FINAL REPORT HISTORICAL RESOURCE IMPACT ASSESSMENT

> Hawkwood Bearspaw (ASA permit 2017-011)

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Prepared for

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EXECUTIVE SUMMARY

On behalf of Brown and Associates Planning Group, acting as agent for Highfield Land Management, Bison Historical Services Ltd. has conducted a Historical Resources Impact Assessment (HRIA) of the Hawkwood Bearspaw project. The proposed project will have a land surface impact of 1.6 km length and 1 km width, totaling 115.3 ha, in farmland within the Parkland Natural Region of Alberta, in the south half of 19-25-2-W5M and LSD 16 of 18-25-2-W5M within the community of Bearspaw. This investigation was initiated following the submission of SOJ recommendations (Wagner 2016). Schedule "A" requirements were issued by Alberta Culture and Tourism (ACT) stating the following:

- 1. The Historic Resources Impact Assessment must include the following locations:
 - areas of native prairie with high archaeological potential
 - locations with significant sediment accumulations (to be deep tested)
 - archaeological site EgPn-406
- 2. A deep testing program is required in areas of significant sedimentation.
- 3. During the conduct of the Historic Resources Impact Assessment, the proponent's consulting archaeologist is to confirm the relationship between the footprint of the proposed project and any previously recorded archaeological sites, including [EgPn-406]. [HRA# 4835-16-0102-001, dated January 13, 2017]

During the HRIA field investigations from April 20 to May 10, 2017, two new historical resource sites were recorded as a result of the assessment of the proposed project area. One previously recorded site is known to lie within the proposed development area and was revisited as part of these HRIA field investigations. Fifty-four of the 271 subsurface inspections conducted within the study area contained evidence of cultural materials.

Newly identified site EgPn-770 is a campsite of low significance located in the southwestern corner of the project area. Clearance is recommended for this site.

Revisited site EgPn-406 is a stone feature site of moderate significance located in the northern portion of the project area. Newly identified site EgPn-771 is a campsite of moderate significance located in the south-central portion of the project area. Avoidance is recommended for both of these sites. If these sites cannot be avoided, then a Historical Resource Impact Mitigation (HRIM) is recommended.

Eight historic structures associated with the Thomas Hawkwood farm are located within the project area and will be impacted by the proposed project (HS 100615 Thomas Hawkwood Farm - Well House, HS 100617 Thomas Hawkwood Farm - Farm House, HS 100618 Thomas Hawkwood Farm - Garage, HS 107214 Thomas Hawkwood Farm - North Dam, HS 107215 Thomas Hawkwood Farm - South Dam, HS 107216 Thomas Hawkwood Farm - Well 1, HS 107217 Thomas Hawkwood Farm - Well 2, and HS 107218 Thomas Hawkwood Farm - Fence). These structures will be impacted by the project, but are considered to have low historical significance. Therefore no further work is recommended for them.

In light of the agricultural disturbance and lack of cultural material, it is recommended that the Hawkwood Bearspaw project be given clearance to proceed for those areas outside of the EgPn-406 and EgPn-771 site boundaries. It is further recommended that an HRIM be conducted before proceeding with construction within those site areas. This recommendation is subject to the approval of ACT.

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INTRODUCTION

On behalf of Brown and Associates Planning Group, acting as agent for Highfield Land Management, Bison Historical Services Ltd. has conducted a Historical Resources Impact Assessment (HRIA) of the Hawkwood Bearspaw project (See Figure 1; Figure 2; Appendix A). The proposed project will have a land surface impact of 1.6 km length and 1 km width, totaling 115.3 ha, in farmland within the Parkland Natural Region of Alberta, in the south half of 19-25-2-W5M and LSD 16 of 18-25-2-W5M within the community of Bearspaw. The proposed project consists of a housing development, located throughout the existing agricultural lands, including a natural drainage located in the centre and southern edges of the project footprint.

This investigation was initiated following the submission of SOJ recommendations (Wagner 2016). Schedule "A" requirements were issued by Alberta Culture and Tourism (ACT) stating the following:

- 1. The Historic Resources Impact Assessment must include the following locations:
 - areas of native prairie with high archaeological potential
 - locations with significant sediment accumulations (to be deep tested)
 - archaeological site EgPn-406
- 2. A deep testing program is required in areas of significant sedimentation.
- During the conduct of the Historic Resources Impact Assessment of the proponent's consulting archaeologist is to confirm the relationship between the footprint of the proposed project and any previously recorded archaeological sites, including [EgPn-406]. [HRA# 4835-16-0102-001, dated January 13, 2017]

In addition, the Schedule "A" requirements stated that:

1. Historic resource consultants are to comply with the requirements for

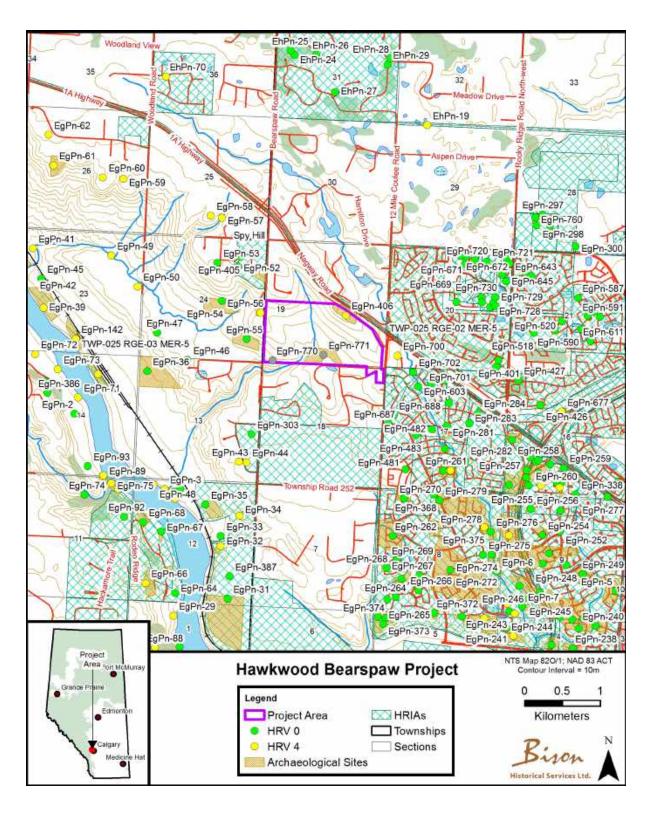


Figure 1: Hawkwood Bearspaw project area.

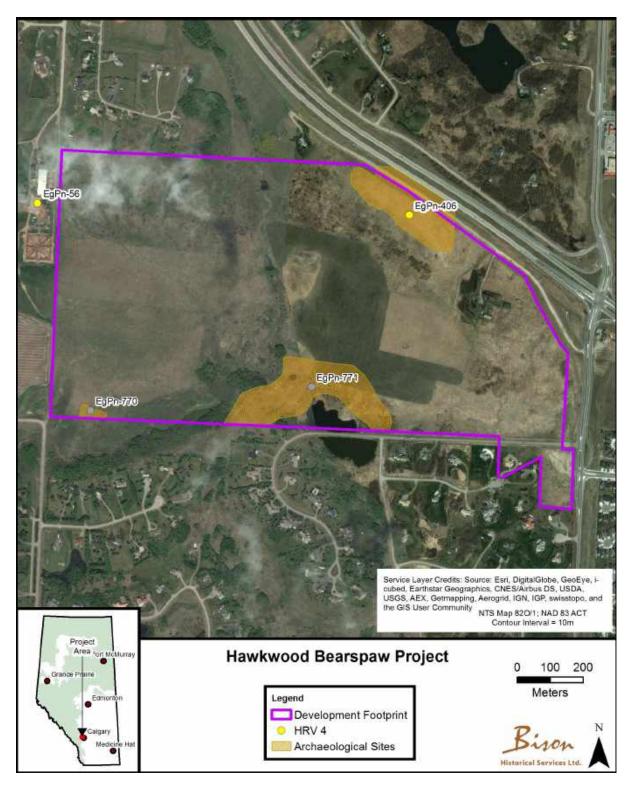


Figure 2: Closeup view of the project area.

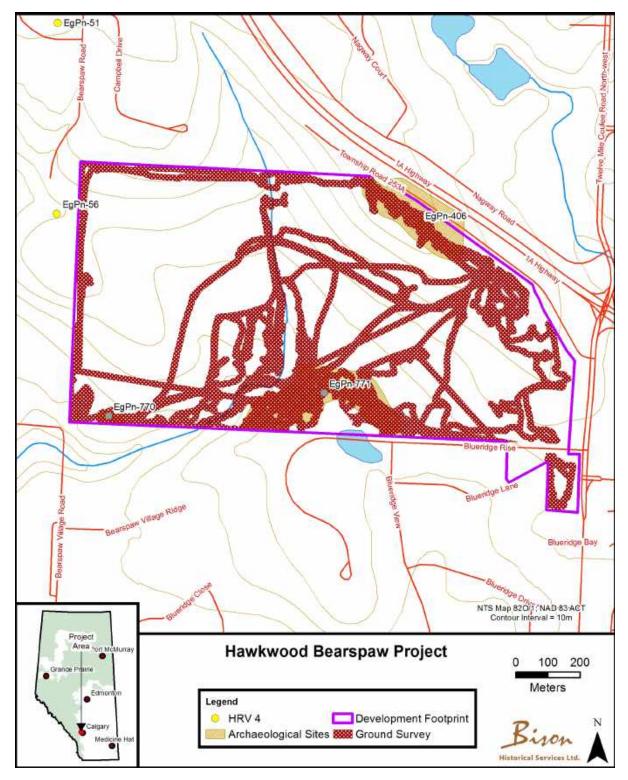


Figure 3: Ground survey map of the HRIA.

recording historic structures outlined in the Requirements for Recording Historic Structures. The final report, and any interim reports, must specify if historic structures are present within or adjacent to the project impact zone; however, there is no need to re-document the structures that were previously recorded in 2008 (HS 100610 to HS 100622).

As part of the SOJ study, an HS search was conducted that showed the nearby historic structures (Table 1).

HSS#	Name	Location
100608	Nag-way Inn	NE-19-25-2 W5M
100610	Bert Nagle Family Residence	NE-19-25-2 W5M
100611	Thomas Hawkwood Farm - Joe Vincent Farm House	SE-19-25-2 W5M
100612	Thomas Hawkwood Farm - Chicken Coop	SE-19-25-2 W5M
100613	Thomas Hawkwood Farm - Granary	SE-19-25-2 W5M
100614	Thomas Hawkwood Farm - Dairy Barn	SE-19-25-2 W5M
100615	Thomas Hawkwood Farm - Well House	SE-19-25-2 W5M
100616	Thomas Hawkwood Farm - Tool Shed	SE-19-25-2 W5M
100617	Thomas Hawkwood Farm - Farm House	SE-19-25-2 W5M
100618	Thomas Hawkwood Farm - Garage	SE-19-25-2 W5M
100619	Thomas Hawkwood Farm - Granary	SE-19-25-2 W5M
100620	Thomas Hawkwood Farm - Cow Shelter	SE-19-25-2 W5M
100621	Thomas Hawkwood Farm- Animal Shelter	SE-19-25-2 W5M
100622	Thomas Hawkwood Farm - Hay Shed	SE-19-25-2 W5M

Table 1: Previously reported historic structures and their location.

The lands within the project area have an HRV notation of 4a and 5a (HRMB 2017). Archaeological site EgPn-406 is a previously recorded stone feature site with an HRV-4, and is located in the vicinity of the project area. One of the requirements issued by ACT was to determine the relationship of the proposed development to site EgPn-406.

Fieldwork was conducted under the direction of the author on April 20–21, May

3–5, and May 10, 2017. Areas of native vegetation were examined by pedestrian survey, while subsurface testing was concentrated in areas thought to have a potential for buried historical resources. The field crew conducted 271 subsurface inspections during the course of this study. Two previously unrecorded historical resource sites were identified as a result of this survey. Newly identified sites EgPn-770 and EgPn-771 have been identified as pre-contact campsites. Detailed descriptions of these sites and revisited site EgPn-406 are presented in the Results section.

Detailed results of the Hawkwood Bearspaw HRIA are presented below, but first this report will provide the necessary context for evaluating the results including: 1) a brief overview of the environmental and culture-historical contexts of the proposed project area, 2) the results of a literature review outlining all previous archaeological work in the vicinity of the proposed project, and 3) a summary of the methodology by which the field component of this HRIA was conducted.

THE STUDY AREA

An archaeological site represents a collection of features, artifacts, and contextual material, the deposition of which is a product of past lifeways. The materials present reflect the environment that surrounded the inhabitants in a number of ways. Patterns of subsistence and settlement reflect the geology, climate, fauna, and vegetation of the region. In a similar fashion, the range of materials present, their preservation, and the integrity of archaeological sites are conditioned by depositional regimes and the soils present. For this reason, a summary of those facts describing the environmental context associated with this project is presented below. In the following section, a brief description of the historical context is provided.

The proposed project lies within the Parkland Natural Region of Alberta (NRC 2006). This natural region, which occurs across the Prairie Provinces, is situated between the warmer, drier grasslands to the south and the colder, moister boreal forests to the west and north, sharing the climate and vegetation of both. It is the most heavily populated natural region of Alberta, and is extensively cultivated.

In general, the climate of the Parkland features slightly warmer winters and

summers than the Boreal Natural Region to the north. Characterized by relatively high variation in seasonal temperature averages, there is an average summertime high of 20.9°C, and an average winter maximum of -3.7°C. There is also a strong seasonal variation in precipitation, the majority of moisture falling during the summer months, with a seasonal peak in July. The average precipitation per year for the region is 441.2 mm, with an average of 259 mm falling in summer (Strong and Leggat 1992). More annual precipitation falls on average in the western portion of the Parkland than in the rest of this subregion, likely due to higher elevation and more intense summer rainfalls (NRC 2006). The Parkland enjoys a slightly milder and somewhat wetter climate than the prairie zones that characterize the province to the south. With the exception of small outliers in the southern foothills, the Parkland enjoys fewer chinook days in the winter, which contributes to a colder wintertime temperature average.

The Parkland lies mainly within the Eastern Alberta Plains. At higher elevations to the southwest, it also includes a small part of the Western Alberta Plains. Underlying geology consists of non-marine Upper Cretaceous deposits, with some Tertiary sedimentary structures to the west (NRC 2006). As with most of Canada, this region was subjected to a long period of glacial advances and recessions during the Pleistocene Epoch, ending around 11,550 years ago (Lourens et al. 2004). Glacial till plains, with about 30% hummocky, rolling and undulating uplands, remain the dominant landforms. Till may only thinly cover bedrock in some areas, with less than 2 m of cover. Glaciolacustrine and glaciofluvial sediments occur within the till plains in the eastern part of the region (Shetsen 1990).

Small water bodies are scattered throughout the Parkland, the largest being Beaverhill, Gull, Buffalo, and Sounding Lakes. The Red Deer, Battle, and North Saskatchewan Rivers are the major watercourses. Isolated Parkland areas also occur along stretches of the Peace River to the north. Wetlands are more common than in the Grassland, with marshes, willow shrublands and seasonal ponds typical in the south, but treed fens also present in the northwest (NRC 2006).

Orthic Black Chernozems are the typical soil type associated with the grasslands and open woodlands of the Parkland. Solonetzic soils also occur in the central portion of the subregion. Dark surface humus typically ranges from a thickness of 15 cm at the region's southern limits to about 30 cm along its northern limits (NRC 2006).

It is estimated that only about 5% of the vegetation in the Parkland remains native. This figure is higher in the southern foothills and much lower along the Peace River, where native vegetation has been practically extirpated. Over the past century, cultivation has been intensive. Topography and soil conditions have determined the few remaining contiguous areas of parkland vegetation. Overall vegetation patterns show a clear change from southeast to northwest in response to increasing moisture. Fescue prairies dotted with aspen groves dominate the drier south and east. True parkland, defined by roughly equal proportions of aspen forest and fescue grassland, occurs in the central portion, while further north and west, higher precipitation encourages closed aspen forests with only small patches of grassland. Moderately well drained sites in somewhat moister locations often support shrub communities like buckbrush, silverberry, prickly rose, chokecherry, and saskatoon. In more southern areas, silverberry is often found adjacent to saline wetlands. Aspen understories are variable, but typically include saskatoon, prickly rose, beaked hazelnut, and a variety of forbs and grasses (NRC 2006).

The Parkland also blends wildlife elements from the prairies to the south and boreal forest to the north and west. Within aspen communities, white-tailed deer, snowshoe hare, northern pocket gopher and American porcupine are common. Moose, beaver, Franklin's ground squirrel, and prairie vole also occur. Large wetland areas support a wide variety of bird species (Strong and Leggat 1992).

Absent in the Parkland today is the plains bison (*Bison bison bison*), historically the main source of sustenance and raw materials for many First Nations peoples, but eliminated by hunting at the end of the 19th century. By consuming the grasses and sedges found in the Parkland, bison may have been partially responsible for maintaining these habitats. The disappearance of the bison from much of Alberta has likely been a contributing factor in modern forest encroachment (Mitchell and Gates 2002). Seasonal migration patterns of the larger bison herds, based upon availability of forage, climate, and other factors (Epp 1988), were meanwhile a determining factor in the traditional nomadic way of life. While the herds summered in mixed grass areas, in winter they moved to the foothills and parklands, where food and shelter were more abundant (LaForge 2004; Peck 2004).

Fire suppression has also likely had an impact on the character of the Parkland today. The hunter-gatherer practice of deliberately burning grassland, clearly documented in Alberta's historic record, may have helped make bison herd movements more predictable, enabling higher human carrying capacities (Boyd 2002). The prevalence of this traditional practice among native groups in Alberta (Lewis 1978, 1982; Williams 1994) may strongly indicate a potential impact on Parkland ecosystems.

CULTURAL BACKGROUND

First Nations peoples have occupied Southern Alberta for more than 10,000 years. Wormington and Forbis (1965), Reeves (1969) and Vickers (1986) have detailed in broad strokes the changes associated with this continuum. The major cultural periods (Early, Middle, and Late Precontact followed by the Protohistoric) are largely defined on the basis of technology and style of projectile points (Figure 4; Table 2).

The first inhabitants of North America are associated with the hunting of the mammoth, but bison were also taken extensively. Fluted projectile points, commonly associated with the beginning of the Early Precontact Period and identified first at the type-sites of Clovis and Folsom in New Mexico, are known in Alberta, but excavated sites are rare. Changes in style including Agate Basin, Hell Gap, and Alberta/Cody suggest possible cultural shifts. This period drew to a close around 8500 to 8000 before present (BP).

While the Early Precontact Period was characterized by fluted, and then stemmed points used with spears, the Middle Precontact Period saw the appearance of notched forms of projectile points associated with the introduction of the atlatl (dartthrower). It began in Alberta with the appearance of a variety of styles including Boss Hill and slightly later Mummy Cave, which included Bitterroot-style points. Beginning about 5000 BP, Oxbow points and McKean Complex materials (McKean, Duncan

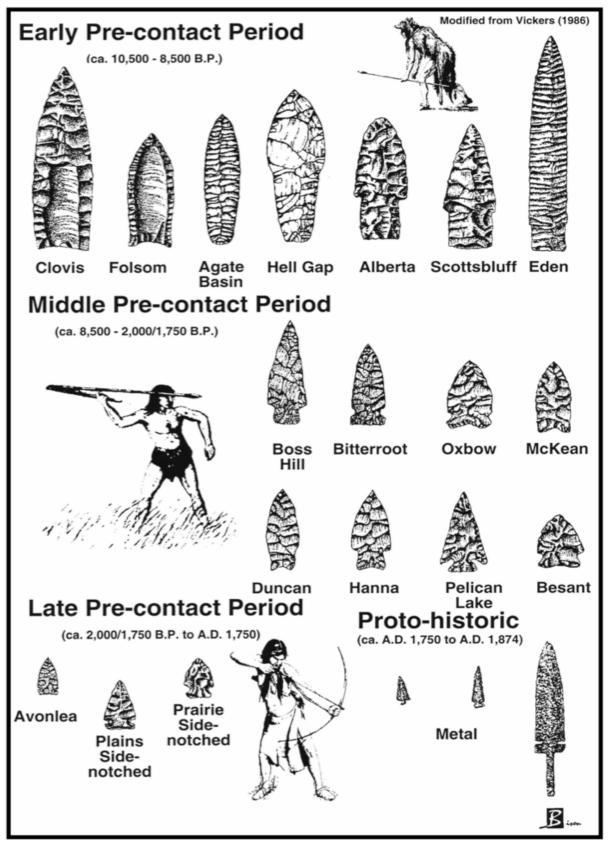


Figure 4: Diagnostic Projectile Point Styles of Southern Alberta.

Period Phase/Complex		Diagnostic Artifacts	Date (BP)
Historic	Historic Phase	European Trade Goods	<200
	One Gun Phase	Cayley Series Points; Cluny Pottery; Bone "Scapula Knives"	ca. 200
Proto-Historic	Proto-Historic Old Woman's Phase	Cayley Series Points; Saskatchewan Basin Complex: Late Variant Pottery; European Trade Goods	300-250
	Highwood Phase	Highwood points; Intermountain Tradition Pottery	500-300
Late Precontact	Old Woman's Phase	Cayley Series Points; Saskatchewan Basin Complex: Late Variant Pottery	1100-250
	Avonlea Phase	Avonlea/Timber Ridge and Head- Smashed-In Points	1350-1100
Transition	Sonota Phase	Sonota Points	1500-1350
	Besant Phase	Besant and Samantha Points; Besant Pottery	2100-1500
	Sandy Creek Complex	Sandy Creek Points	ca. 2500
	Outlook Complex	Outlook Points	ca. 2500
	Bracken Phase	Bracken Points	2800-2100
	Pelican Lake Complex	Pelican Lake Points	3600-2800
	McKean Complex	McKean, Duncan, and Hanna Points	4200-3500
Middle Precontact	Oxbow Phase Oxbow Points		4500-4100
Trecontact	Estevan Phase	Long Creek and Souris Points	4900-4500
	Calderwood Complex	Calderwood Points	5200-4700
	Gowen Complex	Gowen Points	5900-5200
	Maple Leaf Complex	Salmon River Fishtail and Oval Base Points	6300-5200
	Mummy Cave Complex	Bitterroot and Blackwater Side- Notched Points	7300-6700
	Country Hills Complex	Burmis Barbed Points	7500-7300
Transition	Lusk Complex	Lusk Points	8300-7500
Transition	Plains/Mountain Complex	Plains/Mountain Points	8600-7700
	Scottsbluff-Eden Phase	Scottsbluff and Eden Points	9000-8600
	Alberta Phase	Alberta Points	9600-9000
	Agate Basin/Hell Gap Complex	Agate Basin and Hell Gap Points	10200-9600
Early Precontact	Sibbald Phase	Basally Thinned Points	ca. 10500
	Folsom Phase	Folsom and Midland Points	10900-10200
	Clovis Phase	Clovis Points	11050-10800
	Pre-Clovis	n/a	>11050

Table 2: Cultural-Historical Periods in Alberta (adapted from Peck 2011).

and Hanna-style points) replaced the earlier styles. By 3300 BP, a point with sharply tanged shoulders marked the appearance of the Pelican Lake tradition, thought to have developed out of McKean. Later still, Besant style points, possibly developing out of Oxbow, also appeared. Both styles appear to have coexisted on the plains for over a millennium.

The introduction of the bow and arrow and first appearance of ceramics in Alberta distinguish the beginning of the Late Precontact Period. Two major point styles are recognized during this period, Avonlea and Old Woman's, with the latter including both Prairie and Plains styles. Avonlea style points are associated with the first half of this period, while the later half is associated with Old Woman's materials, a style which continued to be prevalent until the arrival of the Europeans at about AD 1750.

The appearance of trade goods and horse bones in the archaeological record marks the shift to the subsequent and short-lived Protohistoric Period. It lasted for just over a century beginning about 200 BP (AD 1750), ending with the establishment of permanent European settlements.

Alberta's Historic record spans the last two and a half centuries and began with the visit of Anthony Henday in 1754. Others who subsequently explored what is now called Alberta included Alexander MacKenzie from 1789-1793, David Thompson from 1786-1808, Peter Fidler from 1792-1793, and John Palliser, who delimited the western Canada-United States boundary between 1857 and 1860 (Spry 1962). In 1871, the Canadian government began construction of a transcontinental railway. The North West Mounted Police were established in 1873, followed in 1874 by the establishment of Fort Macleod. Treaties were soon signed with the major First Nations groups inhabiting Alberta including Treaty No. 6 in 1876, Treaty No. 7 in 1877, and Treaty No. 8 in 1899.

PREVIOUS RESEARCH

The goals of this summary are threefold. The first objective is to identify any previously recorded historical sites that may be impacted by the proposed development. A second goal is to provide a reasonable assessment of the quantity, type and distribution of known sites in the near vicinity of the proposed development. A final goal is to provide an indication of the nature and scope of previous investigations in the development area.

Details of known historical resource sites are recorded in Archaeological Site Inventory Data forms, Historic Site forms and final project reports, all of which are kept on file with the Historic Resources Management Branch of Alberta Culture. The significance of historical resources is denoted by a ranked Historic Resource Value (HRV), ranging from 5 for potential significance through 1 for the most important known historical sites in the province (Table 3; HRMB 2017). Individual archaeological sites are identified using the Borden system (Borden 1952).

