

EXECUTIVE SUMMARY
Chhumkhum- Chawngte Road

1.0 Mizoram State Road Project II (MSTP II)

India ram sawrkar chuan Mizoram chung kawng thenkhat, state highway-te, district road-te a awmsa tihzau leh changtlung zawka siam that nante tanpuina a dil a, chung kawngte chu *Mizoram State Roads Project II* (MSRP II) tih a nia, fig.1.1 atar lan ang hian ani. MSRP-II hi group 2 a then leh a niin, he group I leh II hi a hnuai a fig. 1 leh table 1 a mi ang hi ani. Group-I project hi buaipiu mek niin tunah hian mithiambik Project Preparatory Consultants¹ (PPC) ruaiin heng mite hian Mizoram PWD-te an thawhpui mek ani. MSRP-II hi category ‘A’ ah dah a ni.

Table 1.1 –MSRP II hnuai a project kal pui turte			
Group -1		District(s)	Length
i	Package-I of Lunglei- Tlabung-Kawrpuchhuah	Lunglei	0-30Km of L-T-K road
ii.	Champhai – Zokhawthar	Champhai	27.5 km, (E-W road , Myanmar Border thleng)
iii.	Chhumkhum-Chawngte	Lunglei	41.53 km, (part of original N-S road
Group – 2		District(s)	Length
i.	Junction NH44A (Origination) – Chungtlang – Darlung – Buarpui	Mamit&Lungl ei	83 km
ii.	Buarpui – Thenlum – Zawlpui	Lunglei	95 km
iii.	Chawngte , bridge telin BungtlangSouth Multimodal Road junction	Lawngtlai	76 km
iv.	Zawlpui – Phairuangkai	Lunglei	30 km
V	Package –II and package -III of Lunglei - Tlabung – Kawrpuchhuah road	Lunglei	Package –II = 30Km to 60Km Package –III = 60 Km to 87.35 Km

1.1 Chhumkhum - Chawngte road

Mizoram Public Works Department te chuan *Chhumkhum to Chawngte* road awmsa, km 47.30 a a thui hi village road (other district road – ODR :PWD kawng then danin) standard atangin 2-Lane National Highway Standard a /laihzauh/siam tum ani. He kawng hian thingtlang khaw then khat Chhumkhum, Rangte, Lalnutui, Lungrang, Rualalung and Chawngte etc. te a paltlang ani. He kawng hi Mizoram Chhim-Thlang lam mite tan chuan kawng pawimawhtak a ni, A kawng hian tlangram lo neihna hmunte, Forest Plantation te leh mihring chenna khuate a pal tlang a ni.(figure-2 enrawh)

1.2 Environmental Impact Assessment (EIA) thiltum leh a tulna leh pawimawhnate.

World Bank chuan category “A” projects ang atan hian Environment Management Plan duan rualin EA report kimchang duan tel nghal a duh a. Environmental Clearances chungchanga Government of India (GOI), Ministry of Environment and Forest (MoEF) EIA Notification on (September,14, 2006)–ah hian Category A leh B projects¹ Environment Clearance dilna atan hriattur tul atih te a chuanga hengte hmang hian World Bank Policies leh the EIA notification GOI, MoEF te duhdanin EIA report kimchang hi buatsaih ani.A meizang hlaptu ber chu Public Works Department (PWD) of the Government of Mizoram niin STUP Consultants Pvt. Ltd te hi EIA Report buatsaih kawng ah MPWD puitute anni.

2.0 Kawng zauhzawng, chhuk/choh dan leh kawng kaldan:

Kawng tetakte, thingtlang kawng awmsa, meter 5 lek a zau (MPWD chuan heng kawng hi ODR tiin an vuah) chu Kawng liantak two-lane national highway standard (a zauh zawng meter 12) a tih chang tlun tum a ni.

He kawng awmsa siamthat tumdanah chuan a kawng chhuk/chhoh dan hi 5% ai a chhuk/chholo a siam a ni tlangpui anga, lohtheihloh lai tlemte hi 7% ai a tamlo a siam tum ani. Heng bakah hian kawng awmsa laihzauhte, culvert te, kawng kual siamthatte ani. Hmun thenkhat akawng ngai zawhloa kawngghan rehngai zeuh zeuh tih lohah chuan a tlangpui thuin kawng centre line hi tuna ROW chungah tho hian kaltir a ni ang. A tulang ang siamthat hnua kawng seuzawng turhi km41.53 a sei aniang.

Henghmunah te hian kawng pangngaia kalloin kawngthar zawn a ni.: 1. KM 0.00 leh km 0.55 inkar 2. Km 28.10 leh km 29.90 inkar leh 3. Km36.10 leh km40.31 inkar. Kawng zawng zawng deuhthaw hi mimal ram periodic pass neite, LSC pass nei leh VC pass neite a paltlang a ni.

