

A ✓

TORNADO PROJECT SUMMARY SHEET

F=0

ONT

1. DATE AND TIME TUE JUNE 15, 1982 1927 EST

2. LOCATION OR PATH (attach map) BURFORD (SW - NE)

0698205

3. PATH LENGTH NOT KNOWN <1mi; 1-4mi; 5-10mi; 11-50mi; LENGTH IF >50m

4. PATH WIDTH 5. TORNADO PART OF SQUALL LINE? YES; NO; UNKNOWN:

6. ANY UNUSUAL COLORATION? YES; NO; UNKNOWN

7. ANY UNUSUAL SOUND? YES; NO; UNKNOWN

8. IF ANSWER TO 6 OR 7 YES, ELABORATE; (6) ORANGE TINT TO CLOUDS

9. LIST ANY ASSOCIATED PHENOMENA (Such as hail, vivid lightning heavy rain, no rain, etc.) SMALL HAIL

10. TOTAL DAMAGE ESTIMATE \$ UNKNOWN 11. TOTAL DEATHS NONE

12. TOTAL INJURED NONE 13. TOTAL HOMELESS NONE

14. LIST ALL REFERENCES PERSONAL SURVEY, JUNE 16, 1982 BY M. S. NEWARK ET AL THE EXPOSITOR, BRANTFORD. JUNE 16, 1982 LONDON FREE PRESS, JUNE 16, 1982.

15. SUMMARIZE REMARKS PERTAINING TO (a) FUNNEL; (b) INTERESTING OR CAPRICIOUS EVENTS.

(a) A MR. EPPLER SAW A GRAYISH FUNNEL ALOFT (QUITE HIGH). IT WAS ROUNDED AT THE BOTTOM. HE LOST SIGHT OF IT IN RAIN

(b) Trees (some as large as 20cm diameter) BROKEN AND UPROOTED. TV ANTENNAE BENT. TRUCK CAP (500lbs) THROWN ONTO A CAR. CHILDS METAL SWING-SET MOVED A SHORT DISTANCE. SECONDARY DAMAGE DUE TO TREES FALLING ON HYDRO-WIRES AND A CAR. PRACTICALLY NO PROPERTY DAMAGE.

