TORNADO PROJECT SUMMARY SHEET

JUNE

1. DATE AND TIME 20.6.1951 (1) 1930 EST APPROX (2) 1900 EST (3) 1745 EST

2. LOCATION OR PATH (attach map)
(1) HORNBY (FROM 250°)
(2) VICINITY BEAVERTON (W-E)
(3) VICINITY DUNDALK

06951-01 0695105
06951-02
06951-03
SEE NEXT PAGE →

3. PATH LENGTH ☐ NOT KNOWN ☐ <1mi; ☑ 1-4mi; 8 (1) 10 (2) 5-10mi; ☐ 11-50mi; ☐ LENGTH IF>50mi

4. PATH WIDTH (2) 200 FEET 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 PITCH BLACK
7. "IT SOUNDED LIKE NIAGARA FALLS (THE TWISTERS ROAR) (1)

9. LIST ANY ASSOCIATED PHENOMENA (Such as hail, vivid lightning, heavy rain, no rain, etc.)
PIREPS CLOUD TOPS 40-50,000 FT
(3) HAIL AT MOUNT FOREST, LARGE AS 25 CENT PIECE.

10. TOTAL DAMAGE ESTIMATE $TENS OF THOUSANDS 11. TOTAL DEATHS (1) 400 CAPONS, 2 CATTLE (3)

12. TOTAL INJURED (2) (1) 3 (3) 13. TOTAL HOMELESS UNKNOWN

14. LIST ALL REFERENCES
TORONTO DAILY STAR, JUN 21, 22 1951
GLOBE, TORONTO. JUN 21, 1951.

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

(a) "FUNNEL SHAPED THING" LEFT A SWATH OF DAMAGE 200 FT WIDE THEN DISAPPEARED INTO THE CLOUDS IN THORAH TOWNSHIP.
"I SAW THIS FUNNEL SHAPED THING LIFTING SHINGLES FROM HOUSES AND BARNS. BY THE TIME IT PASSED OVERHEAD IT WAS COMPLETELY LOADED WITH TRASH. THE WHOLE EASTERN HORIZON SEEMED TO CLOSE IN, AND ALL AROUND I HEARD THE SOUND OF BUILDING BEING CRUSHED TO BITS."

(b) HOUSES UNROOFED, BARNS TURNED INTO RUBBLE, TREES AND CROPS UPROOTED. 3 PEOPLE NEAR HORNBY CARRIED 50 FEET THROUGH THE AIR AND THROWN INTO A DITCH. 2 INJURED. A DOG TOSSED 100 YDS FOUND IN A UNCONCIOUS NEAR. FRANK CAMPBELL SAID THE 3 OF THEM HEARD THE WIND COMING AND FELT THE WALLS OF THE BARN START TO GIVE WAY. "I SHOVED CAMPBELL AND HIS DAUGHTER BONNIE OUT THE DOOR." SAID MR WOOD THE THIRD PARTY "THEN WE WERE IN THE AIR. VAGUELY HE REMEMBERED BEING CARRIED THROUGH THE AIR AND PUSHING BONNIE UNDER A CULVERT. A SMALL TRUCK LIFTED INTO THE AIR.

NEAR DUNDALK A 13 YR OLD KENNETH VANALSTINE WAS BLOWN ACROSS A BARNYARD INTO A WIRE FENCE. CRAWLING BACK ON HIS HANDS AND KNEES HE WAS STRUCK AND INJURED BY FALLING DEBRIS.

