Phase II Archaeological Evaluation of Site 21HE452 For the Southwest Light Rail Transit Project, Minneapolis, Minnesota

(#13P026 Amendment #1)

Prepared for
Metropolitan Council

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Project Overview

In August 2013 the Metropolitan Council contracted 10,000 Lakes Archaeology Inc. to evaluate seven archaeological sites for the Southwest Light Rail Transit Project (project). The final report for these evaluations was submitted in February 2014. The contract was amended in July 2014 to include Phase I investigations at two parcels (Area A and Area B) in Eden Prairie, and Phase Ia research with the potential for Phase I and subsequent Phase II investigation at the Holden-Royalston parcel in Minneapolis. This work is being conducted in anticipation of and preparation for project-related construction and maintenance activities which have been determined by the Federal Transit Administration (FTA) as an undertaking as defined by the National Historic Preservation Act (NHPA). Thus, the project is subject to the provisions of Section 106 of the NHPA, which requires federal agencies to consider development impacts on historic properties as part of the planning process. The Cultural Resources Unit (CRU) of the Minnesota Department of Transportation (MnDOT) acts on behalf of FTA for the Section 106 review process for the Project.

The investigations documented in this report represent the latest step of archaeological and historic property identification over several years of work guided by *Southwest Transitway: A Research Design for Cultural Resources* (Roise et al. 2010) (Appendix A). Phase Ia background research and Phase I investigations for the Holden-Royalston parcel were completed during the spring, summer, and fall of 2014 (Gronhovd and Maki 2015). Results of the Phase I field investigations led to the recommendation of a Phase II evaluation for the Holden-Royalston parcel (site 21HE452).

The 10,000 Lakes Archaeology Inc. team was comprised of three separate companies: Amanda Gronhovd, President of 10,000 Lakes Archaeology Inc., served as Project Manager and Principal Investigator; Ryan Grohnke, archaeologist at Westwood Professional Services assisted with the archaeological fieldwork; and David Maki, owner of Archaeo-Physics LLC, conducted the geophysical investigations and served as the project Geographic Information System (GIS) specialist.

This report presents the results of the Phase II evaluation at site 21HE452 at the Holden-Royalston parcel in Minneapolis. The Environmental Setting and Historic Context presented in this report were originally included in the Phase Ia and Phase I report (Gronhovd and Maki 2015), and have been included in this document for reference.

Chapter 2: Environmental Setting

The project area is located within the Central Lakes Deciduous Region (Region 4) according to Anfinson (1990). This region encompasses 25 counties from Dakota County in the southeast to Becker County in the northwest. Numerous lakes and rivers are present within the region, including the Mississippi and St. Croix Rivers as well as several smaller rivers and drainages.

The project area was last glaciated during the advancement and withdrawal of the Grantsburg sublobe of the Des Moines lobe of the Wisconsin glaciations about 12,000 years ago (Wright 1972). The landscape consists of hilly uplands on glacial till with the occasional ice-block-formed lake. The Hypsithermal peaked about 6,500 years ago, and the climate became warmer and drier, causing prairies to expand to the east and north (Lynott et al. 1986). Following the Hypsithermal, the region returned to cooler, wetter conditions, and deciduous forests and oak savannas replaced the northern and eastern edges of the prairies (Harrison and Madson 2010).

Specific regions have been established by the Minnesota Department of Natural Resources (MnDNR). These Provinces, Sections, and Subsections are characterized by topography, landscape, hydrology, and vegetation. The SWLRT project area falls into the Eastern Broadleaf Province, Minnesota and Northeast Iowa Morainal Section, and Big Woods Subsection, and drains into the Mississippi and Minnesota rivers via Bassett Creek, Minnehaha Creek, Nine Mile Creek, and Purgatory Creek (MnDNR 2015; Harrison and Madson 2010).

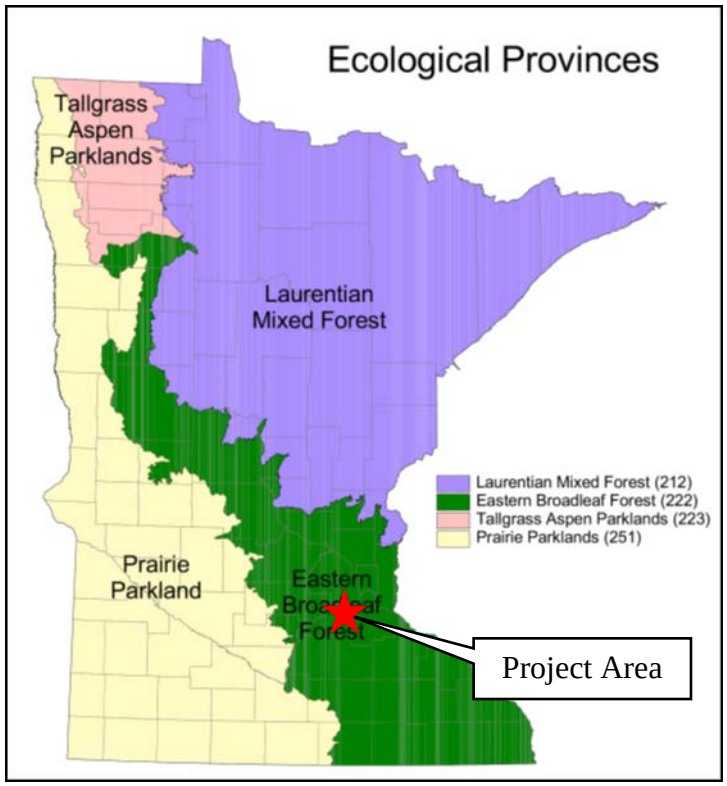

Figure 1. Ecological Provinces (MnDNR 2015)

Province

The Eastern Broadleaf Forest Province extends from west-central Minnesota southwest into Iowa, Wisconsin, Michigan, Ohio, New York, Illinois, Indiana, Kentucky, Tennessee, Missouri, and Arkansas (Figure 1). The Province covers nearly 12 million acres of central and southeastern Minnesota, and is a transitional zone between the semiarid Prairie Parkland along the west edge of the state and the semi-humid mixed Laurentian Mixed Forest in the northeastern portion of the state (MnDNR 2015).

Section

The Minnesota and Northeast Iowa Morainal Section (MIM) encompasses the SWLRT project area (Figure 2). This section, a long band that contains a mixture of deciduous forest, woodland, and prairie, extends nearly 350 miles from Polk County in northwestern Minnesota to the Iowa

border (MnDNR 2015). The terrain varies from “rugged to hummocky moraines deposited along the eastern margin of the Des Moines ice lobe during the last glaciation” and “rolling till or basal till deposited as drumlins” (MnDNR 2015).

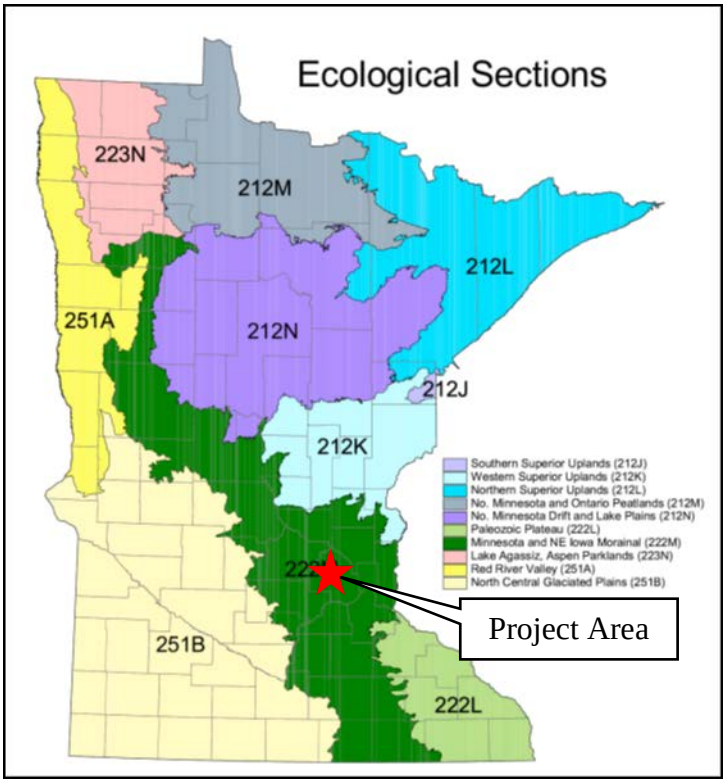

Figure 2. Ecological Sections (DNR 2015).

The three main types of vegetation and landscapes in the MIM result directly from the soils, landforms, and topography within the section. The sandy flat areas such as the Anoka Sand Plains, with its many open spaces were dominated by grasses, savannah, and oak and aspen woodlands, and promoted fire-dependent prairie and woodland vegetation. Areas dominated by forests where fires were uncommon have “fine-textured drift deposited in hummocky moraines and supported mesic forests dominated by sugar maple, basswood, American elm, and northern red oak” (MnDNR 2015). The floodplain and terrace forests that the section were present along the major river valleys (Mississippi, Minnesota, and St. Croix), and are still prominent today.

Forests of silver maple occupy the active floodplains, while silver maple, cottonwood, box-elder, green ash, and elm occupy the infrequently flooded terraces. Valleys are characterized by herbaceous and shrubby river shore communities along shorelines, on sand bars, and in some areas by cliff communities on the steep and rocky river bluffs. Closed depressions pond water in the spring and provide habitat for open wetlands such as marshes, wet meadows, shrub swamps, and wet prairies. Peatlands are uncommon in this section and usually develop following formation of sedge or moss mats over sediments in former lake basins.

Subsection

The Big Woods Subsection consists of gently rolling hills located between tallgrass prairies to the west and savannah and tallgrass prairies to the east (Figure 3) (MnDNR 2015). The Mississippi, Crow, and Minnesota Rivers constitute the subsection’s primary rivers. Lakes are common, with more than 100 lakes larger than 160 acres. Many of the lakes have no inlets or outlets, but are groundwater controlled.