WORKSHEET

IDTO 0698205

① ORIGIN x 17541950
 y 4767700

⑤ Standard Error S_x

30 C

② LIFT-OFF x_1 17550600
 y_1 4774600

⑥ Standard Error S_y

1000 C

③ $(x_1 - x) =$

④ $(y_1 - y) =$

⑦ DAMAGE LENGTH

$L = [(x_1 - x)^2 + (y_1 - y)^2]^{1/2}$

⑧ $\alpha = \tan^{-1} \frac{|y_1 - y|}{|x_1 - x|}$

③ + ④ $\rightarrow r, \theta =$

$x \leftrightarrow y =$

⑨ Standard Error $S_L = (S_x^2 + S_y^2)^{1/2}$

⑤ + ⑥ $\rightarrow r, \theta =$

⑩ $\beta = \frac{\tan^{-1} S_L}{L}$

⑦ + ⑨ $\rightarrow r, \theta$
 $x \leftrightarrow y =$

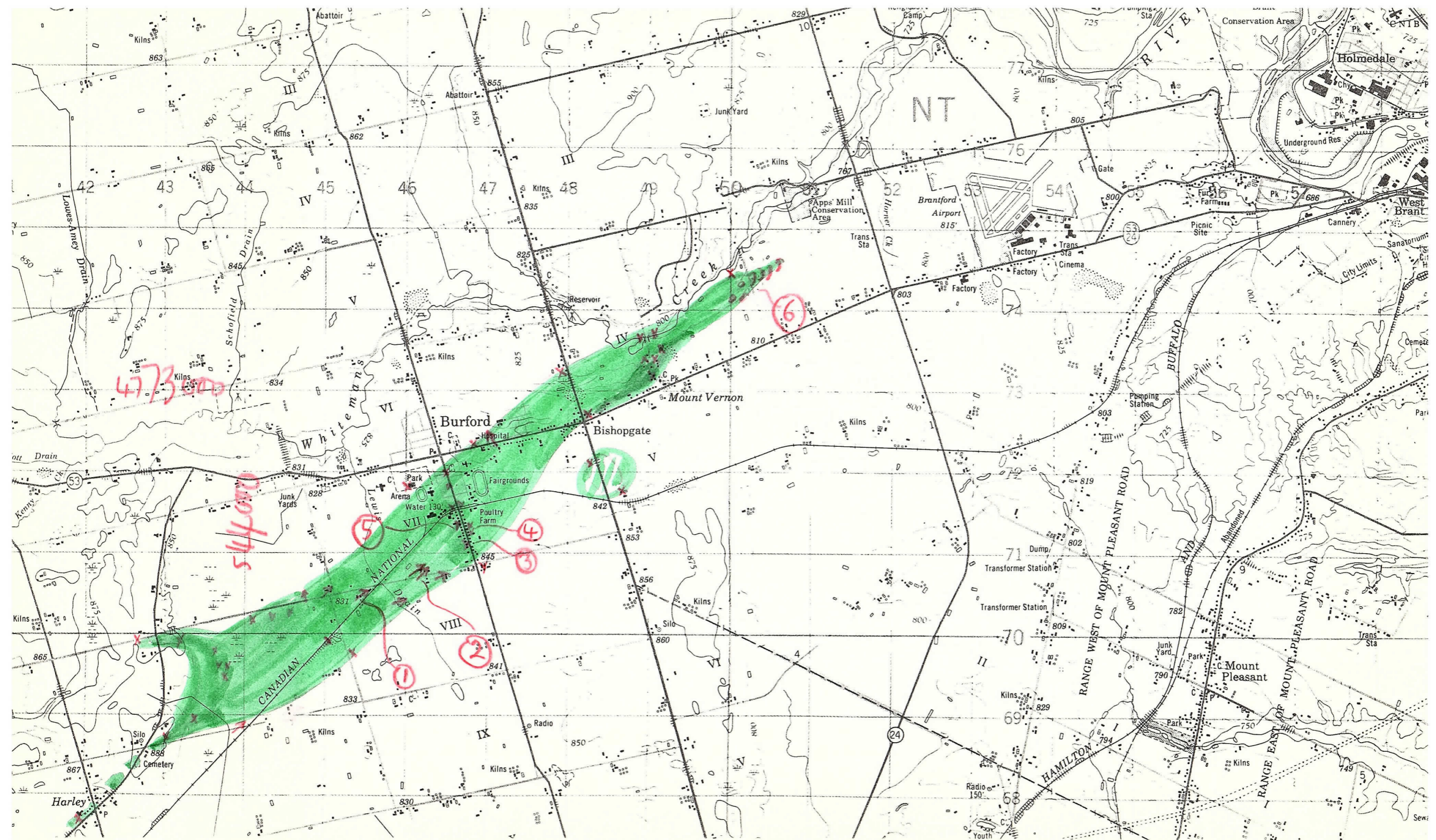
NE Quad $\phi = 90 - \alpha$

SE Quad $\phi = 90 + \alpha$

NW Quad $\phi = 270 + \alpha$

SW Quad $\phi = 270 - \alpha$

(11) $\phi =$



4773

5440

1

2

3

4

6

Harley

CANADIAN NATIONAL DRAIN

WHITE MOUNTAINS

Burford

Bishopgate

Mount Vernon

NT

RANGE WEST OF MOUNT PLEASANT ROAD

HAMILTON

RANGE EAST OF MOUNT PLEASANT ROAD

c. Mount Pleasant

Conservation Area

Holmedale

West Brant

Sanatorium

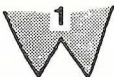



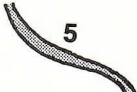
Cemetery

Part

Sewer

TORNADO SURVEY FORM

NAME OF INVESTIGATOR <i>M. J. Newark</i>	INVESTIGATOR'S PHONE <i>(415) 676-4540</i>	DATE OF INVESTIGATION <i>Jun 16/82</i>	LOCATION NUMBER <i>(1)</i>
INVESTIGATOR'S ADDRESS <i>OWC, TIA</i>	PERSONAL SURVEY <input checked="" type="checkbox"/>	UTM ZONE <i>17</i>	EASTING <i>545550</i>
	TELEPHONE INTERVIEW <input type="checkbox"/>		NORTHING <i>4770530</i>

1.	NAME(S) OF PERSON(S) INTERVIEWED <i>PICANCO Farm</i>
2.	ADDRESS (NOT RR#) OF THIS LOCATION <i>Lot Con. Twp. Co. or # Street, Town, Prov. or Section, Township, Range, Meridian</i>
3.	PHONE NUMBER OF PERSON INTERVIEWED
4.	(a) TIME AND DATE OF THE EVENT AT THIS LOCATION <i>8:27 P.M EDT 15 06 1982</i> <small>Standard Time, Time Zone Day Month Year</small>
	(b) HOW WAS THE TIME DETERMINED (STOPPED CLOCK, POWER FAILURE, MEMORY, A TIME-FIXING EVENT ETC.)
5.	(a) FUNNEL SEEN <i>Y or N</i>
	(b) FUNNEL TYPE (CIRCLE)
	    
