Annex A

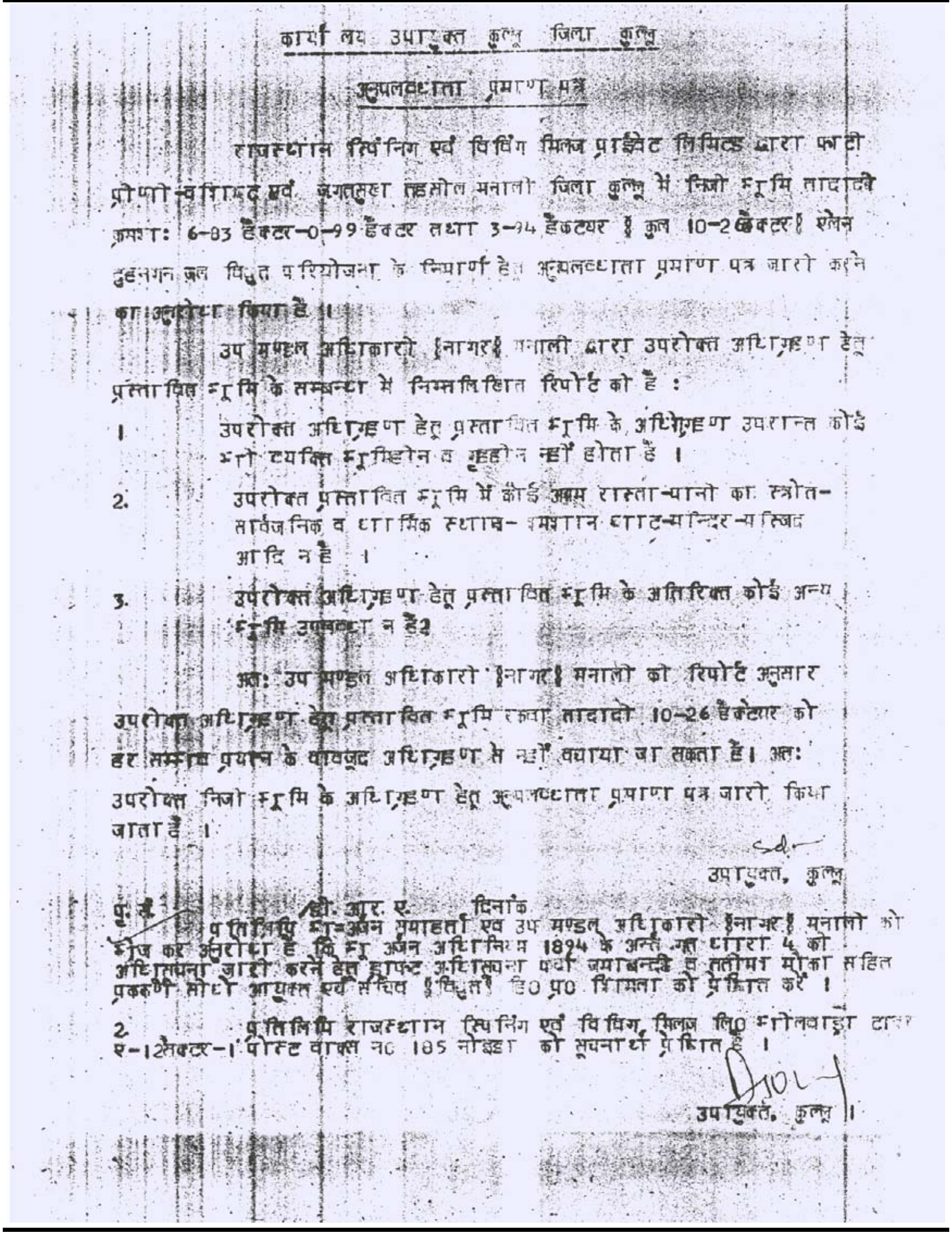
List of Approvals Obtained by the Company for the Project

A1 ADHEP APPROVALS

A1.1 INESCAPABILITY CERTIFICATE BY DC, KULLU

The inescapability certificate issued by DC Kullu is as shown in ***Figure 1.1***.

Figure 1.1 Inescapability Certificate by DC, Kullu for the ADHEP



कार्यालय उपायुक्त कुल्लू जिला कुल्लू

अनुपलब्धता प्रमाण पत्र

राजस्थान स्पिनिंग एवं विविंग मिल्ज प्राईवेट लिमिटेड द्वारा फाटी प्रीणी-वशिष्ठ एवं जगतसुखा तहसील मनाली जिला कुल्लू में निजी भूमि तादादी क्रमश: 6-83 हैक्टर-0-99 हैक्टर तथा 3-94 हैक्टयर [कुल 10-26 हैक्टर] एलेन दुहनगन जल विद्युत परियोजना के निर्माण हेतु अनुपलब्धता प्रमाण पत्र जारी करने का अनुरोध किया है।

उप मण्डल अधिकारी [नागर] मनाली द्वारा उपरोक्त अधिग्रहण हेतु प्रस्तावित भूमि के सम्बन्ध में निम्नलिखित रिपोर्ट की है :

1. उपरोक्त अधिग्रहण हेतु प्रस्तावित भूमि के अधिग्रहण उपरान्त कोई भी व्यक्ति भूमिहीन व गृहहीन नहीं होता है।
2. उपरोक्त प्रस्तावित भूमि में कोई आम रास्ता-पानी का स्त्रोत-सार्वजनिक व धार्मिक स्थान- श्मशान घाट-मन्दिर-मस्जिद आदि नहीं है।
3. उपरोक्त अधिग्रहण हेतु प्रस्तावित भूमि के अतिरिक्त कोई अन्य भूमि उपलब्ध न है।

अत: उप मण्डल अधिकारी [नागर] मनाली की रिपोर्ट अनुसार उपरोक्त अधिग्रहण हेतु प्रस्तावित भूमि रकबा तादादी 10-26 हैक्टेयर को हर सम्भव प्रयत्न के बावजूद अधिग्रहण से नहीं बचाया जा सकता है। अत: उपरोक्त निजी भूमि के अधिग्रहण हेतु अनुपलब्धता प्रमाण पत्र जारी किया जाता है।

Sd/-

उपायुक्त, कुल्लू

पृ. सं. /डी. आर. ए. दिनांक

प्रतिलिपि भू-अर्जन समाहर्ता एवं उप मण्डल अधिकारी [नागर] मनाली को भेज कर अनुरोध है कि भू अर्जन अधिनियम 1894 के अन्तर्गत धारा 4 की अधिसूचना जारी करने हेतु ड्राफ्ट अधिसूचना सहित जमाबन्दी व ततीमा मौका सहित प्रकरण मण्डी आयुक्त एवं सचिव [विद्युत] हि० प्र० शिमला को प्रेषित करें।

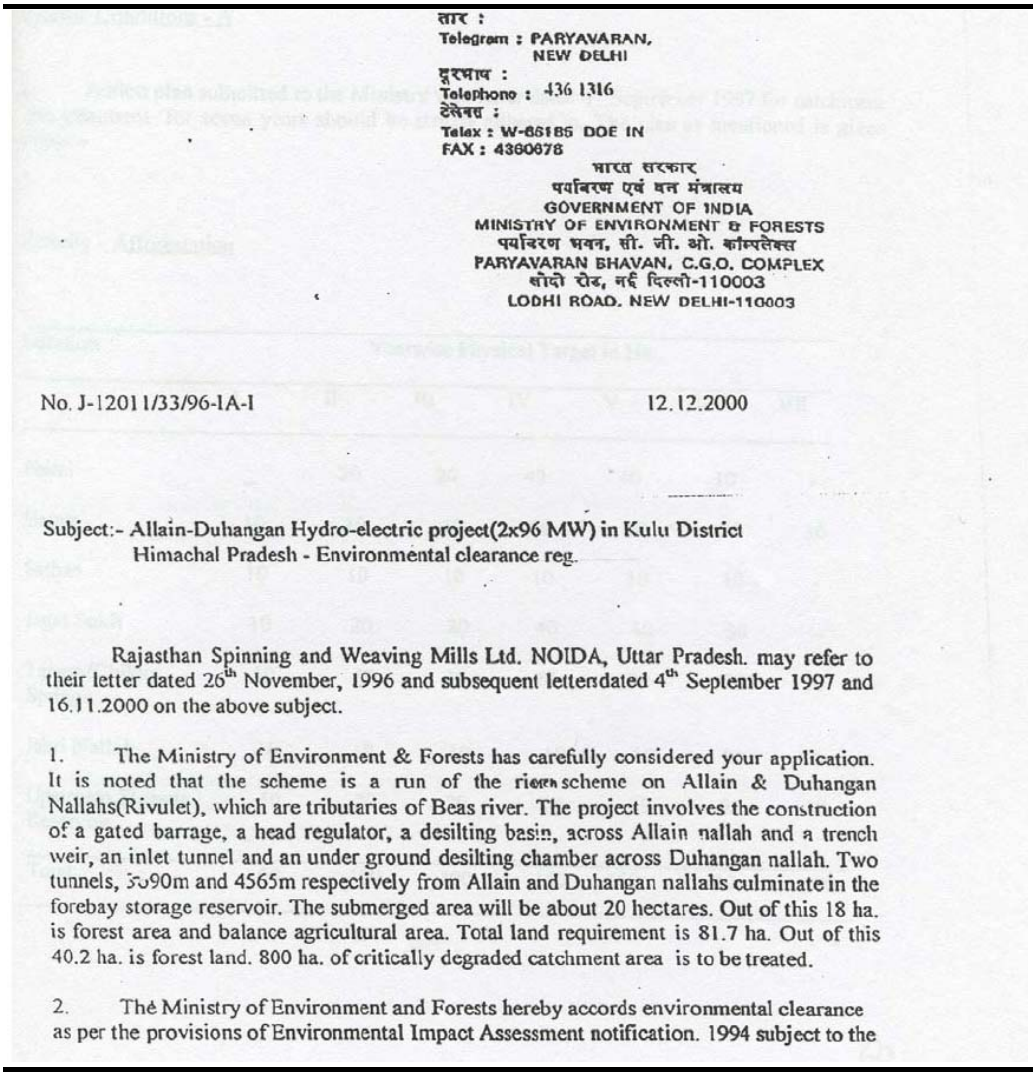
2. प्रतिलिपि राजस्थान स्पिनिंग एवं विविंग मिल्ज लि० भीलवाड़ा टावर ए-12 सैक्टर-1 पोस्ट बाक्स न० 185 नोएडा को सूचनार्थ प्रेषित है।

उपायुक्त, कुल्लू।

A1.2 ENVIRONMENTAL CLEARANCE

The Environmental Clearance issued by Ministry of Environment and Forests, Government of India, (MoEF) for the project is as shown in ***Figures 1.2 to 1.7***.

Figure 1.2 Environmental Clearance issued by MoEF to ADHEP (Page 1 of 6)



तार :
Telegram : PARYAVARAN,
NEW DELHI
दूरभाष :
Telephone : 436 1316
टेलेक्स :
Telex : W-66185 DOE IN
FAX : 4360678

भारत सरकार
पर्यावरण एवं वन मंत्रालय
GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT & FORESTS
पर्यावरण भवन, सी. जी. ओ. कॉम्पलेक्स
PARYAVARAN BHAVAN, C.G.O. COMPLEX
लोदी रोड, नई दिल्ली-110003
LODHI ROAD, NEW DELHI-110003

No. J-12011/33/96-IA-I 12.12.2000

Subject:- Allain-Duhangan Hydro-electric project(2x96 MW) in Kulu District Himachal Pradesh - Environmental clearance reg.

Rajasthan Spinning and Weaving Mills Ltd. NOIDA, Uttar Pradesh. may refer to their letter dated 26th November, 1996 and subsequent letterdated 4th September 1997 and 16.11.2000 on the above subject.

1. The Ministry of Environment & Forests has carefully considered your application. It is noted that the scheme is a run of the river scheme on Allain & Duhangan Nallahs(Rivulet), which are tributaries of Beas river. The project involves the construction of a gated barrage, a head regulator, a desilting basin, across Allain nallah and a trench weir, an inlet tunnel and an under ground desilting chamber across Duhangan nallah. Two tunnels, 5090m and 4565m respectively from Allain and Duhangan nallahs culminate in the forebay storage reservoir. The submerged area will be about 20 hectares. Out of this 18 ha. is forest area and balance agricultural area. Total land requirement is 81.7 ha. Out of this 40.2 ha. is forest land. 800 ha. of critically degraded catchment area is to be treated.

2. The Ministry of Environment and Forests hereby accords environmental clearance as per the provisions of Environmental Impact Assessment notification. 1994 subject to the

Figure 1.3 Environmental Clearance issued by MoEF to ADHEP (Page 2 of 6)

strict compliance of the terms and conditions mentioned below -

Specific Conditions - A

i) Action plan submitted to the Ministry vide letter dated 4th September 1997 for catchment area treatment for seven years should be strictly adhered to. The plan as mentioned is given below -

Activity - Afforestation

Location	Yearwise Physical Target in Ha.						
	I	II	III	IV	V	VI	VII
Phirni	-	20	20	40	40	10	-
Hamta	10	10	10	20	20	20	30
Sathan	10	10	10	10	10	10	-
Jagat Sukh	10	20	20	40	40	30	-
Tangra/Chikka Springs	10	10	10	20	20	20	30
Jabri Nallah	10	10	10	10	10	20	30
Upstream Storage Reservoir	10	20	20	10	20	20	10
Total	60	100	100	150	160	130	100

Figure 1.4 Environmental Clearance issued by MoEF to ADHEP (Page 3 of 6)

Activity - Pasture Development

Location	Yearwise Physical Target in Ha.						
	I	II	III	IV	V	VI	VII
Sathan	-	10	10	10	-	-	-
Pahali Nallah	-	-	5	5	5	5	-
Hamta Garh	10	10	5	5	-	-	-
Tangra/Chilka Springs	5	5	5	5	5	5	-
Upstream Storage Reservoir	20	20	10	10	10	10	10
Total	35	45	35	35	20	20	10

Activity - Engineering Treatment

Location	Yearwise Physical Target in number						
	I	II	III	IV	V	VI	VII
a. Checkwall with boulders & stones with and without wire mesh							
Jabri Nallah	-	5	5	-	-	-	-
Footpath to Chandratal	-	5	5	5	-	-	-
Footpath to Sathan	-	5	5	5	4	-	-
Allain Nallah	5	5	5	-	-	-	-
Duhangan Nallah	-	5	6	-	-	-	-

Figure 1.5 Environmental Clearance issued by MoEF to ADHEP (Page 4 of 6)

Hamta Nallah	-	-	-	7	-	-	-
Total	5	25	26	17	4	-	-

b. Check dam with boulders & stones

Jabri Nallah	-	-	2	2	2	4	-
Allain Nallah	-	-	5	5	5	5	5
Duhangan Nallah	-	-	2	2	4	4	4
Hamta Nallah	2	2	2	2	2	2	2
Total	2	2	11	11	13	15	11

c. Spur

Footpath to Chandratal	-	1	-	-	-	-	-
Footpath to Sathan	-	2	2	-	-	-	-
Allain Nallah	2	-	-	-	-	-	-
Duhangan Nallah	1	-	-	-	-	-	-
Hamta Nallah	-	1	-	-	-	-	-
Total	3	4	2	-	-	-	-

ii) Action plan submitted to the Ministry vide letter dated 4th September 1997 for Health and Settlement & fuel supply to the labourers for five years should be strictly adhered to;

iii) All the medical facilities should continue even after five years and the cost towards this should be reflected in the annual budget of the company.

iv) Material other than wood should be used for construction of check wall and check dam.

v) Many medicinal plants have been identified in the region. Plantation of these species should be included under afforestation programme.

Figure 1.6 Environmental Clearance issued by MoEF to ADHEP (Page 5 of 6)

Part-B. General conditions

(i) Adequate free fuel arrangement should be made to the labour force engaged in the construction work at project cost so that indiscriminate felling of trees is prevented.

(ii) Fuel depot may be open at the site to provide the fuel(kerosene/wood etc.). Medical facilities as well as recreational facilities should also be provided to the labourers.

(iii) All the labourers to be engaged for construction works should be thoroughly examined by health personnel and adequately treated before issuing them work permit.

(iv) Restoration of construction area including dumping site of excavated materials at dam site should be ensured by levelling, filling up of burrow pits, landscaping etc. The area should be properly afforested with suitable plantation.

(v) Downstream of the dam, flood zoning approach should be done. No settlement should be allowed within flood zone.

(vi) Six monthly monitoring reports should be submitted to the Ministry and its Regional Office, at Chandigarh for review.

4. Officials from Regional Office MOEF, Chandigarh would be monitoring the implementation of environmental safeguards should be given full cooperation, facilities and documents/data by project proponents during their inspection.

5. The responsibility of implementation of environmental safeguards rests fully with the Rajasthan Spinning & Weaving Mills Ltd.

6. In case of change in the scope of the project, project would require a fresh appraisal.

7. The Ministry reserves the right to add additional safeguard measures subsequently if found, necessary and to take action including revoking of the clearance under the provisions of the Environmental(Protection) Act, 1986, to ensure effective implementation of the suggested safeguard measures in time bound and satisfactory manner.

8. This clearance letter is valid for a period of 5years from the date of issue of this letter.

9. State Pollution Control Board should display a copy of the clearance letter at the regional office, district industries centre and collector's office/ tehsildar's office for 30 days. They should also send a copy of gram panchayat.

Figure 1.7 Environmental Clearance issued by MoEF to ADHEP (Page 6 of 6)

10. The project proponent should advertise at least in two local newspapers widely circulated in the region around the project ,one of which shall be in the vernacular language of the locality concerned informing that the project has been accorded environmental clearance and copies of clearance letters are available with the State Pollution Control

Board/Committee and may also be seen at Website of the Ministry of Environment and Forests at http:// envfor.nic.in/.