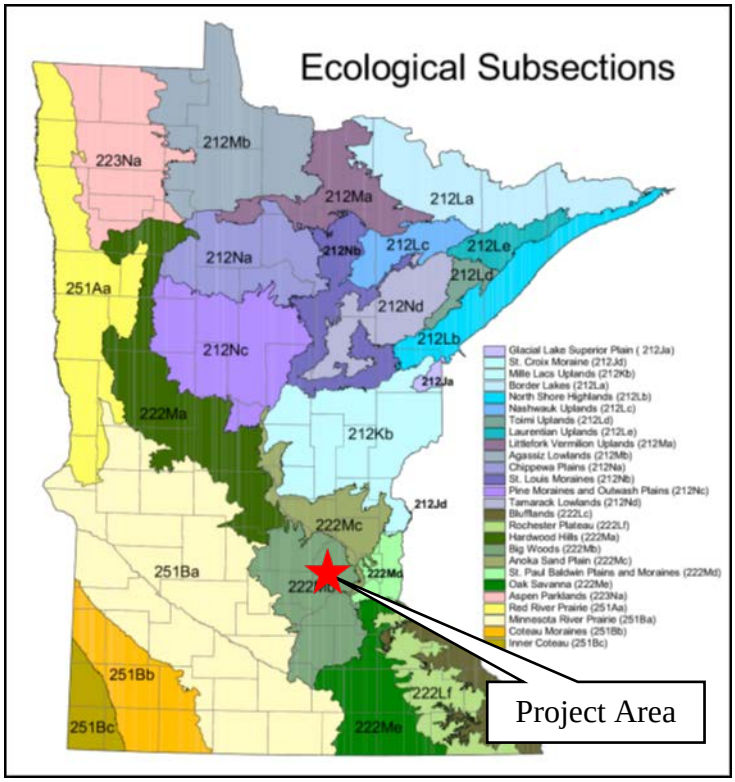

Figure 3. Ecological Subsections (DNR 2015).

Pre-settlement vegetation in the Section consisted primarily of oak woodland and maple-basswood forest. Currently, over 75% of the subsection is agricultural, 5 to 10% is pastureland, and 10 to 15% is either upland forest or wetland (MnDNR 2015).

Chapter 3: Historic Context for the Holden-Royalston Site (21HE452)

Statewide Context:
Urban Centers 1870-1940

Period of Significance: 1882-1929
The period of significance begins when a grocery store is first documented at the site and ends when the business presumably closes and the building is listed as "vacant."

Historic Context
The Holden-Royalston parcel is located in Minneapolis, east of Interstate 94 and north of Interstate 394 (Figure 4). Historically, the area was a residential neighborhood. Royalston Avenue ran north-south, and was lined with large houses. Holden Street and Royalston Avenue intersected at southern end of Royalston Avenue (Figure 5).

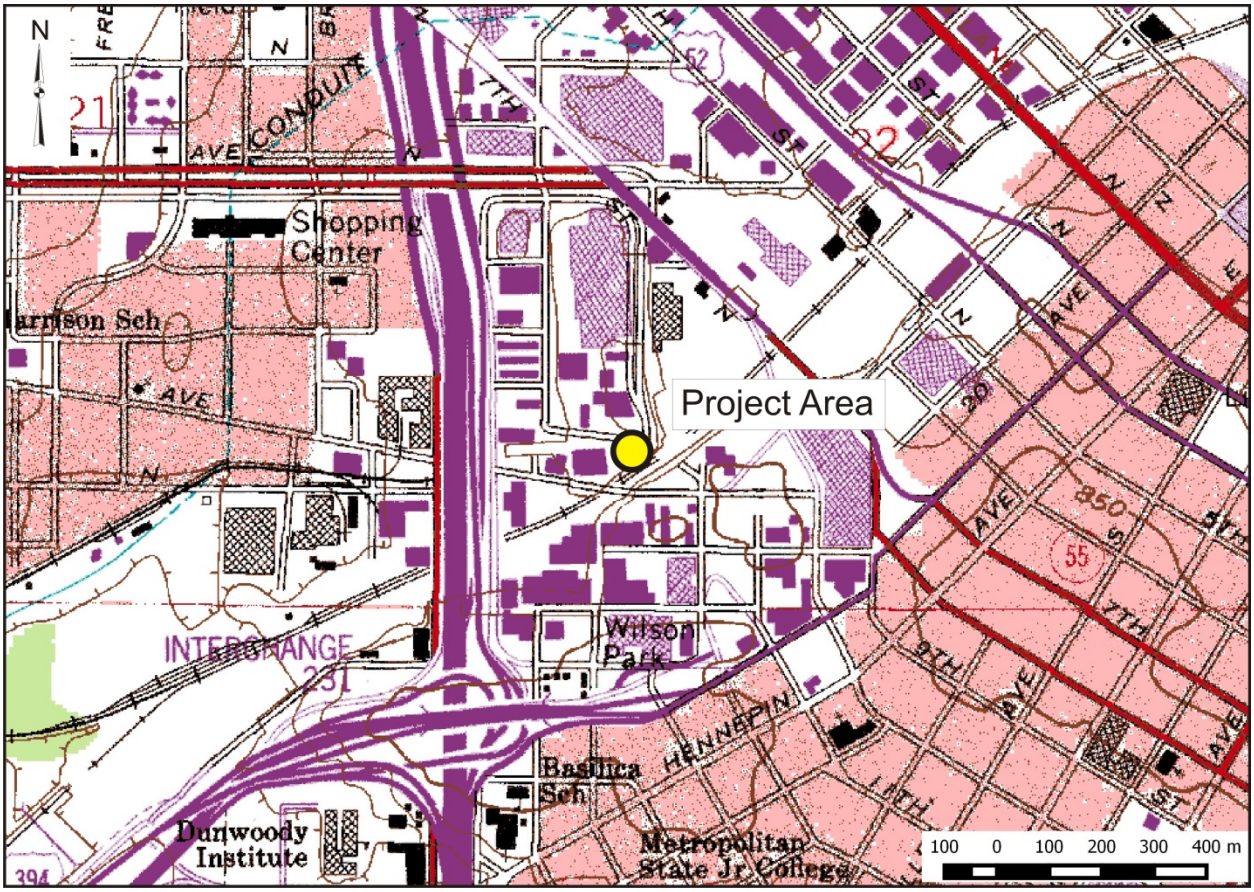

Figure 4. Location of the Holden-Royalston parcel.

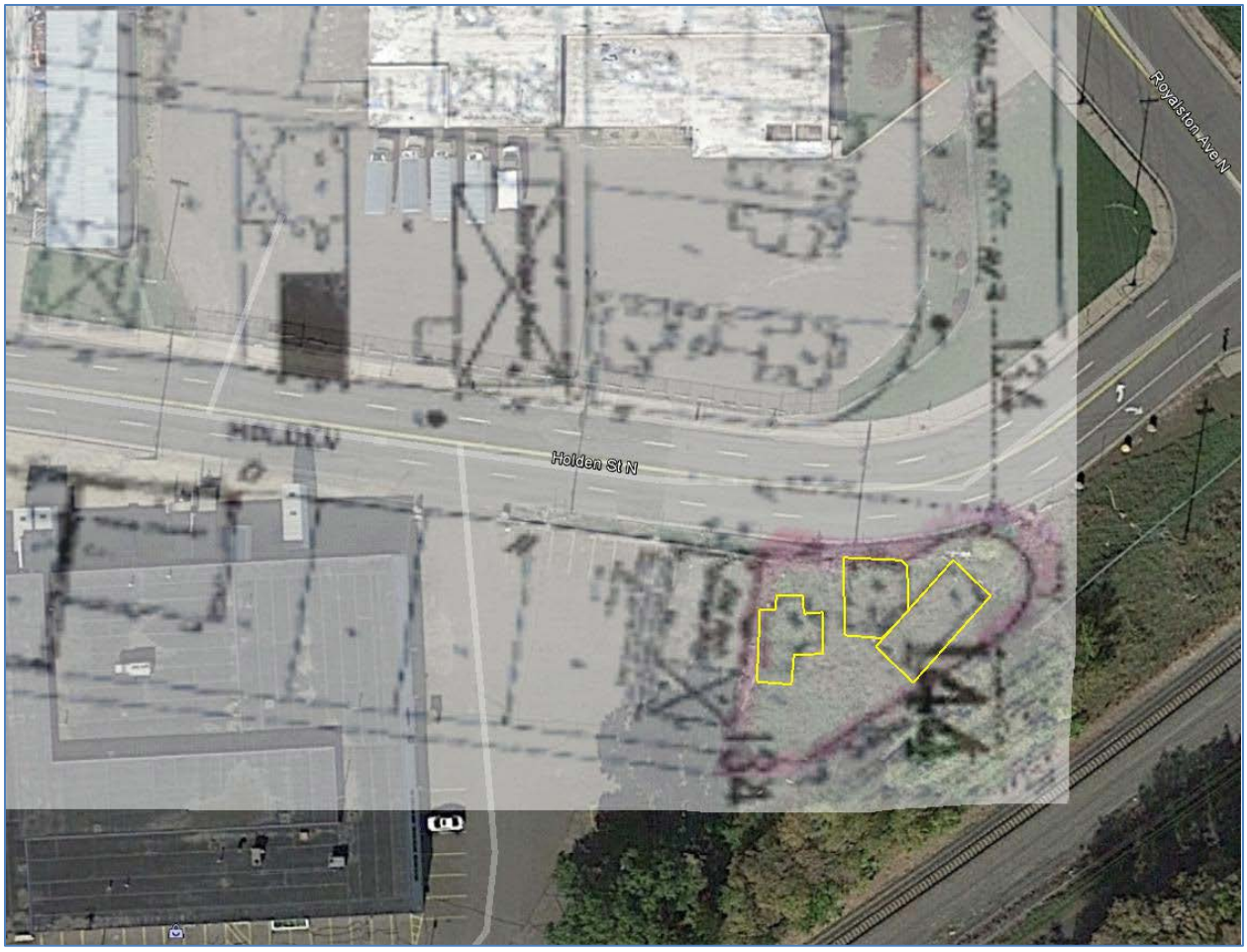

Figure 5. Modern aerial photograph with 1912 Sanborn map showing historic layout of Holden Street and Royalston Avenue with structures outlined in yellow.

The parcel is located in the Oak Lake Park Addition to Minneapolis, which was platted in 1873. This upscale neighborhood had large lots, curvilinear streets, and a small lake (Harrison and Peterson 2011). Nearby Lyndale Avenue was also slated as a future parkway, according to Horace Cleveland's 1883 Minneapolis park system plans. These factors made the newly established neighborhood highly desirable for upper-middle class families (Roise et al 2012).

