COALESCENT COMMUNITIES IN IROQUOIAN ONTARIO

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ABSTRACT

This study documents and theorizes the processes behind the coalescence of ancestral Huron-Wendat populations on the north shore of Lake Ontario. A multi-scalar analytical approach is employed to examine settlement aggregation at the regional, local and community levels. The study draws upon cross-cultural models of coalescent societies and the archaeology of communities while being theoretically situated within an historical-processual approach.

The settlement data presented demonstrate that during the fifteenth century AD, small, previously distinct communities came together into large village aggregates. Through an examination of settlement relocation sequences and the occupational histories of individual villages, the transformations in social and political organization that accompanied this process are examined. Differences between site sequences suggest that while it is possible to identify similar processes in coalescence, the actual experience of coming together varied at the local level due to particular historical contingencies.

A major contribution of the study is a detailed analysis of one village relocation sequence involving the aggregation of several small village communities at the Draper site, during the late fifteenth century. In the early sixteenth century, this coalescent community relocated to establish the Mantle site, the largest Iroquoian village excavated to date in the Lower Great Lakes. A detailed analysis of the occupational history of the Mantle site is presented here. The results point to the increasing integration of the community over time. A comparison of the built environments and other features of the Draper and Mantle sites elucidate practices that directly address the lived experience of coalescence. These community-level processes are ultimately situated in, and form the basis for, the broader socio-political realignments that characterized the Late Precontact Lower Great Lakes.

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CHAPTER ONE
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This study explores the social processes involved in the formation and maintenance of large Northern Iroquoian communities by analysing the movement and structural change of precontact villages on the north shore of Lake Ontario. It documents and theorizes the processes behind the physical, social and political coalescence of ancestral Huron (Wendat) populations during the Late Woodland period (ca. AD 500 – 1600). Particular attention is focussed on the early fourteenth to the late sixteenth centuries AD. During this period, previously distinct community groups came together into much larger village aggregates than had existed previously in the Lower Great Lakes. These coalescent communities were separated by significant distances and exhibit increased evidence for violent conflict, concern for defense, more organized village planning, the intensification of horticultural production and an increasingly cosmopolitan material culture (Finlayson 1985; Ramsden 1990a; Warrick 2000).

1.0 Purpose and Approach

The investigation of how people came to live together in large population aggregates, having lived in significantly smaller social groups for the preceding millennia, is a global research question of some importance. In nearly every part of the world, people in small-scale societies have at times come together into

increasingly complex social aggregates, larger villages or towns. Many previous studies have investigated processes of coalescence at a broad, regional scale (Kowalewski 2006; Hill *et al.* 2004). I argue here that processes of socio-political realignment in coalescent societies can be best understood at the community level rather than focusing on the region alone.

I employ a multi-scalar research program to examine coalescence at the regional, local and community level. As Iroquoian villages were relocated every few decades and re-occupation of village sites was infrequent, each settlement plan represents a 'snapshot' of a few decades of activity. Through an examination of the occupational histories of individual villages and settlement relocation sequences over time, we are able to observe transformations in social organization at a variety of temporal and spatial scales.

Regionally, differences in the timing of village fusion and relocation, spacing between sites and site clusters, and levels of conflict between these large Iroquoian communities suggest that, while it is possible to identify similar processes in coalescence, the actual experience of 'coming together' varied at the local level due to particular historical contingencies. Between the fourteenth and sixteenth centuries AD, the settlement patterns of village sites on the north shore of Lake Ontario describe a gradual northward movement. Around AD 1450 a 'wave' of village fusion can be observed, whereby more than 20 small villages coalesce into approximately 7-8 villages, some of which are ten times the size of their predecessors. However, settlement aggregation is not a uniform event. This

study demonstrates for the first time the unique trajectories of development for village relocation sequences across south-central Ontario whereby some village aggregates persist, others break apart, potentially joining communities on other drainages or joining the ancestral Wendat (Huron) settlements in Simcoe County (historic Huronia). By the mid-sixteenth century AD it appears that the entire population of the north shore of Lake Ontario had coalesced into two large communities. These villages likely represent formative tribal nations that in the next century formed components of the Wendat-Tionontaté (Huron-Petun).

At the community level, my approach employs analyses of household size and alignment, community planning, refuse disposal, subsistence practices and collective defense to reveal patterns that directly address the lived experience of coalescence, processes that I argue can only be observed through thorough analyses of these micro-scale patterns at the community level (cf. Hally 2008; Hodder and Cessford 2004). A major component of this project is a detailed case study of one community relocation sequence which involved the abandonment of a number of small early 15th century villages, their populations aggregating to form the heavily fortified Draper site (AlGt-2) (Finlayson 1985). During its history of occupation, Draper expanded five times to accommodate new longhouse clusters before relocating in the early 16th century to establish the Mantle site (AlGt-334), the largest Iroquoian village known to date in the Lower Great Lakes (ASI 2006a; Birch and Clish 2009). My analyses of these well-excavated villages' occupational histories necessitated developing a method for

elucidating micro-scale temporal trends and the specifics of how people constructed, inhabited and negotiated their domestic and public spaces.

These community-level analyses suggest that the physical coalescence of the West Duffins Creek communities preceded their social and political coalescence. The sequence of village expansions and arrangement of structures at the Draper site suggest that Draper was essentially a village made of many small villages. Yet, as the people living at the Draper site adapted to living in a much larger group, new social and political relationships developed; with the relocation of this population to the Mantle site, these relationships become manifest in the village plan. The spatial integration of structures, the arrangement of houses around an open plaza, new strategies for refuse disposal and communal defence all point to the creation of co-ordinated decision-making structure and an emphasis on the social integration of this large village community.

With some exceptions (cf. Ferris 2003; Ramsden 1990b; Williamson and Robertson 1994), theoretical schemes for understanding the social and cultural development of Ontario Iroquoians are underdeveloped relative to research in other parts of the world (Ramsden 1996). One of the primary goals of this thesis has been to apply a contemporary theoretical perspective to the development of Late Precontact Northern Iroquoian communities. My work is situated within an historical-processual perspective (Pauketat 2001, 2003), and draws upon models of coalescent societies (Kowalewski 2006) and the archaeology of communities (Gerritsen 2003; Yaeger and Canuto 2000).

The major contributions of this study are twofold: first, it provides new insights into community-level processes in coalescent societies (Kowalewski 2006). Population aggregation has predominantly been studied from the regional level (cf. Hill et al. 2004; Wilcox et al. 2003). This study demonstrates how processes of socio-political realignment in coalescent societies unfold 'on the ground' can be best understood by examining changes at the community level rather than focusing on the region alone. Second, it provides a framework for understanding the social and political development of ancestral Wendat (Huron) societies that does not rely on phase-based schemes of cultural development or the identification of ethnohistoric analogs in the archaeological record. Instead it demonstrates how research designs which employ multi-scalar analytical and theoretical frameworks can provide more nuanced explanations of processes of cultural change in Late Woodland societies. This new framework not only helps us to better understand the history of Northern Iroquoian peoples, but provides fruitful data for comparison with other societies around the world.

1.2 The Archaeology of Northern Iroquoian Societies

The term "Iroquoian" refers to both a cultural pattern and a linguistic family, of which Northern Iroquoian is one branch. Northern Iroquoian archaeology is generally concerned with the material remains of groups ancestral to several seventeenth-century peoples located in southern Ontario, south-western Quebec and New York State (Figure 1.1). At the time of contact in the early

seventeenth century these peoples were organized into political confederacies of allied tribal nations, though archaeological evidence indicates that Iroquoian-speaking peoples had inhabited the area for hundreds, and possibly thousands, of years previously. The term *Northern Iroquoian* is to be understood as encompassing all the Northern Iroquoian speaking peoples who occupied the Lower Great Lakes. Conversely *Ontario Iroquoian* should be understood as those groups that lived primarily in southern Ontario – the Neutral, Petun, Huron and their ancestors.

The primary set of settlement data being examined in this study comes from an area of south-central Ontario bounded by the Oak Ridges Moraine to the north, Lake Ontario to the south, the Humber River to the west and Duffins Creek to the east (Figure 2.1). In precontact times this area was densely occupied. It contains the remains of hundreds of small sites and dozens of villages that represent more than 500 years of contiguous occupation by the ancestors of the Wendat (Huron) and Tionontaté (Petun) (MacDonald 2002; Sutton 1996; Warrick 2008).

The Huron (Wendat) confederacy consisted of five allied nations or peoples. The *Attignawantan* (Bear), *Atingeennonniahak* (Cord), *Arendarhonon* (Rock), *Ataronchronon* (Bog) and *Tohontaenrat* (Deer) (Steckley 2007:32-34; Trigger 1976:30) historically inhabited an area between Georgian Bay on Lake Huron and Lake Simcoe. The Petun (*Tionontaté*), lived immediately to the southwest, were known for their tobacco production and resembled the Huron in

many ways. Their combined population in the early seventeenth century has been estimated at 30,000 (Warrick 2008:146).

The Neutral lived between the Credit River valley and the Niagara River on the peninsula separating Lakes Erie and Ontario. They were called the Neutral by the French because of their good relations with the Huron and lack of engagement in the warfare that persisted at the time between the Huron and Iroquois, though they were engaged in conflict with the Algonquin-speaking peoples to the west (Trigger 1976:94-96).

Little is known about the Erie in part due to the paucity of contact between them and early European visitors, apart from the fact that they inhabited the south-eastern end of Lake Erie. We also know little about the Wenro (*Oneronon*) another group living south of the Great Lakes, though it is recorded that some joined the Wendat in 1639 (Williamson 2010).

Five Nations of the Iroquois Confederacy (*Haudenosaunee*) lived in clustered tribal groupings across upper New York State. They included (from west to east) the Seneca, Cayuga, Onondaga, Oneida and Mohawk nations. The Iroquois population was similar to and likely greater than that of the Huron (Trigger 1985a:236) though there is less settlement plan data available for the precontact New York State Iroquois than for ancestral Huron and their neighbours making population estimates and reconstructions of precontact village life more difficult than for southern Ontario.

Archaeological and ethnohistoric accounts also indicate that Iroquoian-speaking peoples were living in the St. Lawrence Valley and modern Quebec into the sixteenth century. Jacques Cartier encountered them in his visits to eastern Canada in the 1530s though they had 'disappeared' by Champlain's arrival in 1603. The appearance of St. Lawrence Iroquoian style artifacts and dialects in later contexts suggest that these groups relocated and realigned themselves in the context of emerging social and political challenges (Steckley 2008; Williamson 2010). As this dissertation demonstrates, it would appear that population movement and socio-political realignments characterised all Northern Iroquoian societies during the fifteenth and sixteenth centuries, meaning that the so-called 'disappearance' of the St. Lawrence Iroquoians can be compared to the abandonment of the North Shore of Lake Ontario during the same period (Williamson 2010).

It has been generally accepted that sites in the Lower Great Lakes dating to after AD 1000 were occupied by Northern Iroquoian speakers because of continuity with seventeenth-century sites in the same region sharing a similar Iroquoian cultural pattern (Fenton 1978; Warrick 2000). However the basic 'Iroquoian cultural pattern' recognised by common archaeological and ethnological understandings of these societies does not fully develop in the Lower Great Lakes until closer to the fourteenth century AD (Hart and Brumbach 2003; Williamson 2010). This pattern includes subsistence based primarily on maize

horticulture and permanent year-round settlement in villages sometimes surrounded by palisades and made up of rows of bark-covered longhouses.

Our understandings of Northern Iroquoian societies are derived from both the archaeological record and from an extensive historical record written by early European explorers and missionaries (Biggar 1929; Fenton and Moore 1974; Thwaites 1896-1901; Wrong 1939; see Tooker 1964 and Trigger 1976 for summaries). Initially, the study of the history of the Huron and their neighbours was dominated by our knowledge of seventeenth-century ethnic groups as perceived by European male observers with their own agendas in the New World. The search for ethnohistorical antecedents has at times led archaeologists to make the behaviours and social units they are attempting to reconstruct match the social units defined in historical documents (Birch 2008; Harris 1968). The search for ethnohistoric analogs in the archaeological record made it difficult to produce novel interpretations of archaeological materials and hampered the application of critical and contemporary theoretical approaches to Northern Iroquoian archaeology (Ramsden 1996:105). However, our interpretations of precontact Northern Iroquoian sites can nevertheless benefit from cautious and judicious use of the ethnohistoric record. The problem lies in the overuse of evolutionary and direct historical approaches when conceptualizing the socio-political organization and worldviews of precontact peoples in the centuries before contact. We must allow that while some cultural traits of these peoples may have persisted for long periods of time, many others also changed in the centuries that passed between the

historically documented societies of the contact period and their fourteenth to sixteenth century ancestors.

Descriptions of the Iroquoian 'cultural pattern' most often include historical observations such as the strict gender-based division of labour whereby men conducted extra-village relations while women tended to crops and oversaw the village and domestic realms; political organization characterized by councils and separate positions for civil and military leaders; or the matrilineally defined membership in clans that facilitated integration between larger regional and political groupings (Trigger 1976:99-104). However, we still only have a general idea of when and how these practices, identities and institutions may have come into being. One of the aims of this dissertation is to identify a material, spatial and temporal context for those practices and socio-cultural institutions that can be identified archaeologically.

1.2.1 Culture History and Ontario Iroquoian Archaeology

During the first half of the twentieth century, Iroquoian archaeology was heavily influenced by developments in the larger field of American archaeology. Early excavations at a number of important sites helped initially to define the Iroquoian peoples who had occupied southern Ontario as a taxonomically distinct group (Smith 1990:281). When chronology became the dominant concern in American archaeology (Willey and Sabloff 1980:83), seriation and demonstrating that certain types of artifacts had chronological significance likewise became the

primary concern of Iroquoian archaeologists (Smith 1990:282). From these observations, classification schemes for phases of cultural development were advanced (Lee 1952; Emerson 1954). The work of MacNeish (1952) and Emerson (1954) defined what came to be the dominant approach in Ontario Iroquoian archaeology, whereby the typological classification of rim sherds was used to chronologically order sites and assign them to cultural units based on direct analogy with historic societies. The privileging of ceramic attribute analyses at the expense of attention to other classes of data or a "ceramics syndrome" still persists to some degree in Ontario archaeology (Williamson 1999:5).

Wright's (1966) *Ontario Iroquois Tradition* (OIT), which presented a revised framework for Iroquoian archaeology, included many of the ideas and terms already in use at the time, as well as new ideas and hypotheses regarding cultural change. He included radiocarbon dates in addition to seriated sequences to create a broad chronological taxonomy for precontact southern Ontario: The Early (AD 1000-1300), Middle (AD 1300-1400) and Late (AD 1400-1650) Ontario Iroquois Tradition (OIT). For Wright, these chronological divisions were populated by archaeological cultures: the Early Iroquoian Glen Meyer and Pickering branches, two cultural groups respectively occupying the west and east of the Niagara escarpment; the Middle Ontario Iroquoian Uren and Middleport substages, representing the increasing homogeneity of material culture and

population growth across the region during the fourteenth century AD; and socio-cultural division into the Huron-Petun and Neutral-Erie after AD 1400.

Wright's OIT dominated the discourse of Late Woodland archaeology in Ontario over the next two decades. At the time it represented an important and successful paradigm shift. Yet many archaeologists today agree that these sorts of broad taxonomic classifications mask variability and hinder innovative explanations for cultural change (Williamson and Watts 1999). Despite this, the OIT continues to exert a strong influence over the discussion and presentation of Ontario Iroquoian archaeology. While acknowledging the problems with some aspects of the OIT model, most overviews of Ontario prehistory adhere to a phase-based structure (Ellis and Ferris 1990; Ferris and Spence 1995; Warrick 2000) and many archaeologists are still comfortable using the OIT terminology conversationally. A contemporary perspective on precontact Ontario Iroquoians rejects phase-based taxonomies (Williamson and Watts 1999) and instead tries to account for diachronic cultural change at a variety of scales (cf. Miroff and Knapp 2009; Ramsden 2007), allowing for not only the recognition of distinct local traditions and historical contingencies, but social and cultural variability at the intra-site and regional levels.

1.2.2 A Brief Overview of the Late Woodland in South-central Ontario

Chapter Two will treat the settlement data for south-central Ontario in greater detail. What follows is a brief summary intended to provide a general

background to Iroquoian settlement trajectories in the study area and to contextualize the methodological and theoretical aspects of this study.

There has been a great deal of debate on the origins of Northern Iroquoian peoples in the Lower Great Lakes. For decades debates focused on whether Iroquoian-speakers migrated into the region, bringing with them a suite of intrusive Iroquoian cultural and socio-economic traits (Snow 1995a; Fiedel 1999), or if there was an *in situ* development of Iroquoian cultures from existing Middle Woodland populations (McNeish 1952; Wright 1966, 1984). While the specifics of that debate will not be recounted here (see Warrick 2000:422-426 for a summary), many archaeologists today recognise cultural continuity developing out of the Middle Woodland period and a lack of evidence for a strictly migration model (Engelbrecht 1999; Ferris and Spence 1995; Williamson 1990). Hart and Brumbach (2003) have pointed out that many of the key traits associated with the appearance of Northern Iroquoians in the archaeological record - maize and squash horticulture, longhouses, and inferred matrilocal residence - in fact had different histories of development and adoption. Engelbrecht (1999) recognised the "dubious dichotomy" between the *in situ* and migration hypotheses and instead advocates for an Iroquoian ethnogenesis which accommodates both population movement and local continuity. An ethnogenetic perspective permits the recognition of multiple ancestral groups and diverse historical processes which ultimately led to the historic forms of Iroquoian peoples and cultures.

After approximately AD 1000, semi-sedentary villages associated with Iroquoian populations appear in the Lower Great Lakes. The archaeological record of early Iroquoian communities close to the north shore of Lake Ontario is sparse, most sites in the Greater Toronto Area having been destroyed by land development. A much more complete record of the growth of horticulture and village life exists in southwestern Ontario (Williamson 1985, 1990). Population estimates based on site size and hearth counts indicate that the earliest Iroquoian communities comprised approximately 75–200 people (Timmins 1997:199), suggesting that they were reminiscent of the late Middle Woodland and Princess Point yearly territorial band aggregations of 50–150 people (Trigger 1976:134; 1985a:86). While maize horticulture was increasingly being incorporated into subsistence practices between AD 1000 and 1300, seasonally-occupied hamlets and camps for hunting and collecting wild resources attest to a diverse economic base (Williamson 1990). The increasing reliance on maize gradually resulted in more permanent settlement in village communities (Warrick 2000:432-433; MacDonald 2002:16; Williamson 1990). There is no evidence that the appearance of these early villages marks the incorporation of matrilineal descent and residence patterns or formal village organization (Hart 2001; Williamson 2010) and excavated village plans indicate that settlements were characterised by multiple phases of building and occupation (Kenyon 1968; Timmins 1997).

Towards the end of the thirteenth century, settlements in south-central Ontario shifted onto the drought-resistant soils of the South Slopes Till Plain from

the sandy glacial Lake Iroquois Plain in the context of an increasing commitment to horticulture (MacDonald 2002:17). Data from late thirteenth and early fourteenth century settlements show that both village and longhouse size increased dramatically, with villages doubling from 0.5-0.6 ha to 1.0-1.5 ha in size, and longhouse length more than doubling from a mean length of 12 m to 28 m. Population estimates for these amalgamated villages are in the range of 400 to 600 persons (Warrick 2000:440). This increase in size has been attributed to the fusion of two or more small village communities, supplemented by natural population increases (Dodd et al. 1990). Early Iroquoian villages are often found in clusters, and it has been thought that these larger early fourteenth century villages resulted from the amalgamation of two or more earlier communities (Pearce 1996). This period of widespread community aggregation constitutes the first 'wave' of coalescence in south-central Ontario and has been related to cultural changes and developments in social and political organization. The community patterns of some fourteenth century villages are characterized by more organized village planning, groups of aligned longhouses, and less overlapping of structures (Dodd et al. 1990). These changes imply developments related to key elements of later Iroquoian social organization (integration of domestic groups, elaboration of the clan system, corporate decision-making), which also constitute the major themes of this dissertation (Warrick 2000:439-441).

In the mid-to-late fourteenth century a "population explosion" increased the inhabitants of south-central Ontario from approximately 10,000 to 24,000

persons (Warrick 2008:181). Paleodemographic data suggest that increasing fertility and a decreasing infant mortality rate were responsible for population growth (Buikstra et al. 1986; Jackes 1986) and isotopic data suggests that maize typically comprised about half the diet by the late fourteenth century (Katzenberg et al. 1995; Schwarz et al. 1985) though more recent analyses indicate that this amount was variable from generation to generation (van der Merwe et al. 2003). The density of settlements throughout southern Ontario increased throughout the fourteenth century as a result of this population increase and the initial colonization of Huronia by Iroquoian populations (Sutton 1996). The increasing size and number of settlements suggests the need for more formal mechanisms of socio-political organization (Trigger 1985a:93; Warrick 2000:439-441; Williamson and Robertson 1994). Semi-subterranean sweat lodges (MacDonald 2002) and ossuary burial (Williamson and Steiss 2003) appear in this period and likely served integrative purposes. Changes in material culture, most notably ceramics decorated with rows of horizontal lines and an elaborate pipe-smoking complex (Dodd et al. 1990; Smith 1992), become ubiquitous throughout southern Ontario. This decline in local variation suggests that wide-reaching ties were forming between communities throughout the region.

In the fifteenth century there was significant variability in settlement and house size, suggesting that a significant amount of "settling in" was going on as groups adapted to new developments in their social and ecological landscapes (MacDonald 2002:18). Evidence for population migrations, population

aggregation and restructuring of social groups caused Ramsden to refer to the sixteenth century as the "Realignment Period" (1990a:382), though I argue that these realignments began earlier, in the mid-fifteenth century. Warrick argues that after AD 1420, the fourteenth century surge in population was declining and by 1500, had ceased entirely (Warrick 2008:185).

Beginning in the mid-fifteenth century AD settlement data suggest that small, previously distinct communities began to aggregate into large, heavily fortified villages. Many settlements reached extraordinary sizes of more than 4 ha and could have contained populations of 1500 to 2000 individuals (Finlayson 1985; Robertson and Williamson 1998). These large village communities were separated by significant distances and contain increased evidence for violent conflict both in the form of both butchered and/or modified human remains and heavy palisades indicating a concern for collective defense. Village layouts suggest more organized planning and the artifactual assemblages recovered from late fifteenth and early sixteenth century sites reflects both the amalgamation of local communities and links to groups further afield.

Increased village populations would necessarily have been accompanied by the intensification of horticultural production. While it might be expected that higher population densities may have increased competition for certain resources, resulting in more frequent incidents of warfare as evidenced by archaeological data (Williamson 2007), Trigger (1985a:98) has pointed out that site densities precluded competition over arable land and that land clearance for agricultural

purposes would also have increased hunting territories on the north shore. Competition for other, more social and culturally-derived reasons, such as the accumulation of status by young warriors, blood feuds or disputes over political alliances (Birch 2010; Trigger 1990a:50-52) may also have driven hostilities, which are increasingly evident in the scale of village fortifications and the presence of modified and butchered human bone on sites (Williamson 2007).

Prior to the fifteenth century, autonomous, multi-lineage villages likely represented the largest socio-political units, though neighbouring villages may have participated in loose social and political networks, possibly linked through the clan system (Engelbrecht 2003:113; Williamson and Robertson 1994). It was very likely these networks that formed the basis of the macroregional processes of coalescence that characterized the late fifteenth and early sixteenth centuries AD throughout Northern Iroquoia. The formation of these coalescent communities marks the emergence of the tribal nations that went on to become member nations of seventeenth century confederacies. The gradual northward movement of population culminates in the abandonment of the north shore area and a relocation of the vast majority of this population north of the Oak Ridges Moraine to the Nottawasaga highlands and the peninsula between Georgian Bay and Lake Simcoe. By the end of the sixteenth century the geographical and political coalescence of these populations was more or less completed with the formation of the Huron Confederacy, in the northern uplands of Simcoe County and the Petun nation in the Nottawasaga highlands.

Some late sixteenth century sites on the north shore contain limited amounts of European material, metal and trade goods and nearly all seventeenth century village sites contain European materials (Fitzgerald 1990). This and documented historic accounts indicate that the European presence in eastern North America was being strongly felt by the end of the first decade of the seventeenth century. Indigenous societies were to change dramatically as they were drawn into intercontinental economic and cultural dynamics of colonialism (Trigger 1976). After AD 1634, disease ravaged all of the Iroquoian societies of the Lower Great Lakes (Warrick 2003) and endemic warfare between the Huron-Petun and the Iroquois Nations to the south, exacerbated by population loss and the economic motivations of the fur trade, resulted in the abandonment of Huronia by the early 1650s.

1.3 Empirical Foundations

1.3.1 Settlement Archaeology and Ontario Iroquoian Studies

Most of our current knowledge of precontact Iroquoian societies comes from one form or another of settlement archaeology. Willey's settlement survey of the Virú Valley in Peru (1953) was the first to demonstrate that settlement patterns could be interpreted as reflecting information of a social and cultural nature. He treated settlement patterns as a source of information about human behaviour, social institutions and relationships with the natural environment (Trigger 2007:376). In this context, sites ceased to be studied as static

representations of a culture; instead they could be viewed as forming networks and playing different roles in synchronic and diachronic cultural processes. For archaeologists interested in studying social and political organization, Willey's research in the Virú Valley constituted "the most important methodological breakthrough in the history of archaeology" (Trigger 2007:379).

Traditionally, there are three basic levels of settlement pattern study: 1) the individual building or structure; 2) the arrangement of structures in single communities; and 3) the manner in which communities belonging to a society or culture are distributed throughout the landscape (Trigger 1978). The patterns displayed at each of these levels can be viewed as being related in some way to all aspects of a culture and are able to shed light on a variety of information about culture and society. Certain factors might influence aspects of these levels in particular ways. For example, trade might produce specialized buildings in communities or influence the location of communities in the landscape. Warfare might influence site location and the construction of heavily fortified houses, defensive structures, or walled settlements (Trigger 1978:189). Because different types of information are conveyed by each scale of analysis, the combined study of two or more of these levels is likely to make a stronger argument about prehistoric societies than is the study of only one level (Flannery 1976; Fletcher 1995).

Trigger thought that knowledge of settlement patterns and the relationships they bear to the culture being investigated was of central importance to furthering understandings of past societies (1967). He wrote (1978:189):

> "If we conceive of the settlement pattern as an outcome of the adjustments a society makes to a series of determinants that vary both in importance and in the kinds of demands they make on society, we must consider not merely the range of factors affecting settlement patterns but also the manner in which different factors interact with one another to produce a particular pattern."

Trigger's students were strongly influenced by his views on the value of settlement archaeology, such that one former student wrote that Trigger's influence created a "*de facto* research program – the "McGill School" of Iroquoian archaeology" (Pearce et al. 2006:119). Indeed, the theses, dissertations and publications produced by his students constitute the majority of recent archaeological research on precontact Ontario Iroquoians and include studies that address a wide range of thematic and conceptual issues using settlement patterns (cf. MacDonald 1988, 2002; Pearce 1996; Robertson and Williamson 2003; Smith 1987; Timmins 1997; von Gernet 1985; Warrick 1988, 1996, 2008; Williamson 1985; Williamson et al. 1998). These studies expanded the three fundamental levels of settlement archaeology to include micro-level patterns such as post moulds, stratified features or hearths, intra-site patterning of exterior and interior space, households, community patterns of varying scale and complexity and macro-scale phenomena such as ecological relationships or socio-political networks (Pearce et al. 2006:115).

Regional analyses of the Late Woodland period that inform the present study include Warrick's (1990, 2008) paleodemographic study of the Huron-Petun and MacDonald's (2002) research on Iroquoian cultural ecology in south-central Ontario. Warrick used an algorithm based on village size, hearth counts and duration of occupation (2008:71) to reconstruct the population history of the Huron-Petun over an 1100-year period. He demonstrated a dramatic population increase in the 1300s and early 1400s, the result of improved nutrition, and a population collapse in the 1630s, the result of contact with European epidemic diseases (Warrick 2003). MacDonald employed a framework based on cultural ecology to answer questions about settlement distribution, culture history and cultural change, including insights into the long-term migration of Late Woodland settlements away from Lake Ontario and their eventual relocation to historic Huronia and Petunia by the 17th century (Pearce et al. 2006:119-121). The coalescent society framework being employed in this study adds another dimension to our understandings of Late Woodland settlement trends that complements and builds upon MacDonald's and Warrick's regional studies.

Identifying the movement and relocation of villages as they relate to population aggregation is a key component of the work presented here. Previous studies of site sequences, which tracked successive generations of a single community through time and space, helped to revise understandings of the broad cultural phases presented in Wright's OIT (Pearce 1996; Tuck 1971; Williamson 1985). Rather than viewing villages as manifestations of particular archaeological

cultures, the site sequence approach permitted the study of individual communities and social, economic and cultural change over extended periods of time.

Other studies have involved the analysis of individual communities and their changing composition over time. Timmins (1997) conducted a detailed study of the Early Iroquoian Calvert site, constructing an interpretive framework for unraveling the occupational histories of village communities. The overlay of structures and features at the site indicated multiple occupations which Timmins refined using a combination of superimposition, ceramic cross-mends, radiocarbon dates and house wall-post densities to reveal four distinct data sets, each representing an occupational phase (1997:60-87). Comparing these phases revealed changes in the material culture, economy and socio-political context of the community over the course of its estimated seventy-five year occupation (Pearce et al. 2006:123). Timmins' analysis has proven invaluable for deciding how to approach the occupational history of the Mantle site in this study (see Chapter Three). While the 0.2 ha Calvert site differs significantly from the 4.2 ha Mantle site, many of the methodological principles employed in sorting out micro-scale chronologies remain the same. Other published analyses of village occupational histories that inform the present study include the late thirteenth – early fourteenth century Myers Road site (Williamson 1998), the late fourteenth century Grandview site (Williamson et al. 2003) and the sixteenth century Dunsmore site (Robertson and Williamson 2003).

1.3.2 Previous Studies of Coalescence in Southern Ontario and Upper New York State

The recognition and investigation of population aggregation is not a new topic in Iroquoian archaeology (Finlayson 1985; Ramsden 1977, 1990a; Snow 1995a, 1995b; Trigger 1976:153; Tuck 1971). A number of settlement studies have been conducted in Ontario and New York State that identify village fusion (Bamann 1993; Bradley 1987; Pearce 1996; Tuck 1971). The majority of these have been concerned with culture-historical approaches to community aggregation – which village sites joined together, where, when and what material signatures (usually ceramic) can be used to link sites in time and space (cf. Emerson 1954; MacNeish 1952; Ramsden 1977). The general thrust of early studies of site sequences was culture-historical or processual in basis and primarily concerned with tracing the movements of one or more communities through space and time and determining generalized functional-behavioural models to account for population aggregation. Later studies have taken approaches aimed at understanding the link between settlement and subsistence (Williamson 1985), socio-political interaction and socio-cultural change (Pearce 1996). The present study revisits some of these themes, but employs novel theoretical and methodological perspectives to elucidate how historical processes of coalescence unfold at the regional, local and community scale.

In New York State there are very few villages that have been excavated in such a manner as to expose full settlement plans. Sites are linked to one another

by geographical proximity, site size, material culture preferences and ceramic seriation or 'microtraditions' (Bamann 1993; Bradley 1987; Tuck 1971). Tuck's (1971) settlement study of Onondaga Iroquois prehistory was the first to systematically examine a series of sites in a local area with the intent of understanding the development of one tribal nation. He was able to chronologically order sites based on a combination of absolute and relative dating and exhaustive artifactual analyses, resulting in the construction of inferred village relocation sequences which indicated increasing group size and village fusion ca. AD 1400 – 1525 and development into the historically known Onondaga Iroquois culture thereafter. His inferences about socio-political change are based on change and continuity in settlement patterns, house size, the increasing heterogeneity of material culture and increasing evidence for warfare throughout the sequence (Tuck 1971:207-217). While more sites have since been identified that can be added to the sequence (Bradley 1987), Tuck's study provided a template for many later studies of the historical development of Iroquoian societies.

Bradley later revisited the Onondaga sequence (1987) but was more concerned with causal questions about the factors that initiated and drove tribal evolution among the protohistoric Onondaga ca. AD 1500 – 1655. Bradley's reappraisal of the later Onondaga sequence was influenced by work conducted by Niemczycki (1984), who recognized that most studies prior to the early-1980s focused on delineating chronological sequences of successive occupations

assumed to represent regional populations which evolved into known regional tribes (Niemczycki 1988:78). Niemczycki did not focus specifically on population aggregation but instead focused on causes of tribalization. This sort of explanatory approach is a product of the processual archeology of the time and generalizes historical processes through a functional-behavioural approach to the archaeological record. She argues that tribalization was an adaptive response to perceived threats associated with a changing cultural environment that can be best understood by utilizing a risk mitigation model. While the eventual formation of alliances and larger political entities did indeed have much to do with changes in the socio-political landscape, the study overlooks local contingencies in favour of generalizing models of cultural evolution.

In Ontario, Ramsden (1977) examined the frequencies of selected ceramic attributes from Wendat (Huron) sites ca. AD 1450 – 1650. He used these attributes to demonstrate the historical and social relationships between various sites and site clusters. He does not specifically discuss village aggregation as such but identifies certain sites and site sequences where the analysis suggested that populations came together. Since the study was conducted using the site data available in the mid-1970s, there are obviously gaps where new sites have since been identified. However, many of the inferences Ramsden makes about social and temporal relationships between sites, within particular groups or clusters, the relationships between those groups, and the social and political processes inferred, are still valid today.

The aims of Pearce's (1996 [1984]) study of a local sequence of Iroquoian settlements in the London area shares many similarities with the present study. He identified three discrete Early Iroquoian villages which came together to form a single community in the late thirteenth century AD. This community and its associated hamlets then relocated a number of times until it reached the Lawson site ca. AD 1500. The Lawson site plan (1996:106) indicates that it expanded at least once during its occupational history, suggesting that it strongly resembles other coalescent communities east of the Niagara Escarpment which are the primary subject of this dissertation. Pearce's study also used material culture to make inferences about socio-political organization and ideology to explain "how and why the communities in this sequence evolved as they did" (1996:iii).

Finally, Bamann (1993) explored the nature and significance of settlement nucleation among the precontact Mohawk. She explored a sequence of village relocations in the lower Otsquago Creek drainage of the Mohawk valley in eastern New York State dating to the fourteenth and fifteenth centuries. The pattern of village fusion suggested to her that a few moderately fortified hilltop communities coalesced into one densely occupied and heavily fortified village. Bamann relied largely on ceramic analysis for her conclusions as only limited settlement patterns were available. The seriation of ceramic decoration by type and attribute was used to put sites into relative temporal order and she had very little in the way of settlement plans to contribute to the analysis. However, one of her conclusions is something also noted in southern Ontario (Robertson and Williamson 1998:149) –

that "Settlement nucleation among the various Iroquoian groups of the Northeast is ubiquitous during the fourteenth through sixteenth centuries. The major areas of Iroquoian development, however, *differ slightly in the pace and timing of settlement nucleation*" (Bamann 1993:29, emphasis mine). These local and regional differences in the pace and timing of community coalescence have yet to be systematically addressed in southern Ontario and will be discussed in Chapter Two.

The studies described above are primarily concerned with tracing community groups through space and time using suites of material culture traits in order to document social and cultural changes. The goals of my research are not completely disparate from these previous studies. Yet, in contrast, this study has two major aims. The first is to explore how historical processes of community coalescence developed 'on the ground' at the regional level among communities inhabiting the north shore of Lake Ontario. This includes similarities and differences in the timing of village fusion, the sizes of contributing and resulting communities, and understanding how these communities may have influenced one another on their individual socio-political and settlement trajectories. The second aim is to explore how members of coalescent communities managed the new relationships, conflicts and socio-spatial challenges that come with living together in larger groups. The organization of the built environment, refuse disposal strategies, collective defense, intensified subsistence needs, storage, status and ranking are all potential sources of conflict that require the development of

sociopolitical mechanisms to encourage integration and reduce scalar stress (Johnson 1982; Hodder and Cessford 2004; Rosenberg and Redding 2000). I believe that this second aim can best be achieved through the careful study of well-excavated village plans. Processes of negotiation and integration can be directly observed in the post moulds and features that define structures and activity areas in the archaeological record. Through detailed analyses of the spatial and temporal characteristics of settlement patterns, including site location, village layout, practices of construction, deconstruction and repair, spatial distribution of features and associated materials, and occupational histories, these micro-scale trajectories of social and political organization can be elucidated.

Furthermore, a model of coalescent societies as articulated by Kowalewski (2003, 2006) provides a conceptual framework within which to examine these processes and to compare historical trajectories of coalescence in Northern Iroquoia with similar processes in other parts of the world. The development and negotiation of these phenomena will further be situated within an historical-processual theoretical paradigm (Pauketat 2001, 2003). The particulars of both the coalescent society model and my theoretical orientation are outlined below.

1.4 Coalescent Societies

The concept of 'coalescence' is not new in archaeology. At various times and in various places it has been referred to as agglomeration (Hodder and Cessford 2004), aggregation (Kuijt 2000; Rautman 2000), amalgamation (ASI

2006a), concentration (Trigger 1978:192), convergence (Bradley 1987; Tuck 1971), fusion (Bandy 2004) and nucleation (Gerritsen 2004). What all of these terms describe is the coming together of previously distinct groups into larger settlements.

Stephen Kowalewski has recently advanced a framework for understanding aggregated social formations which he calls 'coalescent societies' (2006). The term coalescent society was first used in a volume edited by Ethridge and Hudson (2002) to describe the Cherokee, Creek, Choctaw and other Southeastern American polities of the seventeenth and eighteenth centuries. These social formations were composed of the remnants of Mississippian peoples who had experienced demographic collapse as a result of colonization and the English slave trade. The responses of the native populations were varied, but by and large, involved the formation of new social groups in new locations with new political institutions and an emphasis on inclusivity and integration (Kowalewski 2006: 95). Inspired by these social formations, Kowalewski examined a variety of societies in the Americas and elsewhere to explore whether or not coalescent societies could comprise a comparative societal type. The areas and cultural groups he examined included Africa, New Guinea, Amazonia, Mesoamerica and the North American Plains, Southwest, and Northeast. My initial appraisals of published studies of the Late Iron Age and Early Roman Netherlands (Gerritsen 2004) and Neolithic Southwest Asia (Hodder and Cessford 2004; Kujit 2000; Simmons 2007) suggest that they too were coalescent societies.

A coalescent society is not meant to represent a societal form or type. Rather coalescence is a process or response to upheaval or pressure that has been observed to occur similarly among middle-range, pre-state societies in a variety of contexts. These pressures could include demographic decline or stasis, warfare either against internal or external enemies, and the abandonment of large tracts of land. Under these conditions small-scale societies can respond in a number of ways: surrendering to enemies or competitors, flight and concealment (an option only available to groups with a low population density in environments inhospitable to outsiders), or coalescence (Kowalewski 2006:117).

Coalescence was found to involve a number of commonly occurring responses. While in each case these societal traits were rooted in separate cultural traditions, the strategies employed in the process of coalescence were remarkably similar though not all cases demonstrated every feature, which include:

- Larger towns or villages
- Multi-ethnic, multilingual populations formed from the attraction of newcomers
- Movement to new locations which provide security and the potential for production of necessary foodstuffs and necessities
- Collective defense and fortification
- Intensification of local production and changes in the social means of production, often placing new demands on labor
- Intensification of trade
- Elaboration of community integration by means of corporate kin groups, moieties, unilineal (often matrilineal) descent groups, clan systems, sodalities and/or rituals of intensification.
- Domestic architecture and village layout designed to promote community integration
- Universalizing, collective and egalitarian ideologies and ritual practices

- Migration myths emphasizing incorporation and ordering of groups
- Collective or corporate leadership including councils and confederacies; centralized, hierarchical authority is discouraged.
- Macroregional cultural basis and political-economic context for coalescence (Kowalewski 2006:117)

Outside of the American Southeast, the coalescent society model has been most productively employed in the American Southwest (Hill et al. 2004). Archaeologists working in the Southwest have long recognized a period of population decline and accompanying pan-regional migration and aggregation beginning in the thirteenth century AD (cf. Abbott 2003; Hegmon 2002; Rautman 2000). It is now apparent that the social, economic and ideological changes accompanying this reorganization constitute a process of coalescence which adheres to Kowalewski's model (Kowalewski 2007). Much as Trigger described the fifteenth century as a period of "cultural fluorescence" for northern Iroquoians (1985a:100), A.V. Kidder described this as the "great period" of Puebloan cultural development (Adler 1996). However, in both areas, it would seem that these transformations were not borne of greatness, but rather from a coalescent response to pressures such as warfare, population decline and migration (Hill et al. 2004:699)

Kowalewski noted that: "The seventeenth century Iroquois and Huron confederacies exhibit some properties of coalescence in their ceremonies and institutions of politics" (2006:116). Their council-based government, multi-tribal alliances, ceremonialism and reciprocal obligations are all attributes of a coalescent society. The migration and geographic contraction of ancestral Huron

populations also fits patterns associated with coalescent societies. Kowalewski also notes that the consolidation of dispersed populations into larger, well-defended longhouse villages had begun 500 years before European contact (2006:116). The initial phase of Iroquoian village fusion which characterized the Early to Middle Iroquoian transition ca. AD 1300 could certainly be described as the beginnings of the process of societal coalescence. As noted above, the increasing homogeneity of material culture, increased regional interaction, the appearance of mechanisms for integration (i.e. semi-subterranean sweatlodges) and indications of more complex socio-political organization emerge at this time. Indeed, one were to look even further back, it becomes apparent that population aggregation has very deep cultural roots in the Lower Great Lakes, with antecedent cultural analogs in the seasonal macro-band gatherings of the preceding Middle Woodland period (ca. 400 BC – AD 500). However, it is the second, larger 'wave' of village aggregation that will be focussed on in the remainder of this study, the coalescent communities which characterised Iroquoian settlement after AD 1450.

To date, the coalescent society model has only been employed at a macroregional scale (Hill et al. 2004; Wilcox et al. 2003), whereby our archaeological investigations of these processes have yet to address how these cultural transformations played out at the local community level. An understanding of these localised processes can be achieved through analyses of the community plans, occupational histories and associated assemblages that

materially manifest the relationships and tensions of these new community members.

The well-excavated plans of a number of fifteenth and sixteenth century village communities in south-central Ontario provide a wealth of settlement data that allow archaeologists to access how the historical processes and cultural transformations outlined above played out at the local community level. In order to understand how processes of coalescence affected daily life in individual settlements my analysis focuses on spatial and temporal aspects of the built environment as they pertain to community organization in two sequential villages, the Draper and Mantle sites (Chapter Three). The analysis of village plans is by no means a new area of research in Iroquoian archaeology. However, by situating the present study in a theoretical framework of historical processualism (Pauketat 2001; 2003), focusing on the community as the primary locus for social and cultural change as informed by an archaeology of communities (Yaeger and Canuto 2000; Gerritsen 2003) and using Kowalewski's model of common historical processes in coalescent societies, I bring a multi-scalar, theoretically informed perspective to the study of settlement movement and aggregation in Northern Iroquoian societies.

1.5 Theoretical Framework

1.5.1 The Archaeology of Communities

This study places the community at the centre of socio-political change and cultural construction. A multitude of sociological and ethnographic studies have shown it to be one of the most important contexts for social interaction and identity formation (Cohen 1985; Yaeger and Canuto 2000). Situated between domestic household groups and societies writ large, the community is often the largest socio-political unit in small-scale societies, including precontact Northern Iroquoia (Gettitsen 2003; Williamson and Robertson 1994:32). The village community remains a largely under-theorized social group in archaeological analyses despite being one of the most commonly identified units in settlement studies (Kowalewski 2008:234; Ramsden 1996; Trigger 1967).

The term 'community' is frequently used in archaeological discourse to describe small settlements, yet remains somewhat amorphous in definition. Most understandings of communities have a socio-spatial basis. Early perspectives envisioned them as relatively static, closed and homogeneous social units composed of household clusters, discrete activity areas and a shared material culture, neatly compatible with archaeological definitions of "site" (Murdock 1949; Yaeger and Canuto 2000:3). Later definitions of community favoured a functionalist and behaviouralist definition informed by theories based in political economy (i.e. Kolb and Snead 1997). In this perspective, the community serves three broad functions: social reproduction, subsistence production and self-

identification or group association which together create a socio-spatial setting against which theoretical concepts can be examined. There is a definite utility to this understanding of community as it can easily be correlated with archaeological data.

According to Yaeger and Canuto (2000:5), a community is "an ever-emergent social institution that generates and is generated by supra-household interactions that are structured and synchronized by a set of places within a particular span of time." The key concept here is that of *interaction within structured places*. Daily interactions and a shared sense of place can be mobilized in the development of common identities. Co-residence and co-presence within a given space create shared sets of practices. This has also been called a "dwelling" perspective (Ingold 1993, 2000; Gerritsen 2003) which incorporates acts involved in daily maintenance of the household, subsistence, ritual, burial practices, building and moving through the built environment. The shared experiences of dwelling in a place and the participation, whether active or passive, in negotiations that create and maintain the social and physical form of the community denote membership in the community.

The communities being studied here have archaeologically identifiable spatial correlates. This is due in part to the methodological nature of Iroquoian archaeology. The sites being discussed in this study range from relatively small, unpalisaded settlements with three or more contemporary houses occupied to large, heavily defended village aggregates with upwards of 50 contemporary

houses and very complex occupational histories. Each village settlement discussed here is considered a community based on year-round occupation and the co-residence of inhabitants, even though there may be a number of factions with their own interests living in settlements.