¹Category A project is cleared by the Expert Appraisal Committee or EAC constituted by MOEF and Category B by State Environmental Impact Assessment Authority (SEIAA) constituted by MOEF at State level.

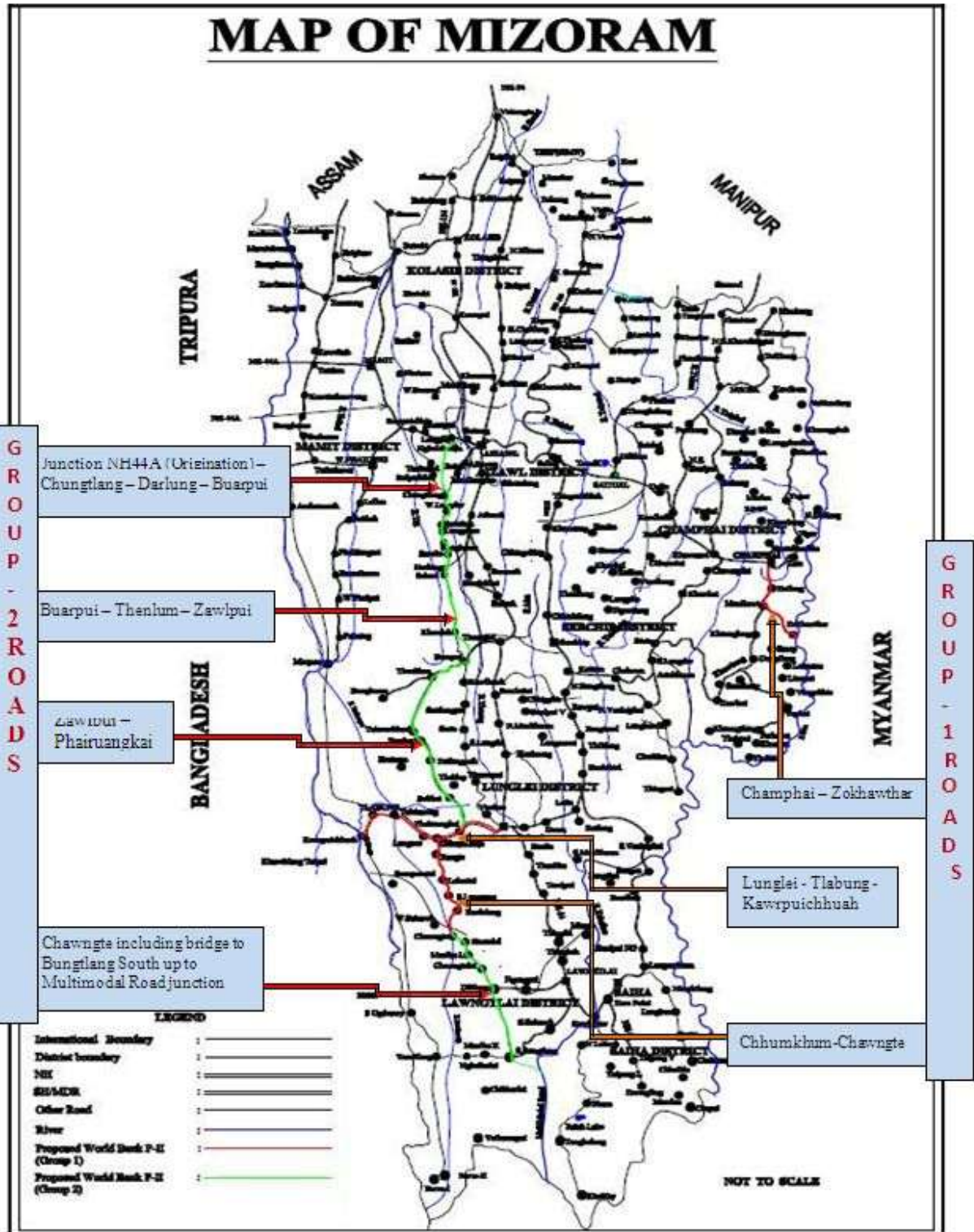


Figure 1: Map showing the proposed road under MSRP II



Map 2: Map showing the alignment of Chhumkhum - Chawngte road and realignments

He kawng laizauh leh siamtha tur hian leilaihte leh a slope siam te a awma. Slope cut thui zawng hi atlangpuiin meter 3 atanga meter 2 a ni tlangpui. Hei hian 1.02 million cum atam leivung a chhuah dawna, heng leivung atang hian 0.3 cum atam chu leivung paihna tura hmunruatlawkah paih ani anga, adang chu kawngsiamnan hmannghaltur a niang. He kawngsiamnan hian ram 57.58ha mamawhbelh ania heng zingah hian 3.85 chu forest land ani.

Project siamnan hian civil work leh a dang neuh neuhah Rs.274.20 ani.

3.0 Environmental Dan leh dun

He project siam nan hian heng a hnuai ami national leh state chhung dan leh dunte hi hman ani.