In the mid-1870s, numerous professionals and business-owners including a lawyer and his clerk, a carriage manufacturer, a meat market proprietor, and a bookkeeper lived in the Oak Park Lake neighborhood (Minneapolis City Directory 1874). By the 1880s, the make-up of the area had become more economically mixed, and residents included laborers, teamsters and dressmakers, as well as physicians, lawyers and implement dealers (Davidson 1880). The Oak Lake neighborhood never achieved its upper-middle class status due to increasing amounts of local traffic, poor soils for structural stability, and encroaching industries (Gronhovd, et al 2014; Roise et al 2012).

From the turn of the century until the mid-1910s, numerous industrial complexes were built in the vicinity of the Oak Lake neighborhood, including N.E. Colstrom, a brick and mould machine

manufacturer, the Munsingwear mills, a Cedar Lake Ice Company plant, a large coal yard, and the Minnesota-Western railroad extended a line through the area (Schmid 1937:79; Minneapolis City Directory 1883-4:9; Roise et al 2012).

The degradation of the park-like setting of the Royalston area and the influx of industry began to take a toll on the stature of the neighborhood. By 1919 a newspaper article stated that "the encroachment of industry is every year pushing farther and farther into the little group of homes that remain" (Harrison and Peterson 2011). As industry crept closer and closer, social changes occurred in the neighborhood.

The large houses were broken into multi-family housing, and home-owners began to rent out rooms, introducing a somewhat transient population, leaving the neighborhood unstable. By the 1930s many Jewish residents had moved into the community and, according to a 1930s historian, the properties were allowed to fall into disrepair, and "were kept habitable only with increasing attention" (Schmid 1937:77).

Schmid also asserts that African-Americans moved into the residences vacated by the Jewish, and "by 1920, a time when Minneapolis had a total Negro population of 3,927, Oak Lake was almost completely Negro" (Schmid 1937:78). He states that this shift from upper-middle class single-family homes to increasingly transient, high-density housing brought with it increased crime. "As is characteristic of areas undergoing transition a certain amount of vice and crime exists in Oak Lake. Prostitutes practice their profession in varying degrees, depending on police pressure, and the crime rate is one of the highest in the city" (Schmid 1937:79).

Research conducted on the Oak Lake neighborhood in 2013-2014 (Gronhovd et al. 2014) indicates that Schmid's 1937 social history of the Oak Lake area is partly, but not entirely accurate. The more recent research suggests that the Royalston neighborhood shifted from upper-middle class to solidly middle/working class in a matter of about a decade. Many of the workers occupied positions in a variety of minimally to fairly skilled professions, but a few residents were professionals in areas that required extensive education.

The neighborhood also clearly transitioned, at least partially, to a Jewish community, but there is no evidence that the Royalston neighborhood became entirely African-American as stated by Schmid. There is also no indication that the neighborhood was a center of vice. Many of the houses had long-term residents consisting of working-class families, at least half of the houses were owner-occupied, and none of the census entries have the appearance of potential brothels – in fact single, female tenants are relatively rare. Thus, although the Royalston neighborhood never achieved and maintained its upper-middle class status, background research does not support claims indicating that it was a hot-bed of nefarious behavior.

Archival and Documentary Research

Background research for the Holden-Royalston parcel took place during the summer of 2014. This research indicated that a structure was first built on the parcel on June 30, 1887, although the Minneapolis City Directory lists the R.D. Thomas and O.S. Frizzell grocery at the site in 1882. At this point the parcel's address was 32 Holden Avenue. The primary business at the location appears to have been a grocery store, with a variety of "boarders" and "residents" listed. Professions of those living at 32 Holden Street through the late 1800s include laborers,

carpenters, a “practical horseshoer” confectioner, lumberman, clerk, and paperhanger (Minneapolis City Directories 1883, 1886, 1888, 1890, 1894, 1896).

In 1903 the parcel’s address changed from 32 to123 Holden Street. Despite the address change, the parcel continues to host a grocery store and house boarders including, teamsters, laborers, a peddler, and even a clairvoyant (Minneapolis City Directories 1903, 1904, 1905, 1906, 1907, 1908, 1912, 1913, 1915, 1917, 1919, 1921, 1922).

Over the years, various contractors updated and added to the structure, but the City Inspector of Buildings records do not describe what these updates and additions included. In 1892, 1898, 1903, and 1914, Minneapolis City Directories indicate that two structures were located at the site. An 1885 Minneapolis City map (Hopkins) and a 1912 Sanborn map confirm that two structures and an outbuilding were located on the site. Based on the shape of the structures and information from the City Directories, these structures appear to have been a commercial building (grocery store) and a residence (Figure 6). City records indicate that the structures remained at the site through the 1920s. By 1930 the structures are listed as vacant, and by 1935 the structures appear to be gone (Minneapolis City Directories 1930-1935).

Figure 6. Hopkins (1885) map showing Holden-Royalston parcel.

Chapter 4: Phase II Evaluation of the Holden-Royalston Site (21HE452)

Previous Investigations

In 2014, the Holden-Royalston parcel was examined using background research and field investigations. The background research included the examination of the Minnesota Archaeological Site Files and Minnesota Architectural History Site Files, historic maps, local histories, and city directories. This research allowed for the development of a site-specific historic context (see Chapter 3).

In addition to archival/background research, modern and historic maps were geo-referenced, light detection and ranging (LiDAR) data were analyzed, and a ground penetrating radar (GPR) survey was conducted. Geo-referencing historic and modern maps allowed researchers to place historic structures in their approximate locations on the modern landscape and thus helped guide archaeological investigations. Examination of the LiDAR data did not identify any potential archaeological earthworks or other topographic patterning of interest, however, the GPR survey identified three anomalies which were targeted for archaeological testing.

The 2014 subsurface archaeological investigations involved the excavation of one shovel test by hand and two 2x2 meter mechanical units excavated using a Bobcat. The shovel test could not be excavated to a depth sufficient to penetrate the deposits covering the site from recent dumping activity. Thus the mechanical units were excavated to depths between 156 and 220 centimeters (cm) below the modern ground surface in an attempt to located buried (intact) archaeological deposits. The mechanical units resulted in the identification of archaeological deposits more than a meter below ground surface, under modern trash deposits. The archaeological deposits appeared to be associated with the historic ground surface and the Oak Lake neighborhood, and had the potential to shed light on research questions relating to the neighborhood. Thus, it was recommended that the site was potentially eligible for the NRHP and that a Phase II evaluation take place (Gronhovd and Maki 2015).

Research Questions

The Holden-Royalston site was evaluated to determine if it could answer significant research questions regarding operations of the businesses, specifically the grocery store, located at the site as well as the daily lives of the residents who occupied the parcel.

- Can the site address significant research questions regarding the items available for sale at the grocery store and the choices offered to the store's patrons? Are there discernable patterns within the site that shows how the site was used for different activities such as commercial versus residential activities? If so, how do the artifact assemblages compare to one another?

2015 Phase II Evaluation

The purpose of the investigation was to determine whether intact archaeological deposits relating to the businesses and residents who had occupied the site were present under the more recent trash deposits. To accomplish this task, archaeologists excavated shovel tests and formal excavation units.

Amanda Gronhovd and Ryan Grohnke conducted the Phase II evaluation in May 2015.. Results of the 2014 archaeological investigations indicated that mechanical removal of the modern trash covering the parcel would be necessary to efficiently access the deeply buried, potentially significant archaeological deposits. John Buelow of Buelow Excavating operated the backhoe.

A 140-foot long backhoe trench was excavated from east to west across the site (Figure 7). Archaeologists monitored the trenching, halting excavation slightly above the level of the presumed archaeological deposits. As soil was removed, it was placed to the side of the trench. As one moves west across the site, the depth of the recent trash deposits increases. This indicates that, historically, the natural ground level sloped down from east to west across the parcel. Topography within the parcel is currently level, meaning that the amount of trash deposited at the western edge of the parcel was significantly deeper than at the eastern end. Thus, the trench measured approximately six feet wide by two feet deep at the eastern end, and 14 feet wide by six feet deep on the western end. The trench was widened as depth increased to ensure the safety of those working in the trench (Figure 8).

Figure 7. Map showing trench (yellow).


Figure 8. Photograph of trench looking east.

Shovel Testing

Five shovel tests were excavated in a single transect at 10-meter intervals running the length of the trench (Figure 9). The shovel testing entailed excavating pits 30 to 40 centimeters in diameter. Soil was screened through ¼" hardware cloth to determine if artifacts were present.