While members of a village community may have connections to "imagined" communities (Isbell 2000) which stretch beyond the confines of their place of residence, it is the interactions between co-resident groups, particularly as previously distinct village communities come together, which is the focus of this study. There is ethnohistorial evidence that the community was the primary focus of identity and association, rather than the nation or confederacy (Fenton 1978:306-307). In precontact times this may have been especially so as there is no evidence for formal pan-regional political formations until the confederacies of the late sixteenth – early seventeenth century. Prior to the sixteenth century, the village settlement was almost certainly the maximal unit of political organization (Williamson and Robertson 1994). However, social organization as it pertains to personal and household affiliation, status or leadership, as well as inter-community alliance formation and conflicts, were almost certainly in a state of flux during the social and spatial realignments of the fifteenth and sixteenth centuries AD.

Social and political organization does not simply *happen*; it encompasses processes which are enacted and negotiated by individuals and groups. While the negotiations themselves are not accessable to the archaeologist, the results can be

observed through the material and spatial remains of the daily practices that they affected (i.e. the arrangement and size of structures, construction of palisades, location of activity areas, refuse disposal areas, etc.). In an historical-processual archaeology, these practices are understood to be the active forces in cultural change (Pauketat 2001, 2003). The specifics of this theoretical paradigm are outlined below.

1.5.2 Historical Processualism

Pauketat (2001, 2003; Pauketat and Alt 2005) has been the chief proponent of a theoretical paradigm he calls 'historical processualism.' Adopting an historical-processual approach involves a shift in how we conceive of culture and process and how we explain the past. In the last few decades many contemporary archaeologies have emerged that attempt to make up for the apparent shortcomings of previous approaches. These include theories involving landscape, agency, gender, practice, performance and embodiment (e.g. Dobres and Robb 2000; Hodder 1991; Meskell and Joyce 2003; Tilley 1994). For a time these various theoretical camps seem to have created more disciplinary fragmentation than did the now classic processual/post-processual schism (Trigger 2007:485). While offering new, relativist ways of understanding the past and the social actors that populated it, they generally lack the historical perspective that could effectively replace social evolutionary models of long-term cultural development (Shennan 1993). Nevertheless, this humanizing of archaeological theory has

inspired a return to fundamental anthropological questions about culture and change (Pauketat and Alt 2005:213).

An historical-processual archaeology can be described as a "theoretical convergence" (Trigger 2007:497) which bridges a number of theories of the recent past and present. It shares many of the attributes of culture-historical archaeology and situates explanatory power in an understanding of historical processes. 'Process' here is understood quite differently than it is in the context of processual archaeology. Processualists sought to explain cultural processes in terms of abstract, law-like principles of *why* something occurred in the past (Binford 1965). Material culture was thought to express these processes, including the social 'systems' which governed human behaviour (i.e. tribal- vs. state-level) and which could be explained in terms of these universal laws. These generalized explanations tend to treat 'behaviour' as homogeneous, as if certain stimuli will produce certain behaviours. An archaeology of historical processes is concerned with *how* certain social features developed and *how* cultures changed in a particular time or place (Pauketat 2001). Many of the fundamental questions in archaeology, including the questions at the centre of this study, are concerned with cultural creation. How do people produce, reproduce and recreate cultures? How do *peoples* become *a people* (Pauketat 2003:41)? In an historical processual approach explanatory power is situated in an understanding of historical processes whereby cultural production and reproduction are ultimately centered on theories of practice (Bourdieu 1977) and structuration (Giddens 1984) albeit in tangible

form (Pauketat 2003:45). Here, this approach shifts the focus of explanation from questions of *why* people aggregate to *how* they negotiate their responses to new circumstances.

These actions, or practices, are in part shaped by remembered traditions and what has been done before, but also by novel circumstances and perceptions in the present in a process that is never finished, but always in a state of becoming. This is what Giddens refers to as structuration (1984). "History is the process of cultural construction through practice" (Pauketat 2001:87). Individuals, in the course of their daily lives, perform actions. They make choices, decide among alternatives and perform tasks and acts that constitute the behavioural element of daily life. The regular actions of human agents both perpetuate and alter the way things are done and how daily life proceeds and is perceived within a social whole (Cameron and Duff 2008:32). Structures do not exist outside their continuous reproduction through practice (Pauketat 2003:43; Shennan 1993; Braun 1995). Identifying the materiality and spatiality of these practices in the archaeological record enables archaeologists to observe historical processes of cultural change (cf. Lightfoot et al. 1998). An historical-processual approach necessitates tacking (cf. Wylie 1989) back and forth between various scales of analysis in order to document practical variability through time and across space and to compare genealogies of practices within the populations being studied (Brumfiel 2000:252; Pauketat and Alt 2005:230).

1.6 Structure of the Dissertation

The analytical approach employed in this study is necessarily multi-scalar. Thus, the structure of this dissertation moves from the regional level to the local to the individual community, tacking back and forth between data sets in order to strengthen the arguments presented.

Chapter Two will present regional settlement data for the north shore of Lake Ontario from approximately AD 1300 to 1600, in order to establish a regional basis for coalescence. I present extant data on individual site clusters and village relocation sequences, organized more or less according to the drainage system in which they are situated, with the aim of tracing populations through time and space. Known village sites are presented in a series of maps to position communities spatially and temporally and to provide a general overview of regional settlement dynamics. Settlement plans of well-excavated village sites are illustrated and are used to facilitate a discussion of site form (e.g. size, number of houses, spatial arrangement, refuse disposal patterns and concern or lack of concern for defense) and an interpretation of the socio-political dynamics evident in community plans and occupational histories, both as specifically situated in time and space and with reference to larger scale regional historical processes. The discussion is focused on the differences and similarities between site sequences and the resulting coalescent communities. Both are broadly compared to explore how communities across the north shore of Lake Ontario were being

transformed spatially, socially and politically in the context of coalescence. Both intra- and inter-community dynamics will be explored. These cultural transformations will be tied to the coalescent society model presented above.

Chapter Three comprises a detailed analysis of the built environment of the Draper and Mantle sites. Previous work on the Draper site settlement plan is summarized and elaborated upon. Much of the chapter is devoted to unraveling the occupational history of the Mantle site. The settlement plan of the Mantle site is being presented for the first time here and is significantly more complex than the Draper site plan, containing many more superimposed structures. Plans of the early and late phases of the occupation of the Mantle village are presented and hypotheses put forward to explain the changing composition of the built environment over time. Comparisons are then made between the various facets of the Draper and Mantle sites (including house size, distribution and orientation, refuse disposal practices and evidence for violent conflict). The discussion presented focuses on the increasing integration of the community over time and the development of corporate decision making in the context of coalescence.

The fourth and final chapter outlines the major contributions of the research. It summarizes the inferences made about the formation, maintenance and integrative strategies of the Draper and Mantle communities and includes some additional evidence for interregional interaction. Some future avenues for research are discussed, as well as the implications of this study for Iroquoian archaeology and its potential to contribute to the broader archaeological discourse.

CHAPTER TWO
Late Precontact Settlement in South-Central Ontario: Coalescence in Regional Perspective

2.0 Introduction

This chapter employs settlement data from the north shore of Lake Ontario to explore and document processes of settlement coalescence between ca. AD 1000 and 1600. The first set of data presented demonstrates that there is indeed a pattern of community coalescence occurring at a regional scale whereby sites become larger, fewer in number and more widely spaced over time, the most dramatic changes in settlement occurring after AD 1450. Information on the location, size and chronology of village sites is presented in a series of maps, tables and appendices, followed by a description of settlement data for specific drainages and site sequences in the study area. The presentation of these regional and local data sets is followed by a discussion of how settlement trends relate to changes in social and political organization both within spatially contiguous communities and throughout the north shore region.

Some characteristics of these villages will be highlighted, including the spatial arrangement of structures, whether or not multiple phases of occupation are indicated and features such as sweat lodges, middens and defensive structures. Patterns in the characteristics and distribution of these settlement features can be used to understand changes in settlement trajectories and in the social and political landscape during coalescence. Archaeological evidence for violent conflict will also be noted in site descriptions. These indicators often fall into one

of two categories: the first is defensive measures, including palisades and the location of villages on hilltops and away from waterways and the second are human remains bearing evidence of violent trauma (scattered, butchered human bone) or post-mortem modification. Researchers have noted that an increase in warfare in the late precontact period coincided with the appearance of large, fortified village communities (Finlayson 1985; Trigger 1985a:105). These ideas will be explored further below, both in terms of regional and intra-community socio-politics.

The conclusions presented indicate that while a general pattern of community coalescence is observable throughout the study area, the timing of village aggregation and the size of the resulting community groups varies temporally and geographically between site sequences tied to the major drainages that flow into Lake Ontario.

2.1 Geographic Setting

The study area comprises a roughly trapezoidal segment of south-central Ontario bounded by the Oak Ridges Moraine to the north, Lake Ontario to the south, the Humber River to the west and Duffins Creek to the east (Figure 2.1). The western edge of the study area corresponds more or less to the western boundary of York region. The eastern edge has no specific physiographic correlate, but was defined on the basis of diminishing site density east of the major concentration of sites in the Duffins Creek drainage. The northern boundary

is defined by the Oak Ridges Moraine and the southern boundary by Lake Ontario. Urban and industrial development over the last 150 years or so has resulted in poor preservation of site data close to the lakeshore. There is little doubt that sites related to the earliest occupation of the area would have been present where the modern city of Toronto is today. However, because this study is focused on sites and settlement trends which occurred in the final centuries of the Late Woodland period, these gaps will not impede its major aims.

2.2 Environmental Setting

The study area is encompassed by the Lake Ontario drainage system, which consists of a series of rivers and creeks that follow roughly parallel southeasterly courses from their headwaters in the Oak Ridges Moraine down to Lake Ontario. The major watersheds from west to east are: Humber River (903 km^2), Don River (365 km^2), Highland Creek (103 km^2), Rouge River (335 km^2) and Duffins Creek (298 km^2) (MacDonald 2002:92) (Figure 2.1). These watersheds traverse four physiographic zones (Chapman and Putnam 1984; Warrick 2008:16). The Iroquois Plain, a narrow band of sandy soils bordering the north shore of Lake Ontario; the South Slope region, which stretches between the Iroquois Plain and Oak Ridges Moraine and contains highly fertile, drought resistant, loam-based soils; the Peel Plain, an island in the South Slope that has heavy clay soils and poor drainage; and the Oak Ridges Moraine, a high landform composed predominantly of sand and gravel which acts as the watershed divide

between Lake Ontario and the Georgian Bay drainages. The Oak Ridges Moraine is largely devoid of Late Woodland settlement as it is not favourable to agriculture due to drought-prone soils and a total lack of surface water. MacDonald (2002) provides a more thorough description of the environmental and ecological features of southern Ontario and the relationship between Iroquoian cultural ecology and settlement trends.

2.3 Site Data

The study area is contained within the modern municipal regions of Durham, York and the city of Toronto. Site data were collected on the basis of the Ontario Ministry of Culture Archaeology and Heritage Planning Unit site database and cross-referenced with published and unpublished data on site distributions and descriptions (Konrad 1973; Konrad and Ross 1974; Poulton 1979; Warrick 1990; Williamson et al. 2003:26). This broad survey of published and unpublished settlement data was necessary as not all sites designated as a "village" within the Ministry of Culture site type qualified as villages (as opposed to special purpose sites, isolated cabins, and other site types). The reasons for discrepancies are largely due to reporting errors, whereby more recent investigations have revealed sites initially reported to be of one type to in fact be something else. Some sites classified as 'villages' were excluded because they lacked information on both site size and temporality. A total of 76 village sites are

included in the data set employed here, a summary of which is presented in Appendix A.

This regional data set is the result of a diverse array of archaeological activity in south-central Ontario. Site data were produced by archaeological research conducted by academic and avocational archaeologists in the early to mid-twentieth century (e.g. Donaldson 1962a; Emerson 1954), planning surveys conducted during the 1970s and 1980s (e.g. Poulton 1979; MPP 1988) and development-driven cultural resource management (CRM) which now defines the majority of contemporary archaeological practice in southern Ontario (e.g. ASI 2005a, 2005b; DPA 2003). CRM archaeology produces a wealth of high-quality data every year. The growth of this record far outpaces the ability of practitioners and researchers to analyze or synthesize the raw archaeological data produced. It is my hope that this dissertation fills, at one level, a gap in this regard and furthermore provides an example of research that can be done with CRM-derived data sets for those who believe that too much information is often lost to budgetary and time constraints or practical expediency.

Most of the data employed here are derived from surveys and investigations necessitated by land development. Therefore they do not represent an ideal regional data set such as that which could be acquired through full-coverage survey of the region. However, we can be fairly certain that the site data presented here represent an adequate measure of the total number of Late Woodland village sites that existed in the study area. Iroquoian village sites are

relatively visible on the landscape because they cover several acres, have high artifact densities and tend to be situated on active agricultural land (Warrick 2008:105). Warrick argues that more than a century of archaeological work in Ontario has found most Iroquoian village sites and that the law of diminishing returns holds true for any further surveys (2008:105). Though new village sites do continue to be located, it is unlikely that enough new sites would be found to contravene the main argument presented here, that village sites become larger and more widely distributed in the context of a process of regional coalescence beginning in the fifteenth century AD.

2.3.1 Chronological Ordering of Sites

For the purposes of this study, sites were assigned to 50-year blocks spanning ca. AD 1300-1600. The few sites dated to between AD 1000 and 1300 were slotted into 100 year blocks. Where finer resolution for site periodization was available, estimates are noted in Appendix A. I acknowledge that this sorting method does create issues of contemporaniety, as the estimated duration of occupation for village sites is variable and, on average, less than the 50-year periods employed here. For example, Warrick has used the average density of house wall posts combined with estimated rates of rotting and repair to determine average lengths of occupation for village sites in each period of Iroquoian cultural development (1988). He determined that sites were occupied for an average of 40

years prior to 1290; 25 years between 1300 and 1420; 30 years between 1420 and 1550; and 25-35 years between 1550 and 1609 (1990:291-295, 2008:125).

My methods may have resulted in sites that were not necessarily occupied simultaneously being placed in the same chronological category and sites whose occupation spanned the turn of a century being assigned to one or another according to best fit. While the use of 50-year periods masks some of the more nuanced aspects of site chronologies and contemporaniety, using a more precise chronological framework would have unnecessarily complicated the basic pattern I wish to illustrate; which is that, over time, village sites become fewer in number and larger in size. Site sizes were accepted as stated in both unpublished reports and published literature. Some site sizes were taken from Warrick's (1990) site data appendix and others were calculated from excavated village plans or maps of surface scatters of artifacts. Clearly, the more investigation a site has received, the more accurate a size estimate will be and every effort has been made to secure the most recent data concerning a particular site. With this approach, and for this level of analysis, the accuracy of site size data presented is sufficient.

Hypotheses and insights regarding specific site relocations based on previous archaeological research are presented below. It is certainly desirable to identify the specific logistics of which village sites relocated to which antecedent village sites, or which longhouses and/or household groups were relocated to new locations in new villages. However, the challenges of identifying these sorts of patterns are substantial. While the available data (local settlement patterns, site

size, number and size of longhouses, frequencies of ceramic types and attributes, other artifactual materials) certainly suggest relationships between village sites, extremely specific relationships between sites and their components are extremely difficult, and in many cases impossible, to establish. Nevertheless, there is much we can say at a more general level regarding site relocation sequences, which is sufficient to support the arguments being made here.

2.3.2 Site Data Supporting a Regional Pattern of Coalescence

Figures 2.2 – 2.9 are a series of maps which illustrate site distribution within the study area for the period between AD 1000 and 1600. Small, semi-permanent villages characterize the earliest occupation of the study area, ca. AD 1000-1200 (n=4) and 1200-1300 (n=3) (Figures 2.2 and 2.3). Although this figure suggests settlements are clustered only in the lower Duffins Creek drainage, the pattern is undoubtedly distorted in part because their small size makes them less visible on the landscape and because a significant number of sites located near Lake Ontario have undoubtedly been lost due to subsequent urbanization and land development. Downtown Toronto has undoubtedly consumed an entire cluster of early Iroquoian sites (ASI 2004e; Warrick 2008:106).

Table 2.1 describes the size and chronological period of sites, organized by drainage, for the period between AD 1300 and 1600. By 1300, there are more village sites in the lower Don, Highland Creek and Rouge drainages (n=13) (Figure 2.4). These sites range between 0.3 and 1.6 ha in size, averaging 1.1 ha.

After 1350, the number of villages drops slightly (n=9) (Figure 2.5). Though this decrease in site numbers first seems to contradict the "Middleport population explosion" documented by Warrick (2008:181) in south-central Ontario, his figures included the large-scale Iroquoian colonization of Simcoe County that was occurring throughout the fourteenth century AD. This migration was documented by Sutton (1996) who proposed that several villages from the north shore relocated to Simcoe County in the first half of the fourteenth century and continued in the subsequent 50 year period. Warrick further notes that the resident population of the Toronto area (correlating with the study area employed here) remained fairly stable in the period between AD 1300 and 1420 (2008:182). Thus, the slight drop in the number of villages may be the result of the migration of some groups north to Simcoe County. At the same time there is a great deal of variability in site size during the late fourteenth century (ranging from 2.9 to 0.6 ha) and sites in this period also tend to be larger, averaging 1.7 ha, potentially indicating both natural population growth and village fusion, as is almost certainly the case with the 2.5 ha Alexandra site (ASI 2008, discussed below) and possibly other relatively large sites from the late fourteenth century.

During the first half of the fifteenth century significant regional population growth is apparent. The number of village sites nearly triples (n=25) (Figure 2.6). Site size continues to be highly variable, ranging from 3.3 to 0.4 ha and averaging 1.5 ha. The continuing relocation of settlements northwards along the major drainages is apparent as well as an increasing east-west division of sites. The

middle Humber and upper Don River valleys are heavily occupied, as are the lower Rouge River and Duffins Creek tributaries. An area seemingly devoid of villages in the upper Rouge separates these site clusters. This geographic division foreshadows the distribution of coalescent communities, suggesting that it is these networks of local community groups coming together over the next century (cf. Williamson and Robertson 1994). Both fourteenth and early fifteenth century village plans suggest that the typical settlement was not palisaded and consisted of one or more clusters of a small number of aligned longhouses.

The dramatic change in settlement form that occurs after AD 1450 is clear in both Figure 2.7 and Table 2.1. In the mid-to-late fifteenth century, the number of settlements in the study region drops radically (n=7) and site size doubles (averaging 2.3 ha). Of the seven village sites occupied in this 50-year period, four are greater than 2 ha in size, Draper being the largest with a total area of 4.2 ha. The settlement plans available for this period from the Parsons, Damiani, Keffer and Draper sites (Figures 2.10, 2.11, 2.16 and 2.21) indicate that the expansion and strengthening of palisades and the addition of new clusters of longhouses to existing villages was common. These village sites are the initial forms of the coalescent communities at the centre of this study.

In the early sixteenth century, the general pattern of large, dispersed villages continues (n=5) (Figure 2.8), though there is a much greater discrepancy in site size (Table 2.1). The Mantle site, the largest village known to date in the Lower Great Lakes, tops out at 4.2 ha, while villages in the other three drainages

decline in size and number, averaging only 1.25 ha. This drop in size for sites other than Mantle may be a result of either village fission or migration. After AD 1550, all sites in the study area are in excess of 2 ha in size and have retreated to the headwaters of the Holland and Humber Rivers (n=6) (Figure 2.9). The site plans available for two large sixteenth century sites (Seed-Barker and Mantle) demonstrate that these villages continued to be heavily defended and are very well-planned, with house alignments that permit a large number of structures to fit into the village precincts (Figures 2.12 and 2.22). After this period, it is believed that the north shore of Lake Ontario was more or less devoid of permanent settlement for approximately the next hundred years.

2.3.3 Regional Settlement Data: Observations

This overview of regional settlement trends clearly indicates that the fifteenth century was a time of radical change in settlement whereby, over a period of roughly a century, approximately twenty-five individual villages aggregated into seven villages, (though these numbers do not include the portion of the population that relocated north to Simcoe County). Most of these settlements are significantly larger in size and separated by greater distances than their dispersed predecessors. By the terminal phase of occupation on the north shore, in the late sixteenth century, there may have been only two large, coalescent communities occupying the study area.

While this presentation of the archaeological data clearly establishes that a process of regional settlement aggregation was indeed occurring, it does little to explore variability within individual and local community groups over time. There are clearly different trends in settlement form, relocation and aggregation occurring in local areas. The inconsistency in the number of sites occupied on the five drainages listed in Table 2.1 illustrates that there was variability in where and when sites were occupied over time and space and how these site clusters contributed to the large, formative tribal nations established by the late sixteenth century.

The aim of this dissertation is to understand how historical processes of coalescence played out 'on the ground' at a variety of scales. I intend to add depth to this regional overview by exploring how processes of coalescence occurred at both the local scale – how settlements in smaller areas may have been linked both in time and space – and at the level of individual communities, which is the subject of chapter three. The next section of this chapter will examine specific sites and inferred site sequences on five different drainages to present a more subjective narrative of how Iroquoian settlement in south-central Ontario was changing toward the end of the Late Woodland period.

2.4 Site Data by Drainage

While the regional data set presented above used chronology as its primary ordering mechanism, the variability in the patterns therein may best be explained

by approaching the site data spatially. Clusters of village sites and inferred relocation sequences on the major drainages along the north shore of Lake Ontario provide us with the best understanding of how local processes of coalescence developed among ancestral Huron-Petun populations. These sets of settlement data are presented from roughly west to east, beginning with sites situated along the Humber River, moving to the branches of the Don River, Highland Creek and the Rouge River and concluding with Duffins Creek, the site sequence which will be explored in greater detail in Chapter Three. Where available, the basic plans for selected sites are presented to illustrate the content and spatial layout of individual villages. If not present in the text, full references to where site data were obtained are presented in Appendix A.

2.4.1 Humber River Sites

In the Humber River valley, archaeologists have reconstructed century-long settlement sequences for at least two Iroquoian community groups (Ramsden 1977; Williamson et al. 1998; Williamson et al. 2003). One spans the fifteenth century in the middle Humber-Black Creek area and a second dates to approximately the sixteenth century and is situated at the Humber headwaters. Both groups of communities experienced processes of coalescence resulting in the formation of large, heavily palisaded village aggregates, just over a century apart.

2.4.1.1 Middle Humber-Black Creek Sites

The earliest of the settlements in the middle Humber area is the late fourteenth century Black Creek site (AkGv-11). Limited excavations by Emerson (1954) revealed an unusual double palisade straddling two terraces on the river side of the site and he estimated its extent to be approximately 2 ha. The site has since been destroyed, though most archaeologists agree that Black Creek is an early component in the Humber sequence (Ramsden 1977:69; Williamson et al. 1998:7). While other sites may predate Black Creek on the lower Humber, they may have been lost to development.

Two kilometers upstream from Black Creek is the Downsview site (AkGu-13), estimated to be 2 ha in extent. While both Emerson (1954:101-102) and Wright (1966:101) considered Downsview to be part of the early Humber sequence, Ramsden (1977:255) suggested it may slightly post-date the Parsons site (AkGv-8), located 5 km upstream and described below. However, given their proximity and the similarities between the two sites, it is now thought that the Black Creek community relocated to Downsview and later merged with the Riseborough site (AkGu-10) to form the community that occupied the Parsons site (Williamson et al. 2003:25). Riseborough extends over approximately 1 ha of land bordering a branch of the West Don River. Limited excavations in two midden deposits revealed a partial longhouse wall (Kapches 1982:98). Despite being located on the West branch of the Don River, Riseborough's proximity to the

early sites in the Humber River (Figure 2.6) suggests a close relationship to this site cluster.

The Parsons site (AkGv-8) is the best documented site in the Middle Humber sequence. Located on a broad promontory overlooking Black Creek, Parsons was investigated by Emerson in 1952-53 and by John Morrison between 1956 and 1970. The records of these investigations were synthesized by Kapches (1982). Systematic investigation of the Parsons site was conducted by Archaeological Services Inc. in 1989-90 whereby the proposed installation of a water main necessitated excavation of an 18 meter wide corridor extending across the centre of site (Williamson et al. 1998).

The palisaded area of the Parsons village is estimated to be 2.4 ha, though the total extent represented by the surface scatter is 3.2 ha (Figure 2.10). It is located 3 km upstream from the Downsview site and 2 km west of Riseborough. Given that Parsons is roughly twice the size of these two possible antecedents, it has been suggested that the site represents an amalgamation of people from these two communities (MacDonald 2002:287; Williamson et al. 1998). Settlement patterns from the excavated portion of the site suggest that the village was laid out in a well-planned manner, but also had a complex occupational history as not all structures were probably contemporaneous (Robertson et al. 1998:46). Robertson and his colleagues at ASI suggest that the initial construction of four regularly spaced houses in the excavated area was followed by a period of infilling, when three additional structures were constructed between the original longhouses. The

orientations of the structures at the northern and southern ends of the Parsons site, hypothesized for Emerson and Morrison's field notes (Kapches 1982), suggest that these houses had orientations that differed from those excavated in the central portion of the site. The palisade at the western edge of the site consists of a single row of posts at the top of a 15 m slope. The palisade that formed the eastern limit of the village comprised seven rows of palisade posts. Two rows at the top of the slope on this side of the village may have represented the original defenses, later expanded by the construction of five additional rows further down the slope. The limited settlement pattern data available in the excavated tract are insufficient to identify any possible village contractions or expansions (Robertson et al. 1998:40).

The eastern portion of the Parsons village is distinctive in two respects: House 8 and associated refuse deposits along the inner palisade were found to contain the largest portion of non-local ceramic vessels (75% of the total assemblage), types traditionally recognized as indicative of St. Lawrence Iroquoians, though the ceramic report suggests they were made locally (Robertson and Williamson 1998:147; Williamson and Powis 1998). Additionally, 75% of the scattered human bone recovered from the site was found in the area of House 8, associated midden deposits, support posts and one semi-subterranean sweat lodge (Robertson and Williamson 1998:148). As noted above, such remains have traditionally been cited as evidence for violent conflict. Indeed, all of the late fifteenth century village sites in the study area have heavy fortifications and

contain significant quantities of scattered and modified human bone, evidence that suggests that an increase in conflict accompanied this period of widespread population coalescence. Two intact adult crania were excavated from a refuse-filled depression in the area of the eastern palisade of the Parsons site (Robertson et al. 1998:40–41). A craniometric analysis indicated that they closely resembled others from the Uxbridge site, an ossuary situated on an adjacent drainage (Dupras and Pratte 1998). This find suggests that violent conflict was taking place between local groups in south-central Ontario rather than with groups living farther afield.

2.4.1.2 Humber Headwaters Sites

At the headwaters of the Humber River, there is another sequence of sites which spans the mid-fifteenth to late sixteenth centuries. Internal consistencies and notable differences in the ceramic assemblages from the middle and upper Humber River clusters support the inference of at least two discrete populations (Robertson and Williamson 1998:149).

The recently excavated Damiani site (AlGv-231) dates to ca. AD 1450-1500 and covers 1.5 ha. It is one of the earliest sites in the northern reaches of the Humber, though it dates to the same period of large-scale coalescence as the Parsons and Draper sites. Because artifactual analyses are still ongoing, the relationship of Damiani to other sites in the Humber headwaters and sites in the adjacent branches of the West Don River is not yet known. The settlement plan

reveals a well-planned settlement with a total of 23 structures surrounded by a palisade (Figure 2.11). At one point the village was expanded from an original core settlement to incorporate six more longhouses, at which time the palisade was strengthened to three rows. The midden at Damiani also contained "significant" amounts of scattered human bone (Ronald F. Williamson personal communication 2009). These characteristics of the site suggest that Damiani was involved in the processes comprising the initial wave of large-scale community coalescence occurring during the early fifteenth century.

The Boyd site (AkGv-3) is an early sixteenth century village estimated to be 1 ha in extent. While Boyd has been the site of a number of archaeological field schools over the years (Burgar 1990) and early investigations by the Ontario Archaeological Society (Donaldson 1962b), little is known about its internal composition. Ramsden (1977:216) thought Boyd was ancestral to Seed-Barker and contemporaneous with Mackenzie-Woodbridge. The McKenzie-Woodbridge (AkGv-2) site is located slightly south of Boyd on the western branch of the Humber River. It encompasses approximately 2 ha and has been subject to limited excavations. The plan produced by Johnson (1980:80) shows portions of seven houses and a multi-row palisade, though the same report indicates that 23 houses in all were identified (Johnson 1980:78). There is possibly one large continuous midden running outside of the palisade (similar to that found at the Mantle site, see Figure 2.22 below) and another interior midden which does not overlap houses or palisade, which Emerson noted was "unusual" for this local sequence

(Johnson 1980:83). A looted ossuary was reported less than a kilometre from the site (Wright 1966:1969), and a village cemetery was identified on a sandy knoll at a distance of 100 metres (Saunders 1986; Williamson and Steiss 2003:108). The size and complexity of the McKenzie-Woodbridge site suggests that it post-dates Boyd within the local sequence and may represent a mid-sixteenth century coalescent community in the upper Humber.

The Seed-Barker site (AkGv-1) is a sizable (approximately 2 ha) village occupied in the mid-to-late sixteenth century (Burgar 1993). Roughly 25 to 30% of the settlement pattern has been exposed in the course of field school excavations run by the Toronto Regional Conservation Authority (TRCA) (Figure 2.12). Unlike most village sites of this size which have been excavated as CRM projects, Seed-Barker has been excavated by hand in one meter units. While the detailed data sets produced by this methodical excavation should promise to yield novel insights, no detailed reports or publications on the results of these excavations have been produced to date. According to the 2003 settlement plan, Seed-Barker was a very well-planned community. Many of the 20 houses located to date have wall trenches that are thought to have aided in the construction of house walls in close proximity to one another (Alistair Jolly personal communication 2008). The situation of the site on a plateau may have necessitated the close spacing of houses within the village. As a result, its 2 ha size is likely not representative of the total population of this large village community.

For some time it was thought that Seed-Barker was the latest site in the Humber sequence. However, this changed with the discovery of Skandatut (AlGv-93), an early contact period village encompassing some 3.2 ha (ASI 2002, 2004d) slightly further north on a tributary of the East Humber River. It is possible that the population at Seed-Barker relocated to Skandatut, which is by far the largest and latest site in both the Humber and Don River drainages (Warrick 2008:207). To date, there is a plan to preserve this site in situ, in accordance with the wishes of the Huron-Wendat Nation. A sample of ceramics from the site was characterized as Petun-like (Williamson and Steiss 2003:111), suggesting the community eventually migrated to the Georgian Bay region and formed the Petun or part thereof (TRCA 2009), meaning this settlement sequence might be read as revealing the formation process of a historically known tribal nation.

2.4.2 Don River Sites

The village sites located in the Don River drainage have not been subject to as much speculation regarding possible site sequences and interrelationships as sites along the Humber River and Duffins Creek. Available site data indicate that the majority of the occupation of the drainage occurred during the fourteenth century, in the northern (west and east) branches of the river. Other possible settlements in the lower Don Valley have surely been lost, as this is a major transportation corridor in and out of the modern city of Toronto.

The earliest village known on the Don River is the Moatfield site (AkGu-65), dating to approximately the turn of the fourteenth century and covering 0.8 ha. It has only been subject to test excavation, though the findings of that limited work have been extremely well-analyzed (Williamson et al. 2003). Intensive research has been conducted on the Moatfield Ossuary located less than 10 meters from the estimated site limits. The contextual and scientific analyses of the human remains interred therein yielded an impressive array of data on diet, paleodemography and paleopathology (Williamson and Pfeiffer 2003).

2.4.2.1 Early Fifteenth Century Villages on the Don River

There are no sites in the Don River drainage whose occupations have been dated primarily to the late fourteenth century, but there are many that have been dated to the early fifteenth century (n=12, Figure 2.6). For some of these fifteenth century sites, only limited information is available, including Jackes (AkGu-3), Doncaster 1 (AkGu-9), and East Don (AkGu-19). The Mill Street site (AlGu-77) was subject to limited excavation revealing portions of two houses (ASI 2006b). Its full size is unknown, though the limited data available place its occupation sometime during the fifteenth century.

The Walkington 2 site was also excavated by ASI (2004c) and resulted in the identification of one complete and two incomplete longhouses. The Riseborough site (discussed above) is tied to the early fifteenth century sites in the lower Humber River. The McGaw site (AlGu-88) was the site of a field school

operated by the Ontario Archaeological Society for a number of years (ASI 2007). It covers approximately 1 ha, and though a portion of one longhouse was exposed, little else has been uncovered in the way of settlement patterns.

The Baker site (AkGu-15) was subject to salvage excavations (ASI 2006c) which revealed an unpalisaded cluster of four longhouses (covering 1 ha), with one longhouse measuring 85 m in length (Figure 2.13). Three houses contained a total of five keyhole-shaped, semi-subterranean features commonly interpreted as communal sweat lodges. Semi-subterranean sweat lodges are common features of fourteenth and early fifteenth century longhouses. They are often interpreted as serving a socially integrative function, providing a venue for male members of the community to host social and ritual events for village kinsmen or a wider social network of visitors from outside the village (see MacDonald 1988; MacDonald and Williamson 2001:70-72).

The McNair site (AlGu-8) is another early fifteenth century site, approximately 1.4 ha in area. Its settlement plan is similar to that of Baker, except that it is composed of two clusters of longhouses. The north cluster contains two longhouses and two smaller structures. While the contemporaniety of the two clusters is not certain, the density of post moulds and features in the two northern longhouses suggests this area was occupied longer or more intensively than the southern cluster. The latter comprises three longhouses, one of which contains two semi-subterranean sweat lodges.

The Over site (AlGu-120) is another early fifteenth century village located on the East Don River. Located in a heavily developed area, Over was the first fifteenth century village site to undergo extensive excavation within the watershed (DPA 1996). The southern portion of the site was disturbed by commercial and residential construction, though the majority of the village remained undisturbed. It covers 0.9 ha in area and is comprised of seven longhouses. The structures appear to cluster into two groupings with similar alignments and each with one longhouse that is significantly longer than the others (Figure 2.14). There is no evidence of a palisade at the site, though several short rows of post moulds are present, likely representing fence lines.

The Hope site (AlGv-199) covers 3 ha in total and consists of two separate components: Hope North and South covering 1.6 and 1.4 ha respectively (Figure 2.15) (ASI 2004a, 2005a). To date, it has proven difficult to discern whether or not the two components are contemporary. There are general similarities in the ceramic attributes and types from each component; both suggest an early fifteenth century occupation, though a relatively small sample was recovered from Hope South. Qualitative differences in the settlement plans from each component suggest separate populations, though this does not deny a close temporal relationship and/or concurrent occupation. Because of the proximity of the two clusters and the unlikelihood that the environment surrounding the site could support two sequential occupations, Hope will be treated as a single village site here, with the above caveats in place.

The northern component of the Hope site contains six contemporary houses, arranged more or less in pairs on a similar orientation. The southern component is slightly more complex, being comprised of seven houses. The westernmost two houses are fairly small and contained within a semi-circular fence line. Of the more eastern houses, two seem to have experienced a more intensive or sustained occupation, though not concurrently, as they overlap. The remaining three structures appear to have had a less sustained/intensive occupation, though Houses 5 and 7 could not have been contemporary as they too overlap. If the Hope north and south components represent two distinct social units occupying adjacent, contemporary settlements, each group may have retained political autonomy while sharing a space. If so, Hope represents a prelude to the formal, large-scale community coalescence which characterized the latter part of the fifteenth century.

The Don drainage provides us with a number of sites from which some generalizations about early fifteenth century communities can be made. They are all characterized by clusters of two to four aligned longhouses, possibly representing extended family or clan groupings. Some villages have more than one cluster of longhouses, which most likely represent contemporary occupations. No early fifteenth century villages are palisaded, in contrast to sites occupied later in the century. Plans of excavated sites dating to the late fourteenth-early fifteenth century on other drainages (i.e. Burkholder 2, White and Robin Hood, discussed below) suggest that this form of settlement was one type of community in

existence prior to coalescence in the mid-to-late fifteenth century. Sites such as Hope and Over (as well as Orion-Murphy Goulding and Alexandra, discussed below), with two or more clusters of aligned houses, may then be characterized as amalgamations of these basic settlement units.

There are three known sites in the Don drainage which date to the late fifteenth century. Teston (AlGv-2) is only known to us through surface survey, though Dana Poulton (personal communication 2009) estimates its extent to be approximately 0.8 ha. An ossuary associated with the site was discovered during roadwork in 2006 and the disturbed remains re-interred in 2007. The Boyle-Atkinson site (AlGu-1) was estimated to have been approximately 1 ha in size. The site was bounded within 100 metres on the west and south sides by steep banks of a tributary of the Little Don River and a poorly drained depression to the east. Some salvage excavation was done with volunteer labour and a limited budget in 1984 prior to land development and before CRM processes were fully enforced in the province. Portions of 11 houses with various orientations were recorded, though interpretation of house outlines is sketchy (MPP 1987). There may be either fewer houses or shorter houses than are represented in the report.

2.4.2.2 Late Fifteenth Century Coalescence and Sixteenth Century Abandonment of the Don Drainage

The Keffer site (AkGv-14) is a 2.5 ha village located on a tributary of the Don River, and the only site which appears to be a coalescent community in this drainage. The excavators dated the site to the late fifteenth century AD (Finlayson

et al. 1987), though its occupation may have spanned the early sixteenth century (Williamson et al. 2003:26). The settlement plan at Keffer indicates that an initial village composed of two clusters of aligned houses was expanded at one point during its occupation (Figure 2.16). The village expansion involved the addition of three (possibly four) new longhouses, arranged more or less parallel to the palisade, as well as the addition or lengthening of houses in the original village area. The palisade was strengthened from one row to two in the expansion. The superimposition of structures in the core village indicates that new houses were added, existing houses lengthened and some removed either during or after the expansion. The arrangement of structures in both phases of occupation suggests that some space was intentionally left open and unoccupied near the centre of the village precinct throughout its history. Unfortunately no detailed settlement pattern data are available which would permit an analysis and comparison of post mould and feature densities. These would provide greater insight into potential relationships between houses and the occupational history of the Keffer village. While the Keffer site is certainly larger than the others in the Don River drainage (2.5 ha, compared to ≈1 ha), it is significantly smaller than the contemporary Draper, Spang (West Duffins Creek) and Parsons (Humber River) sites which also constitute coalescent communities. The alignment of structures at Keffer suggests it is composed of three or four of the smaller early fifteenth century communities in the Don Valley. The village aggregate may also have merged out of immediate need in response to pressures from the large communities forming to the east and

west. The Keffer aggregate may not have been a successful fusion and it is possible that this community fractured into the Jarrett-Lahmer and Shurgain sites immediately to the north.

As noted above for the Damiani and Parsons sites, significant amounts of butchered and modified human bone were recovered from midden deposits at Keffer (Rainey 2002; Williamson 2007:200,205). Of all the sites in the study area, only Parsons had more scattered human bone recovered from non-burial contexts. More than 50% of the scattered human bone (excluding teeth) recovered from Keffer were cranial components, suggestive of the taking of trophy heads (Williamson 2007) and many of these cranial elements exhibited evidence of modification (polishing or perforating), further suggesting their use as items for personal or ceremonial use (Birch 2010; Williamson 2007:205). These findings will be discussed in greater detail below in relation to other findings which suggest that the late fifteenth century witnessed an escalation of conflict throughout the north shore region.

The ShurGain (AlGv-39) and Jarrett-Lahmer (AlGv-18) sites are two early sixteenth century communities 1.0 and 1.2 ha in size respectively, located approximately 3 km apart on tributaries of the West Don River. They were most recently investigated by Dana Poulton and Associates (DPA 1994, 2003), though neither has been subject to extensive excavation. Both sites are also situated on tableland at the confluence of two watercourses whereby slopes form the site limits on three sides, and in both investigations portions of a palisade were

uncovered in determining the northern limits of the site. At the Jarrett-Lahmer site, two extrapolated palisade lines located 10 m apart suggest the village may have at one point been expanded. Surface collections and test excavations also indicate that Jarrett-Lahmer is extremely rich in material remains relative to other sites (Poulton 1996:vi), possibly suggesting dense or intensive occupation. Both sites have been capped since the investigations by DPA with the intent of preserving them *in situ* and now sit beneath parkland. While the recovered material culture samples from both sites are too small to permit meaningful comparison between these and other sites in the immediate area (DPA 1994:21, 2003:48) Jarrett-Lahmer, ShurGain and the Keffer site (situated only 9 km to the southeast) are most likely linked in the developmental trajectory of the Iroquoian communities inhabiting the West Don River in the late fifteenth and early sixteenth centuries AD.

The Orion-Murphy Goulding site (AlGu-3 and AlGu-45) is situated in a branch of the Rouge River headwaters, closer to the Don River drainage than to contemporary sites on the Rouge or West Duffins Creek. It comprises two clusters of six and four houses respectively, separated by 200 m of unexcavated land (3 ha in total). Originally registered as two separate sites, the close similarities in settlement patterns and artifact assemblages suggest that they may constitute the northern and southern extremes of a single village (ASI 1998). The large size of the village led investigators to suggest it may represent an early "tribal-like coalescence" similar to Draper or Parsons (Andreae et al. 1998:9), though the site

lacks a palisade and does not exhibit the compact village layout that characterizes those sites, being more similar in form to the late 14th/early 15th century settlements of Hope and Alexandra (below).

Settlement on branches of the Don River ceased after the early sixteenth century AD. Nowhere in this drainage did communities reach the size of those documented on watercourses to the east and west. If the aggregated, heavily palisaded communities on the Humber and Duffins Creek drainages were forming in response to threats (real or perceived) from adjacent Iroquoian or Algonquian societies to the west, east or south, then perhaps those pressures were felt less acutely in this area. Yet, what became of the people who populated these fifteenth century villages on the Don after 1550? Two scenarios present themselves: that they contributed to the populations aggregating in the headwaters of the Humber River and West Duffins Creek, or joined groups living to the north in historic Huronia. In relation to broader historical processes of coalescence on the north shore, the precontact settlement trajectory in the Don River drainage differs from the pattern shared by communities on the Humber and Duffins Creek drainages.

2.4.3 Rouge River and West Duffins Creek Sites

The majority of settlement on the Rouge River and its tributaries is clustered within 12 km of the shore of Lake Ontario and predates the formation of large community aggregates. However, because they likely contributed to later populations on the adjacent Duffins Creek, the occupations of the Rouge River

and the associated Highland Creek drainages are all presented together here along with the Duffins Creek sequence.

2.4.3.1 Early Duffins Creek Site Sequence

There is evidence of a very long and cohesive sequence of occupation along Duffins Creek and its tributaries. The Boys (AlGs-10) and Carleton (AlGs-11) sites are among the earliest known in the sequence. Excavations at the 0.4 ha Boys site revealed two small longhouses and a palisade (Reid 1975). Less is known about Carleton, though its extent has been estimated at 1.2 ha, large for an early Iroquoian village. To the southwest, on a central branch of Duffins Creek is another cluster of Early Iroquoian sites: Miller (AlGs-1), Bolitho (AlGs-102) Winnifred (AlGs-103), Ginger (AlGs-104) and Ashbridge (AlGs-143), ranging from 0.4 to 1.5 ha in area. Kenyon's (1968) excavations at the Miller site revealed a small, palisaded village consisting of six longhouses and yielding a radiocarbon date with a range from AD 1074 to AD 1276, calibrated to AD 1217 with a range from AD 1074 to 1276 at a one-sigma confidence level (MacDonald 2002:299). The Delancey site (AlGs-101) is also a part of this cluster, though possibly dates slightly later, to the late thirteenth-early fourteenth century.

There are three pairs of fourteenth century sites on Duffins Creek, none of which have been excavated. The Pearse (AlGs-29) and Hoar (AlGs-71) sites and the Peter Webb 1 (AlGs-78) and Peter Webb 2 (AlGs-73) sites each constitute early and late fourteenth century pairs. It is likely that these two sets of sites

represent the footprint of two distinct community groups. Each of the earlier sites is relatively small, and its antecedent larger: 2-2.87 ha in the case of Pearse and Hoar and 0.4-1.2 ha in the case of Peter Webb 1 and Peter Webb 2. The Wonowin (AlGs-329) and Sebastien (AlGs-341) sites form another early fourteenth century pair 2-3 km to the east and are estimated to be 2.2 and 2.5 ha in area respectively (DPA 1998; Ronald F. Williamson, personal communication 2010). They may also represent the footprints of the same village community. The full extent of the Miindamiin site (AlGs-102) is unknown as most of the site lay outside the boundaries of the project area when it was found (Ronald F. Williamson, personal communication 2009) though it has been provisionally dated to the early fourteenth century here (DPA 1998).

2.4.3.2 Fourteenth-century Occupation of the Rouge River and Highland Creek

There are a number of fourteenth and early fifteenth century sites located on southern portions of the Rouge River and Highland Creek, which is immediately west of the Rouge Valley. Kapches (1981) considered the fourteenth century sites on these watercourses to be related and they are presented as such here. The Thompson (AkGt-29) and Elliot sites (AkGt-2) are located on tributaries of Highland Creek. Kapches (1981) dated both to the first half of the fourteenth century, at the beginning of her inferred sequence of sites in the Markham area. Thompson's size is unknown. Notably, it is located approximately 2 km from the Tabor Hill ossuary, with which it is provisionally associated

(Churcher and Kenyon 1960). The Tabor Hill ossuary is comprised of two ossuary pits which together contain the remains of 523 burials. Williamson and Steiss (2003:102) suggest that these may represent the collective dead of two communities, who buried their dead concurrently, while choosing to keep them in separate pits. The Elliot site was subject to limited excavations by the Ontario Archaeological Society in 1960 (Donaldson 1962a), though no settlement patterns were recorded. Based on Donaldson's 1962 report, I estimate its size to be approximately 1.6 ha. There is some conflict as to the chronological placement of the Faraday site (AlGt-18, also 1.6 ha) on the Rouge River. Two sources place it in the early fourteenth century (Warrick 1990:478, Williamson et al. 2003:26) though Kapches (1981:77) thought it dated to late in the fourteenth century. I have gone with the majority opinion and placed its occupation around 1300-1350, acknowledging that it may, in fact, date slightly later. The New site (AlGt-36) has been excavated in its entirety (ASI 2006d). The village covers 1.2 ha and consists of six houses, four of which are arranged in pairs with an east-west orientation and two with a north-south orientation located along the top of the bank of the Rouge River. Not all of the houses may be contemporary, though none overlap.

