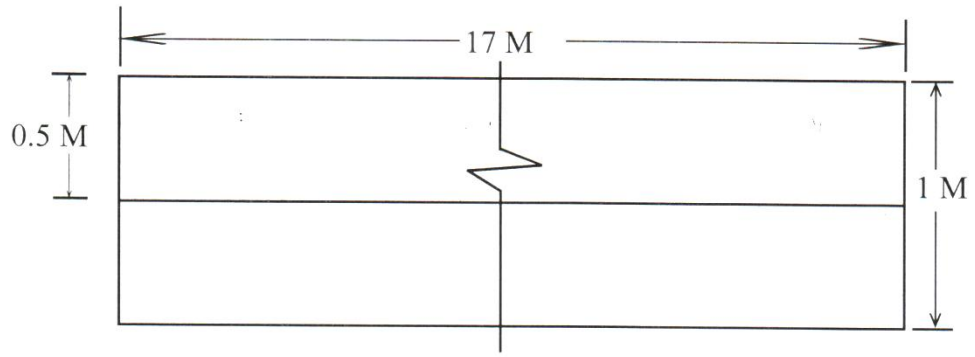
4/20(a) Providing regular stone masonry in retaining walls coursed with hammer dressed or blunt chisel dressed stone of heavy section not less than 25cm X 25 cm X 30 cm with proper keys stones, each not less than 25cm X 25 cm X 30 cm long set in cement mortar1:6 including carriage of stone with 200m, filling in trenches and providing weep holes at 1.2 to 1.5m apart staggered complete as directed.

a) with new stones

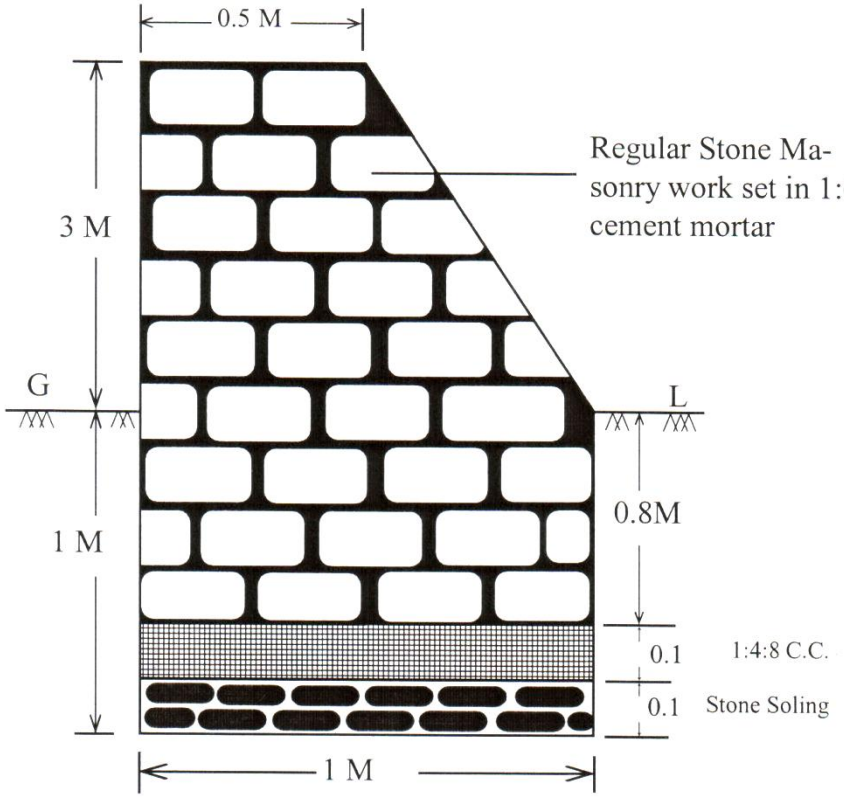
17 m x 1 m x 1.00 m = 17.00 m^3
17 m x (0.5+1)/2 x 3 m = 38.25 m^3
Total = 55.25 m^3

@ Rs. 1060.00/m^3……..…….. Rs. 58,565.00/-
Total = Rs. 63,923.40/-
Say = Rs. 63,900.00/-

Rupees (sixty three thousand nine hundred) only.



PLAN



C/S A - A

PROTECTION WALL

ALL DIMENSIONS IN METRE

NOT TO SCALE

ESTIMATE FOR CONSTRUCTION OF FOOTBRIDGE UNDER I.W.M.P

(The rate based as per P.W.D Scheduled of rates for Roads, Bridges and E & D Works 2008-2009 & Building 2007-2008)

1/5 Earthwork in excavation for foundation of bridges and culverts, up to the founding level including making of cofferdam, dewatering, bailing and diversion of water. In order to keep the foundation trenches free of water. The sides of the foundation to be protected by adequate shoring, scaffolding after leveling the foundation both longitudinally and transversely as directed.

Abutment 3 x 1.50 x 0.80 x 1.00 = 3.6m^3

@Rs.121.00/m^3 Rs. 435.60

2/6 Earthwork in excavation for foundation of Hume pipe Culvert, Slab drain, Retaining wall face well up to the desired founding level including dewatering bailing out of water in order to keep the foundation by adequate shoring scaffolding. The foundation is leveled both longitudinally and transversely as directed.

Wing walls 4 x 1.50 x 0.80 x 0.90 = 4.320m^3

@ Rs.93.00/m^3 Rs. 401.76

3/28 Providing C.C. work in prop 1:3:6 with hard broken stone aggregates 40mm down graded in abutment curing and return walls, including necessary carriage of stone and sand within a distance of 200m etc.

Abutment 3 x 1.50 x 0.80 x 0.10 = 0.36m^3

@Rs. 2344.00/m^3 Rs.843.84.

4/26 Providing cement concrete work in proportion 1:4:8 with hard Broken stone aggregates 40 mm down graded, including necessary carriage of stone and sand within a distance of 200m and curing, complete as directed.

Wing walls 4 x 1.50 x 0.80 x 0.10 = 0.480 m^3

@Rs.2136.00/m^3 Rs.1025.28.

5/22 Providing regular coarsed stone masonry work only in abutment walls, face wall with hammer dressed stones of heavy section (Size not less than 25cm x 25cm x 30cm long) and with proper Key stones not less than 25cm x 25cm x 7.5cm long in cement mortar 1:3 including carriage of stone within 200m and filling in trenches and providing weep holes at 1.2 to 1.5 apart (Staggered) complete as directed.

Abutment	3 x 1.50 x 0.80 x 0.90	= 3.24 m^3
	3 x 1.50 x $\frac{0.80 + 0.50}{2}$ x 2	= 11.7 m^3
		14.94 m^3

@Rs.1288.00/m^3 Rs.19242.72

6/20.Providing regular course stone masonry work in returning walls,

(a) breast walls and wing walls with hammer dressed or blunt chisel dressed stones of heavy section with proper key stones each not less than 25cm x 25cm x 75cm in cement mortar 1:6 including carriage of stone within 200m as directed.

Wing walls	4 x 1.50 x 0.80 x 0.80	= 7.584 m^3
	4 x 1.50 x $\frac{0.80 + 0.50}{2}$ x 2	= 15.60 m^3
		23.184 m^3

@ Rs. 1060.00/m3 Rs.24575.04

7/42. Supplying,fitting,fixing including bending cranking and placing in position as per approved designed and drawings.

Beam	2 x 4 Nos x 10.30 x 1.58	= 1.300 Qntl.
	3 x 4 Nos x 1.50 x 0.62	= 0.111 Qntl.
Bearing	4 x 4 Nos x 1.50 x 1.58	= 0.379 Qntl.
Post	12 x 4 Nos x 0.90 x 0.39	= 0.168 Qntl.
Railing	2 x 4 Nos x 10.30 x 0.39	= 0.321 Qntl.
Slab (foot bridge)	1 x 15 Nos x 3.30 x 0.39	= 0.351 Qntl.
	1 x 8 Nos x 10.30 x 0.62	= 0.510 Qntl.
		3.14 Qntl.

@ Rs.5174.00/ Qtls Rs.16246.36

8/41 Providing shuttering with dressed planks not less than 25mm thick properly joined including battens, props to the proper level and removing the same after the concrete hardened.

Beam	12 x 10.60 x 0.30	=	38.16 m^3
Bearing	4 x 2.10 x 0.30	=	2.52m^3
Post	12 x 0.90 x 0.20	=	12.48m^3
Railing	6 x 10.00 x 0.20	=	8.64m^3
Slab	1 x 10.00 x 1.20	=	2.00m^3
			63.80m^3

@ Rs.295.00/m^3 Rs.18821.00

9/29. Providing cement concrete work in proportion 1:2:4 corresponding to M150 stone aggregates 20mm down graded, including curing and necessary carriage of stone and sand within a distance of 200m for bearing caps, bearing blocks, dirt walls approach slabs, RCC slabs decking,girders,diaphragm,railing posts,kerb complete as directed.

Beam	2 x 10.00 x 0.30 x 0.30	= 0.540m^3
Bearing	4 x 1.50 x 0.30 x 0.30	= 0.270m^3
Post	6 x 0.90 x 0.20 x 0.20	= 0.240m^3
Railing	2 x 3.00 x 1.50 x 0.10	= 0.450m^3
Slab	1 x 10.00 x 1.50 x 0.10	= 1.500m^3
		5.972m^3

@ Rs.2880.00/m^3 Rs. 17199.36

10/27. Providing 12mm thick cement plastering including cleaning surface, curing and carriage of sand within 200m complete.

Beam	12 x 10.00 x 0.30	= 36.00 m^2
Bearing	2 x 1.50 x 0.30	= 1.8 m^2
Post	24 x 0.90 x 0.20	= 8.64 m^2
Railing	8 x 10.00 x 0.20	= 12.00 m^2
Slab (footbridge)	1 x 10.00 x 2.00	= 20.00 m^2
		78.44 m^2

@ Rs.92.00/m^2 Rs. 7216.48

11/11.22 Providing and fixing 25mm dia pipes including necessary sockets,bends,jamnuts,elbows,tees etc.complete as directed.

60.30 Rm

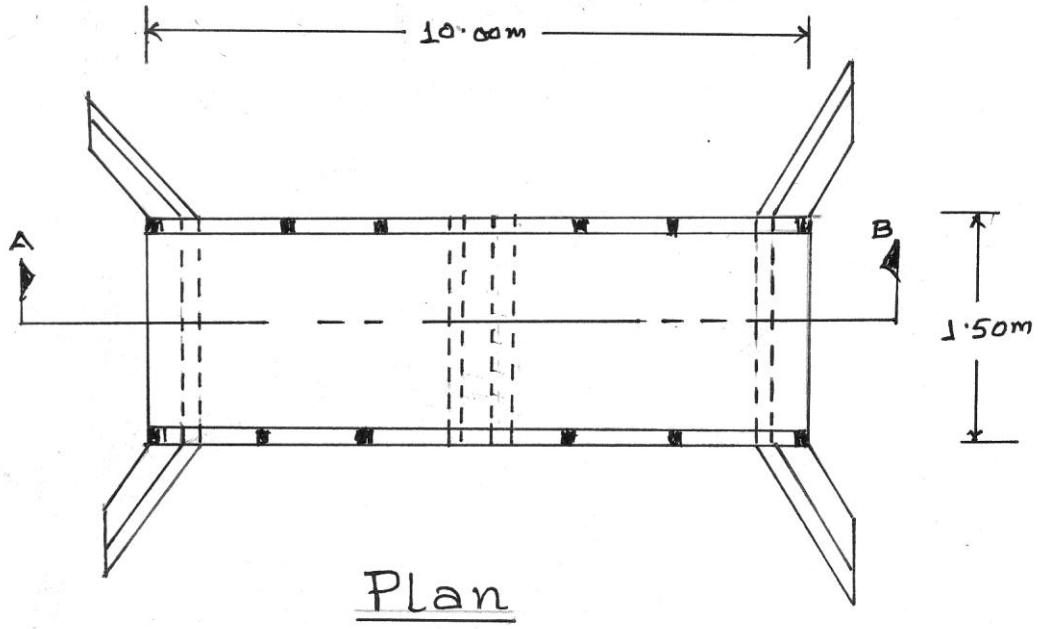
@ Rs.145.00/Rm Rs. 8743.50

Total: Rs. 1,14750.94

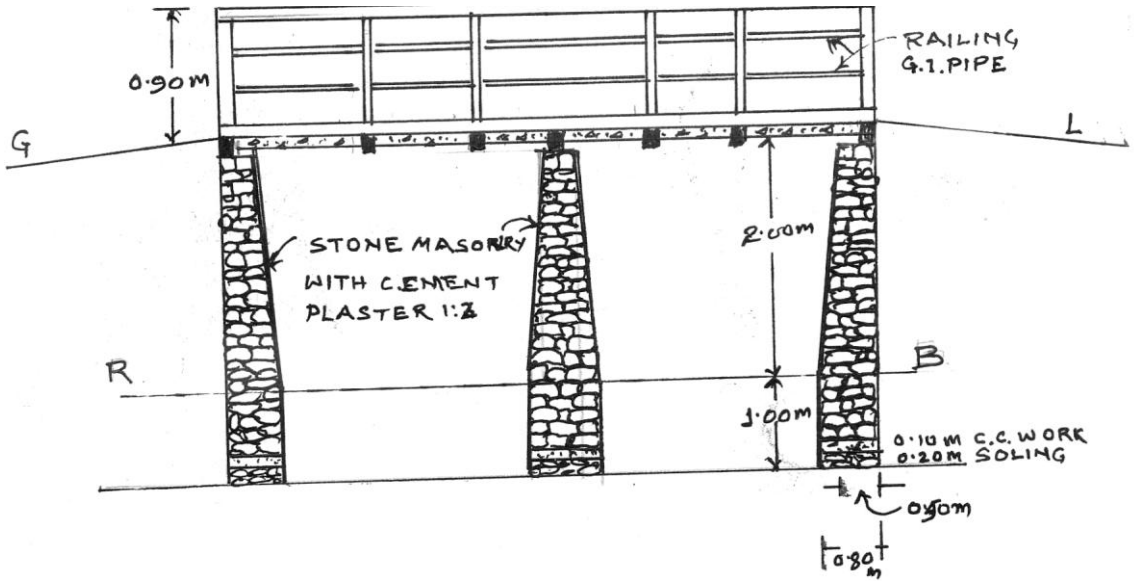
Say Rs. 1,14,800.00

(Rupees One lakh fourteen thousand eight hundred & fifty)only.

Plan For Construction Of R.C.C. Foot Bridge At



Plan



ESTIMATE FOR CONSTRUCTION OF DRINKING WATER TANKK WITH WASHING PLATFORM, C.C DAM. BATHING PLACE AND C.C.F/PATH.

(As per M.P.W.D. Schedule of Rates for building 2007-2008)

1. Site preparation……L/S…… Rs. 500.00

2/1.1 (a) Earthwork in foundation trenches including dressing of sides and ramming of the bottom including stacking of serviceable stones, disposal and removal excavated earth within a lead of 50cm and lift of 1:50 m complete.

	2 x 0.6cm x 0.50 m x 200 m	=	1.20m^3
	2 x 0.60m x 0.50m x 1.50m	=	0.90m3
Dam	1 x 8.00m x 0.6m x 0.60m	=	28.8m3
		30.90m3	

@ Rs. 40.00 per m3……Rs. 1236/-/-

3/3.11 Providing dry stone masonry walls with the face hammer dressed or blunt chisel dressed stone of heavy section of size not less than 20 cm x 20 cm x 25 cm to 30 cm long with proper key stone each not less than (25 x 25 x 75) cm long complete.

2 x 0.40m x 0.70 x 2.00m	=	1.12m^3
2 x 0.40m x 0.70m x 1.60m	=	0.90m3
		2.02 m3

@ Rs. 1191per m3……Rs. 2405.82/-

4/45 Providing 100 mm thick soling with approved quality of stones including carriage of ramming consolidation with filling the interstices with stone aggregates complete.

Tank 1 x 1.60m x 1.60 m	=	2.56m2
P/Form1 x 3.00 x 4.00m	=	12.00
F/Path 1 x 1.20 m x 15.00m	=	18.00

@ Rs. 108/m3……Rs. 3516.00/-

5/20 Providing and laying cement concrete in proportion 1:3:6 including necessary curing complete excluding shuttering.

	2 x 2.00m x 0.50m x 0.10m	=	0.20m3
	2 x 1.60m x 0.50m x 0.10m	=	0.160m3
	1 x 1.60m x 1.60m x 0.10m	=	0.256m3
	1 x 3.00m x 4.00m x 0.10m	=	0.120m3
F/P	1 x 1.20m x 15.00m x 0.10m	=	1.800m3
Dam	1 x 8.00m x 1.10m x $\frac{0.60 + 0.40}{2}$	=	4.40m3
			6.936m3

@ Rs 1662/ m3……Rs 11,527.63

6/3.9 (b-1) (b) Providing first class brick is required thickness 1 cement mortar 1:6 including curing complete as directed.

4 x 2.00m x 2.00m = 16.00m2

@ Rs 749/m2……Rs 11,984.00/-

7/3.9 (b-11(b)Providing first class brick is required thickness 1 cement mortar 1:6 including curing complete as directed.

3x 2.00m x 2.00m = 1.20m2

	1 x 2.00m x 1.00m		= 2.00m2
			3.20m2
Deduction	1 x 1.80m x 1.00		= 1.80m2
			1.40m2

@ Rs 384/m2.....Rs 537.60/-

8/6.2 Providing torsteel reinforcement in R.C.C work excluding cutting,bending, cranking and tying in position with binding wire complete.

Tank	30 x 2.50m x 0.39m	=	29.25kg or 0.29 qntl
B/P	30 x 2.50m x 0.39m	=	29.25kg or 0.29 qntl
			0.58qntl

@ Rs 5373/ qntl.....Rs 3143/-

9/2.3 (ii) Providing and laying cement concrete in proportion 1:2:4 including necessary curing complete excluding shuttering in foundation and plinth etc complete..

Tank	1 x 2.30m x 2.30m x 0.10m	=	0.20m3
P/F	2 x 3.00m x 0.15m x 0.15m	=	0.160m3
P/F	2 x 4.00m x 0.15m x 0.15	=	0.256m3
B/P	1 x 2.30m x 2.30m x 0.10m	=	0.529m3
			1.145m3
Deduction	1 x 2.00m x 0.15m x 0.15m	=	0.045m3
		=	1.10m3

@ Rs 3201/ m3.....Rs 3521.10/-

10/4.11 (a) (ii) Providing 20mm thick cement plastering / skirting and cement mortar 1:3 finished with floating coat of neat cement including grouting of function with floor as directed complete including necessary curing complete

Tank	1 x 2.00m x 2.00m	=	4.00m2
	8 x 2.00m x 2.00m	=	32.00m2
P/F	1 x 3.00m x 4.00m	=	12.00m2
	2 x 2.30m x 2.30m	=	10.58m2
P/F	2 x 3 x 3.00m x 0.15m	=	2.70m2
P/F	2 x 3 x 4.00m x 0.15m	=	3.60m2
F/P	1 x 1.20m x 15.00m	=	18.00m2
Dam	2 x 8.00m x 1.20m	=	19.20m2
	1 x 8.00m x 0.40m	=	3.20m2
			105.28

@ Rs 206/ m2.....Rs 21,687.68/-

11/4.11 (a) (ii) Providing 12mm thick cement plaster including clearing the surface and curing complete as directed.

B/P	3 x 2 x 2.00m x 2.00m	=	24.00m2
	1 x 2 x 2.00m x 1.00m	=	4.00m2
			28.00m2
Deduction	1 x 2 x 1.80m x 1.00m	=	3.6m2
			24.40

@ Rs. 107/m^2 ..... Rs. 2610.80/-

11/11.21 (a) (ii) Providing and fixing 20mm dia. G.I pipes including necessary sockets, Bolts, farmnuts,elbows,ties etc complete as directed.

Length = 30.00 Rm

@ Rs. 98/Rm Rs.2940.00

Total Rs. 65,609.47

Say Rs.65,600.00

(Rupees Sixty five thousand six hundred) only.

Submitted by

ESTIMATE FOR CONSTRUCTION OF DRINKING WATER TANK WITH WASHING PLATFORM UNDER I.W.M.P

(As per M.P.W.D. Schedule of Rates for Building 2007-08)

1. Site preparation ……..L/S …….. Rs. 500.00 /-

2/1.1(a) Earthwork in excavation in foundation trenches including dressing of sides and ramming of the bottom including stacking of serviceable stones, disposal and removal excavated earth within a lead of 50m and lift of 1:50 m complete.

2 x 0.60m x 0.50m x 2.00 m	= $1.20m^3$
2 x 0.60m x 0.50m x 1.50m	= $\underline{0.90m^3}$
	$2.10m^3$

@ Rs 40.00 per m^3 …… Rs 84.00 /-

3/3.11 Providing dry stone masonry walls with the face hammer dressed or blunt chisel dressed stone of heavy section of size not less than 20cm x 20cm x 25 cm to 30cm long with proper key stone each not less than (25 x 25 x75) cm long complete.

2 x 0.40m x 0.70m x 2.00m	= 1.12 m^3
2 x 0.40m x 0.70m x 1.60m	= $\underline{0.90\ m^3}$
	2.02 m^3

@ Rs 1191 / m^3 …… Rs 2405.82 /-

4/4.5 Providing 100 mm thick soling with approved quality of stones including carriage of ramming consolidation with filling the interstices with stone aggregates complete.

Tank 1 x 1.60m x 1.60m	= $2.56m^2$
P/Form 1 x 3.00m x 4.00m	= $\underline{12.00m^2}$
	$14.56m^2$

@ Rs 108/m per m^2……. Rs 1572.48/-

5/2.2 Providing and laying cement concrete in proportion 1:3:6 including necessary curing complete excluding shuttering.

2 x 2.00m x 0.50m x 0.10m	= $0.20m^3$
2 x 1.60m x 0.50m x 0.10m	= $0.160m^3$
1 x 1.60m x 1.60m x 0.10m	= $0.256m^3$
1 x 3.00m x 4.00m x 0.10m	= $\underline{0.120m^3}$
	0.736 m^3

@ Rs 2662/ m^3 …… Rs 1959.23/-

6/3.9(b-1)(b) Providing first class brick is required thickness I cement mortar 1:6 including curing complete as directed.

4 x 2.00m x 2.00m = 16.00m^2

@ Rs 749/m^2 Rs 11,984.00 /-

7/3.9(b-11) Providing first class brick is required thickness 1 cement mortar 1:6 including Curing complete as directed.

	3 x 2.00m x 0.20m	=	1.20m^2
	1 x 2.00m x 1.00m	=	2.00m^2
			3.20m^2
Deduction	1 x 1.80m x 1.00m	=	1.80m^2
			1.40m^2

@ Rs 384/ m^2 . Rs 537.60/-

8/6.2 Providing torsteel reinforcement in R.C.C. work excluding cutting, bending cranking and tying in position with binding wire complete.

Tank 30 x 2.50m x 0.39 = 29.25 kgs or 0.29 qnlt.

@ Rs 5373/ qnlt. . Rs 1558.17./-

9/2.3 (ii) Providing and laying cement concrete in proportion 1:2:4 including necessary curing complete excluding shuttering in foundation and plinth etc complete.

Tank	1 x 2.30m x 2.30m x 0.10m	=	0.20m^3
P/Form	2 x 3.00m x 0.15m x 0.15m	=	0.160m^3
P/Form	2 x 4.00m x 0.15m x 0.15m	=	0.256m^3
			0.626m^3
Deduction			
	1 x 2.00m x 0.15m x x 0.15m	=	0.045m^3
			0.581m^3

@ Rs 3201/ m^3…….. Rs 1859.78/-

10/4.11 (a)(ii) Providing 20mm thick cement plastering skirting with cement mortar 1:3 finished with floating coat of neat cement including grouting of function with floor as directed complete.

Tank	1 x 2.00m x 2.00m	=	4.00m^2
	8 x 2.00m x 2.00m	=	32.00m^2
P/Form	1 x 3.00m x 4.00m	=	12.00m^2
	2 x 2.30m x 2.30m	=	10.58m^2
P/F	2 x 3 x 3.00m x 0.15m	=	2.70m^2
P/F	2 x 3 x 4.00 x 0.15m	=	3.60m^2
			64.88m^2

@ Rs 206/ m^2……. Rs 13,365.28/-

11/11.21(a) Providing and fixing 20mm dia G.I pipes including necessary sockets bunds farmnuts,elbows ties etc.complete as directed.

Length = 30.00Rm

@ Rs 98/Rm Rs. 2940.00/-
Rs. 38,766.36/-
Rs. 38,700.00/-

(Rupees Thirty eight thousand seven hundred) only.

Submitted:

ESTIMATE FOR CONSTRUCTION OF R.C.C WATER TANK, BATHING AND WASHING PLACE,

(As per M.P.W.D .schedule of Rates for Building 2007-08)

1/1.1(a) Earthwork in excavation in foundation trenches including dressing of sides and ramming of the bottom including stacking of serviceable stones, disposal and removal of excavated earth within a lead of 50m and lift of 1.50 m complete.

8 x 0.60m x 0.60m x 1.20 m = 3.46m^3

@ Rs 40.00 / m^3 …… Rs.138.00/-

2/4.5 Providing 100 mm thick soling with approved quality of stones including carriage of ramming consolidation and filling the interstices with stone aggregates complete.

8 x 0.60m x 0.60m = 2.88 m^2
1 x 7.00m x 3.00m = 21.00m^2
23.80m^2

@ Rs 108/m per m^2…… Rs. 2570.00/-

3/2.1 (a) Providing and laying cement concrete in proportion 1:4:8 including necessary curing complete.

1 x 7.00m x 3.00m x 0.10m = 2.10m3

@ Rs 2351/ m^3 …… Rs. 4937.00/-

4/2.3 (ii) Providing and laying cement concrete in proportion 1:2:4 including necessary curing complete excluding shuttering.