The Borden system is a Canada-wide, geographically based system for recording historical sites which divides the country into rectangular "blocks". In this part of Canada, each block is ten minutes of latitude by ten minutes of longitude. A Borden block in the vicinity of Calgary encompasses an area somewhat larger than two Townships (ca. 80 miles). Each block is referred to by a four-letter code uniquely describing the location of that block. Sites are sequentially numbered within each block in the order in which they are discovered and reported. The proposed development occurs in Borden Block EgPn.

Borden Block EgPn

Borden Block EgPn is associated with the area between 51° 00' and 51° 10'

HRV Notation	Definition (paraphrased from HRMB 2017)			
1	World Heritage Sites & historic resources owned and protected by the Government of Alberta			
2	Iunicipal or Registered Historic Resource			
3	Significant historic resource that will likely require avoidance			
4	A historic resource that will likely require avoidance			
5	An area that is believed to contain a historic resource			

Table 3: Historic Resource Value definitions (HRMB 2017).

north latitude and 114° 10' and 114° 20' west longitude and incorporates the western part of the City of Calgary, a portion of the Elbow River, and the northern portion of the Tsuu T'ina Reserve along its southern edge. To date there are 767 known sites (see Table 4).

These sites were recorded during a variety of projects. The majority have been identified during work on subdivisions (Balcom 1989 and 1990; Baldwin 1991 and 1993; Boland and Brenner 2010; Brewer 1992; DS Consulting 1986; de Mille 2001a, 2001b; Fedirchuk 1988 and nd.; Forner 2006; Gorham 1995 and 1996; Gryba 1992 and 1995; Gryba et al. 1990; Hanna 1997a, 1997b, 1998, 1999, 2000a, 2000b and 2002; Head 1997; Head and Smith 1980; Head and Van Dyke 1981; Hjermstad 1991; Krozser nd.; Light 1988 and 1995; Loveseth 1985, 1986, and 1987; Malasiuk 2001; McCullough 1979, 1980a, 1980b, and 1991; McCullough and Fowler 1989; McCullough Consulting 1979; Moravetz 1999; Murphy 2000; Poole 1976, 1996, and 1997; Ramsay 2004, Reeves 1981, 1982, 1989, 1990a, 1990b, 1990c, 1995, 1997a, 1997b, 1998a, and 1998b; Reeves and Head 1982a, 1982b, and 1982c; Rogers and Fromhold 1976 and 1977; Smith and Reeves 1977; Spicer 2004, Van Dyke 1980, 1984, 1993a, and 1994; Vivian 2002a, 2002b, 2003a, 2003b, 2004a, 2004b, 2004c, 2005b, 2006, 2007a, 2007b, 2007c, and 2007d; Vivian, et al. 2003a, 2003b, and 2003c; Vivian and Reeves 2004; Wickham 2011; Wright 1983). Other infrastructure projects include water lines (ARESCO 1976; Van Dyke 1982a and 1982b; Vivian 2005a; Vivian et al. 2003a; Walde 1992), gravel pits (ARESCO 1980 and 1981), river crossings (Gryba 2015; Soucey and Ball 2010), and highway projects (Dau 1993; Gryba 1983; Head 1998; Heitzmann 1978; Heitzmann et al. 1981; Reeves 1992; Van Dyke 1993b). A smaller number of projects are associated with recreation areas (Clavelle 2000a and 2002; Fedirchuk and Krozser 1990; Head 1989, 1991 and 1999; Kennedy 1981; Murphy 2007, Reeves 1985), river-focused baseline and flood remediation (Stewart 2014; Vivian 2014), industry sponsored projects (Clavelle 2000b; Himour 2000; Moravetz 2003; Peach 2003, 2004, and 2005; Peach et al. 2006; Ramsay and Ramsay 2001 and 2006; Vivian 2004d; Webster and Balls 2005) and at least three project are research oriented (Chlachula 1993; Hjermstad 1991; Walde 1976).

Site Type (as listed on the Master List of Borden Numbers)	Count				
burial	1				
burial, palaeoenvironmental, industrial (gravel pit), mine	1				
camp (boy scout)	1				
campsite	180				
campsite ; killsite	1				
campsite, burial, collection	1				
campsite, collection	3				
campsite, historic feature, scatter >10	1				
campsite, homestead, urban	1				
campsite, killsite	43				
campsite, killsite, collection	7				
campsite, killsite, homestead	1				
campsite, killsite, survey pit	1				
campsite, killsite, workshop	1				
campsite, quarry, industrial	1				
campsite, scatter >10	1				
campsite, stone feature	71				
campsite, stone feature, burial	1				
campsite, stone feature, historic remains					
campsite, stone feature, homestead	1				
campsite, stone feature, killsite	3				
campsite, stone feature, palaeoenvironmental	1				
campsiteA	1				
collection	7				
dwelling	1				
farm	8				
historic feature	1				
homestead	13				
homestead, dairy	1				
homestead, farm	1				
industrial	1				
industrial (gravel)	3				
isolated find	51				
"isolated find					
palaeoenvironmental"					
isolated find, collection	2				
killsite	45				
killsite (bison)	2				

killsite, campsite	1
killsite, scatter >10	1
natural	1
other	1
palaeoenvironmental	1
quarry	2
rock art	1
scatter	26
scatter (bison bone)	1
scatter <10	52
scatter <10, campsite	10
scatter <10, campsite, stone feature	1
scatter <10, stone feature	7
scatter >, killsite	1
scatter >10	17
scatter >10, campsite	5
scatter >10, campsite, homestead	1
scatter >10, campsite, killsite (bison)	1
scatter >10, campsite, stone feature	2
scatter >10, killsite	2
scatter >10, killsite, dwelling	1
scatter >10, killsite, farm	1
scatter >10, stone feature	3
scatter >10, stone feature, homestead, ranch	1
scatter, campsite	7
scatter, campsite, killsite	1
scatter, campsite, stone feature	2
scatter, campsite, stone feature, killsite	1
scatter, stone feature	4
scatter>10	1
school	1
settlement	5
stone feature	104
stone feature, campsite	1
stone feature, ceremonial/religious	1
stone feature, historic remains	1
stone feature, killsite	1
stone feature, natural	1
stone feature, quarry	1

stone feature, trail	1
stone feature, workshop	1
structure	1
survey pit	1
urban	1
urban, industrial	1
(blank)	28
Grand Total	767

Table 4: Previously recorded archaeological sites in Borden Block EgPn

METHODOLOGY

Field studies for this HRIA were between April 20 and May 15, 2017 under the direction of the author and in accordance with requirements set out by the Government of Alberta in the Guidelines for Archaeological Permit Holders in Alberta (ASA 1989) and the Archaeological and Palaeontological Research Permit Regulations (Alberta 2002). The work was conducted pursuant to Section 37(2) of the Historical Resources Act (HRA).

The objective of this HRIA was to identify, evaluate, and develop avoidance or mitigation strategies for historical resource sites that might be impacted by the proposed development. Over time, archaeological materials can be buried through fluvial, aeolian and organic activity, ground slump and other processes; the same factors can play a part in their re-exposure. In consideration of these depositional processes, both surface and subsurface deposits must be investigated.

The field methods used for this study were determined to address the HRA requirements set by ACT in a manner appropriate to the physical setting of the project area.

Surface reconnaissance was conducted on foot throughout the project area in order to identify areas of natural vegetation or those with potential for deep deposits, throughout the recorded boundary of EgPn-406, in the margins of plowed fields adjacent to areas of natural vegetation, and throughout the areas of natural vegetation. This survey was conducted under snow free and frost free conditions with clear surface visibility. In all cases, opportunistic observation was made of exposures such as tilled field, rodent spoils, erosional cuts and blowouts for evidence of buried historical resources. Subsurface testing served as a further aid to the identification of historical resources. Standard subsurface tests were excavated by shovel, measuring 40 cm x 40 cm, with the back dirt sorted by hand. GPS spatial data was collected for surficial survey transects and subsurface tests in accordance with the Archaeological Survey Information Bulletin on Spatial Data Standards for Archaeological Survey and Excavation.



In addition to archaeological sites, project areas may possess historic structures. According to ACT's *Recording and Reporting Historic Structures*, "a historic structure is any historic period, man-made structure or portion of a structure that is thought to be 50 years old or older that is visible without excavation" (ACT 2016:3). Examples of historic structures include buildings, ruins, trails, earthworks, and cisterns, to name a few. Historic structures encountered in the field were photographed with black and white film in such a way as to record each face, if possible, as well as having details recorded with additional photographs. Their attributes, such as shape, materials, and construction, are then recorded according to procedures outlined in *Recording and Reporting Historic Structures*. These are summarized within this report (See Results and Appendices D, E, and F).

The results of the HRIA field research for the proposed Hawkwood Bearspaw are presented in the following section.

RESULTS

From April 20 to May 10, 2017, the author, with the assistance of A. Sean Goldsmith, conducted the HRIA for the proposed Hawkwood Bearspaw project.

The proposed development will impact 115.3 ha of agricultural land and native drainage. In total, 271 subsurface tests, including 271 shovel tests and 29 exposures, were investigated during this HRIA within the proposed development footprint as part of the assessment of EgPn-406, as well as in search of potential new sites (Figure 5). During the fieldwork investigations, two previously unidentified historical resource sites were recorded, and one known historical resource site within the project area was revisited.

Overall, the landscape that the proposed development is situated on consists of farmland with high ridges in the north, sloping downward towards low wet areas surrounded by natural vegetation. A drainage bisects the project area, running north/ south through most of the footprint before turning west near the low, wet areas. The drainage is v-shaped and deep in profile past this point. The farmyard that is associated with the agricultural practices is located in the northeastern corner of the development footprint.

For the purposes of reporting, the project area will be divided into 12 assessment areas (Figure 6). These areas are generally differentiated by physical attributes, although they are contiguous across the landscape. These are addressed in an approximately counter-clockwise geographic order: Ridge Top, West Cultivation, Southwest Draw, Southwest Site, Central Draw, Coulee Bottom, Central Site, Southeastern Low, Developed Lot, Southeastern Plot, East Cultivation, and Farmyard. **Ridge Top**

This assessment area consists of the ridge top that encompasses EgPn-406. The area is currently cultivated, a practice which had begun after 2012, according to aerial photographs. A revisit of this area was explicitly required in the Schedule 'A' from ACT. A pedestrian survey was conducted across the landform with excellent ground visibility. Fifteen subsurface inspections (six exposures, 15 shovel tests) were

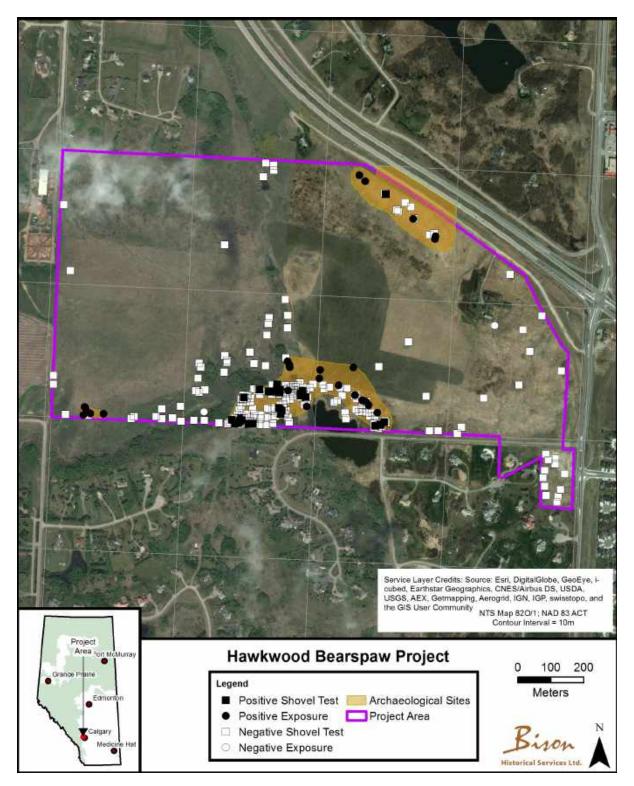


Figure 5: Subsurface Inspections discussed in this report.

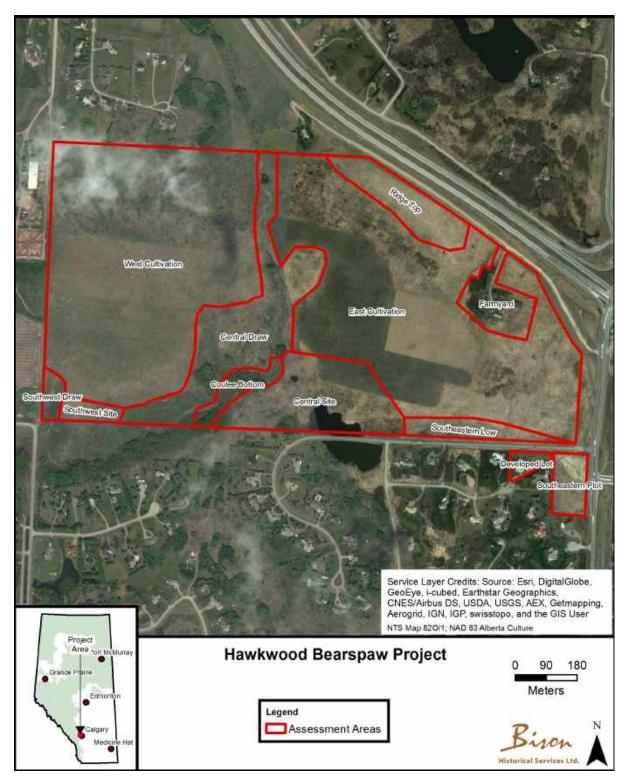


Figure 6: Assessment areas discussed in this report.

conducted, with five exposures and one shovel test recovering artifacts. Eight site features were identified. All of the subsurface inspections and cultural materials are located within the boundary of EgPn-406.

EgPn-406

EgPn-406: Site Description					
Site Clas	iss: Precontact Sub Type: Surface				
Site Type	e: Campsite/Stone Feature Site Condition: Partially Disturbed				
Site Location:					
LSD 7, Section 19, Township 25, Range 02, W5M					
(NAD 83) 11U 691268 Easting 5669594 Northing					
Impact:	Yes	Significance:	Moderate	Recommendation	on: Avoidance/HRIM

Access

From the intersection between 12 Mile Coulee Road and Township Road 253A, continue along TR 253A 415 m to a driveway heading south. Proceed south along the driveway for 60 m to a vehicle access point on the right. Enter the field and continue 130 m to the knoll.

Environment/Setting

The site is located on the top of a ridge-like knoll that runs parallel to Hwy 1A (Figure 7). The original boundary was expanded to the northwest, to the edge of the landform where it overlooks a natural drainage. The site lies within a cultivated field (Figure 8).

Site description

This site was originally recorded as a stone feature site in 1993 (permit 93-045; Dau 1994). Three stone circles and three cairns were recorded throughout the site, with the cairns and one stone circle located at the southeastern edge of the site, and a stone circle located at the northwest edge of the site. A stone arc was located in the middle of the site, towards the northwestern edge.



Figure 7: EgPn-406 from West Cultivation area 1.



Figure 8: EgPn-406

The site was briefly revisited in 2007 as part of a field reconnaissance for an HRO that was never submitted to the province (Ramsay 2007). The revisit identified two cairns and a stone circle, which the author felt corresponded to those features originally identified by Dau in 1993.

Since 2012, the site's ground surface has been broken by plow for agricultural purposes. Pedestrian survey was conducted within the site area. Because of the impact of the plowing, clusters of stones approximately 20–30 cm in diameter were used to identify potential stone features. Additional testing was conducted to find artifacts to help confirm their designation as a stone feature. Eight stone features were identified within the site:

Feature 1 (fieldname: cairn 2): Feature 1 is a probable cairn with 43 stones within a 2.5 m by 2.5 m area (Figure 9, Figure 10). These stones are 15–30 cm in diameter.

Feature 2 (fieldname: cairn 1): Feature 2 is a possible cairn with a cluster of 16 deeply buried stones in an area approximately 2 m in diameter (Figure 11). This is interpreted to be the base of the cairn and looks to be relatively intact (Figure 12). Lines of stones extend from in the direction of the plow furrows for approximately 36 stones in total.

Feature 3 (fieldname: ring 1): Feature 3 is a possible, albeit very poorly defined, stone circle with 52 stones within a 10 m by 5 m area (Figure 13, Figure 14). It was identified on the basis of the stone size relative to the rest of the landform. It is also in the general location of one of the stone circles previously reported under 93-045 (Dau 1994).

Feature 4 (fieldname: ring 2): Feature 4 is a diffuse scatter of 63 wall-sized stones with 14+ pieces of FBR observed within a 10 m diameter (Figure 15, Figure 16). A flake was collected from the surface (GX8) near this feature.



Figure 9: Feature 1, EgPn-406.



Figure 10: Centre of Feature 1, EgPn-406



Figure 11: Feature 2, EgPn-406.



Figure 12: Closeup of Feature 2, EgPn-406.



Figure 13: Feature 3, EgPn-406.



Figure 14: Closeup of Feature 3, EgPn-406.



Figure 15: Feature 4, EgPn-406.



Figure 16: FBR found in Feature 4, EgPn-406.

Feature 5 (fieldname: ring 3): Feature 5 was mostly noticeable as a gap in a rocky portion of the landform with 66 deeply buried stones in a poorly formed ring (Figure 17, Figure 18).

Feature 6 (fieldname: cairn 3): Feature 6 was a very sparse scatter of 59 stones over a 3 m diameter (Figure 19, Figure 20).

Features 7 and 8 (fieldname: ring 4 and ring 5): These two features appear to be poorly formed, yet overlapping, stone circles. Feature 7 consisted of 25 stones in a 4 m diameter (Figure 21, Figure 22). Feature 8 consisted of 29 stones in a 5 m diameter (Figure 23, Figure 24). Shovel test G13+ recovered three pieces of FBR within Feature 7.

In addition to the stone features, 15 subsurface inspections (six exposures, 15 shovel tests) were conducted, with five exposures and one shovel test recovering artifacts (Figure 25). The shovel test recovered two pieces of FBR. Four lithics and two FBR were collected from five exposures, including three multi-directional cores. See Appendix H for tool descriptions.

Shovel tests typically had a profile of 10–15 cm of organic plowzone over the subsoil (Figure 27). Artifacts were typically recovered from within the plowzone.

Site significance/recommendations

Even though EgPn-406 has been plowed, the fact that some stone features are still more or less identifiable shows that the plowing has been limited in degree and effect. It seems likely that the deeper deposits might still remain intact, particularly with regard to Feature 2, which seems to be the intact base of a cairn. Additionally, there remains the potential to recover some diagnostic material, which might provide data about the site. Therefore, it is recommended that the site be mitigated by the excavation of a limited number of metres at each stone feature, if the site cannot be avoided by the development. See Table 5 for metres recommendations.



Figure 17: Feature 5, EgPn-406.



Figure 18: Closeup of Feature 5, EgPn-406.



Figure 19: Feature 6, EgPn-406.



Figure 20: Closeup of Feature 6, EgPn-406.



Figure 21: Feature 7, EgPn-406.



Figure 22: Closeup of Feature 7, EgPn-406.



Figure 23: Feature 8, EgPn-406.



Figure 24: Closeup of Feature 8, EgPn-406.

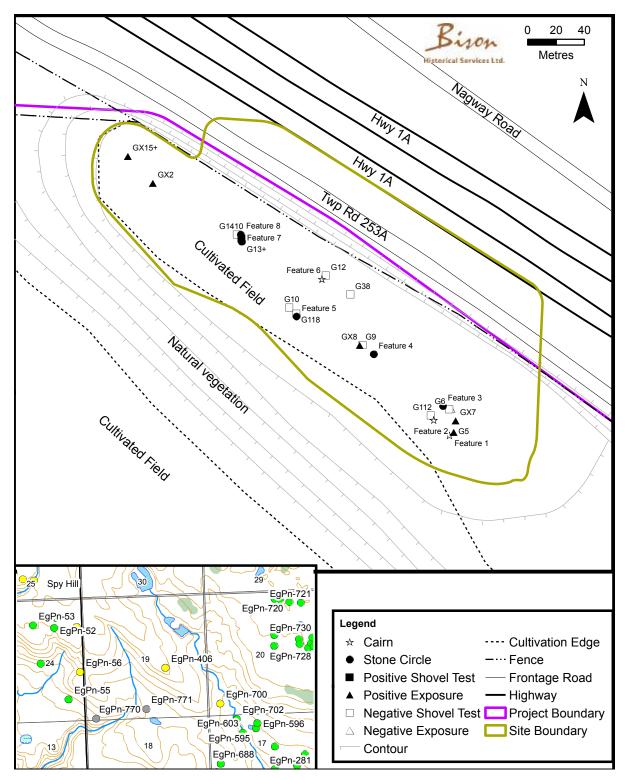


Figure 25: Sketch map of EgPn-406.

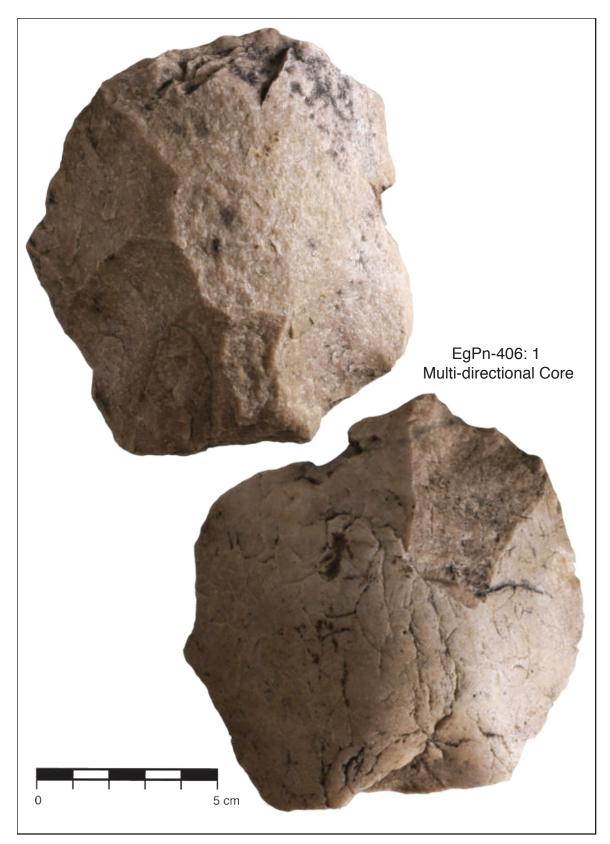


Figure 26: Multi-directional core from EgPn-406.



EgPn-406: 2 Multi-directional Core



Figure 28: Multi-directional core from EgPn-406.



Figure 27: Typical Shovel Test profile, EgPn-406.

Feature	Feature Type	Recommendations
Feature 1	Cairn	1 m ²
Feature 2	Cairn	2 m ²
Feature 3	Stone Circle	1 m ²
Feature 4	Stone Circle	2 m ²
Feature 5	Stone Circle	1 m ²
Feature 6	Cairn	1 m ²
Feature 7	Stone Circle	2 m ²
Feature 8	Stone Circle	2 m ²

Table 5: Recommended metres for EgPn-406.

West Cultivation

This assessment area is the plowed portion west of the central draw (Figure 29). Most of this area is sloping ground surface with low archaeological potential. The northern edge is on a steep slope with another ridge extending into the project area from the western boundary. This area also includes a lower area between these two landforms as well as the slope down to the southwestern draw area. Ground surface visibility was excellent and in excess of 50% because vegetation had not yet begun to repopulate in the cultivated areas. Three subsurface inspections, all of which were shovel tests, were conducted in this area. The plowzone on the ridge was found to be roughly 10 cm deep, followed by the C horizon (Figure 30). In lower areas, colluvial accumulation results a deeper Ap horizon. No cultural materials were identified.

Southwest Draw

This assessment area consists of the head of a coulee that leads to the southwest, out of the project area (Figure 31). This area was noted by natural vegetation as well as the draw. To the east is the southwest cultivation area. Three subsurface inspections, all of which were shovel tests, were conducted in this area. The A horizon was generally deeper in this area, being approximately 20 cm deep and

followed by the C horizon (Figure 32).

Southwest Cultivation

This cultivated area is arbitrarily differentiated from the West Cultivation area to the north primarily by the presence of EgPn-770, but also because it sits in a relatively flat area that appears to be related to a terrace south of the project area (Figure 33). To the west is the Southwest Draw area and to the east is the Central Draw area. Surface visibility is excellent because of the cultivation. Seven subsurface inspections were conducted (five exposures and two shovel tests), primarily in reaction to identifying cultural materials on the surface. The two shovel tests produced no cultural materials. The profiles of the shovel tests show the plowzone extending to the subsoil. On the basis of the artifacts identified on the surface (i.e., the five exposures), this area was recorded as EgPn-770.

EgPn-770

EgPn-770: Site Description							
Site Clas	ss: I	s: Precontact		Sub Type:	Surface		
Site Type: Campsite			Site Condition:	Disturbed			
Site Location:							
	LSD 4, Section 19, Township 25, Range 02, W5M						
	(NAD 83) 11U 690356 Easting 5668888 Northing						
Impact:	Yes	Significance:	Low	Recommendation	on: Clearance		

Access

From the intersection between 12 Mile Coulee Road and Township Road 253A, continue along TR 253A for 415 m to a driveway heading south. Proceed south along the driveway for 60 m to a vehicle access point on the right. Enter the field and continue west for 700 m to the south of the knoll until the drainage crossing. From the crossing, head southwest across the field for 1.4 km.



Figure 29: West Cultivated area as seen from EgPn-406.



Figure 30: Shovel Test G18 in West Cultivation area.



Figure 31: Southwest Draw area.



Figure 32: Shovel Test S03 in Southwest Draw area.