Table -2 Project siamnan a Environmental dan leh dun rawnte:Summary of Environmental Legislation Applicable to the Proposed Project

- Environment (Protection) Act. 1986
- Notification on Environment Impact Assessment of Development projects (and amendments) 2006 ,2009,2010,2013
- Wildlife Protection Act 1972
- Water (Prevention and Control of Pollution) Act (and subsequent amendments)1974
- Air (Prevention and Control of Pollution) Act (and subsequent amendments)1981
- Forest (Conservation) Act,1980
- Central Motor Vehicle Act 1988and
- Central Motor Vehicle Rules1989
- Ancient Monuments and Archaeological Sites and Remains Act 1958
- The Land Acquisition Act 1894 & 1989
- Noise Pollution (Regulation and Control) rules 2000/2001
- Ramsar Convention on Wetlands of International Importance 1971
- Assam Forest Regulation of 1891.
- The Mizoram (Forest) Act, 1955 (as passed by Mizo District Council).
- The Pawi Autonomous District Council (Forests) Act, 1979.
- The Lakher Autonomous District Council (Forests) Act, 1981.
- The Chakma Autonomous District Council (Forests) Act, 1992.
- Mizoram Wildlife (Protection) Rules, 1990.

Construction stage
<ul style="list-style-type: none"> • Air (Prevention and Control of Pollution) Act, 1981 and Noise Pollution (Regulation and Control) Rules, 2000 • Hazardous Waste (Management and Handling) Rules, 1989 and Manufacturing, Storage and Import of Hazardous Chemicals Rules, 1989 • Environment Protection Act, 1986 and Manufacturing, Storage and Import of Hazardous Chemicals Rules, 1989 • Environment Protection Act, 1986 • Water (Prevention and Control of Pollution) Act, 1974 • Environment Protection Act, 1986 • Environment Protection Act, 1986 • Hazardous Waste (Management and Handling) Rules, 1989
Labour related Laws -
<ul style="list-style-type: none"> • Workmen's Compensation Act 1923 • Contract Labour (Regulation and Abolition) Act, 1970 • Minimum Wages Act, 1948 • Payment of Wages Act, 1936 • Equal Remuneration Act, 1979 • Child Labour (Prohibition and Regulation) Act, 1986 • Inter-State Migrant Workmen's (Regulation of Employment and Conditions of Service) Act, 1979 • The Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996 and the Cess Act of 1996 • The Factories Act, 1948 • Hazardous Wastes (Management and Handling) Rules, 1989 Chemical Accidents (Emergency Planning, Preparedness and Response) Rules, 1996

World Bank Policies: Chhumkhun-Chawngte Road atan hian a hnuaiia World Bank's environmental safeguard policies te hi hman ani: Environmental Assessment (OP 4.01), Natural Habitats (OP 4.04), Forestry (OP 4.36), Physical Cultural Resources (OP 4.11), and World Bank Group Environmental, Health, and Safety (EHS) Guidelines. Social safeguard policies lama dan leh dun hmantheihte pawh R&IPDP ah telh ani.

4.0 Methodology

5.0

Chhumkhun - Chawngte Road siamthat tumnaah hian kawngchhak leh thlang km 5 huamchhung hi 'Broad influence area' tih a nia.. Meter 300 vel huamchhung hi 'Core Influence Zone (CIZ)'. a puan ani. He CIZ hi ahmun a zir leh thilthleng a zir a danglamthei ani.

He kawngsiam thatnan hian hmanrua, hnatawna tur hmun a hriattur tulte, mipuite thurawnte, leh thilawmdan chiktak a zirchianna te hman a ni. Heng thil chiangtaka zir a nih avanghian kawng siam avanga thilthalo awmlo theite pawh tamtakchu pumpelh leh thil thalo pawh tha zawkin alo kalpui theih dawn ani. Environment Management Plan (EMP) hian thil che tur ven leh thawm thatte a keng tel a, heta tan hian sum pawh senral ani dawn.

5.0 Baseline environmental scenario

Physical Setting. Projeet thawhna hmun tur hian climate a nei a. Nipuiiah chuan alumin a uap hle a, thlasikah erawh chuan khua a vawtin a ro hle thung ani. Hunpui pathumah han then ta ila: Thlasik(November- February), Nipui(March – May) leh Fur (June-October). Project hmun hi a climate a nuam hle a,. Temperature 8°C atanga 28°. Kum 2013 chhuang a kumkhata ruahtui tlazat chu 2540 mm vel a ni.(hei hi furlai a tla deuh vek ani.)

