accurately represents your qualifications to testify in this proceeding?

MR. FOSTER: Yes, it does.

THE HEARING OFFICER: All right. Are there any changes, corrections or --

THE WITNESS: None other than the one you made.

THE HEARING OFFICER: All right. Let the record indicate I've corrected the spelling of the witness' home address, Westborough, to conform to the spelling indicated by the witness, W-E-S-T-B-O-R-O-U-G-H.

Now, Mr. Foster, in the course of your regular professional activities as an employee of Sasaki Associates, Inc., did you have occasion to prepare or supervise the preparation of certain elements of the application that is the subject matter of this hearing?

MR. FOSTER: Yes, I did.

THE HEARING OFFICER: And those pages are indicated in the exhibit or indicated at Page 126 of the record in a listing under the title "Project Sponsor's Direct Case on Factors

set forth in nine New York Code of Rules and Regulations, Section 581.10(e)?

MR. FOSTER: Yes.

THE HEARING OFFICER: All right, and if I were to ask you to testify on direct examination with reference to the matters on which you have prepared these reports and statements, would you testify substantially in accordance with those written statements?

MR. FOSTER: Yes, I would.

THE HEARING OFFICER: And do you know that the written statements fairly and accurately represent your research and opinions with reference to the subject matter contained therein?

MR. FOSTER: Yes, I do.

THE HEARING OFFICER: Did you participate as part of a team effort in conjunction with other experts in the Sasaki firm in the preparation of this application?

MR. FOSTER: Yes, I did.

THE HEARING OFFICER: And did you collaborate on a regular basis with Mr. Boiteau, the witness who has previously testified?

MR. FOSTER: Yes, I did.

THE HEARING OFFCER: Were you present in the hearing room during Mr. Boiteau's testimony?

MR. FOSTER: I was.

THE HEARING OFFICER: And are you aware of the questions that were asked Mr. Boiteau and his answers thereto?

MR. FOSTER: I was.

THE HEARING OFFICER: Do you have any disagreement with the answers given so far by Mr. Boiteau?

MR. FOSTER: No, I don't.

THE HEARING OFFICER: And to the extent that you're qualified and competent to give those answers, would your answers be substantially the same?

MR. FOSTER: Yes.

THE HEARING OFFICER: And with reference to sedimentation, erosion, hydrology and stream quality from the nonbiological standpoint, dealing primarily with hydrologic and morphologic characteristics, do you and Mr. Boiteau jointly act in making recommendations to the project sponsors?

MR. FOSTER: Do we act in making recommendations?

THE HEARING OFFICER: Yeah, do you jointly make your recommendations, do you consult with each other and consider each other's opinion in coming to your own recommendations?

MR. FOSTER: Where it's necessary, yes.

THE HEARING OFFICER: All right, and this is basically a team effort?

MR. FOSTER: Yes.

5/1
%?L

THE HEARING OFFICER: I'm going to consider the witnesses for the purpose of these hearings at this time a team. I am going to permit the witness with direct responsibility or direct competence to testify. I only ask that the record be clear as to who is testify at the time and to that extent I'm going to ask Mr. Foster to switch seats, move his chair over to the other side in front of the Hearing Reporter so there can be no confusion over who's speaking at any given moment.

Ms. Nichols, proceed.

MS. NICHOLS: Mr. Hearing Officer --

MR. GOLDSMITH: Excuse me, Mr. Hearing Officer, before she does that, could I just have the -- pages in the application for which this witness, Mr. Foster, does assume responsibility? You refer to them.

THE HEARING OFFICER: Yes, I will indicate the pages of Mr. Foster's responsibility for the record as I did for Mr. Boiteau. They are Roman II- Arabic 1; Roman II- Arabic 2; Roman II- Arabic 3; Roman II- Arabic 4 being Exhibit 761119:10; Roman II- Arabic 5 being Exhibit 761119:11; Roman II- Arabic 7; Roman II- Arabic 8; Roman II- Arabic 9 being Exhibit 761119:12; Roman II- Arabic 10 being Exhibit 761119:13; Roman II- Arabic 11 being Exhibit 761119:14; Roman II- Arabic 12 being Exhibit 761119:15; Roman II- Arabic 13; Roman III- Arabic 55 being Exhibit 761119:32; Roman III- Arabic 66; Roman III- Arabic 67; Roman III- Arabic 68; Roman III- Arabic 76; Roman III- Arabic 77; Roman III- Arabic 78; Roman III- Arabic 79 being Exhibit 761119:34, Page 1; Roman III- Arabic 80 being Exhibit 76119:34, Page 2; Roman III- Arabic 81 being Exhibit 76119:34, Page 3; Roman III-

Arabic 82 being Exhibit 761119:34, Page 4; Roman III- Arabic 83; Roman III- Arabic 84; Roman III- Arabic 85; Roman III- Arabic 86; Roman III- Arabic 87; Roman III- Arabic 88; Roman IV- Arabic 10; Roman IV- Arabic 11; Roman IV- Arabic 20.

I'm going to ask the witness whether that would be the substance of his direct testimony if asked to give it on direct examination.

MR. FOSTER: I believe that parts of those were areas that were done by Mr. Boiteau.

THE HEARING OFFICER: All right, but you considered them and reviewed them and accepted them as substantially accurate?

MR. FOSTER: Yes, I do.

THE HEARING OFFICER: Did you rely upon them to any extent in your own work?

MR. FOSTER: Yes.

THE HEARING OFFICER: All right, and you accept them as reliable?

MR. FOSTER: Yes, I do.

THE HEARING OFFICER: All right, I'm going to ask the Hearing Reporter to spread all those pages upon the record as the direct

testimony of Mr. Foster as if he had testified thereto on direct examination.

MR. KAFIN: Mr. --

THE WITNESS: Did you --

THE HEARING OFFICER: Yes.

MR. KAFIN: Two more things.

THE HEARING OFFICER: Yes.

MR. KAFIN: Exhibit 761119:3, Exhibit 761119:4 are two maps that are behind you and are also in part Mr. Foster's work.

THE HEARING OFFICER: Right, and I ask that they be spread upon the record also as if submitted herewith at this time and I assume they appear in 8½ by 11 size somewhere in the report.

MR. FOSTER: They do.

THE HEARING OFFICER: Do they not? Now, with those amendments and qualifications, Ms. Nichols? Proceed, Ms. Nichols.

MS. NICHOLS: Thank you, sir. Mr. Hearing Officer, I assume at this time that it would be correct to go into Mr. Foster's qualifications in about the same regard as we did with Mr.

Boiteau.

THE HEARING OFFICER: You know, what I'd like to do before we proceed any further: let's move both witnesses up facing the Reporter in both corners right there so we don't have any problems with identification.

SCHEDULE II - DESCRIPTION OF THE EXISTING ENVIRONMENT

This portion of the application should provide data related to the total overall conceptual plan for the entire project area.

I. NATURAL RESOURCE DESCRIPTION

A. Soils and Topography

1. *Provide engineering interpretations for all soils identified on the detailed soil survey map. The interpretations should evaluate those physical features that could affect land use and development activities. Rate all soils types in terms of their capability to support the planned land uses.*

2. *Evaluate the existing and potential erodability of all soil areas within the project.*

NOTE: *The Agency recognizes that it may be difficult for the sponsor to develop complete soils data for those areas mentioned under Detailed Soils Map, due to land ownership and accessibility problems. The soils information is still requested, however, with the understnading that certain difficulties may be encountered. If problems arise, the sponsor should contact the Agency to work out alternative solutions. The sponsor may propose alternative methods of providing soils information subject to Agency approval.*

SOILS-GEOLOGY - OLYMPIC REGION

The following concise, comprehensible passage from Davis, provides the basis for understanding the soil development process underway in the Adirondack Region.

"The Adirondack Mountain region is a highland underlain for the most part by dense, erosion-resistant gneissic rocks. During the Precambrian time, 1,000 million years ago, the region was subjected to intense heat and pressure when these rocks were depressed over twenty miles below the surface of the earth. Old as they are, the rocks are less than one-quarter the age of the planet and one-third the age of the basalts collected at Tranquility Base on the moon."

This metamorphism of the Adirondack area one billion years ago also involved an extensive terrane extending eastward from Ohio and Michigan, completely across what is now the northeastern United States. Erosion eventually exposed these rocks to the surface some 500 million years later when they were sculpted into a low landscape which was subsequently submerged in a shallow sea. Thousands of feet of marine sediments were deposited over a period of several hundred million years. The

rocks derived from consolidation of these sediments cover most of New York State and adjoining areas. The evolution of the Adirondack Mountains continued as most of northeastern North America again rose above sea level. Some time during the last two hundred million years, the Adirondack region was slowly domed into a highland region. During this process, the younger, fossiliferous sedimentary rocks were gradually removed by stream erosion and the ancient gneisses of the region were once again exposed at the surface. Thus in the Adirondacks and similar uncovered Precambrian terranes, we have an opportunity to examine rocks much like those which lie buried beneath sedimentary rocks in other parts of the northeastern United States; rocks which form the platform upon which the younger fossiliferous marine sediments have been deposited.

The most recent major geologic event in the long history of the Adirondack was glaciation. Practically all of New York State was covered by an ice sheet several miles thick. Ice retreated from the Adirondack region only 11,000 years ago. The principal result of this episode has been modifying the flow pattern of a number of pre-glacial river systems and modest widening and deepening of the valleys. The majority of sand and gravel deposits of the Adirondacks were formed by meltwater discharge or related conditions resulting from the retreating glacier cover."*

The rocks of the Adirondacks can be grouped into three major categories: (1) Metasedimentary rocks, generally marbles and quartzites, formed by metamorphism from earlier sedimentary rocks; (2) Anorthosites, feldspar-rich rocks; and (3) Orthogneisses with the composition of granite. The anorthosites and the granite orthogneisses were apparently formed as igneous rocks and later metamorphosed, or were metamorphosed at the time of crystallization.

The Olympic Region lies in a zone of the Adirondacks that is predominantly underlain by anothosites with large inclusions of metasediments and areas of granitic orthogneisses.

The surficial deposits of the Olympic Region are exclusively glacial or recent in origin. The advance of the ice sheet during the last glaciation stripped the soil from the area but the subsequent retreat and wasting of the ice sheet left other deposits characteristics of this process in its place. These new deposits are of three types: (1) basal till, a compact, mixture of rocks and rock flour formed beneath the weight of the ice sheets; (2) ground moraine, a till-like mixture of rocks

* Davis, J.F.; The Future of the Adirondacks Vol. II Technical Rpt 3; (1971).

... sandy to silty material deposited by or from glacial ice; and (3) glaciofluviatile deposits, generally sands or sand and gravel, deposited by running water derived from the melting of the glacier.

Till and ground moraine constitute, by far, the majority of the surficial deposits in the area, but in several of the specific sites, such as at Intervale, there are significant accumulations of glaciofluviatile deposits.

SOILS - INTERVALE SITE

The Intervale Jump Site area contains three basic types of soils. These three types are: (1) soils derived from glacial till; (2) soils developed in fine sandy or silty terraces; and (3) soils developed in alluvium (see figure IB6-2).

The till-derived soils consist mostly of the Hermon Series which are generally suitable for urban or recreational use on slopes up to 15%. Above 15%, soils tend to be erosive when exposed. These findings are extrapolated from "Interim Soil Survey of Lake Placid Area", Soil Conservation Service.

The fine sand terraces have developed soils of the Adams and Salmon Series. These soils are fine to very fine sandy loams that are excessively drained and tend to be eroded by wind and water when exposed, particularly on slopes. The S.C.S. considered these soils as adequate for the proposed uses.

The alluvial soils are along the Ausable River and tend to be silty or fine sandy loams with a high watertable that are often subject to flooding. These soils are suitable for open space uses as are planned in the proposed program.

The topography of the site can be divided into three zones. These zones are (1) a gently sloping table land in the western portion of the site toward John Brown's Monument, (2) a steep escarpment with slope exceeding 50% and (3) a relatively flat bottom land along the Ausable River.

Existing erosion potential for soils at Intervale is calculated on the following pages.

Comp. by _____ Date _____

Intervale Ck. by _____ Date _____

SOIL LOSS EVALUATION

KR & LS

SUB-AREA	KR	L(FT)	S(%)
97B	17	100	15%
19EF	17	350	43%
CF	17	250	6%

TIME OF EXPOSURE (M): 19-M-July
97 18 MO
A-S
CF M-July

SUB-AREA	CONDITION	KR	LS	C_c	P_c	M	E_t^* (T./AC)	AREA (AC.)	E_T (TONS)	LBS/CF	VOLUME CY OR AC.-FT.
19EF	Rough Grading	17	26			0.25	110			110	74 cy/ac.
97B	Rough Grading	17	2.57			1.7	74			105	52 cy/ac.
CF	Rough Grading	17	1.06			0.25	4.5			110	3 cy/ac.
	SINGLE STORM - 20 YR. FREQUENCY										
19EF	Rough Grading	17	26				310			110	207 cy/ac.
							TOTALS				

* E_t = KR (LS) CPM - SOIL LOSS FOR TIME M IN T./AC.

REMARKS:

SOIL TYPES: Lake Placid Area
(Refer to soils map)

4,5,6	Alluvial soils	114	Colton gr. l.s.	(Intervale)
19	Adams l.f.s.	BP	Borrow Pit	
22	Croghan l.s.	GP	Gravel Pit	
96	Herman bouldery	CF	Cut & Fill Land	
97	Hermon f.s.l.			

Source: USDA SCS: March 24, 1976.

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Comp. by ______ ______

Subject Intervale ______ Ck. by ______ Date ______

SOIL NAME	TYPE SUBTYPE	SOIL TYPE AREA	HYDROLOGIC SOIL GROUND	LAND USE	LAND USE AREA
ADAMS	19EF 25-45%	1.3	A	FOREST	1.3
HERMON	97B 3-8%	1.5	A	FOREST	1.5
CF	Cut & Fill 4&19 0-3%	7.6	A	ROUGH GRADED LAND	7.6

... Inc. 21 Pleasant Street, Watertown, Massachusetts 02172 (617) 926-3300

B. Surface Water

1. Morphometric and Hydrologic Characteristics

a. For any portion of any permanent river on or bordering the site, describe the following:

(1) channel morphology, including: depth, width, relative extent of pools, riffles, falls, etc.; substrate composition of bed; presence, number and size of islands; bank stability.

(2) hydrologic characteristics, including: size of drainage basin, average yearly flow, highest flow recorded, low flow frequencies, annual peak high flow, the magnitude and frequency of flooding and hydraulic capacities of the streams and rivers.

b. For any permanent stream located on any alternative site that information requested in (1-a) above should be provided.

c. Describe the existing natural characteristics of all shorelines of lakes, ponds, and permanent rivers and streams which could be altered as a result of development.

SURFACE WATER - OLYMPIC REGION

All of the proposed LPOOC Olympic facilities and alternative sites are located within the Lake Champlain Drainage Basin. The Basin is located in the northeastern corner of New York State and drains approximately 2,870 square miles.

Methodology

For the runoff analysis, the Modified Soil Cover Complex Method (United States Department of Agriculture, Soil Conservation Service SCS-TR-55) for estimating quantities and rates of runoff was utilized. The analysis was based on a 24-hour, 25-year frequency rainfall, assuming an average antecedent soil moisture condition. The results of this analysis are shown on Table SII-1. Runoff Curve Numbers were derived from the Soil Conservation Service as shown in Table SII-2.

INTERVALE SITE - WEST BRANCH AUSABLE RIVER

The outrun area of the proposed 70 and 90 meter ski jump site at Intervale borders directly on the West Branch Ausable River and is partially within the river floodplain.

The West Branch of the Ausable River, except for a few sluggish runs near the Village of Lake Placid, has a continuous riffling flow through rocks and rugged boulders. The river streambed is dominated by boulders, rubble and bedrock along with limited amounts of gravel and sand. The river velocity is generally swift to torrential.

A U.S. Geological survey gaging station located approximately 4 miles downstream from the Lake Placid Outlet has monitored the river hydrology from 1919 to 1968. The tributary drainage area of the West Branch at this station location is approximately 116 square miles.* For a summary of pertinent hydrologic characteristics of the River based on data gathered at this station, see Table SII-3.

*U.S. Department of Interior, U.S.G.S. Water Resources Data for New York Part I. Surface Water Records, 1968.

TABLE S11-1

SITE/LOCATION	SITE AREA, ACRES	RECEIVING WATERS	PRE-DEVELOPMENT RUNOFF		POST-DEVELOPMENT RUNOFF		INCREASE OVER PRE-DEVELOPMENT		MITIGATIVE MEA
			RATE cfs	VOLUME* inches	RATE cfs	VOLUME* inches	RATE	VOLUME	
1. Olympic Arena Field House, Speed Skating Oval/Existing Arena and High School	28.5	Mirror Lake outlet; Chubb River	17	0.9	37.8	1.35	122%	50%	Flow attenuatio
2. Ski Jump Site/ Intervale	47	West Branch Ausable River	28.5	0.75	40.1	0.90	41%	20%	None required
3. Olympic Village/ Ray Brook	199	Ray Brook	105	1.3	123	1.4	17%	8%	None required
4. TV Center/ Old Military Road	11.5	Chubb River	16.4	1.4	24.5	1.8	49%	29%	Flow attenuatio
5. Luge Course/ Mt. Van Hoevenberg	44	North Meadow Brook, West Branch Ausable River	37.2	1.0	44.0	1.1	18%	10%	None required

*inches of runoff over site area.

XIII Olympic Winter Games

	Item No.	Waters Item Number	Name	Description	Map Ref. No.	Class	Standards
C(T)	257	C-25-26 portion as described	West Branch Ausable River	From 1.0 mile upstream from dam at hamlet of Wilmington upstream to source.	C-25	C	C
C(T)	273	C-25-26-35 portion as described	Chubb River	Enters West Branch Ausable River from northwest 0.7 mile upstream from trib. 34 and 1.1 miles northeast of John Browns Grave. Mouth to a point on river located 1.1 miles upstream from mouth and 0.2 mile upstream from outfall of Lake Placid sewage treatment plant.	C-24	C	C
C(T)	274	C-25-26-35 portion as described	Chubb River	From a point 0.2 mile upstream from Lake Placid sewage treatment plant outfall upstream to source.	C-24 C-23 C-23	C	C(T)
C(T)	275	C-25-26-35-1 including P 248	Tributary of Chubb River	Enters Chubb River from north 0.6 mile upstream from mouth and 1.5 miles north of John Browns Grave. P 248 is located at source and 0.4 mile upstream from mouth.	C-24	D	D
C(T)	276	C-25-26-35-2 and tribs.	Tributary of Chubb River.	Enters Chubb River from southwest 0.2 mile upstream from trib. 1 and 1.4 miles south of John Browns Grave.	C-24	C	C(T)
C(T)	277	C-25-26-35-P 249	Pond on Chubb River	Located on Chubb River beginning 0.7 mile upstream from trib. 2 and extending upstream for a distance of approximately 0.7 mile.	C-24	C	C(T)
C(T)	278	C-25-26-35-3	Mirror Lake Outlet	Enters Chubb River from north 0.8 mile upstream from trib. 2 and 1.5 miles southwest of peak of Cobble Hill	C-24	C	C(T)
B(T)	279	C-25-26-35-1-P 250	Mirror Lake	Located at source of Mirror Lake Outlet 0.4 mile upstream from mouth and in Village of Lake Placid.	C-24	B	B(T)
C(T)	280	C-25-26-35-3 P 250-1 including P 251	Tributary of Mirror Lake	Enter easterly side of Mirror Lake from east 0.6 mile west of Cobble Hill. P 251 is located 0.4 mile upstream from mouth and 0.2 mile north of peak of Cobble Hill.	C-24	C	C(T)
B(T)	283	C-25-26-35-5	Lake Placid Outlet	Enters Chubb River from north 0.4 mile upstream from trib. 4 and 2.2 miles northwest of John Browns Grave.	C-24 C-23	B	B(T)
AA	285	C-25-26-35-5-P 254 and tribs.	Lake Placid	Located at source of Lake Placid Outlet 1.9 miles upstream from mouth and to north of Village of Lake Placid.	C-24 C-23	AA Special	AA Special
C	133	C-15-60 portion as described	Ray Brook	Enters Saranac River from northeast at eastern side of P 30 and 1.5 miles south of southern boundary of Saranac Lake Village. Mouth to 0.2 mile upstream from trib. 1 which enters from north 1.5 miles upstream from mouth and 0.8 mile east of Ames Mills	C-23	C	C
C	134	C-15-60 portion as described	Ray Brook	From 0.2 mile upstream from trib. 1 to source.	C-23	C	C(T)
C(T)	135	C-15-60-1 portion as described	Little Ray Brook	Enters Ray Brook from north 1.5 miles upstream from mouth and 0.8 mile east of Ames Mills. Mouth to water supply dam located 2.4 miles upstream from mouth and 2.5 miles northeast	C-23	C	