C B

TORNADO PROJECT SUMMARY SHEET

F=0 ONT

1. DATE AND TIME: JUNE 20 1951 EVENING.

2. LOCATION OR PATH (attach map): FROM 270° TORONTO 0695105.

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

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.): SUDDEN R>

10. TOTAL DAMAGE ESTIMATE $ — 11. TOTAL DEATHS: NONE

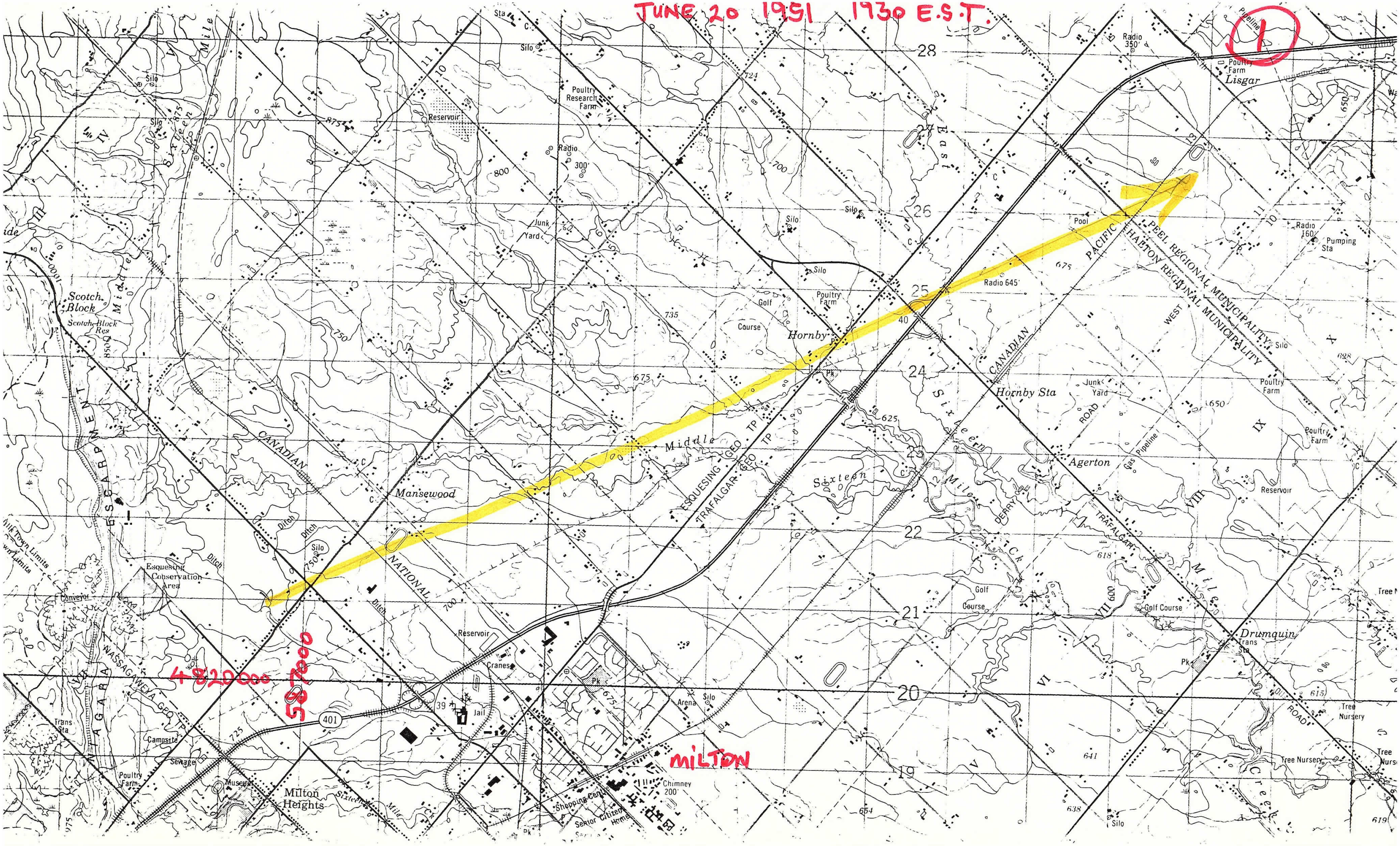
12. TOTAL INJURED — 13. TOTAL HOMELESS: NONE

