

BRITISH COLUMBIA HYDRO AND POWER AUTHORITY

HAT CREEK PROJECT

British Columbia Hydro and Power Authority - Hat Creek Project -
Standard Contract Stipulations Regarding Environmental Control -
Revelstoke Project - Contract CR-1

ENVIRONMENTAL IMPACT STATEMENT REFERENCE NUMBER: 28

B. C. HYDRO AND POWER AUTHORITY

STANDARD CONTRACT STIPULATIONS REGARDING ENVIRONMENTAL CONTROL

REVELSTOKE PROJECT

CONTRACT CR 1

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1. INTRODUCTION

Pursuant to the issuance of the Conditional Water Licence on 1 December 1976 for the Revelstoke Project and in compliance with item (r) thereof, the environmental guidelines for all construction activities are herewith submitted.

The environmental guidelines identify the principal activities that will occur throughout the construction of the Revelstoke Project and establish the basis on which these will be controlled to minimize their influence on the environment not only from the physical aspects but with due consideration for the preservation of all forms of flora and fauna. Special attention will be given to aquatic life and their habitat. All such aspects will be considered to preserve and where possible enhance the natural environment to the benefit of the local residents and others using the area.

The requirement of the Conditional Water Licence item (q) is that the British Columbia Hydro and Power Authority employ one fisheries biologist and one wildlife biologist who are to assist in the drafting of environmental guidelines for construction. In compliance with these principles, the Authority's staff biologists participated in the preparation of these guidelines while the resident biologists were being sought.

The Authority will ensure that contractors engaged on this Project will preserve the environment with due consideration to the natural features and the protection of fish and wildlife.

2. ENVIRONMENTAL CONCERNS

In opening up work areas within the Revelstoke Project, B.C. Hydro will make provision in any work assignments or contracts that natural terrain, existing tree cover, and natural vegetation are preserved to the maximum extent. It is intended that construction activities be carried out in a manner that has the minimal effect on the

2. ENVIRONMENTAL CONCERNS - (Cont'd)

natural streams and watercourses. Areas which are unavoidably disturbed by construction will be reinstated by grading and landscaping to as natural appearance as possible following completion of construction.

The development of construction areas cannot be totally prevented from influencing wildlife habitats in the vicinity of the project. The Authority will, in consultation with the biologists, identify problems arising from construction and incorporate in the planning of construction operations provisions for protection of areas that are important for the preservation of wildlife. Wherever possible every effort will be made to conserve the natural surroundings. Wildlife trails which are cut as a result of construction will be restored where the biologists consider such trails are necessary to maintain wildlife movement.

Construction activities will also cause an impact on the fish habitat in rivers and streams in the construction area. The various permanent structures on the Revelstoke Project will be designed to facilitate construction such that it can be accomplished with the minimum of disturbance to the natural watercourses.

The two full time site biologists will participate in all decisions affecting the environment on the Project and will contribute much to ensure that construction practices are followed which cause the least environmental impact. They will also liaise with the local representatives of the Provincial Fish and Wildlife Branch on such matters.

3. CONTRACTUAL REQUIREMENTS

Requirements for the protection of wildlife and the environment will be specified in the contracts for the Revelstoke Project. Contract CR-1, Revelstoke Project Diversion Tunnel, is the first

3. CONTRACTUAL REQUIREMENTS - (Cont'd)

contract to be awarded and is typical of the Revelstoke construction contracts. It contains the following clauses which are quoted verbatim from that contract.

It should be noted that the Engineer referred to in these clauses is B.C. Hydro's Chief Engineer who is represented on the site by the Construction Manager.

"4.27 COMPLIANCE WITH LAWS

The Contractor and his employees in carrying out the Contract shall comply with all laws, statutes, by-laws, ordinances and regulations of all Federal, Provincial, Municipal or other governmental authorities, any of which are applicable to the Contract or the performance of the Work, and the Contractor shall indemnify the Authority against any cost, loss, liability or obligation which may arise as a consequence of the failure of the Contractor and/or his employees to comply fully with the said laws and regulations.

