C TORNADO PROJECT SUMMARY SHEET F=0 ONT

1. DATE AND TIME 1820 to 2000 EST 9 JULY 1974

2. LOCATION OR PATH (attach map)
STORRINGTON TP (NEAR INVERARY)
0697406

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

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;

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

10. TOTAL DAMAGE ESTIMATE $ TRAILER 11. TOTAL DEATHS NONE

12. TOTAL INJURED NONE 13. TOTAL HOMELESS NONE

14. LIST ALL REFERENCES (1) KINGSTON WHIG STANDARD OF WED JULY 10TH 1974
(2) PHONE CALL TO MRS DIXON – OWNER'S WIFE – OF CAMP. (SEE TORNADO SURVEY FORM)

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

(a) no remarks

(b) trees uprooted.

NOTE : DAMAGE SAME DAY AT !

– ALBAN

– TWEED

– Cape Vincent (New York state)

WORKSHEET

IDTO 0697406

500 C.

(1) ORIGIN x 1838400

y 4915400

(5) Standard Error S_x

(2) LIFT-OFF x_1

y_1

(6) Standard Error S_y

(3) $(x_1 - x) =$

(4) $(y - y_1) =$

(7) DAMAGE LENGTH

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

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

(3)+(4) $\boxed{\rightarrow r,\theta}$ =

$\boxed{x \leftrightarrow y}$ =

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

(5)+(6) $\boxed{\rightarrow r,\theta}$ =

(10) $\beta = \dfrac{\tan^{-1} S_L}{L}$

(7)+(9) $\boxed{\rightarrow r,\theta}$

$\boxed{x \leftrightarrow y}$ =

NE Quad $\phi = 90 - \alpha$

NW Quad $\phi = 270 + \alpha$

SW quad $\phi = 270 - \alpha$

SE quad $\phi = 90 + \alpha$

(11) $\phi =$

(1) THE WHIG-STANDARD, KINGSTON. WED. JULY 10 1974.

(1)

A $1.5 million clout

Storm leaves Tweed resembling a disaster area

By IAN HAMILTON
Staff Reporter

Damage estimates have reached $1.5 million for the area hardest hit in a violent storm Tuesday which ripped through southern Ontario and northern New York State.

The village of Tweed, 80 miles north of Belleville, today resembles a disaster area.

"It looked like a bomb hit the village," Mayor Barbara Allen said this morning. "It's just incredible. We were very lucky that no one was killed."

Villagers insist that the storm, which struck about 7 p.m., was a tornado because of the damage which resulted. Police said as many as 45 homes and four businesses were damaged.

Mayor Allen said the wind "must have been over 100 miles an hour," and that damage to the public utility system was extensive. Town work crews have been joined by officials from the ministry of natural resources and others in an attempt to clear streets and start work on the hardest-hit homes.

The mayor said the MLA for the area, Clark Rollins, has unofficially offered provincial financial aid.

It was town councillor John Clemens, an insurance adjuster, who placed the damage at $1.5 million. The mayor agreed it was a fair estimate.

Two persons were admitted to hospital and five others treated and released. The injured were members of a London, Ont., family. A tree toppled on to their tent at a local trailer park.

Hazel Kelly, 36, is reported in fair condition at Belleville General Hospital with neck injuries. Her daughter Catherine, 15, is in satisfactory condition with back injuries.

Raymond, 39, Robin, 13, and Ronney, 16, all members of the same family, were treated for cuts and bruises and released. Others treated were Donna Jones, 15, Heather Jones, 13, Phillip Morris, 21.

A Tweed woman, Mary Tustin, 32, was also injured while visiting the campground.

The storm, worst to hit the area in several years, also caused problems in Kingston and neighboring towns and rural areas.

Lightning struck two homes in Kingston Township, at 393 Meadowcrest road in La Salle Park and at George Draper's home on Glenburnie road near outer Montreal street.

Kingston Township fire officials report the lightning struck hydro lines and went to ground through house wiring, creating a moderate amount of smoke in the homes. No damage estimates were available at press time.