There are a number of late fourteenth century sites in the lower Rouge River drainage about which little is known. The Milroy site (AlGt-1) was subject to limited excavations by the Ontario Archaeological Society and estimated to be 0.8 ha in area (Donaldson 1962a; Wright 1966:58). The Hamlin site (AlGt-60) was estimated to be 2.4 ha (MPP 1988). The Russell (AlGt-162) site, once

thought to be a village, was determined to be a special purpose or campsite by more recent investigations (ASI 2002b). The Milne (AkGt-41) and the Archie Little 2 sites (AlGt-17) are known only from surface collections and limited excavations (ASI 2002c; Konrad and Ross 1974; MPP 1988).

The Robb (AlGt-4) site is a roughly 2 ha village dating to the late fourteenth century with a long history of investigation (Kapches 1981:110-131; Williamson and Steiss 2003:103). The proposed development of a subdivision in 2003 resulted in the total excavation of the site, which revealed nine longhouses and an extensive midden on a slope above Milliken Creek, a tributary of the Rouge River (Figure 2.17). None of the longhouses at Robb overlap and variability in the density of house wall posts, features and varying house orientations at the site do not make it clear whether or not all nine houses were occupied concurrently (Williamson et al. 2001:49). The site was not enclosed by a palisade. It is thought to be related to the nearby Fairty ossuary, as may be the nearby Faraday and Alexandra sites (Williamson and Steiss 2003:103).

The Alexandra site (AkGt-53) is located adjacent to a minor tributary of West Highland Creek. The unpalisaded, 2.5 ha site dates to AD 1350-1400. It was excavated in its entirety in 2000 and 2001 revealing 17 house structures of which 15 represent permanent or year-round dwellings (Figure 2.18) (Williamson et al. 2003:30). The village likely has two overlapping phases of occupation. The eight houses in the southern portion of the site were likely occupied first as they were associated with the earliest ceramic types and their walls show evidence of

more rebuilding than the others (ASI 2008:124). The houses in the northern portion of the site were likely occupied later and remained in use for a shorter period of time (they were not rebuilt). This suggests that Alexandra is an example of an early aggregation of two community segments. The village contains a remarkable 29 semi-subterranean sweat lodges, which may indicate an explicit concern for the maintenance of integrative spaces and practices in the expanding village community.

Burkholder 2 (AlGt-35) is a late fourteenth century village 0.9 ha in size. It was excavated entirely in the summer of 2003 (ASI 2005b) and consists of four parallel longhouses situated on a high point of land between two tributaries of the Rouge River (Figure 2.19). All houses appear to be contemporary and occupied for an equal length of time based on post and feature densities. From Burkholder 2 one can easily see the Burkholder 1 site, located less than a kilometer to the north on an adjacent property. Burkholder 1 (AlGt-19) has been subject to surface collection and subsurface test trenching, which indicate that it is a palisaded village 0.9 ha in extent and likely post-dates Burkholder 2, dating to the early to mid-fifteenth century (A.M. Archaeological Associates 1997; ASI 2004b). More extensive work may have been carried out at Burkholder 1, though at the time of writing, the report had not yet been reviewed by the Ontario Ministry of Culture and the consultant responsible was not willing to share the results of that investigation.

2.4.3.3 Fifteenth Century Village Sites on West Duffins Creek

The cluster of fifteenth century village sites on Duffins Creek described below, including the Draper site (AlGt-2) and the aforementioned Pearce, Hoar, Peter Webb 1 and 2 sites, were discovered in the course of the 1976-1978 surveys of property destined to become the site of a New Toronto International Airport (NTIA) (Poulton 1979), which was ultimately never built. It is believed that during the second half of the fifteenth century a number of communities occupying the local area aggregated at the Draper site (AlGt-2), which was occupied until the end of the fifteenth century, when it appears this village aggregate relocated en masse to the early sixteenth century Mantle site (AlGt-334).

Most fifteenth century sites on West Duffins Creek are known primarily from surface collection and some limited test excavations related to the NTIA survey. All of the following descriptions are based on Poulton's report (1979). The Pugh site (AlGt-87) covers 2.8 ha and is situated on a major branch of West Duffins Creek, between slopes which form the south and east limits of the site, less than a kilometer south of Draper. Three plough-disturbed midden deposits were identified. Because of its size there is an excellent chance that Pugh represents an early to mid-fifteenth century village aggregate. The Best site (AlGt-67) is approximately 1.8 ha in size and exhibits a similarly defensive situation, at the top of a steep bluff on a major branch of West Duffins Creek. A continuous midden was identified in the eastern portion of the site. The Dent

Brown site (AlGt-68), located on a tributary of the Rouge River is likely more closely related to the contemporary cluster of early fifteenth century village sites on West Duffins Creek. The 1.8 ha site is situated on a point of land adjacent to the Little Rouge Creek. Wilson Park (AlGt-28) lies just outside the boundaries of the NTIA survey area on a tributary of Duffins Creek. It was discovered during a 2005 survey (DPA 2006) and covers 2 ha. The Gostick site (AlGt-65) covers 1.2 ha and is located on a level plateau with moderately steep flanks overlooking a branch of West Duffins Creek. The survey revealed a low artifact density and no soil discolourations indicative of midden deposits. The Carruthers site (AlGt-97) is 0.8 ha in size and is situated on a level plateau, above a gentle slope leading to a stream associated with West Duffins Creek. The surveyors noted three disturbed midden deposits, but also indicated that a relatively small number of artifacts were retrieved during the surface collection.

The smallest early fifteenth century sites located by the NTIA survey were excavated because they were situated in the core of the property which was slated for development. Robin Hood (AlGt-96) is a 0.4 ha site that was partially excavated in 1979, revealing four longhouse structures. At the time, analyses of the subsistence and artifactual data led to the suggestion that the site may have been a special-purpose or cabin site (Williamson 1983). In light of new data and interpretations of similar sites, it seems more likely that Robin Hood was a permanent village and one of the contributing populations to the Draper site (Ronald F. Williamson personal communication 2007).

The White site (AlGt-32) covers 0.6 ha and is spread over two stream terraces on the east bank of West Duffins Creek. It was investigated as part of the NTIA project (Tripp 1978). There are two clusters of longhouses on each terrace (Figure 2.20). Based on low measures of difference in the ceramic assemblages from the houses, Tripp indicated that each represented a separate occupation and that the houses on the upper terrace predate those on the lower terrace. This is supported by my observation that there were different methods of refuse disposal (scattered between houses vs. hillside middens) evident in the upper and lower villages. The site is undoubtedly related to Draper's developmental history, though the specifics of that relationship are not completely clear. Trigger noted: "Distinguishing between large special purpose camps and more dispersed Iroquoian villages is by no means easy, as is evident from efforts to interpret the White site" (Trigger 1985b:16). If the communities that lived on Duffins Creek in the early 15th century were aggregating at the Draper site, the close proximity to the corn fields associated with the previous village locations may have made the transition easier. Furthermore, the houses associated with these earlier villages may have provided a suitable base for horticultural efforts in warm months. However, agricultural cabins or hamlets are not a well-known feature of Iroquoian settlement east of the Niagara Escarpment.

The Spang site (AlGt-66) is a partially undisturbed village approximately 3.4 ha in area. Seven middens (ranging from two to 20 meters in diameter) were located during the initial survey of the site. Preliminary excavations also revealed

five rows of palisade posts adjacent to the steep break-in-slope along the site's eastern edge. Carter (1981) concluded that the ceramics from Spang are most similar to the latest expansions at Draper. These ceramic and settlement data suggest that Spang more closely resembles Draper and other late fifteenth century communities (such as Keffer and Parsons) than it does early fifteenth century communities on the north shore, meaning that it is either contemporary with or post-dates the Draper site. While Spang's size suggests that it supported a large population, this raises questions about the ability of local resources (i.e. firewood, arable land, wild plant foods and game) to support two concurrent or consecutive villages located in such close proximity (Carter 1981:8). Unfortunately, without further excavations and material analyses, our understanding of the Spang village and its relationship with other communities on West Duffins Creek will remain tentative.

2.4.3.4 The Draper and Mantle Sites: Coalescent Communities

The Draper site (AlGt-2) is perhaps the best-known Iroquoian village in Ontario. It has been dated to AD 1450-1500, covers 4.2 ha and is situated on an open, flat terrace overlooking a steep western bank of West Duffins Creek. Draper was excavated in its entirety between 1975 and 1978 and at the time represented the largest salvage project ever conducted in Ontario (Finlayson 1985). The site is composed of a main palisaded settlement of 3.4 hectares, a satellite longhouse cluster of 0.85 hectares referred to as the 'south field' and an isolated structure,

house 42 (Figure 23). Over the course of its occupation, 45 individual structures were built – 38 in the main village, six in the south field and structure 42. Most of these appear to have been year-round dwellings and there is little overlapping of longhouses, those that do overlap being relatively small, temporary structures. What makes the settlement plan of the Draper village so unique is the clear evidence that the main village palisade was expanded five times to incorporate new groups of aligned longhouses. Relatively consistent wall post densities for each growth phase suggest that smaller villages joined Draper as a whole and not on a house-by-house basis. Warrick (2008:136-137, Table 5.10) suggested a sequence of village amalgamation based on the size of palisade expansions and size of contributing villages. However, this approach only considers the total size of villages and not the nuances of how much of that total area was occupied at one time (cf. the two different occupations at White). It has not yet been determined which local communities contributed to which village expansion; indeed, identifying such specifics may not be possible (see Chapter Three). Nevertheless, these logistical and culture-historical questions are not the primary concern of this study. Instead, in-depth discussion of the Draper community regarding the negotiation of community space and potential relationships (the lived experience of coalescence) between social groups and individuals within the community will be discussed in Chapter Three.

Based on their sizes, similar artifactual patterns and settlement patterns, it is believed that the community which occupied the Draper site relocated 5 km

upstream to the Mantle site (AlGt-334) around the turn of the sixteenth century. Mantle is a 4.2 ha village dated to ca. 1500-1550, located on Stouffville Creek, a tributary of West Duffins (Figure 2.22). Mantle was excavated in its entirety by ASI between 2003 and 2005 (report in preparation). It is the largest, most complex village known to date in the lower Great Lakes. It contains 95 individual longhouses, approximately 50 of which were occupied at one time. The village is surrounded by a more or less oval palisade which underwent two contractions in its history of use. Overall, the site has a very well-planned layout though most of the houses are superimposed with other structures, indicating that Mantle had a dynamic occupational history, characterized by two distinct phases and a great deal of residential mobility within the village throughout its life. The phasing and occupational history of the Mantle site, and the implications of these patterns, will be explored in detail in Chapter Three.

While significant amounts of scattered human remains and one burial clearly subject to interpersonal violence were recovered from the Draper site (Williamson 2007:211-212), only small quantities of human bone was recovered from non-burial contexts at Mantle, indicating a shift in patterns of violent conflict between their occupations, discussed in more detail below. These two villages have been excavated more completely and documented in greater detail than any other coalescent communities in the Lower Great Lakes. Because of the quality and quantity of data available for these two sites, the social and political

transformations that accompanied this process can be investigated in much greater detail here than in the other two drainages discussed above.

2.4.3.5 Contact Period Occupations in the Holland River Drainage

No systematic archaeological analyses have been conducted on assemblages from these late sixteenth century sites and all are known solely from surface collections. However, the general trajectory of settlement established in this chapter, whereby villages become larger, more widely distributed and relocate to the northern reaches of the Lake Ontario watershed, suggests that the community occupying the Mantle site may have relocated to one of the following three communities.

Aurora (BaGu-2) is a 3.4 ha site once known as "The Old Indian Fort Site" (Emerson 1954:165) located at the headwaters of the Holland River. While the initial excavations carried out by the University of Toronto in 1947 did not find any European trade goods, later surface collections produced trade copper and other items which place the site in the early contact period, ca. AD 1550-1600 (Ramsden 1977:65). VanNostrand-Wright (AlGu-13) is another early contact period site on the Holland River from which trade goods have been recovered (Dibb 1979). Its extent has been estimated to be quite large, though little else is known about the site.

The Radcliffe site (AlGt-157) is a 2.8 ha site located on the East Holland River 5 km northwest of Mantle. It is estimated to date to the late sixteenth/early

seventeenth century based on the presence of contact period artifacts, including black glass and copper beads. Gordon Dibb (personal communication, 2009) also noted the presence of large amounts of St. Lawrence Iroquoian-style ceramics.

2.5 Discussion: Population Aggregation at the Regional and Local scale

The settlement data presented above describe a regional process of coalescence. Up until the mid-fourteenth century AD, Iroquoian settlement on the north shore of Lake Ontario was characterized by clusters of small sites scattered along major drainages. Many village sites occupied in the late-fourteenth and early fifteenth centuries were characterized by small clusters of aligned longhouses (e.g. the Baker and Robin Hood sites). Some sites have more than one group of aligned houses (i.e. the Robb, White and Over sites), which may or may not have been occupied concurrently. The Hope, Orion-Murphy Goulding, and Alexandra sites may represent a site type intermediate between small communities composed of single clusters of aligned houses and the large, coalescent communities of the late fifteenth and sixteenth centuries. Their settlement plans suggest that after the initial occupation of the site, an additional cluster of houses was added and occupied concurrently with the pre-existing population. This growth in site size was almost certainly the result of emigration, either by groups from the local area or a neighbouring drainage, as opposed to natural population growth. Because none of these sites are palisaded it seems

unlikely that the occupants of house clusters chose to live in close proximity in the interest of common defence. Their motivation for coming together may instead have been related to social dynamics, changes in subsistence production or other factors. Thus, these sites appear to be intermediate antecedents in the larger process of regional settlement aggregation.

The initial formation of larger village communities greater than 2.5 ha in area occurred in the mid-to-late fifteenth century AD with the Draper and Parsons sites. While these appear to be the largest coalescences in the study area in the late fifteenth century AD, the Damiani and Keffer sites also reached a significant size and exhibit evidence of village aggregation during their occupation. While large, heavily palisaded villages characterized occupations in the Humber and Duffins Creek drainages after AD 1450, settlement in the Don River drainage in the center of the study area is much less cohesive and eventually ceases altogether by 1550. In the early sixteenth century the Draper community appears to have relocated more or less as a whole to the Mantle site, while the Parsons village has no identifiable descendant communities and the Keffer community may either relocate out of the study area or break up into two smaller sites. If so, these populations may have later joined the large village aggregates forming in the headwaters of the Humber River late in the next century.

After AD 1550, the only settlements remaining on the north shore of Lake Ontario are very large villages ranging from 2 to 4 ha in size in the northeast and northwest limits of the study area – Seed-Barker and Skandatut in the Humber

Headwaters and Radcliffe and Aurora on the Holland River. These coalescences likely formed the basis of two of the historically recorded tribal nations that went on to become members of the Huron confederacy and the allied Petun nation in the early seventeenth century AD.

2.5.1 Patterns Corresponding to those Identified in Other Coalescent Societies

Within these broad patterns, some of the commonly occurring responses observed in coalescent societies defined by Kowalewski (2006:117) and listed in Chapter One can be observed. Only some of these traits can be confirmed on the basis of settlement data alone, and at a regional scale of analysis. The formation of larger villages is clear. Whether or not these villages were composed of 'multiethnic' populations is difficult to determine as these assertions would have to be borne out by artifactual or other (i.e. linguistic, genetic) evidence. There is some indication that houses in the excavated portion of the Parsons village were occupied by St. Lawrence Iroquoians and/or their descendants, though assemblages from the Draper and Keffer sites do not indicate that there was a significant St. Lawrence Iroquoian presence at other coalescent villages on the north shore of Lake Ontario (Williamson and Powis 1998:59). Some diversity in ceramic micro-traditions within aggregated communities might be expected based on local or familial variability in certain manufacturing techniques or communities of practice (Michelaki 2007). Preliminary data from the Mantle site, discussed in Chapter Four, suggest that relationships with other communities and

ethnic groups in the Lower Great Lakes were changing in the context of coalescence (Birch et al. 2010). The social and political realignments occurring in the fifteenth and sixteenth centuries likely resulted in the dissolution of ties with some groups and strengthening of ties to others. But, as will be discussed below, these relationships are best investigated on a site-by-site basis.

Changes in social means of production cannot be discerned from settlement data alone. However, one would expect that the challenges of feeding larger, more concentrated populations would necessitate an intensification of local subsistence production and changes in the exploitation of local resources (Kowalewski 2003); though this principle could admittedly result in a somewhat circular argument. Identifying these patterns at a regional scale is beyond the scope of this dissertation; but evidence for the intensification of local horticultural production, or at least for the consumption of maize, may be visible at individual sites, as it is at the Moatfield ossuary though isotopic analyses (van der Merwe et al. 2003). The development of trade networks with Shield Algonquians (Warrick 2000:451) in the Late Precontact period does seem to correspond with the intensification of trade expected during coalescence, though the degree to which this trade was occurring south of the Oak Ridges Moraine is speculative. While an increase in evidence for interregional interaction and the appearance of 'exotic' artifacts and burials on mid-sixteenth century sites (Trigger 1990b:129; Birch et al. 2010) do suggest the extension of social and exchange networks, there still remains no evidence to support the notion that large village communities formed

in order to control trade routes (Hayden 1979:7-9; Trigger 1985:93). Some of the less tangible traits expected in a coalescent society, such as migration and origin myths emphasizing the incorporation of groups, ritual societies, sodalities and the specifics of ceremonial practices, may only be inferred very tentatively from ethnohistoric sources and are not possible to identify based on archaeological evidence alone.

2.5.2 Socio-political Organization and Integration in the Context of Coalescence

We can have more success with extrapolating a shift in the basic units of social organization, increasing degrees of community integration and the corresponding implications for political organization from these broad changes in settlement size and layout. Ethnographic studies describe every sort of link between social organization and architecture (Hegmon 1989:11) and transformations in these material settings directly signal changes in social relationships and associated historical processes (Bourdieu 1977; Gerritsen 2004:151; Hodder 1986:7-8,149), by affording people different opportunities for seeing, hearing, moving, and communicating (Thomas 2004:33).

Many small fourteenth and early fifteenth century communities which consisted of single clusters of aligned longhouses (i.e. the Baker site, Figure 2.13) were likely composed of kin-related extended family groups. Prior to the second half of the fifteenth century, the village settlement likely represented the highest level of socio-political organization in Iroquoian society (Williamson and

Robertson 1994). Political organization was almost certainly organized loosely, with elders deferred to for decision-making that affected the group as a whole. When these lineage-based communities merged (i.e. the Alexandra site, Figure 2.18) it may have necessitated the development and/or elaboration of decision-making processes, including the formation of village councils composed of representative leaders from segments of the community (Trigger 1985a:102; Warrick 2000:446).

The elaboration of political organization was likely occurring in concert with other social developments which facilitated the integration of previously distinct social units and/or kin groups. Mechanisms for social integration common to Iroquoian cultures identified ethnohistorically include ceremonialism tied to seasonal rhythms, communal feasting, sodalities, medicine societies, and rituals of intensification (Fenton 1978; Tooker 1964). I am not arguing that these practices were present in their full-blown historic form in precontact societies, but it is almost certain that past variations of at least some were in place after AD 1300. While these activities can be difficult to identify archaeologically, the semi-subterranean sweat lodges found within and attached to longhouses on many fourteenth century village sites in Ontario have been interpreted as venues for hosting social and ritual events (MacDonald and Williamson 2001), a practice which may have continued in above-ground lodges in subsequent periods. Some adaptation of these practices may have occurred in order to incorporate the

unprecedented numbers of people who came together into the large village aggregates of the mid-fifteenth to late sixteenth centuries.

As in many tribal societies, kinship was the primary idiom through which social and political relationships were constructed and maintained among Northern Iroquoian peoples (Sioui 1999). Kinship terms such as clan and lineage are often employed to explain organizational changes observed archaeologically, despite the fact that this same archaeological evidence does not directly support the detection of these kin-based groups or identities. Because of this disconnection between the reality of living social relationships and static archaeological remains (Harris 1968), arguments based on kin- and clan-identities remain speculative (Birch 2008).

Beginning in the fourteenth century AD, changes in community plans suggest a shift in emphasis in the primary unit of social organization whereby supra-household identities (likely clans) became more important than households (extended families, lineages) in structuring local political organization (Trigger 1990:128). In the historic period, the clan was the most basic unit of social and political organization and group identity (Fenton 1978; Morgan 1962[1851]). Some researchers have suggested that the increasing importance of the clan as the primary unit of intra-community organization may have resulted in a decrease in longhouse length after AD 1400 (Dodd 1984; Warrick 1996:17). The shift from lineage- or household-based organization to practices that placed decision-making for the community as a whole in the hands of a council composed of

representatives for multiple households (again, likely clans) may have facilitated a reduction in the size of co-resident extended family groups and more abstract, rather than physical social unity within village segments (Engelbrecht 1985:15-17; Warrick 1996:20). Emphasizing clan or supra-household relationships as opposed to individual households or lineages as the basis of intra-village political organization as villages were getting larger would have diminished scalar stress (Johnson 1982), by reducing the number of social units in village councils and decision-making processes. Further, the integrative potential of clan-based organization and the complementary funerary and ritual roles of moieties and phratries would have aided the cohesion of coalescent communities. Those communities which successfully adopted clans as the primary unit of social organization may have been more successful at integrating newcomers and persisted longer as a collective than those that did not.

However, as demonstrated above, there was a great degree of variability in village form and size at any one point in time, meaning there was also a great degree of variability in the nature of social organization and decision-making from village to village. Within a single drainage, at any point in time, political organization could have been based on lineages or clan groups, both or neither. Because of this variability, we would be better served to examine social and political organization at the level of individual communities, and changes in practices related to those processes within individual relocation sequences.

One of the key problems in using archaeological data to infer aspects of Northern Iroquoian social organization, an issue which bears strongly on the arguments presented in this study, is that aligned groups of longhouses have been interpreted in two ways: 1) as households belonging to the same clan segment (Finlayson 1985:172; Trigger 1985a:92; Warrick 1984:35) and 2) as previously distinct communities that have merged into one settlement (Bamann 1993; Pearce 1996; Tuck 1971; Warrick 2008:136–137). These interpretations need not be mutually exclusive, yet they have been used interchangeably to explain the socio-political organization of Late Woodland villages (Birch 2008:202). My position on this issue of interpretation is that while both may be equally valid, it is nearly impossible to archaeologically link longhouses to a particular clan affiliation, though we can reason that house clusters added to an already existing village represented people who had previously lived elsewhere. The increasingly well-planned and integrated layouts of sixteenth century villages such as Mantle and Seed-Barker (Figures 2.22 and 2.12) suggest that a new level of decision making had emerged in these communities, one that superseded the various segments which existed within the village as a whole. This lack of physical separation of social units may have further aided community integration through the manipulation of the built environment. These arguments will be revisited in Chapter Three in the specific context of the Draper and Mantle communities.

A final feature of coalescent societies is the increasing evidence for collective defense and fortification and indications of an increase in violent

conflict amongst coalescent communities after AD 1450. Some site features which relate to this trend are presented in Table 2.2. An increase in the size and strength of palisades in the fifteenth century is a long-recognized characteristic of Northern Iroquoian villages in south-central Ontario. While palisades are present on some earlier village sites, those found on villages occupied after AD 1450, during the period of large-scale community coalescence, always consist of multiple rows of post moulds. It is likely that only three rows of posts were in place at any point in time (Engelbrecht 2009), but the fact that as many as seven rows have been identified at the Parsons and Mantle sites indicates that the rebuilding and integrity of village defenses was a major concern. Ramsden (1990b:171) has also stressed the social and symbolic significance of palisades as structures that divide the world and the people that inhabit it into two factions – those on the inside and those on the outside, enforcing a dialectical meaning that says "[t]his is a social boundary of some importance; if necessary it can be defended." For newly formed communities struggling to integrate large populations, village palisades would have been important symbols of place and collectivism, in no small part because of the communal expenditures of effort spent on construction and maintenance (Keeley 1996:55; Parkinson and Duffy 2007:101) and the ways in which they restricted visibility and movement in and out of villages (Thomas 2004:33). Fortifications may also have been part of competitive displays and not necessarily in proportion to actual levels of violent conflict that tested their strength (Williamson et al. 1998:14). Nevertheless, a

reinforced three-row palisade would have been a formidable barrier to would-be assailants and, symbolic meanings notwithstanding, palisades are ultimately large-scale defensive constructions.

Other evidence for an increase in violent conflict among mid-fifteenth to sixteenth century communities is the presence of significant amounts of butchered human bone in midden deposits and the presence of artifacts manufactured from modified human bone, including skull rattle components, skull cap gorgets (pendants) and drilled and modified mandibles (Williamson 2007), evidence generally interpreted as evidence of prisoner sacrifice (Trigger 1976:144). To date, warfare has been considered to be a key motivating factor behind settlement growth, possibly due to increased feuding and competition over hunting territories that led smaller groups to band together for communal defence (Trigger 1985a:99; Warrick 2000:450). However, until the large-scale conflicts and dispersals of the seventeenth century, it appears that traditional Northern Iroquoian warfare was not waged to control resources or territory and did not include attacks *en masse* or the siege of entire villages. Rather, small-scale conflict involving groups of men who would stage ambushes and raids and the killing or capture of isolated victims outside of villages was the norm. According to ethnohistoric accounts, success in raids or 'on the warpath' was one of the primary means through which young men could acquire prestige and status, the most important form of social currency in an otherwise egalitarian society (Fenton 1978:315; Snow 2007). With aggregation into larger villages, the social dynamics of coalescent communities would have

became more complex, with extended families and clan groups likely seeking to position themselves within new decision-making or status hierarchies. Since the primary avenue for young men to acquire prestige appears to have been through warfare and the acquisition of captives, internal village social dynamics and competitiveness could have stimulated increased levels of raiding and associated rituals, with all the socially integrative potential of these shared experiences and common enemies. Thus, while communal defence may have been a factor in the formation of coalescent communities, the increase in conflict during this period may have equally been related to negotiations of status and identity as individuals, lineages, clans and communities struggled to redefine and reposition themselves within coalescent communities situated in a changing socio-political landscape (Birch 2010).

Yet, after this reorganization into larger, more integrated and widely separated communities, levels of violent conflict seem to have declined. The formation of larger social units results in the development of social and political mechanisms that may have served to resolve or suppress conflict, in part by making the decision to go to war more complicated, and requiring the assent (or potential disapproval) of more stakeholders (Keeley 1996:121). After these coalescent communities had 'settled in', conflict may have declined in part because of new forms of political organization but also because there would have been less potential enemy villages. The fact that all settlements occupied after AD 1450 were surrounded by multiple-row palisades should also not be overlooked.

Large-scale defences would have made raids on non-allied villages more difficult and reduced the chances of a war party's success compared to previous periods.

2.5.3 Moving from the Regional and the Local to the Community

It is clear from the descriptions of site data by drainage that, while a general pattern of coalescence defines settlement trends over time, there is variability between contemporary site clusters and individual village relocation sequences. There are specificities and local contingencies within local processes and responses that traditional phase-based interpretations of these data have not addressed. In order to understand how a historical process of coalescence played out 'on the ground' in a unique and historically contingent way for one group of people, we need to interrogate village data at a finer scale of analysis. The next chapter will employ a higher resolution of settlement data in order to explore historical processes of coalescence within one local setting, at the Draper and Mantle sites.

CHAPTER THREE
Coalescent Communities: The Occupational Histories of the Draper and Mantle Sites

3.0 Introduction

A general pattern of settlement aggregation characterized the fifteenth and sixteenth centuries AD on the north shore of Lake Ontario, though there was considerable variation between site relocation sequences in the timing of village fusion, the number of the contributing villages, and the size and nature of the resulting village aggregates. Because of these differences between site sequences across the region, we can only generalize about the social processes that characterized the formation and maintenance of these new village aggregates. In reality, the processes, negotiations, and lived experiences of coming together would have varied between communities (as well as for the individuals and families therein) depending on specific local and historical contingencies. In order to understand how processes of coalescence developed in local communities we must narrow our focus accordingly.

The key premise being explored in this chapter is that social and political transformations, while visible at the regional scale, are ultimately enacted at the community level. To demonstrate this, the focus of explanation shifts to the formation and transformation of one coalescent community sequence located in the Duffins Creek drainage, the last set of sites discussed in Chapter Two. This area contains a series of village relocations spanning more than 500 years, however, the large, well-excavated Draper and Mantle sites are of utmost interest

for understanding processes of community transformation. My analysis focuses on the settlement plans and occupational histories of these villages, the spatial arrangement of houses, placement of open spaces, palisades, middens, and other characteristics, as indicated by the arrangement of sub-surface post moulds and features.

The methods of excavation employed at each site necessarily figure in the ways in which they can be analyzed and interpreted. Both sites were excavated by using heavy machinery to strip away topsoil, revealing features in the subsoil, including post moulds, pits and hearths, from which the settlement plans are extrapolated. This method of excavation results in a more or less two-dimensional site plan, though superposition of house walls, palisades and features can sometimes be discerned in the field and used to reveal temporal relationships.

The Draper site was excavated and its settlement pattern originally analysed approximately 30 years ago (Finlayson 1985). The Mantle site was recently excavated by Archaeological Services Inc. (ASI 2006a) and its settlement pattern is examined in detail here for the first time. One major difference between these villages is that while there is little superposition of longhouse remains at the Draper site, much of the Mantle village is a palimpsest of overlapping structures. This necessitated the development of a methodology that would elucidate the occupational history of the site which included measuring and comparing the wall post densities of structures, using superposition of structures and features to

determine construction sequences and diachronically recording changes in the composition and arrangement of the built environment.

3.1 Archaeological Perspectives on Space and the Built Environment

Architecture, or the built environment, is both a class of material culture and a symbolic expression of a larger cultural framework (Bourdieu 1970). From a functional perspective, architecture provides a place to shelter from the elements and a place for storing food and other materials used to maintain a household. As a social construct, architecture provides a sense of place by transforming open, public space into personal, private space (Riggs 2002:5). One of the central tenets of most approaches to the built environment is that it is intrinsically linked to the society and culture of the occupants and, as such, both reflects and influences the social actions and interactions that take place in and around them (Hillier and Hanson 1984; Lawrence and Low 1990; Rapoport 1990). According to Kent (1990:2), structures "are conscious manipulations by humans to create boundaries where they do not exist in nature." The construction of walls, palisades and other structures bounds the spatial aspects of human activity. These built forms divide public spaces from private spaces, 'our' spaces from 'their' spaces (cf. Ramsden 1990b), and in so doing structure the interactions of the people who move in and around them.

The built environment provides a means of both conveying information within and between social groups (Bourdieu 1970; Rapoport 1990). Fletcher (1995) has discussed the role of material constructions in managing interaction and communication. For communities to function, individuals have to interact with one another, yet that interaction involves the strain of dealing with others and coping with the results of group activity such as noise and the accumulation of refuse (Fletcher 1995:7). If left unchecked, these strains eventually produce a pattern in which community life cannot persist. The separation of different architectural units, such as households and groups of households, may then be interpreted as denoting the boundaries of smaller social units within the larger group (Riggs 2002; Stone 2000). The ways in which built forms are positioned relative to one another structures the frequency of interactions, and as such reflects the relationships between constituent domestic groups and the social whole. Changes in these material settings can thus signal changes in those relationships and aid archaeologists in understanding social and historical processes over time and space (Bourdieu 1977; Gerritsen 2004:151; Hodder 1986:7-8, 149; Rodman 1985; Thomas 2004:34).

In Iroquoian society, kinship and the clan system are the primary mechanisms for defining social identity (Birch 2008; Morgan 1962[1851], 1985[1858]; Sioui 1999). The matrilineal extended family is the core of a domestic group that is materialized and symbolized by the longhouse. But, despite the importance of the longhouse in defining 'domestic' relationships in the

co-residential sense, we have to recognise that activities we consider 'domestic' do not always take place within dwellings or residential spaces (Byrd 1994). As Alison Rautman (2000) has noted, the sound of grinding corn carries to nearby households and trips to fetch water or gather firewood are tasks that require entering and crossing public spaces. Likewise, public activities such as meetings of the village council or large gatherings were held within longhouses, otherwise domestic spaces. The aggregation of population in large villages makes domestic tasks much more public – individuals would have to pass other houses, move through open spaces and cross the palisade in order to carry out day-to-day tasks. This visibility, both real and sensed, would have had a psychological impact on people and their social relationships. This change in the context for domestic production would have increased the potential for conflict within these new settings and necessitated ways of reducing social stress and integrating the recently formed social aggregate. While the actual mechanisms for integration such as collective ceremonies or elaboration of the clan system are difficult to observe archaeologically, architecture and built forms provide a proxy for observing changes in social relationships.

A diachronic perspective on the construction and experience of domestic and community space is essential to understanding historical processes. When individuals are confronted with new situations that may have come about beyond their control (Gettitsen 2004:150), they react with responses that may be novel, but that also draw from remembered historical precedents and cultural traditions

(Pauketat 2001). Rapoport (1994:488) has discussed how the organization of space cognitively precedes its material expression: that "settings and built environments are thought before they are built." Ingold's "building perspective" is similar – "that worlds are made before they are lived in" (2000:179). New configurations of domestic space and the social relations that go on in and around these spaces are thus at once novel and historically constituted.

How did the specific ways in which people constructed, inhabited and transformed domestic and public spaces reflect how they reproduced and renegotiated social relationships during the process of community coalescence in the fifteenth and sixteenth centuries? More specifically, how are these realignments and negotiations manifested in the built environments of the Draper and Mantle villages?

3.2 Local Aggregation at the Draper Site

As outlined in Chapter Two, between approximately AD 1400 and 1450 there were eight small village communities occupying West Duffins Creek and its tributaries (figure 3.1). By the late fifteenth century, these villages were abandoned, their populations aggregating at the nearby Draper site (Finlayson 1985; Warrick 2000:449). Determining which small sites formed which parts of the Draper village is beyond the scope of this dissertation. Warrick (2008:136-137) has suggested a sequence of expansions based on the size of village segments/expansions and the estimated size of the contributing village

communities. However, without further excavation and artifactual analyses, this suggested sequence remains hypothetical. Even with additional research, identifying exactly how these communities reorganized themselves may prove impossible, though renewed ceramic analyses which are underway hold potential for more nuanced insight into the relationships between sites. Close ties almost certainly existed between the villages in this local area in the early fifteenth century. Spatial proximity (all sites lay within an area of 25 square kilometers), bonds of kinship and marriage, trade and exchange, shared ideologies and ceremonial practices would have created close relationships between these early fifteenth century groups (Spence 1999). These ties would have played a role in the decision to aggregate into a single settlement and the negotiation of the new forms of these relationships during coalescence.

The interpretation of the Spang site represents a challenge to the work being presented here. As noted in Chapter Two, Spang is a large, partially undisturbed village site located approximately 2 km north of Draper. While Spang's size (3.4 ha) suggests it had the potential to support a large population, (perhaps on the order of 500-1000 individuals, since the site is somewhat smaller than Draper, which Finlayson [1985:413] estimated to have a maximum population of 1800 individuals, though see discussion regarding population estimates below), questions have been raised about the availability of local resources to sustain two large populations concurrently, or even within the same century, located in such close proximity (Carter 1981:8; Heidenreich 1971).

Nevertheless, the ceramics from Spang most closely resemble those from the latest expansions at Draper, suggesting the site dates to the late fifteenth century (Carter 1981). New ceramic analyses are currently underway to help determine the relationship between the Spang, Draper and Mantle sites; but the results were not available at the time of writing. These and future investigations of the Spang site will help to determine its place in processes of community coalescence on West Duffins Creek, though I do not believe that the lack of information about the Spang site alters the main arguments made in this chapter: that the transformation of social and political relations in coalescent societies were enacted in local communities. For the people that lived on West Duffins Creek in the late fifteenth and early sixteenth centuries, these transformations can be best understood though an examination of the Draper and Mantle sites.

3.3 Coalescent Communities: The Draper and Mantle Sites

3.3.1 The Draper Site (AlGt-2)

As noted in chapter two, the Draper Site covers 4.2 ha and is situated on an open, flat terrace overlooking the steep west bank of West Duffins Creek. The settlement remains are composed of a main settlement of 3.4 hectares, a satellite longhouse cluster of 0.85 hectares referred to as the 'South Field' and an isolated structure, House 42 (Finlayson 1985) (Figure 3.2). The Ontario Archaeological Society carried out the first investigations at Draper in the 1950s, and a number of other investigations sampled portions of the site (Hayden 1979:6; Finlayson

1985:26; MacDonald 2002:298). The first map of the site was formulated by Ramsden (1968) who indicated the location of all known middens, which were tested and compared for ceramic differences. Brian Hayden conducted the first detailed salvage excavations at the site in 1973, including the exposure of two longhouses, one of which was systematically excavated (Hayden 1979). The site was excavated in its entirety under the direction of William Finlayson of the University of Western Ontario in 1975 and 1978 (Finlayson 1985). At the time, the Draper site represented the largest salvage excavation ever conducted in Ontario and many of the techniques employed there, including using heavy machinery to systematically remove topsoil to reveal a total settlement pattern, shaped the methods used in Ontario Iroquoian village excavations today. A report on the settlement patterns, including detailed house-by-house descriptions was produced by Finlayson (1985). The analyses of material culture and other aspects of the site were produced separately, including reports on the ceramic artifacts (Pihl 1984; Pearce 1978a, 1978b, 1978c), chipped and ground stone (Poulton 1984; Pearce 1983), smoking pipes (von Gernet 1982a, 1982b), worked bone (McCullough 1978), faunal remains (Burns 1979) seed remains (Fecteau 1978 and interments (Forrest 2005; Williamson 1978, 1979).

3.3.1.1 Draper Site Phasing

The settlement pattern for the Draper site indicates that the main village underwent a total of five expansions from an original palisaded 'core' village.

Finlayson (1985:416-431) used settlement data to present a hypothesis about the sequence in which these expansions occurred. Field observations indicated that rows of palisade posts were obliterated where houses crossed them, suggesting that all alterations to the main village were expansions rather than contractions. The letters A-F as illustrated in Figure 3.2 were assigned to each segment of the main village (see Finlayson [1985:67-70] for a full description of each segment). Based on the relationships of segments to one another (i.e. it is obvious that segment C preceded segment D), estimated densities of house wall post moulds, sweat bath post moulds, interior post moulds and pit (feature) density, Finlayson proposed that the relative order of segment additions was A (core), C, D, E, B, F (Figure 3.3). Segment E, or expansion 3, may have included the addition of two longhouse groups, one comprised of Houses 5, 13, 22, 26 and 27, and another cluster comprised of Houses 31, 2, 17 and 14.

Pihl (1984) conducted numerous analyses of the Draper ceramic assemblage using selected attributes and attribute complexes. A seriation of nine chronologically significant attributes (Ramsden 1977) was conducted for each of the village segments. None of these variables produced acceptable seriations given assumptions that can be determined from the settlement pattern (i.e. superposition of houses and palisades), though he determined that the houses in the 'South Field' and the isolated House 42 dated late in the occupation of the site. Future analyses of socially significant attributes based on Pihl's data will be

useful in determining the relationship between segments of the Draper village and other sites in the vicinity, including the Best, Pugh, Spang and Mantle sites.

The density of post moulds in the outlines of longhouse walls has proven to be an effective method for estimating the duration of Iroquoian villages. Kenyon (1968:20) was the first to suggest that wall post density could be used as an index of the duration that a longhouse was occupied. The average number of posts per linear metre of wall is a direct measure of the amount of effort put into building and rebuilding and therefore an indirect indication of the relative age of the structure (Johnson and Jackson 1980). Warrick (1988) used this method to estimate the average duration of Iroquoian village sites by period across south-central Ontario.

Wall post density can also be used as a relative index of the length of occupation of houses within a single village; houses with a greater wall post density being occupied longer than those with a lower density. The houses at Draper that had been expanded during their occupation (e.g. 4, 6, 10, 11 and 15) exhibited higher wall post density in the longest occupied portions (Finlayson 1985:178-179). In his interpretation of these patterns, Finlayson wrote that: "...some houses that have been interpreted as chiefs' houses (e.g. 8, 12 and 16) have higher densities of wall posts which suggested that chiefs may have used more poles in the construction of their houses" (1985:408). Rather than interpreting these houses as "chiefly," I will instead suggest that these houses

were longer lived than others and, accordingly, a greater investment was made in maintaining these houses through more frequent repairs.

Average wall post densities for houses in each segment of the Draper village support the relationships between segments suggested by the settlement data (Table 3.1; see Finlayson 1985 for data on each house). In the case of the south field, the low post density coupled with the fact that ceramics from this area seriated to late in the sequence supports the notion that the houses in the south field were added late in the occupational history of the site and could be considered to be the sixth expansion. The most important suggestion made by these data is that the expansions to the main Draper village were made in order to accommodate clusters of longhouses, as opposed to houses being added individually (Finlayson 1985:406). As each new segment was added, they retained a similar form to 'traditional' late fourteenth and early fifteenth century village sites; each expansion remained spatially distinct. It follows that the inhabitants of those longhouse clusters were probably more closely related to one another (at least initially) than they were to the inhabitants of different segments. Interestingly, if one considers the two clusters of longhouses in segment E, and the south field, as previously distinct communities, then all eight of the pre-existing, early-to-mid fifteenth century villages in the Duffins Creek sequence could be accounted for at the Draper site. Another point of interest is that the 'core' village was at first situated well back (more than 100 m) from the creek. Most villages in south-central Ontario are situated closer to water, usually at the

top of the slope, which may indicate that village expansions were premeditated. Certain features of the Draper site settlement plan (including village layout, 'long' longhouses, refuse disposal practices and fortifications) will be discussed in more detail below in comparison with features of the Mantle site.

3.3.2 The Mantle Site (AlGt-334)

The Mantle site was unknown to researchers until 2002, when the presence of a large Late Iroquoian site on two lots slated for development immediately south of the town of Whitchurch-Stouffville was made known to personnel from Toronto-based Archaeological Services Inc. (ASI 2006a). After preliminary surveys to ascertain the nature and extent of the site, Mantle was excavated by field crews from ASI under the direction of Andrew Clish between 2003 and 2005. At the time of writing, the final report on the excavation was in preparation. The total area of the site covers 4.2 ha and is located 5 km north of the Draper site on Stouffville Creek, a tributary of West Duffins Creek (Figure 3.1). The similar sizes and material culture assemblages of the Draper and Mantle villages, and their conformity to known Ontario Iroquoian settlement trends whereby village relocations tend to move northwards along major waterways (cf. MacDonald 2002), suggest these two sites represent the footprint of the same community group. In order to refine the relative date of the site based on material culture and local settlement patterns, Archaeological Services Inc. obtained two radiocarbon dates on carbonized maize remains from secure contexts. One was

obtained from Midden 1 and the second from Feature 253, in the southern portion of the village. The date ranges are in agreement and both support the interpretation that the site was occupied during the early sixteenth century AD (Table 3.2).

Furthermore, a comparison of wall post densities for the longest-lived houses at each site (Draper site Houses 6 and 12 had a respective 7.5 and 7.4 wall posts per meter [Finlayson 1985:183], whereas Mantle site Houses 15 and 20 had respective densities of 6.8 and 7.9 [Appendix D]) suggest that these two villages may have been occupied for a similar length of time. Yet, there is evidence in the form of midden deposits overlaying the remains of house walls and living floors that some houses in the Draper village core were abandoned prior to the complete abandonment of the site. It may also have been the case that some houses at Mantle were occupied before others in the same phase of occupation. These contingencies make definite estimates of village duration difficult, but I believe that an occupation of somewhere between 40 – 50 years for the Draper site and 25 – 40 years for the Mantle site are educated inferences. The presence of a single possible trade item (see Chapter Four) at the Mantle site indicates that the site could not have been occupied any later than the mid-sixteenth century, when European trade goods became more common and abundant on Iroquoian village sites (Fitzgerald 1990). The populations of the two villages also appear to be somewhat similar, and will be addressed in detail below, after the complexities and phases of the Mantle site plan have been explored in detail.

3.3.2.1 Methods of Excavation

As with most Northern Iroquoian villages, the Mantle site lay in an area that had been cultivated for the last 150 years. The northern portion of the settlement had been disturbed to varying degrees by a nineteenth-century farmstead, including a stone foundation, on the western side of the site, as well as more recent activity to the north-west, including a dirt road and cable trench. The south-western portion of the site was more extensively disturbed by a second nineteenth century farm and milling operation (ASI 2006a:1-2). As a result of agricultural activity, namely ploughing, the top 25-30 cm of the site was heavily disturbed. After several surface collections of the site resulting in the recovery of 18,000 artifacts as well as sampling of one metre units on a 10 metre grid covering the estimated site area, the entire site was systematically stripped down to just above the undisturbed subsoil using heavy machinery. All subsurface features including post moulds, pit and hearth features were mapped and recorded and all features and all post moulds greater than 15 cm in diameter were excavated by hand. More than 60,000 individual palisade and house posts were documented during excavation and more than 1500 features recorded. The site turned out to be rather shallow in character, leaving fewer hearth features than might be expected, hearths traditionally being used in Iroquoian archaeology to locate living areas within houses and to estimate the population density of sites. That said, the high density of post moulds, features and artifacts recovered from

both surface and excavated contexts suggests a very intensive occupation relative to many other known Iroquoian villages.