TABLE SII-3

HYDROLOGIC CHARACTERISTICS OF WEST BRANCH OF AUSABLE RIVER

1.	Average Discharge	212 cfs
2.	Maximum Discharge	10,800 cfs (9.22.38)
3.	Minimum Discharge	7.2 cfs
4.	Average Discharge, cfs per square mile	±1.5 cfsm
5.	Average Yearly Runoff	±20 inches
6.	MA7CD/10 Year Flow	36 cfs
7.	Mean Annual Peak Discharge	3,558 cfs
8.	Statistical Peak Flows:	
	a) 1 year frequency	1,440 cfs
	b) 5 year frequency	4,550 cfs
	c) 10 year frequency	5,550 cfs
	d) 50 year frequency	8,090 cfs
	e) 100 year frequency	9,310 cfs

SOURCES: 1. U. S. Department of the Interior, Geological Survey, Water Resources Data for New York, Surface Water Records

2. U.S.G,S. Log - Pearson Type III Calculations

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1980 OLYMPICS
AUSABLE RIVER @ INTERVALE

ELEVATION	X-SECTIONAL AREA - SF		HYDRAULIC RADIUS (FT)	
	SQ IN	SF	P	R
1675	0.23	460	300	1.53
1680	0.57	1140	500	2.28
1685	1.26	2520	800	3.15
1690	3.17	6340	1400	4.53
1695	5.89	11780	1630	7.23
1700	[illegible]	17560	1930	9.10

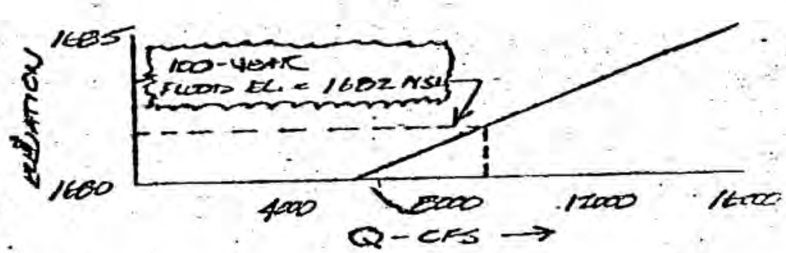
APPROX. 100 YR STORM FLOOD = 4800 CFS
(FROM USGS LOG-PEARSON ANALYSIS)

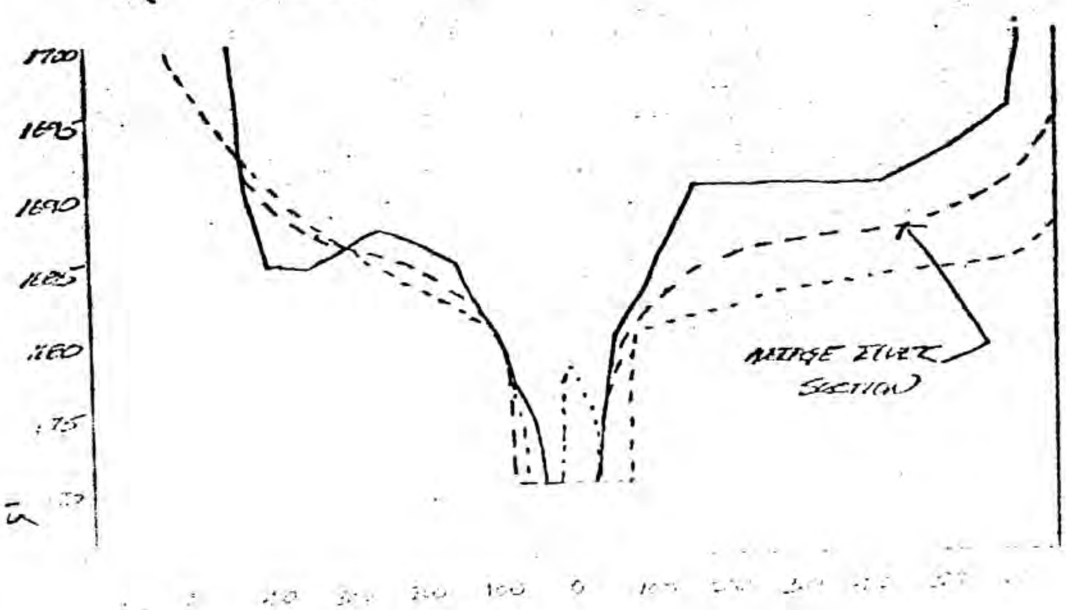
SOLVE MANNING'S FORMULA

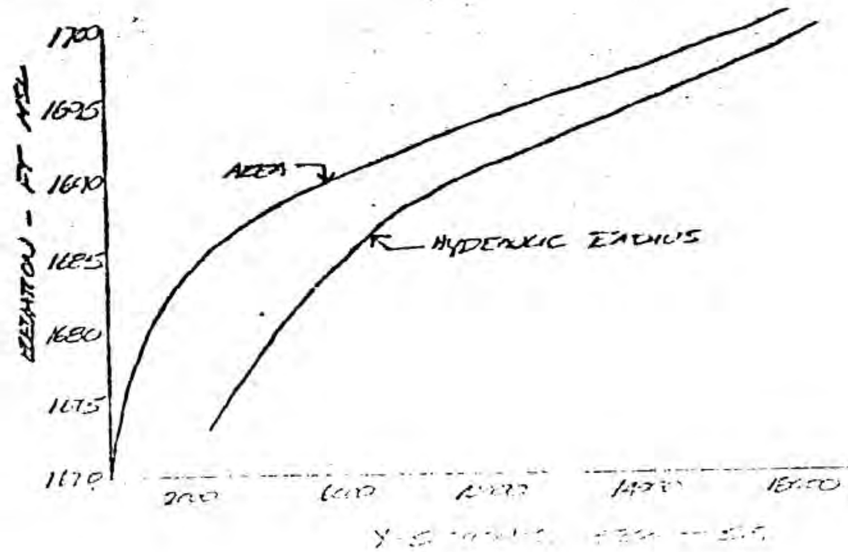
$Q = \frac{1.486}{N} a r^{2/3} s^{1/2}$ (ASSUME N=0.04; S=0.0065)

TRIAL 1 EL. 1685 MSL
(a = 2520 SF; r = 3.15 FT)
Q = 16,031 CFS (TOO HIGH)

TRIAL 2 EL. 1680 MSL
(a = 1140 SF; r = 2.28 FT)
Q = 5938 CFS (TOO LOW)







Since the ski jump site area is partially within the West Branch flood plain, the flood plain was delineated in order to assess the potential impact of the proposed program elements on the hydraulic capacity and increase in flood stage of the river. This delineation is shown in Figure IB6-3.

The flood plain delineation is based on hydraulic computations for determination of the 100-year frequency flood stage of the river reach in question. An average cross-section of the river reach bordering the site was utilized for the analysis. The 100-year flood discharge for the reach was determined from U.S.G.S. Water Supply Paper 1677, in which each stream is classified in a Flood Frequency Region and Hydrologic Area.

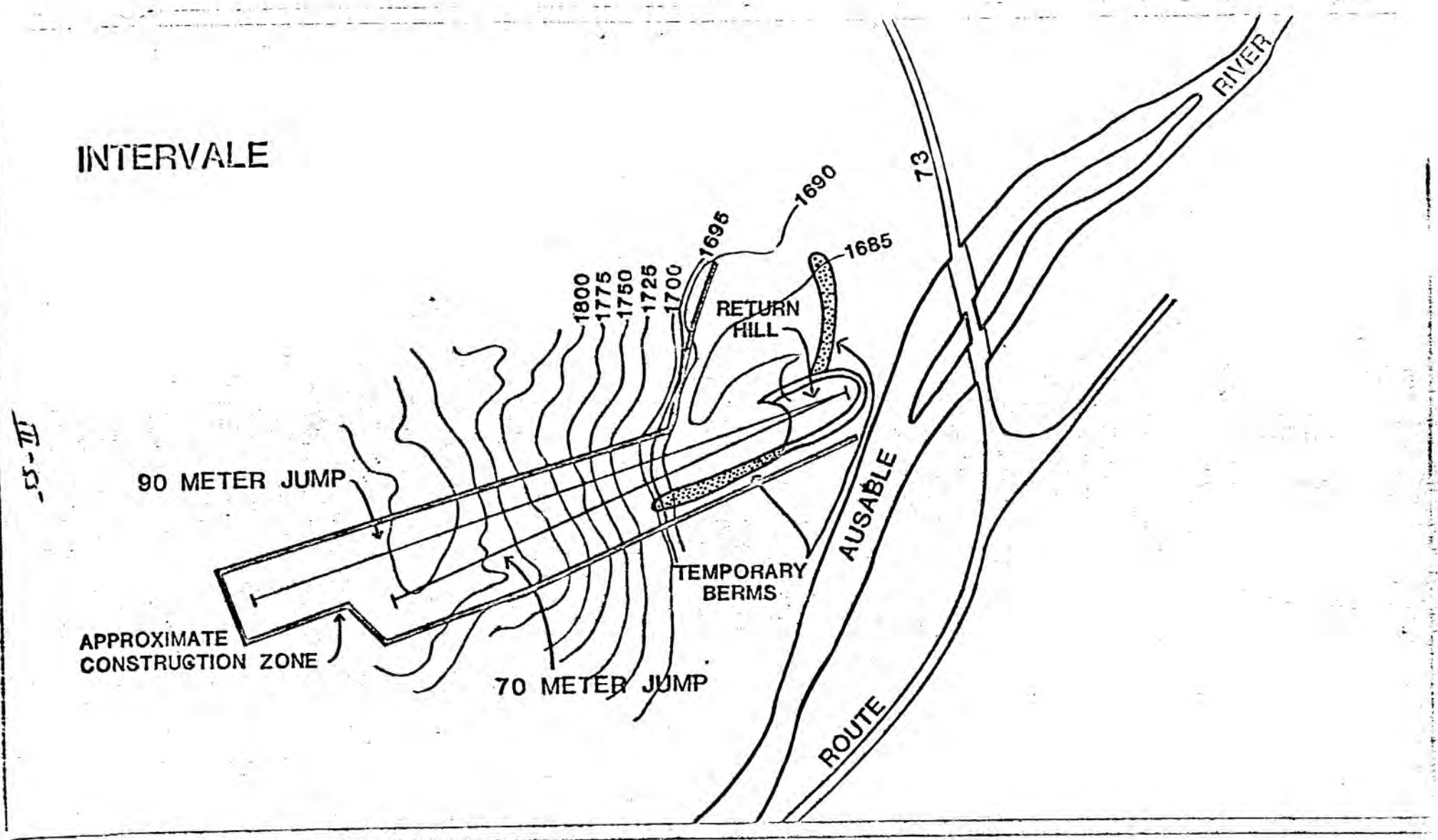
The figures below show pertinent hydrologic capacity data analyzed for the flood plain affecting the Intervale Site:

Surface Water	West Branch Ausable River
Tributary Drainage Area (Sq. miles)	106
Flow Capacity (cfs)	1,811
Flow Capacity Elevation (ft. MSL)	1.675±
Corresponding Storm Frequency	1.1±
100-year Flood Flow (cfs	9,300
100-year Flood Stage Elevation (ft. MSL)	1,682±

The outrun area of the proposed 70 and 90 M ski jump borders directly on the West Branch Ausable River, which is classified as C: best used for fishing and other uses, except water supply, food processing and contact recreation. See Table SII-2. New York State DEC has initiated a monitoring program of both the Chubb and West Branch Ausable Rivers. This program will identify flow characteristics and water quality of each stream.

No shorelines will be altered as a result of this project. Mitigation criteria will be applied, as set forth in Schedule III, IIF of this application, to maintain separation and avoid disturbance of the shore edge adjacent to this project.

Since alternatives to the proposed site were developed for study purposes, this level of information has not been developed for alternative sites.



XIII Olympic Winter Games

Conceptual Sediment Control Plan

600

D. Estimate the quantity of sewage to be generated during the Olympic and post-Olympic time periods to be handled by the Lake Placid sewage disposal plant.

Estimated Flows: During the Olympic period the ski jump facilities will be used on three separate days. Total attendance, a combination of spectators and special service personnel, will vary from 16,900 on February 17, to 11,300 on February 18, to 17,600 on February 24.

Projecting the wastewater generations developed previously* the following data are presented as representative of the wastewater to be released at the Lake Placid Treatment Plant from the portable toilets at the Ski Jump site.

TABLE (7)

SKI JUMP WASTEWATER

CHARACTERISTIC	DATE GENERATED (2/17/80)	(2/18/80)	(2/24/80)
Volume (liters)	8080	5400	8980
BOD (mg/l)	5930	5930	6180
Sus. Solids (mg/l)	6920	6920	7210
Total N (mg/l)	2310	2310	2410
Total P (mg/l)	280	280	290

The total volume of wastewater to be treated at the Lake Placid STP during the Olympic Games was discussed in the preceding question of this application.

Post-Game demands based on spectator and athlete wastewater generation can be satisfied in the same manner as those during the Olympics. That is, spectators will use portable toilets, and the athletes will use those facilities constructed in conjunction with the Olympics.

The athletes' toilets in the warming building will be open to the public during the non-skiing season when the observation tower is in use. These toilets will discharge the on-site disposal system, a system of adequate capacity to accommodate the anticipated level of usage (i.e., 600 persons, peak day) of the tower.

*30 gpm average sewage flow.
300 gpm peak flow.

V. WATER SUPPLY

A. *Calculate the average and peak water demands resulting from the project, for each system proposed.*

The principal water demand at the Intervale site is related to the requirement of water for the athletes' toilet facilities. Overall water demands for the facility are not yet available, however, the average daily demand is expected to be comparable with that of four single-family homes (see Schedule III, IVA).

Peak day attendance at the observation tower is expected to be 600 persons with 20% utilizing the toilet facilities. Distributed over an 8 hour day, 15 persons per hour will utilize the sanitary facilities. Water demand for this peak will be approximately 3gpm. The peak day winter demand will be significantly less as the facilities will be barred to all except competitors and other official persons.

Standby snowmaking equipment will be installed alongside the ski hill for the making of artificial snow should conditions warrant during competitive events. It is proposed that the guns will be supplied from the West Branch Ausable River.

Whiteface Mountain now has snowmaking equipment on approximately 2 miles of ski trails. Water demand for Whiteface snowmaking is 600 gpm on a "sustained" basis.*

Although actual drawdown rates and application times for snowmaking at the 90M jump are unknown at the time, it can be said that both demand and application times will be significantly less than those at Whiteface - perhaps 100 gpm for 1 to 2 hours.

---

* NYSDEC Draft Environmental Impact Assessment for Whiteface Mountain and Mount Van Hoevenberg.

3. *Describe the proposed water sources for the project and any alternative sources of water supply that were considered. Provide test data relative to substained water yield, drawdown rates and water quality for the sources proposed.*

Present plans are for potable water to be supplied by an on-site well. The feasibility of this source is dependent on the results of design phase investigations to determine well yield, water quality, and suitable well location.

Should an on-site well prove infeasible, the project proponent will serve the site by an extension of an existing 8" Lake Placid Water District line approximately ¼ mile from the site. This line would be extended up John Brown Road and would serve the site along the access road to the base of the tower. This water is presently chlorinated before consumption and it meets NYS Department of Health quality standards.

STORM DRAINAGE

A. *Describe all methods to be used for the collection and disposal of storm water runoff.*

Criteria for storm water drainage include:

(a) Storm sewers, culverts, natural and man-made drainage channels and retention basins and related installations will be provided as necessary to permit unimpeded flow of natural water courses, to ensure adequate drainage of all low points along streets and parking areas, to intercept storm water runoff along streets and parking areas at intervals related to the extent and grade of the area drained.

(b) Storm sewers and related installations will be required only when the runoff storm water cannot be satisfactorily handled within the street or within natural or man-made drainage channels and retention basins.

(c) Where existing storm sewers are reasonably accessible, proposed developments shall be required, if necessary, to connect therewith.

(d) Permanent natural and/or man-made drainage channels and retention basins will be provided to control the increased storm runoff that may result from increasing the impervious area within the development. In the design of storm drainage facilities, special consideration will be given to avoidance of problems that may arise from the concentration of storm water runoff onto adjacent developed or undeveloped properties.

(e) A culvert or other drainage facility will in each case be large enough to accommodate potential runoff from its entire upstream drainage area, whether inside or outside the project site. The project architect or engineer will determine the necessary size of the facility, based on the provisions of construction standards and specifications assuming conditions of maximum potential watershed development permitted by the applicable regulations.

(f) The project engineer or architect will also study the effect of the proposed development on existing downstream drainage facilities outside the area of the proposed development. Drainage studies (if any) together with such other studies as appropriate, will serve as a guide to needed improvements.

(g) Where development is traversed by a watercourse, drainage way, channel, spring, stream, or surface water existing either previously or as a result of the construction project, there will be provided a drainage easement, pipe, or open swale conforming substantially with the line of such watercourse, drainageway, channel, or stream of at least fifteen (15) feet of of such width as will be adequate to preserve the unimpeded flow of natural drainage, or for the purpose of widening, deepening, relocating

improving or protecting such drainage facilities. Where feasible such drainage facilities will be located within the road right-of-way or in perpetual unobstructed easement.

These and other criteria as deemed appropriate on a site specific basis will form the basis for engineering and construction guidelines. For a full discussion of comprehensive design criteria, see this application Schedule III, IIF.

3. *Calculate the increases in peak storm runoff rates and quantities that will result from construction of roads, buildings, driveways, walkways, parking facilities, landscaping, and utility installation for the portions of the project that drain into identifiable streams, rivers, wetlands, ponds, or lakes on or adjacent to the project site. Use the soil-cover complex method. (United States Department of Agriculture, Soil Conservation Service, SCS-TR-55) for estimating quantities and rates of runoff assuming a 24 hour, 15 year frequency rainfall, assuming an average antecedant soil moisture condition.*

The curve numbers for the hydrologic soil cover complexes in the Modified Soils-Cover Complex Method include allowances for land use and treatment, hydrologic condition, and hydrologic soil group. The antecedent moisture condition is included in the hydrologic soil group. For example, soil group A has high infiltration rates even when wet, and D soils have a ver slow infiltration regardless of antecedent moisture condition.

A rainfall of 25-year frequency and of 24-hour duration was used in the following analysis. This represents a more conservative analysis that that called for in this question.

PEAK RATE OF DISCHARGE COMPUTATION FORM

Sheet No. 1 of

Job Name: OLYMPICS 1980 Job Number: 5151

Point of Investigation: SKI JUMP SITE, INTERVALE

Computed By: E. BOITEAU Date: 7/8/76

Checked By: Date:

Criteria: Tributary Area = 47 Acres
Rainfall Frequency = 25 Years
Rainfall Depth = 4.0 Inches
Average Watershed Slope = Percent

Computation for Weighted RCN:

PRE-DEVELOPMENT

Hydrologic Soil Group 1	Land Use 2	Treatment Or Practice 3	Hydrologic Condition 4	Runoff Curve Number 5	Area (AC) 6	Col. 5 X Col. 6 7
A	GRASSLAND	GRASS - FOUR	FAIR	60	19	1140
A	FOREST	-	GOOD	60	27	1620
B	GRASSLAND	BRUSH	FAIR	70	1	70
					TOTALS	47 2830

Weighted Runoff Curve No. = Total Col. 7 = 2830 = 60.2 ; Use 60
Total Col. 6 47

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RATE OF DISCHARGE COMPUTATION FORM

Job Name: OLYMPICS 1980 Job Number: 5151

Point of Investigation: SKI JUMP SITE, INTERVALE

Computed By: E. BOITEAU Date: 7/9/76

Checked By: Date:

PRE-DEVELOPMENT

Criteria: Tributary Area = 97 Acres
Rainfall Frequency = 25 Years
Rainfall Depth = 4.0 Inches
Average Watershed Slope = 30 Percent

Weighted Runoff Curve Number = 60

Q_1 (for 60 RCN_1) = Q (ES 1027 for STEEP Slopes) X Slope Correction Factor (Ex. 2-0)
= 25 X 1.14 = 28.5 cfs

Q_2 (for — RCN_2) = ____ X ____ = ____ cfs

Watershed RCN Minus RCN_1	C
1	.2
2	.4
3	.6
4	.8

$Q_2 - Q_1$ = ____ - ____ = ____ cfs

$\Delta Q = (Q_2 - Q_1) \times C$ = ____ X ____ = ____ cfs

Peak Discharge = $Q_1 + \Delta Q$ = ____ + ____ = 28.5 cfs

Runoff = 0.75 Inches (Exhibit 2-7A)

Reduction for Ponding and Storage:

346

PEAK RATE OF DISCHARGE COMPUTATION FORM

Sheet No. 3 of

Job Name: OLYMPICS 1930 Job Number: 5151

Point of Investigation: SKI JUMP SITE, INTERVALE

Computed By: E. BOITEAU Date: 7/8/76

Checked By: Date:

Criteria: Tributary Area = 47 Acres
Rainfall Frequency = 25 Years
Rainfall Depth = 4.0 Inches
Average Watershed Slope = Percent

Computation for Weighted RCN:

POST - DEVELOPMENT

Hydrologic Soil Group 1	Land Use 2	Treatment Or Practice 3	Hydrologic Condition 4	Runoff Curve Number 5	Area (AC) 6	Col. 5 X Col. 6 7
A	GRASSLAND	CLEAR - BRUSH	FAIR	60	14	840
A	FOREST	-	GOOD	60	24	1440
B	GRASSLAND	BRUSH	FAIR	70	1	70
A	90M JUMP STANDS, PARK			76	8	608
				TOTALS	47	2958

Weighted Runoff Curve No. = Total Col. 7 / Total Col. 6 = 2958 / 47 = 62.9 ; Use 63

609

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PEAK RATE OF DISCHARGE COMPUTATION FORM

Job Name: OLYMPICS 1980 Job Number: 5151

Point of Investigation: SKI JUMP SITE, INTERVALE

Computed By: E. BOITEAU Date: 7/9/76

Checked By: Date:

Criteria: Tributary Area = 17 Acres POST-DEVELOPMENT
Rainfall Frequency = 25 Years
Rainfall Depth = 4.0 Inches
Average Watershed Slope = 30 Percent

Weighted Runoff Curve Number = 63

Q_1 (for 60 RCN_1) = Q (ES 1027 for STEEP Slopes) X Slope Correction Factor (Ex. 2-0)
= 25 X 1.14 = 28.5 cfs

Q_2 (for 65 RCN_2) = 42 X 1.14 = 47.9 cfs

Watershed RCN Minus RCN_1	C
1	.2
2	.4
(3)	.6
4	.8

$Q_2 - Q_1$ = 47.9 - 28.5 = 19.4 cfs

$\Delta Q = (Q_2 - Q_1) \times C$ = 19.4 X 0.6 = 11.6 cfs

Peak Discharge = $Q_1 + \Delta Q$ = 28.5 + 11.6 = 40.1 cfs

Runoff = 0.90 Inches (Exhibit 2-7A)

Reduction for Ponding and Storage: NA

INCREASE OVER PRE-DEVELOPMENT:

$$\frac{40.1 - 28.5}{28.5} \times 100 = (40.7\%)$$

IX. SOIL EROSION, SEDIMENT CONTROL

A. *Describe in detail all measures that will be utilized to prevent soil erosion by protecting and stabilizing exposed soil surfaces, and those which will be used to trap and store sediments that have eroded from exposed soil areas and watercourses during the life of the project.*

Criteria for erosion and siltation control include:

(a) No topsoil will be used as spoil, and topsoil will be removed from the site only if necessary. On all sites, topsoil will be stripped. Topsoil, stockpiled and stabilized to prevent topsoil loss and sedimentation.

