

CITY HALL
1933



City of Ellsworth Fire Department

P.O. BOX 586
ELLSWORTH, MAINE 04605-0586
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Ellsfd@downeast.net

May 27, 2003

Branch Lake Emergency Response Plan

Mr. Steve Burgess
Maine Emergency Management Agency
State House Station 72
Camp Keyes, Augusta, Maine 04333-0072

Dear Mr. Burgess,

Here is the City of Ellsworth emergency action plan for the Branch Lake Dam. Dam # ME00265. This plan was approved and signed following a public hearing and action by the Ellsworth City Council on May 12, 2003.

Should you have any further questions or concerns please give me a call.

Sincerely,

A handwritten signature in cursive script that reads "R. B. McKenney".

Robert B. McKenney
Fire Chief

cc: City Manager Tim King

1-A

**MONITORING AND EMERGENCY WARNING PLAN
AND PROCEDURES**

**FOR THE
Branch Lake Dam
NID# ME00265**

**LOCATED AT
Ellsworth, Hancock, Maine
(City (County)
Owned by
City of Ellsworth**

ISSUE DATE: May 12, 2003

REVISED DATE:

City of Ellsworth
Non Federal Dam Emergency Action Plan

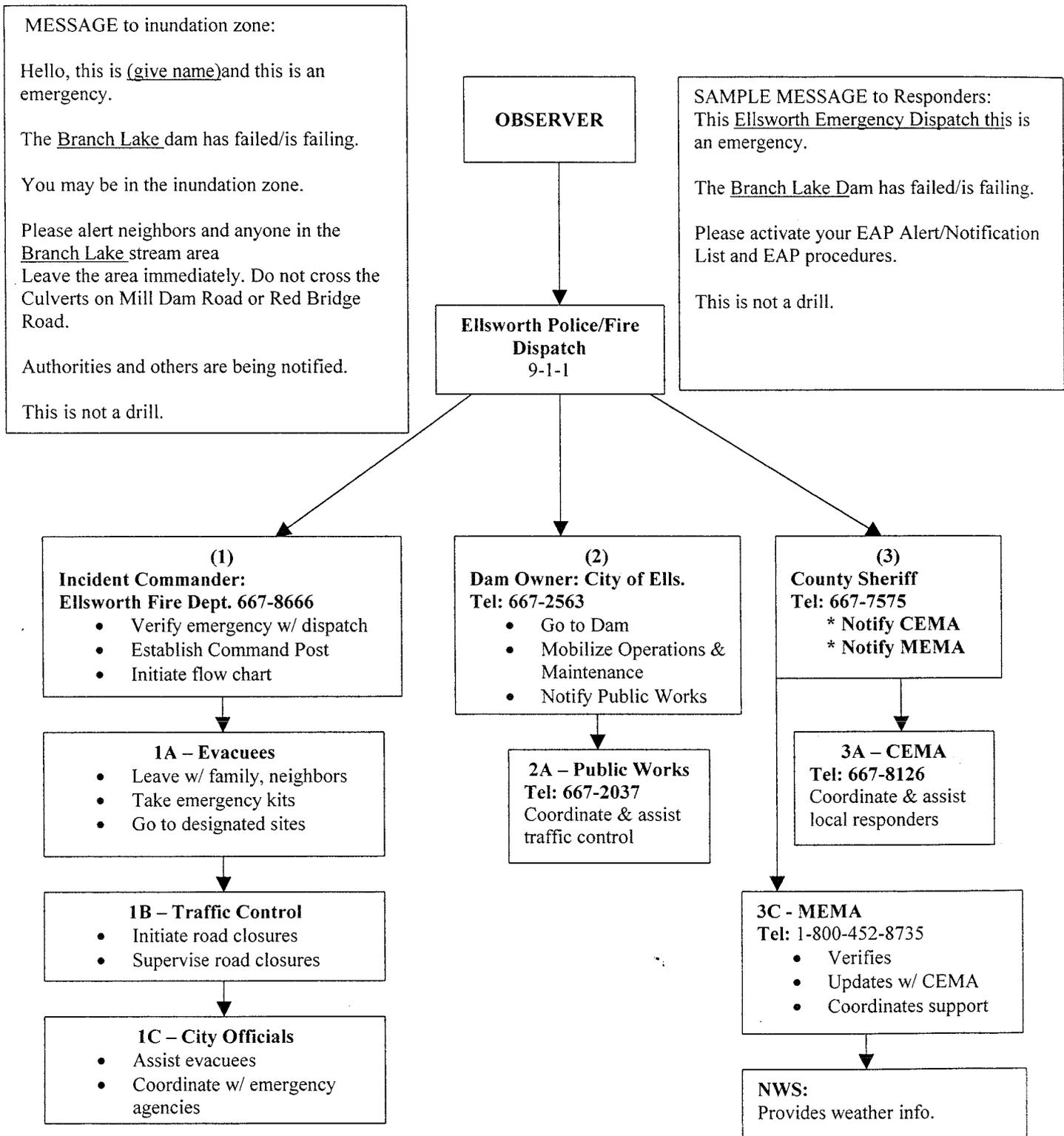
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1. Investigation and analysis of dam break floods
2. Plan for E.A.P. training, updating posting
3. Site-specific concerns
4. E.A.P. Approval Authentication

