



Public Works Department
Government of Meghalaya

Design ia ki surok ha ka State Meghalaya
(EAST) hapoh ka Meghalaya Integrated
Transport Project

**KA REPORT BA KDEW IA KA JINGKTAH
HA KA MARIANG**
(Environmental Impact Assessment Report)

A. KYNTIENLAMPHRANG

1. Ka Meghalaya Integrated Transport Project (MITP) ka dei kawei na ki projek ba ka sorkar Meghalaya ka buh ka thong kaba hakmat eh ban pynkylla ia ka thymmei-bah ha ka rukom ban pynurlong ia ki ki lynti- synkien kat kum ka juk mynta. Ha kaba kynthup lang ia baroh ki surok kiba hap ha kane ka projek kin kot sha kumba 2000.00 km. Ha kane ka projek, kumba 650.00 km kin hap ha ka bynta ban pynneh surok (Widening) bad kaba sah 1350.00kms kan long ban pynbha ia ka surok kaba don mynta bad ruh ban shna ia kiwei ki jingdonkam (Basic amenities) kumba long lem kiwei ki surok ha ka ri India/pyrthei hi baroh kawei. Ha kaban pyntrei ia kane ka projek, yn phiah ia ka ha ki katto-katne ki bynta. Ka bynta kaba nyngkong (Phase-1) kan kynthup kumba 10 tylli ki surok ha ki distrik bapher-bapher jong ka state bad haba kheinlang ia ki baroh kan long kumba 266.82 km ka jingjrong jong kine ki 10 tylli ki surok. Ka Department jong ka Economic Affairs (DEA) bad Ka World Bank (WB) ka lah ai ia ka jingmynjur ban bhah pisa ha ka Tranche-1 jong ka MITP kumba US\$ 110 million ha shwa na ka bynta ki surok (128km length) bad kiwei de ki institutional development activities.
2. Ka consultant ba la thung kaba dei ban pynkhreh ia ka DPR jong ki surok ba la kdew harum ka dei ka **M/s Projects Consulting India Pvt. Ltd.**

List of roads in Meghalaya East under the project

B. KA JINGBATAI LYNGKOT IA KI SUROK KIBA HAP HA KA TRANCHE-1 MITP

3. Ki sub-projek roads kin hap ha ka bynta jong ka thain mihngi jong ka State Meghalaya kaba kynthup ia lai tylli ki distrik kita ki long East Khasi Hills, Jaintia Hills bad Ri-Bhoi. Haba kynthup lang ka jingjrong jong kine ki surok kin long kumba 122.68 km.
4. **Shillong-Diengpasoh Road:** Kane ka surok ka hap ha ka category 'Major District Road (MDR)' bad ka sdang na Ishyrwat Junction ha Shillong bad kut ha ka 19th km jong ka surok Shillong-Byepass. Ka jingjrong jong kane ka surok ka long kumba 21.73kms. Hynrei ha kane ka projek kan kynthup tang na 2.20km (hajan Ishyrwat) haduh 13.983km jong kane ka surok (Total: - 11.763kms), namar ka bynta naduh 13.983 km haduh kaba kut jong kane ka surok ka lah hap lypa ha ka program jong ka PMGSY Rehabilitation Projek. Ka jingiar jong ka surok rong mynta ka long kumba 5-5.50 meter ha ki bynta bynta bad ka jingiar pat kaba hap ha ka jaka sorkar (RoW) ka long kumba 12meter-15meter ha ki bynta-bynta bapher jong kane ka surok.
5. Kumba long mynta , kane ka surok ka dang dei hi Ka Single – Lane ha kiba bun ki bynta bad ruh ha kaba iadei bad ka jingplih jong kane ka surok, lah ban ong ba ka long 3-4 na ka 10.
6. Ynda lah dep ia kane ka projek, kane ka surok kan kylla long Ka Double-Lane. Ka jingiar jong ka surok rong kan donkam kumba 10.00m ha ki jaka bym don shnong bad 11.2m pat ha ki jaka ba ka iaid lymba ka shnong. Kane ka surok kan iaid lymba ki shnong Mawdiangdiang, Mawkasiang, Siejiong, Tynring bad Mawpdang Nongthymmai.

