ORIGINAL

Wisconsin Public Service Corporation
(a subsidiary of WPS Resources Corporation)
700 North Adams Street
P.O. Box 19002
Green Bay, WI 54307-9002



April 6, 1999

FERC Project Nos. 2525, 2595, 2522, 2546, 2560, and 2581

The Secretary
Federal Energy Regulatory Commission
Mail Code: DTCA, HL 21.3
888 First Street, N.E.
Washington, D.C. 20426

P-2525-010
P-2595-018
P-2522-011
P-2546-014
P-2560-006
P-2581-007

Dear Honorable Secretary:

The order modifying and approving the water quality monitoring plans for the Caldron Falls Hydroelectric Project (FERC Project No. 2525), the High Falls Hydroelectric Project (FERC Project No. 2595), the Johnson Falls Hydroelectric Project (FERC Project No. 2522), and the Sandstone Hydroelectric Project (FERC Project No. 2546), the Potato Rapids Hydroelectric Project (FERC Project No. 2560), and the Peshtigo Hydroelectric Project (FERC Project No. 2581) dated either September 14, 1998 or September 15,1998 states that the licensee (Wisconsin Public Service Corporation, WPSC) shall determine the location of the monitoring equipment in consultation with the Wisconsin Department of Natural Resources (WDNR). If the licensee and the WDNR cannot agree on a location for the monitoring, the licensee shall file its recommendations, along with the WDNR comments, for Commission approval.

WPSC has attempted to resolve the location of monitoring equipment on three occasions, a meeting on March 23, 1998, a meeting on November 12, 1998 at which Robert Fletcher from your office was present, and a written consultation on March 5, 1999. As per the WDNR response on March 29, 1999, WPSC has not been able to resolve the location of upstream and downstream monitoring equipment for the Caldron Falls and Potato Rapids Projects, and the downstream monitoring device for the Peshtigo Project.

The WDNR comments on the High Falls, Johnson Falls, and Sandstone Rapids Projects state the following: "We would suggest that the exact location for the placement of the water quality monitoring device be selected with the agency personnel during a site visit. The location proposed may be acceptable, however we would prefer to check this out during a site visit." The proposed locations for the monitoring devices at the Johnson Falls, Sandstone Rapids and Peshtigo Projects are the same locations that were utilized during the water quality data collection for the relicensing activities. These proposed locations have identified past water quality problems. Therefore, the proposed locations are proven to be adequate through previous data collection.

WPSC is requesting a Commission review of its recommendations and a decision for the placement of the water quality monitoring devices for the Caldron Falls, High Falls, Johnson Falls,



990408024 8-3

Sandstone Rapids, Potato Rapids, and Peshtigo Projects. Based upon the past record of consultation, WPSC does not believe an agreement on the placement of the devices can be achieved even through an on-site visit to each of the projects.

The WPSC recommendations are as follows:

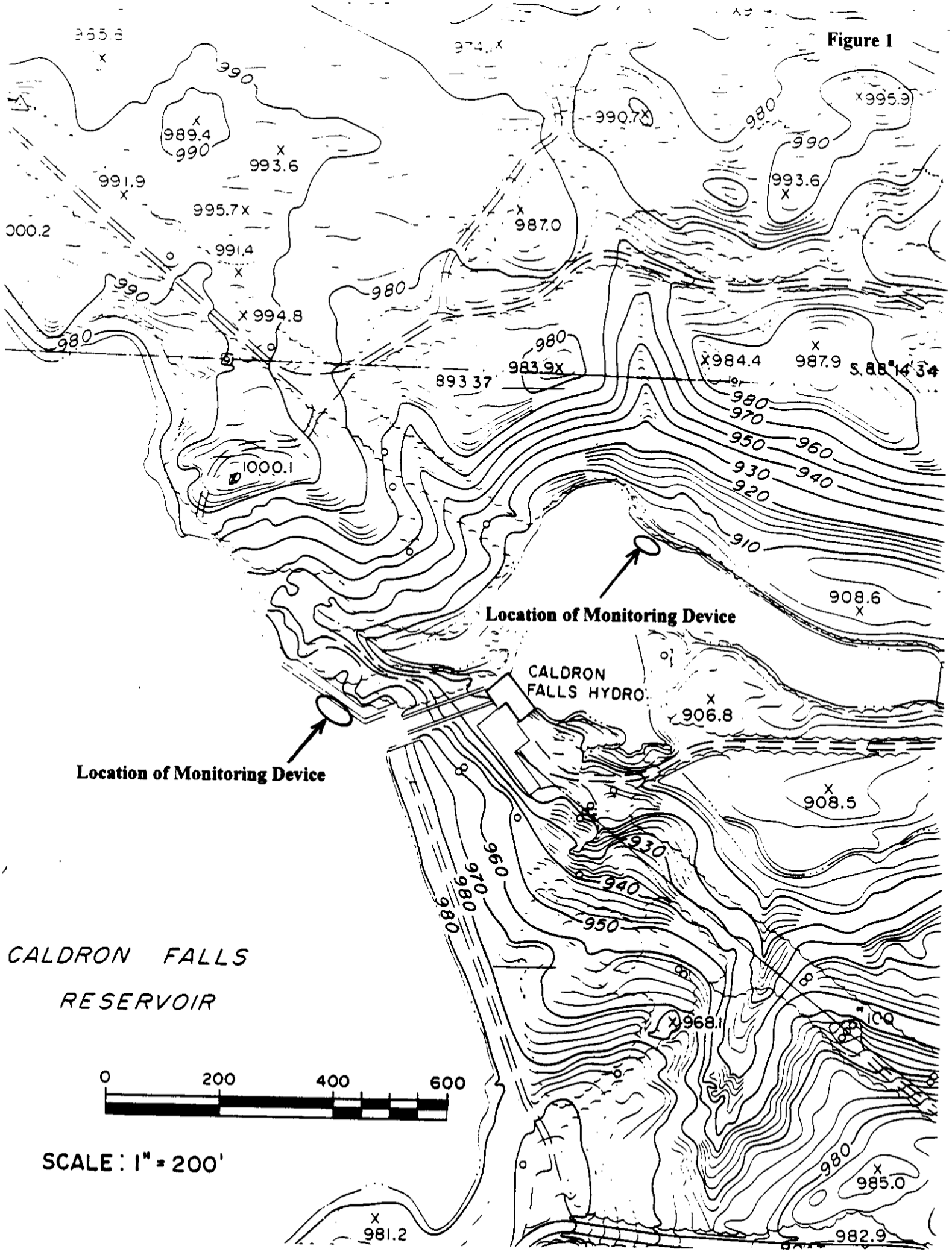
Caldron Falls Hydroelectric Project

Figure 1 depicts the placement of the monitoring devices in relation to the dam structure. The upstream monitoring device will be attached to the dam structure itself and the downstream monitoring device will be placed on the bed of the stream.

The upstream monitoring device is placed in a location that will assure that any dissolved oxygen levels that are below the state standards are not due to the operation of the facility. The WDNR request for monitoring above the flowage is unnecessary. Past monitoring of dissolved oxygen has proven that the dissolved oxygen situation is due to a natural phenomenon (stratification of the reservoir). The idea of monitoring above the flowage to take into account any low dissolved oxygen conditions coming into the river system upstream is unnecessary because the river upstream from the project originates and flows through an undeveloped forested setting, which has no recorded point discharges and very little agricultural land. Furthermore, the entire Caldron Falls shoreline is under the ownership of WPSC and is kept in an undeveloped state, with the exception of project facilities. The river upstream of the reservoir is not representative of the conditions in the reservoir. The WDNR request for monitoring above the flowage is based upon the supposition that the presence of the reservoir is a direct result of project operations or "flow releases" which Article 409 is designed to monitor. WPSC retains the position that the reservoir is an existing feature that produces many benefits, including those for recreation and the fishery and the presence of the reservoir is an issue that is separate from the objective of Article 409. Therefore, the naturally occurring phenomenon (stratification) that occurs in the reservoir is not required to be monitored. Only the flow release from the project should be monitored and the WPSC recommendations for the location of monitoring devices reflect their flow release position.

The downstream monitoring device is placed in a location that will determine the effectiveness of measures WPSC has implemented to increase the levels of dissolved oxygen in the tailwater. WPSC has been implementing efforts to increase the dissolved oxygen content of the water in the tailwater by redirecting water passed through the sluice gate directly into the tailrace. The warmer water (high in dissolved oxygen) does not immediately mix with the colder water (low in dissolved oxygen) leaking through the wickett gates due to the water density differences. Therefore, WPSC is proposing to monitor the dissolved oxygen in a location which represents the conditions of the water being passed downstream of the project by monitoring in a location where complete mixing of the two types of water has taken place. A place that is within 300 feet of the tailrace structure or immediately downstream of the dam (See Figure 1).

