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DEPARTMENT OF ANTHROPOLOGY
WESTERN MICHIGAN UNIVERSITY

TECHNICAL REPORT NO. 14

1983

ARCHAEOLOGICAL SITE LOCATION SURVEY OF M-44 (EAST
BELT LINE), I-96 TO 7 MILE ROAD, KENT COUNTY, MICHIGAN

PREPARED FOR
THE MICHIGAN DEPARTMENT OF TRANSPORTATION
AND THE MICHIGAN DEPARTMENT OF STATE

WILLIAM M. CREMIN

ABSTRACT

Between 21-23 Jun 1983, a team of archaeologists from the Department of Anthropology, Western Michigan University conducted a Phase I site location survey along M-44 (East Belt Line) from 7 Mile Road in Plainfield Township to I-96 in Grand Rapids Township, Kent County, Michigan. Systematic and intensive on-site evaluation of the project area was accomplished by means of a combination of surface reconnaissance and shovel testing procedures.

The data available to the team prior to the initiation of fieldwork indicated that six archaeological sites occurred in the general area of the project, with perhaps three of these sites lying, at least in part, within the expanded M-44 right-of-way. During the course of fieldwork, surveyors were unable to confirm any of these sites. And in the case of two of them the lack of confirmation reflects denial on the part of property owners to grant us permission to evaluate the reported site area.

While failure to gain access to a number of properties along the route for purposes of confirming recorded sites has affected the survey team's ability to achieve continuous coverage, for the project as a whole, and including the location of one pre-historic site recorded during the Phase I survey, surveyor observations suggest that the proposed zone of impact, especially in that portion of the project having the most potential with respect to archaeological resources, has already been

dramatically altered/disturbed through a combination of recent land uses.

In the opinion of the author, the proposed MDOT road widening activities, to be confined to an area 36 m wide on either side of the highway, will not adversely impact significant archaeological resources.

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INTRODUCTION:

Pursuant to the execution of a cooperative agreement (dated 9 Jun 83) between the Michigan Department of Transportation, the Michigan Department of State, and Western Michigan University, authorizing Phase I archaeological site location survey of M-44 (East Belt Line), I-96 to 7 Mile Road, Kent County, Michigan, researchers from the Department of Anthropology undertook a literature and documents search and on-site examination of the project area in order to determine whether road improvements planned for this segment of the highway would have an adverse impact on significant archaeological resources. There follows a report of this research program, together with recommendations based upon our findings.

It should be understood that the opinions, findings, and conclusions expressed in this publication are those of the author and not necessarily those of the Department of State, or Divisions thereof, or the Michigan Department of Transportation, or the Michigan State Transportation Commission.

PROJECT PERSONNEL:

Principal Investigator - William M. Cremin, Ph.D., Associate
Professor of Anthropology, WMU

Field Supervisor - Caven P. Clark, M.A. Candidate,
Department of Anthropology, WMU