Without restricting the foregoing, the Contractor shall conform to the provisions of the "Workers' Compensation Act", "Pollution Control Act", and all other statutes, by-laws or regulations in force from time to time in respect of or affecting in any manner performance of the Contract, the Work or the Site, and shall give all notices required by the said statutes, by-laws or regulations and pay all fees, assessments and other sums payable thereunder or in respect thereof.

The Public Construction Fair Wages Act applies to this contract and to every subcontract and to any work done by any other person under this contract.

3. CONTRACTUAL REQUIREMENTS - (Cont'd)

Except as otherwise specified in writing by the Engineer or in the Tender Documents, the Contractor shall be responsible for obtaining at his own expense all necessary authorizations, licenses and permits in connection with or required for the Work."

"4.50 FIRE

The Contractor shall take every precaution to prevent fire occurring on or about the Site and to minimize any damage which might thereby be caused. He shall provide suitable and adequate fire fighting equipment, as approved by the Engineer, for ready use in all structures, buildings, or on work in progress including the Authority's buildings occupied by the Contractor, if any, and shall have at all times at the Site at least two men who are experienced and competent in the use of such equipment.

The Contractor shall maintain such equipment, and such additional fire fighting equipment as may elsewhere in the Tender Documents be required, in efficient condition until construction is completed and the Work accepted by the Authority. He shall comply with laws and regulations respecting fires and with instructions of the Engineer with respect to the prevention of fires. No fires shall be lit in the fire season without permission in writing, obtained from the Engineer.

The Contractor shall fight diligently any fire which occurs on or about the Site unless specifically directed by the Engineer not to do so. He shall employ all requisite equipment and manpower up to the limit of his equipment and manpower employed at the Site, including the equipment and manpower of his Sub-contractors. If the fire results from the actions or the negligence of the Contractor all his fire fighting costs shall be for his own account. If the fire is caused by an Act of God or the negligence or actions

3. CONTRACTUAL REQUIREMENTS - (Cont'd)

of persons for whom the Contractor is not responsible the Authority will reimburse his fire fighting costs in accordance with Clause 4.46 except that if the Contractor is required to fight forest fires for which he is not responsible, by and under the direction of the British Columbia Forest Service in accordance with the British Columbia "Forest Act" and amendments thereto, the Authority will not be responsible for the payments of any amounts expended by the Contractor in fighting such forest fires.

If the Engineer directs persons other than employees or Sub-contractors of the Contractor to assist the Contractor in fighting a fire, the costs of such assistance shall be borne by the Authority, but if the fire originates from or spreads or threatens to spread due to the negligence of the Contractor, or to his neglect to fight the same diligently, the Contractor shall reimburse the Authority for the cost of such assistance.

4.51 EXPLOSIVES

The supply, transportation, storage and use of explosives for the Work shall conform to law at all times and be subject to any requirements of the Engineer.

The methods of blasting and the times during which blasting operations may be carried out by the Contractor shall be subject to the approval of the Engineer to whom adequate notice of any blasting operation shall be given."

3. CONTRACTUAL REQUIREMENTS - (Cont'd)

"4.54 PRESERVATION OF FLORA AND FAUNA

The Contractor shall:

1. *Refrain from destroying, removing or clearing trees, timber and shrubs to an extent greater than is necessary for the execution of the Contract.*
2. *Take such measures as may be necessary to prevent his employees from illegally hunting, disturbing, capturing or destroying animals and birds or illegally taking fish from any waters.*
3. *Prevent unnecessary disfigurement of the countryside.*

4.55 FOSSILS

All fossils, coins, articles of value or antiquity and structures and other remains or things of geological or archaeological interest discovered on the Site shall be as between the Authority and the Contractor, the absolute property of the Authority, and the Contractor shall take all reasonable precautions and any precautions required by the Engineer to prevent his workers or any other persons from removing or damaging any such article or thing and shall immediately upon discovery thereof and before removal, acquaint the Engineer of such discovery and carry out at the expense of the Authority the Engineer's orders as to the preservation and disposal of the same."