14. LIST ALL REFERENCES

GLOBE AND MAIL TORONTO. THURS JUNE 21 1951

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

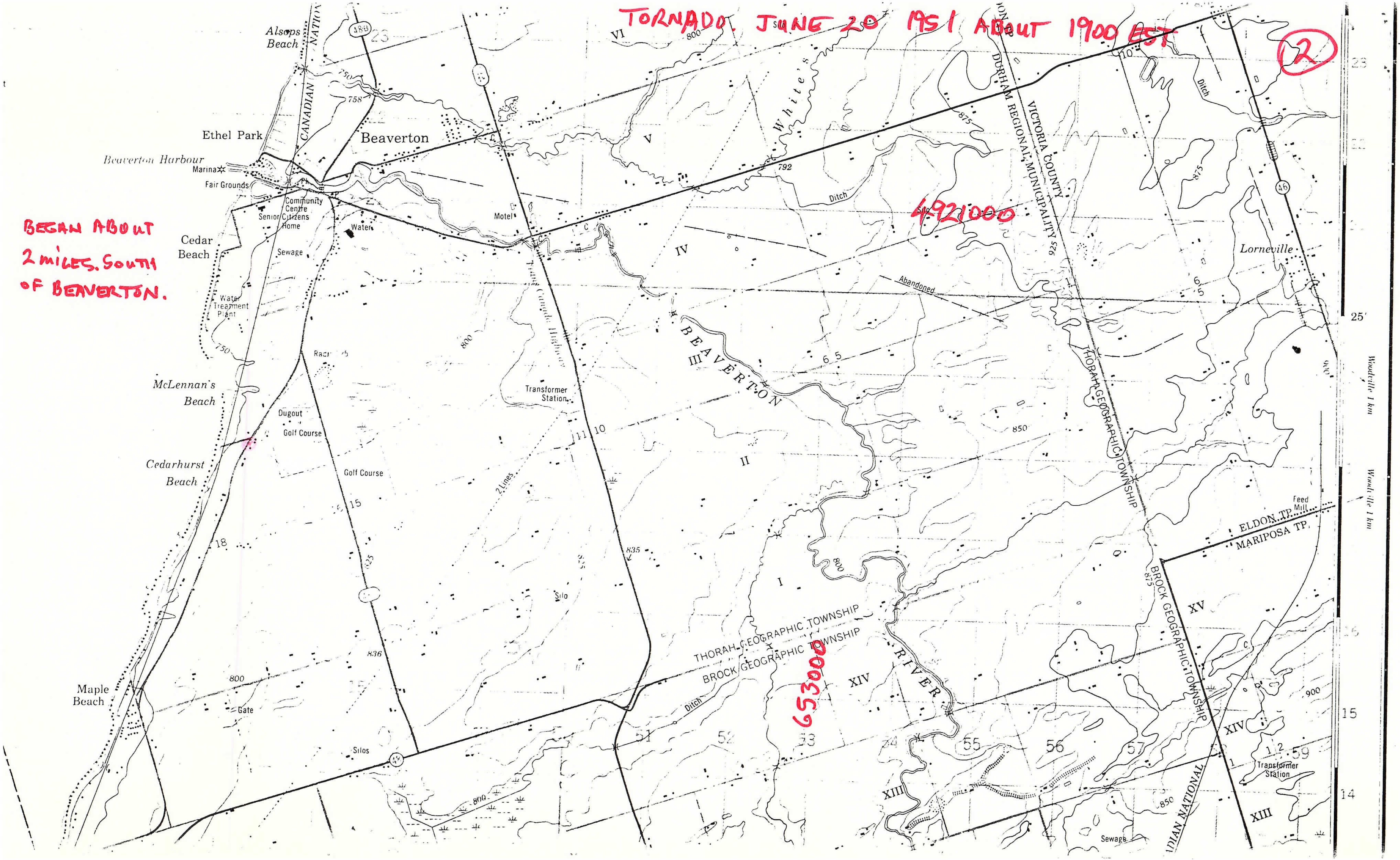
(b) Trolley and hydro wires brought down, Trees blocked roads.