Field Assistants - Andrea M. Allen, B.A. in Anthropology,
WMU

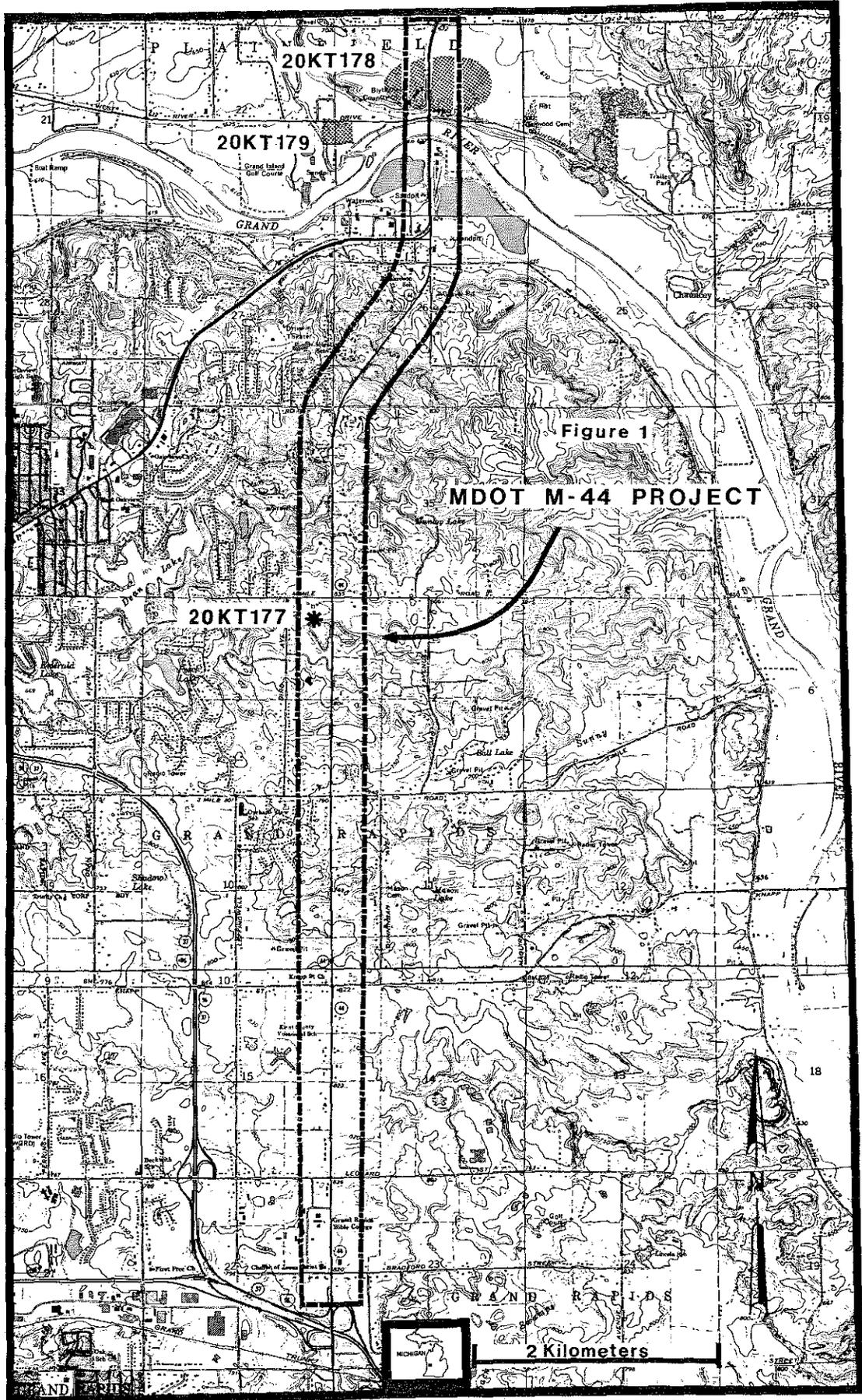
- Lark A. Murphy, M.A. Candidate,
Department of Anthropology, WMU
- Michael L. Murphy, M.A. Candidate,
Department of Anthropology, WMU

DESCRIPTION OF THE PROJECT AREA:

The research area of this study consists of a linear transect, 120 ft (36 m) on either side of M-44 for a total distance of 6.7 mi (10.8 km), extending from I-96 in Grand Rapids Township (T7N R11W) on the south to 7 Mile Road in Plainfield Township (T8N R11W) on the north, Kent County, Michigan (Fig. 1). Here, the MDOT has proposed widening the existing two-lane bituminous road to five lanes and/or a boulevard. The total land area included within the project boundaries is estimated to be on the order of 195 acres (79 ha).

Examination of the relevant topographic maps indicates that elevation above sea level rises from north to south along this route, ranging from 627 ft (188 m) where M-44 crosses the Grand River some 800 m south of 7 Mile Road to more than 836 ft (251 m) at the intersection of Leonard Street and M-44 about one km north of the southern terminus (I-96/M-44) of the project.

Local topography is quite variable. The uplands flanking the Grand River Valley are moderately to steeply sloping, with the terrain "leveling out" as one moves along the highway in either direction from the river. The southern portion of the project features a landscape dotted with no fewer than 12 named lakes. And numerous kettles and poorly drained depressions are host to small ponds, marshes, and swamps. Of the four streams which



rise in the uplands flanking the project and flow eastward to empty into the Grand River about 5 km to the east of M-44, only one, Sunny Creek, is large enough to even warrant a name.