"7.07 AVAILABILITY AND USE OF THE SITE

(f) Landscape Preservation

The Contractor shall preserve the natural landscape except where clearing is required for permanent works or permitted by the Engineer in writing, and shall so conduct his

3. CONTRACTUAL REQUIREMENTS - (Cont'd)

operations and operate his equipment that the destruction, scarring or defacing of trees, the native shrubbery and the natural surroundings is kept to a minimum.

On completion of the Work, all working areas shall be smoothed and graded to conform to the natural appearances of the landscape. Where the Contractor's operations have resulted in destruction, scarring, damage, or defacing to trees, shrubbery, or landscape outside the limits of the Contractor's working areas, the same shall be corrected to the satisfaction of the Engineer at the Contractor's expense.

(g) Prevention of Water Pollution

The Contractor shall comply with the regulations of the Pollution Control Branch of the Government of British Columbia with respect to disposal of pollutants and all additional requirements specified herein or directed by the Engineer.

The Contractor's construction activities shall be performed in such a manner that will prevent, to the satisfaction of the Engineer, solid matter, contaminants, debris and other objectionable pollutants and wastes, as determined by the Engineer, from entering into rivers, streams, flowing or dry watercourses, lakes, and underground water sources. Such pollutants and wastes include, but are not limited to, refuse, garbage, cement, concrete, sewage effluent, industrial waste, oil and other petroleum products, aggregate processing tailings and mineral salts. Sanitary wastes shall be disposed of on land by burial at approved sites or by other methods approved by the Engineer.

3. CONTRACTUAL REQUIREMENTS - (Cont'd)

Where necessary, in the opinion of the Engineer, the Contractor shall construct intercepting ditches, sumps, bypass channels, barriers, settling ponds, or other means approved by the Engineer to prevent muddy water and eroded materials from entering rivers, streams or watercourses or damaging permanent installations. Such means will not be required in association with excavation in the Columbia River for the diversion tunnel approach and outlet channels and for construction of the Deadman Creek diversion as specified in the Detail Specifications. Except as otherwise specified, excavated materials shall not be deposited or stored in, or alongside of, watercourses where, in the opinion of the Engineer, they could be washed away by high water or storm runoff.

Waste waters from aggregate processing, concrete batching, or other construction operations shall not be discharged directly into rivers, streams, watercourses, or other surface drainage features. The Contractor shall use turbidity control methods such as settling ponds, gravel filter entrapment dikes, approved flocculating processes that are not harmful to fish, recirculation systems or other methods meeting the approval of the Engineer. Any waste waters discharged into surface water shall be essentially free of material in suspension. For the purpose of this Subclause, material in suspension is defined as that material which will settle from the water by gravity during a 1 hour quiescent detention period.

(h) Dust Abatement

During the performance of the Work the Contractor shall, to the satisfaction of the Engineer, furnish all labour, equipment and materials required to reduce dust nuisance and to prevent dust which has originated from his

3. CONTRACTUAL REQUIREMENTS - (Cont'd)

operations from becoming a nuisance in any work areas including those occupied by Others. The Contractor will not be permitted to use oil for such purpose in locations where there is any possibility that oil could enter or contaminate water courses."

"7.09 STORAGE AREAS

The Contractor shall construct and maintain to the satisfaction of the Engineer all storage areas and facilities, including warehousing and platforms, required for storage and proper protection of the equipment and materials required for the Work. Storage facilities shall be constructed only in work areas assigned to the Contractor and shall be subject to the approval of the Engineer.

The Contractor's supplies of explosives, gasoline, petroleum products and fuels shall be stored in accordance with applicable statutory regulations.

The Contractor will not be permitted to store materials and equipment supplied by the Contractor for the Work in the Authority's storage area and warehouse.

7.10 BORROW AREAS

Except as otherwise specified, embankment and fill materials and concrete aggregates required for the Work shall be obtained by the Contractor from the necessary excavations, from potential borrow areas shown on the Drawings and/or from any other sources approved by the Engineer.

The Contractor shall submit to the Engineer for approval representative samples of the construction materials he proposes to supply for the Work well in advance of the time of their actual use

3. CONTRACTUAL REQUIREMENTS - (Cont'd)

or as otherwise specified in the Detail Specifications or required by the Engineer in order that the Engineer can test and determine the suitability of such materials for the Work.