Project awmna tur ram hi tlangram a nia. Project awmna bul (project influence area) tlangdungte hi chawhrualin meter 900 MSL (Tuifinriat atangin) vel an ni. Broad influence area chhungah chuan Lungrang tlanghi a sangber lai niin meter 742 asang ani. Kawngdung Km5 huamchhung a leilung te hi Barail group of rock kan tiang hi a ni a, chung chu siltstone pan te te a inthuahthip, rawng uk lampang fine grain sandstone kan tih ang hi ani. A lung awmte hi aching vakloa, a ram hle bawk. Core influence area, kawng atang a meter 300 huamchhung a leilung te hi kawng laih hnuah kawngko slope dantur hi 32% vel a awn hi minlo tawk tura chhut a ni a, hei aia dinghi chu a himlo ani.

Mihringin nitin mahmawh, chakkhaiah thing leh mau leh leilungte antihchereu nasat avangte, a leilung nghehloh avangte hian furlaiin leilungte hi akal ral nasa hle dawna, heihian kan kawngsiam tur dinhmunhi a tiderthawng hle dawn ani. Tlangramloneih avangte thinglehmau leilung suasam avangin leilung hi aluang ral nasa em em a. leite hi an muk tawkloin ruahtui an paitha theiloa, potasiumte, phosphoruste leh nitrogente antlacham hle bawk a, Zirchianna a alandanin C-C Road dungah hian organic matter hi za zelah 1.47 atangin 3.32 thleng a awm ani. Hei hian helai leitungte hi mineralah an hausu hle tih a entir.

Tui hma. Henglai hmunah hian lui chenpakawm tak tak, kumtluana kanglo eg Pialtlep Buk Lui, Sedai Lui, Theihai Lui, and Panhnaahmun Lui te leh luite thallai a tui awmlote sihtui te leh siamchawp tuikawngte hian henglai awmdan hi a hril hlea, kawngbula dilte tuizem te chu kawng a kalvel te leh a khaw mipuite chuan inbualnante tuiinahte leh thlaitui

peknante an hmang thin ani. Thinglehmau tihchereu nasat avangte leh aleilung thawl avangte hian henglai ram hian tui a pai tlem em em a vangin ferlai tihloh, thal (November–mid April)ah chuan tuihi a harsa hle a, chuvang chuan sawrkar pawhin furtui khawlte leh leihnuai tui hmantangkai te atum hle ani. Luipui tui pump chhoha filter te pawh tum ani.

Boruak leh Bengchheng. There are no major polluting air sources in the C- C Kawngah hian boruak tibawlhhlawhtu alatamloh avangin boruak pawh ala thianghlim hlea, motor tlan velin a siam hi borual tibawlhhlawhtu ber chu ala ni mai a, Motor tlan alatamloh avangin kawngbul hnaihah pawh boruak alathinghlim hle ani. A tehna a landanin Rangte leh Lungrangah pawh boruak chhia/bawlhhlawhhi ngaidamthaeih chhungah ala awm a NAQQS Standard hnuailamah ala awm ani. Chutiang bawkin bengchheng pawh ala hniam hle a, Central Pollution Control Board, Government of India in bengchhen theih sangber ai pawhin ala hniam ani.

Thingleh Mau Thlai leh Ramsa. Helai ram hi Broad Influence Zone kan tih chhunga 57% hi Thing leh mau leh Huan tlai china hmun a la nia, hei hian village council forest ram te, forest plantationte leh loneihna ramte a huam ani. Tlangram loneih danavang hian kumtelin thinglehmau hi a tlem telh telh ani. Engpawhnise he kawngdung hnaih, meter 300 huamchhung Core Influence Area kan tih chhungah hi chuan kawngtluanin khawilaiahmah notified/demarcated forest area emaw village council forest area emaw hi a awmlo ani. He kawng hian Chhumkhum ramah hmunhnhiah(i.e. 1.95 KM atanga 2.22 KM leh 3.03 KM atanga 3.28 KM) rubber china a paltlang ani. ROW chhungah hian thing 1040 a awm ani. Core Area Influence huam chhungah hian tree species 20, shrub species 17 leh herb species 29 enchian tawh ani. Tin tree species 148 pawh Broad Influence Area chhungah ziahluh ani. Tin ramhnm damdawi chi atam hle baw a, hengte hi ama ramhnm an nia rampum huap pawin a ni. He kawngdung tluanah hian wildlife protectin area leh reserve area harsa bik a awmlo ani. Sava leh Rams ate kawng tum hmuhtur a awmlo. Helai ram Core Zone ah emaw abulhnaiah emaw hian high bio-diversity zone a awmlo baw.

Thlaichhinna. Atlangpuiin luikam leithatna hmun leh tlangram zawl deuhna hmunah thlaichinna hi a awm a. hengte ti tereuh te te an ni hlawm. Heng thlai china hmunte hian CC Road za zeal 0.81 chauh a luah ani. Ram thangzel leh mipui tam chho zelah heng thlaichhina te pawhhi zauhbelh zel ani.