A presettlement vegetation map of southwestern Michigan (Brewer 1979) derived from the fieldnotes and plats of the Original Land Survey of Kent County indicates that the general area of the MDOT project formerly supported oak and oak-hickory forest on uplands both north and south of the river, with an intervening finger of oak-pine woodlands occupying the valley floor and immediately adjacent bluff tops. This rather generalized picture of presettlement vegetation can be further refined with reference to presently unpublished soils data made available to us by the Soil Conservation Service in Grand Rapids. Given the complex distribution of soils in the general area of the MDOT project, and known habitat preferences of certain arboreal and nonarboreal species comprising local plant associations, it is possible to summarize local environmental conditions at the time of American settlement as follows:

1. Sandy loam soils in the Grand River floodplain formerly supported a mixed hardwood-pine forest in which red oak, white oak, white ash, silver maple, basswood, cottonwood, and sycamore shared dominance with white pine, red pine, and jack pine. The understory featured elm, hop-hornbeam, and dogwood stems intermingled with prickly ash, witch-hazel, viburnum, pawpaw, and the vines of wild grape and Virginia creeper. Poison ivy was common throughout.
2. Within a mile of the river, moderately to steeply sloping uplands occupied by sand and sandy loam soils supported

many of the same trees, but with a diminishing of water-tolerant species and the addition of pin oak, black oak, scarlet oak, bitternut hickory, shagbark hickory, and black cherry. The understory, while bearing some strong resemblance to the previously mentioned plant complex, also afforded restricted areas characterized by the dominance of sedges and sparges.

3. As the topography became increasingly level to gently rolling and the soils more sandy in composition in the southern portion of the project, oak openings in which the white oak dominated appeared. A second upland association featuring green ash, black walnut, beech, and sugar maple commonly occupied eroded areas where heavier clay soils and more "mesic" conditions prevailed. The understory common to the uplands, while not especially rich in terms of species diversity, featured a number of berry producing herbaceous plants including dewberry, hawthorn, elderberry, and wild grape.

PREVIOUS RESEARCH IN AND NEAR THE PROJECT AREA:

A review of the available literature (Dillenback and Leavitt 1870; Leeson 1881) and documents (Trigg 1964) and examination of the state site files maintained by the Michigan History Division revealed the presence of six archaeological sites in the general area of the MDOT project. These are:

1. A village site (20KT57) of undetermined age and cultural affiliation is reported in Hinsdale's (1931) Archaeological Atlas of Michigan. The site is located about 900 m west of the M-44 ROW on a sand spit formed by the confluence

of the Rogue and Grand rivers in the SE 1/4, SE 1/4 of Section 22, Plainfield Township, T8N R11W, Kent County, Michigan.

2. The Adema site (20KT29), reported in the notes of Ms. Ruth Herrick and represented by a collection of material in the Grand Rapids Public Museum, is located on the property of the Grand Rapids Bible College in the center, E 1/2, NE 1/4 of Section 22, Grand Rapids Township, T7N R11W, Kent County, Michigan. The artifacts comprising the collection were recovered from the plow zone of a former field and are of unknown cultural affiliation and temporal placement. The material also affords no clues as to the nature of the prehistoric occupation of this site.

The less than precise site provenience, together with the denial on the part of the GRBC administration to permit shovel testing in that portion of the expanded M-44 ROW occupying a narrow strip of campus property, made it impossible for the survey team to determine whether this site extended into the project area and would potentially be subjected to impacts related to the road widening activity proposed by the MDOT.

3. Holmquist KE-1 (20KT104) is a surface site of undetermined use, age, and cultural affiliation located in the center, W 1/2, W 1/2 of Section 35, Plainfield Township, T8N R11W, Kent County, Michigan. According to the state site files the source for Holmquist KE-1 is a document in the possession of Wayne State University entitled the Holmquist Atlas.

Although the recorded site provenience suggested that it might extend into the M-44 ROW, the survey team encountered no evidence of this site's presence in the impact zone and, hence, no information by which Holmquist KE-1 might be confirmed.