(Dr. S. Bhowmik)
Additional Director

To

Adviser (Power)
Rajasthan Spinning & weaving Mills Ltd.
Bhilwara Towers,
A-12, Sector I
NOIDA-201301
Uttar Pradesh.

Copy to:-

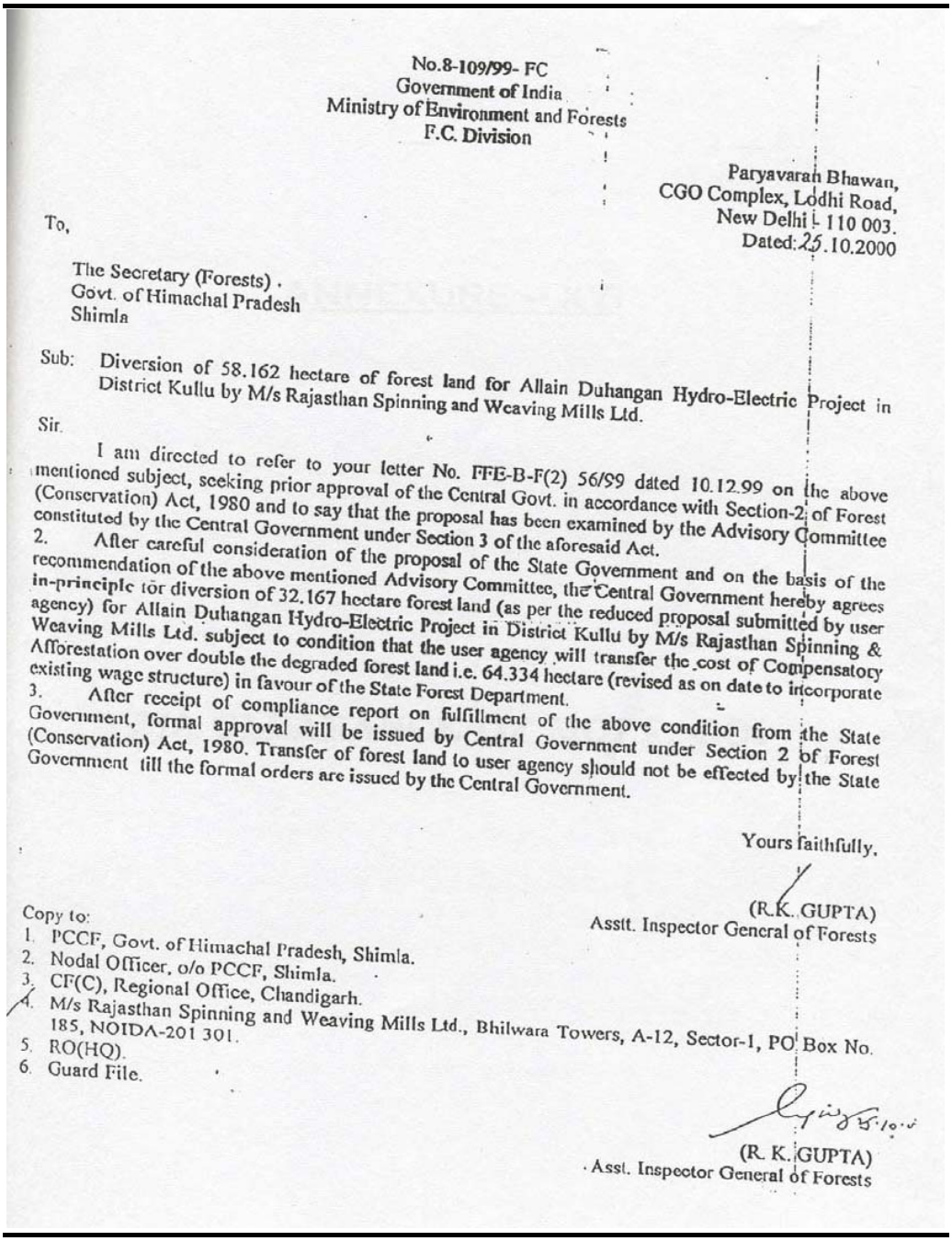
1. Secretary, Ministry of Power, Shram Shakti Bhavan, Rafi Marg, New Delhi.
2. Adviser(Power), Planning Commission, Yojana Bhavan,New Delhi.
3. The Chief Engineer, project Appraisal Directorate, Central Electricity Authority, Sewa Bhavan, R.K. Puram, New Delhi-66.
4. Regional Office, MOEF, Chandigarh
5. EI Division, MOEF, New Delhi.
6. Guard File

(Dr.S. Bhowmik)
Additional Director

A1.3 FOREST CLEARANCE

The Forest Clearances issued by MoEF for diversion of forest land for non forest purposes are as shown in ***Figures 1.8 to 1.10***.

Figure 1.8 In Principal Forest Clearance issued by MoEF to ADHEP (Page 1 of 1)



No.8-109/99- FC
Government of India
Ministry of Environment and Forests
F.C. Division

Paryavaran Bhawan,
CGO Complex, Lodhi Road,
New Delhi - 110 003.
Dated: 25.10.2000

To,

The Secretary (Forests),
Govt. of Himachal Pradesh
Shimla

Sub: Diversion of 58.162 hectare of forest land for Allain Duhangan Hydro-Electric Project in District Kullu by M/s Rajasthan Spinning and Weaving Mills Ltd.

Sir,

I am directed to refer to your letter No. FFE-B-F(2) 56/99 dated 10.12.99 on the above mentioned subject, seeking prior approval of the Central Govt. in accordance with Section-2 of Forest (Conservation) Act, 1980 and to say that the proposal has been examined by the Advisory Committee constituted by the Central Government under Section 3 of the aforesaid Act.

2. After careful consideration of the proposal of the State Government and on the basis of the recommendation of the above mentioned Advisory Committee, the Central Government hereby agrees in-principle for diversion of 32.167 hectare forest land (as per the reduced proposal submitted by user agency) for Allain Duhangan Hydro-Electric Project in District Kullu by M/s Rajasthan Spinning & Weaving Mills Ltd. subject to condition that the user agency will transfer the cost of Compensatory Afforestation over double the degraded forest land i.e. 64.334 hectare (revised as on date to incorporate existing wage structure) in favour of the State Forest Department.

3. After receipt of compliance report on fulfillment of the above condition from the State Government, formal approval will be issued by Central Government under Section 2 of Forest (Conservation) Act, 1980. Transfer of forest land to user agency should not be effected by the State Government till the formal orders are issued by the Central Government.

Yours faithfully,

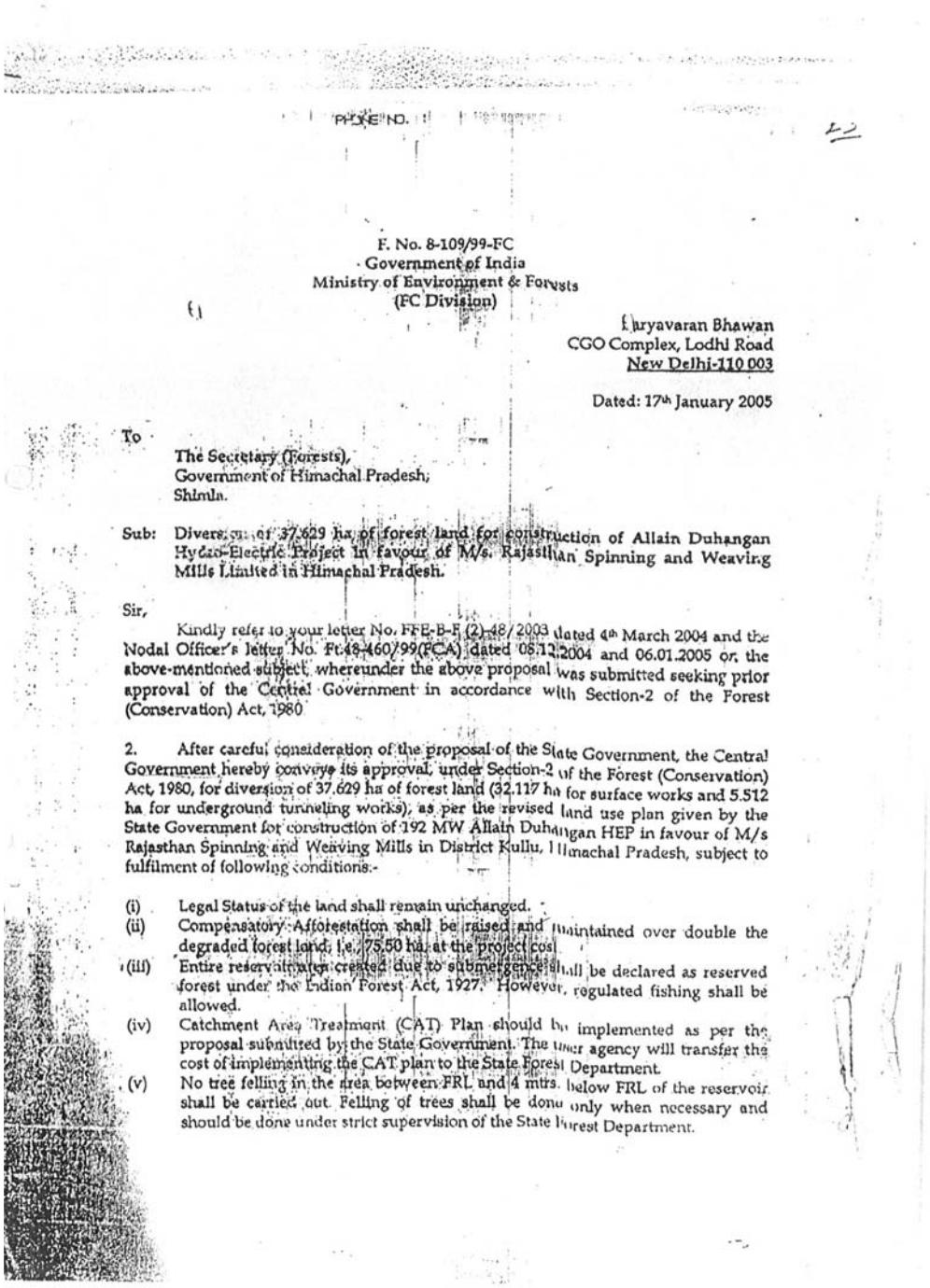
(R.K. GUPTA)
Asstt. Inspector General of Forests

Copy to:
1. PCCF, Govt. of Himachal Pradesh, Shimla.
2. Nodal Officer, o/o PCCF, Shimla.
3. CF(C), Regional Office, Chandigarh.
4. M/s Rajasthan Spinning and Weaving Mills Ltd., Bhilwara Towers, A-12, Sector-1, PO Box No. 185, NOIDA-201 301.
5. RO(HQ).
6. Guard File.

25.10.00

(R. K. GUPTA)
Asst. Inspector General of Forests

Figure 1.9 Forest Clearance issued by MoEF for diversion of Forestland of 37.629 ha for Non-Forest Purposes (ADHPL to insert)



FILE NO.

F. No. 8-109/99-FC
Government of India
Ministry of Environment & Forests
(FC Division)

Paryavaran Bhawan
CGO Complex, Lodhi Road
New Delhi-110 003

Dated: 17th January 2005

To

The Secretary (Forests),
Government of Himachal Pradesh,
Shimla.

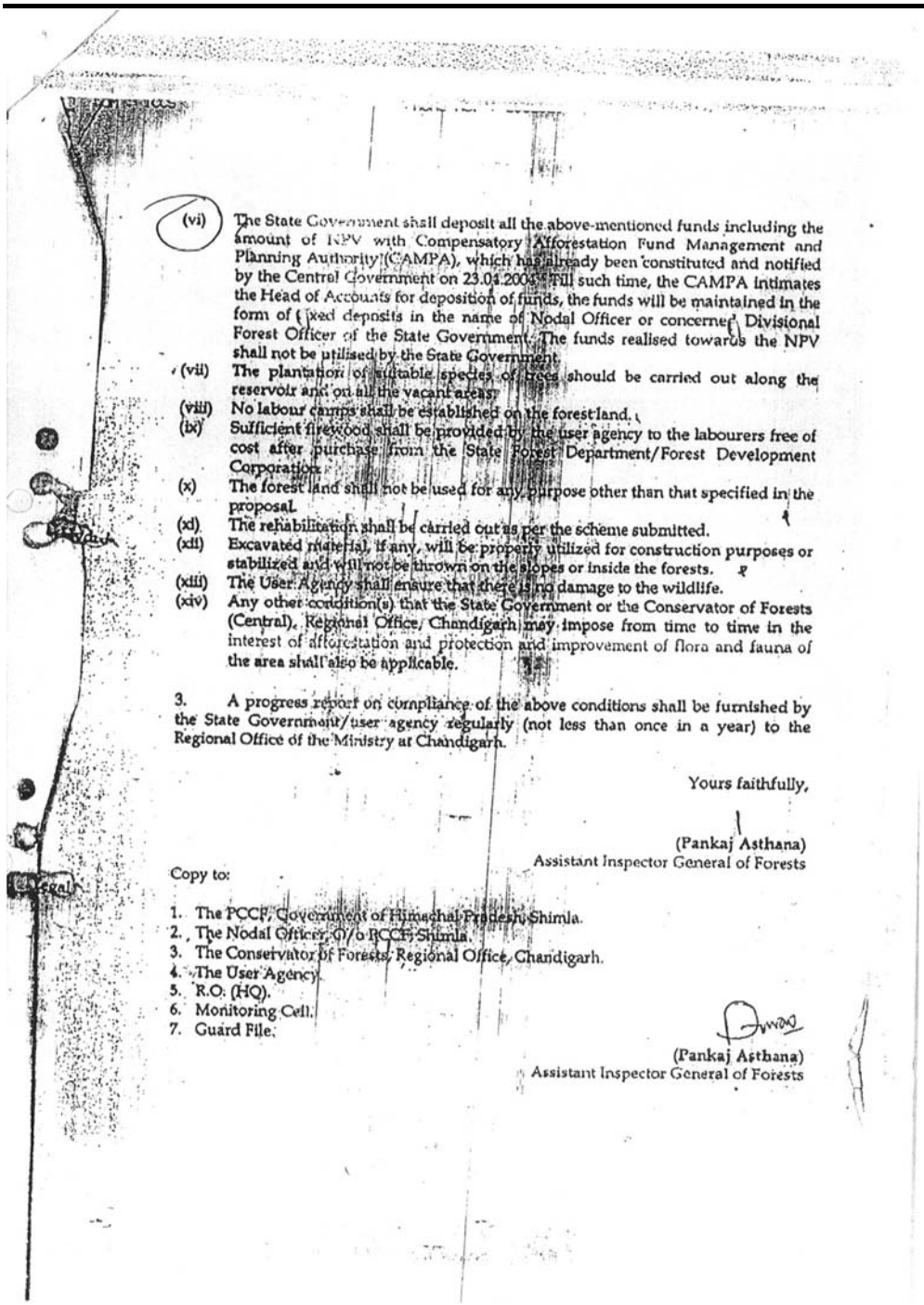
Sub: Diversion of 37.629 ha of forest land for construction of Allain Duhangan Hydro-Electric Project in favour of M/s. Rajasthan Spinning and Weaving Mills Limited in Himachal Pradesh.

Sir,

Kindly refer to your letter No. FFE-B-F (2)-48/2003 dated 4th March 2004 and the Nodal Officer's letter No. Ft.48-460/99(FCA) dated 08.12.2004 and 06.01.2005 on the above-mentioned subject, whereunder the above proposal was submitted seeking prior approval of the Central Government in accordance with Section-2 of the Forest (Conservation) Act, 1980.

2. After careful consideration of the proposal of the State Government, the Central Government hereby conveys its approval, under Section-2 of the Forest (Conservation) Act, 1980, for diversion of 37.629 ha of forest land (32.117 ha for surface works and 5.512 ha for underground tunneling works), as per the revised land use plan given by the State Government for construction of 192 MW Allain Duhangan HEP in favour of M/s Rajasthan Spinning and Weaving Mills in District Kullu, Himachal Pradesh, subject to fulfilment of following conditions:-

(i) Legal Status of the land shall remain unchanged.
(ii) Compensatory Afforestation shall be raised and maintained over double the degraded forest land, i.e. 75.50 ha, at the project cost.
(iii) Entire reservoir/area created due to submergence shall be declared as reserved forest under the Indian Forest Act, 1927. However, regulated fishing shall be allowed.
(iv) Catchment Area Treatment (CAT) Plan should be implemented as per the proposal submitted by the State Government. The user agency will transfer the cost of implementing the CAT plan to the State Forest Department.
(v) No tree felling in the area between FRL and 4 mtrs. below FRL of the reservoir shall be carried out. Felling of trees shall be done only when necessary and should be done under strict supervision of the State Forest Department.



(vi) The State Government shall deposit all the above-mentioned funds including the amount of NPV with Compensatory Afforestation Fund Management and Planning Authority (CAMPA), which has already been constituted and notified by the Central Government on 23.04.2004. Till such time, the CAMPA intimates the Head of Accounts for deposition of funds, the funds will be maintained in the form of fixed deposits in the name of Nodal Officer or concerned Divisional Forest Officer of the State Government. The funds realised towards the NPV shall not be utilised by the State Government.

(vii) The plantation of suitable species of trees should be carried out along the reservoir and on all the vacant areas.

(viii) No labour camps shall be established on the forest land.

(ix) Sufficient firewood shall be provided by the user agency to the labourers free of cost after purchase from the State Forest Department/Forest Development Corporation.

(x) The forest land shall not be used for any purpose other than that specified in the proposal.

(xi) The rehabilitation shall be carried out as per the scheme submitted.