3.4 Mantle Site Settlement Patterns: Unraveling the Occupational History of a Coalescent Community

3.4.1 Defining Structures

The complexity of the settlement remains encountered during excavation meant that houses could not be assigned numbers in the field. The first step in sorting out the village plan of the Mantle site was identifying and outlining individual longhouses. Andrew Clish produced a digital map of all sub-surface features recorded during the excavations using AutoCAD. He and the author collaborated on the identification of structures, judgments regarding the contemporaniety of structures and hypotheses about village phasing. While not all structures may have been 'houses' in a strictly residential sense, they have been labeled as longhouses in accordance with common terminology used in Iroquoian archaeology.

Some longhouses were easy to identify, particularly those with a single iteration, where the walls were clearly identifiable by a single row of paired, staggered or linear posts. However, there are many cases where houses were built on top of previous structures. In some cases these appear to share structural elements, in others the new house is built on top of, but at a different angle to, the previous structure. In other cases houses were expanded, contracted or replaced

with an entirely new structure of similar size, but with a slightly different footprint, in the same location. Where structures appeared to have been totally rebuilt, despite direct or very close superimposition, they have been counted as two structures. (e.g. Houses 33 and 34; Houses 59, 60 and 61; Houses 94 and 37). In many cases we had to use our best judgment in assigning numbers to houses because of the unprecedented complexity of the site and the variation between structures and their individual histories of construction and rebuilding (e.g. Houses 9, 10a and 10b are all superimposed, yet 10a and 10b have a slightly different orientation, despite sharing a common south wall). In the end, our examination of the settlement plan revealed 95 individual longhouses (Figure 3.4). We also recognise that more houses could have potentially been located in the disturbed and unexcavated western portion of the village or in the southern portion of the village, where gravelly soil conditions made the identification of complete longhouses extremely difficult. It is estimated that approximately 45 to 50 houses would have been occupied at any given time.

3.4.2 House Size

Once houses were numbered, they were measured to compile comparative data on house size (see Appendix D). House lengths ranged between upwards of 50 m to less than 10 m in length (Figure 3.5). Based on apparent breaks in the distribution of house lengths (Figure 3.5), houses were sorted into four groups, those less than 15 m in length (n=8), 15-29.9 m (n=39), 30-39.9 m (n=13) and

those greater than 40 m (n=11). Twenty-four houses were either disturbed or too incomplete for length to be measured, though the three houses greater than 40 m in length were included in the above counts. House widths were typical (cf. Dodd 1984), averaging 7.2 m and ranging between eight or nine meters in some of the longest, most heavily rebuilt houses to less than six meters in the smaller structures.

Of the 'long' longhouses, the largest complete structure (House 26, 54.8 m) is located outside the second and third iterations of the palisade. A paucity of internal and wall post moulds and a complete lack of internal features suggest that this house was not occupied permanently or for a significant length of time. The longest houses within the village (Houses 15 [+44.3 m], 20 [+46.9 m] and 61 [+47.3m]) were truncated by the unexcavated or disturbed western portions of the site and may have been longer than the above numbers suggest. There were 13 houses that were also quite large, ranging between 30 and 40 metres, the majority of structures were between 15 and 30 m in length (n = 39). This decrease in average house size during the fifteenth century has been noted elsewhere and is likely associated with changes in the social organization of villages (Dodd 1984; Engelbrecht 1985; Warrick 1996), and will be elaborated upon below. There are also a number of small structures less than 15 m in length; the lack of internal posts and features associated with these suggest that most were not permanent or residential structures. In order to facilitate a quantitative comparison of the

longevity of structures, wall post densities were calculated for all structures in the Mantle village.

3.4.3 House Wall Post Density

As noted above in regard to the Draper site, the density of posts used in the construction and repair of houses can be used as a relative measure of how long a structure was in use. For the Mantle village, the density of house wall posts per linear metre was calculated by measuring undisturbed segments of house wall deemed representative of the entire structure, counting the number of posts in those segments and dividing by the metres in each segment to produce a figure for the average number of posts per metre. This reduced the potential for counting errors where house walls overlapped or were disturbed. House ends often contain fewer posts than walls and therefore do not provide an accurate measure of post density. Figures 3.6 and 3.7 represent the frequency and relative density of wall posts in the Mantle village. A full summary of post density data for all houses is provided in Appendix C.

When house sizes, sorted by length, are compared to the average wall post densities, a direct relationship between house length and wall post density becomes apparent (Table 3.3). The longest houses appear to have been those that were the most frequently rebuilt or maintained (Figure 3.8). Houses 15 and 20, both estimated to exceed 50 m in length, have wall post densities of 6.8 and 7.9 pm per metre, respectively. Conversely many of the smaller houses at the site,

those less than 30 metres in length, have very low post densities. For example, House 21, a very small structure (only 11.4 m in length) has a wall post density of 2.7 posts per metre. Houses 48 through 52, all of which are superimposed and range between 13 and 25 metres in length, have wall post densities between 2.2 and 3.2 posts per metre. This suggests that they were not occupied for as long as the houses which were rebuilt. Wall post densities were also used to determine the temporal relationship between houses and to aid in the reconstruction and interpretations of the occupational history of the Mantle village.

3.4.4 Initial Impressions of Village Layout

As discussed above with reference to house alignment at the Draper site, house orientation is often examined in Northern Iroquoian archaeology because aligned groups of longhouses are thought to represent social units. House groups are most often interpreted either as households related by clan affiliation or those that moved to a new site together from a previously distinct village (Birch 2008:202). It initially seemed that the houses at Mantle were arranged in two orientations: an east-west group in the north of the site, and a more radial north-south group in the south. However, once the topography of the site was taken into consideration, it would seem that this division in house orientation is more related to the six-metre drop in slope at the south end of the village. Houses may have been positioned so that their long axis corresponded to this drop in slope and according to a radial alignment with house ends perpendicular to the palisade.

When the earliest iteration of the village plan is taken into consideration, this radial alignment is even more pronounced (see below), suggesting that the initial layout planned for the village did not involve distinct clusters of longhouses, but rather a more uniform alignment with houses positioned on an east-west axis with their west ends facing the creek.

3.4.5 Analytical Methods

Because Mantle contains more superimposed houses than any other Northern Iroquoian village known to date, sorting out its occupational history has involved novel means of analysis. As demonstrated in Chapter Two, most Iroquoian villages have one to three identifiable phases of occupation. The Mantle site has such a complex and heavily superimposed settlement plan that identifying analogous or simple phases of occupation proved impossible. While we acknowledge that the actual temporal rhythms of construction and deconstruction would not have followed abstract phases, sorting the village into "early" and "late" stages based on the first and third (or final) phases of the palisade made the most sense for this portion of the analysis. The second palisade phase was omitted because no structures or key features crossed it. The aim of this exercise was to obtain a rough sense of how the layout of the built environment in the Mantle community changed over time.

The key variables used to sort houses into early and late stages were: 1) whether or not structures fit within palisade phases (if a structure crossed or was

extremely close to the final iteration of the palisade it was assigned to the early village); 2) superimposition of houses, longhouse alignment and distance from adjacent houses (where structures overlapped, it was clear that they could not have been contemporary; aligned houses were considered more likely to be contemporary than houses at a different orientation; if houses were extremely close to one another, 1 m or less, it suggests they may not have been contemporary); 3) superimposition of house walls with features (the fact that the site was mapped as a two dimensional palimpsest makes it difficult to use superposition to temporally order longhouse outlines, except where features and wall posts intersect and the excavation records could be consulted to reveal temporal relationships; where rows of house wall posts crossed features, it was noted whether or not those posts passed through or were found beneath the feature, indicating a temporal relationship); 4) house wall post and feature density, both of which are known to be time-dependant (in particular, similar wall post densities in aligned structures were taken as a sign of contemporaniety). In some cases, we were unable to sort houses into one phase or another, either due to poor preservation or because their position meant they could have belonged to either phase.

3.4.6 Early and Late Stages of the Mantle Village

The early and late stages of the Mantle village were constructed based on the variables outlined above and the assistance of Andrew Clish, who directed

fieldwork at the site. The plans of each stage are presented in Figures 3.9 and 3.10. The most striking feature of the early phase of the Mantle village is the high degree of structural organization. In the northern two-thirds of the site, where the topography is relatively flat, the majority of houses were constructed perpendicular to the creek in parallel and paired rows. Although houses vary in length, they generally conform to the same orientation and appear to have been laid out according to a premeditated plan. In the southern portion of the village this parallel alignment continues, albeit in a more radial fashion, though excavation (and therefore phasing) was difficult in this area due to gravelly soil and poor preservation. The slope and soil conditions in the southern part of the village are not ideal and may have been reasons why houses in this area were short and often superimposed.

Houses 15 and 20 were likely very prominent structures in the village from their initial construction. These two are among the longest longhouses in the village and were intended to be such as there is no evidence of them having been extended. They are also located favourably, situated on the highest elevation within the village. The very high wall post density in Houses 15 and 20 indicates significant rebuilding. This may have involved the dismantling of walls and their reconstruction in precisely the same location, which implies an enduring significance in the community for the structures, their location, and the lineages which occupied them.

In the central portion of the site, the arrangement of structures end-to-end (e.g. Houses 40 and 43, 44 and 45, and 59 and 60 [later merged into House 61]) could suggest a desire for ease of access between the ends of adjacent houses, particularly in winter months when it is possible that snow accumulation made passage between the house flanks more difficult.

There are some structures in the early stage of the village which appear anomalous. House 13 is likely a very early structure, and based on its location and superposition with other houses it may have been constructed before the rest of the village. House 26 is also anomalous in its size and orientation perpendicular to other houses. Its conspicuous lack of internal features suggested to the excavators that it may have served as a "construction trailer" of sorts, a structure to house the individuals in the process of building other longhouses. In other villages, the orientation of houses parallel to the palisade has been interpreted as serving a defensive function (cf. Engelbrecht 2009; Finlayson 1985), though this seems unlikely here. Overall, the arrangement of structures in the early village seems to indicate significant forethought and planning on the part of the builders. There are no obvious internal divisions in the early village plan; all of the houses appear to be part of one cohesive layout.

The late stage of the village's occupation exhibits a less organized profile. This stage of the occupational history corresponds to the large-scale contraction of the palisade and the addition of a trench, the fill from which was probably used as a strengthening embankment. At least seven of the original structures in the

northern portion of the village were removed during this contraction; these include House 26, the west wall of which lay under the palisade trench. Houses 15 and 20 remained intact, as did the structures between them, Houses 18 and 19, though House 34 immediately to the south was rebuilt as House 33 with a slightly different footprint.

The paired structures in the western and central portion of the village (Houses 40 and 43; 44 and 45; and House 61, which appears to have been built to combine Houses 59 and 60) were removed and new longhouses erected (Houses 45, 56 and 57) with different alignments. House 71, in the south-eastern corner of the village was removed and House 70, aligned with House 54 (rebuilt from House 53), was erected. In the late phase of the Mantle village, new houses appear to have been added throughout where space was available. This had the effect of disrupting the original, organized layout of the village plan. While some of these new structures share similar alignments, I suspect that this is a function of available space as opposed to a deliberate social purpose. The phasing of structures in the southern portion of the village again proved difficult as a result of poor soil conditions encountered during excavation.

3.4.7 Short-lived houses, Village Planning and Public Space

The relationship between house length and wall post density was established above, whereby the shortest houses in the village had the lowest density of posts per linear metre of house wall, indicating little or no rebuilding.

Houses less than 30 m in length had an average of 2.8 wall posts per metre (n=43; for houses less than 15 metres in length (n=7) this figure drops to an average of 2.5 posts/metre). In many locations in the village, these short, low density houses are superimposed. This suggests that houses with a low density of wall posts, having never been rebuilt can be characterised as temporary or 'short-lived' structures. As such, they may have only been in place for anywhere between a few months to a few years, constructed to fill a specific purpose and then dismantled. Such structures have been interpreted elsewhere as 'cabins' (Kapches 1984; Robertson and Williamson 2003), which may potentially be related to the presence of non-local visitors such as Algonquian speakers from the north who would winter with Iroquoian communities, as was common in the historic period and with whom Ontario Iroquoians had a well-developed associations (Tooker 1964:25; Trigger 1976:170-171). If this is the case, omitting those short-lived houses from both the early and late plans can give us a sense of what the more permanent structure of the village would have looked like (Figures 3.11 and 3.12).

This exercise revealed two insights about the community plan and its history of occupation. First, the original village plan appears to have been laid out with the intention of leaving a large, open space (approximately 1500 $m^{2)}$ at the centre of the radial arrangement of houses. I believe that this space can be interpreted as a plaza of sorts (Figure 3.11). There are many large refuse and ash-filled depressions in this area, likely related to its use for outdoor activities (see Figure 3.14, below). An open plaza at the centre of the village could have served

as a socially integrative space. It would have provided a venue for communal events such as feasts and ceremonies, and also increased visibility and interaction between households as people went about their daily domestic tasks. Yet, buildings were ultimately constructed in this plaza. In the early phase of the village, six small structures were constructed here, three of which (Houses 48, 49 and 52) are superimposed. In the late stage of the village's occupation, this area became completely filled in with houses, some small (e.g. Houses 28, 30, 31, 51) but others that were larger and occupied for a longer period of time (Houses 22 and 54). This suggests that the plaza area may have been part of the village plan as originally envisioned, but did not persist as an integral feature of the community.

Isolating short-lived houses also revealed that the houses in the northernmost portion of the village were not occupied for a very long time, or at least not long enough for them to require rebuilding that would have raised the density of wall posts per metre over 3.5 (Figure 3.11). This indicates that the first palisade phase, and the village plan as originally conceived during the initial phase of construction, was not very long-lived. There are less of these short-lived houses in the late stage of the village, and those houses with wall post densities of less than 3.5 posts per metre are clustered in the central and southern portions of the site (Figure 3.12). This suggests that the late stage of the village plan was longer-lived than the earlier stage. Or, in other words, that the village plan as initially envisioned did not persist over time.

In sum, the early phase of the village's occupation appears to have been constructed in a premeditated, organized fashion. Houses were initially arranged in a parallel and radial fashion around an open plaza area. After some time, a decision was made to contract the village by dismantling and rebuilding the palisade, reducing the area on the eastern side of the village. Later, another palisade contraction again reduced the total area of the village, this time more significantly, and with this second and final contraction, a palisade trench and, very likely, a strengthening embankment were added to the village's fortifications. This contraction required the dismantling and/or contraction of a number of structures in the village, and also appears to have put a new premium on space within the palisaded village precinct. Over time, some structures were added and others removed in such a way that the original village plan was not strictly adhered to, if not discarded entirely.

3.4.8 Population Estimates

Constructing population estimates based on settlement remains can be problematic, as there are many fundamental problems that arise when attempting to calculate the momentary population of sites that had dynamic histories of occupation. Warrick (2008:52-72) thoroughly reviewed the strengths and weaknesses of a variety of approaches, and concluded that settlement remains should display a high correlation with momentary population.

Finlayson calculated population estimates for each house in the Draper village using data on recorded and inferred hearths. He assumed veracity of historic accounts which indicate that two families shared a hearth and estimated that each family consisted of six individuals (1985:108-109). He calculated the total population of the main village at Draper, at its greatest extent, to be 1824, after all additions and alterations. This is a very loose estimate, given that not all houses may have been occupied concurrently, and the fact that Finlayson did not include the South Field.

Population estimates based on hearth counts are more difficult to produce for the Mantle site because of limited hearth preservation. There are a number of problems inherent in predicting hearth number from house length (Warrick 2008:67; Varley and Cannon 1995:85) and I will not attempt to do so here. However, in the interests of comparison and consistency, some aspects of Finlayson's methods will be maintained to produce tentative population estimates for Mantle based on the roofed area of longhouses. After the Draper population was calculated by hearth count, this number was divided by the total area of roofed space in the village, resulting in an average of six square meters of roofed area per person (1985:415). This figure was also suggested by Casselberry (1974) as a general formula for societies who live in multi-family dwellings. However, Warrick (2008:68) points out, the density of population in Iroquoian villages varied over time, with historic period villages being more densely occupied than

earlier settlements, and, I argue, could also have varied within the occupation of the Mantle village. However, using this estimate of six square meters per person and calculations of roofed area (and estimated roofed area for incomplete structures) some very tentative comparisons can be made between the early and late phases of the Mantle village.

In the early phase of occupation there is 9064 m^2 of roofed area and, given a figure of 6 m^2 per person, an estimated population of 1510. In the late phase of occupation 6664 m^2 of roofed area, resulting in an estimated population of 1111. However, neither of these figures includes incomplete houses or those that could not be assigned to a phase, which have a total area of 1606 m^2 and a potential population of 268 persons. (But the combined figures do move Mantle's estimated population close to that of the terminal Draper village). They also do not consider the length of time houses were occupied or the possibility that some houses were only occupied seasonally or for a short length of time. Thus, while it is entirely possible that the village lost a portion of its population, and possibly as many as 400 individuals, because of the difficulties in determining house contemporaniety I am not confident enough in these estimates to make interpretations about potential population loss, village contraction and the social and political implications that this might entail. However, given that the amount of roofed area does seem to decrease in time, as does the palisaded village precinct, either some population loss or a greater degree of settlement 'packing' can perhaps be assumed.

3.5 Community planning in the Context of Coalescence: Comparing the Draper and Mantle Sites

A comparison of certain features of the Draper and Mantle villages, including the built environment, fortifications and refuse disposal practices reveal a number of insights about changes in decision-making processes and social organization in the context of coalescence. The Draper village can be described as a formative aggregate, with distinct internal divisions resulting from its historical context in the early stages of coalescence. The Mantle village appears, at least initially to be a much more integrated settlement, with more organized village planning and coordinated decision-making processes. However, over time, the original village plan was altered. The reasons for this alteration are not immediately clear. It may be that the contractions to the village palisade and changing form of the village layout were responses to the changing needs of the community and a response to historically contingent circumstances. By comparing features of the settlement plans of these communities over time, changes in the materiality and spatiality of practices can be identified which directly address processes of cultural change in the context of coalescence.

3.5.1 Village Layout and the Built Environment: Implications for Social Organization

The organization of space and built forms in a village are media through which social relations are produced and reproduced (Gregory and Urry 1985:3; Parker Pearson and Richards 1994:3). Increasing degrees of social integration can

thus be interpreted from the built environment (Hegmon 1989). For the inhabitants of the Draper site, retaining a distinct spatiality between each house cluster as they were added to the village seems to have been important. As each expansion was constructed, new houses were not aligned with existing houses, which may have reduced the effort expended on expanding the palisade. Rather, new houses were constructed with a distinct spatiality compared to the existing village. The separation of aligned house clusters into distinct groups was the preferred practice. This is perhaps most apparent in the third expansion, Segment E (Figure 3.2), which involved the addition of two clusters of houses oriented similarly, but nevertheless distinct, despite being part of the same palisade expansion. While alternative explanations for this arrangement could be offered, such as Finlayson's arguments regarding village defenses, discussed below, I believe that the reason for the spatial separation between longhouse clusters is ultimately socio-political. The South Field, possibly the final addition to the site, was built 50 m south of the main village and is partially surrounded by a single row of posts or fence. This spatial separation may in part be because there were plans to relocate the village, making another palisade expansion undesirable. Nevertheless, the fence line around the side of the South Field facing the main village may have been built as a deliberate symbol of separateness, or to shield the south field houses from view. Draper is essentially a village composed of many small villages, each of which retained a separate spatiality, and potentially a distinct identity, within the larger community.

Compared to the Draper site, the earliest iteration of the Mantle village looks dramatically different, with its highly organized and clearly pre-planned layout. House clusters disappear, replaced by a village plan which privileged the parallel and/or radial alignment of houses throughout, with no obvious divisions or house groups. The likely presence of a single central plaza area can be interpreted as a symbol of the integration of the community, a space through which the complex lines of cooperation and communication could flow (Hegmon 1989:6).

If we are interpreting increasing degrees of social integration within Rapoport's (1994:488) and Ingold's (2000:179) frameworks – that worlds are thought/made before they are built/lived in, then the Mantle community as materialized in that settlement plan must have existed *a prioi* of the actual construction of the village itself. Therefore, there was a shift in the way that people living at the Draper site perceived their relationships to other households in the village. They began seeing themselves more as an integrated single community, *prior* to Mantle's construction. With the construction of the Mantle village this new community identity was thus realized.

3.5.1.2 Longhouse Length and the Size of Social Units

Previous studies have established that longhouse length in south-central Ontario spikes in the fifteenth century AD and declines thereafter (Dodd 1984; Warrick 1996). A number of explanations for this pattern have been advanced,

including economic competition (Hayden and Cannon 1982), competitive display (Varley and Cannon 1994) and defense (Finlayson 1985:407; 1998:20), though none of these have been widely accepted. Warrick suggested that overcrowding, both perceived and real, following the population explosion of the late fourteenth-early fifteenth century resulted in an increase in longhouse length (Warrick 1996:18; 2000:449). It has also been suggested that a decrease in longhouse length is related to a shift in village government, whereby supra-household identities (or clans) became more important than households (or extended families and lineages) in structuring local political organization (Engelbrecht 1985:15-17; Trigger 1990b:128; Warrick 1996:20; 2000:449).

The longhouse, particularly in its maximal late-fourteenth and fifteenth century form may have symbolized the matrilineage and, as such, the most important decision-making unit in pre-coalescent villages. MacDonald (1986:177-178) has discussed how the formation of larger villages and the emergence of community politics may have favoured the growth of large residential corporate groups along kinship lines, which would have served to cushion the effects of breakdowns in group hierarchies. In some cases, these household groups became very large, as evidenced by the enormous longhouses of the fifteenth century. However these longhouse groups may have become so large they were prone to fissioning (Sahlins 1963), and a new political strategy emerged based on representation by clan segments in village politics and the ranking of leaders within lineages. This reorganization is supported by a decrease in longhouse

length and regulation of community plans in the sixteenth and seventeenth centuries (Dodd 1984:264; Warrick 1984:55, 58).

During the initial stages of coalescence, large lineage-based households may have been important as individuals and kin-based groups struggled to position themselves *vis a vis* one another in newly formed communities. However, as community politics realigned in the context of the changing circumstances of the group, the size and distribution of households became smaller and more regular as supra-household decision-making processes were put into place.

The Draper site is a prime example of the fifteenth century peak in longhouse length (Warrick 1996:18). Every longhouse cluster contains one or more 'long' longhouses greater than 40 metres in length (Table 3.4); 32 percent of houses at Draper exceed 40 metres, as opposed to only 20 percent at the Mantle site. When the overall lengths of houses in the two villages are compared, it is apparent that there is a general trend toward shorter structures in the Mantle village (Table 3.5).

While the economy of space in the Mantle village was likely a factor in limiting longhouse size, this pattern is also likely related to changes in social organization which accompanied coalescence, whereby the importance of co-resident matrilineages in structuring socio-political organization declined in favour of supra-residential groups, likely clans (Engelbrecht 1985; Trigger 1990b; Warrick 1996, 2000).

Smaller numbers of communal facilities have been correlated with increasing degrees of social integration (Hegmon 1989; Rautman 2000). Ethnohistoric evidence indicates that the largest longhouses in a village were the residences of community leaders and served as locations for events such as feasts, community discussions and meetings of the village council (Thwaites 1896-1901:10:181, 229-231, 261-263; 13:59). If this was also the case in precontact villages, long longhouses encountered archaeologically can be viewed as socially integrative structures. The long longhouses at the Mantle site, particularly Houses 15 and 20, were among the longest-lived structures in the community. This suggests that these two structures had an important purpose in the community and may have been the residences of village leaders, as such also serving as council houses and places to facilitate meetings of political importance. The fact that there were only two of these permanent long longhouses supports the inference that the Mantle village was more politically integrated than its predecessor.

In regards to shorter houses, the greater number of small longhouses at Mantle, more than 50 percent being less than 30 metres in length, suggests other changes in social organization. While a greater number of short longhouses may have been a result of the need for an economy of space in the Mantle village (see below in regards to palisade length), this also may have been a result of the breakdown of large, lineage-based household groups. Snow (1995b:362-363) has argued that social disruption among Huron refugees in the post-contact period resulted in the "repackaging" of mixed families into traditional architectural forms

and that the longhouse structure defined the residential group rather than the reverse. It is possible that the massive migration and re-organization of population that was occurring throughout south-central Ontario in the fifteenth and sixteenth centuries resulted in the fragmentation of large family group into something similar to what Engelbrecht has called "ad hoc social units" (2009:186) who occupied smaller residences. While families may not have been created 'ad hoc' from scattered social remnants, as may have occurred during the crises and upheavals of the contact period, formerly co-resident extended families may have fractured into smaller social units, more on the order of a handful of nuclear families. Indeed, the consolidation of small social fragments into larger villages would be one of the main functions of coalescent communities.

3.5.2 Refuse Disposal Practices

Midden use can be linked to residence patterns and therefore can be used to theorise about the relationships between households and household groups in a community (Hayden and Cannon 1983). While I am not attempting to associate refuse with particular households, some hypotheses can be advanced about the changing refuse disposal patterns in these two villages and how they might relate to coordinated decision making and socio-political organization.

3.5.2.1 Draper Middens

A total of 22 middens were recorded and excavated in the main village at the Draper site (Figure 3.13). "In all instances, the middens were located at the ends of houses and in such a way that more than one house contributed refuse to each midden" (Finlayson 1985:398). Some middens were located on the base of, or adjacent to, palisades. In some cases houses were constructed over middens (Houses 2 and 5), indicating the expansion of houses into previously unoccupied areas of the site; in others, middens were created where portions of houses had previously been (Midden 66 over House 6 and Midden 52 over House 10). These latter cases were both in the village core, which may suggest that the central, longest-lived portion of the site was abandoned first, while other areas continued to be occupied.

3.5.2.2 Mantle Middens

The refuse disposal patterns at the Mantle site were highly organized; much more so than might be expected for a site of this size. During stage three testing three midden deposits were identified in the northeast area of the site (Figure 3.14). Midden 1 was located on the slope immediately west of the village, at the base of the palisade. During excavation it became clear two other potential middens located within the village were in fact re-deposited from the hillside Midden 1, an activity relating to the nineteenth century farmstead located in that immediate area. This means that refuse disposal was actually concentrated in

Midden 1, on the sloping western edge of the site. A series of one-metre units were excavated on a five-metre grid across the site before topsoil stripping and confirmed that there were no additional midden deposits present.

The full extent of Midden 1 was difficult to estimate, as large sections were impacted by historic disturbances. It covered approximately 15 meters from east to west, and was only partially excavated as a decision was made to leave parts which would not be impacted by subsequent land development intact. The nineteenth-century mill and farmhouse obscured the eastern and northern limits of the midden and the southern limit was impacted by a gully which led down to the associated mill race. Thus, there could have been other hillside middens impacted by these disturbances, though they too would have been located on the east side of the village above the creek. Thirty-seven one metre units were excavated in Midden 1, the depth of which ranged between 30 and 120 centimeters, mainly due to the slope (Andrew Clish, personal communication 2009). A number of other refuse-filled depressions were identified within the village itself (Figure 3.14). After the second contraction of the village, the trench that surrounded the third phase of palisade became filled in with refuse, creating a 'trench midden.' This palisade trench, which may also be characterized as a borrow trench related to palisade strengthening, probably offered a convenient alternative to the large hillside midden later in the occupation of the site.

3.5.2.3 Refuse Disposal and Coordinated Decision-making

The residents of the Draper community were content to dispose of their waste within the village precincts, and often only a few steps from their hearths, whereas residents of the Mantle site adopted an organized system of refuse disposal that channelled waste outside of the palisaded enclosure. While hillside middens are not unique in the Ontario Iroquoian archaeological record, the scale of the decision-making process which resulted in this waste management plan speaks to the strength of collective decision-making in the Mantle community.

There are a number of practical explanations for the development of waste management strategies in a village of Mantle's size. Having large middens located in residential areas suggests a potential threat to health as a result of infectious diseases, pest control and environmental contamination (Armelagos et al. 1991). We must of course be aware of the bias in these justifications for improving waste control, which is derived from modern Western notions of cleanliness and medicine. Living in the midst of our accumulated waste may seem distasteful from a contemporary Western perspective, but there are many ethnographic and archaeological examples of that being the norm in other cultures (cf. Lightfoot et al. 1998; Staski and Sutro 1991), and our interpretations of the development of waste management strategies cannot be guided by ethnocentric justifications. In some societies new attitudes about cleanliness may be introduced and enforced by those in power (Crane 2001). It is difficult to make such statements about

precontact Iroquoian societies or their contact period descendants since ethnohistoric accounts are, again, heavily influenced by European attitudes about cleanliness (Robb 2008; Thwaites 1896-1901).

People change their behaviour to fit their physical environment, particularly when that environment presents limitations (Lawrence and Low 1990:460). It may have been that the Mantle village plan and the premium that it placed on space, with the intent of fitting more houses in a smaller palisaded area, and limited paths for moving through the community, did not permit designated areas for waste disposal within the village. Nevertheless the residents of the Mantle village did indeed adopt a refuse disposal strategy that involved the transport of domestic waste outside of the village palisade, initially to the large, hillside Midden 1 and later, to the palisade trench, replacing easier methods of refuse disposal by more laborious ones. The fact that these refuse disposal practices were adopted by the village as a whole, and not on the basis of individual households or household groups, implies either co-ordinated decision making by the village as a whole or the imposition of this plan by those in positions of influence.

3.5.3 Defensive Fortifications and Violent Conflict

As described in Chapter Two, population aggregation in the late fifteenth century AD is concurrent with evidence for an increase in violent conflict throughout south-central Ontario. While the Draper site is heavily fortified *and*

contains significant amounts of skeletal material indicative of violent conflict, the Mantle site is heavily fortified but contains very little secondary evidence for violence. This raises questions about historical patterns of conflict in Late Precontact south-central Ontario.

3.5.3.1 Draper Palisades

Draper is the first heavily palisaded site in the West Duffins sequence. The main village was originally surrounded by a four-row palisade which enclosed an area of 1.19 ha. Short rows of posts on the western side of the village were interpreted as possible supports for watchtowers or galleries (Finlayson 1985:110). This original palisade was expanded five times to accommodate new houses. During expansions the rows of palisade posts were reduced to three, except for the fifth and final expansion which was constructed with four rows of palisade posts. The final size of the palisaded enclosure was 3.42 ha (see Figure 3.2, 3.3; Finlayson 1985:396-398 for more complete data on palisades).

In his interpretations of the Draper settlement plan Finlayson (1985:407) argued that long longhouses were placed parallel to one another and to the palisade in order to create long, narrow corridors which could be easily defended should enemies gain access to the village. While this may have been the case, this theory disregards the fact that palisades were formidable barriers unto themselves.

3.5.3.2 Mantle Palisades

The occupation of the Mantle village involved three separate phases of palisade construction. Because of the superimposition of the later phases of the palisade with earlier structures, it is apparent that the village contracted rather than expanded, though there is significant overlap between all palisade phases (Figure 3.15). Although the western edge of the site is disturbed and/or unexcavated, it would appear that the western side of the palisade remained fixed at the top of the slope leading to Stouffville Creek.

All phases of palisade construction appear to have at least three rows, though some sections appear to have as many as seven. As Englebrecht (2009:180) has stated, there are no ethnographic descriptions of such palisades, and more than four or five rows were unnecessary. Where more than three rows of palisade were excavated in a single location, this should be interpreted as evidence of rebuilding consistent with multiple phases of palisade construction. Those sections with only three rows (e.g. parts of the third palisade phase not superimposed by earlier sections) more accurately reflect the three rows that would have been standing at any one given time.

The first phase of palisade construction has a number of irregularities. First, the rows of posts in the initial phase are widely spaced, with gaps ranging from 1-1.5 metres between rows in many places. Second, while much of the palisade is constructed with three rows of posts, there are places where there are

only two rows, and on the far eastern side of the village, a single row of posts (Figure 3.15). However, according to the principal investigator, the soil conditions which underlay the eastern portion of the palisade which contains a single row of posts were very poor. This could explain the irregularities in palisade strength and post spacing on this side of the village. Indeed, this section of the first phase of palisade construction may have been very short-lived and a decision made to reconstruct that portion of the palisade 8-10 metres further west, where soil conditions were better. The second phase of palisade construction, whereby most of the eastern side of the palisade was brought in by approximately 8-10 meters (a reduction of approximately 2000 square metres) also exhibits irregularities. In places two rows become three and vice versa.

Whereas the initial palisade contraction did not affect any structures in the village, the second and final contraction of the palisade reduced the northern portion of the village by a further 4500 square meters and necessitated the dismantling of Houses 1, 2, 3, 6, 93 and 88 and the contraction of Houses 16 and 25. This palisade phase also involved the addition of a palisade trench which extends across the northern, eastern and half of the southern boundaries of the site. Profiles of the palisade trench feature indicate that it extended to a depth of 15 to 25 cm below the subsoil. Given the removal of overlaying plough-disturbed soils, this indicates the original trench may have been dug to a depth of approximately 50 cm and thus cannot be interpreted as a defensive structure. Instead, this feature can be best interpreted as a borrow trench from which soil

was excavated and used to build a strengthening embankment at the base of the palisade. The Aurora site, the most likely candidate for the village that post-dated Mantle, was also described as having an earth ring or embankment, and was originally named "The Old Indian Fort Site" (Emerson 1954:165).

The second and final contraction of the palisade appears to have involved more consistent construction techniques than the first two phases. Gaps between rows rarely exceed one metre, and while there are sections where three rows reduce to two, the overall impression is of tighter, more uniform construction. The strengthening embankment may have facilitated this shift in palisade design.

3.5.3.3 Defence in Coalescent Communities: Implications for Socio-Political Organization

Cross-culturally, defensive fortifications are the most costly and largest-scale pieces of preindustrial military technology (Keeley 1996:55; Keeley et al. 2007). The construction and maintenance of these palisades would have required a significant investment of time and labour on the part of the men of the community. By the time the Draper site was abandoned, it was surrounded by nearly a kilometre of three- and four-row palisades (Table 3.6). While the position of the original village, set well back from the creek, suggests that village expansion may have been anticipated, the layout of the additional house clusters and palisade expansions may not have been planned. There is a great deal of unoccupied space in the palisaded village, particularly the spaces between clusters of aligned houses (Figure 3.16). In contrast, the well-planned layout of the Mantle

village resulted in a minimum of unoccupied space within the village and a much smaller area requiring fortification. This area decreased even further when the palisade was contracted, though the addition of an embankment may have been an additional labour investment.

As discussed in Chapter Two, fortifications also have an important social and symbolic functions (Parkinson and Duffy 2007; Ramsden 1990b), as such, they are imperfect indicators of violent conflict (Milner 1999:111) and may have been part of competitive displays of the potential for offensive or defensive action that may not be directly in proportion to actual levels of violent conflict (Williamson et al. 1998:14). By examining additional evidence for violent conflict in the Draper and Mantle sites more insight can be gained into coalescent communities group and macroregional patterns of warfare.

3.5.3.4 Other Evidence for Violent Conflict at the Draper and Mantle Sites

Burial 6 at the Draper site consists of the remains of an aged male interred in a bundle beneath a house floor (Williamson 1978, 2007:210–212). Many of his skeletal elements were damaged and missing, including both arms and scapulae. Cut marks on the cranium suggest the removal of the scalp and a chert projectile point was embedded in his right femoral neck. Williamson's (2007:212) interpretation is that the individual was attacked close to the village and partially dismembered to remove his arms, which were then taken, along with his scalp as trophies. Upon the discovery of his remains, he was then fully dismembered and

given a bundle burial beneath his own house. This interpretation accords with the ethnographic record whereby community members who died a violent death were defleshed and buried in pits rather than interred in the village ossuary. As for indirect evidence for violent conflict, 287 pieces of scattered human bone were recovered from the Draper site. Of these, 205 or 71 percent are cranial elements (excluding teeth) (Cooper 1984:56-63). Williamson (2007) has argued that the high percentage of cranial elements recovered from Draper and contemporary sites are probably linked to the taking of trophy heads in the context of competitive warfare. Six of these cranial elements also exhibited perforations, cut marks, grinding and polishing, evidence of modification into artifacts such as gorgets, rattles or other items used for personal adornment or performance. The preservation and exhibition of the body parts of enemies was an ancient and widespread tradition in the New World (Chacon and Dye 2007). It would seem that there was new emphasis placed on these practices in the context of community coalescence (Birch 2010; Williamson 2007). While there is one potential candidate for the Draper site ossuary (Ronald F. Williamson, personal communication 2010), there are no data available on healed skeletal trauma which may provide additional evidence of warfare.

Only a small amount of human bone has been found at the Mantle site (aside from the cemetery, discussed in Chapter Four), consisting of approximately 20 skull fragments, together with 3 vertebra and 2 long bone fragments. While some elements show evidence of cutting, no pieces have been

extensively modified. This paucity of scattered skeletal elements suggests a decrease in violent conflict compared to the levels indicated for the Draper community.

3.5.3.5 Violent Conflict and Coalescent Communities

Evidence for increased levels of violent conflict, in the form of butchered and modified human bone are characteristic of all of the late fifteenth century, initial coalescent communities discussed here. Data concerning precontact patterns of violent conflict support the conclusion that fifteenth century warfare was largely between local communities in south-central Ontario (Kuhn 2004; Robertson and Williamson 1998: 148; Trigger 1976:159).

To date, warfare has been considered to be a motivating factor behind settlement growth and increased feuding and competition over hunting territories that led smaller groups to band together for communal defence (Trigger 1985a:99; Warrick 2000:450). Historically, Northern Iroquoian peoples were inherently mistrustful of groups with whom they did not have ties of kinship or trade relations (Trigger 1976:68). The formation of larger communities would have reduced the need for men and women to go beyond the village in search of marriage partners, with the result that ties between communities that had previously helped to diminish conflict would have been weakened (Trigger 1985a:99). So while stress from increasing population pressure may have initially

driven people into larger communities, these larger communities in turn exacerbated tensions between the new aggregates.

I have discussed elsewhere how internal village social dynamics and competitiveness could have stimulated increased levels of raiding and associated rituals, with extended families and clan groups seeking to position themselves within decision-making or status hierarchies in these new social aggregates (Birch 2010). The audience for acts of captive sacrifice, feasts and rituals related to raiding events and the displaying of trophies of war would almost certainly have been based in the home community. With aggregation into larger villages, for example the Draper, Parsons and Keffer sites, the social and political dynamics of coalescent communities would have became more complex, with extended families and clan groups seeking to position themselves within new social hierarchies or heterarchies, *vis a vis* one another. Competitive performances could have served not only to create rank and status but also to integrate newly formed communities by focusing aggression outwards on external enemies. Increased levels of violent conflict in late fifteenth century southern Ontario may have been a function of these intra-village social dynamics, as opposed to strictly a result of feuding with other communities.

By the time the Draper community relocated to the Mantle site or soon thereafter, it appears that hostilities had abated. Leadership or internal ranking may have already been established and the need for warfare-related competitive displays may have declined accordingly. A decrease in conflict between

communities in the early sixteenth century may also be related to alliance-building and the further consolidation of the Huron Confederacy. The continued maintenance of heavy palisades was likely a response to the perceived threat of attack, and also a part of the habitus (Bourdieu 1977) of community elders, people who had spent their lives living in a climate of warfare perpetuated through blood feud and raiding. Other scholars (Dupras and Pratte 1998; Kuhn 2004) have suggested that feuding developed between the nations of the Huron Confederacy and members of the Haudenosaunee (or Iroquois) in New York State after AD 1550, in the early historic period. It may have been that after the formation of the alliances that resulted in the Huron and Iroquois confederacies there was a short-lived period of decreased conflict, a *pax Iroquoia,* which may help explain the paucity of direct evidence for conflict at the Mantle site.

3.6 Summary

This chapter has shown that by examining the occupational history of two sequential villages occupied during a pivotal time in the history of Iroquoian societies, many specific insights can be gained into the social and cultural changes that accompanied historical processes of coalescence at the community level. By identifying changes in practice over time (the layout and construction of the built environment, refuse disposal, defensive strategies) patterns emerge that directly identify social and political transformations that accompanied coalescence in this local community group.

At the Draper site, we see the initial aggregation of smaller local communities into a single large village; this aggregation is not a single event, but rather a process that stretched out over nearly half a century. Each house cluster was added at a different time, as opposed to being a single, coordinated effort on the part of local groups; each cluster of aligned houses stands apart from others in the village, the South Field standing well apart from the main village. This spatial separation may denote a social and political separation, each group still being attached to the independent identities, kin-based or otherwise, originating in the smaller villages they left behind. Yet, over time, as the people living at the Draper site adapted to living together in a much larger group, new relationships and identities developed. These new social relations are manifest in the organization of the built environment of the village that they planned, constructed and eventually relocated to – the Mantle site.

The spatial integration of the Mantle village plan, whereby houses were initially built in a parallel and paired arrangement as opposed to discrete house clusters, the deliberate arrangement of houses around an open plaza, and the decision to dispose of refuse outside of the village precinct (initially onto a single hillside midden and later into the borrow trench) all point to the creation of co-ordinated decision-making structures and a deliberate emphasis on the social integration of this large village community.

In practice, coalescence involved negotiations between the multiple social segments involved. Initially these negotiations must have concerned the relocation

of local groups into a single village, and later, how these groups were going to manage the challenges and opportunities that came from living together in a group larger than any would have experienced before. This site sequence demonstrates that coalescence is not an 'event' but rather an ongoing process. Physical aggregation does not immediately equate with social integration. Rather, the negotiations and shifts in community-based identities play out over multiple generations, and in this sequence, through the occupation of two villages and multiple phases of construction.

CHAPTER FOUR
Conclusions and Contributions

4.0 Major Contributions and New Directions

The major contributions of this research are twofold. First, it has added an extra dimension to the study of coalescent societies by demonstrating how changes in micro-scale patterns and practices at the community level can be used to better understand how large-scale social and political realignments operated 'on the ground.' Second, it has utilized an alternative, historical-processual framework for how we conceptualize social and cultural change in Northern Iroquoian societies. In doing so, I have demonstrated how a culture-historical model of Iroquoian archaeology, namely the phase-based constructs of the Ontario Iroquois Tradition (Wright 1966), masks the unique developmental trajectories of community relocation sequences. By instead focusing our attention on community sequences we are better positioned to understand the social relations that village sites encapsulate as well as the broader historical processes of which they are a part.

In the remainder of this dissertation I will return to some of the common features of coalescent societies with reference to the analyses of the Draper and Mantle sites, including some additional insights about community-based identities. I will also present some preliminary evidence for interregional interaction and discuss future directions for research, namely how these findings might be explored further at the intra-site level and expanded, using case studies

from other parts in the world. Finally, I will comment on how this study might influence our understandings of processes of social and cultural change in Northern Iroquoian societies, as well as the often-underestimated significance of Iroquoian archaeology within the broader archaeological discourse.

4.1 Community-level Processes in the Context of Coalescence

At the end of Chapter Two I described some of the commonly occurring features of coalescent societies (Kowalewski 2006) observable in the archaeological record of south-central Ontario. The analyses of the occupational histories of the Draper and Mantle villages presented in Chapter Three, which represent one specific site sequence, permit detailed insights into the nature and pace of social and political transformations in a single community group. An important facet of these results is that the physical coalescence of the West Duffins Creek communities at the Draper site preceded their social and political coalescence, which only becomes visible archaeologically at the Mantle site. While the occupational history of the Mantle site is complex and its built environment changes significantly over time, it is a more integrated community, suggesting greater social cohesion and more developed decision-making processes which included the entire village. Additional data suggest that while changes in patterns of interaction were occurring within the Draper and Mantle villages, social and political realignments were also occurring in terms of the

relationships between this community group and other communities and peoples in the Lower Great Lakes.

Of Kowalewski's (2006:117) commonly occurring responses found in coalescent societies, the community level analyses presented here most fully explore how domestic architecture and village layout were increasingly designed to promote community integration. At the Draper site, the built environment was clearly not designed to this end; instead, it emphasized the spatial separation of each house cluster. However, when the community decided to relocate to the Mantle site, an integrated layout was planned and implemented. This included the choice to arrange houses around an open plaza area. The creation of such public spaces for performances or communal rituals is recognized as one means of integrating a community (Lipe and Hegmon 1989; Rautman 2000). However, as the needs of the community changed, so did the layout of the village, though not in a way that suggests the community was any less integrated. The socio-spatial integration of the community was not an immediate phenomenon but rather occurred after a period of initial community-building. These new relationships became manifest in the planning of the new village when the community decided to relocate as a whole.

Corporate or collective leadership and the discouragement of centralized hierarchical authority are other features of coalescent societies (Kowalewski 2006:117). The multi-tribal alliances, village and confederacy councils documented for the Wendat (Huron) certainly fit this model, but have not yet been

documented using archaeological data. The high degree of village planning and the developed waste management system in the Mantle village does however suggest a shift to collective decision-making beyond the level of household groups or house clusters, as was likely the case during the early stages of coalescence at Draper. Houses 15 and 20 at Mantle, the long longhouses, which were rebuilt multiple times, were situated on the highest ground, and persisted throughout the life of the otherwise dynamic village plan, seem to be probable candidates for council houses, and also likely the households of high-ranking lineages. It is difficult to establish the presence of kin-based groups (including clans or moieties) using purely archaeological means (Birch 2008). Yet, the new community plans and decreasing longhouse length observed between Draper and Mantle, and throughout Northern Iroquoia between the fifteenth and sixteenth centuries, suggest that clans replaced household-based lineages as the primary units of local political organization (Engelbrecht 1985:15-17; Trigger 1990b:128; Warrick 1996:20). This shift may have begun as early as the fourteenth century AD when we see the first amalgamated villages in the archaeological record of southern Ontario. But, because we know that the developmental sequences of local communities are not uniform, there was almost certainly variation in the shift from lineage-based leadership to clan or collective council-based decision-making in each site sequence. In this site sequence, it would seem that while a new form of collective governance may have begun at the Draper site, it solidified

and became materially manifest with the construction and occupation of the Mantle site.