Figure 1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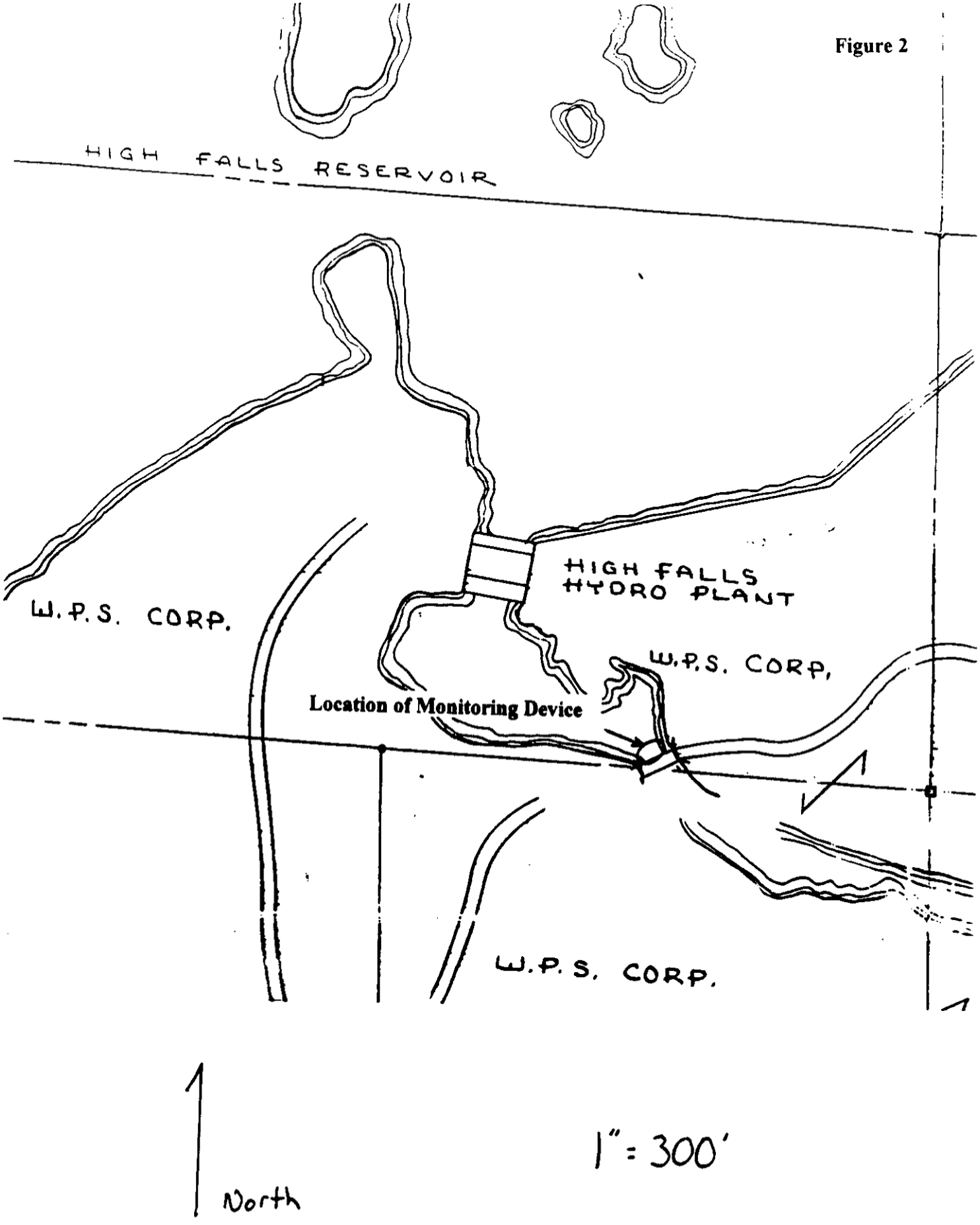
983.9
893 37
984.4
987.9
S. 88° 14' 34
980
970
950
960
930
940
920
910
1000.1
908.6
Location of Monitoring Device
CALDRON
FALLS HYDRO
906.8
Location of Monitoring Device
908.5
930
940
950
960
970
980
980
968.1
100
980
985.0
981.2
982.9
CALDRON FALLS
RESERVOIR
0
200
400
600
SCALE : 1" = 200'

High Falls Hydroelectric Project

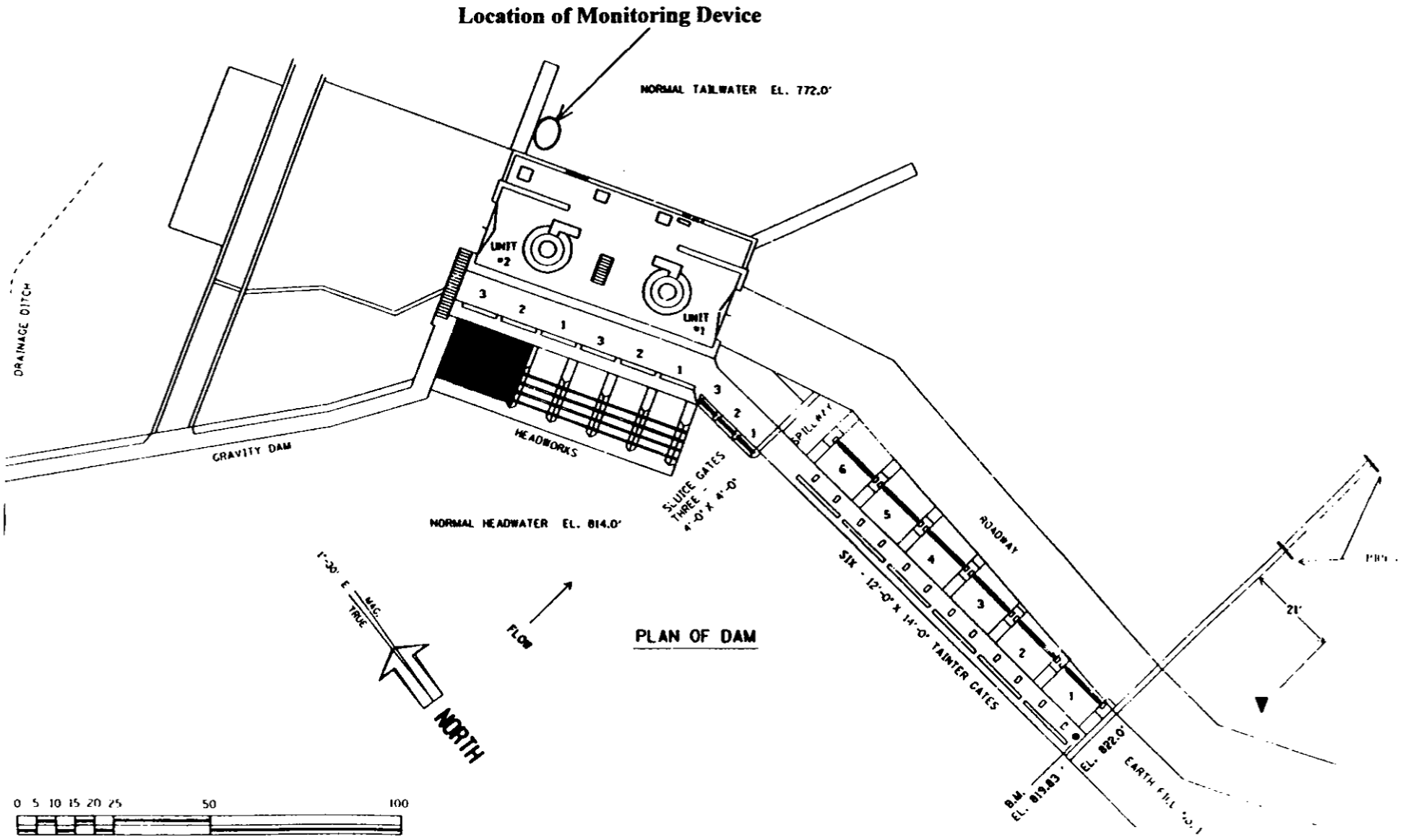
Figure 2 depicts the placement of the monitoring device in relation to the dam structure. As agreed upon in previous conversations with the WDNR, the downstream monitoring device at Caldron Falls will serve as the upstream monitoring device at the High Falls Project. The downstream monitoring device will be placed near the middle of the river and will be attached to the concrete column supporting the bridge. WPSC does not believe it is necessary to determine the exact location of the monitoring device through a site visit with the WDNR because the past consultation record has proven an agreement on the locations is unlikely. The exact placement of the monitoring device is influenced by safety, ease of access, and protection from vandalism and theft. These factors are apparently not considered by the WDNR. Therefore, WPSC is providing an approximate location in the recommendations that will provide a format (location within the stream, proximity to the dam, etc.) which allows the agency concerns about the quality of data to be addressed.

**Figure 2**


HIGH FALLS RESERVOIR
W.P.S. CORP.
HIGH FALLS HYDRO PLANT
W.P.S. CORP.
Location of Monitoring Device
W.P.S. CORP.
North
1" = 300'

Johnson Falls Hydroelectric Project

Figure 3 depicts the placement of the monitoring device in relation to the dam structure. As agreed upon in previous conversations with the WDNR, the downstream monitoring device at High Falls will serve as the upstream monitoring device at the Johnson Falls Project. The location of the downstream monitoring device will remain the same as the location utilized for the relicensing water quality monitoring. The structure for retaining the water quality monitoring device remains in place and requires no modification for the proposed location. The proposed location is in the tailwater outfall and is attached to the powerhouse structure itself. WPSC does not believe it is necessary to determine the exact location of the monitoring device through a site visit with the WDNR because the past consultation record has proven an agreement on the locations is unlikely. The placement of the monitoring device is influenced by safety, ease of access, and protection from vandalism and theft. These factors are apparently not considered by the WDNR. Therefore, WPSC is providing an approximate location in the recommendations that will provide a format (location within the stream, proximity to the dam, etc.) which allows the agency concerns about the quality of data to be addressed.