(xii) Excavated material, if any, will be properly utilized for construction purposes or stabilized and will not be thrown on the slopes or inside the forests.

(xiii) The User Agency shall ensure that there is no damage to the wildlife.

(xiv) Any other condition(s) that the State Government or the Conservator of Forests (Central), Regional Office, Chandigarh may impose from time to time in the interest of afforestation and protection and improvement of flora and fauna of the area shall also be applicable.

3. A progress report on compliance of the above conditions shall be furnished by the State Government/user agency regularly (not less than once in a year) to the Regional Office of the Ministry at Chandigarh.

Yours faithfully,

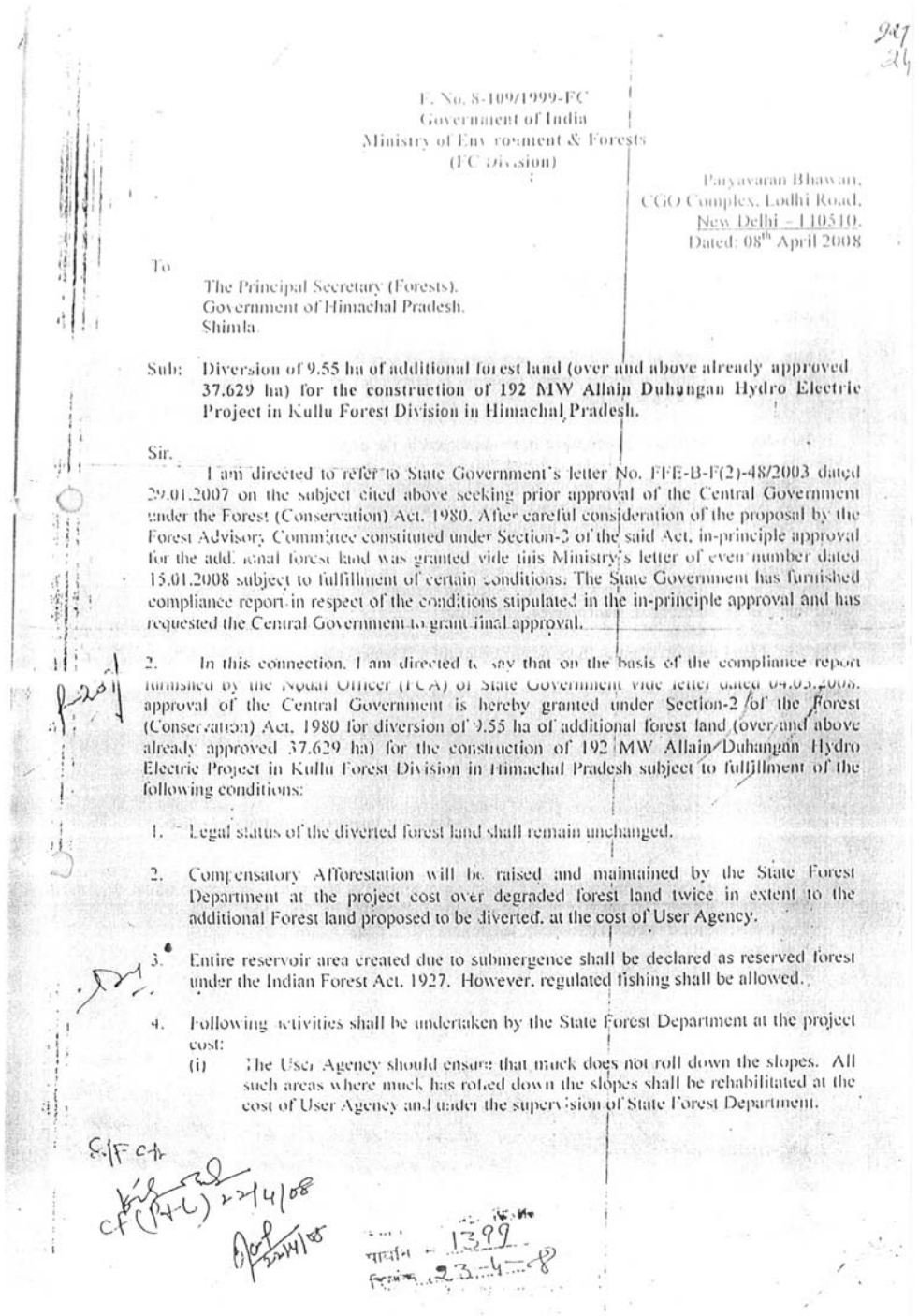
(Pankaj Asthana)
Assistant Inspector General of Forests

Copy to:

1. The PCCF, Government of Himachal Pradesh, Shimla.
2. The Nodal Officer, O/o PCCF, Shimla.
3. The Conservator of Forests, Regional Office, Chandigarh.
4. The User Agency.
5. R.O. (HQ).
6. Monitoring Cell.
7. Guard File.

(Pankaj Asthana)
Assistant Inspector General of Forests

Figure 1.10 Forest Clearance issued by MoEF for diversion of Forestland of 9.550 ha for Non-Forest Purposes (ADHPL to insert)



F. No. 8-109/1999-FC
Government of India
Ministry of Environment & Forests
(FC Division)

Paryavaran Bhawan,
CGO Complex, Lodhi Road,
New Delhi - 110510.
Dated: 08th April 2008

To

The Principal Secretary (Forests),
Government of Himachal Pradesh,
Shimla.

Sub: Diversion of 9.55 ha of additional forest land (over and above already approved 37.629 ha) for the construction of 192 MW Allain Duhangan Hydro Electric Project in Kullu Forest Division in Himachal Pradesh.

Sir,

I am directed to refer to State Government's letter No. FFE-B-F(2)-48/2003 dated 29.01.2007 on the subject cited above seeking prior approval of the Central Government under the Forest (Conservation) Act, 1980. After careful consideration of the proposal by the Forest Advisory Committee constituted under Section-3 of the said Act, in-principle approval for the additional forest land was granted vide this Ministry's letter of even number dated 15.01.2008 subject to fulfillment of certain conditions. The State Government has furnished compliance report in respect of the conditions stipulated in the in-principle approval and has requested the Central Government to grant final approval.

2. In this connection, I am directed to say that on the basis of the compliance report furnished by the Nodal Officer (FCA) of State Government vide letter dated 04.03.2008, approval of the Central Government is hereby granted under Section-2 of the Forest (Conservation) Act, 1980 for diversion of 9.55 ha of additional forest land (over and above already approved 37.629 ha) for the construction of 192 MW Allain Duhangan Hydro Electric Project in Kullu Forest Division in Himachal Pradesh subject to fulfillment of the following conditions:

1. Legal status of the diverted forest land shall remain unchanged.

2. Compensatory Afforestation will be raised and maintained by the State Forest Department at the project cost over degraded forest land twice in extent to the additional Forest land proposed to be diverted, at the cost of User Agency.

3. Entire reservoir area created due to submergence shall be declared as reserved forest under the Indian Forest Act, 1927. However, regulated fishing shall be allowed.

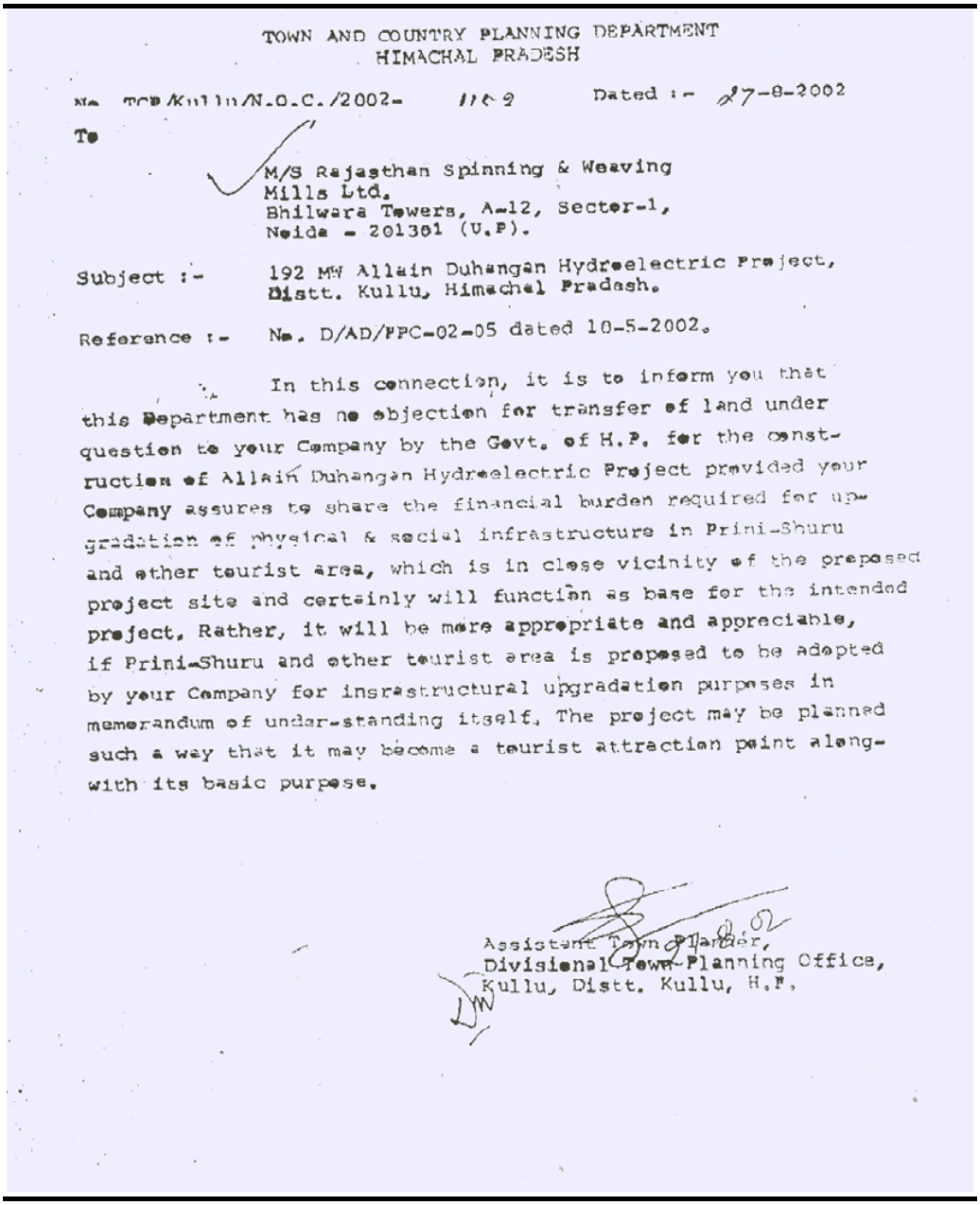
4. Following activities shall be undertaken by the State Forest Department at the project cost:

(i) The User Agency should ensure that muck does not roll down the slopes. All such areas where muck has rolled down the slopes shall be rehabilitated at the cost of User Agency and under the supervision of State Forest Department.

A1.4 NOC BY TOWN AND COUNTRY PLANNING

NOC for land acquisition for the project is as shown in ***Figure 1.11***.

Figure 1.11 NOC issued by Town and Country Planning (Page 1 of 2)



TOWN AND COUNTRY PLANNING DEPARTMENT
HIMACHAL PRADESH

No. TCP/Kullu/N.O.C./2002- 1169 Dated :- 27-8-2002

To

M/S Rajasthan Spinning & Weaving
Mills Ltd.
Bhilwara Towers, A-12, Sector-1,
Noida - 201301 (U.P).

Subject :- 192 MW Allain Duhangan Hydroelectric Project,
Distt. Kullu, Himachal Pradesh.

Reference :- No. D/AD/PPC-02-05 dated 10-5-2002.

In this connection, it is to inform you that this Department has no objection for transfer of land under question to your Company by the Govt. of H.P. for the construction of Allain Duhangan Hydroelectric Project provided your Company assures to share the financial burden required for upgradation of physical & social infrastructure in Prini-Shuru and other tourist area, which is in close vicinity of the proposed project site and certainly will function as base for the intended project. Rather, it will be more appropriate and appreciable, if Prini-Shuru and other tourist area is proposed to be adopted by your Company for insrastructural upgradation purposes in memorandum of under-standing itself. The project may be planned such a way that it may become a tourist attraction point alongwith its basic purpose.

Assistant Town Planner,
Divisional Town Planning Office,
Kullu, Distt. Kullu, H.P.

Figure 1.12 NOC issued by Town and Country Planning (Page 2 of 2)

TOWN & COUNTRY PLANNING DEPARTMENT
HIMACHAL PRADESH

No.TCP(K)N.O.C.Manali-2002- 796 Dated:- 17-06-02
To

The Rajsthan Spinning & Weaving Mills Ltd;
Bhilwara Towers, A-12,Sector.1 Post Box No.185.
Noida- 201301,NCR-Delhi (India).

Sub:- 192 MW Allain Duhangan Hydroelectric Project,
District Kullu, Himachal Pradesh.

Dear Sir,

Kindly refer to your letter dated- 10.05.2002 vide which you have asked for a verification note regarding water requirement in Manali which is to be drawn from Allain and Duhangan Nallahs.

In this regard,it is intimated that kindly arrange to supply the information about total minimum and maximum discharge of these nallahs and the quantity of water that will be available for domestic and miscellaneous uses after actual commissioning of the project. However, this is to inform you that the estimated water requirements for these areas is nearly 100 litres/second for various urban uses which is required to be drawn for these nallahs.

The verification note (N.O.C) shall be issued only after receiving above information from you.

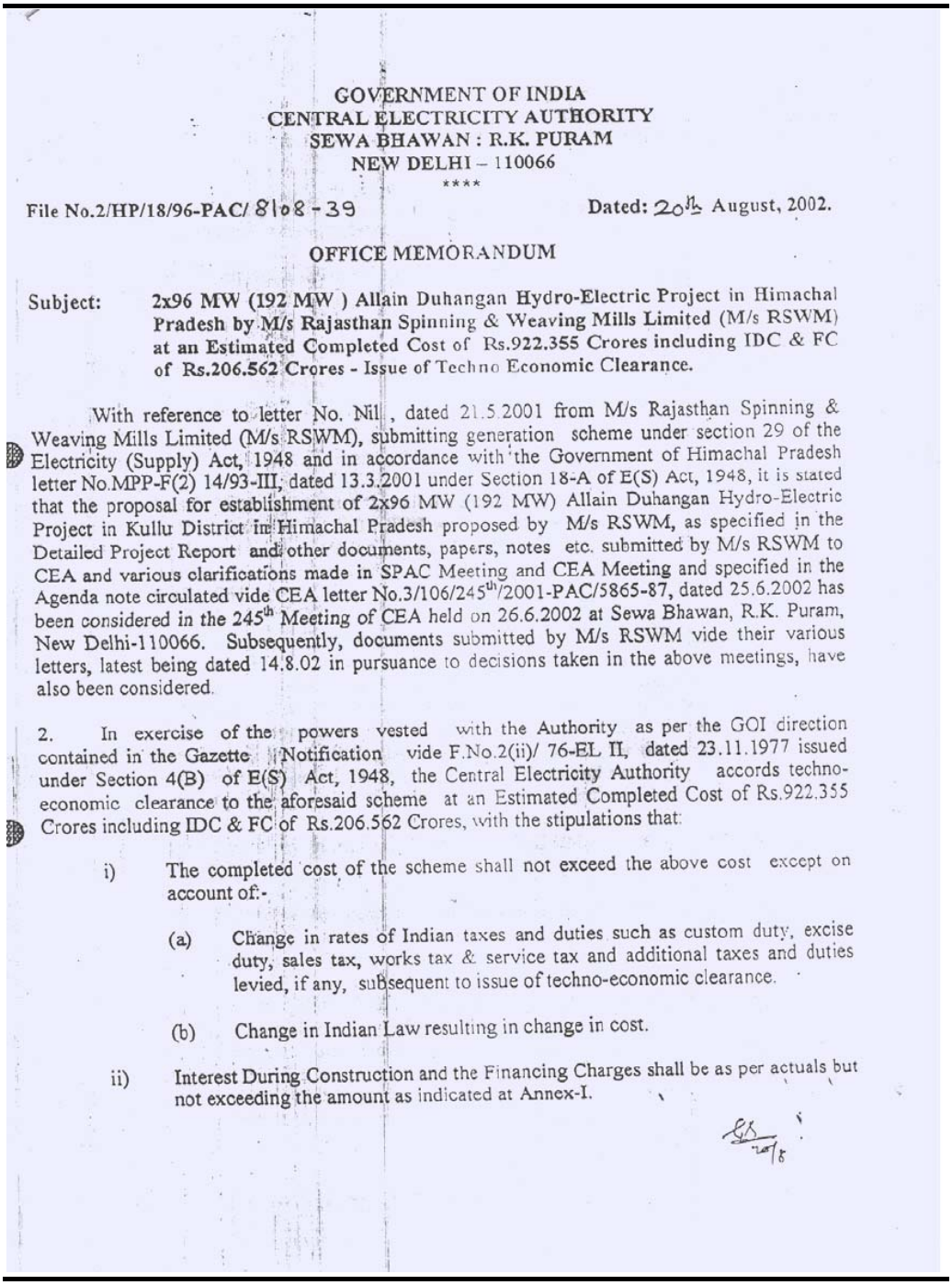
Thanking you,

Yours faithfully,

Assistant Town Planner,
Divisional Town Planning Office,
Kullu (H.P)

A1.5 TECHNO-ECONOMIC CLEARANCE BY CEA

Figure 1.13 Techno-economic Clearance for ADHEP (Page 1 of 5)



GOVERNMENT OF INDIA
CENTRAL ELECTRICITY AUTHORITY
SEWA BHAWAN : R.K. PURAM
NEW DELHI – 110066
****

File No.2/HP/18/96-PAC/ 8108-39 Dated: 20th August, 2002.

