

**CENTRAL VERMONT PUBLIC SERVICE CORPORATION
MIDDLEBURY LOWER (P-2737) AND WEYBRIDGE (P-2731) PROJECTS**

LOW IMPACT HYDROPOWER CERTIFICATION APPLICATION

ATTACHMENT C - PROJECT DESCRIPTION

MIDDLEBURY LOWER HYDROELECTRIC PROJECT (P-2737)

The Middlebury Lower Project is located on the Lower Falls of the Otter Creek roughly one mile downstream from Middlebury village in the towns of Middlebury and Weybridge, in Addison County, Vermont. The impoundment extends almost 1.0 mile upstream to the Upper Falls at the center of Middlebury Village. The Sutherland Falls Project (P-2558) is located approximately 37 miles upstream, and the Beldens Project is located approximately 4 miles downstream. Both are part of Otter Creek Hydro.

The Project consists of a concrete gravity dam, an impoundment, an intake canal, a powerhouse, transmission facilities, and appurtenant facilities in a complex of four buildings and seven structures, situated mostly along the sloping east bank of the rocky cascades.

Two concrete gravity dams impound the east and west river channels that diverge around a small island. The dam is 30 feet high and 478 feet long, with two ogee spillway sections, a 123-foot long western spillway section, and a 260-foot long eastern spillway section. The reservoir impounds 16 acres, with a normal water surface elevation of 314.5 feet above mean sea level (msl). The intake canal is 400 feet long, 40 feet wide, and controlled by a gate structure containing two 23-foot wide, 13-foot high gates.



The powerhouse is located at the downstream end of the intake canal, and equipped with steel trashracks having a 1.75 inch clear spacing. Three Francis turbine units provide a total installed capacity of 2.25 MW. Appropriate generator leads and transformers connect the Project to the interconnected transmission/distribution system at the switchyard located 100 feet east of the powerhouse.

The Middlebury Lower Project is operated as a run-of-river facility. The impoundment elevation typically fluctuates not more than 1 inch from the crest elevation of 314.5 feet during normal operation, and water generally spills over the crest of the dam. Project operation relies upon inflows from upstream developments and the 628 square miles of the Otter Creek drainage basin.

**CENTRAL VERMONT PUBLIC SERVICE CORPORATION
MIDDLEBURY LOWER (P-2737) AND WEYBRIDGE (P-2731) PROJECTS**

LOW IMPACT HYDROPOWER CERTIFICATION APPLICATION

ATTACHMENT C - PROJECT DESCRIPTION

WEYBRIDGE HYDROELECTRIC PROJECT (P-2731)

Situated at the head of a rock-walled gorge where the Otter Creek cascades around a small island, the Weybridge Project is located in the towns of Weybridge and New Haven. The Project forms a compact cluster of buildings and structures around the divided falls at the upstream end of an island. The riverbank corridor within the Project follows the impoundment about 1.5 miles upstream to Huntington Falls (part of Otter Creek Hydro P-2558), and reaches 2 miles downstream from the powerhouse falls. The Vergennes Project (P-2674) is located approximately 12 miles downstream.

The Weybridge Project consists of a concrete gravity dam with integral powerhouse, a 62-acre impoundment, transmission facilities and appurtenant facilities, including an electrical substation, and the inactive original powerhouse. The dam is 30 feet high and 302.6 feet long with two spillway sections: a 150-foot long west spillway section, topped with a 6-foot high hinged steel flashboard, and abutted by a 20-foot wide and 10-foot high taintor gate; and a 116-foot long east spillway section topped with an automatically-inflated rubber weir. The reservoir is 1.5 miles long, impounding 62 acres with a normal water surface elevation of 174.3 feet msl.