A home was hit by lightning in Gananoque, resulting in $8,000 damage.

In Napanee several trees were struck by lightning on Bridge street west in most instances bringing down hydro wires. In one case, cable television wires were reported down. A transformer on Bridge street was struck and hydro wires were hanging from it.

Ontario Provincial Police report two trees were struck by lightning in Adolphustown and one on Highway 502 outside Napanee. A hydro pole in Bath was hit about midnight, causing a power failure until about 5:30 a.m.

Several trees were knocked down in the city. Lifeguards at municipal and apartment house pools cleared swimming areas after storm warnings were broadcast.

One onlooker said damage was relatively severe at Dixon's Cottages, near Inverary on Collin's Lake. She said several trees were uprooted and one of them went "right through a trailer just after the people had gone away".

The hardest hit area in New York State was the village of Cape Vincent, although there have been reports of trees down and other damage in Clayton and other areas. In Cape Vincent, one tree with a 36-inch diameter at the base was uprooted, pulling up sewer lines with it.

In a cemetery outside Cape Vincent, graves were damaged. The storm cut a swath through the centre of the village and U.S. officials are referring to the storm as "tornado-like".

Residents of Tweed, with a population of about 1,500, are also insisting the storm had all the earmarks of a tornado.

Mayor Allen said Coue's Marina was demolished, a tree went through the roof of the Bush Funeral Home and at Towers Blue Cottages, "a couple of his cottages were totalled." (destroyed). There have been reports that several cottages around nearby Stoco Lake have been damaged as well.

After the storm hit, 10 Ontario Hydro crews were dispatched to deal with a blackout. An OPP spokesman from the Madoc detachment said five officers were called in last night during the power failure to deal with possible looting from stores and to handle traffic.

(2) **TORNADO SURVEY FORM** (2)

NAME OF INVESTIGATOR	INVESTIGATOR'S PHONE	DATE OF INVESTIGATION	LOCATION NUMBER
GERRY WOLPE	594-4715	23 APR 82	1

INVESTIGATOR'S ADDRESS	PERSONAL SURVEY ☐ TELEPHONE INTERVIEW ☑	UTM ZONE	EASTING	NORTHING
RR1, BOLTON ONT L0P 1A0		18	384000	4915400

1. NAME(S) OF PERSON(S) INTERVIEWED
MRS DIXON (OF DIXON COTTAGES)

2. ADDRESS (NOT RR#) OF THIS LOCATION
BETWEEN LK INVERARY & COLLINS LK. -- S. SIDE. LOT 22, CONC 2 STORRINGTON TSP
Lot Con. Twp. Co. or # Street, Town, Prov. or Section, Township, Range, Meridian

3. PHONE NUMBER OF PERSON INTERVIEWED
Area Code 613 Number 353-2787

4. (a) TIME AND DATE OF THE EVENT AT THIS LOCATION
9-9:30 EDT Standard Time, Time Zone Day 12 Month JULY Year 74

(b) HOW WAS THE TIME DETERMINED (STOPPED CLOCK, POWER FAILURE, MEMORY, A TIME-FIXING EVENT ETC.)
HAPPENED AFTR SHE LEFT FOR BINGO - BINGO STRTD AT 8:00 PM EDT

5. (a) FUNNEL SEEN Y or (N)

(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? — 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? HVY RAIN (BUCKETS)

(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

12.

DAMAGE UNDERLINE ITEMS AS APPROPRIATE, AND ADD INFORMATION AS APPROPRIATE.