	8 x 0.60m x 0.60m x 0.20m	= 0576 m^3
Post	4 x 0.15m x 0.15m x 3.30m	= 0.315m^3
	4 x 0.15m x 0.15m x 2.90m	= 0.261m^3
T/Beam	4 x 0.15m x 0.15m x 2.00m	= 0.180m^3
Slab	1 x 2.30m x 2.30m x 0.10m	= 0.529m^3
	1 x 2.45m x 2.45m x 0.10m	= 0.600m^3
Wall	4 x 2.00m x 2.00m x 0.15m	= 2.400m^3
		4.861m^3

@ Rs. 3201/ m^3……. Rs.15,560.00/-

5/3.9(b) (ii) Providing 1st class brick work is required thickness incement mortar 1:6 including curing complete as directed.

4 x 2.20m x 2.00m = 17.6 m^2

Deduction = 1.80m^2
15.8m^2

@ Rs. 384/m^2 …… Rs. 6067.00/-

6/2.9 (a) (ii) Providing shuttering including centering for flat surface such as slabs Shelves etc.vertical face such as column,walls,beam etc.with dressed Plank not less than 25cm thick firmly fixed etc complete.

4 x 4m x 2.90m x 0.20m	= 9.28m^2
4 x 4 x 3.50m x 0.20m	= 11.20m^2
4 x 3 x 2.00m x 0.20m	= 4.80m^2
2 x 2 x 2.00m x 2.00m	= 16.00m^2
1 x 2 x 2.10m x 2.10m	= 8.82m^2
	50.10m^2

@ Rs. 384/m^2 …… Rs. 7415.00/-

7/6.2 (ii) Providing torsteel reinforcement in R.C.C work including cutting bending,cranking and tying in position with bending wire 20 gauge, complete.

4 x 4 x 3.80m x 0.89	= 54.112kg
4 x 4 x 3.20m x 0.89	= 45.568kg
8 x 4 x 2.00m x 0.89	= 40.940kg
4 x 28 x 2.30m x 0.39	= 159.712kg
1 x 28 x 2.00m x 0.39	= 21.840kg
1 x 32 x 2.30m x 0.39	= 28.704kg
1 x 36 x 2.60m x 0.39	= 36.504kg
1 x 4 x 2.10m x 0.62	= 5.208kg
	391.588 kg or 3.916 qntl

@ Rs. 5373/qntl…… Rs. 21,041.00/-

8. (a) (ii) Providing cement concrete topping in proportion 1:1:2 to the Proper level and slope including curing and trowel finished with a floating coat of neat cement.

1 x 7.00m x 3.00m = 21.00m^2

@ Rs. 146/ m^2……. Rs. 3066.00/-

9/4.1(a).ii. Providing 12mm thick cement plaster including cleaning the surface and curing complete as directed.

4 x 2 x 2.20m x 2.00m	= 35.20m^2
1 x 2 x 2.60m x 2.60m	= 13.52m^2
4 x 1 x 2.00m x 2.00m	= 16.00m^2
1 x 1 x 2.00m x 2.00m	= 4.00m^2
1 x 1 x 2.20m x 2.20m	= 4.84m^2
	73.56m^2
Deduction of opening of door	= 1.80m^2
	71.76m^2

@ Rs. 107/m^2…… Rs. 7678.00/-

10/4.11.(ii) Providing 20mm thick cement plaster skirting with cement mortar 1:3 finished with floating coat of neat cement including rounding etc.as directed complete.

1 x 4 x 2.00m x 2.00m = $16.00m^2$
1 x 1 x 2.00m x 2.00m = $4.00m^2$
$20.00m^2$

@ Rs. 206/m^2 …….... Rs. 4120.00/-

11/7.15 (a) Providing and fixing 38mm thick battened and braced shuter for doors Including iron hinges,tower baths screws etc.complete etc.

1 x 1.80m x 1.00m = $1.80m^2$

@ Rs. 555/m^2 …… Rs.999.00/-

12/7.1 (a) Providing dressed and rebated wood works for chowkat fitted in position With nails,spikes nuts,bolts etc.as required and directed complete.

2 x 2.00m x 0.10m x 0.10m = $0.04m^2$
1 x 1.10m x 0.10m x 0.10m = $0.011m^2$
$0.051m^2$

@ Rs. 17211/m^3 …… Rs.878.00/-

13/4.57.Supplying and fitting galvanized plain sheet walling (0.63mm thick) with Galvanized screws and washers complete as directed.

1 x 2 x 1.00 = $2.00m^2$

@ Rs. 352/m^2 …… Rs.704.00/-

14/11.22 (a) Providing and fitting 25mm dia G.I pipes including necessary sockets, bend bolts, Jarmnuts, elbows, ties etc complete as directed.

Length = 63.65 Rm

@ Rs 145/ R/m……

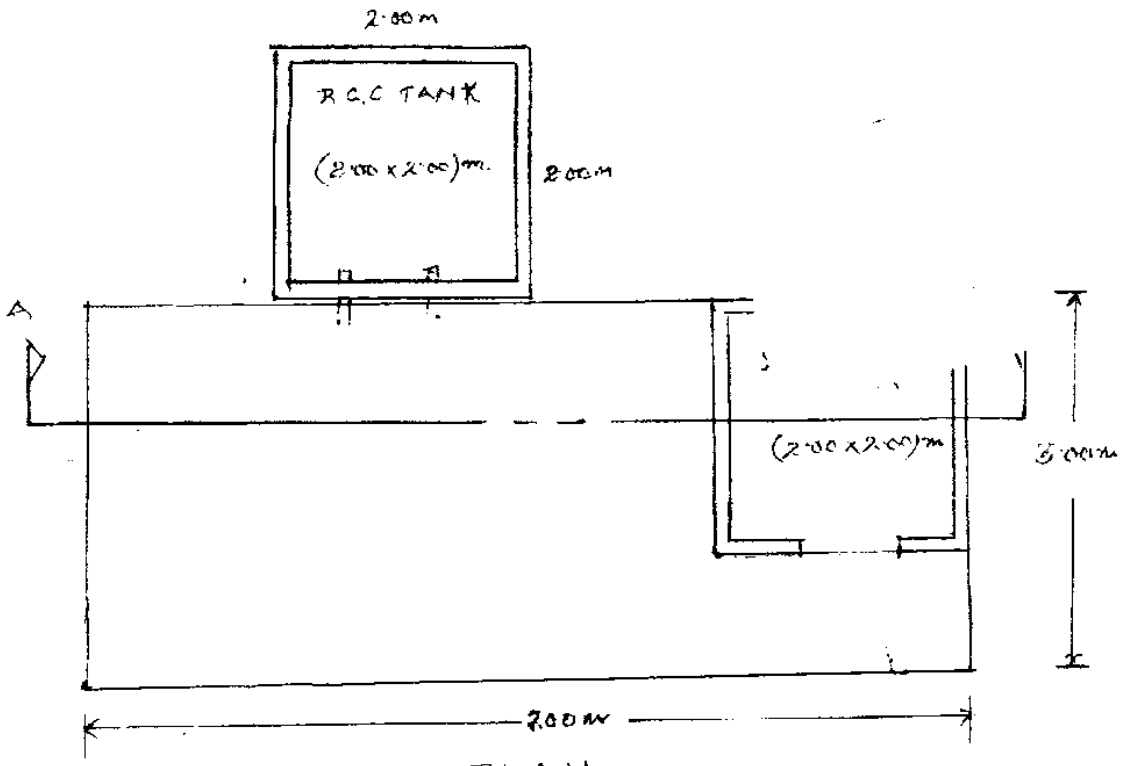
Rs 9229.00/-
Rs.84,402.00
Say. Rs.84,400.00/-

(Rupees Eighty four thousand fours hundred) only.

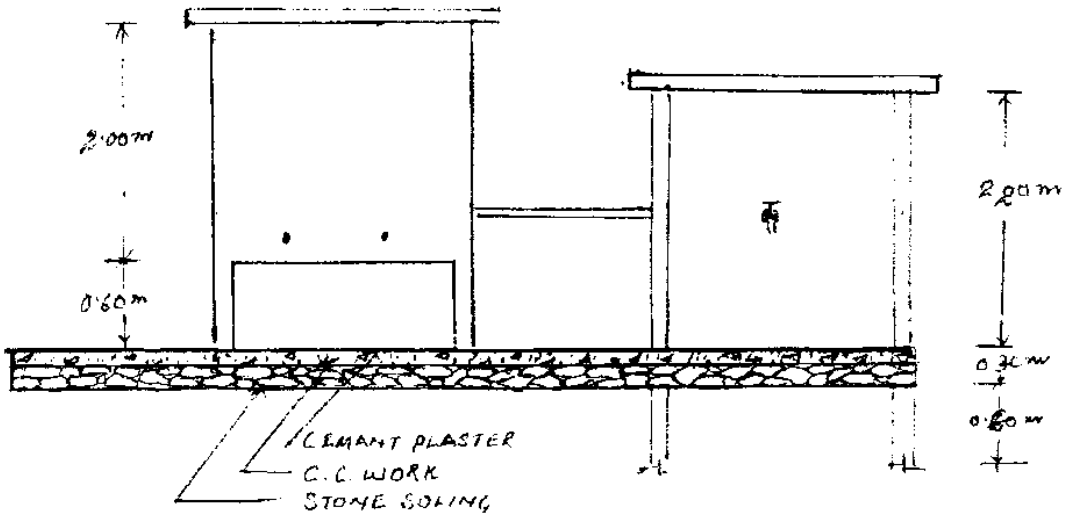
Submitted by

Plan for Construction Of R.C.C. Water Tank, Bathing Place & Washing Place.

At _____



PLAN



C/S AT A·B

NOT TO SCALE

PROVISIONAL ESTIMATE FOR CONSTRUCTION OF HEAD WATER DAM (BASED FROM P.W.D. SCHEDULE OF RATES FOR ROADS & BRIDGES FOR EASTERN SHILLONG CIRCLE FOR THE YEAR 2008-09)

1/4 Earth work in excavation for dam below the lowest bed level including dewatering and boiling out water in or order to keep the foundation trenches free of water and protection the sides of foundation by adequate shoring scaffolding including leveling the foundation and complete as directed.

(b) Soft or laminated rock or medium shale.

Dam:	10 m x 0.6 m x 1 m	= 6	m^3
Curtain wall:	3 m x 0.10 m x 0.25 m	= 0.075	m^3
Wing wall:	2 x 3 m x 1 m x 1 m	= 6	m^3
	Total	**= 12.075**	**m^3**

@ Rs. 152.00/m^3……..……...……...…….. Rs. 1835.40/-

2/24 Providing stone pitching with one man size boulder not less than 25cm x 25 cm x 30 cm long filling the interstices with spoils and carriage of stone with in a distance of 200m complete.

Stone soling:

Dam:	10 m x 0.6 m x 0.1 m	= 0.6	m^3
Wing wall:	2 x 3 m x 1 m x 0.1 m	= 0.6	m^3
Apron:	2 m x 3 m x 0.1 m	= 0.6	m^3
	Total	**= 1.8**	**m^3**

Rs. 512.00/m^3…….……...……....…….. Rs. 921.60/-

3/26 Providing cement concrete works prop.1:4:8 with hard broken stone aggregate river shingle 40 mm down graded including necessary carriage of stone and sand with in a distance of 200 m and curing complete.

Dam:	10 m x 0.6 m x 0.1 m	= 0.6	m^3
Wing wall:	2 x 3 m x 1 m x 0.1 m	= 0.6	m^3
	Total	**= 1.2**	**m^3**

@ Rs. 2136.00/m^3……...…….. Rs. 2563.20/-

4/28 Providing stone concrete works in abutments wing walls and return in prop. 1:3:6 with hard broken stone aggregate 40mm down graded including necessary local carriage of stone aggregate and sand with in 200m and curing complete.

Dam:	10 m x 0.6 m x 0.80 m	= 4.8	m^3
	10 m x $\frac{0.4 + 0.6}{2}$ x 1.2 m	= 6	m^3
	2 x 3.5 m x 0.4 m x 0.3 m	= 0.84	m^3
Apron:	3 m x 2 m x 0.1 m	= 0.6	m^3
Curtain wall:	3 m x 0.10 m x 0.25 m	= 0.075	m^3
	Total	**= 12.315**	**m^3**

@ Rs. 2344.00/m^3…….…...……...…….. Rs. 28,743.21/-

5/20(a) Providing regular stone masonry in retaining walls coursed with hammer dressed or blunt chisel dressed stone of heavy section not less than 25cm X 25 cm X 30 cm with proper keys stones, each not less than 25cm X 25 cm X 30 cm long set in cement mortar1:6 including carriage of stone with 200m, filling in trenches and providing weep holes at 1.2 to 1.5m apart staggered complete as directed.

Wing wall: 2 m x 3 m x 1 m x 0.80 m = 4.8 m^3

2 x 3 m x $\frac{0.6 + 1}{2}$ x 1.5 m = 7.2 m^3

Total **= 12 m^3**

@ Rs. 1060.00/m^3……..……... Rs. 12,720.00/-

6/41(a)Providing shuttering with dress planks not less than 25 mm thick properly jointed, level and removing the same after the concrete leak proof sheet

Dam: 2 x 10 m x 2.3 m = 46 m^2

Deduct spillway opening: 2 x 3 m x 0.3 m = 1.8 m^2

Total **= 44.2 m^2**

@ Rs. 295.00/m^2……..…….... Rs. 13,039.00/-

7/27(ii)12mm thick cement plastering including clearing surface prop. 1:3 including carriage of sand with in 200 m complete.

Dam: 2 x 10 m x 1.5 m = 30 m^2

2 x 10 m x 0.4 m = 8 m^2

Deduct spillway opening:2 m x 3 m x 0.3 m = 1.8 m^2

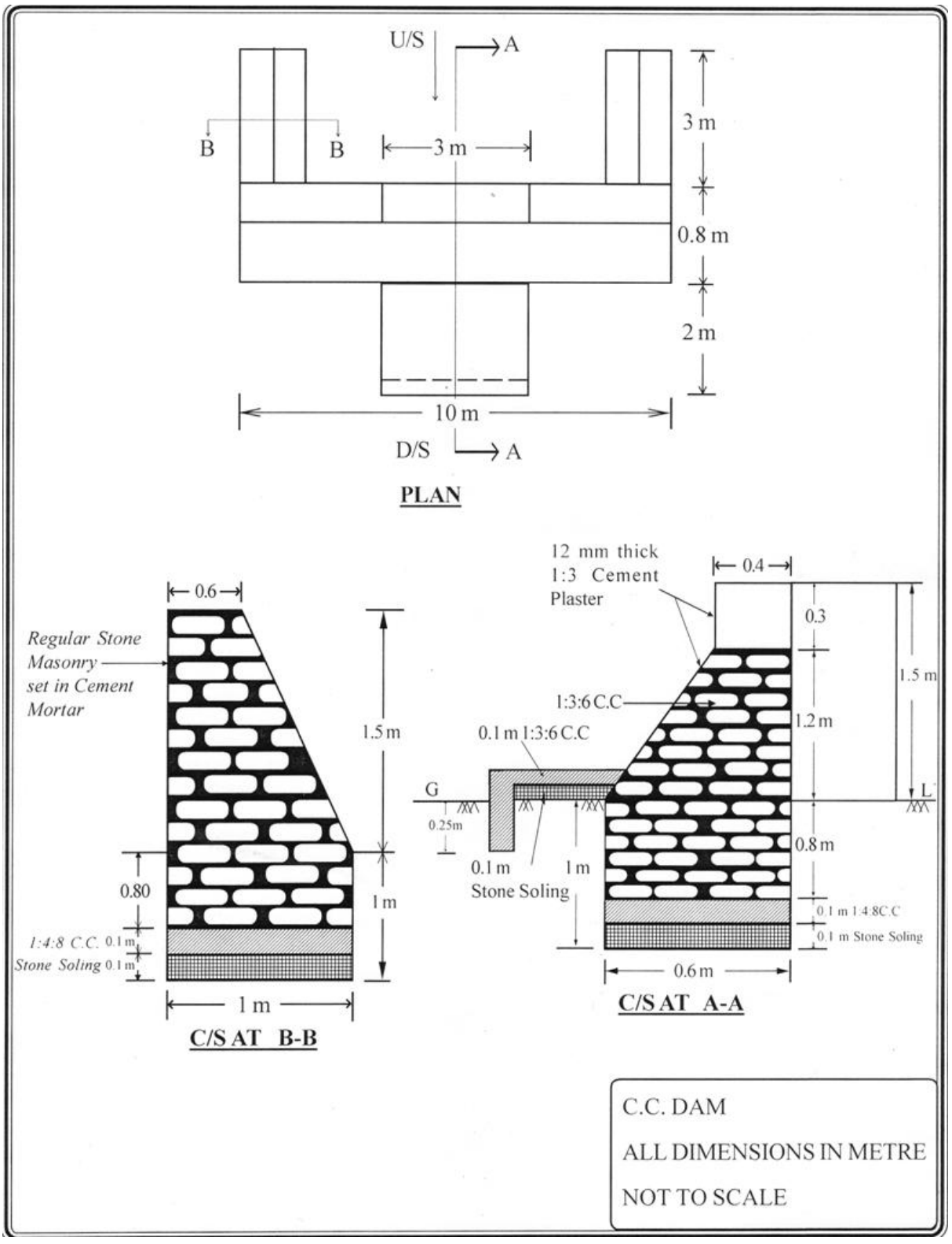
Total **= 36.2 m^2**

@ Rs. 92.00/m^2……... Rs. 3330.40/-

Total = Rs. 63,152.81/-

Say = Rs. 63,000.00/-

Rupees (Sixty three thousand) only.


U/S
A
B
B
3 m
3 m
0.8 m
2 m
10 m
D/S
A
PLAN
0.6
Regular Stone Masonry set in Cement Mortar
1.5 m
0.80
1:4:8 C.C. 0.1 m
Stone Soling 0.1 m
1 m
1 m
C/S AT B-B
12 mm thick 1:3 Cement Plaster
0.4
0.3
1.5 m
1:3:6 C.C
0.1 m 1:3:6 C.C
1.2 m
G
0.25m
L
0.8 m
0.1 m
Stone Soling
1 m
0.1 m 1:4:8 C.C
0.1 m Stone Soling
0.6 m
C/S AT A-A
C.C. DAM
ALL DIMENSIONS IN METRE
NOT TO SCALE

PROVISIONAL ESTIMATE FOR CONSTRUCTION OF C.C. CHANNEL (BASED FROM P.W.D. SCHEDULE OF RATES FOR ROADS BRIDGES FOR EASTERN SHILLONG CIRCLE FOR THE YEAR 2008-09)

1/3 Earthwork in excavation to the proper grade including light dressing etc. as directed and removal of spoil upto 30 m lead and all lift.

(a) Ordinary soil

C.C. channel: 40 m x 0.8 m x 0.8 m = 25.60 m^3

@ Rs. 26.00/m^3 ---------- = Rs. 665.60/-

2/24 Providing stone pitching with one man size boulder not less than 25cm x 25 cm x 30 cm long filling the interstices with spoils and carriage of stone with in a distance of 200 m complete as directed.

Stone Soling

40 m x 0.8 m x 0.1 m = 3.20 m^3

@ Rs. 512.00/m^3 ---------- = Rs. 1638.40/-

3/28 Providing cement concrete works prop.1:3:6 including necessary carriage of stone and sand with in a distance of 200 m and curing complete (excluding shuttering)

Channel Bed - 40 m x 0.8 m x 0.1 m = 3.20 m^3
Side - 2 x 40 m x 0.6 m x 0.1 m = 4.80 m^3
Total = 8.00 m^3

@ Rs. 2344.00/m^3 ---------- = Rs. 18,752.00/-

4/41a Providing shuttering with dressed planks not less than 25 mm thick properly jointed, including bottom, props to the proper level and removing the same after concrete hardened complete as directed.

- 2 x 40 m x 0.6 m = 48 m^2

@ Rs. 295.00/m^2 ---------- = Rs. 14,160.00/-

5/27 Providing 12 mm thick cement plastering including cleaning surface, curing, carriage of sand within 200 m complete.

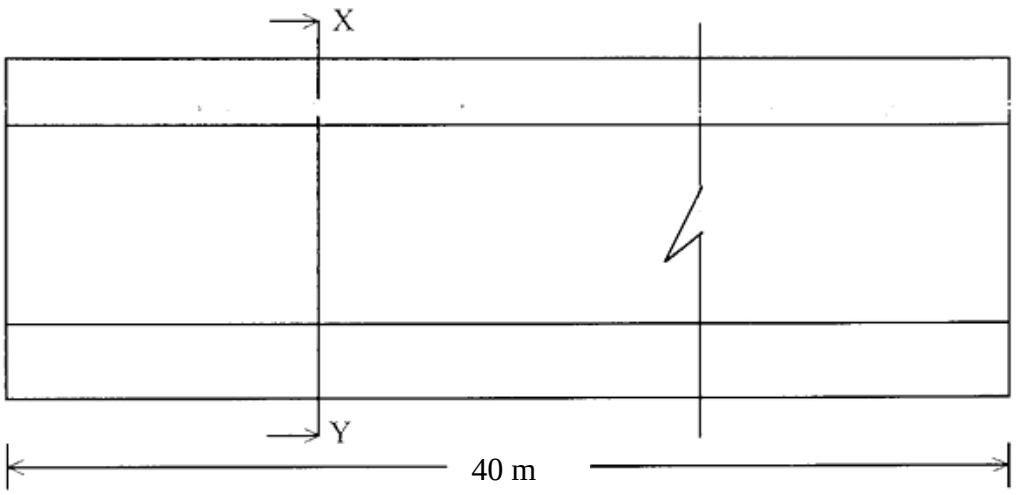
(b) Proportion 1:3

Channel inside - 3 x 40 x 0.6 m = 72.0 m^2
- 2 x 40 m x 0.1 m = 8.0 m^2
Total = 80.0 m^2

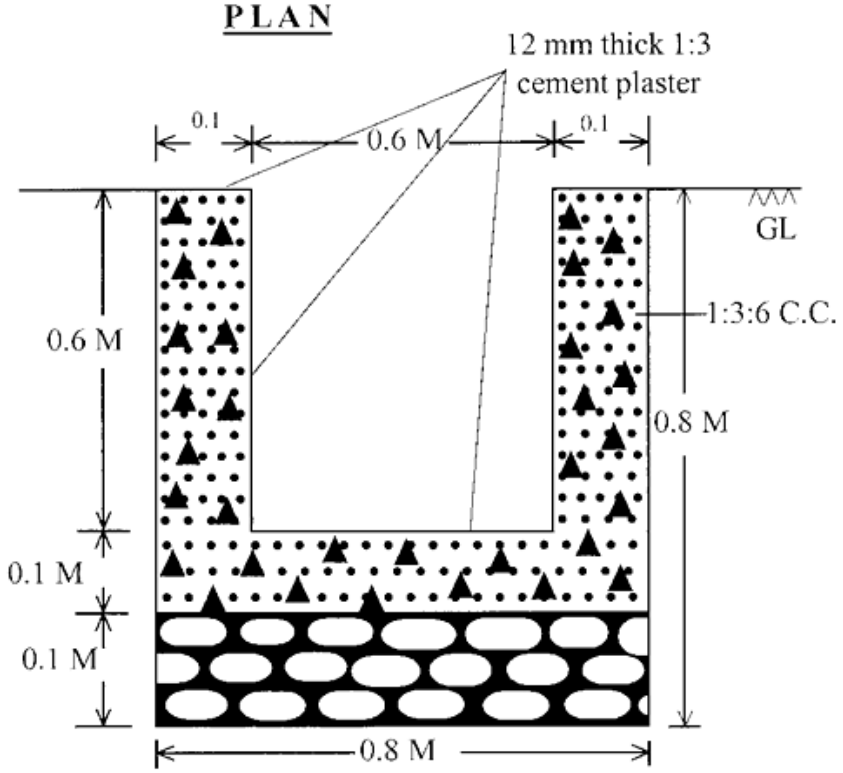
@ Rs. 92.00/m^2 ---------- = Rs. 7360.00/-

Total = Rs. 42,576.00/-
Say = Rs. 42,000.00/-

Rupees (forty two thousand) only



PLAN



SECTION OF C.C. CHANNEL AT X - Y

C.C. CHANNEL

ALL DIMENSIONS IN METRE

NOT TO SCALE

PROVISIONAL ESTIMATE FOR CONSTRUCTION OF DUG-OUT FARM POND (BASED FROM P.W.D. SCHEDULE OF RATES FOR ROADS & BRIDGES FOR EASTERN SHILLONG CIRCLE FOR THE YEAR 2008-09)

1/3(a) Earth work in excavation to the proper grade including light dressing, providing cambering and super elevation as directed, and removal of spoils upto 30 m lead and all lift.