4. Plainfield Cemetery (20KT128) is an historic Indian burial ground lying approximately 300 m west of the MDOT project and flanking the north bank of the Grand River just upstream from the mouth of the Rogue in the NW 1/4, SW 1/4 and extending into the SW 1/4, NW 1/4 of Section 23, Plainfield Township, T8N R11W, Kent County, Michigan. This site is referenced initially in Dillenback and Leavitt (1870: 85), and their reference is quoted without citation in Leeson (1881: 1309-1310). To my knowledge this site has never been confirmed, and no known collection is reported to be from this provenience.

In addition to the aforementioned sites, which are now recorded with the State of Michigan, my examination of Trigg's (1964) Composite Map of U.S. Land Surveyors' Original Plats and Field Notes, Sheet 4, Michigan Series strongly suggests the former presence of an Indian village on the bluffs overlooking the Plainfield Cemetery site and near a small prairie on the line between Sections 14 and 23 and Indian fields located to the west of this village and north of the mouth of the Rogue River on the line between Sections 22 and 23.

Today, the property in question is owned by the Blythefield County Club. During on-site evaluation of the M-44 ROW, the management of the country club denied permission for surveyors

to evaluate the narrow strip of golf course adjacent to the existing M-44 ROW to ascertain whether evidence for this 19th century Indian village was present in the 36 m of expanded ROW. Examination of the existing M-44 ROW fronting the country club revealed so much disturbance as to preclude the survival of site data in any quantity or contextual association. Thus, while the Blythefield Country Club Village site and the Blythefield County Club Indian Fields site cannot at this time be confirmed by means of on-site examination, they are herein being recorded with the State of Michigan as 20KT178 and 20KT179, respectively (Fig. 1).

The only information regarding recent archaeological activity in and near the M-44 project area that has come to my attention pertains to several surveys undertaken by Dr. Richard Flanders of Grand Valley State Colleges to satisfy the requirements of environmental impact assessments. According to one manuscript on file with the Michigan History Division (Flanders 1978), GVSC survey and test excavation of a small tract lying partially within the MDOT project in the N 1/2, NW 1/4, NW 1/4 of Section 35, Plainfield Township, T8N R11W, Kent County, Michigan resulted in the recovery of no archaeological information of any kind. A second parcel of land located on the south bank of the Grand River less than 100 m east of the MDOT survey transect across the valley in the E 1/2, SW 1/4, NW 1/4, SE 1/4 and W 1/2, SE 1/4, NW 1/4, SE 1/4 of Section 23, Plainfield Township, T8N R11W, Kent County, Michigan also failed to disclose any evidence of the presence of archaeological sites (Flanders 1981).

SURVEY FIELD PROCEDURES:

On-site evaluation of the M-44 project area was undertaken between 21-23 Jun 83 by a field crew consisting of the Field Supervisor and three Field Assistants, with the Principal Investigator spending the first day in the field assisting in the initiation of the survey program and also "standing by" to return to the project area should the crew encounter a situation requiring my presence in the field. The survey procedures employed were those outlined in the research proposal and project application submitted to the MDOT by the Principal Investigator prior to the awarding of the contract to WMU.

The entire route was traversed from north to south along one transect placed midway between the edge of the highway and the limits of the expanded ROW on either side of M-44. In areas where surface visibility exceeded 50%, surveyors relied on surface reconnaissance procedures together with some random shovel testing for purposes of examining the soil profile to determine the depth of the plow zone and the depth at which clearly Pleistocene-age deposits commenced. Where opportunities for walk-over survey arose, surveyors did not strictly adhere to the single line of survey, but ranged more widely over the entire 36 m wide area comprising the expanded ROW.

In locations where surface visibility was less than 50%, but standing water and recent disturbance and/or obstructions (e.g. landfills, pavement, structures) did not effectively prohibit evaluation, the survey team systematically shovel tested at intervals of 50 ft (15 m) along the transects. On the average for the entire length of the route, it is estimated that the

survey team placed a shovel test every 89 ft (27 m); and considering only those segments of the ROW which were amenable to this procedure it is estimated that the mean distance between shovel tests along each line of survey was on the order of 44 ft (13 m).