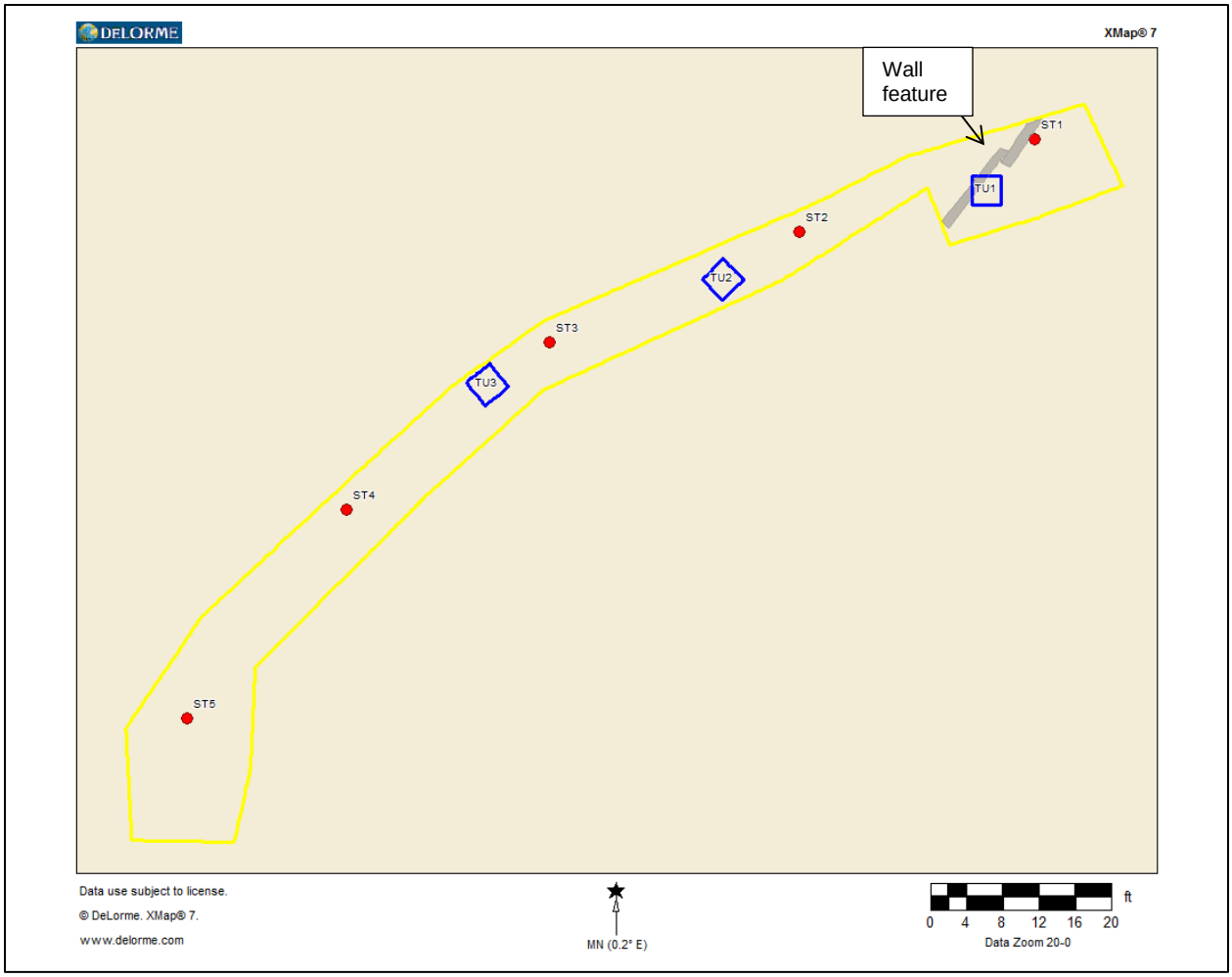

Figure 9. Map showing trench with Shovel Test and Test Unit locations

Shovel tests were excavated through the fill that remained on top of the presumed historic deposits and into sterile sub-soil. These tests indicated that a layer of brown sand covered portions of the historic deposits. This brown sand layer was used as a marker and allowed archaeologists to separate later fill episodes from historic deposits in some portions of the site. Between shovel test 4 and shovel test 5, the amount of fill covering the ground surface increased significantly, indicating that the original ground surface probably began sloping down in this area. By shovel test 5, the fill deposits extended at least another meter beyond the bottom of the trench (more than nine feet below the original ground surface) (Figure 10).


Figure 10. Photograph of ST5, showing fill within the shovel test.

Formal Excavation Units

In addition to excavating shovel tests, three formal test units were excavated between the shovel tests in the eastern and central portions of the trench (Figure 9). These units were placed to examine possible features and various contexts within the site (Figure 11). No units were excavated at the western end of the trench due to the apparent slope of the historic ground surface and subsequent depth of dumping and filling. These units measured 1x1 meter and were excavated in levels based on the natural and cultural deposits. When no obvious cultural stratigraphy existed, excavation levels measured five to ten centimeters, as appropriate. When cultural levels were apparent, levels followed the cultural stratigraphy. Soil was screened through ¼" hardware cloth to determine if artifacts were present.

Figure 11. Aerial photograph showing shovel test and test unit locations in relation to possible historic structures according to the 1885 Hopkins (orange) and 1912 Sanborn (yellow) maps.

Test Unit 1

The first test unit (TU1), was located at the eastern end of the trench over a linear rock feature thought to be a wall. This feature consisted of limestone rocks in a line that extended east-west at approximately 78° (Figure 12). The wall appeared to be dry-laid, as no mortar was apparent. Fill was removed in a single level down to the brown sand. Below the sand were two cultural strata. All strata were removed down to sterile subsoil. Artifacts were only recovered from the southeast side of the wall, which yielded nails, metal fragments, flat and bottle glass, milk glass, bone and a grommet (Table 1). No builder's trench was identified during these excavations.

Figure 12. Photograph of TU1 and Wall Feature

Table 1. Artifacts recovered from TU1 historic deposits.

Level	Level description	Count	Artifact
1	Mottled brown sand adjacent to SE side of wall	4	Nails
2	Black soil along east side of unit (SE of wall)	15	Nails
2	Black soil along east side of unit (SE of wall)	24	Metal fragments
2	Black soil along east side of unit (SE of wall)	1	Bone fragment
2	Black soil along east side of unit (SE of wall)	1	Milk glass fragment
2	Black soil along east side of unit (SE of wall)	2	Bottle glass fragments (clear)
2	Black soil along east side of unit (SE of wall)	15	Flat glass fragments (clear)
2	Black soil along east side of unit (SE of wall)	1	Grommet
TOTAL	**Artifacts from possible historic deposits**	**63**	

TU1 was terminated in sterile brown sand, although two sterile levels could not be completed due to the wall feature confining the excavation space, and the surrounding fill repeatedly collapsing into the unit.

Upon completion of TU1, archaeologists followed the top of limestone wall to the east by clearing the top of the feature. The wall ended approximately one meter east of TU1 where it met a concrete block wall which also extended east-west at 78° (Figure 13). The concrete block wall was located immediately south of the limestone wall and overlapped the limestone wall by approximately half a meter.

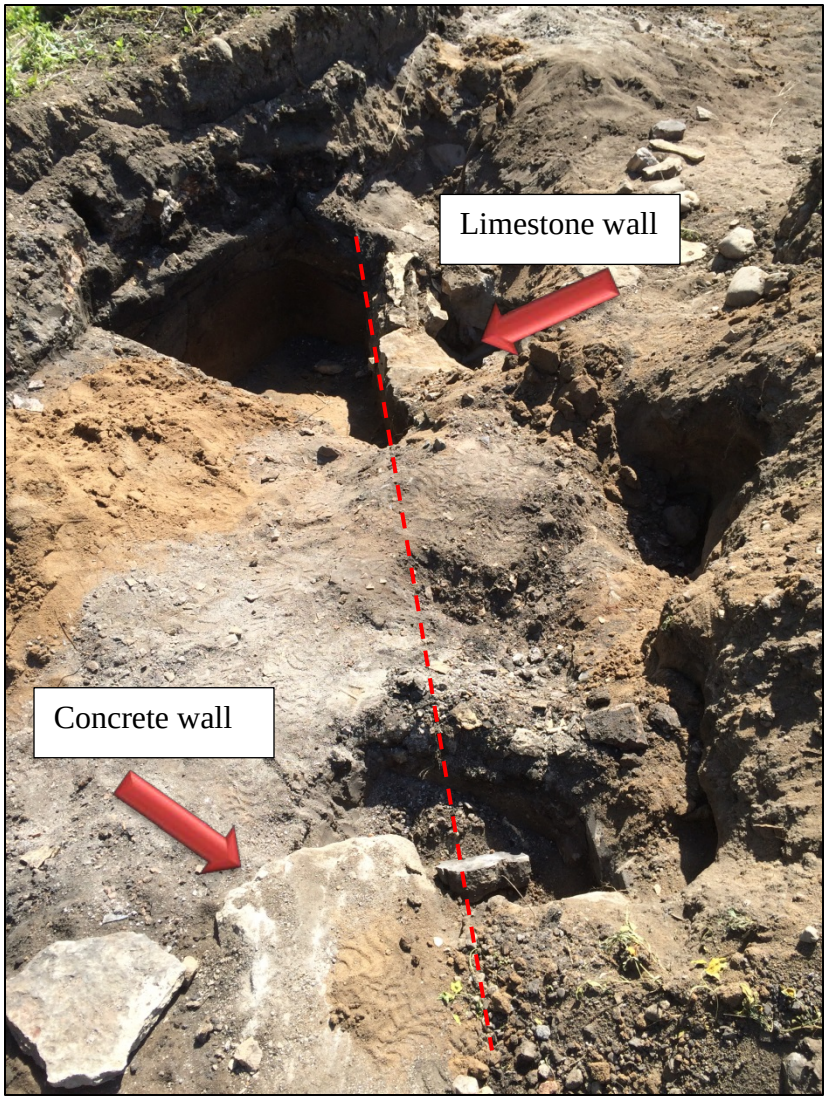

Figure 13. Photograph of limestone and concrete block wall feature.

According to an 1885 map (Hopkins), a structure appears to have been located near the wall identified in TU1 (Figure 14). According to the background research, the shape of the structure, and city records indicate that the structure closest to the wall feature was the commercial building (grocery store) Minneapolis City Directories 1892, 1898, 1903, and 1914. This structure appears to have remained at the site through the 1920s, but was gone by 1935 (Minneapolis City Directories 1930-1935).

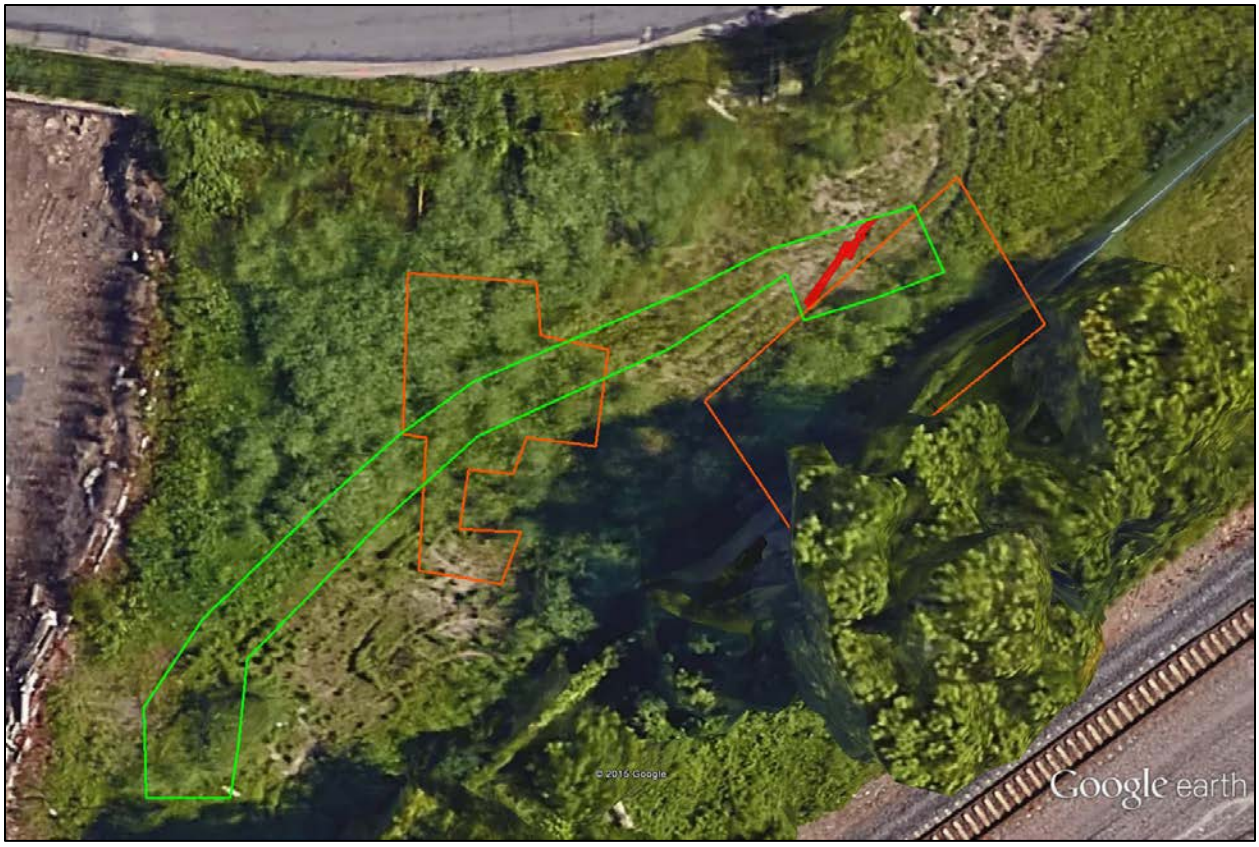

Figure 14. Aerial photograph showing structures located on the 1885 (Hopkins) map, and location of the rock wall feature (red).