Emergency Action Plan
For Non Federal Maine Dams

Part I) Branch Lake Dam Emergency Action Plan



Legend: 1,2, etc = Priority of Call
CEMA = County Emergency Management Agency
MEMA = Maine Emergency Management Agency
NWS = National Weather Service

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PART 11 Branch Lake Dam Emergency Action Plan

1. Purpose.

The sudden release of water stored behind the Branch Lake Dam may present a potential hazard to downstream inhabitants and property. To minimize the chances for loss of life and damage to property, it is important to respond quickly to a potentially hazardous situation and to provide a coordinated effort that clearly assigns major areas of responsibility.

The first few minutes of time following the observance or realization of an actual or impending failure often make the difference between disjointed and ineffective actions and a coordinated and effective response.

This plan is intended to outline a coordinated and effective emergency response. It is essential that the proper organizations and agencies be notified on a timely basis so that properly trained people can perform the functions they are qualified to do. Local responders have been involved in the development of this plan, and it is exercised periodically.

2. Distribution.

a. The Notification Flowchart will be prominently posted at the dam site nearest public access to facilitate use by observers equipped with cellular telephones or radios.

b. The Notification Flowchart will be prominently posted within the first downstream inhabited structure or facility equipped with a telephone, and in the following other locations, Ellsworth Fire and Police Dispatch.

c. Dam owners / operators should keep a copy of the Notification Flowchart with them at all times.

d. This Emergency Action Plan will be distributed to each of the following persons or agencies as a minimum: (You must add others if appropriate).

1. City of Ellsworth.
2. Ellsworth Water Department.
3. Ellsworth Fire Department.
4. Ellsworth Police Department
5. P.P.L. of Maine
6. Hancock County Sheriff Department.
7. Hancock County Emergency Management Agency.
8. Maine Emergency Management Agency.
9. Branch Pond Camp Owners Association.

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PART III Branch Lake Dam E.A.P.

The Branch Lake dam is located on Branch Lake Stream approximately **five** miles upstream from Leonard's Lake and 0 miles downstream from Branch Lake, and is located in the City of Ellsworth in Hancock County, Maine.

There are **no** significant dams upstream from Branch Lake Dam. A downstream dam known as the Ellsworth Dam is located on the Union River near downtown Ellsworth. This dam is owned by PPL, Maine. Areas of The City of Ellsworth could be potentially affected by failure or flooding, as the result of large releases from this dam.

Figure 1 is a location plan of the dam. The dam was re-built in 2001. The engineering firm of Woodward and Curran of Bangor, Me. was the designer of the dam. The dam consists of a concrete and earth structure with a four-gate spillway. It is 294 feet long and 17 feet high. The last significant maintenance work was done in 2001 and consisted of a major rebuild. Tony Fletcher of Maine Emergency Management last inspected this dam in May 2000.