Shovel tests were consistently excavated to a depth at which surveyors made good contact with glacially deposited materials. Generally, this required that shovel testing be undertaken to depths ranging between 40-70 cm. In addition, all "raw" areas and erosional cuts on the landscape were carefully examined for evidence of human presence. By use of shovel testing procedures, together with surface reconnaissance where feasible, the survey team completed on-site evaluation of the project in three field days, attaining coverage that was both systematic and intensive. Observations derived from fieldwork, together with the information collected during the literature and documents search, provide an excellent basis upon which to offer the recommendations which appear later in this report.

In addition to those observations provided in the section which follows, it is appropriate that surveyor activity along the route be here briefly summarized:

7 Mile Road to the Grand River:

Beginning at the intersection of M-44 and 7 Mile Road about 900 m north of the river, surveyors were hampered by lack of access to the Blythefield Country Club property lying in the expanded ROW on the west side of M-44. Here, evaluation of the project area was necessarily confined to land within the existing ROW. Shovel tests and surface observations showed

the land in the present ROW to be thoroughly disturbed as a result of the deposition of considerable roadbed fill and the excavation of drainage ditches to remove runoff from the roadway.

On the east side of the highway, that portion of the project lying outside of the existing ROW was planted in strawberries for almost the entire distance between 7 Mile Road and the edge of the bluffs flanking the Grand River floodplain. Visibility in the field was excellent, and surface reconnaissance procedures proved very adequate for evaluating this area. The adjacent strip of land located within the present ROW supported a cover of tall grass and showed minimal indications of disturbance. Here, four-shovel tests were placed just south of the M-44/7 Mile Road intersection, and an additional 20 probes were spaced at intervals of about 15 m along the fence line marking the limits of current state ownership.

The narrow strip of bottomland between the base of the bluffs and the present river channel on either side of M-44 was occupied by West River Drive/Cannonsburg Road. Thus, surveyor evaluation of this portion of the northernmost segment of the route was effectively prohibited.

For this segment of the M-44 ROW project the survey team observed not the slightest indications of the presence of archaeological remains; and this despite the fact that the Trigg Map shows an Indian village (20KT178) to have occupied the general area in and about the survey transect at the time of the GLO survey of Plainfield Township (Fig. 1).

Grand River to Plainfield Avenue/Grand River Drive:

This segment of the route crosses the broad expanse of the Grand River floodplain, from the present channel to the base of the bluffs forming the southern margin of the valley. In terms of potential, this was the richest archaeological zone to be examined during the project. However, the valley floor was found to evidence massive disturbance attributable to a large quarrying operation and recent commercial developments all along the highway ROW. That portion of the project not concealed beneath pavement and buildings was generally without vegetative cover, exposing to view much altered deposits of sand and gravel and shallow depressions holding standing water. After a cursory examination of this devastated area, leading to the conclusion that the valley floor was a total loss in terms of the preservation of archaeological resources, the survey team moved on to the next segment of the transect.

Plainfield Avenue/Grand River Drive to 5 Mile Road:

Between these two points along the route the highway reaches out of the valley and into the adjacent uplands. With the exception of a few small residential properties maintained in lawn, M-44 is here flanked by woodlot occupying often steeply sloping terrain. A total of 167 shovel tests were placed just outside of the existing ROW along both sides of the highway during surveyor evaluation of this segment of the project, with the only material being recovered consisting of several pieces of recent debris typically found in the roadside context.

5 Mile Road to 4 Mile Road:

Between these two markers the terrain flanking the highway began to level out. With the exceptions of a cornfield and an open apple orchard at the southern end of this segment of the project, the entire length required evaluation by means of shovel testing. Although denied permission to shovel test several small areas of lawn lying in the expanded ROW, the survey team felt that the 134 probes placed in areas of poor surface visibility provided good coverage of this mile. The orchard and field were carefully examined by surface reconnaissance. But regardless of which procedure was employed, nothing of potential archaeological significance was observed. This is particularly unfortunate with respect to the Holmquist KE-1 site (20KT104), which surveyors were unable to confirm despite a concerted effort on their part.