7. **Laitkor – Laitlyngkot Road:** Kane ka surok (MDR) ka pyniasoh ia ar tylli ki surok National-Highway, kata kawei ka dei ka NH-6 (Kaba leit sha Silchar, Mizoram bad Tripura) bad kawei pat kadei ka NH-40 kaba pyniasoh ia ka Guwahati, Shillong haduh Dawki. Ka jingjriong jong kane ka surok baroh kawei ka long kumba 15.52 kms bad ka bynta kaba hap ha kane ka projek ka long tang 11.358 km. Kaba sdang jong kane ka projek surok ka long na ka 4th km jong ka Laitkor-Pomlakrai Road haduh ka km 15+358 jong ka NH-40 (Laitlyngkot). Ka jingiar jong kane ka surok rong mynta (Carriageway width) ka long kumba 3.75-4.00 meter ha ki bynta bynta bad ka jingiar pat kaba hap ha ka jaka sorkar (RoW) ka long kumba 8.50 meter-9.00 meter ha ki bynta bapher-bapher jong kane ka surok.

8. Kumba long mynta , kane ka surok ka dang dei hi Ka Single – Lane bad ruh ha kaba iadei bad ka jingplih (pavement condition) jong kane ka surok, lah ban ong ba ka long 3-4 na ka 10 (poor condition). Ki proposal kiba don ha kane ka projek ha kaba iadei bad ka jingiar jong ka surok kan long kumba 7.70m ha ki jaka bym don shnong bad 8.90m pat ha ki jaka ba ka iaid lymba ki jaka ba don ki shnong. Kane ka surok kan iaid lymba ki shnong Laitkor, Mawbyinna, Mawtharia, Liewlong, Rangbihbih, Umsaw, Mawpynthih, Maweitnai, Latah bad Laitlyngkot.

9. **Mawmaram – Mawlyndep Road:** Kane ka surok kan sdang na NH-106 (Mawmaram/Mawsawa Village) bad kan iakynduh bad ka surok NH-06 (ha lad U.C.C.). Ka jingjriong jong kane ka surok (MDR) ka don kumba 41.488 kms bad kan long kum ka Shillong-Western Bypass bad kan pyniasoh ruh ia kiba bun ki jaka jngoh kai pyrthei kum ka Diengiei- Park, Mawphanlur, Nongkhnum bad kumta ter-ter.

Ki proposal kiba don ha kane ka projek ha kaba iadei bad ka jingiar jong ka surok kan long kumba 6.00m ha ki jaka bym don shnong bad 7.05m pat ha ki jaka ba ka iaid lymba ki shnong.

10. **Pasyih – Garampani Road:** Kane ka surok (MDR) ka sdang na NH-06 (Pasyih-Village) bad ka kut ha khappud Meghalaya-Assam, ka jingjriong ka long kumba 47.00 km. Ka surok kaba hap ha kane ka projek ka long na ka 20th km haduh ka 47th km (Saphai Village;Ch: 46960.00m) hajan ka Dam Kupli. Ki proposal kiba don ha kane ka projek ha kaba iadei bad ka jingiar jong ka surok kan long kumba 8.50m ha ki jaka bym don shnong bad 9.70m pat ha ki jaka ba ka iaid lymba ki shnong.

Ka alignment jong kane ka surok kan iaid lymba ka Shnong Pyntei, Biar, Chatwakhu, Nongkroh, Lakadong bad Saphai.

11. **Umling – Patharkhmah Road:** Kane ka surok (MDR) ka sdang na NH-06 bad kut pat ha ka bynta ba ka ia kynduh bad ka surok M.M.R.Road (Mawngap-Mairang-Ranigodown) bad ka jingjriong ka long kumba 40.00 kms. Hynrei ka bynta kaba hap ha kane ka projek ka long tang kumba 31.10 kms bad ka sdang na ka 8th km haduh kaba kut jong kane ka surok.

Ki proposal kiba don ha kane ka projek ha kaba iadei bad ka jingiar jong ka surok kan long kumba 6.00m ha ki jaka bym don shnong bad 7.20m pat ha ki jaka ba ka iaid lymba ki shnong.

Ka alignment jong kane ka surok kan iaid lymba ka Shnong Umling, Umdu, Umladoh, Lailad, Umsohma, Old Tasku, New Tasku, Mawpnar, Jali, Nongladew, Umsong, Nongbirthem, Umtasem bad Umrit.

C. KA JINGBATAI SHAPHANG KA ENVIRONMENT

17. **Physical Environment** : Ka jaka pyntreikam ia kane ka Physical Environment ka ioh ia ka jinglong jingman jong kata ka tropical climate ne ka jingshit jong ka sngi ka long ba ka kylla shiphang shatei bad shiphang shathie. Ka jinglong jong ka mariang ha katei ka jaka ba shna surok ka dei ha ki sharing jong ki lum ki wah. Ka jaka ba pyndonkam ka khleh lang bad ka jaka rep jong ki nongshongshnong, ka rep ka riang ba ki shnong ha shi lynter jong ka surok.