Cultural resources. He kawngin a paltlang tur ramah hian National(Ramchhung) emaw International(Rampawn) hriattham historical(Thilhlui) emaw cultural(Hnamro) emaw religious(sakhuana) hmun a awmlo. Hmun thenkhatah chuan Core Influence Zone chhungah, cultural site te rueh te te chu a awm a, cungte chu: (i) Bakpuk, Lungrang khuaah, he puk hi Mizoram a puk lianber pasarihna ani. ; (ii) Lunglian pui a hmingah Lungding tiin Rualalung ram chhuangah a awm. He lunghi helai michengte chuan an ngaina in an hlut hle ani.

6.0 Mipuite thu leh hla lakna

August atanga December 2013. Chhung hian CC Road ruahmanna leh inpuahchahna atana thil tul mipui rawn ngaite, mipui hriattir ngaite neih a ni.

Mipui tlangpui leh abiktakin PAPs te hnen a ngaihdan lakin he kawng siamtur hi an tan a hlawkthlak hle dawn ani anti. Mipuite chuan he kawng local tur hi tha an tiin an nghakhlel tawhhe a, antheih an gang a puih vet e pawh an inhuam ani. Engpawhnise he kawngsiamin a rawn kenteltur thil thalo lam Leiminte, tuichawna harsat dantur te, tuihna in atuar danturte, leivung paihna tur te, khaw tlawhlo zawng a kawng kaltir te leh a nghawng tur te, an rubber china chhe turte, mipui himnate, labour camp hmuntur te, vaivut khu leh bengchheng lo awm turte leh an khawchhung nundan a khawih danturte chenin, anlo vei vein an ngaihtuah thlengphave hle a ni.

7.0 Kawngdang khaikhinna.

Atlangpuiin he kawngah hian, kawng pangngai ringlo a kawngthar rehna tihlohah chuan a center line hi POW chhungah tho kalin kawng pangngaihi a zawh deuh vek dawn a ni. Kawngthar reh tumna hmun pathum te chu:

- Chhumkhum - Chawngte road, chainage 0+000km leh 0.600.km inkar

- Lungrang khawchhung chainage 23.800km leh 25.450km inkar
- Rualalung khawchhung chainage 36.100km leh 40.310km inkar

Heng hmun thumah te hian a kawng pangngaia kal leh kawngthar reh chungchangah hian technical leh social leh environmentte nguntaka ngaihtuaha khaikhinin kawngthar reh hi atha zawka ngaih ani.

Khaikhinna dang lehah chuan project hi awmlo tase(no project) tih leh awmta se tih a ni a, heath pawh hian project awm hi athazawkfe a ngaih ani. He project hian hamthatna tamtak a thlen dawn a zin hunching tawi leh zinman pawisa chawi lo tlem sawt turte, thilsiam chhuah leh thlaithar hralhna awlsam zawkte, khawmipuite tan hna thawhna tamtak lo piang turte, he project ngei pawh hian mitamtak hnathawhna a siam sak turte, awlsam zawka damdawiin pan theihte khawchhung mipui mimir khawsak losang sawt turte. Project avang a thil thalolam lo thleng tur hi chu a ngaih zamtheih a ni.

8.0 A nghawngtur zirchhianna

C-C Road siamin environment lama nghawnga neih turte a hnuai ami ang hian zirchhuah a ni.

Leimindhna hmunte (Destabilization of slopes and erosion). Heng project hmun a lei te hi atlangpuiin shale leh rock bound clay kan tih ang hi ania, heng leite hi anghetloin leilaih chuan a min duh bike m em ani, Kawnglaihzauhlai a kan khawihur kawngko laihte leivung te leh tuilankawr tihbuai a nihtur te hian leimin a titam zual duh dawn hle ani. Leimin duhna hmun bik nia ngaihte chu 88+100,72+450, 41+300, 41+600,40+200, 39+600 to 40+000, 39+100, 36+200 33+600,31+100, 23+600, 14+100 , 13+900.

Leivung ilo paihna . Kawngtluan hian kopang chhaklam bal a hawnghi laihsauh a ni deuhveka, Leivung hi cum million 1.05 awm tura ngaih ani. Leivung thenkhat(zazela 10 atanga 15 hi chu kawngsiamnan vek hian hman tangkai nghal tur a ruahman a ni a, abak zawng hi chu achhunna tur hmun ruatlawkah paih tur a ni. Heng leivung chuang chhunna hmun hi khua atang a hla duehtak leh vaivut khuten mihring a tihbuai phakloh hmun a paih turin apaihna hmun hi thlan ani

Thlaichhinna hmun atihbuai theih dan . He kawng laihsauhnan hian ram57.85ha mamawh a ni , hengzingah hian 3.85ha hichu forest plantation ram a ni.a dangzawng hi chu tlangram lo neihna hmun leh agriculture lo neihna hmun ani.