(b) Following earthmoving during construction, all areas which include steep slopes, high erodible soils, or are poorly drained and which are not to be covered by roads or buildings will be stabilized by appropriate measures to prevent erosion and sedimentation.

(c) All other areas which will not be covered by a permanent hard or impervious surface within one (1) month of commencement of earthmoving must be stabilized immediately upon completion of the disturbance. Stabilization, either temporary or permanent, is to be done by mulching, seeding, sodding, macadam, crushed stone or gravel, bituminous or any other appropriate stabilizing method.

(d) The deposit of dirt, mud, and debris on public access roads by construction vehicles and equipment will be prevented by the use of wheel-washing devices and/or other suitable methods at points of egress from construction sites. No wash-down methods will be applied that introduce sedimentation from the construction site into storm drains on the public street.

(e) Previously disturbed topography such as areas which have been filled or where fill has been extracted will be evaluated for structural or vehicular oriented development.

(f) Development to occur within 100 feet of any adjacent stream will be sited on the most level topography possible to minimize the danger or erosion which could result in water turbidity.

(g) The potential for erosion on side slopes will be inhibited by prompt application of measures to protect unstable soils surfaces and/or to divert drainage patterns from such surfaces. Measures indicated below are illustrative of ways that this can be achieved, but are subject to the specific conditions of the

[illegible] mulch, wood chips, hay, or other appropriate means will [illegible] to reduce topsoil losses from wind and runoff. Steeper side slopes may require jute mesh or gabions or terracing to retain soils. Despite these measures, some erosion and siltation is possible. To mitigate this threat, temporary berms and dikes will be used to channel flows to sedimentation basins where the harmful effects will be dissipated. Only a minimum acceptable area will be excavated at one time to prevent excessive exposure of excavated soils. Hay bale filters may be employed temporarily in drainage courses to minimize the silt volume reaching adjacent water courses. Interceptor ditches along the tops of slopes and longitudinal drainage ditches will be constructed as appropriate to allay the possibility of drainage causing erosion.

(h) At a point where runoff leaves the site, a sediment basin or basins will be constructed. The sediment basin(s) will be designed an an appropriate manner. Following permanent stabilization of the site, the basin may be removed or retained. If retained, silt must be removed within one (1) year after completion of construction.

(i) Sediment basin cleanout will be required when the storage capacity is reduced by sediment accumulation to 0.02 acre-feet per acre of drainage area or within one (1) year after completion of development.

(j) In general, the average sediment basin length will be at least twice the average width.

(k) Wood from trees removed in the construction process will be salvaged to the maximum extent possible. Wood that is not salvageable for any other purposes will be chipped and used for slope protection. Diseased wood will be buried or burned at an approved burning location.

(l) Borrow sites will be selected and excavated by the Contractor with respect to appropriate standards. Temporary fencing and warning signs will be employed where feasible to minimize the danger to inadvertent trespassers. Before excavation of any borrow sites, a specific reclamation plan will be adopted to prevent abandoned borrow pits from leaving open scare on the landscape.

(m) Spoil deposit sites will result principally from the excavation of peat and muck. Whenever possible, peat will be spread as mulch on embankment slopes to minimize the volume of superflous material. In all likelihood, the balance of excavated peat and muck can be deposited in abandoned borrow pits. This material can be spread at depths of up to 12 inches as part of the reclamation process. Once it is disc-harrowed into the underlying soils, it will hasten the development of fertile topsoil. Stumps and diseased wood will be disposed of according to appropriate standards.

piles of construction materials and equipment will be stored away from streams and water courses. Pollutants such as sanitary waste, crank-case oil, solvents, lubricants, etc. will not be discharged into any runoff areas.

The Project Manager of the LPOOC construction program will overview construction and ensure compliance with the foregoing mitigation steps.

See also this application, Section III,H,1.

8. *Compute the increase in soil erosion (sheet, rill and gully) and resulting sedimentation (settleable and suspended) that will accrue in the identifiable streams, rivers, wetlands, ponds, or lakes on or off the project site as a result of the project. For each alternative site consider both the short-term (construction phase) and the long-term. In making these calcualtions utilize the Universal Soil Loss Equation and the procedures found in the U.S.D.A. - Computing Sheet and Rill Erosion on Project Areas, Technical Release No. 51, Geology, September 1972: or Guidelines for Erosion and Sediment Control in Urban Areas of New York, Soil Conservation Service, Syracuse, New York.*

The following two pages evaluate the potential for soil loss from the Intervale Site during the construction phase. Subsequent to construction at Interyale, the entire site will be stabilized and landscaped. The potential for significant soil losses in the long-term will be minimal and will certainly be less than would be present should existing site conditions persist.

Comp. by RNF 7/1/76

Subject Intervale Ck. by Date

SOIL LOSS EVALUATION

KR & LS

SUB-AREA	KR	L(FT)	S(%)
97B	17	100	15%
19EF	17	350	43%
CF	17	250	6%

TIME OF EXPOSURE (M): 19-M-July
97 18 MO
A-S
CF M-July

SUB-AREA	CONDITION	KR	LS	C_c	P_c	M	E_t^* (T./AC)	AREA (AC)	E_T (TONS)	LBS/CF	VOLUME CY OR AC.-FT.
19EF	Rough Grading	17	26			0.25	110			110	74 cy/ac.
97B	Rough Grading	17	2.57			1.7	74			105	52 cy/ac.
CF	Rough Grading	17	1.06			0.25	4.5			110	3 cy/ac.
	SINGLE STORM - 20 YR. FREQUENCY										
19EF	Rough Grading	17	26				310			110	207 cy/ac.
							TOTALS				

* E_t = KR (LS) CPM - SOIL LOSS FOR TIME M IN T./AC.

REMARKS:

SOIL TYPES: Lake Placid Area
(Refer to soils map)

4,5,6	Alluvial soils	114	Colton gr. l.s.	
19	Adams l.f.s.	BP	Borrow Pit	(Intervale)
22	Croghan l.s.	GP	Gravel Pit	
96	Herman bouldery	CF	Cut & Fill Land	
97	Hermon f.s.l.			

Source: USDA SCS: March 24, 1976.

Comp. by _____ Date _____

Subject Intervale Ck. by _____ Date _____

SOIL NAME	TYPE SUBTYPE	SOIL TYPE AREA	HYDROLOGIC SOIL GROUND	LAND USE	LAND USE AREA
ADAMS	19EF 25-45%	1.3	A	FOREST	1.3
HERMON	97B 3-8%	1.5	A	FOREST	1.5
CF	Cut & Fill 4&19 0-3%	7.6	A	ROUGH GRADED LAND	7.6

8. *Soil Erosion and Sedimentation - Consider the potential soil erosion from the project resulting in sedimentation and suspended solids. Evaluate the impacts on the ecosystems of all receiving land areas as well as the impacts on the land areas on which the soil erosion took place. Consider such items as loss of topsoil, gullying, deterioration of hydraulic and hydrologic characteristics of the watersheds, and nutrient levels on land areas.*

Soils and Topography

The major direct impact of the ski jump will be potential soil erosion problems during construction, particularly on the steep slope where the landing and viewing areas will be developed. Appendix ___(soil Loss Evaluation) shows that in Adams soils, a 20 year storm could erode nearly 210 cubic yards per acre from the steep zone.

The return hill for the jumps will also be subject to erosion during construction, and possibly after construction in the event of a major flood on the Ausable River.

Measures to prevent severe erosion problems and the accompanying water quality degradation in the Ausable River due to increased sediment load are outlined in Part TWO, I, C, 2, a of the DEIS.

No direct impacts to soils are anticipated during the Olympic Period. However, some disruption of vegetal cover on slopes could occur from pedestrian traffic on these slopes. This disruption could cause a potential erosion problem during and after the thaw period.

9. *Surface and Subsurface Seepage - Evaluate the impacts of water as a result of surface and subsurface seepage associated with shallow bedrock or other dense soil layers, on proposed roads, cut slopes, road ditches, buildings, lawns, recreation areas, on-site sewage disposal systems, and other development features that could be affected by such water.*

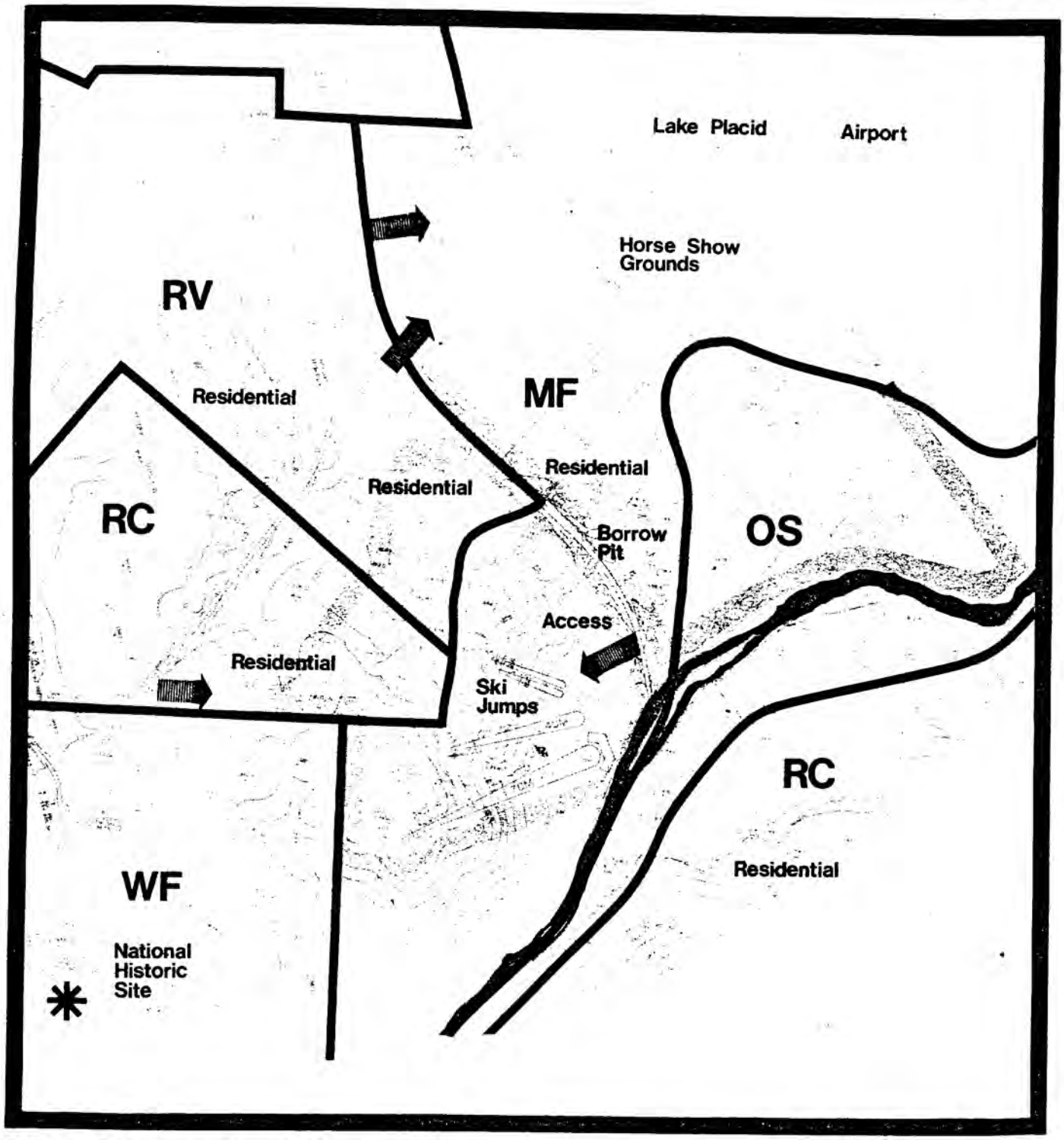
Surface and subsurface seepage may be expected to occur at the base of the cut slope of the 90 Meter ski jump. The design of the jump hill will require clay tile drains or other suitable drain material at the base of the cut to carry off surface and subsurface seepage. Detailed information on the design of the drainage system is not available at this time.

4. *Ground Water - Consider the changes in water runoff conditions, introduction of new amounts of water, introduction of pesticides, insecticides, herbicides, other biocides, and nutrients and other changes resulting from development activities including but not limited to paved areas, cuts, fills, soils drainage systems, storm drainage system, water supply systems, sewage disposal systems, development in the vicinity of aquifer recharge areas, disturbance of natural vegetation, and recreation activities. Evaluate the potential impacts on ground water. Consider effects on all items in the New York State Ground Water Quality Standards as found in the Official Codes Rules and Regulations of the State of New York.*

Development of the ski jump complex is expected to increase the rate of runoff from the site by 12 cfs, a 41% increase over existing conditions and increase the volume of runoff from the size from 0.75 inches to 0.90 inches in a 25 year storm. Because precipitation entering the groundwater system on the site is discharged from groundwater to the Ausable River, the reduction of infiltration potential by increased runoff should have no effect on the water levels of the River or the groundwater system.

No pesticides, herbicides, other biocides or are to be used at the facilities, but a subsurface sewage disposal system will contribute some nutrients and chlorides from salt flush water to the groundwater system. This facility will be used by athletes during events only and will therefore have negligible effect on groundwater quality over time.

Snow-drying by the use of nitrogen-based compounds applied when competitions are held during extremely wet conditions would have a nutrient effect. The likely frequency and quantity of this application has not been estimated at this time, but it is expected to be highly infrequent.



XIII Olympic Winter Games
Site Context

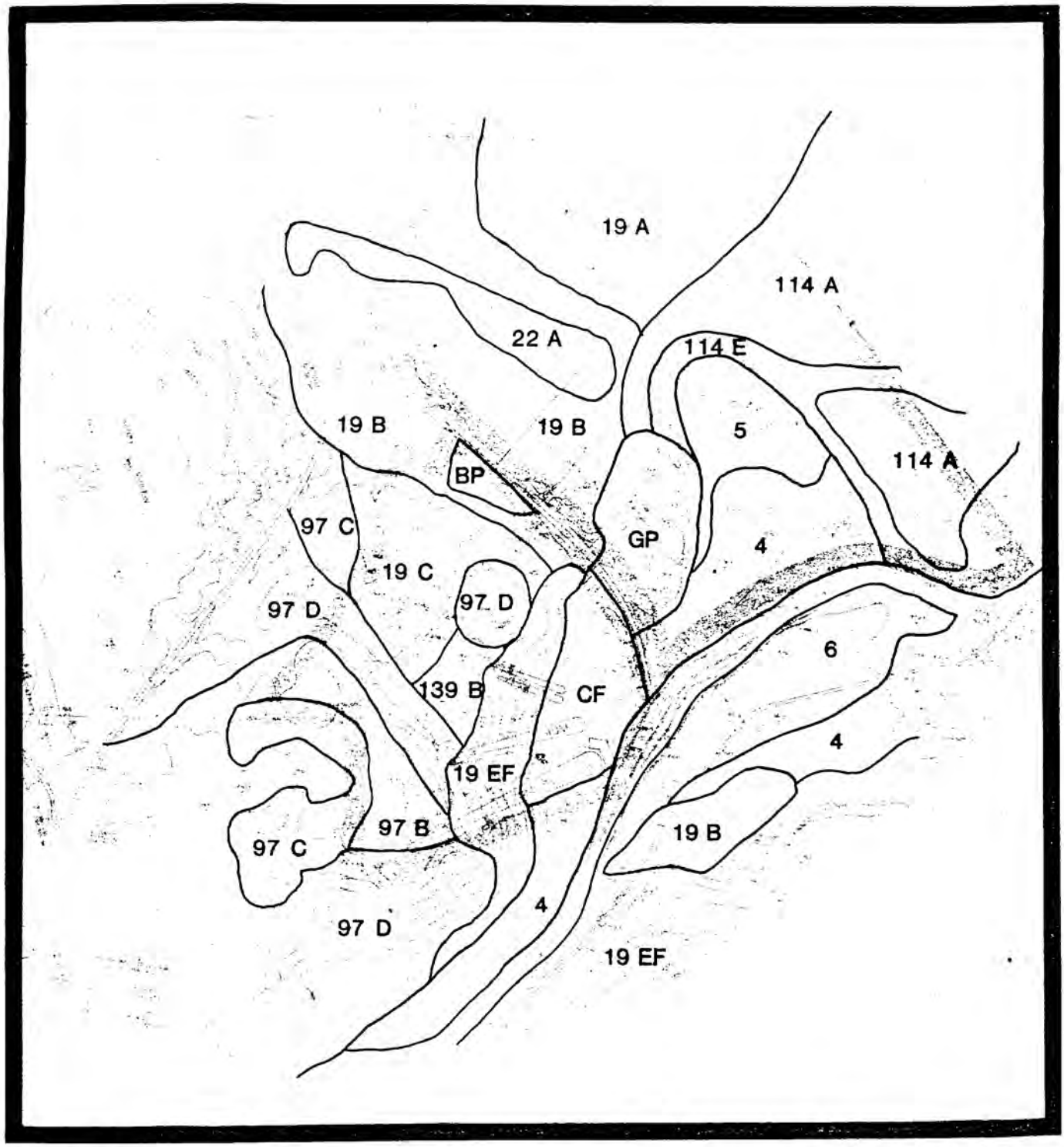
Proposed Zoning **Fig. IB6-1**

MF · Municipal Facilities
RV · Residential Village
WF · Wild Forest
RC · Residential Countryside
OS · Open Space
■ · Recreational River Corridor
□ Potential Facilities Sites

Source: Zoning Map No.1 Town of North Elba, NY. and Field Survey by Sasaki Associates Inc.

Scale: 200 0 200 400 North

761119:3



XIII Olympic Winter Games
Soils

Fig. IB6-2

	Slope		Slope
A	0-3%	E	25-40%
B	3-8%	F	35%+
C	8-15%		
D	15-25%		

Soil Types Listed In Section IA1

Potential Facilities Sites

Source: USDA Soil Conservation Service

Scale: North

761119: 4

CROSS-EXAMINATION

BY MS. NICHOLS: (of Mr. Foster)

Q. Mr. Foster, your professional vita which has been submitted as Exhibit 761119:60 indicates that as an associate with the firm of Sasaki Associates, Inc., you're charged with project management and responsibility for conducting environmental studies for both the public and private sectors, is that correct?

