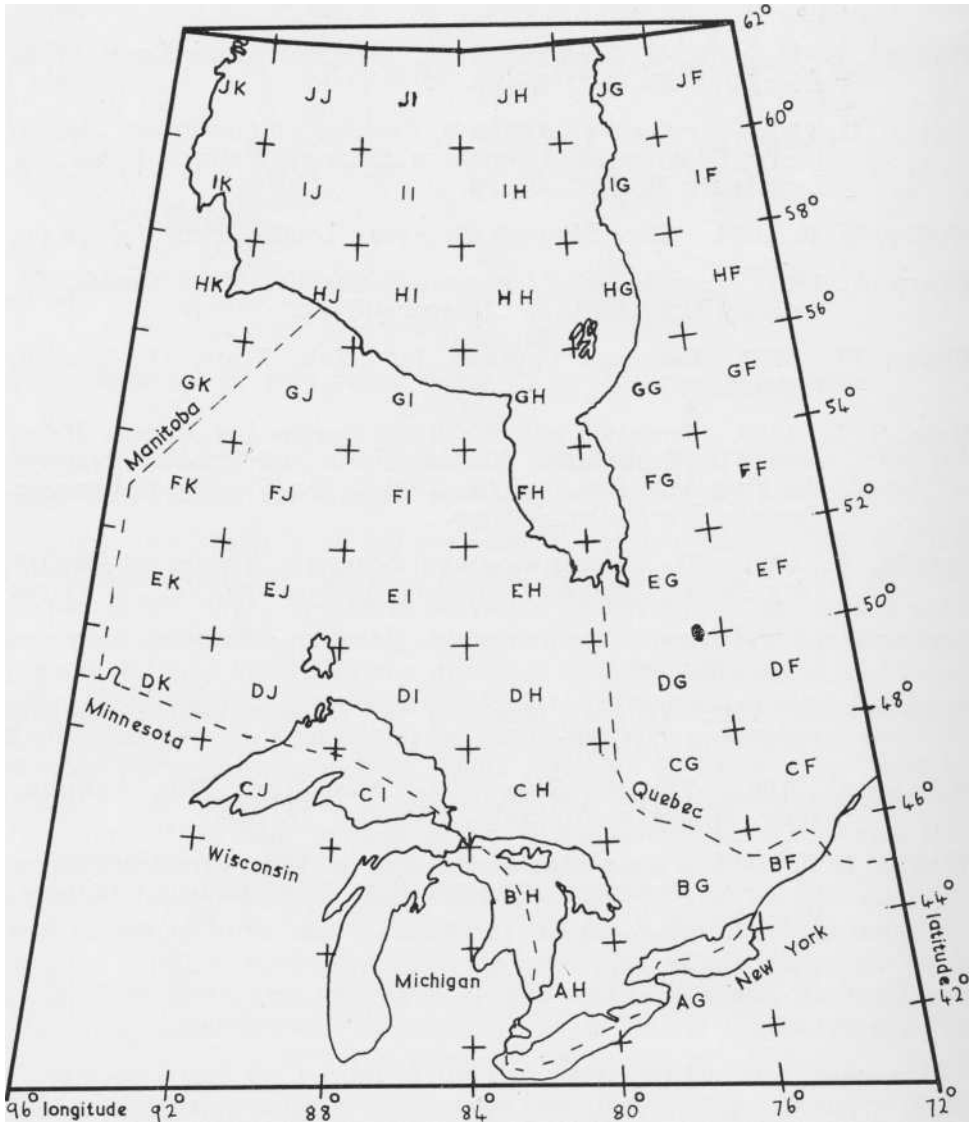

FIGURE 1

OUTLINE OF MAJOR UNITS

C. GARRAD

(Accepted June 19, 1967)

The Borden Site Designation

Scheme Applied To Ontario

ABSTRACT

Some aspects of adopting for local Ontario use the national Site Designation Scheme devised by Dr. Charles E. Borden are explored.

HISTORY

In the fifteen years since Dr. Charles E. Borden of the University of British Columbia published his system for designating archaeological sites anywhere in Canada (Borden, 1952), acceptance of this excellent and practical scheme has become widespread. It is used in Ontario by the National Museum of Canada, the University of Toronto, and the Ontario Archaeological Society.