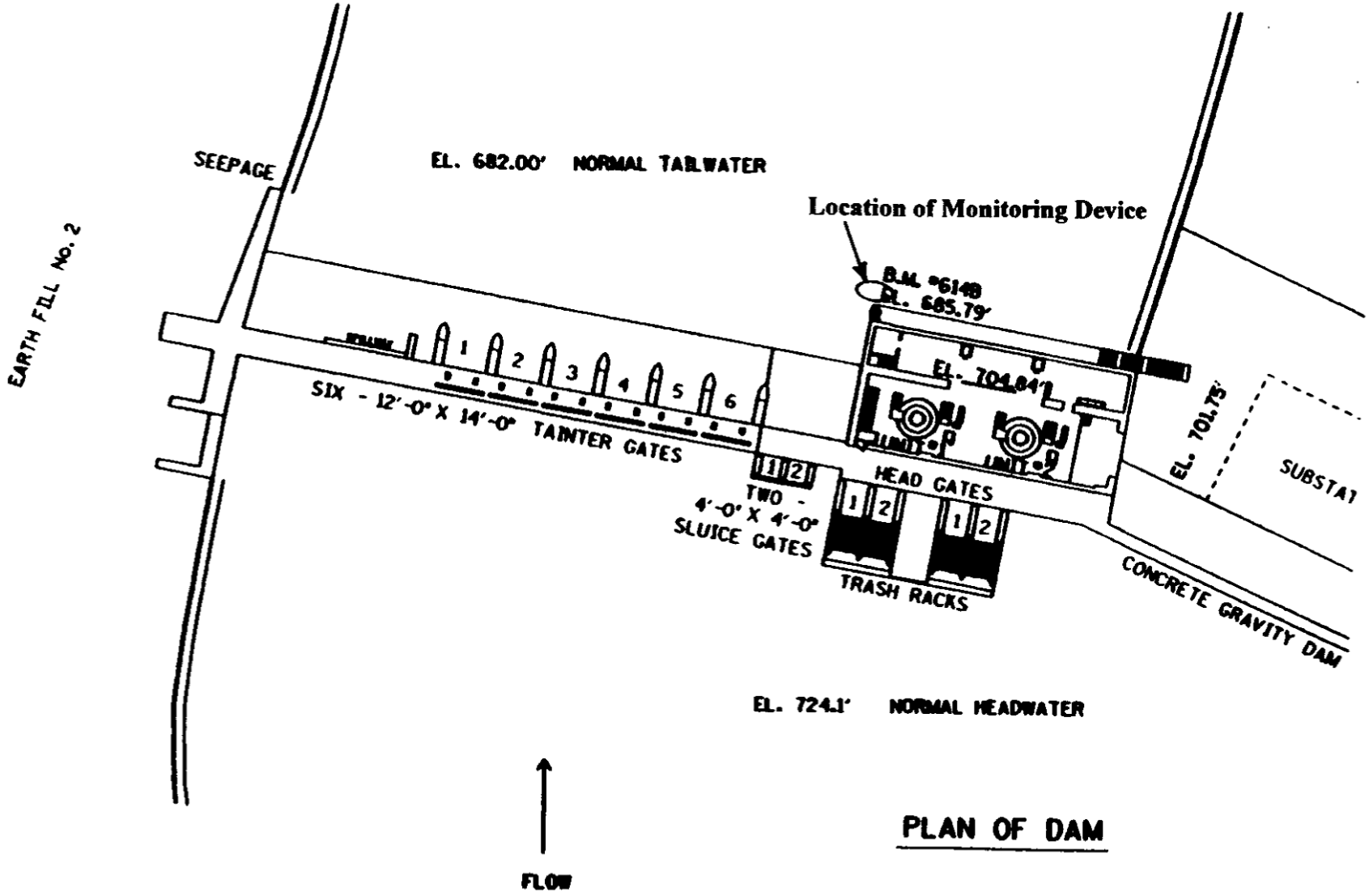


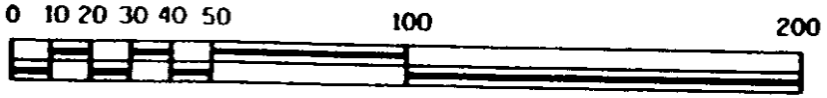

JOHNSON FALLS HYDRO PLANT
PLANT SITE LAYOUT

Sandstone Rapids Hydroelectric Project

Figure 4 depicts the placement of the monitoring device in relation to the dam structure. As agreed upon in previous conversations with the WDNR, the downstream monitoring device at Johnson Falls will serve as the upstream monitoring device at the Sandstone Rapids Project. The location of the downstream monitoring device will remain the same as the location utilized for the relicensing water quality monitoring. The structure for retaining the water quality monitoring device remains in place and requires no modification for the proposed location. The proposed location is in the tailwater outfall and is attached to the powerhouse structure itself. WPSC does not believe it is necessary to determine the exact location of the monitoring device through a site visit with the WDNR because the past consultation record has proven an agreement on the locations is unlikely. The placement of the monitoring device is influenced by safety, ease of access, and protection from vandalism and theft. These factors are apparently not considered by the WDNR. Therefore, WPSC is providing an approximate location in the recommendations that will provide a format (location within the stream, proximity to the dam, etc.) which allows the agency concerns about the quality of data to be addressed.

Figure 4

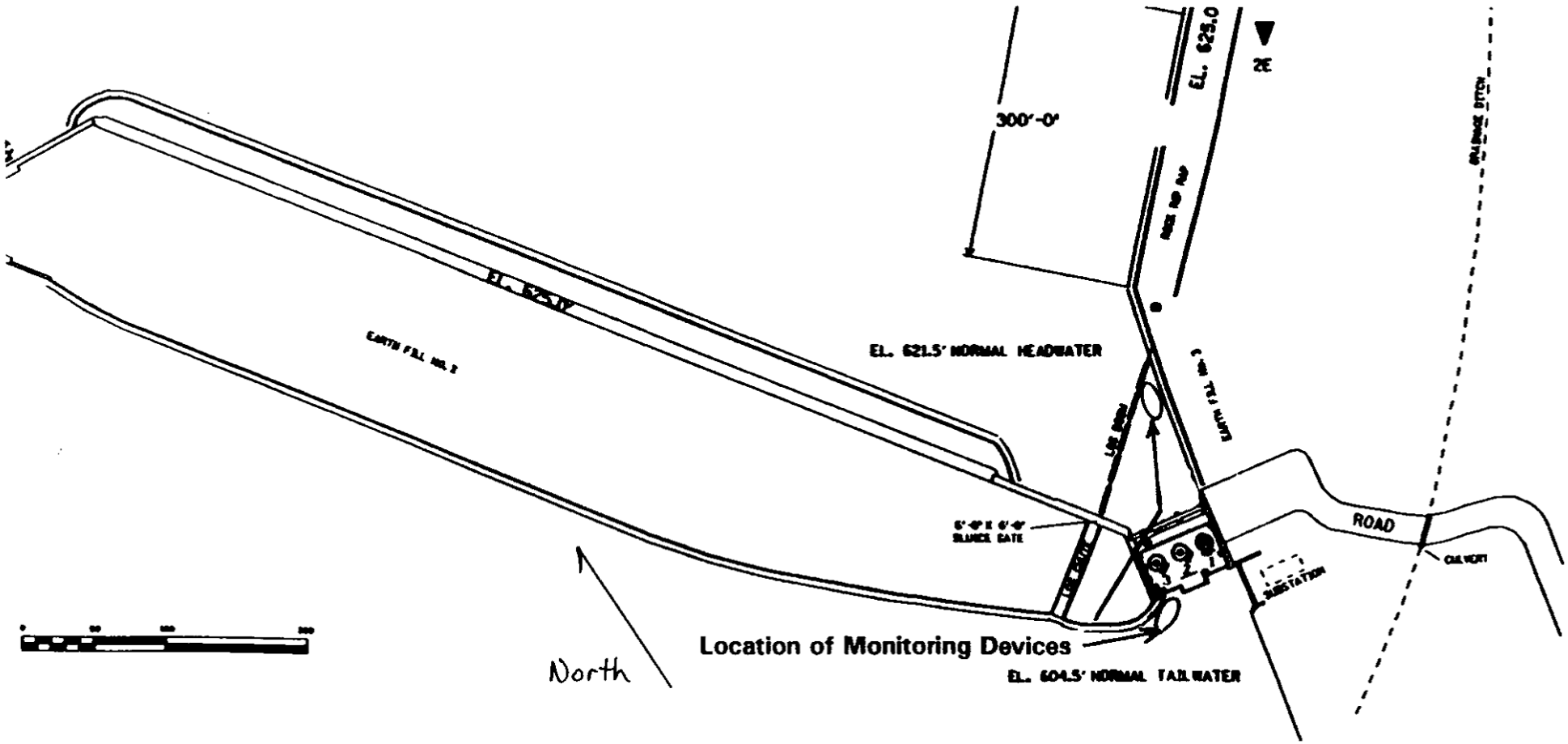

SEEPAGE
EL. 682.00' NORMAL TAILWATER
Location of Monitoring Device
B.M. #148
EL. 685.79'
EARTH FILL No. 2
1
2
3
4
5
6
SIX - 12'-0" X 14'-0" TAINTER GATES
EL. 704.84'
UNIT 2
UNIT 1
EL. 701.75'
SUBSTA
1 2
TWO - 4'-0" X 4'-0" SLUICE GATES
HEAD GATES
1 2
1 2
TRASH RACKS
CONCRETE GRAVITY DAM
EL. 724.1' NORMAL HEADWATER
FLOW
PLAN OF DAM


0 10 20 30 40 50
100
200

Potato Rapids Hydroelectric Project

Figure 5 depicts the placement of the monitoring devices in relation to the dam structure. The location of the upstream monitoring device has been modified by moving the location approximately 100 feet to the north along the wingwall away from the powerhouse to address the concerns associated with the operation of different turbine units provided in the WDNR comments. The location of the downstream monitoring device will remain the same as the location utilized for the relicensing water quality monitoring. The structure for retaining the water quality monitoring device remains in place and requires no modification for the proposed location. The proposed location is in the tailwater outfall and is attached to the dam structure itself. WPSC does not believe it is necessary to determine the exact location of the monitoring device through a site visit with the WDNR because the past consultation record has proven an agreement on the locations is unlikely. The placement of the monitoring device is influenced by safety, ease of access, and protection from vandalism and theft. These factors are apparently not considered by the WDNR. Therefore, WPSC is providing an approximate location in the recommendations that will provide a format (location within the stream, proximity to the dam, etc.) which allows the agency concerns about the quality of data to be addressed.

Figure 5




POTATO RAPIDS HYDRO PLANT
PLANT SITE LAYOUT

Peshtigo Hydroelectric Project

Figure 6 depicts the placement of the monitoring device in relation to the dam structure. As agreed upon in previous conversations with the WDNR, the downstream monitoring device at Potato Rapids will serve as the upstream monitoring device at the Peshtigo Project. The location of the downstream monitoring device will remain the same as the location utilized for the relicensing water quality monitoring. The structure for retaining the water quality monitoring device remains in place and requires no modification for the proposed location. The proposed location is in the tailwater outfall and is attached to the powerhouse structure itself. WPSC does not believe it is necessary to determine the exact location of the monitoring device through a site visit with the WDNR because the past consultation record has proven an agreement on the locations is unlikely. The placement of the monitoring device is influenced by safety, ease of access, and protection from vandalism and theft. These factors are apparently not considered by the WDNR. Therefore, WPSC is providing an approximate location in the recommendations that will provide a format (location within the stream, proximity to the dam, etc.) which allows the agency concerns about the quality of data to be addressed.
Documentation of consultation with the WDNR and U.S. Fish and Wildlife Service (FWS) along with responses to the WDNR comments are included in Appendix 1. The FWS did not respond with comments within the 30 day time period.

Should you have any questions regarding this material, please do not hesitate to contact myself at (920) 433-5515 or Shawn Puzen at (920) 433-1094 at your earliest convenience.