The Engineer's designation or approval of potential borrow areas, or of any other areas proposed by the Contractor as borrow areas, shall not be construed as constituting approval of all materials taken therefrom.

The Contractor's borrow pit operations shall be subject to the approval of the Engineer and shall be such as to avoid waste of any suitable construction material therein. Except as otherwise specified, borrow areas shall be excavated in relatively horizontal layers and in such a manner that water will not collect and stand therein. Before being abandoned, the sides of borrow areas shall be brought to stable slopes with slope intersections rounded and shaped to provide a natural appearance. All rubbish, Contractor's equipment and structures shall be removed from these areas. Waste piles shall be levelled, trimmed and shaped to regular lines to prevent the occurrence of ponding or of concentrations of surface runoff and to provide a neat appearance.

If the Contractor proposes to obtain fill materials from any potential borrow area or quarry area not shown on the Tender Drawings, he shall carry out such sub-surface investigation and obtain and submit such samples as are required by the Engineer to enable the Engineer to assess the suitability of the materials in the area for use as fill.

The Contractor shall keep accurate records of a type approved by the Engineer of any test pit, trench or drill hole which he makes for the purpose of investigating fill materials, and a copy of such record shall be submitted to the Engineer within

3. CONTRACTUAL REQUIREMENTS - (Cont'd)

2 weeks of the completion of the test pit, trench or drill hole. Samples recovered from test pits, test trenches and drill holes and submitted to the Engineer for approval will be tested by the Engineer.

The Contractor shall give the Engineer not less than 60 days notice of his intention to develop any potential borrow pit or quarry not shown on the Tender Drawings.

Borrow materials may be obtained free of charge on land owned or controlled by the Authority, subject to prior approval of the location by the Engineer as provided herein and provided the Contractor does not interfere with the work of Others. The Contractor shall be responsible for any royalties or other charges required to be paid for materials obtained from borrow areas or other sources not owned or controlled by the Authority.

7.11 SPOIL DISPOSAL AND ROCKFILL STOCKPILE AREAS

Except as otherwise specified, the Contractor shall dispose of unsuitable and surplus materials from the excavations in spoil area No. 58 and rockfill stockpile areas Nos. 59, 61 and 63 shown on the Drawings or as otherwise directed by the Engineer. Prior to commencing any excavation, the Contractor shall submit to the Engineer for approval his proposal for disposal of such materials outlining his proposed methods for developing and stabilizing the spoil fill and/or rockfill stockpile, dealing with drainage and other surface conditions in the area, grading the spoil fill and/or rockfill stockpile prior to completion of the Work, and providing any other information required by the Engineer.

3. CONTRACTUAL REQUIREMENTS - (Cont'd)

Each spoil fill and/or rockfill stockpile shall be developed in an orderly manner and in such a way that it does not interfere harmfully with the natural drainage in the area. The Engineer reserves the right to limit the amount of material which can be placed in any spoil disposal area and/or rockfill stockpile and to control the height and slopes to which the material can be placed. Spoil fills and/or rockfill stockpiles shall be stable within themselves, shall not cause instability of adjacent natural slopes or any parts of the Work and, except as otherwise approved by the Engineer, shall be graded to the satisfaction of the Engineer, to provide free draining surfaces which do not detract from the general appearance of the area.

Materials may be disposed of in spoil disposal areas and/or rockfill stockpiles under winter conditions provided that no more than 6 inches of snow exists on the surface on which the material is to be placed.

7.12 WATER SUPPLY

The Contractor shall be completely responsible for the provision, operation and maintenance of such supplies of water as are required for the complete and satisfactory execution of the Work including the provision of any wells, reservoirs, pumps, piping and ancillary equipment required for such purpose.

Potable water shall be safe, clean, disinfected and correctively treated to the satisfaction of the Engineer and the Provincial Department of Health. All outlets dispensing non-potable water shall be conspicuously posted as dispensing water unfit for drinking.

3. CONTRACTUAL REQUIREMENTS - (Cont'd)

All necessary precautions shall be taken to avoid contamination of potable water, including supplies of the Authority and of Others.

