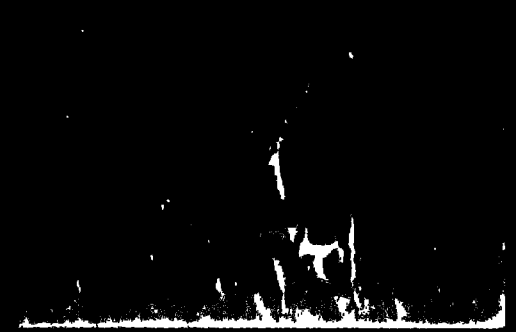

Government of Himachal Pradesh

Himachal Pradesh Road and Other Infrastructure Development Corporation Ltd. (HPRIDC)

HP State Roads Project

The Louis Berger Group, Inc
2300 N Street, NW Washington, D.C. 20037, USA

(Published in the Gazette of India, Extraordinary, Part-II, and Section 3, Sub-section (ii)
MINISTRY OF ENVIRONMENT AND FORESTS

New Delhi 14th September, 2006

Notification

S.O. 1533 Whereas, a draft notification **under sub-rule (3) of Rule 5 of the Environment (Protection) Rules, 1986 for imposing** certain restrictions and prohibitions on new projects or activities, or on the expansion or modernization of existing projects or activities based on their potential environmental impacts as indicated in the Schedule to the notification, being undertaken in any part of India[1], unless prior environmental clearance has been accorded in accordance with the objectives of National Environment Policy **as approved by the Union Cabinet on 18th May, 2006** and the procedure specified in the notification, by the Central Government or the State or Union territory Level Environment Impact Assessment Authority (SEIAA), to be constituted by the Central Government in consultation with the State Government or the Union territory Administration concerned under sub-section (3) of section 3 of the Environment (Protection) Act, 1986 for the purpose of this notification, was published in the Gazette of India ,Extraordinary, Part II, section 3, sub-section (ii) vide number S.O. 1324 (E) dated the 15th September ,2005 inviting objections and suggestions from all persons likely to be affected thereby within a period of sixty days from the date on which copies of Gazette containing the said notification were made available to the public;

And whereas, copies of the said notification were made available to the public on 15th September, 2005;

And whereas, all objections and suggestions received in response to the above mentioned draft notification have been duly considered by the Central Government;

Now, therefore, in exercise of the powers conferred by sub-section (1) and clause (v) of sub-section (2) of section 3 of the Environment (Protection) Act, 1986, read with clause (d) of sub-rule (3) of rule 5 of the Environment (Protection) Rules, 1986 and in supersession of the notification number S.O. 60 (E) dated the 27th January, 1994, except in respect of things done or omitted to be done before such supersession, the Central Government hereby directs that on and from the date of its publication the required construction of new projects or activities or the expansion or modernization of existing projects or activities listed in the Schedule to this notification entailing capacity addition with change in process and or technology shall be undertaken in any part of India only after the prior environmental clearance from the Central Government or as the case may be, by the State Level Environment Impact Assessment Authority, duly constituted by the Central Government under sub-section (3) of section 3 of the said Act, in accordance with the procedure specified hereinafter in this notification.

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[1]Includes the territorial waters

2. **Requirements of prior Environmental Clearance (EC):-** The following projects or activities shall require prior environmental clearance from the concerned regulatory authority, which shall hereinafter referred to be as the Central Government in the Ministry of Environment and Forests for matters falling under Category 'A' in the Schedule and at State level the State Environment Impact Assessment Authority (SEIAA) for matters falling under Category 'B' in the said Schedule, before any construction work, or preparation of land by the project management except for securing the land, is started on the project or activity:

(i) All new projects or activities listed in the Schedule to this notification;

(ii) Expansion and modernization of existing projects or activities listed in the Schedule to this notification with addition of capacity beyond the limits specified for the concerned sector, that is, projects or activities which cross the threshold limits given in the Schedule, after expansion or modernization;

(iii) Any change in product - mix in an existing manufacturing unit included in Schedule beyond the specified range.

3. **State Level Environment Impact Assessment Authority:-** (1) A State Level Environment Impact Assessment Authority hereinafter referred to as the SEIAA shall be constituted by the Central Government under sub-section (3) of section 3 of the Environment (Protection) Act, 1986 comprising of three Members including a Chairman and a Member – Secretary to be nominated by the State Government or the Union territory Administration concerned.

(2) The Member-Secretary shall be a serving officer of the concerned State Government or Union territory administration familiar with environmental laws.

(3) The other two Members shall be either a professional or expert fulfilling the eligibility criteria given in Appendix VI to this notification.

(4) One of the specified Members in sub-paragraph (3) above who is an expert in the Environmental Impact Assessment process shall be the Chairman of the SEIAA.

(5) The State Government or Union territory Administration shall forward the names of the Members and the Chairman referred in sub- paragraph 3 to 4 above to the Central Government and the Central Government shall constitute the SEIAA as an authority for the purposes of this notification within thirty days of the date of receipt of the names.

(6) The non-official Member and the Chairman shall have a fixed term of three years (from the date of the publication of the notification by the Central Government constituting the authority).

(7) All decisions of the SEIAA shall be unanimous and taken in a meeting.

4. **Categorization of projects and activities:-**

(i) All projects and activities are broadly categorized in to two categories - Category A and Category B, based on the spatial extent of potential impacts and potential impacts on human health and natural and man made resources.

(ii) All projects or activities included as Category 'A' in the Schedule, including expansion and modernization of existing projects or activities and change in product mix, shall require prior environmental clearance from the Central Government in the Ministry of Environment and Forests (MoEF) on the recommendations of an Expert Appraisal Committee (EAC) to be constituted by the Central Government for the purposes of this notification;

(iii) All projects or activities included as Category 'B' in the Schedule, including expansion and modernization of existing projects or activities as specified in sub paragraph (ii) of paragraph 2, or change in product mix as specified in sub paragraph (iii) of paragraph 2, but excluding those which fulfill the General Conditions (GC) stipulated in the Schedule, *will* require prior environmental clearance from the State/Union territory Environment Impact Assessment Authority (SEIAA). The SEIAA shall base its decision on the recommendations of a State or Union territory level Expert Appraisal Committee (SEAC) as to be constituted for in this notification. In the absence of a duly constituted SEIAA or SEAC, a Category 'B' project shall be treated as a Category 'A' project;

5. Screening, Scoping and Appraisal Committees:-

The same Expert Appraisal Committees (EACs) at the Central Government and SEACs (hereinafter referred to as the (EAC) and (SEAC) at the State or the Union territory level shall screen, scope and appraise projects or activities in Category 'A' and Category 'B' respectively. EAC and SEAC's shall meet at least once every month.

(a) The composition of the EAC shall be as given in Appendix VI. The SEAC at the State or the Union territory level shall be constituted by the Central Government in consultation with the concerned State Government or the Union territory Administration with identical composition;

(b) The Central Government may, with the prior concurrence of the concerned State Governments or the Union territory Administrations, constitutes one SEAC for more than one State or Union territory for reasons of administrative convenience and cost;

(c) The EAC and SEAC shall be reconstituted after every three years;

(d) The authorised members of the EAC and SEAC, concerned, may inspect any site(s) connected with the project or activity in respect of which the prior environmental clearance is sought, for the purposes of screening or scoping or appraisal, with prior notice of at least seven days to the applicant, who shall provide necessary facilities for the inspection;

(e) The EAC and SEACs shall function on the principle of collective responsibility. The Chairperson shall endeavour to reach a consensus in each case, and if consensus cannot be reached, the view of the majority shall prevail.

6. Application for Prior Environmental Clearance (EC):-

An application seeking prior environmental clearance in all cases shall be made in the prescribed Form 1 annexed herewith and Supplementary Form 1A, if applicable, as given in Appendix II, after the identification of prospective site(s) for the project and/or activities to which the application relates, before commencing any construction activity, or preparation of land, at the site by the applicant. The applicant shall furnish, along with the application, a copy of the pre-feasibility project report except that, in case of construction projects or activities (item 8 of the Schedule) in addition to Form 1 and the Supplementary Form 1A, a copy of the conceptual plan shall be provided, instead of the pre-feasibility report.

7. Stages in the Prior Environmental Clearance (EC) Process for New Projects:-

7(i) The environmental clearance process for new projects will comprise of a maximum of four stages, all of which may not apply to particular cases as set forth below in this notification. These four stages in sequential order are:-

- Stage (1) Screening (Only for Category 'B' projects and activities)
- Stage (2) Scoping
- Stage (3) Public Consultation
- Stage (4) Appraisal

I. Stage (1) - Screening:

In case of Category 'B' projects or activities, this stage will entail the scrutiny of an application seeking prior environmental clearance made in Form 1 by the concerned State level Expert Appraisal Committee (SEAC) for determining whether or not the project or activity requires further environmental studies for preparation of an Environmental Impact Assessment (EIA) for its appraisal prior to the grant of environmental clearance depending up on the nature and location specificity of the project . The projects requiring an Environmental Impact Assessment report shall be termed Category 'B1' and remaining projects shall be termed Category 'B2' and will not require an Environment Impact Assessment report. For categorization of projects into B1 or B2 except item 8 (b), the Ministry of Environment and Forests shall issue appropriate guidelines from time to time.

II. Stage (2) - Scoping:

(i) "Scoping": refers to the process by which the Expert Appraisal Committee in the case of Category 'A' projects or activities, and State level Expert Appraisal Committee in the case of Category 'B1' projects or activities, including applications for expansion and/or modernization and/or change in product mix of existing projects or activities, determine detailed and comprehensive Terms Of Reference (TOR) addressing all relevant environmental concerns for the preparation of an Environment Impact Assessment (EIA) Report in respect of the project or activity for which prior environmental clearance is sought. The Expert Appraisal Committee or State level Expert Appraisal Committee concerned shall determine the Terms of Reference on the basis of the information furnished in the prescribed application Form1/Form 1A including Terns of Reference proposed by the applicant, a site visit by a sub- group of Expert Appraisal Committee or State level Expert Appraisal Committee concerned only if considered necessary by the Expert Appraisal Committee or State Level Expert Appraisal Committee concerned, Terms of Reference suggested by the applicant if furnished and other information that may be available with the Expert Appraisal Committee or State Level Expert Appraisal Committee concerned. All projects and activities listed as Category 'B' in Item 8 of the Schedule (Construction/Township/Commercial Complexes /Housing) shall not require Scoping and will be appraised on the basis of Form 1/ Form 1A and the conceptual plan.

(ii) The Terms of Reference (TOR) shall be conveyed to the applicant by the Expert Appraisal Committee or State Level Expert Appraisal Committee as concerned within sixty days of the receipt of Form 1. In the case of Category A Hydroelectric projects Item 1(c) (i) of the Schedule the Terms of Reference shall be conveyed along with the clearance for pre-construction activities .If the Terms of Reference are not finalized and conveyed to the applicant within sixty days of the receipt of Form 1, the Terms of Reference suggested by the applicant shall be deemed as the final Terms of Reference approved for the EIA studies. The approved Terms of

Reference shall be displayed on the website of the Ministry of Environment and Forests and the concerned State Level Environment Impact Assessment Authority.

(iii) Applications for prior environmental clearance may be rejected by the regulatory authority concerned on the recommendation of the EAC or SEAC concerned at this stage itself. In case of such rejection, the decision together with reasons for the same shall be communicated to the applicant in writing within sixty days of the receipt of the application.

III. **Stage (3) - Public Consultation**:

(i) "Public Consultation" refers to the process by which the concerns of local affected persons and others who have plausible stake in the environmental impacts of the project or activity are ascertained with a view to taking into account all the material concerns in the project or activity design as appropriate. All Category 'A' and Category B1 projects or activities shall undertake Public Consultation, except the following:-

(a) modernization of irrigation projects (item 1(c) (ii) of the Schedule).

(b) all projects or activities located within industrial estates or parks (item 7(c) of the Schedule) approved by the concerned authorities, and which are not disallowed in such approvals.

(c) expansion of Roads and Highways (item 7 (f) of the Schedule) which do not involve any further acquisition of land.

(d) all Building /Construction projects/Area Development projects and Townships (item 8).

(e) all Category 'B2' projects and activities.

(f) all projects or activities concerning national defence and security or involving other strategic considerations as determined by the Central Government.

(ii) The Public Consultation shall ordinarily have two components comprising of:-

(a) a public hearing at the site or in its close proximity- district wise, to be carried out in the manner prescribed in Appendix IV, for ascertaining concerns of local affected persons;

(b) obtain responses in writing from other concerned persons having a plausible stake in the environmental aspects of the project or activity.

(iii) the public hearing at, or in close proximity to, the site(s) in all cases shall be conducted by the State Pollution Control Board (SPCB) or the Union territory Pollution Control Committee (UTPCC) concerned in the specified manner and forward the proceedings to the regulatory authority concerned within 45(forty five) of a request to the effect from the applicant.

(iv) in case the State Pollution Control Board or the Union territory Pollution Control Committee concerned does not undertake and complete the public hearing within the specified period, and/or does not convey the proceedings of the public hearing within the prescribed period

directly to the regulatory authority concerned as above, the regulatory authority shall engage another public agency or authority which is not subordinate to the regulatory authority, to complete the process within a further period of forty five days,.

(v) If the public agency or authority nominated under the sub paragraph (iii) above reports to the regulatory authority concerned that owing to the local situation, it is not possible to conduct the public hearing in a manner which will enable the views of the concerned local persons to be freely expressed, it shall report the facts in detail to the concerned regulatory authority, which may, after due consideration of the report and other reliable information that it may have, decide that the public consultation in the case need not include the public hearing.

(vi) For obtaining responses in writing from other concerned persons having a plausible stake in the environmental aspects of the project or activity, the concerned regulatory authority and the State Pollution Control Board (SPCB) or the Union territory Pollution Control Committee (UTPCC) shall invite responses from such concerned persons by placing on their website the Summary EIA report prepared in the format given in Appendix IIIA by the applicant along with a copy of the application in the prescribed form , within seven days of the receipt of a written request for arranging the public hearing . Confidential information including non-disclosable or legally privileged information involving Intellectual Property Right, source specified in the application shall not be placed on the web site. The regulatory authority concerned may also use other appropriate media for ensuring wide publicity about the project or activity. The regulatory authority shall, however, make available on a written request from any concerned person the Draft EIA report for inspection at a notified place during normal office hours till the date of the public hearing. All the responses received as part of this public consultation process shall be forwarded to the applicant through the quickest available means.

(vii) After completion of the public consultation, the applicant shall address all the material environmental concerns expressed during this process, and make appropriate changes in the draft EIA and EMP. The final EIA report, so prepared, shall be submitted by the applicant to the concerned regulatory authority for appraisal. The applicant may alternatively submit a supplementary report to draft EIA and EMP addressing all the concerns expressed during the public consultation.

IV. Stage (4) - Appraisal:

(i) Appraisal means the detailed scrutiny by the Expert Appraisal Committee or State Level Expert Appraisal Committee of the application and other documents like the Final EIA report, outcome of the public consultations including public hearing proceedings, submitted by the applicant to the regulatory authority concerned for grant of environmental clearance. This appraisal shall be made by Expert Appraisal Committee or State Level Expert Appraisal Committee concerned in a transparent manner in a proceeding to which the applicant shall be invited for furnishing necessary clarifications in person or through an authorized representative. On conclusion of this proceeding, the Expert Appraisal Committee or State Level Expert Appraisal Committee concerned shall make categorical recommendations to the regulatory authority concerned either for grant of prior environmental clearance on stipulated terms and conditions, or rejection of the application for prior environmental clearance, together with reasons for the same.

(ii) The appraisal of all projects or activities which are not required to undergo public consultation, or submit an Environment Impact Assessment report, shall be carried out on the basis of the prescribed application Form 1 and Form 1A as applicable, any other relevant

validated information available and the site visit wherever the same is considered as necessary by the Expert Appraisal Committee or State Level Expert Appraisal Committee concerned.

(iii) The appraisal of an application be shall be completed by the Expert Appraisal Committee or State Level Expert Appraisal Committee concerned within sixty days of the receipt of the final Environment Impact Assessment report and other documents or the receipt of Form 1 and Form 1 A, where public consultation is not necessary and the recommendations of the Expert Appraisal Committee or State Level Expert Appraisal Committee shall be placed before the competent authority for a final decision within the next fifteen days .The prescribed procedure for appraisal is given in Appendix V ;

7(ii). Prior Environmental Clearance (EC) process for Expansion or Modernization or Change of product mix in existing projects:

All applications seeking prior environmental clearance for expansion with increase in the production capacity beyond the capacity for which prior environmental clearance has been granted under this notification or with increase in either lease area or production capacity in the case of mining projects or for the modernization of an existing unit with increase in the total production capacity beyond the threshold limit prescribed in the Schedule to this notification through change in process and or technology or involving a change in the product –mix shall be made in Form I and they shall be considered by the concerned Expert Appraisal Committee or State Level Expert Appraisal Committee within sixty days, who will decide on the due diligence necessary including preparation of EIA and public consultations and the application shall be appraised accordingly for grant of environmental clearance.

8.Grant or Rejection of Prior Environmental Clearance (EC):

(i) The regulatory authority shall consider the recommendations of the EAC or SEAC concerned and convey its decision to the applicant within forty five days of the receipt of the recommendations of the Expert Appraisal Committee or State Level Expert Appraisal Committee concerned or in other words within one hundred and five days of the receipt of the final Environment Impact Assessment Report, and where Environment Impact Assessment is not required, within one hundred and five days of the receipt of the complete application with requisite documents, except as provided below.

(ii) The regulatory authority shall normally accept the recommendations of the Expert Appraisal Committee or State Level Expert Appraisal Committee concerned. In cases where it disagrees with the recommendations of the Expert Appraisal Committee or State Level Expert Appraisal Committee concerned, the regulatory authority shall request reconsideration by the Expert Appraisal Committee or State Level Expert Appraisal Committee concerned within forty five days of the receipt of the recommendations of the Expert Appraisal Committee or State Level Expert Appraisal Committee concerned while stating the reasons for the disagreement. An intimation of this decision shall be simultaneously conveyed to the applicant. The Expert Appraisal Committee or State Level Expert Appraisal Committee concerned, in turn, shall consider the observations of the regulatory authority and furnish its views on the same within a further period of sixty days. The decision of the regulatory authority after considering the views of the Expert Appraisal Committee or State Level Expert Appraisal Committee concerned shall be final and conveyed to the applicant by the regulatory authority concerned within the next thirty days.

(iii) In the event that the decision of the regulatory authority is not communicated to the applicant within the period specified in sub-paragraphs (i) or (ii) above, as applicable, the

applicant may proceed as if the environment clearance sought for has been granted or denied by the regulatory authority in terms of the final recommendations of the Expert Appraisal Committee or State Level Expert Appraisal Committee concerned.

(iv) On expiry of the period specified for decision by the regulatory authority under paragraph (i) and (ii) above, as applicable, the decision of the regulatory authority, and the final recommendations of the Expert Appraisal Committee or State Level Expert Appraisal Committee concerned shall be public documents.

(v) Clearances from other regulatory bodies or authorities shall not be required prior to receipt of applications for prior environmental clearance of projects or activities, or screening, or scoping, or appraisal, or decision by the regulatory authority concerned, unless any of these is sequentially dependent on such clearance either due to a requirement of law, or for necessary technical reasons.

(vi) Deliberate concealment and/or submission of false or misleading information or data which is material to screening or scoping or appraisal or decision on the application shall make the application liable for rejection, and cancellation of prior environmental clearance granted on that basis. Rejection of an application or cancellation of a prior environmental clearance already granted, on such ground, shall be decided by the regulatory authority, after giving a personal hearing to the applicant, and following the principles of natural justice.

9. Validity of Environmental Clearance (EC):

The "Validity of Environmental Clearance" is meant the period from which a prior environmental clearance is granted by the regulatory authority, or may be presumed by the applicant to have been granted under sub paragraph (iv) of paragraph 7 above, to the start of production operations by the project or activity, or completion of all construction operations in case of construction projects (item 8 of the Schedule), to which the application for prior environmental clearance refers. The prior environmental clearance granted for a project or activity shall be valid for a period of ten years in the case of River Valley projects (item 1(c) of the Schedule), project life as estimated by Expert Appraisal Committee or State Level Expert Appraisal Committee subject to a maximum of thirty years for mining projects and five years in the case of all other projects and activities. However, in the case of Area Development projects and Townships [item 8(b)], the validity period shall be limited only to such activities as may be the responsibility of the applicant as a developer. This period of validity may be extended by the regulatory authority concerned by a maximum period of five years provided an application is made to the regulatory authority by the applicant within the validity period, together with an updated Form 1, and Supplementary Form 1A, for Construction projects or activities (item 8 of the Schedule). In this regard the regulatory authority may also consult the Expert Appraisal Committee or State Level Expert Appraisal Committee as the case may be.

10. Post Environmental Clearance Monitoring:

(i) It shall be mandatory for the project management to submit half-yearly compliance reports in respect of the stipulated prior environmental clearance terms and conditions in hard and soft copies to the regulatory authority concerned, on 1st June and 1st December of each calendar year.

(ii) All such compliance reports submitted by the project management shall be public documents. Copies of the same shall be given to any person on application to the concerned regulatory authority. The latest such compliance report shall also be displayed on the web site of the concerned regulatory authority.

11. Transferability of Environmental Clearance (EC):

A prior environmental clearance granted for a specific project or activity to an applicant may be transferred during its validity to another legal person entitled to undertake the project or activity on application by the transferor, or by the transferee with a written "no objection" by the transferor, to, and by the regulatory authority concerned, on the same terms and conditions under which the prior environmental clearance was initially granted, and for the same validity period. No reference to the Expert Appraisal Committee or State Level Expert Appraisal Committee concerned is necessary in such cases.

12. Operation of EIA Notification, 1994, till disposal of pending cases:

From the date of final publication of this notification the Environment Impact Assessment (EIA) notification number S.O.60 (E) dated 27th January, 1994 is hereby superseded, except in suppression of the things done or omitted to be done before such suppression to the extent that in case of all or some types of applications made for prior environmental clearance and pending on the date of final publication of this notification, the Central Government may relax any one or all provisions of this notification except the list of the projects or activities requiring prior environmental clearance in Schedule I , or continue operation of some or all provisions of the said notification, for a period not exceeding one year from the date of issue of this notification.

[No. J-11013/56/2004-IA-II (I)]

(R.CHANDRAMOHAN)
JOINT SECRETARY TO THE GOVERNMENT OF INDIA

SCHEDULE

(See paragraph 2 and 7)

LIST OF PROJECTS OR ACTIVITIES REQUIRING PRIOR ENVIRONMENTAL CLEARANCE

Project or Activity		Category with threshold limit		Conditions if any
		A	B	
1		**Mining, extraction of natural resources and power generation (for a specified production capacity)**		
(1)	(2)	(3)	(4)	(5)
1(a)	Mining of minerals	≥ 50 ha. of mining lease area Asbestos mining irrespective of mining area	<50 ha ≥ 5 ha .of mining lease area.	General Condition shall apply Note Mineral prospecting (not involving drilling) are exempted provided the concession areas have got previous clearance for physical survey
1(b)	Offshore and onshore oil and gas exploration, development & production	All projects		Note Exploration Surveys (not involving drilling) are exempted provided the concession areas have got previous clearance for physical survey
1(c)	River Valley projects	(i) ≥ 50 MW hydroelectric power generation; (ii) ≥ 10,000 ha. of culturable command area	(i) < 50 MW ≥ 25 MW hydroelectric power generation; (ii) < 10,000 ha. of culturable command area	General Condition shall apply
1(d)	Thermal Power Plants	≥ 500 MW (coal/lignite/naphta & gas based); ≥ 50 MW (Pet coke diesel and all other fuels -)	< 500 MW (coal/lignite/naptha & gas based); <50 MW ≥ 5MW (Pet coke ,diesel and all other fuels)	General Condition shall apply

(1)	(2)	(3)	(4)	(5)
1(e)	Nuclear power projects and processing of nuclear fuel	All projects	-	
2		**Primary Processing**		
2(a)	Coal washeries	≥ 1 million ton/annum throughput of coal	<1million ton/annum throughput of coal	General Condition shall apply (If located within mining area the proposal shall be appraised together with the mining proposal)
2 (b)	Mineral beneficiation	≥ 0.1million ton/annum mineral throughput	< 0.1million ton/annum mineral throughput	General Condition shall apply (Mining proposal with Mineral beneficiation shall be appraised together for grant of clearance)

3		**Materials Production**		
(1)	(2)	(3)	(4)	(5)
3(a)	Metallurgical industries (ferrous & non ferrous)	a)Primary metallurgical industry All projects b) Sponge iron manufacturing ≥ 200TPD c)Secondary metallurgical processing industry All toxic and heavy metal producing units ≥ 20,000 tonnes /annum -	Sponge iron manufacturing <200TPD Secondary metallurgical processing industry i.)All toxic andheavymetal producing units <20,000 tonnes /annum ii.)All other non –toxic secondary metallurgical processing industries >5000 tonnes/annum	General Condition shall apply for Sponge iron manufacturing
3(b)	Cement plants	≥ 1.0 million tonnes/annum production capacity	<1.0 million tonnes/annum production capacity. All Stand alone grinding units	General Condition shall apply

4		**Materials Processing**		
(1)	(2)	(3)	(4)	(5)
4(a)	Petroleum refining industry	All projects	-	-
4(b)	Coke oven plants	≥2,50,000 tonnes/annum -	<2,50,000 & ≥25,000 tonnes/annum	-
4(c)	Asbestos milling and asbestos based products	All projects	-	-
4(d)	Chlor-alkali industry	≥300 TPD production capacityor a unit located out side the notified industrial area/ estate	<300 TPD production capacity and located within a notified industrial area/ estate	Specific Condition shall apply No new Mercury Cell based plants will be permitted and existing units converting to membrane cell technology are exempted from this Notification
4(e)	Soda ash Industry	All projects	-	-
4(f)	Leather/skin/hide processing industry	New projects outside the industrial area or expansion of existing units out side the industrial area	All new or expansion of projects located within a notified industrial area/ estate	Specific condition shall apply
5		**Manufacturing/Fabrication**		
5(a)	Chemical fertilizers	All projects	-	-
5(b)	Pesticides industry and pesticide specific intermediates (excluding formulations)	All units producing technical grade pesticides	-	-

(1)	(2)	(3)	(4)	(5)
5(c)	Petro-chemical complexes (industries based on processing of petroleum fractions & natural gas and/or reforming to aromatics)	All projects -	-	-
5(d)	Manmade fibres manufacturing	Rayon	Others	General Condition shall apply
5(e)	Petrochemical based processing (processes other than cracking & reformation and not covered under the complexes)	Located out side the notified industrial area/ estate -	Located in a notified industrial area/ estate	Specific Condition shall apply
5(f)	Synthetic organic chemicals industry (dyes & dye intermediates; bulk drugs and intermediates excluding drug formulations; synthetic rubbers; basic organic chemicals, other synthetic organic chemicals and chemical intermediates)	Located out side the notified industrial area/ estate	Located in a notified industrial area/ estate	Specific Condition shall apply
5(g)	Distilleries	(i)All Molasses based distilleries (ii) All Cane juice/ non-molasses based distilleries ≥30 KLD	All Cane juice/non-molasses based distilleries – <30 KLD	General Condition shall apply
5(h)	Integrated paint industry	-	All projects	General Condition shall apply

(1)	(2)	(3)	(4)	(5)
5(i)	Pulp & paper industry excluding manufacturing of paper from waste paper and manufacture of paper from ready pulp with out bleaching	Pulp manufacturing and Pulp& Paper manufacturing industry -	Paper manufacturing industry without pulp manufacturing	General Condition shall apply
5(j)	Sugar Industry	- -	≥ 5000 tcd cane crushing capacity	General Condition shall apply
5(k)	Induction/arc furnaces/cupola furnaces 5TPH or more	- -	All projects	General Condition shall apply
6		**Service Sectors**		
6(a)	Oil & gas transportation pipe line (crude and refinery/ petrochemical products), passing through national parks /sanctuaries/coral reefs /ecologically sensitive areas including LNG Terminal	All projects -		-

(1)	(2)	(3)	(4)	(5)
6(b)	Isolated storage & handling of hazardous chemicals (As per threshold planning quantity indicated in column 3 of schedule 2 & 3 of MSIHC Rules 1989 amended 2000)	-	All projects	General Condition shall apply
7		**Physical Infrastructure including Environmental Services**		
7(a)	Air ports	All projects	-	-
7(b)	All ship breaking yards including ship breaking units	All projects	-	-
7(c)	Industrial estates/ parks/ complexes/ areas, export processing Zones (EPZs), Special Economic Zones (SEZs), Biotech Parks, Leather Complexes.	If at least one industry in the proposed industrial estate falls under the Category A, entire industrial area shall be treated as Category A, irrespective of the area. Industrial estates with area greater than 500 ha. and housing at least one Category B industry.	-Industrial estates housing at least one Category B industry and area <500 ha. Industrial estates of area> 500 ha. and not housing any industry belonging to Category A or B.	Special condition shall apply Note: Industrial Estate of area below 500 ha. and not housing any industry of category A or B does not require clearance.
7(d)	Common hazardous waste treatment, storage and disposal facilities (TSDFs)	All integrated facilities having incineration &landfill or incineration alone	All facilities having land fill only	General Condition shall apply

(1)	(2)	(3)	(4)	(5)
7(e)	Ports, Harbours	≥ 5 million TPA of cargo handling capacity (excluding fishing harbours)	< 5 million TPA of cargo handling capacity and/or ports/ harbours ≥10,000 TPA of fish handling capacity	General Condition shall apply
7(f)	Highways	i) New National High ways; and ii) Expansion of National High ways greater than 30 KM, involving additional right of way greater than 20m involving land acquisition and passing through more than one State.	i) New State High ways; and ii) Expansion of National / State Highways greater than 30 km involving additional right of way greater than 20m involving land acquisition.	General Condition shall apply
7(g)	Aerial ropeways		All projects	General Condition shall apply
7(h)	Common Effluent Treatment Plants (CETPs)		All projects	General Condition shall apply
7(i)	Common Municipal Solid Waste Management Facility (CMSWMF)		All projects	General Condition shall apply

(1)	(2)	~~(3)~~	(4)	(5)
8		**Building /Construction projects/Area Development projects and Townships**		
8(a)	Building and Construction projects		≥20000 sq.mtrs and <1,50,000 sq.mtrs. of built-up area#	#(built up area for covered construction; in the case of facilities open to the sky, it will be the activity area)
8(b)	Townships and Area Development projects.		Covering an area ≥ 50 ha and or built up area ≥1,50,000 sq .mtrs ++	++All projects under Item 8(b) shall be appraised as Category B1

Note:-

General Condition (GC):

Any project or activity specified in Category 'B' will be treated as Category A, if located in whole or in part within 10 km from the boundary of: (i) Protected Areas notified under the Wild Life (Protection) Act, 1972, (ii) Critically Polluted areas as notified by the Central Pollution Control Board from time to time, (iii) Notified Eco-sensitive areas, (iv) inter-State boundaries and international boundaries.