	Multiple Smoke-like Columnar Cone Rope-like Unknown Other
	(c) IF MULTIPLE, HOW MANY? (d) FROM WHICH DIRECTION?
6.	UNUSUAL NOISE? <i>Y or N</i> IF YES, DESCRIBE <i>WIND, RAIN IN TREES.</i>
7.	UNUSUAL SKY COLOUR? <i>Y or N</i> IF YES, DESCRIBE <i>DARK - PINKISH TO NW</i>
8.	(a) HAIL? <i>Y or N</i>
	(b) DID HAIL PRECEDE <input type="checkbox"/> AND/OR FOLLOW <input type="checkbox"/> THE TORNADO?
	(c) HAIL SIZE (CIRCLE)
	PEA GRAPE WALNUT GOLF BALL TENNIS BALL OTHER UNKNOWN OR DIAMETER (mm)
9.	(a) RAIN, HOW MUCH? <i>LOTS</i>
	(b) DID THE RAIN FALL BEFORE <input type="checkbox"/> AND/OR AFTER <input type="checkbox"/> THE TORNADO, AT THE TIME OF <input checked="" type="checkbox"/> NONE <input type="checkbox"/>
10.	(a) NUMBER OF HUMAN FATALITIES <i>NONE</i>
	(b) NUMBER OF ANIMAL FATALITIES <i>NONE</i>
	(c) NUMBER OF HUMAN INJURIES <i>NONE</i>
	(d) NUMBER OF ANIMAL INJURIES <i>NONE</i>
11.	(a) ARE PHOTOS AVAILABLE? (TAKEN EITHER BY PERSON INTERVIEWED OR ACQUAINTANCES) <i>Y or N</i>
	(b) IF YES, GIVE NAMES AND ADDRESSES WHERE THEY ARE AVAILABLE

15.

General comments

TREES DOWN

A ROTTED PINE DOWN OVER GARAGE

AN HOUSE - TRUNK 1m IN DIAMETER.

- ANOTHER TREE SNAPPED OFF AT TOP.

- ONE MAPLE ACROSS ROAD.

TORNADO SURVEY FORM

NAME OF INVESTIGATOR M. J. NEWARK	INVESTIGATOR'S PHONE (416) 676-4540	DATE OF INVESTIGATION JUNE 16, 1982	LOCATION NUMBER (2)
INVESTIGATOR'S ADDRESS OWE, IIA.	PERSONAL SURVEY <input checked="" type="checkbox"/> TELEPHONE INTERVIEW <input type="checkbox"/>	UTM ZONE 17	EASTING 546200
		NORTHING 4770750	

1.	NAME(S) OF PERSON(S) INTERVIEWED MRS FINIAS	
2.	ADDRESS (NOT RR#) OF THIS LOCATION lot 4-5 Conc 7, Burford Tp. <small>Lot Con. Twp. Co. or # Street, Town, Prov. or Section, Township, Range, Meridian</small>	
3.	PHONE NUMBER OF PERSON INTERVIEWED (519) 449-552 <small>Area Code Number</small>	
4.	(a) TIME AND DATE OF THE EVENT AT THIS LOCATION 1930 EST 15 JUNE 1982 <small>Standard Time, Time Zone Day Month Year</small>	
	(b) HOW WAS THE TIME DETERMINED (STOPPED CLOCK, POWER FAILURE, MEMORY, A TIME-FIXING EVENT ETC.)	
5.	(a) FUNNEL SEEN Y or N	
	(b) FUNNEL TYPE (CIRCLE)	
	(c) IF MULTIPLE, HOW MANY?	(d) FROM WHICH DIRECTION?
6.	UNUSUAL NOISE? Y or N IF YES, DESCRIBE	
7.	UNUSUAL SKY COLOUR? Y or N IF YES, DESCRIBE	
8.	(a) HAIL? Y or N COUPLE OF MIN.	(b) DID HAIL PRECEDE <input type="checkbox"/> AND/OR FOLLOW <input type="checkbox"/> THE TORNADO?
	(c) HAIL SIZE (CIRCLE) PEA GRAPE WALNUT GOLF BALL TENNIS BALL OTHER UNKNOWN OR DIAMETER (mm)	
9.	(a) RAIN, HOW MUCH?	(b) DID THE RAIN FALL BEFORE <input type="checkbox"/> AND/OR AFTER <input type="checkbox"/> THE TORNADO, AT THE TIME OF <input type="checkbox"/> NONE <input type="checkbox"/>
10.	(a) NUMBER OF HUMAN FATALITIES NONE	(b) NUMBER OF ANIMAL FATALITIES NONE
	(c) NUMBER OF HUMAN INJURIES NONE	(d) NUMBER OF ANIMAL INJURIES NONE
11.	(a) ARE PHOTOS AVAILABLE? (TAKEN EITHER BY PERSON INTERVIEWED OR ACQUAINTANCES) Y or N	
	(b) IF YES, GIVE NAMES AND ADDRESSES WHERE THEY ARE AVAILABLE	

15.

General comments

8 ~~willow~~ trees; willows, spruce, uprooted.
Crown of large + mature maples broken. Trees fall
generally towards 060°.