18. Ka jaka ban tih surok ka don ha ki jaka pdeng jong ki lum kyndiang jong ka Khasi Hills ha ka jingjriong kaba 900-2000m bad ha ki lumbah jong ka Jaintia Hills ha ka jingjriong kaba hapoh ka 900m.

19. Kat kum ka jingwadbniyah ka GSHAP, ka jylla Meghalaya ka hap ha ka jaka kaba jur bha ka jingkhynñiuh jumai. Kat kum ka map jong ka Bureau of Indian Standards (BIS) 2002, ka jylla ka hap ruh ha kata ka Zone-V. Kat kum ki khanapateng, katto katne ki jaka jong kane ka jylla ki la shah ktah ruh ia ka jingkhynñiuh jong u Jumaibah u bym duna ia ka M6.0 kaba kynthup ruh ia ka M8.1 ha ka snem 1897.

20. Ka jinglong jong ka khyndew ha ka jaka ban shna surok ka long rong iong lam byrsaw bad sawbthuh, kaba shong syrta na ka 50-200cm. Ka jingjyntha jong ka khyndew ka pher na ka khyndew ba khleh shyiap sha ka dewbyrtha. Borabor, ka khyndew ka khuid bha, kaba sboh bad kaba kynthup ruh ia ki phngit symboh nitrogen hynrei kaba duna ia ka kynja bthing bad kynja dawai alkali ha ka. Ka khyndew ka don acid na ka (pH 5.00 - 6.0) sha ka acid bakhlaiñ (pH 4.5-5.0)

21. Kawei na ki jaka ba jur slap tam ha ka pyrthei la lap ha Meghalaya. Mawsynram bad Sohra ha East Khasi Hills la shim kyllum ha ka geography kum ki jaka ba jur slap tam ha ka pyrthei. Ka Sohra ka ioh slap haduh 12000mm shisnem katba ka Mawsynram pat sepngi na Sohra ka ioh slap kumba 17,800mm (700 inshi) ha ka shisnem.

22. Ka tynrai jong ki tyllong um ha ka jylla ka long 0.15%. Ka rukom mih jong ka um ha shisnem la kheiñ antad 1.234BCM. Ka jingdonkam um shisnem shisnem na ka bynta ka umbam umdih bad na ka bynta ka jingdonkam ki kharkhana haduh ka snem 2025 la kheiñ 0.096 BCM kat kum ka khanasmari 2001. Kumba 1.014 BCM na um pohkhyndew lah ban pyndonkam na ka bynta ki kam ring um.

23. Ki tyllong um ha ka jylla kumba long mynta hi ki don ha ka jingma na ka daw jong ka jingpynjaboh, ka jinglang jong ki syrta jakhlia ka wan na ki par dewiong bad na ki jaka shong jaka sah jong ki briew. Ka um ha ki par dewiong lei ka kynthup ia ka acid kaba jur bha na kitei ki daw ba pyntuid um pathar kumba la kdew haneng.

24. Ka um pohkhyndew kumba la wadbniyah da ka CGWB lyngba ki pela-um ba la shim na ki pukri, ki tyllong um ba tuid bad na ki thiew um ba la tih ha East Khasi Hills, West Jaintia Hills bad Ri Bhoi district. Ki phngit dawai kiba don ha ka um ha ki jaka shna surok ki long pat hapoh jong ka kyndon ba biang na ka bynta ban dih bad ban ring um sha ki jaka rep. Kat kum ka kaiphod jong ka CGWB, ka wahduid ki long kiba shngiam ban dih bad duna ka acid. Haba kheiñ kyllum ka jingdon jong ki kynja dawai ha um poh khyndew ka ia ryngkat bad ka kyndon ba la buh da ka BIS bad WHO lait noh ka jingdon jong ka narha ki katto katne ki jaka ba kham jylliew kaba kham kiew ban ia kaei kaba la buh.