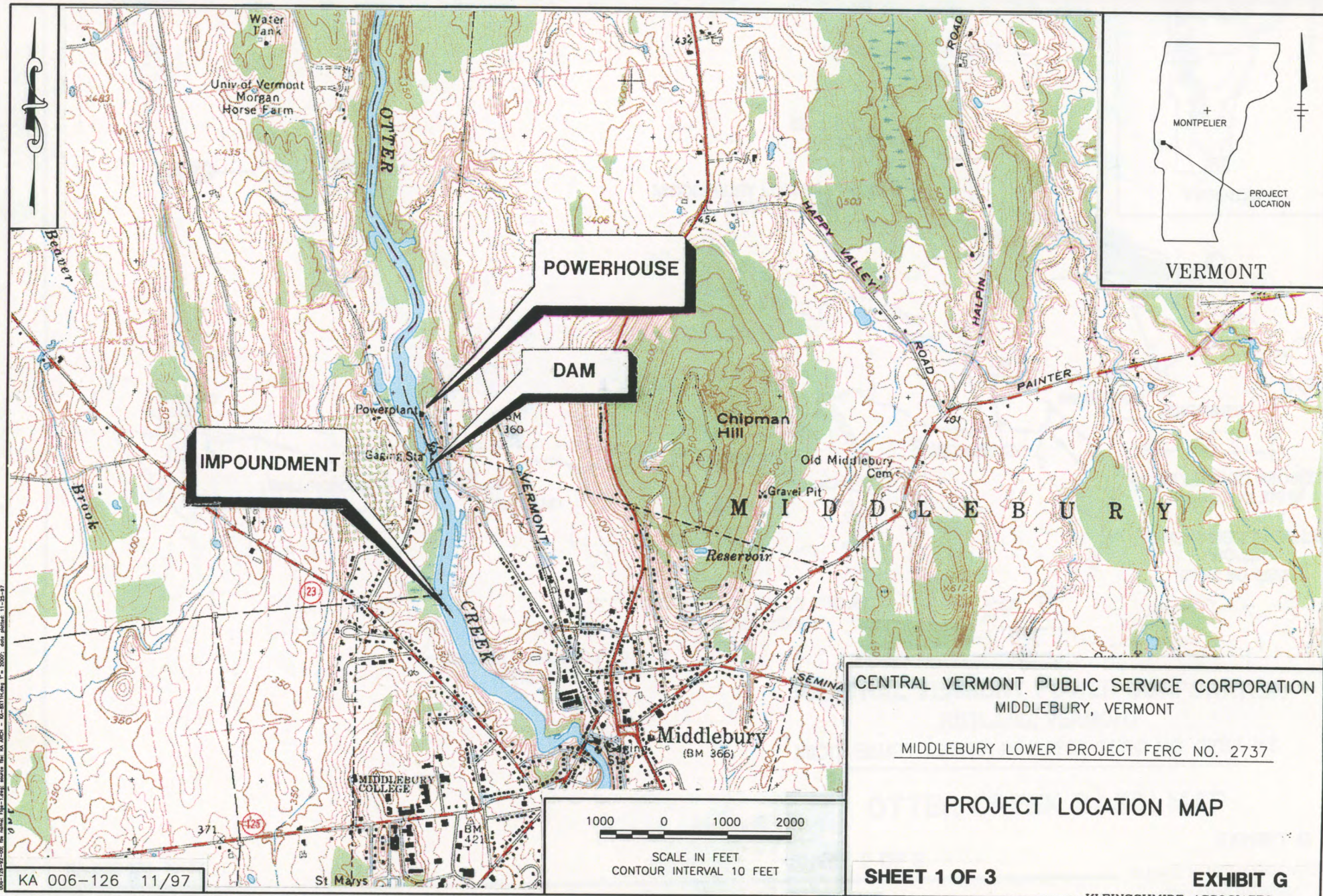


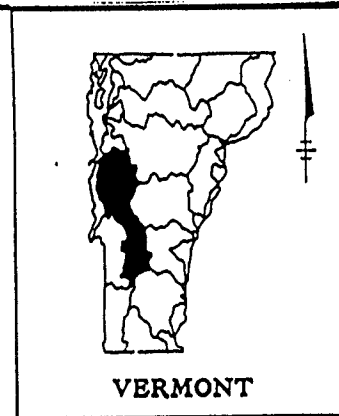
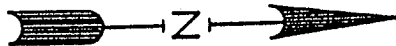
The powerhouse is integral with the dam and has an intake with 3-inch steel trashracks. There is one vertical Kaplan turbine generator with an installed capacity of 3.0 MW. Appropriate generator leads and transformers connect the Project to the interconnected transmission and distribution system at the switchyard located about 100 feet from the powerhouse.

The Project operates as a daily cycling facility during normal and low flow conditions. Cycling is suspended from April 1 to June 15 to protect fish spawning. The Project operates in a run-of-river mode when flows exceed its hydraulic capacity of 1,600 cubic feet per second.