(c) ***Loose boulders above one man size or soil mixed with boulders above one man size or soft shale.***

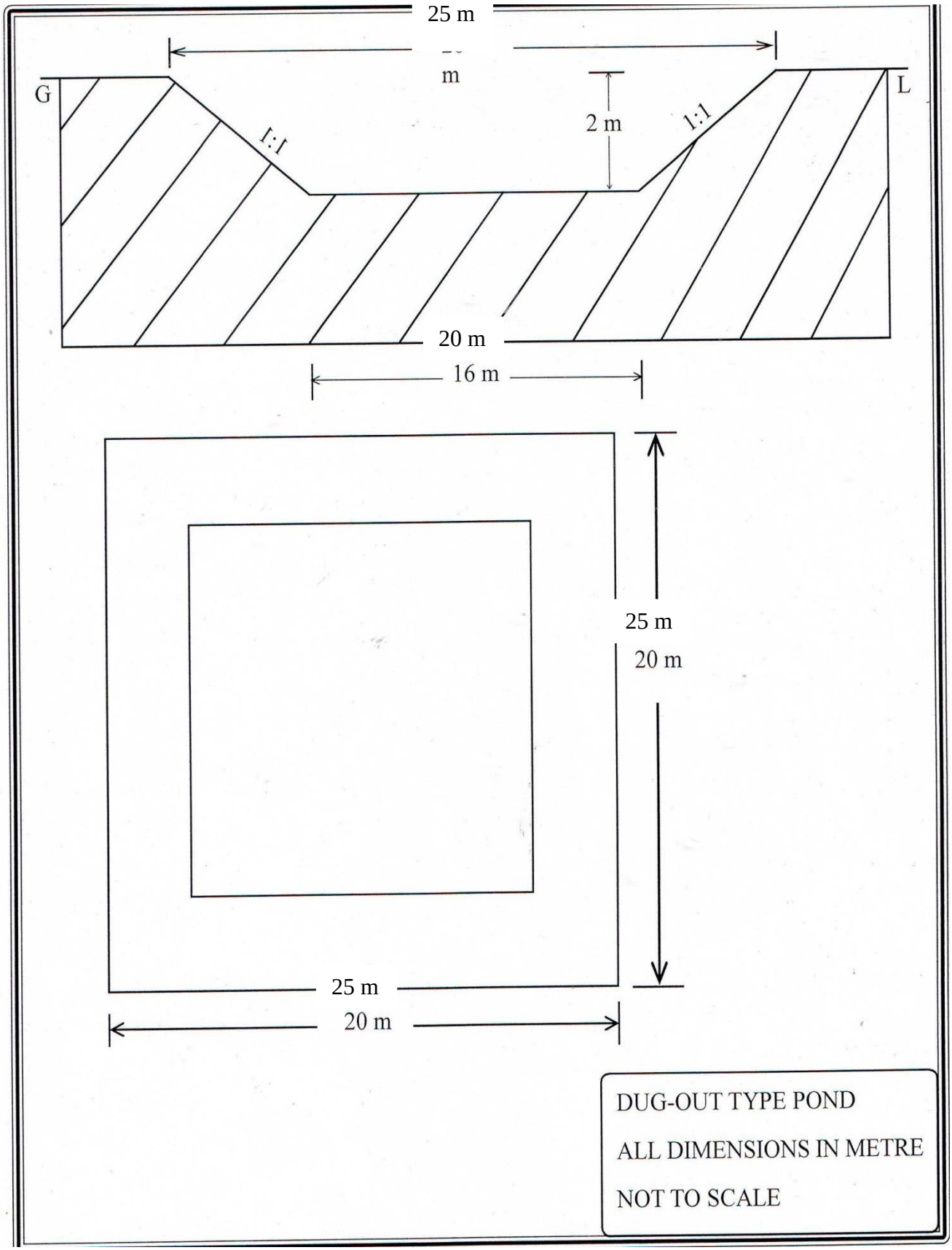
$$\frac{(25\text{ m} \times 25\text{ m}) + (20\text{ m} \times 20\text{ m})}{2} \times 2\text{ m} = 1025\text{ m}^3$$

@ Rs. 42.00/m³……………….……………………………………..…………...…….. Rs. 43,050.00/-

Total = Rs. 43,050.00/-

Say = Rs. 43,000.00/-

Rupees (forty three thousand) only.


25 m
m
G
L
2 m
1:1
1:1
20 m
16 m
25 m
20 m
25 m
20 m
DUG-OUT TYPE POND
ALL DIMENSIONS IN METRE
NOT TO SCALE

PROVISIONAL ESTIMATE FOR CONSTRUCTION OF PROTECTION WALL (BASED FROM P.W.D. SCHEDULE OF RATES FOR ROADS BRIDGES FOR EASTERN SHILLONG CIRCLE FOR THE YEAR 2008-09)

1/3(a) Earth work in excavation to the proper grade including light dressing etc. as directed, complete and removal of spoils up to 30m load to all lift.

(c) Loose boulders above one man size or soil mixed with boulders above one man size:

12 m x 1.3 m x 1.2 m = 18.72 m^3

@ Rs. 42.00/m^3…….……..... Rs. 786.24/-

2/24 Providing stone pitching with one man size boulder not less than 25cm x 25 cm x 30 cm long filling the interstices with spoils and carriage of stone with in a distance of 200m complete.

Stone Soling

12 m x 1.3 m x 0.1 m = 1.56 m^3

@ Rs. 512.00/m^3……..…..….. Rs. 798.72/-

3/26 Providing cement concrete works prop.1:4:8 with hard broken stone aggregate river shingle 40 mm down graded including necessary carriage of stone and sand with in a distance of 200 m and curing complete.

Foundation bed: 12 m x 1.3 m x 0.1 m = 1.56 m^3

@ Rs. 2136.00/m^3…….……..…….. Rs. 3332.16/-

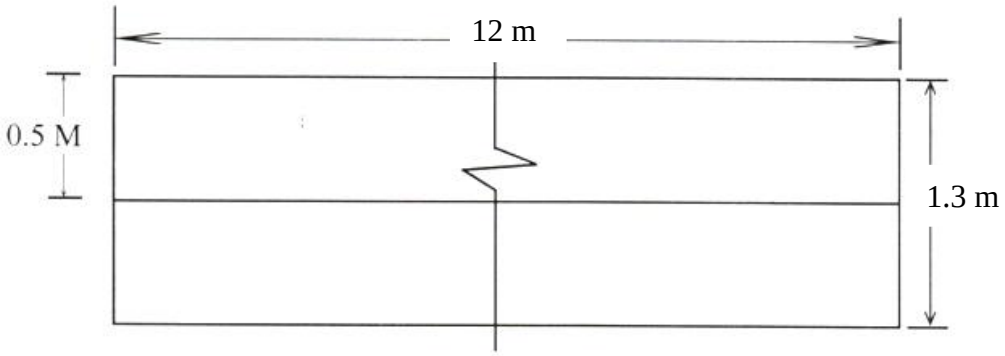
4/20(a) Providing regular stone masonry in retaining walls coursed with hammer dressed or blunt chisel dressed stone of heavy section not less than 25cm X 25 cm X 30 cm with proper keys stones, each not less than 25cm X 25 cm X 30 cm long set in cement mortar1:6 including carriage of stone with 200m, filling in trenches and providing weep holes at 1.2 to 1.5m apart staggered complete as directed.

a) with new stones

12 m x 1.3 m x 1.00 m = 15.6 m^3
12 m x (0.5+1.3)/2 x 3 m = 32.4 m^3
Total = 48.0 m^3

@ Rs. 1060.00/m^3……..…….. Rs. 50,880.00/-
Total = Rs. 55,797.12/-
Say = Rs. 55,000.00/-

Rupees (fifty five thousand) only.



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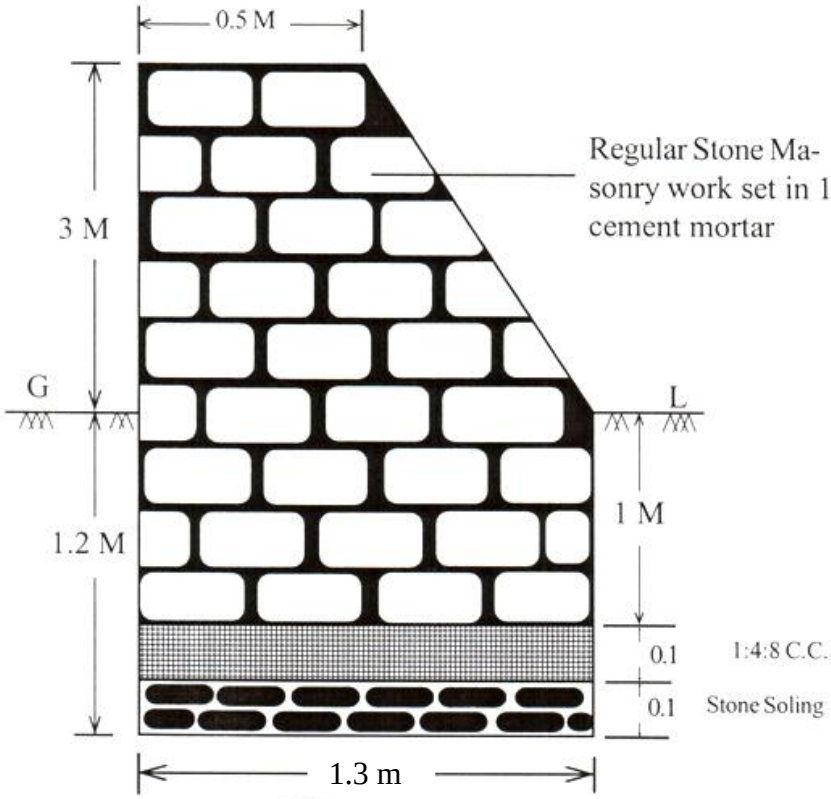


C/S A - A

PROTECTION WALL

ALL DIMENSIONS IN METRE

NOT TO SCALE

PROVISIONAL ESTIMATE FOR CONSTRUCTION OF PROTECTION WALL
(BASED FROM P.W.D. SCHEDULE OF RATES FOR ROADS & BRIDGES FOR EASTERN SHILLONG CIRCLE FOR THE YEAR 2008-09)

1/3(a) Earth work in excavation to the proper grade including light dressing etc. as directed, complete and removal of spoils up to 30m load to all lift.

(c) Loose boulders above one man size or soil mixed with boulders above one man size:

24 m x 1 m x 0.8 m = 19.2 m^3

@ Rs. 42.00/m^3…….……..……... Rs. 806.40/-

2/24 Providing stone pitching with one man size boulder not less than 25cm x 25 cm x 30 cm long filling the interstices with spoils and carriage of stone with in a distance of 200m complete.

Stone Soling

24 m x 1 m x 0.1 m = 2.4 m^3

@ Rs. 512.00/m^3…….……..…..….... Rs. 1228.80/-

3/26 Providing cement concrete works prop.1:4:8 with hard broken stone aggregate river shingle 40 mm down graded including necessary carriage of stone and sand with in a distance of 200 m and curing complete.

Foundation bed: 24 m x 1 m x 0.1 m = 2.4 m^3

@ Rs. 2136.00/m^3…….……..…….... Rs. 5126.40/-

4/20(a) Providing regular stone masonry in retaining walls coursed with hammer dressed or blunt chisel dressed stone of heavy section not less than 25cm X 25 cm X 30 cm with proper keys stones, each not less than 25cm X 25 cm X 30 cm long set in cement mortar1:6 including carriage of stone with 200m, filling in trenches and providing weep holes at 1.2 to 1.5m apart staggered complete as directed.

24 m x 1 m x 0.6 m = 14.4 m^3

24 m x $\frac{0.6 + 1}{2}$ x 1 m = 19.2 m^3

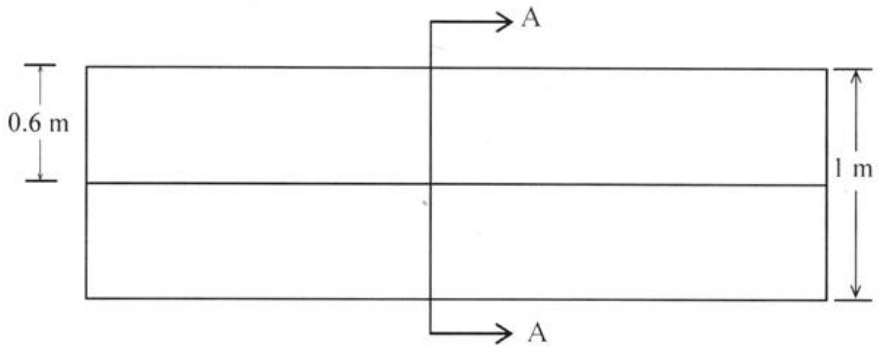
Total = 33.6 m^3

@ Rs. 1060.00/m^3…….……..…….... Rs. 35,616.00/-

= Rs. 42,777.60/-

Say = Rs. 42,000.00/-

Rupees (forty two thousand) only.



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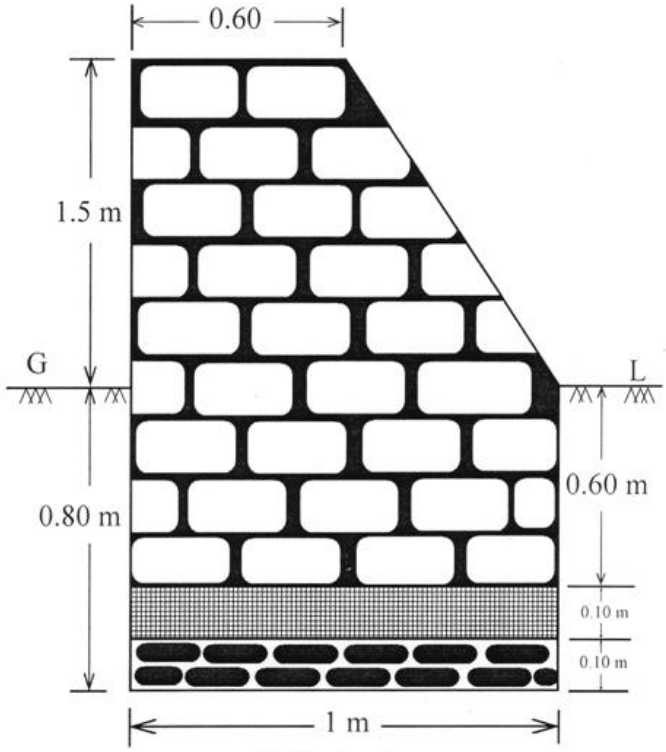


C/S A - A

PROTECTION WALL

ALL DIMENSIONS IN METRE

NOT TO SCALE

ESTIMATE FOR CONSTRUCTION OF PROTECTION WALL
(BASED FROM P.W.D. SCHEDULE OF RATES FOR ROADS & BRIDGES FOR EASTERN SHILLONG CIRCLE FOR THE YEAR 2008-09)

1/3(a) Earth work in excavation to the proper grade including light dressing etc. as directed, complete and removal of spoils up to 30m load to all lift.

(c) Loose boulders above one man size or soil mixed with boulders above one man size:

14 m x 1.1 m x 0.8 m = 12.32 m^3

@ Rs. 42.00/m^3…….…….……..... Rs. 517.44/-

2/24 Providing stone pitching with one man size boulder not less than 25cm x 25 cm x 30 cm long filling the interstices with spoils and carriage of stone with in a distance of 200m complete.

<u>Stone Soling</u>

14 m x 1.1 m x 0.1 m = 1.54 m^3

@ Rs. 512.00/m^3…….……..…..….. Rs. 788.48/-

3/26 Providing cement concrete works prop.1:4:8 with hard broken stone aggregate river shingle 40 mm down graded including necessary carriage of stone and sand with in a distance of 200 m and curing complete.

Foundation bed: 14 m x 1.1 m x 0.1 m = 1.54 m^3

@ Rs. 2136.00/m^3…….……..…….... Rs. 3289.44/-

4/20(a) Providing regular stone masonry in retaining walls coursed with hammer dressed or blunt chisel dressed stone of heavy section not less than 25cm X 25 cm X 30 cm with proper keys stones, each not less than 25cm X 25 cm X 30 cm long set in cement mortar1:6 including carriage of stone with 200m, filling in trenches and providing weep holes at 1.2 to 1.5m apart staggered complete as directed.

14 m x 1.1 m x 0.6 m = 9.24 m^3

14 m x $\frac{0.6 + 1.1}{2}$ x 1.8 m = 21.42 m^3

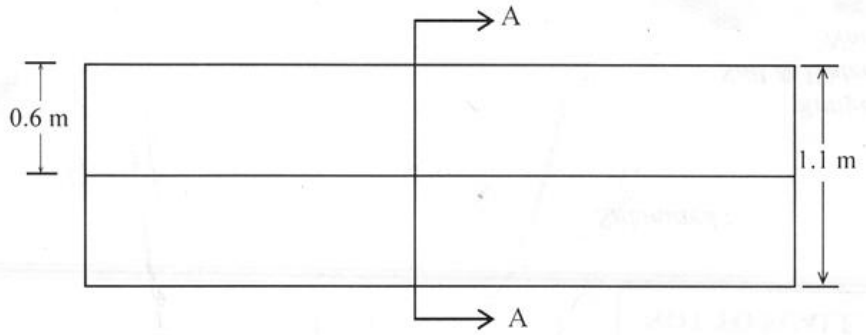
Total = 30.66 m^3

@ Rs. 1060.00/m^3…….……<u>…….……..</u> <u>Rs. 32,499.60/-</u>

= Rs. 37,094.96/-

Say = Rs. 37,000.00/-

Rupees (thirty seven thousand) only.



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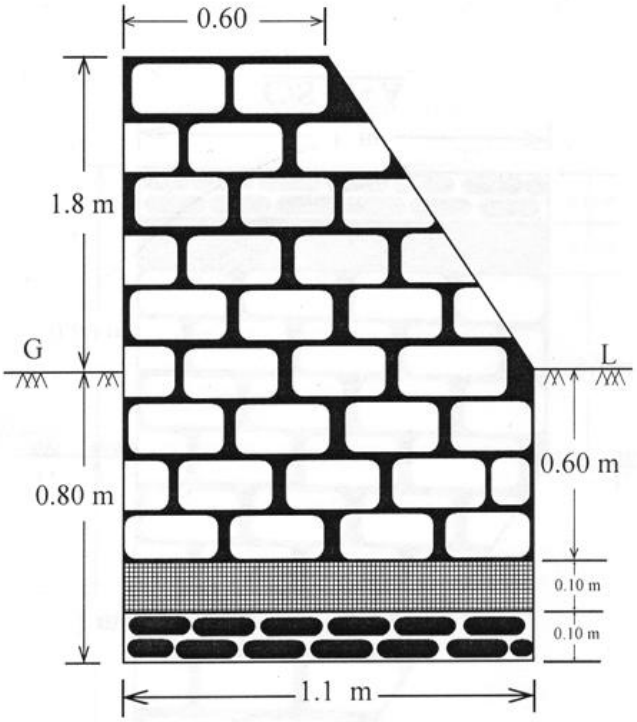


C/S A - A

PROTECTION WALL

ALL DIMENSIONS IN METRE

NOT TO SCALE

ESTIMATE FOR CONSTRUCTION OF WATER HARVESTING STRUCTURE
(AS PER P.W.D. SCHEDULE OF RATES (R&B) WORKS 2008-2009)

1/5 Earth work in excavation for foundation for abutment and wing wall etc. including de-watering and bailing out of water and protect the sides of foundation by adequate shoring, scaffolding etc. complete.

(a) Ordinary soil etc.

Dam:	1 x 6.00 x 0.80 x 0.70	= 3.36 m^3
Wing Wall:	2 x 3.00 x 0.60 x 0.70	= 2.52 m^3
G/Wall:	2 x 2.00 x 0.60 x 0.70	= 1.68 m^3
Apron:	1 x 4.00 x 2.00 x 0.30	= 2.40 m^3
	Total	**= 9.96 m^3**

@ Rs. 124.00/m^3……..…..……..……..……..…….. Rs. 1235.04/-

2/24 Providing stone pitching with one man size boulder not less than 25cm x 25 cm x 30 cm long including filling the interstices with spoils and carriage of stone within a distance of 200m complete.

Apron: 1 x 4.00 x 2.00 x 0.30 = 2.40 m^3

@ Rs. 512.00/m^3…….....…….. Rs. 1228.80/-

3/28 Providing cement concrete works in abutment wing wall and return wall in prop.1:3:6 with hard broken stone aggregates 40mm down graded, complete as directed.

Dam:	1 x 6.00 x 0.80 x 0.10	= 0.48 m^3
	1 x 6.00 x 0.10 x 2.10	= 1.26 m^3
Wing Wall:	2 x 3.00 x 0.60 x 0.10	= 0.36 m^3
G/ Wall:	2 x 2.00 x 0.60 x 0.10	= 0.24 m^3
Apron:	1 x 4.00 x 2.00 x 0.075	= 0.60 m^3
	Total	**= 2.94 m^3**

@ Rs. 2344.00/m^3…….…….. Rs. 6891.36/-

4/42(a) Providing shuttering dressed planks not less than 25mm thick properly joined including battens props to the proper level and removing the same after the concrete harden as directed.

1 x 6.00 x 1.50 = 9.00 m^2

@ Rs. 295.00/m^2…….…..……..…….. Rs. 2655.00/-

5/20 Providing regular coursed stones masonry in retaining wall with hammers dressed stones of heavy section with proper key stone each not less than 25cm x 25cm x 75cm long set in cement mortar 1:6 including carriage of stones within 200m and filling in trenches etc. complete.

Dam:	1 x 6.00 x 0.80 x 0.60	=	2.88 m^3
	1 x 6.00 x (0.80+0.40)/2 x 1.50	=	5.40 m^3
	2 x 1.00 x 0.50 x 0.40	=	0.40 m^3
Wing Wall:	2 x 3.00 x 0.60 x 0.60	=	2.16 m^3
	2 x 3.00 x (0.60+0.45)/2 x 1.90	=	5.98 m^3
G/Wall:	2 x 2.00 x (0.60+0.45)/2 x (1.10+1.90)/2	=	3.15 m^3
	2 x 2.00 x 0.60 x 0.60	=	1.44 m^3
	Total	=	**21.41 m^3**

@ Rs. 1060.00/m^3……...……...…….. Rs. 22,694.60/-

6/27(b) 12mm thick cement plastering including clearing surfaces prop 1:3 including carriage of sand within 200m complete.

Dam u/stream:	1 x 4.80 x 1.50	=	7.20 m^2
	4 x 1.00 x 0.45	=	1.80 m^2
	1 x 6.80 x 0.50	=	3.40 m^2
d/stream	1 x 4.00 x 1.40	=	5.60 m^2
	2 x 0.55 x 1.50	=	1.65 m^2
Wing Wall:	2 x 3.00 x 1.90	=	11.40 m^2
	2 x 3.00 x 0.45	=	2.70 m^2
G/Wall:	4 x (2.00+2.30)/2 x (1.00+1.80)/2	=	12.04 m^2
	2 x 2.00 x 0.45	=	1.80 m^2
Apron:	1 x 4.00 x 2.00	=	8.00 m^2
	Total	=	**55.59 m^2**

@ Rs. 92.00/m^2……...……...……...…….. Rs. 5114.28/-

7/14 Cutting channel including dressing, grading and removal of spoils complete as directed.

(c) In soil mixed with boulders above one man size.

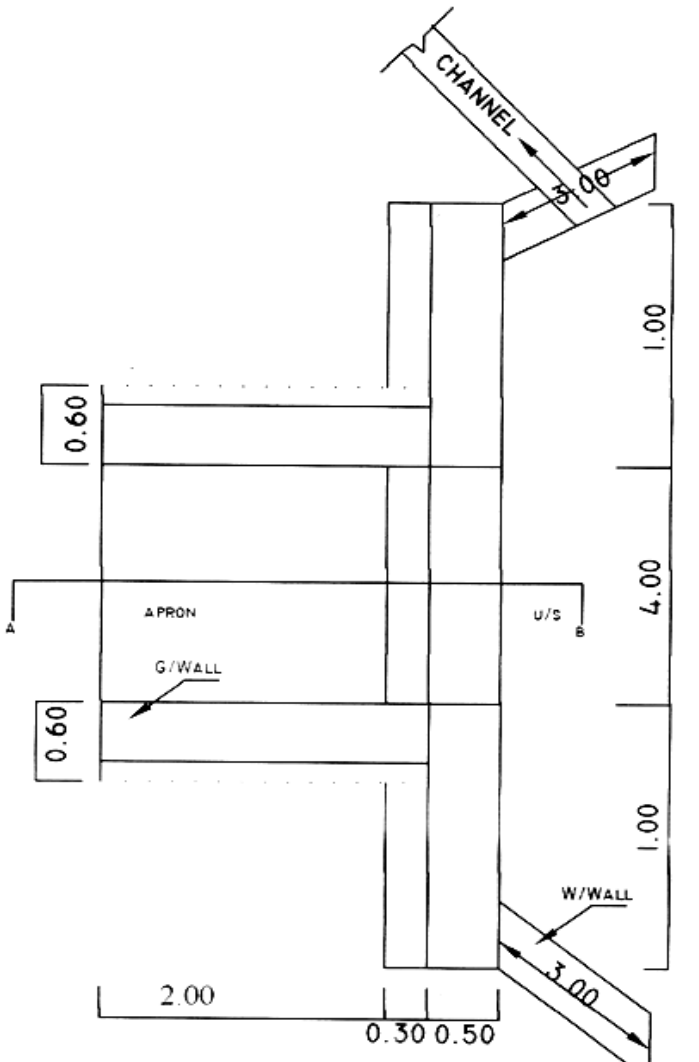
Length 49.45 m

@ Rs. 52.00/m……...……...…….. Rs. 2571.40/-

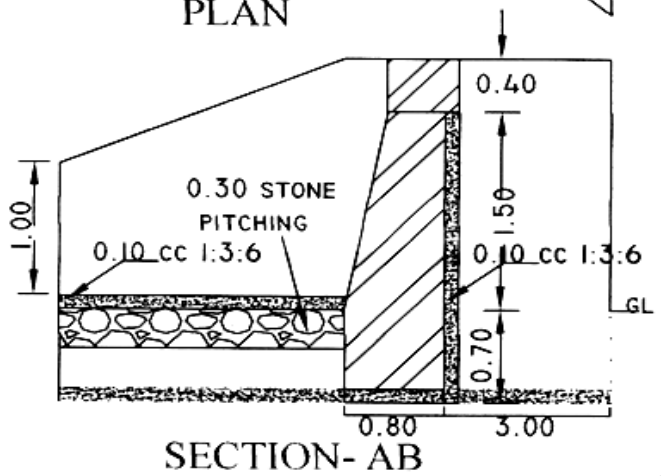
Total = Rs. 42,390.48/-

Say = Rs. 42,000/-

Rupees (Forty two thousand) only.