The integrated nature of the Mantle population is also represented by changes in material culture. Typological analyses of ceramics from the Draper and Mantle sites point to increasing homogeneity in ceramic decoration sequences over time (Birch et al. 2010; Ronald F. Williamson and Rob Wojtowicz personal communication March 2010). At Draper, St. Lawrence Iroquoian types, for example, represent five percent of the total assemblage (Pearce 1978a), compared to less than one percent at Mantle (Ronald F. Williamson and Rob Wojtowicz personal communication March 2010). St. Lawrence Iroquoians inhabited the St. Lawrence Valley and were encountered by Cartier in 1534 and 1535, but had moved elsewhere by the time of Champlain's arrival in 1603. It is thought that segments of this population may have amalgamated with ancestral Wendat and Iroquois populations. If former St. Lawrence Iroquoian populations were living in the Draper village, there is a possibility that they had fully integrated with the local group by the time the community relocated to the Mantle site. However, Martelle (2002) has suggested that the increasing homogeneity of Wendat ceramics might reflect specialization. If so, the increasing homogeneity observed in this site sequence might be a sign of such a development.

Another class of artifact interpreted as a marker of a distinct ethnic identity are black pebble pendants (Fox 2004). These artifacts are traditionally associated with the Neutral, an Iroquoian people living west of the Niagara

Escarpment. More than 40 of these slate pendants were found at the Draper site. While small quantities of other pendants, beads and items of adornment are present at Mantle, there are none that correspond to these distinctively Neutral artifacts or appear in such large numbers (Birch et al. 2010).

One insight about the Mantle site that has emerged as this thesis was nearing completion is related to the analysis of faunal remains from the site. Large quantities of deer bone have been identified in the mammalian faunal assemblage from Mantle, more than has been observed at any other site on the north shore of Lake Ontario (Ronald F. Williamson, personal communication 2010). There appears to be a trend in the West Duffins Creek site sequence that, over time, the amount of fish bone in the faunal assemblage declines and mammal bone increases. Early in the sequence the majority of mammalian fauna is from garden-hunted species such as woodchuck and raccoon, with deer representing a smaller portion of the assemblage (Ronald F. Williamson, personal communication 2010). However, at Draper and Mantle the percentage of deer remains rise sharply, and at Mantle deer may represent as much as 80 percent of all mammal remains. While deer would have certainly been an important food source, it is likely that the hides of the animal were in great demand as well. Gramly (1977) estimated that an average suit of winter clothing for an adult would last for approximately two years and require 3.5 hides to produce. Thus, a community of 1500 would consume approximately 2625 hides per year. This has significant implications for the

importance of hunting deer in the local economy. This is a subject that deserves further consideration once the final faunal report for the site has been prepared.

While settlement data are the basis for the vast majority of arguments made in this thesis, these limited insights from the material culture of the Draper and Mantle sites also suggest that larger group identities were being formed and markers of non-local identities may have been de-emphasized in the context of coalescence. Kowalewski (2006) has noted that in many coalescent societies multi-ethnic populations form as a result of the attraction of newcomers. In the case presented here it may be that individuals, who at first ascribed to distinct identities, or ethnicities, were eventually integrated into the local population. This would seem to be in keeping with Iroquoian adoption practices, which allow for the incorporation of individuals or entire groups of peoples into lineages and clans. These "metaphorical" relationships can be as real as familial kinship according to Iroquoian ideology (Fenton 1978:310; Morgan 1962[1851]; Sioui 1999). The ability to 'create' ties of kinship may have been a cultural strategy developed to facilitate the integration of newcomers into communities, coalescent or otherwise.

4.2 Interactions with Other Groups in the Lower Great Lakes

Other aspects of the Mantle site material culture and mortuary patterns point to changes in patterns of interaction with groups living farther afield. Of particular interest are a number of Oneida and Onondaga ceramic castellation

effigies typically found on archaeological sites in New York State (Wonderley 2002). These types of effigies have never before been recovered from an Ontario Iroquoian site. Preliminary instrumental neutron activation analysis (INAA) is currently being undertaken to determine if the chemical composition of the Oneida and Onondaga effigies matches local clay sources, suggestive of Oneida and Onondaga peoples living amongst the Mantle community and manufacturing pots, or if they were produced elsewhere. Nineteen samples had been analysed at the time of writing, including one Oneida/Onondaga castellation effigy, 10 other 'exotic' types and eight sherds typically referred to as local types. The elemental concentrations show one outlier, the castellation effigy, as clearly different in its geochemistry from the other sherds (Andrea Carnevale, personal communication, March 2010). This means that the effigy was most likely manufactured elsewhere and may represent an introduced product. The other sherds considered to be 'exotic' types are similar in chemistry to the local types and were most likely manufactured from the same local clay source (Birch et al. 2010).

The flaked lithic artifacts from the Mantle site have been analysed, an assemblage totalling 6004 pieces (Debbie Steiss, personal communication, March 2010). Over 97% of the source material is Onondaga chert, probably acquired through exchange with Neutral trading partners who inhabited the Niagara Peninsula where the chert is quarried. There are, however, appreciable quantities of Bois Blanc and Kettle Point chert in the assemblage, along with the presence of Balsam Lake, Selkirk, and other chert types, including Flint Ridge and Upper

Mercer chert from Ohio. While the Bois Blanc and Kettle Point chert may also have been acquired from the Neutral, Kettle Point was also a favoured source of the Odawa who inhabited the south shore of Lake Huron and Georgian Bay, and who had easy access to the Kettle Point quarry via Lake Huron. Because the historic Wendat confederacy and their Petun neighbours had exceptionally good relations with the Odawa, a northerly, as opposed to westerly, access system for this chert is possible (Birch et al. 2010). The southern Ohio and Selkirk cherts may have been accessed through the Neutral, while Balsam Lake chert and quartz was likely acquired through north and eastern trading partners, whether Algonquian or Iroquoian.

One possible trade item was recovered from the Mantle site. An iron axe or celt, was recovered from the bottom of a feature associated with either House 29, or the plaza area, in the central-east portion of the site. While it is possible that this item is an historic intrusion, it was found in what we believe to be a secure context. It also resembles an iron celt found in the Sopher site ossuary in northern Huronia (Noble 1971). If it is indeed a trade good, it would indicate links to Iroquoian groups to the east who were in contact with Europeans on the St. Lawrence River.

Another site feature that points to interaction with non-local populations is the cemetery discovered immediately southwest of the Mantle village. This feature of the site was an unexpected find because burial practices for ancestral Huron-Wendat villages at this time usually involved the creation of an ossuary.

Ossuaries are relatively large secondary burial pits in which the bones of the deceased of a village were interred (Williamson and Steiss 2003). Subsequent to consultations with First Nations, the full nature and extent of the cemetery was investigated. Thirty-seven interments were found clustered in an area below the top of slope in the valley lands, approximately 40 metres southwest of the site palisade. The burials were partially exposed, documented and the cemetery preserved permanently in place.

Thirty-one individuals were adults, two were adolescents, and five were infants or juveniles. While most burials were flexed, two bundles were found, one comprising two adult individuals and the other a single adult. Only three had associated artifacts in the form of shell and bone beads. The multiple burial bundle had red ochre associated with the crania and one adolescent had been deliberately covered with a layer of large rocks (Ronald F. Williamson, personal communication, March 2010). The small number of burials suggests that this was not the primary burial ground for the population of the village. Furthermore, there are no empty pits or partial remains that might suggest that the cemetery was their resting place prior to removal to the village ossuary. It seems most likely that the individuals buried in the Mantle cemetery were intentionally excluded from burial with the majority of the community, perhaps because of their primary ethnicity (Birch et al. 2010).

Indeed, while the site was occupied by a population of mostly local origin which ultimately participated in the formation of the Huron-Wendat confederacy,

the identity or identities that some of the site inhabitants would have ascribed to themselves may have precluded their participation in the Wendat ossuary ceremony. The burial pattern of single, flexed individuals is consistent with Wendat, who were not included in the ossuary because they had died unusual or violent deaths, or Algonquian, Neutral or Iroquois people who were at the site at the time of their deaths. The cemetery may therefore not contain the remains of a single ethnic group. One tooth per burial was retained for DNA and isotopic testing at the request of relevant First Nations. The identification of the origin or ethnicity of the individuals might shed significant light on the cosmopolitan nature of the community (Birch et al. 2010; Ronald F. Williamson, personal communication, March 2010). Interestingly, a similar cemetery, although much smaller in extent, which included both flexed and bundled individuals, was found at the sixteenth-century McKenzie-Woodbridge site (Saunders 1986), strengthening the suggestion that these cemeteries were perhaps for individuals that did not completely belong to local communities but who were among ancestral Huron populations at their time of death.

If all or some of the burials in the Mantle cemetery were those of foreigners, or individuals that did not identify their primary identity or ethnicity with the Mantle community, does this have implications for the perceived integration of the village's population? I argue it does not. At any point in time there may have been individuals present in the Mantle community who did not identify their primary identity with the village, but who were wintering in the

community or visiting, perhaps to reaffirm ties of kinship or trade relations. The relative isolation of the Mantle site in the early sixteenth century landscape may have made it a hub or collecting point for those living in and travelling through south-central Ontario. The only known settlements contemporary to Mantle are on the upper Humber and West Don Rivers, to the west and in the Kawartha Lakes region to the east. Mantle would have been the only major concentration of population encountered by people travelling along trails which led north from Lake Ontario to Lake Simcoe and on to the Simcoe Uplands and Lake Huron.

While both the Draper and Mantle villages exhibit a concern for collective defense, another key feature of coalescent societies (Kowlewski 2006:117), all evidence for increased levels of violent conflict correspond with the early stages of coalescence (Birch 2010). While a defensive palisade was still maintained at Mantle, these signs of elevated levels of conflict are not present, which may indicate a calming of hostilities between communities inhabiting the north shore of Lake Ontario in the early sixteenth century. However, this may be a local phenomenon and does not preclude high incidents of violence between other communities in the Lower Great Lakes at this time. What is clear is that changes in inter-regional interaction with distant groups were occurring alongside localized cultural transformations during the process of coalescence.

4.3 Coalescent Communities, Coalescent Societies

The data presented here suggest an increasing emphasis on social integration (village layout, increasing ceramic homogeneity) whereby previously distinct identities, evident in house clusters, non-local artifact types, including Neutral black pebble pendants and St. Lawrence Iroquoian ceramic types, were being de-emphasised in communities in the context of coalescence. Between the late fifteenth and early sixteenth centuries, these identity markers change as other data (castellation effigies, mortuary patterns) suggest new links between members of the community occupying the Mantle site and Iroquoian populations in south-western Ontario and Upper New York State (Oneida and/or Onondaga territories), and possibly with Algonquian-speaking peoples to the north. The fact that these features are unique and/or being recognised for the first time in the archaeological record of south-central Ontario suggests that patterns of interaction throughout the Lower Great Lakes were changing in the context of coalescence.

In sum, the Mantle site represents the manifestation of a new socio-political unit with a common community-based identity that developed, via the Draper site, from a base of many small local groups over the course of two to three generations. As for the Mantle community's participation in more formal political networks, I do not believe there is any evidence to support the notion that they were part of a political structure that exceeded the village community. There is no evidence that this group was as yet allied with other communities in what came to be known as the Huron Confederacy. The Mantle community most likely

represents a formative tribal nation between the initial stages of coalescence and the culmination of that process with the nucleation of population in Historic Huronia and the formation of an allied political confederacy.

Indeed, what this thesis demonstrates to future researchers interested in identifying analogous social and political transformations in the Lower Great Lakes, is that they must employ a multi-scalar approach which traces community sequences through time and space. The story presented here pertains to the Draper and Mantle communities alone; these historical processes cannot simply be transferred to other sites and site sequences. What was once called the Ontario Iroquoian Tradition has been shown to in fact be composed of a variety of distinct community groups, each with a unique and historically contingent social and political composition.

It is also true that each nation of the Wendat (Huron) confederacy identified itself as a separate group, with distinct dialects and specific histories of where they came from and how they came to be where they were in the early seventeenth century (Steckley 2007; Trigger 1976:156-163). These historical entities also support the infeasibility of studying the Wendat as a single cultural entity, let alone projecting that ethnicity back more than two centuries onto the ancestors of nations that were not yet in existence.

4.4. Future Directions: Micro-scale Analyses and Cross-cultural Comparisons

This research can be built upon in many ways. The ongoing processing and analyses of the artifact assemblages from the Mantle site will allow additional insights into the community and its inhabitants. In particular, it would be good to gain a better understanding of the potential relationships between households and how the material culture from contemporaneous houses of various sizes and locations in the village compare, as well as if there are any diachronic changes in materials recovered from houses and other contexts (e.g. features and post moulds) dating to earlier and later phases of the village's occupation. For example, do the assemblages associated with the long longhouses (Houses 15 and 20) differ from others in the village in a way that might suggest a special political or ceremonial function? Do artifacts associated with the many short-lived, small structures that were built in the former plaza area contain artifacts that might suggest their function, or hint at the presence of non-local, perhaps over-wintering, peoples? Can any trends in material culture be linked to chronological trends at the site? Furthermore, though no other early sixteenth century village sites have been excavated as completely as Mantle, it would be very beneficial to conduct a more thorough comparison between the Mantle materials and whatever extant data there are for contemporary communities on the north shore of Lake Ontario. Such an examination would ideally be aimed at assessing the similarities and differences between the material components of contemporary sites in

different local sequences. Do other sites have similar frequencies of local vs. 'exotic' or non-local ceramic types and clays? Are there similar patterns in the origin of lithic materials? If partial settlement plans are available, as in the case of the Seed-Barker site, does the built environment suggest potential integrative strategies, and how might these compare to what has been observed in the Mantle village? Because of the community sequence approach being advocated here I have been hesitant to compare seventeenth century sites in Huronia, for example the Ball (BdGv-3) or Warminster (BdGv-1) sites, to sixteenth century sites on the north shore, without some notion of their potential relatedness. Nevertheless, detailed comparisons between late precontact and contact-period villages would extend the arguments being made here over a longer time frame and certainly represents an avenue for future research. However, should we be able to link site sequences on the north shore of Lake Ontario to descendent villages in Huronia, what sorts of patterns can be observed in settlement plans and the built environment that might indicate transformations in social and political relationships within communities?

This study has outlined an approach to community-level analyses that could be applied to the examination of structurally similar processes of community aggregation in other societies. It would be interesting, for example, to compare processes of social change in the context of settlement aggregation between the Native societies of Eastern North America that have general cultural similarities, but display varying levels of political complexity, and for which we

have rich archaeological and ethnohistoric records (e.g. Formative Mississippian sites such as Cahokia [Pauketat and Emerson 1997], Contact-period chiefdoms in the American Southeast [Ethridge and Hudson 2002; Hally 2008], etc.). It would also be useful to conduct a cross-cultural comparison of settlement aggregation and coalescent communities in various parts of the globe in order to explore organizational diversity in societies with different historical, ecological and temporal contexts (e.g. the Near East [Kuijt 2000; Rollefson et al. 2002; Simmons 2007], the Southwestern United States [Riggs 2002; Kintigh et al. 2004; Rautman 2000], Eastern Europe [Parkinson 2002], etc.). What are the processes through which large aggregated settlements are formed and managed, and how do people make them work 'on the ground' in diverse and historically contingent settings?

4.5 Implications for Iroquoian Archaeology

This study provides a jumping-off point for comparing Northern Iroquoian societies to other structurally similar groups from around the world. Until very recently, most archaeologists working in southern Ontario have underestimated the potential of our archaeological record to contribute to the broader, global archaeological discourse (but see Ramsden 1996; Williamson and Robertson 1994). Researchers studying Northern Iroquoian societies are endowed with an archaeological record where each village is practically a snapshot of the way of life of a single generation. This permits us to study genealogies of practice within sequential sites at a resolution that is simply unavailable to archaeologists

working in other parts of the world. I do not believe that archaeologists working elsewhere are aware of the potential of this record for exploring and testing theories and problems of general interest to the discipline.

The amount of archaeological investigation that has taken place in southern Ontario over the last two decades as a result of cultural resource management has produced an incredible amount of data. This study represents the first time that many of the sites described here, which were excavated in the course of cultural resource management projects, have been synthesized and interpreted in the context of an academically-driven research design. It has shown the great potential of the information derived from CRM projects to answer questions about cultural change from a contemporary theoretical perspective. While there are a number of individuals and consulting firms in Ontario (notably Archaeological Services Inc.) who have blurred the line between "commercial" and "academic" archaeology, I hope that this thesis has gone one step further in eradicating the line altogether. Co-operation between these two spheres of archaeological practice represents the future of archaeology in the developed world.

I hope this study also inspires us to ask new questions of the archaeological record of the Lower Great Lakes. For example, there appears to have been a 'wave' of village aggregation that occurred in the first half of the fourteenth century. What prompted this fusion and fission of earlier communities

and what is the relationship between those patterns and the large-scale coalescence discussed here?

Northern Iroquoians have often been lumped together culturally, in such a way that the historically documented cultural practices of the Huron have been projected onto Iroquois peoples, and vice versa (i.e. Tooker 1964; Kapches 1994). This study has demonstrated the variation that existed between site sequences and communities within precontact populations who have often been grouped together under a particular ethnic banner. I believe that this study has set a precedent for interpreting each community, and thus each nation and ethnic group, as situated within a set of unique historical contingencies. While I have made the point that we must exercise extreme caution in extending historic references in general, this is doubly so when seeking to explain the cultures of diverse groups occupying the same geographic region.

Finally, the multi-scalar approach outlined here provides a framework that may be profitably employed to address similar research problems in North America and other parts of the world. It is all too easy to approach the past with a broad brush and construct interpretations of cultures that mask processes of change in local settings. By examining each community, as constructed by its unique historical circumstances, within a shifting lens that considers small-scale local processes along with large-scale regional dynamics we move closer to a more nuanced understanding of how people actually lived in the past, as opposed to how we might imagine it by focusing on only one of those scales.

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APPENDIX A: Regional Site Data

Appendix A: Regional Site Data								
BORDEN	NAME	Assigned Date	Other Approximate Dates including C14	Associated Water	Size (ha)	% of Site Excavated	Plan (Full?)	Sources
AkGt-2	Elliot	1300-1350	1300-1330 (Williamson et al. 2003:26)	Highland Creek Tributary	1.6	limited ($360m^2$)	N	Kapches 1981
AkGt-20	Thompson	1300-1350	1300-1330 (Williamson et al. 2003:26)	Highland Creek	?	0	N	Emerson 1954; Konrad 1973
AkGt-41	Milne	1350-1400	1370-1420 (Williamson et al. 2003:26)	Rouge River	1	0	N	MPP 1988
AkGt-53	Alexandra	1350-1400	1350-1400 (ASI 2008)	Highland Creek Tributary	2.5	100%	Y(Y)	ASI 2008
AkGu-3	Jackes	1400-1450	Early 15th century (Noble 1974)	Don River Tributary	1.6	limited	N	Noble 1974; Williamson et al. 2003:29
AkGu-9	Doncaster 1	1400-1450	1420-1450 (Williamson et al. 2003:26)	Don River	1.8	0	N	Konrad 1973
AkGu-10	Risebrough	1400-1450	Early to mid-15th century (Williamson et al. 2003:26)	West Don River	1	limited	N	Ramsden 1977
AkGu-13	Downsview	1400-1450	Early to mid-15th century (MacDonald 2002:287)	Black Creek	2	limited	N	Williamson et al. 1998:9; Wright 1966; Emerson 1954
AkGu-65	Moatfield	1300-1350	Turn of the 13th century; C14 dates 620 ± 60; 810 ± 40; 730 ± 40; 910 ± 40 (Williamson et al. 2003:82)	East Don River tributary	0.8	limited	N	Williamson and Pfeiffer 2003

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AkGv-8	Parsons	1450-1500	1450-1500 (Robertson and Williamson 1998); 1424 ± 80; 1444 ± 65; 1441 ± 65 (Robertson et al. 1998; MacDonald 2002:286)	Black Creek	2.8	10%	Y(N)	Williamson and Robertson 1998; MacDonald 2002:286-297; Kapches 1982
AkGv-11	Black Creek	1400-1450	Early in the Humber sequence (Emerson 1954); 1400-1450 (Williamson et al. 2003:26)		2	limited	N	Emerson 1954; Williamson et al. 1998:6-7
AlGs-1	Miller	1100-1150	1125 (Kenyon 1968:50); C 14 A.D. 1217 ± 60 (MacDonald 2002:299)	Duffins Creek	0.4	75%	Y(Y)	Kenyon 1968
AlGs-10	Boys	1000-1200	Early Early Iroquoian (Warrick 1990); A.D. 1026 ± 120 (MacDonald 2002:299)	Duffins Creek	0.4	10%	Y(N)	Ridley 1958; Konrad 1973; Reid 1975
AlGs-11	Carleton	1000-1200	Late Early Iroquoian (Warrick 1990)	Duffins Creek	1.2	limited	N	Konrad 1973; Konrad and Ross 1974
AlGs-29	Pearse	1300-1350	MOI (Poulton 1979:14); 14th C (MacDonald 2002:299)	Duffins Creek	2	0	N	Poulton 1979; Konrad and Ross 1974

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BORDEN	NAME	Assigned Date	Other Approximate Dates including C14	Associated Water	Size (ha)	% of Site Excavated	Plan (Full?)	Sources
AlGs-71	Hoar	1350-1400	1375-1400; L. Middleport (Warrick 1990:477)	Duffins Creek	2.9	0	N	Poulton 1979
AlGs-73	Peter Webb 2	1350-1400	1350-1375; E. Middleport (Warrick 1990:477)	Duffins Creek	1.2	0	N	Poulton 1979
AlGs-78	Peter Webb 1	1300-1350	1300-1350?; EOI (Poulton 1979:45); Uren (Warrick 1990:477)	Duffins Creek	0.4	0	N	Poulton 1979
AlGs-101	Delancey	1300-1350	1300-1330 (Williamson et al. 2003:26)	Duffins Creek	1	limited	N	Ambrose 1981
AlGs-104	Ginger	1200-1300	M. EOI (Warrick 1990);1125-1225 (D.R. Poulton and Associates Inc. 1999:vi)	Ganatsekiagon Creek, Duffins Creek Tributary	0.75	0	N	Poulton 1998; Spittal 1978
AlGs-102	Bolitho	1200-1300	M. EOI (Warrick 1990:477)	Duffins Creek	0.6	0	N	Ambrose 1981; Spittal 1978
AlGs-103	Winnifred	1200-1300	L. EOI (Warrick 1990: 477)	Duffins Creek	0.4	0	N	Ambrose 1981; Spittal 1978
AlGs-143	Ashbridge	1000-1200	800-1200 (D.R. Poulton and Associates Inc. 1998)	Ganatsekiagon Creek, Duffins Creek Tributary	1.5	0	N	D.R. Poulton and Associates 1998; Spittal 1978

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BORDEN	NAME	Assigned Date	Other Approximate Dates including C14	Associated Water	Size (ha)	% of Site Excavated	Plan (Full?)	Sources
AlGs-302	Miindaamiin	1300-1350	1275-1400 (DPA 1998); averaged to 1300-1350 based on surrounding sites	Brougham Creek, Duffins Creek Tributary	unknown	0	N	DPA 1988; R. F. Williamson pers. comm.
AlGs-341	Sebastien	1300-1350	1275-1325 (Archaeological Assessments Ltd. 2005)	Ganatsekiagon Creek, Duffins Creek Tributary	2.5	0	N	Archaeological Assessments 2005
AlGs-329	Wonowin	1300-1350	1300-1350 (Archaeological Assessments Ltd. 2005)	Ganatsekiagon Creek, Duffins Creek Tributary	0.6	0	N	Archaeological Assessments 2005
AlGt-1	Milroy	1350-1400	Late Middleport (Ramsden 1977:72)	Rouge River	0.8	limited	N	Donalson 1962a; Kapches 1981; Ramsden 1977:72; Wright 1966
AlGt-2	Draper	1450-1500	1450-1500 (Finlayson 1985); C14 5 dates averaged to A.D. 1430 ± 34 (MacDonald 2002:297)	West Duffins Creek	4.2	100%	Y(Y)	Finlayson 1985; Hayden 1979
AlGt-7	Reesor	unknown	unknown	Petticoat Creek	1.8	0	N	Konrad 1973
AlGt-8	Woodland Park	1300-1350	1300-1350 (Warrick 1990)	Rouge River	0.5	limited	N	Konrad 1973; Konrad and Ross 1974

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BORDEN	**NAME**	**Assigned Date**	**Other Approximate Dates including C14**	**Associated Water**	**Size (ha)**	**% of Site Excavated**	**Plan (Full?)**	**Sources**
AlGt-28	Wilson Park	1400-1450	1400-1450 (D.R. Poulton and Associates 2006:2)	West Duffins Creek	2	0	N	DPA 2006
AlGt-32	White	1400-1450	Late fourteenth century (Tripp 1977)	West Duffins Creek	0.6	100%	Y	Hayden 1979; Tripp 1978
AlGt-60	Hamlin	1350-1400	Late Middleport (Warrick 1990)	Rouge River	2.4	0	N	MPP 1988
AlGt-65	Gostick	1400-1450	1400-1450? (Early 15th C) (Poulton 1979)	West Duffins Creek	1.2	0	N	Poulton 1979
AlGt-66	Spang	1450-1500	late 15thC/early 16thC (Finlayson 1985)	West Duffins Creek	3.4	limited	N	Poulton 1979; Carter 1981
AlGt-67	Best	1400-1450	Late Iroquoian (Poulton 1979)	West Duffins Creek	1.8	0	N	Poulton 1979
AlGt-87	Pugh	1400-1450	Late Iroquoian (Poulton 1979)	West Duffins Creek	2.8	0	N	Poulton 1979
AlGt-97	Carruthers	1400-1450	Late Iroquoian (Poulton 1979)	West Duffins Creek	0.8	0	N(N)	Poulton 1979
AkGu-15	Baker	1400-1450	early fifteenth century (ASI 2006c)	East Don River tributary	1	100%	Y(Y)	ASI 2006c
AkGu-19	East Don	1400-1450	Late Prehistoric (Warrick 1990:475)	East Don River	1.8	0	N	Konrad 1973; MPP 1986
AkGv-1	Seed-Barker	1550-1600	1550-1570; 1530-1560 (TCRA Website)	Humber River	2	approx. 25-30%	Y(N)	Burgar 1990; Johnson 1980

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BORDEN	**NAME**	**Assigned Date**	**Other Approximate Dates including C14**	**Associated Water**	**Size (ha)**	**% of Site Excavated**	**Plan (Full?)**	**Sources**
AkGv-2	McKenzie - Woodbridge	1550-1600	ca. 1520 ± 10-15 years (Johnson 1980); 1550-1580 (Williamson et al. 2003: 25)	East Humber River	2	10%(?)	Y(N)	Johnson 1980; Wright 1966
AkGv-3	Boyd	1500-1550	1500-1550 (Burgar 1990)	East Humber River	1	10%(?)	N	Burgar 1990; Donaldson 1962a
AkGv-14	Keffer	1450-1500	1475 - 1525 (Williamson et al. 2003:26)	Don River	2.5	100%	Y(Y)	Finlayson et al. 1987
AkGv-16	McNeil	1400-1450	fifteenth century (MacDonald 2002)	Black Creek	1.8	0	N	Konrad 1973; MPP 1986
AlGt-1	Milroy	1350-1400	1370-1420 (Williamson et al. 2003:26)	Rouge River	0.8	limited	N	Donalson 1962a; Ramsden 1977:72; Latta 1981; Wright 1966
AlGt-4	Robb	1350-1400	Late 14th C (ASI 2000)	Miliken Creek, Rouge Tributary	1.4	80%(?)	Y(N)	Williamson et al. 2001; ASI in prep
AlGt-12	Russell Reesor	1400-1450	E. L. Prehistoric (Warrick 1990); 1420-1470 (Williamson et al. 2003:26)	Rouge River	0.8	0	N	Konrad 1973; Konrad and Ross 1974
AlGt-14	Ken Reesor II	1400-1450	1420-1450 (Williamson et al. 2003:26)	Rouge River	1.6	0	N	Donaldson 1962a; Konrad 1973

Appendix A: Regional Site Data								
BORDEN	**NAME**	**Assigned Date**	**Other Approximate Dates including C14**	**Associated Water**	**Size (ha)**	**% of Site Excavated**	**Plan (Full?)**	**Sources**
AlGt-18	Faraday	1300-1350	1300-1330 (Williamson et al. 2003:26); E. Middleport (Warrck 1990: 478); 1350-1400 (Kapches 1981:77; Williamson and Steiss 2003: 103).	Rouge River	1.6	limited	N	Kapches 1981; Konrad 1973; Konrad and Ross 1974
AlGt-19	Burkholder 1	1400-1450	Postdates Burkholder 2 (ASI 2005d)	Rouge River Tributary	0.9	limited	N	ASI 2005d; AMAA 1997
AlGt-35	Burkholder 2	1350-1400	Late 14th-early 15th century (ASI 2005b)	Rouge River (between 2 tributaries)	0.6	100%	Y(Y)	ASI 2005b
AlGt-36	New	1300-1350	Approx. 1300 (ASI 2006d)	Rouge River tributary	1.2	75%(?)	Y	ASI 2006d
AlGt-68	Dent Brown	1400-1450	1420-1450 (Williamson et al. 2003:26)	Little Rouge Creek	1.8	0	N	Poulton 1979
AlGt-96	Robin Hood	1400-1450	1500-1550 (Williamson 1983), predates Draper	West Duffin Creek	0.4	50%(?)	Y	Williamson 1983
AlGt-157	Radcliffe	1550-1600	1570-1610 (ASI 2003); late protohistoric/ contact (Warrick 1990) (trade goods present)	East Holland River	2.8	0	N	Dibb 1979; Gordon Dibb pers. comm.

Appendix A: Regional Site Data								
BORDEN	**NAME**	**Assigned Date**	**Other Approximate Dates including C14**	**Associated Water**	**Size (ha)**	**% of Site Excavated**	**Plan (Full?)**	**Sources**
AlGt-334	Mantle	1500-1550	1500-1530 (Chapter 4); 1580 ± 40, 1610 ± 40 (see table 3.2)	Stouffville Creek, West Duffins Tributary	4.2	90%	Y(Y)	ASI 2006a
AlGu-1	Boyle-Atkinson	1450-1500	1450-1500 (Williamson et al. 2003:26)	Little Don River tributary	1	<10%(?)	Y	Konrad 1973; MPP 1987
AlGu-3/AlGu-45	Orion/Murphy-Goulding	1400-1450	1400-1450 (ASI 1998; Williamson et al. 2003:26)	Upper Rouge River	3.3	<50%	Y	ASI 1998
AlGu-5	Watford	1450-1500	L. Prehistoric (Warrick 1990)	Upper Rouge River	1.8	0	N	Konrad 1973; Pearce 1997
AlGu-8	McNair	1400-1450	1400-1450 (Williamson et al. 2003:26)	West Don River	1.4	100%	Y(Y)	ASI 2006e
AlGu-13	Van Nostrand-Wright	1550-1600	Early Contact , 1550-1580 (Williamson et al. 2003:26)	Holland River	4.3	limited	N	Dibb 1979; Warrick 1990
AlGu-17	Wilcox Lake	1300-1350	Late 13th-Early 14th century (ASI 1991)	Wilcox Lake	1.2	<4%	Y(N)	ASI 1991; Austin 1994
AlGu-77	Mill Road (Mill Street)	1400-1450	1400-1500 (Williamson et al. 2003:26)	McNair Creek	unknown	10%(?)	Y(N)	ASI 2006b
AlGu-88	McGaw	1400-1450	1400-1450 (Williamson et al. 2003:26)	West Don River Tributary	1	10-15%(?)	N(N)	ASI 2007

Appendix A: Regional Site Data								
BORDEN	NAME	Assigned Date	Other Approximate Dates including C14	Associated Water	Size (ha)	% of Site Excavated	Plan (Full?)	Sources
AlGu-120	Over	1400-1450	1425-1450 (Williamson et al. 2003:2); 1420 ± 70, 1410 ± 70 (DPA 1996:30)	Don River East Branch	0.9	80%	Y(N)	DPA 1996
AlGu-341	Walkington 2	1400-1450	1400-1450 (Williamson et al. 2003:26)	West Don River Tributary	0.6	100%	Y(Y)	ASI 2004c
AlGv-2	Teston	1450-1500	Late Protohistoric (Warrick 1990:480)	West Don River Tributary	0.8	0	N	Konrad 1973; DPA pers comm
AlGv-18	Jarrett-Lahmer	1500-1550	16th century (DPA 2003); 1500-1550 (Williamson et al. 2003:26)	West Don River tributary	1.2	test units and minimal trenching	N	ASI 2005e; DPA 1996, 2003
AlGv-39	ShurGain	1500-1550	1400-1550 (DPA 1994); 1500-1550 (Williamson et al. 2003:26)	Don River Tributary	1	test units and minimal trenching	N	DPA 1994
AlGv-193	Skandatut	1550-1600	1580-1600 (Williamson et al. 2003:26)	North Humber River	3.2	0	N	ASI 2002a, ASI 2004c
AlGv-199	Hope	1400-1450	1400-1450 (ASI 2004a; 2005a)	Don River Tributary	3	100%	Y(Y)	ASI 2004a, 2005a

Appendix A: Regional Site Data								
BORDEN	**NAME**	**Assigned Date**	**Other Approximate Dates including C14**	**Associated Water**	**Size (ha)**	**% of Site Excavated**	**Plan (Full?)**	**Sources**
AlGv-231	Damiani	1450-1500	1450-1500 (ASI in prep)	Humber River tributary	1.5	95%	Y(Y)	ASI in prep
BaGu-2	Aurora	1550-1600	contact period (Warrick 1990)	Holland River	3.4	limited	N	Emerson 1954; Dibb 1979

APPENDIX B: Tables

Date Range	Humber River Site name size(ha)	Don River Site name size(ha)	Rouge River and Highland Creek Site name size(ha)	Duffins Creek Site name size(ha)	Holland River Site name size(ha)
1550-1600	Skandatut 3.2 Seed-Barker* 2 McKenzie-Woodbridge* 2				Van Nostrand 4.3 Aurora 3.4 Radcliffe 2.8
1500-1550	Boyd 1	Jarrett-Lahmer 1.2 ShurGain 1		Mantle** 4.2	
1450-1500	Parsons* 2.8 Damiani** 1.5	Keffer** 2.5 Boyle-Atkinson* 1 Teston 0.8	Watford** 1.8	Draper** 4.2 Spang 3.4	
1400-1450	Black Creek 2 Downsview 2 McNeil 1.8	Hope 3 Doncaster 1 1.8 East Don 1.8 Jackes 1.6 McNair** 1.4 Riseborough 1 McGaw 1 Baker** 1 Over** 0.9 Walkington 2** 0.6 Mill Street unknown	Orion-Murphy Goulding* 3.3 Ken Reesor II 1.6 Burkholder 0.9 Russell Reesor 0.8	Pugh 2.8 Wilson Park 2 Best 1.8 Dent Brown 1.8 Gostick 1.2 Carruthers 0.8 White** 0.6 Robin Hood** 0.4	
1350-1400			Alexandra** 2.5 Hamlin 2.4 Robb** 2 Milne 1 Milroy 0.8 Burkholder 2** 0.6 Archie Little 2 0.4	Hoar 2.9 Peter Webb 2 1.2	
1300-1350		Moatfield 0.8	Faraday 1.6 Elliot 1.6 New** 1.2 Thompson unknown	Sebastien 2.5 Wonowin 2.2 Pearse 2 Delancey 1 Woodland Park 0.5 Peter Webb 1 0.4 Miindaamiin unknown	Wilcox Lake* 1.2

Table 2.1. Village sites organized by chronological period and drainage. ** Denotes sites for which there is a full settlement plan; *Denotes sites for which there is a partial settlement plan

Site	Date Range	Size	Percent of site excavated	Defensive situation	Rows in Palisade	Total number scattered skeletal elements	Total number modified skeletal elements	Other material interpreted as evidence of conflict	References
Parsons	1450-1500	2.4 to 3.2ha	≈10%	Bounded on N, W and S by steep bluffs	1 to 7	1,187	5; 4 complete cranial gorgets, 1 modified skull cap	2 crania buried in midden west of palisade facing out	Williamson 2007; Williamson and Roberston 1998
Keffer	1475-1525	2.5 ha	≈100%	Situated on tableland, east side of Don R. above a substantial slope	2	1,074	5 worked and/or perforated parietals; 5 worked parietal fragments		Williamson 2007
Draper	1450-1500	3.4 ha	100%	Situated on a semi-promontory; steep 9m slope bounds eastern edge of site	3 to 5	287	6; 3 modified cranial elements; 3 cut and/or polished parietal fragments	Burial 6; projectile point embedded in femur; scalped; missing arms	Cooper 1984; Finlayson 1985; Hayden 1979; Williamson 2007;
Mantle	1500-1530	4.2 ha	100%	West side of site 10m slope	2 to 5	25	0		Ronald F. Williamson personal communication 2010
Seed-Barker	1550-1570	≈2 ha	≈25-30%	Situated on a semi-promontory; 5m slope on N,W and S sides	3 to 5	unknown	1 Modified skull cap		Williamson 2007

Table 2.2. Features of excavated sites dating to the period of community coalescence potentially correlating with an escalation in violent conflict. Modified from Birch (2010).

Draper village expansion/segment	House wall posts per linear metre (average)
Core/Segment A	5.9
Expansion 1/Segment C	4.6
Expansion 2/Segment D	4.1
Expansion 3/Segment E	4.1
Expansion 4/Segment B	3.7
Expansion 5/Segment F	2.9
Expansion 6?/South Field	2.8

Table 3.1. Average Density of Wall Post Moulds by Segment, Draper Site (Finlayson 1985:406)

	Beta-217158	Beta-217159
Sample	**carbonized maize**	**carbonized maize**
Context	498-119 Midden 1	365-130 Feature 253
Conventional radiocarbon age	340±40 BP	370±40 BP
Calibrated age (1σ) (68% probability)	cal AD 1487- 1527 1554- 1633	cal AD 1453- 1521 1576- 1582 1591- 1622
Calibrated age (2σ) (95% probability)	cal AD 1462- 1642	cal AD 1446- 1530 1539- 1635

Table 3.2. Calibrated 14C date range obtained from intercepts using CALIB REV6.0.0, calibration data set INTCAL09 (Reimer et al. 2009). Conventional radiocarbon ages reproduced with permission from Archaeological Services Inc.

House length	No. houses	Average pm/m	Standard deviation
Greater than 40 m	15	4.4	1.75
30 - 39.9 m	13	3.9	1.23
15 – 29.9 m	39	3.3	0.97
Less than 14.9 m	7	3.2	0.52

Table 3.3. Mantle site house lengths compared to density of wall posts. Sample size = 70, incomplete or heavily disturbed houses omitted.

Draper village expansion/segment	> 40 m	30-39.9	15-29.9
Core/Segment A	6	1	2
Expansion 1/Segment C	1	1	1
Expansion 2/Segment D	2	2	1
Expansion 3/Segment E	2	3	3
Expansion 4/Segment B	2	0	6
Expansion 5/Segment F	1	1	2
Expansion 6?/South Field	1	2	4

Table 3.4. Draper site house length by village segment. Data derived from Finlayson (1985).

Draper Site			Mantle Site		
House length	no. of houses (n = 43)	% of total no. of houses	House length	no. of houses (n = 74)	% of total no. of houses
> 40m	14	32.5	>40 m	15	20
30-39.9	12	28	30-39.9 m	13	17.5
15-29.9	17	39.5	15-29.9 m	39	53
14.9 <	0	0	<14.9 m	7	9.5

Table 3.5. House lengths as a percentage of those houses for which length could be calculated, Draper and Mantle sites.

Draper village expansion/segment	Length of palisade (distance in linear m)
Core/Segment A	410 m
Expansion 1/Segment C	430 m
Expansion 2/Segment D	600 m
Expansion 3/Segment E	790 m
Expansion 4/Segment B	820 m
Expansion 5/Segment F	880 m
Mantle village palisade	
Phase 1	637 m
Phase 2	608 m
Phase 3	554 m

Table 3.6. Length of palisades in linear metres by expansion and phase, Draper and Mantle sites. Draper site palisade data from Finlayson (1985).

APPENDIX C: Figures

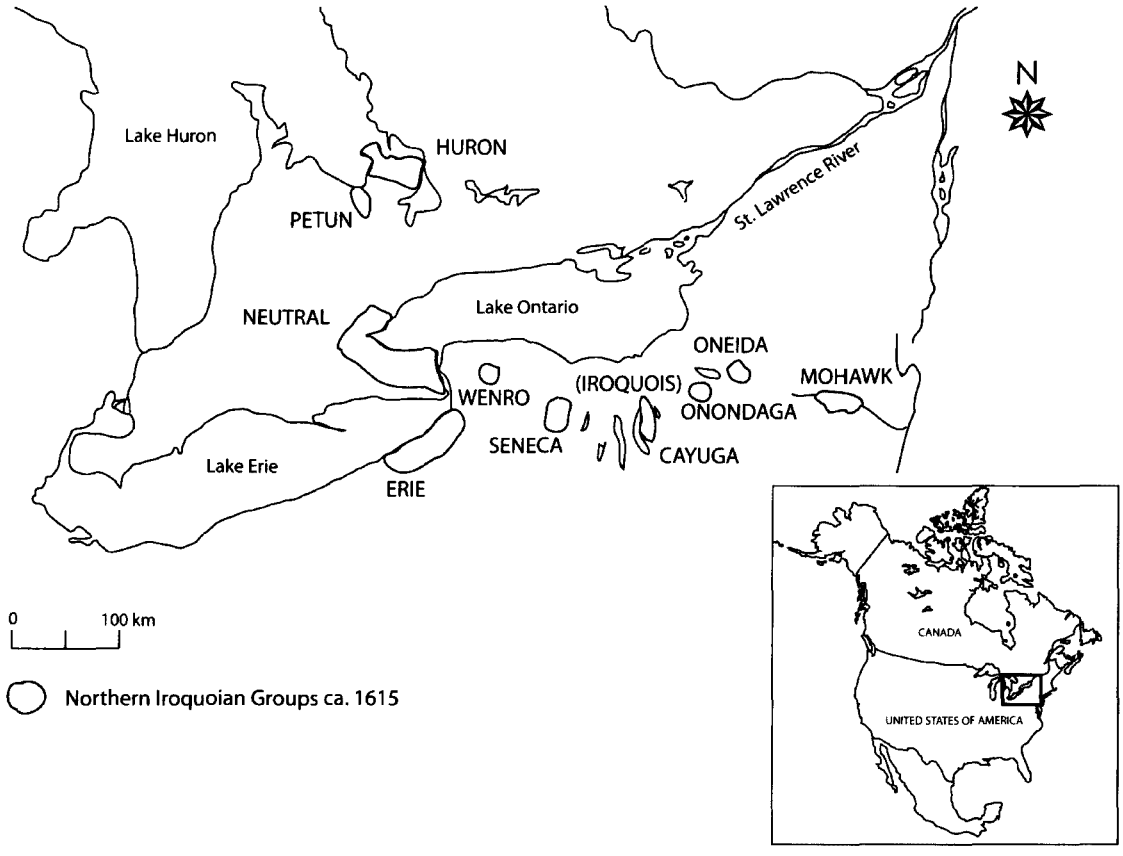


Figure 1.1. The Lower Great Lakes and historic situation of Northern Iroquoian societies, ca. AD 1615.