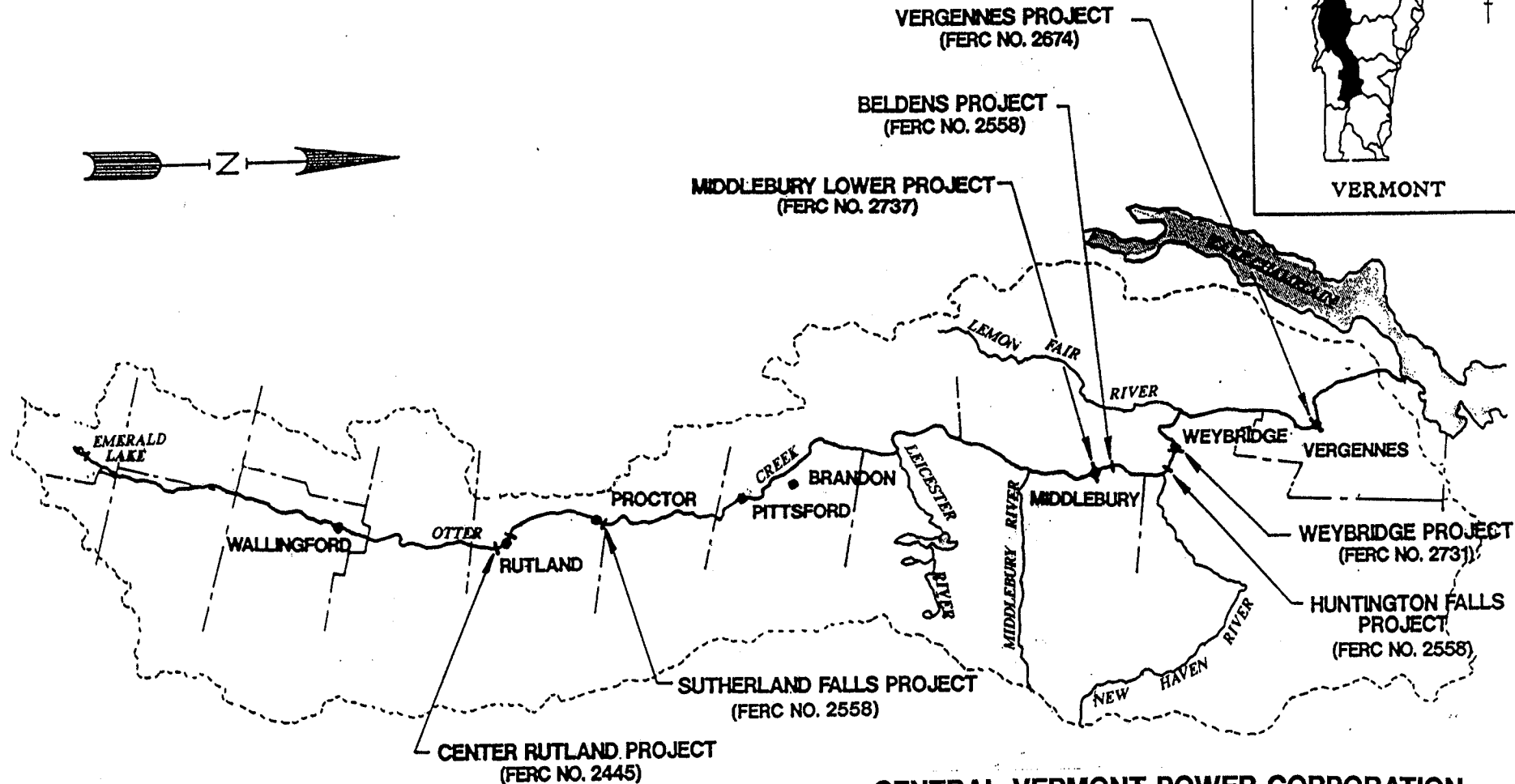
A diversion structure extends from the downstream end of the dam at Rock Island to another small island at the entrance to the bypass channel, and around another island (Wyman Island), reappportioning the flow in the bypassed (west) and tailrace (east) channels. The diversion structure includes a control weir with stop log slots at the downstream end, at the entrance to the west channel. A 15-foot wide by 3.5-foot high notch in the control weir passes water from the pool formed by the control weir and the diversion structure, downstream into the west channel around Wyman Island.