7.13 DEWATERING AND DRAINAGE

Except as otherwise required by the Engineer and provided for by the Tender Documents, the Contractor shall investigate, design, construct, operate, maintain and subsequently remove all cofferdams, rock plugs and such temporary surface and subsurface dewatering and drainage systems as are necessary for the orderly and proper execution of the Work. The cofferdams, rock plugs and dewatering and drainage facilities provided by the Contractor shall be subject to approval by the Engineer and shall not damage or interfere with the proper execution of the Work or the work or property of the Authority or Others. Water removed from the excavations shall be disposed of in such a manner as will not endanger public health or the environment.

The Contractor will not be permitted to drain water into foundations or other excavations or use the permanent drainage facilities installed for the Work without the prior approval of the Engineer.

The Contractor shall obtain written approval from the Engineer before discontinuing the operation of any dewatering system.

7.14 SEWAGE DISPOSAL AND WASTE WATER

The Contractor shall be completely responsible for the provision, operation and maintenance of all facilities required for the disposal of sewage and waste water resulting from his operations.

3. CONTRACTUAL REQUIREMENTS - (Cont'd)

On no account shall the Contractor discharge raw sewage or polluted water into natural watercourses, lakes, ponds, future reservoir sites or any area near camps, worksites, or buildings nor shall the Contractor make use of any permanent facilities installed for the Work or for the Authority by Others for disposal of sewage or waste water without the prior written consent of the Engineer. The Engineer may in his absolute discretion refuse to give such consent and the Authority will not be responsible for any effect such refusal may have on the Work.

The Contractor shall ensure that all drainage and sewage disposal installations constructed by him, including temporary outside toilets, shall conform to the requirements of the Provincial Department of Health or any other governmental requirements and are maintained and operated to the satisfaction of the Engineer.

On completion of the Work, the Contractor shall terminate or dispose of his drainage and sewage disposal installations, to the satisfaction of the Engineer.

7.15 REFUSE DISPOSAL

Except as otherwise specifically provided for in the Tender Documents, the Contractor shall collect and dispose of refuse from all premises and work centres provided for the Work by the Contractor. The refuse shall be collected in metal, covered, fly-proof cans and shall be removed at least twice per week. Disposal shall be either by an incinerator and/or to a pit which can be completely covered over to a depth of not less than 3 feet with rock or earth backfill. The incinerator and/or pit shall be located in an area approved by the Engineer. All such pits shall be periodically backfilled in order to maintain sanitation and to minimize the attraction of wildlife to the satisfaction of the

3. CONTRACTUAL REQUIREMENTS - (Cont'd)

Engineer. The methods of refuse disposal shall be acceptable to the Provincial Health Inspector and local Municipal requirements.

Refuse shall not be disposed of for any reason whatsoever outside the areas designated or approved by the Engineer."

4. ENVIRONMENTAL GUIDELINES

The conditions which B.C. Hydro require their contractors to follow for protection of the environment are covered by the clauses quoted in the previous section. The following guidelines clarify the intent of these clauses and how they will be administered.

4.01 General Construction

All construction activities and all construction plant and facilities at the Revelstoke Project must comply with all laws, statutes, bylaws, ordinances and regulations of all Federal, Provincial, Municipal or other regulatory bodies having legal jurisdiction. Without restricting the foregoing, the Contractor shall pay particular attention to the applicable provisions of the following Provincial Acts:

Workers' Compensation Act	Forest Act
Pollution Control Act	Mines Act
Water Act	Land Act
Fisheries Act	Highway Act
Wildlife Act	Health Act
Archaeological and Historic Sites Protection Act	Fire Marshal Act
	Litter Act

4. ENVIRONMENTAL GUIDELINES - (Cont'd)

In addition, construction activities are subject to the approval and direction of the Engineer as administrator of all contracts, and the Construction Manager will ensure that all contractual requirements with regard to the preservation of the environment are implemented.

4.02 Clearing of Areas required for Construction Activities

Much of the area at Revelstoke which will be used for camps, site offices, borrow areas, haul roads, work areas, etc., has already been logged and rough cleared. When additional clearing is necessary for construction facilities, contractors will be permitted by the Construction Manager to clear only specified areas and fringes or stands of trees and vegetation will be preserved wherever possible to screen construction activities from sight or to provide stream protection. Scarred or defaced trees will be removed as soon as possible to prevent disease outbreaks.