Tui luankawr a nghawng dan. Ke kawngsiam that torah hian kawrte 229 lai a tan tlang dawn a. heng tuilankawrte tih buai avaang hian harsatna tamtak leimin/leitawlh ilo a thlentheih dawn, heng harsatna thlengtheih dan nan hian tuilankawr thar siamte a ngai dawn a. heng hi EMP ah tarlan niin contractorten hemi ang hian tuilanna tibuailothei angberin leh irrigation channel a tui luanna tibuai lotheiu angber in hna an thawk dawn a ni.

Thinglehmau leh ramhnim a nghawng a neih dan. Kawnglaih zauh avanga kawng kochhak lampang meter5-10 vel a laihsauh anih hian thinglehmau leh ramhnim tamtak chu tihchhiat a ni. A tlemtheih ang a tih anih pawhin thingkung 1040 leh mau 317 te kih angai a, 3.58 ha chung a Thinglehmau chhiattamna lai hi km1.85 leh km2.22 inkarah ani. Hengbakah hian thinglehmau kih avang hian bryophytes & pteridophytes te pawh hian an tuar a, ramsa erawh chuan hmuh an nihloh bakah an tawrh phah lo tur a ngaih ani. Ramhmul damdawi chi ah pawh nghawng a nei ngei dawn a, heng zawng zawngte tlemtheiangber a chheturin EMP ah hian duan ani.

Vantlang thilah nghawng a neihdan. He kawng siamthat avanga vantlang thil chhe tur a ngaihte Tuizem- 4, Tuikhur-2, bus shed- 2, Vantlang bualin- 2, and Vantlang zunin-3. Heng vantlangthil tihchhiatturte hi mipuite neninrawnin siamthat lehvek tur atih ani..During construction of the upgraded road following common property resources will be impacted: water tank- 4, water collection point-2, bus shed- 2, bath room- 2, and urinal-3. All of these will be relocated in consultation with the local people and will be reconstructed in suitable locations.

Hnathawhlai harsatna thlengtheite. He kawng siamthathna thawhlai tian heng leilaih avengte kawngchhuat phahthat avangtelunglak leh lunghal avangte leh thil dang tamtak a awm a, heng harsatna thlengtheite hi a thawhlai hun atan chauh nimahse tlem thai ang ber a thleng tur in EMP-0ah hian duan tel vek ani.

9.0 Harsatna thlengtheite pumpelh leh a tihtlemdan

Harsatna thlengtheite pumpelh leh a tihtlemdan heng ahnuai amianghian duan ani

Environmental issues /category	Mitigation Measures
kopang	Kawngko laih balna lai apiangah hnim to tir zel tur. Leimin hlauhawmna hmunah chuan thing phun emaw hmanga a dan dan tur siam. Thingphun leh leimin danna tur daltu siam tangkawp hmanga hmun tam tak leimin hlauhawmna hmunah chuan a hmun a zirzela hma lak.
Leivung paih	Leivung reng reng chu a paihna hmun tur a ruahman lawkna ah chauh paih tur. Hmun awih deuh chu hnim leh thing hmanga khuhzel tur. Thingphun leh leimin danna tur daltu siam tangkawp hmanga hmun tam tak leimin hlauhawmna hmunah chuan a hmun a zir zel a hma lak.
Lunghal	Uluk taka thil dang vengthawng chung a lung hi hal tur a ni. Environment lama inkaihhraina zawm chung a lung hi hal thin tur a ni..

Environmental issues /category	Mitigation Measures
Forest ram	Forest dan hmanga heng thing kih turte hi phalna lak phawt tur a ni. Heng thing hlu tak tak lo din tawhna hmunahthe hi chuan kawng cheimawina tur ringawta thing phun phal loh tur a ni.

Buhlehbal chinna	Buh leh bal chinna hmun zawnahte chuan huan pal rinawm tak kawng laihin a tihchhiat mai mai loh tur hmanga hung thin tur a ni. Tin, heng hmunah te hian tuihawka luh mai mai loh nan tuihawk
lunglakna	Contractor reng rengin kawngpui siamnana lung an lak dawnin thuneitute phalna an la hmasa phawt tur a ni. Tin, heng quarry reng rengah hian Lisence an nei vek tur a ni.
Tui	Lui hnaivaiah contractorin hna a thawk a nih chuan a thlang lama tui hmang tute vengthawng takin hna a thawk tur a ni. Lui tui, thal laia kangchat thin awmna bulhnaiah contractorin hna a thawk a nih chuan thal laiin hna thawh thin tur a ni.
Hnamro sawngbawl	Hnam ro thil hlu kawng laihin a ti buai dawn a nih chuan khawtlang hruaitute nen inrawnin a sawnna tur hmunah sawn phawt thin tur a ni.
Lungherna leh Asphalt sawngbawlna	Vaivut tam tak vennan tui hmanga lei theh huh thin tur ani. Alkatra chhuanin boruak a tihbawlh a, mipui tan a buaipuiawm viau dawn chuan a hmun sawn mai tur a ni.
Hnathawktute riahbuk	Hnathawktute riahbuk sakna hmun tur chu a him tawk tur a ni a, hnathawktuten an bulhnai an thli leh oil an hman hmangin an tibawlhhlawh tur a ni lo. Tin, labour camp hi a theih chuan thing phun hmangin cheibawl tur a ni.
Hmanraw hlauhawm bikte	Hnathawnana hmanraw chi hrang hrangte chu an awmnaah an phui tha tawk tur a ni a. Heng hmanraw ven ngai bikte khawih nan hian hnathawktute pawhin inthumna him tawk tak an ha ngei tur a ni.
Vaivut leh Bengchheng	Speed breaker hmanga motor tlan chak bengchheng lutuk tur dan Tui a awm remchan chuan khu lutuk tur veng tura a khat tawka tuia kawngpui chu theh huh thin ni se. Speedbreaker hi khawchhungah leh bazaar hmunah siam thin nise hei hian motor tlan chak lutuk tur a veng ve a ni. Kawng sirah thing a tam thei ang ber phun thin nise.