OFFICE MEMORANDUM

Subject: **2x96 MW (192 MW) Allain Duhangan Hydro-Electric Project in Himachal Pradesh by M/s Rajasthan Spinning & Weaving Mills Limited (M/s RSWM) at an Estimated Completed Cost of Rs.922.355 Crores including IDC & FC of Rs.206.562 Crores - Issue of Techno Economic Clearance.**

With reference to letter No. Nil , dated 21.5.2001 from M/s Rajasthan Spinning & Weaving Mills Limited (M/s RSWM), submitting generation scheme under section 29 of the Electricity (Supply) Act, 1948 and in accordance with the Government of Himachal Pradesh letter No.MPP-F(2) 14/93-III, dated 13.3.2001 under Section 18-A of E(S) Act, 1948, it is stated that the proposal for establishment of 2x96 MW (192 MW) Allain Duhangan Hydro-Electric Project in Kullu District in Himachal Pradesh proposed by M/s RSWM, as specified in the Detailed Project Report and other documents, papers, notes etc. submitted by M/s RSWM to CEA and various clarifications made in SPAC Meeting and CEA Meeting and specified in the Agenda note circulated vide CEA letter No.3/106/245th/2001-PAC/5865-87, dated 25.6.2002 has been considered in the 245th Meeting of CEA held on 26.6.2002 at Sewa Bhawan, R.K. Puram, New Delhi-110066. Subsequently, documents submitted by M/s RSWM vide their various letters, latest being dated 14.8.02 in pursuance to decisions taken in the above meetings, have also been considered.

2. In exercise of the powers vested with the Authority as per the GOI direction contained in the Gazette Notification vide F.No.2(ii)/ 76-EL II, dated 23.11.1977 issued under Section 4(B) of E(S) Act, 1948, the Central Electricity Authority accords techno-economic clearance to the aforesaid scheme at an Estimated Completed Cost of Rs.922.355 Crores including IDC & FC of Rs.206.562 Crores, with the stipulations that:

i) The completed cost of the scheme shall not exceed the above cost except on account of:-

(a) Change in rates of Indian taxes and duties such as custom duty, excise duty, sales tax, works tax & service tax and additional taxes and duties levied, if any, subsequent to issue of techno-economic clearance.

(b) Change in Indian Law resulting in change in cost.

ii) Interest During Construction and the Financing Charges shall be as per actuals but not exceeding the amount as indicated at Annex-I.

Figure 1.14 Techno-economic Clearance for ADHEP (Page 2 of 5)

iii) The abstract of the Completed Capital Cost approved by CEA is furnished at Annex-I, Summary of Financial Package, as submitted by M/s RSWM and considered by CEA, is at Annex-II and the Salient Features of the Scheme are set-forth at Annex-III.

iv) The following conditions/circumstances shall not be a re-opener of completed cost/ techno-economic clearance:

(a) Non-acquisition of land.

(b) Non-finalisation of Power Purchase Agreement.

This techno-economic clearance is subject to the fulfillment of the following conditions:

i) M/s RSWM shall take into account the suggestion of CWC regarding Hydrology and civil design aspect at the time of detailed design (Annex–IV) and report thereon shall be submitted to CEA/ CWC.

ii) M/s RSWM shall assure that all the subsurface explorations proposed in DPR and in the comments by GSI/CWC and agreed upon by the project authorities are carried out before detailed design. Various suggestions of GSI are summarized at Annex–V. The report of additional investigations shall be submitted to CEA/ CWC/ GSI.

iii) In case geological surprises in underground works are met, M/s RSWM shall systematically maintain a record of geological surprises, those are encountered. At the same time, M/s. RSWM shall request Government of Himachal Pradesh to constitute an expert committee of representatives from Government of H.P., HPSEB, Geological Survey of India, CWC and CEA. Once a committee is constituted, M/s. RSWM shall submit their proposal for the enhanced cost to the expert committee, which in turn, shall examine and recommend the cost thereof subject to a ceiling of 10% of the cost of the respective underground civil works.

iv) Government of Himachal Pradesh/ HPSEB/M/s RSWM shall comply the following:-

(a) The detailed computation of annual evaporation losses shall be furnished to CWC and this loss shall be reckoned against the share of Himachal Pradesh in Ravi/Beas Water.

(b) Master Plan of Beas basin containing the details of consumptive uses including annual evaporation losses shall be furnished to CEA/CWC in respect of all the existing, on-going and proposed projects so as to have an over all idea about the consumptive use by the Himachal Pradesh in the basin. These details shall also to be sent to the co-basin states and Bhakra Beas Management Board for their comments/observations, if any.

Figure 1.15 Techno-economic Clearance for ADHEP (Page 3 of 5)

(c) Views/observations of Bhakra Beas Management Board and basin states on the project proposal shall be obtained and furnished to CEA/CWC.

v) Various stipulations made by Ministry of Environment & Forests while according environment and forest clearances shall be complied with by M/s RSWM.

vi) The completion cost of the civil works of the project has been estimated based on annual rate of escalation of 6% on simple rate basis. Due to prevailing low rate of inflation as reflected in the wholesale/ consumer price indices, the escalation shall be as per actual or 6% whichever is less.

vii) POWERGRID after the route survey shall confirm the adequacy of land for construction of Parbati pooling point, and accordingly, the decision of taking the line from Allain Duhangan to Parbati pooling point instead of Allain Duhangan to Nalagarh shall be reviewed. In case, it is decided to terminate this line at Parbati pooling point, the Project Authorities would have to furnish the revised Completed Cost to CEA.

viii) M/s RSWM shall obtain consent from POWERGRID for wheeling of power to the beneficiary, i.e. Delhi Power Supply Company (erstwhile DVB).

ix) M/s RSWM shall include necessary condition in their agreement with power beneficiaries i.e. Delhi Power Supply Company (erstwhile DVB) regarding installation of 144 MVARs shunt capacitors in their system.

x) M/s RSWM shall submit to CEA the amended Articles of Association incorporating provision under Section 15(A)5 of E(S) act, 1948 and to confirm that the same had been filed with the Registrar of Companies.

xi) M/s RSWM shall furnish the source of 19% of project cost towards contribution to equity in addition to its own contribution of 11% of project cost towards equity. This may be submitted with an acceptance certificate from Himachal Pradesh Government.

xii) The final financial package shall not be inferior to the tentative financial package (Annex-II) presently submitted by M/s RSWM to CEA for obtaining techno-economic clearance.

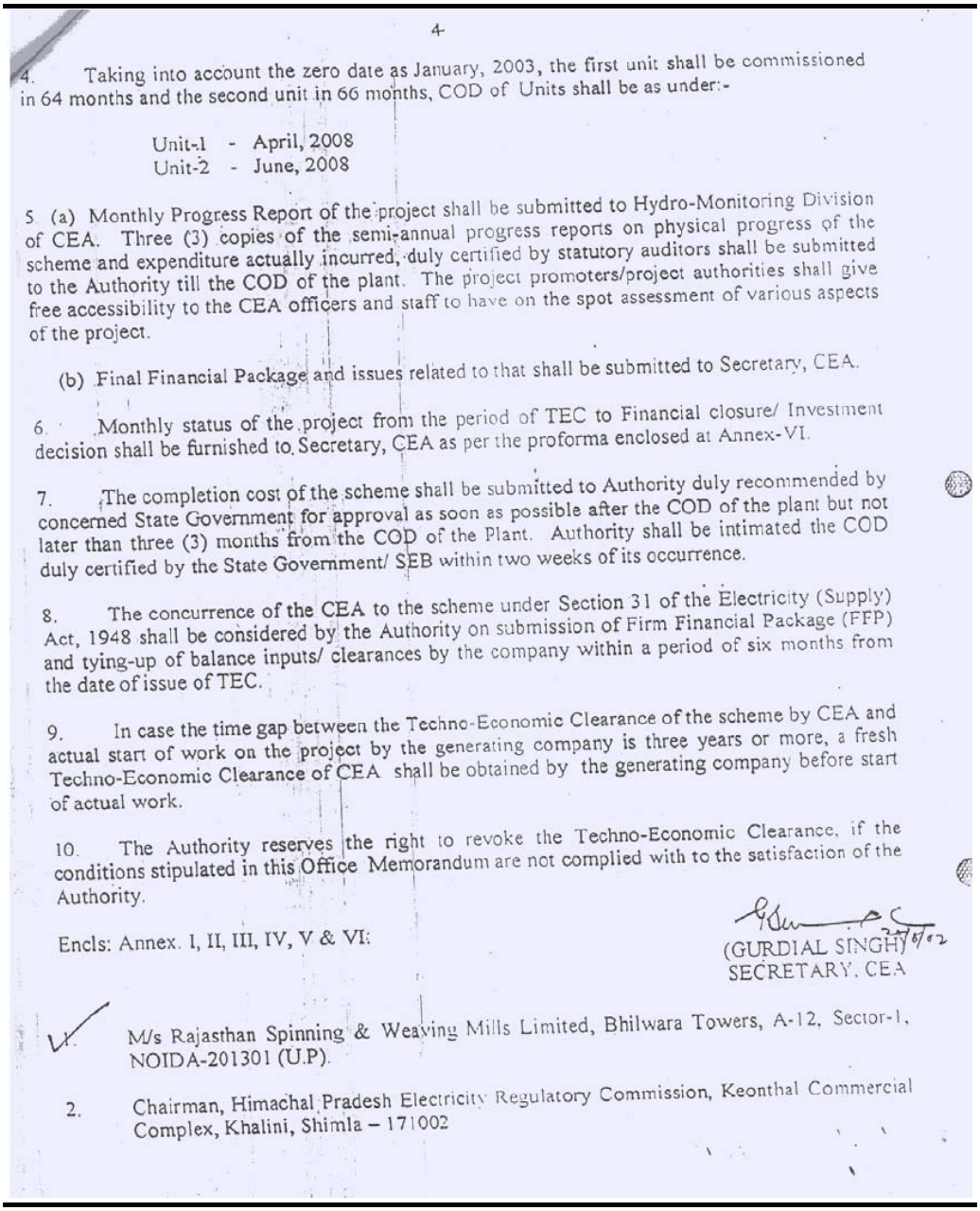
xiii) Approval of the concerned State Government for the Final Financial Package shall be made available before the approval of the Final Financial Package by CEA.

xiv) The project shall be executed in accordance with the Final Financial Package approved by the Authority. The tariff of electricity from the project shall be worked out based on the Completed Capital Cost and CEA approved Final Financial Package.

xv) For the purpose of tariff calculations, Moratorium period shall be considered as NIL.

xvi) The tariff shall be decided by Central Electricity Regulatory Commission.

Figure 1.16 Techno-economic Clearance for ADHEP (Page 4 of 5)



4

4. Taking into account the zero date as January, 2003, the first unit shall be commissioned in 64 months and the second unit in 66 months, COD of Units shall be as under:-

Unit-1 - April, 2008
Unit-2 - June, 2008

5. (a) Monthly Progress Report of the project shall be submitted to Hydro-Monitoring Division of CEA. Three (3) copies of the semi-annual progress reports on physical progress of the scheme and expenditure actually incurred, duly certified by statutory auditors shall be submitted to the Authority till the COD of the plant. The project promoters/project authorities shall give free accessibility to the CEA officers and staff to have on the spot assessment of various aspects of the project.

(b) Final Financial Package and issues related to that shall be submitted to Secretary, CEA.

6. Monthly status of the project from the period of TEC to Financial closure/ Investment decision shall be furnished to Secretary, CEA as per the proforma enclosed at Annex-VI.

7. The completion cost of the scheme shall be submitted to Authority duly recommended by concerned State Government for approval as soon as possible after the COD of the plant but not later than three (3) months from the COD of the Plant. Authority shall be intimated the COD duly certified by the State Government/ SEB within two weeks of its occurrence.

8. The concurrence of the CEA to the scheme under Section 31 of the Electricity (Supply) Act, 1948 shall be considered by the Authority on submission of Firm Financial Package (FFP) and tying-up of balance inputs/ clearances by the company within a period of six months from the date of issue of TEC.

9. In case the time gap between the Techno-Economic Clearance of the scheme by CEA and actual start of work on the project by the generating company is three years or more, a fresh Techno-Economic Clearance of CEA shall be obtained by the generating company before start of actual work.

10. The Authority reserves the right to revoke the Techno-Economic Clearance, if the conditions stipulated in this Office Memorandum are not complied with to the satisfaction of the Authority.

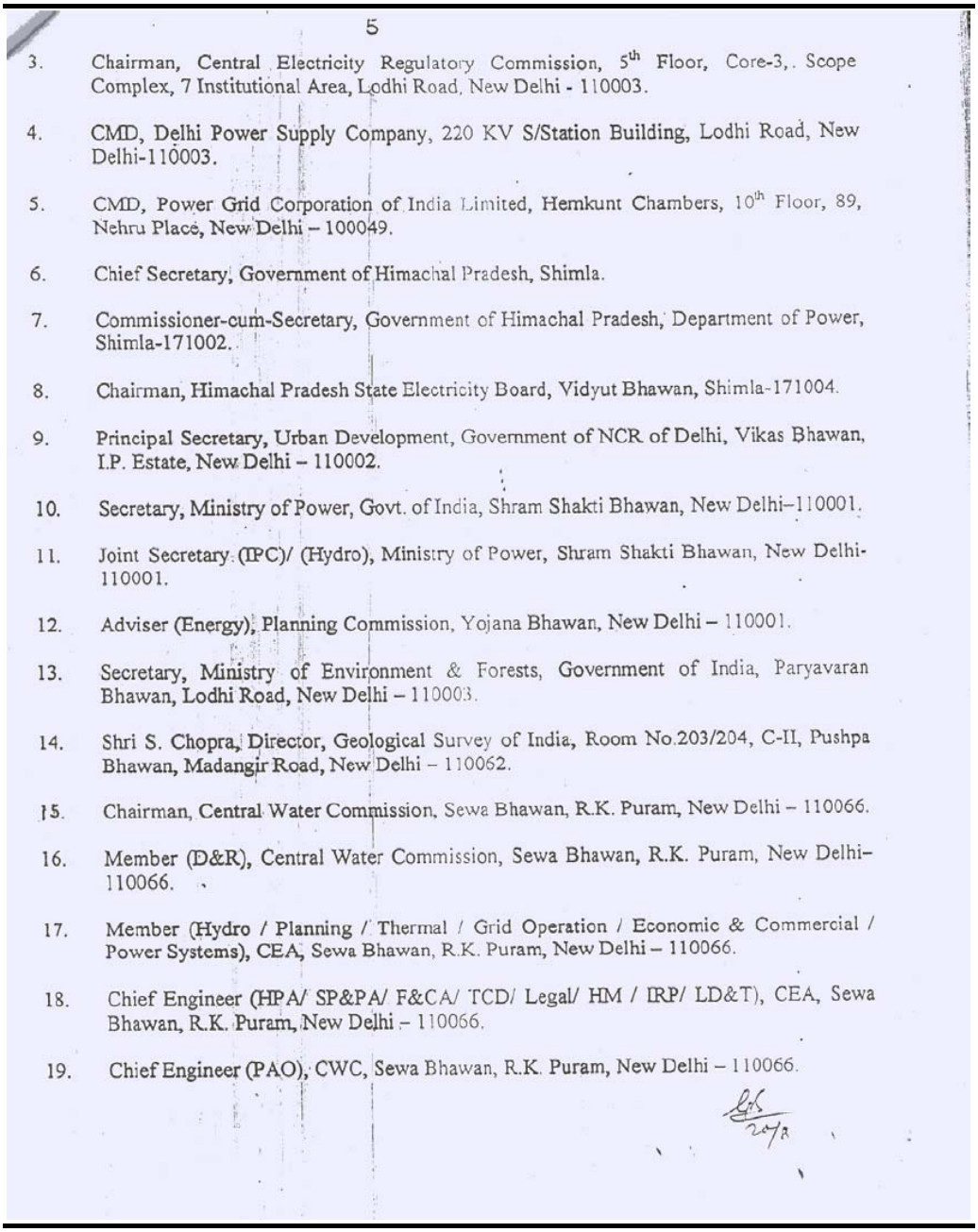
Encls: Annex. I, II, III, IV, V & VI:

(GURDIAL SINGH) 27/6/02
SECRETARY, CEA

M/s Rajasthan Spinning & Weaving Mills Limited, Bhilwara Towers, A-12, Sector-1, NOIDA-201301 (U.P).

2. Chairman, Himachal Pradesh Electricity Regulatory Commission, Keonthal Commercial Complex, Khalini, Shimla – 171002

Figure 1.17 Techno-economic Clearance for ADHEP (Page 5 of 5)



5

3. Chairman, Central Electricity Regulatory Commission, 5th Floor, Core-3,. Scope Complex, 7 Institutional Area, Lodhi Road, New Delhi - 110003.

4. CMD, Delhi Power Supply Company, 220 KV S/Station Building, Lodhi Road, New Delhi-110003.

5. CMD, Power Grid Corporation of India Limited, Hemkunt Chambers, 10th Floor, 89, Nehru Place, New Delhi – 100049.

6. Chief Secretary, Government of Himachal Pradesh, Shimla.

7. Commissioner-cum-Secretary, Government of Himachal Pradesh, Department of Power, Shimla-171002.

8. Chairman, Himachal Pradesh State Electricity Board, Vidyut Bhawan, Shimla-171004.

9. Principal Secretary, Urban Development, Government of NCR of Delhi, Vikas Bhawan, I.P. Estate, New Delhi – 110002.

10. Secretary, Ministry of Power, Govt. of India, Shram Shakti Bhawan, New Delhi–110001.

11. Joint Secretary (IPC)/ (Hydro), Ministry of Power, Shram Shakti Bhawan, New Delhi-110001.

12. Adviser (Energy), Planning Commission, Yojana Bhawan, New Delhi – 110001.

13. Secretary, Ministry of Environment & Forests, Government of India, Paryavaran Bhawan, Lodhi Road, New Delhi – 110003.