25. Ka jingjurip ba la kew sawdong ban wad ia ka jinglong jong ka lyer ban tip bniyah shaphang ka jinglong jingman jong ka lyer ha ka jaka ba shna surok. Ka jingjurip ia ka Ambient Air Quality (AAQ) ha ki katto katne ki jaka ba la jied ban pule bniyah la leh kat kum ki kyndon jong Ka Central Pollution Control Board (CPCB) bad kat kum ka jingdonkam jong ka MoEF&CC. Ba d ka jingjurip ia ka lyer sawdong katei ka jaka ka long kat kum ka NAAQ standard kaba la batai da ka MoEF&CC ha ki jaka shnong. Ka jingdon ba halor duh jong ka PM₁₀ ka long 68&67 µg/m³ ha Mawsynram & ha ka shnong Lakadong bad ha surok

Shillong – Diengpasoh bad surok Mawmarang-Mawlyndep pat ka jingdon jong ka lhoplyer PM_{2.5} ka long 38&39.0 µg/m³ la lap ha kitei ki jaka ba shna surok.Ka level ka long thik hapoh ka standard ba la buh jong ka 100 µg/m³ bad 60 µg/m³ kumba la bthah da ka MeEF&CC ia ka PM₁₀ bad PM_{2.5} kat kum ba dei hi.Hynrei ka level PM₁₀ ka kham long halor ban nujor bad ka Standard jingbthah jong ka World Bank 50 µg/m³ na ka bynta ka kyrdan 2 ba shipor.Wat la katta,ka jinglong jong ka lyer ha ka jaka ba shna surok kam dei ka jingjynthut.

26.Kumjuh ruh,la shim nuksa ia ka jingsawa jong ka lyer ba don sawdong katei ka jaka. Ka jingsawa jong ka lyer ka long hapoh ka jong ka level ba la buh da ka CPCB bad ka World Bank EHS Standards jong ka 55 dB(A) ha ka por sngi bad por miet.Ka jingsawa bajur eh ha ka por sngi ba la shim jingkheifn ka long 53.1 dB(A) ha Mawmaram bad 40.8 dB(A) ha ka por mynmiet.

27. **Biological Environment** : Ki project district haba shim kyllum ka don ki khlaw kiba kham stang.Kat kum ka 2011-12 SFR, ka East Khasi Hills & Jaintia Hills ha ki jaka ka don 63.83% haduh 65.88% bad jingrben ki khlaw ha ka jylla ka long 77.2%.Ka jaka ba la jied ban shna surok thymmai ki iaid lyngba ki lum bad ki them bad ki khlaw ki btap,ki jaka rep bad ki khlaw lynnong.

28. Ki jaka ba la jied ban shna surok kim iaid lyngba na ki khlaw lait noh ka surok Shillong-Diengpasoh.Kane ka surok bajrong 3 Km na liang ka mon ka iaid lyngba ka Itshyrwat Reserve Forest.La buh bynta lypa ba kyniang jong ka surok kan dei nangta.Kumta,yn donkam ban ioh jingbit na ka state forest department ban pyntrei noh ia katei ka surok.

29.Don laitylli ki district Councils,kata ka Khasi Hills Autonomous District Council, Garo Hills Autonomous District Council & Jaintia Hills Autonomous District Council.Kine ki district councils ki don ka bor ban thaw-aifn nalor kiwei pat,halor ki khlaw ki btap ki bymdei ki Reserved Forest.Halor jong kane ka project ym don khlaw kyntang ne khlawshnong ban iaid lyngba.

30.Kumba 428 tynrai ki dieng lah ban pom na ka bynta ban pynneh ia 5 tylli ki jaka ba kynthup ha ka project.Ki dieng ba la pom yn sa bujli ha ka dor 1:10 da ki dieng kiba san kloj bad kiba lah ban tan ia ka tdem jaboh.Ym don jait jingthung ba la jan duh jait ha katei ka jaka.

31.**Ecological Environment** : Ki jaka ba la mana ha Meghalaya ka long 512.61 Sq.Km. Ki jaka ba la mana ki kynthup ia artylli ki National Parks, sawtylli ki jaka ri mrad bad kawei ka Biosphere Reserved kaba long ka bynta ba kongsan eh ban pynneh pynsah ia ka jinglong ka mei-mariang.Ki jaka ba la pynneh pynsah jong ka jylla kiba hap hapoh ka project ha ka thain surok Umling-Patharkmah ka long ka Nongkhyllem Wildlife Sanctuary kaba don ha Ri Bhoi district.Ym don da kiwei pat ki jaka ba don jingsyier hapoh ka project Umling-Patharkmah kaba iaid lyngba ka ESZ jong ka Nongkhyllem Wild Life sanctuary (NWLS) ha ka jylla Meghalaya.Kumba 3 kilometre (na 18Km – 21Km) jong katei ka surok ka iaid na khappud jong ka ESZ ka Nongkhyllem Wild Life sanctuary (NWLS).