Figure 33: Southwest Cultivation area, including EgPn-770.

Environment/Setting

The site is located in the southwestern corner of the field, 40 m east of a draw leading to a deep coulee, which is located approximately 125 m south of the site. To the north and east lie slight rises. The site lies in cultivated field.

Site description

The site is a sparse scatter of bone and FBR located in an area 80 m long by 40 m wide (Figure 34). Two pieces of FBR and two pieces of bone were collected from surface exposures with a third bone fragment observed in a surface exposure, but not collected. Two shovel tests were excavated, but were negative.

Additional site area may continue beyond the project footprint into natural vegetation to the south.

Site significance/recommendations

Because of the low artifact density and the fact that the site has been thoroughly

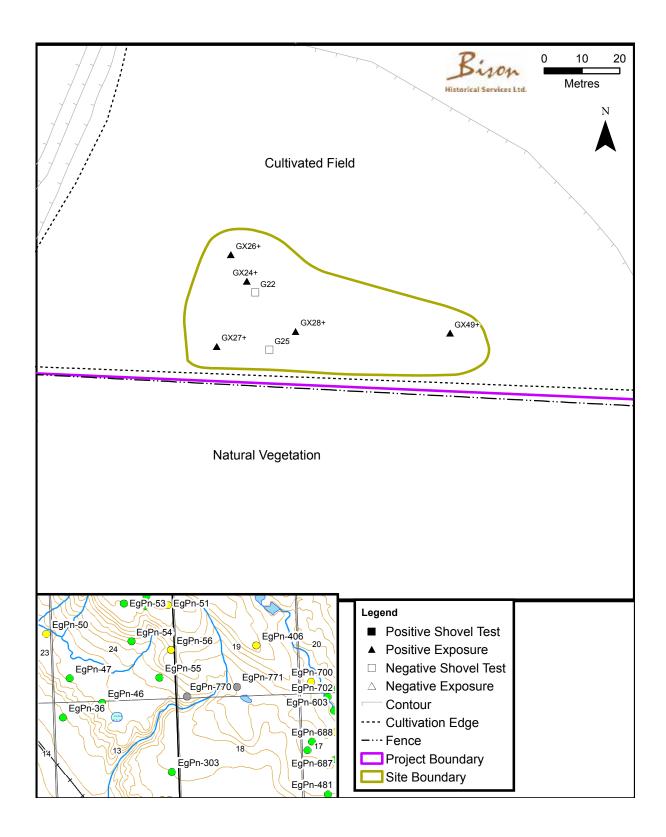


Figure 34: Site sketch map for EgPn-770.

disturbed by plowing, the site is considered to be of low significance. Clearance is therefore recommended for EgPn-770.

Central Draw

The Central Draw encompasses the terrace of the central drainage and ancillary draws, but not those portions that fall in the Central Site area, nor the coulee bottom itself, which is described as its own area. This area consists of naturally vegetated areas as well as the immediately adjacent cultivated margins (Figure 35). These cultivated areas were subjected to pedestrian survey in the hopes of identifying archaeological sites that extend into the vegetated areas. This strategy did not identify any cultural materials within the Central Draw area. In many locations throughout this area, the cultivation extended to the edge of the terrace, leaving little naturally vegetated areas worth shovel testing.

For subsurface inspections, 32 shovel tests were placed throughout the naturally vegetated areas. These subsurface inspections often possessed a disturbed A horizon between 15 and 20 cm deep, followed by sterile subsoil (Figure 36). The source of the disturbance is unclear. It might have been from earlier tilling that was not recorded, or it might be from excessive livestock traffic from when the land was primarily used for grazing. Nevertheless, no cultural materials were identified in any of the inspections.

Two dams are present in this assessment area. Both of these appear in 1966 aerial photographs and, being greater than 50 years in age, were recorded as historic structures.

HS 107214 (Thomas Hawkwood Farm - North Dam)

Access

From the intersection between Twelve Mile Coulee Road and Township Road 253A, continue along TR 253A for 415 m to a driveway heading south. Proceed south along driveway for 60 m to a vehicle access point on the right. Enter the field and continue west 730 m, passing south of the knoll, to the dam.



Figure 35: Central Draw area as viewed from EgPn-406.



Figure 36: Shovel Test S02 in Central Draw area.

HHS#: 107214 Thomas Hawkwood Farm - North Dam							
Site Clas	ss: F	s: Historic		Sub Type:	Surface		
Site Type: Agricultural: Othe		er	Site Condition:	Intact			
Site Location:							
LSD 6, Section 19, Township 25, Range 02, W5M							
	(NAD 83) 11U 690829 Easting 5669603 Northing						
Impact:	Yes	Significance:	Low	Recommendation	on: Clearance		

Environment/Setting

The site is located within the natural drainage that runs through the centre of the project area. It is bordered on the east and west sides by cultivated field. To the north is the pond created from the dam. To the south is the drainage containing natural grasses and willow.

Site description

The site consists of a Historic Period dam (Figure 37, Figure 38; see Appendix



Figure 37: HS 107214 Thomas Hawkwood Farm - North Dam, LSD6-19-25-2 W5M.

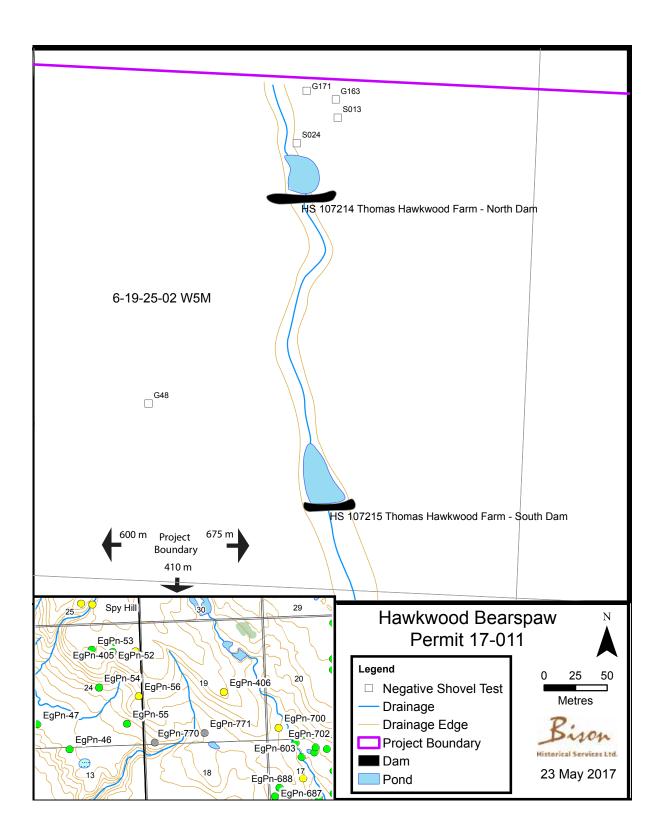


Figure 38: Site sketch map for HS 107214 and HS 107215.

S for Heritage Survey Site Form). This structure consists of an earthen embankment with a stone core. The dam measures 50 m from side to side and is 6 m wide. The top of the structure sits approximately 4 m above the bottom of the drainage on the downstream side.

Site significance/recommendations

This dam is assessed to be of low historical resource significance. Therefore, no further historical investigations are recommended for this Historic structure.

HHS#: 107215 Thomas Hawkwood Farm - South Dam							
Site Clas	ss: His	s: Historic		Sub Type:	Surface		
Site Type: Ag		ricultural: Oth	er	Site Condition:	Int	act	
Site Location:							
LSD 6, Section 19, Township 25, Range 02, W5M							
	(NAD 83) 11U 690867 Easting 5669358 Northing						
Impact:	Yes	Significance:	Low	Recommendation	on:	Clearance	

HS 107215 (Thomas Hawkwood Farm - South Dam)

Access

From the intersection between Twelve Mile Coulee Road and Township Road 253A, continue along TR 253A for 415 m to a driveway heading south. Proceed south along driveway for 60 m to a vehicle access point on the right. Enter the field and continue west 750 m, passing south of the knoll, to the dam.

Environment/Setting

The site is located within the natural drainage that runs through the centre of the project area. It is bordered on the east and west sides by cultivated field. To the north is the pond created from the dam. To the south is the drainage containing natural grasses and willow.

Site description

The site consists of a Historic Period dam (see Figure 38, Figure 39; see



Figure 39: HS 107215 Thomas Hawkwood Farm - South Dam, LSD6-19-25-2 W5M.

Appendix D for the Heritage Survey Site Form). This structure consists of an earthen embankment with a stone core. The dam measures 36 m from side to side and is six metres wide. The top of the structure sits approximately three metres above the bottom of the drainage on the downstream side.

Site significance/recommendations

This dam is assessed to be of low historical resource significance. Therefore, no further historical investigations are recommended for this Historic structure.

Coulee Bottom

The Coulee Bottom area is located within the base of the coulee, near the southern portion of the project area. In this area, the coulee consists of steep-sided v-shaped profile, with few areas possessing any archaeological potential (Figure 40). Most of this area was subjected to pedestrian survey along the base of the coulee in an effort to identify bone or artifacts eroding out of the hillside or stream channel. No



Figure 40: Coulee Bottom area.

such materials were observed. One negative shovel test was also examined. It was excavated to a total depth of 35 cm and consisted of a colluvially thickened A horizon over the C horizon. Deep testing was deemed to be unwarranted in this location because the high steep-sided terraces and narrow coulee bottom were of low archaeological potential and no evidence of favourable conditions for deep sedimentation (e.g., an accumulation of alluvium) was present in the shovel test profile.

Central Site

The Central Site area is defined primarily by the landforms that encompass EgPn-771. It extends from the east terrace overlooking the Coulee Bottom area, and eastward where it surrounds a body of water. The Southeastern Low area is located to the east. The Central Site area sits primarily in an area of natural vegetation, but extends into the East Cultivation area. A total of 182 subsurface inspections were conducted throughout this area (166 shovel tests and 16 exposures). Throughout this area, 43 subsurface inspections were positive (27 shovel tests and 16 exposures). All

of these inspections are included in the site boundary for the newly defined EgPn-771. Of the 182 inspections conducted throughout this area, only nine fall outside of EgPn-771. All of these were negative.

EgPn-771

EgPn-771: Site Description							
Site Clas	ss: P	B: Precontact		Sub Type:	Subsurface		
Site Type	Type: Campsite		Site Condition:	Intact			
Site Location:							
LSD 7, Section 19, Township 25, Range 02, W5M							
	(NAD 83) 11U 691268 Easting 5669594 Northing						
Impact:	Yes	Significance:	Moderate	Recommendation	on: Avoidance/HRIM		

Access

From the intersection between Twelve Mile Coulee Road and Township Road 253A, continue along TR 253A for 415 m to a driveway heading south. Proceed south along the driveway for 60 m to a vehicle access point on the right. Enter the field and continue 700 m south of the knoll to the drainage crossing. From the crossing, head southwest across the field for 1.4 km.

Environment/Setting

EgPn-771 makes up most of the central site assessment area. The site measures 510 m east/west by 210 m north/south. It is focused around the pond area, but also up the slope in the west to the terrace overlooking the central drainage (Figure 41). Vegetation consists primarily of grasses with some willow in the lower, wetter, areas adjacent to the pond and patches of aspen throughout the site.

Site description

Although this site exists on a number of different minor landforms, the archaeological finds throughout this site are within 100 m of the next nearest find.

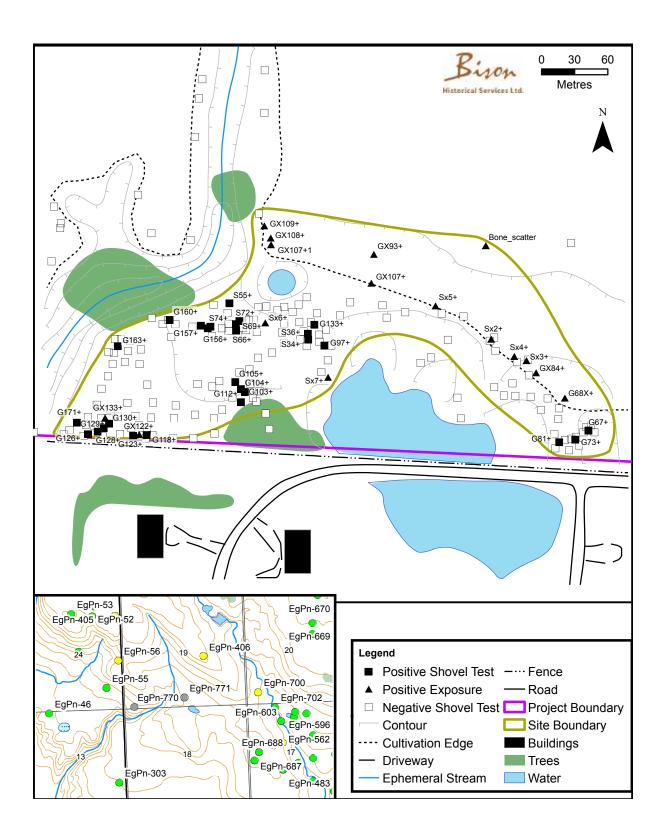


Figure 41: Site sketch map for EgPn-771.

Additionally, the changes between the landforms are somewhat subtle, so while the difference between the eastern and western finds are great as far as landforms go, the distance between one cluster and the next neighbouring one is much smaller. As such, and after consultation with ACT, it was decided to treat the finds as a single site. Within this site, there are seven clusters of finds that will be discussed in the greatest detail (Figure 42). These are significant areas for which there will be recommendations for avoidance or, if avoidance is not possible, an HRIM.

In total, 173 subsurface inspections were conducted, including 16 exposures (all positive), and 157 shovel tests (27 positive). Of these, 79 subsurface inspections fall outside of the recommendation areas, including 12 positive exposures and 67 negative shovel tests. The positive exposures were all surface finds that fall within plowed fields. The shovel tests were placed throughout the site and identify areas where no cultural material was found. Shovel test profiles were similar to those elsewhere in the project area with an unplowed A horizon being 10 to 15 cm deep on higher ground and 20 to 30 cm deep in lower areas. This was followed by the C horizon.

Within the plowed fields, 11 positive exposures were identified along the edge of the plowed field. In total, seven bone fragments and four FBR were observed and two FBR collected. On a knoll at the northern edge of the site, an additional scatter of three bone fragments were observed but not collected.

Recommendation area (RA) 1 is located in the southwestern corner of EgPn-771. It is located along the fence marking the property line and is focused near the terrace edge, overlooking the central drainage (Figure 43). At this area, 25 subsurface inspections were conducted, including two exposures and 23 shovel tests. Both exposures and seven of the 23 shovel tests were positive. Artifacts identified in this area included ten pieces of FBR (eight from shovel tests, two from exposures), one quartzite flake, and two quartzite multidirectional cores. All three lithic artifacts

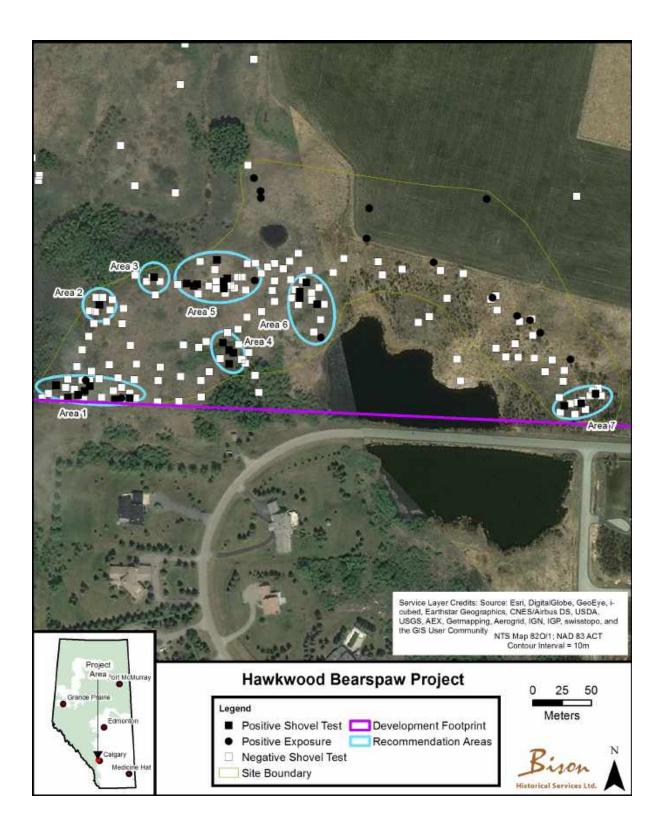


Figure 42: Recommendation Areas for EgPn-771 as discussed in the text.



Figure 43: Recommendation Area 1, EgPn-771. were from shovel tests. See Appendix H for tool descriptions.

RA 2 is located along the high terrace overlooking the central drainage, approximately 60 m north of RA1. Seven subsurface inspections, all of which were shovel tests, were conducted here, with one producing a bipolar core and a piece of FBR (Figure 44). See Appendix H for a description of the core.

RA 3 is located on a flat spot along the terrace as it descends towards the east (Figure 45). Four subsurface inspections, all of which were shovel tests, were conducted, with one positive shovel test recovering seven pieces of FBR and one siltstone multi-directional core. See Appendix H for a description of the core.

RA 4 is located on a flat area midway down the slope overlooking the pond. The vegetation for this area is thicker with aspen. Eight subsurface inspections were conducted in this area, all of which were shovel tests. Four positive shovel tests



Figure 44: Bipolar Core from Recommendation Area 2, EgPn-771.



Figure 45: Recommendation Area 3, EgPn-771. recovered seven pieces of FBR.

RA 5 is located in a saddle where the terrace dips into a gradual decent to the central drainage, close to the place where the drainage turns towards the north and becomes less deeply incised (Figure 46). At this RA, 22 subsurface inspections were conducted, including one positive exposure and 21 shovel tests (Figure 47). Of these shovel tests, seven were positive, producing eight pieces of FBR. The positive exposure produced one piece of FBR, which was not collected.

RA 6 is located on the other side of two low knolls from RA 5 and seems to be focused more on the pond, rather than the drainage (Figure 48). Fifteen subsurface inspections were conducted in this area, including one positive exposure and 14 shovel tests (four positive). Artifacts recovered from this area were four pieces of FBR, two quartzite flakes, and one Montana chert flake.



Figure 46: Recommendation Area 5, EgPn-771.



Figure 47: Shovel test in Recommendation Area 5, EgPn-771.



Figure 48: Southern edge of Recommendation Area 6, EgPn-771.

RA 7 is located on the eastern edge of the site (Figure 49). Thirteen subsurface inspections were conducted in this area, three positive. These were all located in a lower area of aspen adjacent to a small gravelly rise that was populated with native grasses (Figure 50). No site features were identified in this native area. Artifacts recovered from this area were a total of four FBR from the shovel tests.

Site significance/recommendations

As discussed above, mitigative excavation or avoidance is recommended for the seven recommendation areas. Table 6 lists the recommendations for each of the RAs.

Southeastern Low

The Southeastern Low area is focused along the southern boundary of the project area, generally of cultivated high ground surrounding low areas that are vegetated with willow and other wet ground plants. Pedestrian survey of the cultivated



Figure 49: Recommendation Area 7, EgPn-771, from the east.



Figure 50: Recommendation Area 7, EgPn-771.



Area	Recommendation
1	6 m ²
2	2 m ²
3	2 m ²
4	4 m ²
5	6 m ²
6	6 m ²
7	4 m ²
Total	30 m ²

Table 6: Recommended metres for EgPn-771 areas.

places did not identify any cultural materials. Four subsurface inspections were conducted in this assessment area, all of which were shovel tests. The Ap horizon on some of the surrounding landforms was shallow, turning quickly to the rocky subsoil. Elsewhere, colluvial accumulation led to a thicker A horizon. No cultural materials were identified in these shovel tests.

Developed Lot

Located south of Blueridge Rise, the Developed Lot area is part of the project area that is already developed (Figure 51). The Southeastern Plot area is located to the east. No subsurface inspections were conducted within this area. Visual assessment of the area suggests that it was heavily modified from prior construction, in a manner similar to the Southeastern Plot area discussed below. No cultural materials were identified.

Southeastern Plot

The Southeastern Plot area is located south of Blueridge Rise, east of the Developed Lot area (Figure 52). Vegetation consists of disturbed earth plants including grasses. A low area was located in the center of the assessment area, extending to the west edge. Twelve subsurface inspections were conducted within this area, all of which were shovel tests with maximum depth ranging from 25 to 35 cm. The shovel tests excavated closer to Blueridge Rise consisted of fill. Further south in the



Figure 51: Developed Lot area.



Figure 52: Southeastern Plot area.





Figure 53: Shovel test in the Southeastern Plot area.

assessment area, the fill was not present, however the A horizon was visibly disturbed. No cultural materials were identified.

East Cultivation

This assessment area is the plowed portion east of the central draw. The northern edge is on level ground, surrounding the farmyard. Most of this area is sloping ground surface with low archaeological potential, descending from the Ridge Top and Farmyard areas towards the Central Draw, Central Site, and Southeastern Low areas (Figure 54). Ground surface visibility was excellent and in excess of 50% because vegetation had not yet begun to repopulate in the cultivated areas. Pedestrian survey was conducted around the assessment area to examine any flat knolls or saddles for cultural materials. Ten subsurface inspections, all of which were shovel tests, were conducted in this area. The plowzone was found to extend into the C horizon on the knolls, although the A horizon was deeper in the draws (Figure 55). No cultural materials were identified on the surface or in any of the shovel tests.



Figure 54: East Cultivation area.



Figure 55: Shovel test in a draw in the East Cultivation area.

Within the East Cultivation assessment area, two structures had been photographed in the unsubmitted 2007 HRO. These were an old house and an old granary. In 2008, the house had been recorded as a historic structure (HS100611 Thomas Hawkwood Farm Joe Vincent Farm House; Figure 56), however the granary had not. During the revisit for this HRIA, it was determined that both structures had been demolished. An assortment of metal material remained in the location where the house had been (Figure 57). Most of this was unidentifiable but a metal grating and a metal wheel were noted. At the granary, only some burnt wooden structural materials were identified. These structures were not tested as archaeological properties because their date of demolition was within the past 10 years.

Farmyard

The Farmyard assessment area is located in the northeastern part of the project area and consists of the farmyard associated with the agricultural activities that took place throughout the project area. A pedestrian survey was conducted throughout the assessment area, finding that the ground surface had been heavily modified. One subsurface inspection was recorded as a negative exposure to reflect this. No archaeological materials were identified.

This farmyard is associated with the Thomas Hawkwood Farm. Of the 11 previously recorded Historic Structures, only three remain (Table 7). These are HS 100617 Thomas Hawkwood Farm House (Figure 62), HS 100618 Thomas Hawkwood Farm Garage (Figure 63), and HS 100615 Thomas Hawkwood Well House (Figure 64). Per the Schedule 'A' requirements (HRA# 4835-16-0102-001), these structures were not redocumented.

In addition to the three previously recorded structures, three new structures were identified and documented within the farmyard assessment area: HS 107216 Thomas Hawkwood Farm - Well 1, HS 107217 Thomas Hawkwood Farm - Well 2, and HS 107218 Thomas Hawkwood Farm - Fence. These three structures are not visible in 1966 aerial photographs, but are thought to be 50 years old.



Figure 56: Location of HS100611 Thomas Hawkwood Farm Joe Vincent Farm House, LSD7-19-25-2 W5M.



Figure 57: Remains within HS100611 Thomas Hawkwood Farm Joe Vincent Farm House, LSD7-19-25-2 W5M.



Figure 58: Location of former granary.



Figure 59: Burnt wood at former granary.



Figure 60: Burnt wood at former granary.

HSS#	Name	Condition
100612	Thomas Hawkwood Farm Chicken Coop	Demolished
100613	Thomas Hawkwood Farm Granary	Demolished
100614	Thomas Hawkwood Farm Dairy Barn	Demolished
100615	Thomas Hawkwood Farm Well House	Present
100616	Thomas Hawkwood Farm Tool Shed	Demolished
100617	Thomas Hawkwood Farm Farm House	Present
100618	Thomas Hawkwood Farm Garage	Present
100619	Thomas Hawkwood Farm Granary	Demolished
100620	Thomas Hawkwood Farm Cow Shelter	Demolished
100621	Thomas Hawkwood Farm Animal Shelter	Demolished
100622	Tom Hawkwood Farm Hay Shed	Demolished

Table 7: Condition of previously recorded historic structures in Farmyard area.

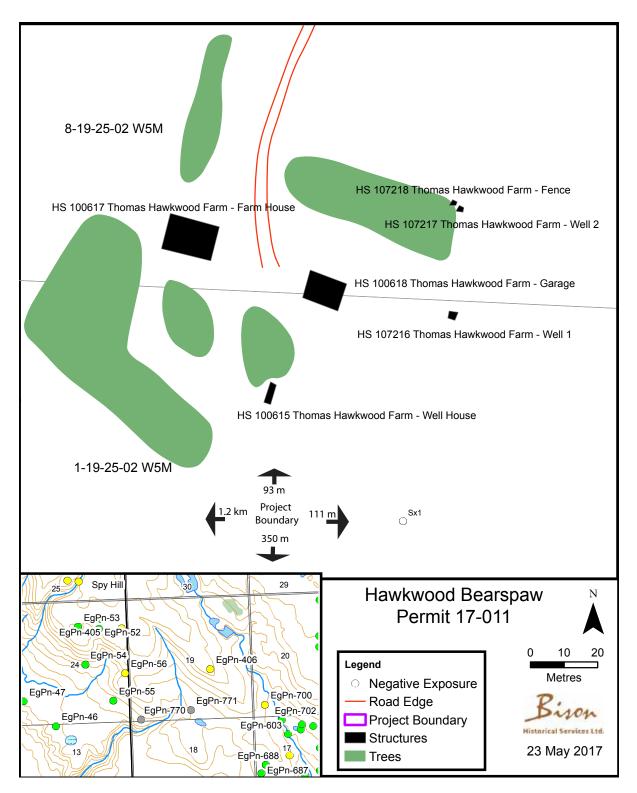


Figure 61: Sketch map of historic structures in the Farmyard area.