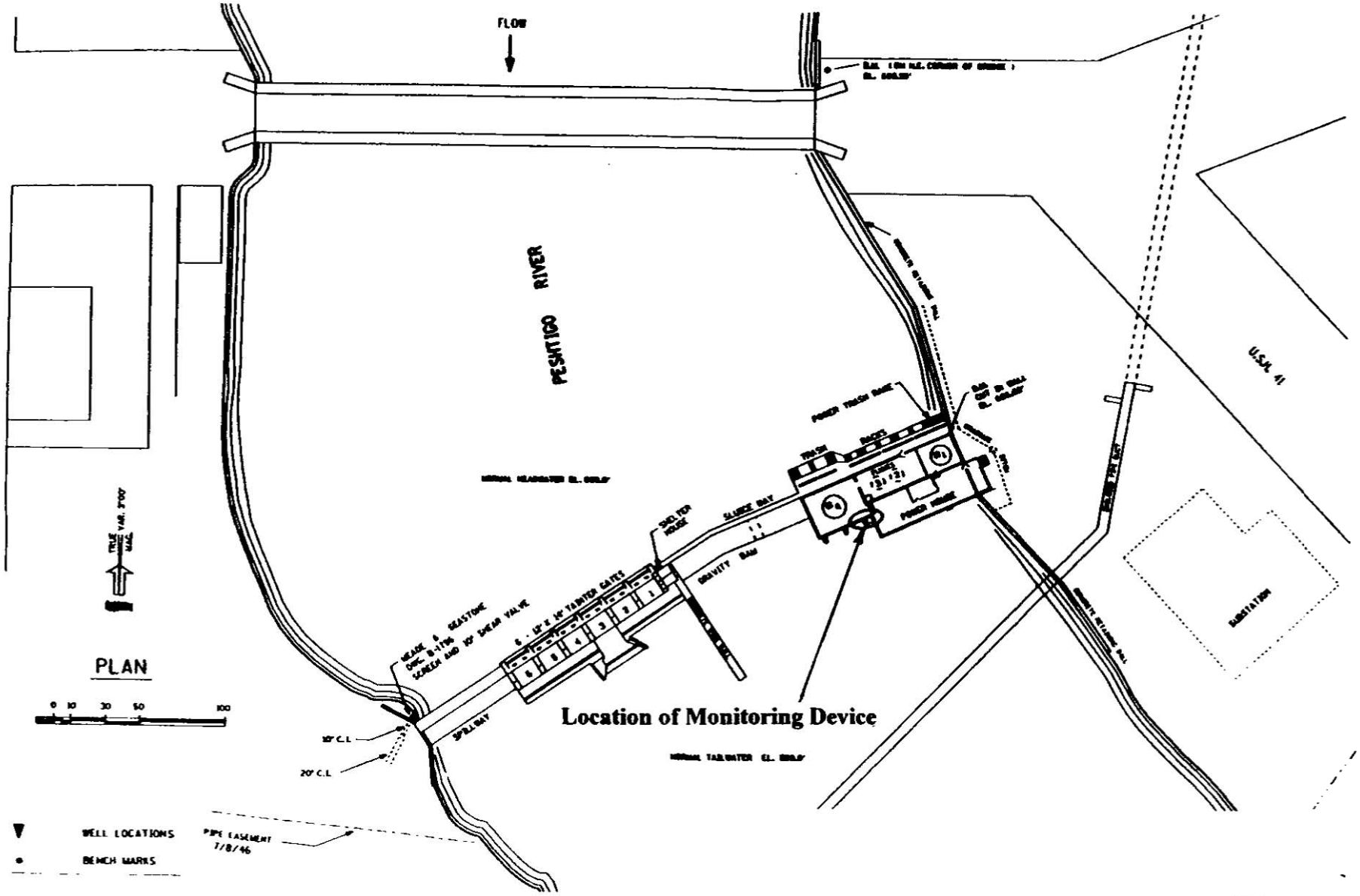
Sincerely,

Charles A. Schrock
Senior Vice President - Energy Supply

vav

cc: Mr. Ron Lesniak, FERC - Chicago
Mr. Ron Schmidt, WPSC - D2

**Figure 6**




PESHTIGO HYDRO PLANT
PLANT SITE LAYOUT

# Appendix 1

# Documentation of Consultation

**Wisconsin Public Service Corporation**
(a subsidiary of WPS Resources Corporation)
700 North Adams Street
P.O. Box 19002
Green Bay, WI 54307-9002

October 20, 1998

Mr. Tom Thuemler
Wisconsin Dept. of Natural Resources
101 N. Ogden Road
Peshtigo, WI 54157

Dear Mr. Thuemler:

As per our telephone conversation on October 20, 1998, I have scheduled a meeting at our Crivitz Hydro Operations Office for 9:00 a.m. on November 12, 1998. The agenda of the meeting will include discussions about placement of water quality monitoring equipment at each of the hydroelectric projects on the Peshtigo River (FERC Project No's: 2525, 2522, 2546, 2560, 2581, and 2595) accompanied by discussions about upstream/downstream water quality monitoring.

Our discussions may require a site visit to a few of the projects, at which time we will depart and visit the appropriate sites.

If you have any questions or have conflicts, please don't hesitate to telephone me at (920) 433-1094.

Sincerely,

Shawn C. Puzen
Environmental Analyst

vav

G:\WPDATA\98\SCP\Z1020THU.SCP

**Wisconsin Public Service Corporation**
(a subsidiary of WPS Resources Corporation)
700 North Adams Street
P.O. Box 19002
Green Bay, WI 54307-9002

October 20, 1998

Mr. Jim Fossum
U. S. Fish and Wildlife Service
1015 Challenger Court
Green Bay, WI 54311

Dear Jim:

As per our telephone conversation on October 20, 1998, I have scheduled a meeting at our Crivitz Hydro Operations Office for 9:00 a.m. on November 12, 1998. The agenda of the meeting will include discussions about placement of water quality monitoring equipment at each of the hydroelectric projects on the Peshtigo River (FERC Project No's: 2525, 2522, 2546, 2560, 2581, and 2595) accompanied by discussions about upstream/downstream water quality monitoring.

Our discussions may require a site visit to a few of the projects, at which time we will depart and visit the appropriate sites.

If you have any questions or have conflicts, please don't hesitate to telephone me at (920) 433-1094.

Sincerely,

Shawn C. Puzen
Environmental Analyst

vav

G:\WPDATA\98\SCP\Z1020FOS.SCP

**Wisconsin Public Service Corporation**
(a subsidiary of WPS Resources Corporation)
700 North Adams Street
P.O. Box 19002
Green Bay, WI 54307-9002

October 20, 1998

Mr. Bob Fletcher
Federal Energy Regulatory Commission
Mail Code: DPCA, HL 21.3
888 First Street, N.E.
Washington, D.C. 20426

Dear Bob:

As per our telephone conversation on October 20, 1998, I have scheduled a meeting at our Crivitz Hydro Operations Office for 9:00 a.m. on November 12, 1998. The agenda of the meeting will include discussions about placement of water quality monitoring equipment at each of the hydroelectric projects on the Peshtigo River (FERC Project No's: 2525, 2522, 2546, 2560, 2581, and 2595) accompanied by discussions about upstream/downstream water quality monitoring.

Our discussions may require a site visit to a few of the projects, at which time we will depart and visit the appropriate sites.

It would probably be most convenient for you to meet at the WPSC corporate office at 8:00 a.m. and follow us to the Crivitz Office.

I have included maps to our corporate office from area hotels.

If you have any questions or have conflicts, please don't hesitate to telephone me at (920) 433-1094.

Sincerely,

Shawn C. Puzen
Environmental Analyst

vav

Enclosures

**Wisconsin Public Service Corporation**
(a subsidiary of WPS Resources Corporation)
700 North Adams Street
P.O. Box 19002
Green Bay, WI 54307-9002

March 5, 1999

Mr. Jim Fossum
U.S. Fish and Wildlife Service
1015 Challenger Court
Green Bay, WI 54311

Mr. Tom Thuemler
Department of Natural Resources
101 N. Ogden Road
Peshtigo, WI 54157

Dear Mr. Fossum and Mr. Thuemler:

Caldron Falls Water Quality Monitoring Device Locations

WPSC would appreciate your comments and concerns associated with the placement of an upstream and downstream water quality monitoring device at the Caldron Falls Hydroelectric Project (FERC Project No.2525).

The enclosed map indicates the locations of both the upstream and downstream monitoring.

Please provide your comments within thirty days of receiving this letter. Thank you and I look forward to hearing from you very soon.