32. **Socio-Economic Environment** : Meghalaya ka dei ka jylla ha kaba la wan buhai shnong naduh hyndai hynthai da ki riwulum kiba kynthup 86 percent na ki jaka ba shong ki Scheduled Tribe.Lah ban bynta ia ki riwulum jong ka ha ki 3 bynta – kata,Garo,Khasi & Jaintia (lane Pnar).Wat la ki don ki jaka ba la mana da ka sorkar kum ki mawbynna,ki maw teinam hynrei kiba la ithuh da ka Archeological Survey of India.Hynrei,ym don mawbynna ne ki jingtei barim bajah ha ka lynti ban shna surok ka ban ktah ia kum kitei ki jingteinam.

D. ANTICIPATED ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

D.1 Design & Construction Phase

33. **Impact of Physiography and Topographical :** Namar ba ka project ba la pynkhreh ka thew tang na ka bynta ban pynheh ia ka surok kaba la don lypa kat kum ka RoW khlem da donkam ban da shim jaka na kiwei pat,ka jingktah jong ki lum ki wah na kaba shna bad tih surok kam don jingiadei satia.Ka project ba la pynkhreh ka mut ban pynbha ia kin ala bad ki nur lyngba ki Muri ha ka rukom ba khambha.La pynkhreh ia ki plan da kaba bud kat kum ka jingbthah jong ka IRC Guidelines (IRC, 1995).

34. **Potential Environment Impact on Soil :** Namar ba baroh khoit ki jingtrei kin long hapoh jong ka kynian (RoW) ba la don lypa,kumta ym don jingktah ei ei ruh bad ka jinglong jingman jong ka khyndew kaba thung ba tep..La shim wai ia ki khyndew na ka bynta ka sembasa jong ki nongtrei bad ruh ban pynmadan itynnad ia ka khyndew ha dur kumba ka long mynshwa.

35. Ka jingpynkhuid ia ka khyndew bad ia ki ñiut ki ñier na sla jong ka ka lah ban don ka jingtwa ha ka por slap lyiur.Ka jingtih ia ka khyndew ba nalar ka lah ban shah ktah.Ka lah ban don ka jingma ia ki wahduid bad ki wahbah ha ka por ba trei hajan jong ki jingkieng ne ki muri.Ban kiar ne ban kham pynduna na ka jingtwa,ban pom khlaw ne tih khyndew yn lah ha ki aiom ba tyrkhong.Ka khyndew sbob ba nalar yn la khleng biang na ki jaka ba la pynlang bad ban pyndonkam ha ki sharing kum ka jingiada na ka jingtwa.Ki lad ban iada na ki jingtwa kum ka jingkah ia ka dewshyiap bad dewktieh yn shna narud jong ki wah bad ki nala.

36.Ka don ka jingma na ka jingmilai lang jong ka khyndew bad na ki umphniang jong ki machine ba la hoit sha madan.Baroh ki umphniang bad ki kynja grease yn buh kumba 500 metre ei ei najan ka wah bad ban shna ki kynja nala ban kjit ia ki.baroh khoit ki jaboh jabaiñ ba mih na ka jaka shna surok yn leit bret da u Contractor sha ka jaka ba la ithuh da ka PMC.

37.**Impact on Water Resources and Drainage :** Ka jinglong jingman jong ka um ka lah ban liprong kynsan hajan kia jaka shna surok bad ha ki sembasa.la kane yn pynduna da kaba kheiñpor ban pom dieng bad ban tih surok tang ha ka por tyrkhong.Ka jingsumar syndong ia ki tiar kum ka umphniang,ki grease bad kiwei yn khanglad na ka jingpyntuid ruma sha ki nala bad yn shim khia ruh ban iada na ki jingtwa jong ki wah bad kin ala kumba la kdew haneng.Yn shim khia kham kyrpang ruh ban pynbha ia ki um ba tuid sha ki jaka bas am umbam umdih jong ki nongshongshnong.

38.**Impact on Ambient Air Quality :** Bun na u puipui un mih na ka jingpyntrei surok.Kine ki long ki lad kumno ban iada na kata :

i). Yn buh ia ka Asphlat & hotmix plant ha ka jingjingai kumba 1.50 Km na ki shnong ki thaw kiba don ha shilynter jong ka surok ryngkat bad ka NoC na ka Meghalaya State Pollution Board.

ii).Yn synreit um ha ki jaka ba pyntrei bad ki phyllaw jong kitei ki kor

iii). Yn pynbha man ka por ia ki tiar ki tar jong ki machine ba pyndonkam

39. Ka jingktah ia ki syntiew ki skud bad ki sawdong sawkun: Ban pynkhuid ban pom kan pynmh khlem pep ia ka jingweng noh ia ki dieng kumba la kheiñ 428 tynrai.Ki dieng ba la pom yn sa bujli ha ka dor 1:10 da ki dieng kiba san kloï bad kiba lah ban tan ia ka tдем jaboh.