TORNADO SURVEY FORM

NAME OF INVESTIGATOR M. J. NEWARK	INVESTIGATOR'S PHONE (416) 676-4540	DATE OF INVESTIGATION JUNE 16, 1982	LOCATION NUMBER (3)
INVESTIGATOR'S ADDRESS OWC, TIA	PERSONAL SURVEY <input checked="" type="checkbox"/> TELEPHONE INTERVIEW <input type="checkbox"/>	UTM ZONE 17	EASTING 546750
		NORTHING 4771140	

1.	NAME(S) OF PERSON(S) INTERVIEWED MR S. EPPLE	
2.	ADDRESS (NOT RR#) OF THIS LOCATION Lot 4 Conc 7 Burford Tp <small>Lot Con. Twp. Co. or # Street, Town, Prov. or Section, Township, Range, Meridian</small>	
3.	PHONE NUMBER OF PERSON INTERVIEWED (519) 449-5195 <small>Area Code Number</small>	
4.	(a) TIME AND DATE OF THE EVENT AT THIS LOCATION 1920 EST 15 JUNE 1982 <small>Standard Time, Time Zone Day Month Year</small>	
	(b) HOW WAS THE TIME DETERMINED (STOPPED CLOCK, POWER FAILURE, MEMORY, A TIME-FIXING EVENT ETC.) (JUST BEFORE POWER OFF AT 1930 EST)	
5.	(a) FUNNEL SEEN Y or N	
	(b) FUNNEL TYPE (CIRCLE)	
	(c) IF MULTIPLE, HOW MANY?	(d) FROM WHICH DIRECTION? SW
6.	UNUSUAL NOISE? Y or N IF YES, DESCRIBE	
7.	UNUSUAL SKY COLOUR? Y or N IF YES, DESCRIBE an orange colour.	
8.	(a) HAIL? Y or N	(b) DID HAIL PRECEDE <input type="checkbox"/> AND/OR FOLLOW <input type="checkbox"/> THE TORNADO?
	(c) HAIL SIZE (CIRCLE) PEA GRAPE WALNUT GOLF BALL TENNIS BALL OTHER UNKNOWN OR DIAMETER (mm)	
9.	(a) RAIN, HOW MUCH? HEAVY	(b) DID THE RAIN FALL BEFORE <input checked="" type="checkbox"/> AND/OR AFTER <input checked="" type="checkbox"/> THE TORNADO, AT THE TIME OF <input type="checkbox"/> NONE <input type="checkbox"/>
10.	(a) NUMBER OF HUMAN FATALITIES NONE	(b) NUMBER OF ANIMAL FATALITIES NONE
	(c) NUMBER OF HUMAN INJURIES NONE	(d) NUMBER OF ANIMAL INJURIES NONE
11.	(a) ARE PHOTOS AVAILABLE? (TAKEN EITHER BY PERSON INTERVIEWED OR ACQUAINTANCES) Y or N	(b) IF YES, GIVE NAMES AND ADDRESSES WHERE THEY ARE AVAILABLE

15.

General comments

TV tower bent slightly towards the east.
Mr. Epple saw grayish funnel aloft (quite high). It was rounded at the bottom. He lost sight of it when it became obscured by rain.

TORNADO SURVEY FORM

NAME OF INVESTIGATOR P. J. ELMS	INVESTIGATOR'S PHONE	DATE OF INVESTIGATION JUNE 16, 1982	LOCATION NUMBER (4)
INVESTIGATOR'S ADDRESS C.E.	PERSONAL SURVEY <input checked="" type="checkbox"/>	UTM ZONE 17	EASTING 546760
	TELEPHONE INTERVIEW <input type="checkbox"/>		NORTHING 4771250

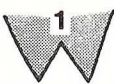
1. NAME(S) OF PERSON(S) INTERVIEWED
RAY LEACH


2. ADDRESS (NOT RR#) OF THIS LOCATION
84 Maple Ave Lot Con. Twp. Co. or # Street, Town, Prov. or Section, Township, Range, Meridian


3. PHONE NUMBER OF PERSON INTERVIEWED
519-469-5392 Area Code Number


4. (a) TIME AND DATE OF THE EVENT AT THIS LOCATION
1930 EST Standard Time, Time Zone Day Month Year
- (b) HOW WAS THE TIME DETERMINED **STOPPED CLOCK** (STOPPED CLOCK, POWER FAILURE, MEMORY, A TIME-FIXING EVENT ETC.)

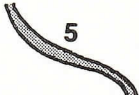
5. (a) FUNNEL SEEN **Y or N**
- (b) FUNNEL TYPE (CIRCLE)


1
Multiple


2
Smoke-like


3
Columnar


4
Cone


5
Rope-like

6
Unknown

7
Other

- (c) IF MULTIPLE, HOW MANY?
- (d) FROM WHICH DIRECTION?