Test Unit 2

Test Unit 2 (TU2) measured 1x1m and was placed over what appeared to be a linear rock feature; possibly a wall. Approximately 5-10 cm of fill was removed from above the historic deposits, which were delineated by a thin layer of brown sand (Figure 15). As the fill was removed, it became apparent the rocks were not part of a wall or feature, but simply rocks within the fill. A significant number of extremely friable large mammal bones were located at the top of the historic level, but due to extreme decomposition, few could be collected.

Figure 15. Photograph of TU2.

Historic deposits were excavated stratigraphically in 5cm levels within the cultural level. One hundred and ninety-one artifacts were collected from the historic deposits in TU2, including nails and metal fragments, bone, bottle and flat glass, ceramics, rubber fragments, and a clothing clasp (Table 2).

Table 2. Artifacts recovered from TU2 historic deposits.

Level	**Level description**	**Count**	**Artifact**
0-5cm	Excavation of historic deposits	23	Nails
0-5cm	Excavation of historic deposits	1	Metal fragment
0-5cm	Excavation of historic deposits	30	Bone fragment
0-5cm	Excavation of historic deposits	55	Bottle glass fragment (brown)
0-5cm	Excavation of historic deposits	19	Bottle glass fragments (clear)
0-5cm	Excavation of historic deposits	19	Flat glass fragments (clear)
0-5cm	Excavation of historic deposits	8	Stoneware fragments
0-5cm	Excavation of historic deposits	2	Rubber
0-5cm	Excavation of historic deposits	12	Mica? (thin transparent square and rectangular sheets)
5-10cm	Excavation of historic deposits	5	Nails
5-10cm	Excavation of historic deposits	6	Bone fragment
5-10cm	Excavation of historic deposits	1	Bottle glass fragment (white)
5-10cm	Excavation of historic deposits	1	Bottle glass fragment (brown)

5-10cm	Excavation of historic deposits	5	Bottle glass fragments (clear)
5-10cm	Excavation of historic deposits	2	Flat glass fragments (clear)
5-10cm	Excavation of historic deposits	1	Ceramic fragment – whiteware
5-10cm	Excavation of historic deposits	1	Clothing clasp with leather and grommet
TOTAL	**Artifacts from historic deposits**	**191**	

TU2 was terminated after two levels of sterile brown sand, with the exception of a single nail recovered from a rodent run.

Test Unit 3

Test Unit 3 (TU3) measured 1x1m and was placed in the central portion of the trench to examine potential historic deposits in this area of the site (Figure 16). No test units were excavated in the western portion of the trench because of the apparent slope of the original ground surface and the excessively deep fill deposits. Excavation of TU3 began at the presumed top of the historic deposits. However, as excavation proceeded, it appeared likely that the top level consisted of fill. The typical distinct layer of loose brown sand did not mark the bottom of the fill, making it challenging to confidently separate the fill from the historic deposits. Because the cultural levels were not obvious, excavation proceeded in arbitrary 5cm levels. The upper portion of the unit (probably fill) contained a faceted bead, metal, a glass tube, a bullet casing, a table knife, bottle glass, and ceramics. The lower portion of the unit (possibly historic deposits) contained nails, glass, metal, and ceramic fragments (Table 3).

Figure 16. Photograph of TU3.

Table 3. Artifacts recovered from the TU3.

Level	**Level description**	**Count**	**Artifact**
0-5cm	Probably fill	83	Nails

0-5cm	Probably fill	19	Metal fragment
0-5cm	Probably fill	2	Bone fragment
0-5cm	Probably fill	7	Bottle glass fragments (clear)
0-5cm	Probably fill	7	Flat glass fragments (clear)
0-5cm	Probably fill	27	Ceramic fragment
0-5cm	Probably fill	2	Buttons
0-5cm	Probably fill	1	Bullet and casing
0-5cm	Probably fill	1	Faceted bead
0-5cm	Probably fill	1	Table knife
0-5cm	Probably fill	2	Washers
0-5cm	Probably fill	2	Metal brackets/clasps
0-5cm	Probably fill	1	Metal base (?)
0-5cm	Probably fill	1	Glass tube (clear)
0-5cm	Probably fill	14	Brown paper/textile fragments
0-5cm	Probably fill	19	Red rubber/textile fragments
5-10cm	Probably fill	11	Nails
5-10cm	Probably fill	4	Bone
5-10cm	Probably fill	2	Metal fragment
5-10cm	Probably fill	2	Milk glass fragment
5-10cm	Probably fill	11	Bottle glass fragments (clear)
5-10cm	Probably fill	5	Flat glass fragments (clear)
5-10cm	Probably fill	25	Ceramic fragment
5-10cm	Probably fill	1	Melted glass
5-10cm	Probably fill	1	Shotgun shell
5-10cm	Probably fill	1	Metal cap
5-10cm	Probably fill	1	Pencil with eraser
5-10cm	Probably fill	1	Tooth (dog?)
5-10cm	Probably fill	1	Mesh
10-15cm	Probably fill	11	Nails
10-15cm	Probably fill	1	Bone
10-15cm	Probably fill	2	Metal fragment
10-15cm	Probably fill	1	Metal ring
10-15cm	Probably fill	7	Bottle glass fragments (clear)
10-15cm	Probably fill	9	Flat glass fragments (clear)
10-15cm	Probably fill	3	Ceramic fragment
15-20cm	Possibly historic deposits	11	Nails
15-20cm	Possibly historic deposits	4	Metal fragment
15-20cm	Possibly historic deposits	1	Metal disc
15-20cm	Possibly historic deposits	2	Bottle glass fragments (clear)
15-20cm	Possibly historic deposits	5	Flat glass fragments (clear)
15-20cm	Possibly historic deposits	1	Ceramic fragment
TOTAL	**Artifacts from possible historic deposits**	**24**	

TU3 was terminated after two levels of sterile brown sand.

Artifacts

The historic artifact assemblage consists primarily of nails and metal fragments, window glass, bottle glass, and ceramics. None of the bottle fragments were large or complete enough to facilitate dating, and the vast majority of the ceramic fragments were plain whiteware devoid of decoration or makers marks. Some bone, primarily cut, large mammal (probably cow) bone, one grommet, and one clothing clasp were also recovered from the historic deposits.

National Register of Historic Places Eligibility and Criteria

This site was evaluated using the NRHP criteria A, B, C and D which address specific aspects of history, and are used to determine if a resource is eligible for the NRHP. To be eligible for the NRHP under Criterion A, a site must be strongly tied to an event or a pattern of events/historic trend significant to history. Under Criterion B, a site must be associated with a person who has significantly impacted history. Criterion C states that a site needs to embody a distinctive form of construction, represent the work of a master, or possess high artistic value (Hardesty and Little 2000:35). The criterion most commonly applied to archaeological sites, however, is D which asserts that a site is significant if has or *is likely* to yield information important to history or prehistory.

According to *National Register Bulletin: How to Apply the National Register Criteria for Evaluation* (1997), in order for a resource to be eligible for the NRHP under any of the Criteria, it must also retain historic integrity. The seven aspects of integrity include:

- **Location** – the resource remains where it was originally constructed or located, or remains associated with the place where an event occurred;
- **Design** – the elements that comprise the form, plan, space, and style of a resource remain unchanged;
- **Setting** – the site's physical environment remains recognizable;
- **Feeling** – the resource retains its aesthetic or historic sense of a specific period of time;
- **Association** – the resource represents a link between the site and an important historic event, pattern, or person;
- **Material** – the site holds a significant artifact assemblage and/or has good feature preservation;
- **Workmanship** – the labor or skill employed in constructing the site or carrying out the tasks performed at the site is evident.

National Register Criteria Considered

All four NRHP Criteria were initially considered at the start of this project, but as investigations proceeded, A, B, and C were removed from consideration. Criterion A was not used because archaeological sites eligible under Criterion A must be in good condition and have "excellent preservation of features, artifacts and spatial relationships" *and* convey a site's association to a significant historic event or pattern (National Park Service 1997:46). Because this site did not meet these criteria, it was not evaluated under Criterion A.

Integrity thresholds under Criterion B are the same as for A however these sites do not have a direct connection to a historically significant person. Because the site did not meet the integrity thresholds and was not tied to an important person, Criterion B was not used to evaluate the sites.

Criterion C was also excluded from consideration because no features, structures or evidence were found that might indicate that the sites embodied a distinctive form of construction or work of a master.

Ultimately, the Holden-Royalston Site was examined under Criterion D. To be considered eligible to the NRHP under Criterion D, a site needs to be able to potentially answer questions important to our past, and retain integrity of location, association, and material (National Park Service 1997).

The research questions posed, related to the grocery store and the residents who occupied the parcel. Specifically, could the site shed light on the items sold in the grocery store and thus the consumer choices offered to the store's patrons? Additionally, did the site show evidence of discernable use areas and shed light on the different activities that took place at the site, especially, the commercial versus residential uses? If the site did contain commercial and residential use areas, how did these artifact assemblages compare to one another?