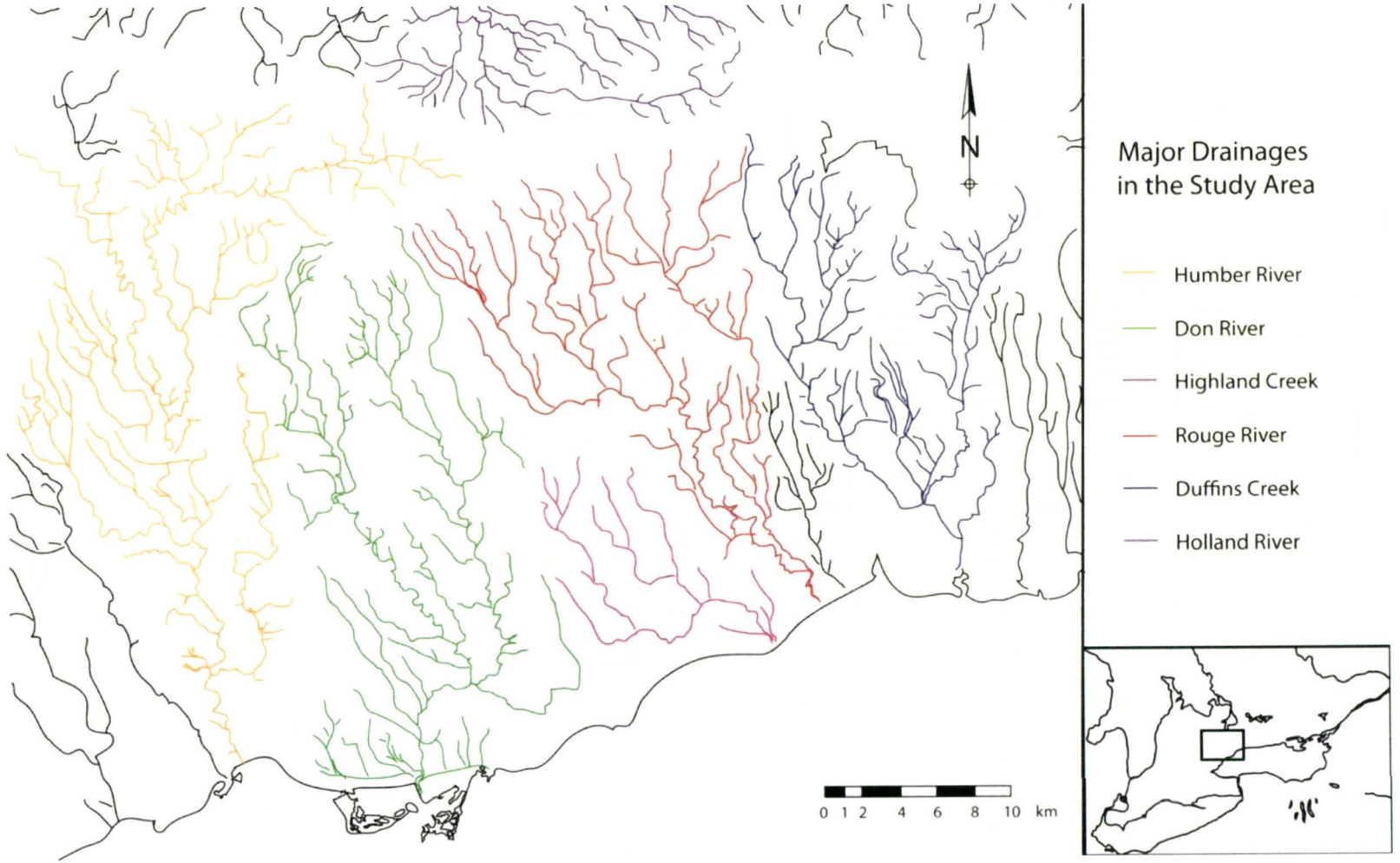


Figure 2.1. Hydrology – Major Drainages in the Study Area.

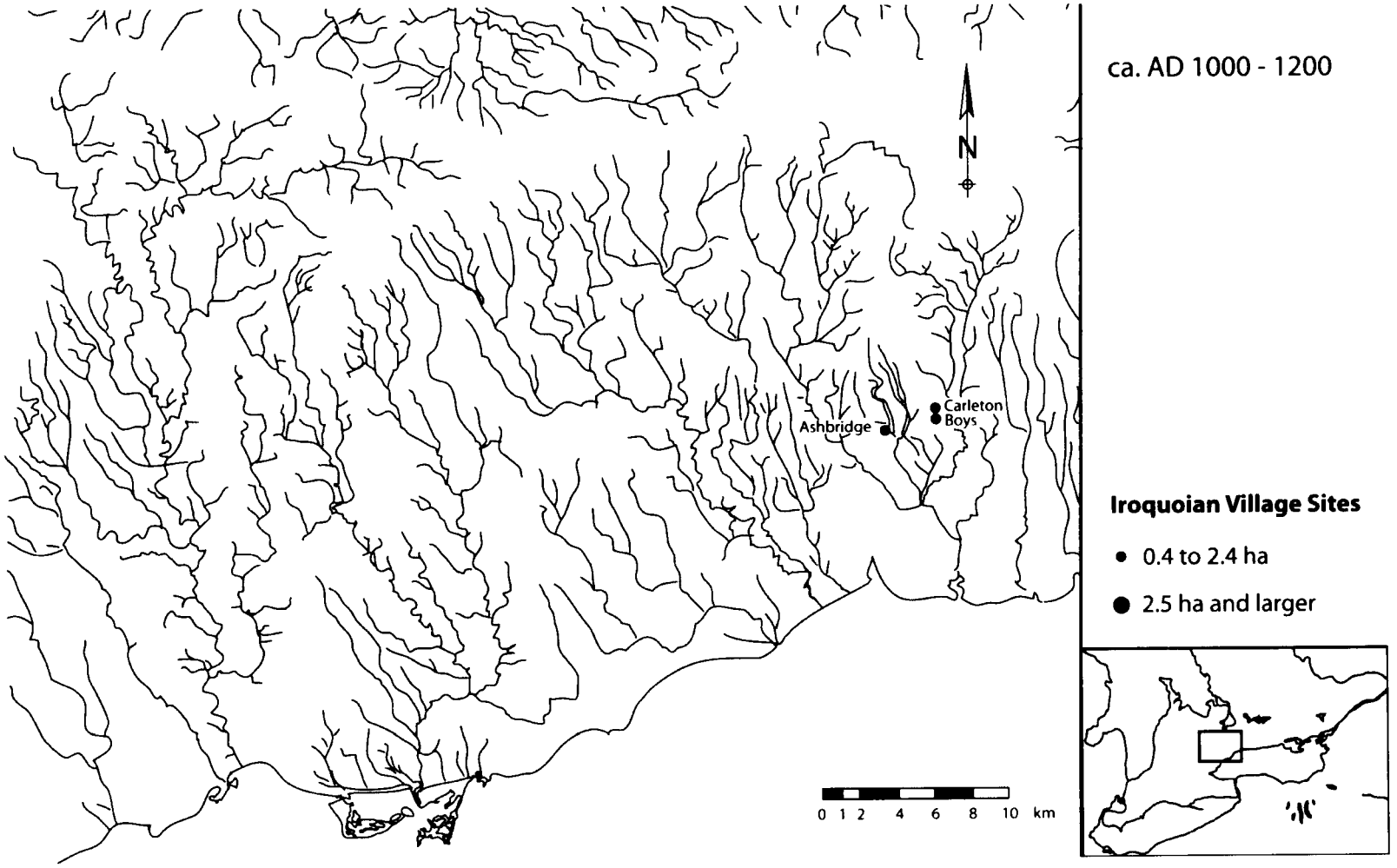


Figure 2.2. Known village sites ca. AD 1000 – 1200.

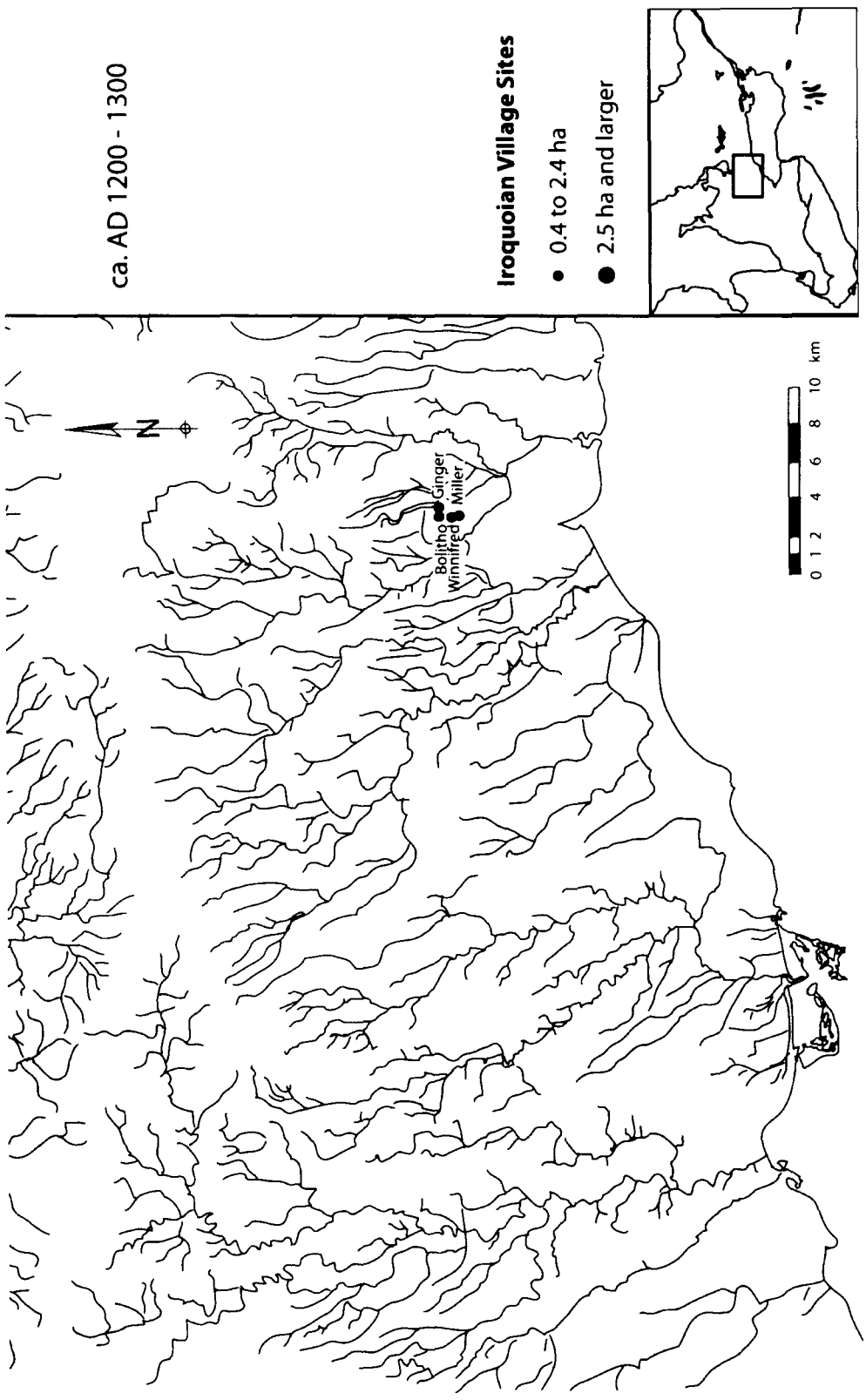


Figure 2.3. Known village sites ca. AD 1200 – 1300.

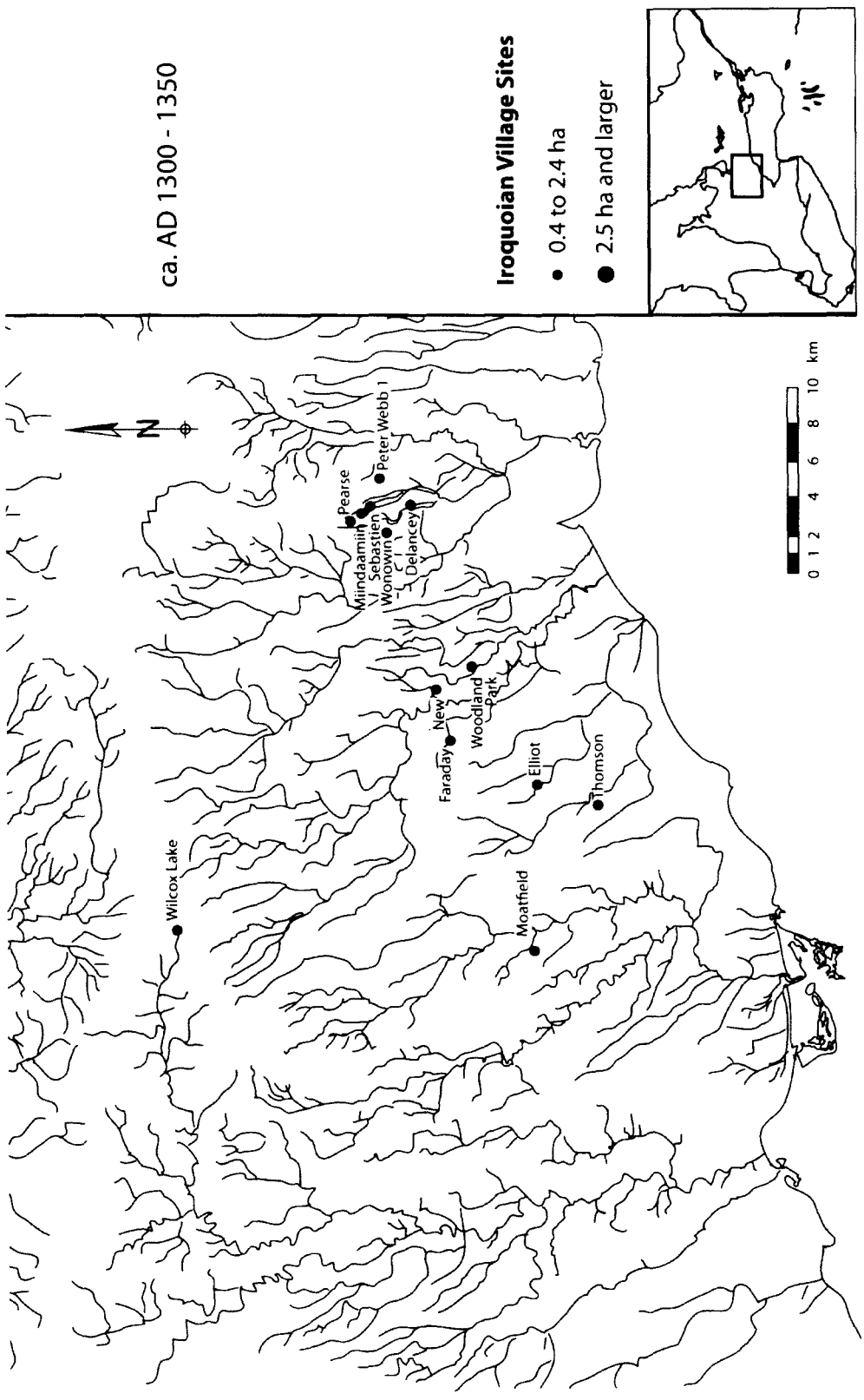


Figure 2.4. Known village sites ca. AD 1300 – 1350

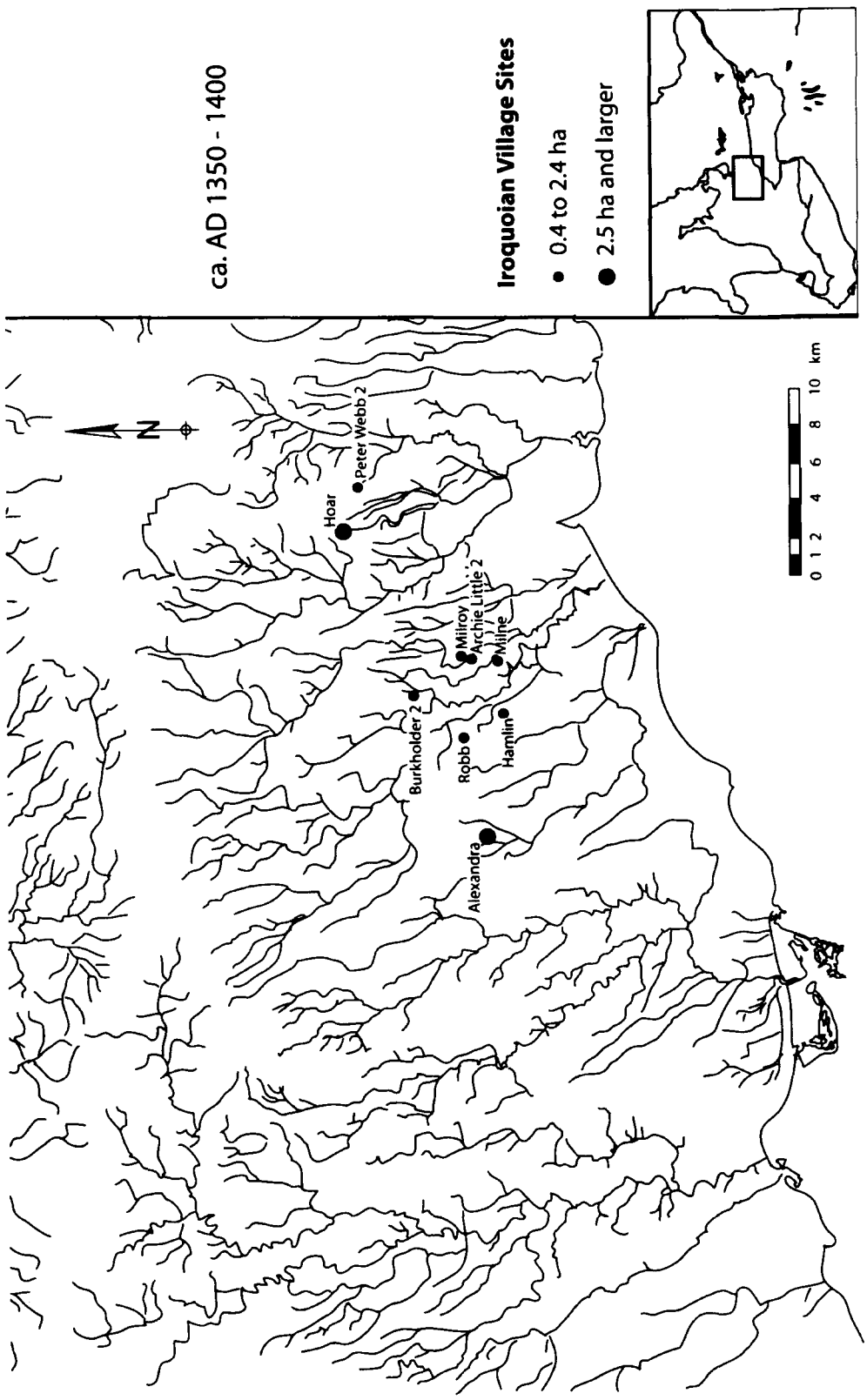


Figure 2.5. Known village sites ca. AD 1350-1400

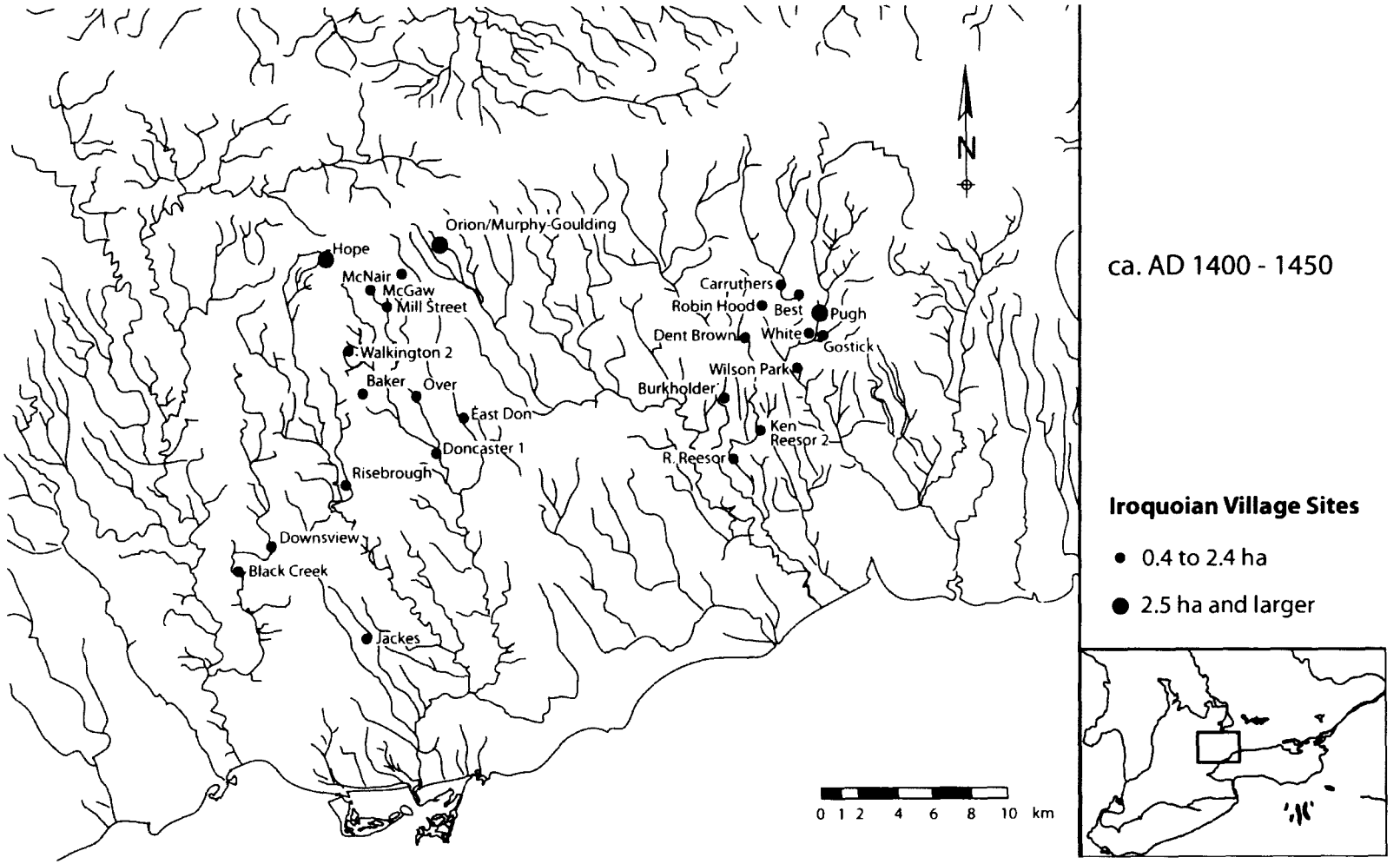


Figure 2.6. Known village sites ca. AD 1400 – 1450

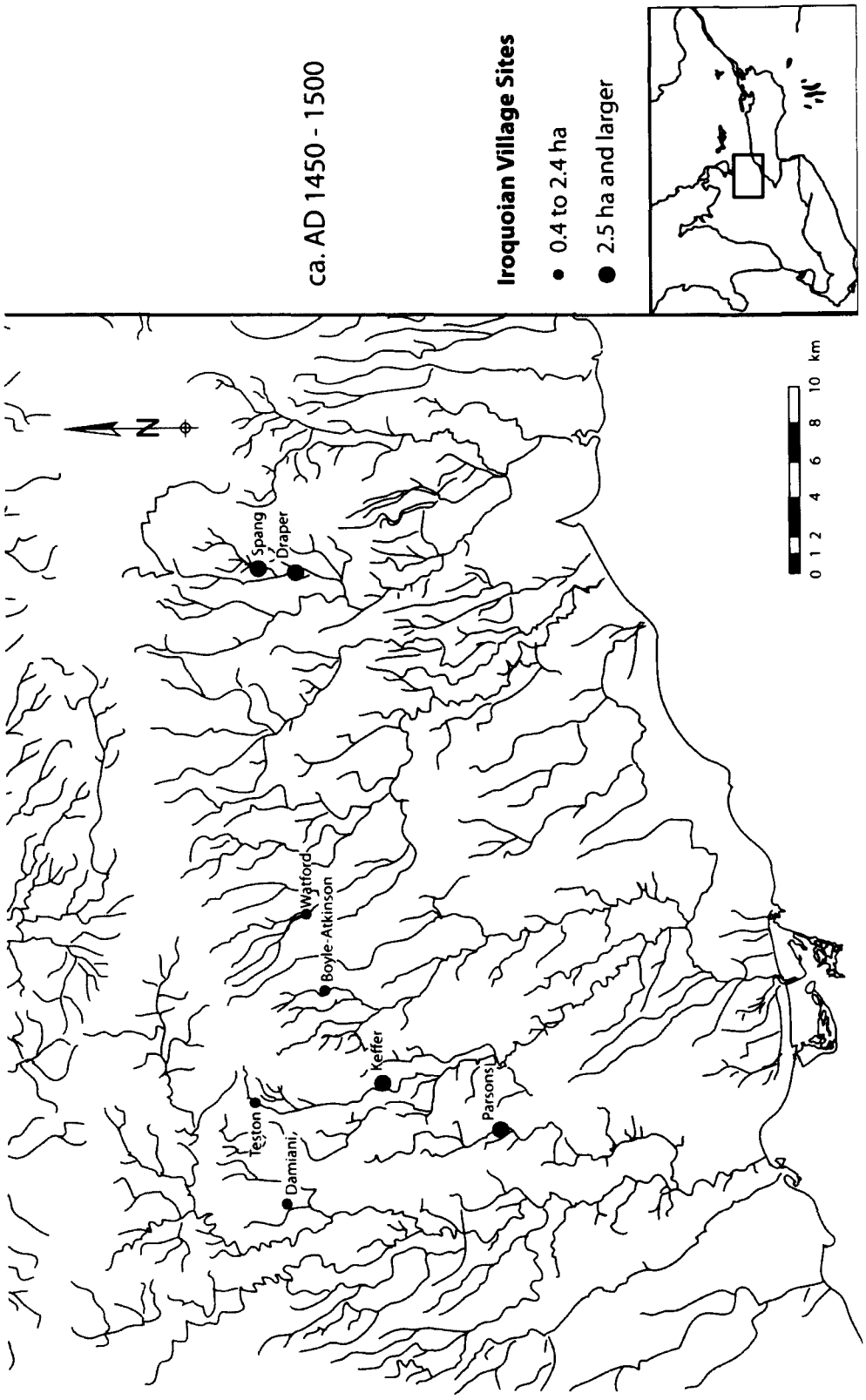


Figure 2.7. Known village sites ca. AD 1450 – 1500

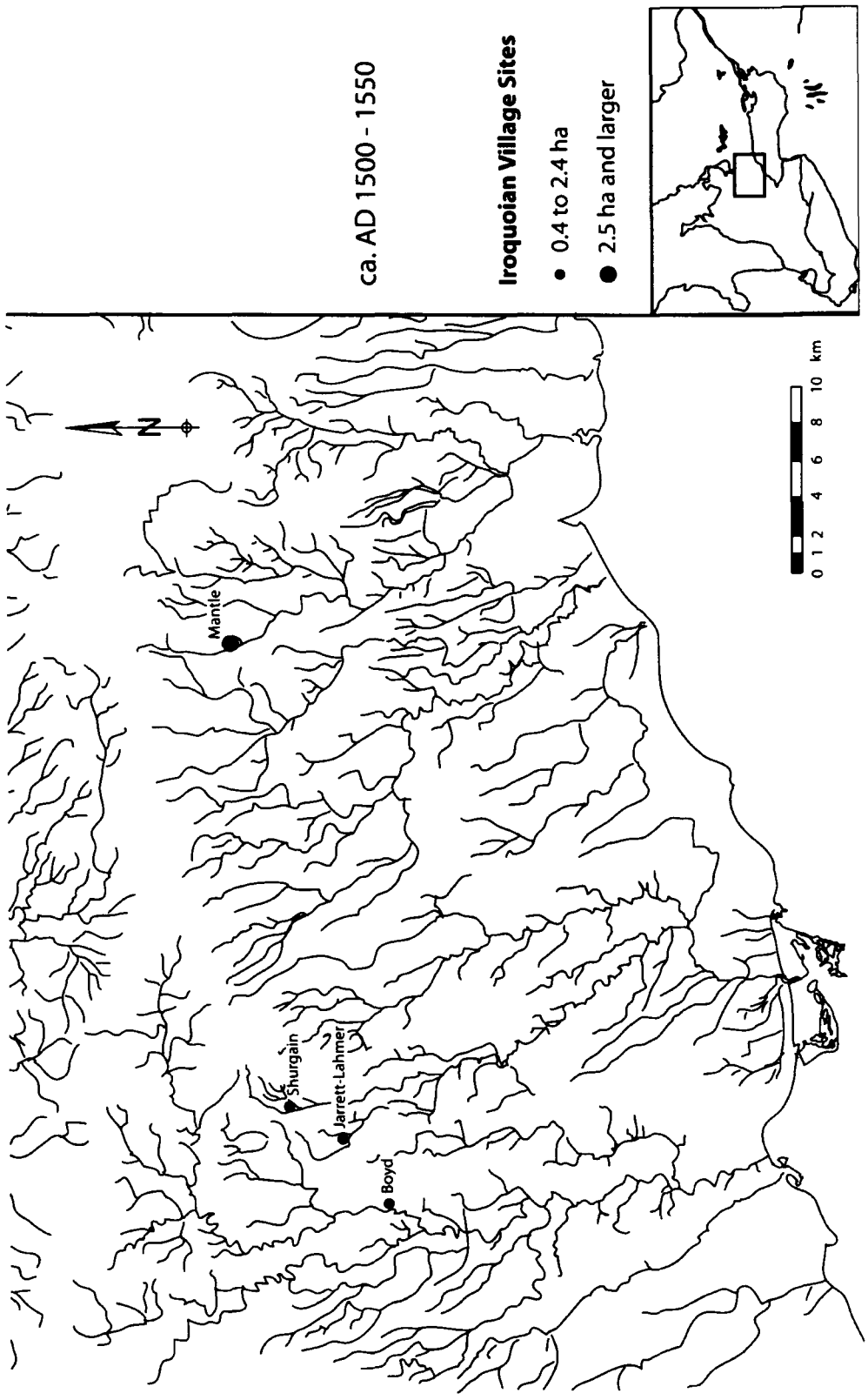


Figure 2.8. Known village sites ca. AD 1500 – 1550

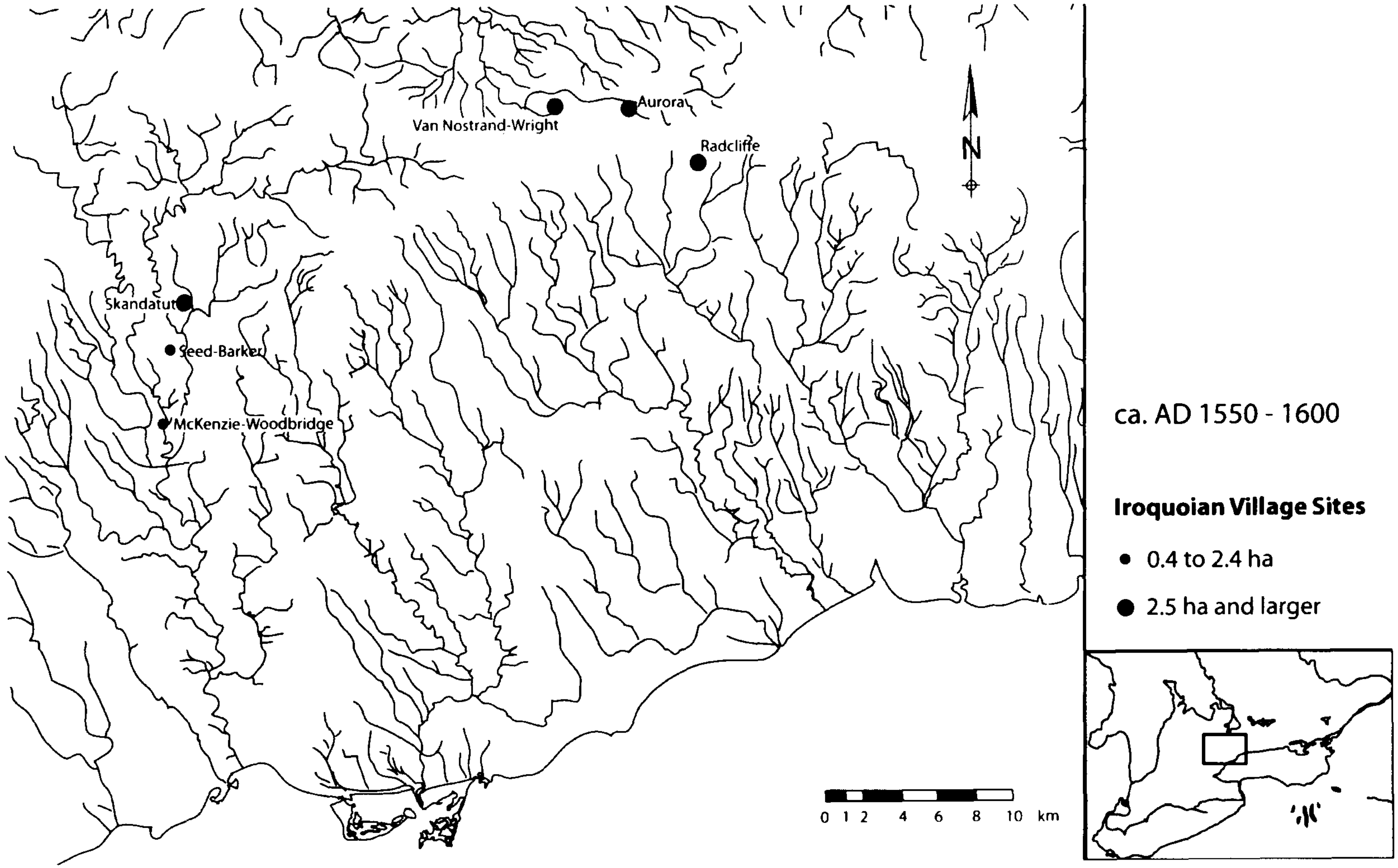


Figure 2.9. Known village sites ca. AD 1550 – 1600

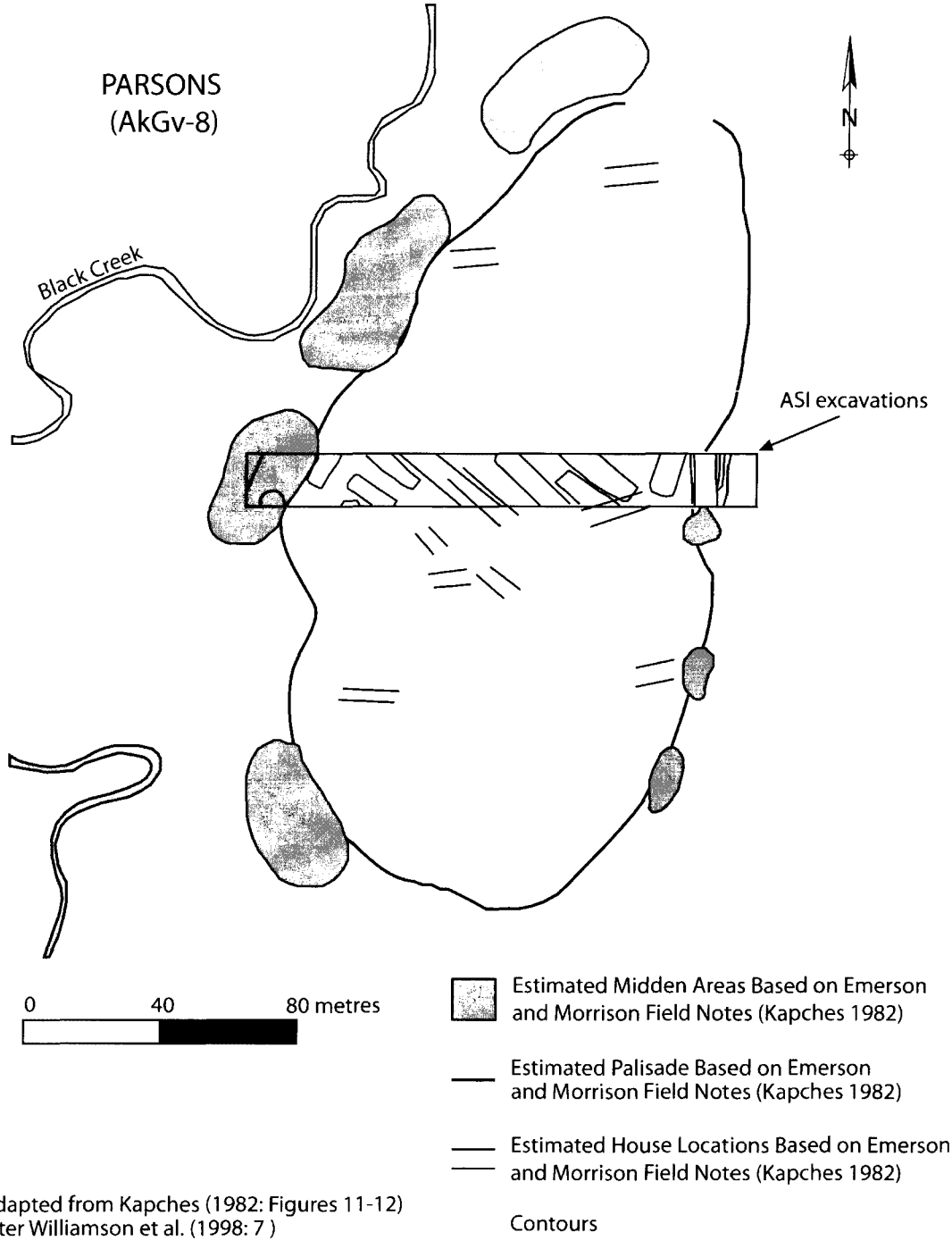


Figure 2.10 Parsons site limits and partial settlement plan. ca. AD 1450-1500. Humber River.

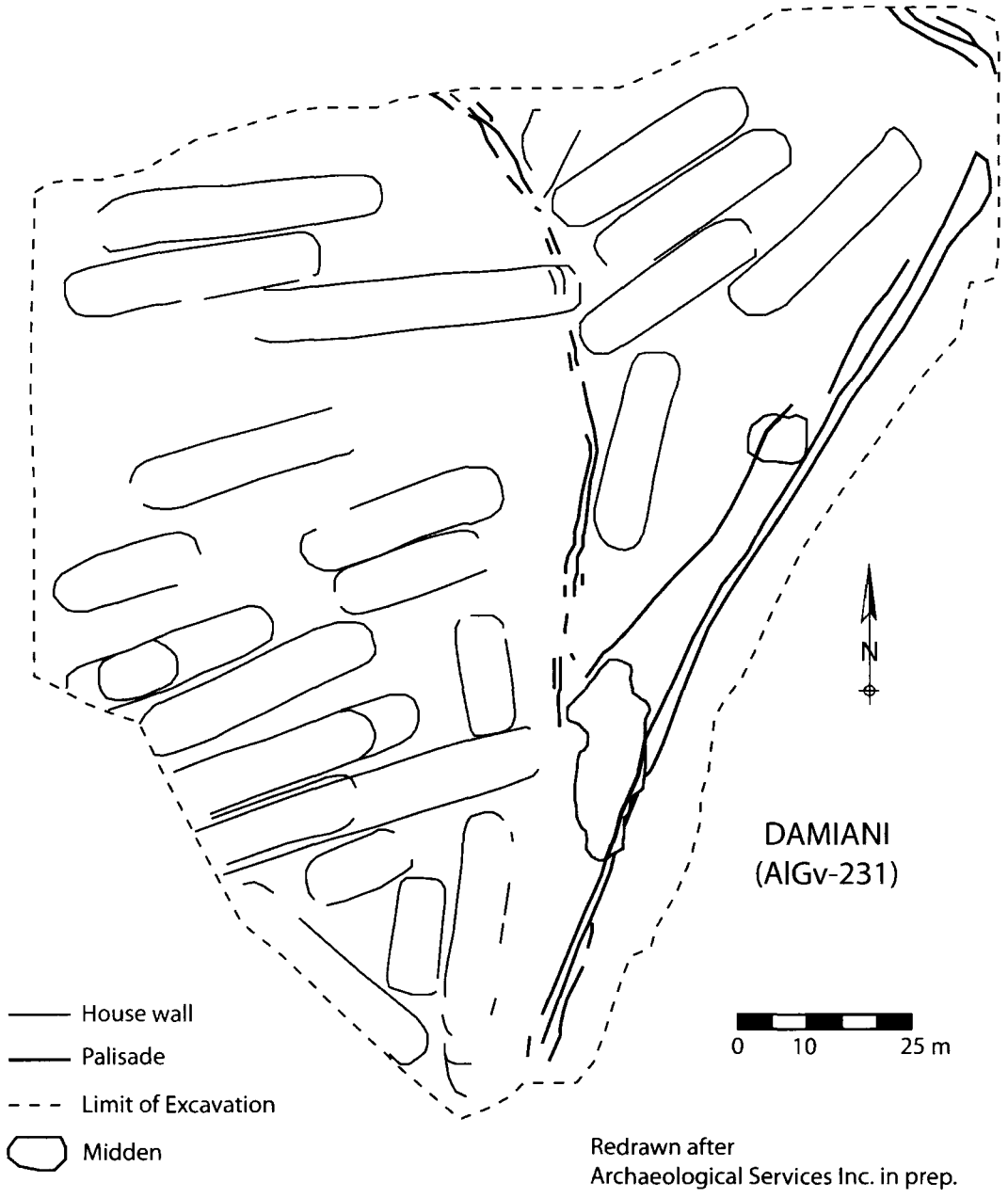


Figure 2.11. Damiani site plan. ca. AD 1400-1450, Humber Headwaters.

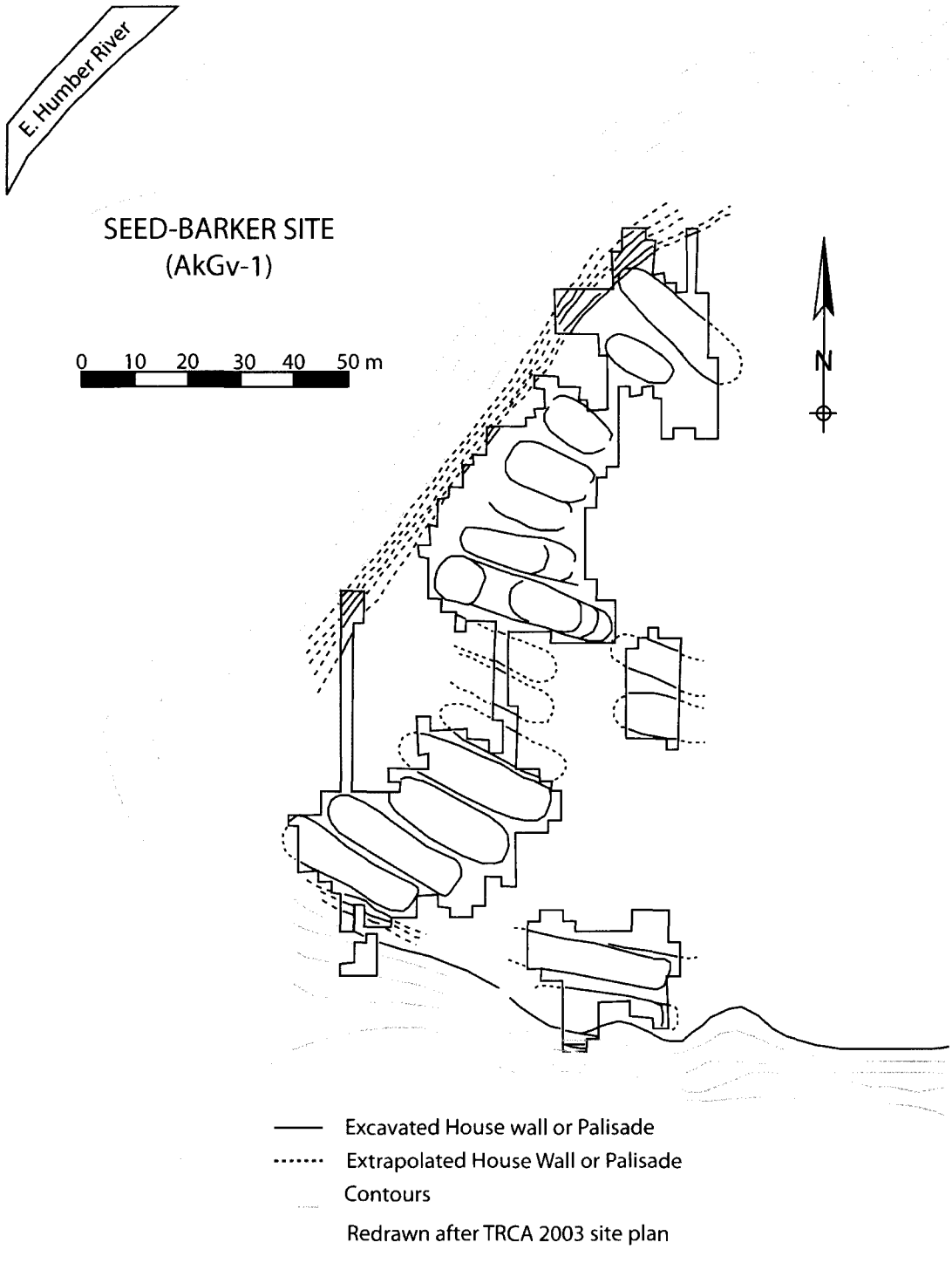


Figure 2.12. Seed-Barker partial site plan. ca. AD 1550-1600, Humber Headwaters.