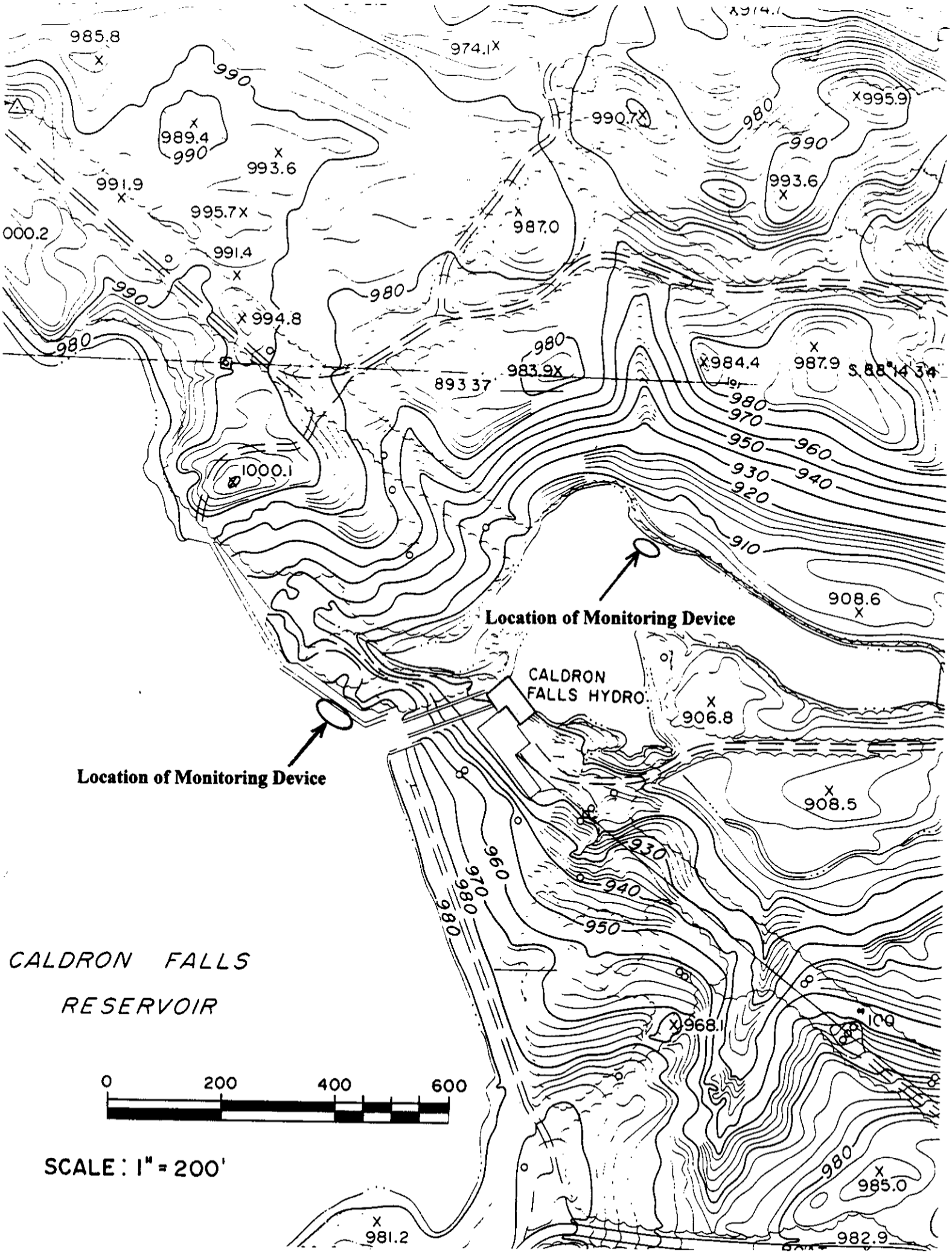
Sincerely,

Shawn C. Puzen
Environmental Analyst
Telephone: (920) 433-1094

vav

Enclosure

cc: Greg Egtvedt - A2
Ron Schmidt - D2
Bob Edwards - D2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S 88° 14' 34"
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970
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930
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920
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1000.1
908.6
Location of Monitoring Device
CALDRON
FALLS HYDRO
906.8
Location of Monitoring Device
908.5
930
940
950
960
970
980
980
968.1
109
980
985.0
981.2
982.9
CALDRON FALLS
RESERVOIR
0
200
400
600
SCALE : 1" = 200'

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March 5, 1999

Mr. Jim Fossum
U.S. Fish and Wildlife Service
1015 Challenger Court
Green Bay, WI 54311

Mr. Tom Thuemler
Department of Natural Resources
101 N. Ogden Road
Peshtigo, WI 54157

Dear Mr. Fossum and Mr. Thuemler:

High Falls Water Quality Monitoring Device Locations

WPSC would appreciate your comments and concerns associated with the placement of an upstream and downstream water quality monitoring device at the High Falls Hydroelectric Project (FERC Project No.2595).

The enclosed map indicates the location of the downstream monitoring device. The upstream monitoring will be accomplished through monitoring of the Caldron Falls Hydroelectric Project Tailwater, which is the next project upstream from High Falls.

Please provide your comments within thirty days of receiving this letter. Thank you and I look forward to hearing from you very soon.

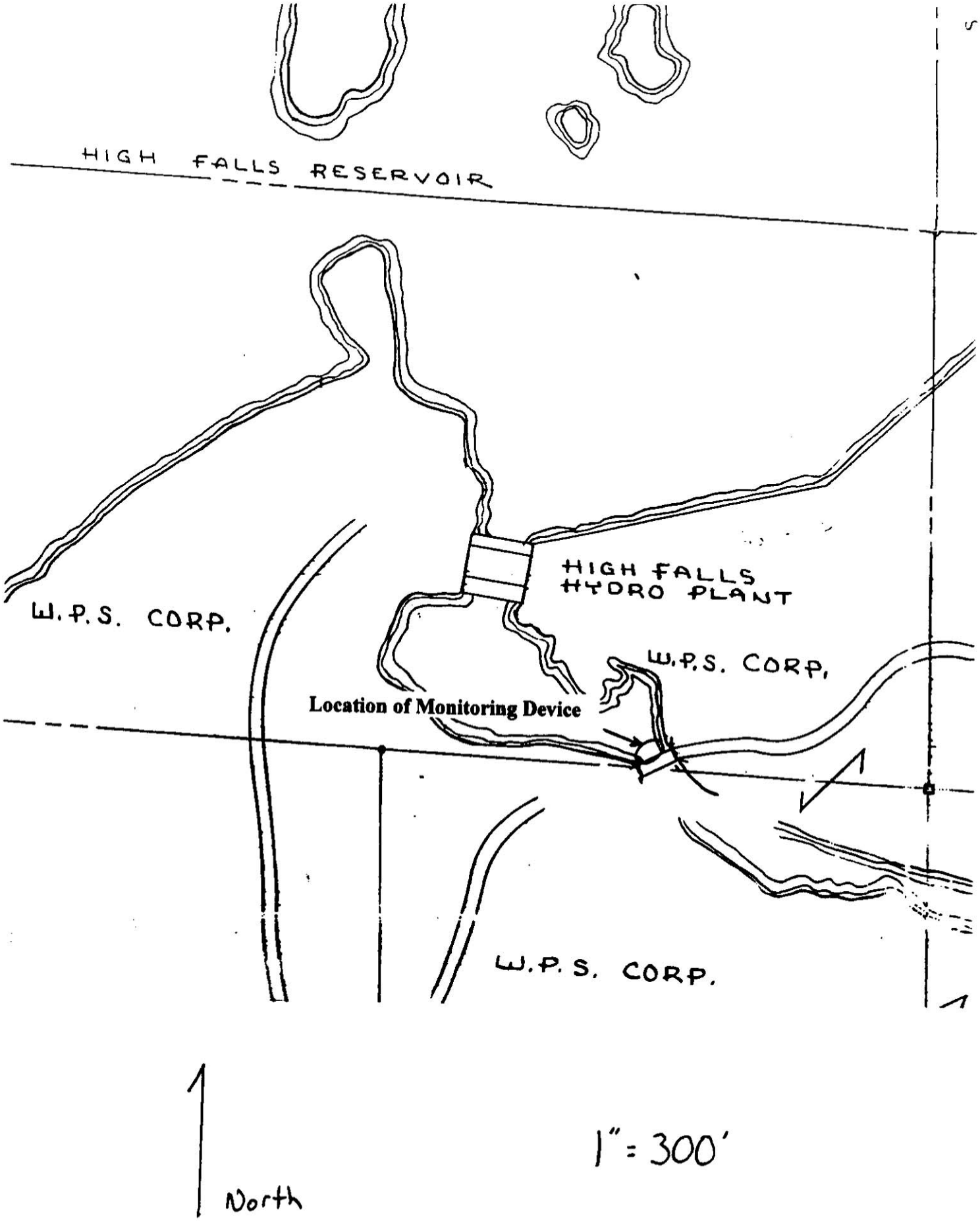
Sincerely,

Shawn C. Puzen
Environmental Analyst
Telephone: (920) 433-1094

vav

Enclosure

cc: Greg Egtvedt - A2
Ron Schmidt - D2
Bob Edwards - D2


HIGH FALLS RESERVOIR
HIGH FALLS HYDRO PLANT
W.P.S. CORP.
W.P.S. CORP.
Location of Monitoring Device
W.P.S. CORP.
North
1" = 300'

**Wisconsin Public Service Corporation**
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March 5, 1999

Mr. Jim Fossum
U.S. Fish and Wildlife Service
1015 Challenger Court
Green Bay, WI 54311

Mr. Tom Thuemler
Department of Natural Resources
101 N. Ogden Road
Peshtigo, WI 54157

Dear Mr. Fossum and Mr. Thuemler:

Johnson Falls Water Quality Monitoring Device Locations

WPSC would appreciate your comments and concerns associated with the placement of an upstream and downstream water quality monitoring device at the Johnson Falls Hydroelectric Project (FERC Project No.2522).

The enclosed map indicates the location of the downstream monitoring device. The upstream monitoring will be accomplished through monitoring of the High Falls Hydroelectric Project Tailwater, which is the next project upstream from Johnson Falls.

Please provide your comments within thirty days of receiving this letter. Thank you and I look forward to hearing from you very soon.