The impoundment has a total surface area of 2703 acres and maximum storage of 18,100 acre-feet. The watershed contributing to this dam is characterized by wooded, hilly terrain, with little commercial development, and typical rural residential development. Soils are normally well drained in this area.

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PART IV Branch Lake Dam E.A.P.

1. The following plan outline contains suggested standard terminology for reporting, and action. These are highlighted in *italicized bold print*. These must be addressed to ensure rapid and appropriate response to emergency conditions. This part defines what these conditions are and specifies certain actions and responsibilities, and identifies who accomplishes them.

a. Monitoring / Maintenance

1. Normal conditions:

Normally applicable during periods of dry weather and occasional light rainfall. *Branch Lake Dam will be checked annually*) using the attached checklist to verify that structural and mechanical elements are in working condition and present no abnormalities or hindrances to safe operation. *The superintendent of the Ellsworth Water Department and the Ellsworth Emergency Management Director will perform these inspections. The Branch Pond Camp owners Assoc. monitor the water levels.*

2. Adverse conditions:

Normally applicable during periods of heavy or extended rainfall, flash flood warnings, and heavy snow load melt. *Inspection / surveillance frequency is increased to an as needed basis, depending on the severity of the adverse weather conditions. The Ellsworth Water Department Superintendent and/or the Ellsworth Emergency Management Director will perform these inspections.*

*Example Action:
Water level is over normal limit;*

*Example Responsibility
Spillway gates to be opened as needed.*

b. Response

1. Standby Alert. This level of surveillance is generated by specific observed or reported onsite conditions such as depth of spillway flows, cracking, seepage, etc. Primary and backup communications means should be employed at the site.

Action:

Responsibility:

1. Observation / Surveillance

Visitors in area, and inspectors.

2. Notify authorities:

Name, address, telephone no

Check when notified:

___ *Local Dispatcher (Police, Fire)*

9-1-1

___ *County Sheriff*

9-1-1

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Alert Sample Message: Hello, this is (Callers Name) I am advising you that we are starting constant surveillance of the Branch Lake Dam according to the Emergency Action Plan. We are notifying you (Agency) of this condition, and will inform you when a decision to activate the notification and evacuation process or cancel the surveillance is made.

(Example) Action:

3. Prepare to notify downstream residents, and obtain barricades to block vehicle and pedestrian traffic where Branch Lake Stream crosses Mill Dam Road, and Red Bridge Road. Monitor Branch Lake Stream water level at Christian Ridge Road.

(Example) Responsible:

Ellsworth Water Dept.
Supt. and local E.M.A.
Director.
677-2133

4. Provide periodic updates to authorities.

Site Observer

2. *Notify / evacuate.* This action is taken when failure is imminent or has occurred.

Action:

Responsibility

1. Activate Part I (Notification Flowchart)

Ellsworth Police/Fire Dispatch

2. Move people and equipment immediately downstream out of harms way.

Site Observer

3. Assume Command of Incident.

Incident Commander

4. Execute evacuation order, render assistance, account for missing persons, open shelters.

Incident Commander

5. Report Site conditions.

Site Observer

3. Recover. Recovery begins when danger of high water has passed.

1. Clear routes of debris

Public Works

2. Reestablish utilities / services

IC, Utilities, Public Works

3. Assess damage

Public works, EMA Dir.

4. Notify county EMA office of assessments.

Public works, Local EMA

5. Terminate event.

Incident Commander.

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PART V Responsibilities: Branch Lake Dam E.A.P.

1. Dam owner / Emergency Action Plan coordinator responsibilities.

The dam owner / E.A.P. coordinator is: City of Ellsworth
C/O City Manager
P. O. Box 586 Ellsworth, Maine 04605
207-667-2563

- a. **(Planning)** Develop, maintain, post and distribute the Emergency Action Plan. Designate a **primary observer** if dam is located remotely. Coordinate for **primary dispatch and responder** support for inundation zone alerting, warning and evacuation.
- b. **(Training)** Conduct annual communication checks to determine that the Notification Flowchart contacts are correct. Conduct periodic public awareness workshops to heighten awareness of the dam, its value and potential hazard to the downstream community.
- c. **(Engineering)** Develop and maintain inundation zone maps. Ensure that inundation zone residents or communities are aware of their evacuation procedures in the event of a dam failure.
- d. **(Maintenance)** Ensure that the dam is inspected and maintained to protect against deterioration and failure.
- e. **(Responding)** Respond to reported conditions at the dam, specify actions to take, and who will take them.