Environment chungchang chu EMP table 2 ah chipchiar takin sawi a ni tawh a. EMP atan a pawisa dah hi Cheng 6.745million a ni.

10. A enkawltute inrelbawl dan:

Executive engineer (Environment) chu EMP chungchangah a mawhphurtu ber leh a thawktu ber a n anga, ani hi Assistant Engineer (Environment.) in a thachhang a dawl ang, hemite hnuaiah hian Junior Engineer leh Supervision consultant atangin Environment Specialist leh contractor te an awm ang.. (Refer Figure 3).

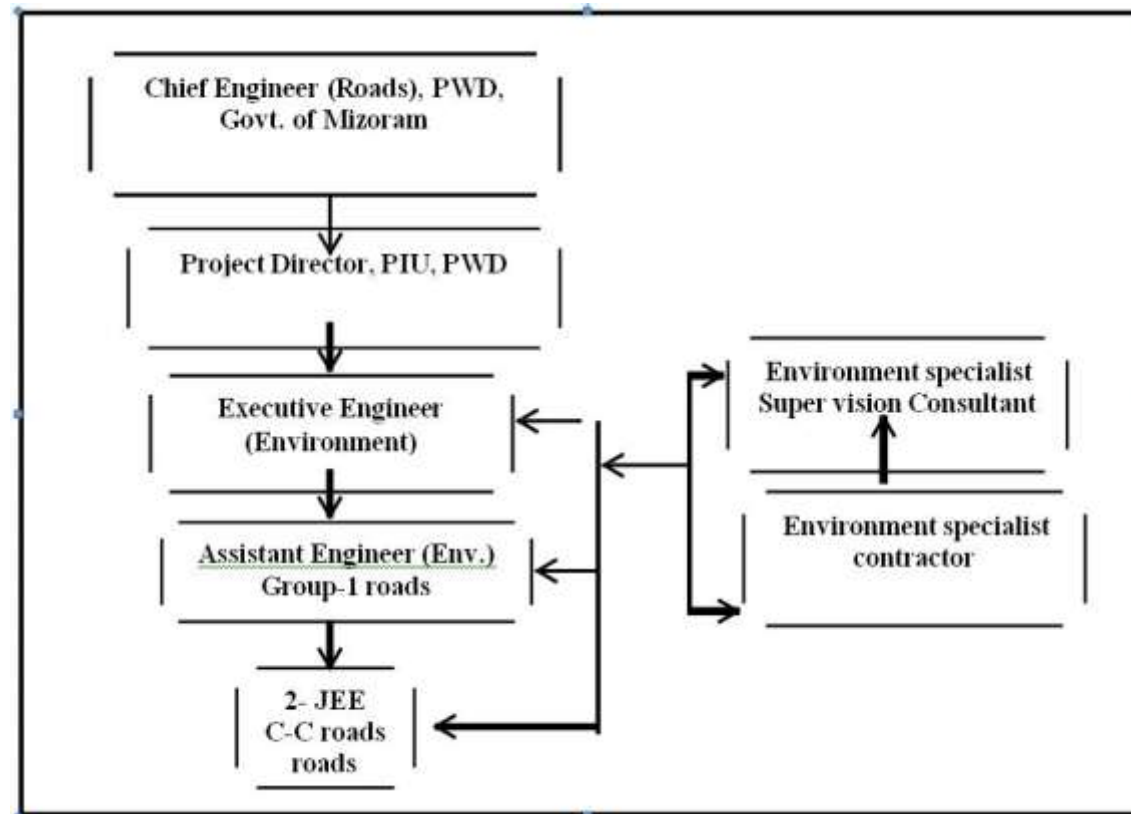


Fig 3: C-C road atan EMP kengkawhtu turte

Hna bik, entirnan vantlangtan bik a siam chung changah chuan Tlawmngaipawlte nen thawhho tur a ruahman ani.