Figure 62: 100617 Thomas Hawkwood Farm House, LSD8-19-25-2 W5M.



Figure 63: HS 100618 Thomas Hawkwood Farm Garage, LSD8-19-25-2 W5M.



Figure 64: HS 100615 Thomas Hawkwood Farm Well House, LSD1-19-25-2 W5M.

HS	107216	(Thomas	Hawkwood	Farm -	Well 1)
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HHS#: 1	HHS#: 107216 Thomas Hawkwood Farm - Well 1					
Site Clas	ss: Historic Sub Type: Surface					
Site Type	Site Type: Well Site Condition: Intact				ct	
Site Loca	Site Location:					
	LSD 1, Section 19, Township 25, Range 02, W5M					
	(NAD 83) 11U 691567 Easting 5669314 Northing					
Impact:	Yes	Significance:	Low	Recommendation	on:	Clearance

Access

From the intersection between Twelve Mile Coulee Road and Township Road 253A, continue along TR 253A for 415 m to a driveway heading south. Proceed south along the driveway for 100 m, then head east for 50 m.

Environment/Setting

The site is located within the farmyard for the Thomas Hawkwood Farm, which is overgrown with tall grass.

Site description

The site consists of a well and pump (Figure 65; see Appendix D for Historic Structure Form). This structure consists of a Jensen 13W jack pump, a red dispensing nozzle attached to a large hose, two posts adjacent to the nozzle, and base boards. The base boards form a square approximately 2 m by 2 m. The pump, nozzle, and posts all extend from these base boards.

Site significance/recommendations

This well is assessed to be of low historical resource significance. Therefore, no further historical investigations are recommended for this Historic structure.



Figure 65: 107216 Thomas Hawkwood Farm - Well 1, LSD1-19-25-2 W5M.

HS 107217 (Thomas Hawkwood Farm - Well 2)

HHS#: 1	HHS#: 107217 Thomas Hawkwood Farm - Well 2					
Site Clas	ss: I	s: Historic Sub Type: Surface				
Site Type	Site Type: Well Site Condition: Intact				Intact	
Site Loca	Site Location:					
	LSD 8, Section 19, Township 25, Range 02, W5M					
	(NAD 83) 11U 691574 Easting 5669343 Northing					
Impact:	Yes	Significance:	Low	Recommendation	on: Clearance	

Access

From the intersection between Twelve Mile Coulee Road and Township Road 253A, continue along TR 253A for 415 m to a driveway heading south. Proceed south along the driveway for 60 m. Enter the field to the left and continue east 60 m, to the edge of some woody brush.

Environment/Setting

The site is located at the northeastern corner of the farmyard. It is bordered on the east and north sides by cultivated field. To the west is HS 107218 (Thomas Hawkwood Farm - Fence). The plants in the area consist of tall grasses. Tall woody brush is located immediate to the west.

Site description

The site consists of a Historic Period well (Figure 66; see Appendix D for Historic Structure Form). This structure consists of a dispensing nozzle attached to a metal pipe that extends from the ground. The nozzle is approximately 1.5 m in height. There are two round posts also extending from the ground. The pipe is attached to these with wire. A 2-x-4 board is leaning against the pipe as well. A metal hatch is also extending from the ground approximately 1 m from the pipe. No base boards were identified.



Figure 66: 107217 Thomas Hawkwood Farm - Well 2, LSD8-19-25-2 W5M. *Site significance/recommendations*

This well is assessed to be of low historical resource significance. Therefore, no further historical investigations are recommended for this Historic structure.

HS 107218 (Thomas Hawkwood Farm - Fence)

HHS#: 1	HHS#: 107218 Thomas Hawkwood Farm - Fence					
Site Clas	s: Historic Sub Type: Surface					
Site Type	Site Type: Agricultural: Other Site Condition: Heavily disturbed				vily disturbed	
Site Location:						
	LSD 8, Section 19, Township 25, Range 02, W5M					
(NAD 83) 11U 691562 Easting 5669346 Northing						
Impact:	Yes	Significance:	Low	Recommendation	on: 🛛	Clearance

Access

From intersection between Twelve Mile Coulee Road and Township Road

253A, continue along TR 253A for 415 m to a driveway heading south. Proceed south along the driveway for 60 m. Enter the field to the left and continue east 60 m, to the edge of some woody brush.

Environment/Setting

The site is located at the northeastern corner of the farmyard. It is bordered on the east and north sides by cultivated field. Approximately 7 m to the east is HS 107217 (Thomas Hawkwood Farm - Well 2). The plants in the area consist of tall woody brush. Tall grasses are located immediately to the east.

Site description

The site consists of a Historic Period fence (Figure 138; see Appendix 5 for Historic Structure Form). The fence measures approximately 4 m from end to end and is roughly 1.5 m tall. It consists of four horizontal rows of boards attached to three wooden posts.



Figure 67: 107218 Thomas Hawkwood Farm - Fence, LSD8-19-25-2 W5M.

Site significance/recommendations

This fence is assessed to be of low historical resource significance due to the fact that the structure has been completely documented (Appendix G). Therefore, no further historical investigations are recommended for this historic structure.

Historic Structures Recommendations

A total of eight historic structures were identified throughout the project area. Two structures were identified in the Central Draw assessment area. Three previous structures and three newly identified structures were identified in the Farmyard assessment area. All of these structures are discussed in the assessment area descriptions above, as well as in Table 8.

Land Ownership

The majority of the project footprint, as well as all of the historic structures, occur in SW-19-25-2 W5M and SE-19-25-2 W5M. These quarter-sections show ownership starting with William Parslow in 1907. They changed hands in 1939 to Thomas Hawkwood, via Arthur Hawkwood, and both the previously recorded historic structures and the newly recorded historic structures are all affiliated with the Thomas Hawkwood ownership of the land. Table 9 and Table 10 outline the series of land title transfers for the two quarter-sections.

ATS	Site Name/ Data Source	Impact	Mitigation
1-19-25-2 W5M	Thomas Hawkwood Farm - Well House	Within project area.	Documentation completed is sufficient mitigation. No further concerns.
1-19-25-2 W5M	HS 107216 Thomas Hawkwood Farm - Well 1	Within project area.	Documentation completed is sufficient mitigation. No further concerns.
6-19-25-2 W5M	HS 107214 Thomas Hawkwood Farm - North Dam	Within project area.	Documentation completed is sufficient mitigation. No further concerns.
6-19-25-2 W5M	HS 107215 Thomas Hawkwood Farm - South Dam	Within project area.	Documentation completed is sufficient mitigation. No further concerns.
8-19-25-2 W5M	Thomas Hawkwood Farm - Farm House	Within project area.	Documentation completed is sufficient mitigation. No further concerns.
8-19-25-2 W5M	Thomas Hawkwood Farm - Garage	Within project area.	Documentation completed is sufficient mitigation. No further concerns.
8-19-25-2 W5M	HS 107217 Thomas Hawkwood Farm - Well 2	Within project area.	Documentation completed is sufficient mitigation. No further concerns.
8-19-25-2 W5M	HS 107218 Thomas Hawkwood Farm - Fence	Within project area	Documentation completed is sufficient mitigation. No further concerns.

Table 8: Historic Structure summary.

Transfer Date	Owner Names	Owner Occupation
24 August, 1892	Christopher Miller Rawlinson	
24 August, 1907	William Parslow	Horse-dealer
16 June, 1911	William Parslow	Horse-dealer
6 December, 1939	Sarah Victoria Parslow and Isaac Ver- non Parslow	Widow and Merchant
12 December, 1939	Arthur Hawkwood	Farmer
29 September, 1945	Thomas Mason Hawkwood	Farmer
11 August, 1988	Thomas Mason Hawkwood	Farmer

Table 9: Land title transfers for SW-19-25-2 W5M, including HS 107214 Thomas Hawkwood Farm - North Dam and HS107215 Thomas Hawkwood Farm - South Dam.

Transfer Date	Owner Names	Owner Occupation
February 27, 1902	Canadian Pacific Railway Company	
26 April, 1902	Arthur Miller Rawlinson	
24 August, 1907	William Parslow	Horse-dealer
16 June, 1911	William Parslow	Horse-dealer
6 December, 1939	Sarah Victoria Parslow and Isaac Ver- non Parslow	Widow and Merchant
12 December, 1939	Arthur Hawkwood	Farmer
29 September, 1945	Thomas Mason Hawkwood	Farmer
11 August, 1988	Thomas Mason Hawkwood	Farmer

Table 10: Land title transfers for SE-19-25-2 W5M, including HS 107216 Thomas Hawkwood Farm - Well 1, HS 107217 Thomas Hawkwood Farm - Well 2, and HS 107218 Thomas Hawkwood Farm - Fence..

SUMMARY AND RECOMMENDATIONS

On behalf of Brown and Associates Planning Group, acting as agent for Highfield Land Management, Bison Historical Services Ltd. has conducted a Historical Resources Impact Assessment (HRIA) of the Hawkwood Bearspaw project, located in the south half of 19-25-2-W5M and LSD 16 of 18-25-2-W5M. The proposed project will impact 115.3 ha of agricultural land.

From April 20 to May 10, 2017, the author and A. Sean Goldsmith carried out the fieldwork for this HRIA. Work included ground surface survey augmented by judgmental subsurface testing of portions of the development area. As a part of this fieldwork, 271 subsurface inspections were conducted. Two newly identified historical resource sites were recorded and one previously identified site was revisited during the course of this HRIA.

Newly identified site EgPn-770 is a campsite of low significance located in the southwestern corner of the project area. Clearance is recommended for this site.

Revisited site EgPn-406 is a stone feature site of moderate significance located in the northern portion of the project area. Newly identified site EgPn-771 is a campsite of moderate significance located in the south-central portion of the project area. Avoidance is recommended for both of these sites. If these sites cannot be avoided, then Historical Resource Impact Mitigation (HRIM) is recommended. Appendix G shows the locations of the recommended areas.

Eight historic structures associated with the Thomas Hawkwood farm are located within the project area and will be adversely impacted by the proposed project (HS: 100615 Thomas Hawkwood Farm - Well House, 100617 Thomas Hawkwood Farm - Farm House, 100618 Thomas Hawkwood Farm - Garage, 107214 Thomas Hawkwood Farm - North Dam, 107215 Thomas Hawkwood Farm - South Dam, 107216 Thomas Hawkwood Farm - Well 1, 107217 Thomas Hawkwood Farm - Well 2, and 107218 Thomas Hawkwood Farm - Fence). These structures are considered to have low historical significance, therefore no further work is recommended for them.

In light of the agricultural disturbance and lack of cultural material, it is

recommended that the Hawkwood Bearspaw project be given clearance to proceed for those areas outside of the EgPn-406 and EgPn-771 site boundaries. It is further recommended that an HRIM be conducted before proceeding with construction within those sites. This recommendation is subject to the approval of ACT.

REFERENCES CITED

Alberta - Alberta Government

2002 Archaeological and Palaeontological Research Permit Regulation (Alberta Regulation 254/2002). Alberta Culture and Community Spirit, Edmonton.

ASA – Archaeological Survey of Alberta

1989 Guidelines for Archaeological Permit Holders in Alberta. Archaeological Survey of Alberta, Historical Resources Division, Alberta Culture and Multiculturalism, Edmonton.

ARESCO Ltd.

1976 Archaeological Inventory and Assessment, Proposed Happy Valley Artist View Park Waterline (ASA Permit 76-004). MS on file, Archaeological Survey of Alberta, Edmonton.

1980 Historical Resources Impact Assessment Gravel Pit, Calgary (ASA Permit 80-007). MS on file, Archaeological Survey of Alberta, Edmonton.

1981 Historical Resource Impact Reassessment Burnco Gravel Pit (ASA Permit 81-075). MS on file, Archaeological Survey of Alberta, Edmonton.

Balcom, Rebecca J.

1989 Historical Resources Impact Assessment Patterson Heights Subdivision (ASA Permit 89-109). MS on file, Archaeological Survey of Alberta, Edmonton.

1990 Historical Resources Impact Assessment Baker Centre (ASA Permit 90-095). MS on file, Archaeological Survey of Alberta, Edmonton.

Baldwin, S.J.

1991 Historical Resources Impact Mitigation EgPn-238 Lot 3, Plan 831 1349 (NE4-24-2-W5M) Scenic Ridge Estates Phase IIIB Residential Subdivision in Calgary, Alberta (ASA Permit 91-063). MS on file, Archaeological Survey of Alberta, Edmonton.

1993 In preparation,HRIA, Subdivisions, Calgary Academy School, W5 R02 T024 S16 SW PT (ASA Permit 93-104). MS on file, Archaeological Survey of Alberta, Edmonton.

Boland, D. E. and B. Brenner

2010 Historical resources impact mitigation Melcor Developments Ltd. Valley Ridge - Sweet Lands Subdivision within NW1/4 31-24-2-W5M EgPn 441, EgPn 442, and EgPn 443 : final report (ASA Permit 09-200). MS. On file, Archaeological Survey of Alberta, Edmonton.

Borden, Charles E.

1952 A Uniform Site Designation Scheme for Canada, in Anthropology in British Columbia, No. 3, pp. 44-48.

Boyd, Matthew

2002 Identification of Anthropogenic Burning in the Paleoecological Record of the Northern Prairies: A New Approach. Annals of the Association of American Geographers 92 (3), 471–487.

Brewer, G.R.

1992 Historical Resources Impact Assessment of the Rocky Ridge Development Final Report (ASA Permit 92-062). MS on file, Archaeological Survey of Alberta, Edmonton.

Chlachula, J.P.

1993 The Varsity Estates and Silver Springs Late Pleistocene Sections, Calgary N.W. Geoarchaeological Investigations 1991–1993 (ASA Permit 93-018). MS of file, Archaeological Survey of Alberta, Edmonton.

Clavelle, Christina M.

2000a Historical resources impact mitigation Glencoe Golf and Country Club, Calgary, Alberta : final report (ASA Permit Number 99-047), unpublished consultants report on file with the Archaeological Survey of Alberta.

2000b Historical resources impact assessment and mitigation, EgPn-611(ASA Permit Number 00-128), unpublished consultants report on file with the Archaeological Survey of Alberta.

2002 Historical resources impact assessment East Lands expansion Glencoe Golf & Country Club: final report (ASA Permit Number 02-082), unpublished consultants report on file with the Archaeological Survey of Alberta.

Dau, B.J.

1993 Historical Resources Impact Assessments 1993-94 Highways Developments (ASA Permit 93-045). MS on file, Archaeological Survey of Alberta, Edmonton.

DS Consulting Ltd.

1986 Historical Resources Impact Assessment Bearspaw Village Subdivision Phase I (ASA Permit 86-030). MS on file, Archaeological Survey of Alberta, Edmonton.

De Mille, Christy

2001a Historical Resources Impact Assessment Aspen Estates Phase 2b Residential Subdivision Southwest Calgary 15-24-2-W5M (ASA Permit 2001-151). Ms on file Archaeological Survey of Alberta, Edmonton.

2001b Historical resources mitigation Moddle Homes residential subdivision SW 1/4-24-24-3-W5M: final report (ASA Permit Number 00-018), unpublished consultants report on file with the Archaeological Survey of Alberta.

Epp, Henry T.

1988 Way of the Migrant Herds: Dual Dispersion Strategy Among Bison. Plains Anthropologist 33: 309-320.

Fedirchuk, Gloria J.

1988 Historical Resources Impact Assessment Gordon Atkins and Associates Architects Ltd. Cullen Creek Phase II Subdivision (ASA Permit 88-045). MS of file, Archaeological Survey of Alberta, Edmonton.

nd. In preparation, Bemoco Land Surveying Ltd. Subdivision, EgPn block (ASA Permit 89-055). MS on file, Archaeological Survey of Alberta, Edmonton.

Fedirchuk, Gloria J., and Kit D. Krozser

1990 Historical Resources Impact Assessment The City of Calgary Northwest Recreational and Educational Site (ASA Permit 89-037). MS on file, Archaeological Survey of Alberta, Edmonton.

Forner, Cheryl I.

2006 Historical resources impact assessment City of Calgary Corporate Properties & Buildings #8052 Spy Hill subdivision (ptn NW22-25-02-W5M): final report (ASA Permit Number 06-182), unpublished consultants report on file with the Archaeological Survey of Alberta. Gorham, L.R.

1995 Historical Resources Impact Assessment Citiland Development Corp. Rocky Ridge Subdivision - Calgary (ASA Permit 95-069). MS on file, Archaeological Survey of Alberta, Edmonton.

1996 Historical resources impact assessment 2076 Holdings Ltd. Springbank Country residential subdivision (ASA Permit 96-001). MS on file, Archaeological Survey of Alberta, Edmonton.

Gryba, Eugene M.

1983 Final Report of the 1982 Archaeological Survey of Alberta Highways and Recreation Area Developments (ASA Permit 82-072C). MS on file, Archaeological Survey of Alberta, Edmonton.

1992 Historical Resources Mitigation Emerald Bay Estates Prehistoric Sites EgPn 66, EgPn 67, EgPn 68 (ASA Permit 92-083). MS on file, Archaeological Survey of Alberta, Edmonton.

1995 Historical Resources Impact Assessment Parts of LSD 13-15 and SW 23 of TP 25 R 1 W of 5 M Arbour Lake Stage 6 Subdivision at Calgary, Alberta (ASA Permit 95-017). MS on file, Archaeological Survey of Alberta, Edmonton.

2015 Historical resources impact assessment Siteworks Ltd. Bow Valley Crossing, West Calgary, Alberta, residential subdivision LSDs 1, 2 & 7, SE 32, Tp 24, Rge 2, W5M: final report (ASA Permit 14-189). MS on file, Archaeological Survey of Alberta, Edmonton.

Gryba, Eugene M., J. Chartrand, and Gloria Fedirchuk

1990 Assessment and Mitigation of Archaeological Sites on Melcor Developments Ltd. Planned Arbour Lake Development (ASA Permit 89-084 and 89-098). MS of file, Archaeological Survey of Alberta, Edmonton.

Hanna, Donald T.

1997a Historical Resources Impact Assessment Country Residential Subdivision sec. 15, twp. 24, rge. 3, W5M (ASA Permit 97-008). MS of file, Archaeological Survey of Alberta, Edmonton.

1997b Historical Resources Impact Assessment Makoi Developments Lltd (Pt. W1/2 of 1-25-3-W5M (ASA Permit 97-111). MS of file, Archaeological Survey of Alberta, Edmonton.

1998 Historical Resources Impact Assessment Mylonas Enterprises Ltd. Residential Subdivision Pt. NE 22-24-2-W5M (ASA Permit Number 98-048). MS of file, Archaeological Survey of Alberta, Edmonton.

1999 Historical resources impact assessment residential subdivision Royal Oak - East parts of LSD 7, 8, 9 & 10-21-25-2-W5M (ASA Permit Number 99-003), unpublished consultants report on file with the Archaeological Survey of Alberta.

2000a Historical resources impact assessment #26 Bearsclaw Drive, residential subdivision parts of NW-17-25-2-W5M (ASA Permit Number 00-041), unpublished consultants report on file with the Archaeological Survey of Alberta.

2000b Historical resources impact assessment Rudiger Ranch, residential subdivision, SW 1/4-36-24-3-W5M (ASAPermit Number 00-096), unpublished consultants report on file with the Archaeological Survey of Alberta.

2002 Historical resources impact assessment Montessori School, Portions of NW-16-24-2-W5M: final report (ASA Permit Number 02-065), unpublished consultants report on file with the Archaeological Survey of Alberta.

Head, Thomas H.

1989 Historical Resources Impact Assessment Elbow Valley Golf and Polo Club (ASA Permit 89-077). MS on file, Archaeological Survey of Alberta, Edmonton.

1991 Historical Resources Impact Mitigation Edworthy Park Extension (ASA Permit 91-014). MS on file, Archaeological Survey of Alberta, Edmonton.

1997 Historical resources impact assessment proposed Stonepine residential community development portions of NE Sec. 1 and SE Sec. 23, Twp. 24, Rge. 3, W5M (ASA Permit 97-165). MS on file, Archaeological Survey of Alberta, Edmonton.

1998 Historical resources impact assessment Stoney Trail / Country Hills Boulevard N.W. (ASA Permit Number 98-009). MS on file, Archaeological Survey of Alberta, Edmonton. 1999 Historical resources impact assessment Glencoe Golf and Country Club Pt S1/2 1-24-3-W5M: final report (ASA Permit Number 98-176), unpublished consultants report on file with the Archaeological Survey of Alberta.

Head, Thomas, and T. Smith

1980 Historical Resources Impact Assessment Melcor Developments Ltd. Northwest Calgary (ASA Permit 79-008). MS on file, Archaeological Survey of Alberta, Edmonton.

Head, Thomas, and Stanley Van Dyke

1981 Conservation Excavations and Subsurface Historical Resources Impact Assessment EgPn-146 SE/22/25/2/5 (ASA Permit 81-081). MS on file, Archaeological Survey of Alberta, Edmonton.

Heitzmann, Roderick J.

1978 Historical Resources Inventory and Assessment, Proposed Southern Alberta Highway Construction Projects, 1978 (ASA Permit 78-053C). MS on file, Archaeological Survey of Alberta, Edmonton.

Heitzmann, Roderick J., John Priegert, and Shirleen S. Smith

1981 Historical Resources Inventory and Assessment: Proposed Southern Alberta Highway Construction Projects 1980 (ASA Permit 80-096C). MS on file, Archaeological Survey of Alberta, Edmonton.

Himour, Bradley D.

2000 Historical resources impact assessment LSD 3, 4 & 5 Section 28, Township 24, Range 2, W of 5th M Calgary, Alberta: final report (ASA Permit Number 00-223), unpublished consultants report on file with the Archaeological Survey of Alberta.

HRMB – Historic Resources Management Branch

2017 Listing of Historic Resources, Public Version. Land Use Planning Section, Historic Resource Management Branch, Alberta Culture and Community Spirit, Edmonton, AB. April 2017 Version.

Hjermstad, Benjamin

1991 T.R.A.C.E. An Artifact Recording Program in South-Central Alberta (TRACE 91). MS on file, Archaeological Survey of Alberta, Edmonton.

Kennedy, Margaret

1981 Historical Resources Impact Assessment, C.E.P. Consultants, Golf Course (ASA Permit 81-145). MS on file, Archaeological Survey of Alberta, Edmonton.

Krozser, Kit

nd. In preparation, Carma Developers, subdivision. (ASA Permit 90-048). MS of file, Archaeological Survey of Alberta, Edmonton.

LaForge, Kerry

2004 Grazing: a Natural Component of Grassland Ecozone Riparian Systems. Agriculture and Agri-Food Canada, Prairie Farm Rehabilitation Administration. http://www.agr.gc.ca/pfra/land/Grazing_e.pdf

Lewis, Henry T.

1978 Traditional Uses of Fire by Indians in Northern Alberta. Current Anthropology, Vol. 19, No. 2 (Jun., 1978), pp. 401-402.

1982 A Time for Burning. Occasional Publication No. 17. Boreal Institute for Northern Studies, University of Alberta, Edmonton.

Light, James A.

1988 Historical Resources Impact Assessment of Callinghorse Estates Phase 2 Subdivision Development (ASA Permit 88-080). MS on file, Archaeological Survey of Alberta, Edmonton.

1995 Historical Resources Impact Assessment NE19-T24-R2-W5M (ASA Permit 95-058). MS on file, Archaeological Survey of Alberta, Edmonton.

Lourens, Luc, Fritz Hilgen, N.J. Shackleton, J. Laskar, and D. Wilson 2004 The Neogene Period. In: Gradstein, F., Ogg, J., Smith, A.G. (eds.), A Geologic Time Scale 2004. Cambridge: Cambridge University Press.

Loveseth, Bea A.

1985 Conservation Evaluation Studies EgPn-295 (ASA Permit 85-071). MS on file, Archaeological Survey of Alberta, Edmonton.

1986 Historical Resources Impact Assessment Scenic Acres Undeveloped Lands 1986 (ASA Permit 86-022). MS on file, Archaeological Survey of Alberta, Edmonton. 1987 Historical Resources Impact Assessment Proposed Subdivision, The Christie Estate (ASA Permit 87-012). MS on file, Archaeological Survey of Alberta, Edmonton.

Malasiuk, Jordyce

2001 Historical resources impact assessment Canadian Bible College development (Mahood property) (NW-10-24-2-W5M): final report(ASA Permit Number 01-306), unpublished consultants report on file with the Archaeological Survey of Alberta.

McCullough, Edward J.

1979 Historical Resources Impact Assessment, Marketplace Properties Ltd., Strathcona Park Subdivision, Calgary, Alberta (ASA Permit 79-159). MS on file, Archaeological Survey of Alberta, Edmonton.

1980a Historical Resources Inventory and Assessment Marketplace Properties Ltd. Strathcona Park Subdivision NE/SE 11-24-2-W5M (ASA Permit 80-088). MS of file, Archaeological Survey of Alberta, Edmonton.

1980b Marketplace Properties Ltd. Evaluative Excavations EgPn-180 (ASA Permit 80-110). MS on file, Archaeological Survey of Alberta, Edmonton.