2. Observer / Operator responsibilities.

The primary observer / operator is: The Superintendent of The Ellsworth Water Department
P.O. Box 586
1 City Hall Plaza
Ellsworth, Maine 04605
207-667-2563

- a. Alert dam owner to adverse conditions or failure conditions at the dam.
- b. Activate the Notification Flowchart if conditions warrant.
- c. Alert people in the immediate downstream area of the dam of adverse conditions or imminent failure conditions.
- d. Keep owner / authorities informed of developing conditions.

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3. Emergency Official / Responder responsibilities.

The primary emergency responder is: Ellsworth Fire Department
1 City Hall Plaza Ellsworth, Maine 04605
Call 9-1-1

- a. Inundation zone emergency officials or responders are responsible for evacuating the Inundation zone when the Notification Flowchart is activated. The senior immediate downstream community on duty responder is the incident commander in the absence of other procedures.
- b. Participate in planning or training or coordination required developing and maintaining this plan.
- c. Be familiar with any special needs populations within the inundation zone, and coordinate for evacuation support ahead of time.
- d. The incident commander is responsible for verifying that the hazard has passed, and terminating the event, including evacuation procedures.

4. Inundation Zone resident, visitor, lake and stream user responsibilities.

- a. Become familiar with the Evacuation procedures best suited for your location in the event of a dam failure.
- b. Be observant of stream conditions that may indicate an emergency situation.
- c. Assist your neighbors in reacting / evacuating.
- d. Participate in or support dam safety workshops in your area.

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VI: Investigation of Inundation Scenario.

Failure Scenario # 1:

This scenario would most likely occur because of a large rainfall event or extremely large and rapid snow pack melt.

The cause for concern would be a large influx of water to Branch Lake that would require all four control gates to be opened to their maximum. This action over a long period of time could cause some erosion immediately below the dam, and could possibly undermine the roadway culverts located on Mill Dam Road just below the dam.

TAB A (Inundation Maps) Branch Lake Dam E.A.P.

1. **The normal response to the above scenario is monitor the stream depth as it passes Mill Dam Road. In the event erosion is occurring at this location the roadway shall be barricaded on both sides of the stream to prevent vehicle and pedestrian traffic from entering the danger area. Following the high water event the roadway shall be repaired and placed back in service.**
2. **The down stream situation shall be monitored to ensure the water level is not having an adverse effect at the culvert on Red Bridge Road. Should erosion start to occur at this location the road shall be barricaded on both sides of the stream to prevent the passage of vehicles and pedestrians.**
3. **All residences located in the inundation zone shall be notified of a possible high water situation.**

Failure Scenario # 2.

This scenario would be a dam failure is eminent or has failed with normal water level conditions.

The cause for concern would be the sudden release of the water being retained by the dam that is normally eight feet of water in the lake.

Emergency response actions will be as follows:

1. **Initiate and complete the call out sequence as outlined earlier in this plan.**
2. **All residences in the inundation zone shall be notified of the situation and advised to evacuate if necessary. The residence shall include the homes near the area where Branch Lake Stream crosses Red Bridge Road, and Christian Ridge Road.**
3. **In stall barricades on both sides of the stream on Mill Dam Road, Red Bridge Road, and Christian Ridge Road so as to prevent entry by vehicles and pedestrians. Emergency response personnel to ensure no entry requirements are maintained shall monitor these barricade areas.**
4. **Follow standard operating procedures to evaluate, prioritize and repair any damage that occurs.**

Failure Scenario # 3.

This scenario would be an eminent or actual dam failure with full flood conditions.