4 Mile Road to 3 Mile Road:

For this segment of the route, on the line between Sections 2 and 3 of Grand Rapids Township, surveyors attained almost continuous coverage by employing shovel testing procedures in all but the first 200 m on the west side of the highway, where excellent surface visibility was afforded by an open orchard, and for 500 m planted in corn and beans on the east side of M-44 just north of 3 Mile Road. In all, 150 shovel tests were excavated, but only on approaching a small kettle lake on the west side of M-44 about 170 m south of 4 Mile Road did probing result in the discovery of bona fide archaeological remains. Here, three shovel tests located within 5 m of this small body of water produced an excellent piece of fire-cracked rock and two quartzite flakes. On the basis

of this observation, the survey team recorded the Robinette site (20KT177).

Careful surface examination of the orchard and the field lying in the expanded ROW failed to produce any materials indicative of the presence of a site.

3 Mile Road to Knapp Street:

Between Sections 10 and 11 of Grand Rapids Township, the situation was found to be quite similar to that noted for the preceding segment of the project, but with a slight increase in the acreage under cultivation. Here, the team placed 163 shovel tests in fallow fields and woodlots along the highway, as well as systematically walked open areas featuring good to excellent surface visibility.

Although coverage for the northern portion of this mile was a little spotty as a result of some denials of permission to shovel test lawns fronting residences, for most of the route surveyor coverage was continuous.

No observations of archaeological significance were forthcoming from the project area; however, the team did acquire from an area resident some information regarding a former station on the Underground Railroad, replete with intact underfloor facilities, on the property of Mr. Jerry Sietsema

in the SW corner of Section 11. The old structure in question lies outside of the project limits near the present Sietsema family residence. Surveyors were unable to make the appropriate landowner contact by which to confirm this story during evaluation of this segment of the route, and time did not permit them to return and seek out Mr. Sietsema prior to the termination of the fieldwork phase of the project.

Knapp Street to Leonard Street:

This segment of the M-44 ROW project, on the line between Sections 14 and 15 of Grand Rapids Township, consisted largely of woodlots and fallow fields broken up by small tracts of residential properties. Surveyor coverage varied from somewhat spotty in the northern portion to continuous along the southern half mile. One hundred and twelve shovel tests constitute the means by which most of this mile was evaluated. The team reported considerable disturbance for the area of expanded ROW along the entire segment, but noted that landscape alteration was most pronounced near a kettle depression dominating the local landscape just north of the M-44/Leonard Street intersection. No observations of potential archaeological significance were reported by the team for this segment of the survey transect.

Leonard Street to Bradford Street:

This half mile long segment of the route could only be examined in part inasmuch as the Administration of Grand Rapids Bible College denied surveyors permission to shovel test that portion of the campus lying within the expanded ROW on the west side of the highway. Minimal shovel testing of the existing ROW fronting college property as well as to the north and south of the campus revealed much disturbance in the form of roadside fill. Thus, the team was unable to confirm the presence of the Adema site (20KT29) in the MDOT project area.

The entire ROW on the east side of M-44, excepting for an asphalt parking lot fronting a building on the SW corner, NW 1/4 of Section 23, was systematically evaluated by means of more than 30 shovel-tests and examination of a backfilled

excavation (machine trench) running the length of this segment of the route. Once again, however, the survey team was unable to make an observation of potential significance.

Bradford Street to the I-96 Intersection:

The last quarter mile of the project afforded the opportunity for continuous surveyor coverage along both sides of the highway. Here, 17 shovel-tests supplemented surface reconnaissance in the examination of this segment of the route. Not a single indication of the presence of an archaeological site was encountered in this the southernmost portion of the M-44 ROW project.