40. **Construction Worker's Camp :** Namar ba u Contarctor un hap ban wad nongtrei da ki traishnong kiba don ha shilynter ka surok ,ka Camp jong ki nongtrei kan long kaba kham rit.Ka dei ka jingkitkhlieh jong u Contractor ban pynneh ia ka khuid ka suba bad ka um kaba biang,ka electric kaba biang,ki painkhana kin long kham jngai na ki tyllong um bad ki wah.Dei ban bret ha ki jaka ba la tih nur ia

ki ñiut ki ñier ba mih na ki jaka sah,ban buh ki jaka ai dawai ba shipor,ka jingtehlakam ia ki khñiang jingpang,ki jingbam kiba khuid bad ba shngaiñ.

41. **Ka jingktah ia ka Imlang sahlng :** Ka jingoyntrei ha ki bynta jong ka project ki dei ban long kiba ai jingmyntoi ia ka imlang ka sahlng ruh.Ka jingpynkiew ha ka jingioh jingkot jong ki briew kaba dei na kiba dang sdangtrei,kiba la kham bit bad kiba tbit ka lah ban pynmyntoi ha ka por ba pyntrei ia ka jingshna surok.Namar ba ka jingtuid jong ki nongtrei kan kham bun ha katei ka por,khlem pep kan kyntiew ia ka pule ka dangle,ka koit ka khia,ka leit ka wan bad kumjuh ruh ia ka rukom im jong ki briew ha kito ki thaiñ.

D.2 Operation Phase

42.Ka jingkiev ha ka tдем kali, ka jingsawa bajam,ka jingtynkhuu kali namar ka jingpynher stet,bad ka jinghoit umphniang ha surok kan jia ha ka por ba pyntrei.Ka jingktah jong ka jinglong jong ka lyer kan nym biang shuh wat la ki duna ki jingiaid kali.Hynrei ban iada na ki jingjia ba shykhei,la shna ia ki crash barriers,ki speed brakers,footpath bad kiwei pat ki jingthohdak ha surok rong.Ka jinghoit umphniang ka lah ban don tangba kan duna shibun namar ba dangduna ka jingiaid kali.Ban tehlakam ia ka jingsngewkyllut namar ki dei ki surok ba la shna bha khlem pep kan pynduna ia ka jingsawa ki kali.Ban tehlakam na ka jingpynpah horns ha ki jaka ba la mana,ka jingpynneh surok kan iarap na ka dhengkali bad ban siew bai buria da ka jingthung bujli ia ki dieng ha ki jaka ba la mang dei ban pyntreikam mardor.

E. CLIMATE RESILIENT MEASURES

43.Ka jingtrei kam jong ki engineer ka long ban design ia ki prject jong ki surok bad ban iada na ka jingktah kaba lah ban wanrah ia ki jingkylla ha ka jinglong jingman ka suiñbneng kune harum :

- * Ban design ia ka muri da kaba pynshong nongrim na ka jinghap jong u slap ha katei ka thaiñ
- * Ban pynbit pynbiang ia ka jingpynneh ia ka pynkiang jong ka surok da kaba kiar ban nym ktah than ia ki dieng ki siej bad ia ka khyndew
- * Ban thung dieng na ka liang jong ka lhuh bad kharai kaba ia dei dur bad ka khlaw ka btap
- * Ban ialeh kumno ban iada na ka jingtwa jong ka khyndew ha ki jaka ba shongkynrong
- * Dei ban pynthikna ia ki jaka theh khyndew naduh shwa ban sdang ka project khnang ban lah ban pynwandur biang
- * La pynkhreh ruh ia ki Breast wall ne kynroh iada lum ha ki jaka ba l donkam
- * ban shna ia kin ala na rud surok ban iada na ka jingtwa ban ka jingpynjaboh ia ki Um

F. PUBLIC CONSULTATION AND INFORMATION DISCLOSURES

44. La ia mir jingmut lang bad ki paidbah nongshongshnong naduh ka por shwa ban plan ia ka project.Ha baroh 4 tylli ki jingiamir jingmut lang bad kawei na ka bor railing la khot ban nym duna ia 101 ngut ki nongiashim bynta.Ki nongiashim bynta ki kynthup,u rangbahshnong,ki longkmie,ki nongtreikam lajong,ki nongtreibylla,ki nongrep bad ki khynnah skul na ki shnong kiba ka project ka dei ban trei.Nalor ka jingiamir jingmut kyllum la shim ruh ia ka jingsngew jong shimet shimet na ka bynta ka jingpynneh surok.