JUNE 20 1951 1930 E.S.T.
1
4820000
587000
MILTON
Milton Heights
Lisgar
Hornby
Hornby Sta
Agerton
Drumquin
Mansewood
Scotch Block
Scotch Block Res
Esquesing Conservation Area
NIAGARA ESCARPMENT
NASSAGAWEYA GEO TP
ESQUESING GEO TP
TRAFALGAR GEO TP
PEEL REGIONAL MUNICIPALITY
HALTON REGIONAL MUNICIPALITY
CANADIAN NATIONAL
CANADIAN PACIFIC
Sixteen Mile Ck
Middle
East
WEST
DERRY
TRAFALGAR ROAD
Poultry Research Farm
Reservoir
Radio 300'
Radio 350'
Radio 645'
Radio 160'
Pumping Sta
Junk Yard
Golf Course
Poultry Farm
Gas Pipeline
Pipeline
Trans Sta
Tree Nursery
Campsite
Sewage
Museum
Shopping Centre
Senior Citizens Home
Chimney 200'
Jail
Arena
Cranes
Conveyor
Silo
401
28
27
26
25
24
23
22
21
20
19

TORNADO. JUNE 20 1951 ABOUT 1900 EST

(2)

BEGAN ABOUT 2 MILES. SOUTH OF BEAVERTON.