1991 Historical Resources Impact Assessment Melcor Developments Ltd. Arbour Lake Watergrove Mobile Park (ASA Permit 91-010). MS on file, Archaeological Survey of Alberta, Edmonton.

McCullough Edward J., and C.M. Fowler

1989 Historical Resources Impact Assessment Jager Holdings (Calgary) Ltd. Proposed Subdivision SW 2-24-2-W5M (ASA Permit 82-039). MS on file, Archaeological Survey of Alberta, Edmonton.

McCullough Consulting Ltd.

1979 Marketplace Properties Ltd., Evaluative Excavations - EgPn-19 (ASA Permit 79-158). MS on file, Archaeological Survey of Alberta, Edmonton.

Moravetz, losif

1999 Historical resources impact assessment Moddle Homes residential subdivision SW 1/4-24-24-3-W5M (ASA Permit Number 99-116), unpublished consultants report on file with the Archaeological Survey of Alberta.

2003 Historical resources impact assessment City of Calgary proposed Stoney Trail N.W. improvement Crowchild Trail to 85th Street : final report (ASA Permit Number 03-177), unpublished consultants report on file with the Archaeological Survey of Alberta.

Murphy, Brent

2000 Historical resources impact assessment Rocky Ridge Estates residential subdivision parts of SE & NE-21-25-2-W5M and parts of SW-22-25-2-W5M (ASA Permit Number 00-010), unpublished consultants report on file with the Archaeological Survey of Alberta.

2007 Historical resources impact assessment for the Dolemo Development Corporation Edworthy Club and Resort: final report (ASA Permit Number 07-236), unpublished consultants report on file with the Archaeological Survey of Alberta.

NRC-Natural Regions Committee

2006 Natural Regions and Subregions of Alberta. Compiled by D.J. Downing and W.W. Pettapiece. Government of Alberta. Pub. No. T/852.

Peach, Kate

2003 Historical resources impact assessment Earth Tech Canada Inc./ Alberta Transportation Stoney Trail extension functional planning study: final report (ASA Permit Number 03-197), unpublished consultants report on file with the Archaeological Survey of Alberta.

2004 Historical resources impact assessment and mitigation Atco Pipelines Valley Ridge class II pipeline: final report (ASA Permit Number 02-067), unpublished consultants report on file with the Archaeological Survey of Alberta.

2005 Historical resources impact assessment Enviroconsult Inc./Alberta Transporation Stoney Trail roadway between Country Hills Boulevard and the TransCanada Highway: final report (ASA Permit Number 04-164), unpublished consultants report on file with the Archaeological Survey of Alberta. Peach, Kate, Jeremy Leyden, Bonnie Brenner and Tracy Hydeman

2006 Historical resources mitigation Alberta Transportation Stoney Trail expansion component a Stage I mitigation of sites EgPn-667 and EhPm-85; Stage I and II mitigation of site EgPm-82: final report (ASA Permit Number 04-184), unpublished consultants report on file with the Archaeological Survey of Alberta.

Peck, Trevor R.

2004 Bison Ethology and Native Settlement Patterns During the Old Women's Phase on the Northwestern Plains. British Archaeological Reports S1278 2004. Archaeopress, Oxford.

2011 Light from Ancient Campfires. Edmonton, AU Press.

Poole, Colin

1976 Archaeological inventory and assessment, proposed Happy Valley-Artist View Park waterline [volume 1]; (ASA Permit Number 76-004), unpublished consultants report on file with the Archaeological Survey of Alberta.

1996 Historical resources impact mitigation parts of LSD 13-15 and SW-22 of TP 25 R 1 W of 5M Arbour Lake stage 6, subdivision at Calgary, Alberta (ASA Permit 96-015). MS on file, Archaeological Survey of Alberta, Edmonton.

1997 Historical Resources Impact Assessment Part of N Half of Section 3 Tp 24 R 2 W of 5 M Springbank Hill Stage 1 Residential Subidivision in the City of Calgary, Alberta (ASA Permit 97-017). MS on file, Archaeological Survey of Alberta, Edmonton.

Ramsay, Allyson M.

2004 Carma Developers Ltd. historical resources impact assessment for the proposed Aspen Woods development in portions of SE-16-24-02 W5M, Calgary, Alberta: final report (ASA Permit Number 04-105), unpublished consultants report on file with the Archaeological Survey of Alberta.

2007 Historical Resources Overview of the Hanewood Land, Ptns. X1/2-19-25-2 W5M, Northwest of Calgary (1330825 Alberta Ltd.). Unpublished manuscript on file with Highfield Land Management, Calgary, Alberta. Ramsay, Charles L. and Allyson Ramsay

2001 Montreux Partnership lands HRIA for portions of NE1/4 9-24-2-W5M, and HRM 1 for EgPn-612, Calgary, Alberta, permits 00-121 and 01-180: final report (ASA Permit Number 00-121), unpublished consultants report on file with the Archaeological Survey of Alberta.

2006 Alberta Infrastructure and Transportation and the City of Calgary Stoney Trail & Crowchild Trail interchange HRM study at EgPn-677 (ASA permits 05-121 and 05-520): final report (ASA Permit Number 05-121), unpublished consultants report on file with the Archaeological Survey of Alberta.

Reeves, Brian O.K.

1969 The Southern Alberta Palaeo-Cultural—Palaeo-Environmental Sequence. In: Post-Pleistocene Man and His Environment on the Northern Plains, edited by R.G. Forbis, L.B. Davis, O.A. Christensen, and G. Fedirchuk. University of Calgary Archaeological Association, Calgary, pp. 6-46.

1981 Historical Resources Inventory Valley Ridge Development (ASA Permit 81-020). MS on file, Archaeological Survey of Alberta, Edmonton.

1982 Historical Resources Impact Assessment Strathcona Subdivision Cell G North of Richmond (ASA Permit 81-205/1). MS on file, Archaeological Survey of Alberta, Edmonton.

1985 Historical Resources Impact Assessment Elbow River Country Club (ASA Permit 84-057). MS on file, Archaeological Survey of Alberta, Edmonton.

1989 In Preparation, Alberta Public Works, Supply and Services, Subdivision, EgPn-327 (ASA Permit 89-094). MS on file, Archaeological Survey of Alberta, Edmonton.

1990a Historical Resources Impact Assessment Scenic Acres Stage Five (ASA Permit 89-116). MS on file, Archaeological Survey of Alberta, Edmonton.

1990b United Management Ltd./IMC Consulting Group Inc., Subdivision, Stonebridge, Calgary (ASA Permit 90-011). MS on file, Archaeological Survey of Alberta, Edmonton. 1990c Historical Resources Impact Assessment Valley Ridge Barbican Developments Ltd (ASA Permit 90-040). MS on file, Archaeological Survey of Alberta, Edmonton.

1992 Historical Resources Impact Assessment Highway 9 City of Calgary (ASA Permit 92-037). MS on file, Archaeological Survey of Alberta, Edmonton.

1995 Historical resources impact assessment proposed subdivision development SE31-24-2-W5 Calgary, Alberta (ASA Permit 95-106). MS on file, Archaeological Survey of Alberta, Edmonton.

1997a Historical resources impact assessment The Woods in Patterson Heights (ASA Permit 97-034). MS on file, Archaeological Survey of Alberta, Edmonton.

1997b Historical resources impact assessment United Inc. Strathcona portion NE-15-24-2-5 (ASA Permit 97-064). MS on file, Archaeological Survey of Alberta, Edmonton.

1998a Historical Resources Impact Assessment ACERA Royal Oakes Subdivision (ASA Permit 98-037). MS on file, Archaeological Survey of Alberta, Edmonton.

1998b Historical resources inventory and assessment East Paskapoo Slopes (ASA Permit Number 98-038). MS on file, Archaeological Survey of Alberta, Edmonton.

Reeves, Brian O. K., and Tom Head

1982a Historical Resources Impact Assessment Nu-West Development Scenic Acres, Sage III (ASA Permit 81-204). MS on file, Archaeological Survey of Alberta, Edmonton.

1982b Historical Resources Impact Assessment Strathcona Subdivision Cell G North of 26th Avenue (ASA Permit 81 205/2). MS on file, Archaeological Survey of Alberta, Edmonton.

1982c Historical Resources Impact Assessment Jager Holdings (Calgary.) Ltd. Strathcona Cell G Phase I & II (ASA Permit 81-206). MS on file, Archaeological Survey of Alberta, Edmonton. Rogers, James L., and Joachim A. Fromhold

1976 Archaeological Investigations in the Strathcona Heights Development Area: A Preliminary Report (ASA Permit 76-070). MS on file, Archaeological Survey of Alberta, Edmonton.

1977 Archaeological Survey of the Strathcona Heights Concept Area G (ASA Permit 77-006). MS on file, Archaeological Survey of Alberta, Edmonton.

Shetsen, I.

1990 Quaternary Geology, Central Alberta [Map]. Alberta Research Council, Edmonton.

Smith, Thayer, and B.O.K. Reeves

1977 Test Excavations Strathcona Heights Development Area (ASA Permit 77-003). MS on file, Archaeological Survey of Alberta, Edmonton.

Soucey, K. E. and B. Ball

2010 Historical resources impact assessment for Highway 8 Elbow bridge project: final report (ASA 10-292). MS on file, Archaeological Survey of Alberta, Edmonton.

Spicer, Gareth

2004 Historical resources impact assessment Creekside Crossing residential development : final report(ASA Permit Number 04-061), unpublished consultants report on file with the Archaeological Survey of Alberta.

Spry, Irene M.

1962 The Palliser Expedition: An account of John Palliser's British North American Exploring Expedition 1857-1860. MacMillan, Toronto.

Stewart, M. S.

2014 Historical resources impact assessment Flood Remediation near the Bowness Rail Bridge, Calgary (BRB63445) : final report (ASA Permit 14-097). MS on file, Archaeological Survey of Alberta, Edmonton.

Strong, W.L. and K.R. Leggat

1992 Ecoregions of Alberta. Alberta Forestry, Lands and Wildlife. Edmonton.

Van Dyke, Stanley G.

1980 Phase II Archaeological Studies Carma Northlands (ASA Permit 79-130). MS of file, Archaeological Survey of Alberta, Edmonton.

1982a Historical Resources Impact Assessment Calgary Research and Development Park (ASA Permit 82-129). MS on file, Archaeological Survey of Alberta, Edmonton.

1982b Historical Resources Impact Assessment City of Calgary Top Hill Reservoir Site (ASA Permit 82-132). MS on file, Archaeological Survey of Alberta, Edmonton.

1984 Conservation Excavations EgPn-208 (ASA Permit 84-079). MS on file, Archaeological Survey of Alberta, Edmonton.

1993a Historical Resources Impact Assessment Pt. NE-24-25-3-W5M (ASA Permit 93-051). MS on file, Archaeological Survey of Alberta, Edmonton.

1993b Historical Resources Impact Assessment Stoney Trail - Crowchild Trail to Highway 1 (ASA Permit 93-093). MS on file, Archaeological Survey of Alberta, Edmonton.

1994 Historical Resources Impact Assessment and Mitigation Portions of SW-11-24-2-W5M EgPn-292, EgPn-410 and EgPn-411 Signal Hill Outline Plan (ASA Permit 94-019). MS on file, Archaeological Survey of Alberta, Edmonton.

Vickers, J. Roderick

1986 Alberta Plains Prehistory: A Review. Archaeological Survey of Alberta Occasional Paper No. 27, Edmonton.

Vivian, Brian C.C.

2002a Historical resources impact assessment West Rockborough Developments C/O West Creek Developments Ltd. Calgary Rocky Ridge subdivision (LAD 8, 9, and 16-20-25-2-W5M): final report(ASA Permit Number 02-044), unpublished consultants report on file with the Archaeological Survey of Alberta.

2002b Historical resources impact assessment Grand Development Corp. residential subdivision (SW 1/4-14-24-3-W5M): final report (ASA Permit Number 02-070), unpublished consultants report on file with the Archaeological Survey of Alberta.

2003a Historical resources impact assessment and conservation excavations West Creek Developments Aspen subdivision: final report (ASA Permit Number 03-144), unpublished consultants report on file with the Archaeological Survey of Alberta.

2003b Historical resources impact assessment Paskapoo ice ponds: final report (ASA Permit Number 03-250), unpublished consultants report on file with the Archaeological Survey of Alberta.

2004a Historical resources impact assessment and conservation excavations Westwood Holdings Ltd. Rocky Ridge subdivision (LSD 15-20-25-02-W5M): final report (ASA Permit Number 03-048), unpublished consultants report on file with the Archaeological Survey of Alberta.

2004b Historical resources impact assessment Morgan's Rise country residential subdivision (SE-23-24-03-W5M): final report (ASA Permit Number 03-322), unpublished consultants report on file with the Archaeological Survey of Alberta.

2004c Historical resources impact assessment 12 Mile Coulee (12, 13-17-25-2-W5M): final report (ASA Permit Number 04-010), unpublished consultants report on file with the Archaeological Survey of Alberta.

2004d Historical resources impact assessment Decker Management Ltd. Calgary Rocky Ridge subdivision (LSD 9-20-25-2-W5M): final report (ASA Permit Number 04-076), unpublished consultants report on file with the Archaeological Survey of Alberta.

2005a Historical resources impact assessment city of Calgary Artists View Park feedermain and pump station: final report (ASA Permit Number 05-551), unpublished consultants report on file with the Archaeological Survey of Alberta.

2005b Historical resources impact assessment Brown & Associates Planning Group Westside Lands Montebello development (SE1/4-14-24-3-W5M) : final report (ASA Permit Number 05-209), unpublished consultants report on file with the Archaeological Survey of Alberta.

2006 Historical resources impact assessment at Grand Development Corp.'s Grandview Estates: final report (ASA Permit Number 05-173), unpublished consultants report on file with the Archaeological Survey of Alberta. 2007a Historical resources impact assessment of the Tuscany stage 9 subdivision development sites EgPn-700, EgPn-701, and EgPn-702: final report (ASA Permit Number 06-163), unpublished consultants report on file with the Archaeological Survey of Alberta.

2007b Historical resources impact assessment Bowmont Park proposed developments: final report (ASA Permit Number 07-149), unpublished consultants report on file with the Archaeological Survey of Alberta.

2007c Historical resources impact assessment Rocky Ridge subdivision planned for select portions of Section 20, Twp 25, R02 W5M: final report (ASA Permit Number 07-176), unpublished consultants report on file with the Archaeological Survey of Alberta.

2007d Historical resources mitigation studies EgPn-720 and EgPn-721: final report (ASA Permit Number 07-301), unpublished consultants report on file with the Archaeological Survey of Alberta.

2014 Historical resources baseline assessment program Bow River Cutbanks, Weir to Hwy 22X and FM Buffalo Jump (EfPk-2): final report (ASA Permit Number 13-248), unpublished consultants report on file with the Archaeological Survey of Alberta, Edmonton.

Vivian, Brian C.C., Amanda Dow and Brian O.K. Reeves

2003a Historical resources impact assessment and conservation excavations at Cougar Ridge off-site sewer services: final report (ASA Permit Number 00-032), unpublished consultants report on file with the Archaeological Survey of Alberta.

2003b Historical resources impact assessment and conservation excavations Ryleland Hotels Ltd. Martini property and off-site servicing (permits 01-337 and 02-072): final report (ASA Permit Number 02-072), unpublished consultants report on file with the Archaeological Survey of Alberta.

2003c Historical resources impact assessment and conservation excavations Valley Ridge subdivision Phase 17: final report (ASA Permit Number 02-119), unpublished consultants report on file with the Archaeological Survey of Alberta. Vivian, Brian C.C. and Brian O.K. Reeves

Historical resources impact assessment of NW and portion of NE 30-24-2-W5M and SW 31-24-2-W5M (permits 01-295 and 02-105): final report (ASA Permit Number 01-295), unpublished consultants report on file with the Archaeological Survey of Alberta.

Wagner, Stephen C.

2016 Hawkwood Bearspaw (HRO 16-013; Bison No. 1611-0077. HRO MS on file, Bison Historical Services Ltd.

Walde, D.A.

1992 Mitigative Excavations EgPn-338 (ASA Permit 92-063). MS on file, Archaeological Survey of Alberta, Edmonton.

Walde, Keary

1976 Medicine Wheel Survey — 1976 (ASA Permit 76-035). MS on file, Archaeological Survey of Alberta, Edmonton.

Webster, Sean and Vincent Balls

2005 Historical resources impact assessment Canadian Natural Resources Limited, Nevis 16-6-39-22-W4M to 9-4-39-22-W4M pipeline tie-in, and 1-11-39-22-W4M to 14-2-39-22-W4M pipeline tie-in: final report (ASA Permit Number 05-250), unpublished consultants report on file with the Archaeological Survey of Alberta.

Wickham, Michelle D.

2011 Historical resource impact assessment Shape Developments Ltd., Shape Properties Calgary West SW 1/4 of 32-24-2-W5M Calgary : final report. MS on file, Archaeological Survey of Alberta, Edmonton.

Williams, Gerald R.

1994 References on the American Indian Uses of Fire in Ecosystems. Unpublished manuscript on file with the USDA Forest Service, Pacific Northwest Region. http://www.fs.fed.us/fire/fmt/Bibliography_Indian_Use_ of_Fire.rtf

Wormington, Hannah M. and Richard G. Forbis

1965 An Introduction to the Archaeology of Alberta, Canada. Proceedings No. 11, Denver Museum of Natural History.

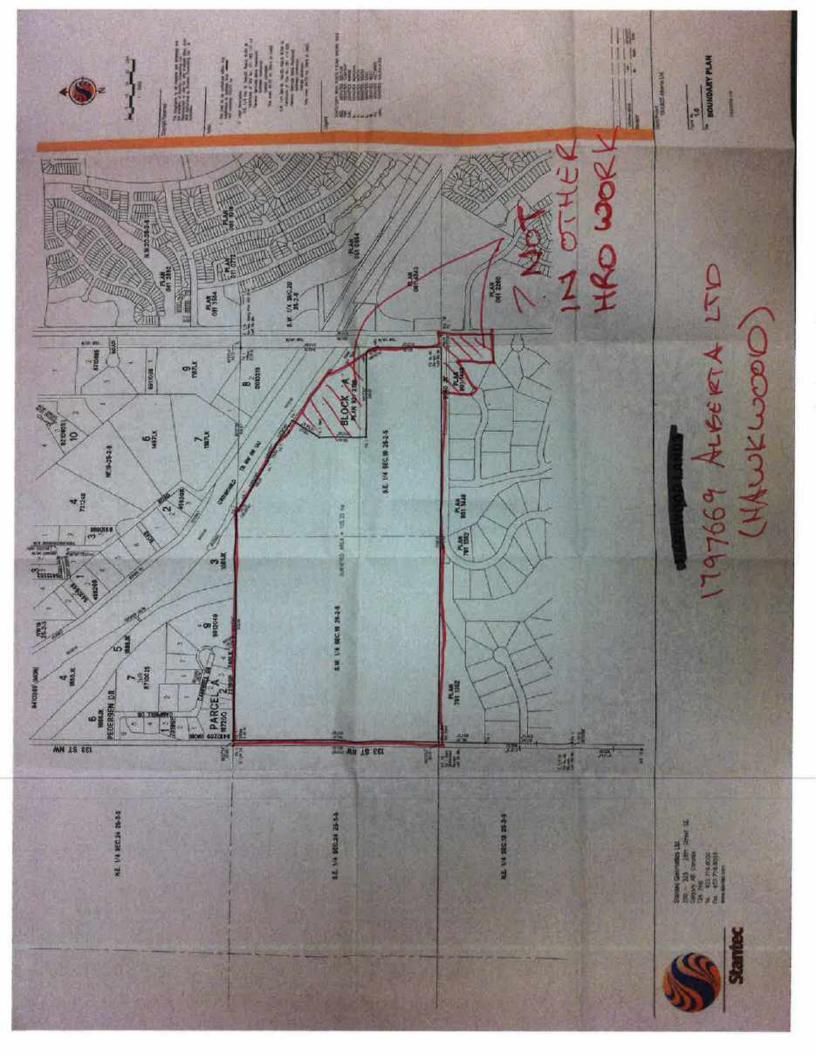
Wright, Bruce W.

1983 Historical Resource Impact Mitigation EgPn-146, Calgary (ASA Permit 82-007). MS on file, Archaeological Survey of Alberta, Edmonton.

APPENDIX A: PROJECT PLANS

Hawkwood Bearspaw

Bison No. 1704-0024; Permit No. 17-011



APPENDIX B: SCHEDULE LETTER

HRMB Project File #: 4835-16-0102-001

Historical Resources Act Requirements

Proponent:	Highfiel	d Land Management		
	#18, 114	410 27 Street SE, Calgary, AB T2Z 3R6		
Contact:	Charles	Boechler		
Agent:	Bison H	istorical Services Ltd.		
Contact:	Stepher	n Wagner		
Project Name:		Hawkwood Bearspaw		
Project Components:		Residential Subdivision		
Application Purpose:		Requesting HRA Approval / Requirements		

Pursuant to Section 37(2) of the Historical Resources Act, a Historic Resources Impact Assessment is required for all or portions of those activities described in this application and its attached plan(s)/sketch (es). The Historic Resources Impact Assessment is to be conducted in accordance with the instructions outlined in the following schedule.

David Link

SCHEDULE OF REQUIREMENTS

ARCHAEOLOGICAL RESOURCES

Pursuant to Section 37(2) of the Historical Resources Act, a Historic Resources Impact Assessment for archaeological resources is to be conducted on behalf of the proponent by an archaeologist qualified to hold an archaeological research permit within the Province of Alberta. A permit must be issued by Alberta Culture and Tourism prior to the initiation of any archaeological field investigations. Please allow ten working days for the permit application to be processed.

- 1. The Historic Resources Impact Assessment must include the following locations:
 - areas of native prairie with high archaeological potential
 - locations with significant sediment accumulations (to be deep tested)
 - archaeological site EgPn-406
- 2. A deep testing program is required in areas of significant sedimentation.
- 3. During the conduct of the Historic Resources Impact Assessment the proponent's consulting archaeologist is to confirm the relationship between the footprint of the proposed project and any previously recorded archaeological sites, including the site listed below.

SCHEDULE OF REQUIREMENTS (continued)

SITE	HRV	SITE DESCRIPTION	CONDITIONS/APPROVAL
EgPn-406	4	stone feature	Determine the condition of this site and relationship to the proposed development.

PALAEONTOLOGICAL RESOURCES

There are no Historical Resources Act requirements associated with palaeontological resources; however, the proponent must comply with standard conditions under the Historical Resources Act, which are applicable to all land surface disturbance activities in the Province.

ABORIGINAL TRADITIONAL USE SITES

There are no Historical Resources Act requirements associated with Aboriginal traditional use sites of a historic resource nature; however, the proponent must comply with standard conditions under the Historical Resources Act, which are applicable to all land surface disturbance activities in the Province.

HISTORIC STRUCTURES

Historical Resources Act approval is granted in relation to historic structures, subject to the conditions outlined below.

 Historic resource consultants are to comply with the requirements for recording historic structures outlined in the <u>Requirements for Recording Historic Structures</u>. The final report, and any interim reports, must specify if historic structures are present within or adjacent to the project impact zone; however, there is no need to re-document the structures that were previously recorded in 2008 (HS 100610 to HS 100622).

PROVINCIALLY DESIGNATED HISTORIC RESOURCES

There are no Historical Resources Act requirements associated with Provincially Designated Historic Resources; however, the proponent must comply with standard conditions under the Historical Resources Act, which are applicable to all land surface disturbance activities in the Province.

SPECIAL CONDITIONS

1. In addition to any specific conditions detailed above, the proponent must abide by all <u>Standard</u> <u>Conditions under the Historical Resources Act</u>.