A. That's correct.

Q. Now, as part of those, would the type of study that you conducted in the application before us in this matter fall within that designation of your activities for the other three that are identified on the top of page --

A. I don't have the benefit of knowing -- know, what is the question again, please?

Q. The question is your professional vita --

A. M-m h-m-m.

Q. -- divides -- your professional vita on Page 2 referring to Exhibit 761119:60, divides your responsibilities for your employer into four categories. Would I be correct in assuming that

with reference to the types of activities that you conducted in this application that Number 4 is an accurate description of the type of endeavor that you customarily engage in or that you have engaged in specifically with reference to this project?

A. That's correct. Item Number 4, you said?

Q. Yes, Item Number 4. And are there any portions of either Items Number 1, 2 and 3 that you performed in developing this application?

A. Yes, there are portions of others, yes.

Q. Would you specify, or perhaps it would be just simpler to have you describe in a general sense the type of activities you engaged in in developing this application?

A. Well, the bulk of the data that was generated was conceptual level for this report and was taken from existing data generated predominantly by the Soil Conservation Service and by other -- by others such as Mr. Boiteau, developing hydrologic studies that he also got from other existing data and some assumptions were made based on some ground reconnaissance and examination of soils that -- on several issues such as foundations, sewage disposal.

THE HEARING OFFICER: Mr. Foster, did you rely in part or in any part upon a document entitled "Future of the Adirondacks by J. F. Davis"?

MR. FOSTER: Yes, I did.

THE HEARING OFFICER: May I ask who or for whom that document was prepared, if anyone knows?

MR. KAFIN: That was the Temporary Study Commission for the future of the Adirondacks. There is a summary volume and there are two volumes of technical studies which compose the basis work product of the Temporary Study Commission.

THE HEARING OFFICER: Mr. Glennon, did you say six volumes?

MR. GLENNON: There are six technical reports supporting the master volume.

MR. KAFIN: In two bound volumes, that's what I'm saying.

THE HEARING OFFICER: All right. May I ask the Agency or whoever has charge or responsibility -- responsibility or charge thereof to produce a set of the summary report and each of

that water body?

A. In part, yes.

Q. With reference to the Mainstone Farm project in Wayland, Massachusetts --

A. M-m h-m-m.

Q. -- did that involve proposed activities in conjunction with a water body?

A. Yes, it did.

Q. What type of a water body?

A. It was a stream tributary to the Sudbury River.

Q. A stream that flowed at all seasons or an intermittent stream?

A. It flowed at all seasons.

Q. And were the results of that study made permanent in some sort of written form?

A. Yes, they were.

Q. With reference to the state park at Rockwood Hall, is that --

A. M-m h-m-m.

Q. Does that -- did that study for which you performed geological engineering involve impact of possible soil erosion or siltation upon a water body?

Q. And were the results of your study in the University of Houston project put in some type of final form?

A. Yes, they were.

Q. Was that a written form?

A. It's been some time. Part of it was written but the bulk of it was for contract documents and in a similar way to the University of Buffalo that Mr. Boiteau testified about.

Q. With reference to the Bates Nordic Training Center in Auburn, Maine, did your aspect of the work on that project as a project geologist involve consideration of the potential impact which construction might have upon a water body?

A. Yes, it did.

Q. And do you recall the name of the water body?

A. No, it was a stream that came down past the ski area and flowed into a lake just -- I believe the lake was named Auburn Lake and this was a tributary to Auburn Lake.

Q. Do you recall what type of a stream it was?

A. It was a mountain stream, some --

Q. Go ahead.

A. Somewhat smaller than the Ausable and yet in

of years. It should not be too large a burden, not requiring a trailer truck or even a large station wagon, to produce one set of copies of all of those Sasaki documents. I would think it would be in the enlightened self-interest of Sasaki Associates, Incorporated, since their employees are testifying in a matter of national significance, to produce those documents for our examination. I ask that they be delivered to the Agency and that the Agency make them available for examination during regular business hours prior to the next hearing and that from now on we will be able to limit our inquiries of experts to the extent of their qualifications, to those particular reports that they may have participated in which are directly relevant to the subject matter of the Ausable River or this particular site.

I ask further to that end in the interest of justice and since this is a nonjury proceeding and we can take some evidentiary short-cuts, to ask either directly by a party's counsel or I shall ask each witness to indicate with reference to their biography and professional qualifications,

what, if any, prior studies are similar to or relevant to considerations involved in the preparation of this application and I think in that way we can obtain a complete record and adequately investigate the qualifications of the experts involved.

All right, Ms. Nichols, proceed with your cross-examination of the team involved with the consideration of the river.

MS. NICHOLS: Thank you, sir. I would wish, before I commence the cross-examination, to renew the request which we made with reference to Mr. Boiteau and extend that to Mr. Foster that in the event that after examination of the documents that we have additional cross-examination that, subject to approval by the Hearing Officer, Mr. Foster may be recalled for additional cross-examination.

THE HEARING OFFICER: Your application is granted.

MR. KAFIN: May I be heard for one second?

THE HEARING OFFICER: Yes.

MR. KAFIN: Very briefly. We'll do what you've ordered us to do. With respect to the last point, this is the third time since these hearings have begun that we've had discussion of this issue. The last two times, the attorney for the Adirondack Council waived the production of all those documents and now they want them and they want to have another bite at the apple. We'll comply with your Honor's ruling, but to the extent what we have here is a flip-flopping of position and we are caught unawares, I want it clear to the record that it was with the acquiescence of that party that we didn't have those documents here today.

THE HEARING OFFICER: I'll go even further on the record. The only party that recognized the need for those documents happened to be the Hearing Officer. Objection to their production was raised by Mr. Hanna most vociferously, Mr. Gitlen who has remained relatively silent at this time and almost everybody else who had a license to practice law and a number of people who didn't have licenses to practice law at the

prehearing conferences and I recognized the unique burden that is now placed on the applicant in view of Mr. Hanna's prior statements. However, there may very well be a need to recall. To that end, I recognize that we cannot punish a party in this proceeding because of misapprehension of needs at the time preliminary statements were made. Therefore, I will hear and entertain applications to recall any witness on behalf of any party subject, of course, to the exigencies of getting the witness here and if at all possible, perhaps we might, if it is a burden, proceed by offer to prove or interrogatory but we'll cross those bridges when we come to them. All right, Ms. Nichols.

MS. NICHOLS: Thank you, sir. Thank you.

BY MS. NICHOLS: (Questions addressed to Mr. Foster)

Q. Mr. Foster, you've heard the testimony of Mr. Boiteau to date, is that correct?

A. Yes.

Q. Did you, in the process of preparing or assisting in the preparation of this application, have occasion to examine the west branch of the Ausable

from a geological perspective?

A. I did.

Q. And did you examine the west branch of the Ausable for its characteristics vis-a-vis runoff and possible sewage effluent absorption?

A. Yes.

Q. Of your own knowledge, what is the classification for water quality standards in the west branch of the Ausable?

THE HEARING OFFICER: Ms. Nichols?

A. I don't know.

THE HEARING OFFICER: I'm going to take judicial notice of the fact that the State has classified the river. The prior testimony and the exhibit indicates that the classification is "C" (trout), that is a capital C (trout) and that the standards promulgated by the New York State Department of Environmental Conservation are applicable thereto and I am going to assume that anyone purporting to be an expert on behalf of the applicant herein is familiar with those standards and the water quality characteristics implied thereunder.

MS. NICHOLS: Thank you, sir.

THE HEARING OFFICER: If they're not, I suggest they read them over lunch.

MS. NICHOLS: The -- now, Mr. Hearing Officer, since we have two witnesses, would the appropriate technique simply be to ask a question?

THE HEARING OFFICER: Ask the question and see who wants to answer. The easiest way to do this without cluttering the record is, just as Mr. Boiteau indicated, point among yourselves as to who should answer and if both of you are pointing at each other, I'll give you a couple of seconds to resolve whose hand shall tentatively retract. That party will then be responsible for answering the question to the best of their ability. If there have to be amendments or modifications to the answer, the other party should feel free to so indicate. If there's a pause, just start talking. If there isn't, indicate to the Hearing Examiner you have more to add.

MR. KAFIN: Which one is Alphonse and which one is Gastone?

THE HEARING OFFICER: At this point I can't really tell.

BY MS. NICHOLS:

Q. Well, my question is as follows, and this is with reference to Page 2, Roman II-8, of the application under the heading "Methodology." What is the meaning of the phrase "average antecedent soil moisture condition"?

MR. BOITEAU: I'll answer that question. This is part of the methodology developed by the United States Department of Agriculture, Soil Conservation Service, for estimating rates and volume of runoff for a specific site based on certain runoff and drainage area characteristics.

Q. With reference to the west branch of the Ausable and the soils at the Intervale site, what are the important soil conditions for purposes of this analysis?

MR. BOITEAU: The methodology developed by Soil Conservation Service classifies all soils regarding their potential for runoff retardance as far as rate of -- precipitating rate of runoff and infiltration into the groundwater and also soils are classified regarding their infiltration potential. They use a letter designation from "A" to "D," "A"

being the most -- more permeable soils, lower groundwater, deeper groundwater levels, down to "D" which would be a poorly -- poorly drained soil which would have a high rate of runoff predominantly. The soils investigated for runoff analysis on this site are classified either in the "A" or "B" category, which would indicate higher infiltration rates and higher permeability potentials and lower runoff rate.

Q. Now, in plain language, what do those higher permeabilities and lower runoff rates mean in terms of the quality of the soil for sewage leachate assimilation?

MR. FOSTER: They don't -- well, they -- it doesn't really indicate anything about the capacity of a soil to absorb sewage, necessarily.

THE HEARING OFFICER: Ms. Nichols, excuse me. Mr. Foster, based on your existing knowledge of the soil characteristics of the site under consideration, how would you characterize its capability of absorbing sewage leachate?

MR. FOSTER: I'd say that it was good.

THE HEARING OFFICER: What assumptions of soil characteristics have you made in order to enable you to give us that opinion that the characteristics are good, and I use the word "assumption in a technical sense meaning that field observations and investigations, I assume, have not been made.

MR. FOSTER: Not definitive investigations, but I've observed what the soils appear to be at least on the surface by field reconnaissance at the site. Soil Conservation Service has defined them and they define a range of permeability for given soil types.

THE HEARING OFFICER: Have you performed any permeability tests?

MR. FOSTER: Not in the ground.

THE HEARING OFFICER: All right. Have you examined permeability by physical inspection of the site based on your own knowledge and experience as a geologist?

MR. FOSTER: Yes.

THE HEARING OFFICER: And it's your considered professional opinion that the character-

istics -- characteristics of the site selected for sewage leachate are good?

MR. FOSTER: Well, you're making the assumption that we've identified a site for it.

THE HEARING OFFICER: You're telling us you have not?

MR. FOSTER: We have not specifically identified it. No, we have not specifically identified a site in which to dispose of sewage in the ground.

THE HEARING OFFICER: What are the criteria for site selection of a sewage site?

MR. FOSTER: Are you asking me?

THE HEARING OFFICER: Yes. What are going to be the criteria for the site selection of a sewage site?

MR. FOSTER: Well, what we assumed was we wanted to find an area in which there would be four feet between the bottom of the leaching field and the groundwater table, high seasonal groundwater table, and it should be a minimum of 100 feet from a water body, and it should have soils that were capable of absorbing the amount of effluent that

would be generated by the facility.

THE HEARING OFFICER: Assuming you cannot find such a site, what are the alternative means of sewage disposal, if any?

MR. BOITEAU: The al ... I can answer that question. The alternative would be the extension of the municipal sewer line to the site.

THE HEARING OFFICER: All right, Ms. Nichols.

BY MS. NICHOLS: (Questions addressed to Mr. Boiteau)

Q. Now, Mr. Boiteau, in evaluating the soils under the methodology identified on Roman II- Arabic 8, you've summarized that analysis on Table SII- Arabic 1?

A. That's correct.

Q. And you further say, "The runoff curve numbers are derived from the Soil Conservation Service as shown in S Roman II- Arabic 2." Now, as I read that table, Table S-II- Arabic 2, that is a water quality classification table. Will you indicate to me how from Table S Roman II- Arabic 2, you derive runoff curve numbers from the Soil Conservation Service.

MR. KAFIN: That may be a typographical error.

THE HEARING OFFICER: It is.

MR. FOSTER: It is.

MR. KAFIN: And it refers to the Table S- Roman II-3 which appears on S- Page 11.

THE HEARING OFFICER: Yes, let us make a correction on Page Roman II- Arabic 8. The last line of the first paragraph entitled "Methodology," the table designation is incorrect. What is the correct designation?

MR. BOITEAU: Moment, please.

THE HEARING OFFICER: O.K.

MR. FOSTER: Try III-79.

MR. BOITEAU: The reference should be to Page Roman III-79, with III-80, III-81, III-82.

MR. KAFIN: That's Exhibit 761119:34, four-page exhibit.

THE HEARING OFFICER: Right, Exhibit 761119:34, Pages 1 through 4 inclusive, all right.

BY MS. NICHOLS:

Q. Now, Mr. Boiteau, as part of your response to Mr. Gitlen's questions, you indicated that one of the purposes in -- or one of the parameters to be emphasized in designing a system to handle

increased runoff from the Intervale site would be to maintain natural patterns of overland flow. What are the existing natural patterns of overland flow on that site?

MR. BOITEAU: You say -- would you repeat the beginning of your question again, please?

MS. NICHOLS: If the Reporter would read back the question?

(The pending question was read by the Reporter.)

MR. BOITEAU: From the top of the hill to the flatland there are no -- there are primarily no defined drainage channels and water is run off -- generated and goes into primarily sheet flow which goes into direct discharge into the west branch of the Ausable.

Q. According to your calculations, the runoff from the site will increase by approximately 40 percent?

MR. BOITEAU: That's correct.

Q. As a result of that increased 40 percent, will the site still be capable of the sheet flow or will it develop channels or some other method for carrying the increased runoff?

MR. BOITEAU: I think the intent here is that -- I don't think that question can be specifically answered until a more definite site plan is developed and specific facilities are sited. I think the intent here is to channelize runoff only where absolutely possible to leave the natural drainage patterns existing as they are.

Q. And --

THE HEARING OFFICER: Can that -- excuse me, Ms. Nichols. Can that 40 percent figure be reduced by any site modifications that are contemplated within the project application?

MR. BOITEAU: Yes, they can.

THE HEARING OFFICER: And to how much can they be reduced if at all?

MR. BOITEAU: It can be reduced to what it was at existing conditions.

THE HEARING OFFICER: At additional expense?

MR. BOITEAU: Yes.

THE HEARING OFFICER: Or within the confines of the project proposal?

MR. BOITEAU: I would think in

order to reduce it down to existing conditions, it would require the development of a retention basin. However, certain runoff control items could be instituted such as berming and so forth which would -- could reduce peak rates of runoff down substantially, down possibly to half that amount or more.

THE HEARING OFFICER: All right, ladies and gentlemen, we're going to have to suspend very shortly. It is rather obvious to the Hearing Officer that siltation of the west branch of the Ausable River is going to be a critical factor with reference to the issue of water quality maintenance in that river and that Dr. Reinhardt, who will testify tomorrow, is going to be asked, I assume, by one of the parties a number of questions dealing with the impact of siltation on the water quality as it affects the maintenance of aquatic habitat. To that end, we are going to have to allow extensive investigation into these issues this afternoon. My estimate, based on what I've seen so far, is that there is probably two or three hours more examination of both these witnesses, certainly by Ms. Nichols and perhaps on redirect or recross of

Dr. -- Mr. Foster by Mr. Gitlen, and we haven't yet heard from Mr. Goldsmith or Mr. Glennon. I had planned to take the testimony of Dr. Dewey and perhaps some other witnesses with reference to the Olympic history here. However, in view of the critical nature of Dr. Reinhardt's testimony, I am not going to take that testimony unless we finish with Dr. Reinhardt and the transportation panel before tomorrow afternoon, which I doubt. So that testimony is going to have to wait until perhaps the next round of hearings. However, in the interim and in order to complete the record, I had asked Mr. Ortloff, I believe Christopher Ortloff, if he was prepared to attest to the substantial accuracy of the factual information contained in this document entitled "Lake Placid: The Olympic Years 1932-1980" published by Macromedia, Incorporated of Lake Placid and Hollywood and prepared by George Christian Ortloff and Stephen C. Ortloff, and I'm going to ask that the project sponsor try and find Mr. Ortloff before the day is out to so testify, at which point I will accept this subject, of course, to cross-examination and for its value until such

time as we have time to take the actual testimony of the parties who have actual and direct knowledge, namely, Mr. -- Dr. Dewey and Mr. MacKenzie. I believe that we have a substantial amount of technical evidence to adduce from these witnesses and we may very well go into this evening, so I suggest you all have a good lunch and return at 2:15.

(Whereupon, at 1:00 p.m. a luncheon recess was taken until 2:15 p.m.)

AFTERNOON SESSION

THE HEARING OFFICER: All right. Right now, do you have any objections to testifying under oath?

MR. ORTLOFF: No, I do not.

GEORGE CHRISTIAN ORTLOFF,

called as a witness by the Hearing Officer, having been first duly sworn, was examined and testified as follows:

THE HEARING OFFICER: All right, be seated and give your name and address to the Reporter.

THE WITNESS: My name is George Christian Ortloff and my address is Town of North Elba, Riki -- R-I-K-I -- Hill.

THE HEARING OFFICER: Would you tell us your occupation?

THE WITNESS: I'm a journalist.

THE HEARING OFFICER: All right, and how long have you been a journalist?

THE WITNESS: Approximately seven years.

THE HEARING OFFICER: And at the

present time are you associated with any of the media in the Lake Placid area?

A. Yes, I'm a reporter for WNBZ-Radio in Saranac Lake.

Q. Prior to that time, have you been associated with any of the media in the Lake Placid region?

A. Yes. I was a reporter for the Adirondack Daily Enterprise for approximately eight months.

THE HEARING OFFICER: O.K. In the course of your regular professional activities, have you had occasion to investigate and research the history of Lake Placid to the extent of considering its participation as the host of the 1932 Winter Olympics?

A. Yes, sir.

THE HEARING OFFICER: And what were the sources of your research material?

THE WITNESS: Well, they ranged from personal interviews with people who were involved. They included newspaper clippings, official records, the files of the 1932 Olympic Winter Games Committee which were maintained by Dr. Godfrey Dewey and are now deposited in the

Lake Placid-North Elba Historical Museum.

THE HEARING OFFICER: All right, and did you apply the regular techniques of investigative journalism to your investigation of this matter?

THE WITNESS: In all but a couple exceptions, the regular techniques, which I assume you're speaking of are corroboration of sources and so forth, and the exceptions are anecdotes which may or may not be apochryphal, which were included for interest.

THE HEARING OFFICER: All right, and those are identified as such?

THE WITNESS: They should be relatively easily identified as such because they're in quotes.

THE HEARING OFFICER: All right. Did you eventually reduce the results of your research to a publication?

THE WITNESS: Yes, I did.

THE HEARING OFFICER: And the title of that publication is "Lake Placid: The Olympic Years 1932 to 1980: A Portrait of America's Premier Winter Resort"?

bachelor's degree in?

THE WITNESS: Language and literature.

THE HEARING OFFICER: Are you a lifetime resident of the Lake Placid area?

THE WITNESS: Yes, sir.

THE HEARING OFFICER: And did you know the people you interviewed personally?

THE WITNESS: In most part, yes.

THE HEARING OFFICER: Do you believe that the work referred to, "The Olympic Years," is a fair and active summary of the Olympic background of the area?

THE WITNESS: Did you mean to say fair and accurate?

THE HEARING OFFICER: Yes.

THE WITNESS: Yes, I did.

THE HEARING OFFICER: And do you believe that the paragraphs contained therein represent a fair and reasonable sampling of the events they purport to portray?

THE WITNESS: Yes.

THE HEARING OFFICER: If I were to

ask you to briefly or at length, as the case may be, summarize your investigations and reports, would you testify substantially in substance to the text of the book?

THE WITNESS: Is that a yes or no answer?

THE HEARING OFFICER: Yes.

THE WITNESS: Yes.

THE HEARING OFFICER: Is there additional information not included in this work which is available or was made available dealing with the background of the community prior to 1932?

THE WITNESS: Most assuredly so. By that I mean we had only 200 pages in which to include a lot of information.

THE HEARING OFFICER: When you summarized other information, did you summarize it in a fashion which had a particular point of view or message, or did you just summarize it in a historical sense?

THE WITNESS: I think that requires some subjective determination on my part. I would

say that it was an objective act to the best of my individual ability, but any individual may have a point of view which he's not even aware of.

THE HEARING OFFICER: All right. Are you aware of any point of view on your part?

THE WITNESS: Only that Lake Placid had an important part in the development of winter sports in America and that that was the purpose of writing the book, to illustrate that.

THE HEARING OFFICER: Did you consider the post-Olympic -- Olympics, plural, I'm sorry, history of the Lake Placid region?

THE WITNESS: Yes, sir.