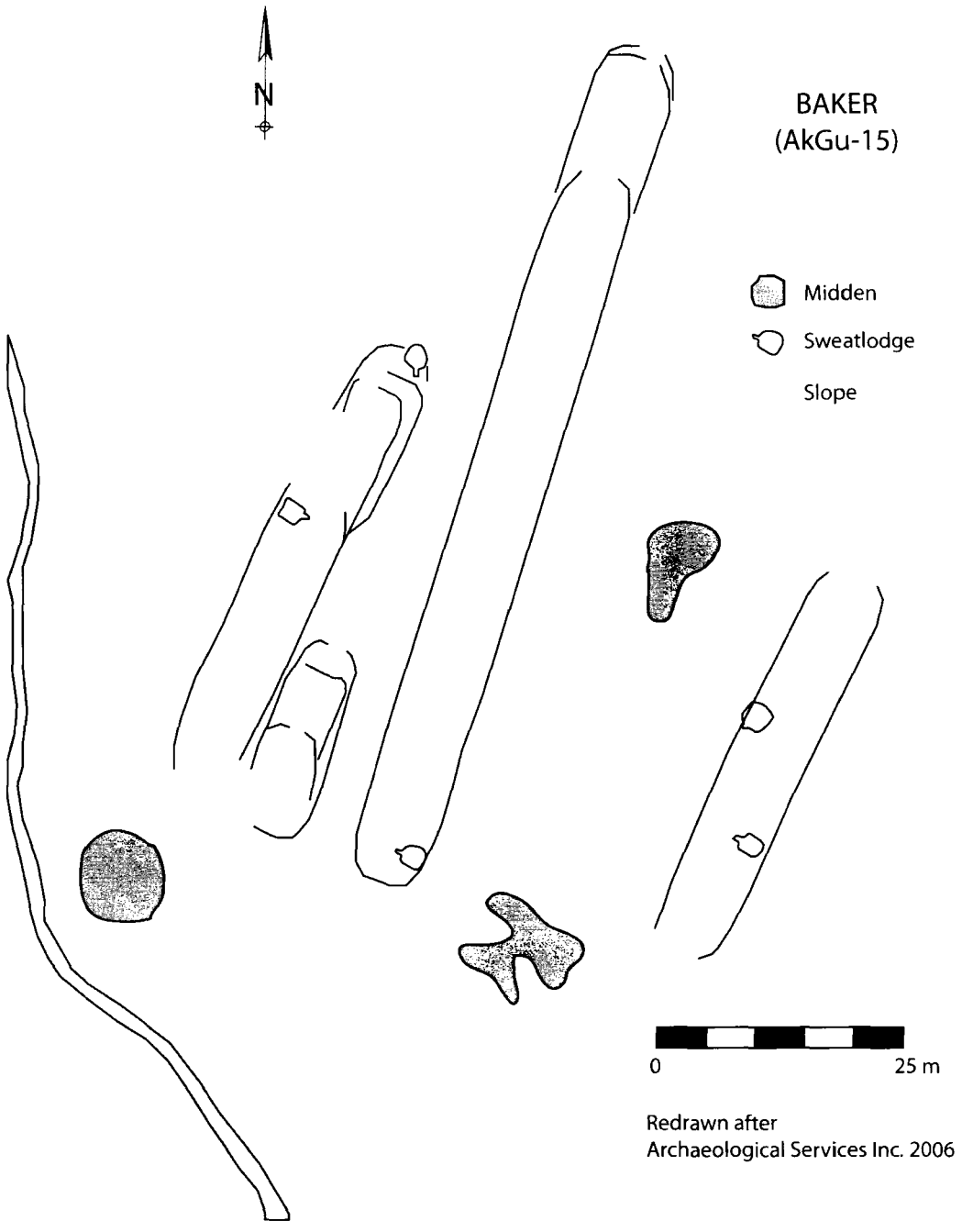


Figure 2.13. Baker site plan. ca. AD 1400-1450, Don River.

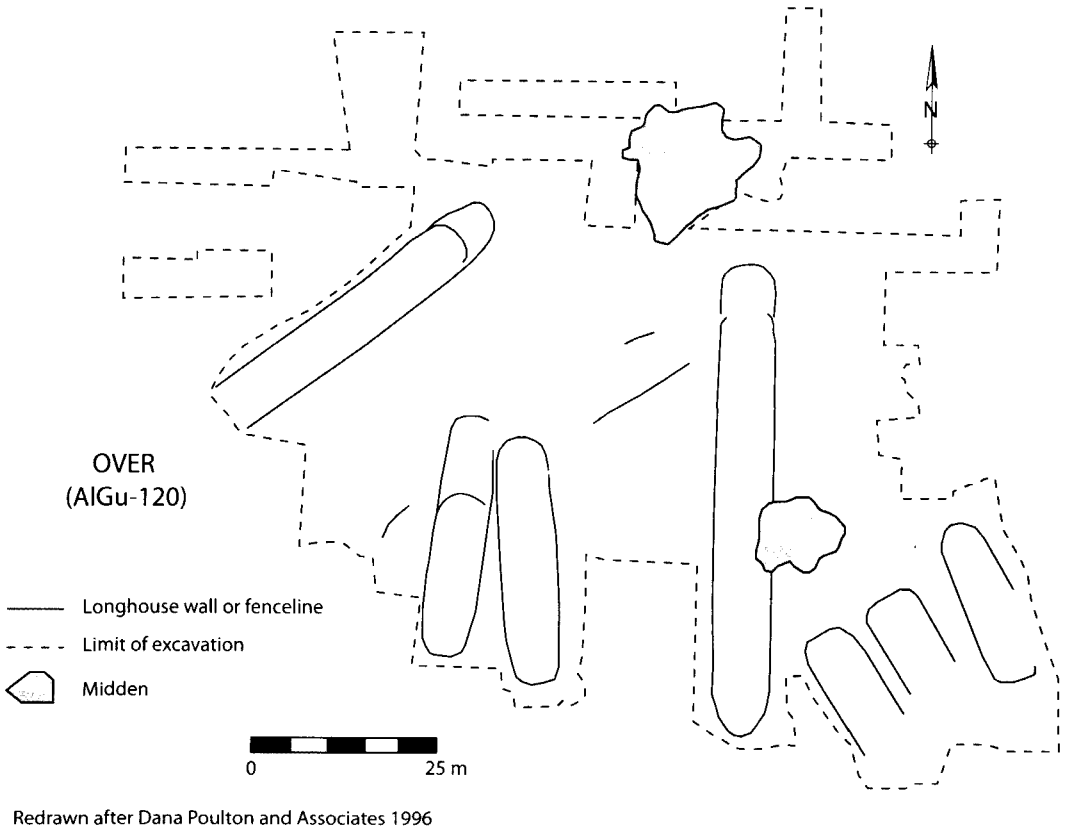


Figure 2.14. Over site plan. ca. AD 1400-1450, East Don River.

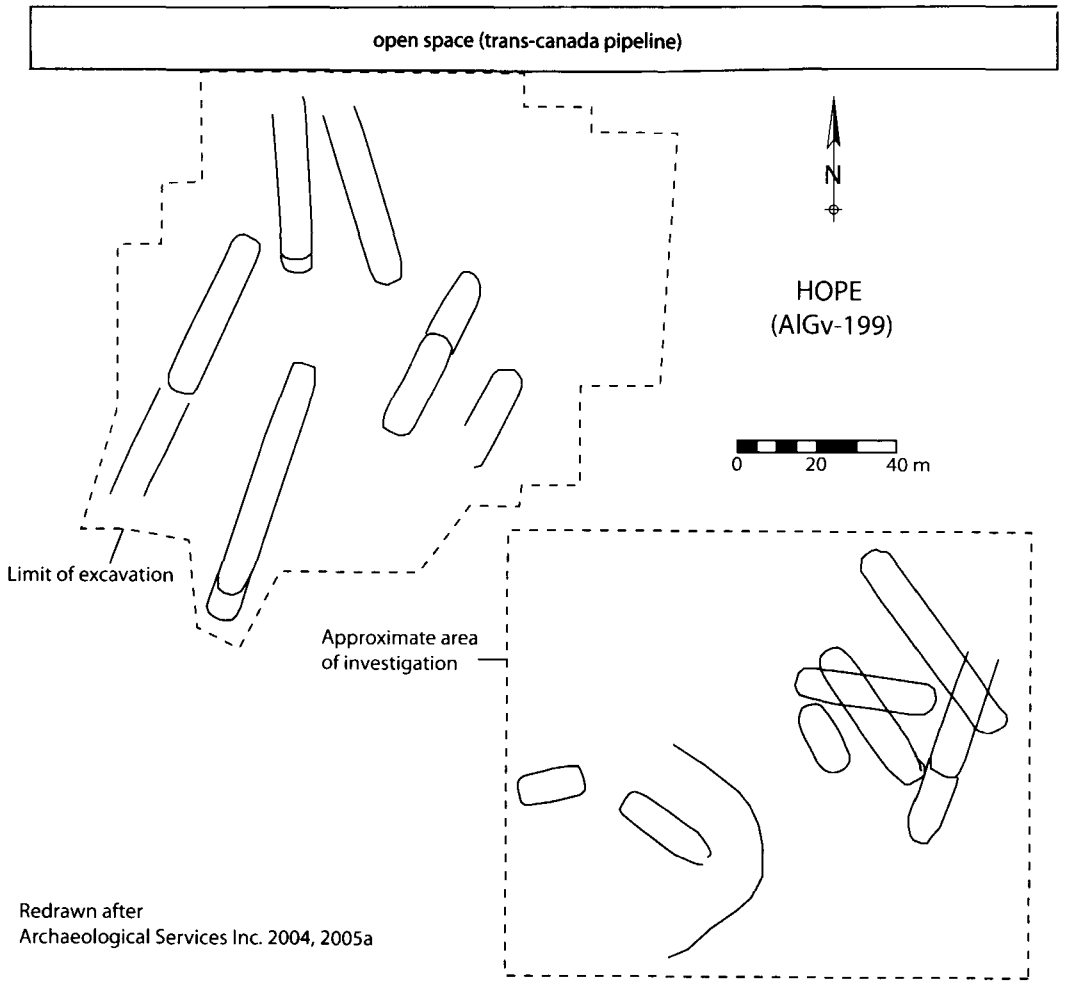


Figure 2.15. Hope site plan, north and south components. ca. AD 1400-1450, West Don River.

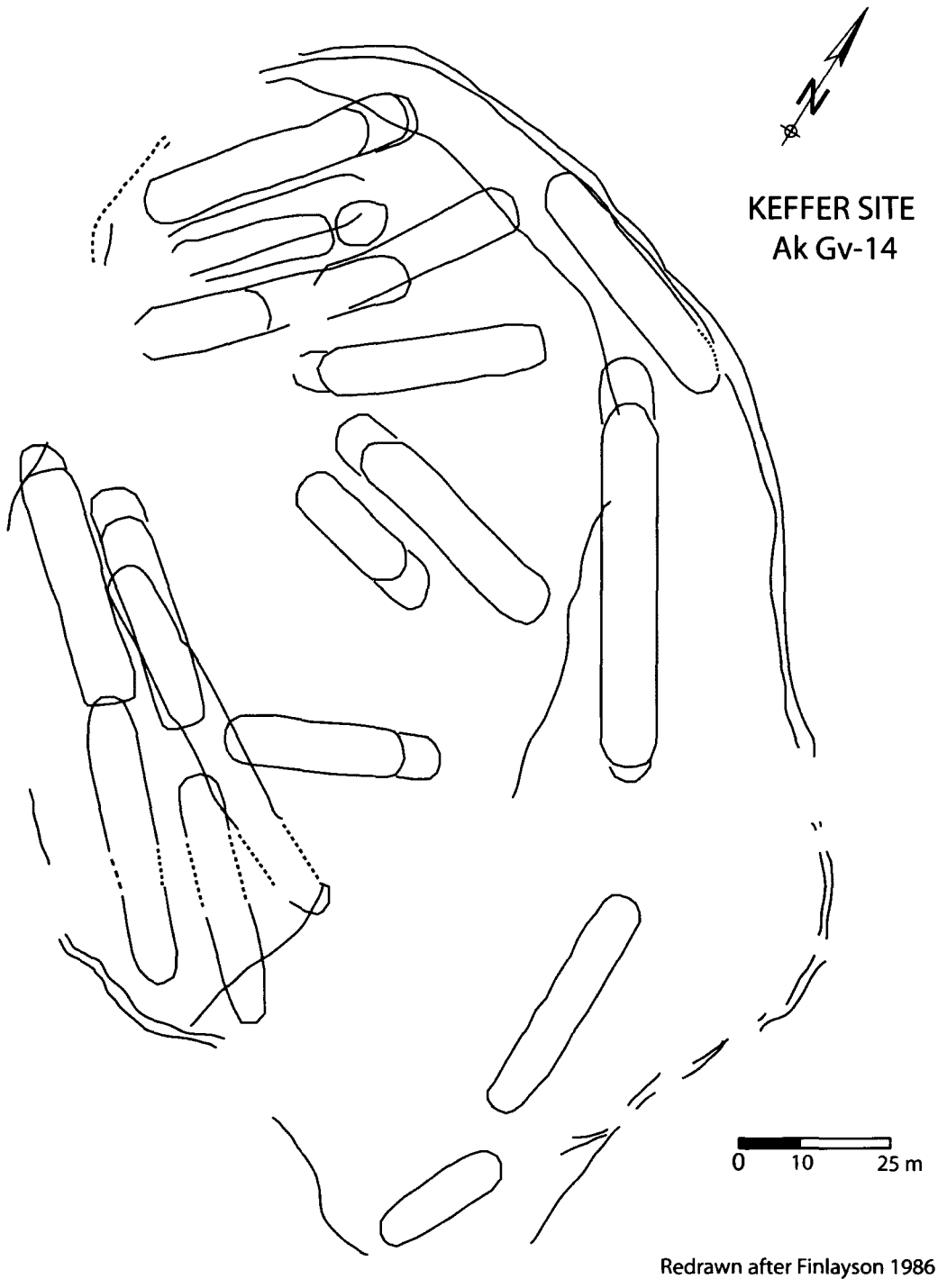


Figure 2.16. Keffer site plan. ca. 1450-1500, West Don River.

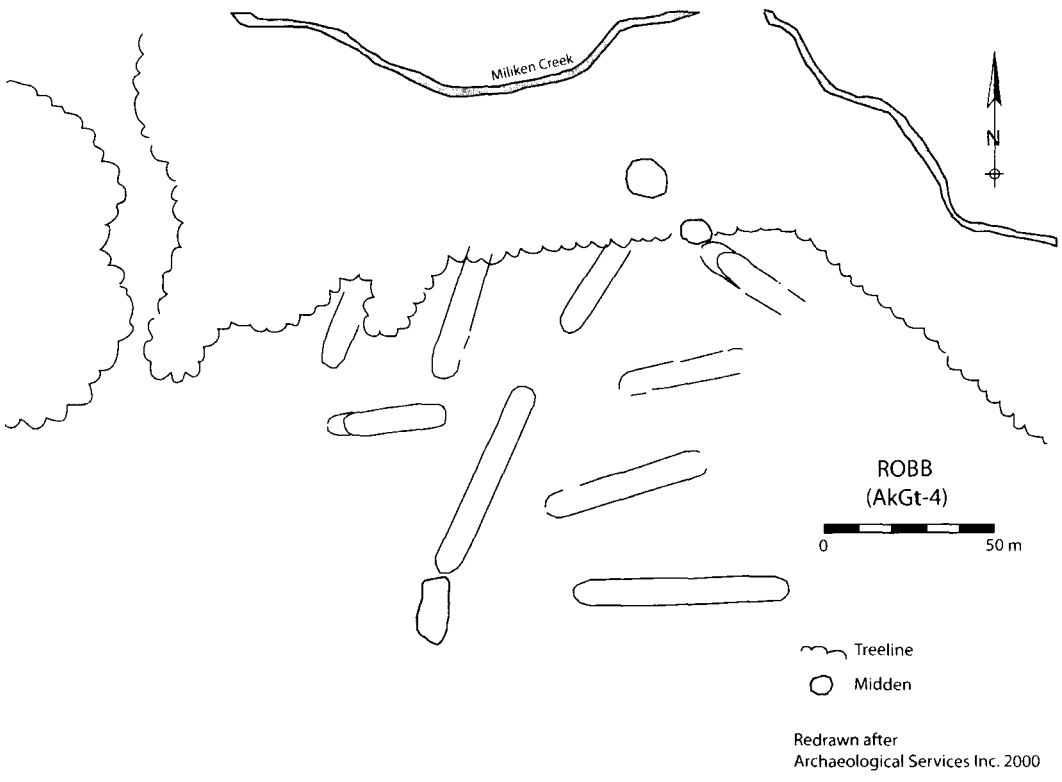


Figure 2.17. Robb site plan. ca. AD 1350-1400, Rouge River.

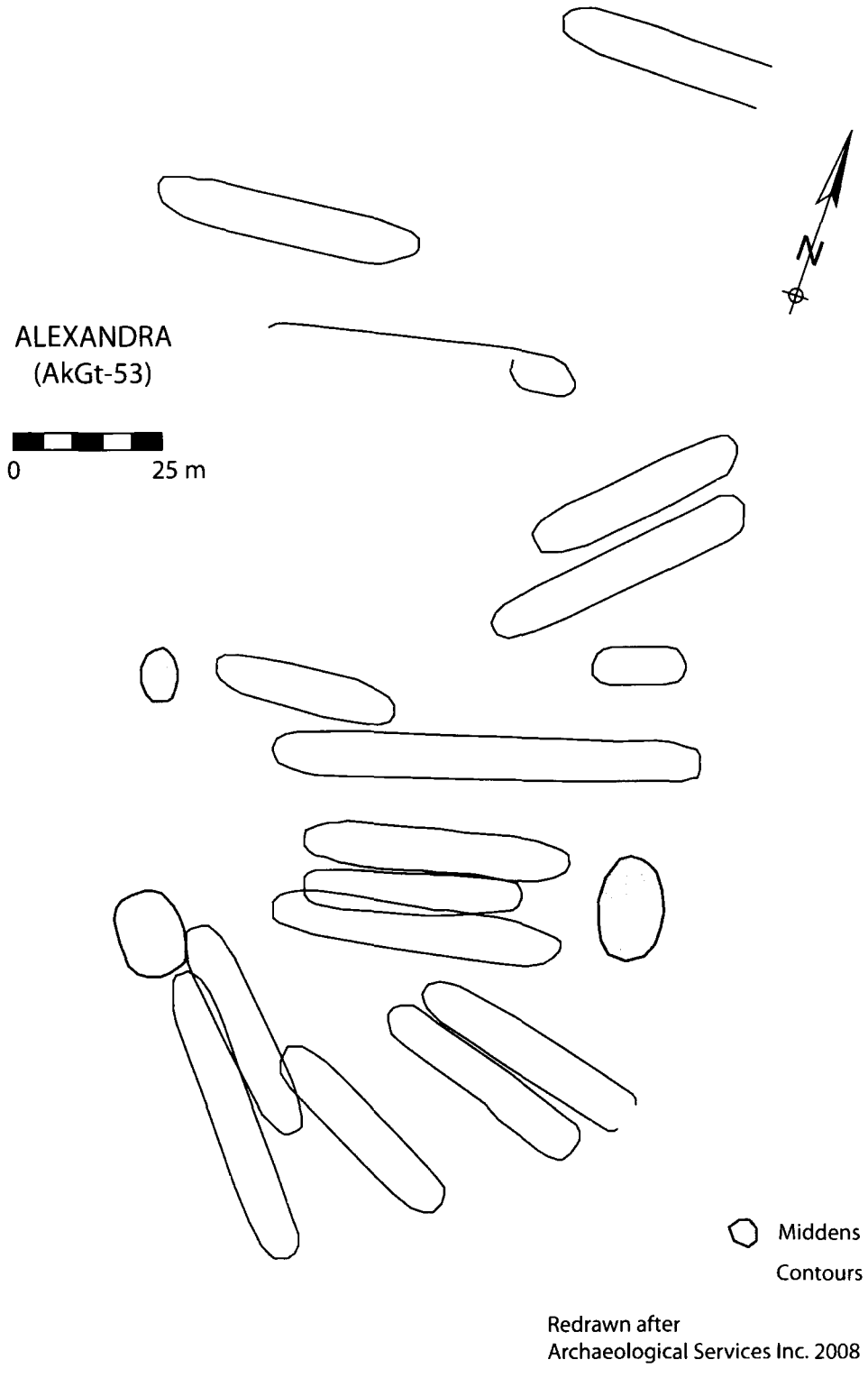


Figure 2.18. Alexandra site plan. ca. AD 1350-1400, Highland Creek.

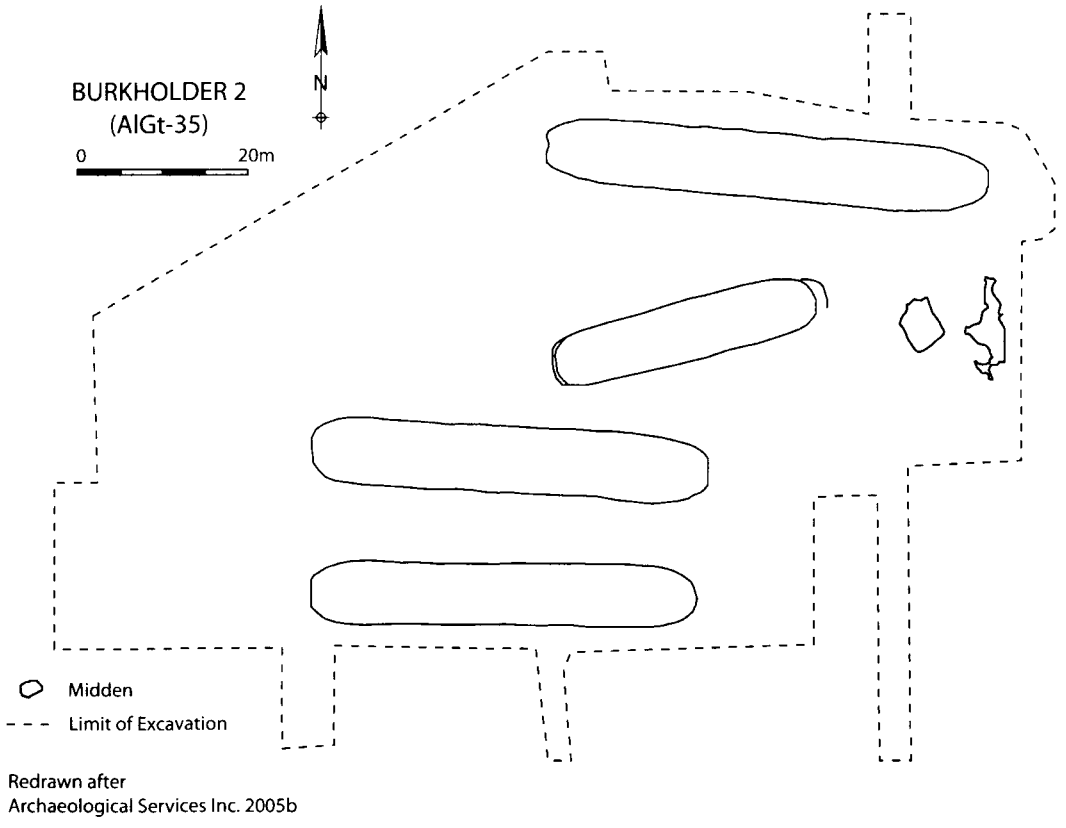


Figure 2.19. Burkholder 2 site plan. ca. AD 1350-1400, Rouge River.

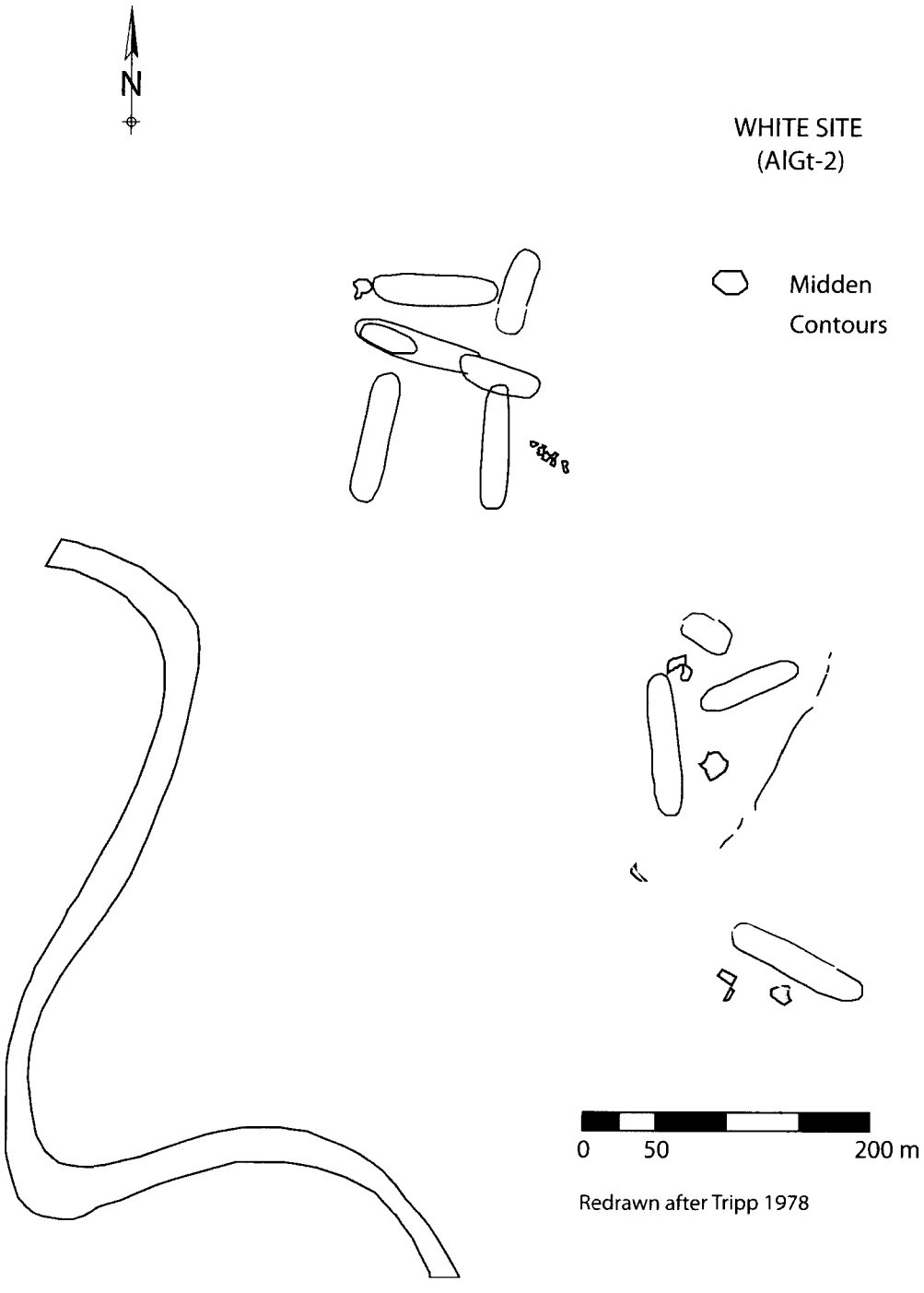


Figure 2.20. White site plan, upper (south) and lower (north) villages. ca. AD 1450-1500, West Duffins Creek.

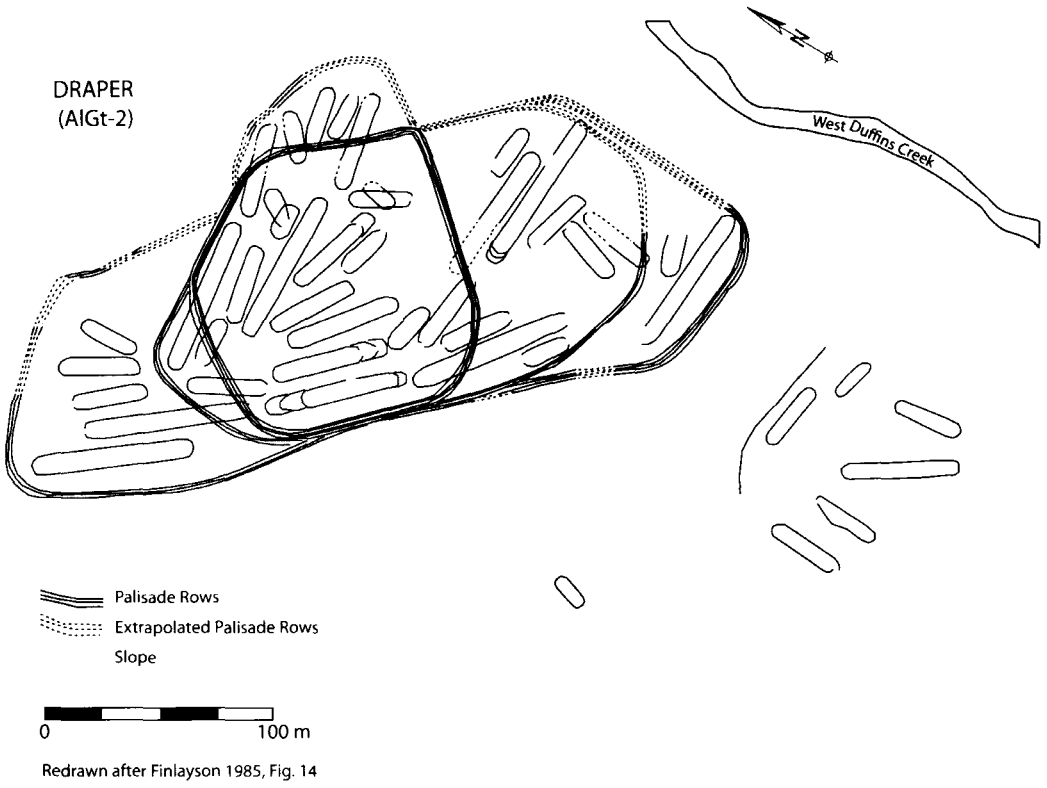


Figure 2.21. Draper site plan. ca. AD 1450-1500, West Duffins Creek.

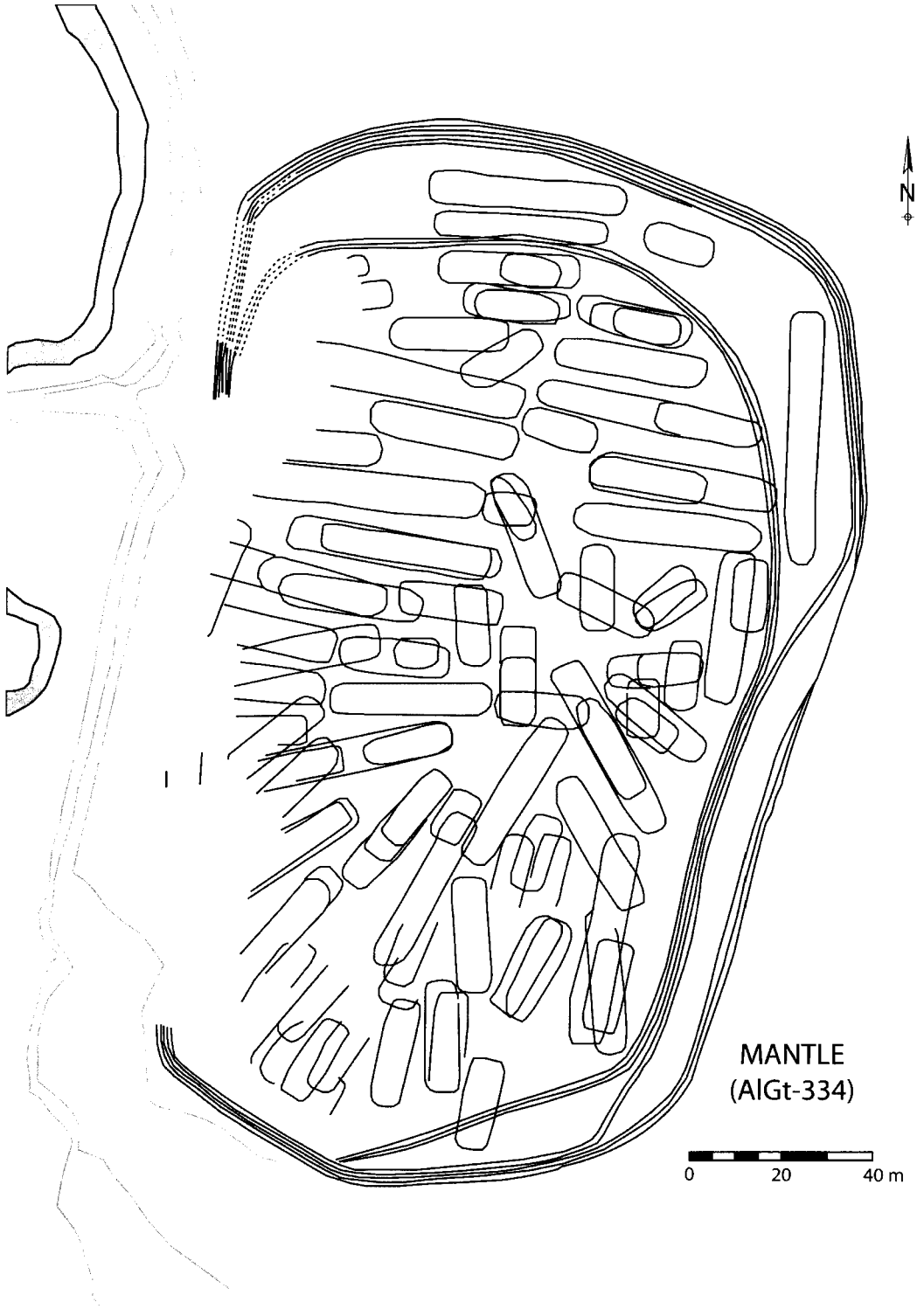


Figure 2.22. Mantle site plan. ca. AD 1500-1550, Stouffville Creek.

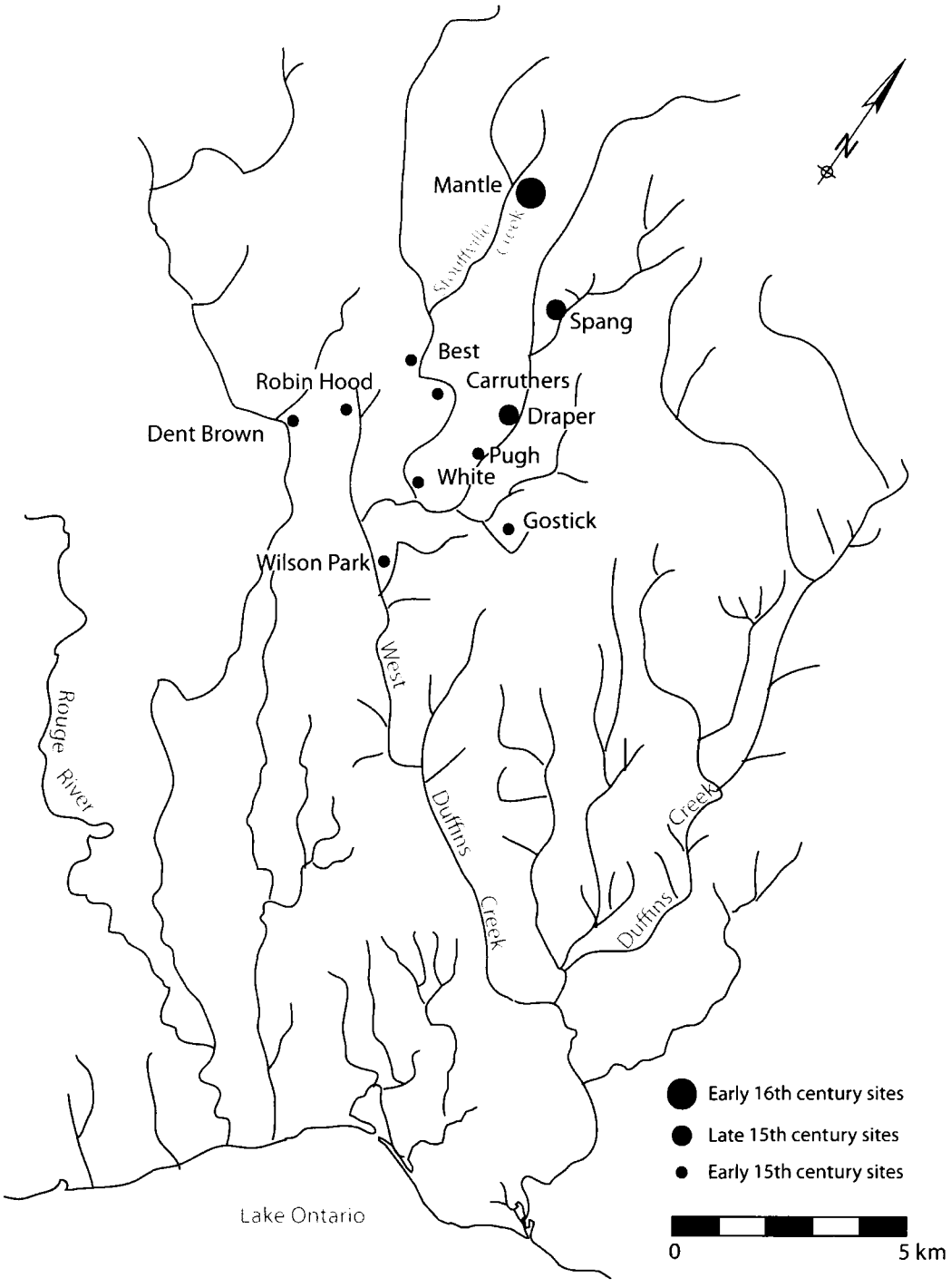


Figure 3.1 Sites in the West Duffins Creek drainage, ca. AD 1400-1550

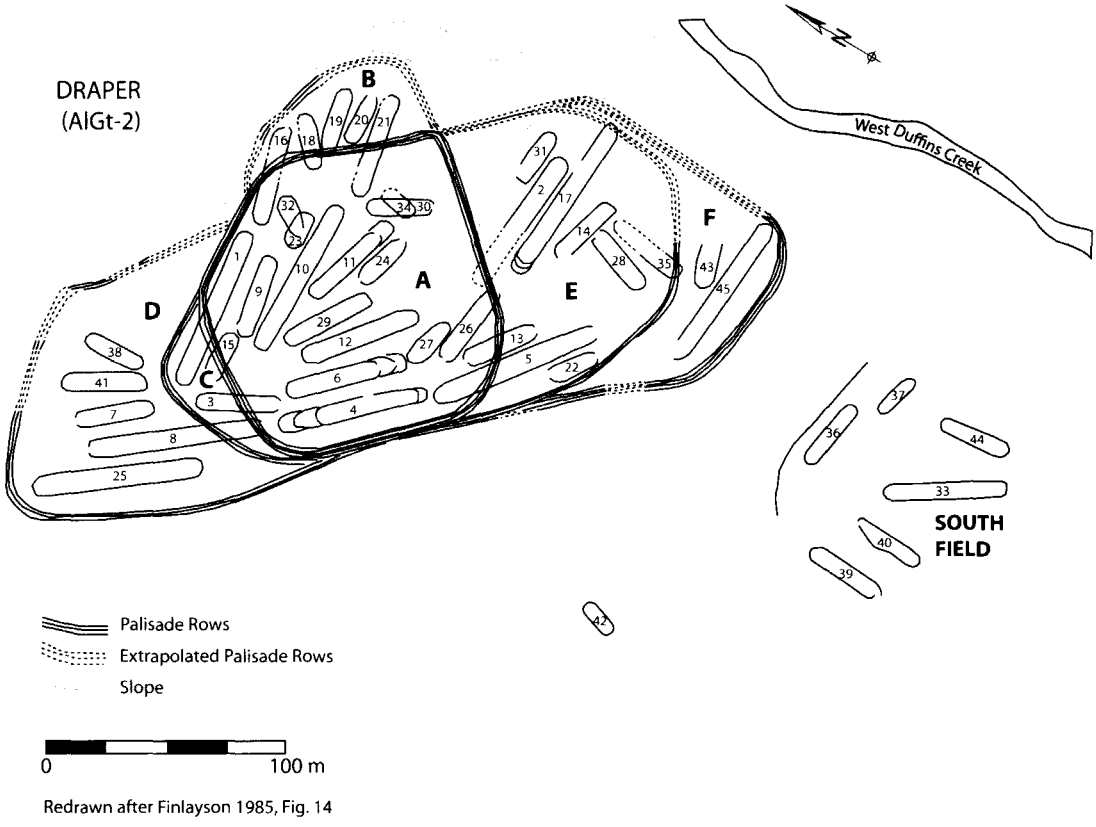


Figure 3.2 Draper site plan, including main village segments (A-F) and house numbers (1-45)

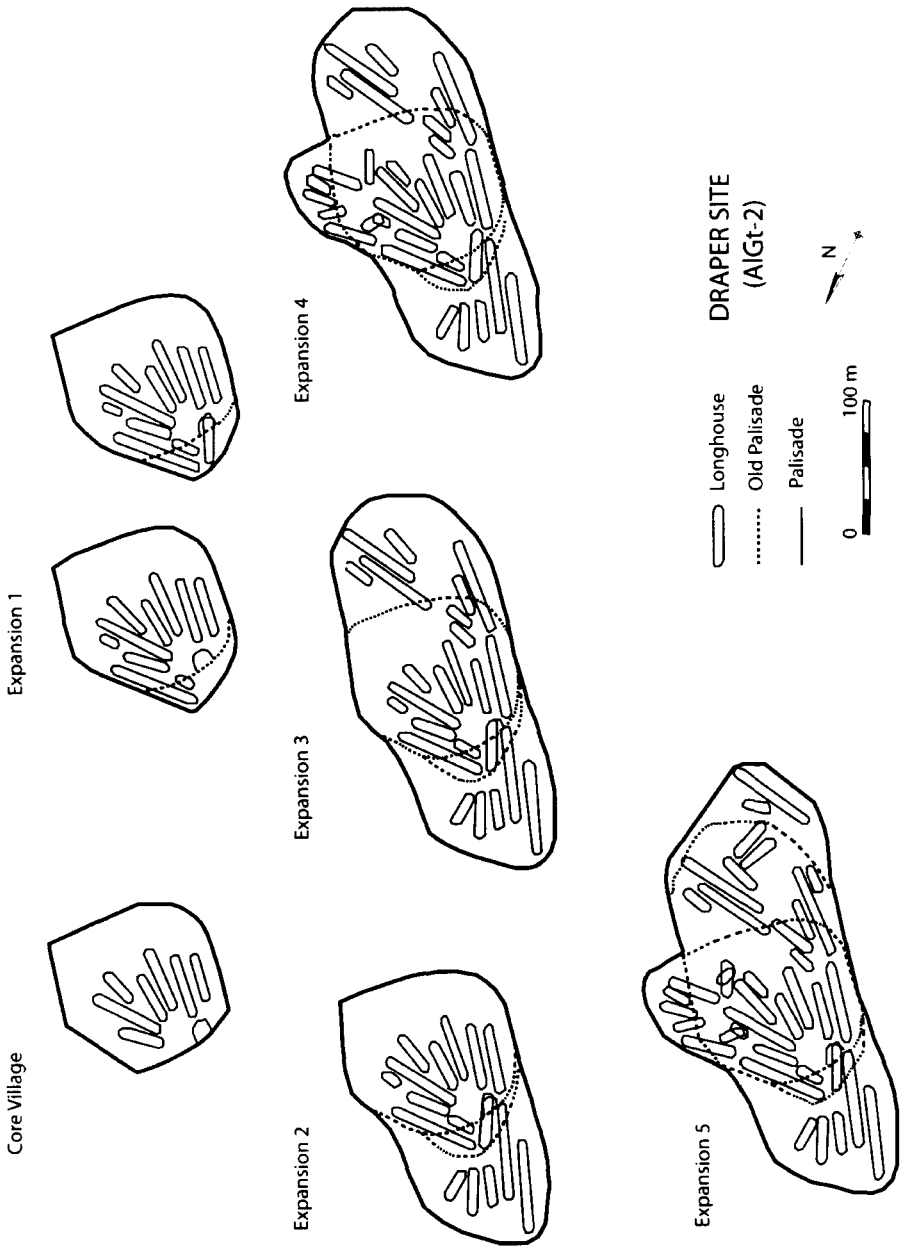


Figure 3.3 Draper site expansion sequence. Redrawn with permission from the Museum of Ontario Archaeology.

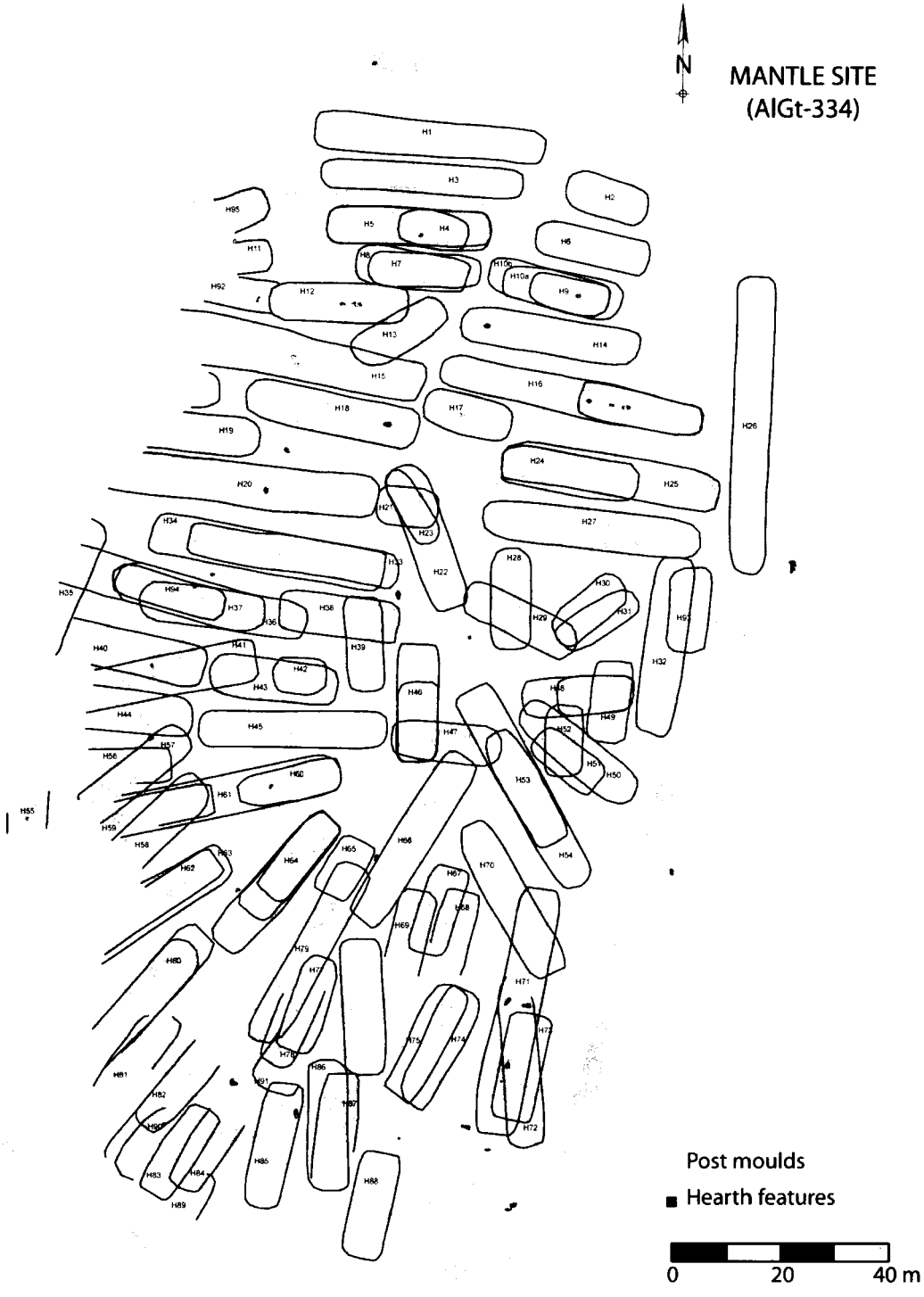


Figure 3.4 Mantle site houses, outlined and numbered.