6. UNUSUAL NOISE? **Y or N** IF YES, DESCRIBE **Roof**

7. UNUSUAL SKY COLOUR? **Y or N** IF YES, DESCRIBE **whitish**

8. (a) HAIL? **Y or N**
- (b) DID HAIL PRECEDE AND/OR FOLLOW THE TORNADO?
- (c) HAIL SIZE (CIRCLE)

PEA
GRAPE
WALNUT
GOLF BALL

TENNIS BALL
OTHER
UNKNOWN
OR DIAMETER (mm)

9. (a) RAIN, HOW MUCH? **VERY HEAVY**
- (b) DID THE RAIN FALL BEFORE AND/OR AFTER THE TORNADO, AT THE TIME OF NONE

10. (a) NUMBER OF HUMAN FATALITIES
NONE
- (b) NUMBER OF ANIMAL FATALITIES
NONE
- (c) NUMBER OF HUMAN INJURIES
NONE
- (d) NUMBER OF ANIMAL INJURIES
NONE

11. (a) ARE PHOTOS AVAILABLE? (TAKEN EITHER BY PERSON INTERVIEWED OR ACQUAINTANCES)
Y or N
- (b) IF YES, GIVE NAMES AND ADDRESSES WHERE THEY ARE AVAILABLE

TORNADO SURVEY FORM

NAME OF INVESTIGATOR S LITCH	INVESTIGATOR'S PHONE 667-4662	DATE OF INVESTIGATION JUN 16/82	LOCATION NUMBER (5)
INVESTIGATOR'S ADDRESS 4905 DUFFERIN ST, DOWNSVIEW	PERSONAL SURVEY <input checked="" type="checkbox"/> TELEPHONE INTERVIEW <input type="checkbox"/>	UTM ZONE 17	EASTING 546650
		NORTHING 4771350	

1. NAME(S) OF PERSON(S) INTERVIEWED

2. ADDRESS (NOT RR#) OF THIS LOCATION
79 MAPLE LANE S., BURFORD ONT
Lot Con. Twp. Co. or # Street, Town, Prov. or Section, Township, Range, Meridian

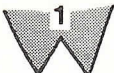
3. PHONE NUMBER OF PERSON INTERVIEWED

4. (a) TIME AND DATE OF THE EVENT AT THIS LOCATION
Area Code **15 JUNE 1982**
Standard Time, Time Zone Day Month Year


(b) HOW WAS THE TIME DETERMINED (STOPPED CLOCK, POWER FAILURE, MEMORY, A TIME-FIXING EVENT ETC.)

5. (a) FUNNEL SEEN **Y or N** **NO INTERVIEWS**


(b) FUNNEL TYPE (CIRCLE)




1
Multiple



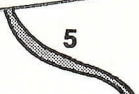
2
Smoke-like



3
Columnar



4
Cone



5
Rope-like

6
Unknown

7
Other

(c) IF MULTIPLE, HOW MANY? (d) FROM WHICH DIRECTION?

6. UNUSUAL NOISE? **Y or N** IF YES, DESCRIBE

7. UNUSUAL SKY COLOUR? **Y or N** IF YES, DESCRIBE

8. (a) HAIL? **Y or N** (b) DID HAIL PRECEDE AND/OR FOLLOW THE TORNADO?

(c) HAIL SIZE (CIRCLE)

PEA	GRAPE	WALNUT	GOLF BALL
TENNIS BALL	OTHER	UNKNOWN	OR DIAMETER (mm)