The cause for concern would be the increased water flow at full flood conditions should the dam fail and add the increased flow of the eight feet of water being retained by the dam in Branch Lake.

Emergency Response will be as follows:

- 1) Initiate and complete the call out sequence as outlined earlier in this plan.**
- 2) Follow the procedures as outlined in dam failure scenario # 2.**

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TAB B (Appendices) Branch Lake Dam E.A.P.

1. This plan shall be exercised at least once a year to ensure all involved parties are familiar with this E.A.P.
2. This plan shall have an actual drill at least every five years.
3. The plan shall be reviewed every year following the exercise or drill to make any necessary adjustments or corrections in the plan for deficiencies noted during the training.
4. A copy of this plan shall be kept in the City of Ellsworth municipal office, dispatch center, fire and police departments, Hancock County EMA and MEMA. Additional copies shall be made available to the officers of the Branch Lake Camp owners Association, residents located in the inundation area, and any other interested parties or individuals who may request the plan.

-Training plans and schedules.

-Exercising, Drills, Testing, follow up (Annual Exercise required)

-Updating, annual reviews, lessons learned, posting & distribution

- d. Approval of the E.A.P.

Ellsworth City Council Members:

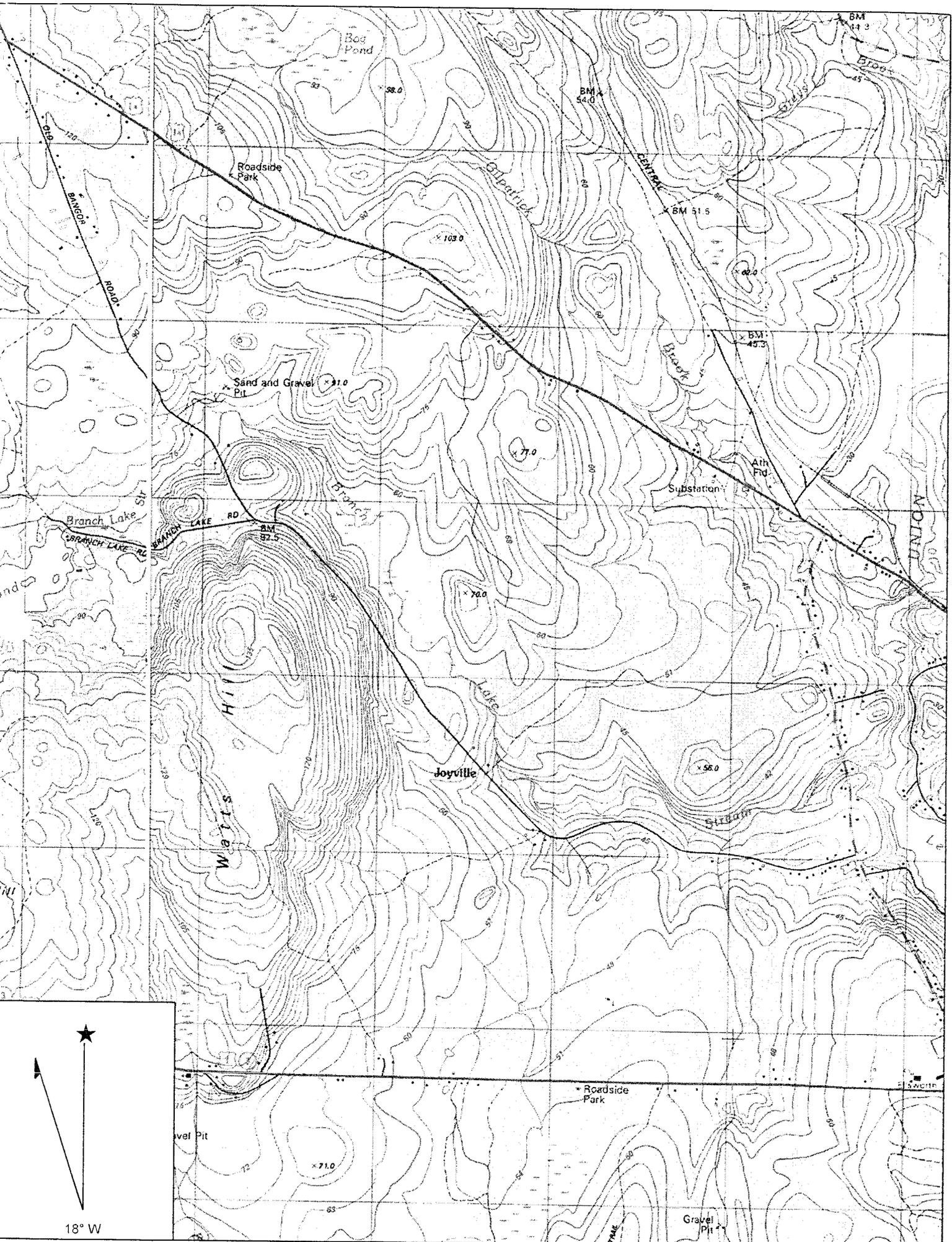
1. *Leon E. Deal, Jr*
2. *Barbara W. Reed*
3. *Robert H. Casper*
4. *[Signature]*