THE HEARING OFFICER: How would you characterize the impact of the 1932 Olympics on the Lake Placid region?

THE WITNESS: I would say that the 1932 Olympics had a -- and I'm trying to couch my answer in terms which are documented in the book you're reading -- that the impact was great for a few years, not as great as most local people imagined it to be, and that it fell off rather rapidly after 1940 as far as the world and national

-- let's say the national image. I believe that I've been aware for a number of years, although it's not documented in our book, that in other parts of the world, Lake Placid perhaps had a higher representation than it did among other parts of the United States. For what reason, I can't determine.

THE HEARING OFFICER: Can you identify the reasons, if any, for the decline in the region as a sports center after 1940?

THE WITNESS: I believe that the paramount reason is the fact that during the period 1932 to 1958, the Lake Placid region did not have a major Alpine ski center. The 1932 Olympics, in the estimation of most people that I've talked to, were largely responsible for the creation of an awareness of the American people of winter sports, which led to the development of an Alpine skiing industry and paradoxically, Lake Placid spurred that interest which it wasn't able to satisfy in later years and, as a result, many people who became interested in winter sports went elsewhere, a nd Lake Placid did not have the reputation it might have. After 1958, Whiteface Mountain ski center

satisfied the physical elements of that, let us say, deficiency.

THE HEARING OFFICER: All right. I'm going to ask the author to furnish a copy, not necessarily a limited edition hard cover copy, for the record, and I'm going to have it marked Examiner's Exhibit and given the next serial number for today. I would appreciate it if there are paperback copies available that they be made available for the parties, and I would ask Mr. Ortloff to stand by for cross-examination at a later date should any of the parties wish to cross-examine him. I am taking this exhibit, of course, subject to cross-examination in order to furnish some background Olympic history of Lake Placid at this time.

All right, Mr. Ortloff, thank you very much.

THE WITNESS: Thank you very much.

THE HEARING OFFICER: Here's your limited edition copy back. Please replace it.

All right, has the conference concluded between --

MR. KAFIN: Let's take two minutes

and I'm going to retrieve my witness.

THE HEARING OFFICER: O.K.

(Whereupon, a short recess was taken.)

All right, everybody ready? Ms. Nichols, you were in the middle of questioning Messrs. Boiteau and Foster.

MS. NICHOLS: Yes, sir.

THE HEARING OFFICER: Please continue.

MS. NICHOLS: Thank you, sir.

EDWARD B. BOITEAU

-and-

RICHARD FOSTER,

each having been previously duly sworn, resumed and testified further as follows:

BY MS. NICHOLS: (Questions directed to Mr. Foster)

Q. Mr. Foster, you recall that earlier in this cross-examination I asked a series of questions of Mr. Boiteau about whether he had sonsidered the availability of alternative techniques or minimizing discharge of soil into the west branch of the Ausable?

A. Discharge of soil?

Q. Soil, silt, into the Ausable, and his answer was no, he had not. I address now that same question to you. Did you, in the course of preparing this application, consider techniques for minimizing the discharge of soil into the Ausable?

A. Yes, we did.

Q. What kind of techniques did you examine?

A. We -- well, we determined again on a conceptual level that we would construct a sediment basin during the construction period and for as long after as was necessary to stabilize the soils that had been exposed during construction and at that point, the basin would either be removed or retained, depending on -- I don't know what it would depend on. I guess the decision of the contractor and whatever other people would be involved.

Q. Now, what do you mean when you say "a sediment basin"? What kind of a structure are we talking about?

A. Well, if I can --

Q. Or what kind of an entity?

A. If I can indicate in here, if I can find it, we did what was identified as a conceptual sediment

control plan and it would be on Page Roman III-Arabic 55 in the permit application.

Now, again because at the time that this was done we had no -- no definitive information about exactly the construction method nor the exact location or anything like that, we figured because we required -- we were required to build a return hill which is indicated on that plan, that we would build several berms associated with the return hill that would entrap water and, therefore, allow for settled -- settling of sediment prior to the waters leaving the site, the construction site, and this plan of conceptual sediment control, the conceptual sediment control plan, was sketched to indicate the type of -- the type of sediment control basin that could be constructed using the existing topography, temporary berms.

Q. Well, for the purpose of the clarity of the record and people who may not know, would you describe what a berm is?

A. A berm is a linear mound of earth.

Q. And these temporary berms that you propose for construction on the conceptual sediment control plan,

Figure 1B6-9, if Mr. Kafin will provide the exhibit number --

THE HEARING OFFICER: Exhibit Number 761119:32.

MS. NICHOLS: Thank you, sir.

Q. (Continuing) In your experience as a geologist, are they adequate to control a 25-year, a 100-year rain or what level of control?

A. I don't think that the level of design has gone to the point to define what level of control this would provide. You could increase the height of the berms and, therefore, increase the capacity of the retention pond or the sediment control pond, and at the time that this was done and, to my knowledge at this time we don't have enough detailed information, I don't know exactly how high they should be.

Q. Would these temporary berms be created from soil on the site?

A. Yes, they would.

Q. That is, you'd just have a bulldozer come and push the soil up?

A. Well, either that or come from the same

material that would supply the return hill.

Q. Let's talk for a few minutes about that return hill and the anticipated earth movement that's going to go on and the results with that -- which that earth movement may have for sedimentation and erosion on the site. Do you have at this time at the conceptual level any sense of the dimensions of land cuts that will be required to provide the landing area?

A. I don't believe there's any cut -- oh, the landing area? The landing area, would you mind indicating on here what you're referring to as the landing area?

Q. What they call the outrun.

A. The outrun from the end of the jump down.

Q. Yes.

THE HEARING OFFICER: Ms. Nichols, I'm going to interrupt you if I may.

MS. NICHOLS: Surely.

THE HEARING OFFICER: Mr. Foster, forget the particular place. Do you have any idea how much overall cut is going to be required in this conceptual model?

MR. FOSTER: I'd have to check the

figures. I don't -- I don't remember very much cut at all being involved in this.

THE HEARING OFFICER: How much fill?

MR. FOSTER: Do you mind if I look it up?

THE HEARING OFFICER: Sure.

MR. FOSTER: I have it in here.

THE HEARING OFFICER: Refer to whatever is necessary to refresh your recollection. Just tell us what you're looking at.

MR. FOSTER: I'm trying to remember where it is. I think it's in the -- in another document.

THE HEARING OFFICER: Not part of the project application.

MR. FOSTER: Well, I'm not sure. It seems like it should be in here and I can't recall where it would be.

THE HEARING OFFICER: All right. Do you recall, to the best of your recollection, approximately how much earth we're talking about, first in terms of cuts and then in terms of fill?

MR. FOSTER: If I remember correctly,

I think it's something on the order of 15,000 yards.

THE HEARING OFFICER: Of which?

MR. FOSTER: Which is predominately fill.

THE HEARING OFFICER: And what's the source of the fill?

MR. FOSTER: The source of the fill, as I understand it, is proposed to be the cut that's associated with the fieldhouse construction.

THE HEARING OFFICER: All right. In other words, in the same general region there's going to be a 15,000-yard cut and a 15,000-yard fill, approximately?

MR. FOSTER: That's correct.

THE HEARING OFFICER: And we're referring to cubic yards?

MR. FOSTER: Yes.

THE HEARING OFFICER: In this sense.

MR. FOSTER: Yes.

THE HEARING OFFICER: All right. As a result of this cut and fill in both sites, is there any question that there will be, unless

controlled, some sedimentation, siltation of the west bank -- west fork or the west branch of the Ausable River, and some erosion at the site of both operations?

MR. FOSTER: Well, erosion will occur when rain falls on exposed ground.

THE HEARING OFFICER: And there will be exposed ground?

MR. FOSTER: That's correct.

THE HEARING OFFICER: And do you know the approximate area of the ground to be exposed in order to provide 15,000 yards of cut and 15,000 yards of fill?

MR. FOSTER: Well, are you referring now to the fieldhouse or to the ski jump?

THE HEARING OFFICER: I'm referring to the ski jump and if the ski jump requires fill to be brought from the fieldhouse, then the fieldhouse cut is just as relevant as the ski jump fill and this is why I asked at the beginning of these hearings if, in the interests of justice and in an attempt to get this matter resolved, we could have consolidated both hearings. But be that as it may,

the applicant has not wished to do so. I'm referring to both, whatever is necessary. It's the same river, isn't it, by the way, that we're talking about, the west branch of the Ausable?

MR. FOSTER: No.

THE HEARING OFFICER: No?

MR. FOSTER: No. I believe that the fieldhouse drains to the Chubb River which ultimately drains to the Ausable.

THE HEARING OFFICER: The Chubb River then is a tributary of the Ausable?

MR. FOSTER: That's correct.

THE HEARING OFFICER: That makes it a tertiary tributary of the -- of Lake Champlain.

MR. FOSTER: That's my understanding, yes.

THE HEARING OFFICER: All right. Go ahead, Ms. Nichols.

MS. NICHOLS: Thank you.

BY MS. NICHOLS: (Questions addressed to Mr. Foster.)

Q. Now, according to your information on the conceptual design of the conceptual application for this ski jump, is substantial earth sculpturing going to be

required in terms of providing the landing area for the 90-meter ski jump?

A. Yes, there's quite a bit of fill involved in building a return hill for the jumpers, yes.

Q. And when you do substantial earth sculpturing do you increase the probability of erosion and sedimentation?

A. Under normal circumstances we would, yes.

Q. And is there anything to indicate that these circumstances at this site would not be normal?

A. Yes, partially, because conceptually, once again, in order to remove the landing area from the -- to remove it as far as possible from the bank of the river, it's proposed that some kind of a restraining structure will be built to hold the outboard side of the landing area fill. The fill would then be put in and all the drainage from this new fill area which is again easily eroded, being raw earth, will drain into the sediment control basin and then out, so that anything eroded off the return hill conceptually now will wind up within the sediment control basin and settle out and then allow the much purified water to exit the site into the river.

THE HEARING OFFICER: All right. I hate to do this to everybody. We have to recess for five minutes. The Hearing Examiner has a phone call he must make before 3 o'clock.

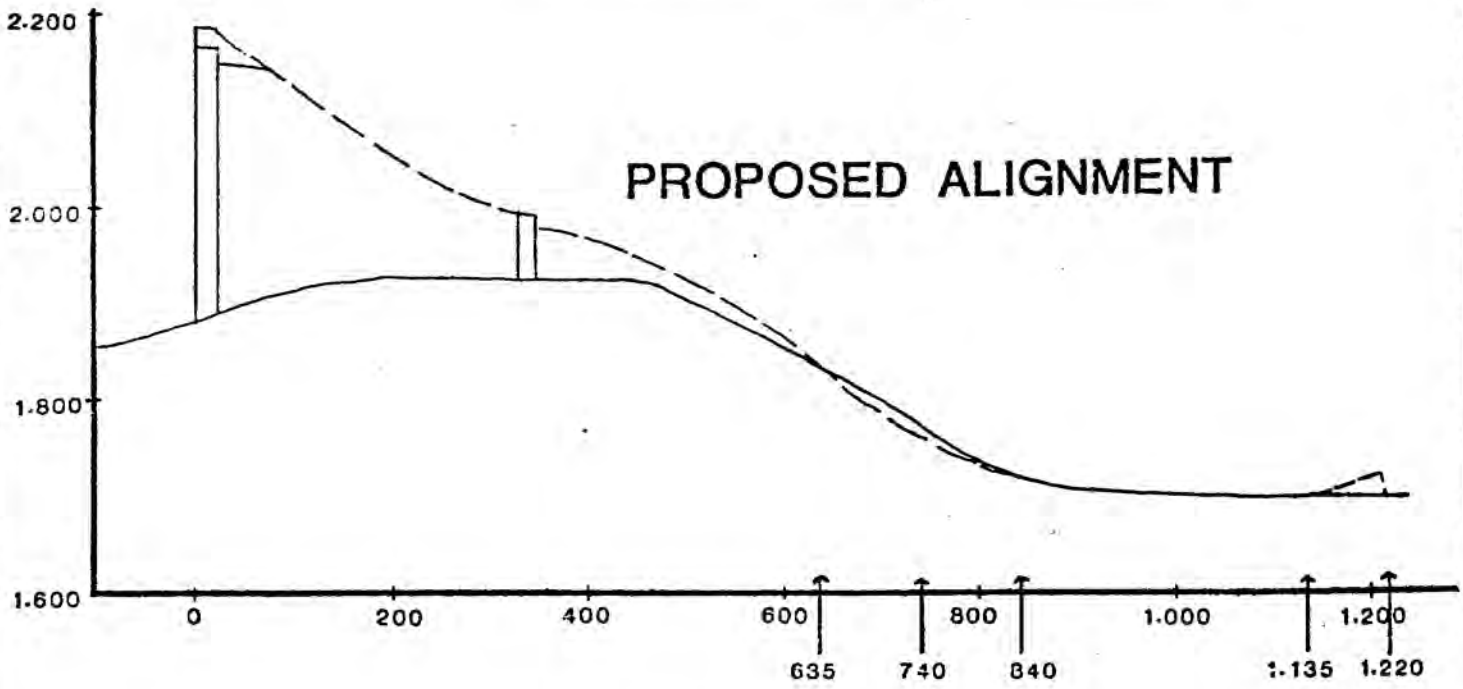
(Whereupon, a short recess was taken.)

(James M. Brooks, Esq., appeared at this point in the hearing in behalf of the Town of North Elba.)

THE HEARING OFFICER: All right, let's reconvene.

MR. KAFIN: Mr. Hearing Officer, during the recess, the witness' recollection was refreshed and Exhibit 761119:46, which is in the application and which is not part of his direct testimony -- and that is my fault -- contains the information about which we've had a series of questions. I made a few extra copies.

THE HEARING OFFICER: Fine, I'm going to give one copy to the Reporter to place in the record at this time as part of Mr. Foster's testimony.



Stat.	Cut	Area	Length	Ave. End Area	Vol. cy
635	0	---			
			105	375	1460
740	10	750			
			100	375	1390
840	0	---			
					____
				TOTAL	2850 cy

Return hill Requires 5700± fill. Assume stat. 0 to 635 has no fill requirement. Assume no earthwork for parking, viewing, etc.

XIII Olympic Winter Games **Fig.**

Preliminary Earthwork Estimate — Intervale

Source: Sasaki Associates Inc.

Scale: 1" = 200' North

DEIS '76

THE HEARING OFFICER: Mr. Foster, do you, in your experience, based upon your experience, are you in a position with a reasonable degree of professional certainty, to assure all the parties that during the construction phase of this project there will be no siltation of the west branch of the Ausable River?

MR. FOSTER: I don't think I could say that absolutely in all confidence, if we were to have a rare flood or something like that during it, there could very well be siltation in the river.

THE HEARING OFFICER: Assuming you have nothing more than the 25-year rain.

MR. FOSTER: Yes. I think we can say -- we can contain all the water from the site that would occur during a 25-year event.

THE HEARING OFFICER: Now, are you talking about direct runoff or sheet erosion?

MR. FOSTER: Both.

THE HEARING OFFICER: Do you intend to protect the entire length of the west branch of the Ausable River throughout the entire river where

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THE HEARING OFFICER: Do you intend to protect the entire length of the west branch of the Ausable River throughout the entire river where

THE HEARING OFFICER: All right, go ahead, Ms. Nichols.

BY MS. NICHOLS: (Questions addressed to Mr. Foster)

Q. Now, Mr. Foster, as I recall, you'd indicated there was going to be substantial earth sculpturing and you had indicated that that would be -- that that would increase the probability of erosion and sedimentation into the west branch of the Ausable, is that correct?

A. No, that's not correct.

Q. Oh, all right.

A. I didn't say that. I said that there would be considerable earth sculpturing but that the attempt is being made to direct any erosion that might occur off of the raw earth into a sediment basin which would contribute to removing sediment from the water that ultimately arrives at the Ausable River.

Q. Mr. Foster, I direct your attention to Page Roman III-31, the second column on that page, which says "LPOOC Proposal," and under "Environmental Factors," the issue is "Soil Erosion Potential".

A. Yes.

Mr. Kafin, gives the correct figures for the earth movement involved in the Intervale site. My recollection was incorrect and it was not 15,000 yards, but rather somewhere in the order of 6,000 yards of fill, 5,700 feet, and approximately 2,850 or 3,000, thereabouts, cubic yards of cut.

THE HEARING OFFICER: All right. At the site or from another site?

MR. FOSTER: The cut would be at the site and some of the fill would be required to be hauled in from another site.

THE HEARING OFFICER: O.K. So we're talking about a net interchange of 5,700 yards plus or minus a few?

MR. FOSTER: Right.

THE HEARING OFFICER: All right. I'm still going to take judicial notice that there's a potential for soil erosion as a result of that.

MR. FOSTER: Exactly.

BY MS. NICHOLS:

Q. Now, Mr. Foster, when you -- when one utilizes a structure such as a sedimentation basin on a site to control the potential soil erosion, does that

ultimately mean that the siltation or the soil erosion potential is going to have to be realized somewhere else? That is, that there will be potential for adjacent surface waters, for example, for erosion, adjacent surfaces erosion?

A. I don't think I understand the question. Would you -- does it mean if --

Q. Do you solve the problem of soil erosion by a sedimentation basin on a permanent basis?

A. No, no, not at all. The erosion is apt to occur anyway. The idea of the sediment basin is to stop whatever damages this erosion could cause in adjacent waters by trapping the sediment. The sedimentation basin does not prevent erosion. The sediment basin prevents the damages by sedimentation and siltation that occur because of erosion.

Q. Those damages being what?

A. Siltation normally.

Q. Siltation into a water body?

A. Yes.

Q. And this could be siltation into a trout stream, in this case, siltation into a trout stream?

A. That's correct.

sheet erosion might occur with berms or other structures including retention basins or settling, sedimentation basins?

THE WITNESS: You mean within the site?

THE HEARING OFFICER: Off -- I'll rephrase the question. Do you believe that all of the erosion effects attributable to this project will be confined solely to the site that's the subject matter of this application?

MR. KAFIN: Mr. Hearing Officer, the question may call for a design level of detail which we haven't reached and for that reason, I will object to the question.

THE HEARING OFFICER: I'll rephrase the question, sustain your objection. Based upon the conceptual model and the proposal before you that you've participated in the preparation of, can you assure us with a reasonable degree of professional certainty, that the effects of erosion, both direct and sheet erosion, attributable to any runoff, will be confined solely to the construction site area as indicated in the conceptual application.

MR. FOSTER: That's the intent, yes, that's the intent of the appli ... of the conceptual design.

THE HEARING OFFICER: All right, Ms. Nichols.

BY MS. NICHOLS: (Questions addressed to Mr. Foster)

Q. Is that, in your professional experience, Mr. Foster, an achievable intent?

A. Yes, I think so, within a reasonable probability, yes.

Q. Directing your attention to applicant's Application 3 -- Roman III-31 which is a comparative evaluation of primary location alternatives, did you assist in the preparation of that chart?

A. No, I did not.

Q. Did you engage in any research or any study of alternate sites?

A. Yes, I did.

Q. Did you study the soil erosion potential of various sites?

A. Yes, I did.

Q. Mr. Foster, when one makes -- in your experience as a geologist, when one makes deep surface cuts of

THE HEARING OFFICER: All right, go ahead.

Q. All right. With a cut, an earth cut of ten feet, does that create the possibility of subsurface leaching from cut zone?

A. Draining groundwater drainage from the cut?

Q. Yes.

A. That's very possible.

THE HEARING OFFICER: Mr. Foster, that's a function of water table, isn't it?

MR. FOSTER: That's correct.

Q. Do you know what the water table is at this level?

A. No, we don't have definitive information at this time on the water table. We make estimates and I would estimate that we would probably intersect the water table during this -- this cut and fill operation, yes.

THE HEARING OFFICER: Ms. Nichols, assume they intersect the water table and assume there's leaching. What materials are you interested in the leaching of?

MS. NICHOLS: Any materials on the site, either the snow-making chemicals or any of the

other materials to be disturbed or to be added to the site for its use as a ski jump.

THE HEARING OFFICER: O.K.

MR. KAFIN: Of course, there's no evidence that there are going to be any things like that.

THE HEARING OFFICER: I understand that.

MR. KAFIN: If I have to make an offer of proof, I can make an offer of proof.

MS. NICHOLS: I suggest that the applicant's own documents suggest that, or at least at a minimum suggest techniques for control of such leaching in the event that it occurs.

MR. FOSTER: May I -- may I make a comment?

MR. KAFIN: Mr. Foster, no, you may not. Just answer questions.

THE HEARING OFFICER: That's right. Heed the advice of your counsel.

MS. NICHOLS: I suppose it would be inappropriate to ask Mr. Foster what was your comment going to be?

THE HEARING OFFICER: It's a perfectly legitimate question.

Q. Mr. Foster, what was your comment going to be?

MR. KAFIN: Objection.

THE HEARING OFFICER: Overruled.