45. Bun na ki briew kiba la interview ki kyrshan ia ka project kumba la thmu.Ki briew kiba im ha kito ki jaka ki khmihlynti ban iohngong na ka surok ban pynsuk ha ka leit ka wan,ki kam jingohkai pyrthei,ka iohkam iohjam bad ka pynkhlain ia ka ioh ka kot kaba lah ban iarap ia ki ha kano kano ka rukom.

46.la ka kaiphod jong ka EIA yn sa pynmh ha ka ktien phareng ha ophis jong ka MPWD bad ka Website jong ka World Bank.

G. INSTITUTIONAL ARRANGEMENT

47. Ia ka rukom pyntrei ia ka project yn sa leh da kano kano ka agency ne company kum ka Public Works Department (PWD), Urban Affairs Department (UA), Department of Tourism, Transport Department & Community and Rural Develoepment Department. Kawei pa kawei na kitei ki deptment ba la kdew haneng, kin thung ia u Project Director (PD) uba ia ryngkat bad ka kyrdan Chief Engineer/Superintending Engineer ryngkat bad ki nongtrei ki ban shim ia ka jingkitkhlieh ban pynurlong ia katei ka project ha baroh ki division bad kiwei pat ki Unit ha ka Head quarter Shillong.

48. PDs kan treikam hapoh ka jingbthah bad jingkhmih jong ka Project Advisory Committee ka ban khlieh da u Secretary jong ki Department, nalor nangta, yn thung ia u Nodal Officer na ki deptment ki ban ioh jingmyntoi kum ka Tourism, Agriculture, Police, Health, Education and C&RD. Baroh khoit ki jingpyntreikam yn peit yn khmih da ka PWD bad ka jingdonkti pat jong ka UA bad Transport department kan long tang ha ki kyndon ba don jingktah ia ki kam file bad ki project pilot ban pynkloi ia ka jingiaid sted. Ynda la dep, yn thaw ia ka Transport Sector Board ban ai ia ka policy ban peit ia ka jingpyntreikam nadong hadong.

49. Ka Meghalaya Infrastructure Finance Development Corporation (MIFDC) kaba la thung da ka Planning Department kan kitkhlieh ia ka planning, co-ordination, implementation bad monitoring jong ka project kynthup ia kiwei pat ki department bapher bapher. kan kitkhlieh ruh na ka bynta ban wanrah ia ki public sector finance na ka bynta ka jingroi jong ki kam. Ka state Planning department kan long ruh ka nodal department na ka bynta ka project. Ka MIDFC kan kitkhlieh ia baroh ki rukom pyntreikam jong ka project. Kan pynthikna ruh ban pyntreikam ia ka ESIA bad ban pynkhreh ia ka ESMPs khnang yn trei kat kum ka ESMF. Shuh shuh ka project management unit (PMU) yn iatrei hapoh ka MIDFC ban kyrshan ia ka agency ba pynkhreh bad bud sa ka jingpyntreikam ia ka project.

50. La kdew ruh ba ka bor ban pynbit pynbiang na ka bynta ka jingpyntreikam jong ka EMP ha ki bynta jong ka surok ban ithuh ia ka bynta jong ka jingkitkhlieh jong kabroh ki party ha ka project. PMU na ka bynta jong baroh ka project dei ban khlieh da u CE PWD khnang ba ka jingpyntrei ia ka project kan long kaba jop. Yn iarap ia u Chief Engineer da u Environmental Officer. Ka kynhun ha PMU yn iarap da u Environmental Officer jong ka Project Management Consultant (PMC). U Contarctor u dei ban kitkhlieh kumno ban pyntreikam ia ka project kat kumba la buh.

51. U Environmental Engineer jong u Contractor uba long ruh u Health Safety Officer u dei ban kitkhlieh kumno ban iada ia ka mariang ha ka por ba trei. Ka bynta bad ka jingkitkhlieh jong kine ki officers la kdewshai ruh ha ka EMP. Dei ban ai training ia ki staff jong ka PMU kiba iadei bad kumno ban iada ia ka mariang. Ka training ban sngewthuh khambha kam mut satia tang ha ka por ba pyntrei ia ka project hynrei ka mut ruh na ka bynta ka jingmyntoi ba shilynter jong ka PWD.