Lands	Affected	: All	New Lan	ds				
Proposed Development Area:								
MER	RGE	TWP	SEC		LSD List			
5	2	25	18		16			
5	2	25	19		1-8			
Docum	Documents Attached:							
Docum	nent Nan	ne		Document Type				
NTS M	lap Clos	e up		Illustrative Material				

APPENDIX C: ARCHAEOLOGICAL INVENTORY SITE DATA FORMS

EgPn-406 EgPn-770 EgPn-771

M	ha		AR	CHAEOI INVENT				EgPn-406 17-011
	storic Resources 20 - 112 Street,						Revisit Date	e: April 20, 2017
Related Herita	age Survey Key	No.(s):						
1. Site Name				2	. Field No.			
3. Elevation (m	n) 1250		4. N	NTS 1:50,000	Map No.	820/01		
5. Legal Descri	iption: LSD	7	Section	19 1	ownship	25 R	ange 2	W of M
6. UTM NAD83	3 Zone 11	Eastir	ng Centre 691	1268		Northing Co	entre 5669	594
GPS Marg	gin of Error +/- (r							
7. Land Owner	Governr	ment of Ca	nada 🗌 Gover	nment of Alb	erta 🗌 Mu	nicipal Gover	nment 🛛 Fre	ehold
Land Owner	Name/Address	i						
ield and contin 9. Site Environ Water Source Distance to	ment/Setting (de ment/Setting (de : □ Active ⊠ S o Water (m): 28	ne knoll. escribe wat Geasonal	ter source, land O Lake C Direction to V	form, aspect) River o Si Vater: west	slope, sedi ream O Si Na		raphy, vegeta O Spring	tion) other, specify ect:
Sediment:	Boulders Co	obbles 🗖 🤇	Gravel 🗖 Sand	Silt 🛛	Clay 🛛 Loa	am 🗖 Bedro	ck	
• • •	egetation, other ypically had a ellent ground v	profile of 1		nic plowzon	e over the	subsoil. Ve	getation was	s field stubble,
10. Site Class	X prehistoric indigenous historic contempora undetermin	historic ary	11. Site Contex	sut unc stra	face ssurface lerwater atified letermined	12. Com	· 🗌	single multi undetermined _ # components
13. Site Type	☐ isolated find ☐ scatter <10 ☐ scatter >10 X campsite X stone featur ☐ killsite ☐ workshop ☐ quarry	☐ burial ☐ palae ☐ settle	l eoenvironmenta ement estead	☐ trail ☐ mission ☐ school ☐ urban		☐ industria ☐ transpor ☐ historic 1	tation	

			- 2 -		Borden No.	EgPn-406
					Permit No.	17-011
14. Features	5	stone circle	medicine wheel	pit	structure	trail
(frequencies)	3	cairn	effigy	mound	foundation	well
		stone arc	 pictograph	depression	cellar	privy
		stone line	 petroglyph	cabin	dump	outhouse
		drive lane	hearth	house	fence	burial
					othe	er, specify

15. Description (spatial extent, patterning, density and variety of remains, diagnostics and exotic material, for historic archaeological sites provide details regarding site ownership, origins, function and context)

8 Stone features. Feature 1: cairn with 43 stones within a 2.5 by 2.5 area. Feature 2: cairn with a cluster of 16 deeply buried stones in an area approximately 2 m in diameter. Looks to be intact. Feature 3: poorly defined, stone circle with 52 stones within a 10m by 5 m area. Feature 4: diffuse ring of 63 wall-sized stones with 14+ pieces of FBR observed within a 10 m diameter. A chalcedony flake was found nearby. Feature 5: 66 deeply buried stones in a poorly formed ring. Feature 6: a cairn with very sparse scatter of 59 stones over a 3 m diameter. Features 7 and 8: poorly formed, overlapping stone circles. Feature 7: 25 stones in a 4 m diameter. 3 pieces of FBR from shovel test in this feature. Feature 8: 29 stones in a 5 m diameter.

16. Materials Observed X yes no Materials Collected X yes no Materials observed/collected (frequencies) observed / collected observed / collected observed / collected _ projectile points faunal remains wood _ ____ lithic tools human remains shell _ 3 3 lithic cores metal points metal _ glass floral remains _ __ _ ___ _ ___ bone tools tephra _ _ beads pottery soil samples ceramics (historic) ____ _ __ 20 2 fire cracked rock other, specify macrofossils _ __ _____ charcoal 17. Collection Remarks (formed tools, raw materials, identifiable faunal, etc. collected) Three multidirectional cores: one discoidal quartzite, one quartzite, one expended chalcedony. 18. Collection Repository X Royal Alberta Museum
Private collection 19. Photo/Images X yes □ no Repository 20. Culture X Prehistoric, undetermined 🗌 Middle Prehistoric 🗌 Fur Trade/Contact/Protohistoric Early Prehistoric Late Prehistoric Historic Cultural Affiliation (Complexes, phases, traditions, projectile point types, ethnographic & ethnic groups) Culture Remarks (Describe the basis for your inferences concerning the age and/or cultural affiliation of the site).

- 3 -

Permit No. 17-011

21. Calendar Date (A.D./B.C.)

22. Radiocarbon Dates (conventional C14 date(s) and standard deviation (+/-), lab number and material dated)
23. Dimensions Length (m) 375 Width (m) 135 Long Axis Orientation NW/SE Depth Below Surface (m) 0
24. Estimated Portion Intact 80-100% 50-80% <a><50% o% undetermined
25. Disturbance Factors (natural, human, current, potential)
Type of Disturbance
A agriculture road/highway coal mine transmission line industrial area cutline other, specify pipeline gravel/sand pit oil sands reservoir vandalism ATV trail wellsite residential area forestry recreation area erosion flooding
Will proposed development impact site? 🛛 🗙 yes 🗌 no 📄 unknown 🗌 N/A
Disturbance Factors Remarks
Plowed since 2012. Because of the impact of the plowing, clusters of stones approximately 20–30 cm in diameter were used to identify potential stone features. Additional testing was conducted to find artifacts to help confirm their designation as a stone feature.
26. Assessment Methods X surface inspection □ backhoe tests □ auger tests other, specify □ erosion exposure □ test excavaton unit □ detailed mapping
shovel tests on landform # shovel tests in site boundary 9 # positive shovel tests 1
backhoe tests on landform # backhoe tests in site boundary # positive backhoe tests
auger tests on landform # auger tests in site boundary # positive auger tests
Test Units: # test units # positive test units Excavation: # excavated square meters
27. Permit Holder/Researcher <u>Stephen Wagner</u>
28. Observed by Stephen Wagner and A. Sean Goldsmith Date (YYYYMMDD) 2017/04/20
29. Collected by Stephen Wagner and A. Sean Goldsmith Date (YYYYMMDD) 2017/04/20
30. Tested by Date (YYYYMMDD)
31. Excavated by Date (YYYYMMDD)
32. Form completed by <u>Stephen Wagner</u> Date (YYYYMMDD) 2017/05/25
33. Report Title/Project Name Hawkwood Bearspaw

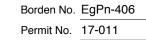
34. Site Significance/Recommendations Remarks

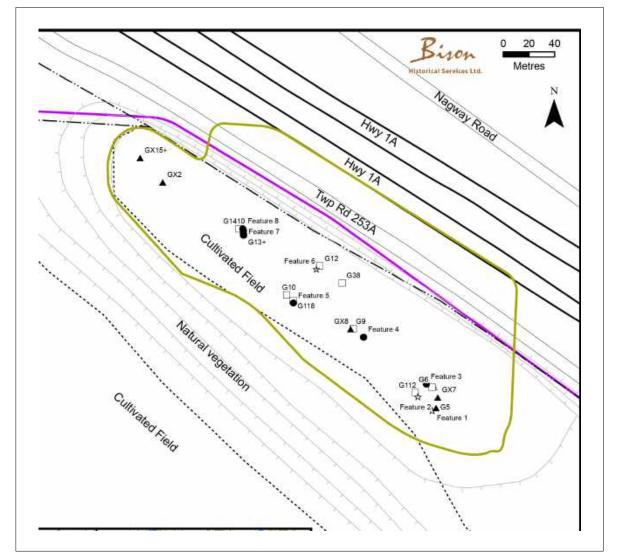
The site might still provide meaningful data, therefore it is recommended that the site be mitigated by the excavation of a limited number of metres at each stone feature, if the site cannot be avoided by the development. Recommendations: Feature 1 - 1m, Feature 2 - 2m, Feature 3 - 1m, Feature 4 - 2m, Feature 5 - 1m, Feature 6 - 1m, Feature 7 - 2m, Feature 8 - 2m.

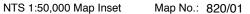
Recommended HRV (Historic Resource Value) $\Box 0 \boxtimes 4 \Box 3 \Box 2 \Box 1$

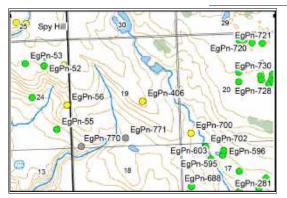
35. Additional Remarks



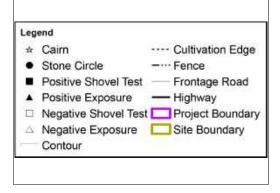












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Mı.	h		AR	CHAEOLC INVENTO	-		ermit No.	-
			ment, Archaeolo n, Alberta T6G 2]	Rev	visit Date:	
Related Herita	age Survey Ke	ey No.(s):						
1. Site Name				2. Fi	ield No. 1			
3. Elevation (m	n) 1190		4. N	ITS 1:50,000 Ma	ap No. 08	2001		
5. Legal Descri	iption: LSD	4	Section	19 Tow	nship 02	25 Range	02 v	V of 5 M
6. UTM NAD83	3 Zone	11 East	ting Centre 690	0356	No	rthing Centre	5668888	3
GPS Marg	gin of Error +/-	- (m) (if knov	vn): <u>3-5</u>					
7. Land Owner	Gove	ernment of C	anada 🗌 Gover	nment of Alberta	a 🗌 Municip	al Governmer	nt 🛛 Freeh	old
Land Owner	Name/Addre	ess						
Water Source		Seasonal		form, aspect, slo) River				n) other, specify
Landform: Pl	ain			Slo	pe (degrees)	5	Aspect	[:] south
			Gravel 🗆 Sanc	d 🔲 Silt 🖾 Cla	y 🛛 Loam	Bedrock		
located approx	ated in the s ximately 125	southweste 5 m south c	rn corner of the	he north and e	st of a draw ast lie slight	leading to a rises. The	i deep cou site lies in	lee, which is cultivated field.
10. Site Class	prehistor indigenou historic contempe undeterm	us historic orary	11. Site Contex	☐ subsur ☐ underv ☐ stratifie	face vater	12. Compone	🗌 mu 🗙 uno	
13. Site Type	isolated fi	ind 🗌 rock	art	trading pos	•	industrial		

		- 2 -		Borden No	b. EgPn-770
				Permit No	17-011
14. Features	stone circl	e medicine wheel	pit	structure	trail
(frequencies)	cairn	effigy	mound	foundation	well
	stone arc	pictograph	depression	cellar	privy
	stone line	petroglyph	cabin	dump	outhouse
	drive lane	hearth	house	fence	burial
				oth	ner, specify

15. Description (spatial extent, patterning, density and variety of remains, diagnostics and exotic material, for historic archaeological sites provide details regarding site ownership, origins, function and context)

material, for motorio aronacological bitot	provide detaile regarding the ownerthing,	
The site is a sparse scatter of bone and F pieces of bone were collected from surfar not collected. Two shovel tests were exc Additional site area may continue beyond	ce exposures with a third bone fragmen avated, but were negative.	nt observed in a surface exposure, but
16. Materials Observed 🗙 yes 🗌 no	Materials Collected 🛛 yes 🗌 no	
Materials observed/collected (frequenci	-	
observed / collected	observed / collected	observed / collected
projectile points lithic tools lithic cores lithic debitage bone tools pottery 2 fire cracked rock charcoal 17. Collection Remarks (formed tools, raw not set tools)	3 2 faunal remains	
18. Collection Repository X Royal Albe	erta Museum 🗌 Private collection	
19. Photo/Images 🛛 yes 🗌 no	Repository Royal Alberta Museum	
20. Culture X Prehistoric, undetermined Early Prehistoric	 ☐ Middle Prehistoric ☐ Fur Trade/Conta ☐ Late Prehistoric ☐ Historic 	act/Protohistoric
Cultural Affiliation (Complexes, phases	, traditions, projectile point types, ethnogra	phic & ethnic groups)
Culture Remarks (Describe the basis fo	or your inferences concerning the age and/o	or cultural affiliation of the site).

Borden No. EgPn-770

Permit No. 17-011

21. Calendar Date (A.D./B.C.)

22. Radiocarbon Dates (conventional C14 date(s) and standard deviation (+/-), lab number and material dated)
23. Dimensions Length (m) 80 Width (m) 40 Long Axis Orientation E/W Depth Below Surface (m) 0
24. Estimated Portion Intact 🛛 80-100% 🖸 50-80% 🗌 <50% 🔀 0% 🗌 undetermined
25. Disturbance Factors (natural, human, current, potential)
Type of Disturbance
X agriculture road/highway coal mine transmission line industrial area cutline other, specify pipeline gravel/sand pit oil sands reservoir vandalism ATV trail wellsite residential area forestry recreation area erosion flooding
Will proposed development impact site? 🛛 🖾 yes 🗌 no 📄 unknown 📄 N/A
Disturbance Factors Remarks
The site is heavily disturbed, but may extend southward out of the project area into native vegetation overlooking a coulee.
26. Assessment Methods X surface inspection backhoe tests auger tests other, specify Image: Inspection inspection test excavation unit Image: Inspection inspection Image: Inspection inspection other, specify Image: Inspection inspection test excavation Image: Inspection inspection Image: Inspection inspection Image: Inspection inspection Image: Inspection inspection Image: Inspection inspection Image: Inspection inspection Image: Inspection inspection Image: Inspection inspection Image: Inspection inspection Image: Inspection inspection Image: Inspection inspection Image: Inspection inspection Image: Inspection inspection Image: Inspection inspection Image: Inspection inspection Image: Inspection inspection Image: Inspection inspection Image: Inspection inspection Image: Inspection inspection Image: Inspection inspection Image: Inspection inspection Image: Inspection inspection Image: Inspection inspection Image: Inspection inspection Image: Inspection inspection Image: Inspection inspection Image: Inspection inspection Image: Inspection inspection Image: Inspection inspection Image: Inspection inspection Image: Inspection inspectinspection Image: Inspectine ins
shovel tests on landform # shovel tests in site boundary 2 # positive shovel tests 0
backhoe tests on landform # backhoe tests in site boundary # positive backhoe tests
auger tests on landform # auger tests in site boundary # positive auger tests
Test Units: # test units # positive test units Excavation: # excavated square meters
27. Permit Holder/Researcher <u>Stephen Wagner</u>
28. Observed by Stephen Wagner and A. Sean Goldsmith Date (YYYYMMDD) 20170421
29. Collected by Stephen Wagner and A. Sean Goldsmith Date (YYYYMMDD) 20170421
30. Tested by Date (YYYYMMDD)
31. Excavated by Date (YYYYMMDD)
32. Form completed by Stephen Wagner Date (YYYYMMDD) 20170519
33. Report Title/Project Name Hawkwood Bearspaw
·

34. Site Significance/Recommendations Remarks

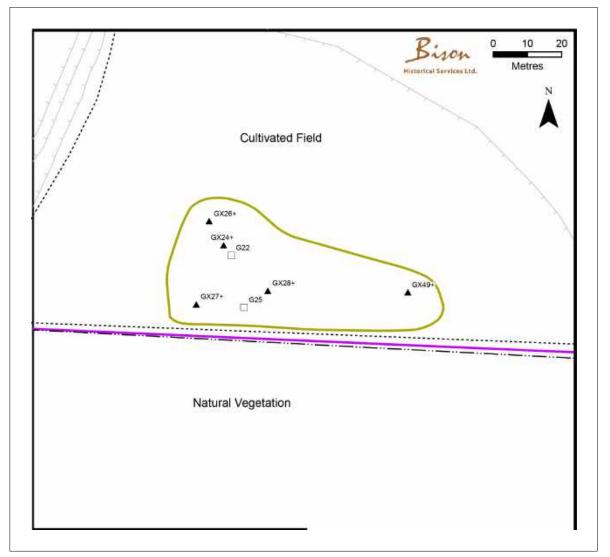
Because of the low artifact density and the fact that the site has been thoroughly disturbed by plowing, the site is considered to be of low significance. Clearance is therefore recommended for EgPn-770.

Recommended HRV (Historic Resource Value) $\begin{tabular}{|c|c|c|c|c|} A & \Box & 3 & \Box & 2 & \Box & 1 \\ \hline \end{tabular}$

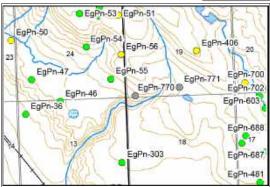
35. Additional Remarks

36. Site Map

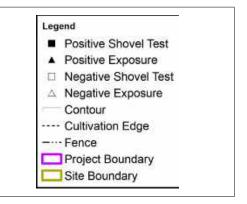
Borden No. EgPn-770 Permit No. 17-011











- 4 -

Mi			AR		DLOGIC/ ITORY F			den No. mit No.		
			ment, Archaeolog n, Alberta T6G 2		èy		Revis	sit Date:		
Related Herita	age Survey Ke	ey No.(s):								
1. Site Name					2. Field No.	. 2				
3. Elevation (m	n) 1200		4. N	NTS 1:50,0	00 Map No.	820/01				
5. Legal Descr	iption: LSD	2, 3	Section	19	Township	25	Range	2	W of	5 M
6. UTM NAD83	3 Zone	11 East	ting Centre 691	1017		Northing	- Centre	566899	96	
			vn): <u>3-5</u>			0				
7. Land Owner	Gove	rnment of C	anada 🗌 Gover	nment of A	Alberta 🗌 M	unicipal Gov	ernment	🗙 Free	hold	
Land Owner	Name/Addre	ess								
				inage cros	ssing. Fron	n the cross	ng, hea	n the rig d south	west ac	ross the
9. Site Environ Water Source	ment/Setting		ater source, land	form, aspe		n the cross diment, strat	ing, hea igraphy,	d south	west ac	ross the
Water Source	ment/Setting	Seasonal	O Lake C	form, aspe	ct, slope, sed Stream OS	n the cross diment, strat	ing, hea igraphy,	d south	west ac	ross the
Water Source Distance to	ment/Setting :⊠Active Σ o Water (m):	Seasonal	· · · · · · · · · · · · · · · · · · ·	form, aspe	ct, slope, sed Stream OS	n the cross diment, strat Slough/pond ame:	igraphy, O Sprin	d south	on) other, s	specify
Water Source Distance to Landform:	ment/Setting :⊠Active De Water (m):	` I Seasonal 0	O Lake C Direction to V	form, aspe	stream OS	n the cross diment, strat Slough/pond ame: grees):	igraphy, O Sprii	d south	on) other, s	specify
Water Source Distance to Landform:	ment/Setting : ⊠ Active ∑ b Water (m): Boulders □	Seasonal 0 Cobbles 🗆	O Lake C Direction to V Gravel □ Sanc	form, aspe	stream OS	n the cross diment, strat Slough/pond ame: grees):	igraphy, O Sprii	d south	on) other, s	specify
Water Source Distance to Landform: Sediment: D Stratigraphy, v The site is foc drainage. Veg pond and pato	ment/Setting : ☑ Active ☑ b Water (m): Boulders □ egetation, oth used around getation con ches of aspe	Seasonal 0 Cobbles ner comment d a pond, b sists prima en througho	O Lake C Direction to V Gravel □ Sanc	form, aspe	stream O S Stream O S N Slope (deg Clay X Lo ope in the v willow in th rofiles show	diment, strat diment, strat Slough/pond ame: grees): pam Bed west to the ne lower, w ved an unp	igraphy, O Sprii rock terrace etter, ar owed A	vegetation ng _ Aspectory overlool eas adja horizor	on) other, s other, s other, s other, s other, s other, s other, s other, s other, s other, s	specify central the
Water Source Distance to Landform: Sediment: D Stratigraphy, v The site is foc drainage. Veg pond and pato	ment/Setting : ⊠ Active ∑ b Water (m): Boulders □ egetation, oth used around getation con ches of aspe igher ground ∑ prehistor	Seasonal 0 Cobbles ner comment d a pond, b sists prima en througho d and 20 to d and 20 to ic us historic orary	O Lake C Direction to V Gravel □ Sanc ts ut also extends rily of grasses v out the site. Sho	form, aspe	stream O S Stream O S N Slope (deg Clay X Lo ope in the v willow in th rofiles show	diment, strat Slough/pond ame: grees): pam □ Bed west to the ne lower, w ved an unp as followed 12. Co	igraphy, O Sprii rock terrace etter, ar owed A	d south vegetation ng _ Aspec overlook eas adja horizor C horizor C horizor	on) other, s other, s other, s other, s other, s other, s other, s other, s other, s other, s	specify central the 10 to 15

		- 2 -		Borden No.	EgPn-771
				Permit No.	17-011
14. Features	stone circle	medicine wheel	pit	structure	trail
(frequencies)	cairn	effigy	mound	foundation	well
	stone arc	pictograph	depression	cellar	privy
	stone line	petroglyph	cabin	dump	outhouse
	drive lane	hearth	house	fence	burial
				othe	r, specify

15. Description (spatial extent, patterning, density and variety of remains, diagnostics and exotic material, for historic archaeological sites provide details regarding site ownership, origins, function and context)

Seven clusters of finds located across the site. Area 1: ten pieces of FBR (eight from shovel tests, two from exposures), one quartzite flake, and two quartzite multidirectional cores. Area 2: On high terrace. One quartzite bipolar core and one fbr. Area 3: On flat spot of terrace. Seven FBR and one siltstone multidirectional core. Area 4: Midway down slope towards pond. Seven FBR from four STs. Area 5: Saddle to natural drainage. Nine FBR from 7 STs and one exposure. Area 6: West side of pond. 4 FBR, 2 quartzite flakes, 1 Montana chert flake from four positive STs and one exposure. Area 7: East side of pond. Four FBR from three positive STs. Most of the finds were located at the base of the A-horizon, which was of varying thickness.

Additional material (10 bone and six FBR) were found from 11 exposures in the plowed portion of the site.

16.	Materials Observed 🗙 yes	no Materials Collected X yes no	
	Materials observed/collected (f	requencies)	
	observed / collected	observed / collected	observed / collected
Most	,	10 2 faunal remains	,
	Collection Repository	oyal Alberta Museum	
20.	Culture X Prehistoric, undet	ermined I Middle Prehistoric I Fur Trade/Co Late Prehistoric I Historic	ntact/Protohistoric
	Cultural Affiliation (Complexes	, phases, traditions, projectile point types, ethnog	raphic & ethnic groups)
	Culture Remarks (Describe the	e basis for your inferences concerning the age an	d/or cultural affiliation of the site).

Borden No. EgPn-771

Permit No. 17-011

21. Calendar Date (A.D./B.C.)

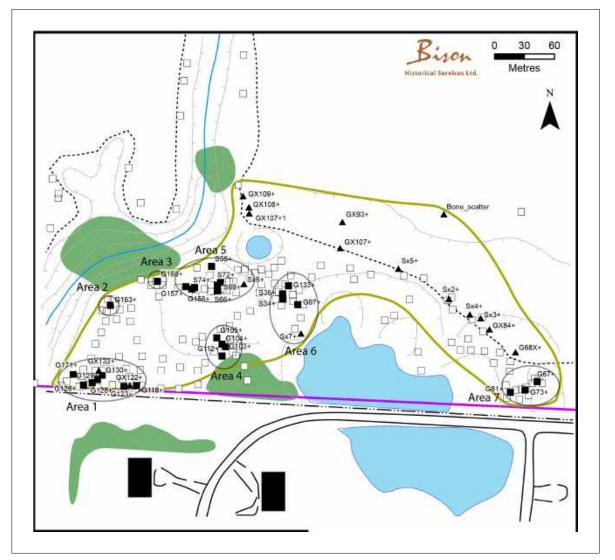
22. Radiocarbon Dates (conventional C14 date(s) and standard deviation (+/-), lab number and material dated)
23. Dimensions Length (m) 510 Width (m) 210 Long Axis Orientation e/w Depth Below Surface (m) 0-20
24. Estimated Portion Intact X 80-100% 50-80% <a><50% 0% undetermined
25. Disturbance Factors (natural, human, current, potential)
Type of Disturbance
A agriculture road/highway coal mine transmission line industrial area cutline other, specify pipeline gravel/sand pit oil sands reservoir vandalism ATV trail wellsite residential area forestry recreation area erosion flooding
Will proposed development impact site? 🛛 🗙 yes 🗌 no 🗌 unknown 🗌 N/A
Disturbance Factors Remarks
The northern edge of the site was tilled, although the rest remains untouched from agricultural disturbance.
26. Assessment Methods X surface inspection □ backhoe tests □ auger tests other, specify □ erosion exposure □ test excavaton unit □ detailed mapping
shovel tests on landform # shovel tests in site boundary 157 # positive shovel tests 27
backhoe tests on landform # backhoe tests in site boundary # positive backhoe tests
auger tests on landform # auger tests in site boundary # positive auger tests
Test Units: # test units # positive test units Excavation: # excavated square meters
27. Permit Holder/Researcher <u>Stephen Wagner</u>
28. Observed by Stephen Wagner and A. Sean Goldsmith Date (YYYYMMDD) 20170505
29. Collected by Stephen Wagner and A. Sean Goldsmith Date (YYYYMMDD) 20170505
30. Tested by Date (YYYYMMDD)
31. Excavated by Date (YYYYMMDD)
32. Form completed by Stephen Wagner Date (YYYYMMDD) 20170525
33. Report Title/Project Name Hawkwood Bearspaw

34. Site Significance/Recommendations Remarks

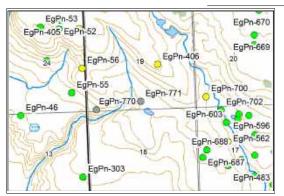
Within this site, there are seven clusters of finds that are significant areas for which there are recommendations for avoidance, or if avoidance is not possible an HRIM. RA1: 6 m. RA2: 2 m. RA3: 2 m. RA4: 4 m. RA5: 6 m. RA6: 6 m. RA7: 4 m.