RESULTS OF THE SURVEY:

Although the combination of shovel testing and surface reconnaissance procedures employed during the project resulted in surveyor coverage of the M-44 ROW from 7 Mile Road in Plainfield Township to I-96 in Grand Rapids Township that was by and large continuous, the all too frequently encountered evidence of recent landscape alteration, especially dramatic in the Grand River floodplain, combined with denials of access to private property lying within the expanded ROW, particularly significant with respect to the Blythefield Country Club property near the northern terminus of the project and the campus of Grand Rapids Bible College at the southern end, in spite of the fact that the team presented a letter from the MDOT soliciting landowner cooperation and also explaining the State of Michigan's prerogatives regarding the conduct of survey work on private property, prohibited the team from accomplishing a completely thorough assessment of the rich

archaeological potential of this transect across the Grand River Valley and its adjacent uplands. Be that as it may, and despite the fact that surveyors were unable to confirm several prehistoric sites (20KT29 and 20KT178) that may, at least in part, occupy portions of the expanded M-44 ROW, it can be stated with considerable confidence that surveyor coverage was both systematic and intensive along this route and that no particularly significant archaeological remains occurring in surveyed portions of the project area were overlooked.

Two observations made by surveyors require brief comment here. First, although only minimal information was collected by the team, it is quite certain that the Robinette site (20KT177), located in Figure 1, represents a bona fide prehistoric site located adjacent to a small kettle lake just west of M-44 in the SE 1/4, NE 1/4, NE 1/4, NE 1/4 of Section 3, Grand Rapids Township. The recovery of an excellent piece of FCR and two quartzite flakes (Fig. 2, A-B) from an area of about 30 m² within five m distance of this small body of water amidst mature beech and maple trees is felt to be indicative of a limited activity locus; possibly it is a knapping or chipping station.

Although the tree cover prohibited precise delineation of site area, the nature of its location in the bottom of a small kettle depression and the scarcity of cultural material found in a number of shovel-tests placed about the original findspot strongly suggest that the information recorded by surveyors is in no way indicative of a major habitation area being present.

The two culturally modified lithic specimens from 20KT177 can be described as follows:

One flake (Fig. 2, A) is made of red fine-grained quartzite. It has a flat, unprepared platform and a thick cross-section that rises, dorsally, to a pronounced ridge. A small remnant platform and negative bulb of percussion on the dorsal surface indicate that this specimen represents an intermediate stage in the reduction process. The second specimen (Fig. 2, B) is fragmented by a transverse-oblique fracture which has removed a distolateral portion of the flake. The platform is thin and probably unprepared. Multiple flat flake scars suggest that this specimen is the product of final thinning or resharpening of a biface. The material is a fine-grained quartzite that is off-white in color (Caven Clark, personal communication, 8 Sep 1983).

The specimen illustrated in Figure 2, C represents an isolated find recovered from an area south of 20KT177 and near the quarter-section mark. According to Caven Clark (in the same letter), this item is morphologically a unifacial end-scraper manufactured on a bipolar flake or split pebble of local till chert. This findspot has not, however, been assigned a site number inasmuch as the context of its discovery renders it suspect as a bona fide artifact. It is without good association, having been found in a recent road cut providing access to a commercial development where there is ample evidence of heavy equipment activity and roadbed filling. Thus, it is certainly possible that this "tool" is the product of unintentional battering and flake removal