VERMONT

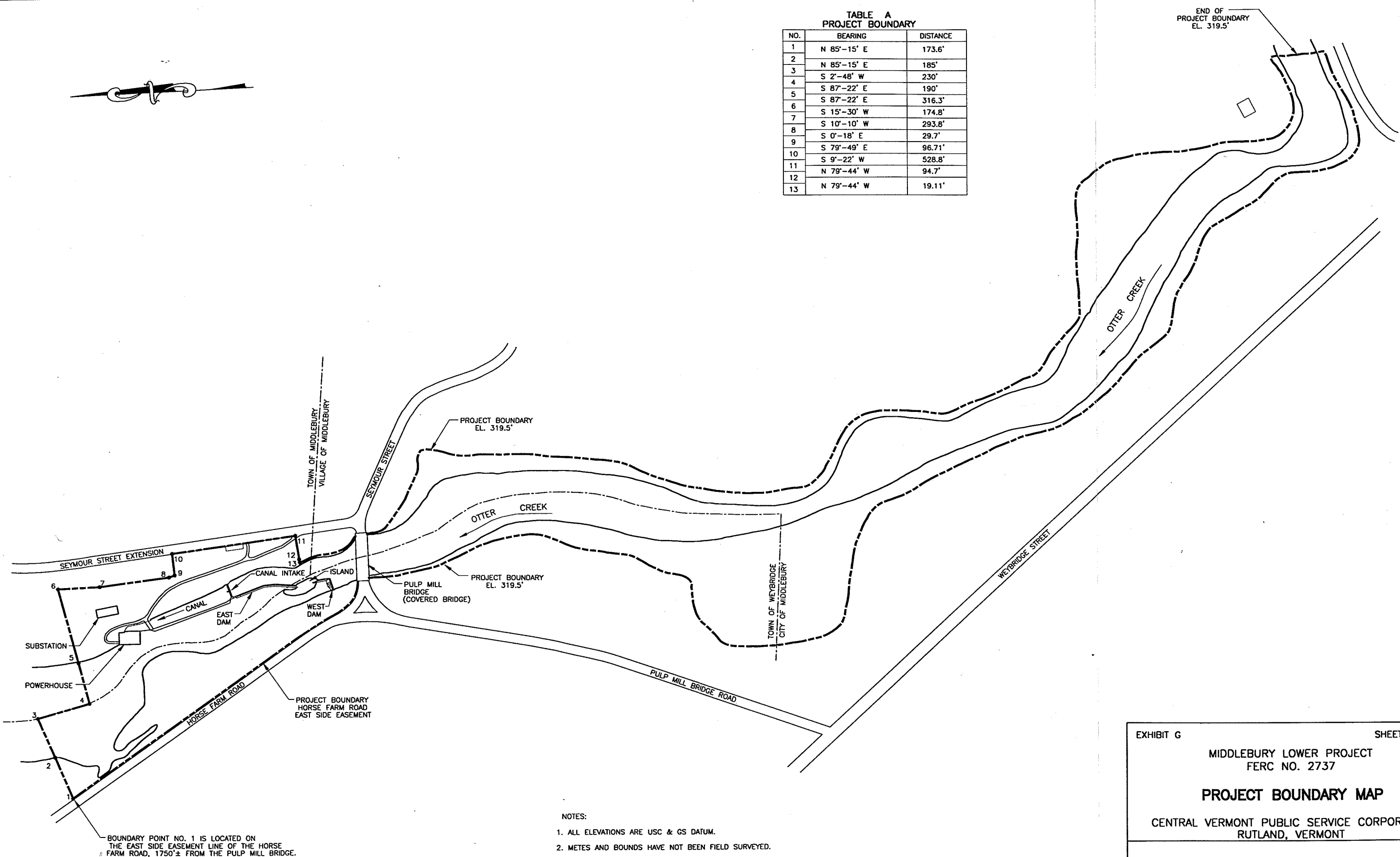


CENTRAL VERMONT POWER CORPORATION
RUTLAND, VERMONT
MIDDLEBURY LOWER PROJECT FERC NO. 2737-VT

OTTER CREEK BASIN MAP

EXHIBIT G

TABLE A PROJECT BOUNDARY		
NO.	BEARING	DISTANCE
1	N 85°-15' E	173.6'
2	N 85°-15' E	185'
3	S 2°-48' W	230'
4	S 87°-22' E	190'
5	S 87°-22' E	316.3'
6	S 15°-30' W	174.8'
7	S 10°-10' W	293.8'
8	S 0°-18' E	29.7'
9	S 79°-49' E	96.71'
10	S 9°-22' W	528.8'
11	N 79°-44' W	94.7'
12	N 79°-44' W	19.11'
13	N 79°-44' W	19.11'