A. Sorry, Bob. I think the problem is -- the problem arising here is one of terminology. You're referring to leaching which implies the removal by some vehicle of some material from one place to another and what we're talking about here is a discharge of groundwater and not necessarily a leaching. You're referring to the term "leaching" would, I believe that you said would the cuts allow the leaching of water.

MS. NICHOLS: I think I said would it create the possibility of subsurface leaching?

MR. FOSTER: Yes, subsurface leaching is not really a precise term. It should really be subsurface discharge of groundwater.

BY MS. NICHOLS:

Q. All right. Will it allow the possibility -- will the cuts of the magnitude contemplated at the conceptual level at the Intervale site allow the

possibility of groundwater discharge?

A. Yes.

THE HEARING OFFICER: Ms. Nichols, before we go too much further, so that we don't repeat what happened at the last hearing with reference to the Logic Diagram, Mr. Foster, does the groundwater at the site of the proposed ski jump communicate with the west branch of the Ausable River?

MR. FOSTER: Yes.

THE HEARING OFFICER: Do they form a coupled hydrologic system?

MR. FOSTER: They do.

THE HEARING OFFICER: What is the approximate rate of exchange across the boundary layer, if there is any, between the two systems?

MR. FOSTER: I -- I don't think I'm prepared to answer that.

THE HEARING OFFICER: All right. Would it be slow or rapid?

MR. FOSTER: It would depend a great deal on the head on the groundwater table.

THE HEARING OFFICER: That's what --

MR. FOSTER: And on the permeability of the soils through which it's traveling.

THE HEARING OFFICER: All right. And you don't have any definitive information on that?

MR. FOSTER: I have not on the head. I think the soils are adequately permeable to allow a rapid exchange.

THE HEARING OFFICER: All right. In other words then, contaminants which infiltrate the groundwater from the surface or as a result of any subsurface excavation at the site will eventually enter through the groundwater exchange system the west branch of the Ausable River?

MR. FOSTER: I think there's an improbable assumption in there. The improbable assumption is that the cut is going to involve contamination of groundwater.

THE HEARING OFFICER: No, I want you to assume only that if there is the introduction of contaminants, namely, snow machinery chemicals and the like, road salt, whatever, and it does infiltrate the groundwater, then it will reach the west

branch of the Ausable River, is that correct?

MR. FOSTER: That's correct.

THE HEARING OFFICER: All right. Now, you're indicating that it is improbable that such contamination will occur. Why?

MR. FOSTER: Because of construction. I'm indicating it's improbable that such contamination will occur.

THE HEARING OFFICER: In other words, your exposure of the water table is going to be limited in time and specifically preclude the introduction of any contaminants.

MR. KAFIN: Mr. Hearing Officer, he testified there would be a groundwater discharge, not a discharge to groundwater.

THE HEARING OFFICER: I know he testified to that because that's the question he was asked. I'm now asking him whether or not the exposure of the groundwater table which is contemplated by the cut will -- could, in fact, lead to the introduction of contaminants to the west branch of the Ausable River assuming contaminants enter the groundwater at that point, and the answer

was yes, right?

MR. FOSTER: Well, at that point the groundwater is discharging and is no longer groundwater; it becomes surface water.

THE HEARING OFFICER: It is discharging over the surface or discharging to the extent that it's being retained by berms or whatever and then percolating and communicating subsurface again with the lake or with the river, I'm sorry. I know when you open the groundwater level, you become surface water.

MR. FOSTER: Yes, right, the surface --

THE HEARING OFFICER: Those surface waters are not -- it is not contemplated in the conceptual design that the surface waters exposed at that point will communicate directly with the west branch of the Ausable River, is that --

MR. FOSTER: That's correct, that's correct.

THE HEARING OFFICER: All right. They will -- the communication will be interferred with?

MR. FOSTER: Yes.

THE HEARING OFFICER: And that will be done either naturally or artifically as the case may be, correct?

MR. FOSTER: Yes.

THE HEARING OFFICER: And the only communication will still be as it always is naturally through the groundwater system?

MR. FOSTER: Or overflow around it.

THE HEARING OFFICER: Assuming that occurs, then you haven't done your job as proposed, is that right?

MR. FOSTER: Well, you have to design -- again, we haven't designed this thing but the design would have to be based on some storm frequency that -- and if it exceeded that storm frequency we could have overflow.

THE HEARING OFFICER: If it doesn't exceed your design, it will contain the surface runoff?

MR. FOSTER: Absolutely, correct.

THE HEARING OFFICER: Caused by the exposure of the groundwater.

MR. FOSTER: Correct.

THE HEARING OFFICER: All right. Now, that still leaves you with the communication process, groundwater infiltration communication with the west branch of the Ausable, right?

MR. FOSTER: Yes.

THE HEARING OFFICER: If the groundwater that's exposed at that site is contaminated with chemicals of any kind, the west branch of the Ausable will receive those chemicals, correct?

MR. FOSTER: That's correct.

THE HEARING OFFICER: All right. Now, Ms. Nichols, go ahead.

MS. NICHOLS: Thank you.

BY MS. NICHOLS:

Q. Mr. Foster, in evaluating the contamination potential at this site from septic systems, what techniques did you use?

A. I don't have that with me. Excuse me a minute. This piece was not included as a part of the application because it was done much later and it was done -- I believe maybe this should be entered as an --

THE HEARING OFFICER: May I see it? Well, show it to Mr. Kafin.

(The witness offered a document.)

THE HEARING OFFICER: All right, the witness has indicated a memorandum prepared on the letterhead of Sasaki Associates, re: contamination potential from septic system at 90-meter jump at Intervale, consisting of two pages. Memorandum is by Dick Foster.

Mr. Foster, if I were to ask you to testify substantially on direct examination, would you testify substantially in accordance with the substance of this memorandum?

MR. FOSTER: Yes.

THE HEARING OFFICER: All right, I'm going to ask that it be marked with the next chronological serial exhibit number and spread upon the record as if it were testified to directly by and given the appropriate page number by the Reporter. I'd like copies made for everybody concerned, especially the Reporter. I'm going to hand it back to the witness and ask him if he would please answer Ms. Nichols' question.

MS. NICHOLS: Thank you.

MR. FOSTER: I would --

Sasaki Associates, Inc., 64 Pleasant Street, Watertown, Massachusetts 02172 • (617) 926-3300 Telex 92-2471

RE: Contamination Potential from septic system at 90M Jump at Intervale

MEMORANDUM: BY: Dick Foster DATE: November 24, 1976

TO: Messrs: Galehouse, Chapman, Freedman, Carr, Boiteau

Attached is a Contamination Potential Rating Chart developed for Intervale. This study was conducted to evaluate the gross potential impact of the sewage disposal system contemplated for the jump facility.

The Contamination Potential Rating Chart was developed by the Water Resources Division of the USGS as a method of evaluating the susceptibility of contamination of wells or surface waters by domestic sewage wastes.

The system is based on the evaluation of 5 environmental factors, namely, depth to water table; sorption, or potential for soil to remove contaminants; permeability; or the facility with which water will move through a soil; gradient which determines the hydraulic condition for flow; and the distance from the source of wastes to the point of study. Each of the environmental factors is assigned a corresponding system of weighted point values. The environmental factors can be evaluated with relatively field tests and can be assigned point valves on the bar charts. The sum of the point valves has the effect of integrating more factors into the evaluation than may otherwise be used.

No rating chart can be precise in the evaluation of such a complex system as inground sewage disposal and the rating numbers are not meant to indicate precision, but the system has been applied and tested in use with excellent results.

It can be said that statistically, with total point value of 0 - 8 contamination is probable, with a valve of 8 - 12 contamination is possible but not likely, and with a point valve above 12 contamination is very improbable.

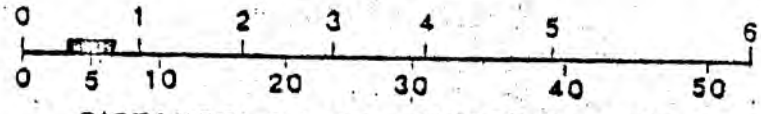
The maximum potential at this site is 12 and, therefore, the contamination potential is low.

nk/6105

761206
~~761207.1~~

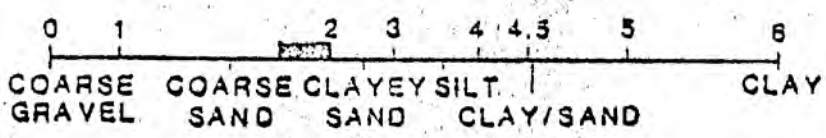
Job Name 1980 Olympics No. 6105 Date 11/24/76
Investigation Number Location Intervale
Water Table Depth 5 Method estimate By RNF
Soil Type Fine Sand Method SCS By
AD FD
WT Gradient 3% Method Max - scale By RNF
Distance to Emergence 300 By RNF
Description of Emergence Location River Bank

WATER TABLE

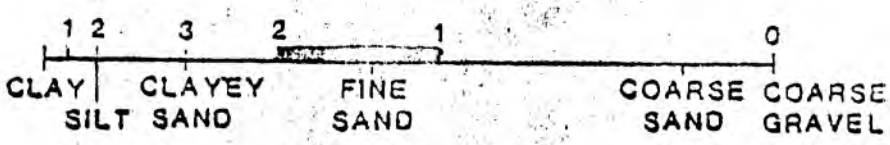


DISTANCE BELOW DISPOSAL UNIT

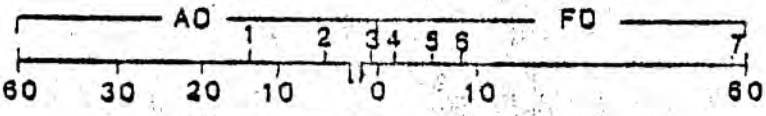
SORPTION



PERMEABILITY

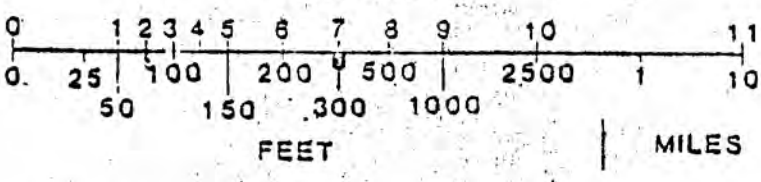


GRADIENT

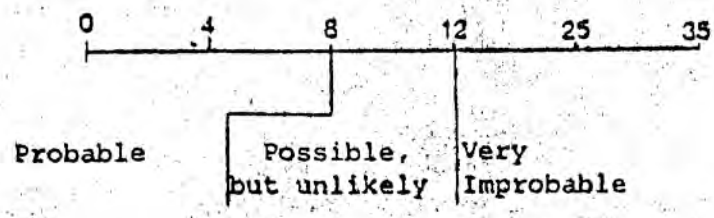


PERCENTAGE

DISTANCE



Maximum Contamination Potential 12.25
Minimum Contamination Potential 14.5



BY MS. NICHOLS:

Q. Now, so you developed this contamination potential rating chart?

A. No, that's not quite correct; I didn't develop it.

Q. All right. You applied it to the Intervale site?

A. Yes, that's correct.

Q. Who developed the chart?

A. Who?

Q. Who developed the chart?

A. The United States Geological Survey. I have the original document here.

THE HEARING OFFICER: Ms. Nichols, are you referring to a document with an item number, an exhibit number?

MS. NICHOLS: The one that's just been introduced.

THE HEARING OFFICER: Oh, O.K. You're referring to the second page here.

MS. NICHOLS: Yes.

MR. FOSTER: This was a methodology developed by the geological -- a fellow named LeGrand from the United States Geological Survey

and it was developed as a methodology to give a cursory evaluation of the potential for contamination of most usually well water supply or of something like that by septic wastes or other industrial wastes or other wastes. In this case, we're using the one that refers more to septic wastes and it gives a methodology for computing probability of contamination.

Q. Contamination of what?

A. Contamination of, for example, a water supply well that was in the vicinity of a septic system. Now, this analysis is based on a number of properties that are relatively easily evaluated in the field. For example, if, in the item here one of them is depth to the water table, the adsorption capabilities of the soil -- that's ad, dog -- and the permeability of the soils, the gradient on the water table and the distance from the point of discharge of these septic wastes to the point of observation which, in the case of the -- in the case of this study was taken to be generally where we might feel the septic system would meet the proper criteria and the point of observation would be the bank of the Ausable River,

the point at which groundwater discharged to the river.

Q. But I thought you said early in your testimony you didn't really know where the water table was on this site?

THE HEARING OFFICER: Ms. Nichols, I'm going to entertain an objection to any further questions along this line. The witness has already testified that if there is contamination from septic systems, a sewer system will be installed or imposed and we've got to assume that the specific details with reference to potential contamination are more properly discussed at the actual design stage at the hearings that will be conducted at that time.

Q. All right. Then one further question on this point, Mr. Hearing Officer, and that is: Do you know, Mr. Foster, if in your advice to the applicant on septic systems, the cost considerations of sewering to the municipal system was included as a contingent in the cost estimates for the construction of the site?

A. I don't know that.

THE HEARING OFFICER: Do you know

that?

MR. BOITEAU: No, I do not.

BY MS. NICHOLS: (Questions addressed to Mr. Boiteau)

Q. Mr. Boiteau, on Page Roman II-13, which is the section for which you assumed responsibility in the testimony, you indicate that no shorelines will be altered as a result of this project. On what basis can you make that statement with that degree of confidence?

A. Based on the proposed site program in preliminary siting of the facility on the site, there is no need to alter the -- or damage the shoreline in any way.

Q. Even allowing for design considerations of the possible creation of some kind of structure to contain the soil for the outrun?

THE HEARING OFFICER: Excuse me a minute, Ms. Nichols, are you referring to permanent structure or temporary structure?

MS. NICHOLS: Either permanent or temporary structures.

THE HEARING OFFICER: Mr. Boiteau?

MR. BOITEAU: The question again, please?

MS. NICHOLS: Would the Reporter read back the question, please?

(The pending question was read by the Reporter.)

MR. BOITEAU: The creation of the outrun?

THE HEARING OFFICER: Read it back.

MR. BOITEAU: Oh, the creation --

THE HEARING OFFICER: What would be the effect?

MR. BOITEAU: Oh, the creation of the outrun will have no effect on the shoreline of the Ausable.

THE HEARING OFFICER: That wasn't Ms. Nichols' question. Ms. Nichols' question was: Assuming that you have to intercept runoff or sediment or control sediment and runoff as a result of design considerations, can you still say that that will not alter the shoreline?

MR. BOITEAU: As far as creating a drainage outlet. If a permanent drainage outlet pipe system to the Ausable was necessary, based on a definitive design, then that may be a possibility of

a discharge structure, but as far as earth moving or in siting of facilities or filling for in-run area, no shoreline changes would be anticipated at all.

THE HEARING OFFICER: All right. Are either of the witnesses aware of the extent of the New York State Department of Environmental Conservation's monitoring program in the Chubb and west branch of the Ausable River?

MR. BOITEAU: I am.

THE HEARING OFFICER: All right, and has this been reduced to writing and does this have an exhibit number as a part of the application?

MR. BOITEAU: The only reference, current references I have regarding that is this current water quality, quantitative macroinvertebrate study in the Chubb River and the west branch of the Ausable.

THE HEARING OFFICER: May I see that for a moment, please? Who is Avon Pollution Investigations, or what is Avon Pollution Investigations?

MR. BROOKS: Your Avon lady.

THE HEARING OFFICER: Can anyone,

Mr. Gitlen perhaps, indicate what Avon Pollution Investigations, Division of Environmental Protection, Bureau of Fish and Wildlife, New York State Department of Environmental Conservation is?

MR. GITLEN: That's a branch of the department located in Avon, New York.

THE HEARING OFFICER: O.K. And I'm going to take it this was prepared in the regular course of business in the New York State Department of Environmental Conservation, ask the Department to produce sufficient copies thereof. It is entitled "Water Quality and Quantitative Macroinvertebrate Survey of the Chubb River and the West Branch of the Ausable River Near Lake Placid, New York," 18 to 20 August, 1975 by Timothy L. Preddice, P-R-E-D-D-I-C-E, Conservation Biologist, as indicated Avon Pollution Investigations, Bureau of Environmental Protection (New York State Department of Environmental Conservation) in cooperation with Survey and Analysis Section, Bureau of Monitoring and Surveillance, Division of Pure Waters, New York State Department of Environmental Conservation. The document consists of 45 pages. I'm going to ask that it be assigned the next

serial exhibit number and I'm going to ask Mr. Boiteau and Mr. Foster if they're familiar with the document, either or both of them. Mr. Boiteau?

MR. BOITEAU: I am familiar with it.

THE HEARING OFFICER: Mr. Foster?

MR. FOSTER: No.

THE HEARING OFFICER: All right, Mr. Boiteau, did you rely on any portion of this document in your recommendations and your investigation?

MR. BOITEAU: Yes, I did.

THE HEARING OFFICER: And are you satisfied with the results thereof?

MR. BOITEAU: Yes, I am.

THE HEARING OFFICER: Based upon the survey contained herein, can you characterize the water quality in a chemical sense of the West Branch of the Ausable at the approximate site and location of the proposed facility?

MR. BOITEAU: No, I cannot.

MR. KAFIN: Mr. Hearing Officer, I think once again that might be more appropriately Mr. Reinhardt's specialty.

THE HEARING OFFICER: All right. Ms. Nichols, go ahead.

BY MS. NICHOLS:

Q. Mr. Foster or Mr. Boiteau, I direct your attention to Applicant's Exhibit Page -- Applicant's Application Page Roman III-63, discussion on sewage disposal. In the second paragraph of the applicant's response to the question put by the Agency, there are a number of -- or there is quantification of the anticipated flow to leach fields. There are several assumptions made in that paragraph. One of the assumptions is that

20 percent of visitors who utilize facilities, flows to the leach field will be produced at an average of 10 gallons per person and the leach field necessary to accommodate that degree of sewage production will be 7,000 plus or minus square feet. On what basis were those assumptions made?

MR. BOITEAU: Those assumptions were based on common engineering practice for this type of a facility and this type of use.

MS. NICHOLS: What element of common engineering practice assumes that 20 percent of the visitors are going to utilize these facilities?

THE HEARING OFFICER: Ms. Nichols, I'm going to entertain and sustain an objection to that question. If you want to ask him to assume that all the people who utilize the toilet facilities and their average utilization per person will be, say, 20 gallons and you want them to assume that the average household is 500 gallons, go right ahead, but I think any further questions on the basis of these estimates are immaterial at this time.

MS. NICHOLS: Mr. Hearing Officer, is that a ruling?

sizing and estimates regarding soil permeability were doubled such that twice this 7,000-plus square feet provides for 100 percent more than it is anticipated.

THE HEARING OFFICER: I want you to assume the worst case, that all the restrooms in the Lake Placid area are full and the only place to go is to the site of the ski jump and I want you to assume that all of the people will utilize those facilities and they may do -- they may utilize them to the extent of more than 10 gallons per person. How much larger will the leaching field have to be?

MR. BOITEAU: Based on the New York State criteria for subsurface sewage disposal systems if followed, no increase would be necessary.

THE HEARING OFFICER: Assuming that the New York State criteria are not really suitable for the site, would you expect more than 14,000 square feet to be required?

MR. BOITEAU: No.

THE HEARING OFFICER: If I remember correctly an acre is approximately, give or take feet, a little under 40,000 square feet?

Reinhardt?

MR. KAFIN: Yes.

BY MS. NICHOLS:

Q. Mr. Boiteau, in your testimony, in response to Mr. Gitlen's questions of this morning, you responded that the computations for runoff on this site have been made with reference to the entire 47-acre site. Is -- are there any other sources of runoff that we should take into account; that is, is there anything else that drains onto this site that might augment the runoff?

MR. BOITEAU: No.

Q. Mr. Foster, when you were talking about the design of the leach field, you said that -- something to the effect that good engineering practice or good design practice would site the leach field at least four feet below the water table.

THE HEARING OFFICER: Above.

MS. NICHOLS: Above the water table, I'm sorry.

Q. Above the water table and 100 feet away from the nearest water body, i.e., the Ausable River that it would be design capable to abs

is not -- the runoff therefrom is not contributed to by any other areas surrounding the project site?

MR. BOITEAU: Well, runoff will be coming through the site from the Ausable River.

THE HEARING OFFICER: From the river?

MR. BOITEAU: You talking -- you're talking upstream runoff?

THE HEARING OFFICER: No, I'm talking about upslope of the site.

MR. BOITEAU: The area encompassed in our analysis takes into consideration the breakpoint runoff, from the top of the slope.

THE HEARING OFFICER: That's what I want to establish, all right. So you're talking about the site when you're giving us your figures as a single drainage area in which there are no tributary drainage areas supporting the flow.

MR. BOITEAU: That's correct.

THE HEARING OFFICER: O. K.

BY MS. NICHOLS:

Q. Mr. Foster, you're responsible for pages III-76 through -88 according to Mr. Kafin's list. and -77 are an indication of criteria

recommended at this time due to the level of the -- of study, but as the design progresses and facilities are more definitively located and designed, then more definitive guidelines could be recommended and then instituted at that time.