THE SCHEME

Each site is numbered arbitrarilly by the reporter within a small BASIC UNIT area, which by two letters of the PREFIX is related in position to a MAJOR UNIT area, which in turn by two letters in the PREFIX is related to the National Topographical Grid System.

MAJOR UNIT AREAS

The surface area of Canada is broken down into MAJOR UNITS, each 2 degrees latitude by 4 degrees longitude. Border lines of MAJOR UNIT areas always coincide with lines of the National Topographical Grid System. Each MAJOR UNIT is designated by two Upper Case Letters in the PREFIX, the first indicating the particular 2 degree latitude; the second, the 4 degrees longitude (Fig. 1).

BASIC UNIT AREAS

Each MAJOR UNIT area is broken down into 288 BASIC UNIT areas, each of 10 by 10 minutes in size. Each is about 11.5 miles north/south by 7 miles (tapering and reducing toward the Pole) east/ west, or approximately 80 square miles per BASIC UNIT, each of which is designated by two Lower Case Letters in the PREFIX, the first indicating the particular 10 minutes latitude of the 12 possible and designated "a" to "1" south to north; the second, the 10 minutes longitude of the 24 possible and designated "a" to "x" east to west (Fig. 2).

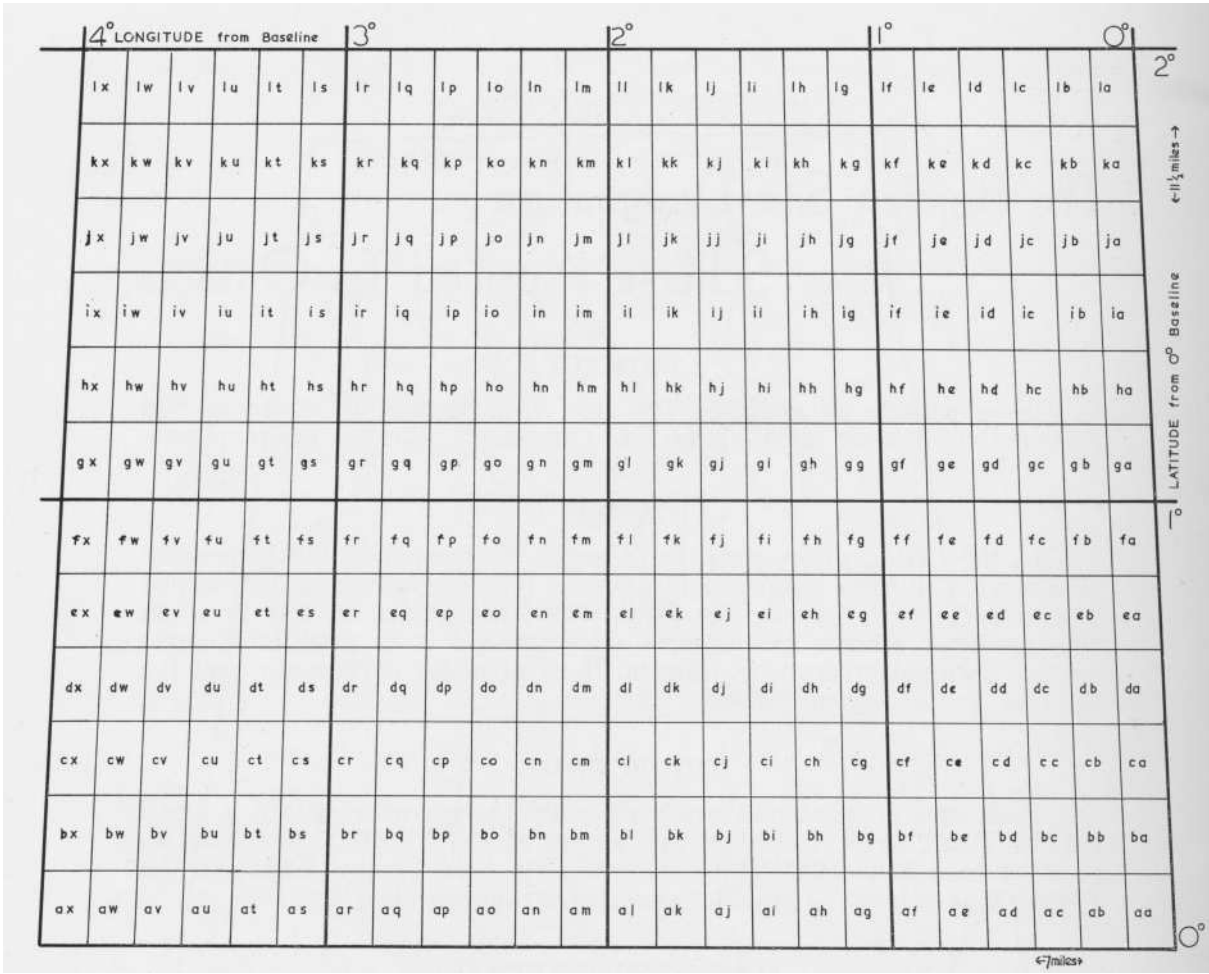

FIGURE 2
Plan of BASIC UNIT areas within any MAJOR UNIT

THE PREFIX

The PREFIX comprises the four letters below, and always in the order they are given:

(i) The first letter is Upper Case, representing the two degree range of latitude in the MAJOR UNIT;

(ii) The second letter is Lower Case, representing the 10 minute range of latitude of the BASIC UNIT;

(iii) The third letter is Upper Case, representing the four degree range of longitude in the MAJOR UNIT;

(iv) The last letter is Lower Case, representing the 10 minute range of longitude of the BASIC UNIT.

ADVANTAGES OF THE SCHEME

Dr. Borden listed the advantages noted in testing the scheme in British Columbia. Of these, three are noted here:

(i) No other scheme can designate an area of 80 square miles anywhere in Canada, employing only four letters.