NOTES:

- ALL ELEVATIONS ARE USC & GS DATUM.
- METES AND BOUNDS HAVE NOT BEEN FIELD SURVEYED.
- THE APPLICANT OWNS BY DEED OR EASEMENT ALL LANDS OR FLOWAGE RIGHTS NECESSARY TO OPERATE THE EXISTING PROJECT. CVPS HAS EXCEPTED THOSE LANDS NEEDED FOR ITS SYSTEM TRANSMISSION LINE AND SUBSTATION FROM THE PROJECT BOUNDARY. THIS EXCEPTION INCLUDES THE RIGHT OF ACCESS TO OPERATE AND MAINTAIN THOSE FACILITIES. IN ADDITION, THE APPROPRIATE STATE AND OR LOCAL MUNICIPALITIES HAVE A RIGHT-OF-WAY THROUGH THE PROJECT BOUNDARY FOR THE USE AND MAINTENANCE OF THE PULP MILL BRIDGE OVER OTTER CREEK.

200 0 200 400
SCALE IN FEET

EXHIBIT G SHEET 3 OF 3

MIDDLEBURY LOWER PROJECT
FERC NO. 2737

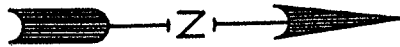
PROJECT BOUNDARY MAP

CENTRAL VERMONT PUBLIC SERVICE CORPORATION
RUTLAND, VERMONT

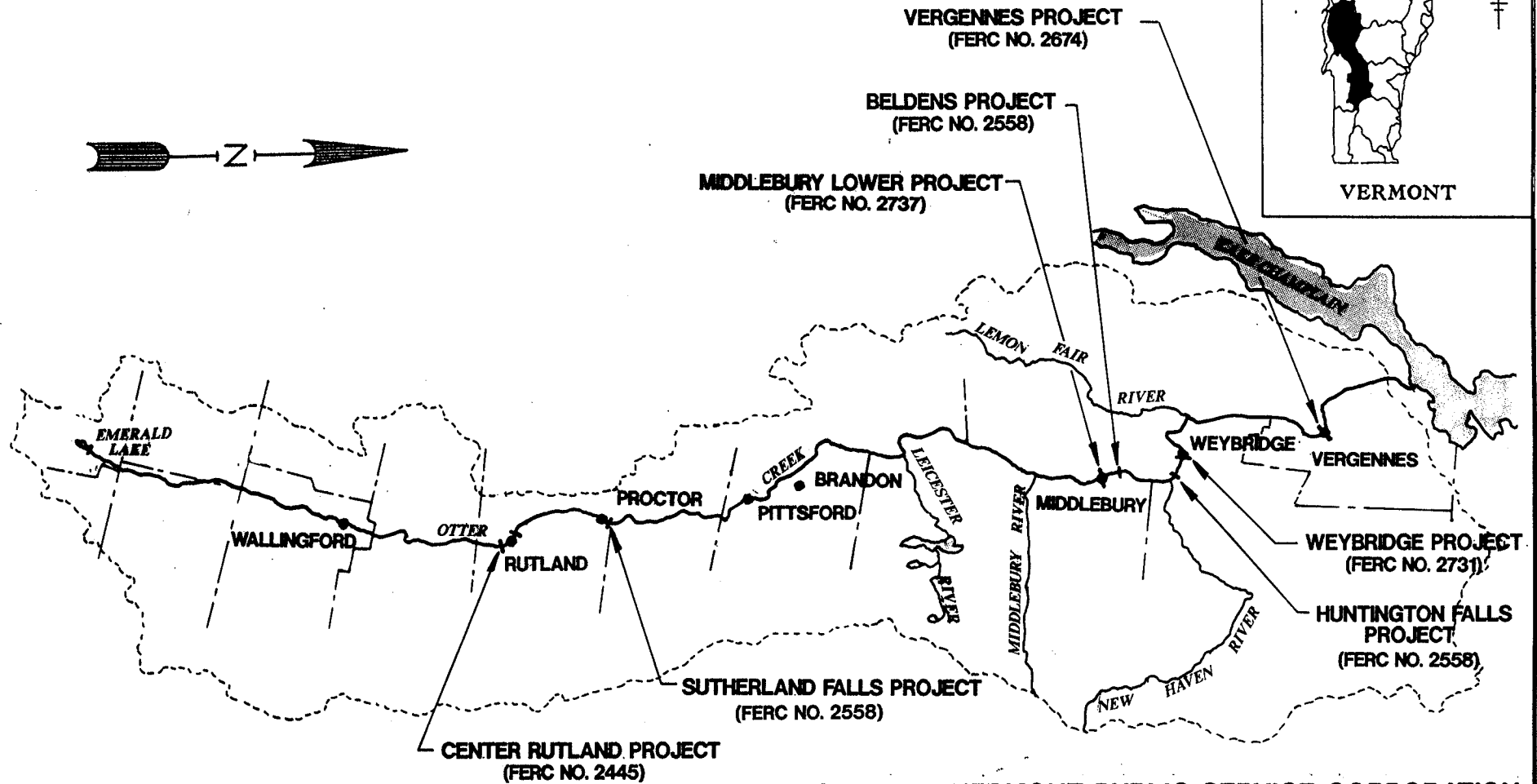
KA 006-126 6/98

KA Kleinschmidt Associates
Consulting Engineers
Pittsfield, Maine

SHEET NO.	OF	Drawn by:	HWF	Date:	6-12-98	Date:	Chkd:	Revision
B-		Checked by:		Date:				
		Approved by:		Date:				
		Scale:	1" = 200'					