FO	(64 - 115 km/h) T.V. antennae bent. A few roof shingles removed from houses and roofing stripped from barns. Patches of siding removed from houses, awnings or canopies damaged. Aluminum garden sheds moved or buckled and garden furniture blown around. Fences blown down. Trees broken or uprooted (intermittently in heavily treed bush lots).
F1	(116 - 179 km/h) Large areas of roofing material stripped from homes or industrial buildings. Barn roofs entirely removed and boards or siding removed from barn walls. Some impact damage from flying missiles. Unanchored buildings twisted on their foundations. Steel hydro-electric transmission towers knocked down. Summer cottages moved off their foundation.
F2	(180 - 251 km/h) Structural failure of roofs and porches. Barns demolished to the foundation. Empty stave concrete silos blown over or the upper portions of partly filled stave silos demolished. Unanchored 1 - storey houses moved entirely off their foundation. Cottages rolled over or carried short distances. Farm wagons or equipment carried short distances. Areas of total damage in heavily treed bush lots. Considerable impact damage from flying missiles.
F3	(252 - 330 km/h) Upper storeys of brick houses destroyed. Extensive structural damage to frame houses. Heavy farm machinery and automobiles moved or upset. Unanchored 2 - storey frame houses moved entirely off their foundation. Tombstones blown over or carried short distances. House trailers entirely demolished. Extensive impact damage from flying missiles.
F4	(331 - 416 km/h) Two-storey brick homes almost completely destroyed. Empty poured concrete silos blown down. Automobiles, vans, heavy farm equipment carried long distances through the air. Extensive structural failure of industrial buildings.
F5	(417 - 509 km/h) Little remains intact.

13.

DAMAGE SPECIFICS REQUIRED (SHOW THE UNITS OF MEASUREMENT) IN ORDER TO CALCULATE WIND VELOCITY WHEN STRUCTURES OR OBJECTS HAVE BEEN MOVED, TIPPED OR CARRIED.

(a) Name of object or structure

(b) Predominant material used in its construction

(c) Was it anchored, and how?

(d) Estimated weight

(e) Dimensions

Length (L)	Width (W)
Height (H)	Diameter (D)

(f) Angle (∅) between the wind direction and the normal plane.

(g) Sketch of the object or structure (show L, W, H, D or other dimensions or quantities).

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.



15.