52. La pynkhreh ruh ia ka Environmental Plan na ka bynta kawei pa kawei ka bynta jong ka surok khnang ban tipbniah kumno ban ithuh ia ka rukom long ka jaka kat kumka EIA study. Ka iarap ruh kumno ban iitbniah hashwa ban pyntrei, por ba trei, bad kumjuh ha ka por ba dep pyntrei ia ka project. Kane kan iarap shibun lada donkam ban nang pynbha shuh shuh ia ka project ha ki snem ban wan. Dei ban pynrung ia kane ka Environmental Plan kum kawei na ki mat ha ka Bidding Document ne Tender.

EMP Implementation Estimated Budget

Sl.no.	Name of Road	Estimated EMP Implementation Cost (₹)
1	Shillong- Diengpasoh Road	29615827
2	Laitkor-Laitlyngkot Road	29806164
3	Mawmaram-Mawlyndep Road	58795062
4	Pasyih-Garampani Road	37960456
5	Umling-Patharkmah Road	44554300

54. Kan don ruh ka Environmental Monitoring Programme khnang ba kan peit kan khmih bha man ka sngi khnang ba kan nym ktah ia ka jinglong jingman jong ka mariang ha ka por ba pyntreikam.Kane ka Monitoring Programme ka kynthup ruh ia ka Performance Indicators & Process Indicators.Kane Performance Indicators kan peit ia ki jingdonkam kiba kumno ha site bad ban report man ka sngi ha ki kyrdan bapher bapher jong ka jingpyntreikam.Kane kan iarap shibun kumno ka long ka man jong ka mariang ha ki jaka trei.Nalor nangta,don sa ka Process Indicators ka ban iarap jurip ia ka jingtreikam bha jong ka system ia kaba la thung na ka bynta ka programme.

55. Na ka bynta ka jingthmu ban ban report sha ka environmental performance,la kdewshai ia ki kyndon report.Kane ka kynthup:

- * Daily Monitoring Report : da u Contractor sha ka PMC halor kumno ki lah jingiada ia ka Mariang
- * Ka Monitoring Report ba shisien ar taiew bad shisien shibnai : da ka PMC sha ka PMU
- * Ka Audit ba shisien shi quarter da ka PMU sha ka Management
- * Ka Annual Audit da ka ki Agency ba nabar jong baroh kawei ka rukom pyntrei ka EMP Implement bad ban phah report sha ka PMU na ka bynta ban phah kaiphod sha ka World Bank

H. CONCLUSION AND RECOMMENDATIONS

56. Ka jingpyntrei ia ka project shna surok kan iaid stet da ka jingiarap tyngka na ka World Bank.Ki surok ki iaid lyngba ia ka East Khasi Hills,Jaintia Hills & Ri Bhoi district jong ka Meghalaya.Kajingroi ha ki kam shna surok kam dei tang ban pyniasoh kawei ia kawei pat ka shnong jong ki district hynrei ka iarap ruh ban kyntiew ia ka ioh ka kot jong ki nongkyndong lyngba ki iew ki hat jong ki nongrep.Ban beh sha ki kam ki jam kiba ha ka nongbah ne ha ki headquarter jong ki district ruh kan kham suk bad kham stet shuh shuh.

57. Ki mat jingkubur ba kongsam ki long :

- * Ka surok jong ka Shillong-Diengpasoh ka iaid lyngba na ka liang ka mon jong u pud jong ka Itshyrwat Reserved Forest ,kumba 3 kms ei ei ka lynter.Lah ban pynheh ia ka pynkiang jong ka surok na ka liang ka diang.
- * Ka surok Pasyih-Garampani kaba ia ryngkat bad ka state highway kaba donha ka kynjang kaba 1000 MSL.Kumta,ka hap hapoh ka jingpeit jong ka Environmental Impact Assessment Notification 2006 (ba la thaw pynbha ha ka 2009,2011 & 2013) ha ka kyrdan "B" project.Namarkata, donakm ia ka Environmental Clearance na ka SEIAA/MoEFCC ia ka surok.

* Ka jingtyrwa na ka bynta ka surok Umling-Patharkmah ha ka lynter kumba 3 kilometre ka iaid lyngba ka ESZ jong ka Nongkhyllem Wild Life Sanctuary (NWLS) ha ka jylla Meghalaya. Hynrei, ka pynkiang ne Right of Way jong katei ka jingthmu ka la don lypa. Kam shym don kano kano ka jingiaidlynti da ki mrad kumba la ai report da u Wildlife Officer ha ka por ba ia syllok bad ki traishnong. Donkam ia ka No Objection Certificate (NoC) na ka State Wildlife Board hashwa ban pyntrei ia ka surok ha ESZ jong NWLS.