Q. So these particular lists of criteria have no particular relevance to this site; is that what you're saying?

MR. BOITEAU: They do.

Q. Then, would you explain to me under (a) how insuring adequate drainage of low points along streets is pertinent to this site.

THE HEARING OFFICER: Ms. Nichols, it's my understanding that these are the general goals and criteria that are going to be imposed on contractors to control drainage and runoff and are going to become parts of specific design criteria and contract documents. I do not believe that in this conceptual hearing, unless you challenge the criteria as such, that specific discussion of specific techniques is appropriate. I recognize there are no streets at the area. I have - particular list in other documents.

MS. NICHOLS: I have too, Mr. Hearing Officer.

THE HEARING OFFICER: I'm sure all of us have. They are standard, almost handbook criteria for storm water drainage and to -- I assume the testimony of the witness on behalf of the applicant is that they will be imposed to the extent applicable.

MS. NICHOLS: Well, that's why I asked him the question I did; I didn't do it particularly.

THE HEARING OFFICER: All right, let's do it that way. Is that your understanding, Mr. Witness, on behalf of the applicant?

MR. BOITEAU: That's my understanding.

THE HEARING OFFICER: All right.

MS. NICHOLS: That these are textbook criteria for storm water, storm drainage control rather than --

THE HEARING OFFICER: Site-specific.

MS. NICHOLS: -- to site-specific criteria for this particular site.

Q. And if I were to ask you the same questions with reference to III-83, the criteria for eros' siltation control, would I receive th

that these are general textbook-type criteria with no site-specific elements?

MR. FOSTER: Pretty much so. There are a couple of things here that I believe are in this portion of it that are specific to this site.

THE HEARING OFFICER: Which ones?

MR. FOSTER: It's also a textbook. The one I think of in particular is the one for the (n).

THE HEARING OFFICER: Mr. Foster, in preparing these specifications, did you have occasion to rely upon the federal government Soil Conservation Service and Environmental Protection Agency documents and publications with reference to control of erosion and sedimentation?

MR. FOSTER: Yes, we did.

THE HEARING OFFICER: And did you prepare this list from those federal documents?

MR. FOSTER: In part.

THE HEARING OFFICER: All right. Are any of them unique or original to you or your firm?

MR. FOSTER: I don't believe so.

THE HEARING OFFICER: O. K.

MS. NICHOLS: No further c

THE HEARING OFFICER: Mr. Gitlen, you didn't have a chance on Mr. Foster. Do you have any more questions?

MR. GITLEN: I can do it now or you can let the parties go through.

THE HEARING OFFICER: No, I would rather you went back because we began the team effort after you started and you indicated you had some questions.

BY MR. GITLEN: (Questions addressed to Mr. Foster.)

Q. All right, Mr. Foster, eventually, as I understand it, the sedimentation basins will result in a discharge of the water collected absent a certain percentage of the sediment which was contained in that water, is that correct?

A. Well, ideally, one would want the sediment control basin to retain all the water. The soils are reasonably good and one would hope that they would, in the combination of evaporation and percolation, that the bulk of the water would be removed from that area.

Q. And you testified, did you not, that it was your opinion that you could contain -- and I w[illegible] your attention on the word "contain"

water from the 25-year rainfall on the site, and I would ask you whether or not you meant by that that you would construct sufficient size sedimentation basins to hold, actually hold the 25-year rainfall event.

A. I didn't define whether or not we would do a 25-year event. I did say that it could be done certainly.

Q. Do you have any idea of the size of the sedimentation basins that would be necessary?

A. I haven't computed the size.

Q. Do you have any idea of the size in terms of volume of water that would result from the 25-year rainfall?

A. Yeah, I believe we do. I believe we do for a 100-year storm.

Q. And how many acrefeet was that?

A. I think you have that (indicating Mr. Boiteau).

MR. BOITEAU: Yes.

THE HEARING OFFICER: Give us the page number if you would.

MR. FOSTER: I believe it's III-82, Ed.

MR. BOITEAU: Yes.

THE HEARING OFFICER: And

what's the amount?

MR. BOITEAU: The runoff calculation shows that post-development conditions, the -- based on a 25-year frequency storm would produce approximately .9 inches of runoff from a rainfall depth of four inches, and that .9 inches would run off over the 47 acres.

THE HEARING OFFICER: And you want to convert that to acrefeet for the benefit of Mr. Gitlen.

MR. BOITEAU: It would be about six acrefeet.

MR. FOSTER: Now, I think it's important in this to indicate that a good part of that six acrefeet of drainage would not be directed to the sediment control basin because all of that 47 acres will not be under construction. There would be a very small portion of that that will be actually under construction and only the area that is under construction will drain to the sediment control basin.

MR. GITLEN: Well, approximate[ly] acres are involved under constructi[on]

MR. FOSTER: I believe it's somewhere around the order of two, whatever that is, yeah. I believe it's about two acres, approximately, a little more, so you're running off, well --

BY MR. GITLEN: (Questions addressed to Mr. Foster)

Q. Well, let me ask you this, Mr. Foster: What about runoff occurring in areas which are not disturbed which, by their natural course of events and through natural drainage patterns, are directed towards areas of disturbance, particularly the area where, as I understand it, the majority of the disturbance will be which will be the landing area at the low part of the site.

A. Right.

Q. So you're not just going to have runoff from two acres which will have to be held; you're going to have considerably more than that, isn't that correct?

A. No, I don't think so.

Q. Why is that?

A. Well, if you look at the sediment control plan --

THE HEARING OFFICER: All right, before we go to look at the sediment control pla to ask the reporter to spread Page I

record as if the witness had testified to it at this point. Now, go to the sediment control --

MR. KAFIN: I think you already did that.

THE HEARING OFFICER: I want it in his testimony right at the point, please.

PEAK RATE OF DISCHARGE COMPUTATION FORM

Job Name: OLYMPICS 1980 Job Number: 5151

Point of Investigation: SKI JUMP SITE, INTERVALE

Computed By: E. BOITEAU Date: 7/9/76

Checked By: Date:

Criteria: Tributary Area = 17 Acres POST-DEVELOPMENT
Rainfall Frequency = 25 Years
Rainfall Depth = 4.0 Inches
Average Watershed Slope = 30 Percent

Weighted Runoff Curve Number = 63

Q_1 (for 60 RCN_1) = Q (ES 1027 for STEEP Slopes) X Slope Correction Factor (Ex. 2-0)
= 25 X 1.14 = 28.5 cfs

Q_2 (for 65 RCN_2) = 42 X 1.14 = 47.9 cfs

Watershed RCN Minus RCN_1	C
1	.2
2	.4
(3)	.6
4	.8

$Q_2 - Q_1$ = 47.9 - 28.5 = 19.4 cfs

$\Delta Q = (Q_2 - Q_1) \times C$ = 19.4 X 0.6 = 11.6 cfs

Peak Discharge = $Q_1 + \Delta Q$ = 28.5 + 11.6 = 40.1 cfs

Runoff = 0.90 Inches (Exhibit 2-7A)

Reduction for Ponding and Storage: NA

INCREASE OVER PRE-DEVELOPMENT:

$$\frac{40.1 - 28.5}{28.5} \times 100 = (40.7\%)$$

THE HEARING OFFICER: Now, you're referring to what page?

MR. FOSTER: To Page III-55.

THE HEARING OFFICER: O. K.

MR. FOSTER: You don't have it?

MR. GITLEN: Let me take a look at yours. All right.

MR. FOSTER: Now, I don't recall exactly now, I'm not trying to say there is not water, for example, from the upper portion of this that is not under construction that will wind up on that ski hill or that jump hill and run down into the control basin. The point I'm trying to make is that a great deal of the drainage basin that was studied is not going to drain in through the sediment control point.

Q. But it will be -- but the area to be retained in the event you have to retain water will be from the --

A. I have no intention of attempting to retain -- oh, I understand.

Q. -- will be from an area larger than two acres, will it not?

A. Yes, somewhat.

Q. And it will include other areas which are not dis-

turbed which naturally the waters on which would naturally flow into the disturbed areas, thereby becoming contaminated with sediment and requiring, under your plan, retention, correct?

A. But there are ways to prevent some of that water from entering the sediment control area.

THE HEARING OFFICER: Mr. Foster, that isn't the answer to that question. The answer to that question is either yes or no.

MR. GITLEN: The answer to that question, I assume, is yes, it is an area larger than the area to be disturbed.

MR. FOSTER: Yes.

THE HEARING OFFICER: And the maximum -- excuse me, Mr. Gitlen. The maximum amount that can ever be expected to reach that sediment control area is the amount from that entire 47 acres which you indicated is the entire drainage area, correct?

MR. FOSTER: Yes.

Q. And if it all lets go and it all drains, that's the maximum worst case design phase, is it not?

A. Yes.

THE HEARING OFFICER: I would call upon

the applicant during these design phases of the hearings to have the witnesses prepared to consider worst case so that we don't have to approach it a step at a time.

MR. GITLEN: Now, these methods which might be utilized for purposes of diverting storm water runoff, do not some of them at least involve disturbed soils?

MR. FOSTER: Yes, they do.

THE HEARING OFFICER: Counsel, that's already been asked and answered. He's got to build berms, which is a cut and fill operation. He's got to dig sediment control or settling ponds, which is also a cut and fill operation. These have all been established.

Q. And by that operation do you not then disturb additional soil against which water will come into contact and thereby create additional flows which are contaminated with sediment?

A. If you were to do that, yes, sir.

Q. The fact of the matter is that the potential for siltation in the West Branch of the Ausable remains high even though these elaborate measures are pro-

posed to be undertaken, isn't that correct?

THE HEARING OFFICER: Counselor, potential with or without mitigation methods?

MR. GITLEN: Even with the mitigation methods which have been identified.

THE HEARING OFFICER: Mr. Foster?

MR. FOSTER: I wouldn't want to place a probability on this. I don't think I'd refer to it as very high.

Q. O. K. In the event that there is a discharge from the sedimentation basin and that discharge were to land, would not in the area of the discharge there not be a scour and additional erosion could take place?

A. You mean if the sedimentation basin were overtopped?

Q. If the sedimentation basin overflowed as Mr. Boiteau testified earlier would be the practice, would there not then be a discharge to soil unless a pipe were built? I mean doesn't that follow?

A. Yeah, there would obviously be water running, yes.

Q. And isn't that discharge to soil going to result in

a scouring effect in the area that's going to receive the discharge?

A. You mean the drainage discharge running over soil, is that what you mean?

Q. Yes.

A. Yes. If it were running over soil, it could very well scour unless it were stabilized somewhat.

Q. Unless some sort of pipe or ditch or something lined with rock --

A. Or vegetative swale, something like that.

Q. Now, in the -- do you know of any specific plans which have been developed for minimizing access of people and/or machinery either during construction or thereafter from the bed or banks of the Ausable River?

A. Any plans that exist now?

Q. Yes.

A. No, I don't.

Q. And so it's at least conceivable, is it not, that machinery and -- as well as people will have access to walking along the bed, the banks of the West Branch of the Ausable River either during or after construction? I mean it's not without the

realm of possibility.

A. No, it's not at all.

Q. Now, from your knowledge of the soils in the area in the event the vegetation in that -- on the banks of that river were disturbed and it was non-existent, would the potential for erosion from those banks into the river be thereby increased?

A. If there was enough disturbance to remove the vegetation, it would indeed be increased, yes.

THE HEARING OFFICER: Mr. Foster, the maintenance of the vegetative edge of the West Branch of the Ausable River is critical, is it not?

MR. FOSTER: It is.

THE HEARING OFFICER: And to what distance from the edge of the river does the vegetative cover exist at the present time based on your field observation?

MR. FOSTER: It would depend on where you look at it, at the --

THE HEARING OFFICER: Is there an indication on any of the exhibits or in any of the maps as to the extent of that vegetative cover?

MR. FOSTER: I believe there is. I believe

the base map -- may I get up and look?

THE HEARING OFFICER: Sure, come on.

MR. FOSTER: Doesn't -- didn't reproduce well at all.

THE HEARING OFFICER: But it's marked.

MR. FOSTER: Yeah. It comes right to here (indicating) which is closer than we intended.

THE HEARING OFFICER: Let the record indicate that the witness is referring to Exhibit 761119:4.

MR. KAFIN: Mr. Hearing Officer, would it be more convenient if the witness referred to 761119:31 which shows a fence up there?

MR. GITLEN: No prompting from counsel.

THE HEARING OFFICER: All right. What page of the application is that?

MR. FOSTER: III-54.

THE HEARING OFFICER: All right. Will you indicate for us the extent of the vegetation on that map or has it been indicated?

MR. FOSTER: It is not indicated on this map, yet vegetation on the river comes to the narrowest point on the existing ground which is be-

tween the grandstand, the existing grandstand, and the river, and that's approximately 30 feet or so, 40 feet possibly.

THE HEARING OFFICER: All right. Is it --

MR. FOSTER: And this is the narrowest point of vegetation between the developed area and the river.

THE HEARING OFFICER: Is it fair to say that it is critical to maintain the vegetative -- the existing vegetative cover along the bank of the Ausable, West Branch of the Ausable, without any disturbance throughout the entire construction of this project?

MR. FOSTER: It is.

THE HEARING OFFICER: And to maintain that protection throughout the utilization of the project also?

MR. FOSTER: Yes, it is.

THE HEARING OFFICER: And it would not be unreasonable for the Agency to propose as a condition of any permit that might be granted that before any earth is moved or any equipment loaded at the site that that vegetation be protected?

MR. FOSTER: That's certainly reasonable.

THE HEARING OFFICER: O. K. Mr. Gitlen?

BY MR. GITLEN: (Questions directed to Mr. Foster.)

Q. Mr. Foster, did you participate in any way in the analysis of the Bassett Mountain site?

A. Yes, I did.

Q. Could you state what you did?

A. I did a soil erosion analysis and we did a rather sketchy and rough earthwork estimate and did a soils map and I looked at it.

Q. Now, with respect to soil erosion, was it your conclusion that there is a high potential for soil erosion at that site in the event of a 90-meter ski jump?

A. At the Bassett Mountain site?

Q. Yes, in the event that a 90-meter ski jump was constructed there.

A. Yes.

Q. Was it also your conclusion that the potential for sedimentation or siltation would be low due to the fact that there were no adjoining streams?

A. Yes, that's true.

Q. Now, with respect to the soils mapping which you did as a result of that, have you formed any conclusion

as to the -- as to what underlays the soils at that site?

A. I assume that you --

Q. Let me ask -- let me ask it this way: --

A. You mean the bedrock depth?

Q. Yes.

A. We made the assumption that bedrock was relatively shallow at Bassett Mountain.

Q. And on what basis did you make that assumption?

A. The SCS indicates that the soil types that exist on the mountain, according to their limited study, are relatively shallow to bedrock and it's -- well, there's a great deal of bedrock exposed on the other side of the mountain.

Q. Now, with respect to the SCS studies, are you familiar with how those studies were performed?

A. At Bassett Mountain?

Q. Yes.

A. They're mapped on a -- I think they included all soils that are greater than 40 acres. It's a preliminary study.

Q. Was this study done by aerial -- some sort of aerial mapping technique?

A. I believe it was done by field technique on a 40-acre minimum basis. They're mapped on aerial photographs though, correct.

Q. They're mapped on aerial photographs?

A. Yes.

Q. But the analysis involved an on-site examination by someone actually standing on the area?

A. I believe they did.

Q. But you're not personally familiar with how that mapping technique was --

A. No, not in -- not in that area.

Q. And it was on the basis of that survey about which the -- the details about which you're not familiar, that you concluded that the distance to bedrock was rather shallow?

A. That's correct, that and the other information that the bedrock exposure is within the mountain itself.

Q. But that is on the other face of the mountain, is that correct?

A. M-m h-m-m -- no, it's also on the same side. There's rock exposed.

Q. Was there any other -- any other services that you

performed for your employer with respect to the Bassett Mountain other than the three areas that you mentioned?

A. I believe that was all.

MR. GITLEN: I have no further questions of this witness.

THE HEARING OFFICER: All right. Any redirect by the applicant?

MR. KAFIN: Mr. Glennon, do you want to cross-examine before I ask a few questions?

MR. GLENNON: As quickly as possible.

MR. KAFIN: How about Mr. Goldsmith?

THE HEARING OFFICER: That's why I asked for any redirect from the applicant. Let me ask my own questions. Do you have any redirect at this time?

MR. KAFIN: At this time?

THE HEARING OFFICER: Yeah.

MR. KAFIN: I can ask a few.

THE HEARING OFFICER: If you please.

Then I'll get to Mr. Goldsmith.

REDIRECT EXAMINATION BY MR. KAFIN:
(Questions directed to Mr. Boiteau.)

Q. Mr. Boiteau, you testified that there would be a 40 percent increase in runoff on a permanent basis from this site based on this project, is that correct?

A. That's correct.

Q. What effect will this have on the volume of water running in the Ausable River?

THE HEARING OFFICER: I'm going to sustain an objection to that question unless you indicate what period of time and what season.

MR. KAFIN: Let me ask the question again.

Q. Isn't it a fact that, based on your professional experience and judgment, that this increase will not have any noticeable effect on the volume of water in the Ausable River at any time?

A. That's correct.

Q. What about on the velocity of the river?

A. It will be an insignificant increase in velocity in the river.

BY MR. KAFIN: (Questions directed to Mr. Foster.)

Q. And, Mr. Foster, directing your attention to Exhibit 761119:46, you testified that the cut described on that exhibit might intersect the

ground water, is that right?

A. That's correct.

Q. By that you didn't mean it would intersect the water table, did you?

A. Yeah.

THE HEARING OFFICER: That's what he said, counselor.

Q. The water table at the point of cut that you refer to, would this produce a ground water discharge known as an artesian type discharge?

A. Yeah.

Q. Would you describe --

A. Well, not --

Q. Would you describe for us what an artesian type discharge is?

A. An artesian system is a little more complicated than just ground water running out of a hill. This is more of a -- it might be called a spring.

Q. In other words, the discharge that you're describing is in the nature of a spring?

A. Yes.

THE HEARING OFFICER: At this point, I'm going to ask the -- h-m-m, I don't know who, to

produce it. There is a classic work by the United States Department of Interior, United States Geological Survey on Ground Water Hydrology that, I believe, has an also classic illustration of this process and I would like it entered in the record as an exhibit at this point, given a serial number and if no one else can obtain a copy, I will write to the United States Geological Survey and/or contribute my own copy to the record, but I assume Dr. or Mr. Foster knows the reference I'm referring to.

MR. FOSTER: Yes.

THE HEARING OFFICER: And that's his understanding of what's going to occur?

MR. FOSTER: Yes.

THE HEARING OFFICER: All right.

BY MR. KAFIN:

Q. All right, Mr. Foster, I have one more thing: I got confused for a minute. You're not testifying that the entire 47-acre site for this facility drains through the area that you have shown for us on the sedimentation control plan, are you?

A. No, I'm not.

Q. Do you know what portion of the 47-acre site drains

through the area described in your sedimentation control plan?

A. I haven't computed the area that would drain through it, no.

Q. Can you make an approximation?

A. I would say considerably less than half of it.

THE HEARING OFFICER: And it's your --

MR. FOSTER: In fact, maybe less than a third of it.

THE HEARING OFFICER: And it is your testimony though that the maximum drainage area is 47 acres?

MR. FOSTER: That's correct.

THE HEARING OFFICER: All right.

MR. KAFIN: O. K. I have no further redirect at this time.

THE HEARING OFFICER: All right, Mr. Goldsmith.

MR. FOSTER: Could I be excused for a minute, please?

THE HEARING OFFICER: Sure. Let's take a five-minute recess.

(Whereupon a short recess was taken.)

THE HEARING OFFICER: All right, everybody back. Mr. Goldsmith, Mr. Foster, you can swap your chair around so you can see Mr. Goldsmith, and it's his chance.

MR. GOLDSMITH: Mr. Hearing Officer, I'm going to request your -- your indulgence, and might I ask that we be given the opportunity to -- to reserve on cross-examination on these two witnesses. I'm not promising that we have any. In fact, the simple truth of the matter is we don't come today prepared to cross-examine these witnesses. We were first made a party and received the application this weekend. I have, as a result I think, not had the time to adequately prepare for the detailed cross and I prefer not to waste everyone's time with a fumbling effort at it in an unprepared state.

THE HEARING OFFICER: O. K. Mr. Glennon on behalf of the Agency?

MR. GLENNON: I think the record should show that during the break, we discussed this and I said to you that I intended to inquire along the lines of the feasibility of the present village sewage treatment plant to handle increased loading

as a result of the 1980 Winter Olympics and thereafter.