Specific Condition (SC):

If any Industrial Estate/Complex / Export processing Zones /Special Economic Zones/Biotech Parks / Leather Complex with homogeneous type of industries such as Items 4(d), 4(f), 5(e), 5(f), or those Industrial estates with pre –defined set of activities (not necessarily homogeneous, obtains prior environmental clearance, individual industries including proposed industrial housing within such estates /complexes will not be required to take prior environmental clearance, so long as the Terms and Conditions for the industrial estate/complex are complied with (Such estates/complexes must have a clearly identified management with the legal responsibility of ensuring adherence to the Terms and Conditions of prior environmental clearance, who may be held responsible for violation of the same throughout the life of the complex/estate).

APPENDIX I

(See paragraph – 6)

FORM 1

(I) **Basic Information**

Name of the Project:

Location / site alternatives under consideration:

Size of the Project: *

Expected cost of the project:

Contact Information:

Screening Category:

- *Capacity corresponding to sectoral activity (such as production capacity for manufacturing, mining lease area and production capacity for mineral production, area for mineral exploration, length for linear transport infrastructure, generation capacity for power generation etc.,)*

(II) **Activity**

1. **Construction, operation or decommissioning of the Project involving actions, which will cause physical changes in the locality (topography, land use, changes in water bodies, etc.)**

S.No.	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities /rates, wherever possible) with source of information data
1.1	Permanent or temporary change in land use, land cover or topography including increase in intensity of land use (with respect to local land use plan)		
1.2	Clearance of existing land, vegetation and buildings?		
1.3	Creation of new land uses?		
1.4	Pre-construction investigations e.g. bore houses, soil testing?		
1.5	Construction works?		

1.6	Demolition works?		
1.7	Temporary sites used for construction works or housing of construction workers?		
1.8	Above ground buildings, structures or earthworks including linear structures, cut and fill or excavations		
1.9	Underground works including mining or tunneling?		
1.10	Reclamation works?		
1.11	Dredging?		
1.12	Offshore structures?		
1.13	Production and manufacturing processes?		
1.14	Facilities for storage of goods or materials?		
1.15	Facilities for treatment or disposal of solid waste or liquid effluents?		
1.16	Facilities for long term housing of operational workers?		
1.17	New road, rail or sea traffic during construction or operation?		
1.18	New road, rail, air waterborne or other transport infrastructure including new or altered routes and stations, ports, airports etc?		
1.19	Closure or diversion of existing transport routes or infrastructure leading to changes in traffic movements?		
1.20	New or diverted transmission lines or pipelines?		
1.21	Impoundment, damming, culverting, realignment or other changes to the hydrology of watercourses or aquifers?		
1.22	Stream crossings?		
1.23	Abstraction or transfers of water form ground or surface waters?		
1.24	Changes in water bodies or the land surface affecting drainage or run-off?		

1.25	Transport of personnel or materials for construction, operation or decommissioning?		
1.26	Long-term dismantling or decommissioning or restoration works?		
1.27	Ongoing activity during decommissioning which could have an impact on the environment?		
1.28	Influx of people to an area in either temporarily or permanently?		
1.29	Introduction of alien species?		
1.30	Loss of native species or genetic diversity?		
1.31	Any other actions?		

2. **Use of Natural resources for construction or operation of the Project (such as land, water, materials or energy, especially any resources which are non-renewable or in short supply):**

S.No.	Information/checklist confirmation	Yes/No	Details thereof (with approximate quantities /rates, wherever possible) with source of information data
2.1	Land especially undeveloped or agricultural land (ha)		
2.2	Water (expected source & competing users) unit: KLD		
2.3	Minerals (MT)		
2.4	Construction material – stone, aggregates, and / soil (expected source – MT)		
2.5	Forests and timber (source – MT)		
2.6	Energy including electricity and fuels (source, competing users) Unit: fuel (MT), energy (MW)		
2.7	Any other natural resources (use appropriate standard units)		

3. **Use, storage, transport, handling or production of substances or materials, which could be harmful to human health or the environment or raise concerns about actual or perceived risks to human health.**

S.No.	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
3.1	Use of substances or materials, which are hazardous (as per MSIHC rules) to human health or the environment (flora, fauna, and water supplies)		
3.2	Changes in occurrence of disease or affect disease vectors (e.g. insect or water borne diseases)		
3.3	Affect the welfare of people e.g. by changing living conditions?		
3.4	Vulnerable groups of people who could be affected by the project e.g. hospital patients, children, the elderly etc.,		
3.5	Any other causes		

4. **Production of solid wastes during construction or operation or decommissioning (MT/month)**

S.No.	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
4.1	Spoil, overburden or mine wastes		
4.2	Municipal waste (domestic and or commercial wastes)		
4.3	Hazardous wastes (as per Hazardous Waste Management Rules)		

4.4	Other industrial process wastes		
4.5	Surplus product		
4.6	Sewage sludge or other sludge from effluent treatment		
4.7	Construction or demolition wastes		
4.8	Redundant machinery or equipment		
4.9	Contaminated soils or other materials		
4.10	Agricultural wastes		
4.11	Other solid wastes		

5. **Release of pollutants or any hazardous, toxic or noxious substances to air (Kg/hr)**

S.No.	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
5.1	Emissions from combustion of fossil fuels from stationary or mobile sources		
5.2	Emissions from production processes		
5.3	Emissions from materials handling including storage or transport		
5.4	Emissions from construction activities including plant and equipment		
5.5	Dust or odours from handling of materials including construction materials, sewage and waste		

5.6	Emissions from incineration of waste		
5.7	Emissions from burning of waste in open air (e.g. slash materials, construction debris)		
5.8	Emissions from any other sources		

6. Generation of Noise and Vibration, and Emissions of Light and Heat:

S.No.	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data with source of information data
6.1	From operation of equipment e.g. engines, ventilation plant, crushers		
6.2	From industrial or similar processes		
6.3	From construction or demolition		
6.4	From blasting or piling		
6.5	From construction or operational traffic		
6.6	From lighting or cooling systems		
6.7	From any other sources		

7. **Risks of contamination of land or water from releases of pollutants into the ground or into sewers, surface waters, groundwater, coastal waters or the sea:**

S.No.	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
7.1	From handling, storage, use or spillage of hazardous materials		
7.2	From discharge of sewage or other effluents to water or the land (expected mode and place of discharge)		
7.3	By deposition of pollutants emitted to air into the land or into water		
7.4	From any other sources		
7.5	Is there a risk of long term build up of pollutants in the environment from these sources?		

8. **Risk of accidents during construction or operation of the Project, which could affect human health or the environment**

S.No.	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
8.1	From explosions, spillages, fires etc from storage, handling, use or production of hazardous substances		
8.2	From any other causes		
8.3	Could the project be affected by natural disasters causing environmental damage (e.g. floods, earthquakes, landslides, cloudburst etc)?		

9. **Factors which should be considered (such as consequential development) which could lead to environmental effects or the potential for cumulative impacts with other existing or planned activities in the locality**

S. No.	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
9.1	Lead to development of supporting. lities, ancillary development or development stimulated by the project which could have impact on the environment e.g.: • Supporting infrastructure (roads, power supply, waste or waste water treatment, etc.) • housing development • extractive industries • supply industries • other		
9.2	Lead to after-use of the site, which could havean impact on the environment		
9.3	Set a precedent for later developments		
9.4	Have cumulative effects due to proximity to other existing or planned projects with similar effects		

(III) Environmental Sensitivity

S.No.	Areas	Name/ Identity	Aerial distance (within 15 km.) Proposed project location boundary
1	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value		

2	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests		
3	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration		
4	Inland, coastal, marine or underground waters		
5	State, National boundaries		
6	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas		
7	Defence installations		
8	Densely populated or built-up area		
9	Areas occupied by sensitive man-made land uses *(hospitals, schools, places of worship, community facilities)*		
10	Areas containing important, high quality or scarce resources *(ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)*		
11	Areas already subjected to pollution or environmental damage. *(those where existing legal environmental standards are exceeded)*		
12	Areas susceptible to natural hazard which could cause the project to present environmental problems *(earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)*		

(IV). Proposed Terms of Reference for EIA studies

APPENDIX II

(See paragraph 6)

FORM-1 A (only for construction projects listed under item 8 of the Schedule)

CHECK LIST OF ENVIRONMENTAL IMPACTS

(Project proponents are required to provide full information and wherever necessary attach explanatory notes with the Form and submit along with proposed environmental management plan & monitoring programme)

1. LAND ENVIRONMENT

(Attach panoramic view of the project site and the vicinity)

1.1. Will the existing landuse get significantly altered from the project that is not consistent with the surroundings? (Proposed landuse must conform to the approved Master Plan / Development Plan of the area. Change of landuse if any and the statutory approval from the competent authority be submitted). Attach Maps of (i) site location, (ii) surrounding features of the proposed site (within 500 meters) and (iii)the site (indicating levels & contours) to appropriate scales. If not available attach only conceptual plans.

1.2. List out all the major project requirements in terms of the land area, built up area, water consumption, power requirement, connectivity, community facilities, parking needs etc.

1.3. What are the likely impacts of the proposed activity on the existing facilities adjacent to the proposed site? (Such as open spaces, community facilities, details of the existing landuse, disturbance to the local ecology).

1.4. Will there be any significant land disturbance resulting in erosion, subsidence & instability? (Details of soil type, slope analysis, vulnerability to subsidence, seismicity etc may be given).

1.5. Will the proposal involve alteration of natural drainage systems? (Give details on a contour map showing the natural drainage near the proposed project site)

1.6. What are the quantities of earthwork involved in the construction activity-cutting, filling, reclamation etc. (Give details of the quantities of earthwork involved, transport of fill materials from outside the site etc.)

1.7. Give details regarding water supply, waste handling etc during the construction period.

1.8. Will the low lying areas & wetlands get altered? (Provide details of how low lying and wetlands are getting modified from the proposed activity)

1.9. Whether construction debris & waste during construction cause health hazard? (Give quantities of various types of wastes generated during construction including the construction labour and the means of disposal)

2. WATER ENVIRONMENT

2.1. Give the total quantity of water requirement for the proposed project with the breakup of requirements for various uses. How will the water requirement met? State the sources & quantities and furnish a water balance statement.

2.2. What is the capacity (dependable flow or yield) of the proposed source of water?

2.3. What is the quality of water required, in case, the supply is not from a municipal source? (Provide physical, chemical, biological characteristics with class of water quality)

2.4. How much of the water requirement can be met from the recycling of treated wastewater? (Give the details of quantities, sources and usage)

2.5. Will there be diversion of water from other users? (Please assess the impacts of the project on other existing uses and quantities of consumption)

2.6. What is the incremental pollution load from wastewater generated from the proposed activity? (Give details of the quantities and composition of wastewater generated from the proposed activity)

2.7. Give details of the water requirements met from water harvesting? Furnish details of the facilities created.

2.8. What would be the impact of the land use changes occurring due to the proposed project on the runoff characteristics (quantitative as well as qualitative) of the area in the post construction phase on a long term basis? Would it aggravate the problems of flooding or water logging in any way?

2.9. What are the impacts of the proposal on the ground water? (Will there be tapping of ground water; give the details of ground water table, recharging capacity, and approvals obtained from competent authority, if any)

2.10. What precautions/measures are taken to prevent the run-off from construction activities polluting land & aquifers? (Give details of quantities and the measures taken to avoid the adverse impacts)

2.11. How is the storm water from within the site managed?(State the provisions made to avoid flooding of the area, details of the drainage facilities provided along with a site layout indication contour levels)

2.12. Will the deployment of construction labourers particularly in the peak period lead to unsanitary conditions around the project site (Justify with proper explanation)

2.13. What on-site facilities are provided for the collection, treatment & safe disposal of sewage? (Give details of the quantities of wastewater generation, treatment capacities with technology & facilities for recycling and disposal)

2.14. Give details of dual plumbing system if treated waste used is used for flushing of toilets or any other use.

3. VEGETATION

3.1. Is there any threat of the project to the biodiversity? (Give a description of the local ecosystem with it's unique features, if any)

3.2. Will the construction involve extensive clearing or modification of vegetation? (Provide a detailed account of the trees & vegetation affected by the project)

3.3. What are the measures proposed to be taken to minimize the likely impacts on important site features (Give details of proposal for tree plantation, landscaping, creation of water bodies etc along with a layout plan to an appropriate scale)

4. FAUNA

4.1. Is there likely to be any displacement of fauna- both terrestrial and aquatic or creation of barriers for their movement? Provide the details.

4.2. Any direct or indirect impacts on the avifauna of the area? Provide details.

4.3. Prescribe measures such as corridors, fish ladders etc to mitigate adverse impacts on fauna

5. AIR ENVIRONMENT

5.1. Will the project increase atmospheric concentration of gases & result in heat islands? (Give details of background air quality levels with predicted values based on dispersion models taking into account the increased traffic generation as a result of the proposed constructions)

5.2. What are the impacts on generation of dust, smoke, odorous fumes or other hazardous gases? Give details in relation to all the meteorological parameters.

5.3. Will the proposal create shortage of parking space for vehicles? Furnish details of the present level of transport infrastructure and measures proposed for improvement including the traffic management at the entry & exit to the project site.

5.4. Provide details of the movement patterns with internal roads, bicycle tracks, pedestrian pathways, footpaths etc., with areas under each category.

5.5. Will there be significant increase in traffic noise & vibrations? Give details of the sources and the measures proposed for mitigation of the above.

5.6. What will be the impact of DG sets & other equipment on noise levels & vibration in & ambient air quality around the project site? Provide details.

6. AESTHETICS

6.1. Will the proposed constructions in any way result in the obstruction of a view, scenic amenity or landscapes? Are these considerations taken into account by the proponents?

6.2. Will there be any adverse impacts from new constructions on the existing structures? What are the considerations taken into account?

6.3. Whether there are any local considerations of urban form & urban design influencing the design criteria? They may be explicitly spelt out.

6.4. Are there any anthropological or archaeological sites or artefacts nearby? State if any other significant features in the vicinity of the proposed site have been considered.

7. SOCIO-ECONOMIC ASPECTS

7.1. Will the proposal result in any changes to the demographic structure of local population? Provide the details.

7.2. Give details of the existing social infrastructure around the proposed project.

7.3. Will the project cause adverse effects on local communities, disturbance to sacred sites or other cultural values? What are the safeguards proposed?

8. BUILDING MATERIALS

8.1. May involve the use of building materials with high-embodied energy. Are the construction materials produced with energy efficient processes? (Give details of energy conservation measures in the selection of building materials and their energy efficiency)

8.2. Transport and handling of materials during construction may result in pollution, noise & public nuisance. What measures are taken to minimize the impacts?

8.3. Are recycled materials used in roads and structures? State the extent of savings achieved?

8.4. Give details of the methods of collection, segregation & disposal of the garbage generated during the operation phases of the project.

9. ENERGY CONSERVATION

9.1. Give details of the power requirements, source of supply, backup source etc. What is the energy consumption assumed per square foot of built-up area? How have you tried to minimize energy consumption?

9.2. What type of, and capacity of, power back-up to you plan to provide?

9.3. What are the characteristics of the glass you plan to use? Provide specifications of its characteristics related to both short wave and long wave radiation?

9.4. What passive solar architectural features are being used in the building? Illustrate the applications made in the proposed project.

9.5. Does the layout of streets & buildings maximise the potential for solar energy devices? Have you considered the use of street lighting, emergency lighting and solar hot water systems for use in the building complex? Substantiate with details.

9.6. Is shading effectively used to reduce cooling/heating loads? What principles have been used to maximize the shading of Walls on the East and the West and the Roof? How much energy saving has been effected?

9.7. Do the structures use energy-efficient space conditioning, lighting and mechanical systems? Provide technical details. Provide details of the transformers and motor efficiencies, lighting intensity and air-conditioning load assumptions? Are you using CFC and HCFC free chillers? Provide specifications.

9.8. What are the likely effects of the building activity in altering the micro-climates? Provide a self assessment on the likely impacts of the proposed construction on creation of heat island & inversion effects?

9.9. What are the thermal characteristics of the building envelope? (a) roof; (b) external walls; and (c) fenestration? Give details of the material used and the U-values or the R values of the individual components.

9.10. What precautions & safety measures are proposed against fire hazards? Furnish details of emergency plans.

9.11. If you are using glass as wall material provides details and specifications including emissivity and thermal characteristics.

9.12. What is the rate of air infiltration into the building? Provide details of how you are mitigating the effects of infiltration.

9.13. To what extent the non-conventional energy technologies are utilised in the overall energy consumption? Provide details of the renewable energy technologies used.

10. Environment Management Plan

The Environment Management Plan would consist of all mitigation measures for each item wise activity to be undertaken during the construction, operation and the entire life cycle to minimize adverse environmental impacts as a result of the activities of the project. It would also delineate the environmental monitoring plan for compliance of various environmental regulations. It will state the steps to be taken in case of emergency such as accidents at the site including fire.

APPENDIX III

(See paragraph 7

GENERIC STRUCTURE OF ENVIRONMENTAL IMPACT ASSESSENT DOCUMENT

S.NO	EIA STRUCTURE	CONTENTS
1.	Introduction	• Purpose of the report • Identification of project & project proponent • Brief description of nature, size, location of the project and its importance to the country, region • Scope of the study – details of regulatory scoping carried out (As per Terms of Reference)
2.	Project Description	• Condensed description of those aspects of the project (based on project feasibility study), likely to cause environmental effects. Details should be provided to give clear picture of the following: • Type of project • Need for the project • Location (maps showing general location, specific location, project boundary & project site layout) • Size or magnitude of operation (incl. Associated activities required by or for the project • Proposed schedule for approval and implementation • Technology and process description • Project description. Including drawings showing project layout, components of project etc. Schematic representations of the feasibility drawings which give information important for EIA purpose • Description of mitigation measures incorporated into the project to meet environmental standards, environmental operating conditions, or other EIA requirements (as required by the scope) • Assessment of New & untested technology for the risk of technological failure

3.	Description of the Environment	• Study area, period, components & methodology • Establishment of baseline for valued environmental components, as identified in the scope • Base maps of all environmental components
4.	Anticipated Environmental Impacts & Mitigation Measures	• Details of Investigated Environmental impacts due to project location, possible accidents, project design, project construction, regular operations, final decommissioning or rehabilitation of a completed project • Measures for minimizing and / or offsetting adverse impacts identified • Irreversible and Irretrievable commitments of environmental components • Assessment of significance of impacts (Criteria for determining significance, Assigning significance) • Mitigation measures
5.	Analysis of Alternatives (Technology & Site)	• In case, the scoping exercise results in need for alternatives: • Description of each alternative • Summary of adverse impacts of each alternative • Mitigation measures proposed for each alternative and • Selection of alternative
6.	Environmental Monitoring Program	• Technical aspects of monitoring the effectiveness of mitigation measures (incl. Measurement methodologies, frequency, location, data analysis, reporting schedules, emergency procedures, detailed budget & procurement schedules)
7.	Additional Studies	• Public Consultation • Risk assessment • Social Impact Assessment. R&R Action Plans
8.	Project Benefits	• Improvements in the physical infrastructure • Improvements in the social infrastructure • Employment potential –skilled; semi-skilled and unskilled • Other tangible benefits

9.	Environmental Cost Benefit Analysis	If recommended at the Scoping stage
10.	EMP	• Description of the administrative aspects of ensuring that mitigative measures are implemented and their effectiveness monitored, after approval of the EIA
11	Summary & Conclusion (This will constitute the summary of the EIA Report)	• Overall justification for implementation of the project • Explanation of how, adverse effects have been mitigated
12.	Disclosure of Consultants engaged	• The names of the Consultants engaged with their brief resume and nature of Consultancy rendered

APPENDIX III A
(See paragraph 7)

CONTENTS OF SUMMARY ENVIRONMENTAL IMPACT ASSESSMENT

The Summary EIA shall be a summary of the full EIA Report condensed to ten A-4 size pages at the maximum. It should necessarily cover in brief the following Chapters of the full EIA Report: -

1. Project Description
2. Description of the Environment
3. Anticipated Environmental impacts and mitigation measures
4. Environmental Monitoring Programme
5. Additional Studies
6. Project Benefits
7. Environment Management Plan

APPENDIX IV

(See paragraph 7)

PROCEDURE FOR CONDUCT OF PUBLIC HEARING

1.0 The Public Hearing shall be arranged in a systematic, time bound and transparent manner ensuring widest possible public participation at the project site(s) or in its close proximity District -wise, by the concerned State Pollution Control Board (SPCB) or the Union Territory Pollution Control Committee (UTPCC).

2. 0 **The Process:**

2.1 The Applicant shall make a request through a simple letter to the Member Secretary of the SPCB or Union Territory Pollution Control Committee, in whose jurisdiction the project is located, to arrange the public hearing within the prescribed statutory period. In case the project site is extending beyond a State or Union Territory, the public hearing is mandated in each State or Union Territory in which the project is sited and the Applicant shall make separate requests to each concerned SPCB or UTPCC for holding the public hearing as per this procedure.

2.2 The Applicant shall enclose with the letter of request, at least 10 hard copies and an equivalent number of soft (electronic) copies of the draft EIA Report with the generic structure given in Appendix III including the Summary Environment Impact Assessment report in English and in the local language, prepared strictly in accordance with the Terms of Reference communicated after Scoping (Stage-2). Simultaneously the applicant shall arrange to forward copies, one hard and one soft, of the above draft EIA Report along with the Summary EIA report to the Ministry of Environment and Forests and to the following authorities or offices, within whose jurisdiction the project will be located:

(a) District Magistrate/s
(b) Zila Parishad or Municipal Corporation
(c) District Industries Office
(d) Concerned Regional Office of the Ministry of Environment and Forests

2.3 On receiving the draft Environmental Impact Assessment report, the above-mentioned authorities except the MoEF, shall arrange to widely publicize it within their respective jurisdictions requesting the interested persons to send their comments to the concerned regulatory authorities. They shall also make available the draft EIA Report for inspection electronically or otherwise to the public during normal office hours till the Public Hearing is over. The Ministry of Environment and Forests shall promptly display the Summary of the draft Environmental Impact Assessment report on its website, and also make the full draft EIA available for reference at a notified place during normal office hours in the Ministry at Delhi.

2.4 The SPCB or UTPCC concerned shall also make similar arrangements for giving publicity about the project within the State/Union Territory and make available the Summary of the draft Environmental Impact Assessment report (Appendix III A) for inspection in select offices or public libraries or panchayats etc. They shall also additionally

make available a copy of the draft Environmental Impact Assessment report to the above five authorities/offices viz, Ministry of Environment and Forests, District Magistrate etc.

3.0 Notice of Public Hearing:

3.1 The Member-Secretary of the concerned SPCB or UTPCC shall finalize the date, time and exact venue for the conduct of public hearing within 7(seven) days of the date of receipt of the draft Environmental Impact Assessment report from the project proponent, and advertise the same in one major National Daily and one Regional vernacular Daily. A minimum notice period of 30(thirty) days shall be provided to the public for furnishing their responses;

3.2 The advertisement shall also inform the public about the places or offices where the public could access the draft Environmental Impact Assessment report and the Summary Environmental Impact Assessment report before the public hearing.

3.3 No postponement of the date, time, venue of the public hearing shall be undertaken, unless some untoward emergency situation occurs and only on the recommendation of the concerned District Magistrate the postponement shall be notified to the public through the same National and Regional vernacular dailies and also prominently displayed at all the identified offices by the concerned SPCB or Union Territory Pollution Control Committee;

3.4 In the above exceptional circumstances fresh date, time and venue for the public consultation shall be decided by the Member –Secretary of the concerned SPCB or UTPCC only in consultation with the District Magistrate and notified afresh as per procedure under 3.1 above.

4.0 The Panel

4.1 The District Magistrate or his or her representative not below the rank of an Additional District Magistrate assisted by a representative of SPCB or UTPCC, shall supervise and preside over the entire public hearing process.

5.0 Videography

5.1 The SPCB or UTPCC shall arrange to video film the entire proceedings. A copy of the videotape or a CD shall be enclosed with the public hearing proceedings while forwarding it to the Regulatory Authority concerned.

6.0 Proceedings

6.1 The attendance of all those who are present at the venue shall be noted and annexed with the final proceedings.

6.2 There shall be no quorum required for attendance for starting the proceedings.

6.3 A representative of the applicant shall initiate the proceedings with a presentation on the project and the Summary EIA report.

6.4 Every person present at the venue shall be granted the opportunity to seek information or clarifications on the project from the Applicant. The summary of the public

hearing proceedings accurately reflecting all the views and concerns expressed shall be recorded by the representative of the SPCB or UTPCC and read over to the audience at the end of the proceedings explaining the contents in the vernacular language and the agreed minutes shall be signed by the District Magistrate or his or her representative on the same day and forwarded to the SPCB/UTPCC concerned.

6.5 A Statement of the issues raised by the public and the comments of the Applicant shall also be prepared in the local language and in English and annexed to the proceedings.

6.6 The proceedings of the public hearing shall be conspicuously displayed at the office of the Panchyats within whose jurisdiction the project is located, office of the concerned Zila Parishad, District Magistrate ,and the SPCB or UTPCC . The SPCB or UTPCC shall also display the proceedings on its website for general information. Comments, if any, on the proceedings which may be sent directly to the concerned regulatory authorities and the Applicant concerned.

7.0 Time period for completion of public hearing

7.1 The public hearing shall be completed within a period of 45 (forty five) days from date of receipt of the request letter from the Applicant. Therefore the SPCB or UTPCC concerned shall sent the public hearing proceedings to the concerned regulatory authority within 8(eight) days of the completion of the public hearing .The applicant may also directly forward a copy of the approved public hearing proceedings to the regulatory authority concerned along with the final Environmental Impact Assessment report or supplementary report to the draft EIA report prepared after the public hearing and public consultations.

7.2 If the SPCB or UTPCC fails to hold the public hearing within the stipulated 45(forty five) days, the Central Government in Ministry of Environment and Forests for Category 'A' project or activity and the State Government or Union Territory Administration for Category 'B' project or activity at the request of the SEIAA, shall engage any other agency or authority to complete the process, as per procedure laid down in this notification.

APPENDIX –V
(See paragraph 7)

PROCEDURE PRESCRIBED FOR APPRAISAL

1. The applicant shall apply to the concerned regulatory authority through a simple communication enclosing the following documents where public consultations are mandatory: -

- Final Environment Impact Assessment Report [20(twenty) hard copies and 1 (one) soft copy)]
- A copy of the video tape or CD of the public hearing proceedings
- A copy of final layout plan (20 copies)
- A copy of the project feasibility report (1 copy)

2. The Final EIA Report and the other relevant documents submitted by the applicant shall be scrutinized in office within 30 days from the date of its receipt by the concerned Regulatory Authority strictly with reference to the TOR and the inadequacies noted shall be communicated electronically or otherwise in a single set to the Members of the EAC /SEAC enclosing a copy each of the Final EIA Report including the public hearing proceedings and other public responses received along with a copy of Form -1or Form 1A and scheduled date of the EAC /SEAC meeting for considering the proposal .

3. Where a public consultation is not mandatory and therefore a formal EIA study is not required, the appraisal shall be made on the basis of the prescribed application Form 1 and a pre-feasibility report in the case of all projects and activities other than Item 8 of the Schedule .In the case of Item 8 of the Schedule, considering its unique project cycle , the EAC or SEAC concerned shall appraise all Category B projects or activities on the basis of Form 1, Form 1A and the conceptual plan and stipulate the conditions for environmental clearance . As and when the applicant submits the approved scheme /building plans complying with the stipulated environmental clearance conditions with all other necessary statutory approvals, the EAC /SEAC shall recommend the grant of environmental clearance to the competent authority.

4. Every application shall be placed before the EAC /SEAC and its appraisal completed within 60 days of its receipt with requisite documents / details in the prescribed manner.

5. The applicant shall be informed at least 15 (fifteen) days prior to the scheduled date of the EAC /SEAC meeting for considering the project proposal.

6. The minutes of the EAC /SEAC meeting shall be finalised within 5 working days of the meeting and displayed on the website of the concerned regulatory authority. In case the project or activity is recommended for grant of EC, then the minutes shall clearly list out the specific environmental safeguards and conditions. In case the recommendations are for rejection, the reasons for the same shall also be explicitly stated.