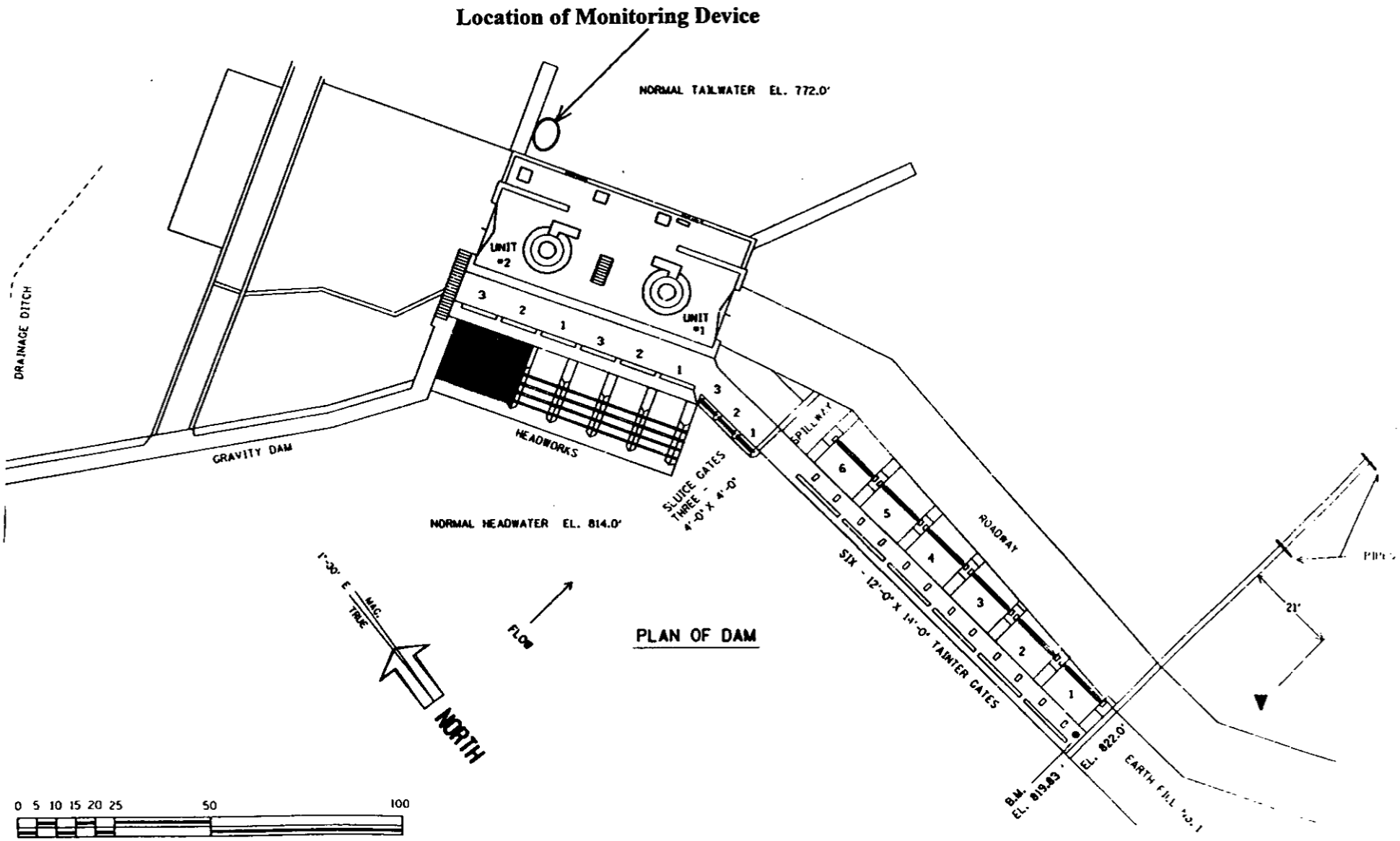
Sincerely,

Shawn C. Puzen
Environmental Analyst
Telephone: (920) 433-1094

vav

Enclosure

cc: ~~Greg Egtvedt - A2~~
Ron Schmidt - D2
Bob Edwards - D2


Location of Monitoring Device
NORMAL TAILWATER EL. 772.0'
DRAINAGE DITCH
UNIT #2
UNIT #1
GRAVITY DAM
HEADWORKS
SLUICE GATES THREE - 4'-0" X 4'-0"
SPILLWAY
ROADWAY
NORMAL HEADWATER EL. 814.0'
SIX - 12'-0" X 14'-0" TAINTER GATES
EL. 822.0'
EARTH FILL
B.M. EL. 819.83'
21'
PIPE
1°-30' E MAG. TRUE
NORTH
FLOW
PLAN OF DAM
0 5 10 15 20 25 50 100
JOHNSON FALLS HYDRO PLANT
PLANT SITE LAYOUT

**Wisconsin Public Service Corporation**
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700 North Adams Street
P.O. Box 19002
Green Bay, WI 54307-9002

March 5, 1999

Mr. Jim Fossum
U.S. Fish and Wildlife Service
1015 Challenger Court
Green Bay, WI 54311

Mr. Tom Thuemler
Department of Natural Resources
101 N. Ogden Road
Peshtigo, WI 54157

Dear Mr. Fossum and Mr. Thuemler:

Sandstone Rapids Water Quality Monitoring Device Locations

WPSC would appreciate your comments and concerns associated with the placement of an upstream and downstream water quality monitoring device at the Sandstone Rapids Hydroelectric Project (FERC Project No.2546).

The enclosed map indicates the location of the downstream monitoring device. The upstream monitoring will be accomplished through monitoring of the Johnson Falls Hydroelectric Project Tailwater, which is the next project upstream from Sandstone Rapids.

Please provide your comments within thirty days of receiving this letter. Thank you and I look forward to hearing from you very soon.

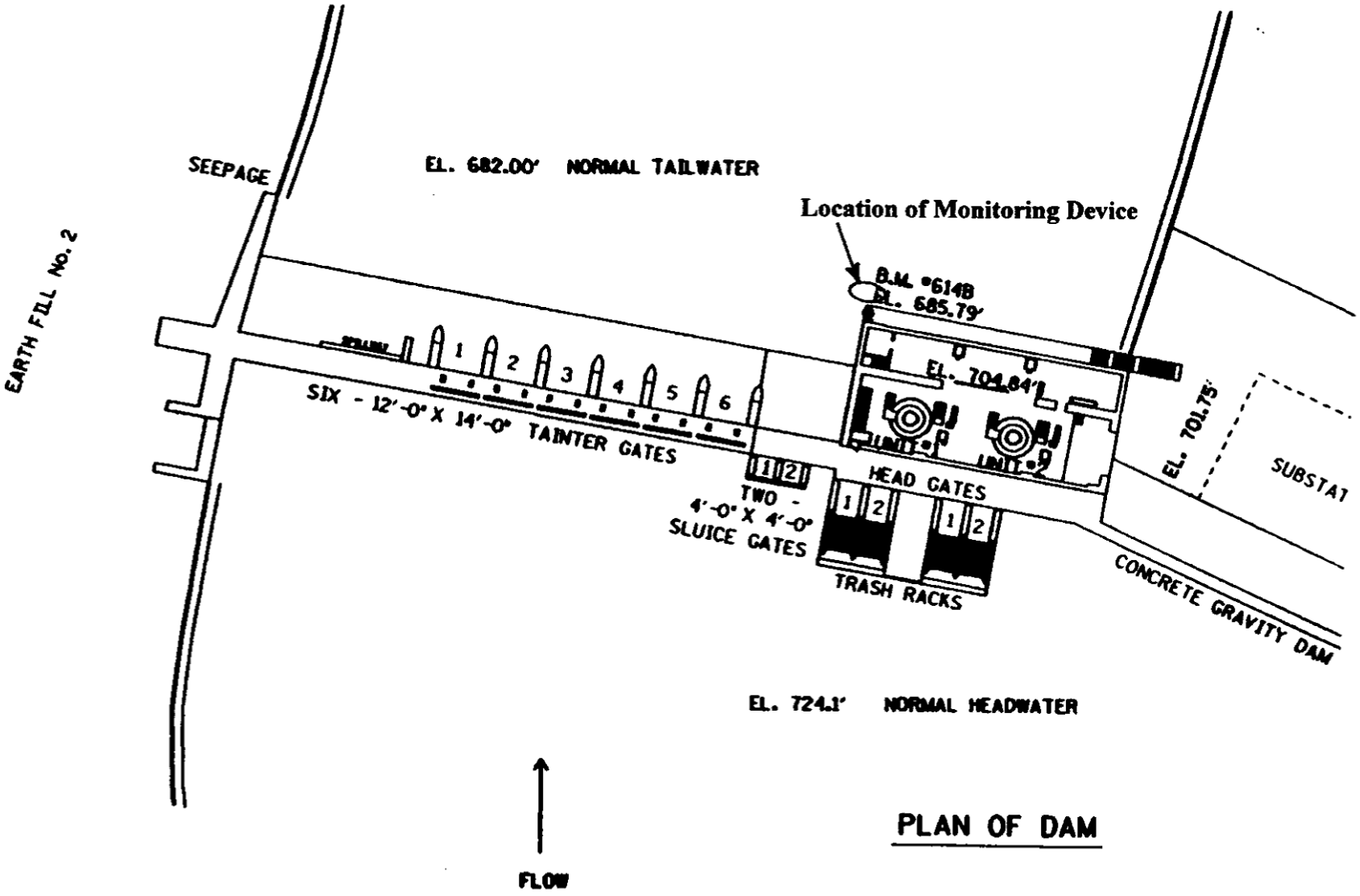
Sincerely,

Shawn C. Puzen
Environmental Analyst
Telephone: (920) 433-1094

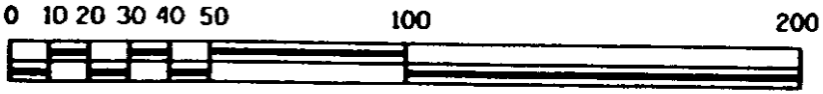
vav

Enclosure

cc: Greg Egtvedt - A2
Ron Schmidt - D2
Bob Edwards - D2


SEEPAGE
EL. 682.00' NORMAL TAILWATER
Location of Monitoring Device
B.M. #614B
EL. 685.79'
EARTH FILL NO. 2
1 2 3 4 5 6
SIX - 12'-0" X 14'-0" TAINTER GATES
EL. 704.84'
UNIT #1
UNIT #2
EL. 701.75'
SUBSTAT
1 2
TWO - 4'-0" X 4'-0" SLUICE GATES
HEAD GATES
1 2 1 2
TRASH RACKS
CONCRETE GRAVITY DAM
EL. 724.1' NORMAL HEADWATER
FLOW

## PLAN OF DAM


0 10 20 30 40 50 100 200

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March 5, 1999

Mr. Jim Fossum
U.S. Fish and Wildlife Service
1015 Challenger Court
Green Bay, WI 54311

Mr. Tom Thuemler
Department of Natural Resources
101 N. Ogden Road
Peshtigo, WI 54157

Dear Mr. Fossum and Mr. Thuemler:

Potato Rapids Water Quality Monitoring Device Locations

WPSC would appreciate your comments and concerns associated with the placement of an upstream and downstream water quality monitoring device at the Potato Rapids Hydroelectric Project (FERC Project No.2560).

The enclosed map indicates the locations of both the upstream and downstream monitoring.

Please provide your comments within thirty days of receiving this letter. Thank you and I look forward to hearing from you very soon.