VERMONT

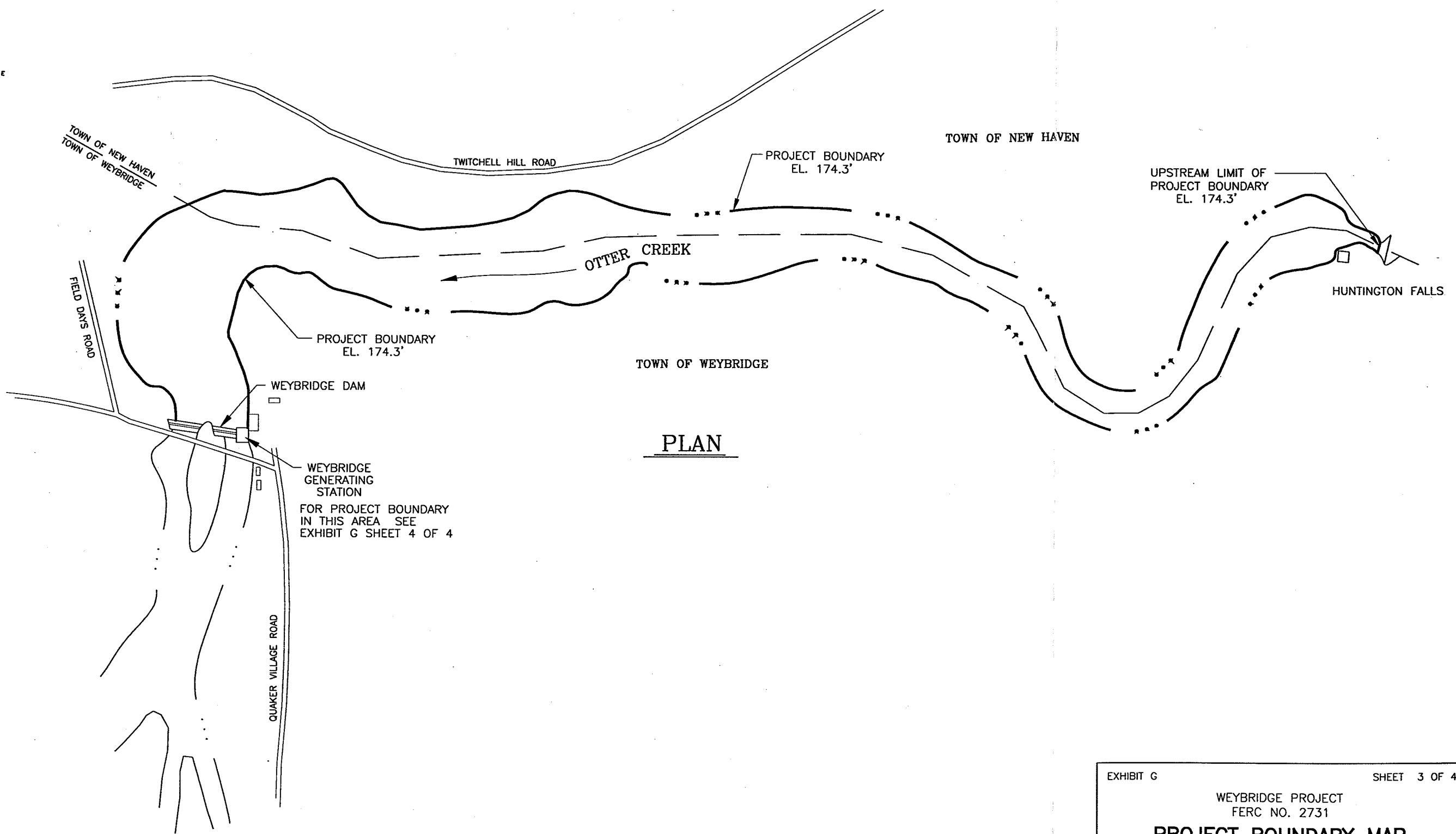


CENTRAL VERMONT PUBLIC SERVICE CORPORATION
RUTLAND, VERMONT
WEYBRIDGE PROJECT FERC NO. 2731

OTTER CREEK BASIN MAP

EXHIBIT G

SHEET 2 OF 4



PLAN

EXHIBIT G SHEET 3 OF 4

WEYBRIDGE PROJECT
FERC NO. 2731
PROJECT BOUNDARY MAP

CENTRAL VERMONT PUBLIC SERVICE CORPORATION