PLAN



SECTION- AB

All Dimension are in Meter
Drawing not to Scale

ESTIMATE FOR CONSTRUCTION OF WATER HARVESTING STRUCTURE
(AS PER P.W.D. SCHEDULE OF RATES (R&B) WORKS 2008-2009)

1/5 Earth work in excavation for foundation for abutment and wing wall etc. including de-watering and bailing out of water and protect the sides of foundation by adequate shoring, scaffolding etc. complete.

(a) Ordinary soil etc.

Dam:	1 x 6.00 x 0.80 x 0.70	= 3.36 m^3
Wing Wall:	2 x 3.00 x 0.60 x 0.70	= 2.52 m^3
G/Wall:	2 x 2.00 x 0.60 x 0.70	= 1.68 m^3
Channel:	2 x 5.00 x 0.45 x 0.50	= 2.25 m^3
Apron:	1 x 4.00 x 2.00 x 0.30	= 2.40 m^3
	Total	**= 12.21 m^3**

@ Rs. 124.00/m^3…….Rs. 1514.04/-

2/24 Providing stone pitching with one man size boulder not less than 25cm x 25 cm x 30 cm long including filling the interstices with spoils and carriage of stone within a distance of 200m complete.

Apron:	1 x 4.00 x 2.00 x 0.30	= 2.40 m^3
Channel:	1 x 5.00 x 0.40 x 0.20	= 0.40 m^3
	Total	**= 2.80 m^3**

@ Rs. 512.00/m^3…….Rs. 1433.60/-

3/28 Providing cement concrete works in abutment wing wall and return wall in prop.1:3:6 with hard broken stone aggregates 40mm down graded, complete as directed.

Dam:	1 x 6.00 x 0.80 x 0.10	= 0.48 m^3
	1 x 6.00 x 0.10 x 2.10	= 1.26 m^3
Wing Wall:	2 x 3.00 x 0.60 x 0.10	= 0.36 m^3
G/ Wall:	2 x 2.00 x 0.60 x 0.10	= 0.24 m^3
Channel:	2 x 5.00 x 0.45 x 0.10	= 0.45 m^3
	1 x 5.00 x 0.40 x 0.075	= 0.15 m^3
Apron:	1 x 4.00 x 2.00 x 0.075	= 0.60 m^3
	Total	**= 3.54 m^3**

@ Rs. 2344.00/m^3…….Rs. 8297.76/-

4/42(a) Providing shuttering dressed planks not less than 25mm thick properly joined including battens props to the proper level and removing the same after the concrete harden as directed.

1 x 6.00 x 1.50 = 9.00 m^2

@ Rs. 295.00/m^2…….Rs. 2655.00/-

5/22 Providing regular coursed stones masonry in retaining wall with hammers dressed stones of heavy section with proper key stone each not less than 25cm x 25cm x 75cm long set in cement mortar 1:3 including carriage of stones within 200m and filling in trenches etc. complete.

Dam:	1 x 6.00 x 0.80 x 0.60	=	2.88 m^3
	1 x 6.00 x (0.80+0.40)/2 x 1.50	=	5.40 m^3
	2 x 1.00 x 0.50 x 0.40	=	0.40 m^3
Wing Wall:	2 x 3.00 x 0.60 x 0.60	=	2.16 m^3
	2 x 3.00 x (0.60+0.45)/2 x 1.90	=	5.98 m^3
G/Wall:	2 x 2.00 x (0.60+0.45)/2 x (1.10+1.90)/2	=	3.15 m^3
	2 x 2.00 x 0.60 x 0.60	=	1.44 m^3
Channel:	2 x 5.00 x 0.45 x 1.00	=	4.50 m^3
		Total	**= 25.91 m^3**

@ Rs. 1288.00/m^3……...……...…….. Rs. 33,372.08/-

6/27(b) 12mm thick cement plastering including clearing surfaces prop 1:3 including carriage of sand within 200m complete.

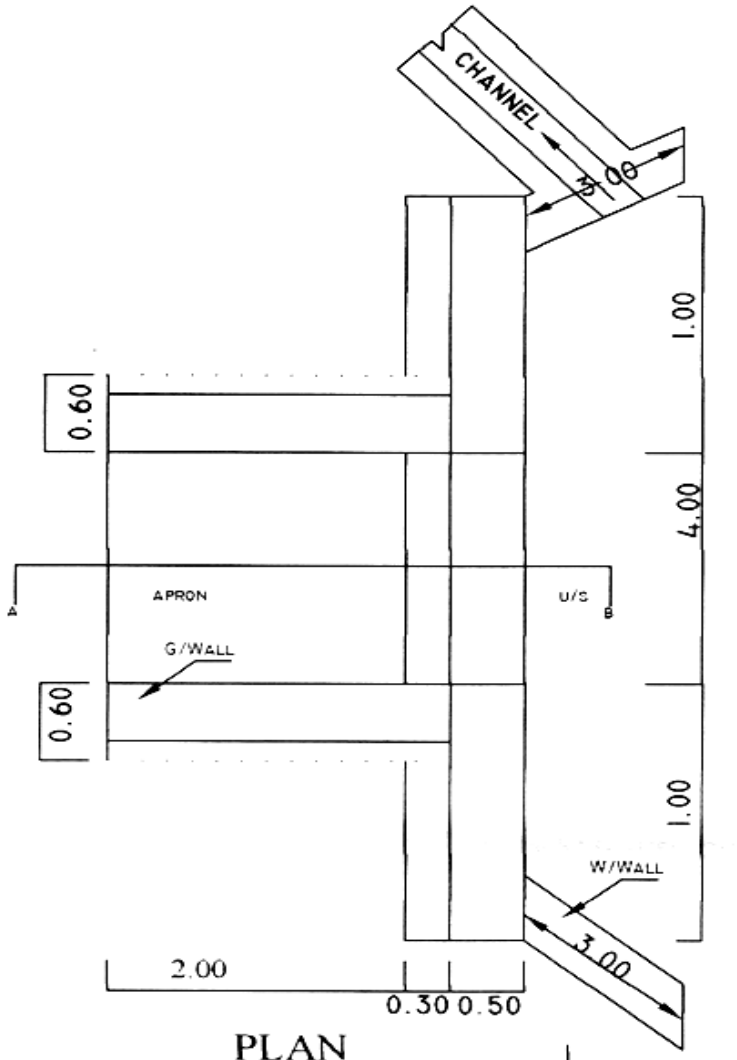
Dam u/stream:	1 x 4.80 x 1.50	=	7.20 m^2
	4 x 1.00 x 0.45	=	1.80 m^2
	1 x 6.80 x 0.50	=	3.40 m^2
d/stream	1 x 4.00 x 1.40	=	5.60 m^2
	2 x 0.55 x 1.50	=	1.65 m^2
Wing Wall:	2 x 3.00 x 1.90	=	11.40 m^2
	2 x 3.00 x 0.45	=	2.70 m^2
G/Wall:	4 x (2.00+2.30)/2 x (1.00+1.80)/2	=	12.04 m^2
	2 x 2.00 x 0.45	=	1.80 m^2
Apron:	1 x 4.00 x 2.00	=	8.00 m^2
Channel:	2 x 5.00 x 1.00	=	10.00 m^3
	1 x 5.00 x 0.40	=	2.00 m^3
		Total	**= 67.59 m^2**

@ Rs. 92.00/m^2……...……...…….. Rs. 6218.28/-

Total = Rs. 53,490.76/-

Say = Rs. 53,000/-

Rupees (Fifty three thousand) only.



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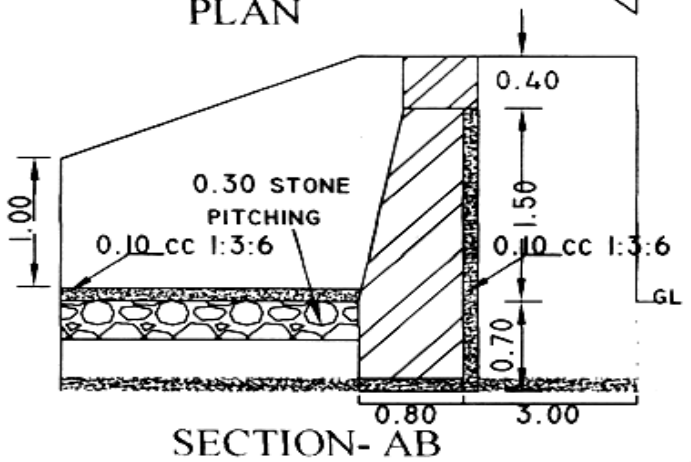


SECTION- AB

All Dimension are in Meter
Drawing not to Scale

ESTIMATE FOR CONSTRUCTION OF WATER HARVESTING STRUCTURE
(AS PER P.W.D. SCHEDULE OF RATES (R&B) WORKS 2008-2009)

1/5 Earth work in excavation for foundation for abutment and wing wall etc. including de-watering and bailing out of water and protect the sides of foundation by adequate shoring, scaffolding etc. complete.

(a) Ordinary soil etc.

Dam:	1 x 7.00 x 0.80 x 0.70	= 3.92 m^3
Wing Wall:	2 x 3.00 x 0.60 x 0.70	= 2.52 m^3
G/Wall:	2 x 2.00 x 0.60 x 0.70	= 1.68 m^3
Channel:	2 x 5.00 x 0.45 x 0.50	= 2.25 m^3
Apron:	1 x 5.00 x 2.00 x 0.30	= 3.00 m^3
	Total	**= 13.37 m^3**

@ Rs. 124.00/m^3…….Rs. 1657.88/-

2/24 Providing stone pitching with one man size boulder not less than 25cm x 25 cm x 30 cm long including filling the interstices with spoils and carriage of stone within a distance of 200m complete.

Apron:	1 x 5.00 x 2.00 x 0.30	= 3.00 m^3
Channel:	1 x 5.00 x 0.40 x 0.25	= 0.50 m^3
	Total	**= 3.50 m^3**

@ Rs. 512.00/m^3…….Rs. 1792.00/-

3/28 Providing cement concrete works in abutment wing wall and return wall in prop.1:3:6 with hard broken stone aggregates 40mm down graded, complete as directed.

Dam:	1 x 7.00 x 0.80 x 0.10	= 0.56 m^3
	1 x 7.00 x 0.10 x 2.10	= 1.47 m^3
Wing Wall:	2 x 3.00 x 0.60 x 0.10	= 0.36 m^3
G/ Wall:	2 x 2.00 x 0.60 x 0.10	= 0.24 m^3
Channel:	2 x 5.00 x 0.45 x 0.10	= 0.45 m^3
	1 x 5.00 x 0.40 x 0.10	= 0.20 m^3
Apron:	1 x 5.00 x 2.00 x 0.10	= 1.00 m^3
	Total	**= 4.28 m^3**

@ Rs. 2344.00/m^3…….Rs. 10,032.32/-

4/42(a) Providing shuttering dressed planks not less than 25mm thick properly joined including battens props to the proper level and removing the same after the concrete harden as directed.

1 x 7.00 x 1.50 = 10.50 m^2

@ Rs. 295.00/m^2…….Rs. 3097.50/-

5/22 Providing regular coursed stones masonry in retaining wall with hammers dressed stones of heavy section with proper key stone each not less than 25cm x 25cm x 75cm long set in cement mortar 1:3 including carriage of stones within 200m and filling in trenches etc. complete.

Dam:	1 x 7.00 x 0.80 x 0.60	= 3.36 m^3
	1 x 7.00 x (0.80+0.40)/2 x 1.50	= 6.30 m^3
	2 x 1.00 x 0.50 x 0.40	= 0.40 m^3
Wing Wall:	2 x 3.00 x 0.60 x 0.60	= 2.16 m^3
	2 x 3.00 x (0.60+0.45)/2 x 1.90	= 5.98 m^3
G/Wall:	2 x 2.00 x (0.60+0.45)/2 x (1.10+1.90)/2	= 3.15 m^3
	2 x 2.00 x 0.60 x 0.60	= 1.44 m^3
Channel:	2 x 5.00 x 0.45 x 1.00	= 4.50 m^3
	Total	**= 27.29 m^3**

@ Rs. 1288.00/m^3……...……...…….. Rs. 35,149.52/-

6/27(b) 12mm thick cement plastering including clearing surfaces prop 1:3 including carriage of sand within 200m complete.

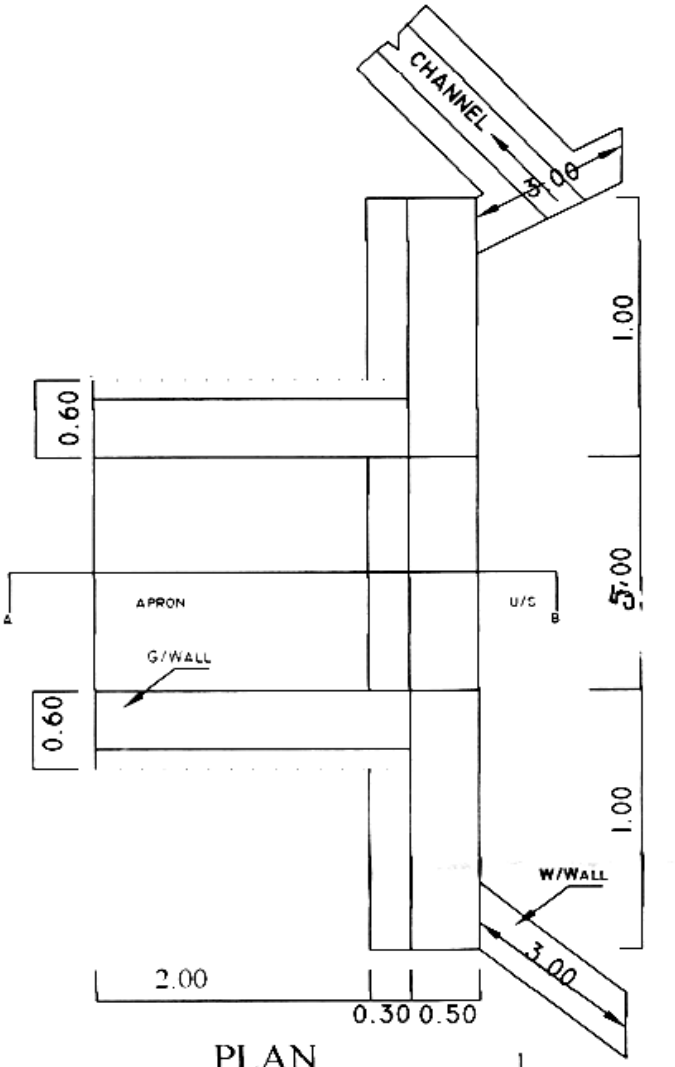
Dam u/stream:	1 x 5.80 x 1.50	= 8.70 m^2
	4 x 1.00 x 0.45	= 1.80 m^2
	1 x 7.80 x 0.50	= 3.90 m^2
d/stream	1 x 5.00 x 1.40	= 7.00 m^2
	2 x 0.55 x 1.50	= 1.65 m^2
Wing Wall:	2 x 3.00 x 1.90	= 11.40 m^2
	2 x 3.00 x 0.45	= 2.70 m^2
G/Wall:	4 x (2.00+2.30)/2 x (1.00+1.80)/2	= 12.04 m^2
	2 x 2.00 x 0.45	= 1.80 m^2
Apron:	1 x 5.00 x 2.00	= 10.00 m^2
Channel:	2 x 5.00 x 1.00	= 10.00 m^3
	1 x 5.00 x 0.40	= 2.00 m^3
	Total	**= 72.99 m^2**

@ Rs. 92.00/m^2……...……...…….. Rs. 6715.08/-

Total = Rs. 58,444.30/-

Say = Rs. 58,000/-

Rupees (Fifty eight thousand) only.



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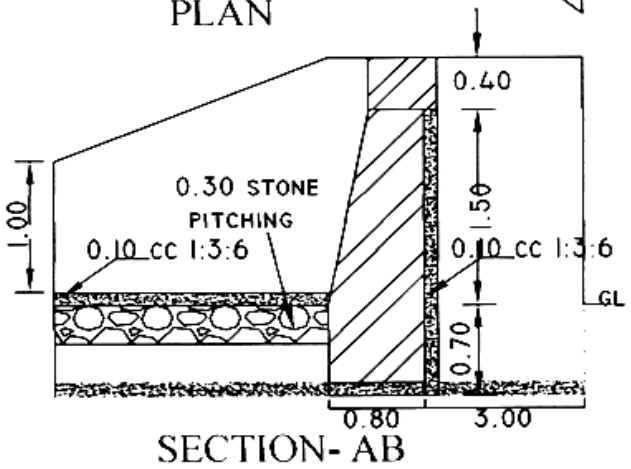


SECTION- AB

All Dimension are in Meter
Drawing not to Scale

ESTIMATE FOR CONSTRUCTION OF CONSERVATION POND
(The rate based as per P.W.D. Schedule of rates for Roads, Bridges and E & D works 2008 – 2009).

N.B.O- Community

1/3 (d) Earthwork in excavation to the proper grade including light dressing, providing cambering and superlative as directed and removal of spoils up to 30m lead and all lift.
Soft or laminated rock or medium shale.

$$\frac{(150.00 \times 31.00) + 4\,(148.80 \times 29.80) + (147.6.00 \times 28.60) \times 1.20}{6}$$

$= 5322m^3$ @ Rs. 63.00/m^3 Rs.3,35,286.00

2/3 (i) Extra in excavation in through cutting over 150cm height at the lowest point.

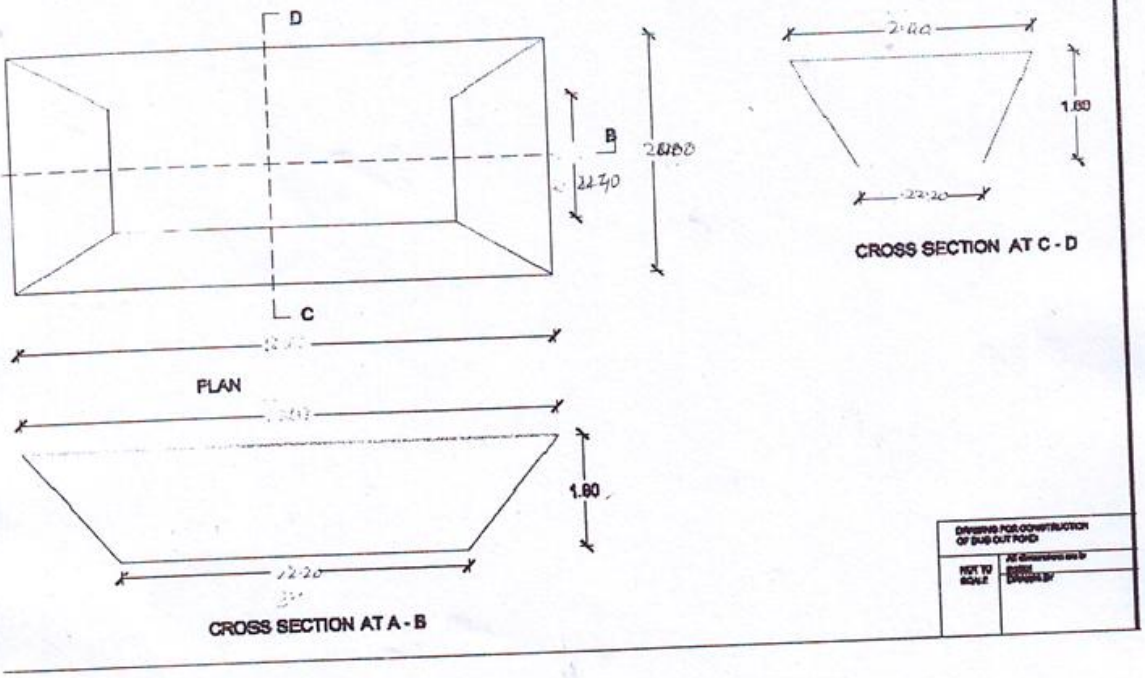
Item No. 1/3 (d) = $5322m^3$
@ Rs. 13.00/ m^3 Rs. 69,186.00

3/14 (ii) Cutting roadside drain including dressing, grading and removal of spoils up to 15.0m complete as directed.
In ordinary soil, comprising of black cotton soil, green vegetation soil, red soil, loamy soil, clay, soft shale and loose moorum etc.

1 x 271.5= 271.5 Rm
@ Rs. 29.00/ m^3 Rs. 7873.50

Total Rs4,12,345.50/-
Say Rs4,12,350.00

(Rupees three lakh twenty five thousand five hundred and seventy) only


D
B
C
PLAN
1.80
CROSS SECTION AT A - B
1.80
CROSS SECTION AT C - D

ESTIMATE FOR CONSTRUCTION OF WATER HARVESTING STRUCTURE WITH WING WALL TYPE 'C' UNDER IWMP & MNREGA (CONVERGENCE OF SCHEMES)

86

(The Rate based from PWD Schedule of Rates for Roads, Bridges and E&D Works 2008 – 2009)

1/4 Earthwork in excavation for foundation of bridges and culvert upto the founding level including making of coffer dam, dewatering and bailing out and diverting of water, in order to keep the foundation trenches free of water and protecting the sides of foundation by adequate shoring, scaffolding, and including leveling the foundation longitudinally and transversely as directed.

Dam 1 x 28.00 x 1.50 x 0.90 = 37.80 m^3

@ Rs. 152.00/m^3 Rs. 5,745.60

2/6 Earthwork in excavation for foundation of Hume Pipe culvert, slab drain, retaining wall, face wall up to the desired founding level, including dewatering and bailing out of water in order to keep the foundation dry, protecting the sides of foundation by adequate shoring scaffolding. The foundation is leveled both longitudinally and transversely as directed.

W/Wall 2 x 3.50 x 0.90 x 0.80 = 5.04 m^3

Apron 1 x 14.60 x 0.30 x 0.20 = 0.88 m^3

= 5.92 m^3

@ Rs. 93.00/m^3 Rs. 550.56

3/26 Providing cement concrete work in proportion 1:4:8 with hard broken aggregates 40mm down graded including necessary carriage of stone and sand within a distance 200mm and curing complete.

Dam 1 x 28.00 x 1.50 x 0.10 = 4.20 m^3

W/Wall 2 x 3.50 x 0.90 x 0.10 = 0.63 m^3

= 4.83 m^3 @ Rs. 2136.00/m^3 Rs. 10,316.88

4/42 (b) Supplying fitting and fixing including bending, cranking and placing in position as per approved designed drawing, including supplying of tying wire 20 gauge complete as directed.

	2 x 61 x 3.35 x 0.89 =	363.74 Kgs
	1 x 67 x 3.05 x 0.89 =	181.87 Kgs
	1 x 20 x 15.20 x 0.62 =	188.48 Kgs
	1 x 20 x 13.40 x 0.62 =	166.16 Kgs
	2 x 3 x 9.00 x 0.62 =	33.48 Kgs
Extra	2 x 8 x 3.05 x 0.62 =	30.26 Kgs
	2 x 12 x 2.85 x 0.62 =	42.41 Kgs
	=	1006.40 Kgs
	or	10.064 Qlt.

@ Rs. 5174.00/Qlt. Rs. 52,071.13

5/41 Providing shuttering with dressed planks not less than 25mm thick properly joined including battens, props to the proper level and removing of same after the concrete hardened complete as directed.

Dam	1 x 28.00 x 2.70 = 75.60 m^2	
F/Board	2 x 9.00 x 0.40 = 7.20 m^2	
G/Wall	4 x 4.42 x 0.50 = 8.84 m^2	
	2 x 0.50 x 0.30 = 0.30 m^2	
	= 91.94 m^2	
	@ Rs. 295.00/m^2	Rs. 27,122.30

6/29 Providing cement concrete work in proportion 1:2:4 corresponding to M150 stone aggregates 20mm down graded including curing and necessary carriage of stone and sand within a distance of 200m complete as directed.

Dam	1 x 28.00 x 1.50 x 0.10 = 4.20 m^3	
	1 x 28.00 x 2.70 x 0.30 = 22.68 m^3	
F/Board	2 x 9.00 x 0.40 x 0.30 = 2.16 m^3	
G/Wall	2 x 4.42 x 0.50 x 0.30 = 1.33 m^3	
	= 30.37 m^3	
	@ Rs. 2880.00/m^3	Rs. 87,465.60

7/20 Providing regular stone masonry work in returning walls, breast walls and wing walls with hammer dressed or blunt chisel dressed stones of heavy section (size not less than 25cm x 25cm x 30cm), with proper key stones each not less than 25cm x 25cm x 75cm, in cement mortar 1:6 including carriage of stone within 200m and filling in trenches and providing weep holes at 1.2 to 1.5m apart (staggered), complete as directed.

Dam	1 x 28.00 x 1.00 x 0.70 = 19.60 m^3	
	1 x 28.00 x $\frac{0.30 + 1.00}{2}$ x 2.00 = 36.40 m^3	
F/Board	2 x 9.00 x 0.30 x 0.40 = 2.16 m^3	
W/Wall	2 x 3.50 x 0.90 x 0.70 = 4.41 m^3	
	2 x 3.50 x $\frac{0.50 + 0.90}{2}$ x 2.40 = 11.76 m^3	
Apron	1 x 14.60 x 0.30 x 0.45 = 1.97 m^3	
	= 76.30 m^3	
	@ Rs. 1060.00/m^3	Rs. 80,878.00

8/25 Providing boulders or stone filling with unsized stone of one man size of 60 cm with behind the abutments, wing walls, retaining walls, etc. within 200m complete.

Apron - 1 x 10.00 x 2.00 x 0.25 = 5.00 m^3

@ Rs. 322.00/m^3 Rs. 1,610.00

9/27 Providing 12mm thick cement plastering including cleaning surface, curing, carriage of sand within 200m complete.