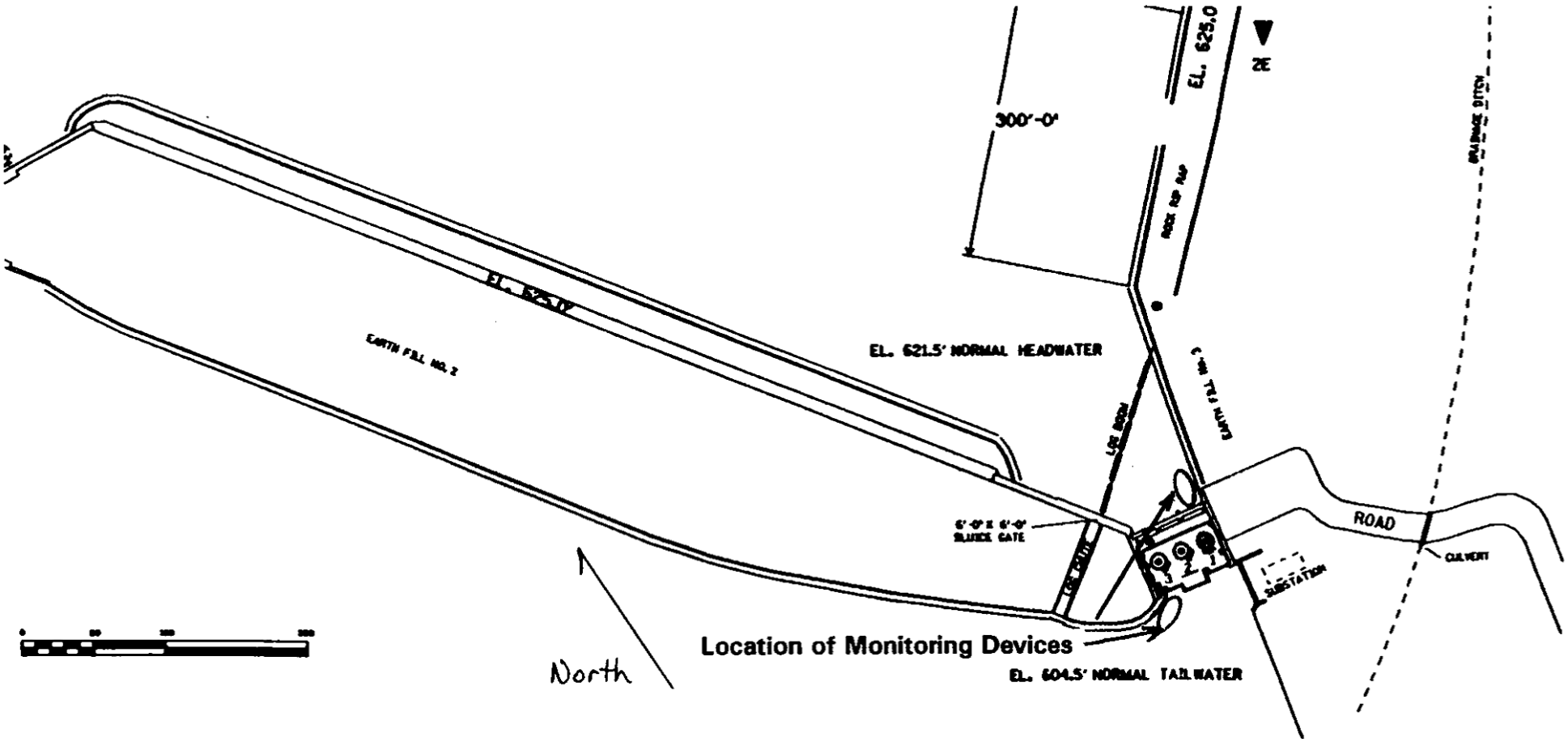
Sincerely,

Shawn C. Puzen
Environmental Analyst
Telephone: (920) 433-1094

vav

Enclosure

cc: Greg Egtvedt - A2
Ron Schmidt - D2
Bob Edwards - D2




POTATO RAPIDS HYDRO PLANT
PLANT SITE LAYOUT

**Wisconsin Public Service Corporation**
(a subsidiary of WPS Resources Corporation)
700 North Adams Street
P.O. Box 19002
Green Bay, WI 54307-9002

March 5, 1999

Mr. Jim Fossum
U.S. Fish and Wildlife Service
1015 Challenger Court
Green Bay, WI 54311

Mr. Tom Thuemler
Department of Natural Resources
101 N. Ogden Road
Peshtigo, WI 54157

Dear Mr. Fossum and Mr. Thuemler:

Peshtigo Water Quality Monitoring Device Locations

WPSC would appreciate your comments and concerns associated with the placement of an upstream and downstream water quality monitoring device at the Peshtigo Hydroelectric Project (FERC Project No.2581).

The enclosed map indicates the location of the downstream monitoring device. The upstream monitoring will be accomplished through monitoring of the Potato Rapids Hydroelectric Project Tailwater, which is the next project upstream from Peshtigo.

Please provide your comments within thirty days of receiving this letter. Thank you and I look forward to hearing from you very soon.

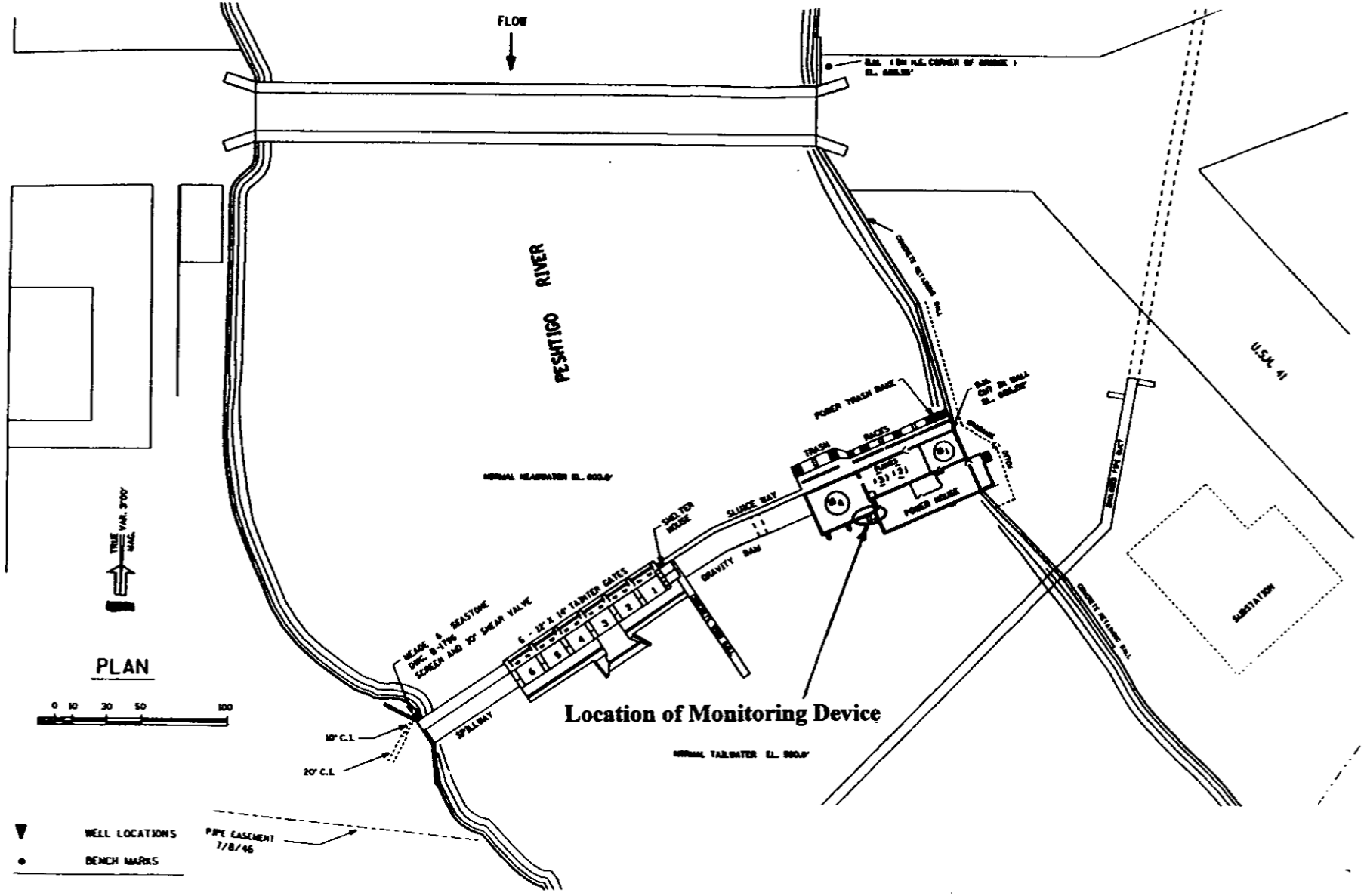
Sincerely,

Shawn C. Puzen
Environmental Analyst
Telephone: (920) 433-1094

vav

Enclosure

cc: ~~Greg Egtvedt - A2~~
Ron Schmidt - D2
Bob Edwards - D2




PESHTIGO HYDRO PLANT
PLANT SITE LAYOUT

WISCONSIN
DEPT. OF NATURAL RESOURCES

**State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES**

Tommy G. Thompson, Governor
George E. Meyer, Secretary
William R. Selbig, Regional Director

Peshtigo Service Center
101 N. Ogden Rd., P.O. Box 208
Peshtigo, Wisconsin 54157
Telephone 715-582-5000
FAX 715-582-5005

March 29, 1999

Mr. Shawn Puzen
Wisconsin Public Service Corp.
700 North Adams Street
P.O. Box 19002
Green Bay, WI 54307-9002

SUBJECT: Proposed Water Quality Monitoring Device Locations, FERC Project Nos. 2560, 2525, 2522, 2546, 2595, and 2581

Dear Shawn:

We have the following comments on your proposed locations to place water quality monitoring devices at your Peshtigo projects.

Caldron Falls Project, FERC No. 2525

Both the up and downstream locations that you have proposed for monitoring water quality at this project are unacceptable to us. The water quality-monitoring device should be placed above the flowage somewhere in the vicinity of the County Highway C Bridge. The location that you are proposing near the intake structure will not provide accurate information on the water quality entering the project. Similarly the site you are proposing below the project will not provide meaningful information on water quality below this project. We are concerned with the water quality in the pool immediately below the powerhouse. The location for the water quality monitoring device that you are proposing will not adequately represent the water quality in this pool. Article 409 of your license requires that water quality be monitoring immediately downstream of the dam.

We would suggest personnel from the agencies (Wisconsin Department of Natural Resources and the U. S. Fish and Wildlife Service) meet with you on site to determine the best location for your water quality monitoring devices both above and below this project.

High Falls Project, FERC No. 2595

The location you are proposing for the water quality monitoring device below the High Falls Project appears to be in a reasonable location, however we would suggest that the exact location be selected with the agency personnel during a site visit.

Johnson Falls Project, FERC No. 2522

We would suggest that the exact location for the placement of the water quality monitoring device be selected with the agency personnel during a site visit. The location proposed may be acceptable, however we would prefer to check this out during a site visit.

Sandstone Rapids Project, FERC No. 2546

We would suggest that the exact location for the placement of the water quality monitoring device be selected with the agency personnel during a site visit. The location proposed may be acceptable, however we would prefer to check this out during a site visit.