80°
79°
GEORGIAN
BRUCE PENINSULA
Tobermory
CAPE HURD
BEARS RUMP ISLAND
FLOWERPOT I.
Georgian Bay Islands Nat'l Park
Cyprus Lake Prov. Park
CABOT HEAD
BRUCE TRAIL
Brinkman Corners
Dyer Bay
Miller Lake
CAPE CHIN
Cape Chin
Monument Corners
Stokes Bay
Lion's Head
GREENOUGH PT.
Ferndale
LYAL ISLAND
Spry
Barrow Bay
CAPE CROKER
Cape Croker
HURON
HAY ISLAND
Pike Bay
Howdenvale
Adamsville
Purple Valley
GRIFFITH ISLAND
Red Bay
WHITE CLOUD I.
Oxenden
CAPE COMMODORE
Oliphant
Wiarton
Kemble
Sauble Falls Prov. Park
Sauble Beach
Clavering
Tolmie
Hepworth
E. Linton
Balaclava
CAPE RICH
Camp Meaford Tank Range
Shallow Lake
Leith
Park Head
Annan
Springmount
Owen Sound
Meaford
Chippawa Hill
Southampton
Allenford
Elsinore
Alvanley
Woodford
Bognor
Thornbury
Craigleith Prov. Park
Port Elgin
Tara
Arkwright
Kilsyth
Rockford
Clarksburg
Blantyre
Walters Falls
Heathcote
Craigleith
Collingwood
North Bruce
Burgoyne
Keady
Chatsworth
Goring
Holland Centre
Ravenna
Rocklyn
Nottawa
DOUGLAS POINT
Inverhuron Prov. Park
Inverhuron
Tiverton
Underwood
Dobbinton
Desboro
Williamsford
Berkeley
Dornoch
Duncan
Kimberley
Duntroon
Paisley
Markdale
Eugenia
Feversham
Singhampton
Glammis
Pinkerton
Chesley
Malcolm
Elmwood
Flesherton
Ceylon
Maxwell
Kincardine
Armow
Millarton
Cargill
Chepstow
Durham
Priceville
Proton Station
Dundalk
Walkerton
Hanover
Carlsruhe
Varney
Hopeville
Corbetton
Ripley
Kinloss
Riversdale
Greenock
Neustadt
Holyrood
Formosa
Mildmay
Ayton
Holstein
Mapleton
Kingscote
Shelburne
Lucknow
Teeswater
Ambleside
Letterbreen
Cedarville
Jessopville
Belmore
Drew
Crombie
Whitechurch
Clifford
Harriston
Mount Forest
Conn
Monticello
Wingham
Wroxeter
Gorrie
Dungannon
Bluevale
Belgrave
Fordwich
Palmerston
Teviotdale
Kenilworth
Damascus
Laurel
Orangeville
Waldemar
Grand Valley
Auburn
Blyth
Londesborough
Brussels
Ethel
Molesworth
Rothsay
Arthur
Belwood
Listowel
Moorefield
Drayton
Parker
Walton
Atwood
Clinton
Seaforth
Brucefield
Dublin
Mitchell
Staffa
Kippen
Hensall
Zurich
Russeldale
Exeter
Crediton
Centralia
Lieury
Kirkton
Woodham
Rannoch
Granton
Fullarton
Stratford
Shakespeare
Sebringville
Amulree
Tralee
Monkton
Donegal
Brodhagen
Bornholm
Milverton
Poole
Dorking
Newton
Linwood
Millbank
Brunner
Crosshill
St. Clements
Gads Hill
Wellesley
Hawkesville
St. Jacobs
Wallenstein
Elmira
West Montrose
Conestogo
Bloomingdale
Erbsville
Waterloo
Petersburg
Baden
New Hamburg
Kitchener
Bridgeport
Breslau
Hespeler
Doon
Blair
Preston
Galt
Guelph
Elora
Salem
Alma
Fergus
Ospringe
Eramosa
Rockwood
Aberfoyle
Puslinch
Morriston
Freelton
Carlisle
St. Mary's
Lucan
Elginfield
Belton
Kintore
Lakeside
Ailsa Craig
Bryanston
Thorndale
Embro
Woodstock
Hickson
Innerkip
Tavistock
Haysville
New Dundee
Plattsville
Bright
Ayr
Branchton
Drumbo
Princeton
Paris
Brantford
Eastwood
Burford
Beachville
Thamesford
Ingersoll
Dorchester
Putnam
London
Lobo
Arva
Komoka
Nilestown
Lambeth
Belmont
Glanworth
Harrietsville
Mossley
Salford
Mount Elgin
Burgessville
Norwich
Otterville
Springford
Delaware
Southwold
Murcey
Talbotville
St. Thomas
New Sarum
Avon
Brownsville
Springfield
Corinth
Aylmer
Tillsonburg
Frome
Shedden
Iona Sta.
Iona
Fingal
Union
Sparta
Bayham
Port Stanley
Dunboyne
Port Talbot
Copenhagen
Port Bruce Prov. Park
Port Bruce
Port Burwell
John E. Pearce Prov. Park
Straffordville
Glen Meyer
Eden
Courtland
Delhi
Lynedoch
Langton
Walsingham
Lakeview
Vienna
Iroquois Beach Prov. Park
Kinglake
Clear Creek
Long Point Park
Long Point Prov. Park
LONG POINT
Port Rowan
St. Williams
Turkey Point
Turkey Point Prov. Park
Normandale
Vittoria
Port Ryerse
Port Dover
Simcoe
Atherton
Nanticoke
Jarvis
Renton
Nixon
Windham Centre
Vanessa
Waterford
Teeterville
Scotland
Oakland
Harley
Mt. Pleasant
Cathcart
Alexander G. Bell Homestead
Cainsville
Chapel of the Mohawks
Onondaga
Ohsweken
Caledonia
Hagersville
Nelles Corners
Cayuga
Kohler
Fisherville
Selkirk
S. Cayuga
Selkirk Prov. Park
Peacock Point
Canfield
York
Caistor Centre
Binbrook
Fulton
Canboro
Dunnville
Port Maitland
Lowbanks
Rock Point Prov. Park
GRANT POINT
Long Beach
Wainfleet