Recommended HRV (Historic Resource Value) $\Box 0 \ \boxtimes 4 \ \Box 3 \ \Box 2 \ \Box 1$

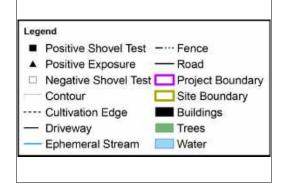
35. Additional Remarks







Optional (map legend, site or artifact photo, other)



- 4 -

APPENDIX D: HERITAGE SURVEY SITE FORMS

LSD 1-19-25-2 W5M

Sketch Map HS 107216 - Thomas Hawkwood Farm - Well 1

LSD 6-19-25-2 W5M

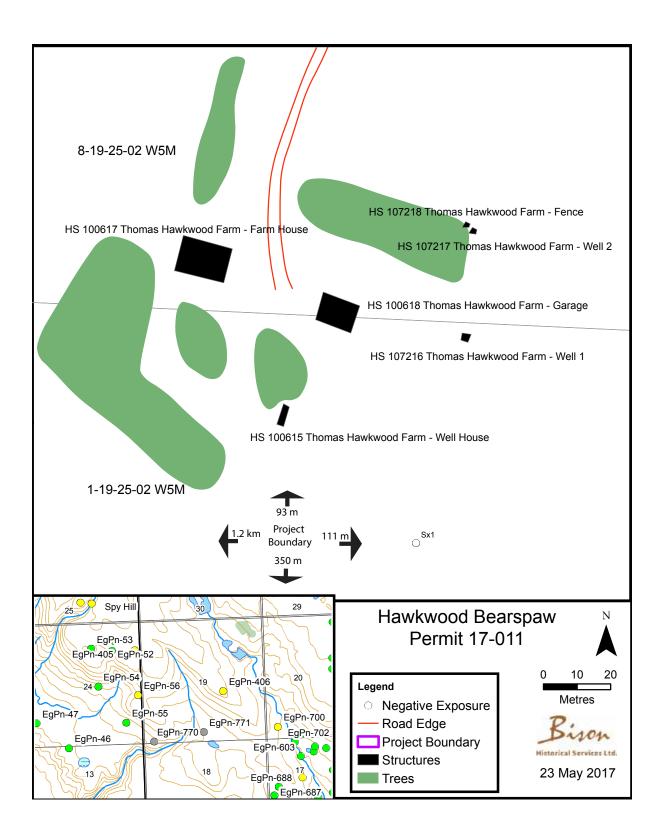
Sketch Map

HS 107214 - Thomas Hawkwood Farm - North Dam

HS 107215 - Thomas Hawkwood Farm - South Dam

LSD 8-19-25-2 W5M

HS 107217 - Thomas Hawkwood Farm - Well 2 HS 107218 - Thomas Hawkwood Farm - Fence



Heritage Survey Site Form - Data Summary

¹ Key:	HS	107216							
² Site Name:	The	omas Hawkwoo	d Farm - Well 1						
³ Other Name	(s)								
⁴ Site Type									
Туре									
0509 - Farmin	g and Rai	nching: Dugout	, Well						
ATS Legal De	escription	n							
⁵ LSD	⁶ Quarte	er	⁷ Section	⁸ Townshi	р		⁹ Range	¹⁰ Meridian	
8	SE		19	25			2	5	
PBL									
¹¹ Plan		¹² Block	¹³ Lot		¹⁴ Mete	es & Bou	unds		
¹⁵ Address:				¹⁶ Number:	:				
¹⁷ Street:									
¹⁸ Avenue:									
¹⁹ Other:									
²⁰ Town:				²¹ Near Toy	vn:	Calgary			
²² County:	104	4 - Rocky View	v No. 44, M.D. of						
UTM									
²⁷ Zone	²⁸ North	ing	²⁹ Easting	³⁰ Datum		³¹ Coord	inate Determin	ation	
11	5669314	4	691567	NAD83		GPS			
LAT									
³² Latitude			³³ Longitude	³⁴ Datı	ım	35Co	ordinate Deter	mination	
Media									
Media									
	H.	1	Section -	832m	1.2	³⁶ T	уре:	Digital scan of Negativ	ve
		-	1		10	37 _N	umber:	17-R0004-23	
		and a start	Conscientific Shifting	Main In	143	38	iew:	SE side	
The Part of	gales !	n fi	国际的 在24日中,4日	10-1-1	TELX	³⁹ E)ate(yyyy/mm/c	dd): 2017/05/10	
							ource:	Stephen Wagner	
1 Carlos									
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		1. A. A.	A Carlotte						
State of the	N ADA TRA		N. A. P. A.	E SARA	No.				
Section 1		A	ALC AVE UNIT OF	NUMBER OF COMPANY	DOM: NO	2			

	³⁶ Type: ³⁷ Number: ³⁸ View:	Digital scan of Negative 17-R0004-24 NW side
	³⁹ Date(yyyy/mm/dd)	
⁴¹ Style	⁴⁰ Source:	Stephen Wagner

Туре	
⁴³ Storeys	
Туре	
⁴⁴ Foundation	
Туре	
⁴⁵ Superstructure	
Туре	
⁴⁶ Superstructure	Cover
Туре	
⁴⁷ Roof Structure	
Туре	
⁴⁸ Roof Cover	
Туре	
⁴⁹ Exterior Codes	
Туре	
⁵⁰ Exterior:	The site consists of a well and pump. This structure consists of a Jensen 13W jack pump, a red dispensing nozzle attached to a large hose, two posts adjacent to the nozzle, and base boards. The base boards form a square approximately 2 m by 2 m. The pump, nozzle, and posts all extend from these base boards.
⁵¹ Interior:	
⁵² Environment:	The site is located within the farmyard for the Thomas Hawkwood Farm, which is overgrown with tall grass.
⁵³ Condition:	Intact
⁵⁴ Alterations:	

Construction

⁵⁵ Construction	⁵⁶ Date(yyyy/mm/dd)	⁵⁷ Code
Usage		
⁵⁸ Usage	⁵⁹ Date(yyyy/mm/dd)	⁶⁰ Code

⁵⁸Usage

Owner					
⁶¹ Owner	⁶² Date(yyyy/mm/dd)				
Canadian Pacific Railway Company	1902/02/27				
Arthur Miller Rawlinson	1902/04/26				
William Parslow	1907/08/24				
William Parslow	1911/06/16				
Sarah Victoria Parslow and Isaac Vernon Parslow	1939/12/06				
Arthur Hawkwood	1939/12/12				
Thomas Mason Hawkwood	1945/09/29				
Thomas Mason Hawkwood	1988/08/11				

⁶³Architect:

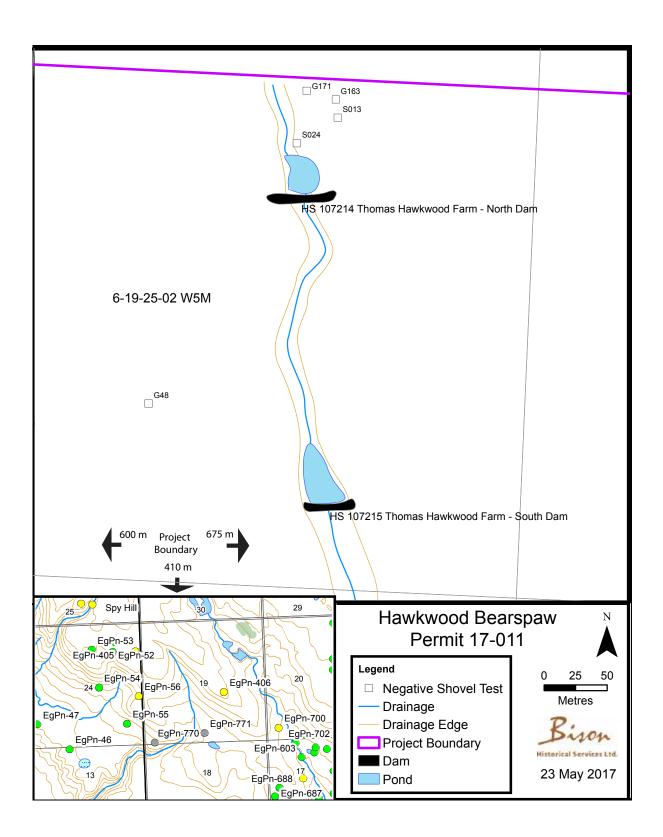
64B	uild	er:
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⁶⁵Craftsman:

⁶⁶History:

⁶⁷Sources:

OFFICE USE	
Status	
⁶⁸ Status	⁶⁹ Date
Designation Status	
⁷⁰ Designation Status	⁷¹ Date
⁷² Priority	
Туре	
⁷³ Geo ⁷⁴ Borden Number: Code:	⁷⁵ Register:
Internet Link	
⁷⁶ Link	⁷⁷ Date
Internet Link Description	
⁷⁸ Description	⁷⁹ Date
Internet Link Type	
⁸⁰ Type	⁸¹ Date
Internet Link Title	
⁸² Title	⁸³ Date
⁸⁴ Related Significant Sites Record:	



Heritage Survey Site Form - Data Summary

¹ Key:	HS	107214								
² Site Name:	The	omas Hawkwoo	d Farm - No	rth Dam						
³ Other Name(s)									
⁴ Site Type										
Туре										
0599 - Farming	g and Rar	nching: Other								
ATS Legal De	scriptior	ı								
	⁶ Quarte	r	⁷ Section		⁸ Townshij	р		⁹ Range	¹⁰ Meridian	
6	SW		19		25			2	5	
PBL										
¹¹ Plan		¹² Block		¹³ Lot		¹⁴ Met	es & Bour	ıds		
¹⁵ Address:					¹⁶ Number:					
¹⁷ Street:										
¹⁸ Avenue:										
¹⁹ Other:										
²⁰ Town:					²¹ Near Tow	vn:	Calgary			
²² County:	104	4 - Rocky View	v No. 44, M.I	D. of						
UTM										
	²⁸ North		²⁹ Easting		³⁰ Datum			ate Determi	nation	
11	5669603	3	690829		NAD83		GPS			
LAT			1							
³² Latitude			³³ Longitud	le	³⁴ Datu	m	³⁵ C00	rdinate Deter	rmination	
Media										
Media							_			
Carl I		3	Shi		- A.		³⁶ Ty	-	Digital scan of Nega	tive
	S	1.15	Ser. B	724	1			mber:	17-R0004-13	
and the second second		1000					³⁸ Vi		NE side	
									dd): 2017/05/10	
THE REAL PROPERTY.	COLUMN T	Constanting of the local division of the loc	and - an	Part of			40So	urce:	Stephen Wagner	
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	Surge									
side name	s a l	LET.Y								
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						R. S.	寠			

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TTO TRANSMER COMPANY	2	
A REAL PROPERTY AND		
	³⁶ Type:	Digital scan of Negative
	³⁷ Number:	17-R0004-14
	³⁸ View:	SW side
	³⁹ Date(yyyy/mm	/ dd): 2017/05/10
	⁴⁰ Source:	Stephen Wagner

⁴¹ Style	
Туре	
⁴² Plan Shape	
Туре	
1202 - Rectangula	r Long Facade
⁴³ Storeys	
Туре	
⁴⁴ Foundation	
Туре	
⁴⁵ Superstructure	
Туре	
⁴⁶ Superstructure	Cover
Туре	
⁴⁷ Roof Structure	
Туре	
⁴⁸ Roof Cover	
Туре	
⁴⁹ Exterior Codes	
Туре	
⁵⁰ Exterior:	The site consists of a Historic Period dam. This structure consists of an earthen enbankment with a stone core. The dam measures 50 m from side to side and is six metres wide. The top of the structure sits approximately four metres above the bottom of the drainage on the downstream side.
⁵¹ Interior:	
⁵² Environment:	The site is located within the natural drainage that runs through the centre of the project area. It is bordered on the east

and west sides by cultivated field. To the north is the pond created from the dam. To the south is the drainage containing natural grasses and willow.

⁵³Condition: Intact.

⁵⁴Alterations:

Construction

Construction ⁵⁶ Date(yyyy/mm/dd) ⁵⁷ Code		⁵⁷ Code		
Usage	•			
⁵⁸ Usage	⁵⁹ Date(yyyy/mm/dd)	⁶⁰ Code		
Owner		·		
⁶¹ Owner	⁶² Date(yyyy/mm/dd)			
Christopher Miller Rawlinson	1892/08/24			
William Parslow	1907/08/24			
William Parslow	1911/06/16			
Sarah Victoria Parslow and Issac Vernon Parslow	1939/12/06			
Arthur Hawkwood	1939/12/12			
Thomas Mason Hawkwood	1945/08/29			
Thomas Mason Hawkwood	1988/08/11			
⁶³ Architect:				
⁶⁴ Builder:				
⁶⁵ Craftsman:				
⁶⁶ History:				
⁶⁷ Sources:				
Status				
⁶⁸ Status	⁶⁹ Date			
Designation Status	1			
⁷⁰ Designation Status	⁷¹ Date			
⁷² Priority				
Туре				
⁷³ Geo Code: Internet Link	⁷⁵ Register:			
⁷⁶ Link	⁷⁷ Date			
	Dat			
Internet Link Description ⁷⁸ Description	⁷⁹ Date			
Internet Link Type	01_			
⁸⁰ Type	⁸¹ Date			
Internet Link Title	1			
⁸² Title	⁸³ Date			
⁸⁴ Related Significant Sites Record:				

Heritage Survey Site Form - Data Summary

¹ Key:	HS	107215								
² Site Name:	The	omas Hawkwoo	d Farm - Sou	uth Dam						
³ Other Name	(s)									
⁴ Site Type										
Туре										
0599 - Farming	g and Rar	nching: Other								
ATS Legal De	escriptior	1								
⁵ LSD	⁶ Quarte	r	⁷ Section		⁸ Townshi	р		⁹ Range	¹⁰ Meridian	
6	SW		19		25			2	5	
PBL										
¹¹ Plan		¹² Block		13Lot		¹⁴ Mete	es & Boun	ds		
¹⁵ Address:					¹⁶ Number:					
¹⁷ Street:										
¹⁸ Avenue:										
¹⁹ Other:										
²⁰ Town:					²¹ Near Tov	vn:	Calgary			
²² County:	104	4 - Rocky View	v No. 44, M.I	D. of						
UTM										
²⁷ Zone	²⁸ North	ing	²⁹ Easting		³⁰ Datum	•	³¹ Coordin	ate Determinati	on	
11	5669358	3	690867		NAD83		GPS			
LAT										
³² Latitude			³³ Longitud	de	³⁴ Datu	ım	³⁵ C00	rdinate Determi	nation	
Media										
Media										
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	³⁸ View:	N side
	³⁹ Date(yyyy/mm/dd):	2017/05/10
	⁴⁰ Source:	Stephen Wagner

⁴¹ Style	
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⁴² Plan Shape	
Туре	
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⁴³ Storeys	
Туре	
⁴⁴ Foundation	
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⁴⁵ Superstructur	e
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⁴⁶ Superstructur	e Cover
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⁴⁷ Roof Structur	e
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⁴⁸ Roof Cover	
Туре	
⁴⁹ Exterior Code	\$
Туре	
⁵⁰ Exterior:	The site consists of a Historic Period dam (see Figure 37, Figure 38; see Appendix D for the Heritage Survey Site Form). This structure consists of an earthen enbankment with a stone core. The dam measures 36 m from side to side and is six metres wide. The top of the structure sits approximately three metres above the bottom of the drainage on the downstream side.

⁵¹Interior:

⁵²Environment: The site is located within the natural drainage that runs through the centre of the project area. It is bordered on the east and west sides by cultivated field. To the north is the pond created from the dam. To the south is the drainage containing natural grasses and willow.

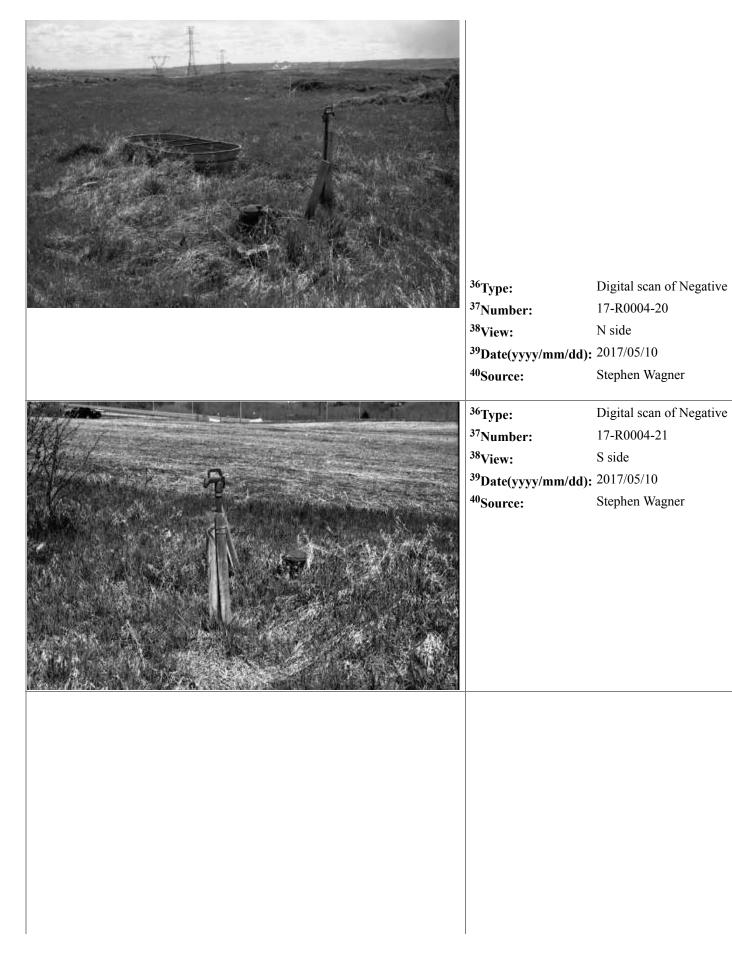
⁵³Condition: Intact

⁵⁴Alterations:

Construction

⁵⁵ Construction	⁵⁶ Date(yyyy/mm/dd)	⁵⁷ Code	
Usage			
⁵⁸ Usage	⁵⁹ Date(yyyy/mm/dd)	⁶⁰ Code	
Owner			
⁶¹ Owner	⁶² Date(yyyy/mm/dd)		
Christopher Miller Rawlinson	1892/08/24		
William Parslow	1907/08/24		
William Parslow	1911/06/16		
Sarah Victoria Parslow and Issac Vernon Parslow	1939/12/06		
Arthur Hawkwood	1939/12/12		
Thomas Mason Hawkwood	1945/08/29		
Thomas Mason Hawkwood	1988/08/11		
⁶³ Architect:			
⁶⁴ Builder:			
⁶⁵ Craftsman:			
⁶⁶ History:			
⁶⁷ Sources:			
Status			
⁶⁸ Status	⁶⁹ Date		
Designation Status			
⁷⁰ Designation Status	⁷¹ Date		
⁷² Priority			
Туре			
⁷³ Geo ⁷⁴ Borden Number: Code: Internet Link	⁷⁵ Register:		
⁷⁶ Link	⁷⁷ Date		
Internet Link Description			
⁷⁸ Description	⁷⁹ Date		
Internet Link Type			
⁸⁰ Type ⁸¹ Date			
Internet Link Title			
⁸² Title	⁸³ Date		
⁸⁴ Related Significant Sites Record:			

Heritage Survey Site Form - Data Summary





³⁶ Type:	Digital scan of Negative
³⁷ Number:	17-R0004-22
³⁸ View:	S side
³⁹ Date(yyyy/mm/dd):	2017/05/10
⁴⁰ Source:	Stephen Wagner

⁴¹ Style	
Туре	
⁴² Plan Shape	
Туре	
⁴³ Storeys	
Туре	
⁴⁴ Foundation	
Туре	
⁴⁵ Superstruct	ure
Туре	
⁴⁶ Superstruct	ure Cover
Туре	
⁴⁷ Roof Struct	ure
Туре	
⁴⁸ Roof Cover	
Туре	
⁴⁹ Exterior Co	des
Туре	
⁵⁰ Exterior:	The site consists of a Historic Period well. This structure consists of a dispensing nozzle attached to a metal pipe that extends from the ground. The nozzle is approximately 1.5 m in height. There are two round posts also extending from the ground. The pipe is attached to these with wire. A 2-x-4 board is leaning against the pipe as well. A metal hatch is also extending from the ground approximately one metre from the pipe. No base boards were identified.

⁵¹Interior:

⁵²Environment: The site is located at the northeastern corner of the farmyard. It is bordered on the east and north sides by cultivated

field. To the west is HS 107218 (Thomas Hawkwood Farm - Fence). The plants in the area consist of tall grasses. Tall woody brush is located immediate to the west. Intact ⁵³Condition: ⁵⁴Alterations: Construction ⁵⁵Construction ⁵⁶Date(yyyy/mm/dd) ⁵⁷Code Usage ⁶⁰Code 58Usage ⁵⁹Date(yyyy/mm/dd) Owner ⁶¹Owner ⁶²Date(yyyy/mm/dd) Canadian Pacific Railway Company 1902/02/27 Arthur Miller Rawlinson 1902/04/26 William Parslow 1907/08/24 William Parslow 1911/06/16 Sarah Victoria Parslow and Isaac 1939/12/06 Vernon Parslow Arthur Hawkwood 1939/12/12 Thomas Mason Hawkwood 1945/09/29 Thomas Mason Hawkwood 1988/08/11 ⁶³Architect: ⁶⁴Builder: ⁶⁵Craftsman: ⁶⁶History: ⁶⁷Sources: -OFFICE USE Status 68Status ⁶⁹Date **Designation Status** ⁷¹Date ⁷⁰Designation Status ⁷²Priority Туре ⁷³Geo ⁷⁴Borden Number: ⁷⁵Register: Code: **Internet Link** ⁷⁷Date ⁷⁶Link **Internet Link Description** ⁷⁸Description ⁷⁹Date **Internet Link Type** ⁸¹Date ⁸⁰Type **Internet Link Title** ⁸³Date ⁸²Title ⁸⁴Related

Significant

Sites Record:

Heritage Survey Site Form - Data Summary

¹ Key:	HS	107218							
² Site Name:	The	omas Hawkwoo	d Farm - Fence						
³ Other Name	(s)								
⁴ Site Type									
Туре									
0599 - Farming	g and Rar	nching: Other							
ATS Legal De	scriptior	1							
⁵ LSD	⁶ Quarte	r	⁷ Section	⁸ Townshi	р		⁹ Range	¹⁰ Meridian	
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PBL									
¹¹ Plan		¹² Block	¹³ Lot		¹⁴ Mete	s & Bour	ıds		
¹⁵ Address:				¹⁶ Number:					
¹⁷ Street:									
¹⁸ Avenue:									
¹⁹ Other:									
²⁰ Town:				²¹ Near Toy	vn:	Calgary			
²² County:	104	4 - Rocky View	v No. 44, M.D. of						
UTM									
²⁷ Zone	²⁸ North	ing	²⁹ Easting	³⁰ Datum	3	⁵¹ Coordin	nate Determinatio)n	
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³⁶ Туре:	Digital scan of Negative
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³⁸ View:	NE side
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⁴² Plan Shape	
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⁴³ Storeys	
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⁴⁴ Foundation	
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⁴⁵ Superstructure	
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⁴⁶ Superstructure	Cover
Туре	
⁴⁷ Roof Structure	
Туре	
⁴⁸ Roof Cover	
Туре	
⁴⁹ Exterior Codes	
Туре	
⁵⁰ Exterior:	The site consists of a Historic Period fence. The fence measures approximately 4 m from end to end and is roughly 1.5 m tall. It consists of four horizontal rows of boards attached to three wooden posts.
⁵¹ Interior:	
⁵² Environment:	The site is located at the northeastern corner of the farmyard. It is bordered on the east and north sides by cultivated field. Approximately seven metres to the east is HS 107217 (Thomas Hawkwood Farm - Well 2). The plants in the area consist of tall woody brushy. Tall grasses are located immediately to the east.
⁵³ Condition:	Heavily disturbed.
⁵⁴ Alterations:	

Construction

⁵⁵ Construction	⁵⁶ Date(yyyy/mm/dd)	⁵⁷ Code
Usage		
⁵⁸ Usage	⁵⁹ Date(yyyy/mm/dd)	⁶⁰ Code

Owner

Owner	
⁶¹ Owner	⁶² Date(yyyy/mm/dd)
Canadian Pacific Railway Company	1902/02/27
Arthur Miller Rawlinson	1902/04/26
William Parslow	1907/08/24
William Parslow	1911/06/16
Sarah Victoria Parslow and Isaac Vernon Parslow	1939/12/06
Arthur Hawkwood	1939/12/12
Thomas Mason Hawkwood	1945/09/29
Thomas Mason Hawkwood	1988/08/11

⁶³Architect:

⁶⁴Builder:

⁶⁵Craftsman:

⁶⁶History:

⁶⁷Sources:

OFFICE USE	
Status	
⁶⁸ Status	⁶⁹ Date
Designation Status	
⁷⁰ Designation Status	⁷¹ Date
⁷² Priority	
Туре	
⁷³ Geo ⁷⁴ Borden Number: Code:	⁷⁵ Register:
Internet Link	
⁷⁶ Link	⁷⁷ Date
Internet Link Description	
⁷⁸ Description	⁷⁹ Date
Internet Link Type	
⁸⁰ Type	⁸¹ Date
Internet Link Title	
⁸² Title	⁸³ Date
⁸⁴ Related Significant	
Sites Record:	
кесога:	

APPENDIX E: HISTORIC LAND TITLES

SW-19-25-2 W5M SE-19-25-2 W5M

SW-19-25-2 W5M

HS 107214 Thomas Hawkwood Farm - North Dam HS 107215 Thomas Hawkwood Farm - South Dam

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(8)	ROAD CUT-OFF IMAT PORTIG AND EAST OF CONTAINING THAT PORTIG WIDTH THRO LIFS SOUTH	4576 BM 4576 BM PLAN 2261 10.2 HECTARES ON OF THE EAST UGHOUT OF THE S.	0.121 0.012 RTER SECTION W 5 AZ (25.2 ACRES) M 150 FEET IN FE AID QUARTER SE 576 BM	0.30 0.03 (HICH LI) (ORE OR) (CRPENDIC) (CTION W)	LESS VLAR HICH LESS	•	*
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Certificate of Title

NUMBER 8 8 3 3 4 0 0 8 B

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South Alberta Land Registration District

THIS IS TO CERTIFY that THOMAS MASON HAWKWOOD (FARMER) OF BOX 8, SITE 16, S.S. 41 CALGARY, ALBERTA T2M 4N3

is bre now the owner(e) of an estate in fee simple

of and in

THE SOUTH WEST QUARTER OF SECTION MINETEEN (19)

TOWNSHIP TWENTY FIVE (25)

RANGE TWO (2)

WEST OF THE FIFTH MERIOTAN

CONTAINING 64.7 MECTARES (160 ACRES) MORE OR LESS

EXCEPTING THEREOUT ALL MINES AND MINERALS AND THE RIGHT TO WORK THE SAME

SUBJECT TO THE ENCLIMBRANCES, MENS AND INTERESTS NOTIFIED BY MEMORANDUM UNDER-WRIFTEN OR ENDORSED HEREON, OR WHICH MAY HEREAFTER BE MADE IN THE REGISTER.