(ii) From the four letters anyone can quickly determine the approximate geographic position of the site within Canada, conversely, the position of any feature in Canada can be quickly designated by only four letters plus a number.

(iii) Even when the Site Number is added to the PREFIX, the resulting designation is still short enough for artifact labelling.

DISADVANTAGES OF THE SCHEME

(i) The possibility exists for confusion in Site Numbering within a BASIC UNIT.

(ii) The size of the BASIC UNIT selected does not readily con-form to the most popular and available 1:50,000 Scale Series Maps.

ONTARIO MAPS

The National Topographical Maps available for Ontario are in Scales Series 1:250,000, 1:125,000, 1:50,000 and 1:25,000. Of these, the 1:125,000 and 1:25,000 are not complete and thus of limited use.

Maps of the 1:250,000 series cover an area 1° lat. by 2° long., covering 7,200 square minutes and equivalent to 32 maps of the 1:50,000 series. Each map contains 1/4 of a Major Unit and 72 Basic Units.

Maps of the 1:50,000 series cover an area 15' lat. by 15' long. Each map contains 1/128th of a Major Unit and 2¼, Basic Units. Sixteen maps of this series are equivalent to 36 Basic Units (Fig. 3).

THE 1:50,000 SCALE SERIES MAP

This is the basic field map used in Ontario. Since it is 2¼ times the area of the Basic Unit, some adaptation is always necessary, according to the following rules:

(i) Each Map will always contain parts of four Basic Units in the proportion : One complete Basic Unit, two halves of two Basic Units, and one-quarter of a Basic Unit.

(ii) These four parts are always marked off by drawing two lines, i.e., one north south, the other east west.

(iii) The positions of these two lines may be quickly observed on the map, without knowing the Designation. Along the borders of the Map are marked the Minutes Figures at intervals of five. The second or third figure from any corner is always divisible by ten. Connect this figure by a straight line to the same figure on the opposite border. This is re-