Five shovel tests and three 1x1 meter test units were excavated at the Holden-Royalston site (21HE452). The site has been entirely covered with fill and debris due to years of dumping and filling episodes. A thin layer of brown sand seems to separate the artifact laden fill and dumping deposits from the historic ground surface and deposits in some areas. In other areas, however, the dumping episodes are difficult to separate from the historic deposits.

Excavations at the Holden-Royalston site (21HE452) identified one feature consisting of a wall located in the eastern portion of the site. No builder's trench was located during the excavation. Sixty-three artifacts were associated with the wall, including nails, metal fragments, milk glass, bottle glass, flat glass, a bone, and a grommet. Due to the sparse nature of the artifacts associated with the wall, and lack of construction-related features (e.g. builder's trench), it is unlikely that the wall would shed light on important research questions.

In total, 278 artifacts, consisting primarily of nails, metal fragments, window glass, bottle glass, and plain ceramics were recovered from the historic deposits at the Holden-Royalston site. Although the historic deposits also include several large mammal bones, a clothing clasp, and a grommet, those artifacts do not constitute a large or diverse percentage of the assemblage. In addition to the uninspiring artifact assemblage itself, subsequent dump and fill episodes obfuscate significant portions of the site's intact historic deposits, making archaeological interpretation difficult if not impossible in those areas.

Based on this information, the Holden-Royalston site retains integrity of location under Criterion D in that the site is located in its original location. However, the site does not retain integrity of material due to the lack of diversity and sparse nature of the artifacts recovered from the identifiable historic deposits. The site also lacks integrity of association due to years of dumping and filling at the site. This activity has significantly obscured the potentially significant archaeological deposits, and has made it nearly impossible to confidently separate the historic deposits from the later intrusive deposits in some areas. The site also does not retain integrity of design, setting, and feeling, in that the surrounding urban landscape has changed dramatically since the period of significance (1882-1929). Historically, the Holden-Royalston parcel was

located on the edge of a residential neighborhood with curving tree-lined streets and large houses. The grocery store located within the Holden-Royalston parcel served this neighborhood. Now the neighborhood is gone, and the area houses light industry in modern, single-story buildings.

NRHP Recommendation

The Holden-Royalston site (21HE452) is recommended **Not Eligible for the NRHP**, due to a lack of archaeological integrity and a concomitant inability to potentially answer significant questions relating to the past.

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Appendix A: Southwest Transitway: A Research Design for Cultural Resources

Southwest Transitway:
A Research Design for Cultural Resources
12 February 2010, updated 16 March 2010, 2 April 2010

Prepared by
Charlene Roise, Hess, Roise and Company
Christina Harrison, Archaeological Research Services
Mike Justin, Mike Madson, and Joe Trnka, HDR Engineering

INTRODUCTION

The Hennepin County Regional Rail Authority is proposing to construct the Southwest Light Rail Transit (SWLRT) facility, linking the Intermodal Station in downtown Minneapolis with the central business area in suburban Eden Prairie. The line is located within the cities of Minneapolis, St. Louis Park, Hopkins, Minnetonka, and Eden Prairie.

The Federal Transit Administration (FTA) has determined that the proposed project is an undertaking as defined by the National Historic Preservation Act (NHPA) and is subject to the provisions of Section 106 of the NHPA. Section 106 requires that federal agencies take historic properties into account as part of project planning. The Cultural Resources Unit (CRU) of the Minnesota Department of Transportation (MnDOT) is acting on behalf of FTA for many aspects of the Section 106 review process for SWLRT. The FTA has also determined that the SWLRT is subject to the National Environmental Policy Act (NEPA) and a Draft Environmental Impact Statement (DEIS) is being prepared by Hennepin County under the direction of the FTA.

Through the NEPA scoping process, four build alternatives were identified. To streamline subsequent analysis, these alternatives were divided into five segments. The following table, which was included in the draft "Southwest LRT Technical Memorandum No. 9: Environmental Evaluation" (September 9, 2009), outlines the segments that are associated with each of the alternatives:

Alternative	*Segments*
LRT 1A	1, 4, A
LRT 3A	3, 4, A
LRT 3C-1 (Nicollet Mall)	3, 4, C-1 (Nicollet Mall)
LRT 3C-2 (11^{th}/12^{th} Street)	3,4, C-2 (11^{th}-12^{th} Streets), C-2A (Blaisdell Avenue), C-2B (1^{st} Avenue)

Segment 1 extends northeast from a station in Eden Prairie at TH 5 along a former rail corridor owned by the Hennepin County Railroad Authority (HCRRA) to a station at Shady Oak Road, on the border between Minnetonka and Hopkins.

Segment 3 creates a new corridor, running east from a station at Mitchell Road in Eden Prairie and turning northerly to terminate at the Shady Oak Station.

Segment 4 follows an existing rail corridor east-northeasterly from the Shady Oak Station through Hopkins and Saint Louis Park to the West Lake Station in Minneapolis, near that city's western border.

Segment A continues northeast from the West Lake Station, mostly using an existing rail corridor, to the Intermodal Station on the western edge of downtown Minneapolis.

Segment C also begins at the West Lake Station, traveling east along a former rail corridor (now the Midtown Greenway), north along one of several alternative courses under and on city streets, to and through downtown Minneapolis, and ultimately ending at the Intermodal Station or South Fourth Street. (For the purpose of this cultural resources assessment, all of the "C" variations will be considered as a single group.)

It should be noted that the above segments overlap at three points: the Shady Oak Station, the West Lake Station, and the Royalston/Intermodal Stations. When the results of the cultural resource surveys are sorted by segment, there will be redundancy in the findings at these three points. This redundancy is inevitable if the effects of each segment are to be analyzed. When a single alternative is selected, it will be necessary to eliminate duplicated properties to obtain an accurate representation of the effects of that alternative.

PROPOSED METHODOLOGY FOR ARCHAEOLOGICAL RESOURCES SURVEY

Christina Harrison, Archaeological Research Services
Mike Justin and Mike Madsen, HDR Engineering

This work plan outlines a program to identify archaeological properties which meet the criteria of the National Register of Historic Places in the project's area of potential effect (APE), to be used in assessing potential effects to those properties. Three primary tasks comprise the work plan. First, in order to provide a uniform assessment of available data across the five project segments discussed in the DEIS, the project team will prepare a report (by project segment within a broad APE) to include: results of the literature search, an archaeological probability assessment, and a field survey strategy (Task 1). It is expected that a limited amount of field investigation/sampling may occur as part of this task depending upon the weather. Second, an archaeological inventory/evaluation of the selected alternative will be completed, using a refined APE based on proposed construction (Task 2). Finally, a report of the field investigations of the selected alternative and an assessment of effects will be prepared (Task 3).

Task 1 will involve archaeologists from both HDR and ARS. Support will be provided, as needed, by Hess Roise research staff as well as by geomorphologists and other paleoenvironmental experts provided by HDR. Division of responsibilities will partly depend on what survey needs are identified by the background research, but primary responsibility for precontact and contact period archaeology will rest with Christina Harrison (ARS) and Michael Justin (HDR), and for historic archaeology with Michael Madson (HDR). The personnel for Tasks 2 and 3 are pending.

The survey will be conducted in accordance with all federal, state, and local requirements, including the Minnesota Field Archaeology Act and the Minnesota Private Cemeteries Act.

Area of Potential Effect (APE)

The APE for archaeological resources is generally defined as the anticipated limits of construction activities. At this stage in the project development, factors influencing those limits have not yet been fully identified. The APE, starting with a broad area at first, will be refined as the engineering design advances.

For Task 1, the APE for the literature search and probability assessment will be based, as appropriate, on the project limits as defined in the project engineering drawings used to prepare the DEIS. This will include the full width of existing railroad right-of-way corridors as well as the area within 100 feet on either side of the current engineering alignments. The APE near station areas also includes any undeveloped and/or vacant property within 500 feet that could potentially be utilized for construction/development activities. Depending on the station location, these may include open, green spaces (particularly in suburban areas) and paved parking lots (particularly in urban areas).

If the literature search/probability assessment identifies potentially significant historic features or high probability areas immediately adjacent to the above-referenced APE parameters, and if the significance of potential sites in these areas is expected to relate to National Register criteria A, B, and/or C, the APE for the field strategy for the Phase I-II survey may be adjusted to include these locations.

During Task 2, the APE will be reviewed in light of more detailed engineering plans. Throughout the design phase of the project, the adequacy of the APE will be periodically evaluated and expanded or retracted as necessary as project elements are added or modified. The survey report specified in Task 3 will provide a clear delineation of the surveyed APE, including all additions, so that the adequacy of survey efforts can be readily determined when project changes are proposed.

It should be noted that, generally, the APE for archaeological resources is a smaller area located within the APE for history/architecture resources.

Task 1. Report of Archival Review/Site Probability/Field Strategy

This task will uniformly represent the readily available information across the five project segments discussed in the DEIS. In general the report will be a desktop analysis of existing archaeological research data supplemented by a discussion of probability for previously unidentified archaeological properties. Field inspections may be utilized to confirm existing conditions, particularly to inform the discussion on field survey strategies.

The desktop analysis will utilize documents on file at the State Historic Preservation Office (SHPO) and the Office of the State Archaeologist (OSA). Historic maps and aerial photographs, local histories, and other archival information on file at the Minnesota Historical Society, the Borchert Map Library (at the University of Minnesota), and local libraries and historical societies may also be reviewed.

The task will review:

- archaeological survey reports on file at SHPO, OSA and other repositories in order to establish what segments of the project routes have already been inventoried according to current standards;
- known archaeological sites and/or (if applicable) recommendations/confirmations of NRHP eligibility;
- relevant USGS topographic maps and soil surveys as well as any Mn/Model information and other environmental and paleoenvironmental data pertinent to the assessment of pre-contact archaeological site probability, including land use histories;
- Historic maps and aerial photographs to identify localities with historic-period archaeological site potential.

A preliminary field review will be conducted. The survey team will document visible indications of topographic and hydrological features as well as past and current land use with concomitant loss of soil integrity. The information from field observations will be combined with the data gathered during the archival review to propose archaeological site probability along the five segments.

Pre-contact and historic-period contexts will be briefly reviewed, with a focus to inform the discussion of site types and assessment of probability. The probability assessment will be organized by the five project segments (1, 3, 4, A, and C). For each of the five segments the report will include:

- a general description of the APE;
- a discussion of previous surveys and previously identified sites;
- a discussion of historic site types and the associated conditions that may indicate a historic property;
- a discussion of archaeological probability (for pre-contact/contact period and historic-period), and;
- a survey strategy and methods, including specific places targeted for field investigation.