Chambers Corners
Bismarck
Caistorville
Smithville
Campden
Grimsby
Beamsville
Vineland
Jordan
Jordan Sta.
St. Catharines
Grimsby Beach
Winona
Stoney Creek
Hamilton
Mt. Hope
Elfrida
Duff Cors
Ancaster
Alberton
Jerseyville
Copetown
Lynden
Troy
St. George
Rockton
Peters Corners
Sheffield
Waterdown
Clappisons Corners
Dundas
Burlington
Oakville
Shell Oakville Refinery
Campbellville
Milton
Hornby
Streetsville
Mississauga
Port Credit
Ontario Place
Toronto
Brampton
Norval
Huttonville
Georgetown
Glen Williams
Terra Cotta
Acton
Mills
Cheltenham
Erin
Ballinafad
Credit Forks
Inglewood
Caledon
Caledon East
Alton
Hillsburgh
Orton
Belfountain
Mono Mills
Mono Road Sta.
Palgrave
Bolton
Nobleton
Kleinburg
Nashville
Woodbridge
Snelgrove
Victoria
Bramalea
Maple
Thornhill
Richmond Hill
Unionville
Markham
Pickering
Ajax
Bay Ridges
Whitby
Oshawa
Brooklin
Greenwood
Claremont
Brougham
Green River
Gormley
Stouffville
Ringwood
Ashburn
Myrtle
Goodwood
Aurora
Oak Ridges
Newmarket
King City
Kettleby
Schomberg
Tottenham
Bond Head
Beeton
Holland Landing
Sharon
Mount Albert
Uxbridge
Manchester
Port Perry
Greenbank
Leaskdale
Cannington
Sunderland
Manilla
Oakwood
Pefferlaw
Udora
Zephyr
Sutton
Baldwin
Roches Point
Keswick
Brown Hill
Queensville
Bradford
Gilford
Churchill
Lefroy
Bell Ewart
Stroud
Barrie
Angus
Thornton
Cookstown
Alliston
Everett
Lisle
Mansfield
Rosemont
Earl Rowe Prov. Park
Newton Robinson
Primrose
Loretto
Honeywood
Horning's Mills
Dunedin
Camp Borden Military Reserve
Glencairn
New Lowell
Brentwood
Creemore
Devils Glen Prov. Park
Glen Huron
Stayner
Wasaga Beach
Wasaga Beach Prov. Park
Brocks Beach
Oakview Beach
Minesing
Springwater Prov. Park
Midhurst
Craighurst
Edgar
Oro
East Oro
Guthrie
Hawkestone
Shanty Bay
Big Bay Point
GEORGINA ISLAND
Jacksons Point
Island Grove
Sibbald Point Prov. Park
Port Bolster
Beaverton
Lorneville
Woodville
Argyle
Brechin
Gamebridge
THORAH
Bolsover
Kirkfield
Victoria Rd.
Glenarm
Orillia
Atherley
Mara Prov. Park
Bass Lake Prov. Park
Ardtrea
Longford
Washago
Severn Bridge
Coldwater
Fesserton
Waubaushene
Victoria Harbour
Port McNicoll
Waverly
Orr Lake
Hillsdale
Elmvale
Wyevale
Moonstone
Prices Corner
New Unthoff
Wyebridge
Ste. Marie I Among the Hurons
Huron Indian Village
Midland
Penetanguishene
Lafontaine
Perkinsfield
Balm Beach
Ossossane Beach
Allenwood
Thunder Beach
Cedar Point
Honey Harbour
Georgian Bay Islands Nat'l Park
Martyrs Shrine
Port Severn
Severn Falls
Six Mile Lake Prov. Park
BEAUSOLEIL
BECKWITH
GIANTS TOMB
HOPE
CHRISTIAN ISLAND
MUSKOKA
Torrance
Bala
Glen Orchard
Milford Bay
Beaumaris
Bracebridge
Muskoka Beach Sanitarium
Gravenhurst
Kilworthy
Kahshe Lake
Sparrow Lake
Coopers Falls
Houseys Rapids
Barkway
Uffington
Fraserburg
Purbrook
Yankoughnee
Ragged Rapids
Sadowa
Uphill
Sebright
Dalrymple
Head Lake
Norland
Fenelon
Port Sandfield
Port Carling
Windermere
Ufford
Ullswater
Utterson
Port Sydney
Beatrice
Baysville
LAKE OF BAYS
Glenmount
Bigwin
Norway Point
Huntsville
Portage
Kingsway
Hillsdale
Arrowhead Prov. Park
Aspdin
Hekkla
Ilfracombe
Novar
Melissa
Emsdale
Scotia
Kearney
Katrine
Spence
Sprucedale
North Seguin
Bear Lake
Seguin Falls
Broadbent
Orrville
Humphry
Rosseau
Otter Lake
Oastler Lake Prov. Park
Parry Sound
Depot Harbour
Killbear Provincial Park
Snug Harbour
FRANKLIN I.
Nobel
Carling
Shebeshekong
Brooks Landing
Shawanaga
McKellar
Waubamik
Hurdville
SANDY I.
PARRY ISLAND
THIRTY THOUSAND ISLANDS
MOON I.
Manitou Dock
Moon River
Mac Tier
Niagara Falls
Niagara-on-the-Lake
Virgil
St. Davids
Queenston
Thorold
Allanburg
Fonthill
Fenwick
Welland
Wellandport
Robinson
Chippawa
Stevensville
Ridgeway
Crystal Beach
Port Colborne
Fort Erie
Youngstown
Cambria
Lewiston
Wilson
North Tonawanda
Lackawanna
East Aurora
Hamburg
CANADA UNITED STATES
NEW YORK ONTARIO
ONT. N.Y.
Silver Creek
Dunkirk
Fredonia
Gowanda
Barcelona
Westfield
Sinclairville
Cattaraugus
Little Valley
Conewango Valley
Great Valley
North East
Ripley
Mayville
PENN. N.Y.
Erie
THRUWAY
80° To Cleveland
To Jamestown
To Jamestown 79°
To Salamanca
81°
N
E
S
W
5
6
7
8