PIU a hnathawktute hi supervision consultant hnuaia environmental specialist ten an thawh pui ang. Hei bakah hian aremchang apiang trainingte pek anni ang. EMF a inkaihhraina dan hman ani ang.

CHAWNGTE ROAD
Environmental Budget for up-gradation corridor

COMPONENT	STAGE	ITEM	Unit	Unit Cost (INR)	QUANTITY	Total Cost (INR)
Vegetated bamboo crib wall	Construction	Construction of vegetated bamboo crib wall width 1.2m & height 1.5m including providing and suppling bamboo, binding wire cutting, plantation of vegetation/grass, making benching and backfilling	Rm	660	6500	4,290,000.00
Turfing with Sods	Construction	Furnishing and laying of the live sods of perennial turf forming grass on embankment slope, verges or other location shown on the drawing or as directed by the engineer including preparation of ground, fetching of rods and watering complete as per MoRT &H specification 307	Sqm	73	21,200	1,547,600.00
Mitigation / Enhancement						
AIR	Construction	Sprinkling of water in the settlement and working area as per instruction of SC	Month	20,000	48	9,60,000
WATER	Pre-construction	Hand pump	No.	90,000	3	270,000
FLORA	Construction	Compensatory afforestation, in accordance with Forest Conservation Act (1980) as per guideline provided in EMP	No	500	1000	500,000
		Additional tree plantation along valley slopes as per guideline provided in EMP Chapter - 5	No	30	15000	450,000
		Maintenance Grant to local NGOs for ensuring survival as per guideline provided in EMP	No	30	15000	450,000
		Provision of bamboo tree guards for the trees 500m on either side of villages as per guideline provided in EMP	m	50	3000	150,000
CONSERVATION OF BIODIVERSITY	Construction	Provision of barbed wire fencing along realignment guideline provided in EMP	m	150	2000	300,000
		Mitigation designs for endangered plant species as per guideline provided in EMP	m	200	250	50,000

STABILITY OF SLOPES		Bioengineering measures for protection of slopes	sq. m.	60	40000	2,400,000
		As per guideline provided in EMP				
		Enhancement of water harvesting points	No.	75,000	4	300,000
(A) Mitigation / Enhancement Costs						11,667,600
Monitoring						
AIR	Construction	Monitoring near all hot mix plant locations approved by the Engineer as per NAAQS ,2009 CPCB	No. of Samples	5000 for 3-sample set	12	60,000
		Monitoring at construction sites in tandem with construction Engineer as per NAAQS ,2009 CPCB	No. of Samples	5000 for 3-sample set	12	60,000
WATER QUALITY	Construction	At locations specified in the monitoring plan as per IS 10,500 & IS 2296	No. of Samples	5,000	10	50,000
	Operation	At four locations specified in the Monitoring Plan as per IS 10,500 & IS 2296	No. of Samples	5,000	10	50,000
NOISE	Construction	At equipment yards as directed by the Engineer as per CPCB guideline 1989	No. of Samples	1000	40	40,000
	Operation	At locations of compensatory plantation, All along the corridor as per CPCB guideline 1989	No. of Years	30,000	3	90,000
Bio Engineering Measures	Construction	Monitoring survival	No. of Visits of Monitoring team	50,000	3	150,000
	Operation	Monitoring effectiveness	No. of Visits of Monitoring team	50,000	3	150,000
Bio Diversity study	Construction & operation	Monitoring of impact on biodiversity	No. of Visits of Monitoring team	50,000	3	150,000
(B) MONITORING COSTS						800,000.00
Protection of disposal sites						

EXECUTIVE SUMMARY

Retaining wall 3m height	Construction		m	Will be covered in engineering cost	1310	Will be covered in engineering cost
Gabion wall 3m height	Construction		m	Will be covered in engineering cost	3120	Will be covered in engineering cost
Side drain	Construction		m	Will be covered in engineering cost	1000	Will be covered in engineering cost
(C) Protection of disposal sites cost				Will be covered in engineering cost		
Training & Mobilisation						
Training	Construction and Operation	As per modules 1 to 5 developed for MSRP	No. of modules	Will be covered with other roads		
Advocacy and policy making	Operation	Erection of hoardings indicating the biological diversity, and scenic views along the project route	No.	5,000	20	100,000
		Holding meetings for policy planning and subsequent review meetings with the Revenue Department, local representatives, town-planning authorities, NGOs, etc. regarding development controls especially w.r.t biodiversity preservation and landuse development studies	Year	100,000	2	200,000
Administrative charges including Logistics	Construction	Data processing, administrative support, stationery etc.	Month	30,000	48	14,40,000
Miscellaneous items		Digital Handy Cam for the Environmental Cell	No	40,000	1	40,000
		Portable sound level meter	No	25,000	2	50,000
(D) Training & Mobilisation Costs						18,30,000.00
TOTAL BUDGETED COSTS						14,297,600.00(INR)

(Rupees one hundred forty two lakh ninety seven thousand and six hundred)only.