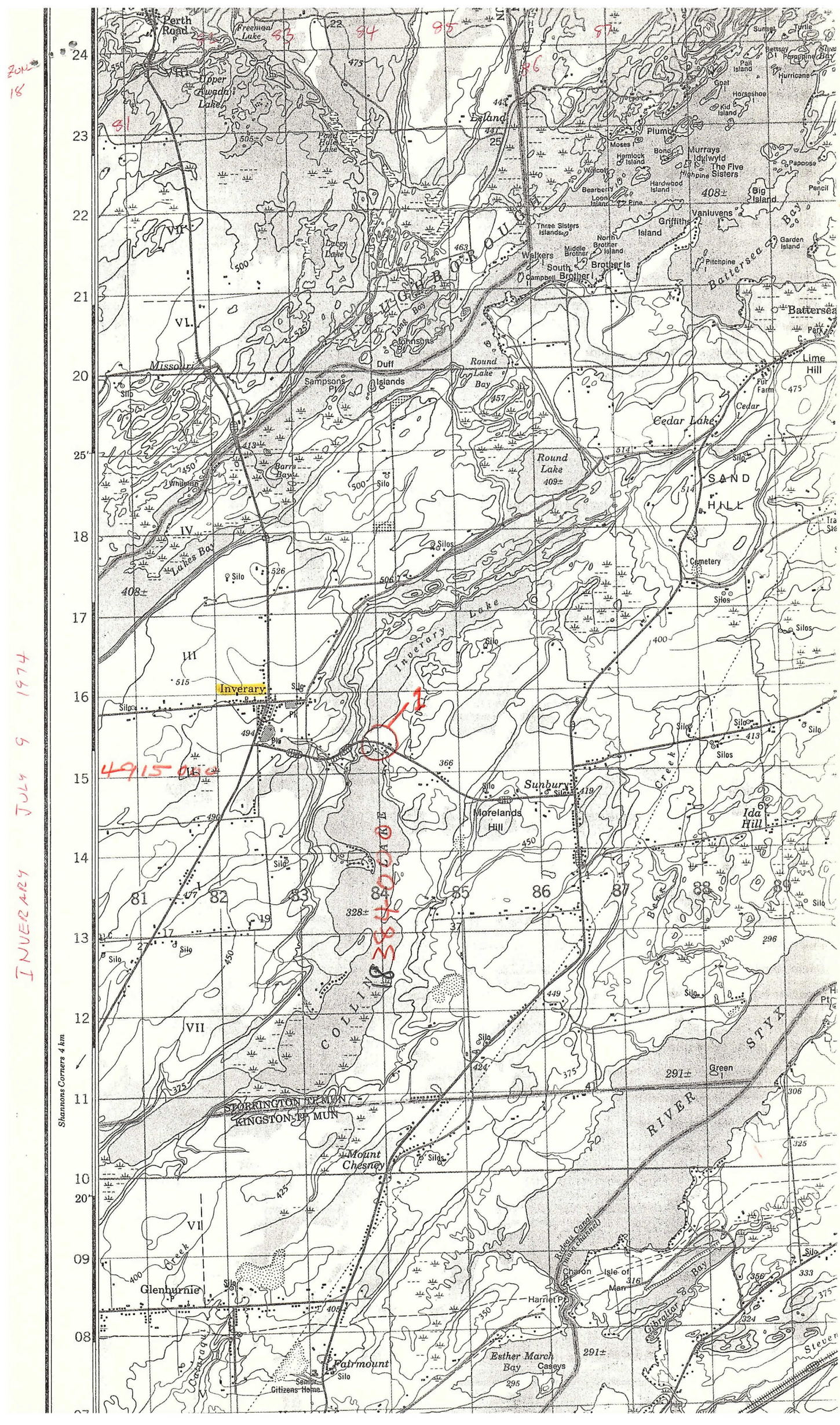
General comments

SEVERAL TREES DOWN — 5 CHAIN SAWS USED TO CLEAR ROAD TO COTTAGES. RAINED BUCKETS. KNEW OF NO-ONE ELSE WITH DAMAGE. ONE TREE FELL ON TRAILER OF RALPH SMALL (DECEASED — WIFE STILL CAMPS THERE)

JULY 9, 1974

INVERARY

RALPH SMALL - (in DIXON trailer camp.) 308 Helen St, Kingston. - 613- ?
DECEASED
WIFE OUT WEST
trees destroyed trailer - Trees twisted off - uprooted.
DIXONS COTTAGE'S ? severe damage 613 - CLINTON 353 2787 -
6621
DALE
DENNIS 2078


Perth Road
Upper Awaadh Lake
Freeman Lake
Pond Hole Lake
Lacey Lake
Long Bay
Johnson
Duff Islands
Sampsons Pt
Missouri
Barrs Bay
Whitefish
Lakes Bay
Silo
Inverary
Lake Inverary
Round Lake Bay
Round Lake
Cedar Lake
SAND HILL
Lime Hill
Fur Farm
Cemetery
Battersea
Battersea Bay
Garden Island
Pitchpine
Griffiths Island
Vanluvens
Big Island
Pencil
Papoose
Three Sisters Islands
North Brother Island
Middle Brother
South Brother Island
Campbell
Walkers
Wolcott
Hemlock Island
Bearberry
Loon Island
Pine
Hardwood Island
Highpine
The Five Sisters
Murrays
Idylwyld
Bong
Moses
Plumb
Deland
Pond Hole Lake
Sunset
Turtle
Bettsey
Porcupine Bay
Pail Island
Hurricane
Goat
Horseshoe
Kid Island
Sunbury
Morelands Hill
Ida Hill
Beaver Creek
COLLINS BAY
STYX RIVER
Green
Mount Chesney
STORRINGTON TP MUN
KINGSTON TP MUN
Glenburnie
Fairmount
Senior Citizens Home
Esther March Bay
Caseys
Harriet Pt
Isle of Man
Charon
Gibraltar Bay
Rideau Canal (Navy Channel)
Shannons Corners 4 km
I
II
III
IV
V
VI
VII
81
82
83
84
85
86
87
88
89
328±
408±
291±
4915 01 E
INVERARY JULY 9 1974