Dam	1 x 28.00 x 2.00 =	56.00 m^2
	1 x 28.00 x 2.12 =	59.36 m^2
	1 x 28.00 x 0.60 =	16.80 m^2
F/Board	4 x 9.00 x 0.40 =	14.40 m^2
	2 x 0.60 x 0.40 =	0.48 m^2
G/Wall	4 x 4.42 x 1.30 =	22.98 m^2
	2 x 0.50 x 0.30 =	0.30 m^2
Apron	1 x 10.60 x 2.30 =	24.38 m^2
	1 x 15.20 x 0.20 =	3.04 m^2
W/Wall	2 x 3.50 x 2.90 =	20.30 m^2
		= 218.04 m^2

@ Rs. 92.00/m^2 Rs. 20,059.68

10/14 Cutting roadside drain including dressing, grading and removal of spoils up to 15.00 m completed as directed

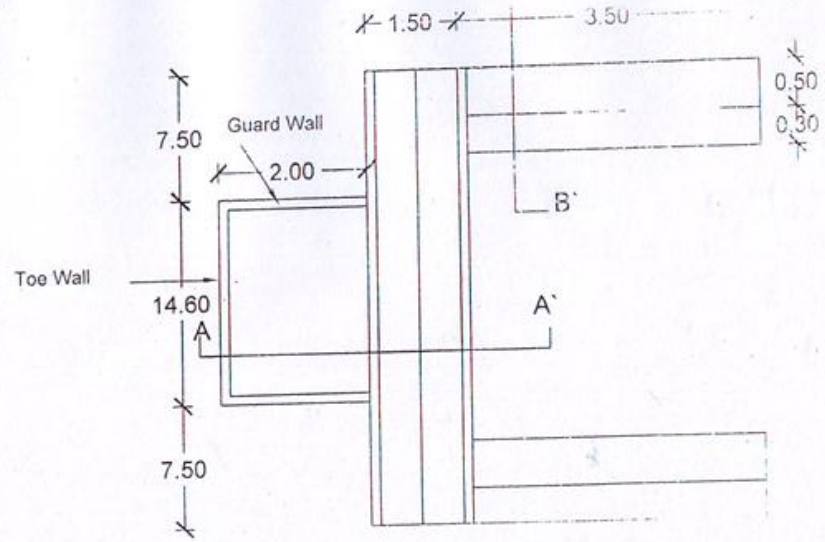
31.50 x 2 = 63.00 Rm

@ Rs. 29.00/Rm Rs. 1,827.00

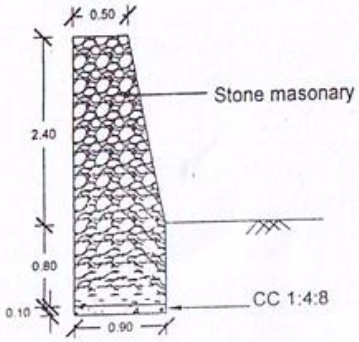
Total Rs. 2,87,646.75

Say Rs. 2,87,650.00

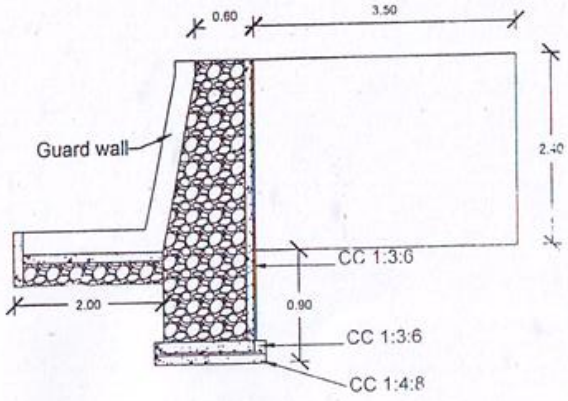
(Rupees Two Lakhs Eighty Seven Thousand Six Hundred Fifty) only.



PLAN



CROSS SECTION AT B-B



CROSS SECTION AT A-A`

ESTIMATE FOR CONSTRUCTION OF BETTLENUT PROCESSING UNIT OF SHRI/SMTI. ..... OF ..... WITH A LOCATION AT ..... OF (IWMP) SCHEME UNDER SOIL AND WATER CONSERVATION DIVISION: NONGPOH.

(Estimate has been framed as per the P W.D schedule of Rate for Building for the year 2007-08)

Item no.1:I 1 Earthwork in excavation of foundation upto desire founding level and removal of spoils upto 30 m lead and a l i ft.
(c: loose bouider

		1	x	2.00	x	5.00	x	1.50 =	15.00 m3
Foundation		2	x	0.30	x	0.50	x	2 00 =	0.60 m3
		2	x	0 30	x	0.50	x	5 00 =	1 50 m3
R/wall		1	x	0.60	x	0.78	x	9.65 =	4 61 m3
								T =	17.10 m3

@ Rs. 84.00 per m3 ..... =Rs. 1436 40

Item no2/3.8 Providing course stone masonry in plinth. ..... Complete as directed

		2	x	0.30	x	0.60	x	2.00 =	0 72 m3
		2	x	0.30	x	0.60	x	5 00 =	1 80 m3
R/wall		1	x	0.20	x	0.78	x	9.85 =	0.77 m3
						2			
	1x1 50	x		0 40	+	0.78	x	9.85 =	8 72 m3
						2			
								T =	12 01 m3

@ Rs 1927 00 per m3..... =Rs. 23134.69

Item no3/4 5 Providing 100mm stone soling in floor or plinth above the ground complete as directed

		1	x	5 00	x	2.00 =		10.00	m2

@ Rs 108 00 per m2 ..... 5 00 1080.00

Item no4/4.7 Providing cement concrete floor 65mm thick in proportion 1:3:6 (1 cement . 3 sand and 6 stone aggregates) to the proper level and slopes including ramming and curing complete

		1	x	5 00	x	2 00 =		10 00	m2

@ Rs 187.00 per m2..... =Rs 1870.00

Item no 5/3 9 Providing 1st class brick work in required thickness. ..... complete as directed
(a,ii

		2	x	2.00	x	0.20	x	1.50 =	1.20 m3
		2	x	5.00	x	0.20	x	1.50 =	3.00 m3
							T	=	4.20 m3

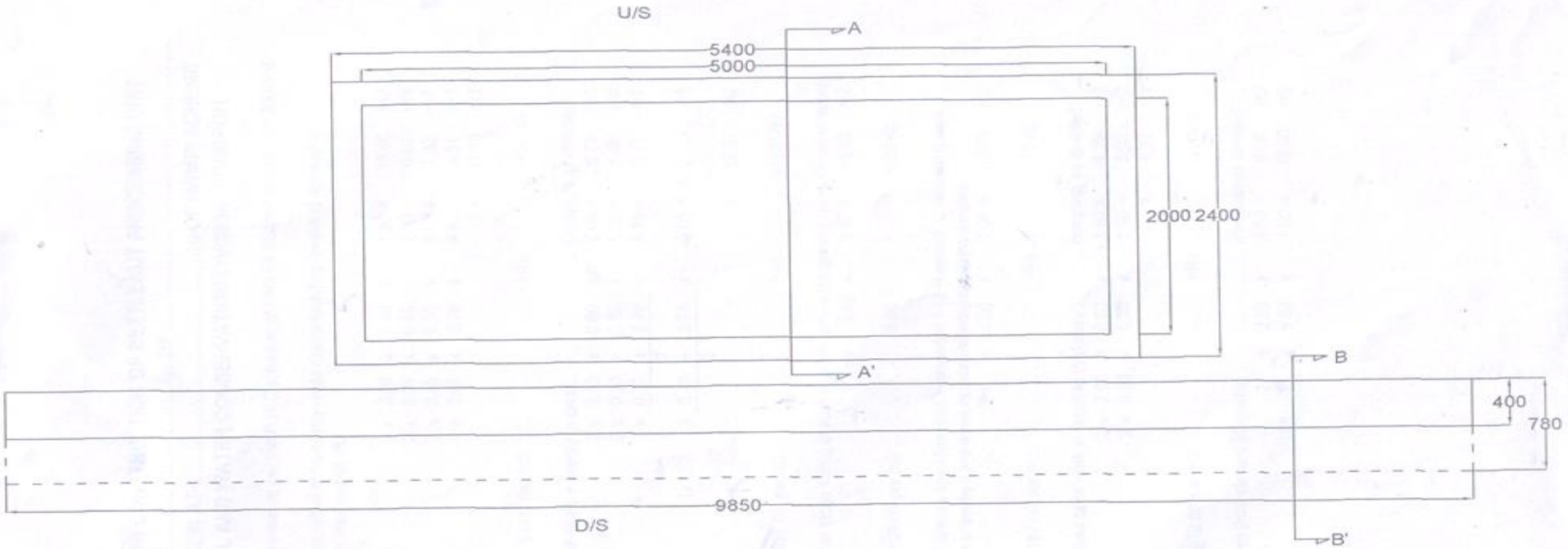
@ Rs 3072 00 per m2..... =Rs. 12902 4

Item no.6/4.1 Providing 12 mm thick cement plastering..... complete as directed.

INSIDE		2	x	2.00	x	1.50 =		6.00	m2
		2	x	5.00	x	1.50 =		15.00	m2

	OUT SIDE		1	x	2.25	x	1.65	=	3.71 m2
						T		=	24.71 m2
	@ Rs	107.00 per m2.....					=Rs		2644.24
Item no 7/ 4.11(a)	Providing 20mm thick cement plater skirting with cement mortar 1:3 finish with floating coat of neatcement								
			1	x	2.00	x	5.00	=	10.00 m2
			2	x	2.00	x	1.70	=	6.80 m2
			2	x	5.00	x	1.70	=	17.00 m2
								=	33.80 m2
	@ Rs.	206.00 per m2.....					=Rs.		6962.80
							T		50030.53
							Say Rs.		50,000.00
	(Rupees Fifty thousand) only								

Submitted:



DRAWING NOT TO SCALE

PLAN

SUBMITTED:

NB: All dimensions are in millimeter except mentioned

Estimate for construction of C.C. Channel of IWMP Scheme 2011-12 under Umsew Watershed IWMP VII based as per Meghalaya PWD of rates for roads & bridges 2008-2009:
Name of Beneficiary: _____
Location_____

1/3 (a) Earthwork in excavation for proper grade including light Dressing and removal of spoils up to 30 m level and all Lift as directed. (d) soft or laminated rock or medium shale

173.50 x $\frac{1.10 + 0.80}{2}$ x 0.70 = 115.38 m3
@ Rs 42/- m3…… 4845.96

2/26 Providing cement concrete in abutment, wing wall and Retaining in proportion 1;3:6 with hard broken stone Aggregates 40mm down graded including necessary Local carriage of stone aggregates, sand within 200m And complete as directed.

173.50 x 0.80 x 0.10 =13.88 m3
2 x 173.50 x 0.60 x 0.10 =20.82 m3
=34.70 m3
@ Rs 2880/- m3…….. 99936.00

3/39 Providing 12mm thick cement plastering in Pro. 1:3 including carriage of sand within 200m complete

1 x 173.50 x 0.60 =104.10m2
2 x 173.50 x 0.60 =208.20m2
2 x 173.50 x 0.10 = 34.70m2
=347,00m2
@ Rs 92/- m2……. 31924.00

4/38 providing shuttering with dressed planks not less Than 25mm thick properly joined including battons Props. To the proper level and removing the same After the concrete hardens as directed.

2 x 173.50 x 0.60 = 208.20 m2

@ Rs 295 /- m2 …….. 61419.00
Total **198124.00**

Say **198000.00**

(Rupees One lakh ninety Eight Thousand) Only

Submitted:

Estimate for construction of C.C. Channel of IWMP Scheme 2011-12 under Umsew Watershed IWMP VII,based as per Meghalaya PWD of rates for roads & bridges 2008-2009:

Name of Beneficiary:_____

Location_____

1/ Site preparation L/s Basis

200.00

2/3 (a) Earthwork in excavation for proper grade including light Dressing and removal of spoils up to 30 m level and all Lift as directed. (D) soft or laminated rock or medium shale

203.00 x $\frac{1.10 + 0.80}{2}$ x 0.70 = 134.99 m3

@ Rs 42/- m3…… 5669.58

3/26 Providing cement concrete in abutment, wing wall and Retaining in proportion 1:3:6 with hard broken stone Aggregates 40mm down graded including necessary Local carriage of stone aggregates, sand within 200m And complete as directed.

203.00 x 0.80 x 0.10 =16.24 m3

2 x 203.00 x 0.60 x 0.10 =24.36 m3

=40.60 m3

@ Rs 2880/- m3…….. 116929.00

4/39 Providing 12mm thick cement plastering in Pro. 1:3 including carriage of sand within 200m complete

1 x 203.00 x 0.60 =121.80 m2

2 x 203.00 x 0.60 =243.60m2

2 x 203.00 x 0.10 = 40.60 m2

=406.00 m2

@ Rs 92/- m2……. 37352.00

5/38 providing shuttering with dressed planks not less Than 25mm thick properly joined including battons Props. To the proper level and removing the same After the concrete hardens as directed.

2 x 203.00 x 0.60 = 243.60 m2

@ Rs 295 /- m2 …….. 71862.00

Total Rs 232011.58

Say, Rs 2,32,000.00

(Rupees two lakh thirty two Thousand) Only

Submitted:

ESTIMATE FOR CONSTRUCTION OF C. C. HEAD WATER DAM AT NONGWAHMAWLEIN & PAHAMRYNGKANG UNDER UMSEW WATERSHED IWMP VII 2011-2012: Based as per PWD Schedule of Rates for Road & bridges under Eastern Shillong circle PWD (Road) for the year of 2008-2009:

N.B.O : **Location:**

1/5. Earthwork in excavation for Dam, Wing walls below the Lower bed level including dewatering and boiling out Water in order to keep the foundation dry and protection Of sides of foundation by adequate shoring scaffolding Complete as directed:
(b) Soft or laminated rock or medium shale.

Dam:	12.00 x 0.70 x 0.50	= 4.20 m3
Wing wall:	2x2.00 x0.70 x 0.50	= 1.40 m3
		= 5.60 m3

@ Rs 121.00/-m3……. Rs 677..60

2/3. (a) Earthwork in excavation to the proper grade including Light dressing etc. complete and removed of spoils up to 30 m lead and all lift.
(d) Soft or laminated rock or medium shale.

C.C. Lead Channel 1 x 20.00 x 0.80 x 0.70 = 11.20m3

@ Rs 63.00 /-m3…… Rs 705..60

3/26. Providing C.C. works in proportion 1:4:8 with hard broken Stone aggregates of 40 mm and downgraded including Carriage of stone and sand within a distance of 200 m and Curing complete.

Dam;	12.00 x 0.70 x 0.10	= 0.84 m3
Wing wall:	2 x2.00 x0.70 x 0.10	= 0.28 m3
		= 1.12 m3

@ Rs 2136.00/-m3 …… Rs 2392.32

4/28. Providing C.C. work in proportion 1:3:6 with hard broken Stone aggregates including necessary carriage of stone And sand within 200 m and curing complete as directed.

Dam:	12.00 x 0.25 x 0.70	= 2.10 m3
	12.00 x $\frac{0.70 + 0.40}{2}$ x 1.00	=6.60 m3
	8.00 x 0.40 x 0.30	= 0.96 m3
C.C.Channel	30.00 x 0.80 x 0.10	= 1.60 m3
	2 x 30.00 x 0.60 x 0.10	= 2.40 m3
		= 13.66 m3

@ Rs 2344/- m3 …… Rs 32019.04

5/24. Providing stone soling with hard broken stone aggregates
Including filling the interstices and carriage of stones within
200 m complete as directed.

Dam:	12.00 x 0.70 x 0.15	= 1.26 m3
Wing wall	2 x 2.00 x 0.70 x 0.15	= 0.42 m3
		= 1.68 m3

@ Rs 512/-m3 ……. Rs 860.16

6/20. Providing regular stone masonry in wing walls with hammer
Dressed or blunt chisel dressed of heavy section not less than
25 cm x 25 cm x 30 cm with proper key stone each not less
Than 25 cm x 25 cm x 75 cm long set in cement mortar 1:6
Complete as directed.

(a) With new stones

Wing wall	2 x 2.00 x 0.25 x 0.70	= 0.70 m3
	2 x 2.00 x 0.70 + 0.50 x 1.30	= 3.12 m3
	2	= 3.82 m3

@ Rs 1060 /-m3 …… Rs 4049.20

7/41. Providing shuttering with dressed plank not less than 25 mm
Thick properly joined including batten etc. to the proper level
And removing of the same after the concrete hardened complete
As directed.

Dam:	2 x12.00 x 1.30		= 31.20 m2
C.C. Lead Channel:	2 x 20.00 x 0.60		= 24.00 m2
Deduction spillway	2 x 4.00 x 0.30	(-)	= 2.40 m2
			= 52.80 m2

@ Rs 295/- m2 …….. Rs 15576.00

8/27. Providing 12 mm thick cement plastering in proportion 1:4
Including clearing the surface and carriage of sand within
200 m complete as directed.

Dam:	2 x 12.00 x 1.00	= 24.00 m2
Front & B/sides	2 x 2 x 4.00 x 0.30	= 4.80 m2
Top	2 x 4.00 x 0.30	= 2.40 m2
Spillway	2 x 0.30 x 0.30	= 0.18 m2
	1 x 4.00 x 0.40	= 1.60 m2
C.C lead channel	2 x 20.00 x 0.60	= 24.00 m2
	1 x 20.00 x 0.60	= 12.00 m2
		= 68.98 m2

@ Rs 92.00/- m2 …….. Rs 6346.16

9/14 (i) cutting irrigation canal 60 cm wide and 60 cm deep including
Dressing, grading and removal of spoils up to 15 cm complete.

Length = 45.00 m

@ Rs 52.00/- Rm ……. Rs 2340.00

Total Rs 64966.28

Say, Rs 64960.00

(**Rupees Sixty Four Thousand Nine hundred Sixty) Only**

ESTIMATE FOR CONSTRUCTION OF C. C. HEAD WATER DAM AT NONGWAHMAWLEIN & PAHAMRYNGKANG UNDER UMSEW WATERSHED IWMP VII 2011-2012:

Based as per PWD Schedule of Rates for Road & bridges under Eastern Shillong circle PWD (Road) for the year of 2008-2009:

N.B.O : **Location:**

1/5. Earthwork in excavation for Dam, Wing walls below the Lower bed level including dewatering and boiling out Water in order to keep the foundation dry and protection Of sides of foundation by adequate shoring scaffolding Complete as directed:
(b) Soft or laminated rock or medium shale.

Dam:	20.00 x 0.70 x 0.50	= 7.00 m3
Wing wall:	2x4.00 x0.70 x 0.50	= 2.80 m3
		= 9.80 m3
	@ Rs 121.00/-m3……	Rs 1185.80

2/3. (a) Earthwork in excavation to the proper grade including Light dressing etc. complete and removed of spoils up to 30 m lead and all lift.
(d) Soft or laminated rock or medium shale.
C.C. Lead Channel 1 x 3.00 x 0.80 x 0.70 = 1.63
@ Rs 63.00 /-m3…… Rs 102.69

3/26. Providing C.C. works in proportion 1:4:8 with hard broken Stone aggregates of 40 mm and downgraded including Carriage of stone and sand within a distance of 200 m and Curing complete.

Dam;	20.00 x 0.70 x 0.10	= 1.40 m3
Wing wall:	2 x4.00 x0.70 x 0.10	= 0.56 m3
		= 1.96 m3
	@ Rs 2136.00/-m3 ……	Rs 4186.56

4/28. Providing C.C. work in proportion 1:3:6 with hard broken Stone aggregates including necessary carriage of stone And sand within 200 m and curing complete as directed.

Dam:	20.00 x 0.25 x 0.70	= 3.50 m3
	20.00 x $\frac{0.70 + 0.40}{2}$ x 1.00	=11.00 m3
	13.00 x 0.40 x 0.30	= 1.56 m3
C.C.Channel	30.00 x 0.80 x 0.10	= 1.60 m3
	2 x 30.00 x 0.60 x 0.10	= 2.40 m3
		= 16.66 m3
	@ Rs 2344/- m3 ……	Rs 39051.04

5/24. Providing stone soling with hard broken stone aggregates
Including filling the interstices and carriage of stones within
200 m complete as directed.

Dam:	20.00 x 0.70 x 0.15	= 2.10 m3
Wing wall	2 x 4.00 x 0.70 x 0.15	= 0.84 m3
		= 2.94 m3

@ Rs 512/-m3 ……. Rs 1505.28

6/20. Providing regular stone masonry in wing walls with hammer
Dressed or blunt chisel dressed of heavy section not less than
25 cm x 25 cm x 30 cm with proper key stone each not less
Than 25 cm x 25 cm x 75 cm long set in cement mortar 1:6
Complete as directed.

(a) With new stones

Wing wall	2 x 4.00 x 0.25 x 0.70	= 1.40 m3
	2 x 4.00 x (0.70 + 0.50) / 2 x 1.30	= 6.24 m3
		= 7.64 m3

@ Rs 1060 /-m3 …… Rs 8098.40

7/41. Providing shuttering with dressed plank not less than 25 mm
Thick properly joined including batten etc. to the proper level
And removing of the same after the concrete hardened complete
As directed.

Dam:	2 x20.00 x 1.30	= 52.00 m2
C.C. Lead Channel:	2 x 3.00 x 0.60	= 3.60 m2
Deduction spillway	2 x 7.00 x 0.30 (-)	= 4.20 m2
		= 51.40 m2

@ Rs 295/- m2 …….. Rs 15163.00

8/27. Providing 12 mm thick cement plastering in proportion 1:4
Including clearing the surface and carriage of sand within
200 m complete as directed.

Dam:	2 x20.00 x 1.00	= 40.00 m2
Front & B/sides	2 x 2 x 6.50 x 0.30	= 7.80 m2
Top	2 x 6.50 x 0.40	= 5.20m2
Spillway	2 x 0.30 x 0.30	= 0.18 m2
	1 x 7.00 x 0.40	= 2.80 m2
C.C lead channel	2 x3.00 x 0.60	= 3.60 m2
	1 x 3.00 x 0.60	= 1.80 m2
		= 61.38 m2

@ Rs 92.00/- m2 …….. Rs 5646.96

9/14 (i) cutting irrigation canal 60 cm wide and 60 cm deep including
Dressing, grading and removal of spoils up to 15 cm complete.

Length =60.00 m

@ Rs 44.00/- Rm ……. Rs 2640.00

Total Rs 76766.61

Say, Rs 76770.00

(**Rupees Seventy Six Thousand seven hundred Seventy) Only**

ESTIMATE FOR CONSTRUCTION OF C. C. HEAD WATER DAM AT NONGWAHMAWLEIN & PAHAMRYNGKANG UNDER UMSEW WATERSHED IWMP VII 2011-2012:

Based as per PWD Schedule of Rates for Road & bridges under Eastern Shillong circle PWD (Road) for the year of 2008-2009:

N.B.O : **Location:**

1/5. Earthwork in excavation for Dam, Wing walls below the Lower bed level including dewatering and boiling out Water in order to keep the foundation dry and protection Of sides of foundation by adequate shoring scaffolding Complete as directed:
(b) Soft or laminated rock or medium shale.

Dam:	21.00 x 0.70 x 0.50	= 7.35 m3
Wing wall:	2x3.00 x0.70 x 0.50	= 2.10 m3
		= 9.45 m3

@ Rs 121.00/-m3……. Rs 1143.45

2/3. (a) Earthwork in excavation to the proper grade including Light dressing etc. complete and removed of spoils up to 30 m lead and all lift.
(d) Soft or laminated rock or medium shale.
C.C. Lead Channel 1 x 3.00 x 0.80 x 0.70 = 1.63

@ Rs 63.00 /-m3…… Rs 102.69

3/26. Providing C.C. works in proportion 1:4:8 with hard broken Stone aggregates of 40 mm and downgraded including Carriage of stone and sand within a distance of 200 m and Curing complete.

Dam;	21.00 x 0.70 x 0.10	= 1.47 m3
Wing wall:	2 x3.00 x0.70 x 0.10	= 0.42 m3
		= 1.89 m3

@ Rs 2136.00/-m3 …… Rs 4037.04

4/28. Providing C.C. work in proportion 1:3:6 with hard broken Stone aggregates including necessary carriage of stone And sand within 200 m and curing complete as directed.

Dam:	21.00 x 0.25 x 0.70	= 3.68 m3
	21.00 x $\frac{0.70 + 0.40}{2}$ x 1.00	=11.55 m3
	14.00 x 0.40 x 0.30	= 1.68 m3
C.C.Channel	1 x 3.00 x 0.80 x 0.10	= 0.24 m3
	2 x 3.00 x 0.60 x 0.10	= 0.36 m3
		= 17.51 m3

@ Rs 2344/- m3 …… Rs 41043.44

5/24. Providing stone soling with hard broken stone aggregates
Including filling the interstices and carriage of stones within
200 m complete as directed.

Dam:	21.00 x 0.70 x 0.15	= 2.20 m3
Wing wall	2 x 3.00 x 0.70 x 0.15	= 0.63 m3
		= 2.83 m3

@ Rs 512/-m3 ……. Rs 1448.96

6/20. Providing regular stone masonry in wing walls with hammer
Dressed or blunt chisel dressed of heavy section not less than
25 cm x 25 cm x 30 cm with proper key stone each not less
Than 25 cm x 25 cm x 75 cm long set in cement mortar 1:6
Complete as directed.

(a) With new stones

Wing wall	2 x 3.00 x 0.25 x 0.70	= 1.05 m3
	2 x 3.00 x 0.70 + 0.50 x 1.30 / 2	= 4.68 m3
		= 5.73 m3

@ Rs 1060 /-m3 …… Rs 6073.80

7/41. Providing shuttering with dressed plank not less than 25 mm
Thick properly joined including batten etc. to the proper level
And removing of the same after the concrete hardened complete
As directed.