14. Shri S. Chopra, Director, Geological Survey of India, Room No.203/204, C-II, Pushpa Bhawan, Madangir Road, New Delhi – 110062.

15. Chairman, Central Water Commission, Sewa Bhawan, R.K. Puram, New Delhi – 110066.

16. Member (D&R), Central Water Commission, Sewa Bhawan, R.K. Puram, New Delhi–110066.

17. Member (Hydro / Planning / Thermal / Grid Operation / Economic & Commercial / Power Systems), CEA, Sewa Bhawan, R.K. Puram, New Delhi – 110066.

18. Chief Engineer (HPA/ SP&PA/ F&CA/ TCD/ Legal/ HM / IRP/ LD&T), CEA, Sewa Bhawan, R.K. Puram, New Delhi – 110066.

19. Chief Engineer (PAO), CWC, Sewa Bhawan, R.K. Puram, New Delhi – 110066.

20/2

Annex B

Management Plans - Construction Phase

Annex B-1

Construction Labour Management Plan

B-1 INTRODUCTION

The peak labour strength of approximately 2000 persons is expected during the project construction.

The labour will be provided individual dwelling units made of G.I. sheets and locally available building material like boulders etc. The dwelling units will be supported by common latrines and bathing facilities duly segregated for male and female labour. Piped water supply will be made available within 50 meters of each dwelling unit.

B-1.1 FUEL ARRANGEMENT FOR CONSTRUCTION LABOUR

During construction of the project, a large number of people will be working in the project area. The necessary fuel wood requirement will have to be met though supply of fossil fuel to avoid encroachment on forest area during construction phase. In order that influx of labourers in the project area does not lead to deforestation, necessary arrangements for supply of coal/fuel wood and kerosene to the labourers on an individual basis will be made by ADHPL in association with its contractors and with the help of local government.

In order to reduce pressure on forest wood, following actions are to be taken up by ADHPL:

- Need to undergo a construction phase of purchase agreement with Government agencies like the Indian Oil or Bharat Petroleum Ltd to provide regular kerosene oil at the project site for distribution to the labour engaged for work at site.
- Similarly purchase orders for fuel wood/charcoal, to be placed on to State Forest Department for regular fuel supply to the labourers from authorised fuel/wood/charcoal depots of the district.

Other alternative fuel is coal. For about 2000 people (labour + dependants) working during construction phase at a rate of 0.5 kg of coal per day per person for cooking etc works out to about 0.5 X 365 X 2000 = 365 tonnes per year. The total coal requirement for the project construction is estimated to be about 2370 tonnes. This is considering the peak requirement since the peak labour force of 2000 people would be staying in the project area only between the 3rd to 6th year of project construction stage.

In order to assure regular fuel supply, ADHPL has kept a provision of INR 5 million for the construction phase. Provisions shall be made to establish a fuel depot at the project site for supplying regular fuel to the workers. ADHPL will construct sheds using non-forest products such as bricks and cement.

B-1.2 WATER SUPPLY

Total water requirement for peak personnel (office staff and labour with their family members) will be approximately 400 m^3/day considering 80 litres of water requirement per person per day for 5000 nos. of peak personnel.

B-1.3 WASTE GENERATION

It is expected that the peak labour engaged for the project being 2000 and 50% of the project personnel will be with their family size of about 4 nos. The total population for the project will be 5000. Considering waste generation per person to be 0.3 kg, the total waste generation expected from the construction labour camp will be 1500 kg per day. The waste will be collected on daily basis from construction labour camps. It is expected that about 30% of the waste generated will be organic in nature which will be segregated at source subjected for composting and remaining will be sent for landfill.

B-1.4 SEWAGE GENERATION AND TREATMENT

Considering an average sewage generation of 50 litres per person per day and one seat per 35 persons, the project will construct toilets for each of the camp site. Total sewage generation for peak 5000 construction people (including their families) will be 250m^3/day. The project will accordingly construct toilets for the construction labour camps and office personnel. The toilets will be attached to septic tanks attached with soak pits as per the design suggested by Bureau of Indian Standards (i.e.IS:2470).

B-1.5 INSPECTION OF LABOUR CAMPS

Labour camps will be inspected on weekly basis. The inspection will focus on the following:

- General observations on cleanliness;
- Drinking water availability with respect to source, cleanliness of storage tanks and quality fit to be consumed;
- Provision of sanitation facilities to water availability in toilets their cleanliness and drainage;
- Provision garbage segregation and disposal facilities.

A format of inspection of labour camps is as shown in ***Figure B1.1***.

Figure B1.1 Format being used for Labour Camp Inspection

AD Hydro Power Limited; Prini

Inspection Report of Labour Camps

Date: _____ **Name of Contractor :_____**

Location: _____ **Nos. of Huts. :_____**

Colony Type: Main/ Temporary **Total Nos. of labour :_____**

Contact phone Nos.: _____ **Name site in charge :_____**

Sr.No: _____ **Nos. of toilets : _____**

GENERAL OBSERVATION		**Remarks**
Cleanliness in the camp साफ सफाई	Good/Satisfactory /Unsatisfactory	
DRINKING WATER		
Water Source पानी का स्त्रोत	IPH/Borewell	
Cleanliness of Storage tank पानी की टांकी की सफाई	Good/Satisfactory /Unsatisfactory	
Visual Quality of Drinking water पीने के पानी का सतर	Good/Satisfactory /Unsatisfactory	
SANITATION		
Toilets Condition शौचालय की हालत	Good / Satisfactory /Unsatisfactory	
Water Availability पानी का प्रबन्ध	Sufficient /Unsufficient	
Cleanliness शौचालय की सफाई	Good / Satisfactory /Unsatisfactory	
Drainage निकास का प्रबन्ध	Good / Satisfactory /Unsatisfactory	
Garbage disposal system कुडा करकट की साफ सफाई	Good / Satisfactory /Unsatisfactory	

Name & Signature of Investigation Team

Environment & Social Manager (Verified by)

1.0 Statutory Clearances

1) Labour

The Contractor shall comply with the Provisions of all the Acts, Laws and Regulations or Bye Laws of any Local or other Statutory Authority applicable in relation to the execution of the works, such as:

i) Payment of Wages Act, 1936 (Amended).
ii) Minimum Wages Act, 1948 (Amended).
iii) The Contract Labour (Regulation & Abolition) Act, 1970 with Rules framed there under as amended.
iv) Workmen Compensation Act, 1923 as amended by Amendment Act No.6 of 1976.
v) Employer's Liability Act, 1938 (Amended).
vi) Maternity Benefit Act, 1961 (Amended).
vii) The Industrial Employment (Standing Orders) Act, 1946 (Amended).
viii) The Industrial Disputes Act, 1947 (Amended).
ix) Payment of Bonus Act, 1965 and Amendment Act No.43 of 1977 and No.48 of 1978 and any amendments thereof.
x) The Personal Injuries (Compensation Insurance) Act, 1963 and any modifications thereof and rules made there under from time to time. The Contractor shall take into account all the above said financial liabilities in his quoted rates and nothing extra, whatsoever, shall be payable to his on this account.
xi) Employees Provident Fund Act - The Contractor shall provide and produce necessary proof and declaration to ADHPL regarding compliance of all the provisions, making of timely deposits etc. otherwise a sum of 5% of the gross bill amount will be deducted against EPF deposit from the bill.
xii) The contractor shall provide personal protective gear/equipment like Helmets, Safety Shoes, Rain Coats and Safety Glasses etc. to his labour for safe and efficient discharge of work at their respective work sites.

2) Environment:

The contractor shall not pollute the Environment by any of his or his men's acts and have to strictly follow the provisions of Environment Protection Measures.

3) Forest Conservation Act:

Contractor shall strictly comply with all the provisions of Forest Conservation Act 1980. Under no circumstances any trees will be cut or destroyed in and around the vicinity of the project area.

Adequate fuel (wood / coal / kerosene / LPG) will be supplied by the Contractor to the labourers so as to prevent them from damaging the forest. Fuel wood shall be sourced

from the State Forest Department and record of procurement and distribution for use will be maintained by the contractor.

In case any damage to forest property / trees or environment is reported, the contract will be terminated by ADHPL. Any penalty imposed by the Department of Forests, Govt. of Himachal Pradesh shall be levied form the Contractor and legal action as deemed necessary will be initiated against the Contractor.

No trapping and hunting shall be allowed. If some one is found hunting, trapping and otherwise disturbing the wild life and vegetation in the project area then he/ she shall be fined heavily and/or handed over to the police. The contract is also liable to be terminated if the contractor's labours are found to be violating the above provisions of the contract

4) Explosive & Blasting:

The Contractor shall acquaint himself with all the applicable latest laws and regulations concerning storing, handling, safety and the use of explosives. All such laws, regulations and rules etc. as are applicable from time to time shall be binding upon the contractor.

The provisions detailed in this are supplementary to the above laws, rules and regulations etc. and are applicable except where they are in conflict with the aforementioned laws etc. from time to time. Further, ADHPL may issue modifications, alterations and new instructions. The contractor shall comply with the same without these being made a cause for any claim, whatsoever, against ADHPL.

The Contractor shall make sure that his supervisors and workmen are fully conversant with all the rules and regulations to be observed in storing, handling and use of explosives. It shall be ensured that the Supervisor-in-Charge is thoroughly acquainted with all the details of the handling, safety and the blasting operations. The Contractor should have a certified blaster.

5) Blasting:

Blasting shall be carried out during fixed hours of the day. The blasting hours shall be **7.0AM to 8.0A.M., 12.00 to 1.0PM and 5.0PM to 6.0PM.** The hours once fixed shall not be altered without written approval of ADHPL in advance.

The site of blasting operations shall be demarcated with red flags. The order for blasting shall be given only after giving proper warning signals atleast three times so as to enable all the labour, watchmen etc. to reach safe places or shelters.

A bugle/siren with a distinctive note shall be used to give the warning signals. This bugle/siren shall not be used for any other purpose. All the labour shall be made acquainted with the sound of the bugle/siren and shall be strictly warned to leave their

site of work immediately at the first warning signal and to head for safe shelters and not to leave the shelters until the 'all-clear' signal has been given.

All the roads and footpaths leading to the blasting area shall be watched strictly and all the traffic shall be regulated at the time of blasting.

In special cases, suitable extra precautions shall be taken. ADHPL may however, permit blasting for underground excavation, without restriction of fixed times provided that ADHPL is satisfied that proper precautions are being taken to give sufficient warning to all concerned and that the work of other agencies on the site is not unduly hampered.

For lighting the fuses, a lamp with a strong flame such as a carbide lamp shall be used. The supervisor shall watch the time required for the firing of the fuses and shall see that all the workmen are under safe shelters in good time.

2.0 Special Terms and Conditions

1) Safety measures

Contractor shall at his own cost be responsible for safety and protection barriers, warning signals and devices and posting of flagmen at desired locations along the routes to be used by the Contractor. The contractor shall arrange the safety belts and other protective measures required from time to time and as per the nature of the works.

If any person of the contractor is found to be flouting the safety measures at site like non-wearing of Helmet, Safety Belts, Safety Shoes, Goggles etc. as per the nature of the job, then a penalty of Rs. 200/- per person shall be imposed on the contractor.

Co-ordination meetings regarding Safety, Environment & Health and Legal Matters shall be held on 15th & 25th day of every month. Contractor or his authorized representative has to attend the meetings regularly at least once in a month, failing which a cash penalty of Rs. 2000/- shall be imposed.

2) First Aid:

Notwithstanding Contractor's obligation to comply with the requirements of the Safety Manual, the Contractor shall be responsible for providing, operating & maintaining a first-aid box at the site for treatment of its employees.

3.0 Force Majeure:

Any event such as riots (other than among the Contractor's employees), Civil Commotion (to the extent not insurable), war (whether declared or not), invasion, act of foreign enemies, hostilities, civil war, rebellion, revolution, insurrection, military or usurped power, damage from aircraft, nuclear fission, acts of God, such as earthquake (above 7 magnitude on Richter Scale), lightening, unprecedented floods, fires not

caused by Contractor's negligence etc. shall be construed to be Force Majeure situation. In the event of either party being rendered unable by Force Majeure to perform any obligation required to be performed by them under this Contract, the relative obligation of the party effected by such Force Majeure shall be treated as suspended for the period during which such Force Majeure cause lasts, provided the party alleging that it has been rendered unable as aforesaid, thereby shall notify within 10 days of the alleged beginning and ending thereof giving full particulars and satisfactory evidence in support of such cause.

Annex B-2

Traffic Management Plan

B-2 INTRODUCTION

The traffic management plan includes the following elements:

- Transport management planning,
- Driver training,
- Access road maintenance,
- Vehicle management and maintenance, and
- Community liaison and safety.

The essential features of each element are outlined below.

B-2.1 TRAFFIC MANAGEMENT PLANNING

Many of the impacts that are associated with the project related road traffic can be mitigated through efficient transport planning and management. For example avoiding unwanted trips by all vehicle types used in the project period could be a potential mitigation measure through transport planning. The traffic management covers following aspects:

- Sourcing or recruitment of drivers and number of qualified drivers needed;
- Drivers' training and approval;
- Hours of driving and rest periods;
- Driver, vehicle and load security arrangements;
- Driver communication with control point and vehicle equipment;
- Language/communication;
- Source of suitable vehicles;
- Vehicle quality and specification;
- Number of vehicles required;
- Vehicle preventative maintenance programme;
- Vehicle routes, route planning and alternative routes;
- Overall vehicle movements;
- Strategic vehicle parking locations;
- Impact of vehicles on local community, villages, roads, and

- Inspection and audit of the project traffic.

B-2.2 ACCESS ROUTE SELECTION & MANAGEMENT

It is expected that there will be increase of traffic on the Nagar – Manali Road during construction phase of the project. The traffic management is to be monitored on daily basis to evenly spread traffic flow during a day so as to avoid congestion and minimise chances of road accidents.

In addition, the contractor will comply with all statutory vehicle limits with respect to width, height, weight, loading, etc.

B-2.3 MITIGATIONS

The contractor will minimise the use of road transport wherever possible by efficient transport planning. Significant efforts will be made by the contractor to ensure that materials will be conveyed in such a way that their transport does not cause significant or undue adverse environmental impacts. In order to minimise the disruption to non-project use of existing roads, the contractor is required to adopt the following measures:

- Traffic flows will be timed, wherever practicable, to avoid periods of heavy traffic flow along main roads;
- Vehicles will be prohibited from reversing unattended;
- Vehicles shall enter and exit project area in a forward direction, so far as is possible;
- Clear signs, flagmen and signal posts will be set up as necessary;
- Appropriate supervision will be provided to control flow of traffic when machinery needs to cross roads;
- Liaison with the police and other authorities prior to the movement of any abnormal loads or any over dimensioned consignment;
- Ensure that traffic activities requiring 'Long and Heavy Vehicle Transport' will be in accordance with the regulatory requirements. The Regional; Transport Office or Traffic Police shall be consulted on the procedures required to be followed;
- If road closures are required, diversions will be planned and communicated to the authorities and affected communities in advance. All diversion will be constructed to the specifications of the applicable road authority and will be maintained in good drivable conditions until the completion of the re-instatement work;
- The project traffic or any project activity will not obstruct the access to neighbouring properties;

- Ambulance and fire services will be consulted regarding road diversions. Road diversions will not increase the response time of these services to local communities;

- Where roads used by children to reach schools are used by construction traffic, road safety education will be provided at schools as well to the local community. Vehicle traffic will be minimised during the periods when children are travelling to and from schools falling on traffic routes;

- In the case of open excavation works, all road diversions will employ traffic control devices to warn and protect the public and construction personnel;

- Appropriate speed limits for various motor vehicles and construction equipments will be determined as part of the traffic management based on type of roads available en-route the location to and fro of the project component where construction material is to be transported project; and

- Determined speed limits will be enforced over all construction traffic routes.

Where there is the potential for cumulative impacts from congestion and related impacts from construction traffic to settlements near or en route to the project component locations, transport movement will be carefully considered in order to minimise disturbance impacts.

B-2.4 PARKING

Signposted parking facilities will be provided near project component locations. The parking of construction vehicles along footpaths, single lane roads and double parking shall be prohibited on community roads and public highways in the vicinity of the project work areas.

A dedicated parking area will be provided on the project office/or other suitable location for the private vehicles of construction personnel.

The vehicle maintenance procedures will address the oil and fuel spills due to leakage etc. Oil and fuel spill during parking or whenever the vehicle is idling will be addressed by providing oil and fuel adsorbent materials or drip trays in the parking area in the hard stand areas. Vehicles will not be allowed to park anywhere else outside the hard standing area. Contractor personnel especially those responsible for EHS&S will report to vehicle maintenance team and the driver concerned about the spillage and leakage for immediate rectification.

B-2.5 DRIVERS' TRAINING

The project EHS&S requirements and Indian regulatory requirements specify the requirements for driver training. The contractor is required to ensure that

all drivers and driver trainers are suitably trained in accordance with driver training requirements. Driver qualifications, skills of drivers and contractor's driving assessors will be checked by ADHPL in accordance with the contractor's approved training requirements. Unauthorised passengers in project related vehicles will be strictly prohibited.

The following issues and documents are to be addressed during driver training in a language (Hindi or Kulbi/Pahari language as is mostly understood by drivers:

- Journey Management Plan;
- EHS&S Standards and Practices; and
- National and local legal requirements to drive a vehicle.

B-2.6 ACCESS ROAD MAINTENANCE

Throughout the project construction period, ADHPL will be responsible for monitoring the condition of access roads used by project traffic and for ensuring that they are maintained in a condition that is at least as good as the condition they were in before the start of construction, to the satisfaction of the road maintenance authorities and landowners.