APPENDIX VI

(See paragraph 5)

COMPOSITION OF THE SECTOR/ PROJECT SPECIFIC EXPERT APPRAISAL COMMITTEE (EAC) FOR CATEGORY A PROJECTS AND THE STATE/UT LEVEL EXPERT APPRAISAL COMMITTEES (SEACs) FOR CATEGORY B PROJECTS TO BE CONSTITUTED BY THE CENTRAL GOVERNMENT

1. The Expert Appraisal Committees (EAC(s) and the State/UT Level Expert Appraisal Committees (SEACs) shall consist of only professionals and experts fulfilling the following eligibility criteria:

Professional: The person should have at least (i) 5 years of formal University training in the concerned discipline leading to a MA/MSc Degree, or (ii) in case of Engineering /Technology/Architecture disciplines, 4 years formal training in a professional training course together with prescribed practical training in the field leading to a B.Tech/B.E./B.Arch. Degree, or (iii) Other professional degree (e.g. Law) involving a total of 5 years of formal University training and prescribed practical training, or (iv) Prescribed apprenticeship/article ship and pass examinations conducted by the concerned professional association (e.g. Chartered Accountancy),or (v) a University degree , followed by 2 years of formal training in a University or Service Academy (e.g. MBA/IAS/IFS). In selecting the individual professionals, experience gained by them in their respective fields will be taken note of.

Expert: A professional fulfilling the above eligibility criteria with at least 15 years of relevant experience in the field, or with an advanced degree (e.g. Ph.D.) in a concerned field and at least 10 years of relevant experience.

Age: Below 70 years. However, in the event of the non-availability of /paucity of experts in a given field, the maximum age of a member of the Expert Appraisal Committee may be allowed up to 75 years

2. The Members of the EAC shall be Experts with the requisite expertise and experience in the following fields /disciplines. In the event that persons fulfilling the criteria of "Experts" are not available, Professionals in the same field with sufficient experience may be considered:

- **Environment Quality Experts**: Experts in measurement/monitoring, analysis and interpretation of data in relation to environmental quality

- **Sectoral Experts in Project Management**: Experts in Project Management or Management of Process/Operations/Facilities in the relevant sectors.

- **Environmental Impact Assessment Process Experts**: Experts in conducting and carrying out Environmental Impact Assessments (EIAs) and preparation of Environmental Management Plans (EMPs) and other Management plans and who have wide expertise and knowledge of predictive techniques and tools used in the EIA process

- **Risk Assessment Experts**

- **Life Science Experts in floral and faunal management**

- **Forestry and Wildlife Experts**

- **Environmental Economics Expert with experience in project appraisal**

3. The Membership of the EAC shall not exceed 15 (fifteen) regular Members. However the Chairperson may co-opt an expert as a Member in a relevant field for a particular meeting of the Committee.

4. The Chairperson shall be an outstanding and experienced environmental policy expert or expert in management or public administration with wide experience in the relevant development sector.

5. The Chairperson shall nominate one of the Members as the Vice Chairperson who shall preside over the EAC in the absence of the Chairman /Chairperson.

6. A representative of the Ministry of Environment and Forests shall assist the Committee as its Secretary.

7. The maximum tenure of a Member, including Chairperson, shall be for 2 (two) terms of 3 (three) years each.

8. The Chairman / Members may not be removed prior to expiry of the tenure without cause and proper enquiry.

Appendix 2.2

NOTIFICATION ON AVENUE PLANTATION

Appendix:73

Forest Notification (Revenue Department) -1958

REVENUE DEPARTMENT
(Forests)

Notification

The 3rd May, 1958.

No.1122-Ft-58/1195 In supersession of Punjab Government Notifications-

1. No.260-FT dated the 8th February, 1945.
2. No.5002-D-51/6264 dated the 15th November, 1951.
3. No.563-FT-54/458 dated the 3rd March, 1955 and
4. No.3384-FT-55/2134 dated the 19th August, 1955,

and in exercise of the powers conferred by section 29 of the Indian Forest Act, 1927, and all other powers enabling him in this behalf; the Governor of Punjab is pleased to declare the strips of Government forest or waste lands whether under tree growth or not on either side of all roads, canals and railways in the State of Punjab except those in the Patiala Division described in the following Schedule, to be protected forests, a the provisions of Chapter IV and Section 68 of the said Act to be applicable to them:

SCHEDULE

Name of strips	Description and situation
Roads	All P.W.D. (Buildings and Roads) Roads side strips and also other P.W.D. lands in Punjab State transferred to the Forest Department for management.
Canals	All land on either side of P.W.D. (Irrigation Branch) canals and canal roads including main canals, branches distributories, Minors, escapes and bunds and also other land of that department transferred to the Forest Department for management.
Railways	The land along the railway track and station yards on the Northern Railway transferred to the Forest Department for management.

No.1122-Ft-58/1196. Whereas by Punjab Government Notification No.1122-Ft-58/1195 dated the 3rd May, 1958, all strips of Govt. waste lands, demarcated by boundary pillars whether under tree growth or not on either side of all roads, canals and railways in the State of Punjab except Patiala Division as mentioned in the Schedule annexed to the said notification have been declared to be protected forests under section 29 of the Indian Forest Act, 1927.

NOW THEREFORE the Governor of Punjab in exercise of powers conferred by section 30 of the said Act is pleased:-

(a) to declare all trees standing in or upon these lands to be reserved with effect from the date of publication of this notification; and

(b) to prohibit from the same date the quarrying of stones burning of lime or charcoal, or the collection of subjection to any manufacturing process, or removal of any forest produce in any such forest and the breaking up or clearing of land for building or for herding cattle or for

any other purpose of any land in such forests.

NAKUL SEN
Secretary to Government, Punjab,
Revenue (Forest) Department.

Dated the 3rd May, 1958

No. 1122-Ft-58/1197 Whereas by Punjab Government Notification No.1122-Ft-58/1195 dated the 3rd May, 1958, all strips of Govt. waste lands demarcated by boundary pillars whether under tree growth or not on either side of all roads canals and railways in the state of Punjab except Patiala Divisions as mentioned in the Schedule annexed to the said notificatin have been declared to be protected forests under section 29 of the Indian Forest Act of 1927:-

Now, therefore in exercise of the powers conferred by section 32 of the said Act, the Governor of Punjab is pleased to make the following rules applicable to all the lands specified in the aforesaid notification:-

RULES

1. No person shall cut, fell girdle or lop any tree for any purpose whatsoever or remove any forest produce, without the previous permission of the Divisional Forest Officer, for the time being incharge of the Forest Division in which such lands are situated: Provided that in times of emergency the Executive Engineers incharge of the-

(a) Canals
(b) Public Works Department Roads, and
(c) Railways.

may cut, fell or lop any tree for use on the

(a) Canals
(b) Public Works Department Roads, and
(c) Railways.

respectively.

2. No person shall herd, pasture, graze or retain sheep goats or camels or other kinds of cattle on the lands specified in the Schedule annexed to Punjab Govt. Notification No.1122-Ft-58/1195 dated the 3rd May, 1958. However Divisional Forest Officer of the Forest Division concerned may permit grazing by a limited number of cattle.

3. No person shall clear or break up land without previous permission of the Divisional Forest Officer concerned. The Executive Engineers incharge of the Railways or roads or canals may, however, permit the breaking up of land to remove earth for use on railway lines, roads and canals, as the case may be, in times of emergency.

4. No person shall cut or remove grass without the approval of the Divisional Forest Officer of the Forest Division concerned.

5. No person shall set fire to grass, trees or timber or kindle a fire on the land without taking reasonable precautions to prevent its spreading to any tree.

Contd.....

5. Income from compounding of offences against these rules under section 68 of the Indian Forest Act, 1927 shall be credited to the Government.

NAKUL SEN,
Secretary to Government, Punjab,
Revenue (Forests) Department.

No. 1122-Ft-58/1198 Dated Simla-2 the 3rd May, 1958

Copy is forwarded for information to the:-

1. Chief Conservator of Forests, Punjab, Simla-2, with reference to his memorandum No.C-280(9) Roads/4130 dated the 3rd March, 1958 11 copies of the Notification will be supplied to him in due course by the press.

By Order,

Sd/-
for Under Secretary to Govt. Punjab,
Forests & Game Preservation
Department.

No.1122-Ft-58/1199 dated Simla-2 the Notification is forwarded to the Controller of Printing and Stationery, Punjab, Chandigarh, for publishing the notification in official Gazette 11 printing copies of the notification may please be supplied to the Chief Conservator of Forests, Punjab, Simla-2 in due course.

Sd/-
for Under Secretary to Government, Punjab,
Forests & Game Preservation Department.

Endst.No.C-280(a)Roads/2527 dated 26-5-58.

A copy is forwarded to:-

1. All C.Fs 2. All D.F.Os for information & guidance.

Sd/- G.S.Dhillon,
C.C.F.Punjab.

ojs

Attested

Divisional Forest Officer

Appendix 2.3

STATE WATER POLICY

State Water Policy

The Need for a State Water Policy:

1.1 Water is the elixir of life. It is part of a larger ecological system and vital to the essential environment for sustaining all life forms. It is a basic human need and must be managed in the most optimal manner so that consumption and development needs are met. As a scarce and precious resource its usage has to be planned, along with conservation and management measures, on an integrated and environmentally sound basis, keeping in view the socio-economic needs of the State. In the 21st century, efforts to develop, conserve, utilize and manage this important resource in a sustainable manner have to be guided by the State's perspective.

1.2 Water, as a resource is one and indivisible: rainfall, river waters, surface ponds and lakes and ground water are all part of one system. In Himachal Pradesh availability of water is highly uneven in both space and time. Precipitation is confined to only about three or four months in a year and varies from about 600 mm in Lahaul & Spiti district to around 3200 mm in Dharamshala District Kangra. However, in spite of heavy rain and snow during the rainy season and winter the summer months are periods of water scarcity in many areas as the flow in the rivers and nallahs is quite low and tradtional sources also dry up. This results in forced migration of humans and animals to the banks of rivers with perennial flows. On the other hand, heavy rains regularly cause havoc due to floods. Flash floods also cause damage in the higher reaches of the State. Thus, through its Water Policy the State also has to address the issues of drought management in some areas and flood control in others.

1.3 Planning and implementation of water related projects has many socio-economic aspects and issues such as environmental sustainability, resettlement and rehabilitation of project-affected people and livestock, public health concerns of water impoundment, dam safety etc. Clear guidelines are necessary in these matters. Moreover, certain problems and weaknesses have affected the water resources projects that have been implemented or are in the process of implementation in the State. Complex issues of equity and social justice in regard to water usage and distribution have to be addressed systematically. The development and exploitation of the groundwater resources in the state have raised concerns about the need for scientific management and conservation. Common policies and strategies are necessary to address these issues.

1.4 Expansion of economic activity inevitably leads to increasing demands for water for diverse purposes: domestic, commercial and industrial, irrigation, hydro- power generation, recreation, etc. So far, the major consumptive use of water in the .State has been for irrigation. The gross irrigation potential of the State is estimated to be 3.35 lakh ha., while the irrigation potential created has reached 2.05 lakh ha. by April, 2005. Production of food grains in H.P. has increased from around 0.7 million tonnes in the year 1966-67 to about 1.4 million tonnes in the year 2003-04. This will have to be raised to around 2.4 million tonnes by the year 2025 AD to meet the needs of the projected population of 92.25 lakh. The production of fruits and vegetables has increased from 0.05 million tones(1966-67) each to 0.7and 0.9 million tones(2003-04) respectively. We need to cover the balance area of 1.25 lakh ha. by irrigation schemes so that the productivity of the culturable land area of the State improves, food grain output increases and through diversion of the land to cultivation of vegetable, horticulture and cash crops the economic prosperity of the agriculturists is ensured and enhanced.

1.5 The drinking water needs of the people and livestock have also to be met. Demand of water for industrial use has so far largely been concentrated in or near the towns. However, the domestic and industrial water demand in rural areas is expected to increase sharply as the development programmes improve economic conditions and more industry comes up there. Impounding of water for hydropower generation will also increase as the potential in this sector is harnessed. This underscores the need for the utmost efficiency in water utilization and public awareness of the importance of conservation and maintenance of water quality.

1.6 Water quality is impacted by untreated or inadequately treated industrial effluents and sewage flowing into nallahs and rivers or affecting the surface and ground water. Since this can adversely affect the health of the populace, special attention will have to be paid to these aspects. Improvements in existing strategies, innovation

of new techniques resting on a strong science and technology base are needed to eliminate the pollution of surface and ground water resources, to restore the pristine quality of former years. Technology and training have to play important roles in the development of water resources and their management.

1.7 Clearly, a number of issues and challenges have emerged in the development and management of the water resources. It is imperative therefore to formulate a State Water Policy for Himachal Pradesh backed with an action plan for implementation that will be executed in a time bound manner .

1.8 The State Water Policy has its objective to ensure that available water resources are utilized in an efficient manner to meet drinking water needs and irrigation requirements in a manner that also promotes, conservation and engenders community participation. The State Water Policy seeks to make water everybody's business and to catch rain water where it falls or where it can be used optimally. Besides, the harnessing of water for commercial, industrial and hydro- power generation usage must take place in a sustainable manner with due regard to maintenance of water quality.

Participator approach:

2.1 The State Water Policy must be implemented in a manner that promotes a participatory approach and involves local communities and stakeholders, including women, in the management of water resources, in an effective and decisive manner in various aspects of planning, design, development and management of the water related schemes.

2.2 Necessary legal and institutional changes shall be made at various levels for the purpose, duly ensuring more meaningful decision making roles for women. Water Users' Associations and the local bodies such as municipalities and gram panchayats shall particularly be involved in the operation, maintenance and the management of water related infrastrcture/facilities at appropriate levels, progressively, with a view to eventually transfer the management of such facilities to the user groups/local bodies.

2.3 Private sector participation may also be encouraged wherever feasible in planning, development and management of the water resources for the usage of the general public and the community.

Information System:

3.1 A well developed information system, for water related data in its entirety, at the State level is a prime requisite for resource planning. A standardized state information system should be established with a network of data banks and data bases, integrating the State and Central level agencies and improving the quality of data collection and analysis.

3.2 Standards for coding, classification, processing of data and methods/procedures for its collection should be adopted. Advances in information technology must be incorporated to develop a modern information system promoting free exchange of information among various agencies. Special efforts should be made to develop and continuously upgrade the technological capability to collect, process and disseminate reliable data in the desired time frame.

3.3 Apart from the data regarding water availability and actual usage the system may be equipped to provide reliable projections of demand of water for diverse purposes along with availability in different areas of the State.

Water Resource Planning:

4.1 Water resources available to the State should be brought within the category of utilizable resources to the maximum possible extent. Ground water exploitation for domestic use and irrigation will be promoted wherever feasible and improvising of surface water in pondages for usage during lean periods shall be encouraged.

4.2 Non-Conventional methods for augmenting availability of water such as artificial recharge of ground water and traditional water conservation practices like rain water harvesting, including roof-top rainwater harvesting and use of such water through dual plumbing systems in all buildings need to be promoted. Pilot projects will be supported for demonstration effect. Research and development in these areas shall also be supported.

4.3 Water resources development and management will have to be planned for a hydrological unit such as drainage basin as a whole or for a sub-basin, multi- sectorally, taking into account surface and ground water for sustainable use incorporating quantity and quality aspects as well as environmental considerations. All individual developmental projects and proposals should be formulated and considered within the framework of such an overall plan keeping in view the existing agreements/awards for a basin or a sub-basin so that the best possible combination of options can be selected and sustained.

4.4 Watershed management through extensive soil conservation, catchment-area treatment, preservation of forests and increasing the forest cover and the construction of check-dams and trenching should be promoted. Efforts shall be made to conserve the precipitation in the catchment area itself.

4.5 Overriding ownership rights over water sources rest with the State. Water may be made available to water short areas by transfer from other areas including transfers from one river basin to another, based on a state perspective, after taking into account the requirement of areas/basins. Water scarce neighbourhoods will enjoy priority entitlement to avail the water available in adjoining areas for meeting their drinking water needs.

Institutional Mechanism :

5.1 With a view to give effect to the planning, development and management of the water resources on a hydrological unit basis, alongwith a multi-sectoral, multi- disciplinary and participatory approach as well as integrating quality, quantity and environmental aspects, the existing institutions at various levels under the water resources sector shall be appropriately reoriented/reorganized and even created, wherever necessary .The institutional arrangements should be such that the aspect of maintenance of water related schemes is given importance equal or even more than that of new constructions.

5.2 Development and management of a river basin as a whole or sub-basins, should take place in a planned manner involving multi-disciplinary units that prepare comprehensive plans taking into account not only the needs of irrigation but also harmonizing various other water uses, so that the available water resources are determined and put to optimum use.

Role of PRIs in conflict resolution:

6.0 Guided by the traditional individual and community entitlements to water use enshrined in the Wazib-ul-arz (record of customary rights) 'Water Adalats' may be devised as a conflict resolution mechanism under the aegis of the local PRIs.

Water Allocation Priorities:

7.0 In the planning and operation of systems, water allocation priorities should be broadly as follows:

-Drinking water

-Irrigation
-Ecology/ Afforestation/biodiversity/tourism
-Agro-industries
-Hydro-power
- Non-agro-based industries.
-Navigation and other uses.

However, this is subject to modification if warranted by special considerations in any area/region.

Project Planning and Management:

8.1 Water resource development projects should as far as possible be planned and developed as multipurpose projects but provision for drinking water shall be a primary consideration. There should be an integrated and multi-disciplinary approach to the planning, formulation, clearance and implementation of projects, including catchment area treatment and management, environmental and ecological aspects, the rehabilitation of affected people and command area development. Besides, in projects for hydropower generation involving impounding of water, adequate water shall be released round the year to meet the needs of downstream users. The sustainability evaluation of the Project shall determine " Environmental Discharge" to be prescribed for the Project, which shall not be less than 15% of the available discharge at any given time. In forest areas the extraction of water shall be planned keeping in view the needs of the flora and fauna of the area. The involvement and participation of beneficiaries and other stakeholders will be encouraged at the project planning stage itself.

8.2 The study of the likely impact of a project during construction and later on human lives, settlements, occupations, socio-economic, environment and other aspects shall form an essential component of project planning.

8.3 In the planning, implementation and operation of projects, the preservation of the quality of environment and the ecological balance should be a primary consideration. The adverse impact on the environment, if any, should be minimized and should be off-set by adequate compensatory measures.

8.4 Environmental Impact Assessment of major and medium scale projects shall preferably be carried out by independent agencies.

8.5 The planning of projects in hilly areas shall take into account the need to assure drinking water supply, hydro-power development and irrigation networks appropriate to the terrain of the area. The cost benefit analysis of projects in these areas shall reflect these aspects.

8.6 Special efforts should be made to investigate and formulate projects either in or for the benefit of backward areas and areas inhabited specially disadvantaged groups such as the socially weak and persons belonging to the scheduled castes and scheduled tribes. In other areas also, project planning should pay special attention to the needs of the weaker sections of society.

8.7 Time and cost overruns and deficient realization of benefits characterizing most water related projects shall be overcome by upgrading the quality of project preparation and management. The inadequate funding of projects should be obviated by an optimal allocation of resources on the basis of prioritization, having regard to the early completion of on-going projects as well as the need to reduce regional imbalances.

8.8 A close monitoring of projects to identify bottlenecks and to adopt timely measures to obviate time and cost overrun should be an integral part of project planning and execution.

8.9 Longitudinal studies should be carried out to monitor and evaluate the performance and socio-economic impact of water resource projects.

8.10 The drainage system should form an integral part of any irrigation project right from the planning stage.

Water Audit:

9.0 Taking into account the fact that substantial losses of raw and treated water take place between the bulk storage, distribution and usage points thereby reducing availability to the ultimate users and financial losses to

the supplying agencies as well as giving rise to deficiency in service and dissatisfaction with the public services, audit of the working of systems shall be carried out periodically in accordance with the guide lines for water audit and water conservation and rectification measures initiated where necessary.

Ground Water Development:

10.1 There shall be a periodical reassessment of the ground water potential taking into consideration the quality of that available and economic viability of its extraction.

10.2 The detrimental environmental consequences of over-exploitation of ground water need to be effectively prevented. Exploitation of ground water resources shall be so regulated as not to exceed the recharging possibilities, as also to ensure social equity. Ground water recharge projects will be developed and implemented for improving both the quality and availability of ground water resources.

10.3 Integrated and coordinated development of surface water and ground water and their conjunctive use, shall be envisaged right from the project planning stage and should form an integral part of the project implementation.

Drinking Water:

11.1 Adequate, safe and sustainable drinking water facilities will be provided to the entire population both in urban and in rural areas throughout the year. Wherever there is no alternative source of drinking water, irrigation and multipurpose projects shall invariably include a drinking water component. Drinking water needs of human beings and domestic animals shall be the first charge on any available source of water.

11.2 Monitoring and surveillance of the quality of drinking water with emphasis on prevention of water borne diseases and proper operation and maintenance of the water supply system is of utmost importance. A "Catchment Area Approach" shall be adopted by involving grass root level educational and technical institutions in utilizing existing resources and strengthening them by providing additional technical and financial support for their activities in this area. Awareness on matter related to water borne diseases, their manifestation, symptoms, aspects of prevention and simple remedies shall be developed through effective information, education and communication programmes.

11.3 A transformation from a target based, supply-driven approach that pays little attention to the actual practices and/or preferences of the end users, to a demand- based approach, where users get the service that they want and are willing to pay for, is urgently required. Implementation of a participatory demand driven approach will ensure that the public obtains the level of service they desire and can afford to pay for through the mechanism of a tariff policy. The HRD programmes should aim at capacity building and empowerment of Panchayati Raj Institutions/Local Bodies with the objective of enabling them to take up the total management, including operation and maintenance activities of water supply systems.

Irrigation:

12.1 Irrigation planning whether in an individual project or in basin as a whole shall take into account cost-effective irrigation options possible from all available sources of water and appropriate irrigation techniques should be adopted for optimizing water use efficiency. Irrigation intensity should be such as to extend the benefits of irrigation to as large a number of farm families as possible, keeping in view the need to maximize productivity of culturable lands.

12.2 An effective integration of water-use and land-use policies will be developed.

12.3 Water allocation in an irrigation system should be done with due regard to equity and social justice. Disparities in the availability of water between head-reach and tail-end farms and between large and small farms shall be obviated by adoption of a rotational water distribution system.

12.4 Concerted efforts shall be made to ensure that the irrigation potential that has been developed is fully utilized and the gap between potential and utilization is closed. To achieve this purpose, the command area development approach should be adopted in all irrigation projects.

12.5 Since irrigation accounts for the largest proportion of the consumptive use and of fresh water, the aim will be to get optimal productivity per unit of water usage. Scientific water management and farm practices and sprinkler and drip systems of irrigation shall be promoted wherever feasible.

Resettlement and Rehabilitation:

13.0 Optimal use of water resources necessitates construction of storages and the consequent resettlement and rehabilitation of the displaced population. As far as possible, large storages shall be avoided and the State shall evolve its resettlement and rehabilitation policy taking into account the local conditions, so that displaced persons are also able to share the benefits of the projects. Careful planning shall be ensured so that the project construction and rehabilitation of affected families proceeds simultaneously and smoothly.

Financial and Physical Sustainability:

14.1 Besides developing additional water resource facilities, the physical and financial sustainability of existing facilities needs special attention. Water user charges shall attempt to cover gradually the operation and maintenance charges of providing the service initially as well as a part of the capital costs. Subsidies on water rates shall be well targeted and transparent.

14.2 All linked inter-departmental financial resources available shall be pooled and the nodal department would facilitate further leveraging of resources for raising funds for capital investment. A revolving fund may be created to fund prioritized activities in select areas.

14.3 There is an urgent need of a paradigm shift in the management of water resources sector, from the emphasis on the development and expansion of water resource infrastructure for diverse uses, to improvement of the performance of the existing water resource facilities. Therefore, allocation of funds under the water resources sector should be re-prioritized to ensure that needs for development as well as operation and maintenance of the facilities are met in an equitable and sustainable manner.

14.4 A Citizen's Charter shall be developed with a view to guaranteeing efficiency, transparency and accountability in the delivery of drinking water and irrigation services.

Participation of Centre/basin States & Funding agencies Inter State Resolutions:

15.0 Major river systems originate in the state of H.P. and flow through here to other states. The State may enter into agreements with the Government of India and , other States for exploitation of the water resources on a cost and benefit sharing basis.

15.1 The State will work within the allocations made under various Inter State agreements.

Water Quality:

16.1 Both surface water and ground water shall be regularly monitored for quality. A phased programme shall be undertaken for effecting improvements in different parameters.

16.2 Water quality parameters for different uses shall continuously be reviewed with a view to effecting improvement in water quality.

16.3 Effluents shall as far as possible be treated to acceptable levels and standards before discharging them in natural streams. Backwash discharge in water treatment plants shall also be treated before release into the open.

16.4 The principle of 'polluter pays' should be followed in management of polluted water.

16.5 Necessary legislation may be enacted for preservation of existing water bodies and preventing encroachment of the same and consequent deterioration of water quality.

Water Zoning:

17.0 Economic development activities including agricultural, industrial and urban development, should be planned with due regard to the constraints imposed by the configuration of water availability. Water zoning of the State should be done in a time bound manner and the economic activities should be guided and regulated in accordance with such zoning.

Conservation of Water:

18.1 Efficiency of utilization in all the diverse uses of water should be ensured and awareness of water as a scarce resource should be fostered. Consciousness about conservation should be promoted through education, regulation, incentives and disincentives. Water resources should be conserved and the availability augmented by maximizing retention in the catchment area, minimizing pollution and avoiding wastage.

18.2 Water resources should be conserved and the availability augmented by maximizing retention in the catchment area, minimizing pollution and avoiding wastage. For this, measures like selective lining of the conveyance systems, modernization and rehabilitation of existing water distribution systems roof top rain water harvesting, recycling, and re-use of treated effluent water, and new techniques like drip and sprinkler irrigation may be promoted, wherever feasible.

18.3 Adoption of traditional techniques like mulching or pitcher irrigation may be revived through capacity building.

Flood Control & Management:

19.1 A master plan for flood control and management for each flood prone basin shall be prepared.

19.2 Adequate flood cushion should be provided in water storage projects, wherever feasible, to facilitate better flood management. In highly flood prone areas, flood control may be given overriding consideration in reservoir regulation policy even at the cost of sacrificing some irrigation or power benefits.

19.3 While physical flood protection works like embankments, spurs and dykes will continue to be necessary, increased emphasis should be laid on non-structural measures such as flood forecasting and warning, flood plain zoning and flood proofing for the minimization of losses and to reduce the recurring expenditure on flood relief measures.

1.9.4 There should be strict regulation of settlements and economic activity in the flood plain zones along with flood proofing, to minimize the loss of life and property on account of floods.

19.5 The flood forecasting activities should be modernized, value added and extended to uncovered areas. Inflow forecasting to reservoirs should be instituted for their effective regulation.

Land erosion by rivers and tributaries:

20.1 The erosion of land by rivers should be minimized by the suitable cost effective measures and construction of rain water harvesting structures should be encouraged to check soil erosion and flash floods. The State shall

undertake steps to ensure that indiscriminate occupation and exploitation of land near the river banks is discouraged. Economic activity on river banks and beds must be properly regulated.

Drought prone area development:

21.1 Drought-prone areas should be made less vulnerable to drought associated problems through soil-moisture conservation measures, water harvesting practices, minimization of evaporation losses, development of ground water potential including recharging and transfer of surface water from surplus areas where feasible and appropriate. Pastures, forestry or other modes of development which are relatively less water intensive shall be encouraged. In planning water resource development projects, the needs of drought-prone areas should be given priority.

21.2 Relief works undertaken for providing employment to drought affected populations should preferably be aimed at drought proofing of the affected area.

Maintenance and Modernization:

22.1 Structures and systems created for water resource management should be properly maintained in good health. Appropriate annual budgetary provisions should be made for this purpose. Preventive maintenance shall be given due attention for reducing overall maintenance cost, optimizing water use and making projects sustainable. There should be a regular monitoring of structures and systems and necessary rehabilitation and modernization programs should be undertaken.

22.2 Formation of Water User's Associations with authority and responsibility shall be encouraged within a defined time frame to facilitate the management, including maintenance, of irrigation systems in a participatory manner.

Safety of Structures:

23.0 There should be proper organizational arrangements for ensuring the safety of storage dams and other water related structures involving consultation with specialists in investigation, design, construction, hydrology, geology etc. Legislation related to dam safety may be enacted to ensure proper inspection, maintenance and surveillance of existing dams and also to ensure proper planning, investigation, design and construction for safety of new dams. The guidelines on the subject should be periodically updated and reformulated. There should be a system of continuous surveillance and regular visits by experts.

Science & Technology:

24.0 For effective and economical management of our water resources, the frontiers of knowledge need to be pushed forward in several directions by intensifying research efforts in various areas, including the following:

-hydrometeorology;
-snow and lake hydrology;
-surface and ground water hydrology;
-river morphology and hydraulics;
-assessment of water resources;
-water-harvesting and ground water recharge;
-water quality;
-water conservation;
-evaporation and seepage losses;
-recycling and re-use;
-better water management practices and improvements in operational technology;
-cost effective technology for treatment, transmission and distribution of drinking water;
-crops and cropping systems;

-soils and material research;
-new constructional material and technology;
-seismology and seismic design of structures;
-the safety and longevity of water-related structures;
-economical designs for water resource projects;
-risk analysis and disaster management;
-use of remote sensing techniques in development and management measures;
-sedimentation of reservoirs;
-prevention of water logging and soil salinity;
-reclamation of water logged and saline lands;
-environmental impact;
-regional equity.