The survey strategy for precontact and contact period evidence will be guided by Native American and early Euro-American settlement and land use patterns identified by previous archaeological investigations in the vicinity including, for example, the 1992-1994 city-wide cultural resource survey of Eden Prairie, the corridor surveys conducted for Trunk Highway 212 and Trunk Highway 12, and a number of smaller scale compliance surveys conducted within the Nine Mile, Minnehaha and Purgatory Creek watersheds.

The results of Task 1 will be summarized in the DEIS.

Task 2. Inventory/Evaluation (Phase I-II) Survey

For the Inventory/Evaluation survey, the APE will be refined to reflect the updated engineering design. That refined APE will be surveyed in a manner consistent with the recommendations presented in the Task 1 report. Field methods outlined in the Minnesota SHPO and MnDOT CRU guidelines will be generally followed; any exception, as well as more detail specific to the existing conditions along each segment, will have been documented in the Task 1 report.

In the case of precontact/contact period Native American evidence, the field sampling will involve standard methods for identification and the preliminary assessment of horizontal and vertical site dimensions, integrity, and National Register potential. In addition, the survey may utilize targeted geomorphological testing and analysis in areas likely to feature deeply buried archaeological evidence.

Artifacts will be collected and analyzed in a manner consistent with contemporary standards. Artifacts from private property will be collected with written permission of the landowner. Historic period artifacts will only be collected if they appear to represent a potentially significant archaeological property.

Archaeological sites determined to have National Register potential will then require more comprehensive Phase II formal testing. As the Phase I review more than likely will have identified a wide range of site types associated with highly varied environmental settings and precontact to historic period contexts, the scope, research questions, field and analytic needs will be more appropriately defined at that stage of the investigation.

Task 3. Analysis and Reporting

A technical report of the Phase I and Phase II investigations, including the methodology, field work results, and recommendations, will be prepared in accordance with the guidelines of MnDOT's CRU, the Secretary of the Interior's Standards for Identification and Evaluation, and other applicable state and federal guidelines. This includes submittal of Geographic Information Systems (GIS) data per the CRU guidelines. All sites documented during the survey will be recorded on new or updated Minnesota Archaeological Site Forms.

Collected artifacts will be processed and analyzed in compliance with the survey guidelines of the SHPO and the Mn/DOT CRU. Artifacts will be curated at an approved facility as stipulated in the consultant's archaeology license.

PROPOSED METHODOLOGY FOR HISTORY/ARCHITECURE RESOURCES SURVEY

Charlene Roise, Hess, Roise and Company

Area of Potential Effect (APE)

Generally, the APE for history/architecture resources extends 300 feet on either side of the centerline of the alignment of each corridor. Around each station, the APE includes property within a quarter-mile radius. This area addresses anticipated project-related infrastructure work and reasonably foreseeable development.

The APE is illustrated in maps of the five project segments. Exceptions to the parameters outlined above include the following:

- The APE for the Intermodal Station (in segments A and C) includes all property within the boundaries adopted for the "Downtown Minneapolis Transit Hub" Environmental Screening Report (October 28, 2009 review draft) prepared for Hennepin County by Kimley-Horn and Associates. The area shown in the report is extended northeast of Washington Avenue to and across the Mississippi River to include the first tier of properties on Nicollet Island, to provide adequate APE coverage for the three-block potential station area and related developments such as rail storage yards. This area addresses infrastructure work associated with the SWLRT project as well as cumulative effects related to the development of the Intermodal station. (See below for discussion about splitting responsibility for survey of this area between the SWLRT project and the Intermodal Station project.)

- The APE for the 4th Street, 8th Street, 12th Street, Harmon Place, Hawthorne Avenue, Lyndale, and Uptown Stations (in segment C) includes the adjacent blocks in all directions from the station. This area is proposed for the stations in the more densely-built urban area, in comparison to the larger quarter-mile radius for other stations in outlying areas.

- The APE for the proposed tunnel area under Blaisdell, Nicollet, or First Avenues, including the 28th Street and Franklin Stations (in segment C), extends from one-half block west of Blaisdell Avenue to one-half block east of First Avenue. If this alternative is selected, the APE may need to be expanded in light of the design and construction methods for the tunnel.

- Along some portions of the corridor, the 300 foot APE may be extended to take into account visual effects. For example, if the 300 foot area comprises open space, and a row of buildings is located beyond, these buildings may be included in the APE.

- In some station areas, there are known areas of project related work and/or anticipated development outside of the quarter-mile radius, and these areas are included in the APE. This includes areas in downtown Hopkins.

The APE may also be adjusted if a field surveyor recommends that the project may affect a property or properties not included in the established APE boundaries.

As project planning proceeds, additional factors will be assessed to determine if there are other effects (direct, visual, auditory, atmospheric, and/or changes in use) which could require an expansion of the above APE. These factors include:

- Noise analysis, including areas where the use of bells and whistles is anticipated.
- Vibration analysis, including vibration related to project construction and operations.
- The specific locations of project elements, including operations/maintenance facilities, park-and-ride facilities, traction power substations, signal bungalows, and other infrastructure.

Survey Approach

Survey Zones

The project cuts through a number of distinct communities, each with a unique history. As a result, these communities, which share similar physical and historical characteristics, can serve as a framework for conducting the survey. The survey will be organized around the following zones (related project segments and stations are listed in parenthesis):

- Eden Prairie (Segments 1 and 3; Highway 5, Highway 62, Mitchell Road, Southwest Station, Eden Prairie Town Center, Golden Triangle, City West Stations)
- Minnetonka (Segments 1 and 3; Rowland, Opus, Shady Oak Stations)
- Hopkins (Segment 4; Shady Oak, Hopkins, Blake Stations)
- Saint Louis Park (Segment 4; Louisiana, Wooddale, Beltline Stations)
- Minneapolis west residential, including parts of Bryn Mawr, Lowry Hill, East Isles, Kenwood, Cedar-Isles-Dean, and West Calhoun neighborhoods (Segments A and C; West Lake, 21st Street, Penn Stations)
- Minneapolis south residential/commercial, including parts of the Stevens Square/Loring Heights, Whittier, Lowry Hill East, East Isles, and Cedar-Isles-Dean neighborhoods and the Midtown Greenway (Segment C; Uptown, Lyndale, 28th Street, Franklin Stations)
- Minneapolis downtown north of I-94 (Segment C; 12th Street, 8th Street, 4th Street, Harmon Place, Hawthorne Avenue Stations)
- Minneapolis industrial (Segments A and C; Van White, Royalston Stations)
- Minneapolis warehouse (Segments A and C; Intermodal Station)

In addition, there are four railroad corridors that traverse these community boundaries. These corridors will be considered as four individual zones. The corridors (by historic names) are:

- Minneapolis and Saint Louis Railway (Chicago and North Western Railway). Part of the main line is in the APE (Segments 1, 4, A and C). A segment of this line between downtown Minneapolis and Merriam Junction has recently been evaluated by the Surface Transportation Board as not eligible to the National Register; however, the SHPO did not concur with this finding. The line will be further evaluated, focusing on the section within the APE.
- Chicago, Milwaukee and Saint Paul Railway (Milwaukee Road), Benton Cutoff. Part of the CM&SP Benton Cutoff is in the APE (Segments 4, A, and C). Except for the Chicago, Milwaukee and Saint Paul Railroad Grade Separation Historic District, which is listed in the National Register, the Benton Cutoff has previously been determined as not eligible to the National Register by the Federal Highway Administration, with concurrence by the SHPO.
- Saint Paul and Pacific Railway (Great Northern Railway). Part of the main line is in the APE (Segment A). This line will be evaluated.
- Minneapolis, Northfield and Southern Railway. Part of the Auto Club-Luce Line Extension of the MN&S is in the APE (Segment 4). This line has been previously evaluated by Mn/DOT CRU, and the Auto Club-Luce Line Extension has been recommended as not eligible to the National Register. This determination has not been submitted to SHPO for concurrence. The Mn/DOT CRU evaluation will be summarized and incorporated into this survey by reference.

All of the above lines, including those which have been evaluated as not eligible, will be inventoried and evaluated to identify any railroad related features in the APE that are potentially significant in their own right. The statewide railroad context developed by Mn/DOT CRU will serve as a basis for evaluation of railroad resources.

The survey of the above thirteen zones will be completed by three consultants. Hess Roise will complete the surveys for the five zones in Minneapolis, Mead & Hunt will complete the surveys for St. Louis Park, Hopkins, Minnetonka, and Eden Prairie, and Summit Envirosolutions will complete the surveys for the four railroad zones. Each consultant will prepare a report for the Phase I-II survey of the zones completed. An overall summary, integrating the survey results from all thirteen zones, will be prepared for the analysis of effects, within the framework of the five project segments.

The survey will include properties built in 1965 and earlier. Although National Register guidelines use a 50-year cut-off for eligibility (except for properties of exceptional importance), adopting a 45-year cut-off for this survey provides 5 years for project planning before the survey becomes outdated.

NOTE ON RESPONSBILITY FOR SURVEYS IN THE INTERMODAL STATION AREA: There is an overlap of the APEs for the SWLRT project and the Intermodal Station project (currently in the planning stage). The SWLRT survey effort will complete survey work for only

a portion of the SWLRT APE in the vicinity of the Intermodal Station, including where SWLRT construction is anticipated. The remainder of this area will be surveyed as part of the planning for the Intermodal Station project. The survey results from the Intermodal Station survey will be included in the consideration of cumulative effects as part of the SWLRT Section 106 review. (See map for the division of survey responsibilities in this portion of the SWLRT APE.)

Phase I Survey (Reconnaissance Survey)

The primary goal of Phase I is to identify properties that appear to have the potential to qualify for the National Register and merit further analysis. This will eliminate from further consideration any properties that have little or no potential to meet National Register criteria. The Phase I survey will also verify that properties already listed or officially determined eligible for listing in the National Register still retain integrity.

Literature Search

The literature search will focus on areas within the APE, with broader contextual information procured as needed. The literature search will begin by collecting existing reports and research for each zone. Maps, atlases, and other information that can provide specific information about property within the APE for archaeology will be a high priority. Additional research will be conducted for specific areas, and occasionally on specific properties, as appropriate. The literature search will produce:

- A working set of research files, including maps and related materials, for each zone. A copy of these files will be provided to the archaeological team.
- For each zone, a brief context (perhaps with subcontexts) will be developed that is approximately two to five pages in length and comprises a brief narrative, an annotated list of relevant property types, and a preliminary period of significance. (This assumes that extensive narrative contexts will not be developed during this phase.) A similar context will also be prepared for each railway, focusing specifically on segments in the APE. These contexts will also be provided to the archaeological team.