Potato Rapids Project, FERC No. 2560

The location that you are proposing for the upstream monitoring device is unacceptable to the Wisconsin Department of Natural Resources (WDNR). By placing the device at the northeast corner of the powerhouse you will not get a representative sample of the water quality above the project. With the operation of different turbine units at different times of the year there will be varying flow patterns coming into the powerhouse. This will impact water quality. We would suggest that you look for a location in the vicinity of the County Highway E bridge located above the impoundment. The exact locations of both the upstream and downstream water quality monitoring devices should be determined at an onsite meeting with representatives of the agencies.

Peshtigo Project, FERC No. 2581

We would suggest that the exact location for the placement of the water quality monitoring device be selected with the agency personnel during a site visit. The location proposed would not appear to give you a representative sample of the water quality downstream of this project.

We would propose to have a site visit to locate these water quality monitoring devices as soon as possible. We would like to make sure that water quality monitoring takes place during the 1999 season. If we can not reach accord on the placement of some of these devices, we will have to ask Federal Energy Regulatory Commission staff for a decision and this could take some time.

Thank you for the chance to comment on this and if you have any questions please feel free to contact me.

Sincerely,

Thomas F. Thuemler
Regional FERC Coordinator

Cc: Jim Fossum – FWS
Greg Sevener – Peshtigo
Robert Fletcher – FERC
C:\Data\word7\peshtigo water quality monitoring.doc

# Location of Water Quality Monitoring Devices

# Responses to WDNR Comments

Caldron Falls Project, FERC No. 2525

Both the up and downstream locations that you have proposed for monitoring water quality at this project are unacceptable to us. The water quality monitoring device should be placed above the flowage somewhere in the vicinity of the County Highway C Bridge. The location that you are proposing near the intake structure will not provide accurate information on the water quality entering the project. Similarly the site you are proposing below the project will not provide meaningful information on water quality below this project. We are concerned with the water quality in the pool immediately below the powerhouse. The location for the water quality monitoring device that you are proposing will not adequately represent the water quality in this pool. Article 409 of your license requires that water quality be monitoring immediately downstream of the dam.

Response:
The upstream monitoring device is proposed to be placed in a location that will assure that any dissolved oxygen levels that are below the state standards are not due to the operation of the facility. The WDNR request for monitoring above the flowage is unnecessary. Past monitoring of dissolved oxygen has proven that the dissolved oxygen situation is due to stratification of the reservoir. The idea of monitoring above the flowage to take into account any low dissolved oxygen conditions coming into the river system upstream is unnecessary because the river upstream from the project originates and flows through an undeveloped forested setting, which has no recorded point discharges and very little agricultural land. Furthermore, the entire Caldron Falls shoreline is under the ownership of WPSC and is kept in an undeveloped state, with the exception of project facilities. The river upstream of the reservoir is not representative of the conditions in the reservoir. The WDNR request for monitoring above the flowage is based upon the supposition that the presence of the reservoir is a direct result of project operations or "flow releases" which Article 409 is designed to monitor. WPSC retains the position that the reservoir is an existing feature that produces many benefits, including those for recreation and the fishery and the presence of the reservoir is an issue that is separate from the objective of Article 409. Therefore, the naturally occurring phenomenon (stratification) that occurs in the reservoir is not required to be monitored. Only the flow release from the project should be monitored and the WPSC recommendations for the location of monitoring devices reflect their flow release position.

The downstream monitoring device is proposed to be placed in a location that will determine the effectiveness of measures WPSC has implemented to increase the levels of dissolved oxygen in the tailwater. WPSC has been implementing efforts to increase the dissolved oxygen content of the water in the tailwater by redirecting water passed through the sluice gate directly into the tailrace. The warmer water (high in dissolved oxygen) does not immediately mix with the colder water (low in dissolved oxygen) leaking

through the wickett gates due to the water density differences. Therefore, WPSC is proposing to monitor the dissolved oxygen in a location which represents the conditions of the water being passed downstream of the project by monitoring in a location where complete mixing of the two types of water has taken place. A place that is within 300 feet of the tailrace structure or immediately downstream of the dam (See Figure 1).

We would suggest personnel from the agencies (Wisconsin Department of Natural Resources and the U. S. Fish and Wildlife Service) meet with you on site to determine the best location for your water quality monitoring devices both above and below this project.

Response:
WPSC does not believe it is necessary to determine the exact location of the monitoring device through a site visit with the WDNR because the past consultation record has proven an agreement on the locations is unlikely. The exact placement of the monitoring device is influenced by safety, ease of access, and protection from vandalism and theft. These factors are apparently not considered by the WDNR. Therefore, WPSC is providing an approximate location in the recommendations that will provide a format (location within the stream, proximity to the dam, etc.) which allows the agency concerns about the quality of data to be addressed.

<u>High Falls Project, FERC No. 2595</u>

The location you are proposing for the water quality monitoring device below the High Falls Project appears to be in a reasonable location, however we would suggest that the exact location be selected with the agency personnel during a site visit.

Response:
The proposed location of the downstream monitoring device is near the middle of the river and is attached to the concrete column supporting the bridge. WPSC does not believe it is necessary to determine the exact location of the monitoring device through a site visit with the WDNR because the past consultation record has proven an agreement on the locations is unlikely. The exact placement of the monitoring device is influenced by safety, ease of access, and protection from vandalism and theft. These factors are apparently not considered by the WDNR. Therefore, WPSC is providing an approximate location in the recommendations that will provide a format (location within the stream, proximity to the dam, etc.) which allows the agency concerns about the quality of data to be addressed.

<u>Johnson Falls Project, FERC No. 2522</u>

We would suggest that the exact location for the placement of the water quality monitoring device be selected with the agency personnel during a site visit. The location proposed may be acceptable, however we would prefer to check this out during a site visit.

Response:
The proposed location of the downstream monitoring device will remain the same as the location utilized for the relicensing water quality monitoring. The structure for retaining

the water quality monitoring device remains in place and requires no modification for the proposed location. The proposed location is in the tailwater outfall and is attached to the powerhouse structure itself. WPSC does not believe it is necessary to determine the exact location of the monitoring device through a site visit with the WDNR because the past consultation record has proven an agreement on the locations is unlikely. The exact placement of the monitoring device is influenced by safety, ease of access, and protection from vandalism and theft. These factors are apparently not considered by the WDNR. Therefore, WPSC is providing an approximate location in the recommendations that will provide a format (location within the stream, proximity to the dam, etc.) which allows the agency concerns about the quality of data to be addressed.

Sandstone Rapids Project, FERC No. 2546

We would suggest that the exact location for the placement of the water quality monitoring device be selected with the agency personnel during a site visit. The location proposed may be acceptable, however we would prefer to check this out during a site visit.

Response:
The proposed location of the downstream monitoring device will remain the same as the location utilized for the relicensing water quality monitoring. The structure for retaining the water quality monitoring device remains in place and requires no modification for the proposed location. The proposed location is in the tailwater outfall and is attached to the powerhouse structure itself. WPSC does not believe it is necessary to determine the exact location of the monitoring device through a site visit with the WDNR because the past consultation record has proven an agreement on the locations is unlikely. The exact placement of the monitoring device is influenced by safety, ease of access, and protection from vandalism and theft. These factors are apparently not considered by the WDNR. Therefore, WPSC is providing an approximate location in the recommendations that will provide a format (location within the stream, proximity to the dam, etc.) which allows the agency concerns about the quality of data to be addressed.

Potato Rapids Project, FERC No. 2560

The location that you are proposing for the upstream monitoring device is unacceptable to the Wisconsin Department of Natural Resources (WDNR). By placing the device at the northeast corner of the powerhouse you will not get a representative sample of the water quality above the project. With the operation of different turbine units at different times of the year there will be varying flow patterns coming into the powerhouse. This will impact water quality. We would suggest that you look for a location in the vicinity of the County Highway E bridge located above the impoundment. The exact locations of both the upstream and downstream water quality monitoring devices should be determined at an onsite meeting with representatives of the agencies.

Response:
The proposed location of the upstream monitoring device has been modified by moving the location approximately 100 feet to the north along the wingwall away from the powerhouse to address the concerns associated with the operation of different turbine

units provided in the WDNR comments. The location of the downstream monitoring device will remain the same as the location utilized for the relicensing water quality monitoring. The structure for retaining the water quality monitoring device remains in place and requires no modification for the proposed location. The proposed location is in the tailwater outfall and is attached to the dam structure itself. WPSC does not believe it is necessary to determine the exact location of the monitoring device through a site visit with the WDNR because the past consultation record has proven an agreement on the locations is unlikely. The exact placement of the monitoring device is influenced by safety, ease of access, and protection from vandalism and theft. These factors are apparently not considered by the WDNR. Therefore, WPSC is providing an approximate location in the recommendations that will provide a format (location within the stream, proximity to the dam, etc.) which allows the agency concerns about the quality of data to be addressed.

Peshtigo Project, FERC No. 2581

We would suggest that the exact location for the placement of the water quality monitoring device be selected with the agency personnel during a site visit. The location proposed would not appear to give you a representative sample of the water quality downstream of this project.

Response:
The proposed location of the downstream monitoring device will remain the same as the location utilized for the relicensing water quality monitoring. The structure for retaining the water quality monitoring device remains in place and requires no modification for the proposed location. The proposed location is in the tailwater outfall and is attached to the powerhouse structure itself. WPSC does not believe it is necessary to determine the exact location of the monitoring device through a site visit with the WDNR because the past consultation record has proven an agreement on the locations is unlikely. The exact placement of the monitoring device is influenced by safety, ease of access, and protection from vandalism and theft. These factors are apparently not considered by the WDNR. Therefore, WPSC is providing an approximate location in the recommendations that will provide a format (location within the stream, proximity to the dam, etc.) which allows the agency concerns about the quality of data to be addressed.

We would propose to have a site visit to locate these water quality monitoring devices as soon as possible. We would like to make sure that water quality monitoring takes place during the 1999 season. If we can not reach accord on the placement of some of these devices, we will have to ask Federal Energy Regulatory Commission staff for a decision and this could take some time.

Response:
WPSC wishes to begin monitoring in the first year of the new operating regimes as outlined by the Order on Rehearing dated March 15, 1999. Therefore, WPSC is requesting a Commission review of its recommendations and a decision for the placement of the water quality monitoring devices for the Caldron Falls, High Falls, Johnson Falls, Sandstone Rapids, Potato Rapids, and Peshtigo Projects. Based upon the past record of consultation, WPSC does not believe an agreement on the placement of the devices can be achieved even through an on-site visit to each of the projects.

**The U.S. Fish and Wildlife Service did not respond within 30 days.**