Human Resources Development (Training)

25.0 A perspective plan for upgradation of human resources shall be an integral part of water resources development. This shall include training in information systems, sectoral planning, project planning and formulation, project management, operation of projects and their physical structures and systems and the management of the water distribution systems. The training should extend to all the categories of personnel involved in these activities as also the farmers and other user groups.

Conclusion:

26.0 In view of the vital importance of water for the sustenance of human and animal life, for maintaining ecological balance and for economic and developmental activities of all kinds, and considering its increasing scarcity, the planning and management of this resource and its optimal, economical and equitable use is a matter of utmost urgency. Concerns of the community need to be taken into account for water resources development and management. The success of the State water policy will depend on evolving and maintaining a consensus and commitment to its underlying principles and objectives. The State Water Policy may be revised as necessary from time to time.

Appendix 4.1

SAMPLE QUESTIONNAIRES

CHECK-LIST FOR COMMUNITY CONSULTATION - OPEN DISCUSSION

Use Project summary to prepare an introduction to be held before the open discussion.

Some of the issues proposed to be discussed are, not, or only partially, relevant if the road passes far away from all village land. Also, some issues are irrelevant if it is only a matter of upgrading or rehabilitation of an existing road. The Team must use its common sense to judge what is appropriate in each given situation. The check-list can thus both be made shorter and longer.

Below a number of issues are indicated, which should be raised. There are certainly other issues, not mentioned here, which will arise during the village discussion. Follow up and take notes of these. They can be inserted at the backside of the questionnaire Q1 for instance.

1. What benefits do the village expect to get from the road?
2. What are the drawbacks, the negative consequences of the road?
3. Are there any alternative alignments, which would result in advantages?
4. If the road is close to the village, check if the villagers think it is a problem that several houses might need to be relocated. Discuss alternative solutions.
5. Are there any other structures such as shops, which will be affected?
6. Are there paddy /Wheat and other agricultural fields which will be affected? Discuss a possible relocation of those are seen as a problem. Discuss alternative solutions.
7. Do the women see any particular benefits or drawbacks for them in the forthcoming road?
8. Do the women have any particular plans for the future in conjunction with the forthcoming road?
9. What are presently the major problems in the village?
10. Will the community coupled with the local community authorities cooperate to resolve the disposal of

any unwanted material form the work site ?

11. What are the plans of the village for the future? Is there anything they would like to do, now if the road is forthcoming?
12. Ask if the villagers have some questions and allow time for discussions.
13. Are there any potential location or resources that can be developed as a tourist sport? How do you visualize the development of the Snow fed areas?
14. How do you see the linkage of this road to major towns ? Is it going to improve the fortune of the region by way of overall economic and social improvements?

ENVIRONMENTAL CHECKLIST FOR COMMUNITY CONSULTATIONS AND OBSERVATIONS

Through consultation and/ or observations in each village, collect the relevant information from this checklist.

- If there is a road at present, what type of land does it go through? Fields or forest?
- If there is no road at present, where do you prefer the alignment to be? : Why? : Who would loose land? Rich or poor people?
- ' Would this alignment have an impact on irrigation?
- Would this alignment have any impact on flooding? ..: Are any areas often flooded? For how long time, and how often?
- Would this alignment have any impact on the flow in the streams?
- Would this alignment have any impact on erosion of land? . Would this alignment any impact on the drinking water supply?
- Where is your supply? Upstream or downstream of the road?
- Do you have a need for culverts in any specific places?
- If there is a road at present, would you like any changes in the drainage provided?
- How do you use the drainage ditches at present?
- Is the road embankment used for anything special nowadays?
- Are there any particular trees along the thought alignment/ embankment that you would like to spare?
- " Are there any sacred places nearby? . Are there any archeological or historical sites nearby?
- Are there wild animals nearby?
- Are there any fish? From where do they come, if in flooded land? Do you have any fish ponds? Are they close to the road?
- What is the history of the forest in this area?
- Is there any shifting cultivation in the area?
- Do you think there will be more or less shifting cultivation if the road is built?
- Do you think clear more permanent agriculture land if the road is built?
- Do you use the forest for any hunting or collection of other non-timber forest produce? ".. Are there any logging activities by locals or private companies in the forest?
- Do all the loggers have permits?
- Do you think there will be more logging if the road is built? :.'" Is this a problem to you?
- ' Do you have a problem with dust from the road today? How will it be in the future?
- Do you feel that the impacts from the road will be different during different seasons of the year?

Appendix 4.2

PROJECT SUMMARY

HIMACHAL PRADESH STATE ROADS PROJECT

PROJECT SUMMARY

INTRODUCTION

The Government of Himachal Pradesh (GOHP) has geared-up with an ambitious plan for improving/upgrading the road network of the State in tune with the growth of the economy and infrastructure developments taking place in the other part of the country. In order to materialise this plan, the GOHP through the Government of India (GOI) has approached the World Bank (WB) for loan assistance for the up gradation and improvement of the State Highways (SHs) and Major District Roads (MDRs) in the State. The World Bank has therefore agreed to support the project with a loan agreement that in principle includes the implementation of the project conforming to environmental and social safegurad policies of the World Bank and the legal frame work of the country.

The GOHP through the HPRIDC is the executing agency for the project and establishment and infrastructure of the HP-PWD is to be utilised by the HPRIDC for implementation. The GOHP has appointed the Louis Berger Group Inc. as Project Consultants to assist the HPRIDC in all aspects of project preparation and implementation in accordance with the objectives as detailed in the Terms of Reference (TOR). These tasks are linked to the engineering and social aspects of the project that will be implemented through out the period of Consultancy agreement.

STATUS OF THE PROJECT

As a first step in May 2005, the State PWD, without any external consulting assistance has successfully completed a Strategic Option Study (SOS) and identified about 1675km of State highways (SH) and Major District Roads (MDR) for the prioritized upgradation and improvement. The Louis Berger Group has started work on the Phase 1 (details given below) of the project from January 6, 2006. The consultants are in the process of feasibility analysis and environmental and social screening of the priority roads.

NEED OF THE PROJECT

Himachal at present (March 2005) has 24,922 km of motorable roads, only 60% of this length is metalled and 90% is single-laned. Less than 50% of all the census villages are connected by all weather roads. Most of the existing road lengths lack longitudinal and cross drainage, retaining walls, roadside parapets and good road geometrics, therefore, upgradation of the existing infrastructure is essential. The mountainous topography of the State makes roads the most viable among the conventional modes of transport. Unfortunately the extent and condition of the current road network is inadequate and poor.

Himachal Pradesh is well known for its fruit, vegetable and agricultural produce – perishable commodities which require fast and efficient transport. Fish and livestock products are another major share of the primary sector economy in the State. Recent efforts at

industrialization have led to the development of industrial sites at seven places along the foothills adjoining the States of Punjab and Haryana. Transport of raw materials and finished goods to and from these industrial zones require efficient transport so that major industries are attracted to the State. Tourism has been a mainstay industry in this picturesque State, employing thousands of people directly and indirectly. A transportation network that provides extensive connectivity and smooth travel is a necessity for the development of this sector, to make the State into a national and international tourist destination.

Upgradation of the road network in the State will increase the connectivity of places, safe mobility of goods and people, resulting in greater utilisation of resources and socio-economic development of the people. The success of the various investments by the Government in the different sectors depend to a great extent on the adequacy of the transport infrastructure i.e. road network in the State.

Due to the peculiar geographic, topographic constraints and the demographic pattern, the railways and civil aviation has a limited scope in this Himalayan State for development in comparison to the Roads and Highways.

DETAILS OF THE PROJECT

The project has been conceptualised to implement in several successive stages/phases after detailed engineering, environmental, social and economic impact studies of the 1675 km of project roads. These roads had been selected out of a Strategic Option study (SOS) of the 3160kms State road networks in the State of Himachal Pradesh. The entire study involves several stages starting with feasibility studies for the 1675km of road length. Since the State PWD has carried out necessary homework to find out the 413 km of State roads that has all the elements to be graded as the highest priority roads. The study is thus envisaged to take shape and evolve in a more appropriate, practical and useful manner to cater to the needs and wishes of the common people of the State.

Out of the de facto 413 km of high prioritised roads, 240 km of roads will be subjected to detailed engineering to be completed by the end of September 2006. The remaining 161 km of roads will be studied by March 2007. The Feasibility studies will take shape as a normal course of action during the same period with a list of high prioritised 1675km of roads by the end of the year.

As a matter of fact, although this is logically wrong, this is a practical stage wise approach that will enable the State government to make step by step physical progress and improvements of the roads in tune with the required economic needs of the State. This has the potential to provide employment generation thus meeting the requirement of the political aspirations of an elected Government as well.

The proposed project roads are spread over ten of the twelve districts in the State; the two districts excluded are Kinnaur and Lahaul & Spiti. The combined area of influence of ten

distrcits will be extensive, and their impact, direct and indirect, will be on majority of the State population and the natural environment.

PROJECT OBJECTIVES

In order to make rapid economic growth in tune with the economic growth of the country, a modest design speed for the safe and efficient movement of people and goods is seen as the objective. The consultants will be aiming to achieve this standard with required cost effectiveness, coupled with necessary environmental management standards for achieving sustainable development in the State. The very unsafe hill roads with deep valleys[1] and steep geologically unstable formations give most of the travellers considerable anxiety in their daily use of the highway system; this is applicable to all pedestrians, drivers and passengers. With proper traffic engineering and enforcement of the road regulations there should also be a marked reduction in road traffic accidents. Therefore the objectives of the project can be Stated as to alleviate the current unsafe and congested conditions of the project roads connecting the villages and towns with one another and to the NH network for the benefit of the road users at large.

PHASING OF THE PROJECT

The project will be undertaken in two phases

TABLE 1.0 PHASING OF THE PROJECT FOR IMPLEMENTATION

PHASE 1: **Project Preparation**	This will provide the information and assessments necessary for World Bank appraisal of the proposed Project. It will include
	▪ Feasibility study and screening of the roads prioritized by the SOS ▪ Preliminary design, environmental and social assessment of a selected subset ▪ Final design, economic analysis and development proposals for about 50% of the selected subset of roads.
PHASE 2: **Project Implementation**	This will include ▪ the final design of the remaining roads ▪ assistance with project implementation, coordination & strengthening of engineering skills

[1] This is a relative term indicating the location of the road on the hill slope. If it is on the top of the hill (deep valley) or along the bottom of hill (steep hill)

TABLE 2.0 : PROPOSED PHASE 1 PACKAGE 1 IMPROVEMENT ROADS

	PHASE 1: Package 1:
Part A:	▪ Design, environmental and social feasibility studies for 1675 km of prioritized roads. ▪ Preliminary engineering for 800 km of roads
Part B:	Detailed engineering design of 413 km of the proposed project roads for upgrading. The designs would be the basis of detailed cost estimates to be used in the economic analysis and assessment of project costs.
Part C:	Detailed investigations, preliminary engineering design, General Arrangement Drawing and cost estimate for major bridge of approximate span of 825m at Lathiani on Una – Aghar – Jahu Road.

The location of the project roads is provided in the Table 3.0.

TABLE 3.0 DETAILS OF THE PROPOSED PHASE I (STAGE 1) PROJECT ROADS

Sl. No	Proposed roads for improvement	SH/MDR No	Road Length (km)	Existing Carriageway (CW) Width
1	Mehatpur Una Mubarikpur Daulatpur HP boundary	SH-25	44.200	7.0 m
2	Una Aghar Barsar Jahu Bhambla Mandi	SH-32	126.270	5.5 / 3.5 m
3	Theog-Kothkhai-Hatkoti-Rohroo-Chirgaon-Sandhasu		80.730	-
Total length of the Roads -250.00 km				

The figure 1.0 shown in the separate sheet is the location map of the proposed project roads.

Details of the proposed package 2 roads of the Phase 1 are provided in the **Table 4.0.**

TABLE 4.0 DETAILS OF THE PROPOSED PHASE I (STAGE 2) PROJECT ROADS

Sl. No	Proposed roads for improvement	SH/ MDR No	Road Length(km)	Existing Carriage way Width
1	Ghumarwin – Sarkaghat – Jogindernagar (Except NH 70 section)		82.980	3.5 m
3	Kumarhatti – Sarahan – Nahan (Dosarka)	SH-2	78.000	5.5 / 3.5 m
	Total length of Roads- 160.980 km			

Considering the similar, recent, World Bank projects in India that is being implemented; these projects require highest standards of construction, be it with engineering, environmental or socials dimensions of the project. These projects are being generally taken up for bidding at International level with International Competitive Bidding (ICB process) for construction, supervision and monitoring.

TABLE 5.0 PHASE 2 PROJECT COMPONENTS

PHASE 2:	
	Package 2:
	This consists of Construction supervision of 413 km of roads and bridges in Package 1.
	Package 3:
Part A:	Detailed engineering design of remaining 387 km of the proposed project roads for upgrading. The designs would be the basis of detailed cost estimates to be used in the economic analysis and assessment of project costs.
Part B:	Construction supervision of 387 km of roads in Package 3, Part A.

PROPOSED ROAD UPGRADING AND IMPROVEMENTS

Less than 10% of the State roads are double-laned, only 50% of the road length has drainage and valley side safety measures. Depending on the present condition of the selected roads, different levels of improvement/ upgradation measures will be required for different road stretches. The improvement works will mainly consist of

- ✓ Raising the formation level
- ✓ Upgrading/ improving road geometrics
- ✓ Widening to two-lane/ intermediate lane from existing intermediate-lane/ single-lane widths
- ✓ Pavement strengthening, and
- ✓ Improving cross drainage
- ✓ Stabilisation of the hill slope as far as possible by breast walls,retaining walls and or bio engineering techniques

Road stretches crossing urban areas may also require alternative new alignments or realignments, or provision for drains, sidewalks and parking along existing road.

LEGAL REQUIREMENTS

GOVERNMENT OF INDIA (GOI) REQUIREMENTS

Prior to the implementation of the project, the project need to get all environmental clearances from the local (Panchayath, Muncipality etc), regional (Groundwater Authority, Forest department etc), State (PCB and Forest) and National (MOEF) level agencies.

The most important notification with respect to all developmental projects in India is the Environmental Impact Assessment (EIA) Notification, 1994, subsequently amended and updated many times till, 2005. Most important Government departments and institutions responsible for environmental protection and management in India are:

- Ministry of Environment & Forests (MOEF)
- Central Pollution Control Board (CPCB)
- Department of Environment (State Level)

- Department of Forests (State Level)
- State Pollution Control Board (SPCB)
- Local Bodies – Municipalities, Panchayats
- Mining & Geology department

The relevant important acts, rules for environmental protection in India are provided in Table 6.0.

TABLE 6.0: FEW IMPORTANT ACTS & RULES FOR ENVIRONMENTAL PROTECTION IN INDIA

APPLICABLE GOI REGULATIONS	YEAR	OBJECTIVE
Environmental (protection) Act	1986	To cover all environmental factors
Air (prevention and control of pollution) Act	1981	To control air pollution by controlling emission and air pollutants according to prescribed standards
Water (Prevention and Control of Pollution) Act ; Cess Act of 1977	1974	To control water pollution by controlling emission & Water pollutants as per the prescribed standards
Forest (conservation) act	1980	Protection of forests
The Wildlife (Protection) Act	1972	Protection of Wild Life
Ancient Monuments and Archaeological Sites & Remains Act	1958	Conservation of Cultural and Historical remains found in India
The Land Acquisition Act	1894, 1989	Set out rule for acquisition of land by Government.
Noise Pollution (Regulation and Control) rules 2000	2001	Noise pollution regulation and controls
Public liability Insurance Act	1991	Assessment of hazardous materials and accident hazards
Bio- Diversity Act	2002	The disclosure of species survey or collection activities to the National Biodiversity Authority

WORLD BANK REQUIREMENTS

The World Bank (WB) requirements are as defined by the safeguard policies of the World Bank. The relevant safeguard policies are provided below.

- OP / BP / GP 4.01 Environmental Assessment
- OP / BP / GP 4.02 Environmental Action Plans
- OP / BP / GP 4.04 Natural Habitats
- OP / BP 4.12 Involuntary Settlement
- OD 4.20 Indigenous Peoples
- BP 17.50 Disclosure of Operational Information

The most important reference materials are as follows,

- The World Bank, Environment Department, Environment Assessment Sourcebook, Vol. I – III (World Bank Technical Papers No. 139, 140 and 154), Washington DC, 1991; and its updates.
- The World Bank, Roads and Environment, A Handbook (World Bank Technical Paper No. 376), Washington DC, 1997. The World Bank, Resettlement Sourcebook,

For further details refer to the World Bank web pages: htpp// www.worldbank.org.

IDENTIFICATION OF INSTITUTIONAL OR GOVERNMENT STAKEHOLDERS

The various other stake holder departments also need to be brought along with the progress and developments taking place within the project. The various stake holder Government departments identified at this stage are:

- Forest Department
- Tourism department
- Water resources/Irrigation department
- Local bodies (Panchayat ,municipal and corporate bodies)
- Environmental department
- Pollution Control Board (PCB)
- Motor vehicle department
- Agriculture department
- Archaeology department (both State & central)

This list will be further reviewed to prepare an exhaustive list of stake holder departments very specific to the State of Himachal Pradesh. The project activities need to be made aware to these departments as the project unfolds to various project cycles. These stake holder departments need to be brought in to confidence by involving them in the official consultations. Their opinions and suggestions are to be weighed and analyzed to the extent possible and will be integrated in to the various components of the project.

IDENTIFICATION OF NON-GOVERNMENTAL STAKEHOLDERS

The people in the Project affected area may organize themselves into representative groups based on common interests and problems. They are often helped by voluntary Non Governmental Organisations to voice their opinions. These NGOs may also act as the bridge between the local stakeholders and project proponents to increase the transparency and information sharing in the design and implementation process. Some of the non governmental stake holders may be

- Private Sector Small-scale industries
- Truck & Other Vehicle Owner Associations
- Trade Unions of the larger industrial units
- Voluntary NGOs working in the field of health, education and people's rights
- Local Traders' Organisations

ENVIRONMENTAL & SOCIAL ASSESSMENT

The proposed project road length of 1675km, laying in ten of the twelve districts of the State will have significant influence on the natural and social environment of the region. The mountainous terrain, number of water channels, extensive forest areas with valuable Himalayan flora and fauna enhance the environmental vulnerability of the project influenced area. Consequently, an extensive and objective environmental assessment of the proposed project is imperative. The environmental issues will be at two levels – link specific issues and cumulative impact of the total project.

ENVIRONMENTAL CONSIDERATIONS

Extensive road network increases the connectivity of places as well as the mobility of the people. This may result in environmental degradation through haphazard growth; therefore, adequate environmental mitigation and management measures are essential for the proposed project.

The specific objectives of the EA process during the project preparation phase will be to achieve the following:

- To establish the environmental baseline in the study area, and to identify any significant environmental issues;
- To assess these impacts and provide for measures to address the adverse impacts by the provision of the requisite avoidance, mitigation and compensation measures;
- To integrate the environmental issues in the project planning and design;
- To develop appropriate management plans for implementing, monitoring and reporting of the environmental mitigation and enhancement measures suggested.

SOCIAL CONSIDERATIONS

A Social Assessment of the project affected people will help in minimising the losses by selecting the alignment that will affect minimum number of people. It will also make the consultants and project proponents aware of the socially and economically vulnerable groups in the project influenced area, so that adequate measures can be designed to protect and compensate them. All other issues that will impact the project influenced people and adequate compensatory measures will be studied and specified in the Social Assessment and Rehabilitation Plans to be prepared for the proposed project.

The proposed project will include widening of the existing alignment at various places, realignments and bypass alignments (generallly a new alignment), all of which will mean acquisition of land. Agriculture being the main occupation of the people (67%), fertile, agricultural land in the hill State is very valuable. On one hand, people will benefit through better connectivity and faster travel times, on the other some people will lose their land, structures and sources of income. Social considerations of the project also include indigenous/vulnerable groups to be affected, issues of road safety, health and spread of diseases due to road construction and operations.

The social screening process adopted for the project will be based on the following sequential tasks:

- Assessment of Socio-Economic Profile of the various project corridors
- Examination of alternative alignment options
- Estimation of Potential Project Affected Property
- Public Consultation
- Identification of Key Social Issues

ECONOMIC CONSIDERATIONS

The hilly terrain and lack of adequate rail network has lead to the roads becoming the main transport system for most economic needs. As indicated above total length of roads in the State is 26,304Km. Rural roads constitute 80% of this, only 15% constituents is State Highways and District Roads. Improving the connectivity and efficiency of the road network would benefit the economy of the State by cutting down the time and cost of goods transport in terms of Vehicle Operating Costs (VOC).

All produce – agriculture, fruit and industrial as well as raw materials are moved by roads. The perishable nature of the fruit and vegetable produce makes efficient roads essential. Today the Industrial sector of the State contributes to almost 10% of the State GDP and

employs about 1,70,000 people. Development of this sector and maximizing its gains require adequate and efficient road network. Tourism, a major industry in the State, requires good roads – connectivity and surface conditions. Improving the road network will give this industry a boost. Good roads are also essential for connecting people to educational and health centres which will enhance the quality of life factors in the State.

COMMUNITY CONSULTATIONS AND PARTICIPATION

Consultation with the public is a process legally stipulated in the EIA Notification of the Government of India, which will be an integral part of the study. This is

- to increase the awareness of the general public, stakeholders, the decision-makers and the media;
- to ensure that the views of the public are fully taken into account in evaluating alternative proposals and in assessing their impact on the environment;
- to facilitate an interactive and continuous discussion with the widest variety of interested parties, so that the project gains local acceptance and a sense of belonging
- for informed political decision-making.

Informing those directly affected by a proposed project helps in allaying rumours and unfounded fears. Any justifiable threat to the local environment or culture can be identified through the public participation process, so that alternative proposals and mitigative measures can be designed.

Continuous consultation will be carried out and active, organized public participation will be encouraged by the consultants through all stages of the project. The various stages will be

- Screening stage
- Feasibility stage
- Preliminary design stage
- Detailed design and report stage
- Various safety audits
- During construction
- During commissioning
- Operational or maintenance.

TABLE 6.0 METHODS OF PUBLIC CONSULTATION

SN	Type of consultation	Focus Area
1	Individual consultation	Views of official involved in planning, administration, revenue, Indigenous Population, Forest land acquisition, environmental impact assessment & the required environmental & forestry clearances
2	Focus group discussion	Targeting mainly the road side establishments which are dependent on the road for livelihood
3	Organised public meetings	Held in towns and villages to be affected by the new alignments, widening etc. with the panchayats, municipal council or village groups.

CONCLUSION

Specific local environmental and socio-economic concerns will be addressed through the surveys of the proposed project affected people, their sources and patterns of livelihood, historic and religious structures of local importance, local environmental issues such as water, community natural assets etc. will be carried out. Extensive surveys will be followed by analysis of the probable impacts, alternatives to minimise those impacts and design of appropriate mitigation measures where the impacts will be unavoidable. Measures to enhance the positive impacts, visual landscape etc. will also be designed. The Environmental and Social Assessments, Mitigation and Enhancement Measures, Rehabilitation Plans, and Environmental Management Plans will be prepared as part of the Screening, Feasibility and Design Reports. Training Programmes for awareness of environmental issues and management plans will be conducted for the Project Implementation Units, Operations & Maintenance staff as well as the local people and responsible organisations.

CONTACT ADRESSES

1) Project Consultants

Further queries for information or for registering concerns you are requested to contact one or all of the following consultant's personnel depending up on the gravity of the issues.

Team leader, Louis Berger Group Inc. Himachal Pradesh State Roads Project

At the office of the Louis Berger Group Inc (consultants) at New Shimla. B1, lane 1, Sector 1, New Shimla -171 009-Phone 0177-2670941, Fax -0177-2670941.

2) HP Public Works Department, Government of Himachal Pradesh

You can also register your suggestions and concerns regarding the project with

The Project Director (World Bank Projects)
Himachal Pradesh Roads Infrastructure Development Corporation (HPRIDC)
US Club, Shimla-171001, Himachal Pardesh.
Phone—0177-2808118 Fax-0177--2626096-Mobile--09418026096
Email-; hp-shi-wb@omgsy.nic.in

FIGURE 1: LOCATION OF THE PROPOSED PROJECT ROADS

Appendix 4.3

ENVIRONMENTAL SCREENING FORMATS

HIMACHAL PRADESH ROAD IMPROVEMENT PROJECT

Himachal Pradesh Road Infrastrcutre Development Corporation

CONSULTANT:LOUIS BERGER GROUP INC, 5TH FLOOR ,VATIKA TRAINAGLE,SUSHANT LOK PHASE 1,GURGAON-122002,HARAYANA,INDIA

Road name

Wather

Date

ENVIRONMENTAL SCREENING SURVEYS

District/Taluk			ROW/ROAD FURNITURE /LOCATION/					Start point		
LEFT HAND SIDE 100m BEYOND ROW FROM CENTRE			Left			Right		RIGHT HAND SIDE 100m BEYOND ROW FROM CENTRE		
PHYSICAL Env.	BIO Env.	SOCIAL Env						SOCIAL Env.	BIO Env.	PHY Env.
Feature/ Distance	Feature/ Distance	Feature/ Distance	Feature	Distance	Chainage/ location	Distance	Feature	Feature/ Distance	Feature/ Distance	Feature/ Distance
				LEFT		RIGHT				

HIMACHAL PRADESH ROAD IMPROVEMENT PROJECT

HIMACHAL PRADESH ROAD INFRASTRCUTRE DEVELOPMENT CORPORATION

Consultants: LOUIS BERGER GROUP INC, VATIKA TRAINAGLE, SUSHANTLOK, PHASE 1, GURGAON-122002, HARYANA,

Name..... **C O N S U L T A T I O N** **Signature & Date.....**

SL No	Name & Address	Road name/location of consultation	Fax/Phone /mobile/email	Date of Consultation	Subject discussed	Remarks
1						
2						
3						
4						

[1]Organized meetings should be conducted where ever found necessary

[1] Consultation shall be with informed people such as school head masters, retired senior Government servants such as Gazeted officers, military personnel etc

Appendix 4.4

STRIP MAPS
(Separately appended in A3 size Vol.2 Appendices Part-II)

Appendix 4.5

ROAD ALIGNMENT MARKED ON SOI SHEETS SHOWING FOREST PATCHES
(Separately appended in A3 size Vol.2 Appendices Part-II)

Appendix 5.1

SPECIFIC DETAILS OF PROTECTED AREAS OF HIMACHAL PRADESH

List of the wildlife protected areas of Himachal Pradesh.

No.	Protected Area (name)	District	Altitute (m amst)	Perennial streams	No. of villages Inside	Outside
1.	Great Himalayan National Park	Kullu	1500-5805	several	2(102)"	141(11,000)
2.	Pin Valley National Park	Lahaul-Spiti	3300-6632	15	-	17(1600)
3.	Bandi Sanctuary	Mandi	0762-2160	3	23	-
4.	Chail Sanctuary	Solan/Simla	0701-2180	13	122(8627)	-
5.	Churdhar Sanctuary	Sirmaur/Simla	2000-3647	16	23	-
6.	Darangghati Sanctuary	Simla	2100-3315	10	02	26(5233)
7.	Darlaghat Sanctuary	Solan/Bilaspur	1075-2069	4	141(1508)	-
8.	Gamgul Siahbehi Sanctuary	Chamba	1800-3919	14	3(400)	55(4953)
9.	Gobind Sagar Sanctuary	Bilaspur	0350-05008	-	-	-
10.	Kais Sanctuary	Kullu	2800-4833	3	-	-
11.	Kalatop Khajjiar Sanctuary	Chamba	1185-2768	7	15(1766)	35(5760)
12.	Kanawar Sanctuary	Kullu	1800-4833	several	4(557)	14
13.	Khokhan Sanctuary	Kullu	1500-2787	3	28(526)	-
14.	Kugti Sanctuary	Chamba	2250-6044	9	29(651)	9(1255)
15.	Lippa Asrang Sanctuary	Kinnaru	4000-5022	several	-	1(500)
16.	Majathal Sanctuary	Solan/Simla	0900-1966	2	17(700)	-
17.	Manali Sanctuary	Kullu	2030-5865	2	-	9(3582)
18.	Naina Devi Sanctuary	Bilaspur	0500-10197	14	-	-
19.	Nargu Sanctuary	Mandi	0970-4034	7	170(26360)	-
20.	Pong Lake Sanctuary	Kangra	0335-0435	5	-	225(85000)
21.	Rakchham Chitkul Sanctuary	Kinnaur	3200-5486	7	-	3(2000)
22.	Renuka Sanctuary	Sirmaur	0200-887	1	1(368)	14(2463)
23.	Rupi Bhaba Sanctuary	Kinnaur	0909-5650	4	15(2420)	-
24.	Sechu Tuan Nala Sanctuary	Chamba	2550-6072	10	11(1049)	14(2853)
25.	Shikari Devi Sanctuary	Mandi	1800-3359	12	40	-
26.	Shilli Sanctuary	Solan	1230-1845	2	6(563)	-
27.	Simla Watercatchment Sanctuary	Simla	1900-2620	2	-	-
28.	Simbalbara Sanctuary	Sirmaur	0400-0660	3	-	35(2444)
29.	Talra Sanctuary	Simla	1500-3324	5	1(250)	7(2000)
30.	Tirthan Sanctuary	Kullu	2100-4875	4	-	-
31.	Tundah Sanctuary	Chamba	2074-5532	10	4(1182)	35(5156)
32.	Sainj Sanctuary	Kullu	2200-4000	several	3(66)	-
33.	Kibber Sanctuary	Lahaul-Spiti	5578-6794	?	?	?
34.	Dhauladhar Sanctuary	Kangra	5702-6069	?	?	?