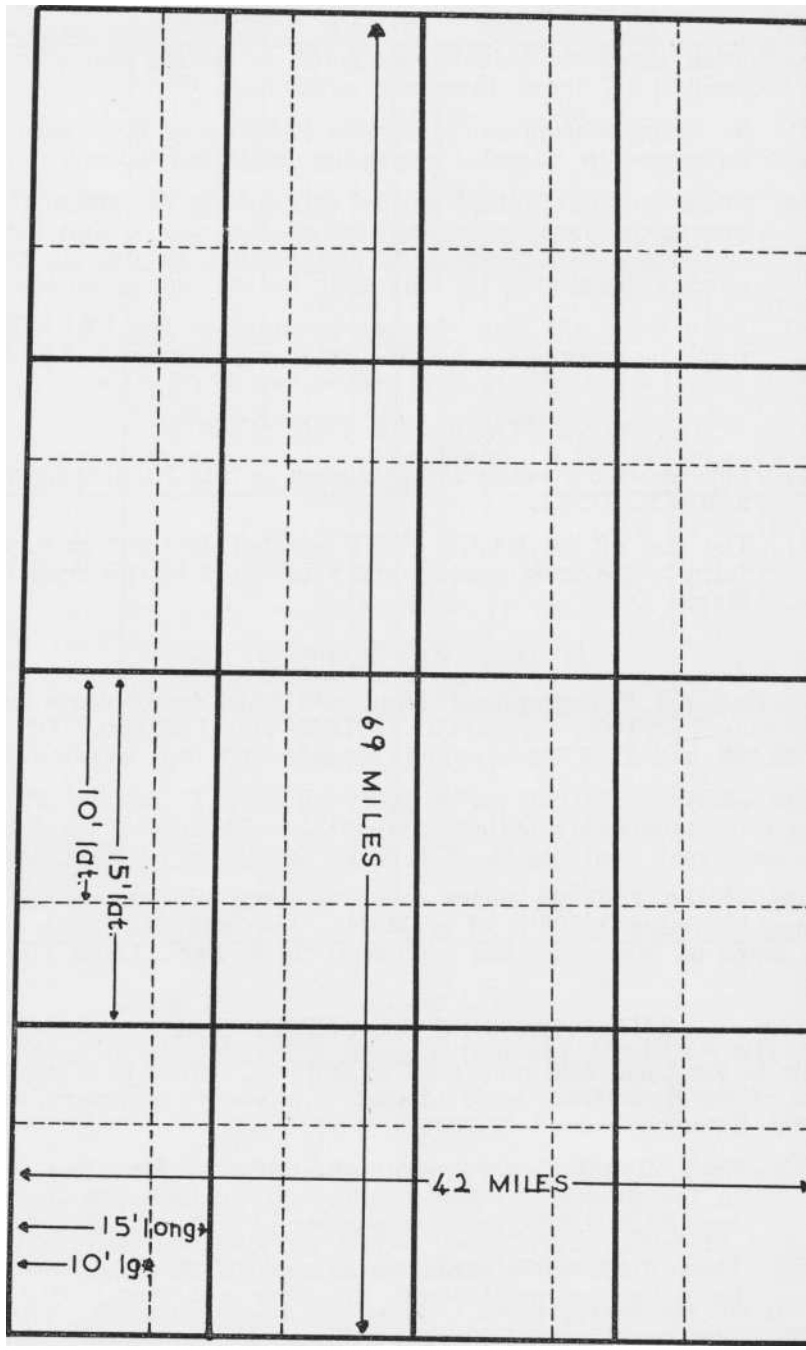

FIGURE 3

Plan of any 1° lat. x 1° long. showing positions of the 36 BASIC UNIT areas compared with the 16 maps of the 1:50,000 Scale Series.

peated for the other two borders. The two lines will always intersect and divide the Map as noted in (i).

CALCULATING THE PREFIX

Having marked off the 1:50,000 Scale Series field map into BASIC UNITS it remains to calculate the four letters of the PREFIX.

(i) Determine the Latitudinal and Longitudinal Co-ordinates of the Site.

(ii) Consult the Ontario Major Unit Chart (Table 1) for the Upper Case 2° Latitude Range, and the Upper Case 4° Longitude Range.

(iii) Deduct from the known latitude the lowest whole two degrees latitude represented within the 2 ° Latitude Range selected in (ii), convert the balance into minutes and consult the Ontario Basic Unit Chart (Table 2) for Lower Case 10' Latitude Range.

(iv) Deduct from the known longitude the lowest whole four degrees Longitude represented within the 4° Longitude Range selected in (ii), convert the balance into minutes and consult the Ontario Basic Unit Chart (Table 2) for Lower Case 10' Longitude Range.

(v) Arrange the letters in the order given for the Prefix.