4.03 Grading and Surfacing of Construction Areas

All surfaced areas will be shaped to control surface run-off to prevent erosion of the surface material and adjacent terrain.

When these areas are no longer required all buildings will be removed and the area reinstated. Topsoil will be replaced and native trees, shrubs and grasses will then be planted.

4.04 Topsoil

Where possible topsoil will be removed from all areas where it is likely to be spoiled. It will be stockpiled for use in the re-establishment of the work areas.

4. ENVIRONMENTAL GUIDELINES - (Cont'd)

4.05 Borrow Areas

All salvageable topsoil will be stockpiled. Borrow areas will then be developed with due consideration for drainage and run-off from the excavated surfaces so as not to cause erosion of the adjacent terrain.

When borrow areas are no longer required, the sides will be graded to stable slopes so that water will drain fully. Topsoil will then be replaced, ground cover of shrubs and grasses will be planted together with native trees to blend the areas with the original terrain.

4.06 Roads

All cut slopes and embankments will be made to minimize erosion on either permanent access roads or temporary construction roads. Banks will be seeded with native grasses. Buffer strips of vegetation will be left between roads and streams where possible.

Most of the construction roads will be gravel surfaced and the dust nuisance will be kept to a minimum by the use of water sprinkling. The use of oil and calcium chloride for dust control will only be permitted when the biologists are satisfied that their use will not be harmful to the environment. Use of such materials will not be permitted where there is any possibility of contamination of a watercourse.

All temporary roads will be restored to as natural condition as possible, prior to abandonment, to minimize erosion and negative visual impact.

4. ENVIRONMENTAL GUIDELINES - (Cont'd)

4.07 Prevention of Water Pollution

Item (g) of Clause 7.07 of Contract CR-1, gives particular attention to waste and other products from construction that are likely to cause pollution of watercourses and indicates several methods for prevention of those waste products from causing environmental damage. Waste water from construction operations will of necessity be discharged in the construction area and will infiltrate into streams and the Columbia River. However, such discharges whether direct or indirect will be kept as free of pollutants as practicable and will be monitored constantly by the biologists to ensure that they satisfy the requirements of regulatory agencies, operating under various statutes such as the Pollution Control Act, Mines Act, Fisheries Act, Health Act, etc.

4.08 Sewage Disposal

Sewage and waste water from camps, offices and all construction work areas will be disposed of in accordance with the requirements of the Provincial Department of Health and other governmental agencies.

Sewage treatment plants will be provided for the single labour camps and septic systems will be used for offices and semi-permanent work sites all of which will be in accordance with the requirements of the Pollution Control Act. Elsewhere, portable chemical toilets will be utilized and disposal of waste made in accordance with the Department of Health recommendations.

4.09 Refuse Disposal

Disposal of garbage will be accomplished by a sanitary fill garbage pit properly located and maintained. Careful attention will be paid to drainage into and from the pit. However, it has been appreciated that such disposal sometimes attracts wildlife which is not desirable and therefore on the Revelstoke Project

4. ENVIRONMENTAL GUIDELINES - (Cont'd)

incineration of garbage is suggested in Clause 7.15 as an alternative and would be implemented should the circumstances arise. If nuisance bear problems arise as a result of improper siting, Hydro will fund the removal of such nuisance animals at the request of the Fish and Wildlife Branch.

4.10 Water Supply

Water for domestic consumption during construction will be provided in accordance with the requirements of the Provincial Department of Health. B.C. Hydro's present intention is to draw from a diversion reservoir which will be constructed on a local stream. The water has been tested and conforms to the requirements of the Department of Health for domestic use.

4.11 Dewatering and Drainage

Any dewatering and drainage systems will be constructed in such a way that no pollutants are discharged into existing watercourses and any erosion is controlled within acceptable limits.