In witness whereof I have subscribed my name and atfleted my official scal this.

11 day of AUG. 19 88

A.D. Registrar

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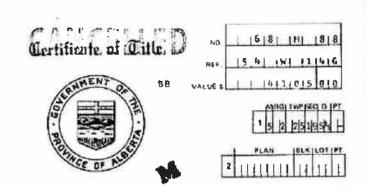
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South Alberta Land Registration District

THIS IS TO CERTIFY WAR THOMAS MASON NAWKWOOD OF THE CITY OF CALGARY IN THE PROVINCE OF ALBERTA (FARMER)

IS now the owner of an estate in fee ompie.

NAME OF THE SOUTH HALF OF SECTION NINETEEN (19) IN TOWNSHIP TWENTY FIVE (25) RANGE TWO (2) WEST OF THE FIFTH MERIDIAN, CONTAINING THREE HUNDRED AND TWENTY (320) ACRES MORE OR LESS,

EXCEPTING THEREOUT

FIRSTLY:

PLAN	NO.	ACRES MORE OR LESS
ROADWAY	2265 A.Z.	56% 3.40
ROADWAY	4576 B.M.	0.30
CUT-QFF	4576 B.M.	0.03

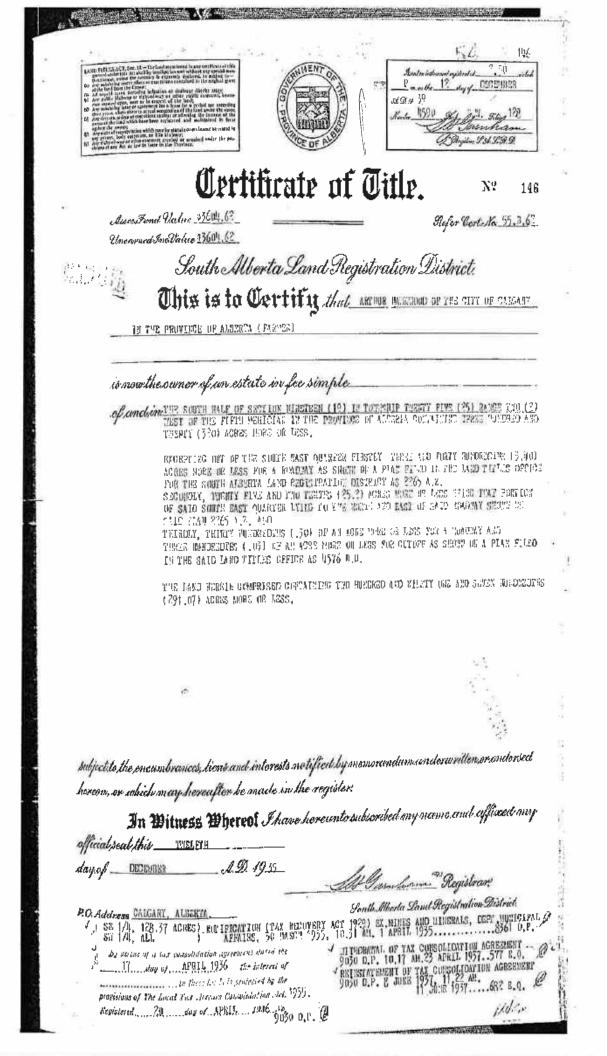
SECONDLY: THENTY FIVE AND TWO TENTHS (25.2) ACRES MORE OR LESS BEING THAT PORTION OF SAID SOUTH EAST QUARTER LYING TO THE NORTH AND EAST OF SAID ROADWAY SHOWN ON PLAN 2255 A.Z.

THIRDLY: A5 TO THE EAST ONE HUNDRED AND FIFTY (150) FEET LYING SOUTH OF HIGHWAY SHOWN ON PLAN 4576 B.M. IN THE SOUTH EAST QUARTER OF SAID SECTION, CONTAINING FIVE AND TWO MUNDREDTHS (5.02) ACRES MORE OR LESS,

EXCEPTING THEREOUT ALL MINES AND MINERALS AND THE RIGHT	TO WORK THE SAME.
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Sanfer inderend og ibrel of 3.30 Promite_6 AVY_DECEMBER 49039 Dangihor Lot 2999 Extituate of Title. 62 Ausco Jund Value_ 13604:62 Refer Cort. No. 0 2 95 Unearned Includer_ MIL____ TRANSMISSION South Alberta Land Registration District. This is to Certify that SARAH VICTORIA PARSIDN (MIDON) AND ISAAC VERNON PARSION (MERCHANT) BOTH OF THE CITY OF CALGARY IN THE PROVINCE OF ALMERTA STRECUTORS OF THE VILL OF WILLIAM MARON PARSLOW, DECRASED Anourthe owner of an estate in fee simple. AS SUCH EXECUTORS of condime THE SOUTH MAIP OF SECTION NIMETEEN (19) IN TOUMSHIP THENTY FIVE (25) RANGE THO (2) WEST OF THE FIFTH MERIDIAN IN THE PROVINCE OF ALMERTA CONTAINING THREE HUNDRED AND THENTY (320) ACRES MORE OR LESS: EXCEPTING OUT OF THE SOUTH EAST QUARTER FIRSTLY, THERE AND FORTY HUNDREDTHS (3.40) ACRES MORE OR LESS FOR A ROADWAY AS SHOWN ON A PLAN FILED IN THE LAND TITLES OFFICE FOR THE SOUTH ALBERTA LAND REGISTRATION DISTRICT AS 2265 A.Z. SECONDLY, TWENTY FIVE AND TWO TENTHS (25.2) ACRES MORE OR LESS BEING THAT PORTION OF SAID SOUTH BAST QUARTER LYING TO THE NORTH AND EAST OF SAID ROADWAT SHOWN ON SAID PLAN 2265 A.Z.AND THIRDLY, THIRTY HUNDREDTHS (.30) OF AN ACRE MORE OR LESS FOR ROADRAY AND THREE HUNDREDTHS (.03) OF AN ACRE FOR COTOFF AS SHOWN ON A PLAN FILED IN THE SAID LAND TITLES OFFICE AS 4576 B.N. THE LAND HEREIN COUPRISED CONTAINING TWO HUNDHED AND MINETY ONE AND SEVEN HUNDREDIES (291.07) ACRES MORE OR LESSA 6.. 1. -Acres 64 subject to the encumbrances, liens and interests notified by memorandum underwritten or ondorsed hercon, or which may hereafter be made in the register In Witness Whereof Shave hereunto subscribed my namo and affixed my Afficial beal this SIXTH dayof DECEMBER A.D. 19.39_ Jauhom Registron P.O. Address South Alberta Land Registration District. By nirtue of a tex consolidation agreement dated the the interest of

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achur Hawkwood Due 139 110 10 - En

OZ 95. Certificate of Title. 6 T 150 South Alberta Land Registration District. Last Vales 4000 Mahon 8766. This is to Certify that William, Parslow of the City of Calgary in the Province of alberta House dealer ts now the owner of an estate in fee vingle of and in Spec South Half of Section Mindeen (19) and the Worth fulf of Section Thirty (50) both in Townships (Twenty free (25) Range Two (2) West of the Willer Meridian in the said Robince of Albertar containing Six hundred and Thirty with fill hundred the (636 0) ucres more or less. Rescroing out of the North half of soid Section Thirty (30) unto this Mayesty this Suscessors and assigns all mines and minerals and the right to work the same and subject to the encumbrances, tiens and interests notified by memorandam underwritten or endorsed hereon, or which may hereafter be made in the register. In Witness Wihereof I have herewate subscribed my name and affired Dixteenth my official seal this_ A.D. 13H June day of Sunfrom Registran Sand Registration District. P.O. Addres Calgary alberto Talk Presiden is excelled to in 671 Man acce in find, a This Certificate is cancelled as to 3. 10 and in SEA 17 210 14. IN THE REPORT MILL SECTION IS & IL MA Groupe a new Certificate UZRE Issued to H. M. King Guerge V (Paties) 612 (~ 57.23 iway) under Pion <u>\$394</u> Dated <u>7 Kec 1912</u> Registered at <u>2⁹²CM</u>, <u>9172 av 22155</u> H Z. is lighted till a 16 quest

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fertife Mat fin with in process) a daly entrus and Registered in the same Tilles Office fer the Cour's Afferige 1 and Q. J. 150, Registration Detart at 10 Province of Alexia at 10 U.H. on the 24 tay of 4 OMMON . Certificate of Cille PROVINCE OF ALBERTA 4,000 Land Registration District. South Alberta. 0.10.11 toprews cartificated M. 236. s is to Certify that William The lying, in the Poromand alberta - Horse dealer is non the comp of an estate lie fee disuple of and in the South bull of Section Hine twee O' Buyit auge Swo (2), West of the Fifth mendion, withe baid Morne of alberta, containing Six hundred an horadouttor (2000) acres, more on less Ercepting out of the South-East quarter of said Section the "Surveyed Public Road, one Chain in width, crossing the day Section Punto His Majerty His Succusors and assigns, all mines and minerals, and the right to work the same and subject to the incombrances, liens and interests notified by memorandum underpretter or indersed hereon, or which may bereafter to wade in the register. In Witness Wherevel I have becouse subscribed my names and affered my official wal \$ 9. 1807 die Leventy - fourth day of august ham Belanda P. D. Assires Calquery, alberta. South Alboria. Land Son damating this. It. day of Jessier 1.966 by consolidation with certificate 0276 under vertificity

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BACK OF TITLE

236 v. N 936 ossad. CRAITORIS Certificate of Ownership. CANCEL Land Registration Districts Jon 16 Alberta This is to Cortify that Christofher Miller Randinson of Calgory ni the Browning of Consider Rough Worth Work is noro the comes of go estate to fle aimple of and in The Con the West Quertes of dection Minetien with a States and the second states and the Thenty fifthe Soundhics with decond Clange. Want of the Jost Merichan is the Provisional Water of alter far. in the North Wast Sair torio. in the Wominion of Canada Containing by admeasurements On & hundred and Dicky (160) actes more on loss, 0000 -10) outject to the encuestrances, time and interests welfed by memorial underweitlers or endered hereon, or which may hereafter be worded in the Register of Villes In Witness Witness Witness I have berunte subscribed my name and offered my seal this Beenty fourth day of Quequet 0190. 1899. Samuen Registrat, South alles talend By utulan District P. O. ADLOW, Calgaryet. W. J. SUPERIA (Start month FATION OF TAXABLES OF FRIENDS FARTHER TO INTERNIT ENTERING FOR THE REAL PROPERTY. This Certificato 1479752 au Trapsfor to Active numeric registered munor 2. O. Addr

ELENDORSEMENTS BACK OF TITLE

SE-19-25-2 W5M

HS 107216 Thomas Hawkwood Farm - Well 1

HS 107217 Thomas Hawkwood Farm - Well 2

HS 107218 Thomas Hawkwood Farm - Fence

11 A.W. //. Certificate of Title. daly enteredandiftig, deret (.....allen Tinigerbilde for fra Soon (....eristan - CD- M South Alberta Land Registration District Ses Reference Cartificate B. A. St. This is to Certify that arthur bulles haveinson of the City of Calgary in the Distaice of allerta, in the Mathie Weat Servileins is now the rooms of an estate in fer fimple. of and in the factor East quarter of dection more being 19 in township Junity five (25) Maupe Jury 2) elect of the Fift mention in the Rich District of allerita Containingly admissourement one iner dard and fifty for (160) fifty harn the the fish to accer mae on low; Reserving the wort the Surveyed Public Road me drain sie will crossing the said land and also subject to the encumbrances, how and interests notified by commorandum underwritten as ordered how on which may hoursefter be used in the register. In Miness Marcol I have bounds subscribed my name and officed my official A Soland Winter Accistor P. O. Addren, Calgari Va. 10. 2. South Albertz, Land Semilaria Distin This Certificate in Transfer to share nimed registernit swow

O ENDORSEMENT BACK OF THE

89.56 I Certify that the within Indirane, dely other all and the graves in the t lider to be for a let for any benal O ANADA RAITORIS Certificate of Title. April West To all in the 27 South Alberta. Land Registration District PariCanadian Petroleant Lanual Birchlaysock BK INST. 243'M 137 Inst. 3959 J.M. Rog. Nov. .. 17651 the liter A.D. Reg. his is to that the mhany is now the corner of an estate in fie simple subject to the charge created as murily for the Fund Grant Bonds of the said Company of and in all these purcels or hads of land situale, lying and being in Grandhip Swinity foor 29 in Range Swett West of the 3. the - Acudian in the Qualities of Marta in the Northwest Territories of Canada, and being compared of the Wist half and the South East quarter of betime Brunthe loute list quarter of hection rolling and the last half and the North West quarter of Section Timber of fall in the said sourising containing by ad ... as we ment together one thousand one hundred and twenty elledberes more on less, Reserving thereout the Surveyed to be of the Part Public hoad one druin in width crossing the said lands and also 1. 1100 20 iller to be setting to a ar In a t CANCELLED THIS CERT. IS CANCELLED IN ADCORDANCE WITH THE TRANSFER TO, 771003594 771003595' CERT. OF TITLE NO 19/1 AD. REG. subject to the mumbranes, time and interests notified by animorandum undersortlen as and and turnen, or which may turafter to unde on the reguler. In Witness Witness I have because or busided any name and offered my official eal this Querty weath day of Admany CA. 20. 19 12. Fred Office - Allow Wienspey, Man. South Alberta The Contificate is cancelled as to & Eff. Sec. 19 . Willied. 1. The charge in respect of the land Junit Boude above a new Certificate A. W.// issued to mentioned is discharged beto the South East que to at realise athin millers Baulinson hydischarge dated 24 Manuary 1902 from R. D. Argus , a Transfer to 12:12 form the above named registered onner dated 24= former 1802, and registered at 11:500 look Like this 26-day at 2,6ric A. D. 802, as No. 2137. John Turnhill Gorge M. Clark and His helding Agreture at 11 as AM 26 April 1902 as 2136 I. 1. 0.1502. at Na. 2/37. I. Mouthilis TOH Stantis . Cancelled as to 4.4 one in the BWL & le 15 in fled the Markenser

53" is cancelled as & N-W /4 - Sec: 1 This Cr s Carifficate is Cancelled and IVa : 19 (4cg and a new Carliner o MN 158 isonal to 1 Exercise Co FU. 100 lisued to a new Certificate he lay from the abave named registered owner alfud Sidio it under Tranefri im _ftem the miero ransal on character dia 23 Tuly 190 ler Transfer to 19.6 and registered at """"O'clock and Registration 1-32- and the R. S. Migration Pidedia 84 day of 13 har-1 A.D., 19/0 ... 4 152 ... M. this 2 -A.D Realast ſW 800 Cocept Begidene, Remisteur. esticity Sec 1. Cancelled Inia. 30. day of ... Mary ... 1.24. by consolidation with conspicate 0273 under griffrate 0283. Wehalls Sugistrat. 1. Saugh Peak P. O. Address, Regulrar. arto Var NWIL CANCELLED UNI LS.W. 15. This Cresilicate in camping of Trans · den fun bie detweinige **H**alster - - - Far had Hegisterid at 2 23 d Pr. 1948 NoCERTIFICATE OF TITLE The Canadian Pacific Railway Co. t_{ij} G. P. Ry. Grant No. A.D. II Radad the

APPENDIX F: RECORDING AND REPORTING HISTORIC STRUCTURES CHECKLIST

Recording and Reporting Historic Structures

- Indicate "Complete" or "N/A" for each item on the checklist.
- Include a copy of the completed checklist as an appendix in the HRIA report.

1. **Recording Historic Structures**

1.1 Pre-field preparation

Heritage Survey review Satellite Imagery review Permission to enter land within project area 1.2 Fieldwork Complete N/A Traverse project area on foot or by vehicle Inspect all historic structures where safe to do so 1.3 **Documenting Historic Structures** 1.3.1Heritage Survey Site Form Complete N/A Complete a separate HS Site Form for each historic structure. Use "New" or "Update" HS eForm as appropriate. Assign historic structures a name that either: 1) conforms with naming conventions (for a newly documented structure) or 2) matches the existing name (for a previously documented structure) Upload images with digital file names that match image number from film roll or digital project number 1.3.2 Photographs Complete N/A Use true black and white film

Use Heritage Survey Roll Numbers

Take a minimum of 2 photos per historic structure, preferably showing all sides

1.3.3 Historical Title Search

Complete N/A

Complete

N/A

Title search to Patent for lands with historic structures, where applicable

2. Reporting Historic Structures

2.1 Description of Historic Structures

2.1.1 HRIA Executive Summary

	Complete	N/A
Include an ATS description of project area (can be general in the case of		
large areas)		
Provide a complete list of historic structures		
Provide a complete list of any designated historic structures within or in		
the vicinity of the project area		
Provide a summary of impacts and recommendations		
2.1.2 Record Search		
	Complete	N/A
Provide a table of previously recorded historic structures, from the		
Heritage Survey Review (see 1.1 above), including Key Number, Site		
Name, Site Type, Address or ATS and Town, if applicable, for each		
structure. Include Borden Number if applicable.		
OR		
OK .	Complete	N/A
If there are no previously recorded historic structures, provide a statement		
to that effect. For example: "A review of the Heritage Survey records at		
Old St. Stephen's College revealed no previously recorded historic		
structures in the project area."		
2.1.3 Findings		
	Complete	N/A
Provide a textual description of each historic structure within the project		
area, including Key Number, Site Name, ATS location, Borden Number (if		
applicable), materials, size, relationship to other structures, date of		
construction, history, usage and condition.		
Provide illustrations of all historic structures; captions to include Key		
Number and Site Name. Photographs are not required for previously-		
documented sites that have been demolished, or could not be relocated		
When previously documented structures could not be relocated, or are		
known to have been demolished, note this fact in the text		
When structures previously documented as inside the project area are		
relocated but found to be outside the project area, note this in the report,		
and include updated locational information, if possible		

2.1.4 Land Titles

Provide a summary of land titles information in table format. Where more than one structure has the same land location and land titles information, only one table is necessary.

2.1.5 Sketch Map

North arrow; except in unusual circumstances north is at the top of the

page

Indicate scale or rough scale

Shown significant or useful legal boundaries such as quarter section lines

Label structures with Key Number and Site Name (must be the same as on the HS Site Form)

Show structures in correct location

Show adjacent features, such as:

- Structures, whether new or old
- Landscape and vegetation features such as sloughs, hedges, etc.
- Man-made features such as roads, trails, refuse dumps, machinery, depressions, etc.
- Any other interesting or distinctive features

Show relationship of historic structure(s) to the project area: ie. show

boundary of project area, or distance and direction to boundary on map

Label map with project name, number, date and ATS location

2.2 Assessment

2.2.1 Significance

 Complete
 N/A

 Clearly state the reasons for the significance, or lack thereof, of each
 historic structure

 Note presence of designated sites (Municipal, Registered, Provincial)
 Formation

2.2.2 Impact

Complete N/A

Clearly state what the impact of the project will be on each historic structure

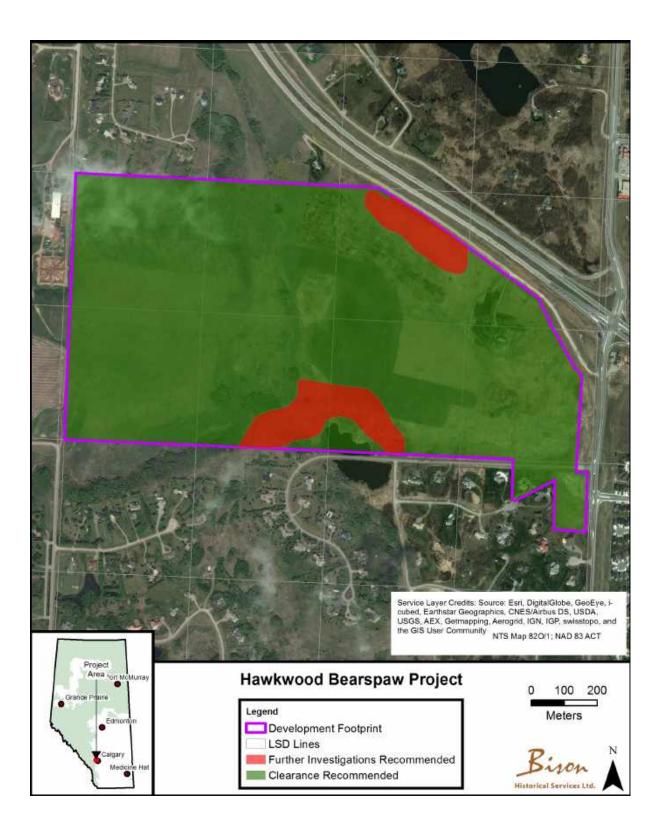
Complete N/A

2.3 Recommendations

Clear	rly state recommendations for each historic structure	-	
Clea	rly state the rationale for the recommendations		
2.4	Appendices		
		Complete	N/A
Prov	ide a separate appendix for Recording and Reporting Checklist		
	ide a separate appendix for HS Site Forms with documents logically nged and labelled		
	ide a separate appendix for historical land titles documents with		
docu	ments logically arranged and labelled		
3. 3.1	Documentation (submit separately from bound report) Heritage Survey Site Forms		
0.1	Treffuge Survey Site Forms	Complete	N/A
A ha	rd copy of each Heritage Survey Site Form	1	
	and white photographic prints attached		
3.2	Negatives		
D11		Complete	N/A
DIACE	and White negatives, labelled with roll number on each strip		
3.3	Land titles documents		
		Complete	N/A
Hard	l copies of historical land titles documents		
3.4	Digital files		
<u> </u>		Complete	N/A
0	al versions of all images, with files named according to Heritage		
	ey numbering system (Roll Numbers or Digital Project Numbers)		
	o log listing all film images		
	o log listing all digital (non-film origin) images		
Legil	ole pdf versions of land titles documents		

Complete N/A

APPENDIX G: RECOMMENDATIONS MAP



APPENDIX H: TOOL DESCRIPTIONS

EgPn-406

EgPn-771

EgPn-406

Cores

Exposure GX15+ consisted of a discoidal core located on the surface of the plowed field (NAD83 11U 691111E, 5669674N). The pinkish grey quartzite core measures 114.2 mm in length, 110.3 mm in width, 60.8 in thickness, and 746.3 g in mass (EgPn-406:1). A single flake scar is present on the dorsal surface, which is otherwise covered in cortex. The edge of the ventral side possesses six flake scars that all extend a third of the way across the surface of the tool.

Exposure GX8+ consisted of a multidirectional core located on the surface of the plowed field (NAD83 11U 691284E, 5669554N). The purplish grey quartzite core measures 52.4 mm in length, 37.7 mm in width, 27.8 in thickness, and 50.5 g in mass (EgPn-406:3). It is completely worked on both the dorsal and ventral surface, although the ventral surface is broken.

Exposure G2 consisted of an expended multidirectional core located on the surface of the plowed field (NAD83 11U 691130E, 5669656N). The pinkish chalcedony core measures 23.5 mm in length, 11.2 mm in width, 10.1 in thickness, and 4.9 g in mass (EgPn-406:4). The piece has three flake scars on the dorsal side and two on the ventral side, all of which are located along one edge of the core. The other edge of the core is completely covered with cortex.

EgPn-771

Cores

Shovel test G160+ produced a partial multidirectional core from 15 cmbs in Recommendation Area 3 of EgPn-771 (NAD83 11U 690861E, 5668999N). The dark grey siltstone core measures 25.3 mm in length, 22.3 mm in width, 10.2 in thickness, and 6.1 g in mass (EgPn-771:7). The dorsal side is completely covered with cortex, although flake scars are present on the lateral sides of the piece.

Shovel test G163+ produced a bipolar core from between 15 and 20 cmbs in Recommendation Area 2 of EgPn-771 (NAD83 11U 690816E, 5668972N). The pinkish grey quartzite core measures 152.0 mm in length, 96.8 mm in width, 60.2 in thickness, and 1,077.7 g in mass (EgPn-771:8). Two large negative flake scars are present on the ventral surface. A single flake scar is present in the distal end in the cortex. The cortext is unworked elsewhere on the dorsal surface.

Shovel test G128+ produced two multidirectional cores from approximately 15 cmbs in Recommendation Area 1 of EgPn-771 (NAD83 11U 690804E, 5668893N). Both pieces are made of brown quartzite. The first core measures 98.0 mm in length, 78.8 mm in width, 46.6 in thickness, and 442.1 g in mass (EgPn-771:9). This piece is made of a rounded cobble with one flake scar present on the proximal end and two flake scars on the broken distal end.

The second core from shovel test G128+ measures 135.0 mm in length, 121.9 mm in width, 71.4 in thickness, and 1,373.5 g in mass (EgPn-771:10). The dorsal and ventral sides are primarily unworked cortex. This is a large triangular piece of quartzite with a few flakes removed. One edge is completely covered with cortex. A second edge has two flake scars. The third edge has one flake scar.



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