On completion of the project activities, ADHPL will reinstate land and access roads disturbed by transport activities. ADHPL is expected to adopt appropriate measures to keep access roads free from mud, dust and debris, such as:

- The use of hard core surfaces on access roads;
- The provision of easily cleaned hard standing area within the project components;
- The provision of wheel washing facilities for vehicles leaving the marshy or slushy construction base/working width;
- Appointment of personnel/sweepers to clean hard standing area and to remove any mud/debris deposited on the access roads and public highways; and
- Sheeting of all project vehicles carrying potentially dusty material or likely to deposit loose materials on the access roads.

B-2.7 VEHICLE MANAGEMENT AND MAINTENANCE

In order to ensure that accident rates and the overall transport fuel consumption are minimised, ADHPL will ensure that the vehicle fleet working on the project (whether directly for the contractor or for the contractor's subcontractors) is maintained according to the manufacturers' specifications. This shall include the compliance of all vehicles with all safety related specifications (such as the fitting of the correct tyres, with adequate reserves of tread, safe for movement in snow areas, inflated to manufacturer

recommended levels), as well as mechanically maintaining vehicles to manufacturer specifications so as to minimise fuel consumption as well ensure safety on road.

ADHPL will ensure the following in respect of vehicle maintenance, noise and emission standards:

- All vehicles shall be maintained so that their noise and emissions do not cause nuisance to workers or local people;
- An up to date database of all vehicles and construction equipments deployed across various project component locations will be maintained. The database will contain details about the periodical maintenance, schedule of maintenance, vehicular emission and noise emission testing done as per Indian regulatory requirements, copy of PUC certificates etc.;
- Routes will be selected so as to minimise nuisance to local residents from noise and emissions;
- Avoidance of passage through and near settled areas during night time hours;
- New vehicles/equipment purchased 'as new' after contract award shall comply with emission standards in force on the purchase date;
- Older vehicles/equipment not purchased 'as new' after contract award shall be maintained so that noise and emissions levels are no greater than when the vehicle/ equipment was new;
- Oil and fuel leaks must be addressed within 24 hrs of observation or reporting on any vehicle or construction equipment;
- Vehicle maintenance and management parameters will form a critical component of key performance indictor for the contractor responsible to maintain their vehicles; and
- All heavy vehicles like JCE, cranes, battery operated trolleys etc. will be provided with reversing siren.

B-2.8 COMMUNITY LIAISON AND COMMUNITY SAFETY

Traffic safety in local communities must be a high priority for ADHPL and their contractors. ADHPL's contractor must seek to minimise the amount of traffic through communities, the distance travelled by employees to undertake work and the distances over which equipment will be transported by precise and optimal planning.

The contractor will ensure communities are advised in advance of project progress and near term activities where transport issues have the potential to impact local communities. The communications to the community will discuss the timing (*start, duration and finish of project activities in their vicinity*) of road

closures, if any and diversions, and, if more than one viable alternative exists, the community's preferences for diversion routes.

Other aspects of project transportation that will be the subject of community liaison will include the location and routing of access roads, and the upgrading of existing roads to facilitate their use for project purposes. These issues will be taken up with the communities through ADHPL's Community Liaison Officer who in turn will also seek support of local administration for management of heavy traffic and closure of community used roads.

Efforts will be made to brief women particularly on safety measures. As the primary caretakers, women are well positioned to pass on safety information to their children. The Community Liaison Officer will carry out traffic safety awareness programme as part of road safety awareness programme.

B-2.9 ROLES AND RESPONSIBILITIES

Responsibilities specific to the traffic management are listed below and will be reflected in job descriptions as appropriate.

B-2.9.1 ADHPL Responsibilities

Responsibilities of ADHPL will include as a minimum:

- Communicating transport management procedures to all ADHPL personnel and contractors managing transport operations and fleet;
- Co-ordinating the preparation of management plans at micro-level, if required and, reviewing and approving the Contractor plans before allowing the commencement of work;
- Securing a periodical updated listing of all transport vehicle fleet details and their corresponding environmental regulatory compliance details with regards emission and noise from the project contractors;
- Providing advice on transport management principles, policies and procedures, as required;
- Implementation of training programmes to ensure an appropriate level of competency of personnel with respect to traffic and transport management, with specialist level of training for those exposed to or directly involved in traffic and transport management activities;
- Auditing traffic and transport management and in the event of serious breaches, determining corrective action for non-compliance and identifying opportunities for continuous improvement; and
- Working internally, and with contractors, to minimise traffic generation.

B-2.9.2 Contractor Responsibilities

ADHPL contractors' will be responsible to:

- Comply with the requirement as delineated in the Traffic Management Plan and all its components such as verification and monitoring aspects, reporting, maintaining records etc;

- Identify appropriate personnel responsible for co-ordinating and managing traffic related issues across their respective location of the project component and make them participate in training programmes on traffic and transport management;

- Securing and updating the necessary permits for on-road and off-road vehicles from concerned regulatory authorities;

- Ensuring that all fleet vehicles comply with environmental regulations with regards emission and noise.

Annex B-3

Muck Disposal Plan

B-3 INTRODUCTION

The ADHE project has underground work, surface work and road construction components which will generate large amount of muck. The components that will be generating muck include the following:

- The underground component of the project include a desilting basin at Duhangan intake, the Allain and Duhangan tunnel measuring 3.3 km and 4.4 km in length respectively, two adits for each tunnel, a surge shaft having diameter 10 m and height 60m, a 1.6 km long pressure shaft, two adits to pressure shaft, a 900 m long Main Access Tunnel. This will also include an underground powerhouse, transformer cavern, cable tunnel and tail race tunnel;
- The surface work component includes the diversion barrage at the intake of Allain stream, a trench weir at Duhangan stream, the storage reservoir and an open switchyard; and
- The road construction of about 28 km i.e. approach to Allain Barrage and Duhangan weir.

As per the revised muck disposal, a total of 887,000 cubic meter of earthwork is involved for the project construction. Of this excavation for construction of 28 km long road for both Allain and Duhangan areas will result in generation of 150,000 cum muck and remaining 737,000 cu m will be generated as rock spoil, the major components of which will be from underground rock cuttings.

Overall, it is expected that a total of 415,000 cu m (i.e. approximately 47%of total 867,000 cu m) will be reused in project construction works such as wire crates, retaining walls, rip-rap, soling etc. (including for road filling). The remaining 472,000 cum of muck will be disposed in the identified muck disposal sites.

Of the 415,000 cu m of muck meant for reuse, approximately 120,000 cum will be used in filling of roads, road soling and building retaining walls etc. and remaining 295,000 cu m will reused in filling of construction of project components.

Muck disposal at identified disposal sites and reused in filling of project components at plant areas. These disposal sites and plant areas are shown in the drawings as attached – Figure *B-3-I.*

The total muck generated from road excavations is 150,000 cum shall be reused in associated road works like road-soling, retaining walls on road boundaries, step-wise wire crating, etc. Typical details of cutting, filling, retaining walls and breast wall structure are shown in drawing enclosed as *Figure 3.2.* The total length of road is 28 km (16 km at Allain and 12 km at Duhangan). The quantity of excavation and filling of construction of road is given in *Table B-3.1*.

Table B3.1 Muck excavation and filling of roads (cubic meter)

SN	Particular	Quantity and Type of Muck			Total Excavation	Total Muck fill
		Soil	Soft Rock	Hard Rock		
1.	Road to Allain Barrage to Pirni	60000	25000	15000	100,000	75000
2.	Road to Duhangan Weir from Jagatsukh	10000	10000	30000	50000	45000
	Total	70000	35000	45000	150,000	120000

The remaining 30,000 cu m soil from road construction shall be disposed at an identified site. Five muck disposal sites with a total area of 18 ha have been identified. The total quantity of muck generation, reuse and disposal is given in *Table B3.2.* It also shows the quantity to be reused and quantity of muck to be disposed and the dumping sites identified for it. The three disposal sites include the following:

- Disposal Site - I (DS-I): Near Surge Shaft area; and
- Disposal Site - II (DS-II): Near Power House switchyard area.

Muck will also be reused as a fill material at following places (other than for road filling):

- Plant Area - 1 (PA-1) : Near Allain Barrage;
- Plant Area – 2 (PA-2) : Near Khanoon;
- Plant Area – 3 (PA-3) : Near Aleo Power Plant House

Table B3.2 Muck Generation, Reuse and Disposal

S.N.	**Component**	**Quantity (cu.m.) of Muck to be Generated as per**		**Area (sq.m.) available for Muck Disposal as per**		**Quantity (Cu.m.) Reused as per**		**Quantity (Cu.m.) of muck to be Disposed as per**	
		Earlier Plan	Revised Plan	Earlier Plan	Revised Plan	Earlier Plan	Revised Plan	Earlier Plan	Revised Plan
1	Allain Barrage	68000	150000	40000	10000	8000	30000	60000	120000
2	Reservoir	417000	250000	90000	34000 & S.N. 4	73000	130000	344000	120000
3	Duhangan Weir	14000	14000	10000	10000	4000	4000	10000	10000
4	Sruge Shaft	6000	6000	same as S.N.2	50000	0	0	6000	6000
5	Allain HRT	81000	86000	same as S.N> 2 & PA 1e	same as S.N. 4	40000	40000	41000	46000
6	Duhangan HRT	91000	91000	same as S.N..2& 3	same as S.N. 3&4	45000	45000	46000	46000
7	Pressure Shaft	61000	32000	20000	8900	30000	15000	31000	17000
8	Power House	100000	86000	same as S.N.7	Same as S.N. 7	50000	25000	50000	61000
9	TR Tunnel	22000	22000	same as S.N.7	3100	10000	6000	12000	16000
10	Road	175000	150000	20000	Same as S.N. 4	120000	120000	55000	30000
	Total	1035000	887000	180000	116000	380000	415000	655000	472000

The detailed contour plans of plant areas PA-1a to PA-1e, PA-2 and PA-3 are shown in Figures 3.1 to 3.9.

No muck will be disposed in rivers or stream.

The following steps shall be used for proper redressal of the muck disposal sites:

- Provision of retaining walls / wire-crates at each disposal site to retain the muck in the specified area;
- Maintaining slope stability by leaving 5 m berms for filling at each of the disposal site with an angle of repose not more than 35^0;
- Provision of catchment and toe drains at each disposal site to facilitate rain / snowmelt water to natural drain;
- Provision of silt traps in the catchment and toe drains to arrest any scree escaping with running water and arrangement of regular cleaning of these drains;
- Transportation of muck to the disposal site through tipper during non-peak hours (if passed through public road) and proper compaction by using bulldozers, where required to maintain stability. Compacting will also reduce area requirement for muck disposal by 15-24% depending on type of compaction;
- Stabilisation and rehabilitation of each of the disposal site by planting indigenous plant species like Fir, Blue pine, Walnut, Horsechestnut, Kharsu, Poplar etc and grasses like festuca grass etc;
- Provision of rip – rap treatment of filled muck surface depending on the type of land using boulders and soil from the muck and further consolidated by planting grasses, etc. This kind of treatment would be especially effective to prevent erosion due to running surface water;
- The details of proposed area, volume and redressal mechanism for each disposal / reuse site is given in ***Table B 3.3*****.**

Table B3.3 Details of Disposal Sites

Sl.#	Code	Location	Area (Sq. m.)	Volume (cum)	Redressal
1.	DS-1	Near Surge Shaft	90000	411000	Compaction, Plantation
2.	DS-2	Near Power House	20000	93000	Compaction, Plantation
3.	PA-1	Near Allain Barrage	40000	60000	Compaction, Plantation, Rip-rap
4.	PA-2	Near Khanun	10000	36000	Compaction, Plantation, Rip-rap

The proposed redressal of natural slope and its treatment is shown in the drawings enclosed.

Table B3.4 Revised Muck Disposal Plan (Capacity of Identified Disposal Areas)

S.N.	Description of Muck disposal area as per		Area (ha.) of Disposal Site as per		Capacity (cu.m.) of Disposal site as per	
	Earlier Plan	Revised Plan	Earlier Plan	Revised Plan	Earlier Plan	Revised Plan
1	PA 1a	PA 1a	1	1	30000	40000
2	PA 1b	PA 1b	1	0.24	12000	9600
3	PA 1c	PA 1c	1	2	12000	80000
4	PA 1d	PA 1d	0.5	1	4000	40000
5	PA 1e	PA 1e	0.5	0.16	12000	6400
6	PA 2	PA 2	1	1	36000	40000
7	N / A	PA 3	N / A	0.31	N / A	16800
8	DS 1	DS 1	9	5	411000	200000
9	DS 2	DS 2	2	0.89	20000	44500
10	DS 3	N / A	2	N / A	55000	N / A
	TOTAL		18	11.6	592000	477300

Note: Avg. height of retaining wall is considered to be 4.44m

Table B3.5 Revised Muck Disposal Plan

S.N.	Component	Disposal Site	Location
1	Allain Barrage	PA 1a	Between Barrage & Reservoir
2	Reservoir	PA 1a,b,c,d & DS 1	Between Reservoir & Potato Farm
3	Duhangan Weir	PA 2	Khanoon
4	Sruge Shaft	DS 1	Potato Farm
5	Allain HRT	DS 1 & PA 1e	Potato Farm & Near Sethan
6	Duhangan HRT	PA 2 & DS 1	Khanoon & Potato Farm
7	Pressure Shaft	DS 2	Swithyard
8	Power House	DS 2	Swithyard
9	TR Tunnel	PA 3	Near Aleo Power House
10	Road	DS 1	Potato Farm

The project switchyard area is proposed to be created completely by the land filling with excavated muck from the Power House Cavern. Switch-yard area near power house has been developed on privately acquired land by the Project, and a 10 m high RCC / gabion protection wall has been constructed along the Allain river bank.

Cost for muck disposal plan is integrated with the project cost.

Figure B3.1 Layout Plan showing Muck Disposal Sites

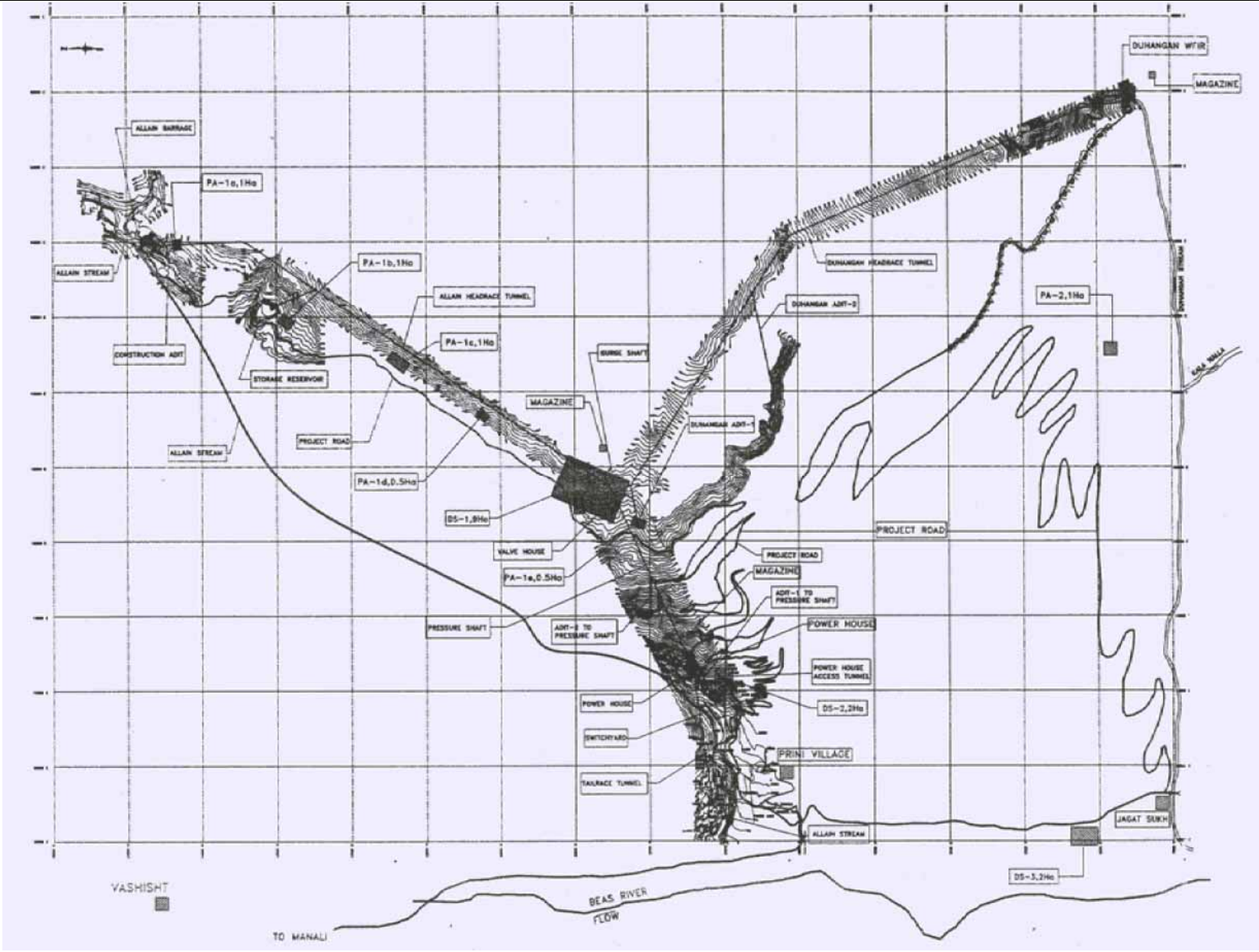


Figure B3.2 Typical road section showing muck reuse (Height of Typical Retaining Wall: 4.5m)