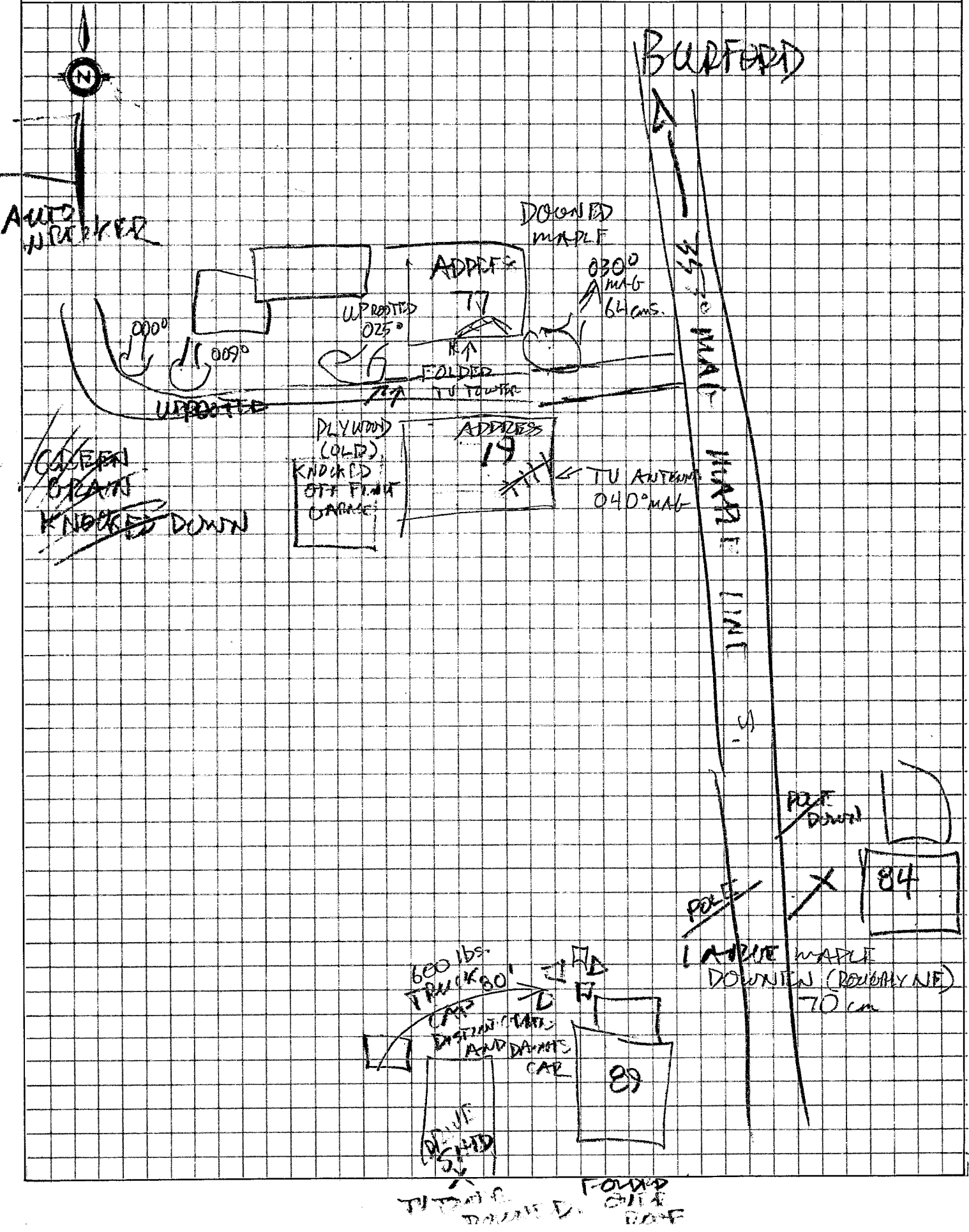
9. (a) RAIN, HOW MUCH? (b) DID THE RAIN FALL BEFORE AND/OR AFTER THE TORNADO, AT THE TIME OF NONE

10. (a) NUMBER OF HUMAN FATALITIES (b) NUMBER OF ANIMAL FATALITIES

(c) NUMBER OF HUMAN INJURIES (d) NUMBER OF ANIMAL INJURIES

11. (a) ARE PHOTOS AVAILABLE? (TAKEN EITHER BY PERSON INTERVIEWED OR ACQUAINTANCES) **Y or N** (b) IF YES, GIVE NAMES AND ADDRESSES WHERE THEY ARE AVAILABLE

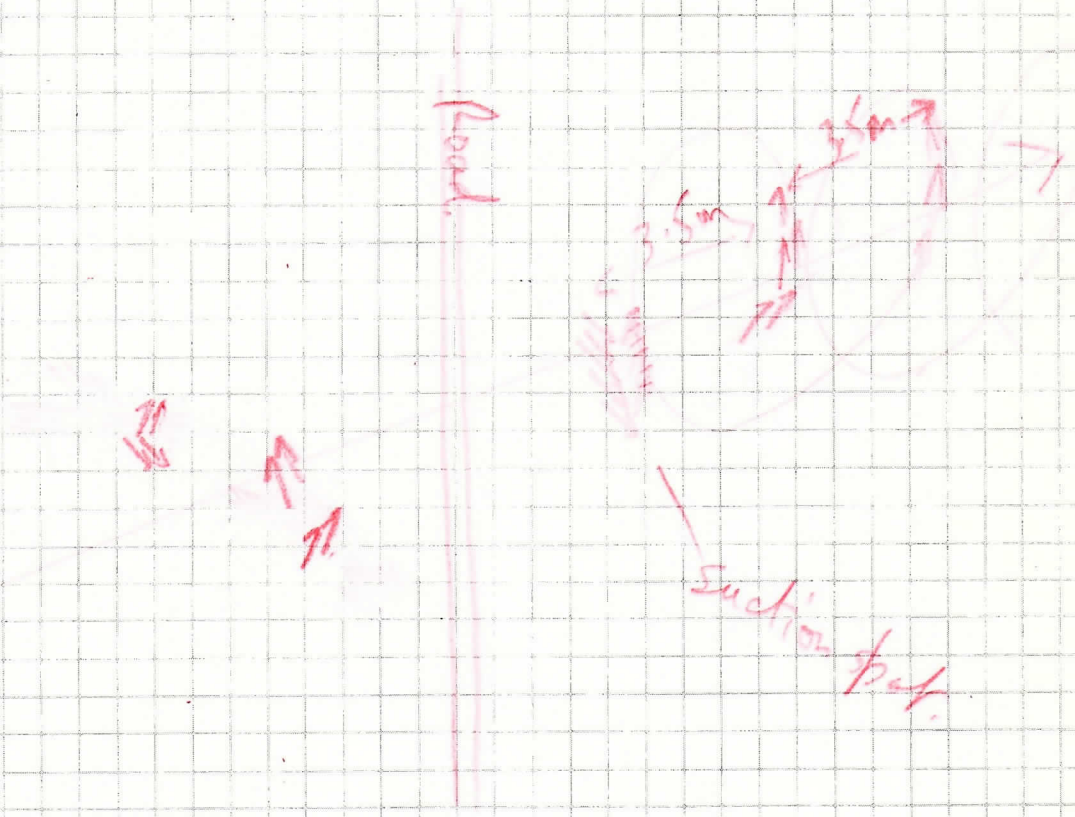
14. Damage sketch for this location. — Need not be to scale but should indicate numerical dimensions (metric units preferred) and orientation with respect to north. Positions where photographs were taken should be located.