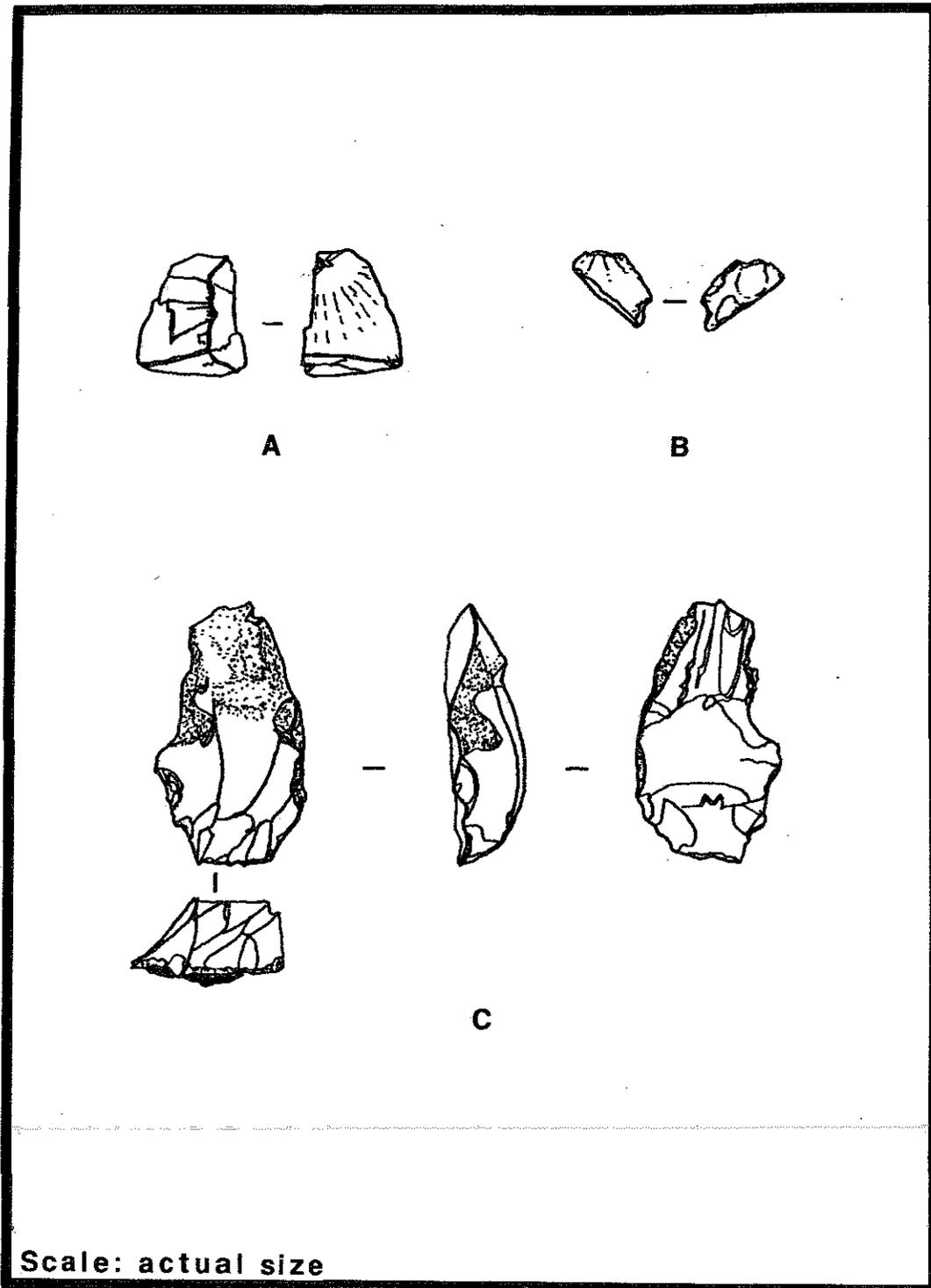


Figure 2. Specimens from 20KT177.

and/or transport to this location together with the materials hauled in from a quarry to provide roadbed fill.

SIGNIFICANCE OF OBSERVATIONS:

The literature and documents study and site file search performed on this occasion identified no fewer than six archaeological sites in the general vicinity of the M-44 ROW project. Although three sites appeared to have, at least in part, occupied portions of the study area, on-site evaluation has not resulted in confirmation of any of them. Sites 20KT104 and 20KT178 are in areas where systematic and intensive recovery procedures were employed by the survey team. The Adema site (20KT29) has been reported to be located on the property of Grand Rapids Bible College. Here, surveyors were denied permission to examine that portion of the campus lying in the M-44 ROW for purposes of confirming this site.

With respect to the single site, Robinette (20KT177), recorded during the survey, the locational and artifactual data strongly suggest that this site locus was nothing more than a very temporary encampment or chipping station. It is most doubtful that intensification of research at this site would result in the recovery of data sufficient to make a good case for site significance.

RECOMMENDATIONS:

In the final analysis, on-site evaluation of the M-44 ROW project has shown this area to have experienced a great deal of potentially damaging roadside disturbance. This is particularly true for that portion of the study area having the most potential with respect

to archaeological resources--the Grand River floodplain. While the survey team was denied access to several properties along M-44 where there is reason to believe that evidence necessary for the confirmation of some previously recorded sites might be recovered, for the project as a whole, and including the recorded location of the Robinette site (20KT177), it is the consensus opinion of the project participants that extending the M-44 ROW 36 m in either direction from the highway will not adversely impact significant archaeological resources.

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