RUTLAND, VERMONT



KA 006-126 5/98



Kleinschmidt Associates
Consulting Engineers
Pittsfield, Maine

SHEET NO.	Drawn by: D. QUA	Date: 5/19/98	Date	Chkd.	Revision
OF	Checked by:	Date:			
B-	Approved by:	Date:			
	Scale: AS SHOWN				

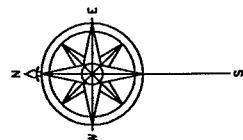
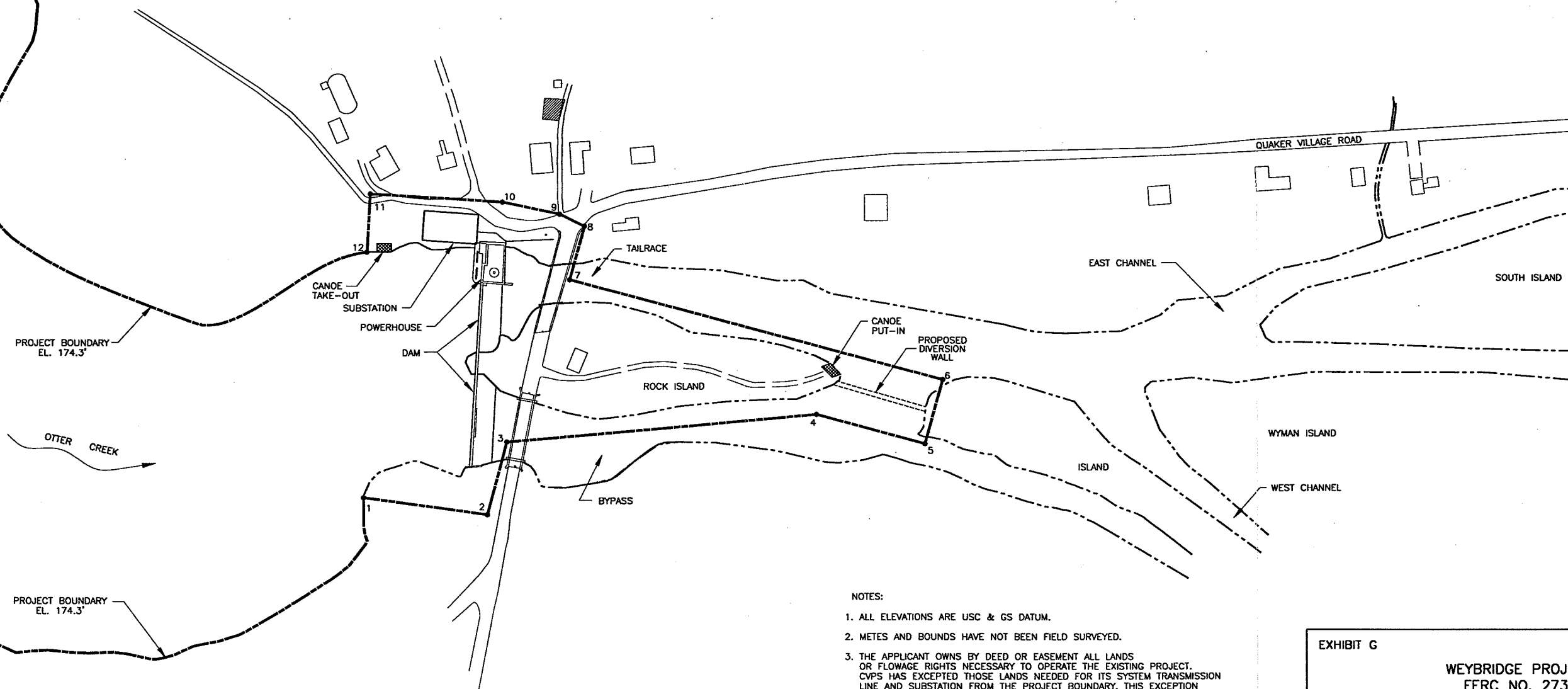