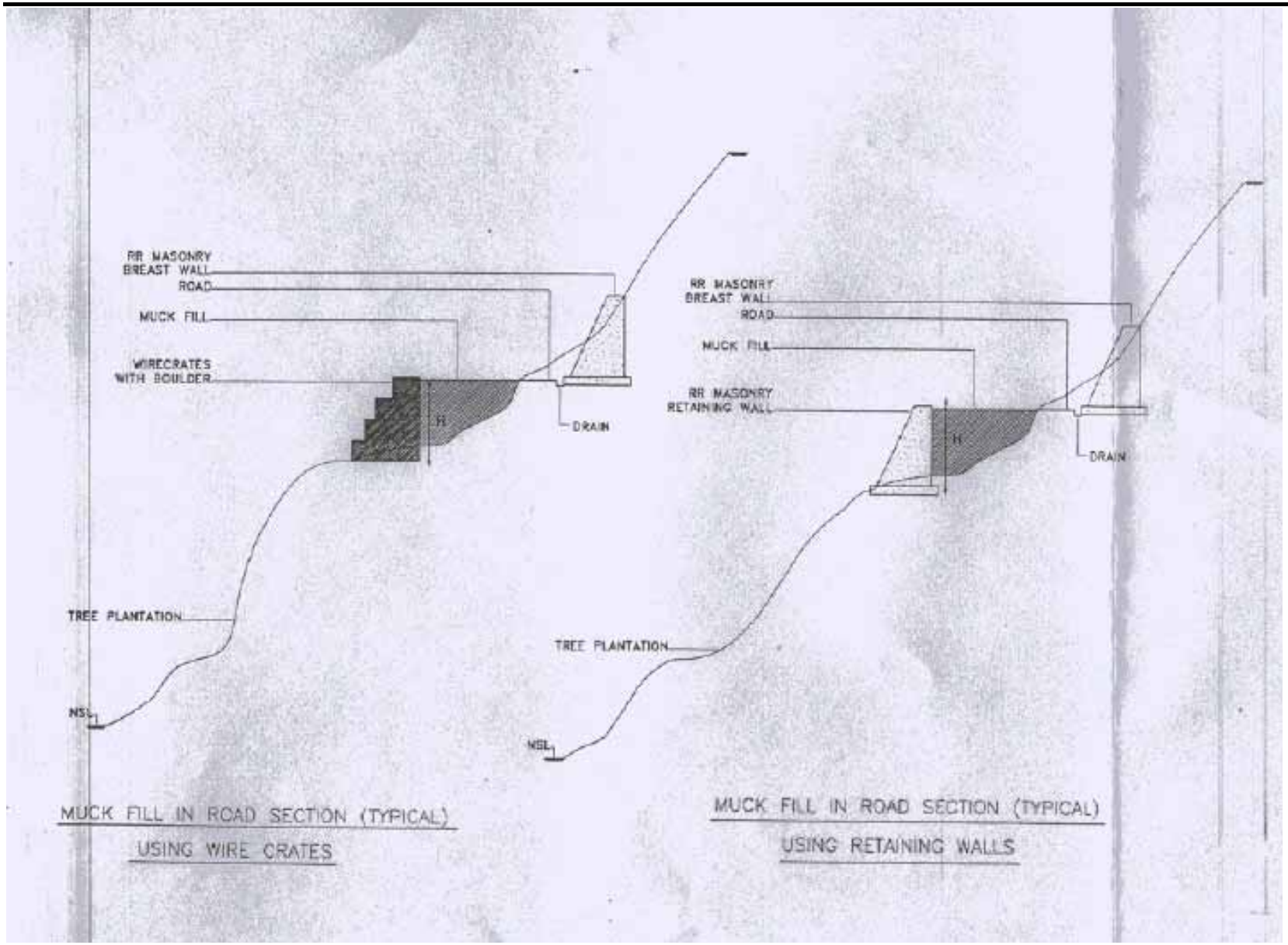


Figure B3.3 Plan and section of Plant Area (PA-1a) near Allain barrage showing muck disposal arrangement Area: 1 ha for 12000 m3 of Muck Reuse

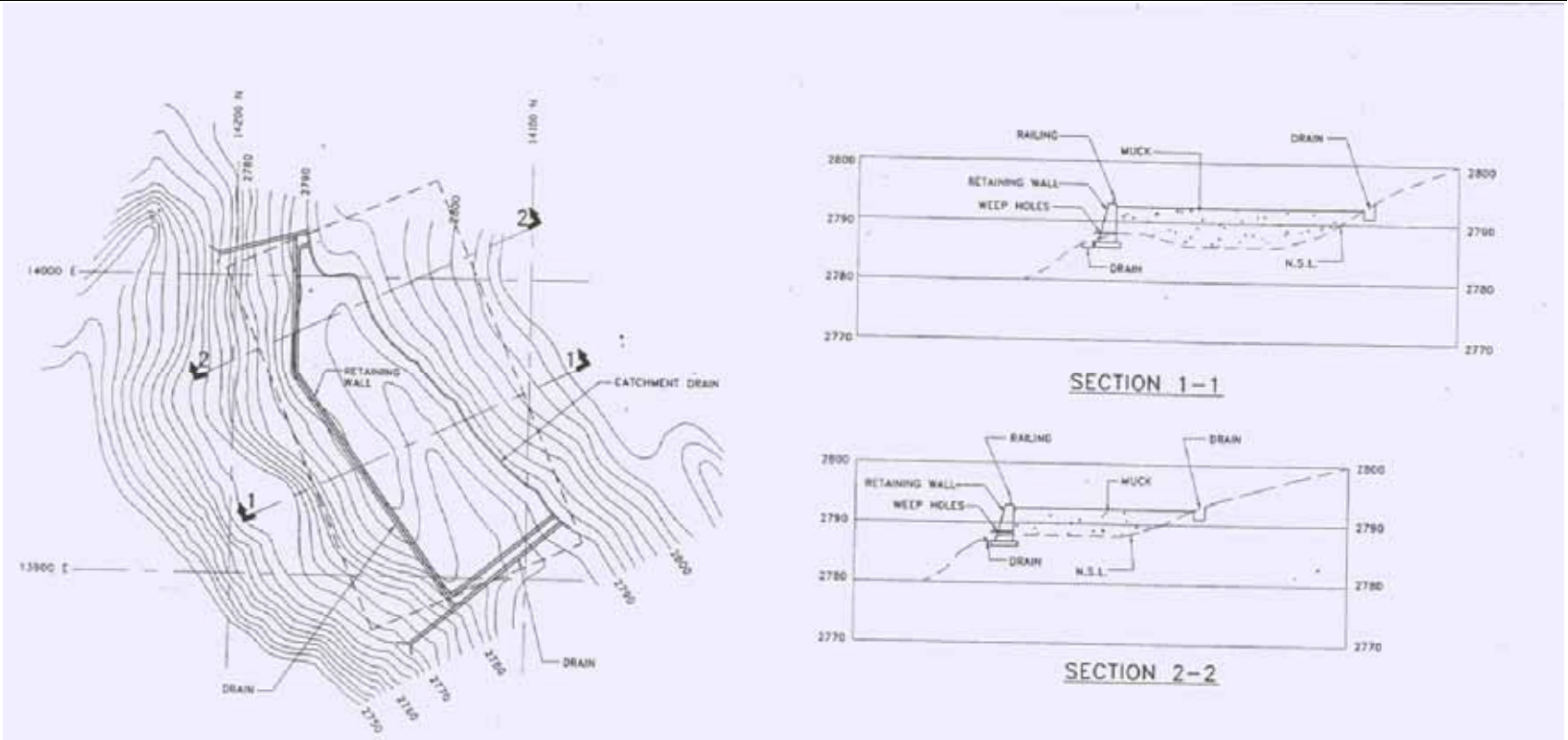


Figure B3.4 Plan and section of Plant Area (PA-1b) near Intermediate Storage Reservoir showing muck disposal arrangement Plant Area: 1 ha for 12000 m3 of Muck Reuse

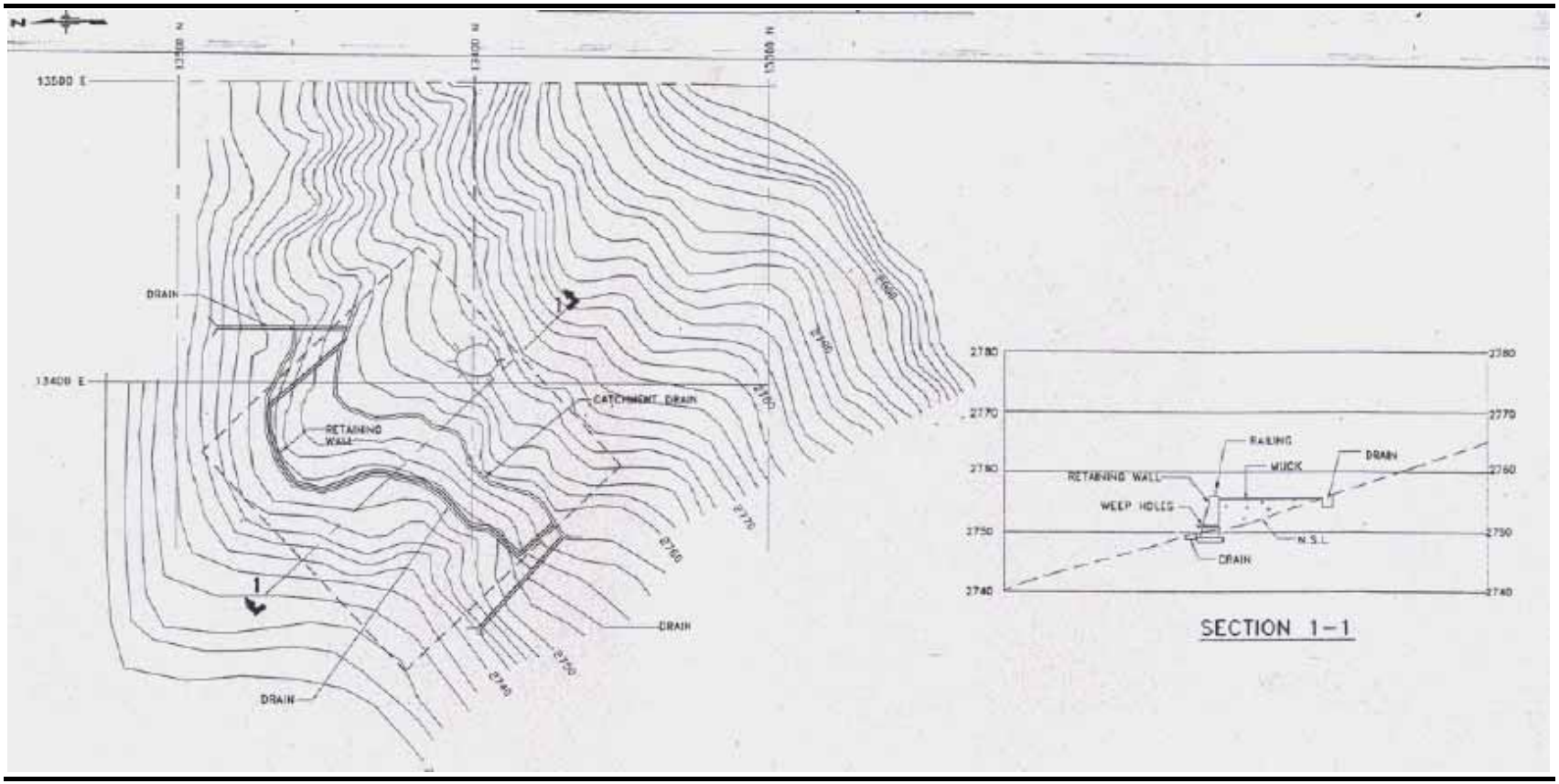


Figure B3.5 Plan and section of Plant Area (PA-1c) near Allain Head race tunnel Adit – I showing muck disposal arrangement Plant Area: 1 ha for 12000 m3 of Muck Reuse

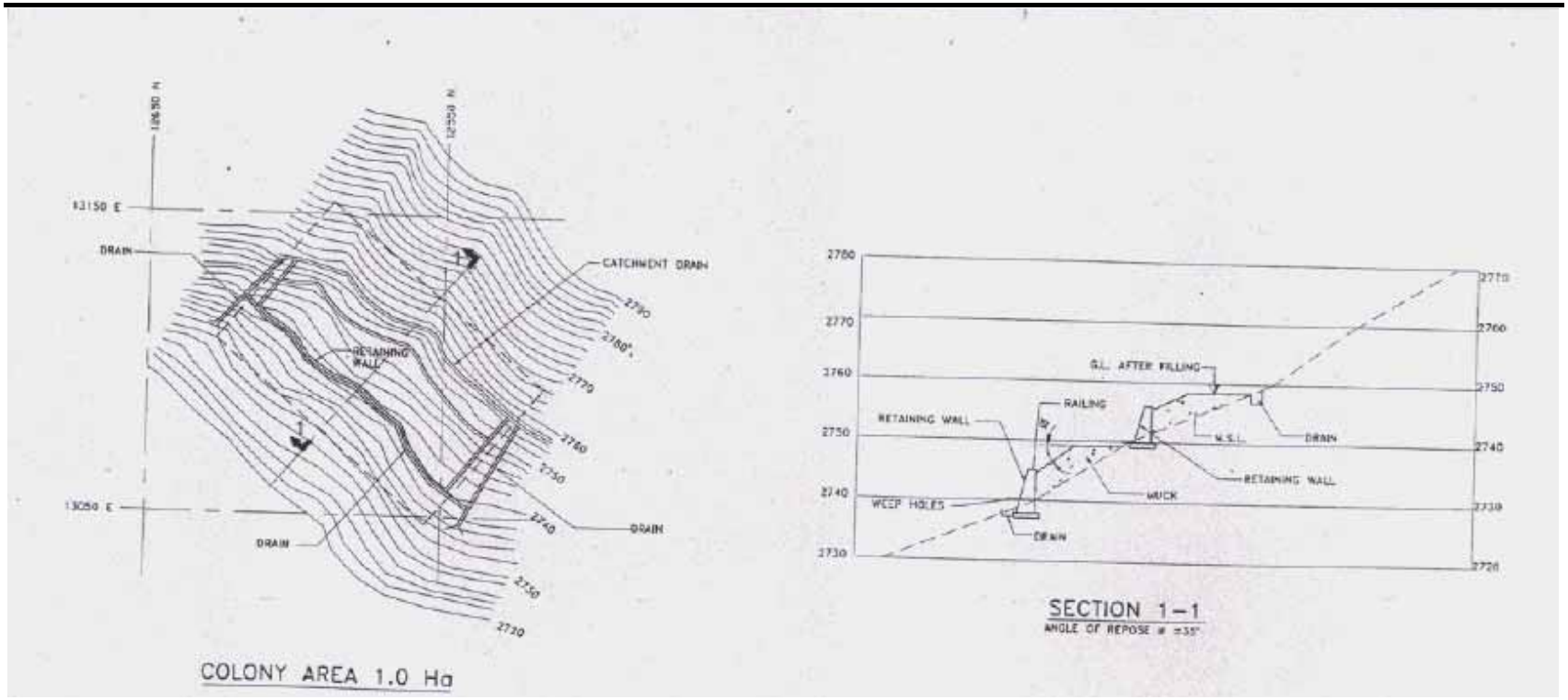


Figure B3.6 Plan and section of Plant Area (PA-1d) near Allain Head race tunnel Adit – II showing muck disposal arrangement (Plant Area 0.5 Ha 4000 m3 of Muck Reuse)

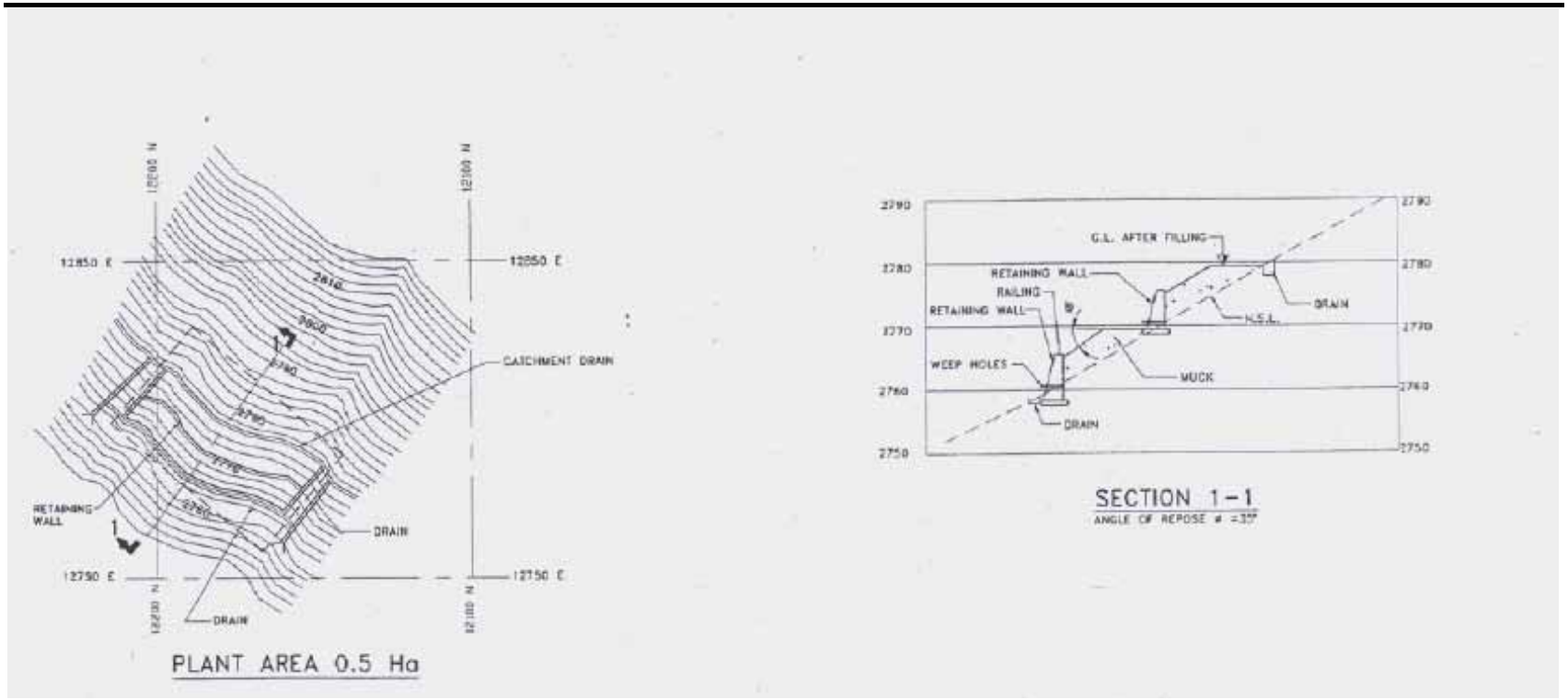


Figure B3.7 Plan and section of Plant Area (PA-1e) near Duhangan Adit –I showing muck disposal arrangement (Plant Area 0.5 Ha 12000 m3 of Muck Reuse)