Fieldwork

A project-specific inventory form will be developed. Prior to the onset of fieldwork, a draft inventory form will be submitted to the client for review and approval.

The Hennepin County property database provides building construction dates for tax parcels. These dates will be assumed to be generally reliable for properties erected in the last half of the twentieth century, and will therefore be used to eliminate properties built after 1965 from the survey. During fieldwork, however, surveyors will be observant of properties eliminated from the inventory to identify:

- Inaccuracies: Properties not included in the survey that appear to date from 1965 and earlier (in other words, instances where the county date appears to be incorrect);
- Incomplete data: Properties not included in the survey that contain multiple buildings or other features, where the county date may refer to a newer feature—but older features are also present;
- Exceptional properties: Properties dating from 1966 or later that might be of exceptional importance.

Fieldwork will be conducted by zones. The methodology for each zone is as follows:

- Using information from the Hennepin County database, surveyors will be provided with a spreadsheet listing all properties in the zone built in 1965 or earlier. In addition to the address and year built, the spreadsheet will include the property's use and the name of the owner and taxpayer. The survey will include properties listed or officially determined eligible for listing in the National Register (including those in historic districts) to verify that they retain integrity. Map books will be prepared for reference in the field.
- Surveyors will conduct site visits for each property, recording observations from public rights-of-way with field notes and digital photographs. At a minimum, surveyors will record information on noteworthy features and the property's integrity. Using the data categories for functions and uses outlined in the National Register bulletin *How to Complete the National Register Registration Form*, and with reference to the context information for each zone, the surveyor will suggest data categories that seem the most appropriate for evaluating the property's National Register potential. The surveyor will also provide a preliminary recommendation—and a justification for that recommendation—stating that 1) the property does not appear to be eligible for the National Register, or 2) the property should be evaluated in Phase II.
- All field surveyors will meet the Secretary of the Interior's Professional Qualifications Standards.

Deliverables for Phase I survey

- For each zone:
    - Synopsis for each zone, including the context and property type information.
    - Table of surveyed properties including recommendations for intensive level survey, with justification.
    - Inventory form (2 copies) for each property in the APE built in 1965 or earlier. In addition to the data collected in the field, the inventory forms will incorporate information on the property's location (UTM reference, township/range/section) from the county database. At least one color digital photograph of the property will be included on each form. (NOTE: For properties which go to a Phase II evaluation, the same survey form should incorporate the evaluation information.)
    - Map of zone with properties recommended for intensive-level survey identified.

Phase II Survey (Intensive)

The goal of Phase II is to evaluate properties, as recommended in Phase I, to determine which meet the criteria of the National Register of Historic Places. As with Phase I, the work will be organized by zones.

Literature Search

The literature search will focus on individual properties and districts that have potential to meet National Register criteria. To provide a framework for evaluating some properties, it may be necessary to expand the context synopses developed in Phase I to address specific physical areas, eras, and/or property types.

Fieldwork

Additional field work may be needed to evaluate the physical characteristics of individual properties and districts. It might be necessary to obtain permission to enter some properties for this evaluation—if, for example, there is the potential for a significant interior space, or if a parcel is large and contains a number of buildings and these buildings cannot be adequately evaluated from the public right-of-way, aerial photographs, or other means.

Deliverables for Phase II survey

- For each zone:
    - Table of Phase II properties, including recommendations on eligibility.
    - More detailed inventory form, including the narrative evaluation of eligibility, for each property included in this phase.
    - Map of zone, showing properties that appear to qualify for the National Register identified, along with listed and previously determined eligible properties.
- A Phase I-II survey report (for all zones completed by the same consultant) conforming to Mn/DOT CRU Architecture/History Report requirements and other applicable federal and state guidelines.

At the conclusion of all Phase II history/architecture survey work, a consolidated summary/table incorporating the work from all thirteen zones will be prepared for the analysis of effect. This summary will be organized by the five project segments.

Appendix B: Holden-Royalston Phase Ia and Phase I, and Areas A and B Phase I Proposal

Phase Ia Research at the Royalston-Holden Location, and Phase I Archaeological Surveys of Two Areas in Eden Prairie, Minnesota for the Southwest Light Rail Transit Project

Project Team

Amanda Gronhovd of *10,000 Lakes Archaeology, Inc.* meets the Secretary of the Interior's Standards for archaeological investigations, and will manage and serve as Principal Investigator for this project. David Maki of *Archaeo-Physics* will conduct all mapping and GIS-related expertise. Ryan Grohnke of *Westwood Professional Services* will assist with fieldwork and reporting (resume attached).

Royalston-Holden Location

The proposed project area is located on the southern end of Royalston Avenue, at the junction of Holden Street, in Minneapolis. This Phase Ia research will examine archival and documentary information to help determine the likelihood of archaeological materials being present within the project area. Costs for a Phase I survey have also been included in this cost estimate, although this work is not authorized at this time.

Scope of Work

Literature and Archival Research

10,000 Lake Archaeology will conduct literature and archival research in an attempt to determine the land use history of the Royalston-Holden location. This research will primarily be conducted at the Minnesota Historical Society (MHS), the University of Minnesota's Borchert Map Library, and Hennepin County Library, as appropriate. Archaeologists will examine sources such as topographic maps, historic maps, and aerial photographs during the research.

Report

10,000 Lakes Archaeology will write a report that includes a description of the project area, results of the background research, and recommendations regarding potential for unrecorded archaeological deposits at the location.

Areas 2 and 3 (and Royalston-Holden location, if requested)

Areas 2 and 3 are located south of Highway 212 in Eden Prairie. These Phase I surveys will determine whether cultural resources are present within the proposed project areas, and whether these resources are potentially eligible for the National Register of Historic Places (NRHP).

Scope of Work

Project Management

10,000 Lake Archaeology will conduct a kick-off meeting within 7 days of amendment execution, and assumes up to four additional project meetings. *10,000 Lakes Archaeology* will also provide information to the Council to facilitate their endeavor to obtain right-of-entry access, as requested. Weekly updates will be submitted to the Council using the e-Builder system.

Literature and Archival Research

The team assumes that the background and archival research for these areas has been completed and thus no additional documentary research will be conducted as part of this project.

Phase I – Areas A & B

Based on aerial photographs, it appears as though the proposed project area consists of grass and wooded areas, leaving less than 25% of the ground surface visible. If this is the case, the team will use primarily shovel testing to determine the presence or absence of archaeological materials. If areas with more than 25% visible ground surface exist, *the team* will also conduct a pedestrian surface survey.

Specifically, archaeologists will excavate shovel tests in areas with low to no surface visibility. These excavations will measure 30 to 40 centimeters in diameter and be placed at 15-meter intervals, as appropriate and determined by the Principal Investigator. As the soil is removed, it will be screened through ¼-inch mesh hardware cloth to determine if cultural materials are present. In areas where more than 25% of the ground surface is visible, archaeologists will walk over the area in five to 15-meter intervals while examining the ground surface for archaeological materials or features. All excavations and survey areas will be mapped using GPS and entered into GIS.

Phase I – Royalston-Holden

The Royalston-Holden project area also has less than 25% of the ground surface visible. In order to determine if intact and significant cultural deposits are present at his location, a single shovel test will be excavated to assess soil conditions and whether fill covers the site. If no significant fill covers the site, the team will shovel test select locations areas to determine the presence or absence of historically significant archaeological materials. These excavations will measure 30 to 40 centimeters in diameter and be placed in areas having the potential to contain historic deposits. As the soil is removed, it will be screened through ¼-inch mesh hardware cloth to determine if cultural materials are present.

If deep fill deposits cover the site, the team will have the fill mechanically stripped from select areas in an attempt to locate historic deposits. Once the fill has been stripped, the nature and significance of historic deposits will be assessed.

Phase II – Area A or B

A Phase II evaluation will take place, if deemed appropriate. This evaluation will involve the excavation of up to four formal 1x1 meter test units within Area A or B in an attempt to determine the nature and extent of the site. These units will be placed in locations thought to hold the highest potential to yield archaeological information. Units will be excavated in five to 10 centimeter levels, and soil will be screened though 1/4 –inch mesh hardware cloth.

Archaeologists will keep detailed notes on standardized forms. These records will include information such as soil type, weather conditions, sketch maps, artifacts recovered, and the depths from which the artifacts were recovered.

Phase II – Royalston-Holden Location

A Phase II evaluation will take place, if deemed appropriate. This evaluation will involve the excavation of up to four formal 1x1 meter test units in an attempt to determine the nature and extent of the site. These units will be placed in locations thought to hold the highest potential to yield archaeological information. Units will be excavated in five to 10 centimeter levels, and soil will be screened though 1/4 –inch mesh hardware cloth. If the site is covered by a significant amount of fill, a backhoe will be employed to remove the fill to the depth of the historic deposits.

Archaeologists will keep detailed notes on standardized forms. These records will include information such as soil type, weather conditions, sketch maps, artifacts recovered, and the depths from which the artifacts were recovered.

Mapping and Artifact Processing
All features and excavation locations will be mapped using GPS and GIS, and sites will be documented on a Minnesota Archaeological Site Form. Artifacts located during the survey will be collected and returned to the lab for analysis, as appropriate and at the discretion of the Principal Investigator. During analysis, the artifacts will be washed, cataloged, and accessioned to MHS standards. Curation costs at MHS are included in this cost estimate and assume one small, precontact, and one historic site archaeological site. All field and lab work will conform to the guidelines set forth by the Minnesota SHPO and MHS Curation Department.

Report
The report will include a description of the project area, results of the archaeological survey, and recommendations. If a site is discovered, the Principal Investigator will make recommendations as to its potential eligibility to the NRHP. The draft report will be submitted by uploading the report to the e-Builder system, and submitting two CDs. The final report will be submitted by uploading the report to the e-Builder system, and submitting two CDs and 10 hard copies to the Council.

Upon completion of the project, all GIS data will be submitted to MnDOT CRU following the MnModel requirements.

Assumptions
- Weather does not pose a significant obstacle for fieldwork or travel (rain, flooding, excessive heat);
- No human remains are encountered;
- No more than two small archeological sites are located.