Name of Protected Area	Area (in sq. kms.)	Altitudinal Range (in meters)	Buffer Zone
1. Pin Valley NP	675	12,500 to 15,500	Absent
2. Kibber WLS	1400	13,500 to 18,500	Absent

(ii) Protected Areas in Himachal Pradesh in the 2A Western Himalayan Zone.

Name of Protected Area	Area (in sq. kms.)	Altitudinal Range (in meters)	Buffer Zone
1. Great Himalayan NP	765	2000 to 5500	Present : 316 sq. kms.
2. Kanawar WLS	61	1800 to 4800	Absent
3. Gamgul Siabehi WLS	109	1800 to 3900	Absent
4. Kais WLS	14	2800 to 3600	Absent
5. Kalatop Khajiar WLS	69	1180 to 2700	Absent
6. Khokhan WLS	14	1500 to 2700	Absent
7. Kugti WLS	379	2250 to 6000	Absent
8. Manali WLS	32	2300 to 5100	Absent
9. Sechu Tuan Nala WLS	103	2500 to 6000	Absent
10. Shikari Devi WLS	72	1800 to 3400	Absent
11. Nargu WLS	278	1000 to 4000	Absent
12. Tundah WLS	64	2100 to 5600	Absent
13. Bandli WLS	41	800 to 2200	Absent
14. Pong Dam WLS	307	335 to 436	Absent
15. Tirthan WLS	61	2100 to 4800	Buffer Zone of GHNP
16. Dhauladhar WLS	944	1800 to 5600	Absent
17. Sainj WLS	90	2100 to 4800	Buffer Zone of GHNP

Name of Protected Area	Area (in sq. kms.)	Altitudinal Range (in meters)	Buffer Zone
1. Shri Naina Devi WLS	123	500 to 1000	Absent
2. Rupi Bhaba WLS	269	1900 to 5500	Absent
3. Churdhar WLS	56	2000 to 3600	Absent
4. Daranghati WLS	167	2100 to 3300	Absent
5. Lippa Asrang WLS	31	4000 to 5000	Absent
6. Sangla WLS	650	3200 to 5400	Absent
7. Talra WLS	40	1500 to 3300	Absent
8. Govindsagar WLS	100	350 to 500	Absent
9. Majathal-Harseng WLS	40	900 to 1970	Absent
10. Shimla Catchment WLS	10	1900 to 2600	Absent
11. Shilli WLS	2	1230 to 1850	Absent
12. Darlaghat WLS	6	1000 to 2000	Absent
13. Chail WLS	109	700 to 2200	Absent

(i) Protected Areas in Himachal Pradesh in the 4 Semi Arid Zone.

Name of Protected Area	Area (in sq. kms.)	Altitudinal Range (in meters)	Buffer Zone
1. Ruka WLS	4	200 to 890	Absent
2. Simbalbara WLS	19	400 to 600	Absent

Appendix 5.2

LIST OF ENDANGERED FLORA

ENDANGERED FLORA

Table Threatened/endangered plant species in Himachal Pradesh

1. Acer caesium	20. Carex borii
2. Aconitum deinorrhizum	21. C. munroi
3. A. falconeri	22. Cautleya petiolata
4. A. heterophyllum	23. Colchicum luteum
5. A. leave	24. Cypripedium cordigerwn
6. Agropyron duthiei	25. C. plantaginea
7. Amphicarpaea edgeworthii	26. C. puberula
8. Aquilegia parbiflora	27. Dactylorhiza hatagirea
9. Artemisia amygdalina	28. Delphinium koelzii
10. Asphodelus commosus	29. D. roylei
11. Astragalus leucocephalus	30. Deutzia amurensis
12. Astraglus rhizanthus	31. Deyeuxia kashmeriana
13. Atropa acuminata	32. Dioscorea deltoidea
14. Balanophora dioica	33. Drosera burmanni
15. Berberis pseudoumbellata	34. Elsholtzia densa
16. B. royleana	35. Elymus thomsonii
17. Calameagrositis garhwalensis	36. Eria alba
18. Campanula nathaua	37. Eulophia hormusjii
19. Caragana gerardiana	38. Euphrasia foliosa

39. E. microcarpa	58. Podophyllum hexandrum
40. Festuca lucida	59. Poa falconeri
41. Eremurus himalaicus	60. P. setulosa
42. Galium confertum	61. Polygonatum graminifolium
43. Gasrodia orobanchoides	62. Primula macrophylla
44. Habenaria arcuata	63. Pulsatilla wallichiana
45. Hedysarum astragaloides	64. Rhododendron lepidotum
46. H. microcalyz	65. Rubia edgeworthii
47. Hemipilia cordifolia	66. Saussurea bracteata
48. Indigofera simlensis	67. S. atkinsoni
49. Iris milesii	68. S. costus
50. Lilium polyphyllum	69. S. gnaphaloides
51. Nardostachys grandiflora	70. Schisandra grandiflora
52. Neottia listeroides	71. Selaginella adunca
53. Oreorchis indica	72. Silene kunawarensis
54. Osbeckia stellata	73. Thalictrum pedunculatum
55. Picrorhiza kurrooa	74. Thermopsis inflata
56. Pinus gerardiana	75. Thylacospermum rupifragrwm
57. Pleione humilis	
Source : Chauhan and Thakur, 1995	

Appendix 5.3

LIST OF ENDANGERED FAUNA

ENDANGERED FAUNA

Table Endangered butterflies in Himachal Pradesh, included in Schedule I of Indian Wildlife (Protection) Act, 1972

Scientific Name	Common name	Altitudunial range
Family Satyridae		
1. Calinaga buddha	Freak	1400-2700 m
Family Nymphalidae		
2. Diagora nicevillei	Scarce Siren	1575-2100 m
3. Neptis morgiana	Golden Emperor	1400-2330 m
4. Neptis sankara sankara	Broad-banded Sailer	800-1600 m
Family Papilionidae		
5. Parnassius delphius	Banded Apollo	Above 3000 m
6. Parnassious stoliczkanus	Ladakh Banded Apollo	Above 3000 m
Family Pieridae		
7. Delias sanaca sanaca	Pale Jezebel	1350-2300 m

Table Endangered mammals in Himachal Pradesh protected under Indian Wildlife (Protection) Act, 1972 (Schedule I).

Common name	Scientific name	Status
Indian Wolf	Canis lupus pallipes	V
Tibetan Wolf	Canis lupus Chanco	V
Himalayan Brown Bear	Ursus arctos isabellinus	E
Oriental Small-clawed Otter	Anoyx cinerea	V
Leopard Cat	Felis bengalensis	V
Leopard	Panthera pardus	V

Snow Leopard	Panthera uncia	E
Himalayan Lynx	Lynx lynx isabellinus	E
Hangul or Kashmir Stag	Cervus elaphus hanglu	E
Himalayan Musk Deer	Moschus moschiferus	V
Yak	Bos mutus	C
Himalayan Ibex	Capra ibex	E
Serow	Capricornis sumatraensis	V
Himalayan Tahr	Hemitragus jemlahicus	E
Great Tibetan Sheep or Nayan	Ovis ammon hodgsoni	V
Blue Sheep or Bharal	Pseudois nayaur	V
Indian Pangolin	Manis crassicaudata	V

C - Critical ; E - Endangered; V - Vulnerable

Source: Red data book on Indian animals (ZSI).

Table . Endangered birds in Himachal Pradesh protected under Indian Wildlife (Protection) Act, 1972 (Schedule I).

Common name	Scientific name	Status
Himalayan Brearded Vulture	Gypaetus barbatus aureus	E
Himalayan Golden Eagle	Aquila chrysaetos	E
Osprey or Fish-eating Eagle	Pandion haliaetus	V
Lagger Falcon	Falco biarmicus	E
Shahin Falcon	Falco peregrinus	E

Western Tragopan	Tragopan melanocephalus	E
Himalayan Monal Pheasant	Lophophorus impejanus	E
Koklass Pheasant	Pucrasia macrolopha	V
Chir Pheasant	Catreus wallichii	E
Indian Peafowl	Pavo cristatus	V

E - Endangered; V - Vulnerable.

Source : Red data book on Indian animals (ZSI).

Table Endangered reptiles in Himachal Pradesh protected under Indian Wildlife (Protection) Act, 1972 (Schedule I).

Common name	Scientific name	Status
Indian Flap-shelled Turtle	Lissemys punctata	V
Common Indian Monitor	Varanus bengalensis	E
Yellow Monitor	Varanus flavescens	E
Indian Rock Python	Python molurus	E

E - Endangered; V - Valnerable.

Source: Red data book on Indian animals (ZSI).

Appendix 5.4

LIST OF ENDANGERED MEDICINAL PLANTS

List of Endangered Medicinal & Aromatic Plants

Endangered medicinal and aromatic plants in Himachal Pradesh (with trade name in paranthesis)

1 *Podophyllum hexandrum* (Bankakri)
2 *Nardostachys grandiflora* (Jatamansi)
3 *Gentiana kurroa* (Indian Gentian)
4 *Dactylorhiza hatagerca* (Salam panja)
5 *Eulopia campestris* (Salib misri)
6 *Aconitum heterophyllum* (Patees) and allied species
7 *Dioscorea deltoidea* (Steroidal yam)
8 *Rheum astrala* (Rewand chini)
9 *Saussurea sacra* (Yogispada)
10 *Bunium perscum* (Kala zeera)
11 *Inula racemosa* (Pushkar mool)
12 *Onosma baracteatum* (Ratnjot)
13 *Ephedra gerardiana* (Somlata)
14 *Piper cubeba* (Kabab chini)
15 *Microstylisn ucifera* (Jeevaka)
16 *M. wallichii* (Rishvak)
17 *Polygnatum cirrhifolium* (Maha Meda)
18 *P. verticilatum* (Meda)
19. *Roscorea procera & R. alpina* (Kankoli)
20 *Lilium polyphyllum* (Kshira Kankoli)
21 *Concinum fariestatum* (Jeevanti)
22 *Swertia chirata* (Chirayata)
23 *Taxus baccata* (Talispatra)
24 *Atropa acuminata* (Indian belladonna)
25 *Lavateria Kashmiriana* (Resha Katuni)

Major medicinal herbs exported from HP

Year/Quantity in quintals exported

S.No.	Name	1988-89	1989-90	1991-92	1994-95
1.	*Jurinea sp.* (Dhoop)	5,884.93	4,064.05	4,939.83	3,260.00
2.	*Dioscorea sp.* (Singli-Mingli)	1,672.00	180.00	380.00	4.00
3.	*Genetiana kurroa* (Kaur/karu)	1,468.33	199.95	2,899.50	343.00
4.	*Valeriana jatamansi* (Mushakbala)	1,954.47	1,247.31	2,014.43	1,642.00
5.	*Cinnamomum* campora (Tejpata)	1,430.93	849.50		675.00

6.	*Centolla asiatica* (Brahmi)	4,17.98	166.50	335.50	921.00
7.	*Saussurea lappa* (Kuth)	3.00	648.00	667.92	321.00
8.	*Morchella spp.* (Guchhi)	4,02.99	137.68	2,800.89	490.00
9.	*Viola spp (Bansafa)*	26.76	195.70		71.00
10.	*Pistacia integerina* (Kakar singi)	129.41	437.85	278.25	17.00
11.	*Aconitum violaceum* (Mithi Patis)	60.75	12.14	48.24	
12.	*Aconitum heterophyllum* (Kauri patis)	189.81	1.01	2.71	25.00
13.	*Banium persicum* (Kala Zira)	70.18	5.38	5.45	-
14.	*Berberis sp.* (Daru haldi)	2,981.25	11,195.00	12,824.00	-
15.	*Pinus gerardiana* (Neoza)	656.83	56? 63	600.00	403.00
16.	*Agaricus biosporous* (Mushroom)	37.80	15.50	-	-
17.	Other species	4,239.23	4,913.50	10,328.62	0,684.00
	Total	21,586.65	24,867.70	38,125.33	8,827.00

Appendix 5.5

LIST OF WET LANDS IN HIMACHAL PRADESH

I	NATURAL WETLANDS				
A	HIGH ALTITUDE WETLANDS	B	MID ALTITUDE WETLANDS	C	LOW ALTITUDE WETLANDS
1.	Bhriju lake		Dal lake		Renuka
2.	Chander Nahan		Kareri		Saketi
3.	Chandertal		Khajjiar		
4.	Dashair		Kumarawah		
5.	Ghadashru		Kalasar		
6.	Lamadal		Kunt-Bhyog		
7.	Mahakali		Rewalsar		
8.	Mani Mahesh		Sukhsar		
9.	Nako				
10.	Seruvalsar				
11.	Surajtal				
II	MAN-MADE RESERVOIRS				
A.	RESERVOIRS ON THE RIVERS			B.	SMALL RESERVOIRS
1.	Govind Sagar			1.	Cutcha Tank
2.	Pandoh			2.	Kalisthan
3.	Pong dam (Maharana Pratap Sarovar)			3.	Talital Tank
				4.	Pucca Tank
				5.	Parasu Ram Rank
				6.	Ranital

Appendix 5.6

LIST OF ARCHAEOLOGICAL STRUCTURES (CENTRAL)

Himachal Pradesh has numerous ancient archaeological sites awaiting excavation and proper study. List of centrally protected monuments which are looked after by the Archaeological Survey of India is as follows:

Chamba

1. Ganesh Temple; Lakshmi Naryan; Mani Mahesh temple, Narsingh Temple at Bharmour.
2. Shri Vajreshwari temple, Chamba.
3. Shri Vanshi Gopal Temple, Chamba town.
4. Shri Chamunda Devi Temple, Chamba town.
5. Shri Harirai temple, Chamba town.
6. Shri Lakshmi Narain temple Complex, Chamba town.
7. Shri Sita Ram Temple, Chamba town.
8. Shri Sita Ram temple near DC office, Chamba town.
9. Shri Shakuntla Devi temple, Chhatrari.

Kangra:

1. Bhim mound at Chetru, Tehsil Dharamsala, Dist. Kangra.
2. Gauri Shankar temple in Kangra fort.
3. Kangra Fort, Kangra.
4. Stone inscription at Khanyara, Tehsil Dharamsala.

Srimaur:

1. Mangarh Fort.

5. Kotla Fort, Tehsil Nurpur.
6. Masrur temple complex including loose sculptures, Tehsil Dehra.
7. Nurpur Fort, Tehsil Nurpur, Dist. Kangra.
8. Stone inscription, Pathiar, Tehsil Kangra.
9. Grave of Lord Elgin at Forsythganj.
10. Ashapuri temple, Tehsil Palampur.
11. Vaidyanath temple, Baijnath.

Kullu:

1. Vasheshar Mahadev, Bajaura
2. Shiv temple at Jagatsukh.
3. Gauri Shankar temple at Naggar.
4. Hidamba Devi temple at Doongri near Manali.

Hamirpur:

1. Katoch Palaces at Tira Sujanpur.
2. Narvadeshwar temple, Sujanpur.

Mandi:

1. Commemorative tablets, Mandi.
2. Panchvakhtar temple, Mandi.
3. Trilok Nath temple Mandi town.
4. Mahadev temple, Sundernagar.
5. Aradhnarishewar temple, Mandi town.

Lahaul Spiti:

1. Tabo Monastery, Tabo.
2. Marikula Devi temple, Udaipur.
3. Phu monastery.

Appendix 5.7

LISTOF ARCHAEOLOGICALSTRUCTURES (STATE)

List of State Protected Monuments:

1. Docha Mocha temple, Gazen, Kullu.
2. Mamleshwar Mahadev temple, Karsog.
3. Chammunda Devi temple, Devi Kothi, Dist. Chamba.
4. Suryanarayan Temple, Nirath, Dist. Shimla.
5. Haripur Fort at Haripur, Tehsil Dehra, Dist. Kangra.

Other monuments where monument Attendants have been appointed by the Department of Languages and Culture, H.P.

1. Gudaru Devta temple, Guvas, District Shimla.
2. Tara Devi temple at Tara Devi, District Shimla.
3. Champavati temple of Chamesni Mohalla, Chamba town.
4. Bhadrakali temple, Bhalai, District Chamba.
5. Kussumma Mata temple, Khekhsu, Ani, District Kullu.
6. Nirmand temple complex, Nirmand, Dist. Kullu.
7. Shiv Mandir, Naggar, Dist. Kullu.
8. Kamlah temple and Fort at Kamlah, Sarkaghat, Dist. Mandi.
9. Radha Krishan temple, Dada Siba, Tehsil Dehra, District Kangra.

Appendix 6.1

MINUTES OF MEETING WITH FOREST OFFICIALS

Draft

Minutes of meeting with the Divisional Forest Officer (DFO) at Rohroo

Date: May 01, 2006
Venue: Office of the **Divisional Forest Officer (DFO) at Rohroo**, 11.30 am
Project team:

1. Mr. Sundara Rajan C.V.-Environmental Management Specialist
2. Mr. Sanjeev Kumar- Environmental surveyor

PWD representative

1. Mr. A.K. Dutta –Executive Engineer PWD (attached to LBG group)

The project team has visited the Divisional Forest Officer (DFO) Mr. Rajesh at his office in the Rohroo town. This meeting has been arranged to understand the status of the Forest along both sides of the Theog-Kharapatthar-Rohroo (80km) road considered for the widening and improvement under the State Road Improvements Project (SRIP). The status of the forest along the road was discussed during the meeting. The meeting started with an introduction by the Consultant and the PWD Executive Engineer Mr. Dutta regarding the scope of the project in relation to the Theog-Rohroo project road. The environmental aspect of the work and the details required from the DFO in regards to the projects roads were explained by the Environmental Management specialist of the team.

1. The DFO has started with a question with regards to the status of the current improvement work vis-à-vis the proposed World Bank project.
2. The consultants and the PWD EE stated that the current work is to meet the urgent requirements along the road as decided by the priorities of the government. The funds for which are mostly from the Central road fund. On the other hand, the World Bank project is planned to addrees the long term transport requirement of the State and includes not only the Theog- Rohroo road but several hundred kilometers of the road whole across the state. Since the WB project is planned to construct with international standards and best practices, the current widening may not be sufficient as it some times require realignments and bypasses.
3. Mr. Rajesh has stated that the forest department has agreed to support the government's current initiatives for the widening as most of the lands required for the work were barren or without any trees.
4. The DFO informed that the section between Jubbal to Kharapatthar require forest clearance as it involves legal issues leading to the requirement of Government of India permission and clearances. This has been infirmed to the State PWD and the concerned EE is now working on this requirement/proposal. Depending on the forest land requirement they need to get it either from Chandigarh Regional office of MOEF or from the GOI Delhi.
5. According to DFO his division comes between Kharapatthar and Hatkoti, which covers approximately 20km of area.
6. Already 60-70% of widening of the road has been carried out by PWD for the ongoing widening programme.

7. In General forest in this division is Demarcated protected Forest (DPF) and undemarcated protected Forests (UPF). DFO has stated that there is no reserved forest in his jurisdiction.
8. According to DFO any land along the roadside which is waste is also regarded as forest land if the records show the legal status as forest. This is due to the latest Supreme Court order on definition of the term 'Forest'.
9. On the question of forest clearance, DFO stated that if forests are to be cleared in an area below 5-hectare then permission has to taken from the office of regional MOEF at Chandigarh and if the forest area is more than 5-hectare then MOEF clearance from Delhi is required.
10. DFO has categorically stated that in his division there is no National park and Sanctuary.
11. As this is an ambitious project DFO has no objection with regards to the clearance of forest land.
12. The major wildlife species in the division include but not limited to Beers, Herbivores, Leopards and all type of Himalayan fauna. In case of Flora it is Temperate Zonal Conifer. There is a well diversified Fauna and Flora.
13. DFO informed that since the road connecting Rohroo and Dodrakwar is completely passes through dense forest the forest department itself has taken over the construction work. PWD is not at all involved in this project work. The work is being taken up with all permissions and clearances from various agencies.
14. To a question on the reference books on the study of wildlife in the region, DFO suggested the book named Flora Simelences (by Edward buak) and Flowers of Himalayas (by Polunant Stewart)

Conclusion: *Environmental Specialist has concluded that the project road passes through forest areas that are rich in faunal and floral diversity. Forest clearance would be required if forest land is required for widening of the project road. If the land requirement is more than 10 hectares MOEF clearance would be required.*

The meeting closed at 12.45 pm.

Draft

Minutes of meeting with the Chief Wildlife Warden at Shimla Forest HQ

Date: August 10, 2006
Venue & Time: Office of the Principal Chief conservator of Forests (PCCF) **at Shimla**, 10.00 am
Project team:

1. Mr. Sundara Rajan C.V.-Environmental Specialist
2. Mr. Sanjeev Kumar- Environmental surveyor

The project environmental team consulted the Chief Wildlife Warden Mr. Vinay Tandon of the State. The meeting has been arranged after a prior appointment from the Public Works Department. Objective of the meeting has been explained to the Chief Warden to understand the Wildlife, forestry and biodiversity issues precipitated after the initial environmental investigations of the project that include stake holder and community consultations. The project Environmental specialist explained the project components and the various studies carried out so far. Later the Forest and wildlife issues were explained to the Warden. The environmental aspect of the work and the details required from the Forest and wildlife department in regards to the projects roads were explained. A copy of the project summary and map showing all the 1600kms of the roads has been handed over to the Warden.

1. First of all Mr. Tanndon wanted to know the total number of road projects that passes through the sanctuary areas. Project environmental specialist informed that out of the 400 km selected for widening none of the project roads passes through sanctuary areas. Remaining 400 kms are not known to any body at the moment but this will have to come from the 1600km of the projects roads that are being studied for feasibility and prioritizing.
2. Further the environmental management specialist explained that wildlife presence has been reported from all project roads. Such reported wildlife includes kakkad, pig, dear, sambhar, panther, monkeys, leopards, peacock. peahen, Jungle cat, stag, blue bull, Wild boar, Jacquill, fox, squirrel, monkeys, flying cat etc.
3. Except some accidents with monkeys and Neelgais no case of accident has been reported. The environmentalist added that the reason for this could be due to slow traffic movement, low ambient noise level and the moving flashlights in the night (because of the curves) on the hill slopes.
4. The wildlife chief of the State added that a lot of smaller size animals are also possible to spot at these locations.
5. For conservation, we need money and commitment from the project authorities. For that it is necessary to know the actual budget available and then accordingly we can plan the conservation measures.
6. Project Environmental expert replied that this is a transport project for the rehabilitation of the existing roads; the project could earmark very limited funds only for conservation measures. For that we need to know the exact dimension of the problem and how far we can address it within the project scope.

7. Mr.Tandon stated that to conduct a proper research/study need adequate funds. Such a study requires good professionals supported by adequate funds. He suggested that the project should conduct a study first and then the department can perform follow up studies. This we will enable us to say what could be the possible mitigation measures.
8. To a question from the wildlife warden about the wildlife mitigation measures in other States, the environmentalist has explained the measures adopted in the Kerala and MP projects in the recent years. Environmentalist further added that Himachal situation is more complex because of the prevailing bio diversity related issues. There are numerous species of flora and fauna that are in the threatened category. This includes endangered, critically endangered. vulnerable and other threatened species.
9. The forest officer stated that the roads not only kill the animals but also fragment their habitat. Therefore only a Forestry/wildlife/biodiversity expert can conduct such studies.
10. To a question from the environmentalist on the barriers around the existing sanctuaries, Mr. Tandon replied that such measures are very difficult and expensive and no such barriers exist for any of the sanctuaries in the State.
11. Making new roads through the sanctuaries is not at all permitted. This will requires Supreme Court permission in addition to the permission from wildlife board.
12. Major issue Mr. Tandon told is the villages located inside the declared protected areas such as sanctuaries and National parks. This is a complex issue unless the government settles the rights of the people inside sanctuaries; the conservation measures will not provide good results.
13. The Environmental impact Assessment (EIA) in this state should involve several specialists. In this case what is required is a Forest /wildlife / biodiversity expert. Therefore the forest department wanted to involve in this project even if an external Biodiversity expert conduct research on this.
14. Department need to have a meeting with the PWD secretary and others regarding the related issues as the dimension of the whole issue is bigger than anticipated. The study should bring out everything. Then the Environmentalist reminded that our project is only a road project therefore the project may not be able to resolve all issues in the Forestry and transport sector of the State but definitely the research will bring out the actual dimension of the whole issue in its entirety. This could alert the government to look for alternate additional funding if any required for more effective conservation measures.
15. Current method of construction does not care any conservation measures except that they some how get the clearances. There should be BIO-DIVERSITY IMPACT ASSESSMENT (BIA) for that the project needs to find resources.
16. He added that tropical forest once gone is gone for ever. You can grow coniferous forest but natural forest once destroyed is destroyed for ever.
17. Mr. Tandon is keen to meet the concerned World Bank officials also. This will make him aware of the future course of strategy.
18. The no of vehicle on the road are increasing many fold and the number vehicle coming from outside will also increase rapidly. If the project impacts are not

addressed properly; forest official added that some body will have to pay for the consequences (refer to air water, noise and solid waste pollution) in the future. In this case, the impacts will be during the post construction stage.

19. The Wildlife official later added that this may be a big project finally coming up with beautiful roads in the State but it should meet all requirements of the state. That can only be possible with the sustainable development addressing all issues during the project planning and implementation stages. Tourism is one of the most promising futures of the State with six million people in the state and additional many millions to come from outside, things should be properly developed with clean air, water and sustainable infrastructure development. Few thousands trucks of apple in the season are not going to meet the future requirements of the state in terms of the actual required economic growth of the State.
20. If the project authorities are serious we are interested to cooperate with project.

What next? Both of us agreed that the Environmental Specialist will make a report on the meetings and then forward to all concerned to determine the future course of action.

The meeting closed at 11.00 am.

Draft

Minutes of meeting with the Divisional Forest Officer (DFO) at Nahan

Date: May 22, 2006
Venue: Office of the **Divisional Forest Officer (DFO) at Nahan**, 12.00 Noon
Project team:

1. Mr. Sundara Rajan C.V.-Environmental Specialist
2. Mr. Sanjeev Kumar- Environmental surveyor

The project team has visited the Divisional Forest Officer (DFO) Mr. Y.P.Gupta at his office in the Nahan town. This meeting has been arranged to understand the status of the Forest area along both sides (7 km PIA) Kumarahatti-Nahan (78 km) road considered for the widening and improvement under the State Road Improvements Project (SRIP). The status of the Forest area along these two roads was discussed during the meeting. The meeting started with an introduction by the Consultant team regarding the scope of the project. The environmental aspect of the work and the details required from the DFO in regards to the projects roads were explained by the Environmental specialist of the team.

1. The DFO has stated that a meeting has been convened by the District collector, to discuss about the project on April 12, 2006. The meeting discussed the various issues relating to the project widening that includes Forest area (not wildlife) also.
2. Mr. Gupta was glad to know that somebody is raising the issue of wildlife which otherwise always ignored. The wild life lost is a thing lost for ever. Even reintroduction may not work. All agencies are interested in the forest area only. There wasn't any discussion on wild life aspects. If somebody comes out with any suggestion the person will be isolated.
3. DFO has actually listed all issues facing the Forest sector. Mr. Gupta informed that there are three types of pressure on the forest eco-systems. First and fore most is cattle grazing. Since the Uttaranchal government has banned grazing now pressure is also coming from the Uttaranchal side. The second one is Shamlat (a type of village forest). Previous government has given the land to the villagers. The third one is the encroachment.
4. The Forest department has paid compensation and settled the issues with the villagers and taken the forest land back. Later on the villagers have encroached and started using the land again. There is no evidence lying with the Forest divisions to challenge the same in a court of law.
5. Mr. Gupta stated that his jurisdiction falls up to few kilometers beyond Lawasa Chowki.
6. With regards to a question from consultant about the legal status of the existing road, DFO informed that all roads established prior to 1980 forest conservation act has obtained legal status and the area is now legally occupied by the State PWD.
7. DFO answered that the forest collector is an official position established by the British and the position is still continuing. This means that he is a collector of the forest revenue. In the present context this position is actually irrelevant as the income is too insignificant (Rs 1/- per acre)

8. DFO has explained the type of forests (classification). This is relating to the altitude of the area. The Alpine forest exists in the snow covered area beyond the snow line. Below that Bhoj patra (the broad leaved) and then Fur and spruce (confer zone), Deodar zone (important and valuable timber), Then comes the Cheed pine (most of our road fall in this category), Scrub forest and then Sal forest.
9. The classification is also on the basis of settlement of legal issues. These are reserved and protected. The reserved forests are those forests where all settlement of rights has been completed. The reserve forests are always notified and every thing is prohibited in these forests except what is listed in the notification. In the case of PF it has been divided into two types, viz, DPF and UPF. In this case all activities listed are allowed except what is not listed.
10. DFO has asked us not forget the application for seeking the approval for removal of private trees. This should be completed along with the trees in the forest areas. Since this is a complicated issue because of the 10 year felling cycle for the private land. If this is neglected it would be very difficult for the PWD to get the permission for tree removal from private land also.
11. Regarding the agenda of the DC meeting, DFO informed that forest land acquisition, HP, TP, EP. Transformers, temples etc have been discussed. DFO has shown us the land acquisition details obtained from the Executive engineer of the Nahan. Consultants informed that we will collect the information from the EEE concerned.
12. Regarding wildlife accidents Mr. Gupta informed that few wildlife collisions have been reported recently. The languors are most affected because of their courageous behavior not to run away from the road. Generally other monkeys run away as soon as they spot a vehicle near by.
13. Consultants informed that since we do not want collision with monkeys and sought his advice to suggest some practical remedies. DFO stated that a multi pronged approach is the only way to get rid of monkeys on the road. Planting numerous fruit bearing trees in the interior forest areas, heavy fine on the people who are feeding monkeys on the road, and also to capture and sterilize monkeys to the extend possible. There is no monkey census but some figures are available.
14. Regarding afforestation including road side planting DFO stated that plenty of degraded forest land would be available along the sides of the project roads. No sanctuaries are located within seven kilometers of the project road. Only indigenous broad leaf plants are suggested to plant along the sides of the project road.