Dam:	2 x21.00 x 1.30	= 54.60 m2
C.C. Lead Channel:	2 x 3.00 x 0.60	= 3.60 m2
Deduction spillway	2 x 7.00 x 0.30 (-)	= 4.20 m2
		= 50.40 m2

@ Rs 295/- m2 …….. Rs 14868.00

8/27. Providing 12 mm thick cement plastering in proportion 1:4
Including clearing the surface and carriage of sand within
200 m complete as directed.

Dam:	2 x21.00 x 1.00	= 42.00 m2
Front&B/sides	2 x 2 x 7.00 x 0.30	= 8.40 m2
Top	2 x 7.00 x 0.40	= 5.60m2
Spillway	2 x 0.30 x 0.30	= 0.18 m2
	1 x 7.00 x 0.40	= 2.80 m2
C.C lead channel	2 x3.00 x 0.60	= 3.60 m2
	1 x 3.00 x 0.60	= 1.80 m2
		= 62.78 m2

@ Rs 92.00/- m2 …….. Rs 5775.76

9/14 (i) cutting irrigation canal 60 cm wide and 60 cm deep including
Dressing, grading and removal of spoils up to 15 cm complete.

Length =34.00 m

@ Rs 38.00/- Rm ……. Rs 1292.00

Total Rs 75785.14

Say, Rs 75780.00

(**Rupees Seventy five Thousand seven hundred eighty) Only**

ESTIMATE FOR CONSTRUCTION OF C. C. HEAD WATER DAM AT NONGWAHMAWLEIN & PAHAMRYNGKANG UNDER UMSEW WATERSHED IWMP VII 2011-2012:

Based as per PWD Schedule of Rates for Road & bridges under Eastern Shillong circle PWD (Road) for the year of 2008-2009:

N.B.O : **Location:**

1/5. Earthwork in excavation for Dam, Wing walls below the Lower bed level including dewatering and boiling out Water in order to keep the foundation dry and protection Of sides of foundation by adequate shoring scaffolding Complete as directed:
(b) Soft or laminated rock or medium shale.

Dam:	19.00 x 0.70 x 0.50	= 6.65 m3
Wing wall:	2x2.00 x0.70 x 0.50	= 1.40 m3
		= 8.05 m3
	@ Rs 121.00/-m3…….	Rs 974.05

2/3. (a) Earthwork in excavation to the proper grade including Light dressing etc. complete and removed of spoils up to 30 m lead and all lift.
(d) Soft or laminated rock or medium shale.

C.C. Lead Channel	1 x 30.00 x 0.80 x 0.70	= 16.80
	@ Rs 63.00 /-m3……	Rs 1058.40

3/26. Providing C.C. works in proportion 1:4:8 with hard broken Stone aggregates of 40 mm and downgraded including Carriage of stone and sand within a distance of 200 m and Curing complete.

Dam;	19.00 x 0.70 x 0.10	= 1.33 m3
Wing wall:	2 x2.00 x0.70 x 0.10	= 0.28 m3
		= 1.61 m3
	@ Rs 2136.00/-m3 ……	Rs 3438.96

4/28. Providing C.C. work in proportion 1:3:6 with hard broken Stone aggregates including necessary carriage of stone And sand within 200 m and curing complete as directed.

Dam:	19.00 x 0.25 x 0.70	= 3.33 m3
	19.00 x $\frac{0.70 + 0.40}{2}$ x 1.00	=10.45 m3
	13.00 x 0.40 x 0.30	= 1.56 m3
C.C.Channel	1 x 30.00 x 0.80 x 0.10	= 2.40 m3
	2 x 30.00 x 0.60 x 0.10	= 3.60 m3
		= 21.34 m3
	@ Rs 2344/- m3 ……	Rs 50020.96

5/24. Providing stone soling with hard broken stone aggregates
Including filling the interstices and carriage of stones within
200 m complete as directed.

Dam:	19.00 x 0.70 x 0.15	= 1.99 m3
Wing wall	2 x 2.00 x 0.70 x 0.15	= 0.42 m3
		= 2.41 m3

@ Rs 512/-m3 ……. Rs 1233.92

6/20. Providing regular stone masonry in wing walls with hammer
Dressed or blunt chisel dressed of heavy section not less than
25 cm x 25 cm x 30 cm with proper key stone each not less
Than 25 cm x 25 cm x 75 cm long set in cement mortar 1:6
Complete as directed.

(a) With new stones

Wing wall	2 x 2.00 x 0.25 x 0.70	= 0.70 m3
	2 x 2.00 x (0.70 + 0.50) / 2 x 1.30	= 3.12 m3
		= 3.82 m3

@ Rs 1060 /-m3 …… Rs 4049.20

7/41. Providing shuttering with dressed plank not less than 25 mm
Thick properly joined including batten etc. to the proper level
And removing of the same after the concrete hardened complete
As directed.

Dam:	2 x19.00 x 1.30	= 49.40 m2
C.C. Lead Channel:	2 x 30.00 x 0.60	= 36.00 m2
Deduction spillway	2 x 6.00 x 0.30 (-)	= 3.60 m2
		= 81.80 m2

@ Rs 295/- m2 …….. Rs 24131.00

8/27. Providing 12 mm thick cement plastering in proportion 1:4
Including clearing the surface and carriage of sand within
200 m complete as directed.

Dam:	2 x 19.00 x 1.00	= 38.00 m2
Front&B/sides	2 x 2 x 6.50 x 0.30	= 7.80 m2
Top	2 x 6.50 x 0.40	= 5.20m2
Spillway	2 x 0.30 x 0.30	= 0.18 m2
	1 x 7.00 x 0.40	= 2.80 m2
C.C lead channel	2 x30.00 x 0.60	= 36.00 m2
	1 x 30.00 x 0.60	= 18.00 m2
		= 107.80 m2

@ Rs 92.00/- m2 …….. Rs 9917.60

9/14 (i) cutting irrigation canal 60 cm wide and 60 cm deep including
Dressing, grading and removal of spoils up to 15 cm complete.

Length =45.00 m

@ Rs 44.00/- Rm ……. Rs 1980.00

Total Rs 94824.09

Say, Rs 94820.00

(**Rupees ninty four Thousand eight hundred twenty) Only**

ESTIMATE FOR CONSTRUCTION OF C. C. HEAD WATER DAM

AT NONGWAHMAWLEIN & PAHAMRYNGKANG UNDER UMSEW WATERSHED IWMP VII 2011-2012:
Based as per PWD Schedule of Rates for Road & bridges under Eastern Shillong circle PWD (Road) for the year of 2008-2009:

N.B.O : **Location:**

1/5. Earthwork in excavation for Dam, Wing walls below the Lower bed level including dewatering and boiling out Water in order to keep the foundation dry and protection Of sides of foundation by adequate shoring scaffolding Complete as directed:
(b) Soft or laminated rock or medium shale.

Dam:	17.00 x 0.70 x 0.50	= 5.95 m3
Wing wall:	2x2.00 x0.70 x 0.50	= 1.40 m3
		= 7.35 m3
	@ Rs 121.00/-m3…….	Rs 889.35

2/3. (a) Earthwork in excavation to the proper grade including Light dressing etc. complete and removed of spoils up to 30 m lead and all lift.
(d) Soft or laminated rock or medium shale.

C.C. Lead Channel	1 x 15.00 x 0.80 x 0.70	= 8.40
	@ Rs 63.00 /-m3……	Rs 529.20

3/26. Providing C.C. works in proportion 1:4:8 with hard broken Stone aggregates of 40 mm and downgraded including Carriage of stone and sand within a distance of 200 m and Curing complete.

Dam;	17.00 x 0.70 x 0.10	= 1.19 m3
Wing wall:	2 x2.00 x0.70 x 0.10	= 0.28 m3
		= 1.47 m3
	@ Rs 2136.00/-m3 ……	Rs 3139.92

4/28. Providing C.C. work in proportion 1:3:6 with hard broken Stone aggregates including necessary carriage of stone And sand within 200 m and curing complete as directed.

Dam:	17.00 x 0.25 x 0.70	= 2.98 m3
	17.00 x $\frac{0.70 + 0.40}{2}$ x 1.00	=9.35 m3
	12.00 x 0.40 x 0.30	= 1.44 m3
C.C.Channel	1 x 15.00 x 0.80 x 0.10	= 1.20 m3
	2 x 15.00 x 0.60 x 0.10	= 1.80 m3
		= 16.77 m3
	@ Rs 2344/- m3 ……	Rs 39308.88

5/24. Providing stone soling with hard broken stone aggregates
Including filling the interstices and carriage of stones within
200 m complete as directed.

Dam:	17.00 x 0.70 x 0.15	= 1.79 m3
Wing wall	2 x 2.00 x 0.70 x 0.15	= 0.42 m3
		= 2.21 m3

@ Rs 512/-m3 ……. Rs 1131.52

6/20. Providing regular stone masonry in wing walls with hammer
Dressed or blunt chisel dressed of heavy section not less than
25 cm x 25 cm x 30 cm with proper key stone each not less
Than 25 cm x 25 cm x 75 cm long set in cement mortar 1:6
Complete as directed.

(a) With new stones

Wing wall	2 x 2.00 x 0.25 x 0.70	= 0.70 m3
	2 x 2.00 x 0.70 + 0.50 x 1.30	= 3.12 m3
	2	= 3.82 m3

@ Rs 1060 /-m3 …… Rs 4049.20

7/41. Providing shuttering with dressed plank not less than 25 mm
Thick properly joined including batten etc. to the proper level
And removing of the same after the concrete hardened complete
As directed.

Dam:	2 x17.00 x 1.30	= 44.20 m2
C.C. Lead Channel:	2 x 15.00 x 0.60	= 18.00 m2
Deduction spillway	2 x 5.00 x 0.30 (-)	= 3.00 m2
		= 59.20 m2

@ Rs 295/- m2 …….. Rs17464.00

8/27. Providing 12 mm thick cement plastering in proportion 1:4
Including clearing the surface and carriage of sand within
200 m complete as directed.

Dam:	2 x 17.00 x 1.00	= 34.00 m2
Front&B/sides	2 x 2 x 6.00 x 0.30	= 7.20 m2
Top	2 x 6.00 x 0.40	= 5.20m2
Spillway	2 x 0.30 x 0.30	= 0.18 m2
	1 x 5.00 x 0.40	= 2.00 m2
C.C lead channel	2 x15.00 x 0.60	= 18.00 m2
	1 x 15.00 x 0.60	= 09.00 m2
		= 75.58 m2

@ Rs 92.00/- m2 …….. Rs 6953.36

9/14 (i) cutting irrigation canal 60 cm wide and 60 cm deep including
Dressing, grading and removal of spoils up to 15 cm complete.

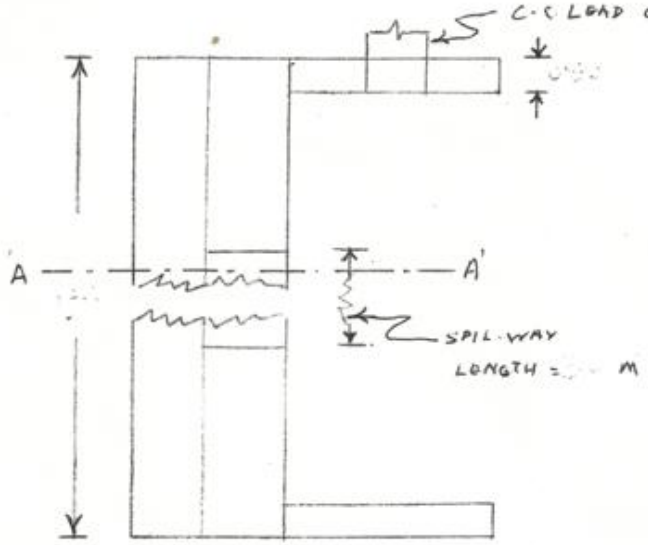
Length =177.00 m

@ Rs 52.00/- Rm ……. Rs 9204.00

Total Rs 82669.43

Say, Rs 82670.00

(**Rupees eighty two Thousand six hundred seventy) Only**



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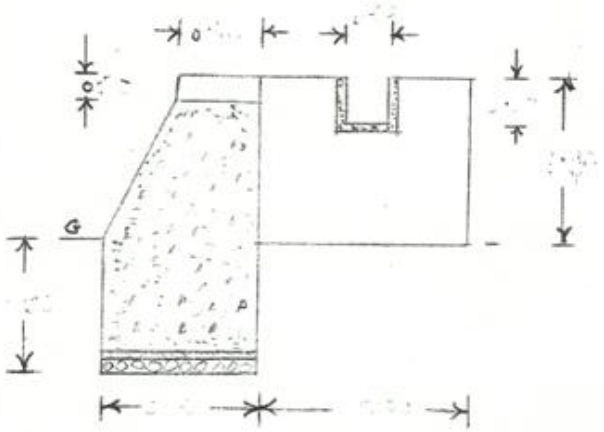
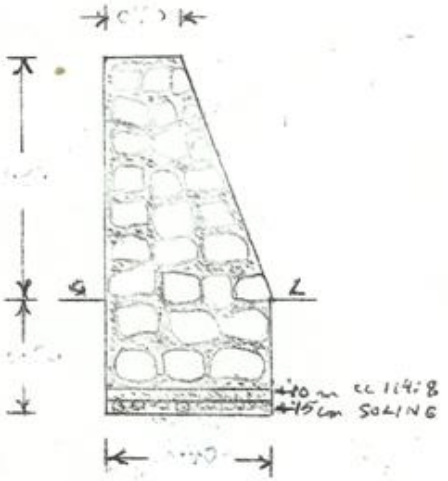


CROSS-SECTION AT A-A'



C.C. HEADWATER DAM
ALL DIMENSIONS ARE IN 'M'
DRAWING NOT TO SCALE

ESTIMATE FOR CONSTRUCTION OF PROTECTION WALL 2 NOS.

(The Estimate has been framed base from PWD Scheduled of Rates for Road and Bridges for Eastern Shillong Circle for the year 2008-09)

1/6 Earthwork in excavation for foundation of hume pipe culvert, slab drain, retaining wall, face up wall to the desired founding level including dewatering and bailing out of water in order to keep the foundation dry, protecting the sides of foundation by adequate shoring, scaffolding. The foundation is longitudinally and transversely as directed by the engineer in charge and including removal of spoil upto 200m and all lifts. (Contractor to arrange their own pumps).

a) Ordinary Soil

23.00 x 1 x 0.7 = 16.10 m3

@ Rs 42.00 per m3 ……Rs 676.20/-

2/26 Providing cement concrete work in proportion 1:4:8 with hard broken stones aggregates 40mm downgraded including necessary carriage of stone and sand within a distance of 200mm and curing completed (excluding shuttering) and as directed.

Dam fdn 23.00x 1 x 0.10 = 2.30 m3

@ Rs 2136.00 per m3…….Rs 4912.80/-

3/19 Providing regular dry stone masonry wall with hammer dressed or blunt chisel dressed stones of heavy section (size not less than 25cm x 25cm x 30cm long) with proper key stones each not less than 25cm x 25cm x 75cm long including carriage of stones within 200m and filling trenches complete.

23.00 x 1x 0.6 = 13.80 m3

$\frac{23.00 \times 1 + 0.6 \times 2.3}{2}$ = 42.32 m3

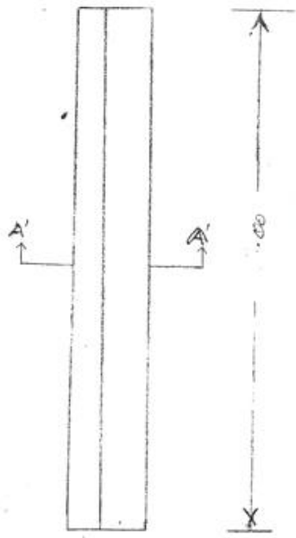
T = 56.12 m3

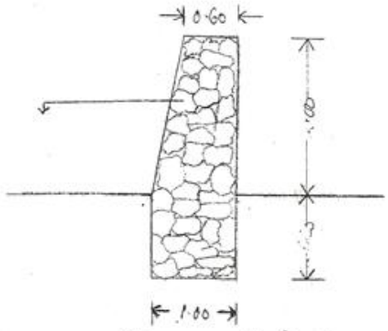
@ Rs 1060.00 per m3 ……= Rs 59,487.20/-

Total Rs 65,076.2/-

Say Rs 65000.00

(Rupees Sixty five thousand) Only





SECTION AT 'AA'

ESTIMATE FOR CONSTRUCTION OF RURAL GODOWN AT -
.....

(Based as per PWD Schedule of Rate for building works for the year 2007-2008
For khasi Hills Mehalaya Shillong

1/1.1 Earth work in excavation in foundation trenches
Including dressing of sides and ramming etc. as directed complete.

Post:	4x 0.60 x 0.60 x 0.60	= 0.86 m3	
Plinth wall	2x 0.30 x 0.30 x 3.60	= 0.65	
	2x 0.30 x 0.30 x 3.00	= 0. 54	
		= 2.05 m3	
	@ Rs 85.00 /- m3 ……		Rs 174.25

2/4.5 Providing 100 mm thick soling with approved
Quality of stones including carriage ramming
Consolidating and filling the interstices with
Stone aggregate complete.

Post:	4 x 0.60 x 0.60	= 1. 44 m3	
	@ Rs 108.00 /- m3……		Rs 155.52

3/2.1 Providing and laying cement concrete in pro. 1:4:8
As directed complete.

Post:	4 x 0.60 x 0.60 x 0.10	= 0.14 m3	
	@Rs 2351.00/m3 …….		Rs 329.14

4/6.2 Providing for steel reinforcements for RCC work
Including cutting, bending, cranking and tying in
Position with binding wire, 20 gauge complete
As directed.

Post:	2 x 6 x1.40 x 1.58	= 26.54 kg	
	4 x 4 x3.85 x 0.89	= 54.82 kg	
		= 81.36 kg	
	@ Rs 53.73.00 qntl……..		Rs 4352.13

5/6.1 Providing mild steel reinforcement for RCC work
Including cutting, bending, cranking and tying in
Position with binding wire, 20 gauge complete
As directed

Post:	4 x 25 x0.60 x 0.22	= 13.20 kg	
		= 13 qutl	
	@ Rs 4704.00/ qntl ……		Rs 611.52

6/2.9 Providing shuttering including centering for flats
Surface such as slabs, shelves, chajja and for vertical
Complete as directed.

Post:	8 x 0.15 x 2.85	= 3.42m2	
	8 x 0.15 x 3.42	= 4.10 m2	
		= 7.52 m2	
	@Rs 148.00/-m2 ……		Rs 1112.96

7/2.4 Providing and lying cement concrete in pro
1:2;$ as directed complete

Post: 4 x 0.60 x 0.60 x 0.40 = 0.57 m3
2 x 0.15 x 0.15 x 3.00 = 0.13
2 x 0.15 x 0.15 x 2.70 = 0.12
= 0.82 m3
@ Rs 3247.00/ -……. Rs 2662.54

8/3.5 Providing coursed random ruble stone masonry in foundation
And plinth with cement mortar complete as directed

4 x 3.30 x 0.30 x 0.45 = 1.78 m3
@ Rs 1833.00 /- ……. Rs 3262.74

9/4.5 Providing 100 mm soling with approved quality of stones
Including ramming and filling etc directed complete.

1 x 3.00 x 3.00 = 9.00 m2
@ Rs 108.00 /- …… Rs 972.00

10/4,7 Providing C.C Floor 65 mm thick in prop 1:3:6 to
The proper level and slope including ramming
And curing complete as directed.

Vide item no. 9/4.5 = 9.00 m2
@ Rs 187.00 /- m2……. Rs 1683.00

11/4.10 Providing C>C Topping Prop 1:1:2 to the proper
Level and slope including curing and trowel finished
With a floating coat of cement slurry complete as directed.

(a) 20 mm thick topping
Vide Item No 10/4.7 = 9.00 m2

@ Rs 146.00 / m2 …… Rs 1`314.00

12/3.1 Providing 100 mm thick hollow Bock with cement
Mortar etc complete as directed.

1 x 3.00 x 3.30 = 9.90 m2
1 x 2.70 x 3.30 = 8.91
2 x 3.00 + 2.70 x 3.30 = 18.81
2 =37.62 m2
Deduction of Door & window
1 x 0.90 x 2.00 =1.80 m2
2 x 0.90 x 1.20 =2.16 m2
=33.66 m2
@ Rs 279.00 / m2……. Rs 9391.14

13/7.1 Providing dressed and rebated wood works ….

2 x 2.00 x0.10 x 0.075 = 0.030 m3
1 x 1.00 x0.10 x 0.075 = 0.007 m3
4 x 1.20 x0.10 x 0.075 = 0.036 m3
4 x 1.00 x0.10 x 0.075 = 0.030 m3
= 0.103 m3
@ Rs 10272.00/m3 …… Rs 1058.01

14/7.2 Providing undressed wood work etc, as directed complete

4 x 3.60 x 0.10 x 0.075 = 0.108 m3
5 x 3.80 x 0.10 x 0.01 = 0.190 m3
4 x 4.00 x 0.075 x 0.075 = 0.091 m3
= 0.389 m3
@ Rs 9607.00/m3 …… Rs 3737.12

14/5.9 Providing 0.63mm thick CGI Roofing Sheet etc. complete as directed

1 x 4.20 x 4.20 = 17.64 m2

@ Rs 430.00/m2 …… Rs 7585.20

15/7.15 Providing & fixing 38mm thick battened & braced shutters for door & window etc. complete as directed.

Door: 1 x 0.90 x 2.00 = 1.80 m2

Window: 2 x 0.90 x 1.20 = 2.16 m2

= 3.96 m2

@ Rs 555.00/m2 …… Rs 2197.80

16/4.1 Providing 12mm thick cement plaster i/c cleaning the surface and curing complete as directed.

Vide item no. 11/3.1	33.66 m2 x 2	= 67.32 m2
Flooring	1 x 3.40 x 3.40	= 11.56 m2
Plinth Wall	4 x 3.60 x 0.45	= 6.48 m2
		= 85.36 m2

@ Rs 95.00/m2 …… Rs 8109.20

17/10.1 White washing 2 coats etc complete as directed.

Vide item no. 11/23.1 33.66 m2 x 2 = 67.32 m2

@ Rs 8.00/m2 ……. Rs 538.56

18/10.22 Apply ready mixed paint coat of approved brand & quality as per specification etc complete

Vide item no. 15/7.15 3.96 m2 x 2 = 7.92 m2

@ Rs 18.00/ m2 …… Rs 142.56

19/10.12 Painting with best quality synthetic enamel of approved make & brand including clearing the surface etc. complete as directed

Vide item no. 18/10.22 = 7.92 m2

@ Rs 77.00/m2 …… Rs 609.84

Rs 49999.28

Say Rs. 50000.00

(Rupees Fifty Thousand) only

PROVISIONAL ESTIMATE FOR CONSTRUCTION OF HEAD WATER DAM (BASED FROM P.W.D. SCHEDULE OF RATES FOR ROADS & BRIDGES FOR EASTERN SHILLONG CIRCLE FOR THE YEAR 2008-09)

1/4 Earth work in excavation for dam below the lowest bed level including dewatering and boiling out water in or order to keep the foundation trenches free of water and protection the sides of foundation by adequate shoring scaffolding including leveling the foundation and complete as directed.

(b) Soft or laminated rock or medium shale.

Dam: 8 m x 0.6 m x 0.90 m = 4.32 m^3
Curtain wall: 3 m x 0.10 m x 0.25 m = 0.075 m^3
Wing wall: 2 x 3 m x 0.9 m x 0.9 m = 4.86 m^3
***Total* = 9.255 m^3**

@ Rs. 152.00/m^3…… Rs. 1406.76/-

2/24 Providing stone pitching with one man size boulder not less than 25cm x 25 cm x 30 cm long filling the interstices with spoils and carriage of stone with in a distance of 200m complete.

Stone soling:

Dam: 8 m x 0.6 m x 0.1 m = 0.48 m^3
Wing wall: 2 x 3 m x 0.9 m x 0.1 m = 0.54 m^3
Apron: 3 m x 2 m x 0.1 m = 0.6 m^3
Total = 1.62 m^3

Rs. 512.00/m^3…… Rs. 829.44/-

3/26 Providing cement concrete works prop.1:4:8 with hard broken stone aggregate river shingle 40 mm down graded including necessary carriage of stone and sand with in a distance of 200 m and curing complete.

Foundation bed Dam: 8 m x 0.6 m x 0.1 m = 0.48 m^3
Wing wall: 2 x 3 m x 0.9 m x 0.1 m = 0.54 m^3
***Total* = 1.02 m^3**

@ Rs. 2136.00/m^3…… Rs. 2178.72/-

4/28 Providing stone concrete works in abutments wing walls and return in prop. 1:3:6 with hard broken stone aggregate 40mm down graded including necessary local carriage of stone aggregate and sand with in 200m and curing complete.

Dam: 8 m x 0.6 m x 0.70 m = 3.36 m^3
8 m x $\frac{0.4 + 0.6}{2}$ x 1.2 m = 4.8 m^3
2 x 3 m x 0.4 m x 0.3 m = 0.72 m^3
Apron: 2 m x 3 m x 0.1 m = 0.6 m^3
Curtain wall: 3 m x 0.10 m x 0.25 m = 0.075 m^3
***Total* = 9.555 m^3**

@ Rs. 2344.00/m^3…… Rs. 22,396.92/-

5/20(a) Providing regular stone masonry in retaining walls coursed with hammer dressed or blunt chisel dressed stone of heavy section not less than 25cm X 25 cm X 30 cm with proper keys stones, each not less than 25cm X 25 cm X 30 cm long set in cement mortar1:6 including carriage of stone with 200m, filling in trenches and providing weep holes at 1.2 to 1.5m apart staggered complete as directed.