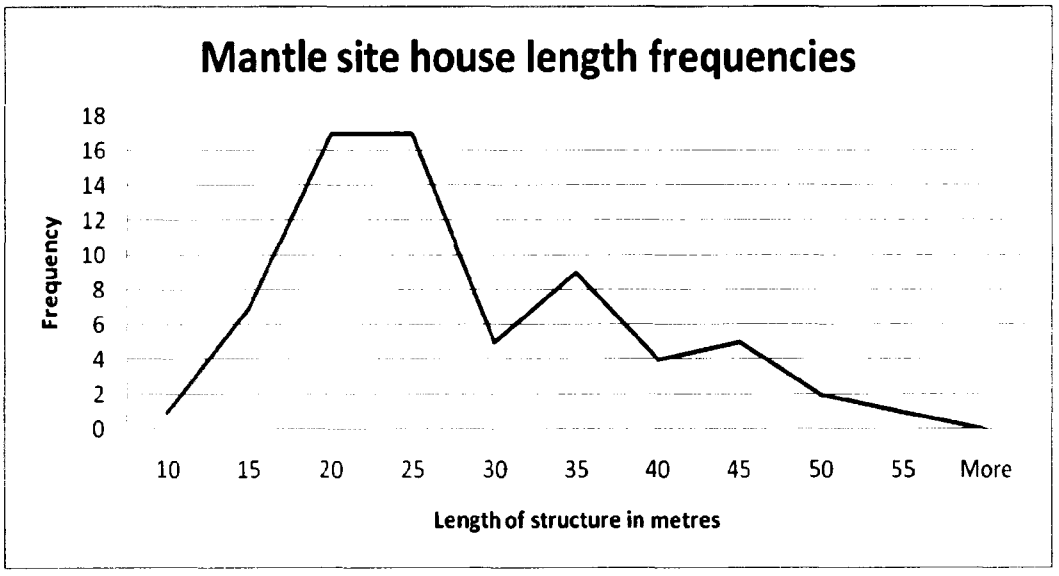


Figure 3.5 Frequencies for house lengths, Mantle village.

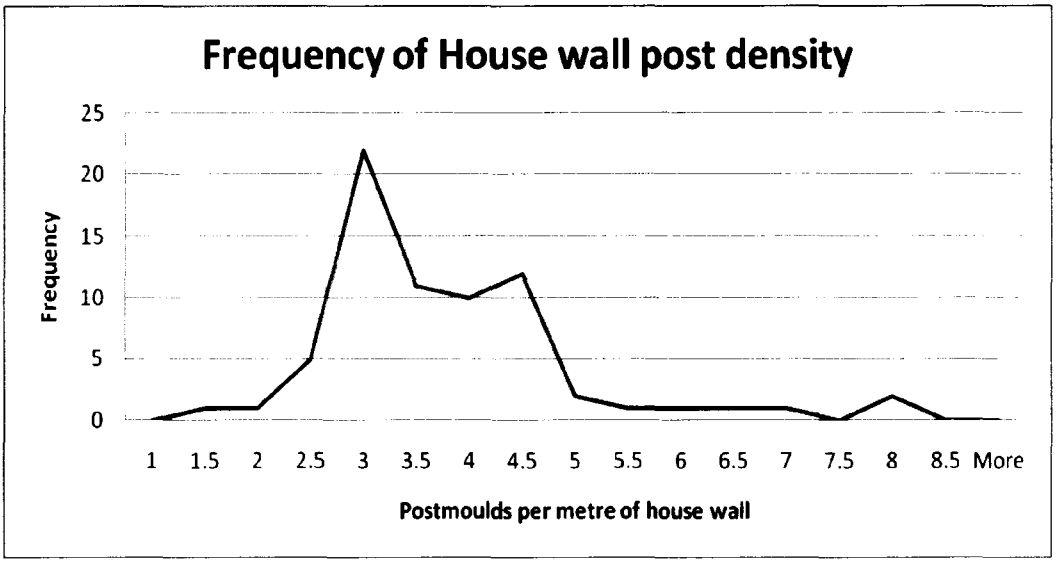


Figure 3.6. Frequency of House wall post density as calculated using undisturbed, representative samples of longhouse wall.

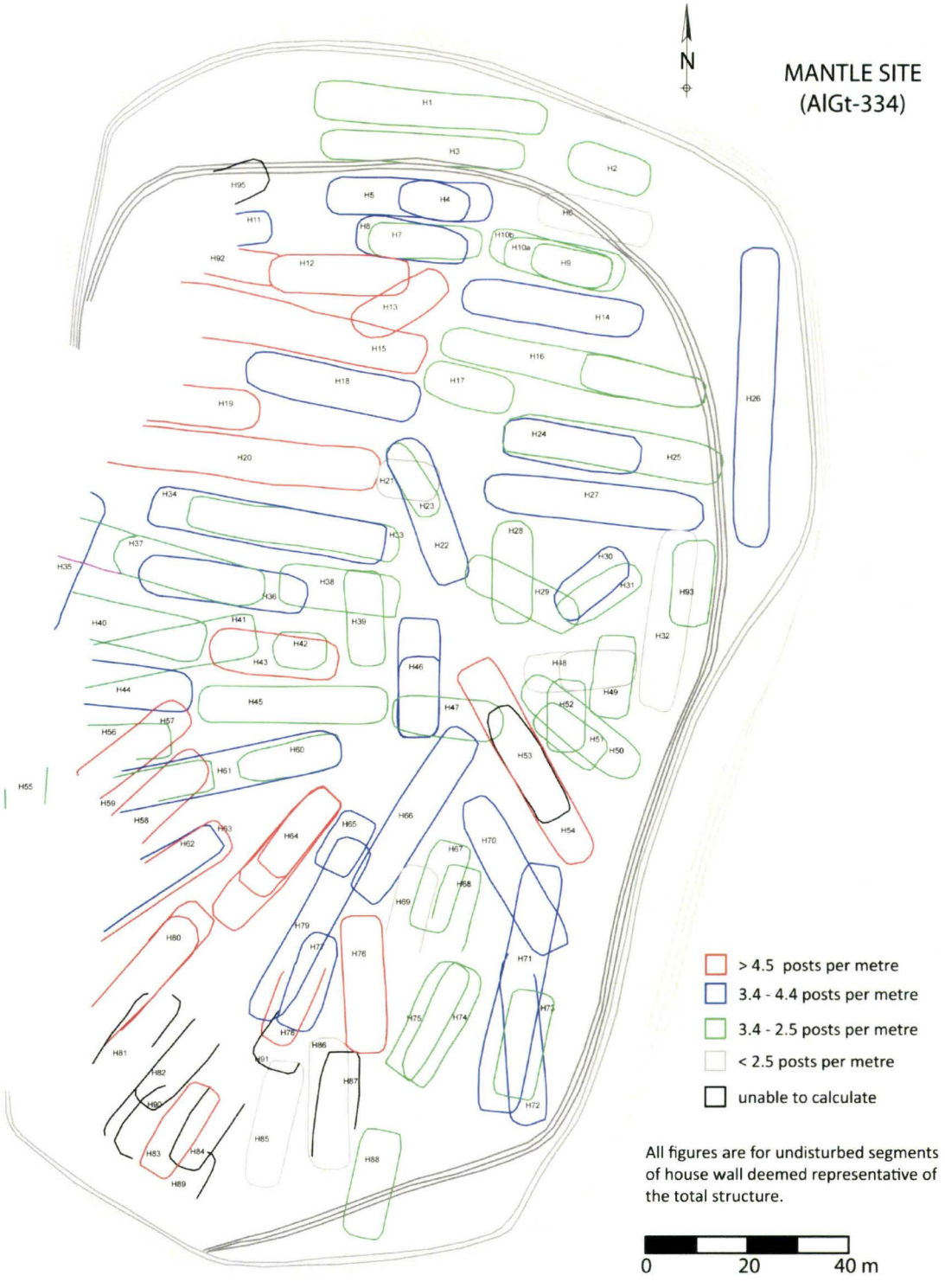
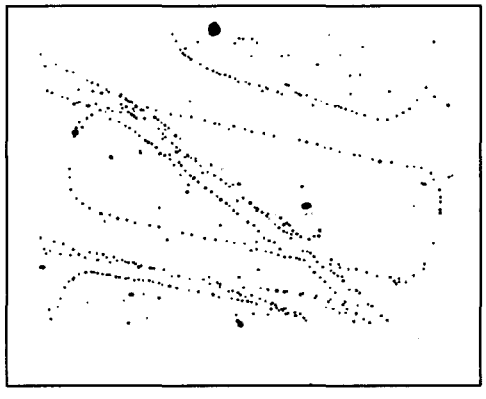


Figure 3.7 Mantle site houses colour coded by wall post density

A. House 20.
Undisturbed portion is 46.9 metres in length.
Average wall post density 7.9 posts per metre.



B. House 6.
21.4 metres in length
Average wall post density 1.8 posts per metre

C. House 66
35.4 metres in length
Average wall post density 3.9 posts per metre

Figure 3.8 Comparing wall post densities, Mantle site.

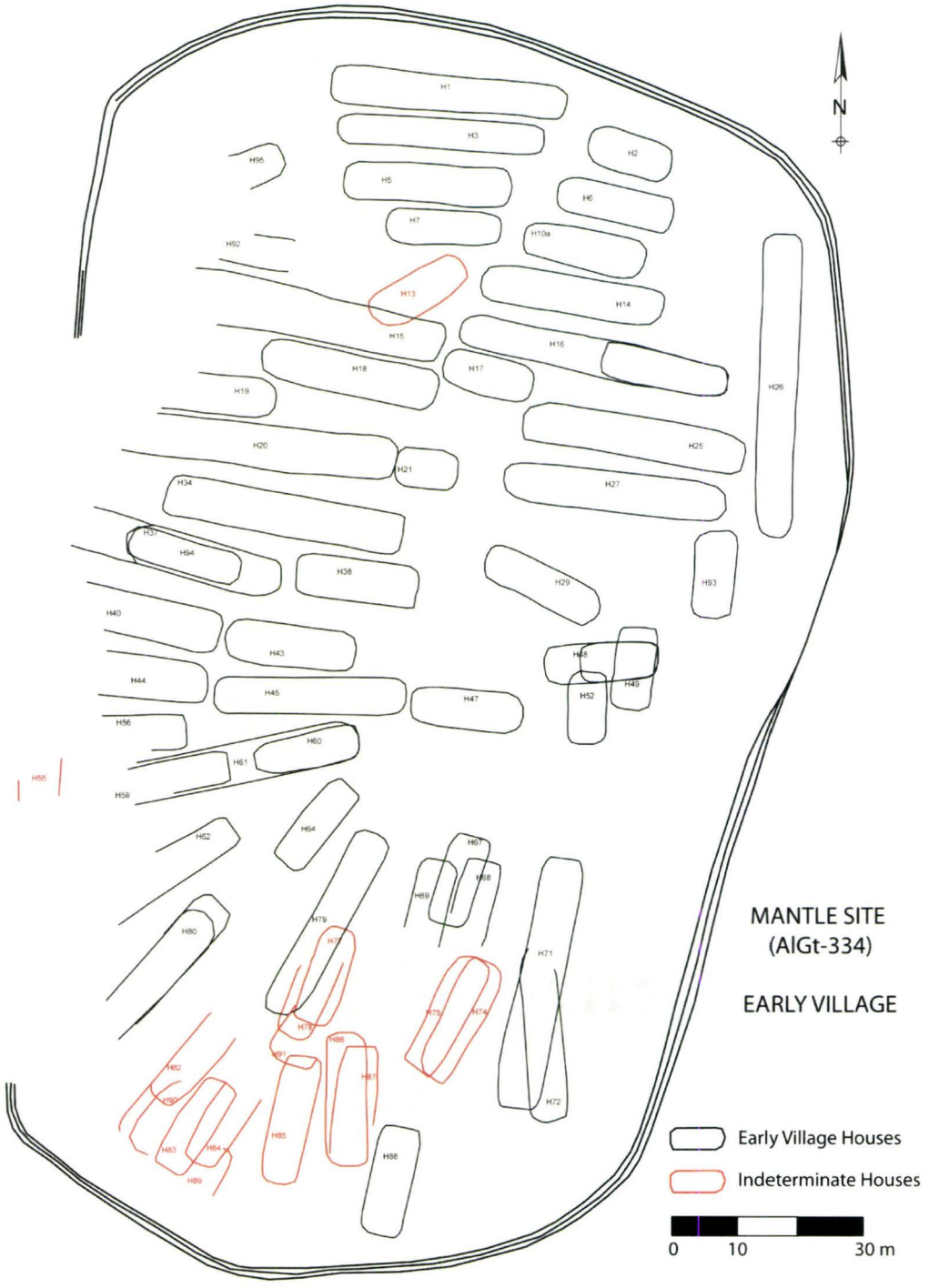


Figure 3.9 Mantle early village plan

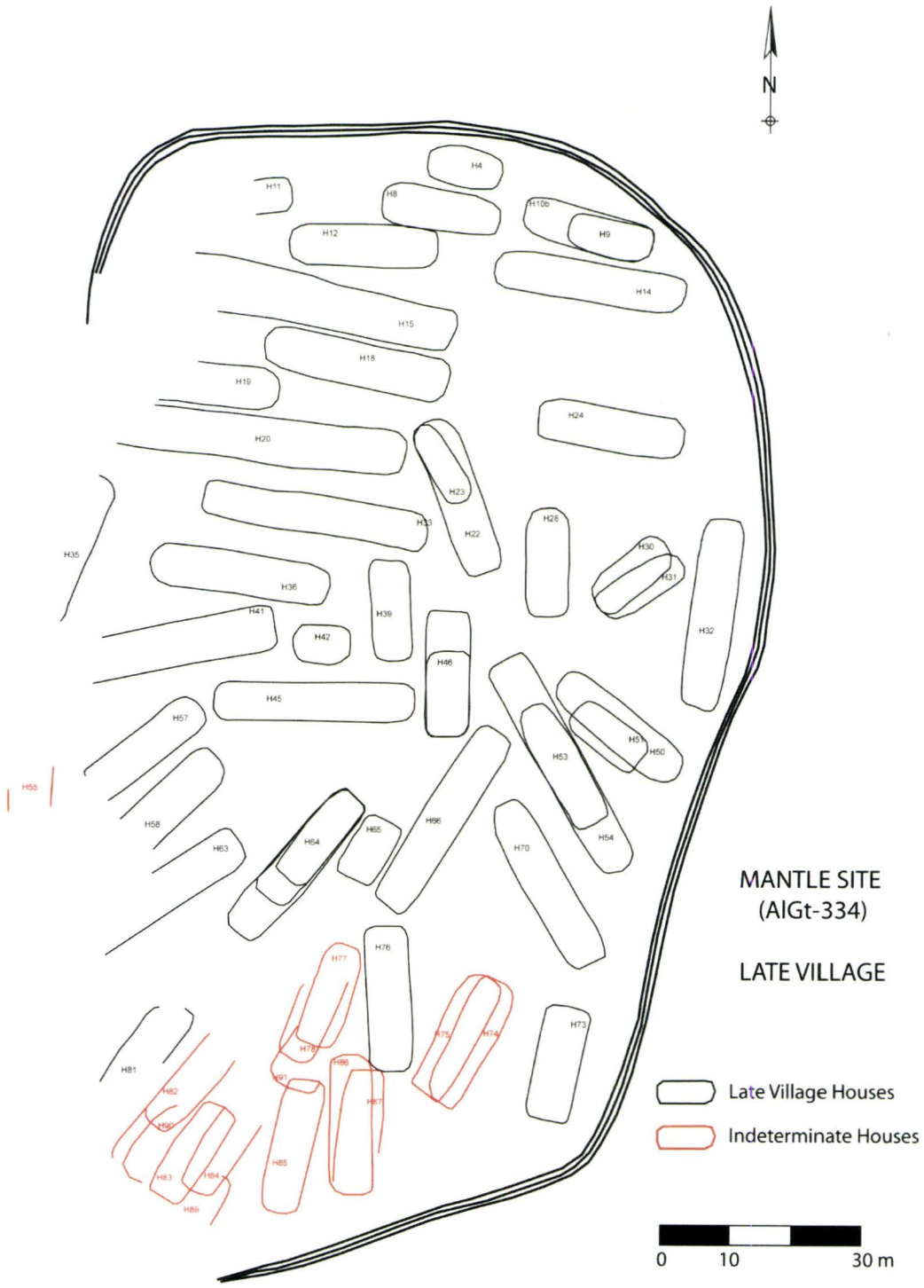


Figure 3.10 Mantle late village plan

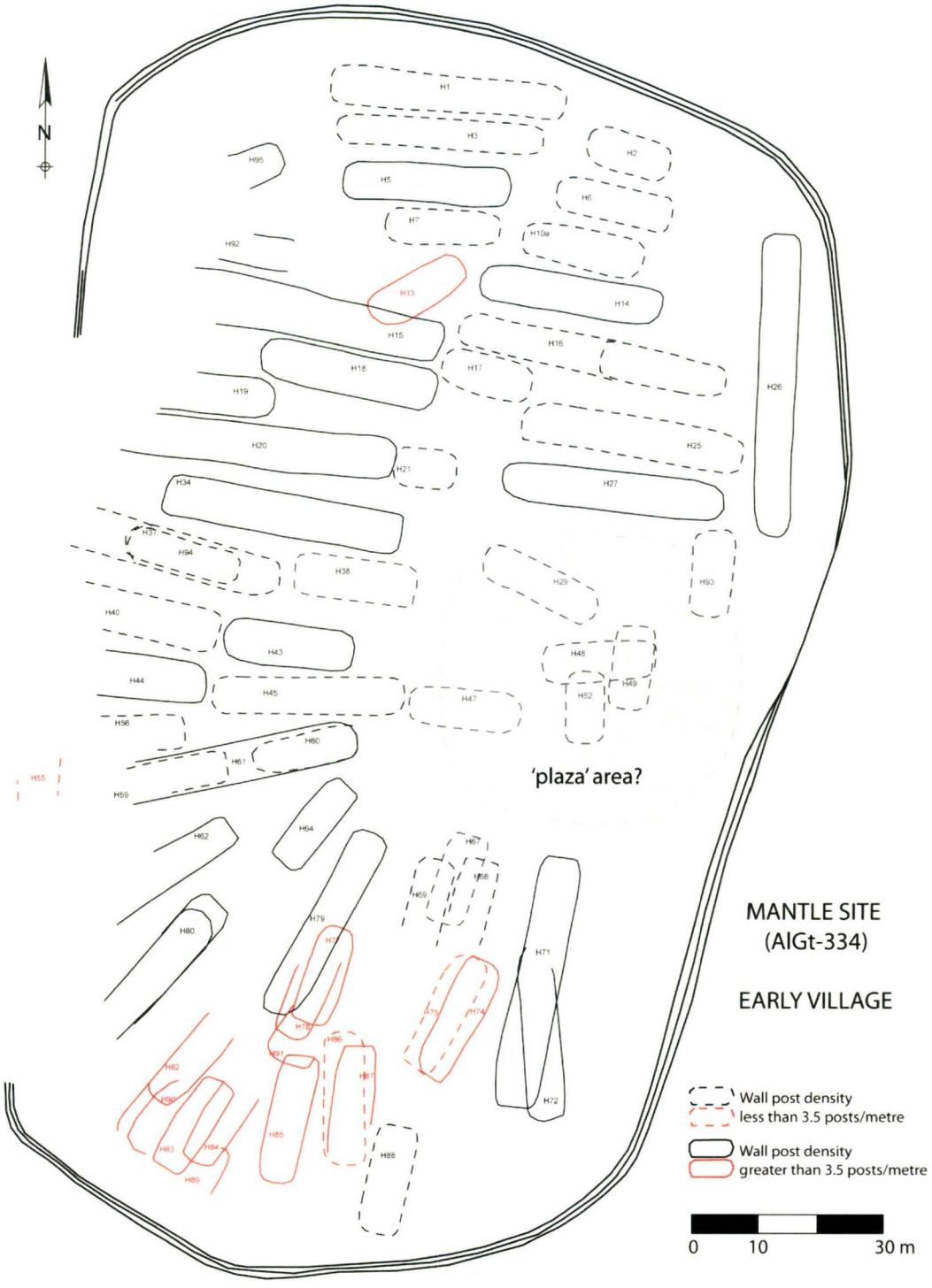


Figure 3.11 Mantle site plan, early village, houses with a wall post density of less than 3.5 wall posts per metre dashed. Note the plaza area in the east-central part of the site which emerges when this pattern is highlighted.

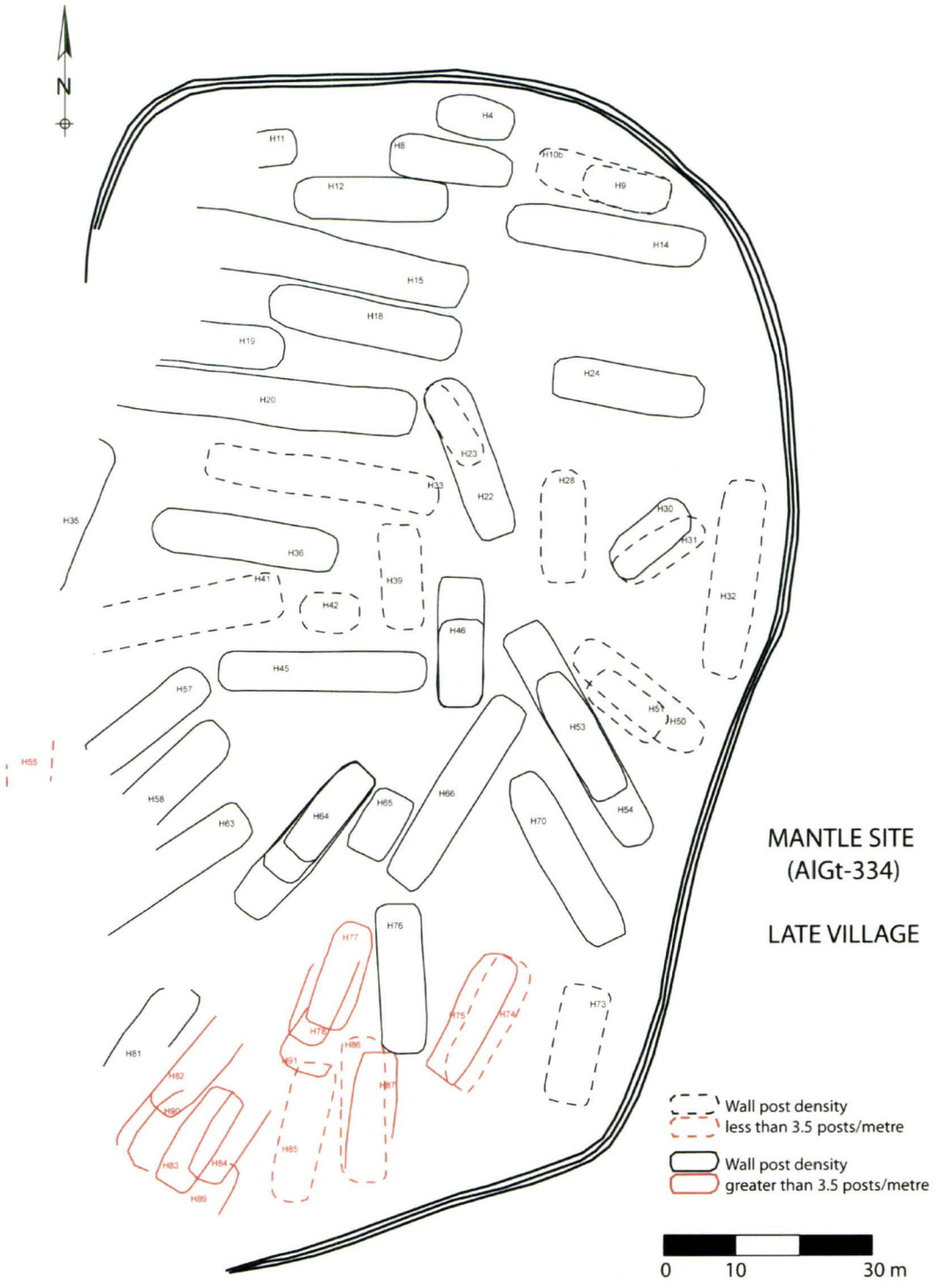


Figure 3.12 Mantle site plan, late village, houses with a wall post density of less than 3.5 wall posts per metre dashed.

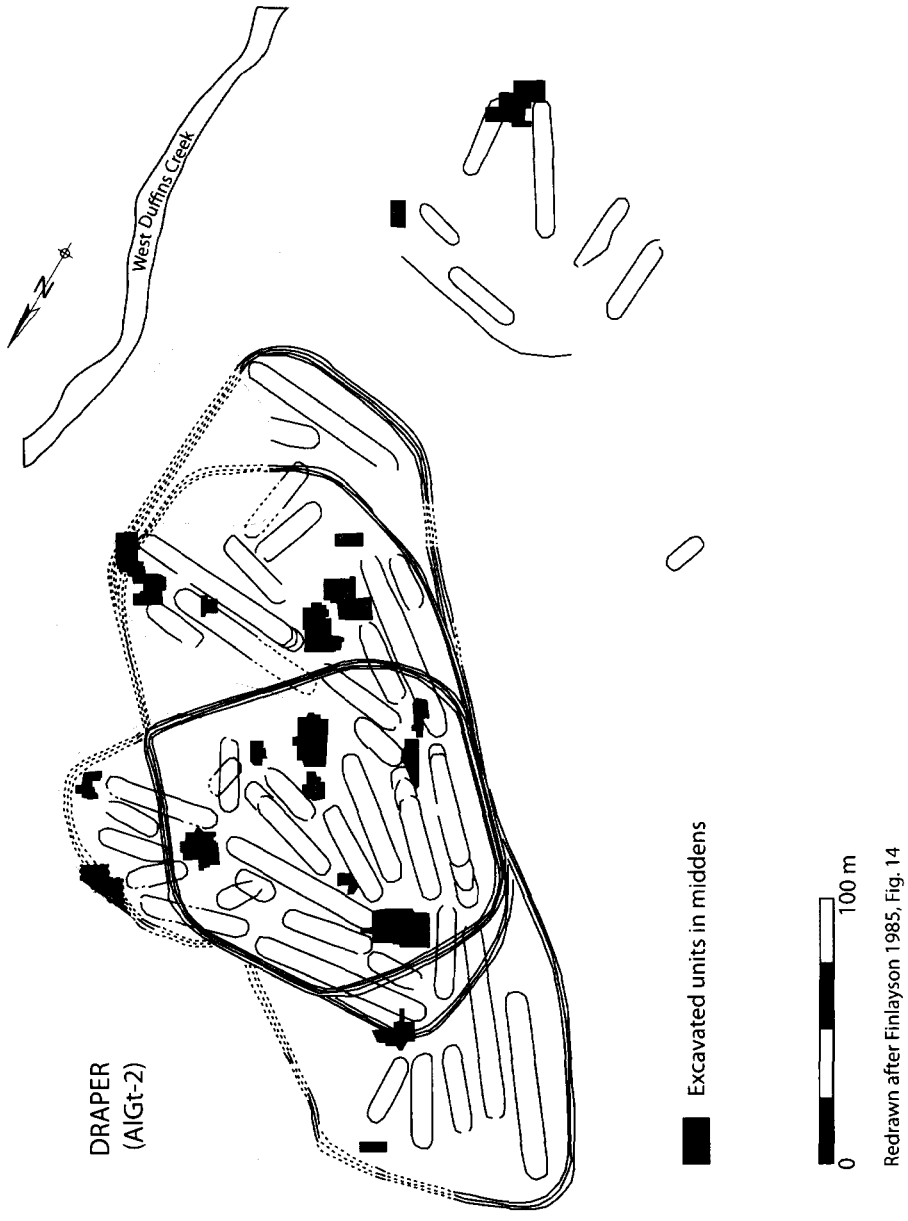


Figure 3.13 Draper site middens. Shaded squares represent excavated midden units. After Finlayson (1985).

Figure 3.14 Mantle site middens.

Figure 3.15 Mantle site palisade phases.

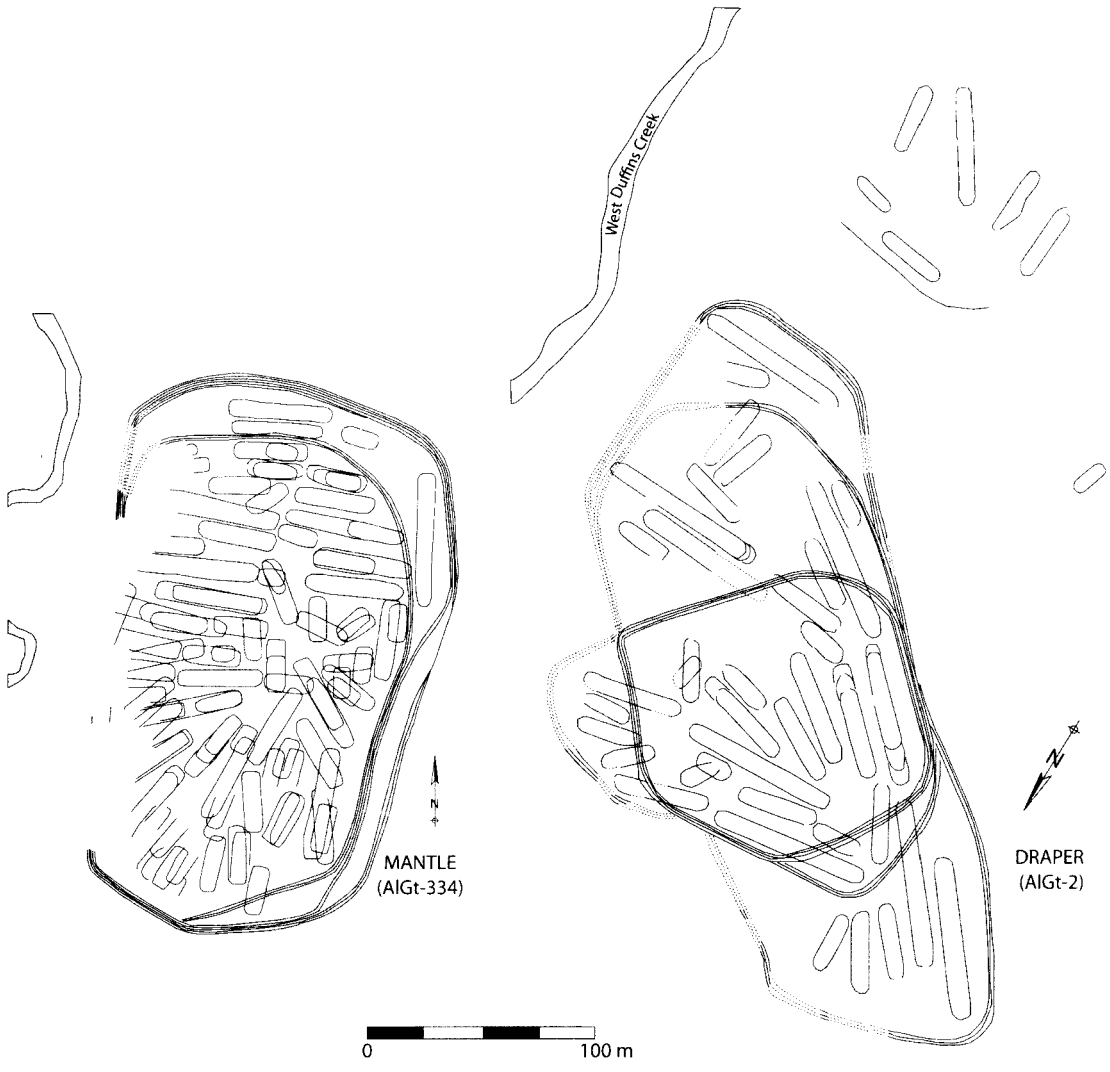


Figure 3.16 Draper and Mantle site composite. Note the difference in the length of palisade needed to contain the entire village and the amount of open space within each village precinct.

APPENDIX D: Mantle Site House Data

Appendix D: Mantle Site House Data								
House No.	**Length (m)**	**Width (m)**	**Area (m2)**	**Wall posts per m**	**Palisade phase**	**Early or late village?**	**Could not be contemporaneous with:**	**Other notes on reason for phasing (H=House, PP= Palisade phase)**
1	42.9	7.1	276	2.59	1,2	early		Phase 1 based on alignment with H3, H5; outside PP3
2	15.7	7.1	103.6	3.44	1,2	early		Overlaps PP3
3	37.6	5.6	200.1	3.35	1,2	early	pre-dates feature 709	Phase 1 based on alignment with H1 and H5
4	13.1	6.9	78	4.1	3	late		Postdates H5; therefore assoc. with PP3
5	30.6	6.8	207.1	4	1,2	early		PP1 based on alignment with H1 and H3
6	21.4	6.6	134.5	1.76	1,2	early	House 56, 59, 61, 44, pre-dates feature 709	Overlaps PP3
7	20.9	6.2	122.9	3.14	1,2	early	House 57	Overlaps with with PP3; aligned with H1,H3,H5
8	20.7	7.1	135	3.75	3	late		Not PP1; too close to H5, H12.
9	14.8	6.3	87	2.9	3	late	House 92	Postdates H10a, may be before or after H10b as they share an end
10a	22.3	7	148.5	2.6	1	early	House 57, 58, 59, 60	First house in the H9, H10a, H10b sequence
10b	22.8	7	149.8	3	1	late	House 21	Postdates H10a, may be before or after H9 as they share an end
11	6.9 - disturbed	6	disturbed	4.3	3	late	House 13	Could not have been contemporaneous with H92; also see H12

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House No.	**Length (m)**	**Width (m)**	**Area (m2)**	**Wall posts per m**	**Palisade phase**	**Early or late village?**	**Could not be contemporaneous with:**	**Other notes on reason for phasing (H=House, PP= Palisade phase)**
12	26	7.2	175.7	5.9	2,3	late	House 35, 36	Intact living floor suggests late occupation; disturbed the end of H92
13	18.9	7.3	122.4	5.4	0.5*	very early	House 81	Predates H12 and H15; may be among the earliest structures
14	33.4	6.9	220.5	3.7	1	early	House 40, 43, 44	Aligned with PP1
15	44.3 - disturbed	9.6	disturbed	6.8	1,3	early and late	House 62	Possibly present for all 3 PP; most likely late
16	49.5	6.5	310.1	3.1	1	early	House 63	Overlaps PP3; aligns with PP1 houses
17	16.8	7.6	111	3.3	1	early	House 41, pre-dates House 35	PP1, based on lack of posts over/under F 956, pit was dug into the house end.
18	32.5	7.5	236.6	4.27	1,3	early and late	House 37, 40	Possibly all 3 PP, most likely late
19	17.5 - disturbed	7.2	disturbed	5.4	1,3	early and late	House 57, 58, 61	Possibly all 3 PP, most likely late
20	46.9 - disturbed	8.2	disturbed	7.9	1,3	early and late	House 80	Present for all 3 PP
21	11.4	7.2	75.3	2.7	1	early	House 41, 57	Appended to H20
22	28	7.6	201	3.9	3	late	House 86	Aligned with H28, likely built to fit open space amidst long-lived houses
23	15	5	70.3	2.7	3	late	House 59, 61	Likely between PP1 and PP3, overlaps with H21 but precedes H22

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House No.	**Length (m)**	**Width (m)**	**Area (m2)**	**Wall posts per m**	**Palisade phase**	**Early or late village?**	**Could not be contemporaneous with:**	**Other notes on reason for phasing (H=House, PP= Palisade phase)**
24	25.5	7.5	180.4	4.1	3	late		Postdates H25
25	40.8	7.4	292.8	2.7	1	early	House 83	Overlaps PP3, Aligns with PP1
26	54.8	6.9	366.1	3.76	1	early	House 77, 79, 91	No overlaps but fits in PP1, paucity of features suggests a short occupation
27	40.6	7.3	280.9	4.1	1	early	House 11, 12	Overlaps with H32 (part of PP3)
28	18.8	7.5	132.3	3.2	3	late	phase 3 palisade	Most likely late
29	22.8	7.1	147.6	3.3	1	early		Early based on overlap with H22
30	15.8	6.8	101.6	4.3	?	late?	House 70,72, 73	Probably late if H29 is early. short-lived, mid-phase?
31	16.2	6.6	93.5	2.7	?	late?	House 33	Probably late if H29 is early. short-lived, mid-phase?
32	32.9	7.7	238.2	2.3	2,3	late	pre-dates phase 3	Overlaps with H93, which is too close to PP3
33	39.3	6.6	249	2.6	3	late	House 47, 53	Contemporary with F1250, which postdates H34, thus postdates H34
34	43.6	7.6	330.4	3.8	1	early	House 24, phase 3 palisade	Predates H33, as above
35	26.3 - disturbed	4.8 - disturbed	disturbed	4	3	late		Most likely late
36	31.4	7.2	217.2	4.1	3	late	House 34	PP3, overlaps H37 and H38
37	37.8 - disturbed	7.8	disturbed	2.7	1	early	pre-dates phase 3	Aligned with H40 et al.; thus PP1

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House No.	**Length (m)**	**Width (m)**	**Area (m2)**	**Wall posts per m**	**Palisade phase**	**Early or late village?**	**Could not be contemporaneous with:**	**Other notes on reason for phasing (H=House, PP= Palisade phase)**
38	22.3	7.7	166.5	2.9	1	early	House 65, 66, 77, 78, 82, 91	Contemporary with 37, Aligned with 40, 44 etc. thus phase 1
39	17.5	7.1	117.2	2.8	3	late	House 47, 79	Overlaps H38, therefore PP3
40	26.5 - disturbed	8	disturbed	2.79	1	early		PP1 based on alignment and post density
41	31.6 - disturbed	7.9	disturbed	2.93	3	late		Overlaps with H40, H43-45
42	9.9	6.7	59.6	3.12	3	late	House 93	Overlaps H 43
43	23.9	7.7	172.3	5	1	early		PP1 based on alignment and post density
44	20 - disturbed	8	disturbed	3.74	1	early	House 37, 38	PP1 based on alignment and post density
45	34.9	6.9	228.7	2.8	1	early	House 71	PP1 based on alignment and post density
46	21.8	7.7	163.6	4.3	3	late	House 71, 73	Postdates F427
47	20.6	7.3	138.4	3	1	early		PP1 based; overlap with H66 and alignment with H45
48	20.6	7.3	140	2.2	1	early	House 4, phase 3 palisade	Part of plaza cluster, overlaps with H50
49	15.1	7.3	106	2.6	1	early	House 21, 23, 29	Early phase based on alignment with H93
50	25.7	7.3	178	2.5	2(3)	late?	Houses 8, 13, 92	Mid-to-late phase based on alignment and overlap with surrounding houses
51	14	6.8	91.7	2.9	3	late	House 48, 49, 51, 52	Postdates H50 based on existance of a wall trench

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House No.	**Length (m)**	**Width (m)**	**Area (m2)**	**Wall posts per m**	**Palisade phase**	**Early or late village?**	**Could not be contemporaneous with:**	**Other notes on reason for phasing (H=House, PP= Palisade phase)**
52	13	7	87.8	3.2	1	early?	House 25	Aligned with H93, but multiple overlaps suggest a short-lived occupation
53	23.1	7.3	152.3	unable to calculate	3	late		Overlap with H47
54	41.5	7.5	304	6.2	3	late	House 87, 91	Overlap with H47
55	7.35 - disturbed	7.4	disturbed	3.4	3	late	House 41, 42	Aligned with H35, assigned to PP3 based on superimposition
56	15.2 - disturbed	6.5	disturbed	3.3	1	early	House 91	Aligned with H44 etc, overlaps with H57
57	26.6 - disturbed	6.9	disturbed	5	3	late	House 75	Overlaps with H44
58	19 - disturbed	7.6	disturbed	5.1	3	late	House 47, 54	Aligned with H57, thus PP3
59	23.7 - disturbed	6	disturbed	3.3	1	early	House 9,House 10a	Early, predates H61
60	19.2	6.6	112.4	2.7	1	early	House 22, 28, 30, 31	Early, predates H61
61	47.3 - disturbed	7.5	disturbed	3.6	1	early	House 74	Postdates H59 and H60, built to connect these two houses; postdates H57 and H58
62	26.8 - disturbed	6	disturbed	3.5	1	early	House 9, House 10b	Aligned with H61, therefore an early phase, but H62 predates H63

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House No.	**Length (m)**	**Width (m)**	**Area (m2)**	**Wall posts per m**	**Palisade phase**	**Early or late village?**	**Could not be contemporaneous with:**	**Other notes on reason for phasing (H=House, PP= Palisade phase)**
63	28.8 - disturbed	8.3	disturbed	6	3	late	House 36, 39	See H62, longer lived than H62, but not likely contemporaneous with H58
64	30.8	7.9	218.7	7.6	1,3	early and late	House 47	First iteration is Phase 1, possibly all 3PP
65	11.6	7.2	80.4	3.8	3	late	pre-dates phase 3	Aligned with H66, built to fit between H64 and H66
66	35.6	7.1	250.8	3.9	3	late	House 8, interior fence line	Postdates H47; predates F475)
67	16.7	7.2	118.3	3	1,2	early	House 7, interior fence line, House 12	H67-69 cluster not likely contemporary with H66 and H70
68	15.5	7.1	105.4	2.8	1,2	early		H67-69 cluster not likely contemporary with H66 and H70
69	15.8	7	106.4	1.5	1,2	early	House 46, 53, 54, 66	Predates house H66; H67-69 cluster not likely contemporary with H66 and H70
70	31.4	7.6	225.6	4.2	3	late	House 49, 50, 52	Alignment with H53 and H54
71	46.1	7.9	365.2	4	1(2)	early	House 71, 72	Predates F238
72	31	7	200.9	4.1	1	early	pre-dates phase 3	Too close to be PP3; features in H71 and H73 obscure parts of house wall, thus predates H71
73	20	8	153.8	3.3	3?	late?	House 61	If H71 is early, H73 is late
74	23.4	7.6	158.7	3.4	?	?	Houses 12, 15	Likely later than H67-69; thus likely late

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House No.	**Length (m)**	**Width (m)**	**Area (m2)**	**Wall posts per m**	**Palisade phase**	**Early or late village?**	**Could not be contemporaneous with:**	**Other notes on reason for phasing (H=House, PP= Palisade phase)**
75	22.6	7.2	151.2	2.8	?	?	House 29	Likely later than H67-69; thus likely late
76	25.1	7.6	187.7	4.9	(2)3	late	House 84	Late, with a possible early component
77	18.3	7.2	122.7	4.1	3	?	House 78, 79, 91	Most likely late
78	15.3 - incomplete	7	incomplete	4.9	?	?	House 38	
79	37.4	6.5	245.9	4.3	1	early		Overlap with H65 and H66
80	33.3 - disturbed	7.3	disturbed	5.9	1	early	House 68, 69	Could be contemporary with H64, H82
81	21 - disturbed	7.2	disturbed	unable to calculate	3	late	House 29, 30	Aligned with H62 and H63
82	incomplete	6.5	incomplete	unable to calculate	1	early	House 32	Could be contemporary with H81, H83 or H84; expanded, likely long-lived
83	18.7	7.1	123.8	4.5	?	?	House 29, 31	
84	17 - incomplete	7.2	incomplete	unable to calculate	?	?	House 67	
85	23.7	7.1	160.6	2.2	?	?	pre-dates phase 3	
86	24.2	7.5	172.9	2.4	?	?	House 67	
87	19.8 - incomplete	7.4	incomplete	unable to calculate	?	?	House 48, 50	

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House No.	**Length (m)**	**Width (m)**	**Area (m2)**	**Wall posts per m**	**Palisade phase**	**Early or late village?**	**Could not be contemporaneous with:**	**Other notes on reason for phasing (H=House, PP= Palisade phase)**
88	19.9	7.7	148.5	2.7	1	early	House 21, 22, pre-dates feature 146	Overlaps PP3
89	incomplete	incomplete	incomplete	unable to calculate	?	?	House 10	
90	incomplete	incomplete	incomplete	unable to calculate	?	?	House 50, 52	
91	incomplete	8.7	incomplete	unable to calculate	?	?	House 5	
92	11.8 - disturbed	5.8	disturbed	5.4	1	early	House 48, 50, 51	East end obliterated by H12
93	15.9	7.4	113.4	2.7	1	early	House 79	Too close to palisade to be PP3
94	20.7	6.1	126.3	2.6	1	early	House 20, 22, 23	Aligned with other PP1 houses, possibly predates H37, overlaps with H36
95	incomplete	5.9	incomplete	unable to calculate	1	early	House 43	Overlaps PP3