Conclusion: Environmental Specialist has concluded that the project road passes through forest areas that are rich in faunal and floral diversity. Forest clearance would be required if forest land is required for widening of the project road. If the land requirement is more than 5 hectares MOEF clearance would be required.

The meeting closed at 13.45 pm.

Draft

Minutes of meeting with the Divisional forest Officer at Theog

Date: August 09, 2006
Venue& Time of meeting: Office of the DFO at Theog, 11.00 am
Project team:

1. Mr. Sundara Rajan C.V.-Environmental Specialist
2. Mr. Sanjeev Kumar- Environmental surveyor
3. Mr. Netra Prakash – J. E. PWD (HPRIDC).

The project team has visited the Divisional Forest Officer (DFO) Mr. Khatto at his office in the Theog. This meeting has been arranged to understand the status of the Forest along both sides of the Theog-Kharapatthar-Rohroo (80km) road considered for the widening and improvement under the State Road Improvements Project (SRIP). The status of the forest along the road was discussed during the meeting. The meeting started with an introduction by the Consultant. The scope of the project in relation to the Theog-Rohroo project road was also explained. The environmental aspect of the work and the details required from the DFO in regards to the projects roads were explained by the Environmental Management specialist of the team.

During an earlier attempt to meet him we have handed over a copy of the project summary.

1. Mr Katta stated that under his jurisdiction the forest area is from theog to kotkhai in theog rohru road and sainj to chambi in Sainj Chopal road.
2. There are cases of Leopard human conflict and monkey traffic conflict. Personally he himself had an experience at Dharamsala. During the night leopard jumped into his campus but as soon as lights were switched on it left the place.
3. According to him Una and Kangra are wildlife rich areas. Neelgay, kakkar, sambhar, monkeys, leopard and wild cock are in majority those places.
4. There are certain impacts of the road construction through jungles. As 1) strata changes to retain the moisture. 2) Flora and fauna are affected. 3) If there is no stability jungles are to be cleared 4) Blasting is harmful for trees where there is loose soil.
5. Mr. Khatta stated that natural forest once lost is lost for ever. This will be a great loss as it takes 100 years to grow new forest.
6. According to the DFO Deodar is of very high value here. 10 sleepers of deodar of 10 by 10 by 5 size cost about Rs 35000.
7. Common floral species found in the area are Deodar, koyal and baagh..
8. Fauna in the region DFO Stated includes Leopard, monkeys, langur, ghoral, wild boar and wild cock are found in high troops.
9. According to DFO, Wildlife crosses the road in between kotkhai and khara patthar to drink water and to feed. A study will establish the facts and figures.
10. New trees should be planted along the roadsides where there is a water scarcity According to DFO survival rate is very less here because waste material of road construction is thrown along the roadsides.

11. Mr Khatta Thinks that Cheel, deodar and ornamental plants like robinia should be planted along the roadside.
12. DFO opined that for construction purpose there is scarcity of the water.

The meeting closed at 12.00 pm.

Draft

Minutes of meeting with the Divisional Forest Officer (DFO) at Una

Date: March 06, 2006
Venue: Office of the **Divisional Forest Officer (DFO) at Una**, 11.30 am
Project team:

1. Mr. Sundara Rajan C.V.-Environmental Specialist
2. Mr. Rejenish Monji- Environmental Engineer
3. Mr. Sanjeev Kumar- Environmental surveyor

PWD representative

1. Mr. Dutta –Executive Engineer PWD (attached to LBG group)

The project team has visited the Divisional Forest Officer (DFO) Mr. Ashok Kumar Somal at his office in the Una town. This meeting has been arranged to understand the status of the avenue plantation along both sides of the Mehatpur- Una –Amb (44 km) road and also the Una- Barwasar-Jhahu-Nerchouk road (-126.70 km) roads considered for the widening and improvement under the State Road Improvements Project (SRIP). The status of the Forest along these two roads were discussed during the meeting. The meeting started with an introduction by the PWD Executive Engineer Mr. Datta regarding the scope of the project in relation to the Amb-Una-Nerchouk road. The environmental aspect of the work and the details required from the DFO in regards to the projects roads were explained by the Environmental specialist of the team.

1. The DFO has stated that although he himself is personally against cutting of the large number of trees, we need infrastructure development to take place. This is very important.
2. If cutting of trees are unavoidable it is necessary that we retain at least one side of trees along the project road. Technically speaking the trees along the eastern side need to be retained as it provides most of the shade for the road.
3. Mr. Ashok Kumar Somal stated that shade trees must be planted along the road sides to reduce the effect of the enormous heat during the summer period.
4. Mr. Somal to a question by the Environmental specialist on the existing main species along Una –Amb section, informed that 40 % of the trees are Eucalyptus. The percentage of other trees are Shisham 20 %, Poplar 10 %, Arjun 10 %, Pipal trees < than 1 % , Mango trees 10% and the rest are miscellaneous.
5. With regards to the economic importance; Eucalyptus which is the majority of the trees can be cut and removed without any issue. This is a fast growing plant and hence no problem to replant. Shisham although good timber wood, the percentage of Shisham trees along the road sides is very less. The Arjun is a medicinal plant. Mango trees are good shade trees and fruit bearing and hence important. Poplar is not good timber tree but can be used for furnishing etc.
6. According to DFO, there should be mixed plantation. Mr. Somal has proposed a plantation scheme for every 100m plant Pipal trees, then every 500 m plant Arjuna trees. Mango trees also must be planted as it is fruit yielding as the nature require fruits also. This proposed scheme could be a good combination for a road

near Kinnaur where an NGO has put efforts to plant these combinations of trees. This has a good religious reason and significance also.

7. Mr. Somal stated that he is a resource person for an NGO named SWARG (Scientific Working and Research Group).
8. With regards to the procedure for cutting of trees, DFO stated that first it is necessary to identify the status of the land/Forest. In this case it is Protected Forest (PF) therefore it is necessary to get Forest Clearance (FC). If the area is less than 10 Hectares clearance can be obtained from Regional office at Chandigarh and if it is more that area, then Forest Clearance (FC) from MOEF would be required.
9. Apart from the road side trees, between Una to Amb, Mr. Somal categorically stated that there is no forest land along the sides of the road and informed that only private land exists along the road sides. Beyond Amb there is Reserved Forest (RF).
10. To a question with regards to Una – Nerchouk road on the introduction of Cheeta by Forest department as told by some local people, DFO stated that these are just rumours. The DFO stated that Wildlife species present along the roads include increasing number of leopards, Jungle cat, deer, Sambhar, stag, blue bull, Wild boar, Jacquill, fox, squirrel, monkeys, flying cat etc.
11. Along the Una-Nerchouk section; the forests are demarcated as protected forest. This requires clearance as this relates to a Supreme Court judgment. If any land has been recorded as forest land, anywhere in records, then clearance is required from Government.
12. Mr. Somal informed that there are two Range offices along Una Nerchouk road. One at Bangana and the second one at Dhana-kailaa.
13. DFO also stated that percentage of Forest land along Una – Nerchouk road is only10 – 20 %.

Conclusion: Environmental Specialist has concluded that the project road passes through forest areas that are rich in faunal and floral diversity. Forest clearance would be required if forest land is required for widening of the project road. If the land requirement is more than 10 hectares MOEF clearance would be required.

The meeting closed at 12.45 pm.

Appendix 6.2

ISSUES RAISED DURING COMMUNITY CONSULATION

APPENDICES 6. 2

PEOPLES CONCERNS- SAMPLES FROM CONSULTATION HELD ALONG FEW CORRIDORS

Corridor no.	Details of consultation	People concerns
37	Consultation with 1) Representative of community 2) Forest officials 3) Representative of the school 4) Local person 5) Others	1. Road alignment should be changed. 2. The road is not in good condition. It is single lane. All the time there is traffic jams. 3. Drainage system is not proper. 4. There is fish farm at Nagni. 5. Soja, the great Himalayan national park, Sarolsar Lake and Temple, Khagsu Mata Temple etc. are tourist's spots in this area. 6. The road is very near to the river Satluj and 6 km area is mostly affected by flood every year. if possible this should be bypassed. 7. Proper compensation should be provided to the affected, but some people who have very less land can oppose. 8. Safety required near the school (Signboards, speed breakers, parking place and pedestrian with railing should be provided. 9. The plantation of the trees along the roadsides can control noise pollution. But trees or any other vegetation cannot be grown easily. 10. Culverts of the road are not proper. 11. Two electric projects are there of 1.5 and 1.5 mw are on the way. 12. Major fauna of the region is monkeys, fox, leopard, black brown beer, ghoral and kakkar 13. The type of forest in this area is DPF, 3rd class Forest and UPF. Reserve forest area is also there but away from the roadside. 14. If road is improved it will help in the transportation of the apples to the market in time. 15. This area is rich in apples and other cash crops, so road should be widened.
Corridor No.	**Details of consultation**	**People concerns**
36	Consultation with 1) Representative of community 2) Forest officials 3) Representative of the school 4) Local person 5) Others	1. There is reserve forest area after banikhet up to two km only and rest of the area is under the jurisdiction of army. 2. There is a lot of traffic in this road because this is a tourist way. They travel to Dalhousie, Khajiar and Chamba by this way (major tourist places of Himachal pradesh). 3. There will be scarcity of the water during road.construction and also land for waste disposal is not available. 4. Major flora in his range is cheed, baan, deodar and bushes along the roadside. 5. Major fauna is litsia ambrosa, barking beer, leopard, monkeys and langur in his range. 6. According to Range officer, habitat of the wildlife is disturbed by the construction of the road. Even if the traffic is increased there is greater noise pollution, which is also harmful for the wildlife near the roadside He wanted to know that from where the fuel wood comes when tar coal for road construction is heated on the road

APPENDICES 6. 2

PEOPLES CONCERNS- SAMPLES FROM CONSULTATION HELD ALONG FEW CORRIDORS

Corridor no.	Details of consultation	People concerns
26	Consultation with 1) Representative of community 2) Forest officials 3) Representative of the school 4) Local person 5) Others	1. Proper metalling of road should be done. 2. Drainage should be proper. 3. Parking problems. 4. Street lights essential. 5. Compensation for shopkeepers for land loss. Giving land should compensate Land loss. 6. Safety needed (sign bords, speed breakers etc). 7. Tree plantation like mango, Alasi and flowering plants and shady trees can be planted. 8. Road should be widened from shatlai to Baba Balaknath temple. 9. Bus waiting shed essential at location maruda very near to school.

Corridor No.	Details of consultation	People concerns
33	Consultation with 1) Representative of community 2) Forest officials 3) Representative of the school 4) Local person 5) Others	1. The road is very congested and in very poor condition. 2. This is an accident-prone area so safety should be provided (footpath, speed breakers and signboards should be provided along the road and boundary wall around the school). 3. There is no proper drainage system and culverts in the existing road. 4. Noise and air pollution exist so for prevention purpose trees must be planted along the road. 5. Thandol has got importance tourist point of view also. There exists Temple of Bharav Mahadev. Tea industry can also be developed in this area. 6. This road is the shortest way to reach Manali, Mandi and Sandhol if bridge over Beas is constructed. 7. Most of the land along the roadside in this area is forestland. 8. There is scarcity of water in this area for construction purpose. 9. Road has been encroached. 10. Bus waiting sheds should be provided in new road. 11. Construction wastes should be used for parking 12. By the improvement of the road transportation facility and economic value of the area will increase.

APPENDICES 6. 2

PEOPLES CONCERNS- SAMPLES FROM CONSULTATION HELD ALONG FEW CORRIDORS

Corridor no.	Details of consultation	People concerns
9	Consultation with 1) Representative of community 2) Forest officials 3) Representative of the school 4) Local person 5) Others	1. The condition of the road is very poor. It is very congested near bazaar. It really needs improvement. 2. There is no proper drainage system along the road. 3. There should be bus waiting sheds, bus bay, speed breakers and signboard near the school (550 students are studying in this school). 4. DPF exist in his area. 5. Cheed exists as major flora in this region. 6. Recently one of the leopards jumped over the vehicle and met to an accident (according to B.O. Sujanpur Tira). 7. Trees should not be cut down because trees are lifelines of the people. Common people should be aware as if you want to live then trees must not feel down. 8. Boundary wall should be provided around the school. 9. If road is widened then it will facilitate the transportation from business point of view. 10. There will be scarcity of the water during summer when road construction starts. 11. Streetlights should be provided along the roadsides. 12. Major fauna are monkeys, neelgay, pigs, langurs and leopard. 13. There is accident-prone area near the school. 14. For the prevention of the noise trees should be planted along the road just in front of the school. 15. There should be improvement of the road also because of the tourism point of view. Sujanpur tihra fort and Narbdeshvar temples that are in archeological survey of India are important tourists spots here. There are some other temples present here which really attracts the people. 16. Bhawrna sen. Sec. School is on the both sides of the roadside. Junior wing on left side and senior wing on the right side of the road. This is really an accidental zone. So flyover must be provided at this point. 17. There is scarcity of the water during the construction time in summers only.

Corridor no.	Details of consultation	People concerns
14	Consultation with 1) Representative of community 2) Forest officials 3) Representative of the school 4) Local person 5) Others	1. There should be speed breakers, proper footpath and boundary wall on the road near the school for safety. 2. Major flora in his range is khair, dhak, chandan, sheesham and kikkar. 3. Major fauna is petrigise, coak, kala tittar, peacock, kakkar etc. 4. There exists reserve forest area from Re to Khatiar. UPF also exists along the roadside. 5. Cutting of land should be minimized while construction of the road. 6. There should be awareness programmes to avoid the monkey feeding. 7 Aesthetic and ornamental trees should be planted along the roadside. 8. Road is blocked all the time when it rains, because there are no bridges. 9. Rain shelters should be provided at every station 10 This road must be improved, as this is the shortest route to Talwara. People avoid this road because of its bad condition

APPENDICES 6. 2

PEOPLES CONCERNS- SAMPLES FROM CONSULTATION HELD ALONG FEW CORRIDORS

		11. The road improvement will really uplift the society. 12. Cutting of land should be minimized while construction of the road. 13. There are no bridges in this road, so in the rainy season road is mostly blocked. 14. Road is mostly blocked in rainy season. 15. Bus waiting sheds should be provided in the new road. 16. No electricity poles should be on the road, even electricity should be under ground 17. This road has also got importance from defense point of view, as there is pong dam nearby. If army has to come for protection purpose, then have to travel by this route, as this is the only access to pong dam. But because of its congestion big tankers cannot come by this way.

Corridor no.	Details of consultation	People concerns
38	Consultation with 1) Representative of community 2) Forest officials 3) Representative of the school 4) Local person 5) Others	1. Condition of the road is very bad. This road must be widened. 2. The road should be constructed in a proper manner. There is drainage problem. 3. Major flora along the roadside pinus, broadleaves, cheed, deodar and some ornamental plants. 4. Major fauna is monkeys, baagh, pigs and leopard etc. 5. Adequate compensation should be provided to affected people. 6. Safety should be provided in new road (speed breskers, zebra crossing footpath and If possible fly over must be constructed for the safety of the students). 7. Dust problem is there. 8. Road is closed in the rainy season. 9. New trees must be provided along the roadsides. 10. Proper compensation should be provided to affected people. 11. There must be parking area in new area. 12. Rain shelters should be provided in new road. 13. Parking area should be provided

APPENDICES 6. 2

PEOPLES CONCERNS- SAMPLES FROM CONSULTATION HELD ALONG FEW CORRIDORS

Corridor no.	Details of consultation	People concerns
25	Consultation with 1) Representative of community 2) Forest officials 3) Representative of the school 4) Local person 5) Others	1 Condition of the road is not good, so should be improved. 2. Proper drainage is required. 3. Private land comes along the roadside. 4 Road safety is required. 5. The existing road is very prone to accident. 6. Proper compensation should be provided to the affected. 7. There should be plantation of the trees along the roadsides but trees should be of smaller size. 8. Road improvement will help in the improvement of marketing and business of the local people. 9. This road has also got importance army point of view. If the other road (national highway) is blocked this road comes in use by army.

Corridor no.	Details of consultation	People concerns
27	Consultation with 1) Representative of community 2) Forest officials 3) Representative of the school 4) Local person 5) Others	1. As the traffic has been increased in this road so this road should be widened and improved. 2. This is important road from tourism point of view. Pong dam is just along the road and proposal of bird sanctuary i also there. 3. Speed breakers and rain shelters should be provided in th new road for safety. 4. This is shortest route to Jwala ji temple, kagra and deot sidh from Pathankot. 5. Drainage is in very poor and water flows on the road. There should be proper culverts. 6. Sign boards, footpath and speed breakers should be provided for the safety of students and general people.

Corridor no.	Details of consultation	People concerns
39	Consultation with 1) Representative of community 2) Forest officials 3) Representative of the school 4) Local person 5) Others	1. The condition of the road is not good. Road widening is essential. 2. Roerich Memorial art gallery is world heritage site. 500-700 people visit every day to this place. 3. Type of forest in his range is UPF and DPF. Major flora of the region is deodar, fur and broad leaves and Major fauna of the region is great Himalayan black bear, musk deer, leopard, ghoral, monal, muskdear and red jungle foul. 4. Monkey feeding is a big problem in this area. People found guilty should be punished. 5. There should be check post on the road to check the theft of forest. 6 Trees should not be cut down If for development purpose it is necessary to cut down then new compensatory trees must be planted. Parapet and tree plantation should be done along the roadside. 7 Dumping site is very big issue 8 There is some tourist's attraction also like Bijli Mahadev Temple and a waterfall is also there 700m from road. Kullu and Manali are hill stations 9 Land should be aquired for future also Adequate

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		compensation should be paid to the affected people. 10. Public comfort stations and bus waiting sheds should be provided. 11. There is heavy traffic in this road. If other link i.e. national High way is blocked then whole the traffic shifts to this road. 12. The road is also important from defence point of view. 13. Safety should be provided by providing speed breakers, zebra crossings, footpath and parking in the new road.

Corridor no.	Details of consultation	People concerns
24	Consultation with 1) Representative of community 2) Forest officials 3) Representative of the school 4) Local person 5) Others	1. Road should be improved as the condition of the road is not well and traffic is more. Road is prone to accidents. 2. Major Flora includes Principia utilis, Valvaris, Rubbus, daffnia, Rosa muscarta, Fur etc. 3. If financially assisted, forest range officials can help in conservation of trees planted. Devdar plantation is necessary. 14. Providing speed breakers, zebra crossings, footpath and parking in the new road, should provide safety. 4. Road is prone to accidents. 5. Drainage system should be proper. 6. During apple season due to heavy traffic problem for road construction. 7. Parking area must be there. No parking space available. 10. Tree plantation along roadside is needed. 11. Proper compensation should be given for land acquisition. 12. Rain shelter in Durgapur, and Naldhera is needed 13. Parapets along the road must be constructed 14. There is a hot water spring, which should be conserved because of spiritual importance. 15. Monkeys are creating problems. 15. Safety should be provided by providing speed breakers, zebra crossings, footpath and parking in the new road.

Corridor no.	Details of consultation	People concerns
35	Consultation with 1) Representative of community 2) Forest officials 3) Representative of the school 4) Local person 5) Others	1. Existing road is single lane and congested Sharp curves exist in the road and there is no proper maintenance of the road. So road should be improved. 2. Bus stand should be provided at Balana. 3. This is the shortest way to reach the Dalhausi, Banikhet and Khajjiar. 4. There should be the provision o the streetlights on the road. 5. There should be change in alignment of the high way. It should be as Dhulara-Dhrhna-Dhar to Lahru road because maximum population live in this road There is also an electricity project in this road. Road will help in carrying the large equipments used in the project. 6. May be govt. is giving the compensation to the affected but what about the business of the people. Where they will go and what about the emotions of the people

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PEOPLES CONCERNS- SAMPLES FROM CONSULTATION HELD ALONG FEW CORRIDORS

		attached to places. 7. There exist Astha hydal project at Sihunta on this road. 8. Safety measures should be adopted for students on the road (speed breakers, zebra crossings and footpath should be provided). 9. Trees should be planted on the both side of the road. 10. Local people grow vegetables but they cannot transport vegetables in time to the market because of the bad condition of the road. 11. Tourism point of view this area has got importance also. There is a place 15 km away from the Sihunta called as Nadholi; there is a beautiful lake, grassland and temple. 12. There is a big problem of parking.

Corridor no.	Details of consultation	People concerns
21,20	Consultation with 1) Representative of community 2) Forest officials 3) Representative of the school 4) Local person 5) Others	1. The condition of the existing road is very poor and it needs widening. No maintenance of the road since many years. 2. This is the shortest route to the Paonta Sahib from Chandigarh. 3. Vegetables will be carried to the market easily in time if this road is going to be developed. 4. There should be provision of proper compensation to the affected. 5. This road is also important from tourism point of view. The famous SUKETI FOSSIL PARK is just 4 km away from the road. 6. Road should be improved and it will be useful to industries and villagers. 7. Safety should be provided by providing speed breakers, zebra crossings, footpath and parking in the new road.

Corridor no.	Details of consultation	People concerns
15, 16 Kotla-Ranital	Consultation with 1) Representative of community 2) Forest officials 3) Representative of the school 4) Local person 5) Others	1. There is some medical plant will found in this area such as kakkar singhi ,harad,amla Bhera etc. 2. Safety measures like speed breakers, footpath, zebra crossings & signboard along the roadside should be provided. 3. UPF & DPF exits, No R.F major flora are in this forest khair, Sheesam,chid , Arjun, Kamal & Lusinia. 4. Mostly Fauna coak peacock monkies langoors are found in this forest. 5. They need boundary wall, speed breakers & signboard along the roadside particularly near the school. 6. There should be tree plantation both sides of the road to avoid noise pollution and for control the temperature 7. Traffic jam problem occurs when N.H. has blockage. 8 There should be provision of proper compensation to the affected people. 9. This is the shortest route to reach Chamba. 10. There should be provisions to aware the people, as not to throw sand and stones along the road. Some type of seminars can be organized for this.

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PEOPLES CONCERNS- SAMPLES FROM CONSULTATION HELD ALONG FEW CORRIDORS

		11. This road has great importance during rainy season as the national high way is closed for most of the time because of landslide. 12. Tourism point of view there are Lord Buddha's Temple, Mangla Mata Temple and Masrur Temple

Corridor no.	Details of consultation	People concerns
15,16 Dehra-Ranital	Consultation with 1) Representative of community 2) Forest officials 3) Representative of the school 4) Local person 5) Others	1. The road should be double lane, so that accidents will be minimized. 2. Tourist's point of view road should be developed, as there is an old fort at Maangarh, known, as Maangarh Fort.There is also a famous Temple of Mata Bagla Mukhi near Bankhandi. Many tourists visit this Temple every year. 3. Safety required near the school (speed breakers and footpath should be provided along the road (strength of the school is 90) 4. Trees should be planted along the roadsides to minimize the noise and air pollution. 5. Stakeholders should be provided with adequate compensation. 6. People should be aware with the rules of road safety.

Corridor no.	Details of consultation	People concerns
30	Consultation with 1) Representative of community 2) Forest officials 3) Representative of the school 4) Local person 5) Others	1. Road is very congested and is prone to accidents. So should be widened. 2. Noise pollution problem is there. 3. Safety measures like speed breakers, footpath, zebra crossings & signboard along the road side should be provided 4. Parking problem exists. 5. Rains shelter needed on the road. 6. Accident-prone area. 7. Scarcity of water for construction. 8. The place should be developed as a tourist place. 9. Traffic jam problem. 10. Govt.should provide compensation for land acquisition

Corridor no.	Details of consultation	People concerns
6	Consultation with 1) Representative of community 2) Forest officials 3) Representative of the school 4) Local person 5) Others	1. Existing road is very much congested. So should be widened. 2. The way that traffic and population of Nahan is increasing there is need of by pass. Whole the day there is traffic jam. 3. Speed breakers, footpath and signboard are needed for safety purpose 4. Noise problem exists here. 5. There will be scarcity of water road during construction time. 6. Monkeys, wildpig, bagh and beer come to roadside. 7. Blind curves on the road should be straightened. 8. Resettlement of the affected shopkeepers and house owners should be done. 9. Road should be two lane with separator. 10. There should be proper drainage along the roadsides.

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		11. Bus waiting sheds should be provided. 12. For the purpose of viewing hill scenes some rest positions should be provided. 13. There should be facility of public comfort stations along the road. 14. Poor people cannot afford to give the land along the roadside. 15. Bus bay and parking bay should be provided, but land is not available for this. 16. An accident of kakkad was noticed with vehicle on the road. 17. Cheed is major tree along the roadside and Accacia arabica, Bouhinia variegata, Cassia fistula, Santalum album, Sapindis mukrossi, Terminalla belerica, Terminalic pimentos and Dendrocalamus are also found along the roadside.

Corridor no.	Details of consultation	People concerns
8	Consultation with 1) Representative of community 2) Forest officials 3) Representative of the school 4) Local person 5) Others	1. Speed breakers, signboards and pedestrian strip should be provided on the road for safety of students and general public. 2. One of the major issues in this area is that some of the land of the reserve forest is used for mining and more than this is that the dispose of the material is not checked from falling down in the river. 3. Because of mines, trucks run all the time in the road creating noise pollution and dust is also around. 4. Major flora in this forest is sal, sheesham and popular. 5. Major fauna is monkeys, pigs, cheetah and langur. 6. The cause of the backwardness of this area is the very poor condition of the road. 7. Road improvement will lead to the development of the general public. It will facilitate the transportation of vegetables mainly in time to the market. 8. Ornamental plants should be planted along the roadside such as bottlebrush, orneda and cheed etc. 9. There is reserve forest at shilla in an area of 600m and then in between sataun to timbi in an area of 4 km. 10. There should be proper drainage and culverts along the road. 11. Major problems in this road are that of landslide. Because of this most of time we cannot carry our cash crops like ginger, chill and tomato to the market. 12. There is good scope of tourism in Shilai and paonta. One place called Bhawana at the top of Shilai 1km away from the main road can be developed as very good tourism spot. Many people everyday visit Gurudwara at poanta. 13. This road is very important from factories point of view. In these factories chips, poultry feed, marble powder and stones are produced.

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Corridor no.	Details of consultation	People concerns
1	Consultation with 1) Representative of community 2) Forest officials 3) Representative of the school 4) Local person 5) Others	1. Traffic is very high, so the road should be improved 2. Streetlights are necessary. 3. Drainage should be proper 4. Tree plantation is required 5. Fauna includes hare, mice leopard (migrating), barking deer, Neel gai, Monitors, Wild boar, Jackals, Foxes, Birds like Middle egrets, Owl, Black cormorants, Hornbills (Indian) and Crows, 6. Tree plantation is necessary along the roadside 7. Streetlights are necessary. 8. There is more accident history. Existing road is congested. So accident chances are there. Cattle accidents are reported. One accident/month is occurring here. 9. For land loss people should be compensated. 10. Cycle path along roadside is required. 11. Pipelines, BSNL cables, Water supply lines etc. should be considered during construction

Corridor no.	Details of consultation	People concerns
4	Consultation with 1) Representative of community 2) Forest officials 3) Representative of the school 4) Local person 5) Others	1. Drainage should be proper. 2. Traffic is more in this route, so widening is essential 3. Tree plantation along roadside is needed. 4. Streetlights are necessary in the built up area. 5. Safety measures should be provided for students. 6. Red signal lights on road is needed. 7. Proper compensation should be given to land owners for land loss. 8. Bridge near HP border (Dharwal) is in weak condition. So it should be constructed in proper way.

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Corrid or no.	Details of consultation	People concerns
13	Consultation with 1) Representative of community 2) Forest officials 3) Representative of the school 4) Local person 5) Others	1. The road is very congested and Curves are sharp so should be improved. 2. Safety required near the school (so speed breakers, sign board and footpath should be provided along the road). 3. Chowk should be provided at Nehranpukhar. 4. Adequate compensation should be provided to the affected persons. 5. There is scarcity of water for construction purpose in this area especially in summers. 6. This is very short route from Chandigarh to Dharamsala. 7. Tourism point of view road should be improved. There is a pond and a famous Temple of Channo Sidh. People from different districts visit the Temple. 8. Major flora in his range is khair and sheesham. 9. Major fauna are leopard, sambhar, kakkar and wild boar. 10. The type of forest along the roadside is UPF, CFS (Co-operative Forest Society), DPF and RF to an extent of one km near to Kaloha. 11. Trees cutting along the roadside should be minimized and new trees should be grown along the road.