EXAMPLE: Ajax, Ontario, 43° 51' lat., 79° 02' long.
The Ontario Major Unit Chart reads: lat. "A", long. "G". Deduct from known latitude 43° 51' lowest whole 2° lat. represented by "A" (42 °) , balance 1 ° 51', converted to minutes gives 111' (1 ° X 60 + 51' 111'), for which the Ontario Basic Unit Chart reads "1". Deduct from known longitude 79° 02' lowest whole 4° long. represented by "G" (76°), balance 3° 02', converted into minutes gives 182' (3° X 60 + 2' = 182'), for which the Ontario Basic Unit Chart reads "s". The resultant PREFIX is "AlGs".

TABLE 1

ONTARIO MAJOR UNIT CHART

Upper Case Letters denoting 2 degrees latitude		Upper Case Letters denoting 4 degrees longitude	
A	42° - 44° N.	G	76° - 80° W.
B	44° - 46° N.	H	80° - 84° W.
C	46° - 48° N.	I	84° - 88° W.
D	48° - 50° N.	J	88° - 92° W.
E	50° - 52° N.	K	92° - 96° W.
F	52° - 54° N.		
G	54° - 56° N.		
H	56° - 58° N.		

TABLE 2

ONTARIO BASIC UNIT CHART

Lower Case Letters denoting 10 minute divisions of 2 degrees latitude read from south to north

a	—	0' - 10'
b	—	10' - 20'
c	—	20' - 30'
d	—	30' - 40'
e	—	40' - 50'
f	—	50' - 60' (1°)
g	—	60' - 70'
h		70' - 80'
i	—	80' - 90'
j	—	90' - 100'
k	—	100' - 110'
1	—	110-120 (2°)
m	—	120' - 130'
n	—	130' - 140'

Lower Case Letters denoting 10 minute divisions of 4 degrees longitude read from east to west a - 1 inclusive — read from latitude chart

o	—	140' - 150'
p		150' - 160'
q	—	160' - 170'
r	—	170' - 180' (3°)
s	—	180' - 190'
t	—	190' - 200'
u		200' - 210'
v	—	210' - 220'
w	—	220' - 230'
x	—	230' - 240' (4°)

COMPLETING THE SITE DESIGNATION

To the PREFIX obtained from the above procedure is now added the Site Number. There are presently no rules for the derivation of Site Numbers within a BASIC UNIT, this being at the discretion of the authority reporting the Site.

SUGGESTIONS

(i) The adoption of the Borden Uniform Site Designation Scheme is recommended to all archaeological field workers in Canada.

(ii) "In order to save time in the field, it is advisable to indicate the precise limits of the Basic Unit areas on the large-scale maps and aerial photographs before embarking on a site survey" (Borden, 1952).

(iii) It will be found easier and faster to mark the 1:50,000 Scale Series Maps into Basic Units merely by connecting the Minute Figures divisible by ten as outlined above as the first step, and determine the Prefix later, selecting as the co-ordinates those applying to some locus within the Basic Unit.

(iv) In the case of unmarked maps under conditions prohibiting pencilled lines, the maps may be readily folded along the two lines necessary.

(v) Some system for the prevention of potential confusion in Site Numbers within a Basic Unit area will be needed when

this Scheme is more widely used. Although the Basic Unit area is small, a sample test in a congested part of Simcoe County showed as many as 40 Site Numbers are possible if all villages, campsites, ossuaries and miscellaneous finds are separately numbered.

It is suggested that if regional authorities — Provincial Museums for example, open Registers of Site Numbers for the use of field workers, this would solve the problem, and at the same time have the additional merit of a useful, centralised site Directory and record of work being done. The voluntary registration by amateurs of their Site Numbers is desirable, and even if it is found necessary to make this mandatory before any excavation may commence, this would be more acceptable to the amateur than the rigidity and excessive control of a Permit System.

ACKNOWLEDGEMENT

Dr. Charles E. Borden, University of British Columbia, Vancouver, B.C., was kind enough to read and approve this paper prior to publication.

LITERATURE CITED

Borden, C. E., 1952. *A Uniform Site Designation Scheme for Canada.* Anthrop. in British Columbia, No. 3, 44-48.