THE HEARING OFFICER: All right. At this time I would rule that considerations of capacity of facilities, public facilities, such as the sewage treatment plant which is a public facility which is capable of improvement, upgrading and expansion or augmentation by on-site equivalents, are not material to this particular proceeding. This is a review solely of the conceptual aspects of the application as it deals with siting, s-i-t-i-n-g, of the proposed facility. There will be, of necessity, a subsequent hearing after the design has been finalized, as Mr. Lopez indicated would occur after a ruling on siting. To the extent that there has been or have been general questions raised on sewage, we have asked the witnesses to make certain assumptions all subject to subsequent proof. Among those assumptions was the overload of the proposed assumed sewage system, on-site disposal, and I assume that if you wish we could ask them to assume that the village sewer system was overloaded. I assume the answer would be similar, that this is

a design question and if money is no object, the village system can be improved and/or the on-site sewage disposal system can be improved. To that end then, I'm going to rule that those questions are premature.

MS. NICHOLS: Mr. Hearing Officer, before you rule, may I be heard?

THE HEARING OFFICER: Yes.

MS. NICHOLS: The Adirondack Council would maintain that, since conceptual approval must bear at least some resemblance to realty, though at least at this level of conceptual review that that connection is somewhat vague and rapidly becoming vaguer, we would suggest that the fiscal resources of the village are distinctly limited, that the time frame within which financing of sewage treatment facilities can be made available is equally finite and since we're talking about a 1980 end point for the design and construction of these facilities, that questions as to the capacity of the sewer system are, in fact, pertinent to the design of this site, particularly as the witnesses have indicated that in the event that the capacities of

this particular site proves to be insufficient for purposes of managing any sewage effluent, that the expectation will be that the municipal sewage line will be extended to the site.

Therefore, we believe that questions as to the capacity of the sewage system are highly relevant at the conceptual level.

THE HERING OFFICER: Counselor, they're relevant when we are considering the infrastructure of the community and its capacity to handle the burdens imposed by hosting the 1980 Winter Olympics. We have here a civil engineer and a geologist, both of whom have testified to the best of my knowledge subject to a great deal of cross-examination, that in their opinion, the area is adequate to accept even the disaster which we contemplated when the sanitary facilities in the village became unavailable and they felt that this could be handled on site without even producing a preliminary pre-treatment or sewage treatment plant solely by means of on-site disposal to a leaching field and a septic -- and an associated septic system. If you have rebuttal testimony and expert witnesses who

contradict that position on the part of these experts in this area, that's subject to your presentation later and review by the Agency in making a ruling. On the capacity of the community's infrastructure to handle the Winter 1980 Olympics, we haven't reached that point yet.

MS. NICHOLS: Thank you, sir. I wasn't sure.

THE HEARING OFFICER: That's why it was premature.

MS. NICHOLS: Thank you, sir. I wasn't sure from your ruling whether you were saying that it was premature with reference to this entire proceeding or premature with these witnesses.

THE HEARING OFFICER: It is premature at this conceptual proceeding until such time as the applicant presents a witness who can talk about the community infrastructure. At that point it becomes relevant. All right, now, I have some questions as the Hearing Officer, of both these witnesses.

MS. NICHOLS: Mr. Hearing Officer, does that mean that Mr. Glennon doesn't have any other

cross-examination?

THE HEARING OFFICER: That means I have some questions at this time, all right?

The flood plain has been denominated on these exhibits, and directing these questions to either or both of the witnesses, I'm asking for the source of the 100-year flood plain.

MR. BOITEAU: I will answer that question.

THE HEARING OFFICER: All right.

MR. BOITEAU: I computed the limits of the extent of the 100-year flood plain within the vicinity of the Intervale site. The background data in order to determine that, such as flood flows based on the 100-year frequency, potential 100-year frequency of storm were gotten from the study done by the United States Department of the Interior Geological Survey, based on approximately 50 years of gauging of the West Branch of the Ausable River, and they determine the 100-year flood year through this area to be approximately 9100 cubic feet per second. From that information, I did a brief site analysis to determine the characteristics of the river reaching question, approximate cross section of the river and

adjacent land area, potential constrictions downstream, and did a hydrologic analysis to determine the approximate cross section of the water flow through the area in the event of a 100-year frequency storm.

THE HEARING OFFICER: All right. I want you to assume that the basic flow estimate that you utilized is erroneous by a factor of 100 percent and I want you to assume an 18,600 cubic foot per minute flow. I want you to indicate for us with that assumption the extent of the flood plain.

MR. BOITEAU: If the 100-year flood flow was increased by a factor of --

THE HEARING OFFICER: 100 percent.

MR. BOITEAU: -- 100 percent?

THE HEARING OFFICER: Doubled.

MR. BOITEAU: I couldn't answer that question without further calculation.

THE HEARING OFFICER: All right, I want you to perform those calculations and indicate on the exhibit that indicates the present flood plain the delimits of the 100-year flood plain assuming a double flow, and bring it back to us if you could

tomorrow.

MR. BOITEAU: Mr. Hearing Officer, I would say that that assumption is totally improbable.

THE HEARING OFFICER: What? I know it's -- that's why I said double. I want to know where the improbable limit is. We're dealing with a conceptual hearing. As I've been trying to indicate, I want worst cases. We've assumed every toilet in the city, in the Village of Lake Placid, is unavailable when we talked about sewage. Now I want to assume an 18,000 cubic foot per second or per minute flood through this river and I want you to indicate how much of the village it will wash out and how much downstream -- how far downstream it will do it.

MR. KAFIN: Mr. Hearing Officer, just one --

THE HEARING OFFICER: Yes.

MR. KAFIN: One small note, that the 100-year flood is the engineering worst case so that, in fact, the defendant did assume a worst case. This is not an assumed worst case.

THE HEARING OFFICER: No, the worst case is based on a U.S.G.S. flow rate which is based on

50 years of gauging which does not have 100 years of history and without getting into a philosophical discussion which is mre appropriate in a discussion of Laplace and DuBois-Reymond and some other French mathematicians, which allows you to determine whether five years is sufficient to allow you to predict a flood which is greater than the recollection of people that occurred more than 50 years ago. I understand there was a substantial flood in 1888 which seemed to be a bad year in a number of areas in the country.

MR. HESS: That was six days in 1888.

THE HEARING OFFICER: Again I don't really care. I am trying to, at this conceptual stage in this conceptual hearing, to establish what is the worst case. Please, you work tonight, we'll work tonight. You go home and do a 100-year worst case with my assumption and if you really want to do some extra work and you got access to a halfway decent small computer, you might do it at a reasonable increase, say, approximately 11- to 12,000 cubic feet per minute.

MR. BROOKS: You're not building an ark,

are you?

THE HEARING OFFICER: For all we know, the designers of this jump may very well come in with an ark. We have not seen the design and we're not dealing with the question of what it's going to look like. We're also not dealing with alternative usages such as if it does float we might sail it down the West Branch of the Ausable River.

MR. BROOKS: I'm going to call him Noah in a minute.

THE HEARING OFFICER: All right, now Mr. Glennon, are there any other questions of these two witnesses?

MR. GLENNON: Not at this time in view of that ruling.

THE HEARING OFFICER: Mr. Carr, I think is the next witness, am I correct?

MR. GOLDSMITH: Mr. Hearing Officer, before you bring him on, I'd like to raise a question of you that might prompt you to put a couple of additional questions to these witnesses and it's in keeping with the observations you just made about what we're here to do in connection with conceptual

review and I'll confess that I may -- I may here be aided a little bit by my ignorance of detail which I do confess I suffer from.

I've been sitting here all day trying to come away with a concept which is presumably what we're -- what we're assuming is present here. In connection with the control of sediment, for example, on this siltation problem which everyone says is one we're concerned with, I thought that after listening to all this cross-examination referred to, that at least I'd have a concept of what it is that's going to be done to -- to assure that, in fact, the effects of erosion will be confined to the site. Now, I'll -- it may be because I didn't listen well but I'll tell you that what I'm -- what I go away with is not a concept of what will be done but a promise, and I -- and I heard the promise made, and I expect it will probably be performed, but I want to emphasize that I think all we have on the record is a promise. The witnesses have assured us that whatever it -- they'll have to do in order to confine the effects of erosion to the site, they'll do it, but I don't think that's

a concept. I think that's simply a promise and what I would like the record to display are really two different things and I think it should display it. Firstly, I assume that that promise is made with respect to a series of worst case assumptions about, for example, the volume of flow, the rate of flow, the amount of sediment that will have to be captured and controlled in these basins, and I'm not sure that the record clearly reveals just what this series of worst case assumptions is and I think it should.

Secondly, I would say that with respect to those worst case assumptions, the witnesses could tell us what they would have to do in order to confine the results of erosion to the site which they've promised they will do. How many basins, what will the capacity of the basins have to be? How high will the berms have to be?

MR. GOLDSMITH: (Continuing)

With that kind of testimony, we have a concept that maybe we can evaluate and then we can tell what the environmental impact of it will be and whether it will be due or undue. At this point, I don't think we have that, and I -- I would request your help in getting that into the record.

THE HEARING OFFICER: All right. There is in the record at this time the testimony of Mr. Lopez and as soon as I get the appropriate page of the transcript, I will proceed to ask some questions on your behalf. At the last hearing, Mr. Lopez testified with reference to the manner in which the Gilbane Building Company, the project manager, and the construction manager, would deal with the construction and he indicated that in terms of his contracts as follows, quoting from Page 145 of the record: "As a further protection against cost overruns, every design contract requires that the designer agree as part of the agreement to design a facility within the fixed construction budget and failing to do so, the designer is obligated to re-design at his own expense." And further with

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reference to the performance characteristics, I cannot find the appropriate page but, in substance, Mr. Lopez testified that each contractor was to be given criteria such as those indicated on Page III-76 and III-83, dealing with storm drainage and sediment control, for instance, and it was the designer's job to prepare a specific design that accommodated all of those conditions, met all of those criteria within any conditions that might be laid down by the Agency as part of its initial permit should one be granted based upon this conceptual application.

We deal here with a rather ambiguous use of the word "concept" and "conceptual." We are dealing here with a project which in concept is very simple: Build a ski jump at Intervale, and an application which is considerably more than just a concept, "Build a ski jump at Intervale." Yet it is not designed. We do not know what it's going to look like. Until we know how it is specifically to be designed, as Mr. Lopez testified at the last hearing, until the designer has presented us with a design of the actual jump and until there has been a public hearing just as we are conducting a public hearing

in this fashion on the design itself and primarily its visual impact, there can be no further consideration of technical matters such as the height of berms, the location of berms, the provisions for sediment and erosion control. The issue before us here is whether or not with certain broad assumptions the Intervale site is suitable. If it is, in fact, determined that it is not suitable, there is no need to proceed any further. If it is determined by the Agency that it is, in fact, suitable, there will be, of necessity, in this conceptual permit approval if such is granted, certain conditions. Among them will be specific considerations of such things as storm water management and runoff control, erosion, sedimentation control and considerably more.

The very next order of business after determination of whether the site is suitable, if it is, is consideration of the proposed structure and we have been assured by the construction manager that that is what we will receive from their designers. The day that is available, a hearing will be scheduled within a very short period of time on as little notice as we can possibly give to all parties and still get

us all here, and we will consider the visual and aesthetic impact of that particular structure as proposed by that designer. After there is a decision by the Agency on whether or not the structure shall be approved as designed, then that hearing continues on the specific issues of mitigation of any impact, among them sediment and erosion control. There is no other way to conduct this hearing under these circumstances at this time within the limits of what the applicant has done and is capable of doing.

There is going to be a recommendation by the Hearing Officer to the Adirondack Park Agency at its next meeting next week that, in view of many of the issues raised at this hearing, it would be wise to seriously consider conducting a series of hearings along the way in large projects and that the initial hearing should deal with site consideration, the next hearing should deal with specifics and the third hearing should deal with ongoing construction and monitoring and other practices, and in a three-phase hearing process we may very well expedite the consideration of these projects and improve the design process all along.

It is unfortunate we received this particular hearing -- this particular application under these circumstances, and we are dealing with a matter of critical national importance. I recognize the desire of all the parties for further information, but you must keep in mind that the design-specific information is unavailable at this time. There is no design. There's a concept to build a tower approximately a certain height from which young men and even older men will jump off into space and hopefully land in one piece some distance from the base, and there is an agency, the Federation Internationale du Ski which has set certain, where specific, nonnegotiable, unalterable characteristics for the overall profile of that system from the tower to the landing. Those are the only design specifics that we have at the present time; nothing else is available.

We do not know, and Mr. Lopez was asked this question any number of times at the last hearing -- we do not know what it's going to look like. We know it will have a tower, an in-run, an outrun and someplace to prevent the jumpers from

landing in the river, and I assume it will have ingress and egress for ambulances and other emergency vehicles and I assume that it will have some way to get the jumpers from the bottom of the hill after they come to rest to the top so they can take another crack at the jump, assuming they're still willing.

Now, with that understanding, we must proceed, fortunately or unfortunately, in accordance with the application and the applicant's case as presented to us.

MR. JONES: Mr. Hearing Officer, could you clarify for me a point of confusion?

THE HEARING OFFICER: I will try.

MR. JONES: Is it an assumption or a fact on your part that there will actually be further hearings conducted by the Adirondack Park Agency on this project?

THE HEARING OFFICER: It is my understanding that there have to be. That's why I -- as I said, I'm going to present this entire matter to the Agency at their meeting and it's a public meeting so it will be reported and anyone

who's interested can come. My understanding is there will be, and after I made this same statement at the last hearing, Mr. Persico indicated as did Mr. Flakce, that this was reasonable.

MR. JONES: The Agency, I would believe, has to move to go to public hearing on any further aspects of the permit-granting process.

THE HEARING OFFICER: That's why they're having a meeting next week, among other things.

MR. JONES: And to the extent that they haven't done so, there is a possibility that those of us who are a part of this process are foreclosed from further participation if the Agency should not decide to go to further hearing.

THE HEARING OFFICER: I will know after next week, that I promise you.

MR. GLENNON: I'm afraid I do not understand the ruling or the finding, whichever it is. The Agency is not required to hold a hearing after this conceptual approval hearing. We are now in a conceptual approval hearing. I do not understand you to say that there will be another round of

conceptual hearings following the 1-10-77 target date.

THE HEARING OFFICER: No. There will be a round of specifics if this application is approved as to its site, that the 90- and 70-meter ski jumps will be built at Intervale. If the Agency so rules, that is. I propose to conduct further hearings on specific issues raised, namely, what is the tower going to look like? What is the in-run going to look like? What is the outrun going to look like? How much dirt has to be moved? Where is it going to be moved to? How much dirt has to be brought in? Where is it going to be moved from? How much, if any, contribution all of this activity is going to make to the water quality charactistics of the west branch of the Ausable River, and I can go on and on and on as to perfectly relevant information that has to be elicited at the design phase.

MR. GLENNON: Is it, may I ask, your proposal that we do not consider visual impact until after the 1-10-77 target date, the date by which, according to Mr. Lopez, they will proceed to

the schematic phase?

THE HEARING OFFICER: Oh, no, we must consider visual impact but we cannot consider whether this kind of structure is ugly as opposed to that kind of structure. All we can consider is the viewshed and the visible impact of something a particular height at a particular point. That's the only relevance --

MR. KAFIN: Using the worst case.

THE HEARING OFFICER: Using worst case, yes, using the worst-case analysis which is exactly what we're dealing with.

MR. KAFIN: Worst-case analysis which is exactly what concept is all about.

MR. GOLDSMITH: Mr. Hearing Examiner.

THE HEARING OFFICER: Yes.

MR. GOLDSMITH: I think that abstractly, what you've said commends itself to some reason. It sounds very sensible, but I'll confess, I have some problem understanding how the abstraction explains what we -- what we did here today. I don't know what a worst-case concept of sedimentation basins and berm banks is.

THE HEARING OFFICER: Counselor --

MR. GOLDSMITH: And how am I supposed to evaluate that with --

THE HEARING OFFICER: Very simple. The only effect of having a bad sediment basin or a bad berm is you silt up the west fork of the Ausable River, that's all. That's the common result of poor construction practices, failure to prevent erosion and sediment from reaching the body of water and in this particular case, we will hear, I assume, from Mr. Reinhardt tomorrow what's going to happen to all the fish in the Ausable River assuming everything fails and all the dirt winds up in the river. Again, worst case. We assume that there are no toilet facilities in the village. We're going to assume that all the dirt winds up in the river. What happens to the river?

MR. GOLDSMITH: Well, I appreciate how we can, in examining Mr. Reinhardt, we can probably get information of value by assuming that all the sediment that, in fact, is generated, in fact, winds up in the river. What I fail to understand is what we really accomplished today in our

examination of these witnesses in a session that presumably was designed to elicit a worst-case picture of just what, for sediment control measures, would consist of and I still don't know what they would be.

THE HEARING OFFICER: Counselor, we're not talking about sediment control measures specifically. We are talking about how much sediment we're going to have if nothing works. We now know we have a 47-acre drainage area. We're going to move all the topsoil, worst case, we're going to remove all the topsoil from that 47 acres and we're going to dump it right in the west branch of the Ausable River at the lowest point of that hill.

Now, if the beavers don't immediately visit the place and build more dams, we will have created what the Army engineers commonly refer to as an earthen dam. Eventually, it will wash away. Eventually, all of that dirt and silt and debris will wind up downstream. It will fill all the little holes in the bottom of the river as it goes down and 20 years from now eventually maybe the

river will come back to its present state, we don't know.

The problem of controlling that is the applicant's problem. Their witnesses have told us they will control it. If we grant them a permit it's going to be conditioned upon them controlling it. If they can't, they either have to move to another site or they have to apologize and stop working. It's as simple as that. How they do it is no concern to the Agency, no concern to the applicants, unless doing it is going to cause further serious permanent irreparable damage.

MR. GOLDSMITH: I've got two problems with that. Firstly, we don't know what they're going to do and secondly, I think at the least, you can see that the reasonableness of their assurances about what they're going to do is in issue here and --

THE HEARING OFFICER: They haven't picked up a shovel. They can't pick up a shovel if we grant conceptual approval. When conceptual approval is granted, if it is granted at all, it will require -- it has to as a matter of law require that certain conditions be met in the design.

conceptual hearing, a design hearing and a construction hearing with three classes of permits, concept approval, design approval, construction permit, subject to monitoring.

MR. JONES: Mr. Hearing Officer, can I ask you one further question?

THE HEARING OFFICER: Yes.

MR. JONES: Again, forgive my ignorance, but does this mean, in effect, then that on a consideration of aworst-case basis in the conceptual approval phase and a reply to that consideration on the part of the applicant that, in effect, that worst case will be prevented from occurring or its effects will be prevented from occurring, that there is then no barrier to conceptual approval?

THE HEARING OFFICER: There might not be unless you come up with a better concept.

MR. JONES: So what this hearing is designed to do then is to elicit a series of worst-case examples and a series of assurances on the part of the applicant that this will not, in fact, do any damages.

THE HEARING OFFICER: They're more

than assurances; they're contractual obligations. They're legally binding. What do you think the applicant is represented by, Counselor?

MR. KAFIN: I think the whole characterization of what's going on by counsel is that we have provided quite a bit of information for the record with respect to the existing conditions on the site, as to the soils, the slope, hydrological characteristics as to the river, you had your opportunity to test the information which has been presented. These witnesses are basically, you know, collectors of data and analyze them. They don't really come close to any of the ultimate issues here. You've got the data both on the basis of the existing site characteristics and on the basis of what the site would be if a conceptual level of this project goes ahead, and I think that's all this process is designed to do to elicit that information and then the decision maker can decide on the basis of this information whether this will have an adverse impact or not on the environment.

MR. JONES: Well, if I understand the ruling correctly, we have information in the

record already and in the application to the effect, for example, that there will be berms constructed.

THE HEARING OFFICER: O.K.

MR. JONES: We don't have an opportunity in this hearing at least to examine in more detail what those berms are going to be like.

THE HEARING OFFICER: No, it's not relevant in this hearing. What's relevant is that they've indicated that's one of the means of sediment and erosion control they're interested in preparing.

MR. GOLDSMITH: Mr. Examiner, I don't want to belabor the point and keep everyone here and I won't. I'll simply say that I fear we're basing too much on a subsequent stage of review which can't realistically review what you expect it to in light of the momentum which gets generated by conceptual approval.

I would think before conceptual approval can be forthcoming, the Agency would be interested in knowing whether we're going to have one, two or ten settling basins and just how much area they're going to cover, how high the berm is

think it's unconscionable under these kinds of proceedings to compel the applicant to fully design something that may very well have to be modified, altered, or worse, moved.

No design is transferable,. This is a single independent unit. It's site-specific. What it looks like at Intervale is going to be considerably different than what it would look like at any other site and I just cannot see imposing this burden on the applicant.

On the other hand, I recognize that it compels those who are seriously concerned about the envionmental impact of the overall project to attend what amounts to three hearings. There is no way out of it. Unfortunately, had the applicant made an application in March of 1976 to the Agency for a three-part hearing and had the Agency approved it, we would be well into the design phase now at whatever site was ultimately determined. It's too late. Here we are with a, at least as far as I'm concerned, substantial amount of evidence to support the need for the Agency to give or withhold conceptual approval and site approval on or before