Corrid or no.	Details of consultation	People concerns
34	Consultation with 1) Representative of community 2) Forest officials 3) Representative of the school 4) Local person 5) Others	16. Condition of the road is very poor and there exist land-sliding zones. So road should be improved. 17. Safety required near the school (Boundary wall, speed breakers and footpath should be provided on the new road). 18. Major fauna is monkeys pig, panther, oak and langur. 19. To avoid monkey feeding he said people should be aware about it and more and more fruit trees should be planted in the forest. 20. Tourism point of view this road is very important. There exists Raja Jagat Singh's fort and Radha Krishna temple at nurpur. There was pashmina industry in nurpur. Many people visit the old well at gurchal. This is the shortest way to reach Chamba, Dalhausie and Khajiar. 21. Landslide zones also exist along the roadsides. 22. As this area has many sliding zones so those trees, which help in, soil binding should also be planted. e.g. bamboo and agave can be planted both up and down sides of the road. 23. Major flora along the road is kheir, cheed, sheesham and bushes. Medicinal plants like neem, harad, baheda and Arjuna are also found in his range. 24. Bus way and bus waiting sheds should be provided in the new road. 25. There should be proper facility of parking and public comfort stations along the roadsides.

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Corridor no.	Details of consultation	People concerns
12	Consultation with 1) Representative of community 2) Forest officials 3) Representative of the school 4) Local person 5) Others	26. Condition of the road is very poor and there exist land-sliding zones. So road should be improved. 27. Safety required near the school (Boundary wall, speed breakers and footpath should be provided on the new road). 28. There should be proper drainage system. 29. Bus bay and bus waiting sheds should be provided in the new road. 30. There should be proper facility of parking and public comfort stations along the roadsides. 31. Tourist's point of view road should be developed. For tourists attraction there is Mata Naina Devi Temple and roapway along the road. Also there is worlds highest dam at Bhakra. 32. Trees should be planted along the roadsides to minimize the noise and air pollution. 33. Stakeholders should be provided with adequate compensation.

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Corridor no.	Details of consultation	People concerns
43	Consultation with 1) Representative of community 2) Forest officials 3) Representative of the school 4) Local person 5) Others	1. Condition of the road is very poor and there exist land-sliding zones. So road should be improved. 2. There should be provision for the safety of the students. 3. Bus bays and bus waiting sheds should be provided in the new road. 4. There should be proper facility of parking and public comfort stations along the roadsides. 5. Kasauli is important from tourism point of view. 6. There is scarcity of water for construction purpose. 7. Stakeholders should be given adequate compensation.

Corridor no.	Details of consultation	People concerns
31	Consultation with 1) Representative of community 2) Forest officials 3) Representative of the school 4) Local person 5) Others	1. The road is very congested and Curves are sharp so should be improved. It should be double lane. 2. Safety required near the school (so speed breakers, sign board and footpath should be provided along the road). 3. Adequate compensation should be provided to the affected persons. 4. This is very short route Kullu and Manali. 5. Tourism point of view road should be improved. There is famous Parashar Lake and Bramha Rishi Temple on the route. 6. Trees cutting along the roadside should be minimized and new trees should be grown along the roadsides.

Corridor no.	Details of consultation	People concerns
18	Consultation with 1) Representative of community 2) Forest officials 3) Representative of the school 4) Local person 5) Others	1. The condition of the road is very bad. It is single lane and problem while passing the vehicle. It's an accidental prone area. Total strength of the students is approximately 230. 2. There is truck union near the school. It should be shifted to some other place. 3. By the development of this road people will get employment as some industries can be established and some other education institutes will be opened here to impart good education to students. 4. Tourism point of view very important road as there is the famous Temple of Mata Chintpurni. 5. Major flora of this route is chid, khair and other broad leave. 6 Major fauna of this range is monkeys, pigs, kakkar and leopard. 7. There should be proper drainage on the roadsides. 8 Trees should be planted on the both sides of the road.

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Corridor no.	Details of consultation	People concerns
19	Consultation with 1) Representative of community 2) Forest officials 3) Representative of the school 4) Local person 5) Others	1. The condition of the road is very bad and should be improved. 2. Barotiwala is industrial area. So road must be improved. 3. Road must be improved from tourism point of view. Many forts (archeological sites) are coming on the way. 4. Road safety required. 5. Bus waiting sheds and bus bays should be provided on the road. 6. There should be proper drainage on the roadsides. 7. Stakeholders should be provided with adequate compensation.

Corridor no.	Details of consultation	People concerns
7	Consultation with 1) Representative of community 2) Forest officials 3) Representative of the school 4) Local person 5) Others	1. Accidents occur frequently here. 2. Road should be two lane and surface of the road should be good. 3. Safety required (Speed breakers, signboard and footpath should be provided). 4. Those people who oppose this project are encroachers. Encroachments must be demolished. 5. Resettlement of the affecting people should be done. 6. Reserve forest also exists in this road. 7. Popular, eucalyptus and mangoes are major tree species. 8. Machhiyal is on tourist map because of temple. Also Temple at Nabahi Devi is visited by many people every year. But because of bad road tourists are not coming 9. Parking problem exists here 10. Bus waiting sheds should be provided 11. Rabbit, wild hen, kakkad and beer are wild animals found in this road 12. There should be minimum widening in the built up area. 13. Sound pollution also exists here so pressure horn should be prohibited 14. If there is provision of good drainage then life of the road can be increased and drains should be of sufficient size to carry the storm water. 15. Compensation should be provided at market value to the affected people. 16. Streetlights should be there in new road. 17. Bus bay should be provided 18. There will be scarcity of water for construction purpose. Even there is scarcity for drinking purpose. 19. For construction purpose there will be scarcity of water. 20. Accidents and traffic jam occur frequently.

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Corridor no.	Details of consultation	People concerns
22	Consultation with 1) Representative of community 2) Forest officials 3) Representative of the school 4) Local person 5) Others	1. Road widening is essential due to heavy traffic. 2. Shady trees along roadside should be planted. 3 Drainage should be proper 4. Rain shelter is essential at bus stops. 5. While acquiring land the pond should be conserved. 6. There should be proper parking. 7. Proper compensation should be provided to affected people. 8. Safety required along the road especially for students.

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Corridor no.	Details of consultation	People concerns
37	Consultation with 1) Representative of community 2) Forest officials 3) Representative of the school 4) Local person 5) Others	1. Road alignment should be changed. 2. The road is not in good condition. It is single lane. All the time there is traffic jams. 3. Drainage system is not proper. 4. There is fish farm at Nagni. 5. Soja, the great Himalayan national park, Sarolsar Lake and Temple, Khagsu Mata Temple etc. are tourist's spots in this area. 6. The road is very near to the river Satluj and 6 km area is mostly affected by flood every year. if possible this should be bypassed. 7. Proper compensation should be provided to the affected, but some people who have very less land can oppose. 8. Safety required near the school (Signboards, speed breakers, parking place and pedestrian with railing should be provided. 9. The plantation of the trees along the roadsides can control noise pollution. But trees or any other vegetation cannot be grown easily. 10. Culverts of the road are not proper. 11. Two electric projects are there of 1.5 and 1.5 mw are on the way. 12. Major fauna of the region is monkeys, fox, leopard, black brown beer, ghoral and kakkar. 13. The type of forest in this area is DPF, 3rd class Forest and UPF. Reserve forest area is also there but away from the roadside. 14. If road is improved it will help in the transportation of the apples to the market in time. 15. This area is rich in apples and other cash crops, so road should be widened.
Corridor No.	**Details of consultation**	**People concerns**
36	Consultation with 1) Representative of community 2) Forest officials 3) Representative of the school 4) Local person 5) Others	1. There is reserve forest area after banikhet up to two km only and rest of the area is under the jurisdiction of army. 2. There is a lot of traffic in this road because this is a tourist way. They travel to Dalhousie, Khajiar and Chamba by this way (major tourist places of Himachal pradesh). 3. There will be scarcity of the water during road construction and also land for waste disposal is not available. 4. Major flora in his range is cheed, baan, deodar and bushes along the roadside. 5. Major fauna is litsia ambrosa, barking beer, leopard, monkeys and langur in his range. 6. According to Range officer, habitat of the wildlife is disturbed by the construction of the road. Even if the traffic is increased there is greater noise pollution, which is also harmful for the wildlife near the roadside. He wanted to know that from where the fuel wood comes when tar coal for road construction is heated on the road

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Corridor no.	Details of consultation	People concerns
26	Consultation with 1) Representative of community 2) Forest officials 3) Representative of the school 4) Local person 5) Others	1. Proper metalling of road should be done. 2. Drainage should be proper. 3. Parking problems. 4. Street lights essential. 5. Compensation for shopkeepers for land loss. Giving land should compensate Land loss. 6. Safety needed (sign bords, speed breakers etc). 7. Tree plantation like mango, Alasi and flowering plants and shady trees can be planted. 8. Road should be widened from shatlai to Baba Balaknath temple. 9. Bus waiting shed essential at location maruda very near to school.

Corridor No.	Details of consultation	People concerns
33	Consultation with 1) Representative of community 2) Forest officials 3) Representative of the school 4) Local person 5) Others	1. The road is very congested and in very poor condition. 2. This is an accident-prone area so safety should be provided (footpath, speed breakers and signboards should be provided along the road and boundary wall around the school). 3. There is no proper drainage system and culverts in the existing road. 4. Noise and air pollution exist so for prevention purpose trees must be planted along the road. 5. Thandol has got importance tourist point of view also. There exists Temple of Bharav Mahadev. Tea industry can also be developed in this area. 6. This road is the shortest way to reach Manali, Mandi and Sandhol if bridge over Beas is constructed. 7. Most of the land along the roadside in this area is forestland. 8. There is scarcity of water in this area for construction purpose. 9. Road has been encroached. 10. Bus waiting sheds should be provided in new road. 11. Construction wastes should be used for parking. 12. By the improvement of the road transportation facility and economic value of the area will increase.

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Corridor no.	Details of consultation	People concerns
9	Consultation with 1) Representative of community 2) Forest officials 3) Representative of the school 4) Local person 5) Others	1. The condition of the road is very poor. It is very congested near bazaar. It really needs improvement. 2. There is no proper drainage system along the road. 3. There should be bus waiting sheds, bus bay, speed breakers and signboard near the school (550 students are studying in this school). 4. DPF exist in his area. 5. Cheed exists as major flora in this region. 6. Recently one of the leopards jumped over the vehicle and met to an accident (according to B.O. Sujanpur Tira). 7. Trees should not be cut down because trees are lifelines of the people. Common people should be aware as if you want to live then trees must not feel down. 8. Boundary wall should be provided around the school. 9. If road is widened then it will facilitate the transportation from business point of view. 10. There will be scarcity of the water during summer when road construction starts. 11. Streetlights should be provided along the roadsides. 12. Major fauna are monkeys, neelgay, pigs, langurs and leopard. 13. There is accident-prone area near the school. 14. For the prevention of the noise trees should be planted along the road just in front of the school. 15. There should be improvement of the road also because of the tourism point of view. Sujanpur tihra fort and Narbdeshvar temples that are in archeological survey of India are important tourists spots here. There are some other temples present here which really attracts the people. 16. Bhawrna sen. Sec. School is on the both sides of the roadside. Junior wing on left side and senior wing on the right side of the road. This is really an accidental zone So flyover must be provided at this point. 17. There is scarcity of the water during the construction time in summers only.

Corridor no.	Details of consultation	People concerns
14	Consultation with 1) Representative of community 2) Forest officials 3) Representative of the school 4) Local person 5) Others	1. There should be speed breakers, proper footpath and boundary wall on the road near the school for safety. 2. Major flora in his range is khair, dhak, chandan, sheesham and kikkar. 3. Major fauna is petrigise, coak, kala tittar, peacock, kakkar etc. 4. There exists reserve forest area from Re to Khatiar. UPF also exists along the roadside 5. Cutting of land should be minimized while construction of the road. 6. There should be awareness programmes to avoid the monkey feeding. 7 Aesthetic and ornamental trees should be planted along the roadside. 8. Road is blocked all the time when it rains, because there are no bridges. 9 Rain shelters should be provided at every station. 10. This road must be improved, as this is the shortest route to Talwara. People avoid this road because of its bad condition.

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		11. The road improvement will really uplift the society. 12. Cutting of land should be minimized while construction of the road. 13. There are no bridges in this road, so in the rainy season road is mostly blocked. 14. Road is mostly blocked in rainy season. 15. Bus waiting sheds should be provided in the new road. 16. No electricity poles should be on the road, even electricity should be under ground 17. This road has also got importance from defense point of view, as there is pong dam nearby. If army has to come for protection purpose, then have to travel by this route, as this is the only access to pong dam. But because of its congestion big tankers cannot come by this way.

Corridor no.	Details of consultation	People concerns
38	Consultation with 1) Representative of community 2) Forest officials 3) Representative of the school 4) Local person 5) Others	1. Condition of the road is very bad. This road must be widened. 2. The road should be constructed in a proper manner. There is drainage problem. 3. Major flora along the roadside pinus, broadleaves, cheed, deodar and some ornamental plants. 4. Major fauna is monkeys, baagh, pigs and leopard etc. 5. Adequate compensation should be provided to affected people. 6. Safety should be provided in new road (speed breskers, zebra crossing footpath and If possible fly over must be constructed for the safety of the students). 7. Dust problem is there. 8. Road is closed in the rainy season. 9. New trees must be provided along the roadsides. 10. Proper compensation should be provided to affected people. 11. There must be parking area in new area. 12. Rain shelters should be provided in new road. 13. Parking area should be provided

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Corridor no.	Details of consultation	People concerns
25	Consultation with 1) Representative of community 2) Forest officials 3) Representative of the school 4) Local person 5) Others	1. Condition of the road is not good, so should be improved. 2. Proper drainage is required. 3. Private land comes along the roadside. 4. Road safety is required. 5. The existing road is very prone to accident. 6. Proper compensation should be provided to the affected. 7. There should be plantation of the trees along the roadsides but trees should be of smaller size. 8. Road improvement will help in the improvement of marketing and business of the local people. 9. This road has also got importance army point of view. If the other road (national highway) is blocked this road comes in use by army.

Corridor no.	Details of consultation	People concerns
27	Consultation with 1) Representative of community 2) Forest officials 3) Representative of the school 4) Local person 5) Others	1. As the traffic has been increased in this road so this road should be widened and improved. 2. This is important road from tourism point of view. Pong dam is just along the road and proposal of bird sanctuary is also there. 3. Speed breakers and rain shelters should be provided in the new road for safety. 4. This is shortest route to Jwala ji temple, kagra and deot sidh from Pathankot. 5. Drainage is in very poor and water flows on the road. There should be proper culverts. 6. Sign boards, footpath and speed breakers should be provided for the safety of students and general people.

Corridor no.	Details of consultation	People concerns
39	Consultation with 1) Representative of community 2) Forest officials 3) Representative of the school 4) Local person 5) Others	1. The condition of the road is not good. Road widening is essential. 2. Roerich Memorial art gallery is world heritage site. 500-700 people visit every day to this place. 3. Type of forest in his range is UPF and DPF. Major flora of the region is deodar, fur and broad leaves and Major fauna of the region is great Himalayan black bear, musk deer, leopard, ghoral, monal, muskdear and red jungle foul. 4. Monkey feeding is a big problem in this area. People found guilty should be punished. 5. There should be check post on the road to check the theft of forest. 6 Trees should not be cut down. If for development purpose it is necessary to cut down then new compensatory trees must be planted. Parapet and tree plantation should be done along the roadside. 7. Dumping site is very big issue 8. There is some tourist's attraction also like Bijli Mahadev Temple and a waterfall is also there 700m from road. Kullu and Manali are hill stations 9. Land should be aquired for future also. Adequate

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		compensation should be paid to the affected people. 10. Public comfort stations and bus waiting sheds should be provided. 11. There is heavy traffic in this road. If other link i.e. national High way is blocked then whole the traffic shifts to this road. 12. The road is also important from defence point of view. 13. Safety should be provided by providing speed breakers, zebra crossings, footpath and parking in the new road.

Corridor no.	Details of consultation	People concerns
24	Consultation with 1) Representative of community 2) Forest officials 3) Representative of the school 4) Local person 5) Others	1. Road should be improved as the condition of the road is not well and traffic is more. Road is prone to accidents. 2. Major Flora includes Principia utilis, Valvaris, Rubbus, daffnia, Rosa muscarta, Fur etc. 3. If financially assisted, forest range officials can help in conservation of trees planted. Devdar plantation is necessary. 14. Providing speed breakers, zebra crossings, footpath and parking in the new road, should provide safety. 4. Road is prone to accidents. 5. Drainage system should be proper. 6. During apple season due to heavy traffic problem for road construction. 7. Parking area must be there. No parking space available. 10. Tree plantation along roadside is needed. 11. Proper compensation should be given for land acquisition. 12. Rain shelter in Durgapur, and Naldhera is needed 13. Parapets along the road must be constructed 14. There is a hot water spring, which should be conserved because of spiritual importance. 15. Monkeys are creating problems. 15. Safety should be provided by providing speed breakers, zebra crossings, footpath and parking in the new road.

Corridor no.	Details of consultation	People concerns
35	Consultation with 1) Representative of community 2) Forest officials 3) Representative of the school 4) Local person 5) Others	1. Existing road is single lane and congested. Sharp curves exist in the road and there is no proper maintenance of the road. So road should be improved. 2. Bus stand should be provided at Balana. 3. This is the shortest way to reach the Dalhausi, Banikhet and Khajjiar. 4. There should be the provision o the streetlights on the road. 5. There should be change in alignment of the high way. It should be as Dhulara-Dhrhna-Dhar to Lahru road because maximum population live in this road. There is also an electricity project in this road. Road will help in carrying the large equipments used in the project. 6. May be govt is giving the compensation to the affected but what about the business of the people. Where they will go and what about the emotions of the people

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		attached to places. 7. There exist Astha hydal project at Sihunta on this road. 8. Safety measures should be adopted for students on the road (speed breakers, zebra crossings and footpath should be provided). 9. Trees should be planted on the both side of the road 10. Local people grow vegetables but they cannot transport vegetables in time to the market because of the bad condition of the road. 11. Tourism point of view this area has got importance also. There is a place 15 km away from the Sihunta called as Nadholi; there is a beautiful lake, grassland and temple. 12. There is a big problem of parking.

Corridor no.	Details of consultation	People concerns
21,20	Consultation with 1) Representative of community 2) Forest officials 3) Representative of the school 4) Local person 5) Others	1. The condition of the existing road is very poor and it needs widening. No maintenance of the road since many years. 2. This is the shortest route to the Paonta Sahib from Chandigarh. 3. Vegetables will be carried to the market easily in time if this road is going to be developed. 4. There should be provision of proper compensation to the affected. 5. This road is also important from tourism point of view. The famous SUKETI FOSSIL PARK is just 4 km away from the road. 6. Road should be improved and it will be useful to industries and villagers. 7. Safety should be provided by providing speed breakers, zebra crossings, footpath and parking in the new road.

Corridor no.	Details of consultation	People concerns
15, 16 Kotla-Ranital	Consultation with 1) Representative of community 2) Forest officials 3) Representative of the school 4) Local person 5) Others	1. There is some medical plant will found in this area such as kakkar singhi ,harad,amla Bhera etc. 2. Safety measures like speed breakers, footpath, zebra crossings & signboard along the roadside should be provided. 3. UPF & DPF exits, No R.F major flora are in this forest khair, Sheesam,chid , Arjun, Kamal & Lusinia. 4. Mostly Fauna coak peacock monkies langoors are found in this forest. 5. They need boundary wall, speed breakers & signboard along the roadside particularly near the school. 6. There should be tree plantation both sides of the road to avoid noise pollution and for control the temperature. 7. Traffic jam problem occurs when N.H. has blockage 8. There should be provision of proper compensation to the affected people 9. This is the shortest route to reach Chamba. 10. There should be provisions to aware the people, as not to throw sand and stones along the road. Some type of seminars can be organized for this.

APPENDICES 6. 2

PEOPLES CONCERNS- SAMPLES FROM CONSULTATION HELD ALONG FEW CORRIDORS

		11. This road has great importance during rainy season as the national high way is closed for most of the time because of landslide. 12. Tourism point of view there are Lord Buddha's Temple, Mangla Mata Temple and Masrur Temple.

Corridor no.	Details of consultation	People concerns
15,16 Dehra-Ranital	Consultation with 1) Representative of community 2) Forest officials 3) Representative of the school 4) Local person 5) Others	1. The road should be double lane, so that accidents will be minimized. 2. Tourist's point of view road should be developed, as there is an old fort at Maangarh, known, as Maangarh Fort.There is also a famous Temple of Mata Bagla Mukhi near Bankhandi. Many tourists visit this Temple every year. 3. Safety required near the school (speed breakers and footpath should be provided along the road (strength of the school is 90) 4. Trees should be planted along the roadsides to minimize the noise and air pollution. 5. Stakeholders should be provided with adequate compensation. 6. People should be aware with the rules of road safety.

Corridor no.	Details of consultation	People concerns
30	Consultation with 1) Representative of community 2) Forest officials 3) Representative of the school 4) Local person 5) Others	1. Road is very congested and is prone to accidents. So should be widened. 2. Noise pollution problem is there. 3. Safety measures like speed breakers, footpath, zebra crossings & signboard along the road side should be provided 4. Parking problem exists. 5. Rains shelter needed on the road. 6. Accident-prone area. 7. Scarcity of water for construction. 8. The place should be developed as a tourist place. 9. Traffic jam problem. 10. Govt.should provide compensation for land acquisition

Corridor no.	Details of consultation	People concerns
6	Consultation with 1) Representative of community 2) Forest officials 3) Representative of the school 4) Local person 5) Others	1. Existing road is very much congested. So should be widened. 2. The way that traffic and population of Nahan is increasing there is need of by pass. Whole the day there is traffic jam. 3. Speed breakers, footpath and signboard are needed for safety purpose. 4. Noise problem exists here. 5. There will be scarcity of water road during construction time. 6. Monkeys, wildpig, bagh and beer come to roadside. 7 Blind curves on the road should be straightened. 8. Resettlement of the affected shopkeepers and house owners should be done. 9 Road should be two lane with separator 10. There should be proper drainage along the roadsides.

APPENDICES 6. 2

PEOPLES CONCERNS- SAMPLES FROM CONSULTATION HELD ALONG FEW CORRIDORS

		11. Bus waiting sheds should be provided. 12. For the purpose of viewing hill scenes some rest positions should be provided. 13. There should be facility of public comfort stations along the road. 14. Poor people cannot afford to give the land along the roadside. 15. Bus bay and parking bay should be provided, but land is not available for this. 16. An accident of kakkad was noticed with vehicle on the road. 17. Cheed is major tree along the roadside and Accacia arabica, Bouhinia variegata, Cassia fistula, Santalum album, Sapindis mukrossi, Terminalla belerica, Terminalic pimentos and Dendrocalamus are also found along the roadside.

Corridor no.	Details of consultation	People concerns
8	Consultation with 1) Representative of community 2) Forest officials 3) Representative of the school 4) Local person 5) Others	1. Speed breakers, signboards and pedestrian strip should be provided on the road for safety of students and general public. 2. One of the major issues in this area is that some of the land of the reserve forest is used for mining and more than this is that the dispose of the material is not checked from falling down in the river. 3. Because of mines, trucks run all the time in the road creating noise pollution and dust is also around. 4. Major flora in this forest is sal, sheesham and popular. 5. Major fauna is monkeys, pigs, cheetah and langur. 6. The cause of the backwardness of this area is the very poor condition of the road. 7. Road improvement will lead to the development of the general public. It will facilitate the transportation of vegetables mainly in time to the market. 8. Ornamental plants should be planted along the roadside such as bottlebrush, orneda and cheed etc. 9. There is reserve forest at shilla in an area of 600m and then in between sataun to timbi in an area of 4 km. 10. There should be proper drainage and culverts along the road. 11. Major problems in this road are that of landslide. Because of this most of time we cannot carry our cash crops like ginger, chill and tomato to the market. 12. There is good scope of tourism in Shilai and paonta. One place called Bhawana at the top of Shilai 1km away from the main road can be developed as very good tourism spot. Many people everyday visit Gurudwara at poanta. 13. This road is very important from factories point of view. In these factories chips, poultry feed, marble powder and stones are produced.

Appendix 7.1

NOTIFICATION ON CRUSHERS

GOVERNMENT OF HIMACHAL PRADESH
DEPARTMENT OF INDUSTRIES
:::::::

POLICY GUIDELINES FOR REGISTRATION, LOCATION, INSTALLATION AND WORKING OF STONE CRUSHERS IN HIMACHAL PRADESH.

Taking into consideration the overriding principle of protection of ecology and environment, to ensure that not a single stone crushing unit in the State causes any Pollution of any type and in consonance with the " River/Stream Bed Mining Policy Guidelines for the State of Himachal Pradesh-2004" as notified on 28-2-2004, the State Government hereby makes following Policy Guidelines for Registration , Location, Installation and working of stone crushers in Himachal Pradesh.

1. **Mining Lease mandatory for running a stone crusher.**

1.1 In order to ensure legal and regular supply of minor minerals, every owner of stone crusher, shall have a valid mining lease for this purpose.

1.2 In respect of River/Stream Bed Mining leases over larger area of ten hectare or above shall be given priority for setting up of stone crushers.

- For Hill Slope mining, lease area shall depend upon the size of crusher, availability of mineral and annual requirement of mineral in relation to scientific mining. In any case, the area shall not be less than 15 Bighas.

- If the area is less than 15 Bighas and in no case less than 5 Bighas, the period of lease shall be determined, based on reserves calculated and annual requirement as per the proposals given in the Working-cum-Environmental Management Plan, which every lease holder shall have to prepare.
- As per Point No 9.3 f of the River/Stream Bed Mining Policy Guidelines for the State of H.P.-2004, possibilities of utilizing the waste generated during tunneling by various projects and during road construction shall also be studied in the interest of mineral conservation while granting permission for setting up of crusher in the vicinity of above waste.

2. **Provisional Registration of stone crusher.**

2.1 No person shall install or run any stone crusher in any area within the State of Himachal Pradesh unless he obtains a Provisional Registration from the Geological Wing, Department of Industries. For this an application in Form-"A" shall be submitted and it shall be accompanied by:-

a) A fee of Rs. 2500/- (Two thousand and five hundred)only.

b) Revenue record and site plan of the land on which the stone crusher is proposed to be installed, showing the location of the stone crusher with reference to various siting parameters as notified by Govt. on dated 29-4-03. or amended from time to time.

(A stone crusher should have a minimum working area ranging between 2 and 5 Bighas, depending upon the size of the stone crusher for raising machinery/ plant and stacking of raw material/finished product in private land or in Govt. land after completing codel formalities and obtaining land lease from the competent authority.

(c) In case of private land, consent of land owner where the stone crusher is to be installed.

(d) An application for mining lease from where the minor mineral shall be used as raw material for feeding/running the stone crusher. This area should be within 5 Kms. radius of the stone crusher.

2.2 Based on these documents 'Provisional Registration' shall be issued by the Geological Wing, Department of Industries which shall form the base for obtaining pre-production clearance from other Government Departments.

2.3 After provisional registration and Joint Inspection, the consent to Establish from the Himachal Pradesh State Environment Protection & Pollution Control Board (HPEP & PCB) should be obtained. The unit shall submit the Working-cum-Environment Management Plan before the issuance of Consent to Operate (COP) by the State Board.

2.4 Himachal Pradesh State Electricity Board shall give electric connection to the crusher owner only after obtaining Provisional Registration from the Geological Wing.

2.5 Already established stone crusher shall register themselves within a period of 3 months from the date of issuance of these Policy Guidelines and for this registration they will have to produce consent to operate issued by Himachal Pradesh Environment Protection & Pollution Control Board.

3. **Joint Inspection of the areas applied for mining lease and for setting up of stone crusher.**

3.1 a) **Joint Inspection of crusher site.**

The site for setting up the stone crusher shall be appraised and approved by a Joint Inspection Committee, consisting of the following members(as per Notification of Deptt. of Science & Technology dated 29-4-03)

1- Sub-Divisional Officer(Civil) concerned	Chairman.
2.- Divisional Forest Officer or his representative	Member
3- Representative of the State Environment Protection	

& Pollution Control Board.	Member.
4. Executive Engineer, PWD or his representative	Member
5. Executive Engineer, I&PH or his representative	Member
6. Representative of the Deptt. of Tourism	Member
7. Representive of HPSEB –Local Asstt.Engineer	Member
8. Geologist or Mining Officer	Member Secretary

(b) Joint inspection shall be conducted by at least by four members viz. Chairman, representative of H.P. State Environment Protection & Pollution Control Board, D.F.O. or his representative and Geologist/ Mining Officer on a prescribed checklist. Other members may issue separate NOCs' as per the check list.

3.2 **Joint Inspection of the area applied for mining lease.**

a) The area applied for lease shall be inspected by a Committee consisting of the following members (as per River/Stream Bed Mining Policy Guidelines for the State of H.P. 2004: notified on 28-2-04).

1- Sub-Divisional Officer (Civil) concerned	Chairman.
2.- Assistant Conservator of Forest/Range Officer	Member
3- Representative of the State Environment Protection and Pollution Control Board.	Member.
4. Executive Engineer, PWD or his representative	Member
5. Executive Engineer, I&PH or his representative	Member
6. Representative of the Deptt. of Tourism	Member
7. Mining Officer	Member Secretary

(b) Joint Inspection shall be conducted by atleast three members viz. Chairman, Assistant Conservator Forest/Range Officer and Mining Officer on the prescribed check list. Other members may issue separate NOC's as per the check list.

3.3 The grant of Mining lease and approval of stone crusher site by the Committee shall be the basis for issuance of permanent registration.

4. **Permanent Registration.**

(a) Based on the approval of sites for setting up of the stone crusher grant of mining lease and after obtaining consent to operate from the Pollution Control Board. permanent registration shall be issued to the owner of the stone crusher by the Geological Wing, Department of Industries, which shall be valid for a period of two years (Form-B).

(b) The Geological Wing, Department of Industries may renew the Registration for a further period of two years subject to proper functioning of the stone crusher as per the provision of various Acts and Rules and clearance of all dues including clearance from Pollution Control Board.