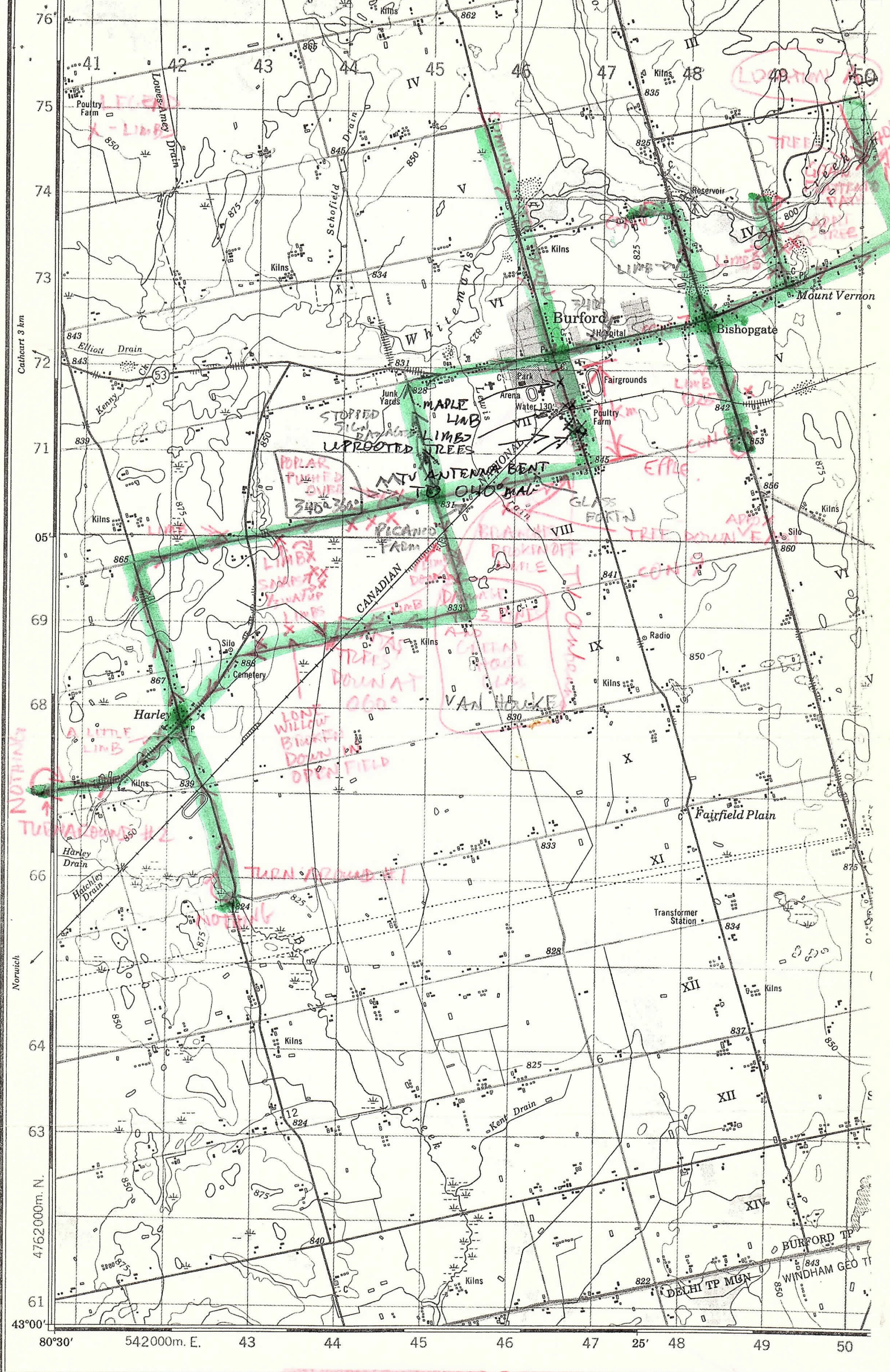
4. Damage sketch for this location. — Need not be to scale but should indicate numerical dimensions (metric units preferred) and orientation with respect to north. Positions where photographs were taken should be located.