Wing wall: 2 m x 3 m x 0.9 m x 0.70 m = 3.78 m^3
2 x 3 m x $\frac{0.6 + 0.9}{2}$ x 1.5 m = 6.75 m^3
***Total* = 10.53 m^3**

@ Rs. 1060.00/m^3…… Rs. 11,161.80/-

6/41(a) Providing shuttering with dress planks not less than 25 mm thick properly jointed, level and removing the same after the concrete leak proof sheet

Dam:	2 x 8 m x 2.2 m	= 35.2 m^2
Deduct spillway opening:	2 x 3 m x 0.3 m	= 1.8 m^2
	Total	**= 37.0 m^2**

@ Rs. 295.00/m^2……..……...…….. Rs. 10,915.00/-

7/27(ii) 12mm thick cement plastering including clearing surface prop. 1:3 including carriage of sand with in 200 m complete.

Dam:	2 x 8 m x 1.5 m	= 24 m^2
	1 x 8 m x 0.4 m	= 3.2 m^2
Deduct spillway opening:	2 m x 3 m x 0.3 m	= 1.8 m^2
	Total	**= 29.0 m^2**

@ Rs. 92.00/m^2……...……... Rs. 2668.00/-

8/14(i) Cutting channel including dressing, grading and removal of spoils upto 15 m complete as directed.

(c) In soil mixed with boulders above one man size.

(i) 60 cm x 60 cm

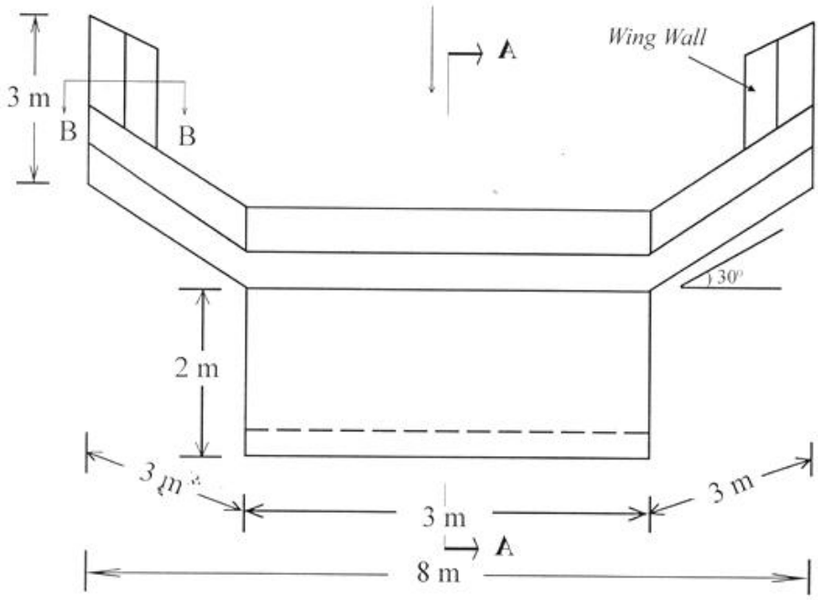
97 Rm.

@ Rs. 41.00/Rm……..……... Rs. 3977.00/-

Total = Rs. 55,533.64.00/-

Say = Rs. 55,500.00/-

Rupees (Fifty five thousand five hundred)only.



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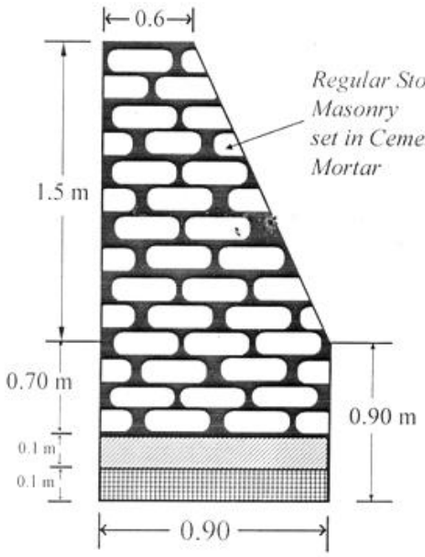
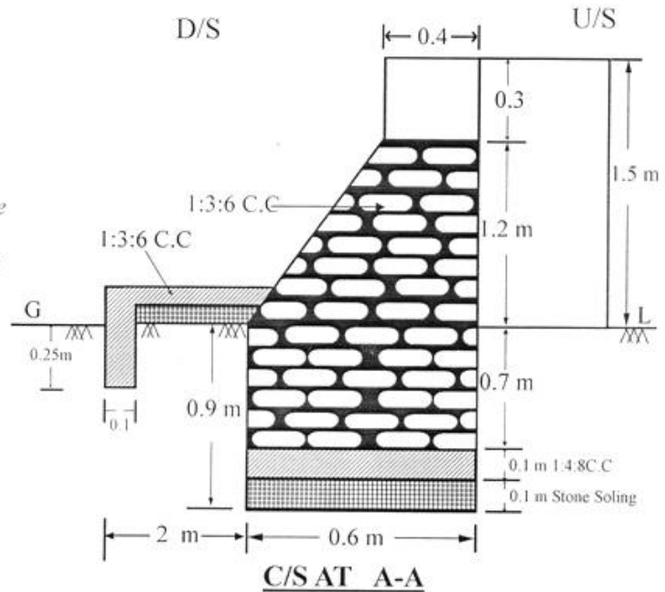


C/S AT B-B



C/S AT A-A

C.C. DAM

ALL DIMENSIONS IN METRE

NOT TO SCALE

PROVISIONAL ESTIMATE FOR CONSTRUCTION OF DUG-OUT POND
(BASED FROM P.W.D. SCHEDULE OF RATES FOR ROADS & BRIDGES FOR EASTERN SHILLONG CIRCLE FOR THE YEAR 2008-09)

1/3(a) Earth work in excavation to the proper grade including light dressing, providing cambering and super elevation as directed, and removal of spoils upto 30 m lead and all lift.

(c) Loose boulders above one man size or soil mixed with boulders above one man size or soft shale.

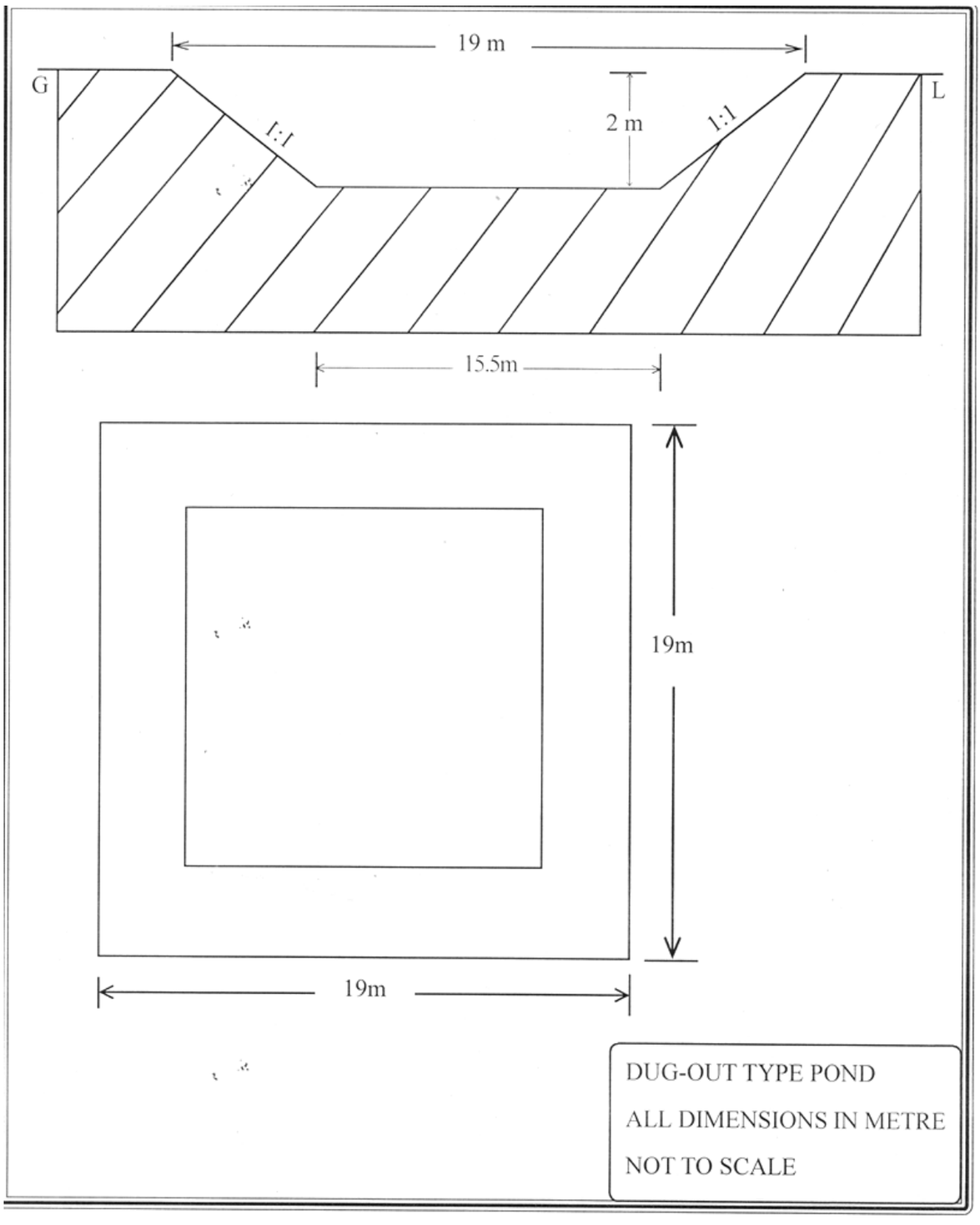
$$\frac{(15.5\text{ m} \times 15.5\text{ m}) + (19\text{ m} \times 19\text{ m})}{2} \times 2\text{ m} = 601.25\text{ m}^3$$

@ Rs. 42.00/m^3……..……...……..... ……... Rs. 25,252.50.00/-

Total = Rs. 25,252.50/-

Say = Rs. 25,000.00/-

Rupees (twenty seven thousand) only.



DUG-OUT TYPE POND

ALL DIMENSIONS IN METRE

NOT TO SCALE

PROVISIONAL ESTIMATE FOR CONSTRUCTION OF C.C. CHANNEL (BASED FROM P.W.D. SCHEDULE OF RATES FOR ROADS BRIDGES FOR EASTERN SHILLONG CIRCLE FOR THE YEAR 2008-09)

1/3 Earthwork in excavation to the proper grade including light dressing etc. as directed and removal of spoil upto 30 m lead and all lift.

(a) Ordinary soil

C.C. channel: 47 m x 0.8 m x 0.8 m = 30.08 m^3

@ Rs. 26.00/m^3 ---------- = Rs. 782.08/-

2/24 Providing stone pitching with one man size boulder not less than 25cm x 25 cm x 30 cm long filling the interstices with spoils and carriage of stone with in a distance of 200 m complete as directed.

Stone Soling

47 m x 0.8 m x 0.1 m = 3.76 m^3

@ Rs. 512.00/m^3 ---------- = Rs. 1925.12/-

3/28 Providing cement concrete works prop.1:3:6 including necessary carriage of stone and sand with in a distance of 200 m and curing complete (excluding shuttering)

Channel Bed	- 47 m x 0.8 m x 0.1 m	= 3.76 m^3
Side	- 2 x 47 m x 0.6 m x 0.1 m	= 5.64 m^3
	Total	**= 9.40 m^3**

@ Rs. 2344.00/m^3 ---------- = Rs. 22,033.60/-

4/41a Providing shuttering with dressed planks not less than 25 mm thick properly jointed, including bottom, props to the proper level and removing the same after concrete hardened complete as directed.

- 2 x 47 m x 0.6 m = 56.40 m^2

@ Rs. 295.00/m^2 ---------- = Rs. 16,638.00/-

5/27 Providing 12 mm thick cement plastering including cleaning surface, curing, carriage of sand within 200 m complete.

(b) Proportion 1:3

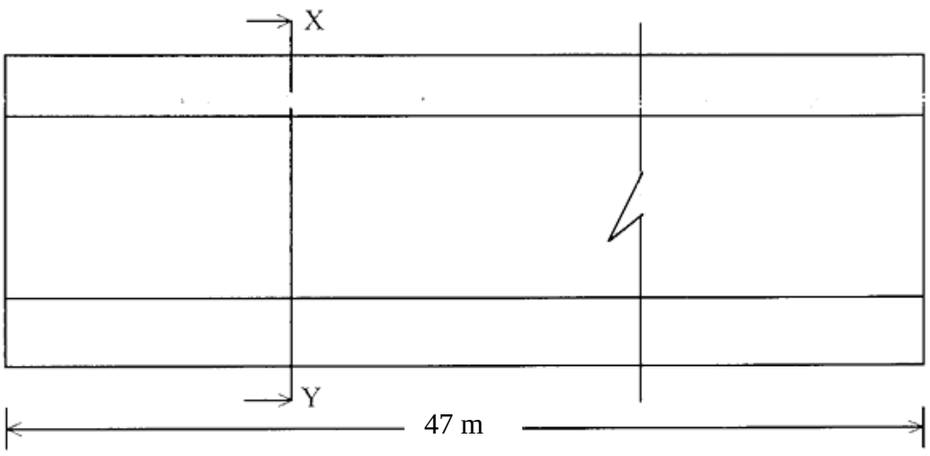
Channel inside	- 3 x 47 x 0.6 m	= 84.60 m^2
	- 2 x 47 m x 0.1 m	= 9.40 m^2
	Total	**= 94.00 m^2**

@ Rs. 92.00/m^2 ---------- = Rs. 8648.00/-

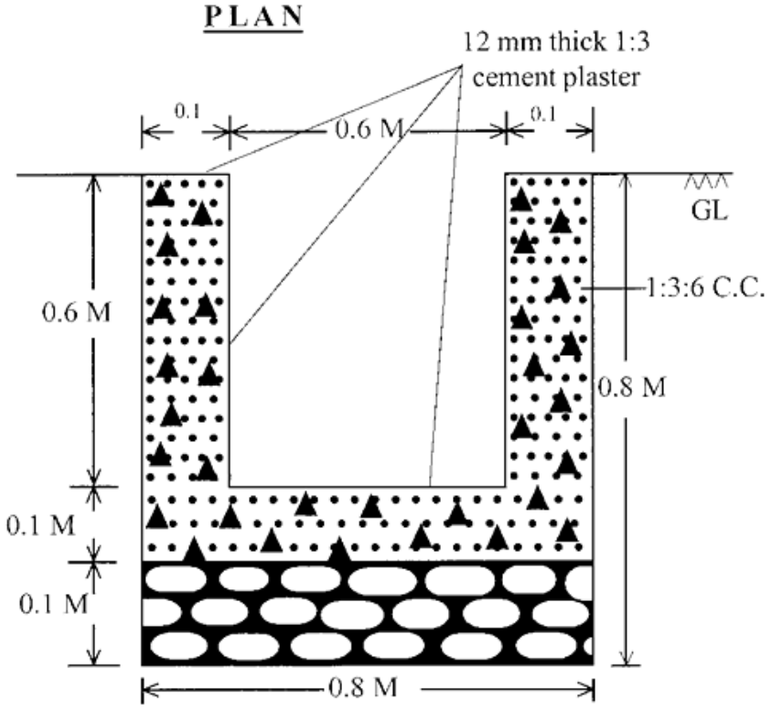
Total = Rs. 50,026.80/-

Say = Rs. 50,000.00/-

Rupees (fifty thousand) only



PLAN



SECTION OF C.C. CHANNEL AT X - Y

C.C. CHANNEL

ALL DIMENSIONS IN METRE

NOT TO SCALE

PROVISIONAL ESTIMATE FOR CONSTRUCTION OF PROTECTION WALL (BASED FROM P.W.D. SCHEDULE OF RATES FOR ROADS BRIDGES FOR EASTERN SHILLONG CIRCLE FOR THE YEAR 2008-09)

1/3(a) Earth work in excavation to the proper grade including light dressing etc. as directed, complete and removal of spoils up to 30m load to all lift.

(c) Loose boulders above one man size or soil mixed with boulders above one man size:

34 m x 1 m x 0.9 m = 30.60 m^3

@ Rs. 42.00/m^3……..……..……... Rs. 1285.20/-

2/24 Providing stone pitching with one man size boulder not less than 25cm x 25 cm x 30 cm long filling the interstices with spoils and carriage of stone with in a distance of 200m complete.

Stone Soling

34 m x 1 m x 0.1 m = 3.40 m^3

@ Rs. 512.00/m^3……..…..….... Rs. 1740.80/-

3/26 Providing cement concrete works prop.1:4:8 with hard broken stone aggregate river shingle 40 mm down graded including necessary carriage of stone and sand with in a distance of 200 m and curing complete.

Foundation bed: 34 m x 1 m x 0.1 m = 3.40 m^3

@ Rs. 2136.00/m^3…….……..…….... Rs. 7262.40/-

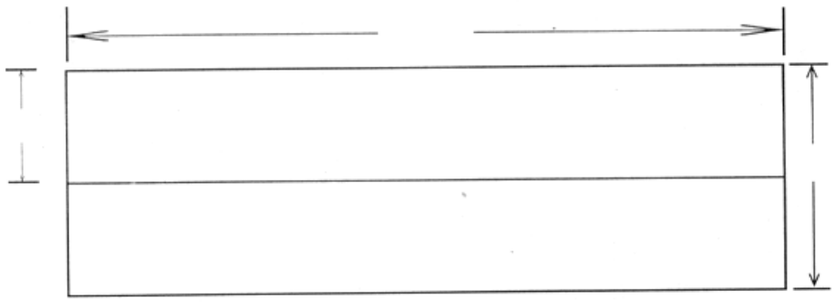
4/20(a) Providing regular stone masonry in retaining walls coursed with hammer dressed or blunt chisel dressed stone of heavy section not less than 25cm X 25 cm X 30 cm with proper keys stones, each not less than 25cm X 25 cm X 30 cm long set in cement mortar1:6 including carriage of stone with 200m, filling in trenches and providing weep holes at 1.2 to 1.5m apart staggered complete as directed.

a) with new stones

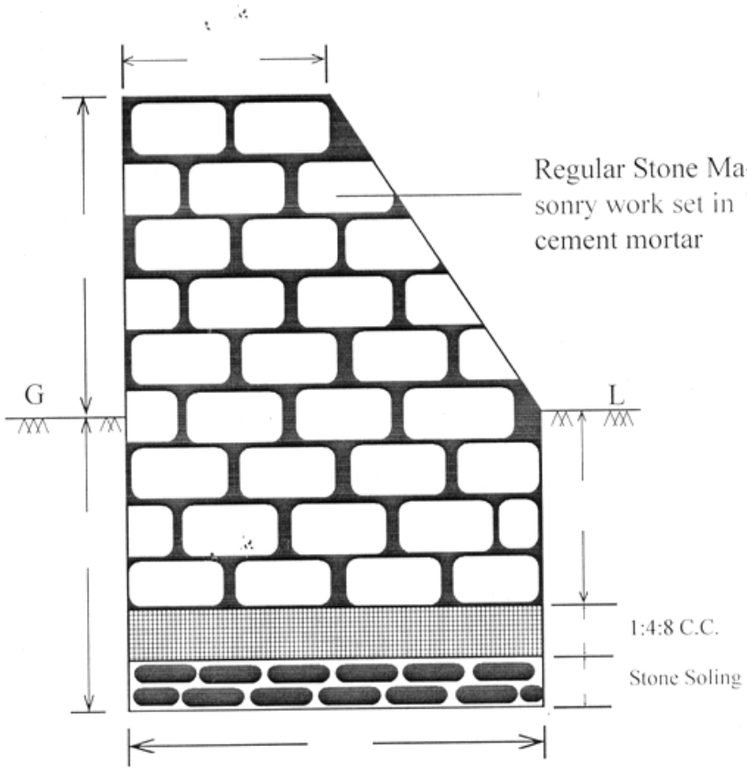
34 m x 1 m x 0.70 m = 23.80 m^3
34 m x (0.6+1)/2 x 2 m = 54.40 m^3
Total = 78.20 m^3

@ Rs. 1060.00/m^3…….…..…….... Rs. 82,892.00/-
Total = Rs. 93,180.40/-
Say = Rs. 93,000.00/-

Rupees (ninety three thousand) only.



PLAN



C/S A - A

PROTECTION WALL

ALL DIMENSIONS IN METRE

NOT TO SCALE

PROVISIONAL ESTIMATE FOR CONSTRUCTION OF STONE MASONRY DAM FOR WATER HARVESTING STRUCTURE (BASED FROM P.W.D. SCHEDULE OF RATES FOR ROADS & BRIDGES FOR EASTERN SHILLONG CIRCLE FOR THE YEAR 2008-09)

1/4(b) Earth work in excavation for dam below the lowest bed level including dewatering and boiling out water in or order to keep the foundation trenches free of water and protection the sixes of foundation by adequate shoring scaffolding including levelling the foundation and complete as directed.

(b) Soft or laminated rock or medium shale.

Dam: 5.8 m x 1.9 m x 1 m = 11.02 m^3

@ Rs. 152.00/m^3……..……..……..……... Rs. 1675.04/-

2/24 Providing stone pitching with one man size boulder not less than 25cm x 25 cm x 30 cm long filling the interstices with spoils and carriage of stone with in a distance of 200m complete.

Stone soling

Dam: 5.8 m x 1.9 m x 0.1 m = 1.10 m^3
Apron : 3 m x 2 m x 0.25 m = 1.5 m^3
Total **= 2.60 m^3**

@ Rs. 512.00/m^3……...……... Rs. 1331.20/-

3/26 Providing cement concrete works prop.1:4:8 with hard broken stone aggregate river shingle 40 mm down graded including necessary carriage of stone and sand with in a distance of 200 m and curing complete.

Foundation bed Dam : 5.8 m x 1.9 m x 0.1 m = 1.10 m^3

@ Rs. 2136.00/m^3……..……... Rs. 2349.60/-

4/29 Proving C.C. 1:2:4 corresponding to M in very hard stone aggregate of 20mm down graded including curing and necessary local carriage of stones aggregates and sand with in 200m (excluding shuttering and re-enforcement) complete as directed.

Face wall: 5.8 m x 2.6 m x 0.1 m = 1.50 m^3

@ Rs. 2880.00/m^3……..…...……...……..……... Rs. 4320.00/-

5/20(a) Providing regular stone masonry in retaining walls coursed with hammer dressed or blunt chisel dressed stone of heavy section not less than 25cm X 25 cm X 30 cm with proper keys stones, each not less than 25cm X 25 cm X 30 cm long set in cement mortar1:6 including carriage of stone with 200m, filling in trenches and providing weep holes at 1.2 to 1.5m apart staggered complete as directed.

Dam: 5.8 m x 1.8 m x 1.1 m = 11.48 m^3
5.8 m x 1.5 m x 0.3 m = 2.61 m^3
5.8 m x 1.2 m x 0.3 m = 2.08 m^3
5.8 m x 0.9 m x 0.3 m = 1.56 m^3
5.8 m x 0.6 m x 0.6 m = 2.08 m^3
Over flow out let side wall: 2 x 2.7 m x 0.3 m x 0.3 m = 0.48 m^3
Deduction overflow outlet opening: 2 m x 0.6 m x 0.3 m = 0.36 m^3
Total **= 20.65 m^3**

@ Rs. 1060.00/m^3……..……...……....…….. Rs. 21,889.00/-

6/41(a) Providing shuttering with dress planks not less than 25 mm thick properly jointed, level and removing the same after the concrete leak proof sheet.

Face wall: 1 x 5.8 m x 2.6 m = 15.08 m^2
Deduction overflow outlet opening: 2 m x 0.3 m = 0.6 m^2
Total **= 15.68 m^2**

@ Rs. 295.00/m^2……..……...……....…..…... Rs. 4625.60/-

7/27(ii) 12mm thick cement plastering including clearing surface prop. 1:3 including carriage of sand with in 200 m complete.