WORKSHEET 0695101

l = 1500 m
w = 1000 m

ORIGIN x 17586500
y 4821000

Standard Error S_x
R 353 m

l = 1500 m
w = 1000 m

LIFT-OFF x_1 17597600
y_1 4826500

Standard Error S_y
R 353 m

$(x_1 - x)$ = 11100
$(y - y_1)$ = 5500

DAMAGE LENGTH

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

= 12388

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

= 499 m

$$\beta = \frac{S_L}{57.29 L}$$

= 2°

$$\alpha = \tan^{-1} \frac{|y - y_1|}{|x - x_1|} = 26°$$

NE Quad $\phi = 90 - \alpha$
NW Quad $\phi = 270 + \alpha$
SW quad $\phi = 270 - \alpha$

SE quad $\phi = 90 + \alpha$

ϕ = 244°

WORKSHEET 0695102

ORIGIN x 1764000 Est Standard Error S_x
y 4918000 C 1000 m

LIFT-OFF x_1 Est Standard Error S_y
y_1 C 3000 m

$(x_1 - x)$ =
$(y - y_1)$ =

DAMAGE LENGTH

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

= 16000 (given)

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

= 3162 m

$$\beta = \frac{S_L}{57.29 L}$$

= 18.4°

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

NE Quad $\phi = 90 - \alpha$ SE quad $\phi = 90 + \alpha$
NW Quad $\phi = 270 + \alpha$
SW quad $\phi = 270 - \alpha$

ϕ = WEST (given)

WORKSHEET 0695103

ORIGIN x 17540400

y 4883800

l 16 km

Standard Error S_x 4619 m

LIFT-OFF x_1

y_1

Standard Error S_y

$(x_1 - x) =$

$(y - y_1) =$

DAMAGE LENGTH

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

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

$=$

$$\beta = \frac{S_L}{57.29L}$$

$=$

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

NE Quad $\phi = 90 - \alpha$

NW Quad $\phi = 270 + \alpha$

SW quad $\phi = 270 - \alpha$

SE quad $\phi = 90 + \alpha$

$\phi =$

WORKSHEET 0695105

ORIGIN x 17624050
y 4836880

Standard Error S_x 102 m

LIFT-OFF x_1 17628820
y_1 4838270

Standard Error S_y 102 m

$|(x_1 - x)|$ = 4770 m
$|(y - y_1)|$ = 1390 m

DAMAGE LENGTH

$$L = [(x_1 - x)^2 + (y - y_1)^2]^{1/2}$$
$$= 4968 \text{ m}$$

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

= 144 m

$$\beta = \frac{S_L}{57.29 L}$$

= 2°

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

= 16.2°

NE Quad $\phi = 90 - \alpha$
NW Quad $\phi = 270 + \alpha$
SW quad $\phi = 270 - \alpha$

SE quad $\phi = 90 + \alpha$

ϕ = 286