4.12 Spoil Disposal Areas

Surplus excavated material that is not used for construction of the Project will be disposed of in designated spoil areas which will be developed to blend in with the natural topography. These spoil areas will be so located as not to interfere with the natural drainage. They will be finally graded to minimize erosion, topsoil will be spread over the areas as necessary, and natural ground cover planted to conform to the adjacent landscape.

4. ENVIRONMENTAL GUIDELINES - (Cont'd)

4.13 Fires

Fire break strips will be cleared around camps, offices and work areas at the Revelstoke Project to provide protection to the various facilities and the adjoining areas. The contractors will be required by their contracts to employ whatever equipment and manpower is at their disposal to fight any fire occurring on or about the site. The contractor must maintain fire fighting equipment and have trained personnel available at all times. Contractors are also required to fight fires when directed to do so by the British Columbia Forest Service.

4.14 Explosives

Transportation, storage and handling of explosives are controlled by law. Storage of explosives at the Revelstoke Project will be in isolated buildings. They will be clearly marked to identify their use and will be located clear of the camp and other work areas.

4.15 Petroleum Products

Petroleum products will be stored in a special location where spillage can be safely contained without contamination of the surrounding area. Storage of petroleum products will not be permitted in the vicinity of watercourses.

4.16 Noise Control

Contractors will be required to keep the noise from construction operations down to an acceptable level at all times.

5. REINSTATEMENT OF REVELSTOKE PROJECT CONSTRUCTION SITE

The overall landscaping program for the Revelstoke Project will be developed by a consulting landscape architect. This will be an ongoing program commencing as construction in the various work areas is

5. REINSTATEMENT OF REVELSTOKE PROJECT CONSTRUCTION SITE - (Cont'd)

completed. During the preparation of this program the biologists for Revelstoke will ensure that every possible consideration is given to the environment both in regard to its present and future preservation.

6. PROTECTION OF FISH AND WILDLIFE

The two site biologists will monitor the effectiveness and implementation of the guidelines as agreed to by the Comptroller of Water Rights to ensure the proper protection of fish and wildlife in the Revelstoke Project area. B.C. Hydro will cooperate fully at all times with all reasonable requests made by local authorized representatives of the Fish and Wildlife Branch of the Provincial Government.

The following principles will be implemented wherever possible.

6.01 Preservation of Watercourses

Construction activities near watercourses will be kept to a minimum. Construction equipment will not be "walked" through streams - culverts or log crossings will be utilized. All temporary culverts and log crossings will be removed upon completion of work in order that the natural drainage systems may prevail unencumbered.

6.02 Consideration of Spawning Cycles

Construction of cofferdams and other structures in rivers or streams will be scheduled when possible to avoid conflict with fish spawning cycles.

6.03 Control of Recreational Fishing

All site personnel will be informed that fishing in local rivers and streams must be in accordance with Provincial Regulations.

6. PROTECTION OF FISH AND WILDLIFE - (Cont'd)

6.04 Preservation of Wildlife Trails

When considered necessary by the resident wildlife biologist wildlife trails cut by construction operations will be restored to maintain traditional movement patterns.

6.05 Prohibition of Shooting

No shooting or hunting will be permitted in the immediate vicinity of the Project.

6.06 Protection from Hazardous Areas

If the resident wildlife biologist considers it necessary, fences will be provided to keep wildlife out of hazardous construction areas.

6.07 Continuing Environmental Concern

The resident biologists will carry out field studies of the fish and wildlife in the Project and reservoir area. They will assist in establishing the basis for environmental management programs to be implemented at the discretion of the Fish and Wildlife Branch as construction work is concluded and the Project becomes operational.

6.08 Provision of Wildlife Crossings

As considered necessary by the resident or Fish and Wildlife Branch biologists, log booms will be provided to facilitate wildlife crossing in the reservoir area.

7. COMMUNICATION WITH RESIDENTS IN THE AREA AND LOCAL INTEREST GROUPS

B.C. Hydro will provide information on the general construction program and its progress. It will use its offices to keep all residents and local interest groups informed. Local trappers will be advised of clearing and flooding schedules.

As soon as practical B.C. Hydro will arrange for public tours of the Project in order that the effectiveness of the practices being followed in construction of the Revelstoke Project may be observed.