(c) In case the Geological Wing, Department of Industries is of the opinion that it is not expedient to grant a permanent registration taking into consideration the various factors as per the recommendations of the Joint Inspection Committee, it (Geological Wing, Department of Industries) may after giving an opportunity of being heard and for reasons to be recorded in writing and communicated to the applicant, refuse to grant the permanent registration.

(d) In case of renewal of the registration, the owner of the Stone Crusher shall apply for the renewal at least six months prior to the expiry of the registration in 'Form-A'.

(e) In case, the application for renewal submitted is not disposed off before the expiry of the period of registration, it shall be deemed to have been extended by a further period till the Geological Wing, Department of Industries passes an order thereon.

5. **Other conditions for running of stone crushers.**

(a) The owner of the stone crusher shall observe the provisions of;

i) The Air (Prevention and Control of Pollution) Act, 1981 and rules framed thereunder.

ii) The Water (Prevention and Control of Pollution) Act 1974 and rules framed thereunder.

iii) The Environment(Protection) 1986 and rules framed thereunder.

iv) The Noise Pollution (Regulation and Control) rules 2000.

b) No consent for expansion to a crusher shall be given by Pollution Control Board or electric connection by H.P. SEB, without prior approval of Geological Wing, Department of Industries.

c) Every stone crusher owner shall ensure that the emission standards as per the statute and as notified by the Govt. on 29-4-03 and thereafter, if any, are adhered to.

d) Every stone crusher owner shall adopt pollution control measures as per Govt. notification dated 29-4-03 or as amended from time to time.

e) The Geological Wing, Department of Industries may impose any such further conditions as it may deem fit for the protection of Environment and Ecology.

f) The crusher owner shall submit a return by 10th of every month, giving details of total quantity of minerals crushed, electricity consumed, power generated in case of captive power generated run crusher, fuel consumption in case of diesel run crusher, number of labour employed and wages paid etc. .

g) The crusher owner shall allow the inspecting staff, access to the crusher and make available all records relating to operation of the crusher and verification of source of legal supply of minor minerals and stocks.

6. **Conditions for mining leases:**

a) As per strategy No. 9.6 of River/Stream Bed Mining Policy Guidelines and Rule 21 (4)(i) of H.P. Minor Mineral (Concession) Revised Rules, 1971 (as amended on 10-6-04) every applicant shall submit Working-cum-Environment Management Plan for carrying out systematic and scientific mining.

b) Mining in river/stream beds shall be subject to general conditions as per Strategy No.9.5 of the River/Stream Bed Mining Policy Guidelines in addition to any other site specific conditions as specified by the Joint Inspection Committee, as detailed below:-

c) Mining in Hill slopes shall be subject to following general conditions:-

I. **Environmental Considerations**:

i) No mining shall be allowed within 100 metres of thickly forested area.
ii) No mining shall be allowed in areas, which may cause aesthetic/visual degradation near any known tourist spot.
iii) No mining shall be allowed where it is likely to disrupt the existing water regime, IPH schemes roads, bridges etc.
iv) No mining shall be allowed where danger to site of culture, religions, historical, archeological or scenic importance is likely.
v) No mining shall be allowed near habitation, where it is likely to cause noise and vibration problems, due to blasting or operation of machinery.
vi) No mining shall be allowed where proper disposal of mine waste cannot be arranged.
vii) Conditions shall be imposed that the lease holder will take adequate steps to control and check soil erosion, debris flow etc. by raising various engineering structure.

II. **Geological and Geomorphological considerations**:

i) No mining shall be allowed where the slope angles are more than 45° from horizontal and in case of mid slope mining, the foot wall should be of hard strata.

ii) No mining lease shall be granted where the ore to overburden ratio is not economical i.e. 1:0.2 that is the waste generation should not be more than 20%.

iii) Proper appraisal of the deposit for its qualitative and quantitative assessment shall be made in the form of Geological and topographical plans.

III. **Technical Consideration**:

i) The area should not be highly jointed, fractured or consisting of weak planes.

ii) Relation of slope angle to angle of repose should be within mining parameters where 6x6 metre benches by keeping overall angle of repose as 45° can be made.

iii) No mining shall be allowed where subsidence of rocks is likely due to steep angle of slope.

iv) No overhangs shall be allowed to be formed during the course of mining.

v) The gradient of approach roads shall be gentle with hill-ward slope, side drains and parapet walls. Adequate number of waiting and crossing points shall be provided for safe plying of vehicles.

vi) No blasting shall be resorted to without taking proper licence under Explosive Act.

d). General Conditions:

i) Mining site shall only be handed over to the lease holder, after it is duly demarcated by permanent boundary pillars and certified by concerned Mining Officer.

ii) Junction at take off point of approach road with main road shall be developed with proper width and geometrics required for safe movement of traffic by crusher owner at his own cost and in consultation with Executive Engineer, H.P. PWD.

iii) No lease holder shall store/stack any material in the acquired width of PWD road without the specific permission of the competent authority.

iv) In addition to above the mining operation shall be subject to provisions of various Acts and Rules in force.

v) Dumping of waste shall be done in earmarked places as per the Working Plans.

d) **Relaxation in special cases**

State Govt. may if is of the opinion that in the interest of projects of the national Importance or in the interest of national security or in the interest of mineral development, it is necessary to do so, by order in writing and for reason to be recorded, authorize in any case setting up and working of stone crusher on terms and conditions different from those as laid down in these policy guidelines.

Appendix 7.2

POLICY/GUIDELINES FOR RIVER/STREAM BED MINING FOR THE STATE OF HIMACHAL PRADESH

River/Stream Bed Mining Policy/Guidelines for the State of Himachal Pradesh

1.Key element

- ***Crushed stone, gravel and sand are one of the largest non-fuel mineral commodities by tonnage produced in Himachal Pradesh, supplying some of the most important construction materials. Further, average unit value of crushed stone, sand and gravel is one of the lowest of all mineral commodities.***
- ***This production of aggregate in a particular area is a function of the availability of natural resources, the size of population, the economy of the area and various developmental and infrastructural works being undertaken in the area like road construction, hydro-electric projects etc. Further, being a low-value, high-volume mineral commodity, the prices are dramatically affected by transportation distances. If the distances increase, the transportation cost may increase much more than the cost of the aggregates.***
- ***A stable river is able to consistently transport the flow of sediments produced by watershed such that its dimensions (width and depth) pattern and vertical profile are maintained without aggrading (building up) or degrading (scouring down)***
- ***The amount of boulders, cobbles, pebbles and sand deposited in riverbed equals to the amount delivered to the river from watershed and from bank erosion minus amount transported downstream each year.***

2. Concern

The Himalayas and its foothills are a treasure house of the minerals being exploited by human beings since times immemorial. With the advent of society, the methods of the extraction of the minerals became more and more mechanized which resulted in extraction of the minerals at a pace much faster than the pace at which the nature could meet itself with such a situation to recover from the onslaughts of human beings. It brought into sharp focus the conflict between development and conservation, which served to emphasize the need for reconciling the two into the larger interest of the society

3. Vision

In Future River bed mining will be allowed in environmental friendly manner:-

- **It has become clear that short- term benefits must be weighted and balanced against the resulting long-term effect of resource depletion and decline in the state of the environment. This has arisen from :-**
  - **Increasing evidence of potential problems from over-extraction of river/stream beds, and**
  - **The community increasing demand on and expectation of , the river system**

Therefore, in future Riverbed mining should be based on the principle of sustainable development.

4. Policy Statement

The State of Himachal Pradesh through the implementation of State Policy on River /stream bed mining, wishes: -

- to support an appropriate and environmental friendly utilization of natural resources of the rivers;
- to contribute to the conservation of the beauty and cleanliness of the rivers of Himachal Pradesh;
- to minimize the risk of channel erosion and the subsequent damage to private and governmental property.

5. Principles

- River natural resources must be utilized for the benefit of the present and future generation;
- It is the responsibility of all sectors to maintain the river resources of the state and to ensure that it is prudently managed and developed;
- Awareness is essential for ensuring the protection of river natural resources and for the proper utilization of riverbed material.

6. Objective

To ensure

- Scientific and systematic mining;
- Conservation of minerals;
- Protection of environment and ecology;
- Proper replenishment of River beds;
- Proper protection of River banks;
- Protection of soil erosion;
- Protection of bridges and other structure etc;and
- Checking of illegal mining.

7.Overview

Riverbed mining in Himachal Pradesh

The total number of parts of riverbeds presently identified for auction in the State of Himachal Pradesh are about 300 and out of this about 110 parts of river beds are under operation. In addition, about 156 leases in river beds have been granted for the establishment of stone crushers and about 14 leases have been granted for setting up of screening plants/hollow blocks units. In total about 47.3 Sq.Km (i.e 0.085% of the State) area is involved in river/stream bed mining.

Based on conservative estimate, approximately 35 lakh tonnes of sand, gravel and boulders are extracted annually from river/streams to meet the demand of road construction, bridges, building material, engineering requirements for flood controls, maintaining water supply intake points, retaining walls, hydroelectric projects etc.

Based on these about 260 number of stone crushers, 14 no of screening- cum-hollow block units have been established in the State. Apart from generating Rs. 2.8 crore of direct revenue it has generated direct/indirect employment to about 20000 persons in far-flung areas of the state have also been provided.

8.Legislations

- **The Himachal Pradesh Minor Mineral (Concession) Revised, Rules, 1971**
- **The Mines and Mineral (Development and Regulation) Act, 1957**
- **The Mineral Concession Rules,1960**
- **The Forest Conservation Act, 1980**
- **The Forest Conservation Rules, 1981**
- **The Environment Protection Act ,1986**
- **The Environment Protection Rules,1986**
- **The Himachal Pradesh Mineral Vesting of Rights Act,1983**
- **The Himachal Pradesh Mineral Vesting of Rights Rules,1989**

9. Strategies

To achieve the objectives of the State River/Stream bed mining, following are the strategies and actions.

9.1 Strategy 1

Review of legislation

To ensure systematic and scientific mining, few amendments shall be required in Himachal Pradesh Minor Mineral (Concession) Revised) Rules, 1971 particularly with reference to:-

9.1.a. To ensure systematic and scientific mining the provisions of Mining cum Environment Management Plan shall be incorporated in the Himachal Pradesh Minor Minerals (Concession) Revised Rules, 1971.

9.1.b. To ensure proper replenishment and to avoid deep mining of the area, leases over larger areas i.e. more than 10 hectare shall be encouraged.

9.1.c. To ensure systematic mining by way of proper planning, replenishment and reclamation of the area, the period of lease shall be 5 years. Extension can be considered only after Joint Inspection by Sub-Divisional Committee and keeping in view its recommendations, depending upon the availability of raw material and requirement of mineral based industry. In addition to this, the provision for continuity of working after expiry of lease period, in conformity with rule 24A(6) of the Mineral Concession Rules, 1960 shall also be incorporated, which reads as: -

> *"If an application for renewal of a mining lease made within the time and is not disposed of by the State Government before the date of expiry of the lease, the period of that lease shall be deemed to have been extended by a further period till the State Government passes order thereon"*

9.1.d. In conformity with Section 6(1)(c of The Mines and Mineral (Development and Regulation) Act, 1957, provision shall be made in the Himachal Pradesh Minor Minerals (Concession) Revised Rules, 1971 to grant lease in relation to area which is not compact or contiguous to avoid degradation of the larger area.

9.1.e. To ensure proper implementation of the policy, provisions of Minimum Security amounting to Rs 25,000 for an area of 10 hectares and if the area involved is more, additional security based on pro-rata percentage for additional area, shall be made in the Himachal Pradesh Minor Minerals (Concession) Revised Rules, 1971

9.1.f. For Checking of illegal mining

The Himachal Pradesh Minerals (Prevention of Illegal Mineral Transportation & Storage), Rules are being framed. The salient features of the proposed Rules are

1. Compulsory registration of dealers;
2. To prevent illegal mining and storage of mineral;
3. No transportation of mineral without transit pass;
4. Penalty upto Rs twenty five thousand rupees for illegal transportation and storage of minerals.

9.1.g. Powers have already been delegated to Executive Magistrates within their jurisdiction to seize any mineral raised by any person without any lawful authority or any tool, equipment, vehicle or any other thing

brought on the land for the purpose, under Section 21 of Mines and Minerals (Development and Regulation) Act 1957.

Following Sub- Divisional Level Flying squad has already been constituted vide notification No Udyog (Chh) 7-3/90 dated 11/3/93 and revised vide notification no. Udyog (Chh) 7-3/90 dated 20/11/93

- Sub-Divisional Magistrate — Chairman
- Assistant Conservator of Forest — Member
- Deputy Superintendent of Police or his representative having local jurisdiction — Member

The above committee is authorized to requisition the relevant record from the office of Mining Officer and the services of Mining Officer and his staff for the purpose of carrying out such inspections.

Power shall also be delegated to other members of Sub-Divisional Level Flying Squad under section 21 of Mines and Minerals (Development and Regulation) Act 1957.

In a phased manner power shall also be delegated to Forest Guards for checking of illegal mining in forest area, under the provisions of the Mines and Mineral (Development and Regulation) Act, 1957 as has already been done in case of District Kullu vide notification no. Ind(B) F (6) 5/2003 dated 17/9/2003

Compounding of illegal mining and transportation cases shall be done in exceptional cases and that too by charging minimum compounding fee of rupees five thousand and no compounding shall be done if the offence is repeated by the same person, and case shall be lodged in appropriate court of law.

9.1.h. For checking of unhealthy competition, excessive and indiscriminate mining in river beds, following changes in the auction procedures shall be made in the Himachal Pradesh Minor Minerals (Concession) Revised Rules, 1971

- The auction shall be done as per the recommendations/approval of the Sub- Division Level Committee as mentioned in para 9.6.2.
- Annual review of auctioned areas shall be done by the Sub- Divisional Level Committee;
- Some beds will be kept vacant on rotation basis for proper replenishment.

9.1.i. For checking of excessive mining in river/stream beds, provisions shall be made in rules to ensure that no boulders, cobbles and hand broken ballast are transported outside the state.

9.1.j. To discourage the selective mining and for proper utilization of waste, provisions for sale of sand/river borne bajri and crusher-dust from the leases granted for establishment of crusher shall be made in the Himachal Pradesh Minor Mineral (Concession) Revised Rules, 1971.

9.2 Strategy 2

District Level River/Stream Bed Mining Action Plan

The action plan for River/Stream bed mining shall be based on a survey document of the existing river/stream bed mining in each district and also to access its direct and indirect benefits and identification of the potential threats to the individual rivers/streams in the state.

This survey shall be conducted by Geological Wing, Department of Industries, Himachal Pradesh and shall contain:-

1. District-wise details of Rivers/Streams/Khallas; and
2. District-wise details of existing mining leases/contracts in River/Stream/Khalla beds.

Based on this survey, the action plan shall divide the rivers/streams of the state into the following two categories:-

I. Rivers/streams or the River/Stream sections selected for extraction of minor minerals.

II. Rivers/streams or the River/Stream sections prohibited for extraction of minor minerals.

9.3 Strategy 3

Extraction of minor minerals to be done in selected rivers/streams or the river/stream sections:

9.3.a. Based on the action plan as mentioned in strategy 2, lease / contract shall be granted as per Himachal Pradesh Minor Mineral (Concession) Revised Rules, 1971 and by following the procedures as mentioned in the policy.

9.3.b. Extreme care and caution shall be taken to identify mining area in the perennial river/streams so as to avoid mining activities in these areas.

9.3.c. The grant of lease shall be preferred over the auction.

At the first instance and in the interest of systematic/scientific mining and to reduce pressure on river/stream beds, no auction shall be done in border areas, like Nalagarh sub-division and Kasauli tehsil of District Solan, where there are chances of over exploitation of River/Stream beds and chances of illegal transportation of mineral outside the State. Other border areas shall also be included on the basis of study to be conducted.

9.3.d. Leases for free sale upto 5 hectare and for a period upto 5 years in areas other than as specified in para 9.3.b. shall be granted subject to conditions that no boulders/cobbles/ hand

broken road ballast shall be allowed to be transported out side the state.

9.3.e. Priority shall be given to Government Departments i.e PWD, IPH etc if mineral is required for departmental bonafied use,by engaging departmental laboures.

9.3.f. The possibility of utilizing the waste generated during tunneling by various projects and during road construction shall be studied in the interest of mineral conservation, while granting permission for setting up of crusher in the vicinity of above waste.

9.4 Strategy 4

Prohibition of specific Rivers/Streams or the River/Stream section for extraction of minor minerals

Based on the action plan as mentioned in strategy 2,specific Rivers/streams or the river/stream section will be prohibited (and/or phased out if ongoing activities exists) in specific environment sensitive Rivers/Streams or the River/Stream sections

River bed mining in the prohibited areas will only be allowed for activities related to specific purpose such as flood mitigation, water supply or river rehabilitation. In such cases permission shall be given subject to the recommendations of the Sub- Divisional Committees as mentioned in strategy no 6., after technical satisfaction that such permission shall not have any adverse effect if mining is undertaken for specific period.

9.5 Strategy 5

Mining in River/Stream beds shall be subject to following general conditions in addition to Site specific conditions as specified by the Committee

9.5.a. No River/Stream bed mining shall be allowed without the recommendations of the Sub-Divisional Level Committee.

9.5.b. No River/Stream bed mining shall be allowed without getting clearance under Forest Conservation Act, 1980 if the area attracts the provisions of FCA. 1980.

9.5.c. No River/Stream bed mining shall be allowed within 75 meters from the periphery of soil conservation works, nursery plantation, check dams or within the distance as recommended by the Sub-Divisional Committee, which ever is more.

9.5.d. No River/Stream bed mining shall be allowed within $1/5^{th}$ of its span or 5 meters from the bank or as specified by the Sub-Divisional Committee which ever is more.

9.5.e. No River/Stream bed mining shall be allowed within 200 meters U/S and D/S of Water Supply Scheme or the distance as specified by the Sub- Divisional Committee which ever is more.

9.5.f. No River/Stream bed mining shall be allowed within 200 meters U/S and 200 to 500 mts D/S of bridges depending upon the site-specific conditions.

9.5.g. No approach road from PWD road shall be allowed to River/Stream beds mining, unless lessee/contractor obtains written permission from XEN PWD for making road leading to all intake places from the PWD Roads.

9.5.h. No mechanical mining i.e through mechanical excavator etc. shall be allowed in River/Stream beds, for which amendment in the Rules shall be made. Mechanical mining shall not be allowed even for projects of national importance, power projects etc. In the power project areas, no mining activities by power project Companies/promoters shall be allowed in the river beds. Each project shall identify captive mining area duly approved by the competent authority. In the exceptionally inevitable situations where such projects require extraction of sand from river beds, prior approval of Council of Ministers shall be obtained. Royalty for use of various kind of minerals by power projects shall be realized fully by evolving a transparent and scientific procedure and mechanism.

9.5.i. No boulder/cobbles/hand broken road ballast shall be allowed to be transported outside the state from River/Stream beds, so as to reduce pressure on the River/Stream beds.

9.5.j. No digging of more than 3 feet shall be allowed in River/Stream beds.

9.5.k. Every leaseholder shall supply in advance, the Registration Nos of vehicle engaged in transportation of mineral from mining area to his industrial unit. This would ensure checking of illegal vehicles carrying minerals.

9.5.l. Every lessee/contractor shall ensure that his labour does not involve in fish poaching.

9.5.m. No blasting shall be allowed in river/stream beds.

9.6 Strategy 6

9.6.1. For Mining Leases

Every River bed mining lease shall be allowed as per the Working- Cum -Environment Management Plan

To achieve this

A. A person who applies for mining lease shall submit the following details alongwith application in Form 'B' as

prescribed in Himachal Pradesh Minor Mineral (Concession) Revised Rules, 1971

Location plan of the area showing:

i) Location of area

ii) All physiographic features viz;
- Water body;
- Boundary of banks;
- Meandering pattern;
- Any spring;

iii) All man made features viz;
- Any habitation along the bank;
- Any agriculture field along the bank;
- Any bridge in the area;
- Any water supply scheme etc;
- Any School, hospital, educational institute etc;
- Any crematory/cemetery ground;
- Any other structure like transmission line, telephone line, well, footpath etc.

B.Joint Inspection

The area applied for lease shall be inspected by a Committee, comprising of following members: -

1. Sub -Divisional Magistrate — Chairman
2. Assistant Conservator of Forest/Range Officer — Member
3. Representative of Environment Protection and Pollution Control Board — Member
4. Executive Engineer PWD or his representative — Member
5. Executive Engineer IPH or his representative — Member
6. Mining Officer — Member Secretary

Joint inspection shall be conducted by at least three members viz Chairman, Assistant Conservator of Forest/Range Forest Officer and Mining Officer on the prescribed checklist .

Other members may issue separate NOC's as per the checklist.

C. Working- Cum -Environment Management Plan

Every applicant shall submit Working-cum-Environment Management Plan as per the mining plan format for very small 'B' category mines of Indian Bureau of Mines, G.O.I., for approval within a period of 3 months or such period as may be allowed by the State Geologist and not exceeding 6 months, from the date of issue of the grant order.

The Working-cum-Environment Management Plan shall incorporate:

a) Contour plan of the area on appropriate scale (1:1000 to 1:5000);
b) Showing every surface feature, natural water course, location of trees if any, and any other important point within the mining lease area;
c) All intake points of water supply schemes;
d) A geological plan of the lease hold area;
e) Tentative reserves of the minor minerals available within the lease area;
f) Plan of excavation/lifting/mining;
g) Rotational plan of mineral excavation from river bed so that proper replenishment could happen;
h) Environment management plan;
   - Step to be taken to control soil erosion, and air, water and noise pollution;
   - Waste management;
   - Afforestation programme ; etc.

The Working-cum-Environment Management Plan shall be prepared by a person holding qualification as specified in Rule 22-B(2) of Mineral Concession Rules,1960 and should be registered with the Geological Wing of Department of Industries.

The Working-cum-Environment Management Plan shall be duly approved by the authority, authorized for approval of mining plans under Section 22(4A) of Mineral Concession Rules, 1960

The security deposited under rule 16 of H.P. Minor Mineral (Concession) Revised Rules, 1971, shall stand forfeited if Working-cum-Environment Management Plan is not submitted within prescribed period unless he gets a written permission from the State Geologist for its late submission.

The lease deed shall only be executed only after submission of Working-cum-Environment Management Plan.

Where mining operations have been undertaken before the commencement of this policy, the holder of such mining lease shall submit a Working-cum-Environment Management

Plan within a period of one year from the date of enforcement of this policy.

9.6.2 Auctions

On the basis of district survey document, the feasibility of working in a particular river/stream bed shall be made by the Geological Wing with respect to mineral, geology, phsiography, soil/ bank erosion etc.

Based on this, Survey Document the Mining Officer shall put up the proposal for auction of River/Stream/Khalla beds to the following Sub-Divisional Committee for its approval

1. Sub Divisional Magistrate	Chairman
2. Assistant Conservator of Forest/Range Officer	Member
3. Representative of Environment Protection and Pollution Control Board	Member
4. Executive Engineer PWD or his representative	Member
5. Executive Engineer IPH or his representative	Member
6. Mining Officer	Member Secretary

9.6.2.a The above Committee shall study the entire River/Stream beds considering all aspects of the policy.

9.6.2.b The Committee shall also look into the aspect as to whether the riverbed can be auctioned with respect to proper replenishment or it requires some more time for replenishment with respect to the area so it could be left vacant.

9.6.2.c After recommendations of the Committee, the area may be put to public auction for three years subject to conditions that every contractor in whose favour the bid is accepted by the competent authority as per H.P. Minor Minerals (Concession) Revised Rules 1971, shall work as per the general conditions of the policy as well as per the site specific conditions imposed in the feasibility report and by the Sub-Divisional Committee.

9.6.2.d The Sub- Divisional Committee shall review the working of each river bed annually.

9.6.2.e The security deposited by the contractor under rule 30(2)(iv) of H.P. Minor Mineral (Concession) Revised Rules, 1971, shall stand forfeited if workings are not done as per the conditions of auction.

9.7 Strategy 7

Short Term Permit in River/Stream beds shall be issued only in exceptional cases where: -

1. The area which has been auctioned and the sanction from competent authority has not been received, subject to the conditions:-
    - That the workings shall be done as per the recommendations/conditions of Sub-Divisional Committee imposed at the time of auction and other general conditions of policy guidelines.
2. The area which has been auctioned and the contract is cancelled due to non fulfillment of contract conditions or for not working as per conditions of Sub-Divisional Committee or not for working as per policy guidelines, subject to the conditions: -
    - that the workings shall be done as per the approved conditions of the earlier contract or subject to the conditions as imposed by the Sub-Divisional Committee at the time of auction and as per the general conditions of policy guidelines.
3. The area which has been recommended for auction by the Sub-Divisional Committee and the area is under process of auction, subject to the conditions:-
    - That the workings shall be done as per the recommendations of the Sub- Divisional Committee for the auction and general conditions of the policy guidelines.
    - The permit shall be cancelled immediately after holding auction and the permit shall be given to the highest bidder.
4. The area which has been leased out and the lease has been cancelled for non fulfillment of the conditions of lease deed, subject to the conditions:-
    - that the workings shall be done as per approved working plan of earlier lessee or subject to the conditions of the Sub-Divisional Committee, imposed at the time of joint inspection and other general conditions of the policy guidelines.
    - The area shall be proposed for auction after getting fresh recommendations of the Sub-Divisional Committee
    - The permit shall be cancelled immediately after holding auction and it shall be given to the highest bidder as per the conditions of case No 1 or in favour of the lease applicant from the date, the area is recommended by Sub-Divisional Committee for grant of mining lease as per conditions of case No.5
5. The area pending for grant of lease and has been recommended for grant of lease by Sub-Divisional Committee, subject to the conditions:-
    - That the workings shall be done as per recommendations of the Sub-Divisional Committee
6. In private land where mineral is available and person intends free sale of minerals in open market, subject to the conditions:-
    - that at the first instance the permit shall be issued after getting NOC's from members of the Sub-Divisional

Committee for a period of 3 months and within that period permit holder shall have to apply for mining lease (the period of mining lease shall be decided on the basis of mineral available).

- That working shall be done as per the conditions imposed in various NOC's and other general conditions of policy guidelines.
- Short term permit for the extraction of sand and bajri shall be given for bonafide consumption for the construction of building as per existing rule 3 (ii) of H.P. Minor Mineral (Concession) Revised Rules 1971

9.8 Strategy 8

Involvement of PR's'

9.8.a. No concession shall be given without consultation of concerned Gram Sabha in the Scheduled areas.

9.8.b. Priority to concerned Panchyat shall be given if they apply for mineral concessions in the Scheduled areas.

9.8.c. The opinion of the concerned Gram Panchayat shall be sought on prescribed Performa for consideration, before granting mining lease in non-scheduled areas.

9.9 Strategy 9

9.9.1 Sub Divisional Level Flying Squad

9.9.1.a. Scope and functions of the Committee

To check illegal mining in the area

9.9.1.b. Composition of the Committee

As notified vide notification No Udyog (Chh) 7-3/90 dated 11/3/93 and as revised vide notification No. Udyog (Chh) 7-3/90 dated 20/11/93

- Sub-Divisional Magistrate — Chairman
- Assistant Conservator of Forest — Member
- Deputy Superintendent of Police or his representative having local jurisdiction — Member

The above committee is authorized to requisition the relevant record from the office of Mining Officer and the services of Mining Officer and his staff for the purpose of carrying out such inspections.

Power shall also be delegated to other members of the Sub-Divisional Flying Squad under Section 21 of Mines and Minerals (Development and Regulation) Act 1957.

9.9.1.c. Periodicity of the Flying Squad

At least once in a month or as and when felt necessary by any one member of the Sub Divisional Level Committee.

The Mining Officer may nominate Mining Inspector if required by different Sub- Division Committee, on the same day

9.9.2.District Level Committee

9.9.2.a Scope and functions of the Committee

To review: -

- Action taken against illegal mining;
- Action plan to stop illegal mining;
- Review the workings of riverbed mining in the district; and;
- Any other point raised by any member regarding mining activity in the district.

9.9.2.b Composition of the Committee shall be

1.Deputy Commissioner	Chairman
2.Superintendent of Police	Member
3.Divisional Forest Officer or his representative	Member
4.Repersentative of EP &PCB	Member
5.Mining Officer	Member Secretary
6.Any other Officer nominated by the Chairman	Special Invitee

9.9.2.c Periodicity of meeting

Once in three months

9.9.3. State Level Committee

9.9.2.a. Scope and functions of the Committee would be:-

- To review action taken against illegal mining in the state;
- To review the suggestions of the District Level Committees;
- To review the working of riverbed mining in the State;
- To develop an action plan for future river bed mining in the State;
- Any other point raised by any member regarding mining activity in the State;

9.9.3.b Composition of the Committee

(as notified on 16/1/04 vide notification no. Ind.II(E)2-1/2001)

1. A.C.S. - cum- Secretary (Industries) to the Government of Himachal Pradesh — Chairman
2. Pr. Secretary (S & T-Environment) to

	the Government of Himachal Pradesh	Member
3.	Pr. Secretary (Forest) to the Government of Himachal Pradesh	Member
4.	Pr. Secretary (P.W.D) to the Government of Himachal Pradesh	Member
5.	Pr. Secretary (I.P.H.) to the Government of Himachal Pradesh	Member
6.	Member Secretary, Environment Protection & Pollution Control Board Himachal Pradesh	Member
7.	State Geologist, Himachal Pradesh	Member Secretary

9.9.3.c Periodicity of meeting

Once in 6 month