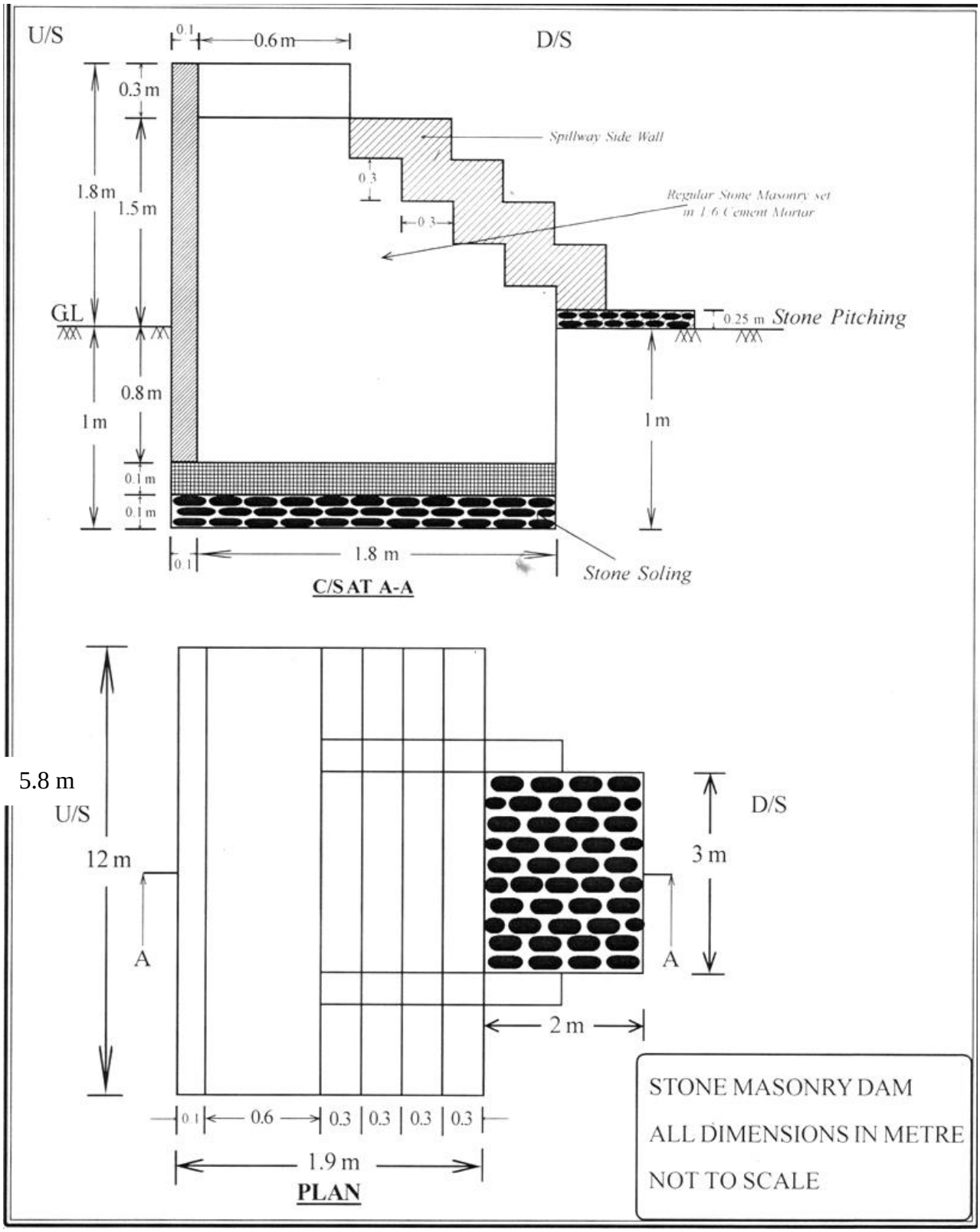
Dam:	2 x 5.8 m x 1.8 m	= 20.88 m^2
Top:	1 x 5.8 m x 0.7 m	= 4.06 m^2
Step:	4 x 5.8 m x 0.3 m	= 6.96 m^2
D/overflow outlet opening :	2 m x 0.3 m	= 0.6 m^2
	Total	**= 30.50 m^2**

@ Rs. 92.00/m^2……..……... Rs. 2990.00/-

Total = Rs. 39,180.44/-

Say = Rs. 39,136.50/-

Rupees (thirty nine thousand one hundred thirty six fifty paisa) only.


U/S
D/S
0.1
0.6 m
0.3 m
1.8 m
1.5 m
Spillway Side Wall
0.3
0.3
Regular Stone Masonry set in 1/6 Cement Mortar
GL
0.25 m
Stone Pitching
0.8 m
1 m
1 m
0.1 m
0.1 m
0.1
1.8 m
Stone Soling
C/S AT A-A
5.8 m
U/S
12 m
A
A
D/S
3 m
2 m
0.1
0.6
0.3
0.3
0.3
0.3
1.9 m
PLAN
STONE MASONRY DAM
ALL DIMENSIONS IN METRE
NOT TO SCALE

ANNEXURE - III

MoA & NO OBJECTION CERTIFICATE

CERTIFICATE OF REGISTRATION OF SOCIETIES
ACT XXI OF 1860
NO. JR/ U.U.W.C - 114/2011 of 2011.

I hereby certify that UMKYRPIANG UMKADUH WATERSHED COMMITTEE **Address:-** *UMKADUH, P.O. & P.S. NONGPOH, RI BHOI DISTRICT, MEGHALAYA has this day been registered under the Meghalaya Societies Registration Act, XII of 1983.*

Given under my hand at Nongpoh the **5th** *(FIFTH) Day of 12 (DECEMBER)* **2011** *(Two Thousand Eleven).*

Registration fee of Rs. 250/- (Rupees Two Hundred Fifty) only (Paid).

(Km.A.L.MAWLONG, M.C.S)
JOINT REGISTRAR OF SOCIETIES, MEGHALAYA
RI BHOI DISTRICT, NONGPOH.

Joint Registrar of Societies
Ri Bhoi District
Nongpoh

CERTIFICATE OF REGISTRATION OF SOCIETIES
ACT XXI OF 1860
NO. JR/ U.W.C - 113/2011 of 2011.

I hereby certify that UMNGOH WATERSHED COMMITTEE **Address:-** *LANGPADON, P.O. & P.S. NONGPOH, RI BHOI DISTRICT, MEGHALAYA has this day been registered under the Meghalaya Societies Registration Act, XII of 1983.*

Given under my hand at Nongpoh the **5th** *(FIFTH) Day of 12 (DECEMBER)* **2011** *(Two Thousand Eleven).*

Registration fee of Rs. 250/- (Rupees Two Hundred Fifty) only (Paid).

(Km.A.L.MAWLONG, M.C.S)
JOINT REGISTRAR OF SOCIETIES, MEGHALAYA
RI BHOI DISTRICT, NONGPOH.

Joint Registrar of Societies
Ri Bhoi District,
Nongpoh.

Joint Registrar of Societies
RI Bhoi District, Nongpoh

CERTIFICATE OF REGISTRATION OF SOCIETIES
ACT XXI OF 1860
NO. JR/ U.W.C.I.W.M.P.VII - 112/2011 of 2011.

I hereby certify that UMSEW WATERSHED COMMITTEE I.W.M.P.VII **Address:-** *NONGWAH MAWLEIN, B.P.O. & P.S PATHARKHMAH, P.O.NONGPOH, RI BHOI DISTRICT, MEGHALAYA has this day been registered under the Meghalaya Societies Registration Act, XII of 1983.*

Given under my hand at Nongpoh the **5th** *(FIFTH) Day of 12 (DECEMBER)* **2011** *(Two Thousand Eleven).*

Registration fee of Rs. 250/- (Rupees Two Hundred Fifty) only (Paid).

(Km.A.L.MAWLONG, M.C.S)
JOINT REGISTRAR OF SOCIETIES, MEGHALAYA
RI BHOI DISTRICT, NONGPOH.

Joint Registrar of Societies
RI Bhoi District
Nongpoh

CERTIFICATE OF REGISTRATION OF SOCIETIES
ACT XXI OF 1860
NO. JR/ U.I.W.M.P - 05/2012 of 2012.

I hereby certify that UMNGEI INTEGRATED WATERSHED MANAGEMENT PROGRAMME (IWMP)

Address:- *PAHAMSHIKEN, P.O & P.S. NONGPOH, RI BHOI DISTRICT, MEGHALAYA has this day been registered under the Meghalaya Societies Registration Act, XII of 1983.*

Given under my hand at Nongpoh the 5th (Fifth) Day of 01 (January) 2012 (Two Thousand Twelve).

Registration fee of Rs. 250/- (Rupees Two Hundred Fifty) only (Paid).

(Km.A.L.MAWLONG, M.C.S)
JOINT REGISTRAR OF SOCIETIES, MEGHALAYA
RI BHOI DISTRICT, NONGPOH.

Joint Registrar of Societies
Ri Bhoi District,
Nongpoh

HEADMAN UMKYRPIANG VILLAGE

Raid Nongsohbar – Mylliem Syiemship
P.O. Nongpoh, B.P.O. Marngar
Ri Bhoi District-Meghalaya – 793102

Ref. No. N O C. Date: 14-11-2011

Nga U Rangbah Shnong Umkyrpiang ngam don ka jing objection ia ka schem kaba wan na ka watershed na ka Soilconserba Nongpoh Ribhoi Distr ha ka Shnong Umkyrpiang na kaba kumta ka Sau Snem nga Sngewnguh ia ka Soil conservation Dept kam Shim khia ia kane ka Skim khnang ba ka Shnong Umkyrpiang kan ioh ka jing myntai.

Headman
Umkyrpiang
S Teran
Headman
Umkyrpiang
Mylliem Syiemship
Date............

DORBAR SHNONG UMKADUH

RAID NONGSOHBAR, MYLLIEM SYIEMSHIP
RI BHOI DISTRICT

DORBAR SHNONG UMKADUH Date.....

Refer. No: DSU/NOC/2011/01. *Dated: 10th November, 2011*

NO OBJECTION CERTIFICATE

This is to Certify that the Dorbar Shnong Umkaduh, Raid Nongsohbar, Mylliem Syiemship, Ri Bhoi District, have no Objection to the Office of the Soil & Water Conservation Department, Ri Bhoi Division, Nongpoh, for the Implementation of various activities under the ***Umkyrpiang – Umkaduh I W M P. Scheme*** *in the defferent areas within the boundary of the Village.*

The Dorbar Shnong Umkaduh, will co-operate the above mentioned Office whenever need and necessary, for the walfare and benefits of all the Villagers.

10/11/2011

(Shri, B R Sylliang)
Rangbah Shnong
Umkaduh, Ri Bhoi District

Rangbe Shnong Umkaduh Ri Bhoi District

DORBAR SHNONG RYNDHI

Mylliem Syiemship, Ri Bhoi District

Ref. No..... Date :.....

No Objection Certificate

Ngi ha ka liang ka Dorbar Shnong Ryndhi, Mylliem Syiem Ship lem bad ka Executive committee jong ka Shnong Ryndhi Ngi la pdiang Sngewbha ia kane ka Water Shed Scheme. Ka ban wan hapoh ban pyn trei ia kane ka Scheme. Ka Shnong kane ka kam kan ym don ka ujor, bad ngi kloi ruh ban ia trei lang na ka bynta ban wan kah ia ka roi ka Par hapoh Shnong poh thaw.

Rangbah Shnong
Ryndhi, Raid Nongsohbdeb
Mylliem Syiemship

DORBAR SHNONG LUMKYA

RAID NONGSOHBAR, MYLLIEM SYIEMSHIP

Ri Bhoi District – 793102

Ref.No.*LSU/*.............................. **Date : ....**

"No. Objection Certificate"

Nga u Rangbah Shnong lem bad ka Executive Dorbar Shnong Lumkya Mylliem Syiemship, Ri-Bhoi District, Nongpoh ka rai ban mynjur bad pdiang bad kam don eiei ban pynshoh khlor ka jingpyn-trei na ka Skim Umkyrpiang- Umkaduh IWMP khapoh ka Shnong Lumkya lyngba ka office jong ka Soil & Water Conservation Department, Ri-Bhoi Division, Nongpoh.

Ka Dorbar Shnong ka mynjur ban ia trei lang bad ka office na ka lynti ka jingkha jong u Nongshong Shnong.

DORBAR SHNONG UMSAWNOLDHI

RAID NONGKHARAI, 12 LYNGDOH

Ri Bhoi District – 793102

Ref.No.*DSU/*.............................. *Date :* ....

N. O. C.

Ka Dorbar Shnong Umsaw Noldhi, Mylliem Syiemship, Ri- Bhoi District, Nongpoh ka mynjur bad kam don ei ei ban pynshah halor ka jingiam jong ka Skim Umkyrpiang- Umkadah IWMP lyngba ka tnad treikam jong ka Soil & Water Conservation Department Ri- Bhoi Division, Nongpoh ban pyntrei hapoh ka Shnong Umsaw Noldhi

Ka Dorbar Shnong kan iaitrei lang synjlat bad ka office na ka liang ka rai ka bar jong ki paitbah Nongshong Shnong.

Rung... Shnong
Ur... oldhi
Nong... irdarshi
Date ____________

DORBAR SHNONG UMSAWNOLDHI VILLAGE

Raid Nongkharai, XII Lyngdoh

RI BHOI DISTRICT

Meghalaya - 793102

Sl. No. ....

Date. 30/11/11

Ha

Divisional Soil Conservation officer.

Ri Bhoi District Nongpoh.

Subject ÷ Jingkieng iaid kjat (foot bridge)

Madam,

Katkum ka subject kala kdew hangne ngi naka Dorbar Shnong Umsawnoldhi, ngi wan ban kyrpad rit ha kham jong phi ba phin sngewbha ban iarap lem ban pyntrei ia ka jingkieng iaid kjat (foot bridge) ka ban iaid lyngba ka wah Umsaw naka lynti ki nongrep jong ki artylli Umsaw ka Umsawnoldhi lead Sohlait kaba ngi ki shnong. ka donkam eh.

Ngin jin dala sngewnguh shibun ia ka jingiarap jong phi

Khublei Shibun

Rungbah Shnong
Umsawnoldhi
Nongpoh Sirdarship
Date ________

Dorbar Shnong Lumkya

Ri Bhoi District - 793102

Ref. No. .... Date. 24/11/'11.

Ha

Divisional officer of Soil conservation
Ri - Bhoi - Dist - Nongpoh.

Sub - Ka jing kyrpad ban ioh jingiarap na ka Scheme water Shed na ka lyngta ka umbam umdih ja ka Sum.

Sahep kadon burom,

Ka Dorbar Shnong Lumkya ka wan ud shaphi ka Scheme water Shed ban ai jing ia rap na ka lyngta ka umbam umdih ja ka Sum na ka Scheme water Shed jong phi, namar ba ngi tyngjar ha ka ba ia dei bad kane ka kam, da ka jingdon kti lang jong phi. ngin ioh ka sngi ka pynhapsoh shnong poh thaw.

Ngin jin da la Sngew nguh Shi jinom ia ki jingleh babha bad Sbun jong phi

[signature]

Rangbah Shnong
Lumkya Raid Nongsohbo
Mylliem Syiemship

DORBAR SHNONG UMKADUH

RAID NONGSOHBAR, MYLLIEM SYIEMSHIP
RI BHOI DISTRICT

DORBAR SHNONG UMKADUH Date

Refer. No. DSU/24/11/11. *Dated: 24th November, 2011*

Ha,

I District Soil and Water Concervation Officer,
Ri Bhoi Division, Nongpoh

Subject: *Ka jingphah ia ka Project na ka bynta ban pyntrei ia ka Entry- Point.*

Sahep badonburom,

Ha kaba iadei bad katei ka ka subject haneng, na ka bynta ban pyntrei ia ka Entry –Point jong ka Umkypiang- Umkaduh Water -Shed Scheme , ngi ka Shnong Umkaduh, lyngba ka Dorbar Shnong kaba la long ha ka 9th, November, 2011, ngi pyntip sha phi ba ngi la mynjur bad rai ban pyntrei / shna ia ka Pung Ri Dohkha jong ka Shnong, kaba don ha Wahtyrlaw, Umkaduh, Ri Bhoi District, na katei ka Scheme katkum ba la pynmang na ka Office jong phi.

Kum ki Nongshong Shnong, ngin jin da la sngewnguh shibun iaka jing lehbha bad jingiarap lem jong phi ia ngi na ka bynta kane.

Khublei Shibun.

Ba burom eh ia phi.

(Shri. D N Kylla)
Secretary
Shnong Umkaduh
Ri Bhoi District

(Shri, B R Sylliang)
Rangbah Shnong
Umkaduh, Ri Bhoi District

DORBAR SHNONG UMKYRPIANG

P.O.NONGPOH,B.O.MARNGAR

RI BHOI DISTRICT,MEGHALAYA

Ref.No.....

Date.....

Ka

Ka Soil Conservation Officer
Watershed Cell. Division- Nongpoh,
District: Ri-Bhoi. Meghalaya.

Phang: Entry point Activity

Katkum ka phang ba la kdew haneng ka Dorbar Shnong Umkyrpiang kaba la long halka Dt 24/11/1 la shim ka wei ka rai na ka bynta ka Entry point Activity, ha kaba baroh ka Dorbar hi ka la myrjur ba phah shna bynbha noh ia ka top um, ka jaka sum, k jaka sait jaim, ka jaka tong um bad ka jingker ha ba roh sawdong ka thyllong um ha baroh ar kulli ki jaka ba don hapoh Shnong.

Ka Dorbar Shnong la ia myrjur ruh ban ia trei lang bad phi ka office ha kaba yn sieu baroh ia ka bai trei-Mistri da ka Shnong. Hynrei ia ki bai tiar baroh la shamniah na ka office jong ph ban pynbiang katkum ka plan.

Ngeit sdhem ba ka jingthmu babha jong phi ka office ban ia trei lang bad ryi ka Shnong Umkyrpian kan long kaba jop.

Dated: Umkyrpiang
The: 24/Nov/2011.

Secretary
Shnong Umkyrpiang
Date.....

DORBAR SHNONG RYNDHI

Mylliem Syiemship, Ri Bhoi District

Ref. No.................................... Date ....

Ha

Divisional officer of Soil
Conservation Nongpoh.

Sub :- Ka jingkyrpad ban pyn shna um
bam umdih bad jaka Sum,

Sahep badon burom:-

Kat kum katei ka phang ba la kdew haneng, ka Dorbar Shnong Ryndhi ka wan ud ha khmat ka burom ba Sbum jong phi, ban pyn ioh ban iarap na ka leynta ka um bam um dih bad jaka Sum, na ka Scheme water shed jong phi

Ngin jin da la bnyew nguh shi jumai na ka leynta ka jing leh bha bad Sbum jong phi na ka leynta ka roi ka par hapoh shnong poh Thaw,

KKH2
Rangbah Shnong
Ryndhi, Raid Nongsohbo
Mylliem Syiemship

DORBAR SHONG UMSAWNONGKHARAI

RAID NONGKHARAI, 12 LYNGDOH NONGPOH SIRDARSHIP ELAKA
RI BHOI DISTRICT, NONGPOH - 7931002

Ref. No: .....—.....

Date: 29/11/2011.

N.O.C

Ka shnong Umsaw Nongkharai bad Langpadon, ngim don kano kano ka jing pyrshah halor ka jingwan jong ka scheme Water Shed ha ki shnong jong ngi bad ngi kyrmen ba kine ki scheme kin wanrah ia ka jingmyntoi jong ki shnong baroh kawei.

Ki member ki long kumne harum:

1. Seperian Sumer :
2. Steven Nongrum : S. Nongrum
3. William Nongrum :
4. Therina Sumer : T. Sumer.
5. Kristina Lapang : at Rangkang
6. Stephan Maring : S. Maring
7. Ana Mary Syngkli : A. Syngkli
8. Theilinsian Syngkli : T. Syngkli

R. Syngkli
Secretary
Langpadon Ri Bhoi District
Meghalaya

A. Sun
Headman
Umsaw Nongkharai Village
Nongpoh Elaka, Ri Bhoi District

DORBAR SHNONG NONGWAH PAHAMRYNGKANG
Nongkhlaw Syiemship
P.O. Patharkhmah
Ri Bhoi District, Meghalaya.

Ref. No : 2 .... Date : ....

Ha

U Range officer, Soil conservation Patharkhmah Subdivision.

(Subject): Ka kam ban pyntrei naka Entry point.

Sahep,

Haka ba iadei bad ka subject bala kdew haneng ka durbar shnong, ka la myntu ban pyntrei na ka entry point jong ka Umsaw watershed scheme, ha kaba shna ia ka umdih kaba don hapoh shnong. Ki kam ban pyntrei ki long ban shna ia ka jaka sait jain lom bad ka jaka sum, bad ruh ban pynbha ia ka tyllong jong ka.

Kumta, hakaba iadei bad ka scheme watershed ka Durbar Shnong, ka dap da ka jingkmen bad jingkyrmen ka ka shnong baroh kan nangkham kiew haka liang ka roi ka par. Kum ka Dorbar, kam don kano kano ka jingsngew pyrshah ne jingsngew wit, halor ka jingwan jong katei ka Scheme.

Dated: Nongwah Pahamryngkang
23rd Nov. 2011

Khublei shibun u ba burom eh iaphi.

Shri. N. Syiem
Sordar Shnong
N/Pahamryngkang.

Sordar
Nongwah Pahaa Ryngkang
Ri-Bhoi Dist.

Ka rai jong ka Executive Shnong Nongwah Mawlien ka ba ea shnong pyrthat ha ka Step 24/11/2011 ki long kum ne ha rumm :-

(1) Jaka sail-jain ha kyllong rumm dih jaka rumtrem sohpatheh?
(2) Flack formm haba jaka rumm dih (Kyntoit-long sohlwa)
(3) Rumm dih, rumjashir (~~damm~~) (Flack formm)

SORDAR
SHNONG NONGWAH MAWLIEN
RI-BHOI DISTRICT

OFFICE OF THE

DORBAR SHNONG SOHKPU

RAID NONGLYNGDOH ,RI-BHOI DISTRICT, MEGHALAYA

Ref No:- Date _/_/_

NOC.

Ka Dorbar Shnong Sohkpu

Kala iai ia kane ka jingmynjur ia ka Soil & water conservation Dept-ment ban pyntrei ia kane ka water shed umngei-hapoh ka Shnong jong ngi. Khlem kano kano ka jingpyr-shah. ne nuior. na ka bynta ka rae ka par ha ka imlang soh lang hapoh ka shnong jong ngi

member

1. Iiasstiar-maring-
2. Baruel maring-
3. mein makri-
4. Thoh mas-Lapang-THOL
5. Giries Syngkli-

Secretary
Village Sohkpu
Raid Nonglyngdoh

Headman
Village Sohkpu
Raid Nonglyngdoh

Office of the

DORBAR SHNONG PAHAMSHIKEN

Ref No -

Date . 14/11/2011....

N.O.C

Ka Dorbar Shnong Pahaamshiken ka ai ialeane ka jingaiqmujur ia ka Soil & Water Conservation Department ban pyntrei ia kane ka Watershed - Umngei hapoh ka shnong joongagi khlem kano kano jing pyrshah ne iujor na ka bynta ka Koi kapar ha ka imlang sahlang hapoh ka Shnong joongagi.

Khublei Shibun.

Secretary
Village Pahamshiken
Date 14/11/2011

Members

1- Francis Lyngdoh.
2- Net Maring. Maring
3- Petrus Syngkli. P. Syngkli
4- Mildret Lyngdoh. Lyngdoh
5- Queentina Maki. Maki

Headman
Pahamshiken Nongpoh
Ri Bhoi District

OFFICE OF THE

DORBAR SHNONG UMNGEI

RAID NONGLYNGDOH ,RI-BHOI DISTRICT, MEGHALAYA

Ref No:- Date _/_/_

N.O.C

Da kane ngi pynshisha ba kam

don jingeh ciei ban pyntrei iakane ka Scheam

ha poh Shnong jong ngi, Ryngkat bad ka

Dorbar Shnong ngi la pynshisha ba kam

don kano kano ka jing ~~kom~~ complain na ka

Shnong jong ngi ban pyntrei iaka Skheam

napoh Sail watterconsveslon

(Shri. B ...)
Rangi...
Umnge...

Member Khlubkei Shibun

1) u Gabriel makri
2) u Hhios makri
3) u Stephan makri
4) u mohes moghon
5) u Epias Lyngdoh.

L. Syiem
Secretary
Dorbar Shnong Umngei
Date...

OFFICE OF THE

DORBAR SHNONG UMNGEI

RAID NONGLYNGDOH ,RI-BHOI DISTRICT, MEGHALAYA

Ref No:- Date __/__/__

To

umngei wattersheed commectee (J,W,M,P

Ri bhoi District Nongpoh

Sub -> Entry point Activities (E, P, A)

Sir

that kum ka excutive commetee jong ka shnong jong ngi ngi la rai bon pyntrei ia ka school wall bad ka wei ~~ka~~ bon kynroh umdih op school khamta la ~~py~~ ngi kyrpat rapli bon phin peit lem iaka jing don kam jong ngi ki balong ki ar tylli ki point jing dom kam jong ngi ka ba iadei badka sfhcan ka pli phah sha shnong jong ngi tyngba ka soil waterconservytion

(Shri. B. Makri)
Rangbah Shnong
Umngei

Secretary
Umngei

OFFICE OF THE

DORBAR SHNONG SOHKPU

RAID NONGLYNGDOH ,RI-BHOI DISTRICT, MEGHALAYA

Ref No:-

Date __/__/__

To

Umngei watershed committee (I-W-M-P

Ri-Bhoi District Nongpoh.

Subject - Bon Shna Kawei ka Dam um Sum ha um pur.

Rangbah_

Katkum Katei ka Subject ka Kdew haneng ka dorbar Shnong ka la long ha ka 15/11/2011 - jan mier ka Shim kawei ka rai ban pyntrei ka Dam um Sum ha um pur.

Secretary
Village Sohkpu
Raid Nongtyngdoh

Member.

1. Costian maring - [signature]
2. Barnel maring - [signature]
3. Moin makri - [signature]
4. Thohmas Lapang - THOL
5. Girces Nongrumkhei [signature]

Headman
Village Sohkpu
Raid Nonglyngdoh

Office of the

DORBAR SHNONG PAHAMSHIKEN

Ref No -

Date : 12/11/2011

To,

Umngei Watershed Committee (I.W.M.P)

RiBhoi District Nongpoh.

Sub:- Entre point Activities (E.P.A).

Ka Committee kaba la loang ha ka 12/11/2011 jan miet, kala shim iaka rai ban pynbha ia ki 2 tylli ki tylloang Umdieh bad 1 kawei ka Footpath ban leit sha Jing Maaie. Ki kyrteng jong ki tyllong um kilong kiane kumne.

1- Um Shair Naram.
2 - Um Sohkyrbam.
3 - Footpath Jing Maaie.

Secretary
Village Pahamshiken
Date 12/11/2011

Members

1 - Francis Lyngdoh
2 - Net Maring (signature)
3 - petrus Synglei P. Synkli
4 - Mildreth Lyngdoh (signature)
5 - Queentina Maki (signature)

(signature)

Headman
Pahamshiken Nongiyndoh
Ri Bhoi District
12/11/2011.

AWARENESS PROGRAMME OF UMKYRPIANG-UMKADUH

PRA EXERCISE UMKYRPIANG-UMKADUH

ENTRY POINT ACTIVITIES UNDER SURVEY
UMKYRPIANG-UMKADUH

DURING SURVEY UMKYRPIANG-UMKADUH

AWARENESS PROGRAMME OF UMNGOH

PRA EXERCISE UMNGOH

AWARENESS PROGRAMME OF UMSEW

PRA EXERCISE UMSEW

AWARENESS PROGRAMME OF UMNGEI

PRA EXERCISE UMNGEI