LOCATION A

cross section through wheat field. Damage path generally about 9 m wide with damage occurring in patches. Damage path aligned 040° . Some of the grain flattened at 180° to immediately adjacent patches (see below in area labelled "suction spot")



35
31
70
60
mess
35
mess
27m



Produced by the SURVEYS AND MAPPING BRANCH,
 DEPARTMENT OF ENERGY, MINES AND RESOURCES.
 Updated from aerial photographs taken in 1976. Culture check
 1976. Information current as of 1976.

Copies may be obtained from the Canada Map Office,
 Department of Energy, Mines and Resources, Ottawa,
 or your nearest map dealer.

GREEN SHOWS ROUTE DRIVEN

THE EXPOSITOR, BRANTFORD WED JUNE 16, 1982
STORM DATE JUNE 15, 1982

Many trees uprooted by storm

By SUE JOHNSTON
Expositor Staff Writer

Trees were uprooted, fields were flooded and some power outages occurred as a severe thunderstorm struck Brant County and surrounding areas on Tuesday night.

Minimal damage occurred in Brantford, but the Burford area and the southern portions of Norfolk were hard hit by power outages and damage caused by falling trees.

There were reports of a twister touching down south of Burford, and some homes in the village were still without power this morning.

Peter Dearling, clerk of the Township of Burford, surveyed some of the damage this morning in and south of the village and said: "It's

See also picture on Page 14

looks as if a small twister touched down at some parts in the south end of the village and on Concession 8. There must have been close to a dozen trees that were uprooted."

About half of the village residents were without power for about three hours after the storm struck at 7:30 p.m.

Some homes on Maple Avenue South were still without power this morning, and Ontario Hydro crews had been called in to assist Burford Public Utilities Commission employees in restoring service, and clearing the fallen trees and limbs.

Mr. Dearling said there was little structural damage caused to any buildings by the falling trees.

Continued on Page 2

A
H

Storm hits area

Continued from Page 1

One tree fell on the home of Minnie Leach at 84 Maple Avenue South, but only minor damage resulted.

Several trees were uprooted on the property of Don Henderson Automotive, and some cars were damaged as the trees and limbs crashed onto them.

A hydro pole came down on Maple Avenue South, and a van driven by Ron Leitch of Burford collided with it. A small fire started beneath the van, but there was minimal damage and Mr. Leitch was not seriously injured.

The city of Brantford weathered the storm much better than Burford.

City police reported no major problems, although Brantford Public Utilities Commission employees were kept busy until about 2 a.m.

George Mychailenko, electrical engineer for the PUC, said there was minimal damage caused in the city.

Limbs blew into hydro lines, and some trees came down, causing power outages in the Grand River Avenue, Shellard Lane and Douglas Avenue areas, he said.

A limb blew into a major hydro line at the W. Ross Macdonald School, causing a power shortage to major industries in the Grand River Avenue area. The power was out for about an hour, but no homes were affected, Mr. Mychailenko said.

Trees fell onto hydro lines in the Shellard Lane and Douglas Avenue areas, he said, causing some power outages that lasted more than an hour.

He said there were no other major power shortages in the city, although the PUC did receive many calls from individual homes experiencing problems.

There were some reports of large trees downed in the city, including ones on Fulton Street, Princess Street and St. George Street.

"The situation in the city really wasn't too severe," Mr. Mychailenko said.

Ontario Hydro encountered major problems in the southern portion of Norfolk.

Art Batty, manager of the Simcoe area Hydro office, said this morning there were "all kinds of problems" in that area.

A transformer in the hamlet of Walsingham crashed to the ground, taking out power lines and leaving about 2,000 homes without hydro service.

There were also many other power outages in that area and along the lakeshore, including a major one in Woodhouse Township, east of Port Dover.

Mr. Batty said Hydro crews worked all night restoring power, but some homes in the southern portion of Norfolk were still without power this morning. Full service was expected to be restored by noon.

Hydro crews will continue working throughout today, he said, trying to clear the many limbs and trees that came down on or near hydro lines during the storm.

Prisoners to be held