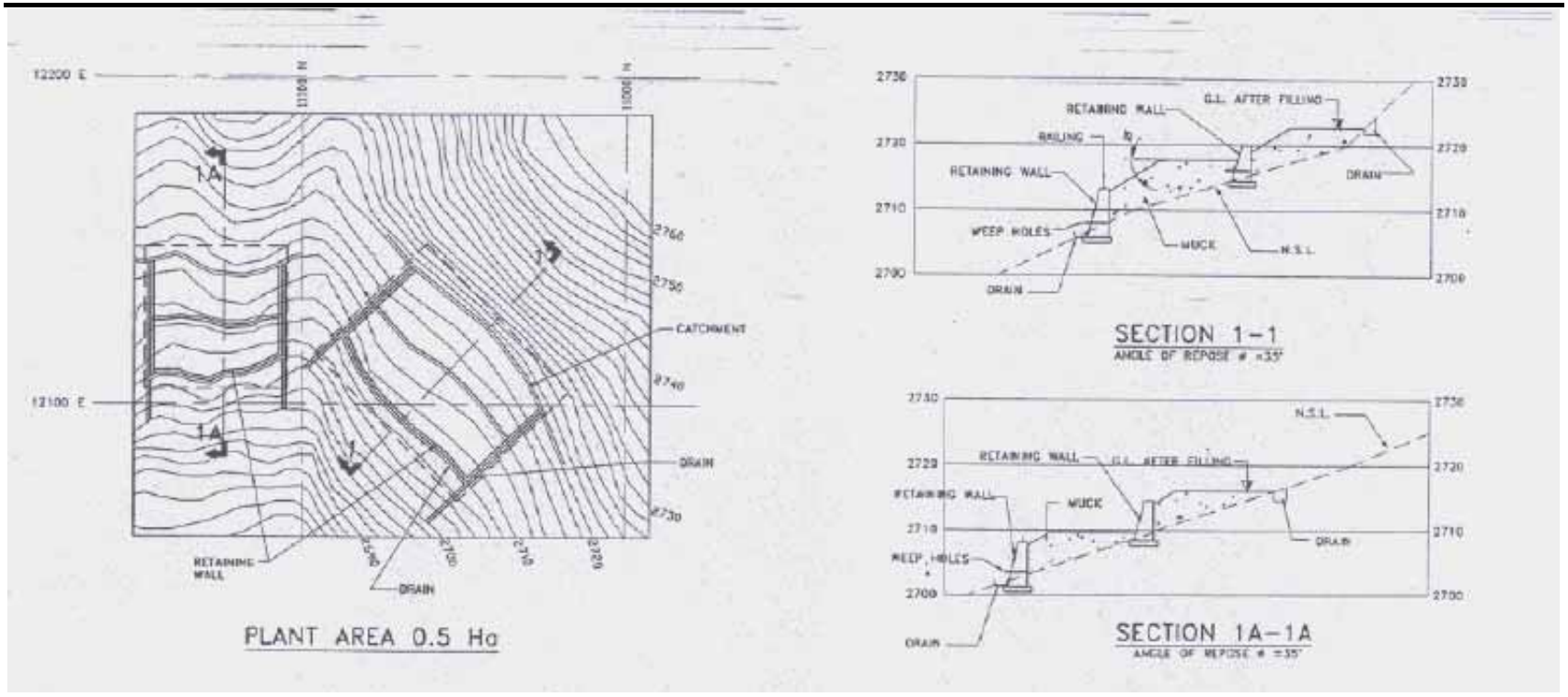


Figure B3.8 Plan and section of Plant Area (PA-2) near Khanun (on way to Duhangan weir) showing muck disposal arrangement

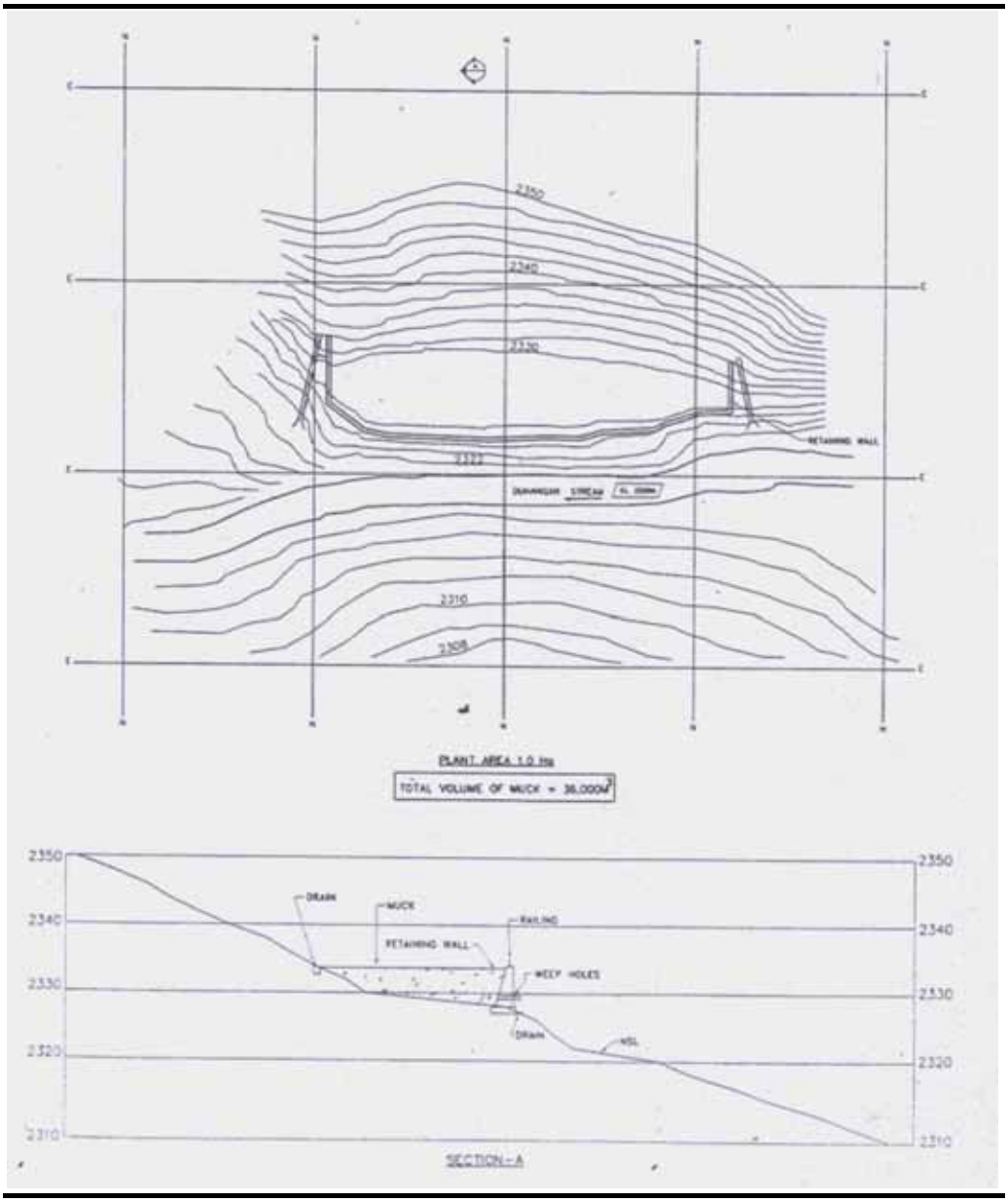
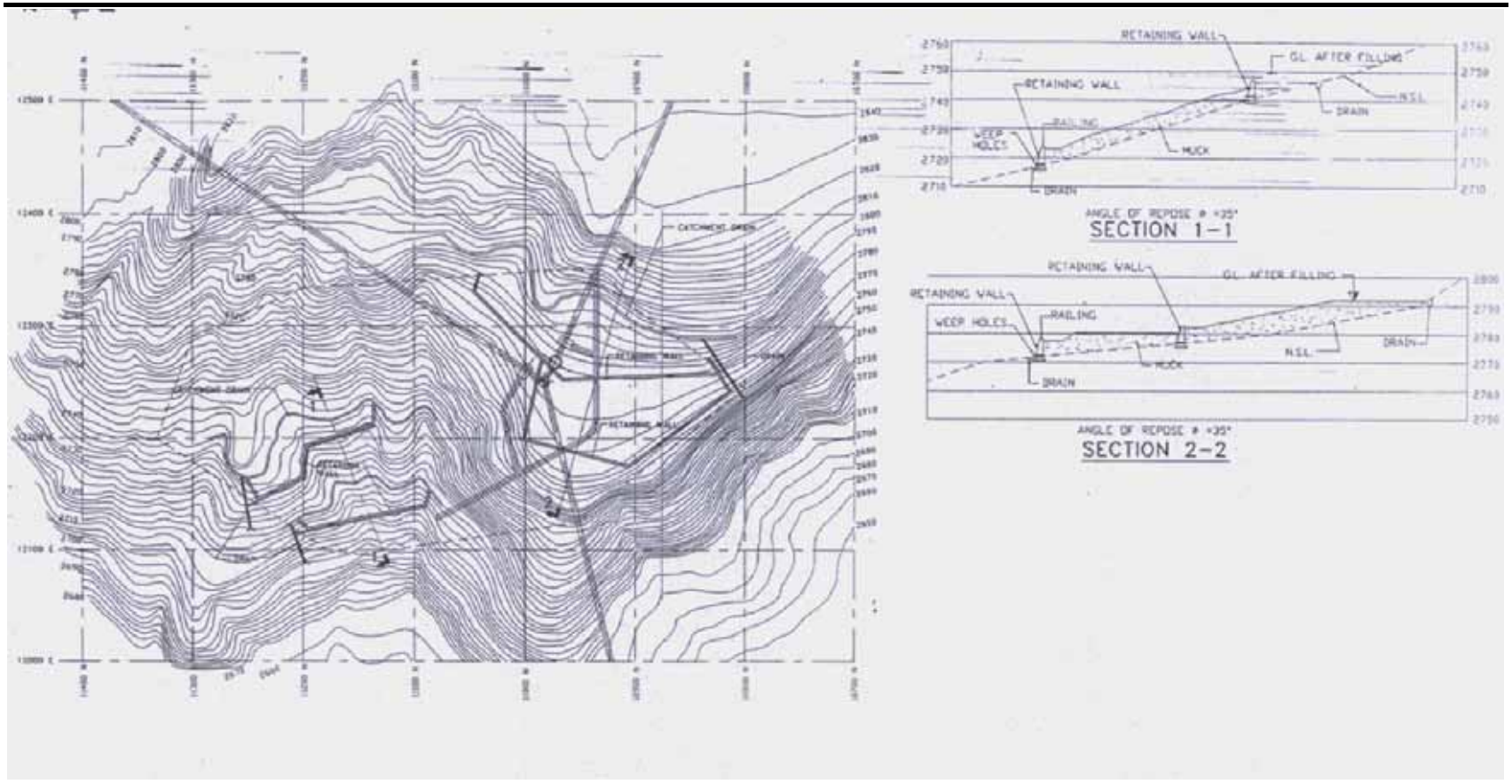


Figure B3.9 Plan and section of Muck Disposal Site – I (DS-I) near Surge Shaft showing muck disposal arrangement (Total Volume 411,000 m^3 and total area 90,000 m^2)



Annex B-4

Health Management Plan (Construction Phase)

B- 4 HEALTH MANAGEMENT PLAN FOR CONSTRUCTION LABOUR & PEOPLE IN THE VICINITY

B-4.1 INTRODUCTION

About 2000 people (including dependants) will be working during the construction period. According to the criteria of Ministry of Health and World Health Organisation, one Health Centre with one doctor and minimum five health personnel (nurses, compounders etc) will be required with at-least ten beds. Under the health plan, several provisions like facilities for mobile dispensaries, infrastructure, medical laboratory, medicines and necessary staff will be provided as per the following details.

B-4.2 MOBILE DISPENSARY

Three ambulances will be procured and provided by the project for meeting immediate and urgent medical calls in and around the project area including emergency calls from local villages.

B-4.3 INFRASTRUCTURE

The project would provide medical/health assistance to the project employees and the surrounding village population by procuring and providing medical testing/diagnostic, emergency operating and recuperating facilities. These will include emergency medical facilities like Oxygen (Cylinders), fracture attendance, pre-natal and post-natal care for mother and child etc.

The project will employ the services of Medical Officers, Compounders, Lab Technologist, Epidemiologist, Drivers and other helping staff to provide the medical facilities. In addition to the above provisions, the project will also construct buildings for housing a permanent hospital and a separate Field Hospital.

For the Construction phase the cost of health measures proposed include the following:

Table 1.1 Budget for health Management during Construction Phase of the Project

S.N	Provisions under Health Plan	Budget in INR for Health during construction phase
	Capital Expenses	
1	Hospital Buildings (2nos)	948,000
2	Provision of Ambulance (3nos.)	1,050,000
3	Laboratory	1,000,000
	Recurring Expenses	
1	Provision for Medicines	500,000
2	Medical assistance	13,000,000
3	Medical Personnel (Wages)	6,500,000
4	Epidemologist & Lab Technologist (Wages)	1,950,000
5	Residence, accommodation and other facilities for Medical Personnel	1,500,000

S.N	Provisions under Health Plan	Budget in INR for Health during construction phase
6	Residence, accommodation and other facilities for Epidemologist & Lab Technologist	700,000
	Total	27,148,000

Source: ADHPL

In view of the above, the total amount proposed for providing comprehensive health plan/medical assistance in the project area will be INR 271.48 lakhs. This health plan would serve satisfactorily not only the personnel employed on the project but also the local population.

B-4.4 HEALTH MANAGEMENT DURING OPERATION PHASE

During operation phase, the main factors influencing the water borne vectors and pathogens. The stagnant water and vegetation provide favourable breeding conditions for mosquitoes and snails. For the proposed project, water storage will be at Allain barrage location, inside the tunnels and at intermediate reservoir.

It is important to note that the water at these storage locations will not be stagnant i.e. it will be used on daily basis for power generation and will be located at an elevation over 1800 m amsl, resulting in lower chances of vector life to thrive.

During operation phase, ADHPL will make regular field surveys and take necessary actions to curb the disease if thrives in the area with additional budget.

Annex B5

Construction Demobilisation Plan

1 CONSTRUCTION DEMOBILILSATION PLAN

1.1 INTRODUCTION

This document addresses the framework requirement for construction demobilisation to address the following issues:

- Demobilisation of Project construction activities;
- Reinstatement of Project component areas; and
- Post reinstatement due diligence and close out.

1.2 MANAGEMENT FOR DEMOBILISATION & RESTORATION OF PROJECT AREAS

Before demobilisation and area restoration, ADHPL will undertake a due diligence survey of the Project components areas to identify environmental actions required for restoration/rehabilitation of sites related to each of the Project components along Allain and Duhangan streams.

Based on due diligence survey, ADHPL will work out a detailed actions required for demobilisation and restoration/reinstatement of areas under the Project components.

1.2.1 *Demobilisation of Project Construction Activities*

All construction related equipment and materials will be removed from each of the Project component areas.

Empty containers, wastes such as diesel, lubricants, used oil, metal waste and packaging waste will be managed in accordance with the Waste Management Plan.

1.2.2 *Restoration of Areas under the Project Components*

Area restoration will include any underground structures created or constructed as part of the Project component development. ADHPL will ensure the following elements taken up for the reinstatement/rehabilitation of all disturbed areas that were under the development of Project components both along Allain and Duhangan sides:

- Ecological restoration;
- Physical restoration such as restoration of original contours to get the same original topography/ physiography;
- Storm drainage restoration;
- Soil restoration and addressing soil erosion related issues through appropriate control measures including those identified in the Catchment Area Treatment Plan;
- Access restoration including for grazing land;

- Infrastructure and other utility restoration, if they were disrupted or re-routed earlier in the Project;
- Other restoration elements as agreed between land owner, local community and ADHPL; and
- Comply with all conditions of statutory approvals.

While restoring the site, ADHPL will ensure that there is no leaching of contaminants into the surrounding soils.

1.2.3 Post Reinstatement Due Diligence and Close Out Report

ADHPL will conduct a due diligence and close out reporting process that will be adopted for this post reinstatement monitoring. The objective is to close the environment related risks and liabilities that could have arisen due to the Project's occupation of the Project component and any disturbance that has been created directly/indirectly in the surrounding area. The post reinstatement monitoring will also help to assess the performance of reinstatement methods and procedures adopted and their effectiveness.