TABLE A PROJECT BOUNDARY		
NO.	BEARING	DISTANCE
1	S 7°-46'-51" W	205.64'
2	S 74°-45'-14" E	124.59'
3	S 4°-59'-13" E	511.67'
4	S 15°-14'-46" W	180.23'
5	S 74°-45'-14" E	106.00'
6	N 15°-14'-46" E	636.16'
7	S 74°-45'-14" E	91.94'
8	N 26°-21'-34" E	45.27'
9	N 11°-58'-24" E	96.30'
10	N 3°-27'-16" E	218.52'
11	N 86°-32'-45" W	96.72'
12		



- NOTES:
1. ALL ELEVATIONS ARE USC & GS DATUM.
 2. METES AND BOUNDS HAVE NOT BEEN FIELD SURVEYED.
 3. THE APPLICANT OWNS BY DEED OR EASEMENT ALL LANDS OR FLOWAGE RIGHTS NECESSARY TO OPERATE THE EXISTING PROJECT. CVPS HAS EXCEPTED THOSE LANDS NEEDED FOR ITS SYSTEM TRANSMISSION LINE AND SUBSTATION FROM THE PROJECT BOUNDARY. THIS EXCEPTION INCLUDES THE RIGHT OF ACCESS TO OPERATE AND MAINTAIN THOSE FACILITIES. IN ADDITION, THE TOWN OF WEYBRIDGE HAS A RIGHT-OF-WAY THROUGH THE PROJECT BOUNDARY FOR QUAKER VILLAGE ROAD AND THE BRIDGE OVER OTTER CREEK. THE TOWN ALSO HAS RIGHT OF ACCESS TO MAINTAIN THOSE STRUCTURES.
 4. LOCATION OF BOUNDARY POINT NO. 1 IS APPROXIMATE.

EXHIBIT G SHEET 4 OF 4

WEYBRIDGE PROJECT
FERC NO. 2731

PROJECT BOUNDARY DETAIL MAP

CENTRAL VERMONT PUBLIC SERVICE CORPORATION
RUTLAND, VERMONT

KA 006-126 5/98

KA Kleinschmidt Associates
Consulting Engineers
Pittsfield, Maine

SHEET NO.	Drawn by: <u>D. QUA</u>	Date: <u>5-19-98</u>	Date:	Chkd:	Revision
OF	Checked by: <u>ADO</u>	Date: <u>5-20-98</u>			
	Approved by: _____	Date: _____			
R-	Scale: <u>AS SHOWN</u>				

100 0 100 200
SCALE IN FEET