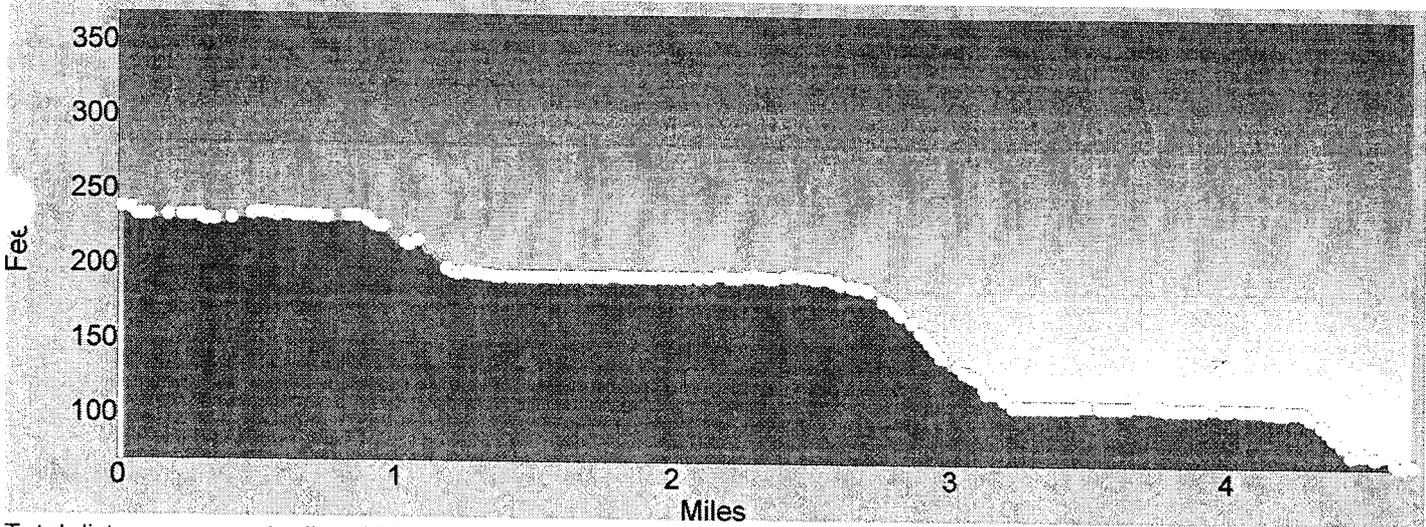
- 5.
- 6.
- 7.

-Reviewed and approved by the Maine Emergency Management Agency.

Per:

Date:





Total distance: 4 miles, 3500 feet

Ground distance: 4 miles, 3504 feet

Climbing: 41 feet
 Descending: -208 feet
 Elevation change: -167 feet
 Min/Max: 69/237

Latitude: 000° 00' 00.0" N
 Longitude: 000° 00' 00.0" E
 Elevation:
 Grade: