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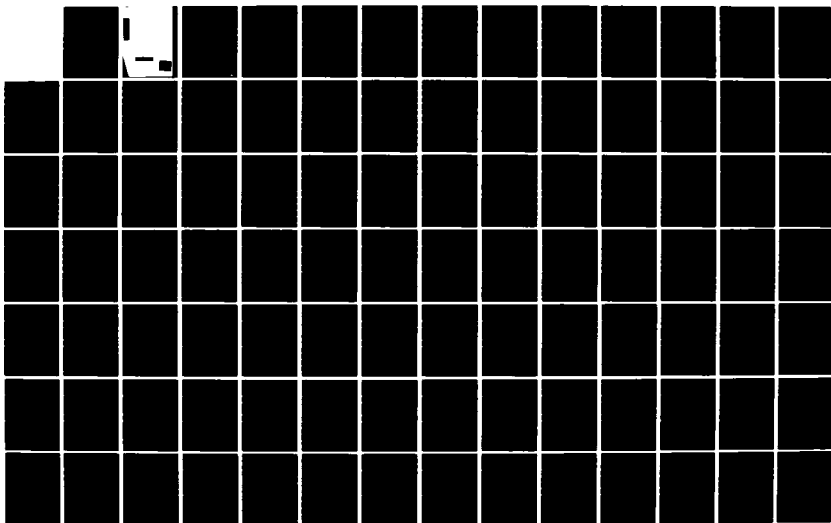
CULTURAL RESOURCES RECONNAISSANCE APPALACHIAN REGIONAL
COMMISSION'S STREA. (U) CORPS OF ENGINEERS NASHVILLE TN
NASHVILLE DISTRICT C GANZEL ET AL. MAR 80

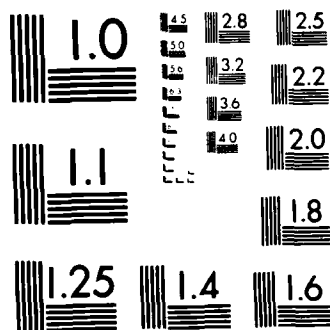
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MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS 1963-A

AD A 131437

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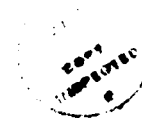
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selected sites. This stream project was funded by the Appalachian Regional Commission.

Archival information suggested that archeological evidence of historic water-powered mills might be present at several project sites. No evidence of this was identified in the field examination. Information from the State of Kentucky indicated that numerous prehistoric archeological and National Register sites were known in the counties involved. None of the sites will be affected by the project. The field work resulted in the identification of cultural resources at eight of the project work sites. All but one were historic sites and features in varying states of preservation. Recommendations for avoidance of these resources or elimination of the project sites are included in this report.

Cultural Resources Reconnaissance
Appalachian Regional Commission Stream Rehabilitation Project
Upper Cumberland River Basin
Kentucky and Tennessee
January and February
1980

prepared by the
US Army Corps of Engineers
Nashville District
March 1980



A

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Nashville District
March 1980

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ABSTRACT

In accordance with applicable legislative requirements, the Nashville District Corps of Engineers has conducted a cultural resources reconnaissance of 40 proposed stream rehabilitation sites and 25 proposed disposal sites located in the Cumberland River basin of Whitley, Knox, Bell, and Harlan Counties, Kentucky, and Campbell County, Tennessee. The proposed project includes the removal of stream flow obstructions within the Upper Cumberland River mainstream, source streams, and tributary streams and the disposal of materials at pre-selected sites. This stream project was funded by the Appalachian Regional Commission.

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I. INTRODUCTION

The Appalachian Regional Commission (ARC) has requested the assistance of the Corps of Engineers in the study and implementation of a stream rehabilitation project in the Upper Cumberland River Basin (Memorandum of Agreement between the ARC and the Corps of Engineers, 1979). The Upper Cumberland River Basin falls within the regulatory purview of the Nashville District of the Corps of Engineers and it is to the Nashville District that the fulfillment of legislative requirements concerning cultural resources falls. This report on a cultural resources reconnaissance of potential impact areas associated with the ARC's stream rehabilitation project in the Upper Cumberland River Basin has been prepared in accordance with the following authorities:

Public Law 89-665; The National Historic Preservation Act of 1966, as amended.

36 CFR 800; The Advisory Council on Historic Preservation, Protection of Historical and Cultural Properties (final amendments, 30 January 1979).

Public Law 91-190; The National Environmental Policy Act of 1969.

33 CFR 305; Identification and Administration of Cultural Resources (Engineering Regulation 1105-04-460).

The Upper Cumberland River Basin Stream Rehabilitation Project includes work sites along various water bodies in Whitley, Knox, Bell, and Harlan Counties, Kentucky, and Campbell County, Tennessee (Figure 1). This report covers an original set of 40 proposed stream rehabilitation sites and 25 proposed disposal sites (Figure 2). Subsequent to the field work, eight proposed disposal sites have been eliminated from consideration by project planners. Abandoned strip mines are currently under consideration as alternate disposal sites and may replace even more of the original 25 sites.

The ARC project will be on-going. New rehabilitation and disposal sites may be proposed. These new sites will be dealt with in amendments to this report.

DESCRIPTION OF PROPOSED WORK

The channel work proposed for the 40 widely-dispersed stream rehabilitation sites includes four categories of activities: (1) snagging and clearing, (2) excavation, (3) debris removal, and (4) bridge removal.

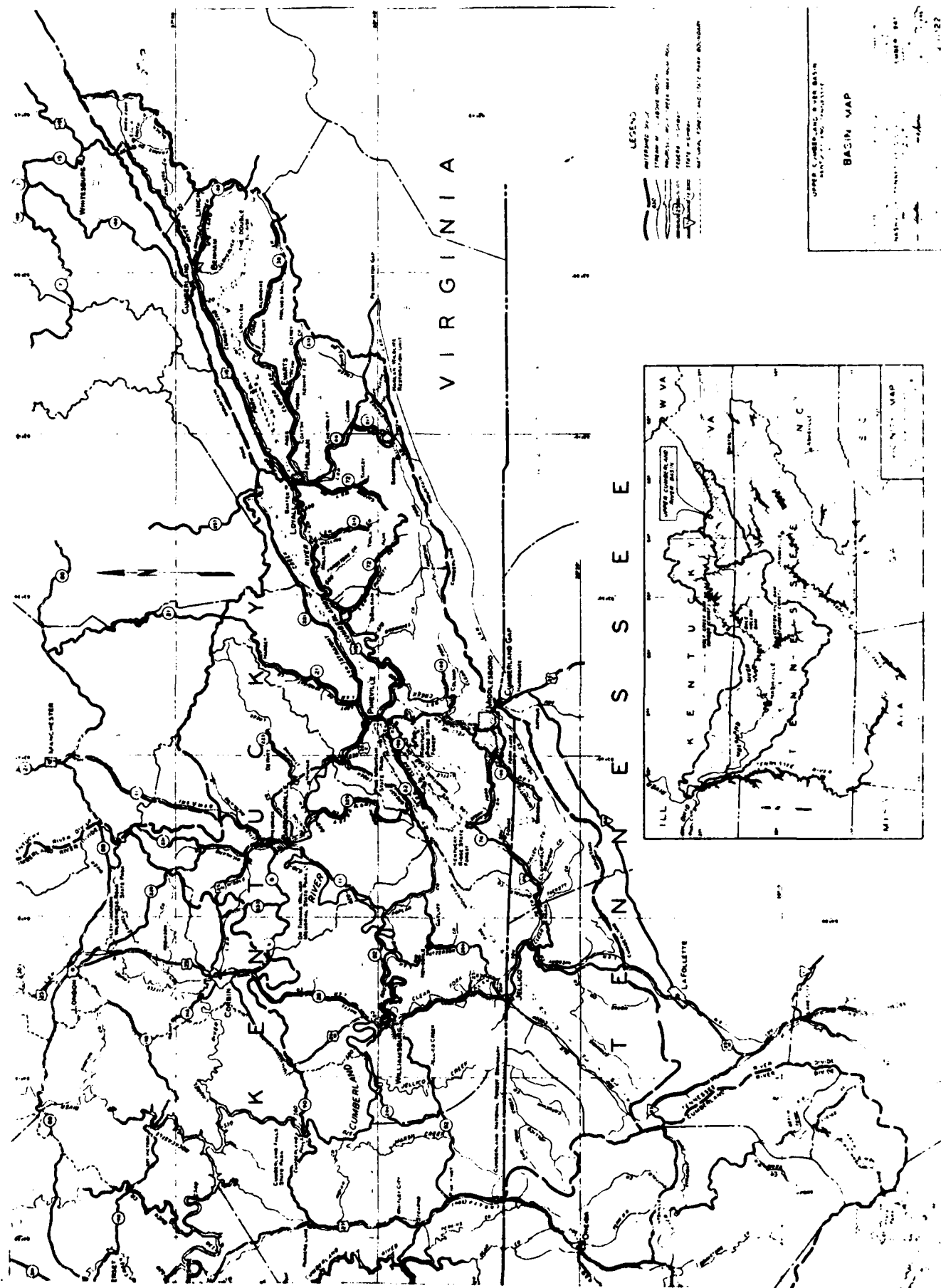


Figure 1, Basin and Vicinity Map

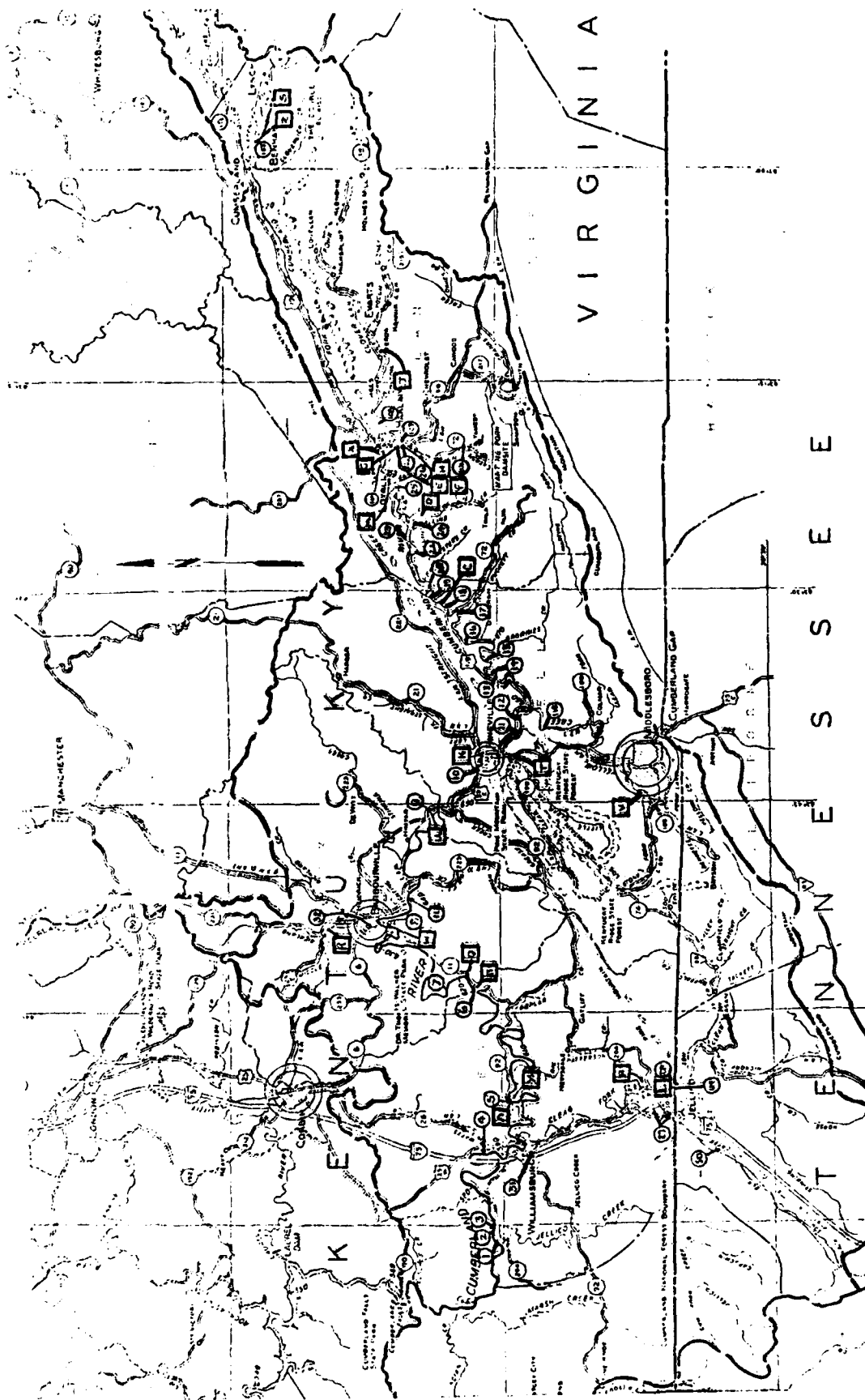


Figure 2, Appalachian Regional Commission Project

SCALE OF MILES
0 10 20 30
DEPARTMENT OF THE ARMY
NATIONAL DISTRICT OF ENGINEERS
NATIONAL DISTRICT OF ENGINEERS

OFFICE OF THE DISTRICT ENGINEER

Snagging and Clearing. This work involves the removal of stream flow obstructions from the channel and banks. Fallen trees, branches, and stumps will be removed. Vegetation will be cleared from gravel bars, islands, and banks. Generally, light equipment will be utilized including chainsaws, winches, and pick-up trucks. All combustible materials will be burned on-site.

Excavation. The proposed work involves the removal of gravel bars, small islands, and thin bank sections at constrictions. In several instances, secondary flow chutes will be excavated within the channel at gravel bar and island locations. Equipment necessary for this type of work includes a D-6 or D-9 dozer, cranes, tractors, haul trucks, and assorted light equipment. Excavated material will be disposed of at existing land fills or new disposal sites.

Debris Removal. This work involves the removal of debris from bridge piers and banks. "Debris" includes flood and human-deposited automobile bodies, appliances, tires, collapsed footbridges and other solid wastes. Bridge piers which have collected flotsam and jetsam will be cleared. Generally, bridge pier debris will be pried loose and floated downstream to nearby work sites and collected there. D-6, D-9 dozers, pickups, cranes, tractors, haul trucks, chainsaws, and assorted light equipment will be utilized. Combustible materials will be burned on-site; non-combustibles will be hauled to existing land fills, municipal dumps, or new disposal areas.

Bridge Removal. Several low-water bridges will be removed from the channels. Haul trucks, cranes, tractors, pick-ups, and possibly dozers will be utilized. The debris will be hauled to municipal dumps.

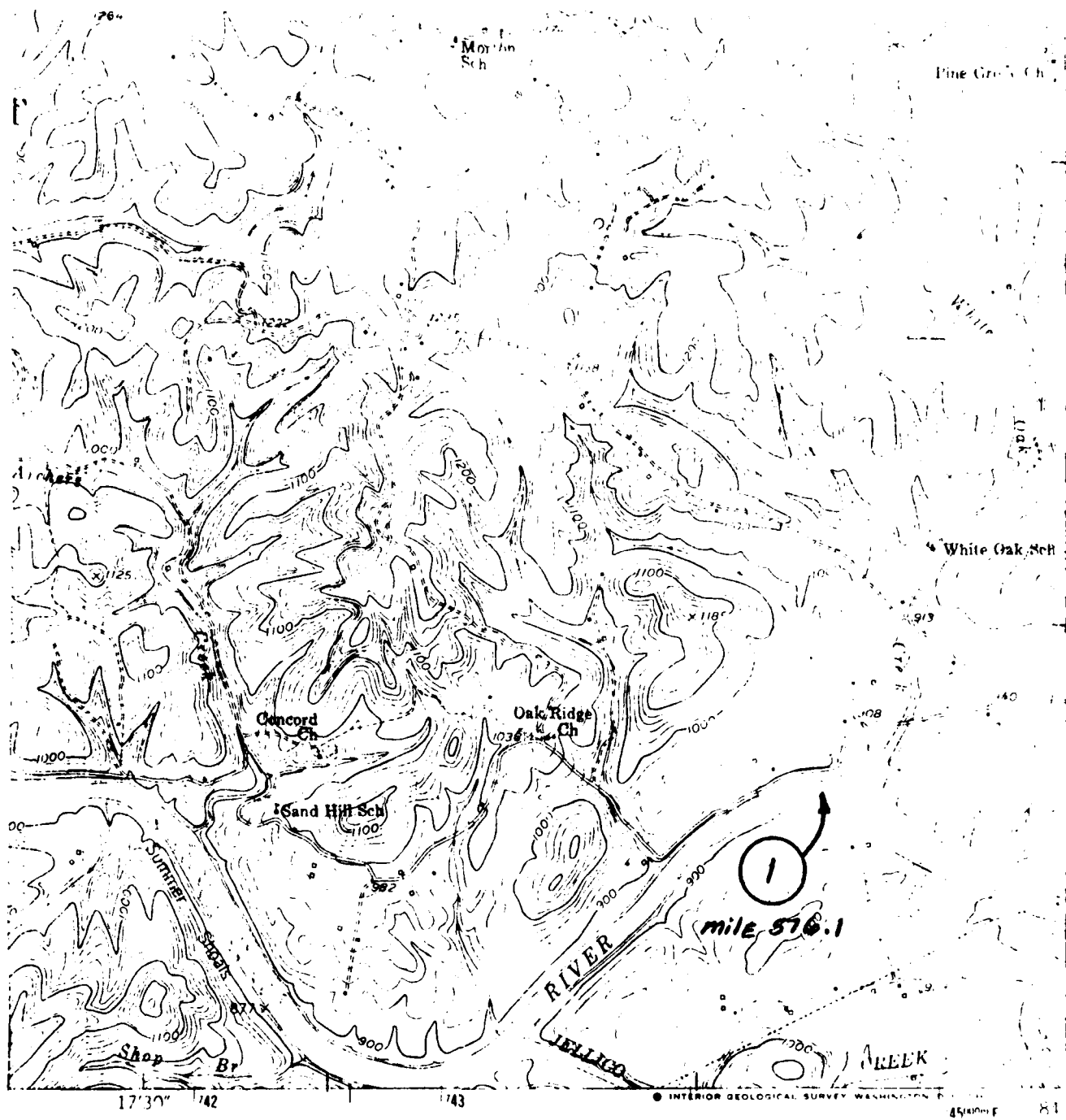
Disposal areas and access roads represent the highest of potential impacts to cultural resources, particularly surface and/or shallow sites.

Disposal Areas. An estimated total of 157,300 cubic yards of excavated material from the rehabilitation sites will be allotted to new disposal sites, existing landfills, municipal dumps, and light duty county roads. The new disposal areas are located in both floodplain and upland topographic locations, urban and rural settings. All are on non-public lands. No precise acreage figures are available for the new disposal areas, however, estimates by project planners indicate that the areas will run as large as 15 acres (Disposal J) to a half an acre at most other sites. The preparation of disposal areas for filling will involve the removal of from one to two feet of topsoil. This material will be re-used as cover for the disposed material. Presumably, dozers and haul trucks will be the heaviest equipment used.

Access Roads. Access roads will be necessary at some rehabilitation sites. The roads will vary in width from 11-12 feet for single lane roads to 22 feet for double lane roads. The method of construction involves cutting and filling. Impacts from the construction of access roads in the floodplain are variable depending on alignment and topographic location.

Alignments perpendicular, or at an angle, to streams have a relatively higher potential for impacting cultural resources. A perpendicular alignment extending from an existing road at the base of the valley wall to a stream bank will cross floodplain features (terraces, levees) which have a very high probability for occurrence of cultural resources (archeological sites in particular). Alignments parallel to a stream bank will have a lower potential for impacting resources. In some instances, access construction involves only the cutting and filling to grade of approximately 10 parallel feet of steep stream bank.

The preceding categories of work action will be combined at some sites. Disposal areas are rarely adjacent to the work sites. Figures 3-33 illustrate the project site locations. Figures 34-73 are work and site sketch maps prepared by project planners.



ROAD CLASSIFICATION

Heavy duty ——— Light duty
Medium-duty ——— Unimproved dirt

U. S. Route State Route

1000 0 1000 2000
FEET

CUMBERLAND FALLS, KY.

SE/4 CUMBERLAND FALLS 15' QUAD RANGLE

N3645-W841°/7.5

1952

AMS 4157 IV SE-SERIES 72.1

Figure 3. Project Site 1, Cumberland Falls, KY 7.5'(1957)

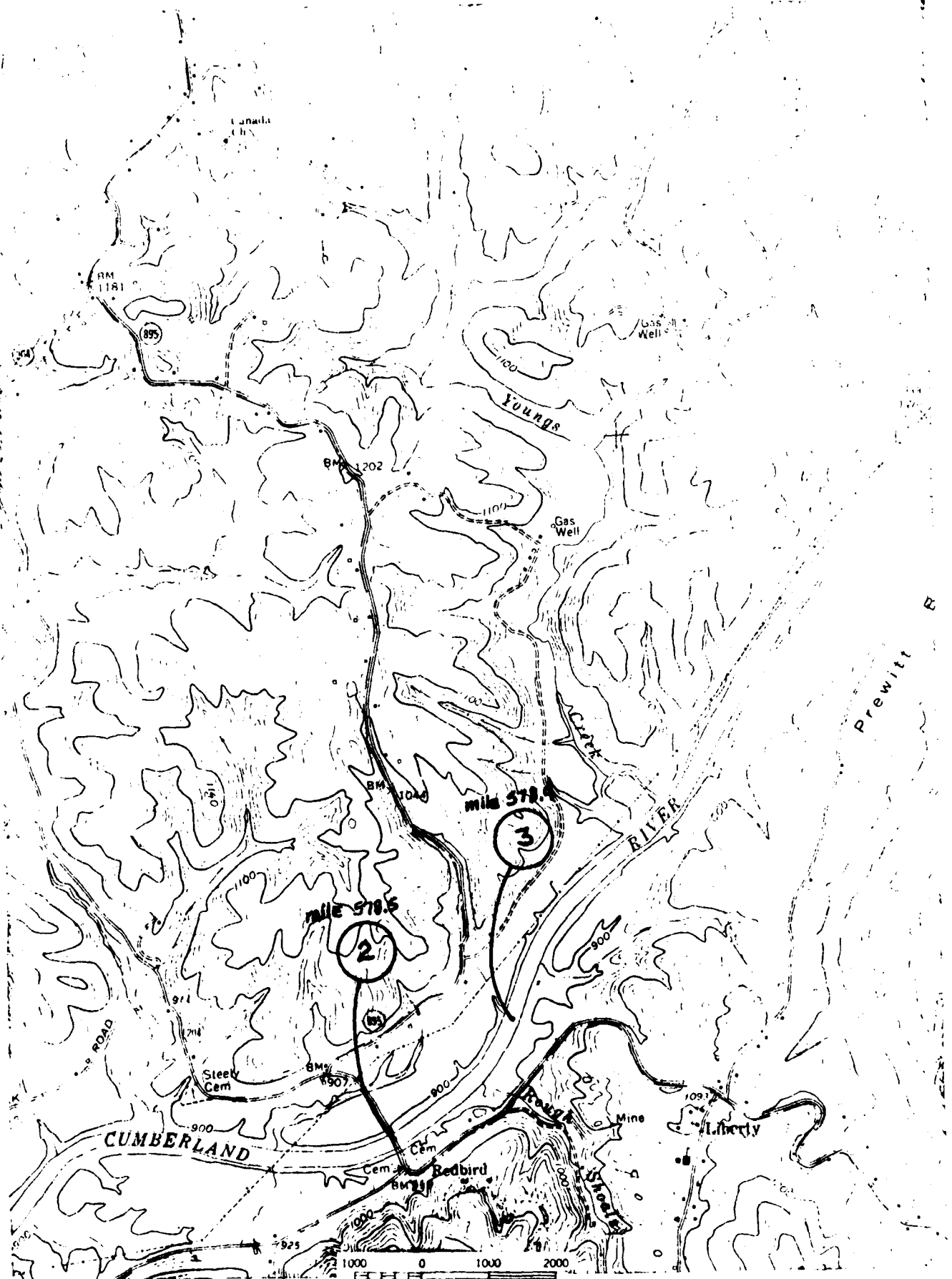


Figure 4. Project Site 2 and 3, Wofford, KY 7.5' (1969)

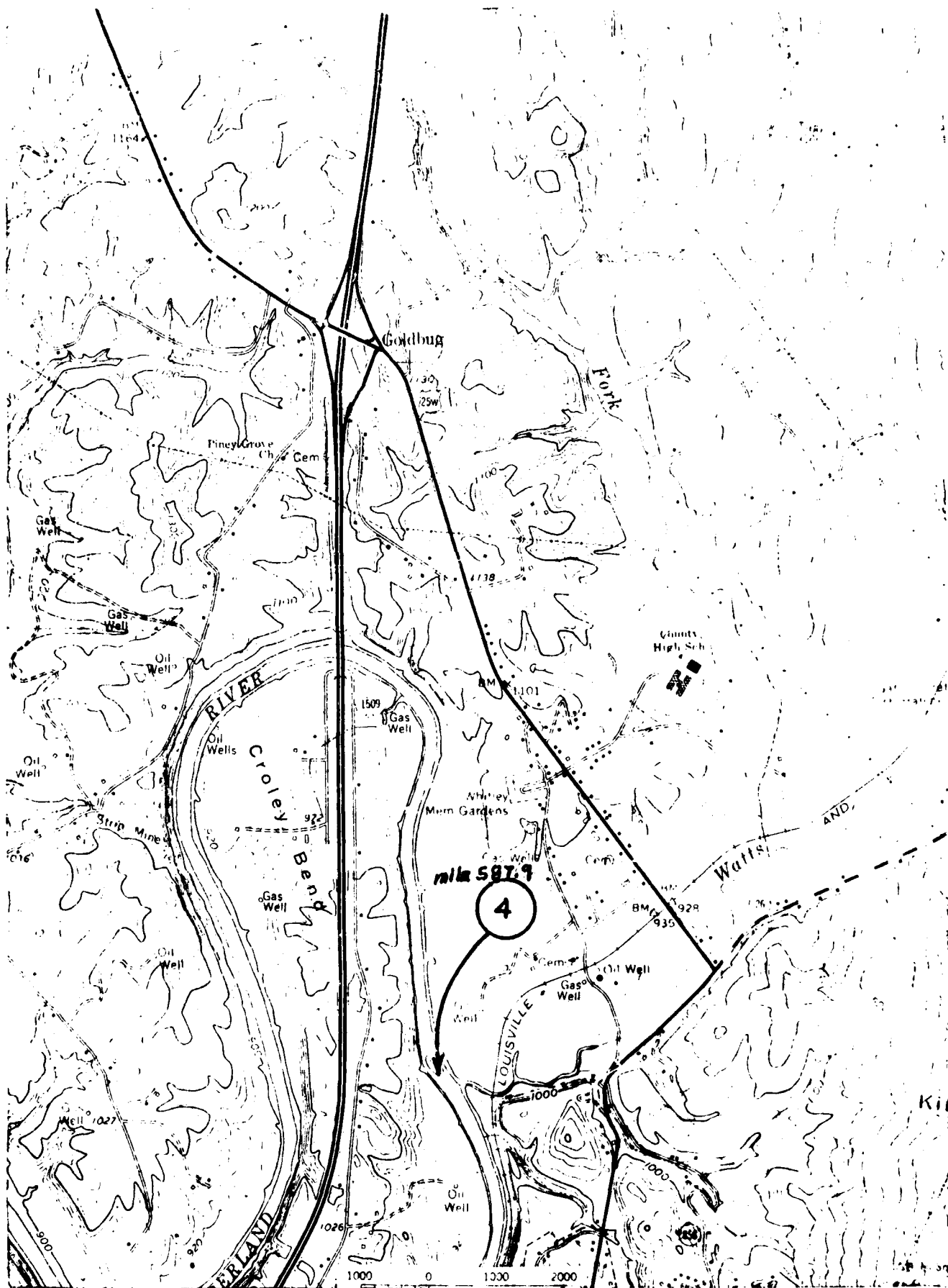


Figure 5. Project Site 4, Wofford, KY 7.5' (1969)

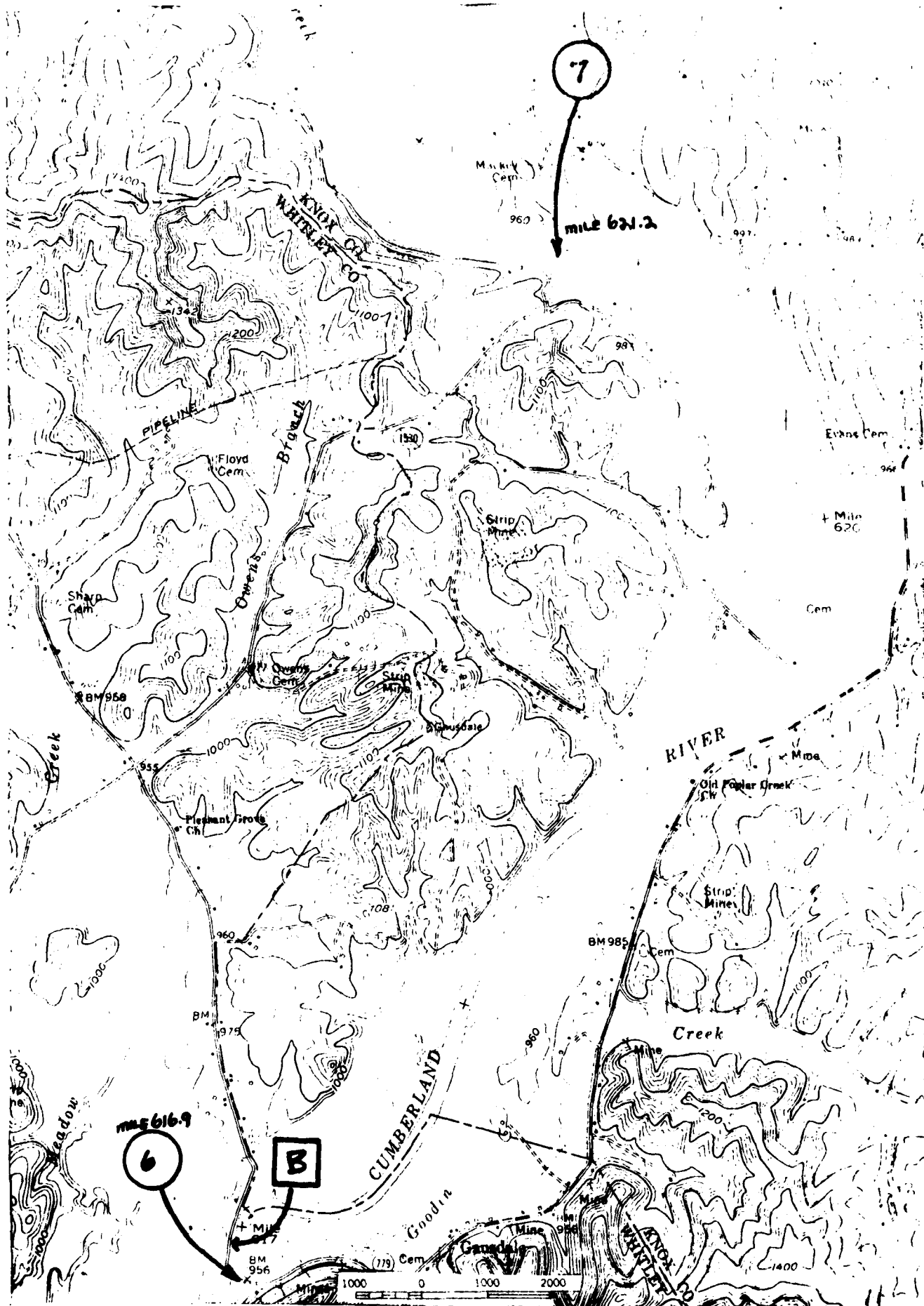


Figure 7. Project Sites 6, 7, Disposal Site B, Barbourville, KY 7.5' (1974)

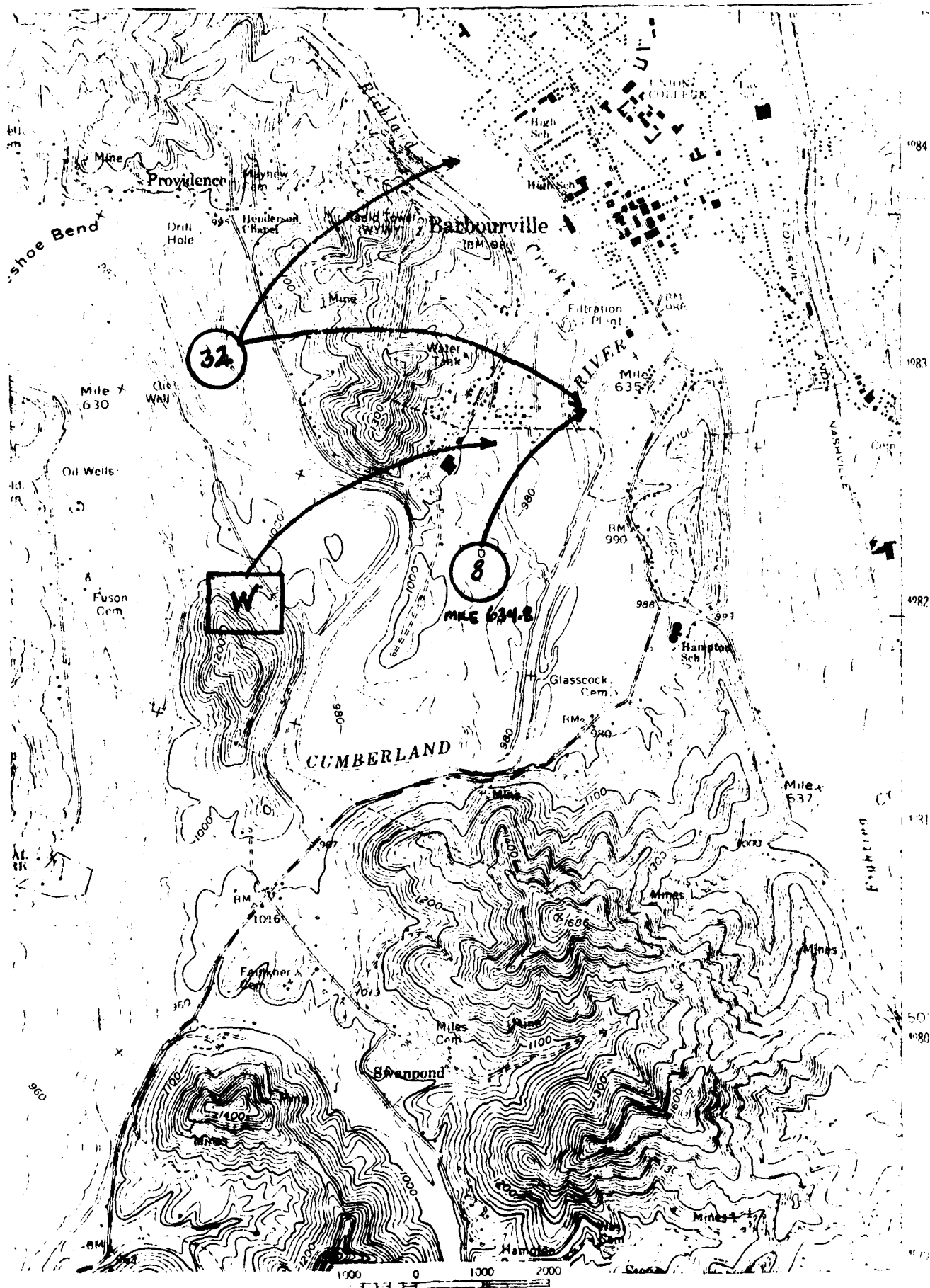


Figure 8. Project Site 8 and 32, Disposal Site W, Barbourville, KY 7.5' (1974).

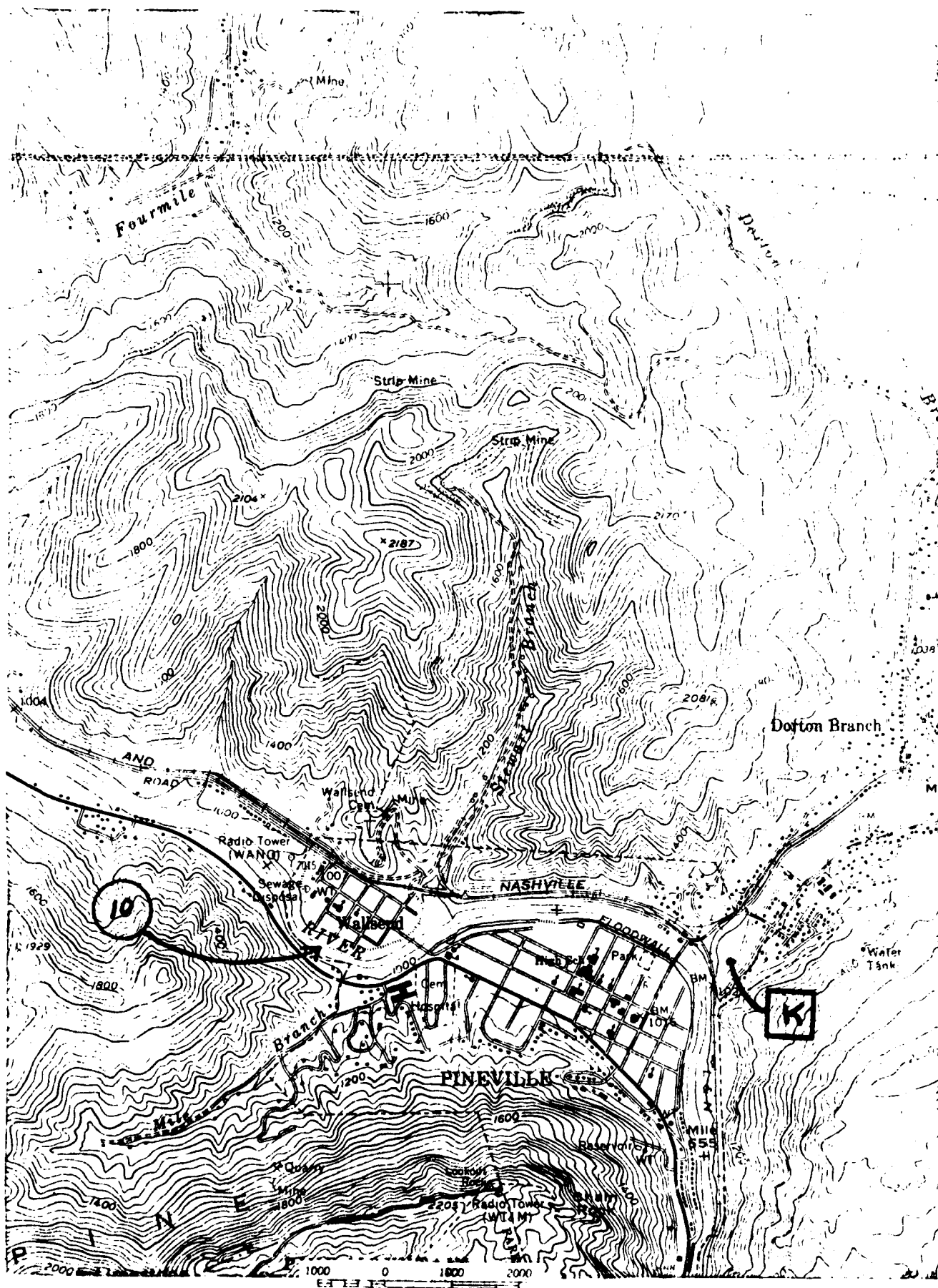


Figure 10. Project Site 10, Disposal Site K, Pineville, KY 7.5' (1974)

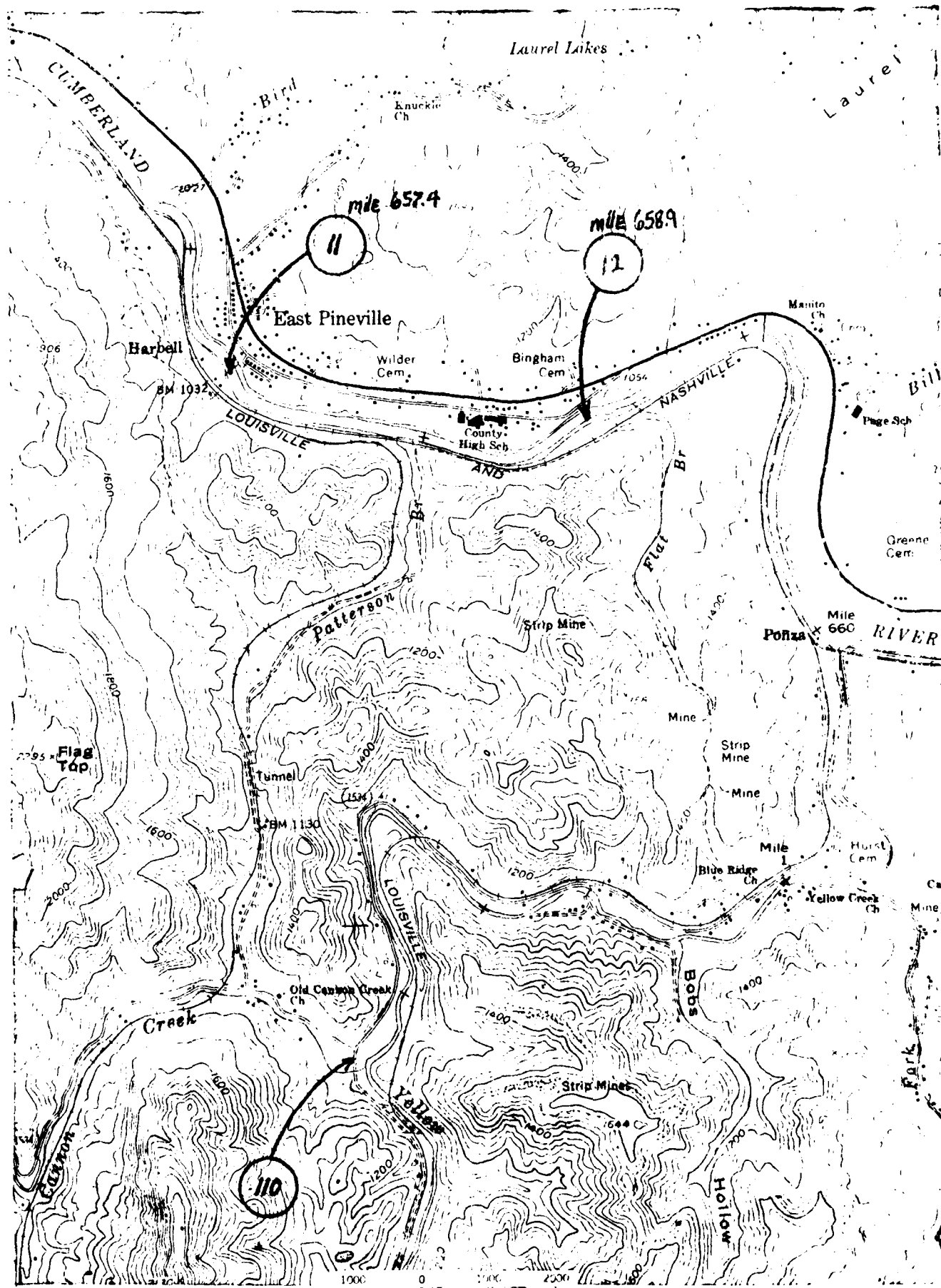


Figure 11. Project Site 11 and 12, Middlesboro North, KY 7.5' (1974)

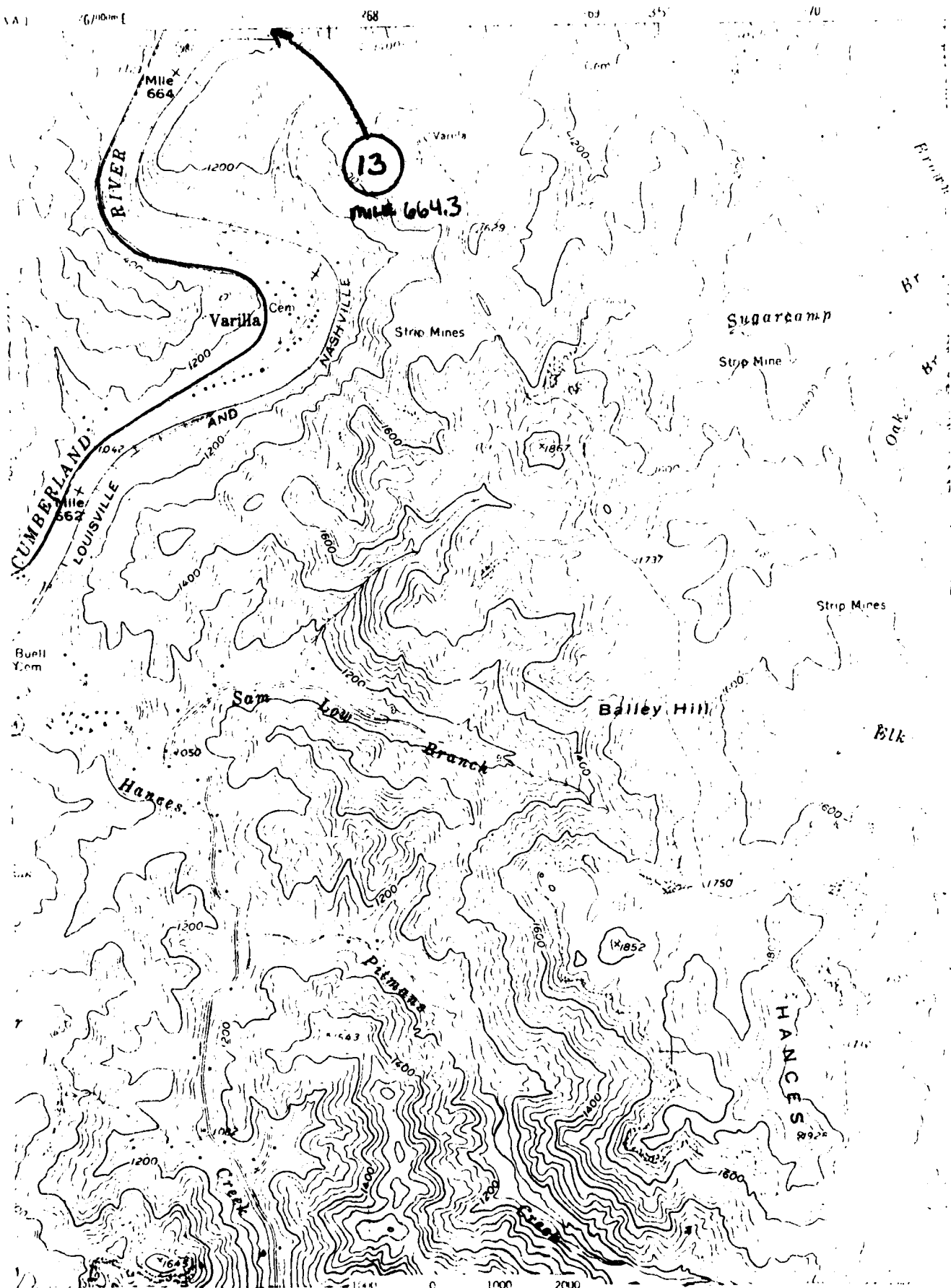


Figure 12. Project Site 13, Varilla, KY VA 7.5' (1974)

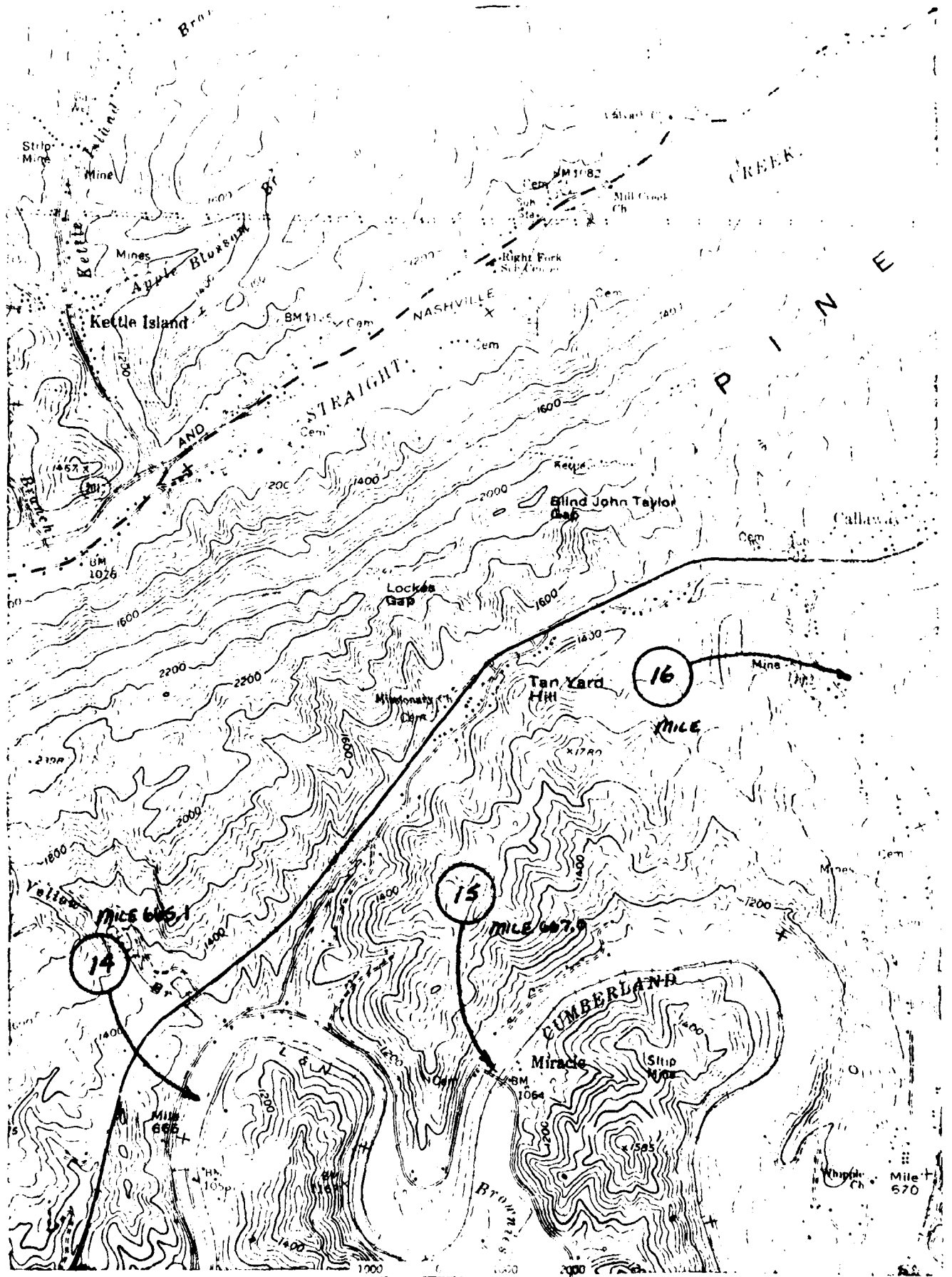


Figure 13. Project Sites 14, 15, and 16, Balkan, KY 7.5' (1974).

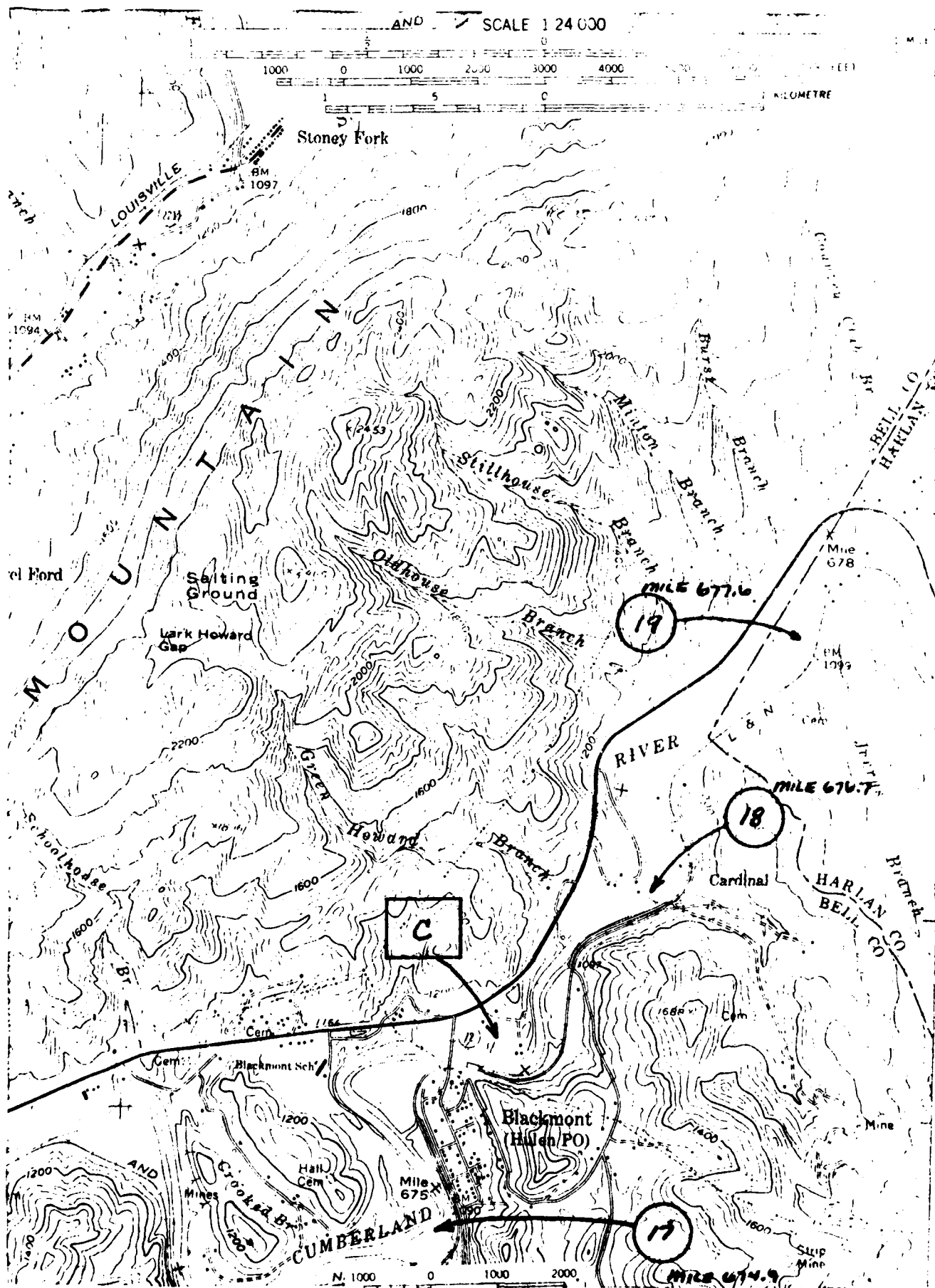


Figure 14. Project Site 17, 18, and 19, Disposal Site C, Balkan, KY 7.5' (1974).

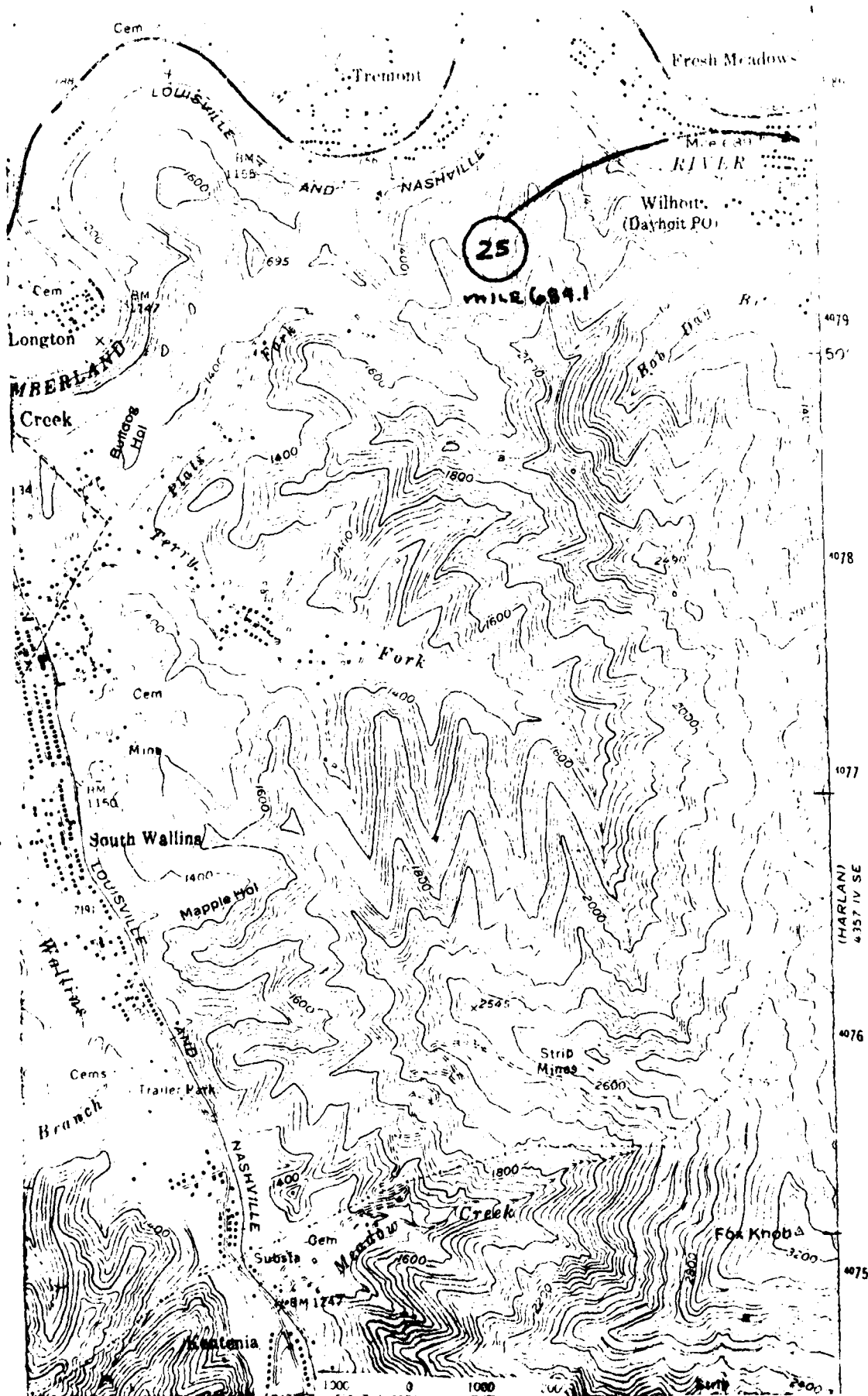


Figure 17. Project Site 25, Wallins Creek, KY 7.5' (1974).

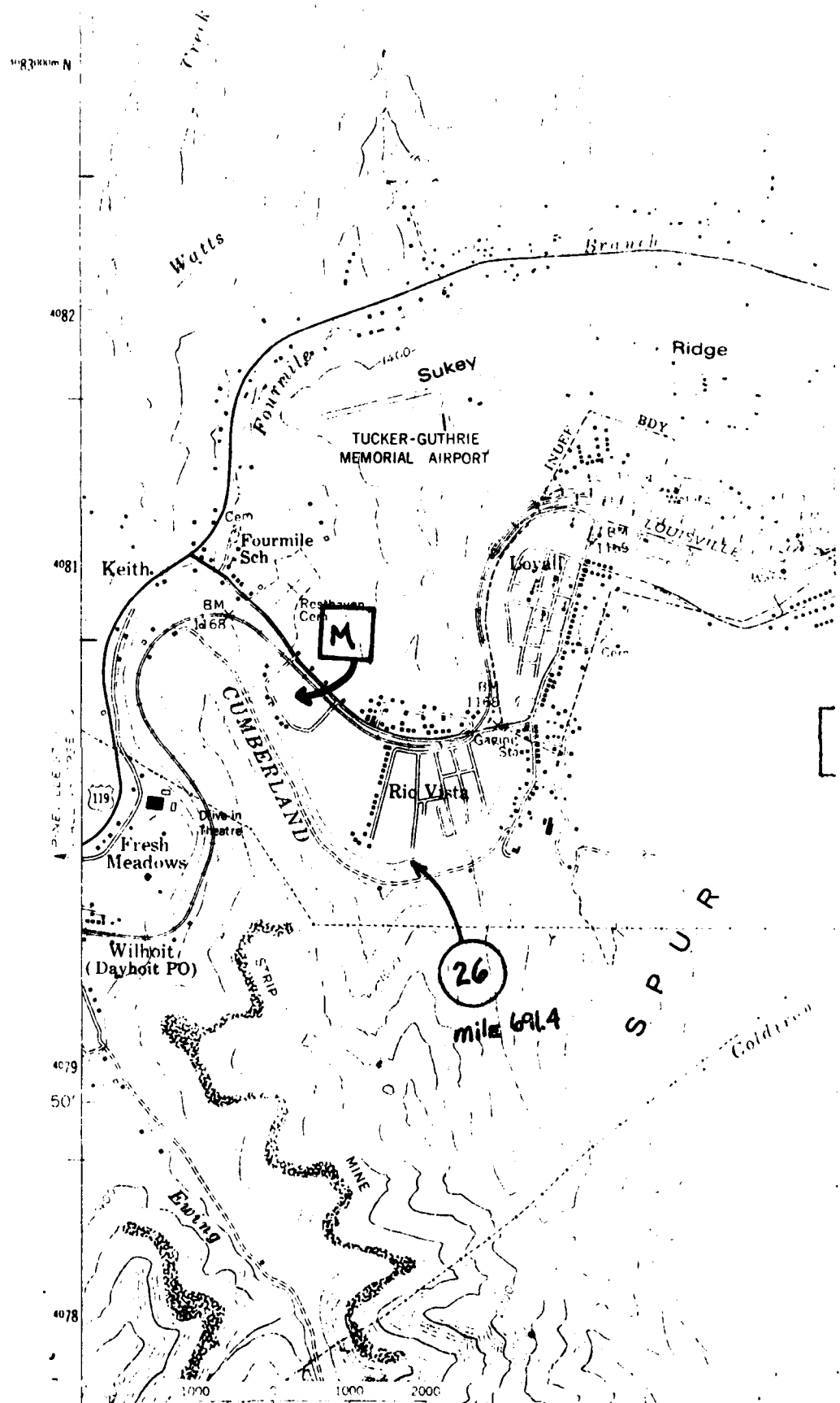


Figure 18. Project Site 26, Harlan, KY, 7.5' (1954, 1978).

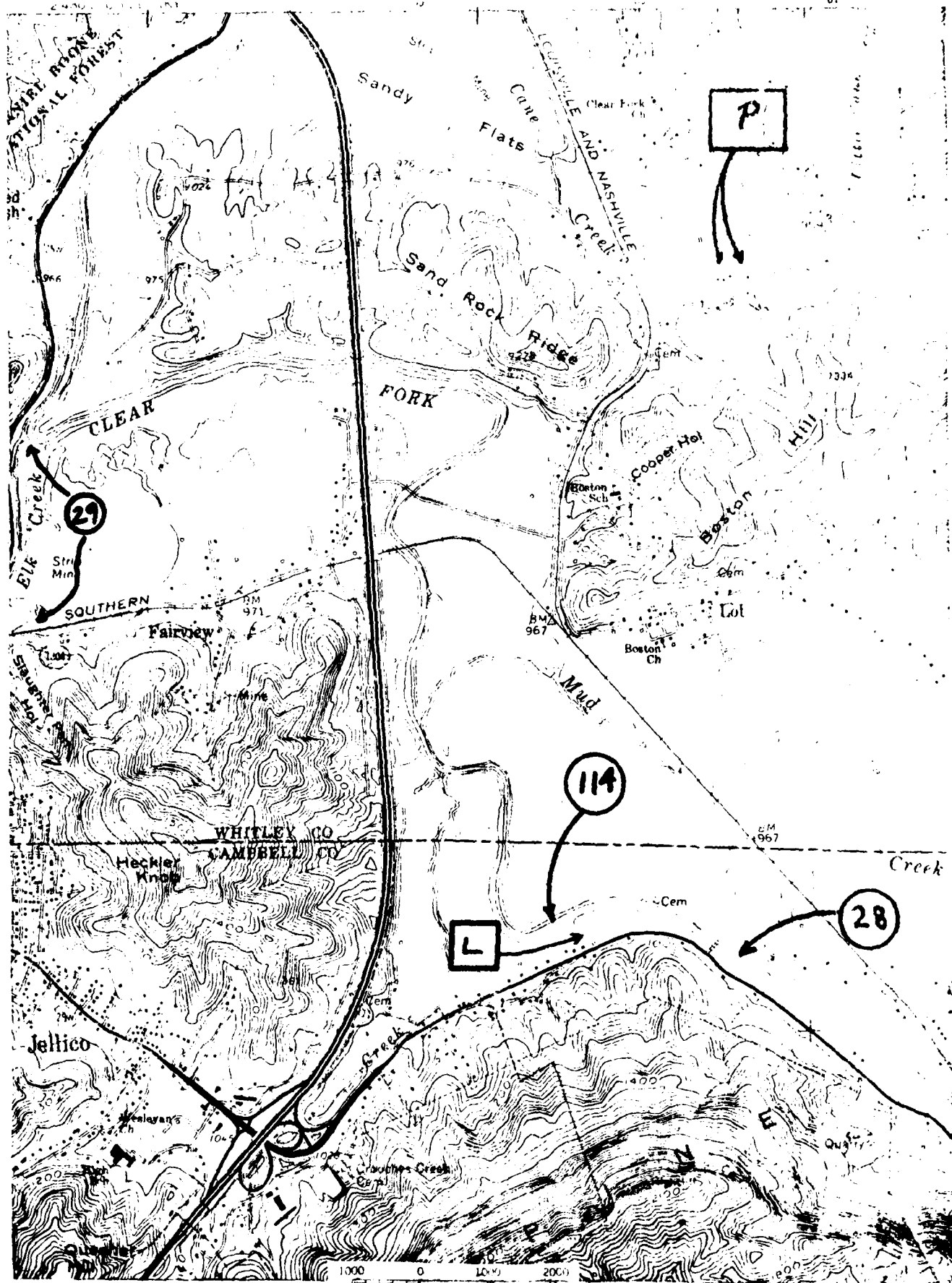


Figure 19. Project Sites 28, 29, 114, Disposal Sites P and L, Jellico East, TN-KY 7.5' (1970)

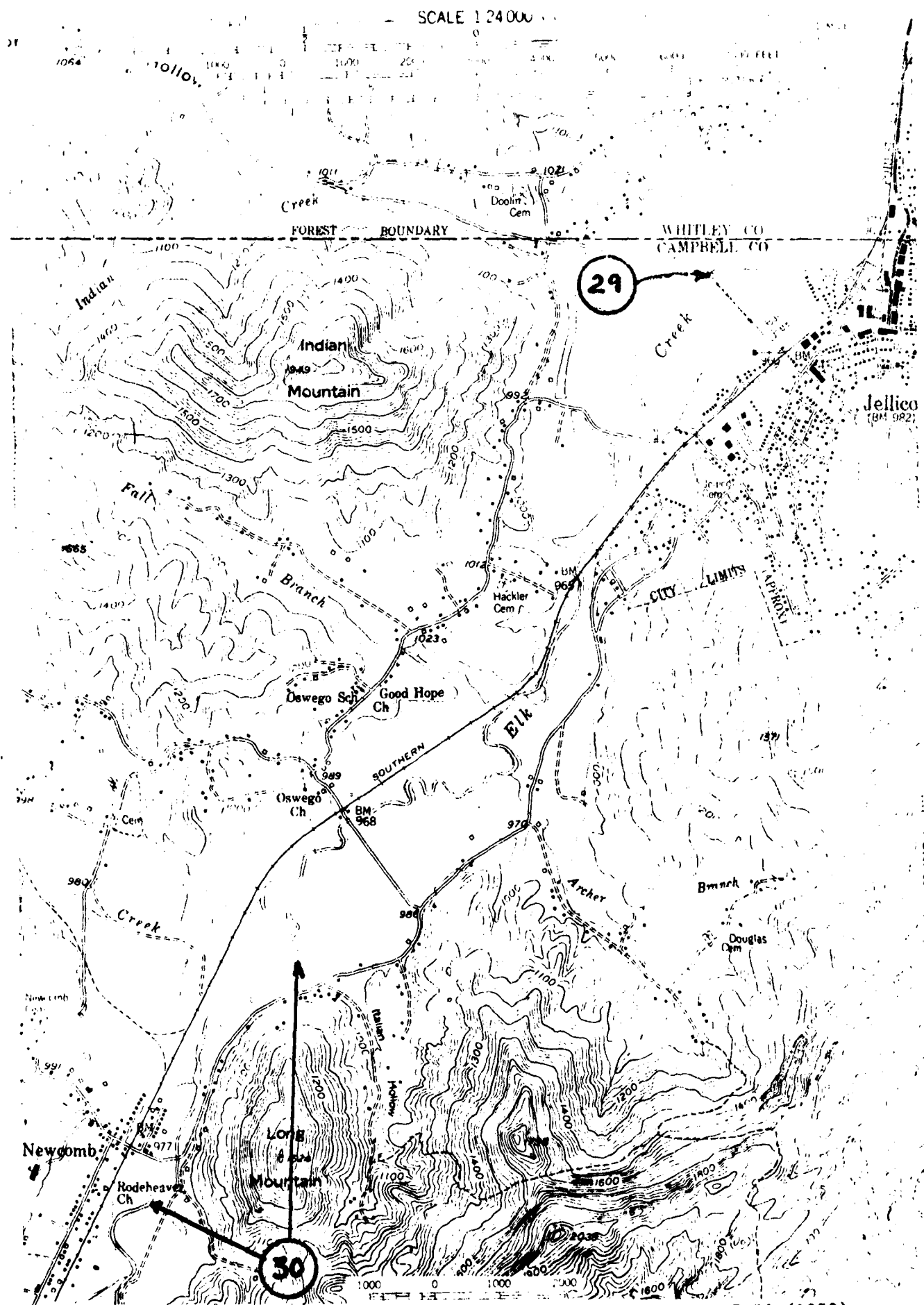


Figure 20. Project Sites 29 and 30, Jellico West, TN-KY 7.5' (1953).

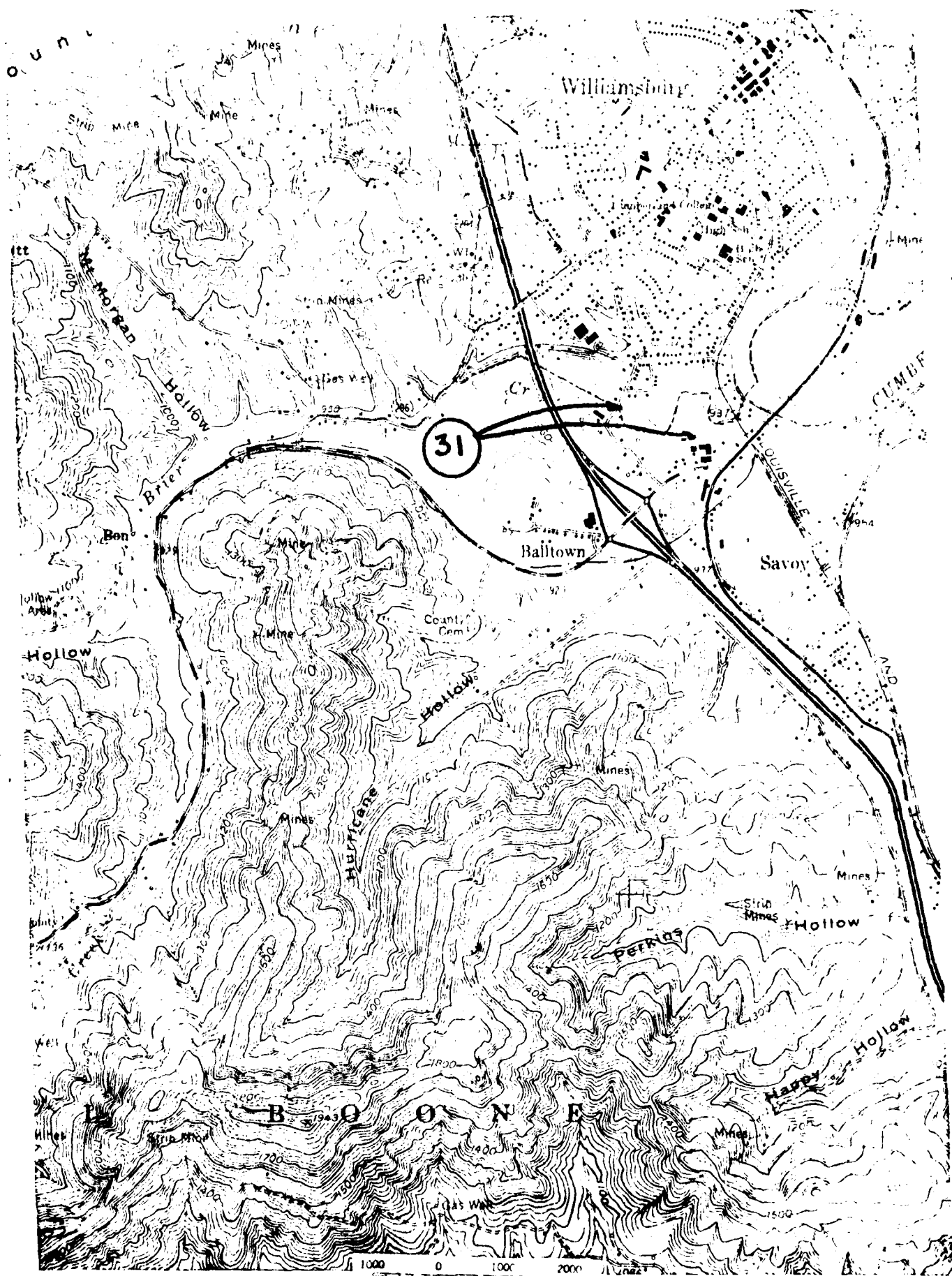


Figure 21. Project Site 31, Williamsburg, KY 7.5' (1969)

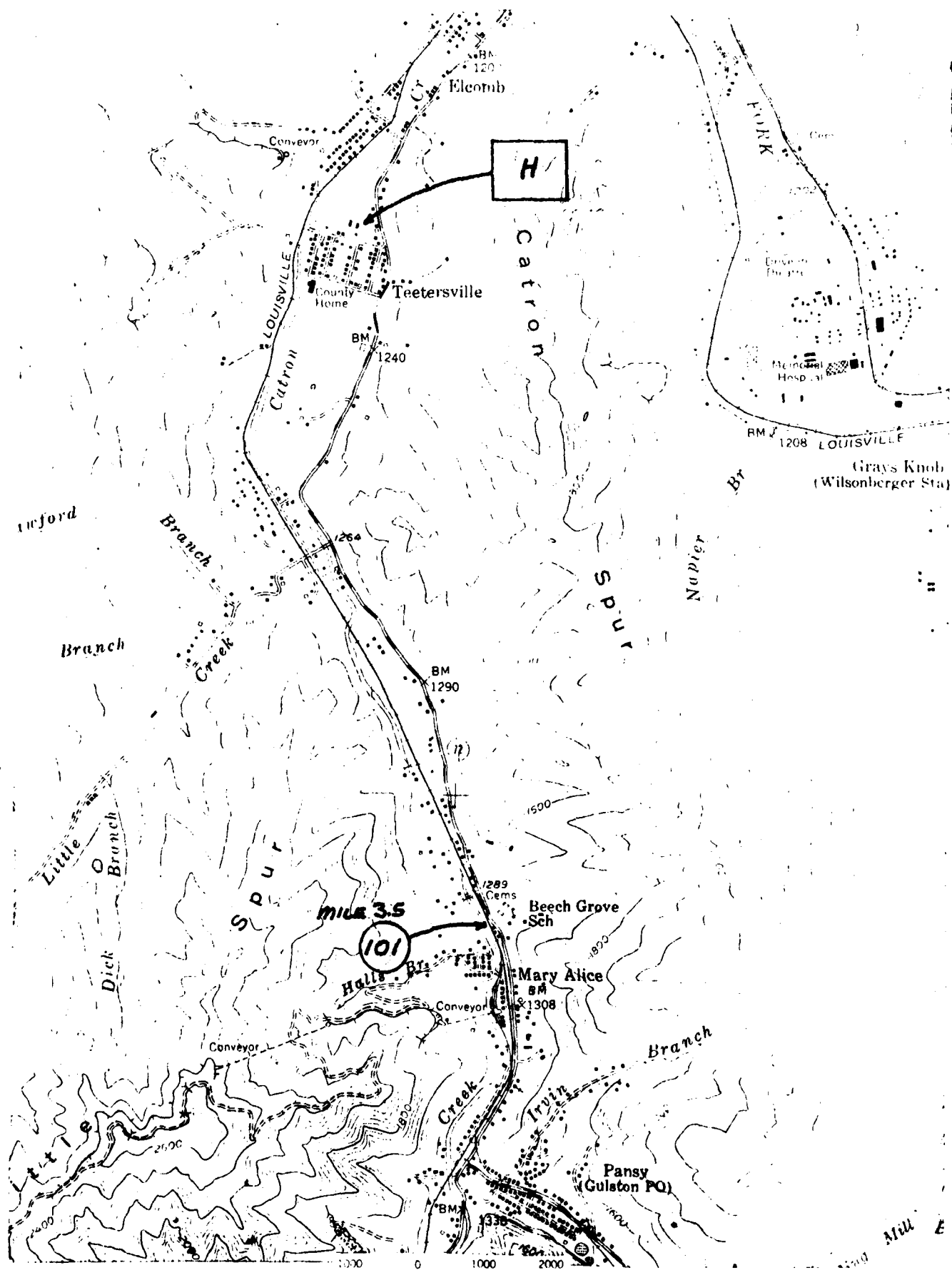


Figure 22. Project Site 101 and Disposal Site H, Harlan, KY 7.5' (1954, 1978)

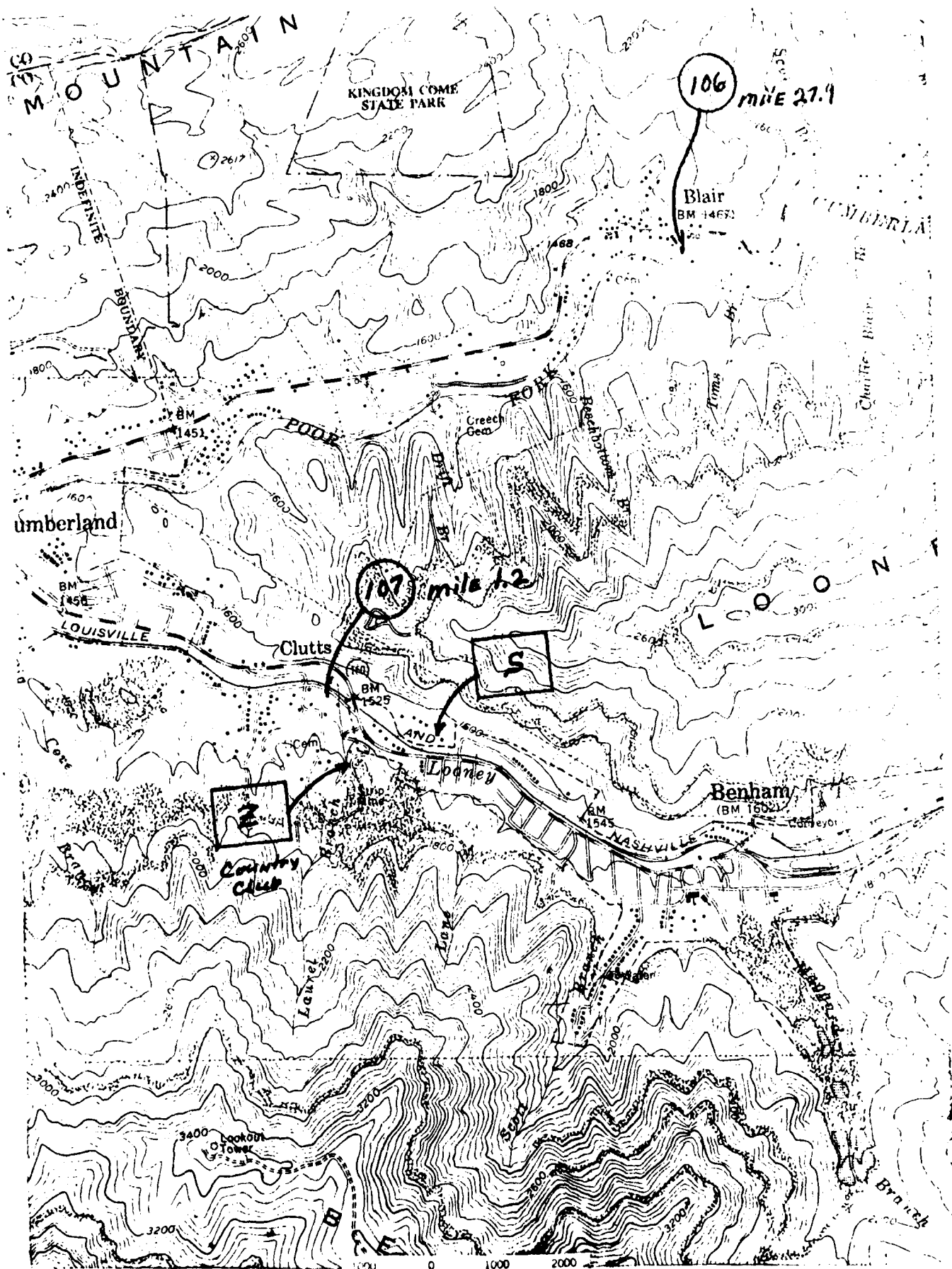


Figure 24. Project Sites 106 and 107, Disposal Sites S and Z, Benham, KY-VA 7.5' (1954)

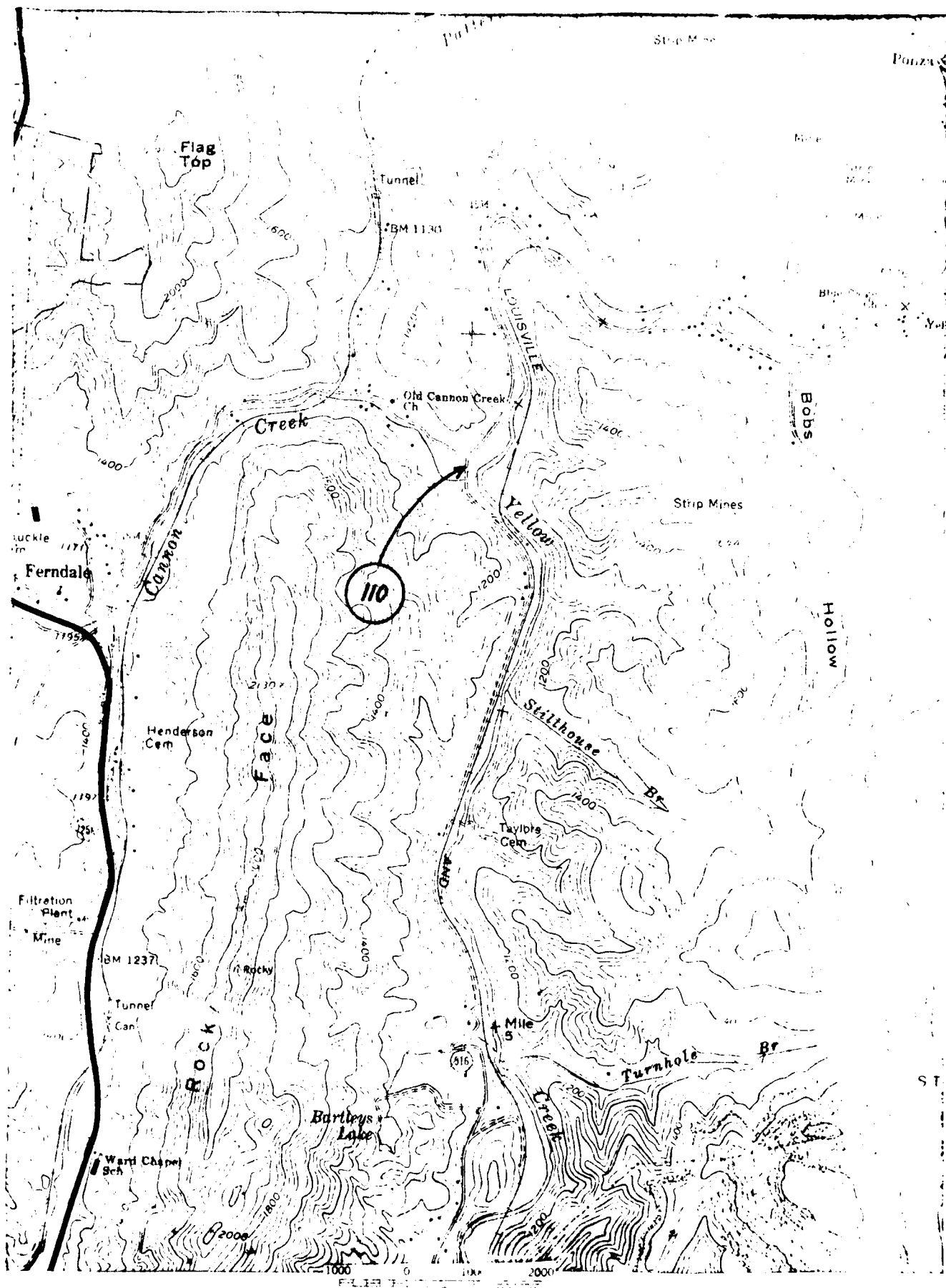


Figure 25. Project Site 110, Middlesboro North, KY 7.5' (1974)

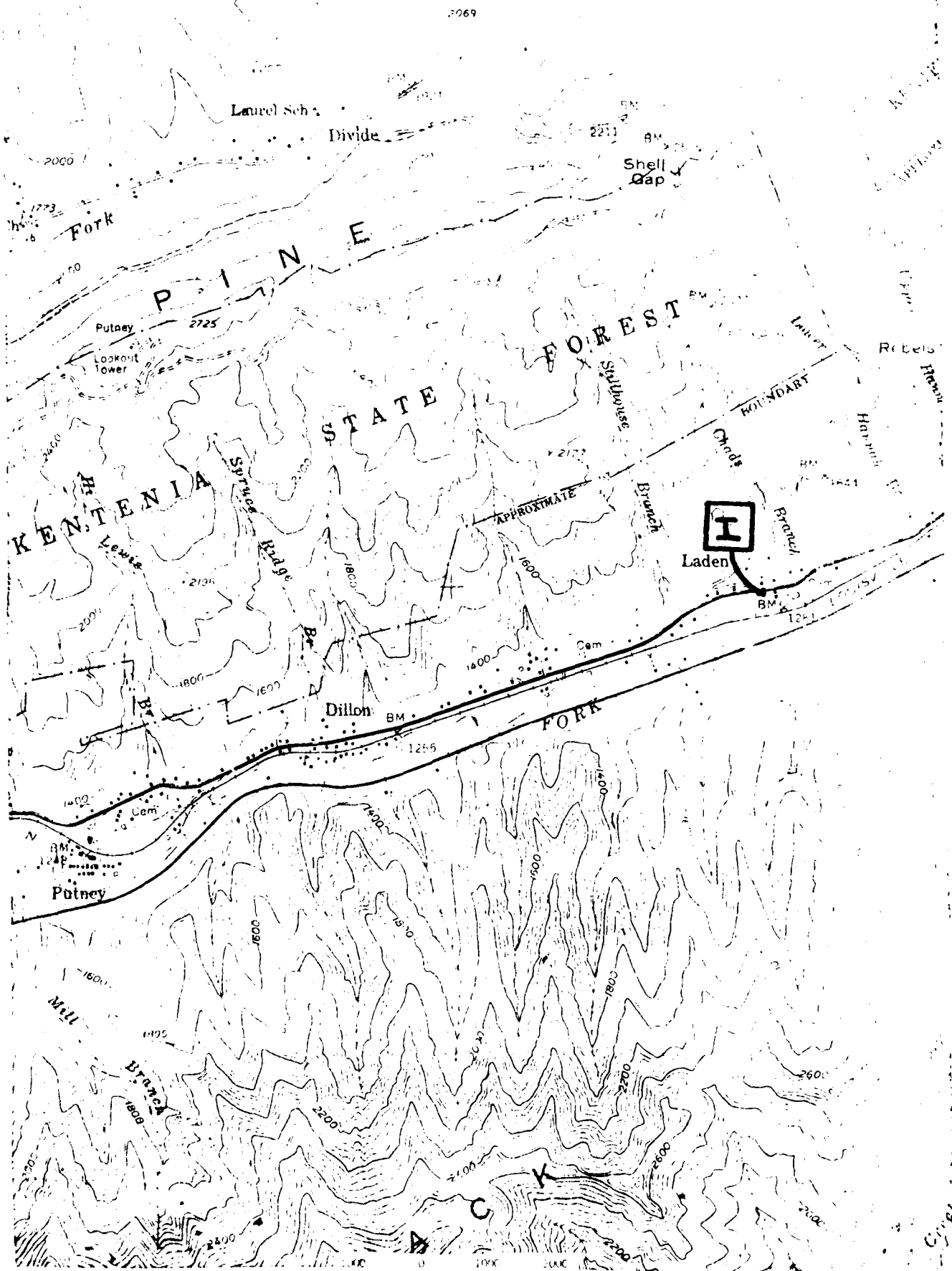
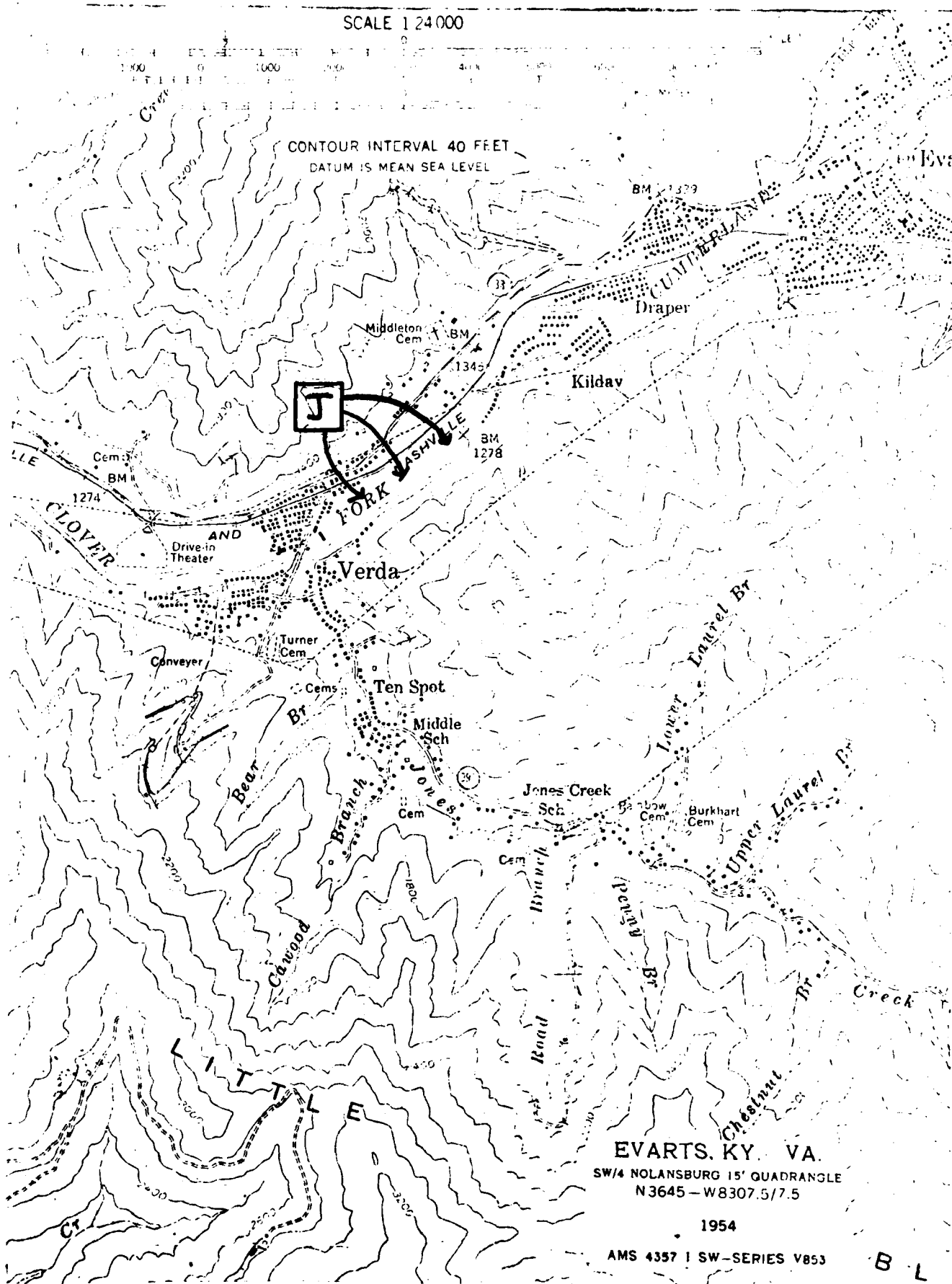


Figure 27. Disposal Site I, Nolansburg, KY 7.5' (1954, 1978)



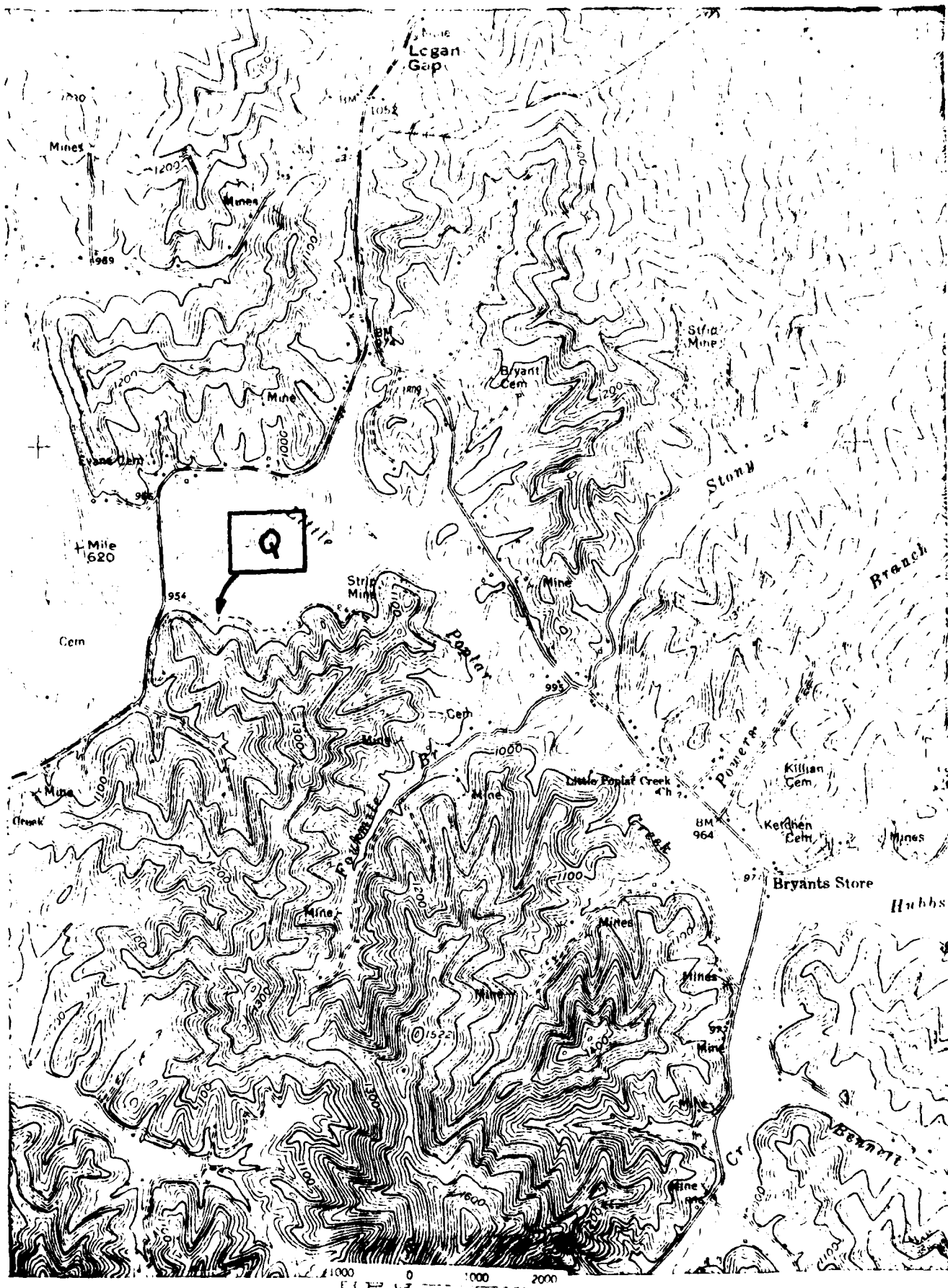


Figure 30. Disposal Site Q, Barbourville, KY 7.5' (1974)

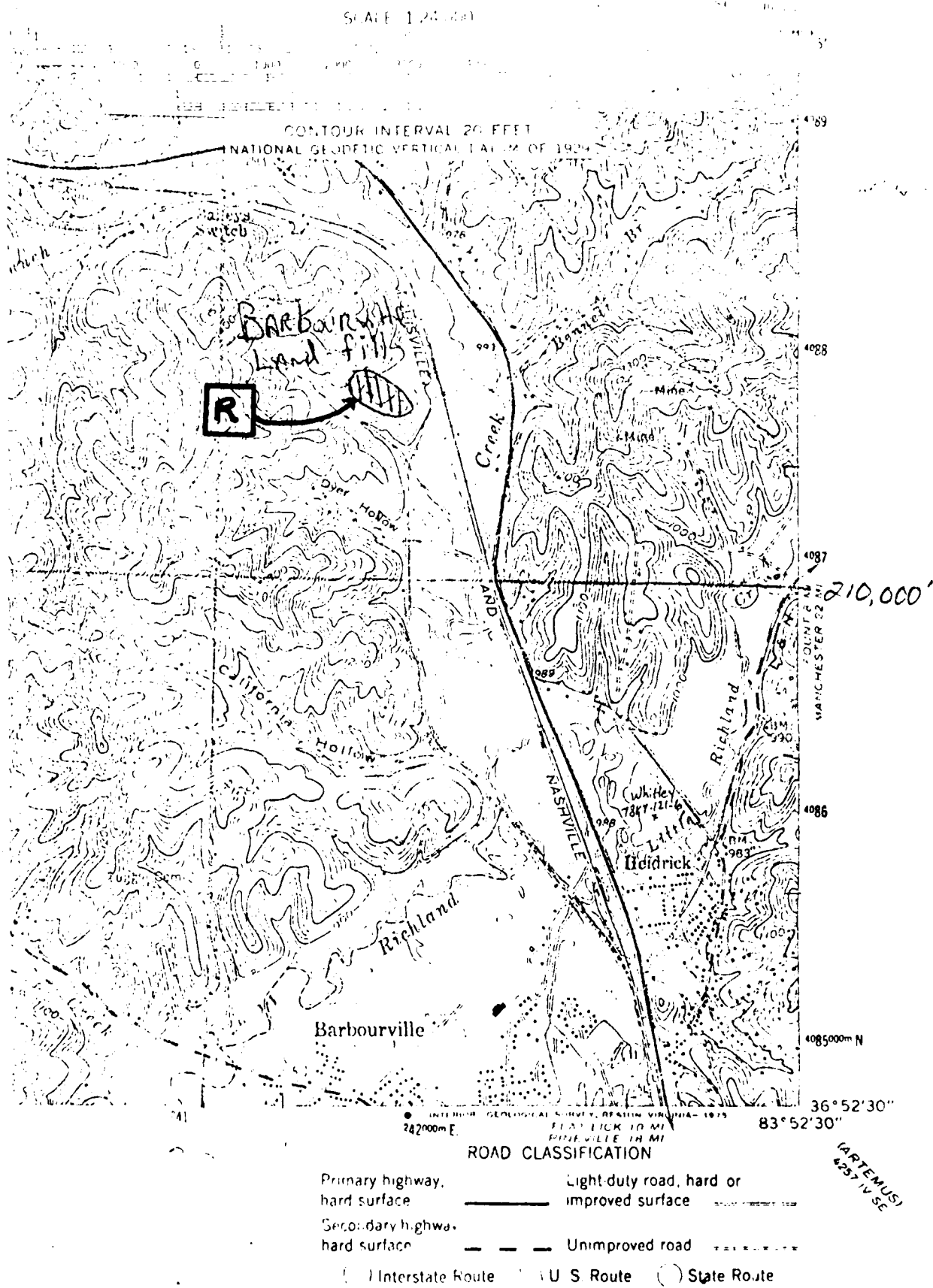


Figure 31.

HEIDRICK, KY.

NW/4 BARBOURVILLE 15 QUADRANGLE
N3652 5—W8352 5/7.5

1974

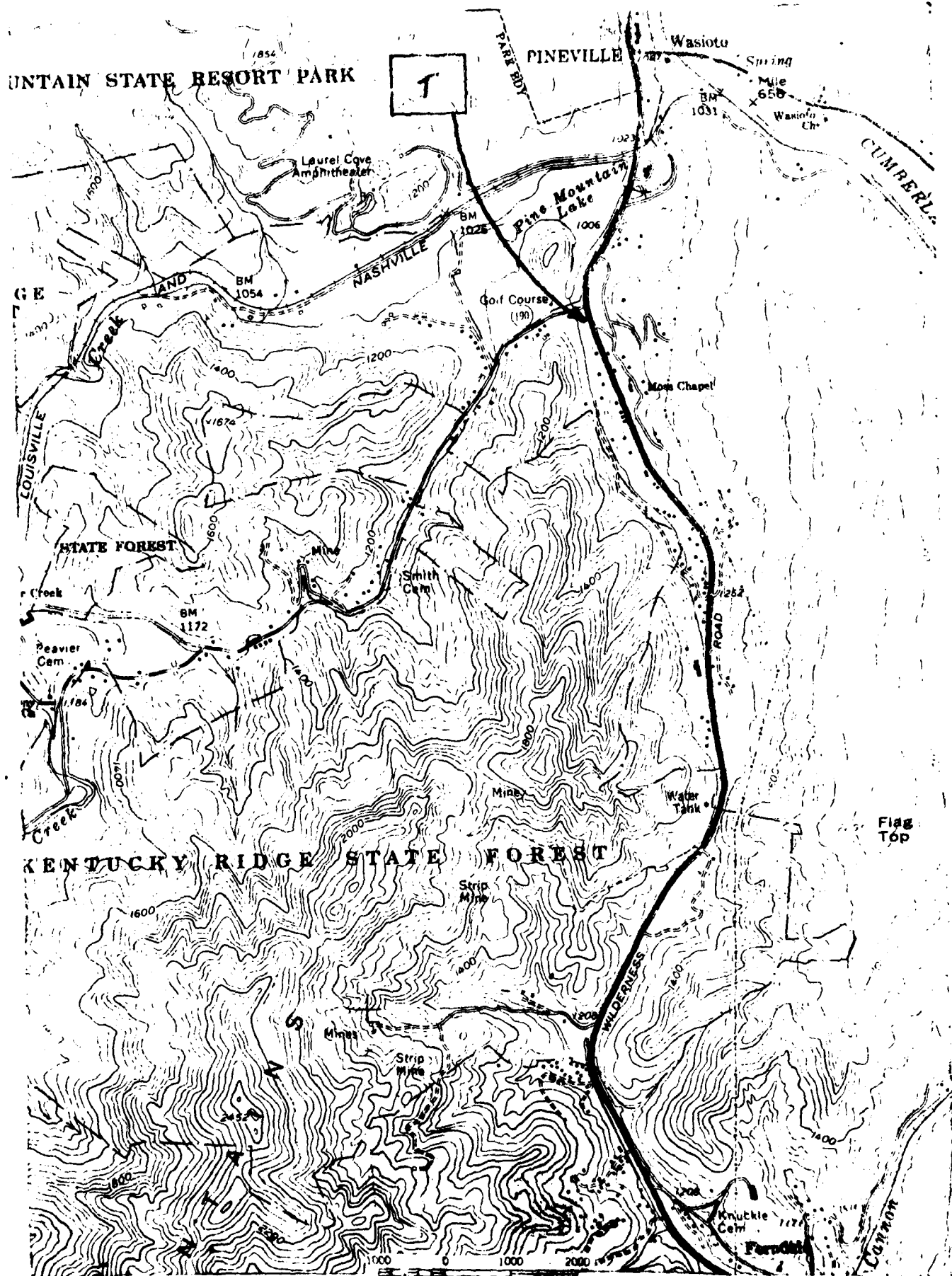


Figure 32. Disposal Site T, Middleboro North, KY 7.5' (1974)

DEPARTMENT OF
GEOLOGICAL SURVEY

SCALE 1:24,000

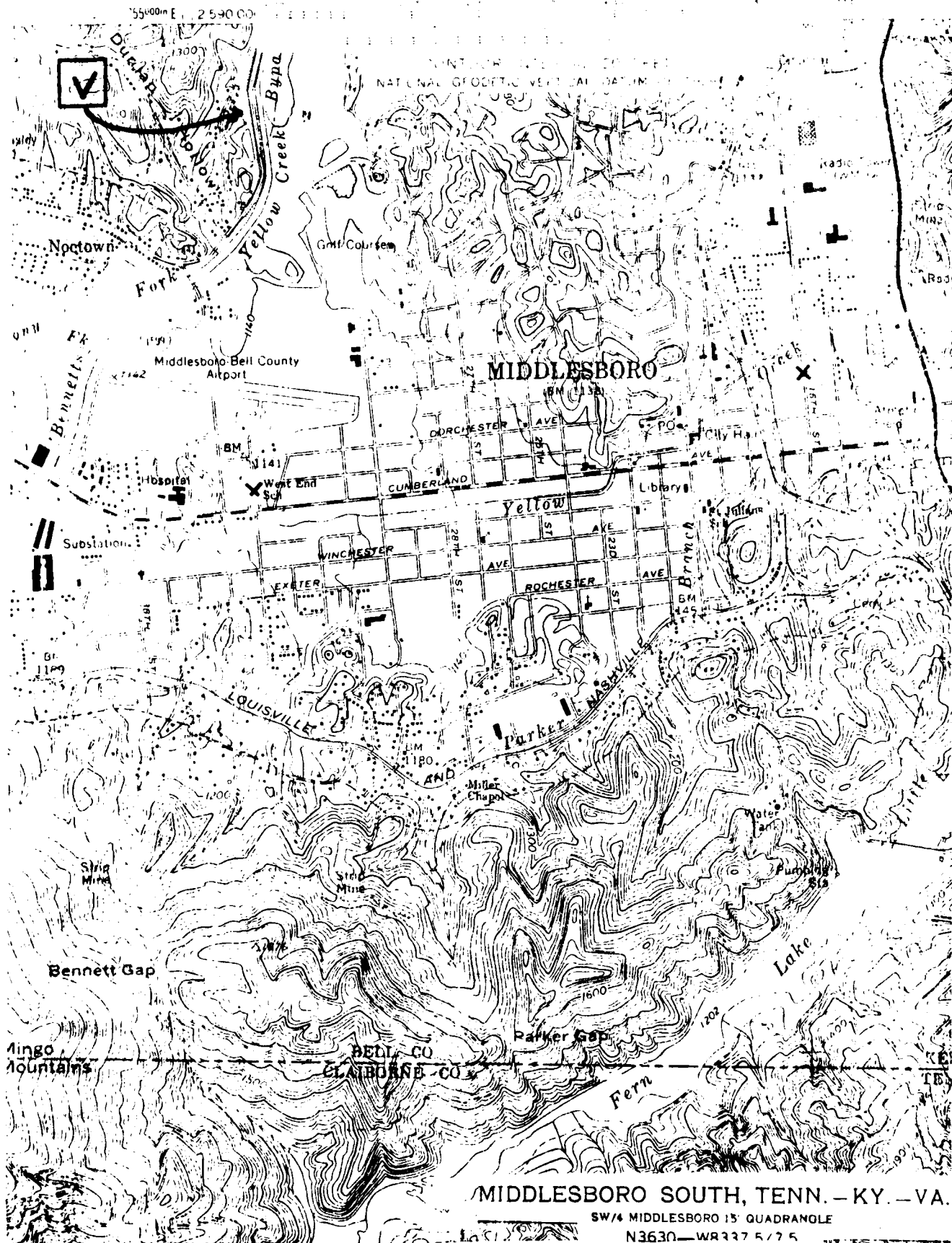
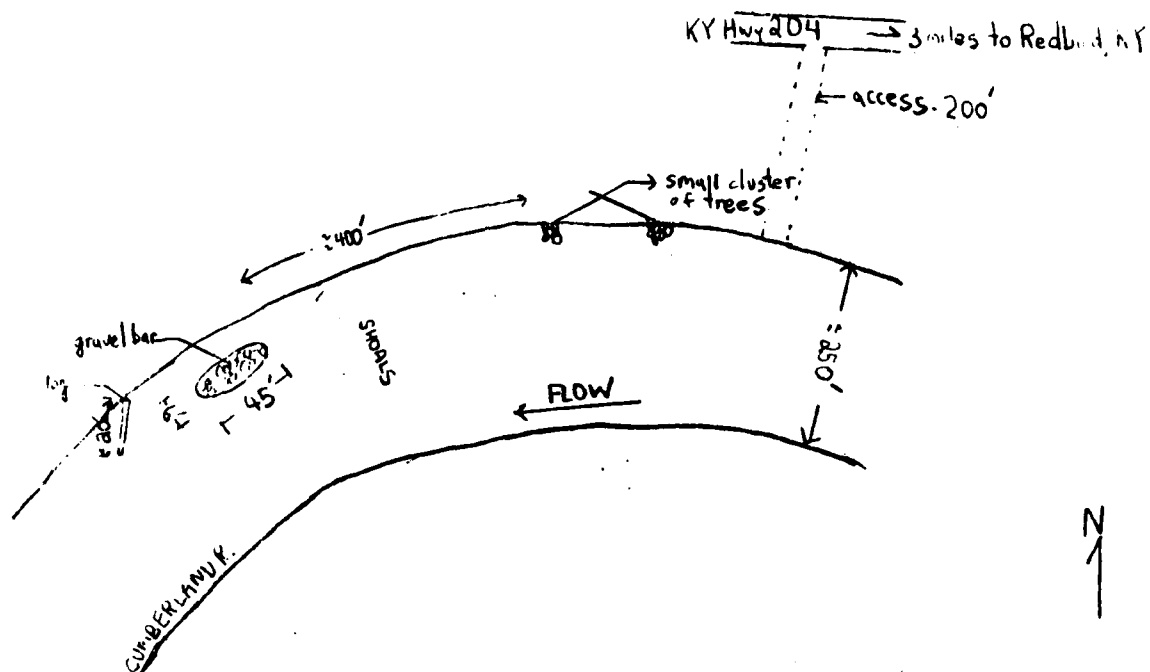


Figure 33. Disposal Site V, Middlesboro South, TN-KY-VA 7.5' (1974)

SITE 1

Mile 576.1

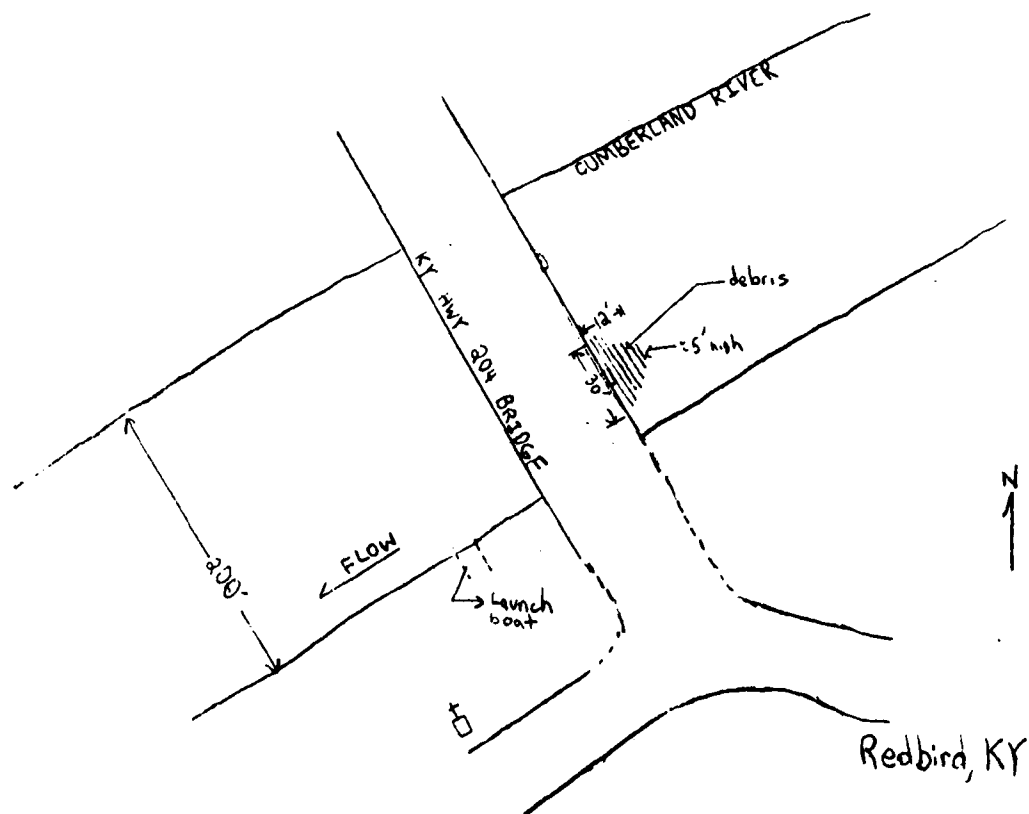


ACTION :- SNAG & CLEAR VEGETATION ON BAR AND
IN CLUSTERS
- PILE AND burn on bar

Oct. 79
NOT TO SCALE

Figure 34

SITE 2
MILE 578.5

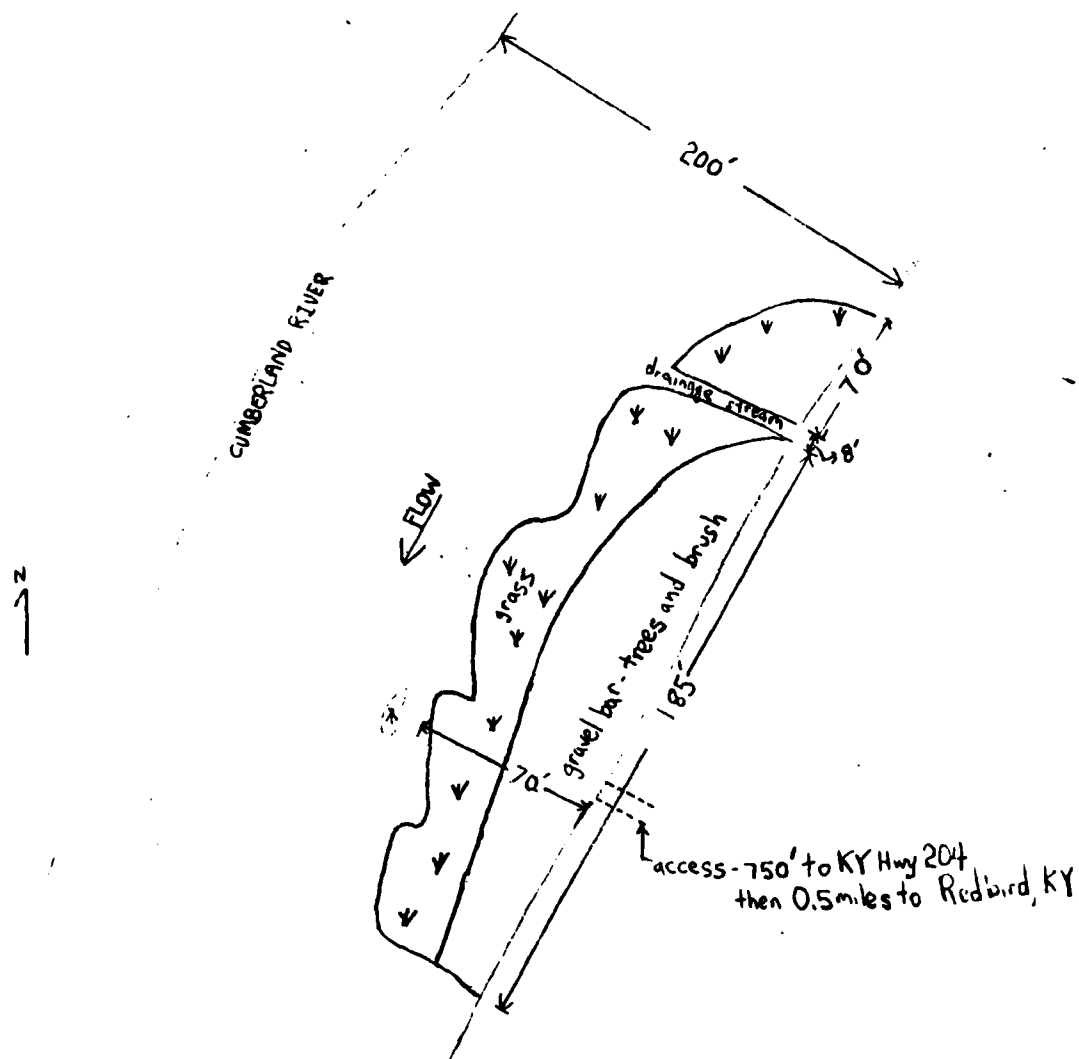


ACTION :- FREE DEBRIS & FLOAT TO SITE 1 TO BE BURNED

OCT. 79
NOT TO SCALE

Figure 35

SITE 3
MILE 578.9

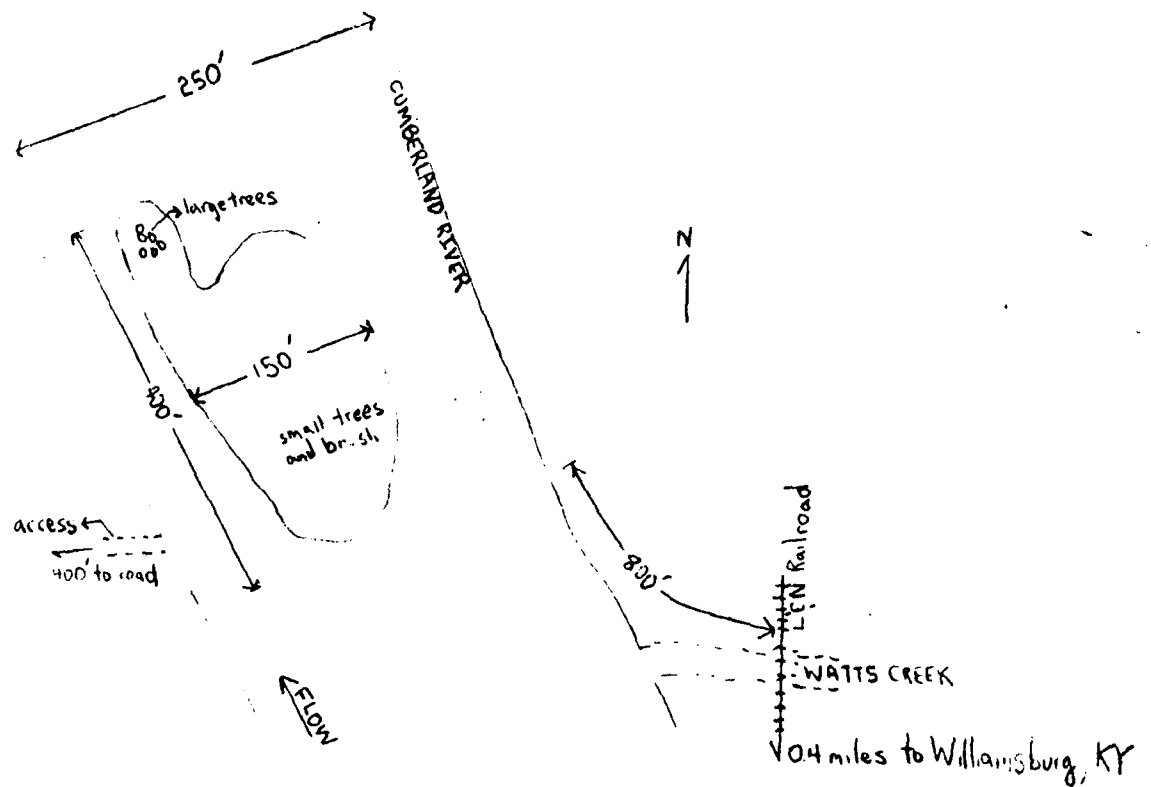


ACTION: - CUT, PILE, AND BURN VEGETATION ON BAR
HAUL NON-BURNABLE DEBRIS TO DISPOSAL AREA

OCT. 79
NOT TO SCALE

Figure 36

SITE 4
MILE 587.9

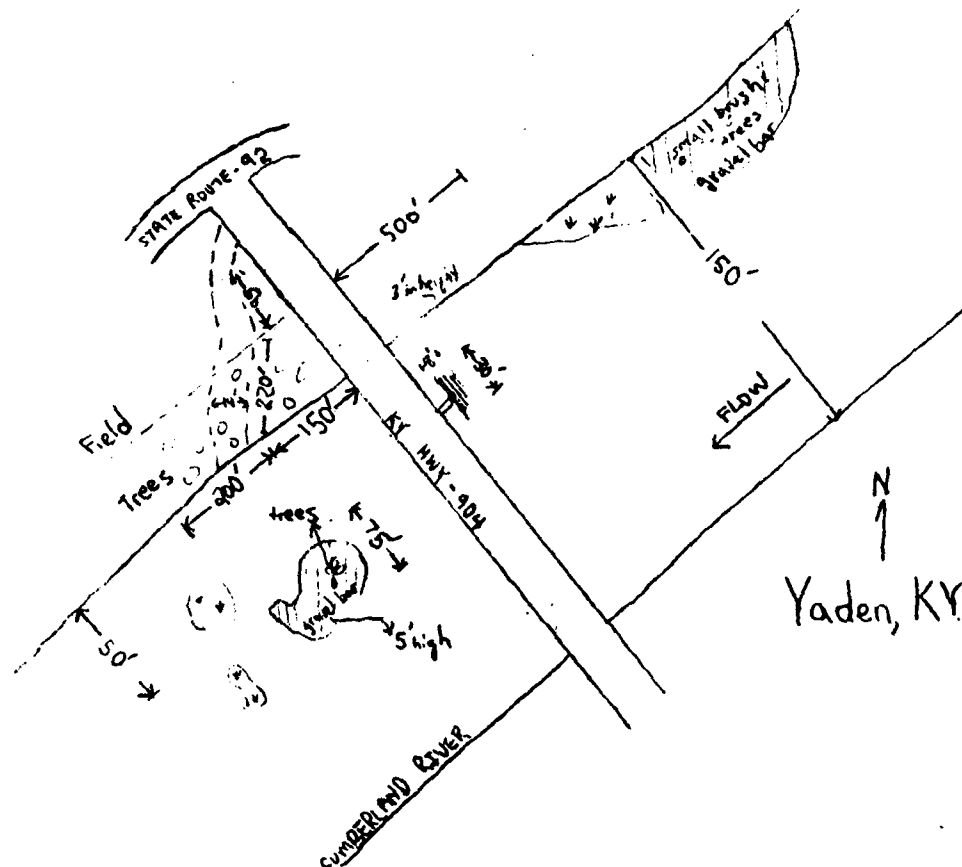


ACTION: CUT. PILE AND BURN VEGETATION ON BAR

OCT. 79
NOT TO SCALE

Figure 37

SITE 5
MILE 600.4

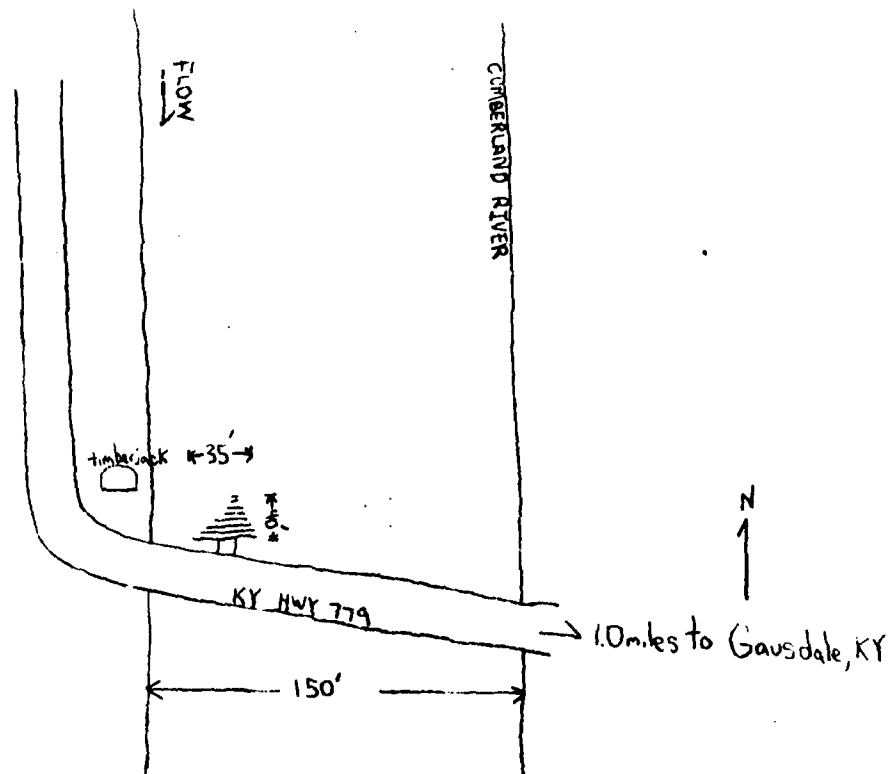


ACTION: CUT, PILE, BURN VEGETATION ON UPSTREAM BAR
 FREE DEBRIS FROM PIER AND FLOAT TO DOWNSTREAM BAR FOR REMOVAL
 DOWNSTREAM BAR - BURN VEGETATION ON BAR, EXCAVATE BAR (2800 cu. yds)
 CONSTRUCT ACCESS ROAD, AND HAUL TO DISPOSAL AREA

DCT. 79
 NOT TO SCALE

Figure 38

SITE 6
MILE 616.9

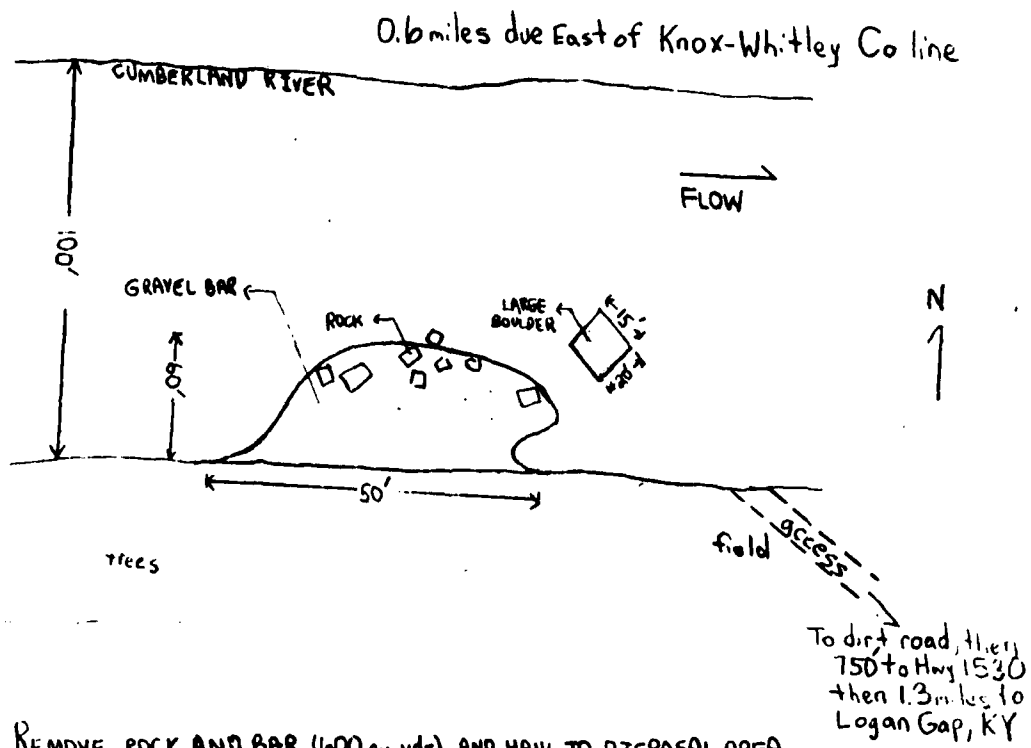


ACTION: PULL DEBRIS FROM PIER TO BANK AND HAUL TO DISPOSAL AREA

DET. 79
NOT TO SCALE

Figure 39

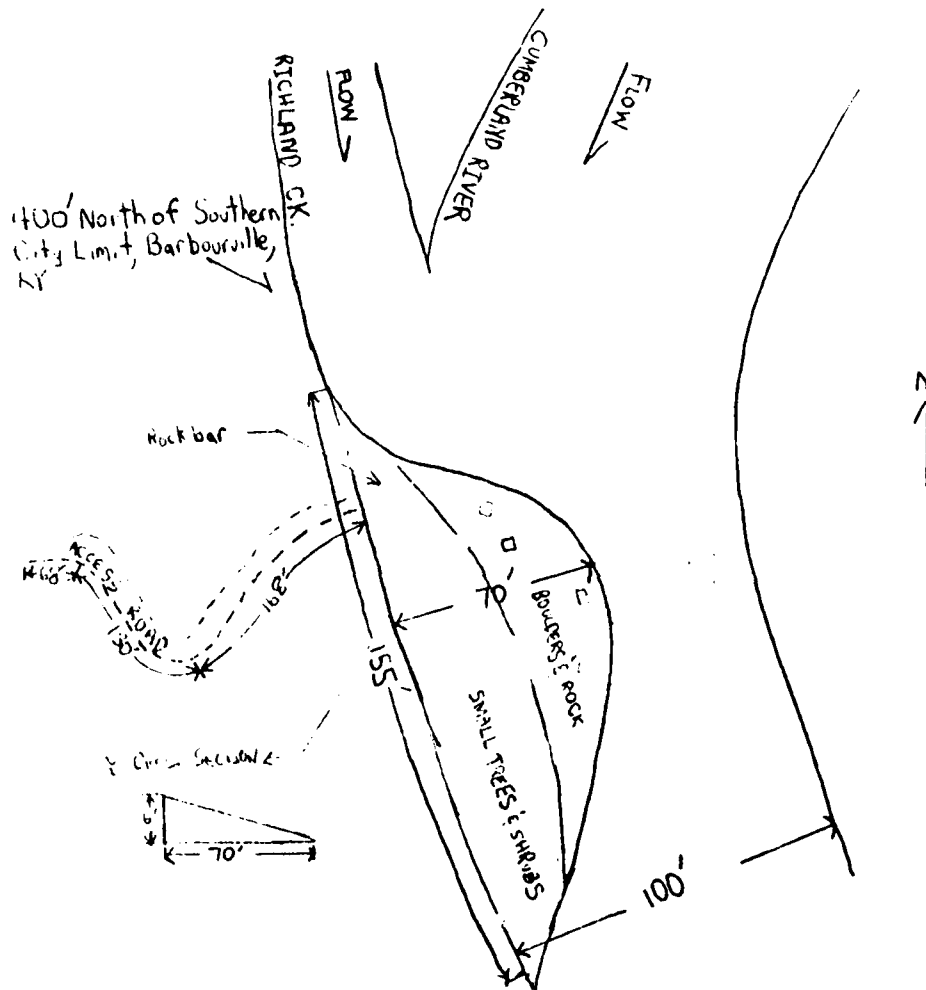
SITE 7
MILE 621.2



Oct. 79
NOT TO SCALE

Figure 40

SITE 8
MILE 634.8



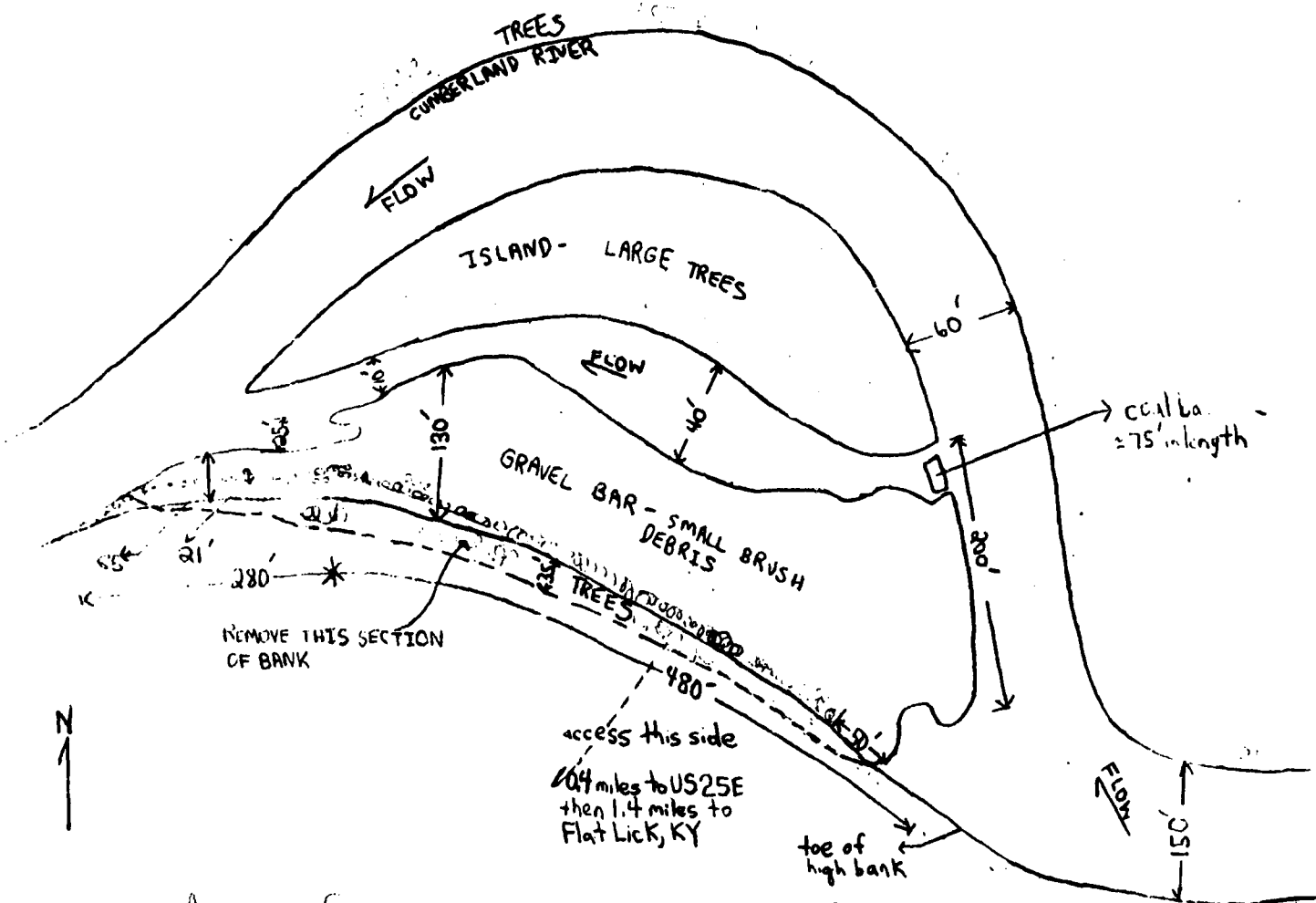
ACTION :- CUT PILE & BURN VEGETATION ON BAR
REMOVE ROCK BAR (1300 cu. yds) AND HAUL TO DISPOSAL AREA

OCT. 79
NOT TO SCALE

Figure 41

SITE 9
MILE 647.6

LEN Railroad

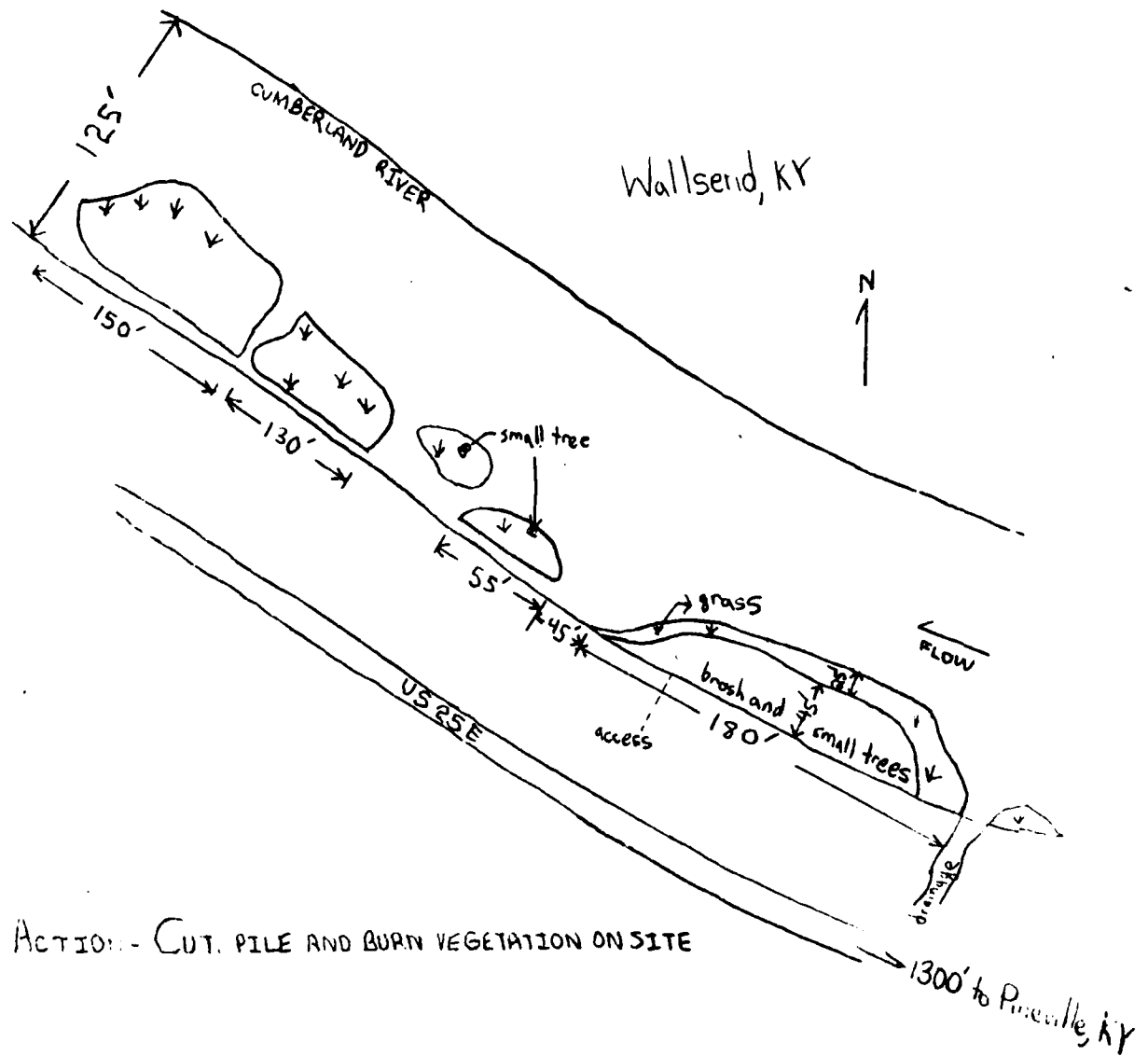


ACTION: - CLEAR VEGETATION ON GRAVEL BAR TO HIGH BANK
TOE ON LEFT BANK AND BURN ON SITE
- WALK IN EQUIPMENT, PICK UP DEBRIS, REMOVE GRAVEL BAR
AND SECTION OF LEFT BANK (11,200 cu yds), HAUL TO DISPOSAL AREA

OCT. 79
NOT TO SCALE

Figure 42

SITE 10
MILE 653.3

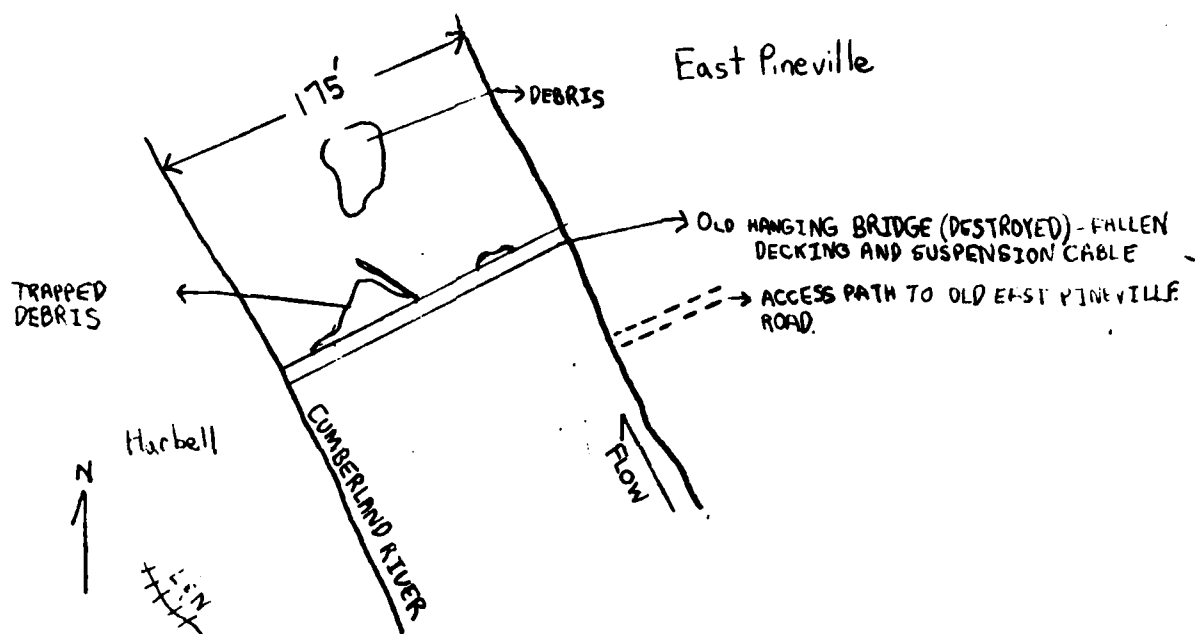


ACTION: - CUT, PILE AND BURN VEGETATION ON SITE

OCT. 79
NOT TO SCALE

Figure 43

SITE 11
MILE 657.4

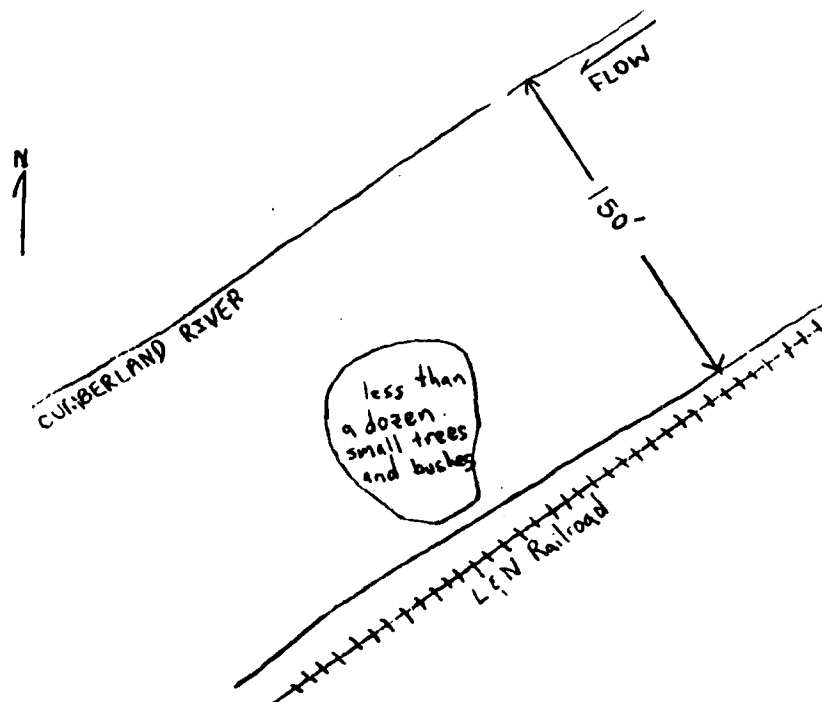


ACTION : REMOVE BRIDGE, COLLECT DEBRIS ON RIGHT BANK AND HAUL TO DUMP

OCT. 79
NOT TO SCALE

Figure 44

SITE 12
MILE 658.4

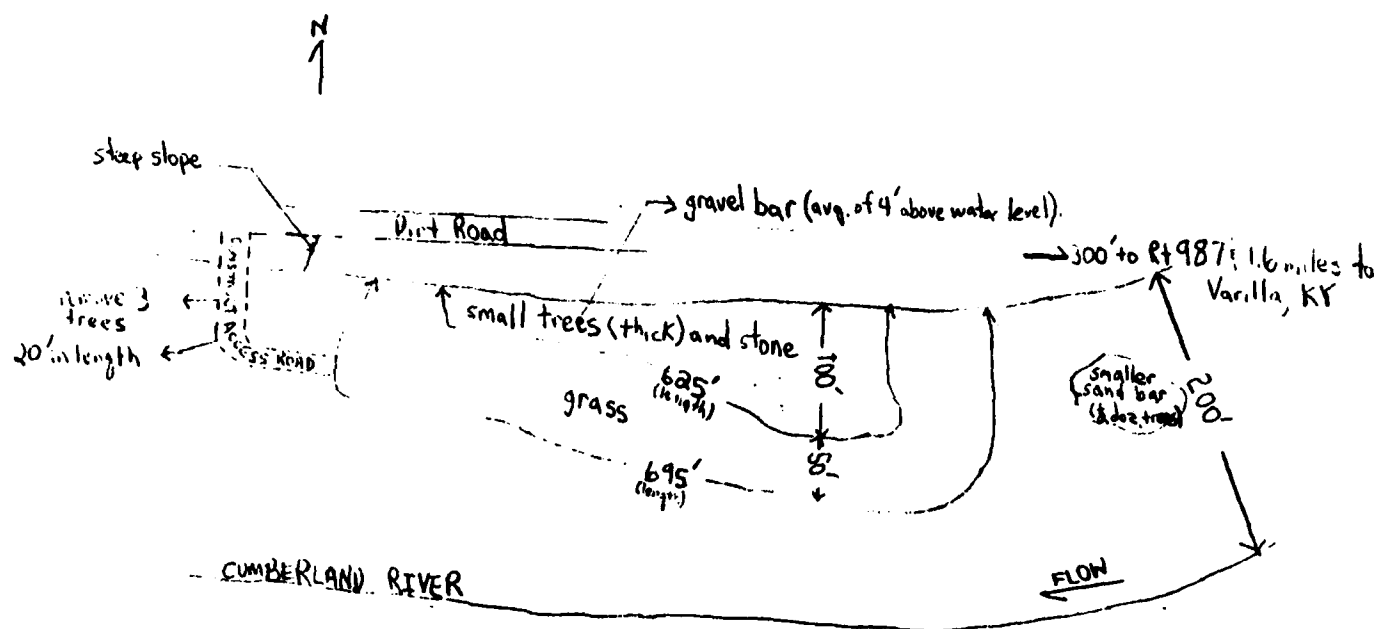


ACTION . ENTER BY BOAT FROM SITE 11.
REMOVE VEGETATION AND FLOAT TO SITE 11 (1.0 miles)

OCT 79
NOT TO SCALE

Figure 45

SITE 13
MILE 664.3

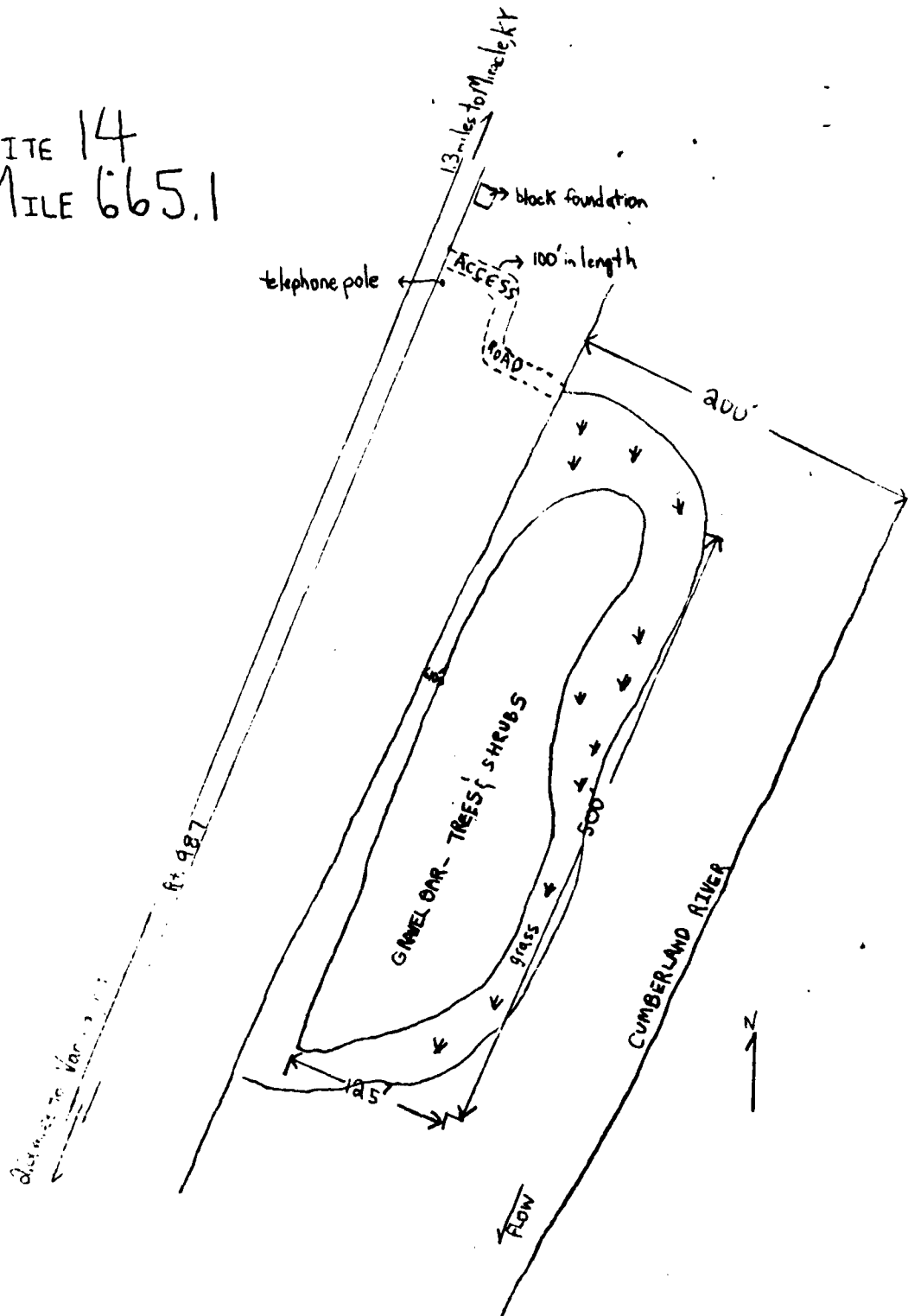


- ACTION:
- CUT, PILE AND BURN VEGETATION ON SITE.
 - CONSTRUCT ACCESS ROAD. REMOVE BAR (9300 cu yds) AND HAUL TO MAJOR DISPOSAL AREA (6 miles)

OCT. 79
NOT TO SCALE

Figure 46

SITE 14
MILE 665.1

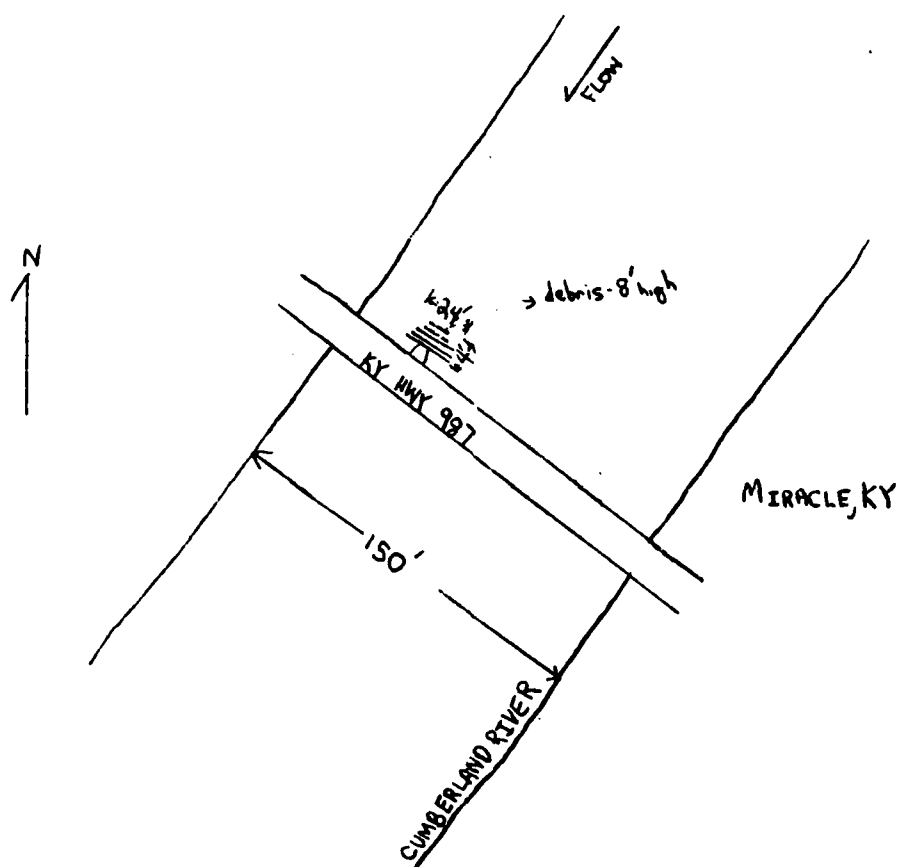


ACTION - CUT, PILE, & BURN VEGETATION
ON BAR
CONSTRUCT ACCESS ROAD, REMOVE
BAR (9300 yds) AND HAUL TO MAJOR
DISPOSAL AREA (5 MILES)

OCT. 79
NOT TO SCALE

Figure 47

SITE 15
MILE 667.0

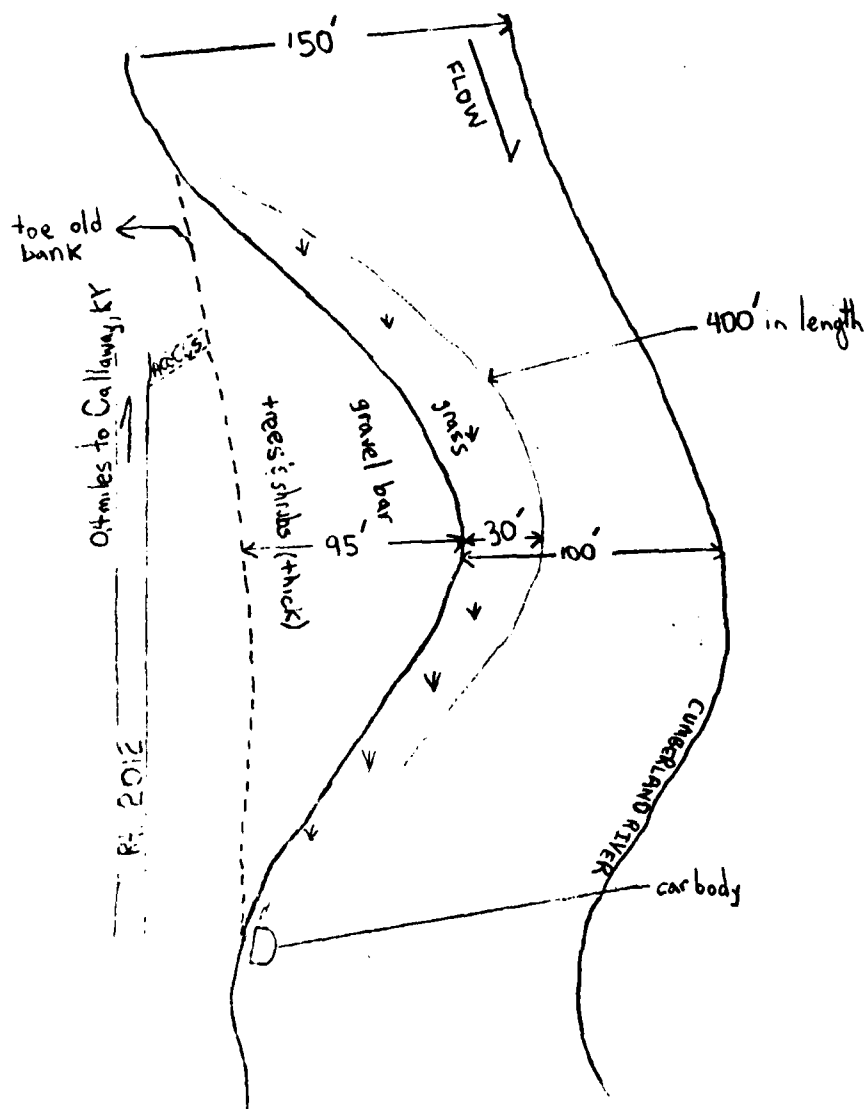


ACTION - FREE DEBRIS FROM PIER AND FLOAT TO
SITE 14 FOR REMOVAL

OCT. 79
NOT TO SCALE

Figure 48

SITE 16
MILE 671.4



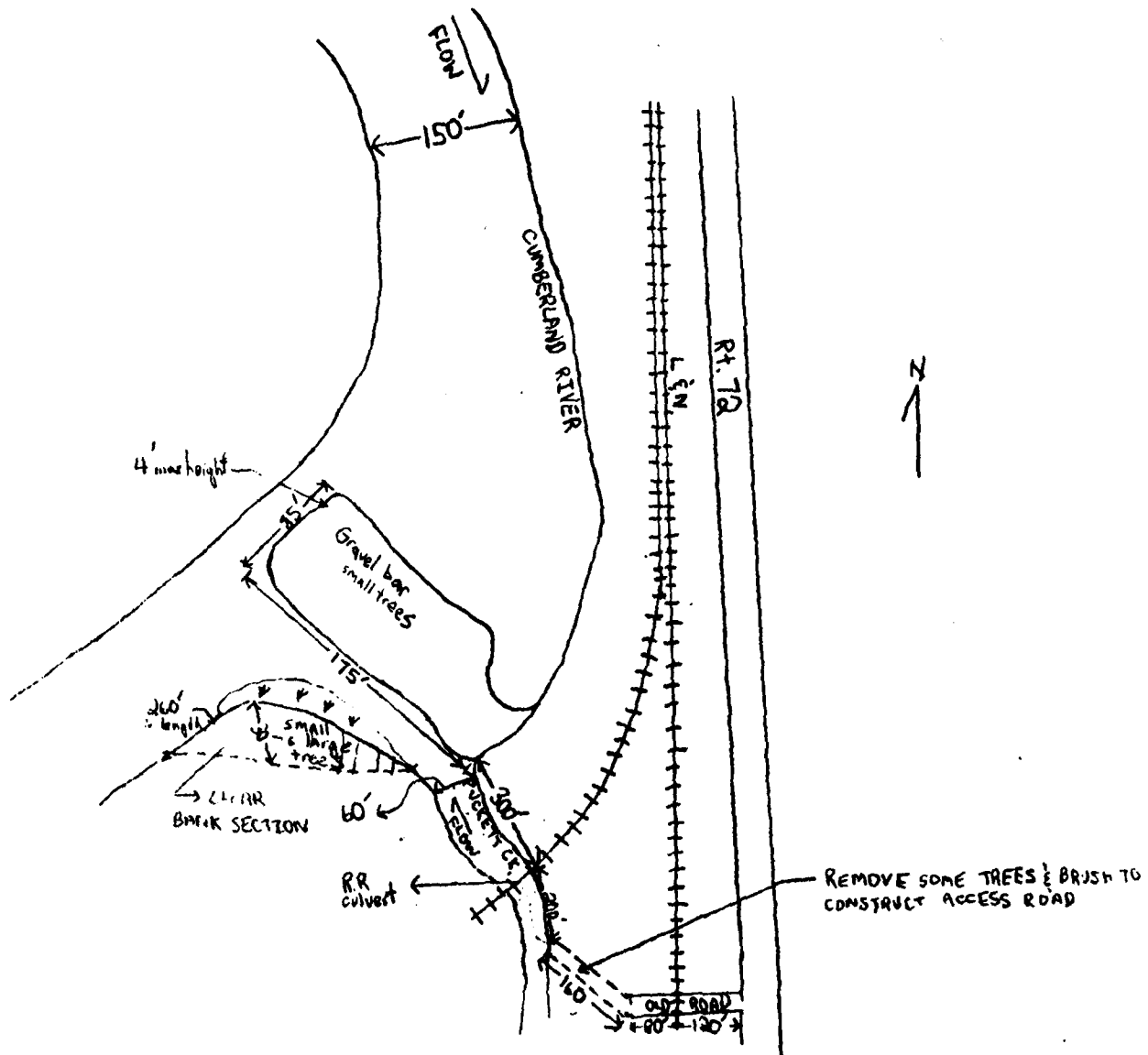
ACTION : - CUT PILE & BURN VEGETATION ON BAR
- REMOVE CAR BODY & DEBRIS AND HAUL TO DUMP

OCT. 79
NOT TO SCALE

Figure 49

SITE 17
MILE 674.9

HULEN, KY

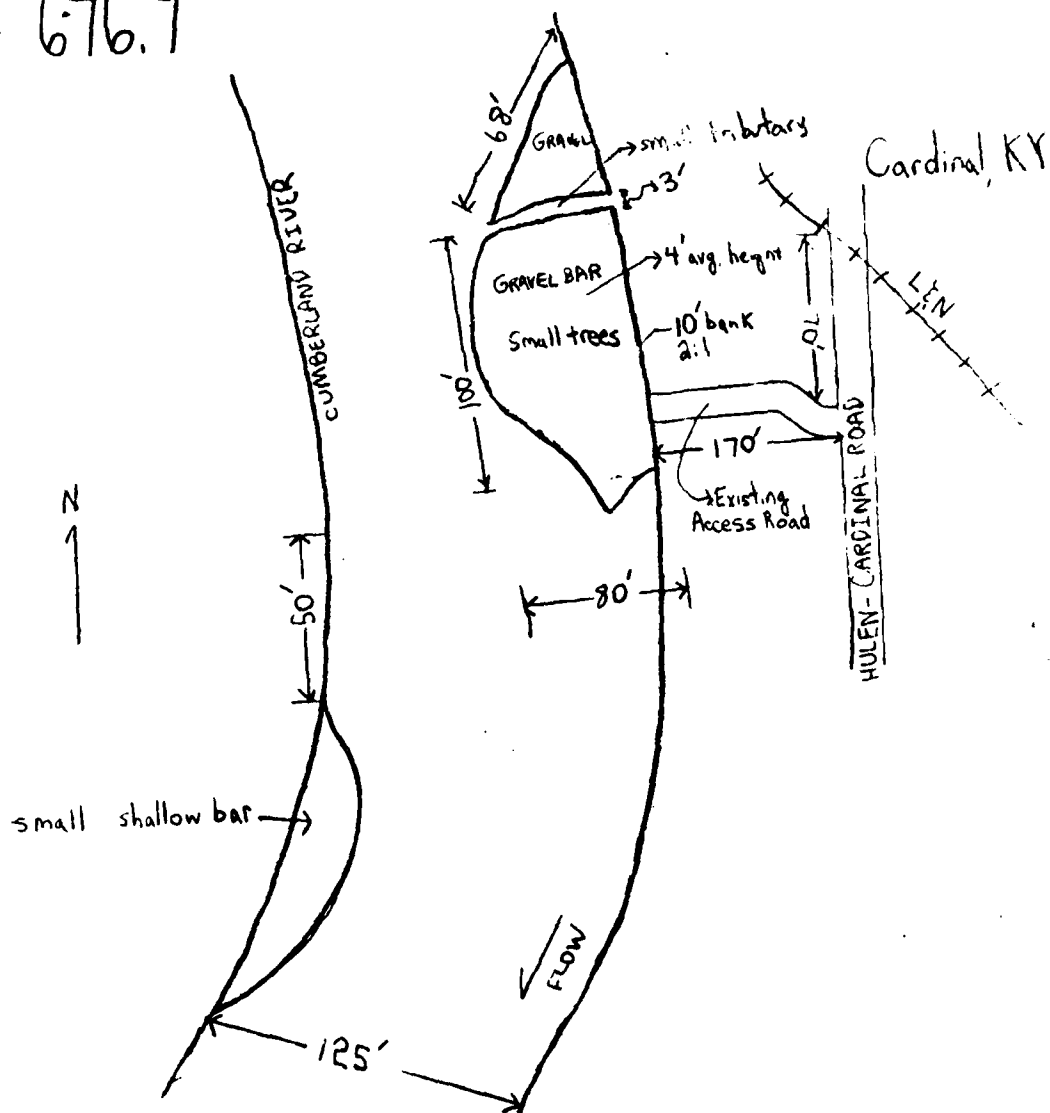


ACTION: CUT, PILE & BURN VEGETATION ON GRAVEL BAR
AND INDICATED BANK SECTION
- CONSTRUCT ACCESS ROAD. (ROAD GOES THRU R.R. CULVERT),
REMOVE GRAVEL BAR (2200 wds) AND HAUL TO MAJOR DISPOSAL AREA (1 MILE)

OCT. 79
NOT TO SCALE

Figure 50

SITE 18
MILE 676.7

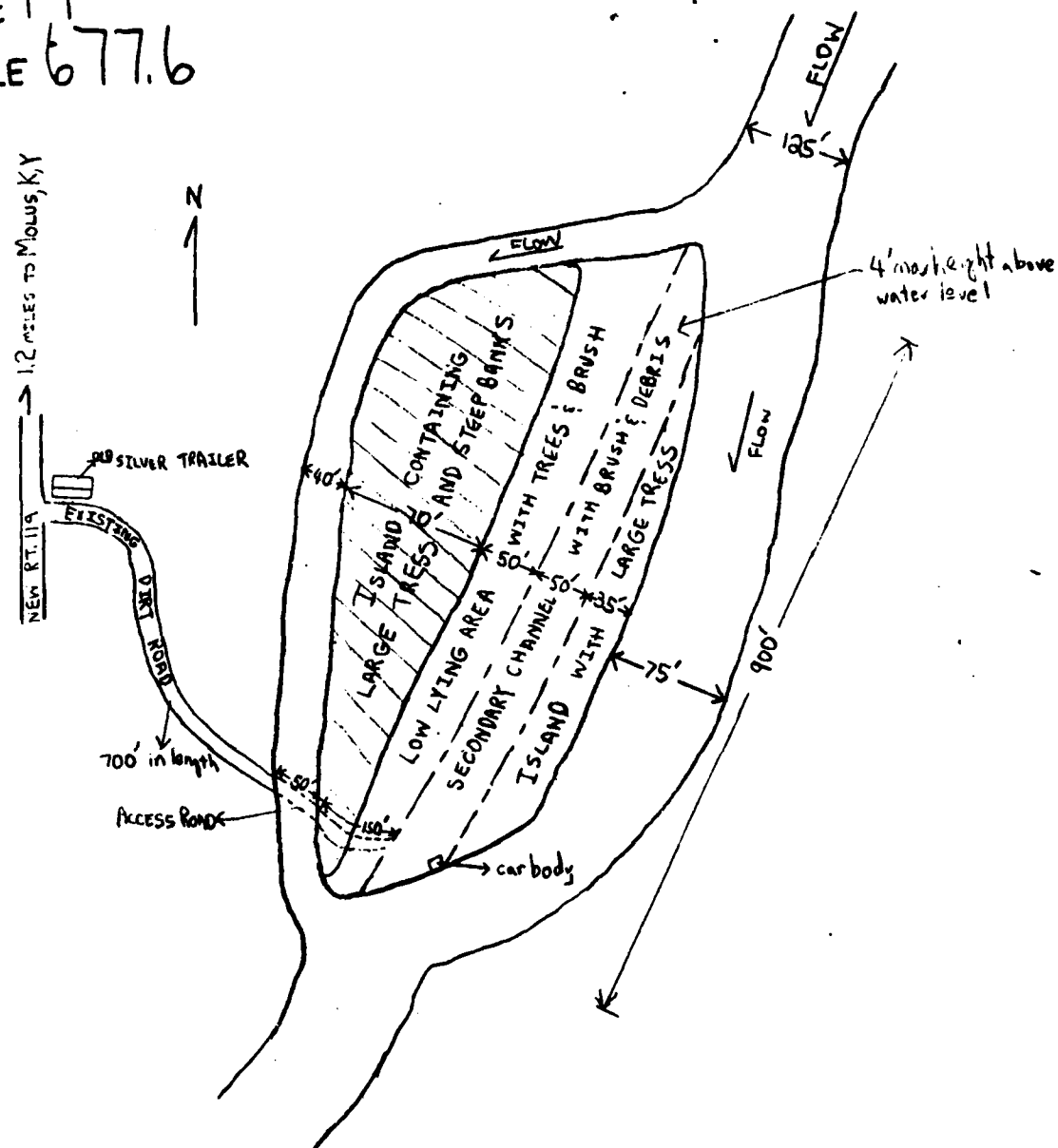


ACTION - NO ACTION ON DOWNSTREAM BAR.
CUT PILE AND BURN VEGETATION ON UPSTREAM BAR, REMOVE
BAR (2500-yds) AND HAUL TO MAJOR DISPOSAL AREA (1.2 m.ks)

Oct 79
NOT TO SCALE

Figure 51

SITE 19
MILE 677.6

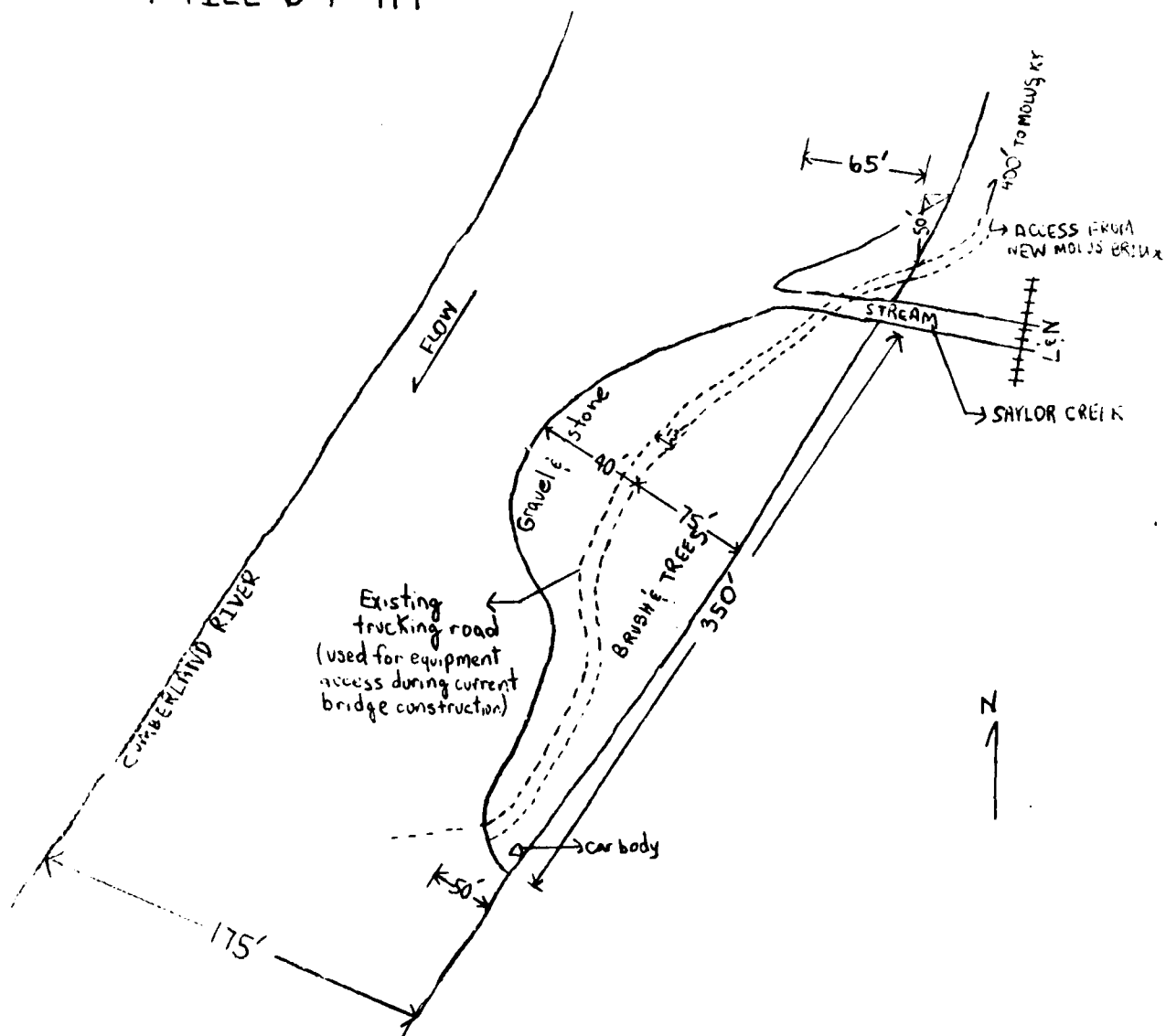


ACTION: - CUT, PILE AND BURN VEGETATION ON BAR EXCEPT
LARGE ISLAND AT RIGHT BANK
CONSTRUCT ACCESS ROAD, EXCAVATE SECONDARY CHANNEL (6700 cu yds)
COLLECT DEBRIS, AND HAUL TO MAJOR DISPOSAL AREA (1.3 MILES)

OCT 79
NOT TO SCALE

Figure 52

SITE 20
MILE 679.1

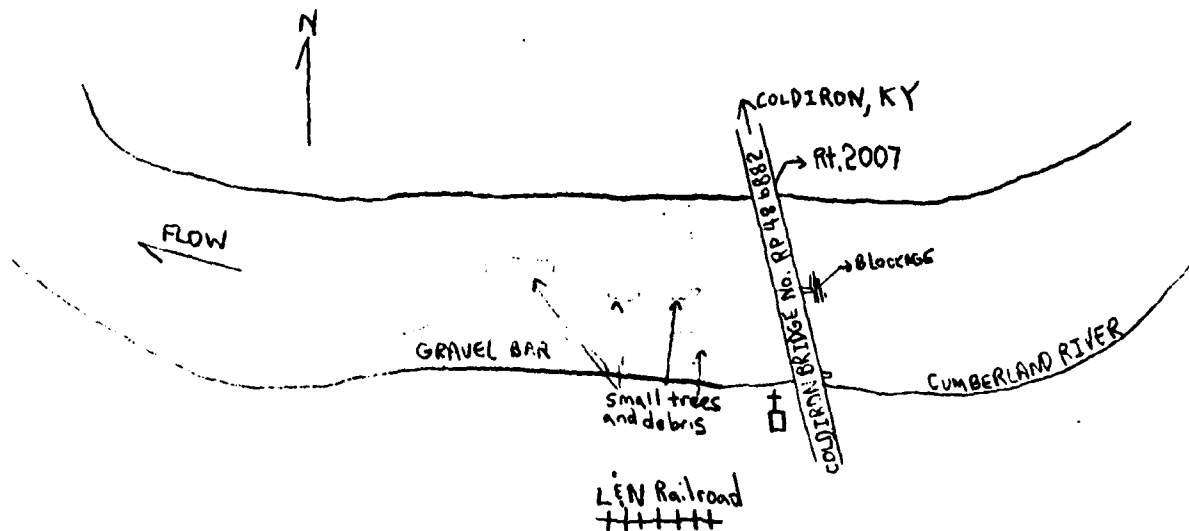


ACTION: - CUT, PILE, AND BURN VEGETATION ON BAR
REMOVE BAR (SIC) AND HAUL TO MAJOR DISPOSAL AREA (3 MILES)

OCT. 79
NOT TO SCALE

Figure 53

SITE 22
MILE 682.2

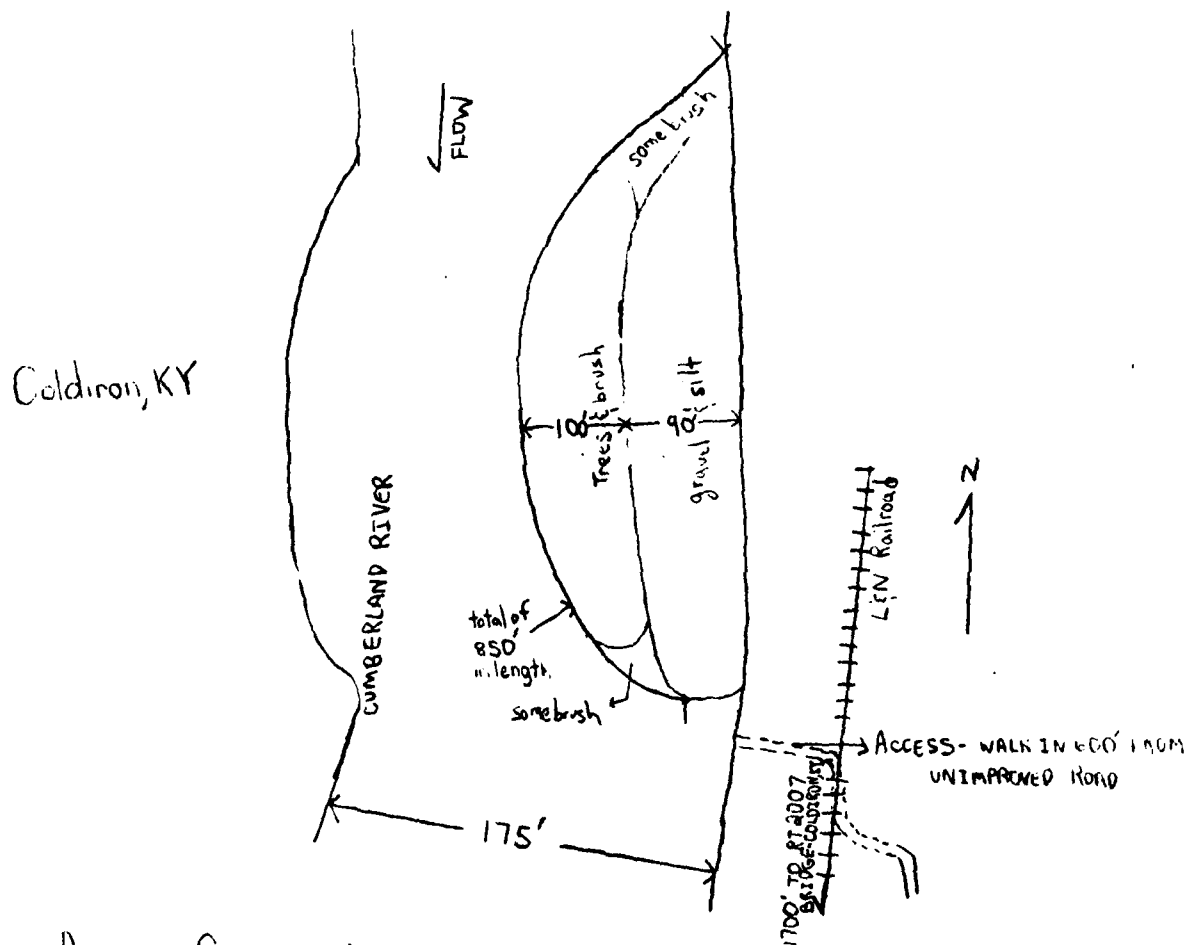


ACTION - CUT. PILE AND BURN VEGETATION ON BAR
FREE DEBRIS FROM PIER
COLLECT NON-COMBUSTIBLE MATERIAL AND HAUL TO DUMP

OCT. 79
NOT TO SCALE

Figure 54

SITE 23
MILE 682.7

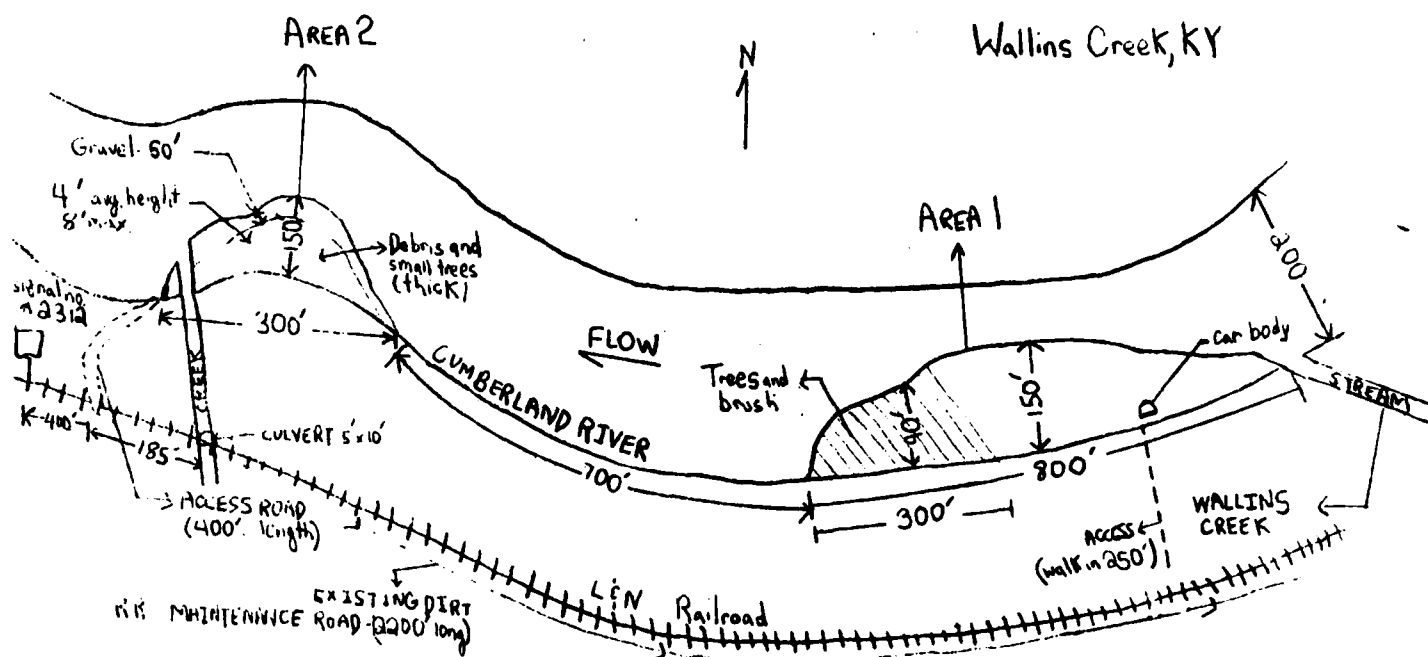


ACTION: - CUT, PILE & BURN VEGETATION ON BAR
CARRY DEBRIS OFF SITE AND HAUL TO DISPOSAL AREA

OCT 79
NOT TO SCALE

Figure 55

SITE 24
MILE 684.7



ACTION: AREA 1

CUT, PILE & BURN VEGETATION ON BAR
HAUL DEBRIS TO DISPOSAL AREA

AREA 2

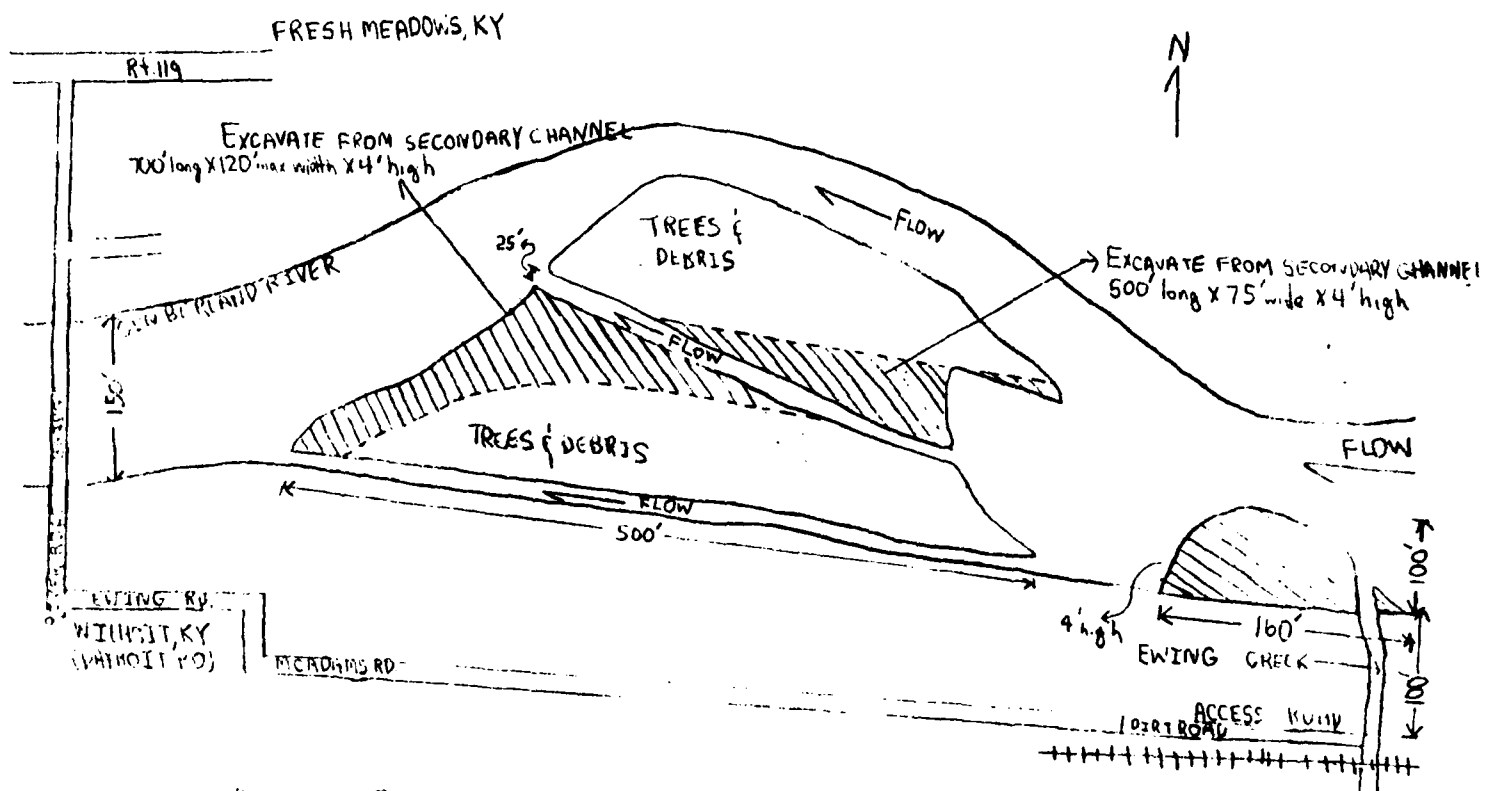
CUT, PILE & BURN VEGETATION ON BAR
CONSTRUCT ACCESS ROAD, REMOVE BAR (10,000 cu yds), AND
HAUL TO DISPOSAL AREA

NOTE: ACCESS MAY BE FROM RIGHT BANK
CONSTRUCTING LOW WATER BRIDGE

OCT. 79
NOT TO SCALE

Figure 56

SITE 25
MILE 689.1

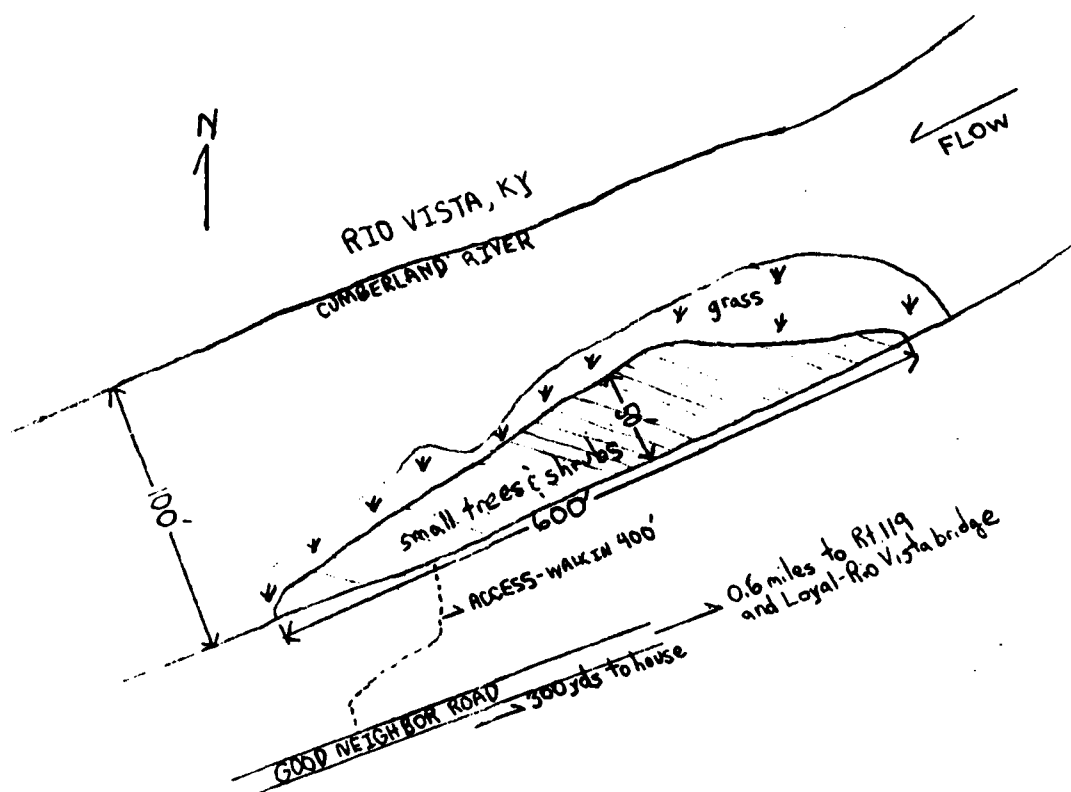


ACTION: CUT PILE AND BURN VEGETATION ON SITE (ISLANDS & BAR)
EXCAVATE SECONDARY CHANNEL (20,500 cu yds), REMOVE DOWNSTREAM CHANNEL
BAR (2400 cu yds), REMOVE DEBRIS AND HAUL TO DISPOSAL AREA

OCT 79
NOT TO SCALE

Figure 57

SITE 26
MILE 691.4

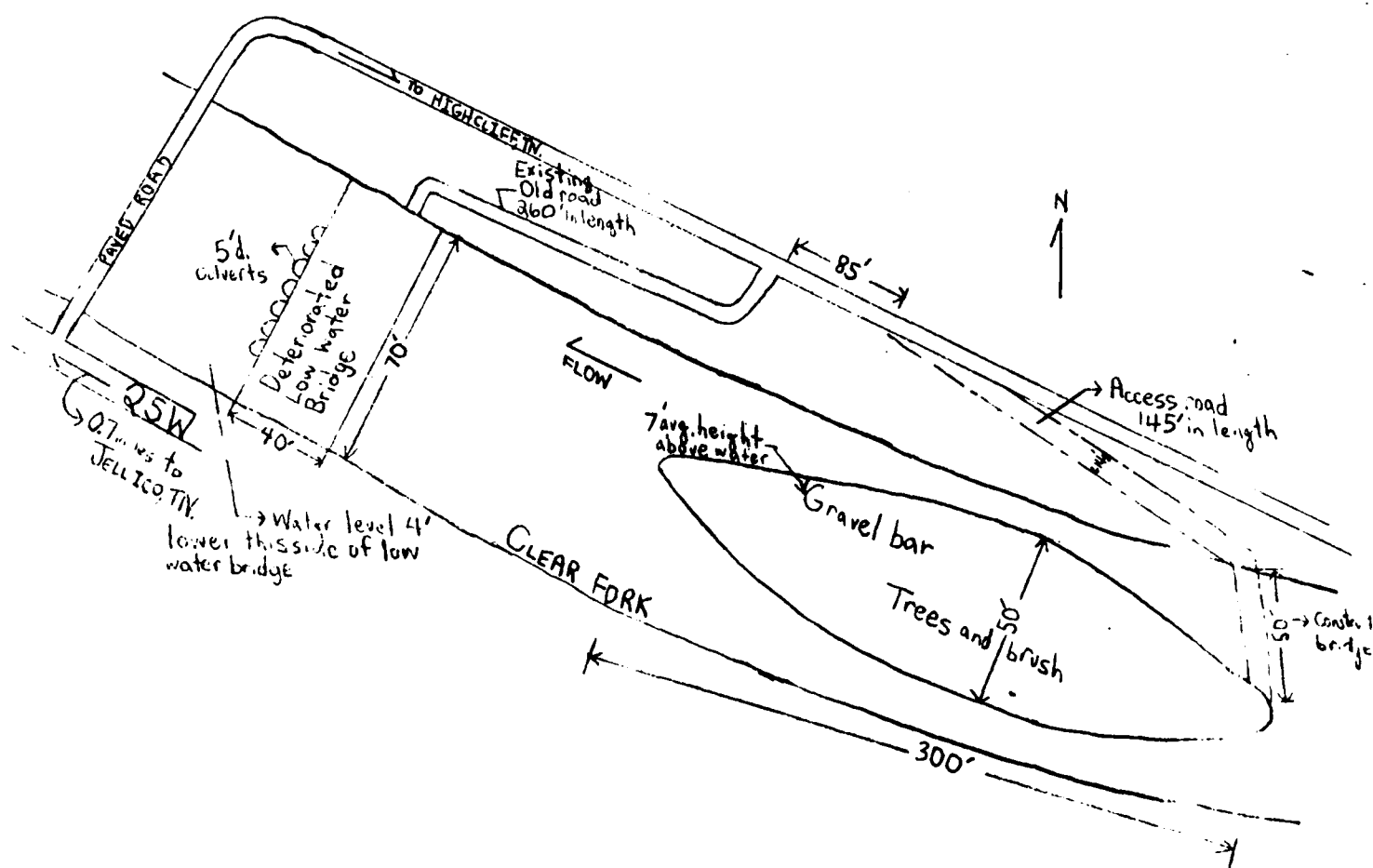


ACTION: CUT PILE, AND BURN VEGETATION ON BAR
CONSTRUCT ACCESS ROAD (400')
REMOVE BAR (4500 cu. yds.) AND HAUL TO DISPOSAL AREA

OCT. 79
NOT TO SCALE

Figure 58

SITE 28
MILE 24.0

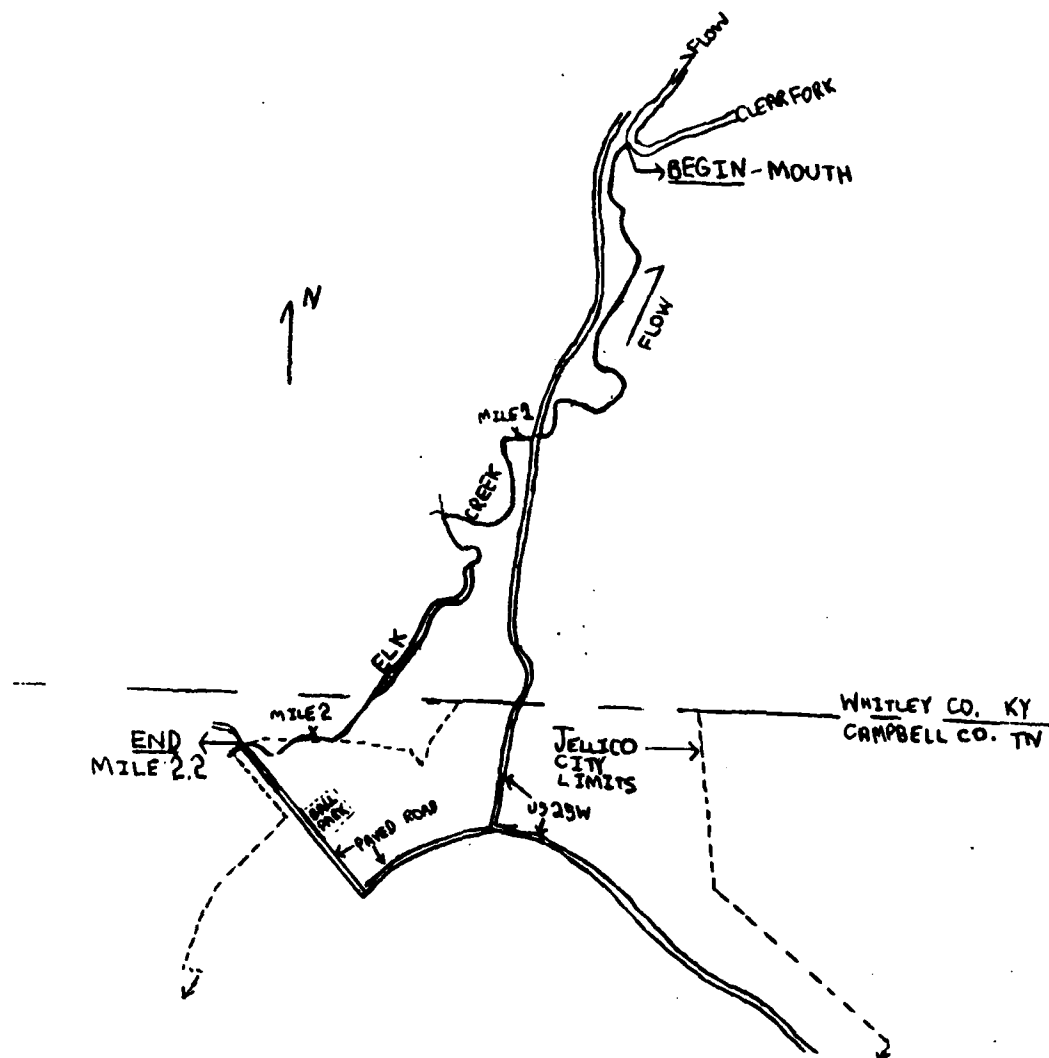


ACTION - CUT, PILE & BURN VEGETATION ON BAR.
CONSTRUCT ACCESS ROAD. REMOVE BRIDGE THEN BAR (4400 cu yds)
AND HAUL TO DISPOSAL AREA

OCT '79
NOT TO SCALE

Figure 59

SITE 29 MOUTH TO MILE 2.2

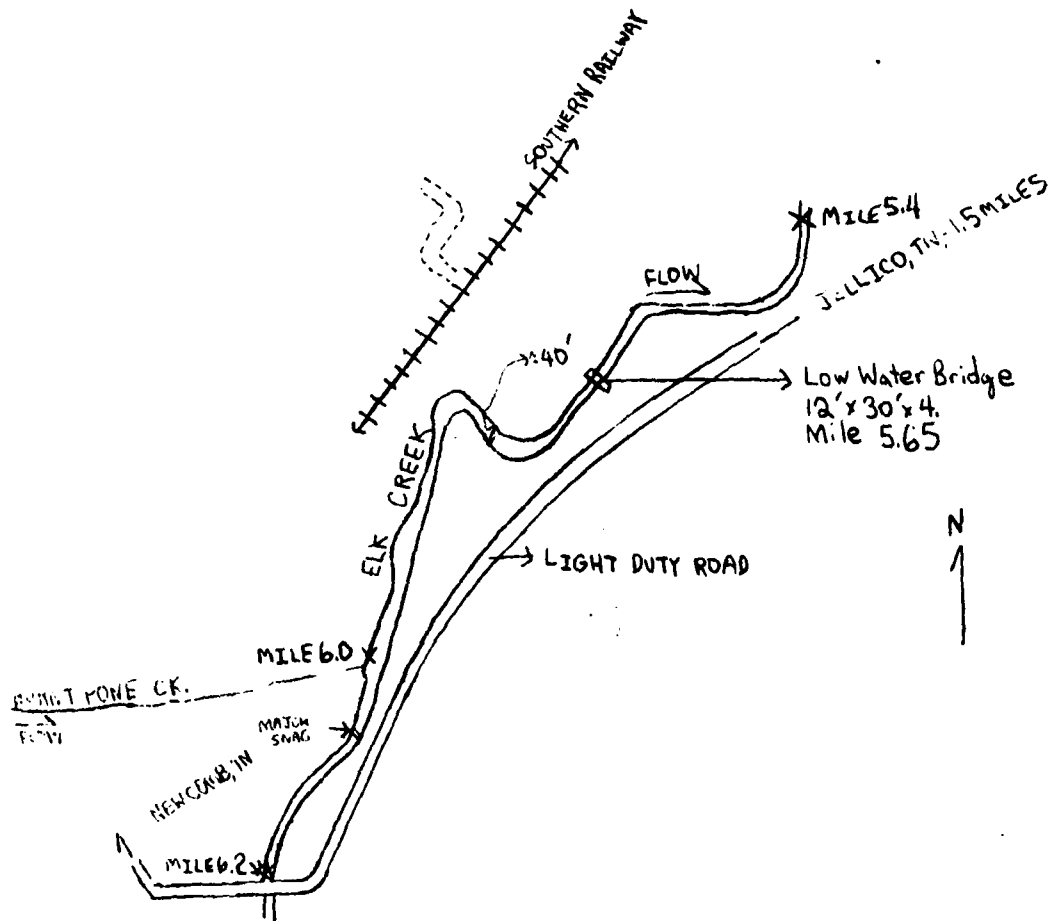


ACTION: - REMOVE SNAGS & DEBRIS FROM ELK CREEK
BURN COMBUSTIBLES AND HAUL REMAINING MATERIAL
TO DUMP

OCT 79
SCALE = 1:24,000

Figure 60

SITE 30 MILE 6.2 TO MILE 5.4

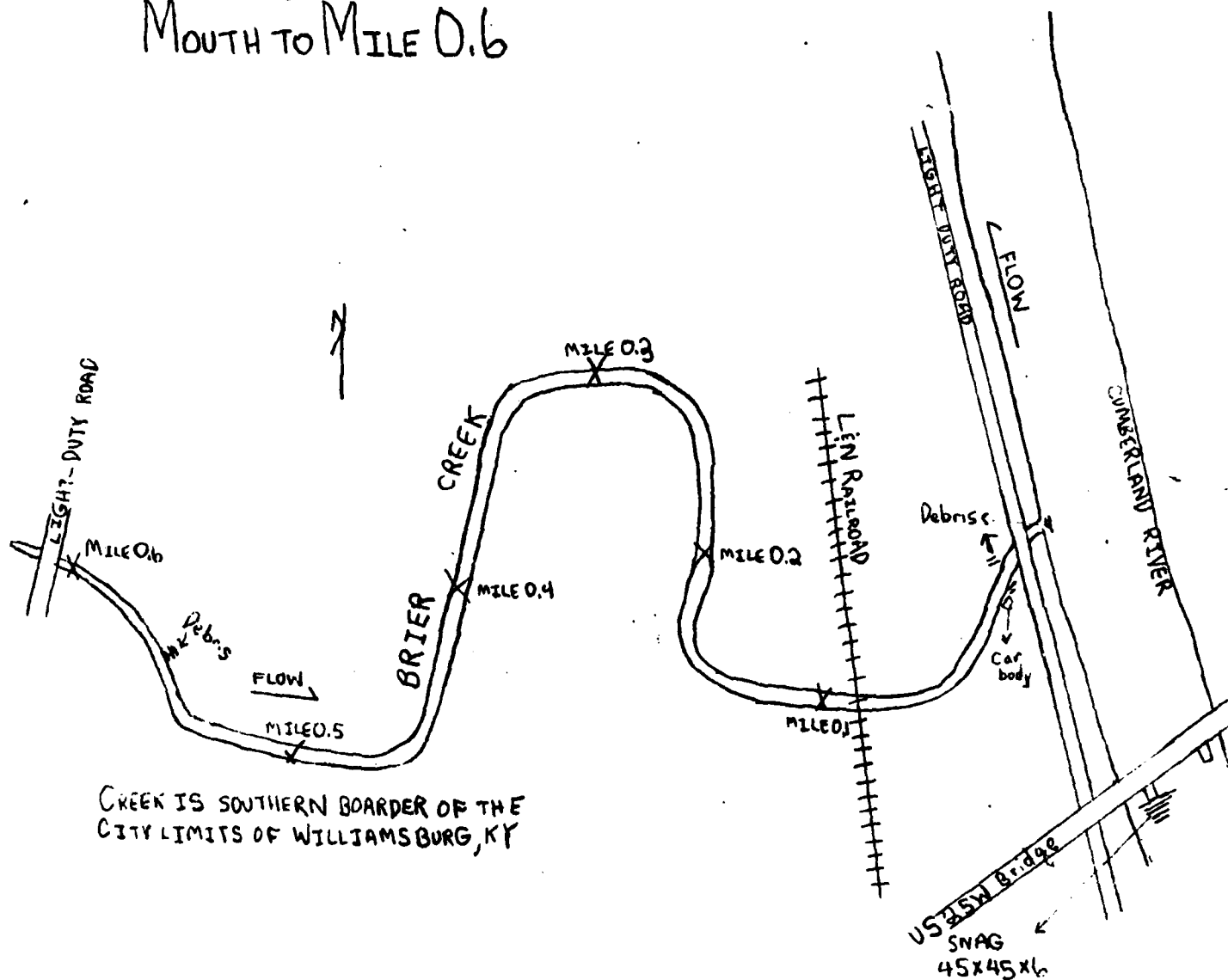


ACTION - REMOVE SNAG & DEBRIS FROM STREAM (MINUTE)
 REMOVE LOW WATER BRIDGE
 BURN COMBUSTIBLES AND HAUL REMAINING MATERIAL
 TO SITE 28 DISPOSAL AREA

OCT. 79
 NOT TO SCALE

Figure 61

SITE 31 MOUTH TO MILE 0.6



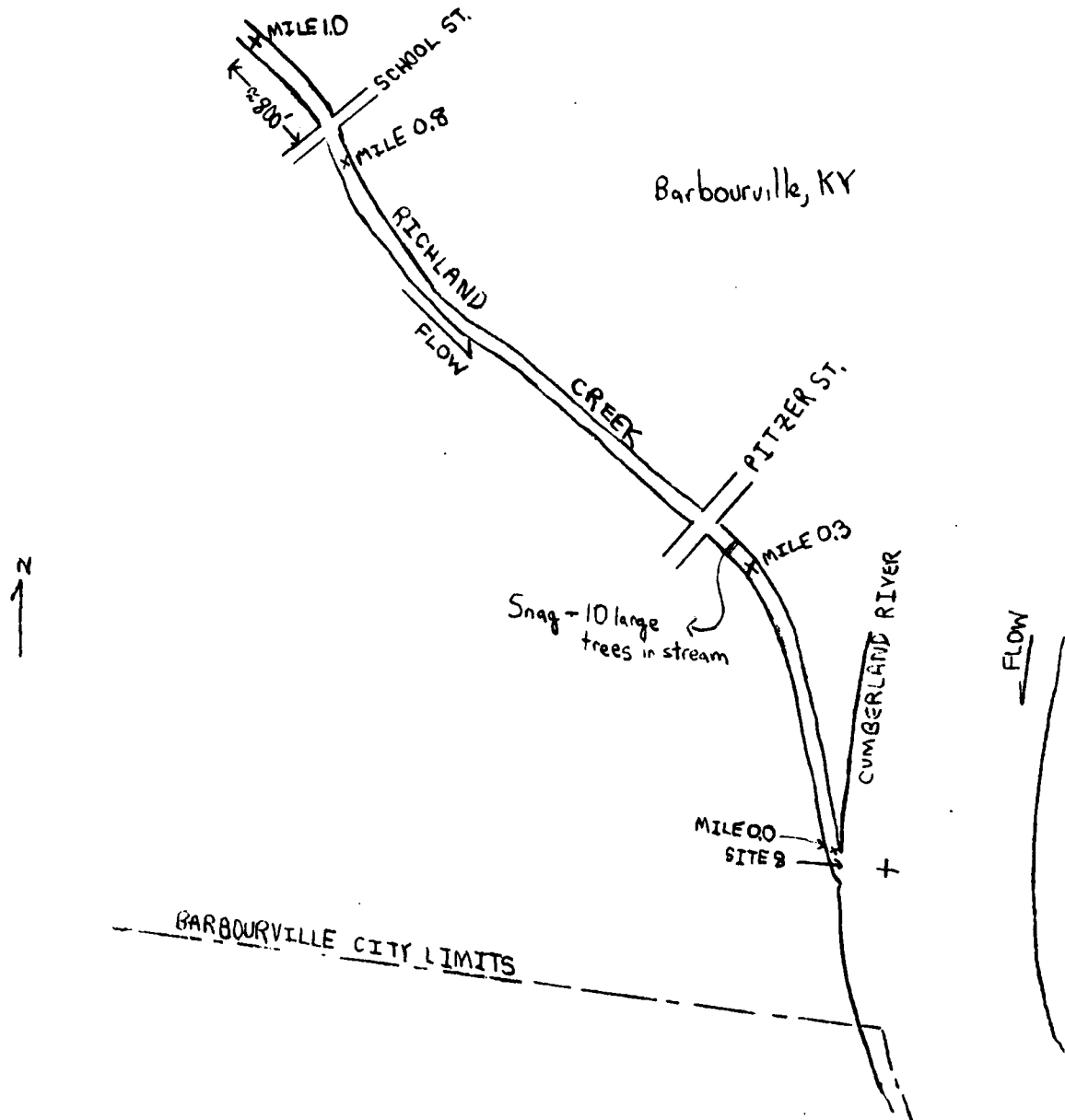
CREEK IS SOUTHERN BORDER OF THE CITY LIMITS OF WILLIAMSBURG, KY

ACTION: REMOVE SNAGS AND DEBRIS FROM BRIER CREEK AND US 25W BRIDGE PIER
BURN COMBUSTIBLES AND HAUL REMAINING MATERIAL TO DUMP

OCT. 79
NOT TO SCALE

Figure 62

SITE 32 MOUTH TO MILE 1.0

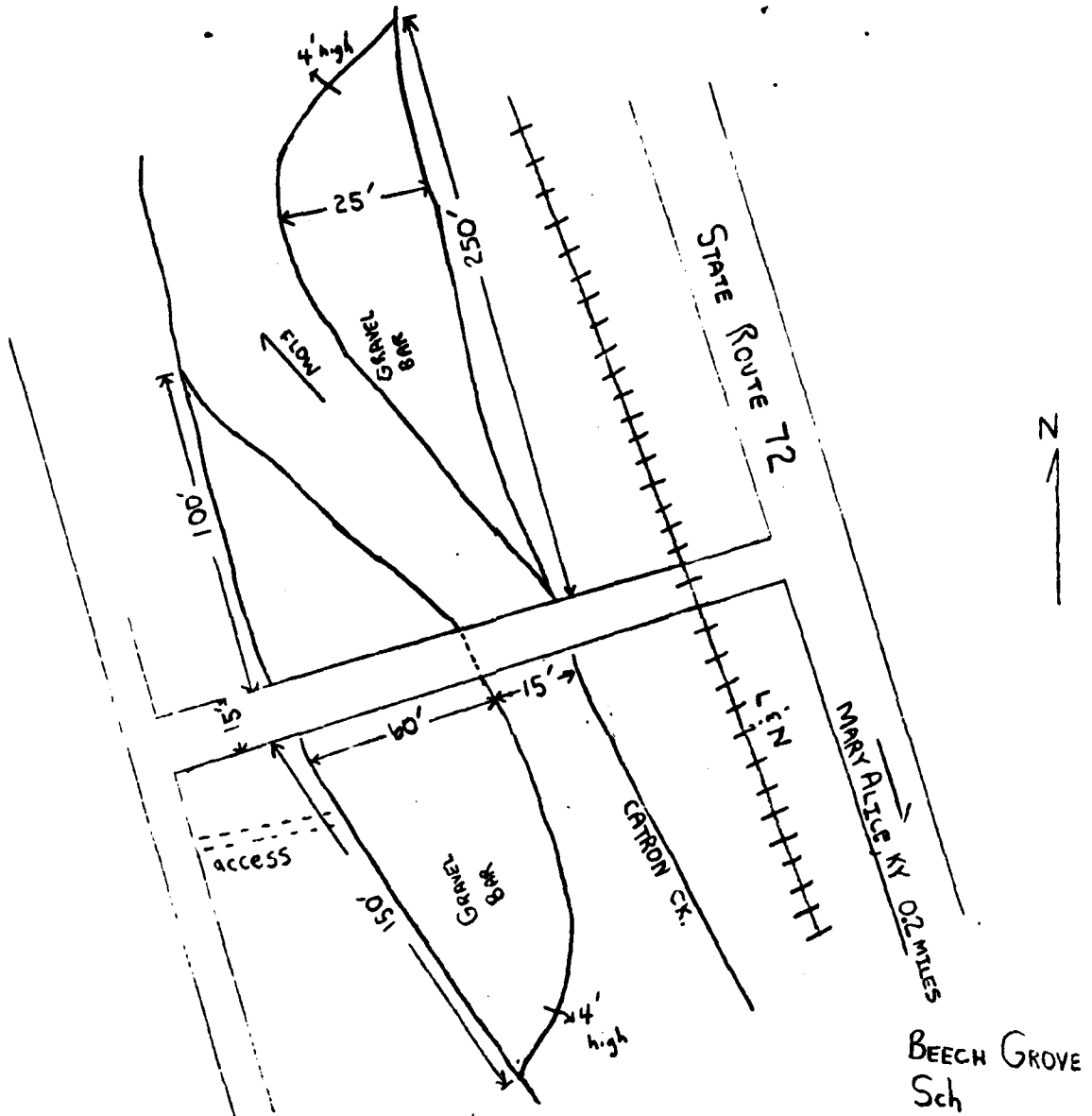


ACTION REMOVE APPROXIMATELY 30 SNAGS
FROM RICHLAND CREEK AND HAUL TO
DISPOSAL AREA

OCT. 79
NOT TO SCALE

Figure 63

SITE 101
MILE 3.5

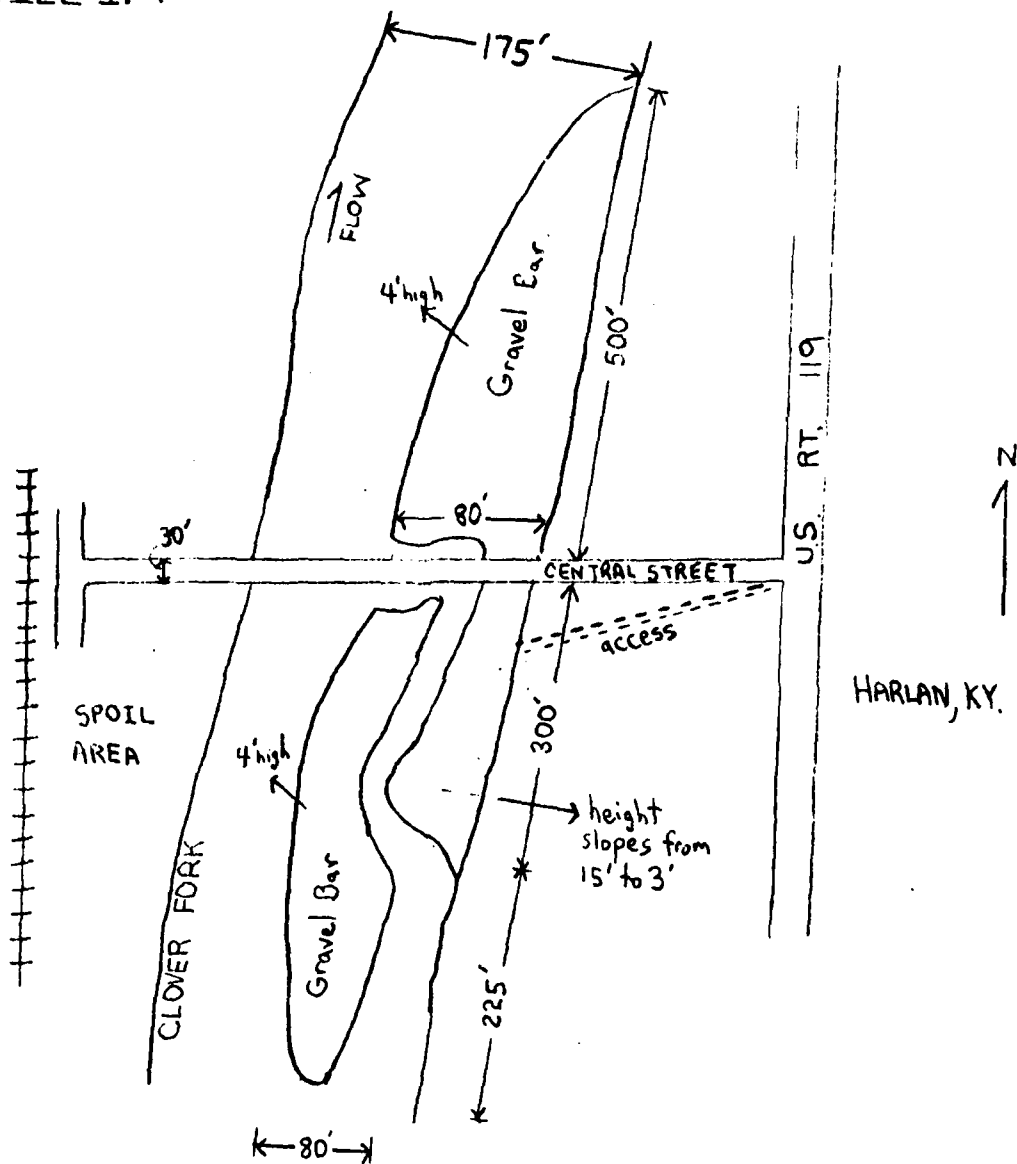


ACTION: REMOVE BOTH BARS
HAUL TO DISPOSAL AREA

DEC 79
NOT TO SCALE

Figure 64

SITE 102
MILE 1.4

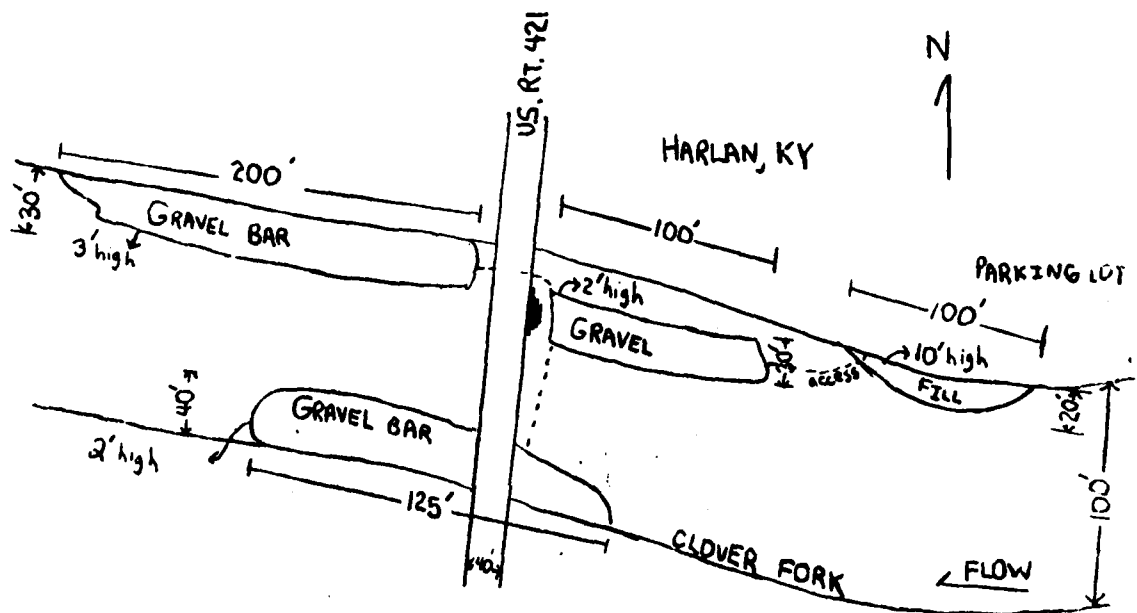


ACTION: REMOVE BOTH LARGE BARS
HAUL TO SPOIL AREA AS SHOWN
NOTE - SPOIL AREA MAY BE CHANGED

DEC 19
NOT TO SCALE

Figure 65

SITE 103
MILE 1.7

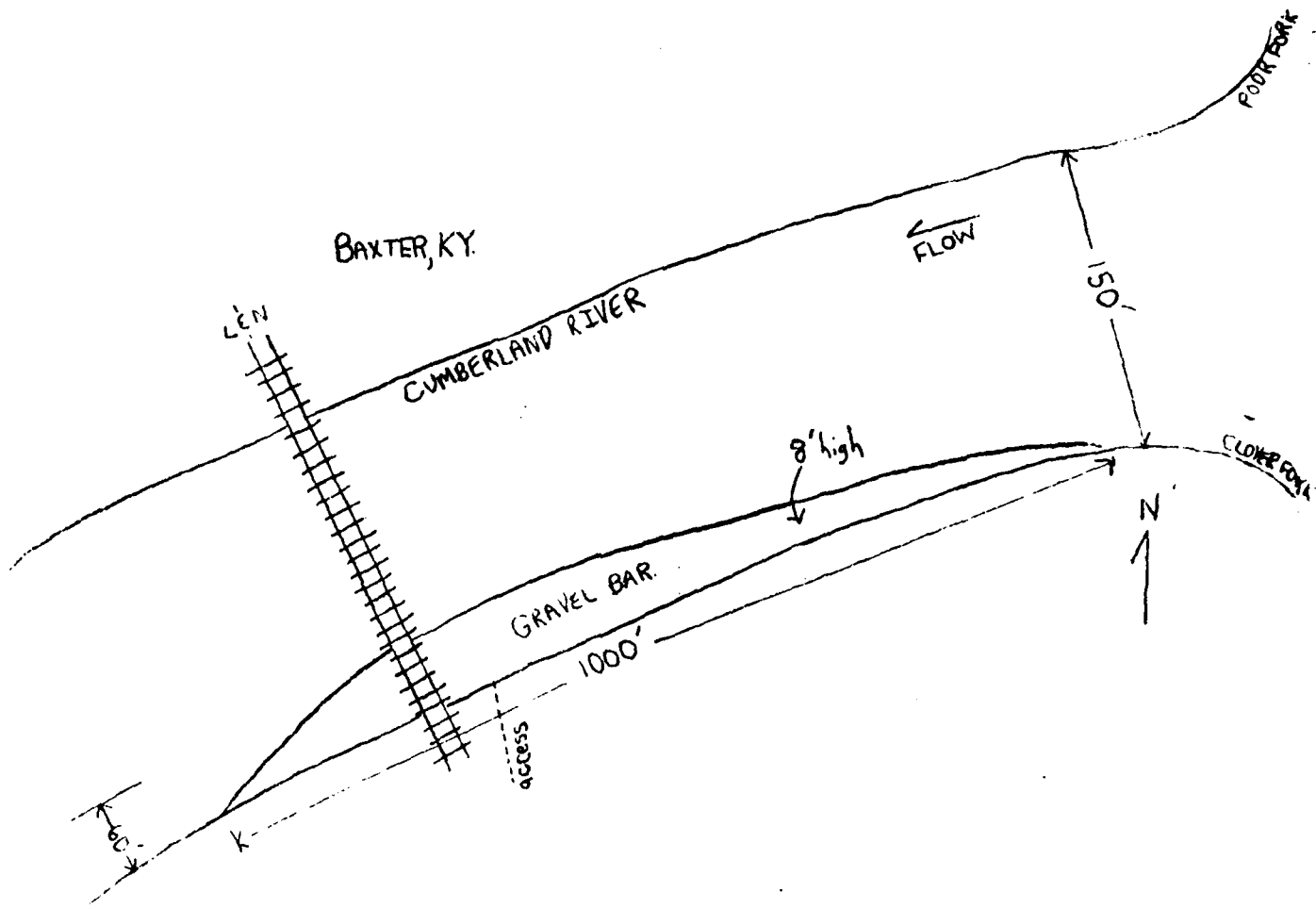


ACTION: REMOVE 3 GRAVEL BARS AND FILL
HAIL TO DISPOSAL AREA

DEC. 79
NOT TO SCALE

Figure 66

SITE 104
MILE 694.0

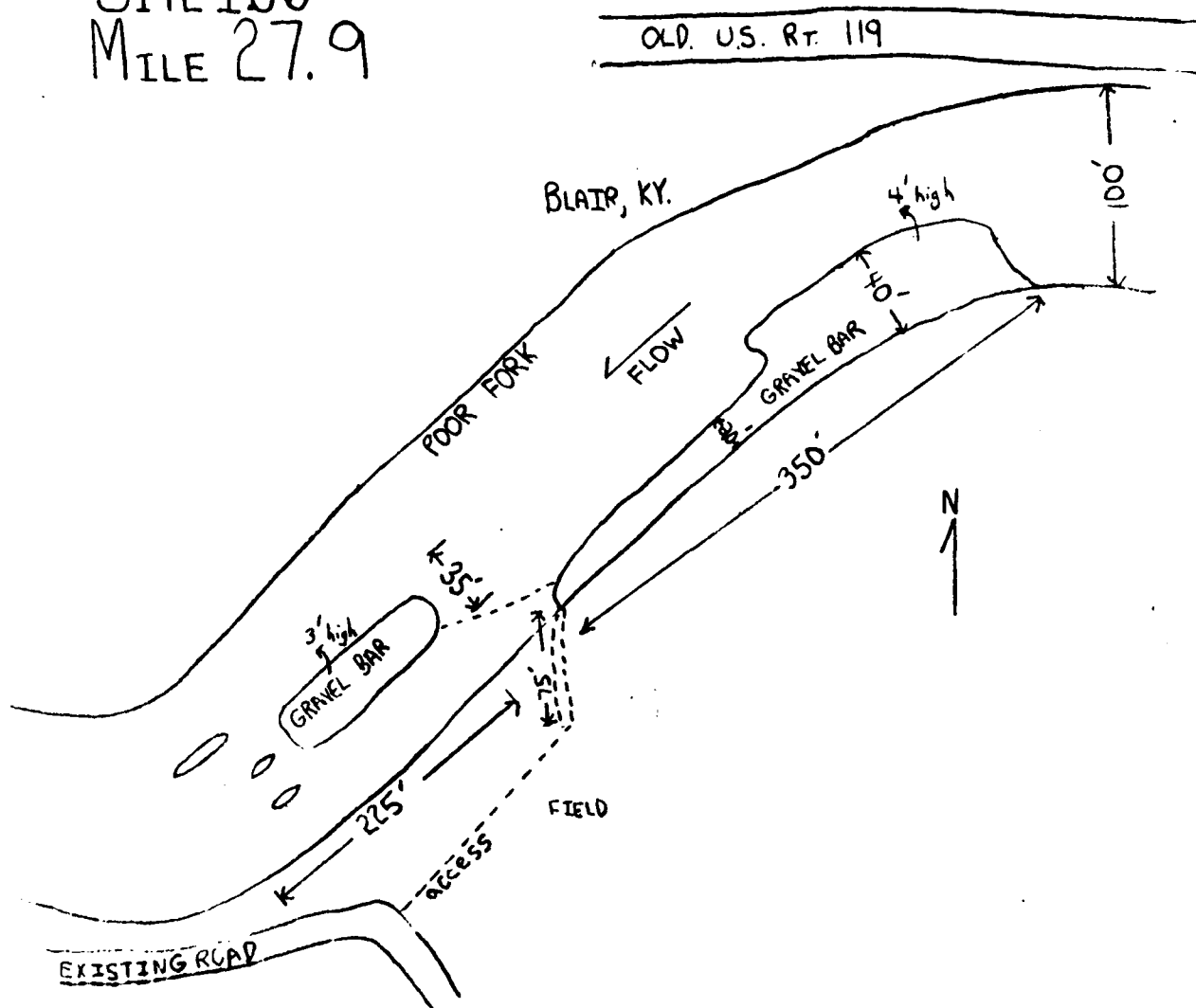


ACTION . CUT, PILE, AND BURN VEGETATION ON BAR
REMOVE BAR (18,000 cu yds)
HAUL TO DISPOSAL AREA

DEC. 79
NOT TO SCALE

Figure 67

SITE 106
MILE 27.9

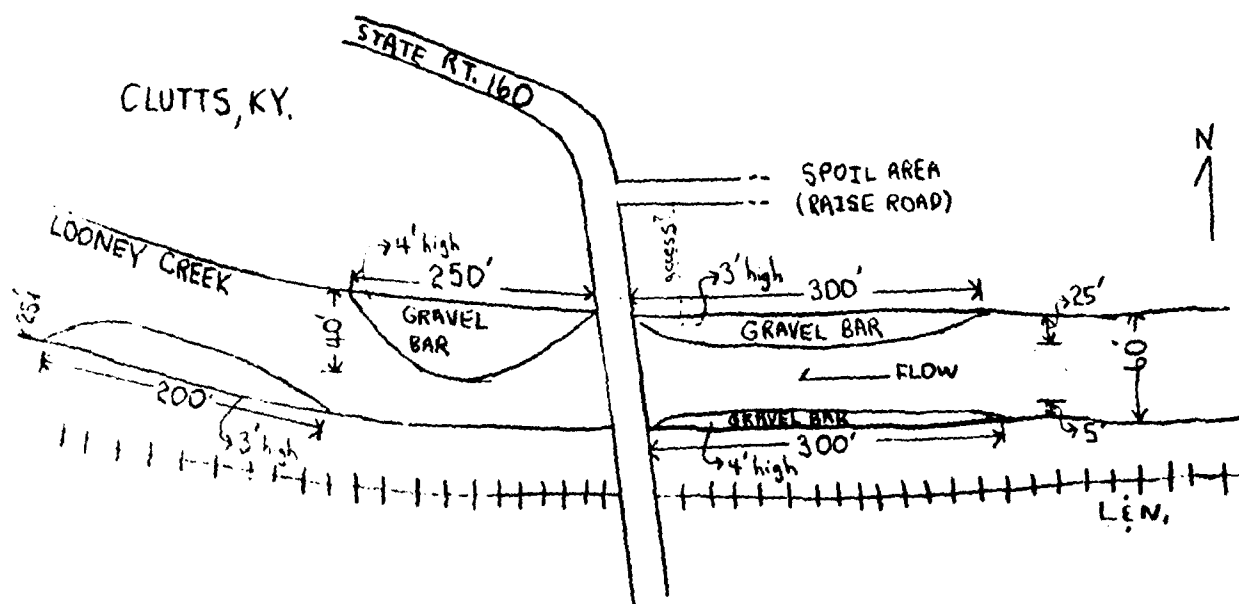


ACTION: CUT ACCESS ROAD
REMOVE 2 BARS (INCLUDE 3 ISLANDS
NEAR DOWNSTREAM BAR)
HAUL TO DISPOSAL AREA

DEC. 79
NOT TO SCALE

Figure 68

SITE 107
MILE 1.2

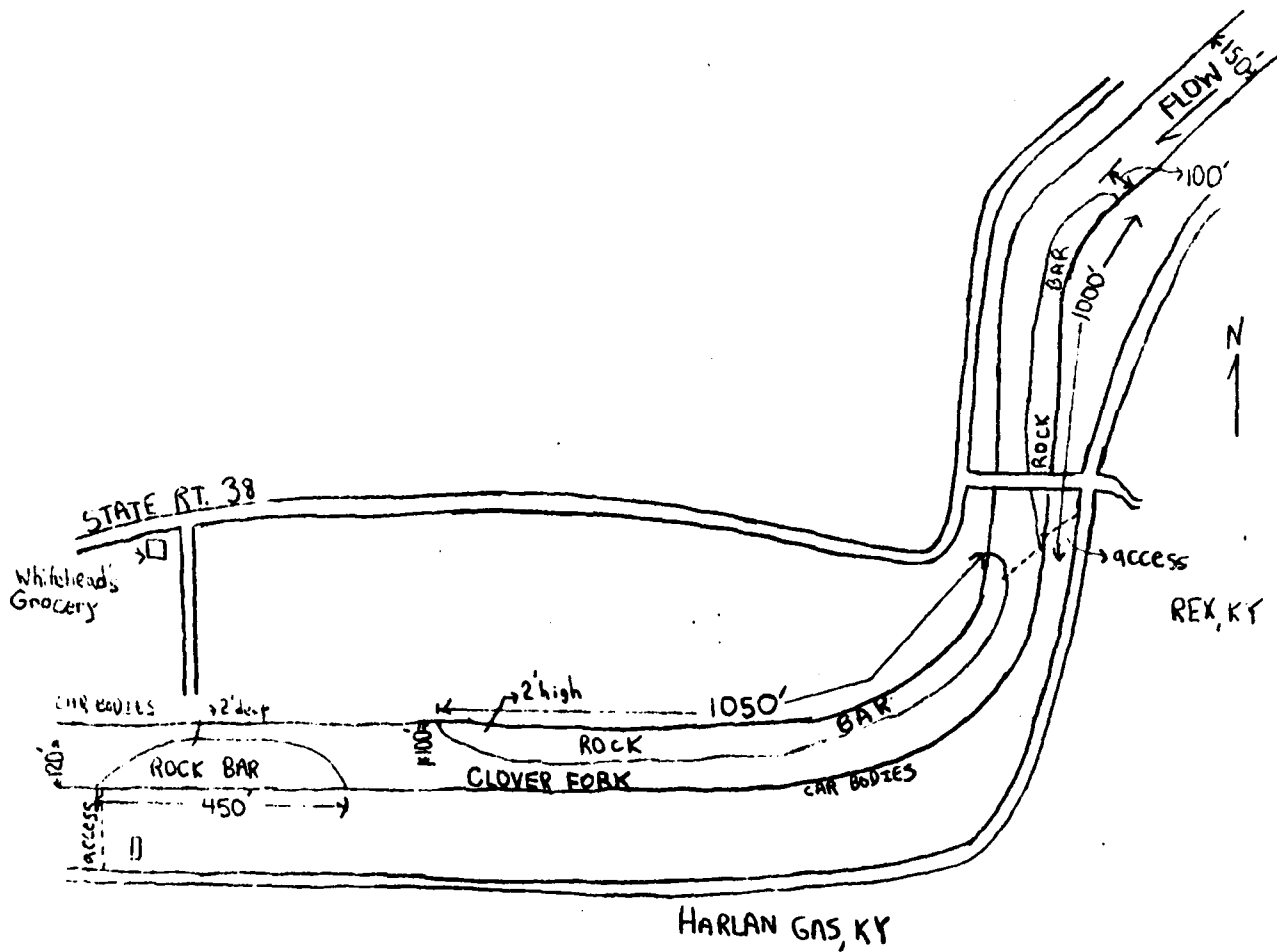


ACTION CUT ACCESS ROAD
REMOVE 3 GRAVEL BARS
HAUL TO DISPOSAL AREA AS INDICATED

DEC 79
NOT TO SCALE

Figure 69

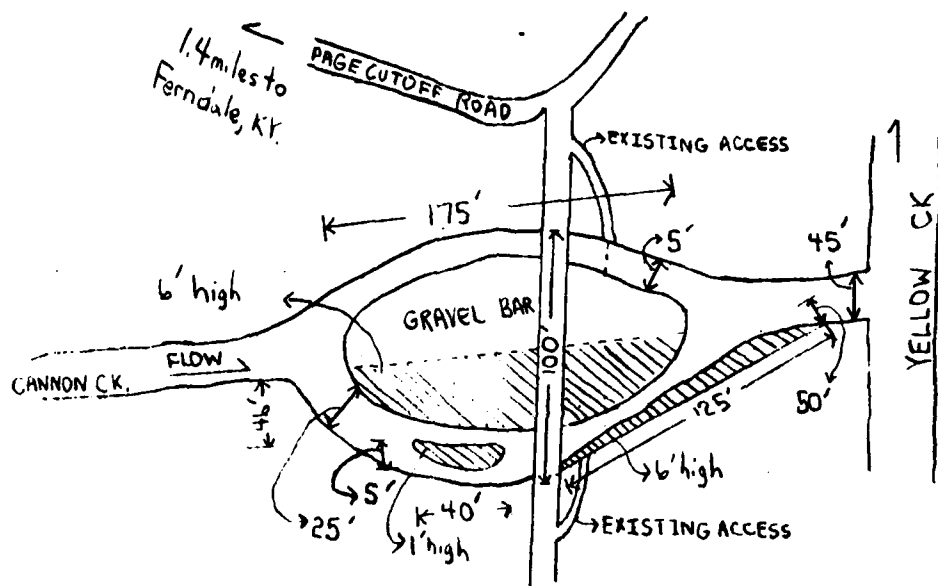
SITE 108
MILE 3.0



ACTION: REMOVE 3 ROCK BARS
HAUL TO DISPOSAL AREA

DEC 79
NOT TO SCALE
Figure 70

SITE 110 MOUTH CANNON CK.

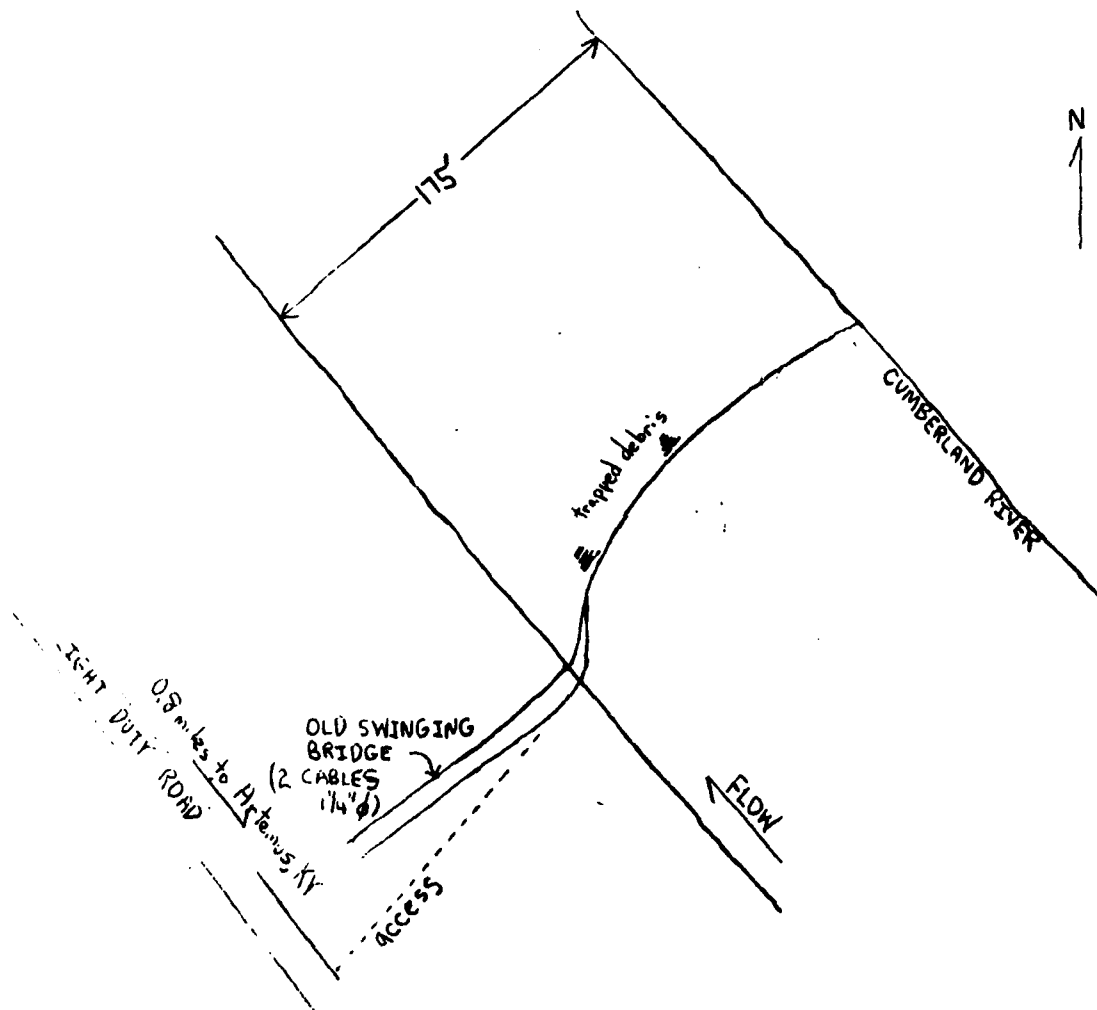


ACTION: REMOVE ISLAND, PORTION OF BAR, AND
PORTION OF BANK
HAUL TO DISPOSAL AREA

DEC 79
NOT TO SCALE

Figure 71

SITE 113
MILE 639.6

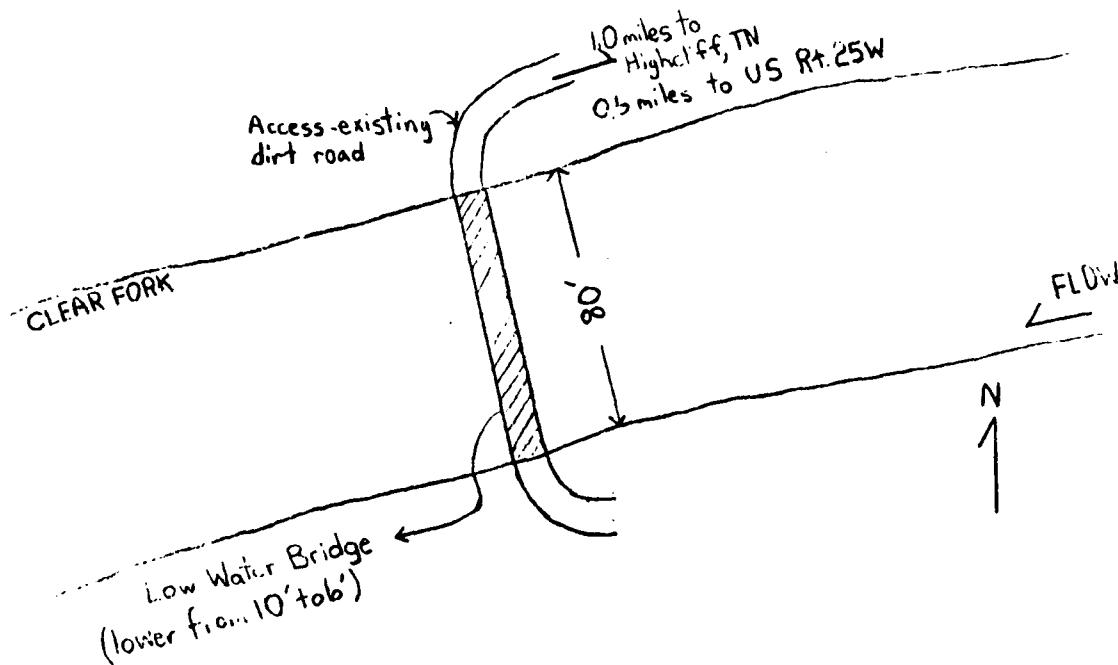


ACTION REMOVE DEBRIS AND CABLES

DEC. 79
NOT TO SCALE

Figure 72

SITE 114
MILE 23.5



ACTION: REMOVE LOW WATER BRIDGE (PORTION)
HAUL TO SITE 28 DISPOSAL AREA

DEC 79
NOT TO SCALE

Figure 73

II. ENVIRONMENTAL BACKGROUND

The ARC project is located in the Upper Cumberland River Basin from Cumberland and Middlesboro, Kentucky, west to Williamsburg, Kentucky, and the Jellico, Tennessee, area. The Cumberland River originates at the junction of Poor Fork and Clover Fork near Harlan, Kentucky, draining a basin about 10 miles across. The upper reaches of the river flow to the southwest parallel to and east of Pine Mountain. At Pineville, Kentucky, the Cumberland is joined by the waters of Yellow Creek which originate in the Middlesboro Basin, and traverses a gap in Pine Mountain. From Pineville to Williamsburg, Kentucky, river flow is generally in a westerly meandering path across the Cumberland Plateau, entering Lake Cumberland a few miles past the Cumberland Falls. The downstream reaches of the Upper Cumberland drain a basin area approximately 30 miles across. The mainstream valley throughout its length, and its major tributaries, have a characteristically narrow and intermittently developed floodplain, wider areas of which are the site of present day urban developments such as Pineville and Barbourville. Also characteristic of the hydrological regime of the Upper Cumberland are numerous small, precipitous, seasonal streams which continually erode the upland sediments eventually depositing a portion of their acid sediment load on the floodplains of the Cumberland River and its larger tributaries. Past courses of the Cumberland River and its tributaries are presently in evidence with the incidence of high erosional channels (Cumberland Gap) and high elevation depositional formations (fluvial deposits of sand and gravel).

CLIMATE

The Upper Cumberland River Basin has a generally moderate continental-type climate locally modified by the mountainous terrain, the mean annual temperature being about 58 degrees. July is the warmest month having an average temperature of 77 degrees and December the coldest with a 40 degree average. Extreme temperatures in the area have ranged from approximately 20 degrees below zero to a few degrees above 100. Precipitation averages 48 inches annually and is fairly well distributed throughout the year. The greatest rainfall generally occurs during the winter and mid-summer. Average snowfall is 15 to 20 inches.

PHYSIOGRAPHY

The Upper Cumberland River lies wholly within the Cumberland Plateau physiographic province. The Cumberland Plateau consists of a highly dissected tableland, the basic character of which is highly dissimilar on its eastern and western edges. In general, the Plateau becomes increasingly rugged and mountainous to the east. The eastern edge of the Plateau is formed by a portion of the Cumberland Plateau Overthrust Fault system, which has resulted in very abrupt but basically linear

escarpments (Pine Mountain and Cumberland Mountain). Elevations of ridge-top formations in this area range from 2,300 to 3,300 feet above mean sea level along Pine Mountain and Cumberland Mountain, with some peaks as much as 2,200 feet above the valley floor. The western edge of the Plateau, the Pottsville Escarpment in Pulaski County, is much more ragged and incised by a number of river drainage systems.

GEOLOGY

Geologically, most of the exposed surface traversed by the Cumberland River is Pennsylvanian in age, with Quarternary-age deposits forming the floodplain. The exception to this is the Pine Mountain area where faulting along the Pine Mountain Overthrust Fault due to compressional forces originating to the southeast, has resulted in the uplift and exposure of older Mississippian and Devonian age deposits. Exposures of Pennsylvanian age sediments are primarily composed of sandstones, shales, and coal, the coal layers being particularly voluminous and highly exploited in historic times with significant environmental consequences. Mississippian age exposures consist of limestones, sandstones, shale and some coals, the thick limestone layers along Pine Mountain being the only material which has been extensively exploited historically for construction material. The Chattanooga shale comprises the Devonian age exposures found along the base of the north slope of Pine Mountain.

The uplifted Pine Mountain, capped with highly resistant Lee formation sandstones of Pennsylvanian age, exhibits a formidably steep northwest face and is breached locally only by the Cumberland River at Pineville. This has probably had serious consequences relating to human occupation of the area. These factors include, but are not limited to, the relative isolation due to mountainous conditions, impedance to and difficulty of travel, but in another sense providing natural transportation corridors (for humans and animals), and the exposure of various minerals such as limestone, coal and chert. The only chert-bearing deposits in the immediate vicinity, which perhaps affected the settlement of prehistoric populations, include the lower member of the Newman limestone formation of the Upper Mississippian, basal beds of which contain chert nodules, and the upper parts of the Grainger formation of the lower Mississippian which contain a few feet of Fort Payne chert locally. These occurrences of possible sources of chert material for prehistoric inhabitants are located geologically immediately above the Pine Mountain Overthrust Fault and locally seen at the surface in the vicinity of Pineville partially up the slope of the north side of Pine Mountain.

SOILS

There is an inherent relationship between soil types present in a given area, topography, potential floral and faunal assemblages and land use patterns of human occupation. Three generalized soil type-topographical

associations can be recognized for the Upper Cumberland River Basin. The first is the level to very gently sloping stream bottoms and flood plains formed from alluvial soils of the Pope-Stendal-Allegheny soil association. The three soil types in the association are primarily silt to fine sandy loams; Pope soils situated along stream bottoms; Stendal soils occurring in level to slightly depressed areas; and the Allegheny soils situated primarily on low stream terraces. These soils are developed from acid sandstones and shales of the surrounding uplands. With proper management they presently produce high agricultural yields.

The Jefferson-Muskingum-Holston-DeKalb series association occurs on gently sloping to steep colluvial slopes between the steep upland slopes and stream bottoms. Soils in this association consist of a silt to fine sandy loam surface soil with a large portion of the acreage of each type being stony. This soil association is also developed from acid sandstone and shales, presently producing good agricultural yields on gentler slopes, but most suited to horticulture on gentle slopes and pasture on steeper slopes.

The third association is more generalized and consists of all those soil types associated with steep slopes, ridgetops and rocky lands, but can be generally classed as upland soils. The soils are developed from weathered shale, siltstone and sandstones and most areas are suited presently for timber.

FLORA

The floral character of the Upper Cumberland has, as is the case with most aspects of the natural environment, undergone tremendous changes in the historic period. An area once largely covered by a temperate deciduous forest is now in second growth due to overgrazing, cultivation, frequent burnings, and the harvesting of the best trees for the lumber industry (Oren 1965). Added to these activities are such things as strip mining, road construction and urbanization which further serve to destroy the original vegetative patterns.

Species dominance is dependant on many factors and is in part affected by soil type, flood frequency and slope direction. Dominant water tolerant species found in immediate proximity to the Cumberland River on its banks, small islands and exposed bars include river birch, red maple, water oak, sycamore, and willow. The floodplain areas support a population of mixed hardwoods dominated by oak and hickory species. Upland species include white and red oak, short-leaf pine, yellow poplar, beech, black gum and hickory. The use of most tree species prehistorically was probably oriented towards those hardwood species which are nut-bearing. The vegetative regime of the Upper Cumberland area also contains many species of shrubs, briars and leafy plants which would have provided fruits, berries, roots, tubers and leafy tops for the diet of both the prehistoric and historic populations residing in or passing through the Upper Cumberland area.

FAUNA

Although the Upper Cumberland area presently supports an abundant and diverse faunal assemblage, many species have been eliminated from the area prehistorically, primarily in the immediately post-Pleistocene period, and historically with the onslaught of mining and lumbering activities, hunting pressures and increasing urbanization. The historical abundance of wildlife is indicated by Dr. Thomas Walker in 1750 when he wrote:

"We killed in the journey 13 buffaloes, 8 elks, 53 bear, 20 deer, 4 wild geese, about 150 turkeys, besides small game. We might have killed three times as much meat, if we had wanted it."

(Kincaid 1973:52)

Abundant terrestrial species presently found in eastern Kentucky include cottontail rabbit, gray squirrel, raccoon, opossum, skunk, muskrat, red fox, grey fox, quail and ruffed grouse. Less abundant species include fox squirrel, white-tailed deer, mink, mourning dove, wild turkey, ducks and geese (Casey 1965). Numerous species of reptiles and amphibians are also extant in the area. Species in addition to those above which have been identified in archeological contexts include black bear, turtle of various species, dog, elk, bobcat, beaver, weasel, wolf and a number of species of terrestrial mollusks, all of which were probably utilized by local prehistoric populations (DeLorenze 1979). The Cumberland River and its tributaries also support a variety of aquatic species including bass, sunfishes, catfish, carp, suckers and numerous other species.

The remains of extinct Pleistocene fauna and other animals common now in boreal climates were found at Big Bone Lick in Boone County in north central Kentucky. These include ground sloth, horse, tapir, elk, reindeer, moose, caribou, musk-ox, bison, peccary, mastodon and mammoth. All of these may have been hunted by early prehistoric inhabitants of Kentucky. Upper Cumberland place names suggest that salt licks may have once been common in the area (Flat Lick, Lick Branch, Lick Creek).

III. PREVIOUS ARCHEOLOGICAL RESEARCH

Previous research in the study areas has been seriously limited, most of the research consisting of small area surface surveys and limited testing. The Bibliography of Kentucky Prehistory: 2 (Clay, Hockensmith and Frazier 1978) lists 4 reports for Bell County, 5 reports for Harlan County, 3 reports for Knox County, and 6 reports listed for Whitley County. Most of these reports concern limited survey and testing of small areas with few sites located. Including DeLorenze's (1979) survey of Bell County, a total of 90 sites are recorded for the four county area of Kentucky. The only generalized information available for the present study concerning these 90 sites was a series of site location maps provided by the Kentucky Heritage Commission and the Kentucky Office of State Archaeology. The only diagnostic site information available was found in the Bell County survey.

DeLorenze (1979) located 17 new sites in Bell County in what amounted to a small portion of the total county area. Of these 17 sites, only four were culturally diagnostic, with components dating from the Early Archaic to the Mississippian. No Paleo-Indian sites were located, although DeLorenze (1979:97) notes that several Paleo-Indian sites have been located in neighboring Knox County. Historic cultural resources were evidently not considered or not located during the survey.

This four county area, despite the occurrence of a large number of archeological sites and a high potential for both prehistoric and historic archeological studies, has apparently received very little archeological attention.

PREHISTORY OF THE UPPER CUMBERLAND RIVER BASIN

The prehistory of the Upper Cumberland River Basin began sometime prior to 10,000 B.P. in an environmental situation much different than that at present. It is the environmental changes coupled with adaptation in terms of innovation and change on the part of the human occupants of the area which left a varied archeological record. These variations through time chronicle the developmental stages of humans in the eastern woodlands in general and the upper Cumberland in particular. These developments have been assigned broad temporal designations which are applicable to the study area:

Paleo-Indian	(? - 8,000 B.C.)
Archaic	(8,000 B.C. - 1,000 B.C.)
Woodland	(1,000 B.C. - 900 A.D.)
Mississippian	(900 A.D. - 1,500 A.D.)

Paleo-Indian Period

The earliest inhabitants of the Upper Cumberland River area of Kentucky probably were representative of the Paleo-Indian Period, Big Game Hunting/Gathering tradition. The initiation of a Paleo-Indian Period in a temporal sense is highly tenuous, but appears to be correlated with the retreats and advances of the Wisconsin glaciation, and the initial peopling of the New World. Subsistence was oriented towards a reliance on now extinct Pleistocene megafauna (mammoth, mastodon, bison, etc.), but more than likely involved the opportunistic hunting of small game such as deer and elk, and considerable foraging of local vegetal resources. The basic identifying trait is the fluted lanceolate projectile point, but the lithic tool assemblage also included an assortment of scrapers, graters and blades. Populations probably consisted of small bands, possibly following migrating herds of large game in an essentially boreal vegetative regime.

Archaic Period

The Post-Pleistocene Period involved a gradual change in the climate, vegetational patterns and faunal assemblages. This in turn required a gradually changing subsistence strategy on the part of the human inhabitants in order to adapt to and cope with a changing environment. Boreal forests gave way to deciduous forests, areas of former grassland became forested and the faunal assemblage changed in character. Pleistocene fauna slowly expired, necessitating a change in hunting strategies oriented towards smaller game and a mosaic of differing environments. Archeologists have generally used the date of 8,000 B.C. to temporally mark the end of the Paleo-Indian Period and the beginning of the Archaic Period. This date is arbitrarily assigned and does not serve to indicate a distinct change in technology or subsistence strategy. Late-occurring Pleistocene megafauna may have still been hunted at this time in isolated locations, but the basic game was white-tailed deer and other small game supplemented by poorly documented foraging of wild plant foods. In contrast to the Paleo-Indian Period, the Archaic is a time of increasing regional differentiation and local adaptation as exemplified in the variety of typologically distinct projectile points which are made. The Early Archaic to about 6,000 B.C. marks this time of transition from a largely boreal climatic and vegetative regime to one similar to, but perhaps a little drier than at the present time, the forest cover consisting of deciduous rather than coniferous vegetation.

The Middle Archaic (6,000 B.C. - 3,000 B.C.) can basically be defined by the increasing importance of a wide variety of environmental resources, particularly aquatic resources (shellfish) and plant foods. Tools of relevance to plant food processing such as grinding implements, and tools such as axes and adzes relating to woodworking become increasingly evident indicating increasing reliance on these resources. Processing of nuts becomes of particular importance, but the diet includes many wild seeds as well. Included in the changing artifact inventory are ground and

polished stone tools, their precise relationship to changing subsistence strategies remaining unclear. Hunting of small game remains important, with that portion of the tool assemblage remaining essentially unchanged since Paleo-Indian times.

The Late Archaic (3,000 B.C. - 1,000 B.C.) bridges that period of time between totally aceramic cultures and a period of time when ceramics and rudimentary food production became generally enculturated throughout the eastern woodlands. In a sense, the Late Archaic sets the precedent for the succeeding developments of the Woodland Periods. Ceramics appear, but remain isolated in occurrence, and the possible domestication of locally available seed plants such as sunflower, marshelder, chenopods, and pigweed occurs. The Late Archaic, in particular, and the Archaic Period, in general, involve a time of regional diversification, local adaptation and increasing sedentariness. Caldwell (1958) called this trend throughout the Archaic "Primary Forest Efficiency." Developments include a technology increasingly dependent on particular aspects of the natural environment, supplemented by seasonal rounds of subsistence activities tuned to the seasonal occurrence of other needed resources. Localized adaptation infers the need to obtain more exotic items from outside an individual groups' adaptive zone of dependence, implying the establishment of trade and networks of interaction. Increased ceremonialism associated with burial rituals is initiated at this time, with elaborations of such ceremonialism leading to the initial elements of mound building in areas to the northeast of the Upper Cumberland River.

Woodland Period

Woodland Period cultures are initially characterized in the same fashion as Archaic cultures, but involve the gradual spread and elaboration of certain elements found late in the Archaic Period. These elements include food production, which includes maize and squash in addition to the local domesticates, pottery, which becomes widespread in its usage, and the construction of mounds and earth works. The previously mentioned trade networks of the Late Archaic served at this time not only to provide sources of exotic goods, but also as an extended means of social integration. Cultures of the Woodland Period separated by great distances shared many traits in common. Phenomena of this sort include the Adena of Ohio early in the Woodland Period and the overlapping and later manifestation called Hopewell in the Ohio-Illinois area during the Middle Woodland. These cultures are defined on the basis of an elaboration of mortuary practices and a highly integrative system of interaction with surrounding areas. This interaction relating to Hopewell was termed the "Hopewellian Interaction Sphere" by Struiver (1972) and although it may not have involved the actual movement of people, many distant cultures took on the outside appearance of and adopted many of the ceremonial aspects of Hopewellianism. Late in the Woodland Period, these Hopewellian influences declined, perhaps as a result of a breakdown in the sustaining trade networks established earlier. The decline may also represent an adaptation and movement of populations to areas more suitable to the growing of

maize, beans and squash, and an overall increasing dependance on agriculture as a major economic pattern. In general, the Woodland Period is a time of increasing sedentariness, with yearly resource scheduling and hunting still maintaining an important subsistence role in the economy. This is accompanied by increases in population, larger village sites and an evidently increasing role of social stratification and ceremonialism as expressed by elaborate burial rites for certain individuals and mound building.

Mississippian Period

The Mississippian Period marks the culmination of and the highest achievements of the indigenous populations of the southeastern United States. The lifestyle is essentially sedentary with subsistence based on agriculture, primarily corn, although even at this time the diet was supplemented by hunting and gathering. Expressions of Mississippian are widespread throughout the southeast containing certain traits in common including temple mounds, palisaded villages, shell-tempered ceramics, and many others. Many of these expressions are localized versions of the generalized Mississippian phenomena. The expression of Mississippianism in the Upper Cumberland may be somewhat limited in the classic form due primarily to the lack of sufficiently large floodplain areas suitable for large-scale maize agriculture, but some of the stylistic and ceremonial aspects may be seen on what is essentially a Woodland Period subsistence economy.

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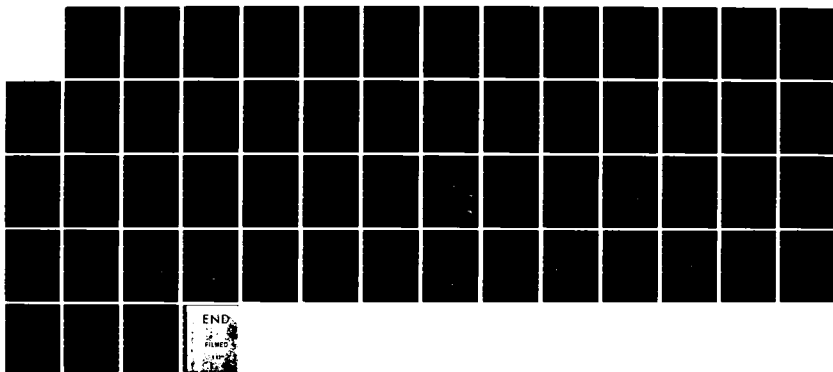
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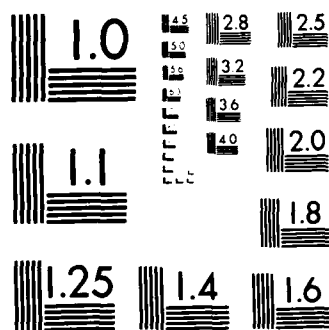
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Prehistoric Resources Reported by Collins (1874)

Two mound sites and one "fortification" are reported by Collins in Knox, (Josh) Bell, and Harlan Counties, Kentucky.

Knox County: "Three miles from Barbourville, on the N. bank of the Cumberland river, there are the remains of an ancient fortress--around which a circular ditch, enclosing about four acres of ground, was discernable as late as 1840." (p. 445).

(Josh) Bell: "Mound.--In the large bottom at Cumberland Ford is a mound, 10 or 15 feet high, and 100 feet in circumference. Bones, pots, and other curiosities have been dug from it. It has evidently been a burying-ground of the Indians, or of some earlier and extinct race." Additionally, Collins reports that in the winter of 1869, L. Farmer, of Pineville, found a wooden image of a man, about two feet high, in a sitting position with no legs among the cliffs that surround Pineville. Collins reports it was made of "yellow pine" and was "found in a place where it was kept entirely dry." One ear was pierced as for jewelry (p.412).

Harlan: "The first court house in Harlan County was built upon a mound in Mt. Pleasant--upon which, in 1808, the largest forest trees were growing. In August, 1838, a new court house was erected upon the same mound, requiring a deeper foundation and more digging with these discoveries: Human bones, some small, others very large, indicating that the bodies had been buried in a sitting posture, several skulls, with most of the teeth fast in their sockets, and perfect; the skull of a female, with beads and other ornaments which apparently hung around the neck. Close by the larger bones was a half-gallon pot, superior in durability to any of modern ware; made of clay and of periwinkles pounded to powder; glazed on the inside, and the outside covered with little rough knots, nearly an inch in length. A well-formed pipe, of the usual shape, and various other ornaments and tools evincing ingenuity and skill were found, also charcoal in a perfect state apparently. The mound abounded in shells bones, and fragments of bones, in all stages of decay. They were found from three to five feet below the surface. In 1870, more human bones were dug from it, together with nicely-polished weights, and some pipes--made of a hard blue stone." (p. 320)

This mound was probably of Mississippian origin. Harlan today (formerly Mt. Pleasant) is constructing still a new courthouse-prison facility adjacent to the old courthouse.

HISTORIC BACKGROUND

Early Exploration and Settlement

The project area lies in an historically significant area which served as a gateway for Euro-American settlement of the Mississippi Basin beginning in the late seventeenth century. One of the most significant features in the immediate vicinity of the project is the Cumberland Gap near Middlesboro, Kentucky. This natural portal proved to be a very important connecting passageway between the eastern colonies and the new western frontier. The Cumberland Gap is a major feature on a path later known as the Wilderness Trail which traverses the project area (Figure 74). Prior to outlining the general history of the area, the following is a description of what constitutes the trail.

The eastern segment of the Road began at Wadkin's Ferry on the Potomac River, passed up the Shenandoah River through the giant trough in Virginia between the Blue Ridge and Allegheny ranges, and crossed the low divide where the Great Valley ends near the headwaters of the James and Roanoke (Staunton) Rivers. It then crossed New River at Ingles Ferry, near Radford, Virginia, and continued westward down the middle fork of the Holston to Long Island, the present site of Kingsport, Tennessee. The present road following this route is known as Federal Highway No. 11, or the Robert E. Lee Highway. In pioneer times it was variously called the "Great Wagon Road," the "Irish Road," the "Valley Turnpike" and the "Pennsylvania Road."

The true Wilderness Road to Kentucky and the northwest cut out by Daniel Boone took up this feeder Valley Road at Kingsport, the southern base of the loop, and turned northwest to leave the Holston Valley at Moccasin Gap in Clinch Mountain near present Gate City, Virginia. Winding a hundred miles through a jumble of close hills and narrow valleys drained by the Clinch and Powell Rivers, it picked its way to Cumberland Gap, a deep cleft in the high Cumberland Mountain wall separating Virginia and East Tennessee from Kentucky. This segment generally conforms to the route taken later by Virginia Highway No. 421.

After 1785, an alternative and somewhat easier route from Long Island to Cumberland Gap was also used. This route continued down the Holston Valley to Bean's Station, turned north across Clinch Mountain, and approached Cumberland Gap from the south. This alternative route is shown on the map printed on the end papers.

Fifteen miles north of Cumberland Gap the Road cut through the Cumberland River gorge in Pine Mountain, at present Pineville, Kentucky, and from there wandered through the rugged country of eastern Kentucky, crossing Laurel and Rockcastle Rivers. At Hazel Patch it forked, the right prong leading directly north to Big Hill and to the site of Boonesborough on the Kentucky River, and the left going to Crab Orchard, Danville, Harrodsburg,

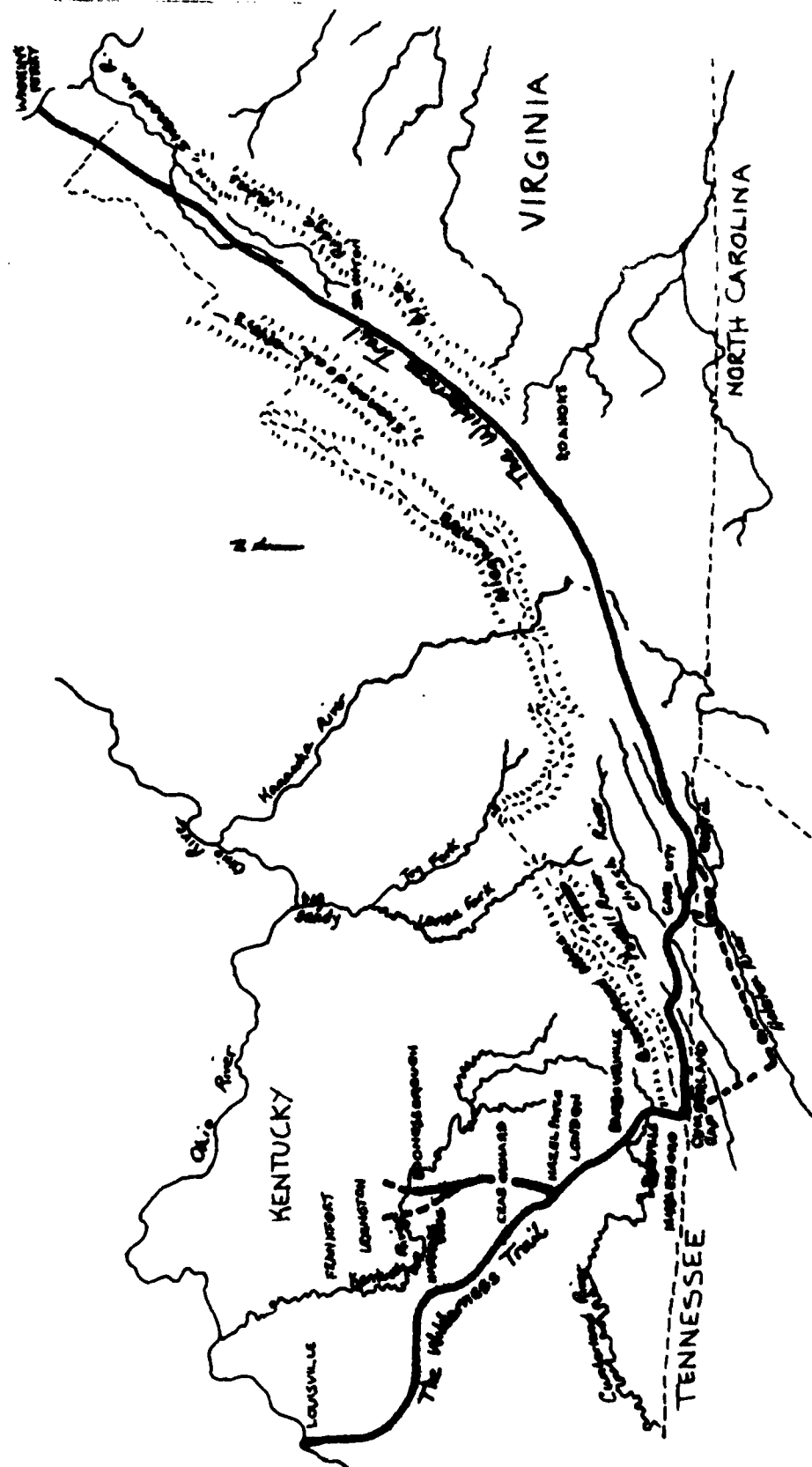


Figure 74. The Wilderness Trail (from Kincaid 1973)

and finally to the Falls of Ohio, now Louisville, Kentucky. From Cumberland Gap to Corbin, with the advent of modern roads, the route is known as Federal Highway No 25-E, and from Corbin to Richmond and Lexington as Federal Highway No. 25. The left prong from Mount Vernon to Crab Orchard, Danville, Bardstown, and Louisville is designated as Kentucky Highway No. 150.

(Kincaid 1973: Preface)

When the first Euro-Americans laid eyes on the trail in the late seventeenth century, it was already a major artery of historic Indian movement. Prior to this though, migratory buffalo and elk had created the path in their seasonal movements. The path, in the project area, was a series of connecting links between salt licks, shallow fords, and mountain gaps. When early prehistoric human groups moved into the area, the trail was probably used by them as they followed the migrating herds, taking game when needed and advantage of a resource-rich region. By the late seventeenth century, the eastern and western segments of the trail had become thoroughfares connecting major Indian groups north and south. The Great Warpath of the Valley of Virginia was a portion of a well-traveled path connecting two important Indian Kingdoms, the Iroquois Confederacy of Five Nations (later six) in the north and the Cherokee and Catawba empires in the south (Ibid., 25).

Exploration

Settlement of the project area by the eastern colonists of Virginia and North Carolina could not take place until the Appalachian Divide had been explored and settled. This was not possible until the Virginia colonists had defeated the Indians of Virginia under Opecancanough at Jamestown, Virginia in 1644 (Ibid., 22). Initially, explorations into the Divide were conducted for the purpose of discovering an overland trade route to the "South Sea" and India, both commonly believed in the seventeenth century to lie somewhere to the west. With the onset of systematic exploration of the Appalachian Divide, a trickle of very early settlers began to penetrate beyond what was then considered the western frontier (The Great Valley of Virginia). The following is a brief chronological recount of landmark exploratory expeditions. Where these expeditions touched the project area, this will be noted with a geographical description, otherwise, only significant personalities and results of the expeditions will be noted.

- | | |
|---------|--|
| 1650 | Abraham Wood, trade relations established with Occaneechi Indians of Great Valley. First sighting of Indian Trails leading west. |
| 1669-70 | Dr. John Lederer, possibly first recorded sighting of Cumberland Gap. |

- 1671 Batts and Fallam expedition, organized by Wood.
Great Warpath of the Valley of Virginia reached.
- 1673 Needham and Arthur expedition, organized by Wood.
Establishment of trade relations with Cherokee Indians
on Little Tennessee River. Extensive travel on Great
Warpath of Valley of Virginia.
- 1673-74 Gabriel Arthur. Arthur, who accompanied Needham to
the Little Tennessee, was stranded with the Cherokee
and spent some time traveling with them as far south
as Port Royal, South Carolina and north to Shawnee
country on the Ohio. The route taken to the Ohio was
the Warrior's Path of Kentucky, later to be known as
the Wilderness Trail. Arthur was wounded and captured
by Shawnee, then released. On his way back to the
Cherokee, Arthur traveled the Warriors Path (through
the project area) to the Cumberland Gap, thence to the
Little Tennessee River. Arthur was illiterate but was
able to relate what he had seen and experienced to Wood
on his return to Virginia.
- 1716 Governor Spotswood of Virginia, traveled to Shenandoah
Valley and touched upon the northern extension of the
Great Warpath of the Valley of Virginia.
- 1750 Dr. Thomas Walker, Loyal Land Co., traveled Great Warpath
of Valley of Virginia to Cumberland Gap. Walker and
group passed through Gap to Yellow Creek Valley on
Warriors Path of Kentucky. Continued north on Path to
Cumberland Ford (Pineville, KY). At Ford, Walker turned
west and traveled south bank of Cumberland for several
miles to a large salt lick and then canoed across to
north bank. Walker constructed a cabin in a large bend
in the river approximately eight miles southwest of
present-day Barbourville. Prior to turning north, Walker
noted a pond (200 yards wide, quarter-mile long) less
than a mile downriver. The pond still exists and is
called Swan Pond. The party moved north to the Laurel
River and picked up the Warriors Path again. Left Kentucky
by way of Kentucky, Licking, and Big Sandy Rivers.
- 1761 Elisha Walden. First recorded "Long Hunter" expedition to
interior.
- 1763 Elisha Walden. "Long Hunter" expedition to upper Cumberland
valley. Passed through Gap on Warriors Path. Wallens
Creek, Kentucky named for Walden.

- 1769 Kaspar Mansker, Uriah Stone, Richard Skaggs, Abram and Isaac Bledsoe. "Long Hunter" expedition. Hunted and trapped in upper Cumberland Valley between Gap and Flat Lick, Kentucky. Traveled south on Cumberland to middle Tennessee and Nashville area.
- 1769 Daniel Boone and John Finley hunted and trapped from Gap on Warriors Path, north through Yellow Creek Valley, west on Cumberland, north to Rockcastle country.
- 1770-71 Boone and brother Squire hunt in Cumberland River Valley.
- 1773 Boone leads family and 40 settlers into the area but turned back by hostile Shawnee.
- 1775 Landmark year. Colonel Richard Henderson signed private treaty with Cherokee in eastern Tennessee acquiring title to 20,000,000 acres lying north of Cumberland Gap between Kentucky and Cumberland Rivers. Directed Boone to improve Warriors Path to accommodate packhorse traffic. Boone followed Warriors Path 12 miles up Yellow Creek to the Ford, then 8 miles to Big Flat Lick near Barbourville. At this point, he began cutting a new trail north from the Lick, crossing Big and Little Richland Creeks, Lyn Camp, then to Raccoon Spring, Laurel and Kentucky Rivers. Boone constructed a stockade at the Kentucky River; Boonesborough. Meanwhile, Henderson and 40-50 settlers followed him to claim the newly purchased land. The settlers passed up the project area and established settlements north of Barbourville.

MIGRATION YEARS AND ANTE BELLUM SETTLEMENT

The years between 1775 and 1863 witnessed the development of the region into a stable economic and political entity. After the period of exploration and early settlement, the last quarter of the eighteenth century became a time of intensive migration and settlement of the Ohio River valley and Blue Grass Region. There were two major routes of migration during this time, the Ohio River and the Wilderness Trail. Between 1775 and 1800, hundreds of thousands of prospective settlers had passed through the Cumberland Gap and up the Wilderness Trail on their way to the northern settlements. The destination of these travelers was the fertile Bluegrass and Ohio Valley. The upper Cumberland valley became a sieve through which the mainstream of settlement was to pass while those who could go no further due to sickness, injury, death or weariness remained to fill the hollows and ridges of the project region. Presumably, the abundance of potential water power and the iron ore outcrops of the Cumberland Mountain slopes attracted a number of settlers who established small forges. Others may have seen economic potential in the steady stream of settlers and established small enterprises geared to services and supplies needed by those travelers (taverns, inns, blacksmithing, trading establishments, etc.).

It was during these years that Indian and Euro-American hostilities were to reach their peak. The Kentucky and Tennessee frontier had, for some time prior to 1763, experienced serious violence connected with the French and Indian War. With the advent of the Revolutionary War though, in 1775, the frontier settlements came under escalated assault by northern Indians allied with the British stationed at Vincennes on the Ohio. From their principal town of Chillicothe on the Ohio, the Shawnee raided the Kentucky settlements of Harrodsburg, Boonesborough, Logan's Station (St. Asaphs) and the settlements on the Holston River. It was not until a series of punitive expeditions were led against the Shawnee by settlement leaders and George Rogers Clark in 1782 that the northern threat was finally extirpated. The Shawnee action during the Revolutionary War was directed primarily towards the north central frontier settlements in Kentucky. Beginning in 1784 and continuing until 1795, the southeastern Kentucky Wilderness road was the subject of intensive Tennessee River Cherokee assaults. Ambushes have been recorded at numerous points along the trail (Collins, R. 1968). Levi Jackson Wilderness Road State Park has preserved the presumed site of the "McNitt Defeat" in which 21 persons were killed by Chickamauga Cherokee (Kincaid 1973: 77). Richland Creek at Barbourville was the scene of an ambush in which four religious ministers were killed. (Ibid., 179). In response to these attacks, the Federal Government had authorized three small companies of militia to be stationed along the road. One company of 40 men was stationed on Richland Creek (Federal Writer's Project 1939). In 1794, Colonel William Whitley of Crab Orchard, Kentucky, led approximately 100 settlers on an unauthorized punitive expedition to the Lower Tennessee Cherokee town of Nickajack and Running Water. The expedition was a success from the settler's point of view, a disaster for the Cherokee. This expedition effectively halted further Cherokee raids on the Wilderness Road.

By the late 1790's, several taverns and inns along the Trail had become key stopping-over places; Mrs. Davis' tavern at the foot of the Gap in the Middlesboro Basin, Richard Ballinger's tavern in the big bend of the river where Barbourville now stands, and John Farris' tavern in Rockcastle County (Kincaid 1973: 196). In 1797, the state of Kentucky, and later Virginia, established toll gates on the Wilderness "Turnpike". One tollgate was located at Cumberland Ford, one at the Gap.

After 1791, Kentucky developed into a major producer of pig iron and ranked third in the United States in the 1830's (Collins, R. 1968). Charcoal timber, native ore, and limestone was abundant in many areas of eastern Kentucky. The Cumberland Mountain area contains furnace remains, notably at Cumberland Gap.

The first decades of the nineteenth century saw the emergence of livestock herding as a major economic activity in central Kentucky. The Wilderness Road became a primary route for the export of swine, cattle, sheep, mules, and thoroughbred horses. To accommodate the drovers during the marketing season, many residents along the Road built corrals for the overnight care of livestock. The small farms along the Road in southeastern Kentucky profited from these drives by selling all of the feed they could raise (Kincaid 1973: 205).

The development of the timber industry in the project area during the early nineteenth century was in response to the growing needs of the Bluegrass area. The cutting of timber for commercial export was perhaps the first substantial break from the traditional agriculturalist/pastoral mode of existence in the upper Cumberland valley. Of a limited nature, early timber cutting was probably a part-time activity limited to clearing of stream banks. Some residents along the road, however, profited substantially from this activity and it was during this time that the first slave labor was introduced into the region (Caudill 1963).

Civil War

The project area was essentially a pro-Union bastion during the Civil War. The area had never experienced the intensive slave labor economy of the Bluegrass and cash crop areas of the South. As a result, Union authorities in 1861 were able to feasibly consider the old Wilderness Turnpike as the shortest and most direct thrust into the heartland of the Confederacy (Kincaid 1973: 225). Before this plan could be accomplished, the Confederates, after occupying and quelling loyalist opposition in east Tennessee, closed Cumberland Gap. A Union recruiting camp was established in Barbourville to receive loyalists fleeing across the Tennessee border. After Union troops occupied Hickman, Kentucky, the Confederates invaded Kentucky through the Gap. After a skirmish on Yellow Creek, General Felix Zollicoffer established a post at Cumberland Ford (Camp Buckner) (Ibid., 229). From there, the Confederate force moved on the recruitment camp at Barbourville. After raiding saltmines at Manchester, the force returned

to Tennessee. This was the first of many advances on the old road by Confederate and Union forces. In the fall of 1861, the Confederates again advanced along the road to Rockcastle County and were repulsed by London-based Union troops. The Union troops pursued the Confederates back down the trail to the Gap. The Gap was for the first time heavily fortified by Zollicoffer with heavy artillery and a garrison of men. This virtually impregnable fortress was the eastern terminus of a powerful Confederate border force which stretched along the Tennessee-Kentucky line westward to the Mississippi River. Hesitant Washington officials had pulled the reins in on the widely-scattered Union forces of Kentucky and Union troops were set to foraging in the country-side and maintaining the Road from London to Cumberland Ford. It wasn't until 1862 that Union forces were advanced to take possession of the Cumberland Gap. The Union forces were able to take the fortress without bloodshed. The Confederates abandoned the Gap fortress, allowing the Union forces to take possession. Throughout 1862, the entire project area was the scene of Union troop activity; bivouaks in Yellow Creek Valley, batteries on mountainsides facing south, and guard posts at strategic gaps and along roads into Harlan County. Again, hesitant Washington officials prevented a Union assault on Confederate-held Tennessee from the Gap. The summer of 1862 saw the Confederates advancing on the upper Cumberland Valley from the south. By late summer, 1862, the 10,000-man Union force at Cumberland Gap was surrounded by Confederates. The Rebel force had taken the Ford and was headquartered at Barbourville. After several months of siege, the Union force evacuated the Gap and escaped northward to the Ohio River. As a defensive measure, the Union forces annihilated the pinnacle fortress by setting off their large stores of ammunition. In 1863, Union and Confederate movement was heavy in the project area. While the Confederates held the Gap, Union forces concentrated moving into Tennessee through Williamsburg to the west. In the fall of 1863, the Gap was once again in the hands of the Union forces. In the winter of 1863, General U. S. Grant traveled along the Wilderness Road on his way to Lexington. He stopped to inspect the garrison at the Gap and then proceeded to Barbourville and the Ben Eve Hotel (now demolished). Grant's purpose was to investigate the feasibility of using the Wilderness Road as a federal supply route. The Road was apparently in such bad shape that Grant decided it was useless to that cause and abandoned the idea (Ibid., 281) Thus the Civil War ended in the project area with the Gap firmly in Union control.

THE INDUSTRIAL REVOLUTION

After the Civil War, word reached the eastern states that coal, iron, timber, and adequate water power were in abundance in the hills of southeastern Kentucky north of the Gap (Kincaid 1973: 310). The news inspired railroad companies to begin to investigate the possibilities of extending rail service to these hills in an effort to exploit the resources. Frontmen were sent on exploratory trips into the region to assess the potential of timber resources, where the best coal seams were, and generally the lay of the land. The scattered inhabitants of the area were contacted and speculations were formulated concerning property acquisition. In 1886, eastern interests optioned 20,000 acres of land (Ibid., 316). It was also in 1886 that the great earthquake at Charleston, South Carolina was felt in the project area, 400 miles away. In 1887, foreign investors were given tours of the area which resulted in the backing of a railline from Knoxville, Tennessee, to the Kentucky coal fields. By this time, more than 80,000 acres had been purchased or optioned by outsiders. The Louisville and Nashville Railroad had built a rail line from Livingston, Kentucky, to Jellico, Tennessee (Ibid., 317). It soon became a race among eastern interests to reach the project area first with railines. During the construction of these lines, hundreds of black and white laborers (including Italians) were imported. The "town" of Cumberland Gap was thus created. These first "company" towns were virtually created overnight and replaced valleys containing scattered farmsteads and mills with teeming metropolises containing tents, temporary houses, stores, sawmills, blacksmith shops, and saloons. The years 1887-1888 were frenzied construction days. In 1888, the first stake was driven in the Yellow Creek Valley for the town of Middlesborough. Prior to this, the valley contained no more than 50 farmers. Speculators envisioned a town capable of supporting a quarter of a million people and numerous industrial plants. Middlesboro became a "model" company town of approximately 5,500 acres composed of main streets, avenues, a business district, and suburbs. Hundreds of Italians were imported to excavate a new channel for Yellow Creek, construct a lake on Little Yellow Creek, and build a belt line railline around the city. The L&N rail line finally reached Cumberland Gap in 1889. The year had been spent cutting a tunnel through Cumberland Mountain to make this historic event possible. By the end of 1889, Middlesboro was populated by 5,000 people, sported two blast furnaces, and a tannery. An electric light, heat, and power plant was under construction. Soon other "towns" grew up in the region. Corbin, Benham, Lynch, and Jellico, Tennessee, all arose from rural valleys to support large populations of ethnically diverse, company-dependant workers.

In 1890, the area suffered a devastating depression in which the formerly thriving company towns experienced serious setbacks. The American Panic of 1893 brought the final collapse (Ibid., 338). By 1895, almost all of the enterprises connected with the boom (banks, coal and brick companies, building concerns, waterworks, casket factories, handle

factories, stone and iron works) were defunct. After 1897, the area grew stronger and the old pre-panic industries once again developed. These industries, operating at a lower, but sustained level, continued into the twentieth century until the Great Depression of the late 1920's. The coal industry had developed into an economic mainstay which experienced another boom in the 1930s and 40s only to again fall upon hard times in the 1950s and 60s.

EARLY SETTLEMENT

Historical accounts of settlement normally concentrate on landmark explorations and personalities as they appear in the historic record. The preceding account of the history of the project area has likewise concentrated on these aspects. While systematic exploration was underway from the late seventeenth century to the mid-eighteenth century, the fringe of the western frontier was undergoing a gradual infusion of incipient Euro-American settlement. Prior to Batts and Fallam's 1671 expedition (in which evidence of white presence was noticed), traders, hunters, and trappers were probably frequenting the Indian routes of the eastern Appalachian Divide. Caudill, in his work entitled Night Comes to the Cumberland (1963) has discussed the probable nature and intensity of early Euro-American settlers in the Appalachian region.

The theme of Caudill's work is to trace the development of the Appalachian region, particularly the eastern Kentucky coal-producing areas. The purpose is to vividly illustrate what Caudill believes to be the historic causal factors operating in Appalachia which have resulted in current conditions (poverty and ignorance essentially). Of interest here, though, are his observations on the cultural heritage of the earliest settlers. Caudill maintains that the earliest settlers in the region were not of the "middle class" or even "landed gentry" of the New England coast towns, but the unfortunate victims of the Southern tobacco plantation system operating in the eastern piedmont. He further maintains that these early settlers were, for the most part, cultural castoffs, shanghaied from the debtor's prisons, orphanages, and "hell-holes of crime and venality" of teeming British cities and forced into indentureship on the Southern plantations. Caudill confidently develops a scenario whereby the Appalachian region was the receptacle for "human refuse" as indentured servants with an urban heritage escaped their bonds and disappeared into the interior. These fugitives arrived in the hills with no tradition of agricultural subsistence and were forced to learn cultivation from the Indians. Slowly, the numbers of "backwoodsmen" increased in the last quarter of the seventeenth century and through the eighteenth century. They were eventually joined by newcomers from the coastal regions. Caudill relates that family names in eastern Kentucky now are heard over the entire southern mountain region and "bespeak a peasant and yeoman ancestry" originating from England, Scotland, and Ireland.

Caudill's impassioned literary style did much to bring to America's attention the plight of these hill dwellers and to begin the War on Poverty of the early sixties. However, it contributes little to an unbiased understanding of anthropological problems of cultural origins, traditions, and development as they bear on historic settlement, economic, and transportation systems in the project area.

The early Euro-American settlers, prior to the mid-1760s, were probably oriented to hunting and trapping as a way of life, living in a close relationship with the natural environment. Euro-American penetration into the interior was, at this time, so little as to pose no real threat to the aboriginal inhabitants of the region and therefore peaceful co-existence may have prevailed. Whether as lone individuals or nuclear families, the primary mode of settlement may be termed base camps from which short-term hunting expeditions were launched. The base camp could have taken one of three forms; (1) an open air campsite with hide preparation areas, (2) semi-permanent encampments in large rockshelters, where available, or (3) more permanent homesites consisting of cabin, garden, and activity areas. If one assumes that the established Indian paths were utilized as primary transportation routes by the settlers, and that the Wilderness Trail was the primary route in the project area, then a preliminary settlement pattern for the early historic period of the project area can be postulated.

The Upper Cumberland River Basin, as a physiographic unit, is characterized by small, irregular, floodplains bounded by very steep valley walls in Bell and Harlan Counties. As the river flows in a westerly direction, the valley opens slightly as it leaves the Pine Mountain area and enters the Cumberland Plateau in Knox and Whitley Counties. Though still a heavily-dissected area, the Plateau floodplains are generally broader with older, more prominent terrace and levee features.

The basin is composed of the mainstream valley below Harlan, Kentucky, its source streams, Poor Fork and Clover Fork above Harlan, main tributary streams, Yellow Creek in Bell County and Clear Fork in Whitley County, Kentucky and Campbell County, Tennessee, and a number of smaller tributary streams. Each of these valleys have distinct physiographic and environmental zones. In broad terms, the primary zones include (1) the floodplain and (2) the V-shaped valley walls (including habitable drainage hollows). Undoubtedly, these two zones can be compartmentalized into smaller, more specific environmental and micro-environmental zones. However, the two broad divisions are adequate for this discussion.

The Wilderness Trail between Cumberland Gap and Flat Lick, parallels the Cumberland River, except between the Gap and Pine Mountain where it parallels Yellow Creek. This is the path of least resistance through the rugged terrain of the project area. Early hunters and trappers were highly mobile as a group and probably left little mark on the landscape as they moved along the trail and adjacent country-side. Butchering camps were probably close to, if not the same as, kill sites, while hide and fur preparation may have been a "base camp" activity. The evidence for such a mode of existence would be ephemeral at best unless long-term and intensive use could be established. Within the two physiographic/environmental zones described above (floodplain vs. valley wall), kill/butchering sites could occur primarily near to game-attracting natural features (salt licks for example) or anywhere game was found. Base camps, however, may have been more purposefully situated in favored locations and continually visited. It was probably not until the era of the "Long Hunters" (after 1750) that base camps became a significant, long-term phenomenon. Base camps may have coincided with later homestead sites in the tributary valleys and on high mainstream floodplain features.

The use of rockshelters during the historic period by Euro-Americans is not unknown. Rockshelters afford convenient, accessible shelter from the elements, and, in a hunting and trapping mode of existence, almost certainly saw use by Euro-Americans as temporary shelter. Recent survey work in the Big South Fork National River and Recreation Area of Kentucky and Tennessee has recorded extensive use of rockshelters as secluded still sites, historic campsites, living quarters, and once, even as a school (R. Karwedsky, personal communication). It is not unlikely that rockshelters saw temporary use as family shelters in lieu of more permanent shelter. Within the project area, rockshelters would occur in the valley wall and drainage hollow zone where rock substrate is naturally exposed.

More permanent homesteads constitute the most significant historic feature of the early historic period. Often of corner-notched logs, the early settler's cabin was probably a single-room abode with a stick and clay or rough stone chimney and dirt or puncheon floor. Yard features might include a garden trash disposal area, pathways, firewood station, and hunting-related activity areas. In his discussion of environmental preference and settlement location in the Tombigbee River Valley in the Fall Line Hills of northeast Mississippi and the Black Belt Prairie of Mississippi and Alabama, David Weaver has the following to say about early historic settlement:

"They generally limited their initial advances to the forested area, spreading along the wooded ridges adjacent to the prairie. Small clearings in the timber were tilled . . . "

(1979: 226)

Also:

While it was considered highly desirable to be within easy hauling distance of the Tombigbee River, settlers commonly avoided its heavily wooded and unhealthful floodplain. Fever and plague were especially to be dreaded on the lower portions of the floodplain, and settlers who chose bottom lands were advised to build their homes on the highest part of the natural levee at the edge of the stream, or better still on the adjacent bluffs. Woodcutters occasionally established themselves on the floodplain but rarely, if ever, escaped the floodplain diseases. Periodic floods of major proportions were probably a greater deterrent to residential occupation of the flood plain, particularly around the main channel.

and,

"The bottoms of tributary valleys less subject to massive inundation and somewhat better drained were more often desirable. These provided loci for a considerable amount of settlement in the hill areas." (1979: 229)

Although the latter two excerpts refer to later historic agriculturalist traditions of the Fall Line Hills of Mississippi, the salient points of the occupance process described for upland areas may be valid for the Upper Cumberland River Basin in the project area.

ARCHITECTURAL RESOURCES

Observations concerning architectural resources of the project area in general were made along roads and highways. Of particular interest were dwellings exhibiting features common to Southern folk architecture. Folk architecture refers to a form of structure and building construction in which cultural tradition, and not personal stylistics, play a large part. Folk dwellings utilize floorplans developed in Medieval Europe and England which were transplanted to the eastern Tidewater colonies of seventeenth century America. Basic folk house types have been defined by several scholars, notably Eugene Wilson in his Alabama Folk Houses (1975). Based on floor plan, Wilson has determined four basic folk house types; the single pen, the double pen, the dogtrot, and saddlebag (Ibid., 25).

For the purposes of this report, the term "pen" will be used to denote a spatial unit of log structures only. In all other cases, the term "room" will be used in reference to folk plan dwellings of frame-weatherboarded construction. Additionally, folk house types will be distinguished only by the terms single pen/room and double pen/room. The terms saddlebag, dogtrot, "I" house, and others, though generally used throughout the literature to denote folk house types, are not here considered as separate folk house types but instead, variations on the double pen/room floorplan theme.

Within the Upper Cumberland valley, very few single and double pen log dwellings were noted. One-story frame and/or weatherboarded double room structures predominate. Of the folk plan structures, very few were a story and a half or two stories high.

In general, folk plan dwellings are representative of early American housing and for the most part, began to be replaced in the early twentieth century by more modern or popular forms.

Single pen log dwellings. Wilson reports that "morphologically, single pen log houses are the earliest folk house type" and that "typologically, this folk type was derived from the old English "one bay" house" (1975: 71). The examples noted in the Upper Cumberland valley (three) are all of hewn log construction and located at the base of the valley walls on eroded remnants. (Log construction was first introduced in America by northern European settlers. The log construction seen in the upper Cumberland valley was probably introduced by settlers who adapted German methods of log construction to ancestral English one-bay house forms.) Visitors to the valley in the last quarter of the nineteenth century noted that the "one room log cabin" was the primary dwelling of the residents (Kincaid 1973: 306). Two of the dwellings noted in the valley in this study were still in use as dwellings.

Double pen log dwellings. Double "pen" structures are a result of adding another log pen to one or the other gable end of the first, original, pen. Variations include the dogtrot, saddlebag, and flush double pen. The dogtrot was formed when a second pen was connected to the first by a roofed, open passageway. Each pen had a chimney on the exterior gable end. The term "dogtrot" refers to this central open passageway, or breezeway, separating the two pens. The saddlebag form results when a second pen is added to the first on the gable-end chimney side. The result is a double pen structure with a central chimney. The flush double pen was formed when a second pen was added flush to a gable end of the first, with chimneys on each of the two exterior gable ends. Two hewn log double pen dwellings were observed in the valley. Both structures were lacking chimneys, and in as much as close inspection was not possible, they appeared to be either saddlebag or flush double pen in plan.

More single and double pen dwellings undoubtedly exist in the valley. A roadside survey is inadequate for documenting these resources fully and more extensive investigation is beyond the scope of this study. Presumably, many ostensibly "frame" structures may in fact be weather-boarded log dwellings. Single pen dwellings may now form the ancient core of larger, frame dwellings. In any case, early log structures are an uncommon phenomenon in the United States and as such should be considered of special importance and in need of preservation.

Frame folk dwellings in the valley take the same form as log folk dwellings in that the basic floorplan characteristics of dogtrots, saddlebags, etc., are incorporated into the initial design. Above all else, the frame integral saddlebag form predominates in the valley and seems to constitute a truly vernacular, or locally indigenous, housing form. These double room, central chimney dwellings are common in both a rural and urban setting in the valley. The valley inhabitants have adapted modern construction materials to a very old folk plan and for various reasons the type has successfully survived into the twentieth century as a viable modern dwelling.

The folk house types described above are, for the most part, one or one and a half stories in height. Two story frame folk dwellings occur in the area, principally between Barbourville and Pineville within the Cumberland River floodplain. The dwellings appear to have folk floorplans of the double pen type and are referred to by Wilson (1975: 44) as "I" houses.

Concerning the distribution of folk house types in Alabama, Wilson reports that:

"In general, parts of the state in which more traditional farming is still important have retained a larger proportion of folk houses. Sections that have shifted to other activities, such as mining in the Warrior basin, or timber, or that have developed greater mechanization in agriculture, tend to retain fewer folk houses."

(1975: 63)

General impressions of the distribution of folk housing in the project area seem to support this. With the exception of the frame saddlebag dwellings, one sees a greater number of folk dwellings in the rural areas of the valley.

An interesting house form in the valley which seems to occur throughout the upper Cumberland valley is the pole log bungalow. Bungalow dwellings are generally square in floorplan often with four rooms symmetrically arranged. Unlike folk types, the entrance is generally in the gable end which faces the road or highway. The type is an early twentieth century introduction. Pole log construction is not uncommon in the South and can represent either an economic expedient to milled lumber, or a continuation of a cultural tradition, particularly in the event log notching is U-shaped. U-shaped, or saddle notching, is one of the oldest types of notching (Wilson 1975: 55) and is generally associated with pole log construction. Wilson has noted that a concentration of the bungalow form in the Warrior Basin of Alabama appears to be associated with a change from subsistence agriculture to coal mining (1975: 69). In the upper Cumberland valley, the frame saddlebag dwelling may play the same role.

BRIDGES

Bridges in the project area fall into three categories of usage, vehicular, railroad, or pedestrian. Vehicular bridges occur in a number of forms in the valley; concrete overpasses, through trusses, pony trusses, and jerry-built low water crossings. Railroad bridges are generally confined to concrete deck types. Pedestrian bridges are notable in that hanging footbridges are very common and are often associated with individual homesteads.

Of the vehicular truss forms, one Parker Through Truss crosses the Clover Fork at Harlan and a double span, Warren pony truss with verticals is located at the crossing of Cannon Creek at Ferndale (Bell County) (Site 110). Both of these trusses are of types which were introduced in the last half of the nineteenth century and which continued to be built into the twentieth century (Comp and Jackson n.d.).

The pedestrian hanging footbridges were apparently constructed during the WPA era (Mrs. Pat Tollivar personal communication 1980). They are impressive spans consisting of a narrow plank deck suspended by thin cables which in turn are supported by heavier parallel cables strung between wooden pole supports on each bank. These hanging footbridges may be directly associated with a coal-mining economy, possibly through the availability of cable in the area (Danny Olinger personal communication 1980).

KNOWN HISTORIC RESOURCES

In 1971, the Kentucky Heritage Commission conducted a statewide survey of historic sites in the Commonwealth of Kentucky. The following sites have been recorded for the project counties in Kentucky:

Bell County

Burchfield House. 304 Park Avenue, Pineville, Bell County.
ca. 1900. Architectural example.

Civil War Breastworks. Near Pine Mountain State Park lake and golf course, Pineville, Bell County. Civil War rifle pits used to guard the Wilderness Road at approach to Cumberland Gap.

Colson, Rev. John C., House. North 19th Street, Middlesboro, Bell County. 1800. Oldest house standing in the area; originally served as a home, tavern, store and schoolroom.

Cumberland Ford. Cumberland River opposite Walnut Street, Pineville, Bell County. Shallow crossing used as ford by buffalo, early explorers and settlers.

Cumberland Gap. Bell County. Pass through mountains, originally an Indian trail later used by early explorers, by Daniel Boone and settlers, as major route of migration and trade to west.

Gibson, J. J., House. Cumberland Avenue, Pineville, Bell County. 1867. Built facing the Cumberland Ford, on foundation of brick house built in early 1800's by Isaac Shelby, first governor of Kentucky.

Log Barn. Off KY 66, near Stoney Fork, Bell County. Date unknown. Example of unique type of barn.

Middlesboro Country Club Golf Course. Cirencester Avenue, Middlesboro, Bell County. 1889. Oldest golf course in the United States.

Partin, Evan, House. Frakes, Bell County. Originally the home of the Evan Partin family, later used by the Henderson Settlement Methodist Mission as the first school in the area and community center.

People's Building. 20th and Cumberland Avenue, Misslesboro, Bell County. 1890. Early office building, originally called "Arthur's Block."

St. Anthony's Mission. Virginia Avenue, Pineville, Bell County. 1889. Oldest church structure in Pineville.

St. Mary's Episcopal Church. 131 Edgewood Road, Middlesboro, Bell County. 1890-91. Architectural example.

Harlan County

Bailey, Andrew Jackson, House. Near Shields, Harlan County. Pre-1900. Architectural example.

Cawood, Hiram, House. Crummies Creek, Martins Fork, Cumberland River, Harlan County. Pre-1900. Log house.

Farmer, John, House. Farmer's Mill, Harlan County. 1847. Built in two days by a community "house raising"; mentioned in Ripley's "Believe It or Not."

Farmer, Leonard, House. Farmer's Mill, Harlan County. Date unknown. Architectural example.

Metcalf, Adrian, House. KY 221 and 510, Pine Mountain, Harlan County. Pre-1850. Early log house.

Knox County

Sampson, Flem D., House. Sampson Hill, Barbourville, Knox County. 1921. Originally the home of Flem D. Sampson, 44th governor of Kentucky.

Walker, Dr. Thomas, Cabin (Reconstruction). KY 459, Barbourville, Knox County. Replica of first cabin erected in Kentucky, 1750, by Thomas Walker, M.D., surveyor and explorer.

Whitley County

Gatliff, Dr. A., House. Fifth and Main Streets, Williamsburg, Whitley County. ca. 1886. Home of Dr. A. Gatliff, one of the founders of the Williamsburg Institute (now Cumberland College) and a pioneer coal operator.

The Gray Brick. 8th Street between Maple and Walnut, Williamsburg, Whitley County. Late 1800's. Originally housed Highland Academy, also called Highland Normal College; now used by Cumberland College as a classroom building.

Roburn Hall. 809 West Main Street, Williamsburg, Whitley County. 1880. Originally a classroom building for the Williamsburg Institute, now used by Cumberland College as a dormitory.

Snyder Home. Pineville Road, Williamsburg, Whitley County. 1890. Oldest brick residence standing in Williamsburg.

The Wood's Playhouse. 300 South Third Street, Williamsburg, Whitley County. Late 1800's. Brick cottage built as temporary residence by the founder of the Kentucky Lumber Company; Mrs. Woodrow Wilson used it as a laundry room while staying with her sister in the early 1900's.

None of these sites will be affected by the project work.

LAND USE PATTERNS

Within the upper Cumberland River Basin, the preservation of historic and prehistoric cultural resources is directly related to past and current land use practices and their effect on the natural environment. Land use practices are a result of patterns of transportation, settlement, and economic systems which have developed over the centuries. These cultural systems are often physically constrained by the bounds of natural physiography and this will be reflected in the modern cultural landscape.

As the "path of least resistance" through the rugged terrain of southeastern Kentucky, the Upper Cumberland River Valley evolved into a corridor of movement for animals and humans alike. Thus the Wilderness Trail developed as an artery of transportation and economic activity, and a landmark for settlement within the basin. Prior to intensive exploitation of natural resources in the late nineteenth century, the mainstream tributary and source stream valleys supported an agricultural-pastoral economy with a dispersed low-density population which placed mild demands on the natural resources. The majority of home and farmsteads were probably located up tributary streams, and, within the mainstream valley, at the base of the valley walls and on high floodplain features. The developing pattern of settlement was probably linear along the valley and Trail varying little from one end of the basin to the other. Individuals participating in the exploitation of timber (beginning in the 1830s) were not entirely divorced from agricultural endeavors and therefore, this new economic activity probably did not inspire dramatic changes in land use until much later on when the shift to such was complete. With the advent of the industrial revolution in the northeastern United States, land use patterns altered considerably in the basin. What must be made clear is that the project area played the role of a "supplier" of raw materials needed to nourish the industrial machinery of the northeastern United States and Europe. The region never experienced the Industrial Revolution directly in the form of heavy structural development associated with industrial growth. In any event, land use patterns of the project area did change and the basis for this change resides in the shift from a predominantly agricultural-pastoral economy with a dispersed low population density, to a wage-earning economy and localized high-population density.

Prior to 1800, land use in the project region was non-intensive. Agricultural and pastoral subsistence activities would have impacted forested bottom lands and hill slopes. The subsequent erosion of soil from farming and pasturing was probably of insignificant intensity. The low population density of the valleys did not hinder the clearing of additional land when that in use became exhausted. As the Bluegrass and Ohio River valley settlements grew, so did a need for wooden construction and manufacturing raw materials. By the 1830s, timbering for profit had begun on a small scale in the project region. By all accounts, forest resources primarily along stream and river banks were cut and floated downstream during periods of high water.

"Urban" settlements were few and far between in the upper Cumberland basin prior to 1870. Cumberland Ford, Barbourville, Williamsburg and Mt. Pleasant (Harlan) are four of the earliest settlements. Collins, in his Historical Sketches of Kentucky, first published in 1847 and reprinted in 1874, described Cumberland Ford as "one of the oldest settlements" in the valley. These settlements were tiny communities located at strategic points along the river and Wilderness Trail. Collins has published population statistics for Barbourville and Williamsburg illustrated in Table 1. These communities supported various commercial enterprises; inns, corrals, blacksmiths, taverns, and mills.

TOWNS	1870	1860	1850	1840	1830	1810
Barbourville, KY	438	230	184	224	138	55
Williamsburg, KY	139	125	-	-	50	

Table 1 Population statistics for Barbourville, Kentucky (Knox County) and Williamsburg, Kentucky (Whitley County)

By 1870, the project area had shown some increase in population, both white and black (Tables 2 and 3). Diversification in agricultural endeavors resulted in a sizable production of tobacco (a cash crop) and in one instance, hemp (Harlan County). Livestock herding (cattle and hogs), a primary economic mainstay, resulted in the establishment of corn as a primary agricultural endeavor. These factors can be seen in the 1870 statistics drawn from Collins in Tables 4 and 5.

Counties	1870	1860	1850	1840	1830	1820	1810	1800	1790
Harlan	4415	5494	4268	3015	2929	1961	-	-	-
Knox	8294	7707	7050	5722	4315	3661	5875	1109	-
Whitley	8278	7762	7447	4573	3806	2340	-	-	-
Josh Bell	3731	-	-	-	-	-	-	-	-
KENTUCKY	1,321,011	1,555,684	982,405	779,828	687,917	564,317	406,511	220,955	73,677

Table 2 Project County Population Statistics Prior to 1870
(excluding slave population) (Collins 1847, 1874)

Counties	1860	1850	1840	1830	1820	1810	1800	1790
Harlan	127	123	79					
Knox	489	612	536					
Whitley	183	201	146					
KENTUCKY	225,483	210,981	182,258	165,213	126,732	80,561	40,343	12,430

Table 3 Project County and Kentucky Slave Population Statistics Prior to
the Civil War (Collins 1847, 1874)

Counties	Tobacco (pounds)	Hemp (pounds)	Hay (bushels)	Corn (bushels)	Wheat (bushels)
Harlan	4,606	565	174	138,667	1,752
Knox	10,122		651	227,398	13,227
Whitley	11,918		520	247,054	7,598
Josh Bell	5,232		192	95,976	3,133
KENTUCKY	98,760,437	12,132,831	174,375	47,237,794	5,475,522

Table 4 Project County Crop Statistics for 1870
(Collins 1847, 1874).

Counties	Horses	Mules	Cattle	Hogs
Harlan	741	54	3476	5171
Knox	1611	269	5819	7456
Whitley	1732	247	7625	8460
Josh Bell	644	54	2701	2921
Kentucky	352,106	83,519	635,789	918,574

Table 5 Project County Livestock Statistics for 1870
(Collins 1847, 1874)

With the dawn of the industrial revolution in the northeastern United States, land use practices in the project region changed dramatically. After 1870, the cutting of timber reached unprecedented proportions as outside investors began to option thousands of acres of forestland and subterranean mineral resources. With the escalating need of wood products for the mushrooming urban and industrial areas of the eastern United States, the inhabitants of the project region began to drift away from the traditional agricultural-pastoral way of life and partake of the profitable timbering economy. As laborers were imported into the region to construct rail lines, tunnels, towns, roads, and to man the newly opened mines, population pressures within the tightly constrained system of valleys and uplands began to be felt. Valleys that once supported 50 settlers or less, suddenly exploded with growth. The 1880s saw the overnight creation of company towns such as, Middlesboro, Benham, Lynch, and Cumberland Gap. The valleys were transformed into crowded residential, commercial, and light industrial centers. The surrounding hillsides began to experience the onslaught of excavation, quarrying, and subsequent erosion. As the floodplains developed, so did the threat of property destruction from flooding. Some towns, such as Middlesboro, constructed flood control structures and re-channeled streams. Filling and leveling of the floodplain for residential use was initiated. The upper reaches of the Cumberland basin upstream of Pineville felt the brunt of this assault. Below Pineville, where the valley broadened slightly, the pressures of urban and commercial expansion were felt with less intensity than the upper reaches. Agricultural and pastoral lands remained available and the urban development was centered around the Barbourville and Williamsburg communities.

In the years following the turn of the century, the valleys experienced continued development. Macadam highways made their appearance, usually, pre-empting additional flood plain areas.

THE MODERN SETTING

Within the study area, the density of population for the total land area is comparatively low. However, in terms of land available for human settlement, the densities are higher. The constriction of the floodplain by such massive topographic features such as Pine Mountain, has effectively minimized habitable land. As a consequence, the general pattern of development has been in narrow strips along major transportation arteries or through narrow valleys in mountainous areas. In major commercial-residential centers such as Harlan, Pineville, Barbourville, and Williamsburg, much available floodplain has been intensively developed, usually facilitated by artificial land fills. In many instances, new highways have been constructed at the base of the valley walls thus eliminating more available high ground within the floodplain. High elevations within the floodplain and bluffs at the base of valley walls are much sought after by residential, commercial and industrial interests in an effort to escape the hazards of flooding. Where no high ground is available, land filling takes place to simulate this safety margin.

The economy of the area is strongly oriented toward coal production which supports a system of related goods and services. Other significant mining and quarrying production consists of limestone, oil and gas, sand and gravel, and clay and stone. The forestry industry is significant in the study area but exhibits a pattern of decreasing production. Agriculture is in greater decline than forestry because of soil erosion, increased flooding, and the strong demand for developable tracts of land for real estate purposes. What agriculture there exists is characterized by limited corn production and small truck farms. Corn is often grown to feed stock and not for cash.

Land use patterns in the Kentucky portion of the project area today can best be illustrated by Table 6 in which each of the four counties are broken down into acres devoted to urban use, water areas, crop and pastureland, and forest land. The largest category of land use, forestland, is not broken down into that which is used for mining or quarrying. The Tennessee Valley Authority, however, has compiled data on orphan strip mines in all of the project counties (TVA 1974). The data estimates the number of acres of formerly surface mined areas that are in need of reclamation. Though the figures do not reflect actual total acreage devoted to past or current surface mining, they do hint at the extensiveness of this activity in, one would assume, "Forestland areas". Additionally, crushed limestone is quarried in Bell and Harlan Counties and this is expected to represent a small percentage of forestland use.

Tables 7, 8, and 9 illustrate the number and size of farms in the four county Kentucky project portion. At five year intervals between 1964 and 1974, Knox and Whitley counties exhibited a general decline in farm numbers and an increase in farm size. Harlan and Bell counties show a midpoint slump and then a slight increase in the number of farms. Harlan and Bell counties though, exhibited a decrease in the average farm size. This is tied directly to the natural topography of the region in that less arable land is available in the upper reaches of the Cumberland Valley encompassed by Bell and Harlan counties.

The implications of current land use practices in the Upper Cumberland reaches are not particularly good in terms of cultural resources preservation. This is especially true upstream of Pineville on the Cumberland River proper. Oftentimes, the most favorable locations for historic settlement and modern development are favorable locations for prehistoric settlement as well. The intensity of development in conjunction with extensive filling in urban areas of the upper river valley has lessened the probability that prehistoric and historic archeological sites will be found in great numbers. Systematic surveys of the floodplain in counties such as Harlan should be performed to identify resources as soon as possible. Land use practices are not the most important factor in resource preservation, or the lack thereof. The natural condition of the modern basin as either an aggradational or degradational system will have an even more important role, particularly in the preservation of very early aboriginal sites. In any case, destructive modern land use practices are most intensive in and around urban areas. Non-agricultural rural inhabitants consistently fill floodplain areas for house construction. Rural agriculturalists fill naturally irregular floodplain areas to level out low-lying wetlands normally unsuited for farming.

Counties	Total	Urban	Water	Crop/Pasture	Forestland	(Strip Mine Reclamation)
Harlan	281,027	10,691	1213	7,173	261,950	(11,866)
Knox	226,964	5,970	770	42,524	177,700	(2,295)
Whitley	289,320	9,434	1758	50,543	227,585	(5,585)
Bell	627,513	9,577	653	6,976	610,307	(6,521)

Table 6 Land Use Figures in Acres for Project Counties in Kentucky (Cumberland Valley Area Development District 1977) and (Tennessee Valley Authority 1974).

1910 - 1977

YEAR	No. Farms (000)	Average Size (Acres)	Total Land in Farms (000 Acres)	YEAR	No. Farms (000)	Average Size (Acres)	Total Land in Farms (000 Acres)
1910	259	85.6	22,170	1967	138	124.0	17,000
1920	271	79.9	21,653	1968	133	126.0	16,800
1930	264	80.8	21,331	1969	128	128.0	16,400
1935	279	74.4	20,757	1970	127	128.0	16,300
1940	267	77.5	20,700	1971	126	129.0	16,200
1945	242	82.0	19,844	1972	126	129.0	16,200
1950	230	86.0	19,780	1973	126	129.0	16,200
1955	187	101.0	18,887	1974	126	129.0	16,200
1960	161	112.0	18,032	1975	125	129.0	16,100
1965	142	123.0	17,500	1976	124	129.0	16,000
1966	140	124.0	17,300	1977	124	129.0	16,000

Table 7 Kentucky Farms: Numbers and Size (Kentucky Crop and Livestock Reporting Service 1976-1977).

Counties	1964	1969	1974
Harlan	175	60	90
Knox	968	674	534
Whitley	870	581	480
Bell	155	91	121

Table 8 Number of Farms: Kentucky Counties
of Project Area (Cumberland Valley
Area Development District 1977).

Counties	1964	1969	1974
Harlan	99.8	150.6	115
Knox	89.4	104.1	121
Whitley	85.5	104.5	112
Bell	75.4	77.1	54

Table 9 Size of Farms In Acres: Kentucky
Counties of Project Area (Cumberland
Valley Area Development District 1977).

V. FIELD RECONNAISSANCE - METHODS AND JUSTIFICATION

A cultural resources reconnaissance includes literature search and records review plus an on-the-ground surface examination of selected portions of an undertaking's area of environmental impact. This level of investigation should be adequate to assess the general nature of the resources probably present and the probable impact of alternative plans under consideration. This level of investigation is appropriate to preliminary planning decisions and will be of assistance in determining viable alternative plans in feasibility studies during General Investigations. Normally, a reconnaissance level investigation will not yield information of adequate scope to serve as the basis for requesting determinations of eligibility for the National Register of Historic Places (33 CFR 305.4(e)).

Where regional or basinwide studies are being conducted, or where a number of alternatives exist, the scope of the overall investigation may require that cultural resource studies include only literature research, local interviews, and a sample field reconnaissance. For archeological resources this (sample) reconnaissance should be of the magnitude required to provide a predictive model for the numbers, types, and qualities of sites in the area. The minimum surface coverage required to provide adequate quantifiable data for such a predictive model will vary, but normally will not exceed 15 percent of the total impact area of plans under consideration (33 CFR 305.7(c)).

This level of investigation normally occurs during Preauthorization Studies; however, it can be appropriate at more advanced stages in which special conditions ensure the protection of resources. Within the Appalachian Regional Commission Stream Rehabilitation Project, in-house Corps project planners have determined that in the event a project work site is found to contain cultural resources, that site will either be eliminated from the overall project, or the resource will be avoided. This condition is tempered by recommendations resulting from the cultural resource investigation concerning a resource's condition or potential significance. The ARC project is currently at a stage equivalent to standard preconstruction, Advance Engineering and Design phases in which project alternatives have been defined. Project work initiation is pending given the recommendations of the environmental and cultural resources investigations and outside review.

Though the ARC project involves the entire upper Cumberland River basin, the undertaking's area of potential environmental impact is discontinuous, localized, and only generally defined in space. This investigation involved an original set of 40 localized stream rehabilitation sites and 25 proposed disposal areas. Though sketch maps of project sites and estimated volumes of disposal material are available, no precise acreage figures are available. Therefore, it was felt that 100% surface coverage of project sites should be attempted based on individual field conditions and judgmental spatial parameters.

The nature and intensity of proposed work was such that a low-level field methodology was considered adequate for determining the presence or absence of cultural resources. This methodology included pedestrian ground surface examination and uncontrolled soil extruder tests. In no case will the ground be deeply disturbed by project activity. Disposal areas will require excavation of approximately one foot of top soil in preparation and this is expected to represent the most significant ground disturbance. Proposed disposal areas, access roads, and stream banks adjacent to stream rehabilitation sites were tested with a 3/4-inch soil extruder to depths of two to three feet.

Where cultural resources were identified, the resource was located on a US Department of the Interior, Geological Survey topographic map (7.5'), photographs taken, sketch maps of features made, and surface artifacts noted. Diagnostic artifacts were collected when observed. Soil extruder tests were performed to determine if subsurface cultural deposits were present. Estimates of site size were based on surface feature and artifact distribution. Disturbance factors such as existing land fills, excavations, adjacent rail and road beds, agricultural practices, and erosion were noted.

Where resources were not found, topography and existing disturbance factors were noted. In some cases flood-deposited sediments were of such depth that the likelihood of deeply buried sites was considered. In these cases, soil extruder tests to depths of three feet, where possible, were performed. However, the nature of the proposed ARC work makes impact to deeply buried sites improbable.

LITERATURE SEARCH

The literature search and records review portion of this investigation was limited by time, to acquisition of data on cultural resources on, or eligible for, the National Register of Historic Places which may be affected by the proposed work, inquiries concerning recorded archeological sites in the project counties, and a review of Corps of Engineers' Cumberland River mainstream survey maps from 1930 for historic sites and features.

The Tennessee Historical Commission was contacted concerning cultural resources on, or eligible for, the National Register of Historic Places in or around Jellico, Tennessee (Campbell County). The Commission response was negative. The Tennessee Division of Archaeology was consulted concerning recorded archeological sites on the Jellico East and Jellico West topographic quadrangle sheets of the project in Campbell County. No known archeological sites are recorded for these quads.

The Kentucky Heritage Commission was consulted concerning cultural resources on, or eligible for, the National Register in the four Kentucky counties of the project (Whitley, Knox, Bell, and Harlan). The Commission forwarded the following list of National Register sites:

1. Cumberland Gap National Historical Park near Middlesboro, Kentucky (Bell County)
2. American Association Building on Cumberland Avenue in Middlesboro, Kentucky (Bell County)
3. Pine Mountain Settlement School in the Bledsoe vicinity of Harlan County
4. Old Classroom Building at Union College in Barbourville, Kentucky (Knox County)
5. Louisville and Nashville Railroad Depot in Corbin, Kentucky (Whitley County)

The Commission noted that other "historic" areas were considered eligible for listing on the National Register. These were:

1. Cumberland Ford at Pineville (Bell County)
2. A commercial and residential district in Middlesboro, Kentucky (Bell County)

The Kentucky Office of State Archaeology reports that a number of archeological sites are located in the project area. The locations of these sites are recorded on quad sheets at that office, excerpts of which were forwarded to Nashville.

A locational comparison of this information with the project work sites indicates that no cultural resources on, or eligible for, the National Register of Historic Places will be affected by the proposed work. No recorded archeological sites will be affected either. Only Knox and Bell Counties have been systematically surveyed, for archeological sites. The Bell County survey report (DeLorenze 1979) was made available to the Corps of Engineers and has been addressed in the cultural background sections of this report. The Knox County survey report is not yet available.

In 1930, the Corps of Engineers compiled small-scale (1"=800') topographic maps from aerial photographs of the Cumberland River mainstream valley from the river's mouth on the Ohio to immediately east of Pineville, Kentucky. These maps cover both the pre-reservoir mainstream and the lower portions of many tributaries. Illustrated features include 10-foot contour intervals, vegetation, structures and buildings, roads, town plats, and channel features such as shoals, islands, gravel bars, mill dams, fords, bridges, and fish traps.

Project work sites were transferred onto these maps and a listing was made of work sites with potential cultural resources. The following list was constructed:

1. Project Work Site 1 located at Cumberland River Mile 576.1, near Redbird, Kentucky (Whitley County). Historic resources illustrated: Parks Dam (Abandoned), Parks Ford, possible V-shaped fish weir. Potential associated resources include mill site (trash dumps, structure remains). Figure 75

2. Project Work Site 3 located at Cumberland River Mile 578.1, near Redbird, Kentucky (Whitley County). Historic resources illustrated: old dam (broken). Potential associated resources include mill site (trash dumps, structure remains). Figure 76.

3. Project Work Site 4 located at Cumberland River Mile 587.9 near Williamsburg, Kentucky (Whitley County). Historic resources illustrated: old dam (broken). Potential resources include mill site (trash dumps, structure remains). Figure 77.

4. Project Work Site 6 located at Cumberland River Mile 616.9 near Gausdale, Kentucky (Whitley County). Illustrated historic resource: Tyees Ferry Br. Potential resources include structure remains, possibly trash remains. Figure 78.

FIELD WORK RESULTS

The field reconnaissance was conducted during the weeks of 7-1 January 1980, 21-25 January 1980, and 19-22 February 1980. A total of 15 days was spent in the field. A large portion of this period consisted of driving time to and from Nashville, Tennessee, and the project area, between work sites, and between work sites and overnight lodging. Inclement weather was frequent; however, this did not interfere with the field work.

Tables 10 and 11 illustrate the total project work sites, presence or absence of cultural resources and the status of the work sites. Several work sites have already been eliminated for one reason or another and this is noted under "Status". The table shows only those work sites which were supplied to the investigators at the beginning of, or during, the investigation. The following is a presentation of stream rehabilitation and disposal sites at which cultural resources were identified.

Project Site 9 and adjacent Disposal U. Located at Cumberland River Mile 647.6, Flat Lick, Kentucky (Knox County). The Cumberland River forms a large bend in the river here and has cut through the narrow point of the floodplain with a secondary channel. The result has been the creation of a good size island of floodplain material separated from the existing bank by a narrow secondary flood chute and bar of scoured basal gravel. Large river bank hardwoods cover the "island". The existing bank is steeply terraced and roughly 10 to 15 feet high. The proposed work involves clearing of vegetation between the island and the bank, on-site burning, debris removal and removal of the gravel bar between the bank and island. The excavated material and debris will be hauled away from the bank to

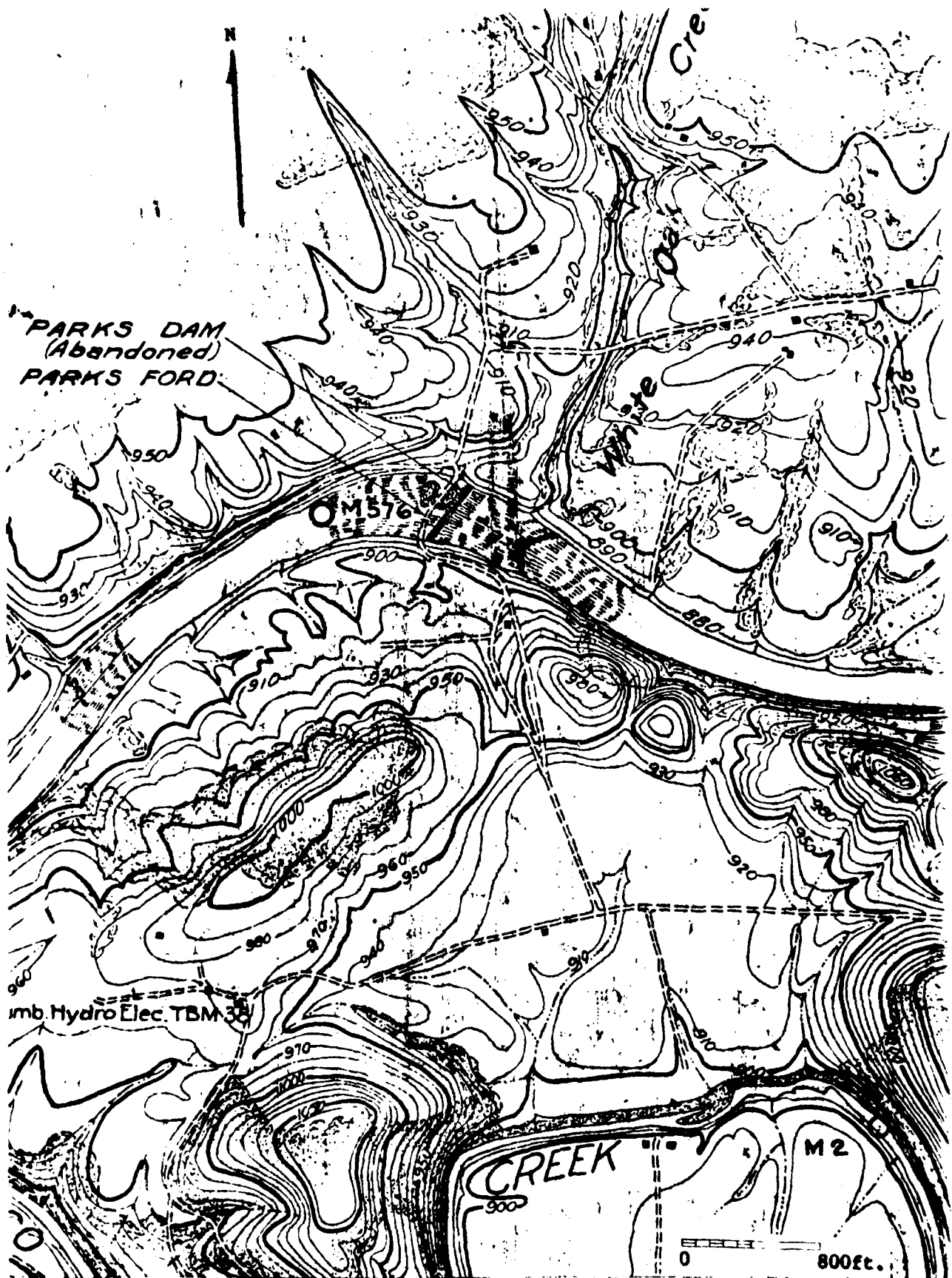


Figure 75. Project Work Site 1, 1930 Survey Map . .

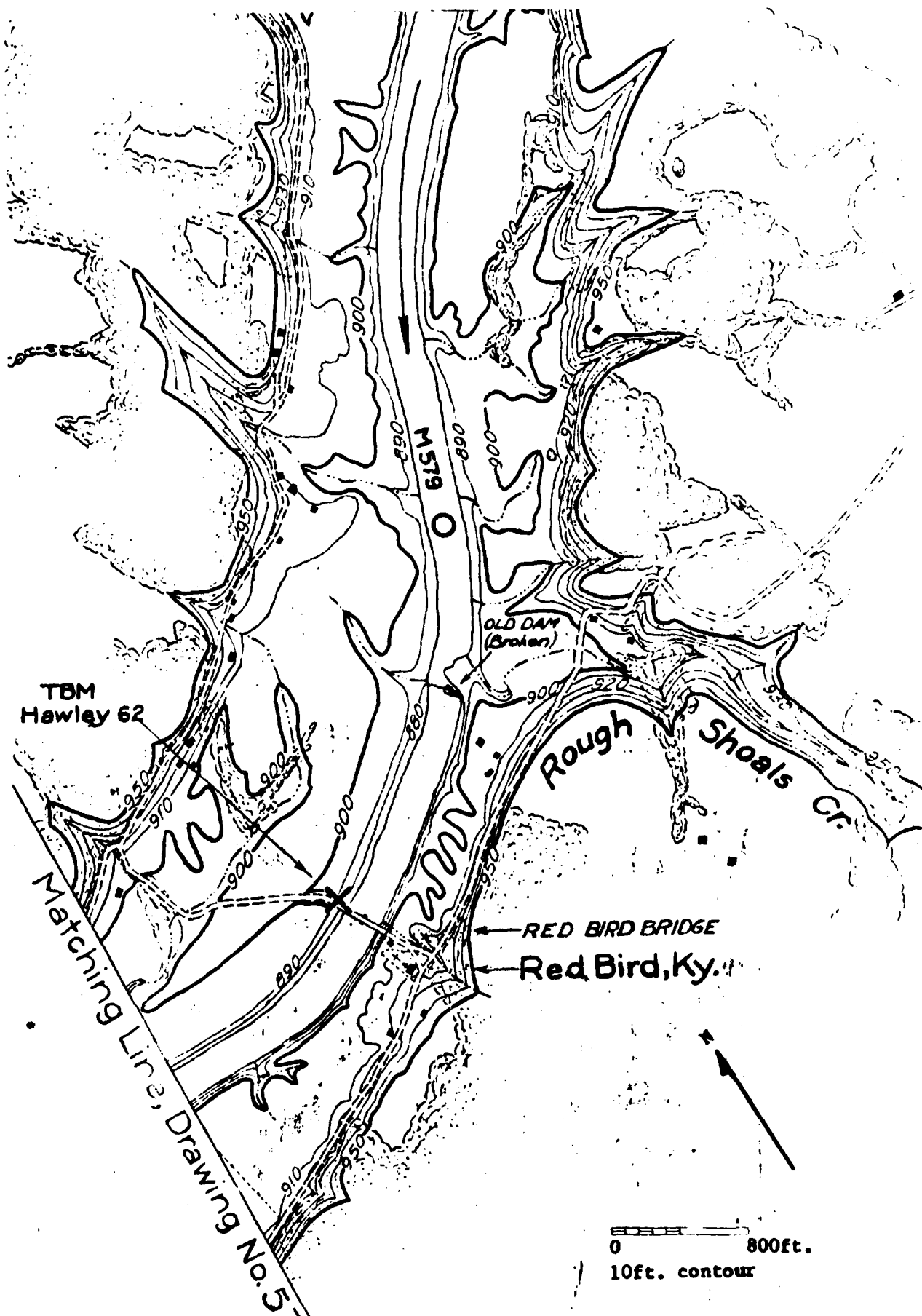


Figure 76. Project Work Site 3, 1930 Survey Map .

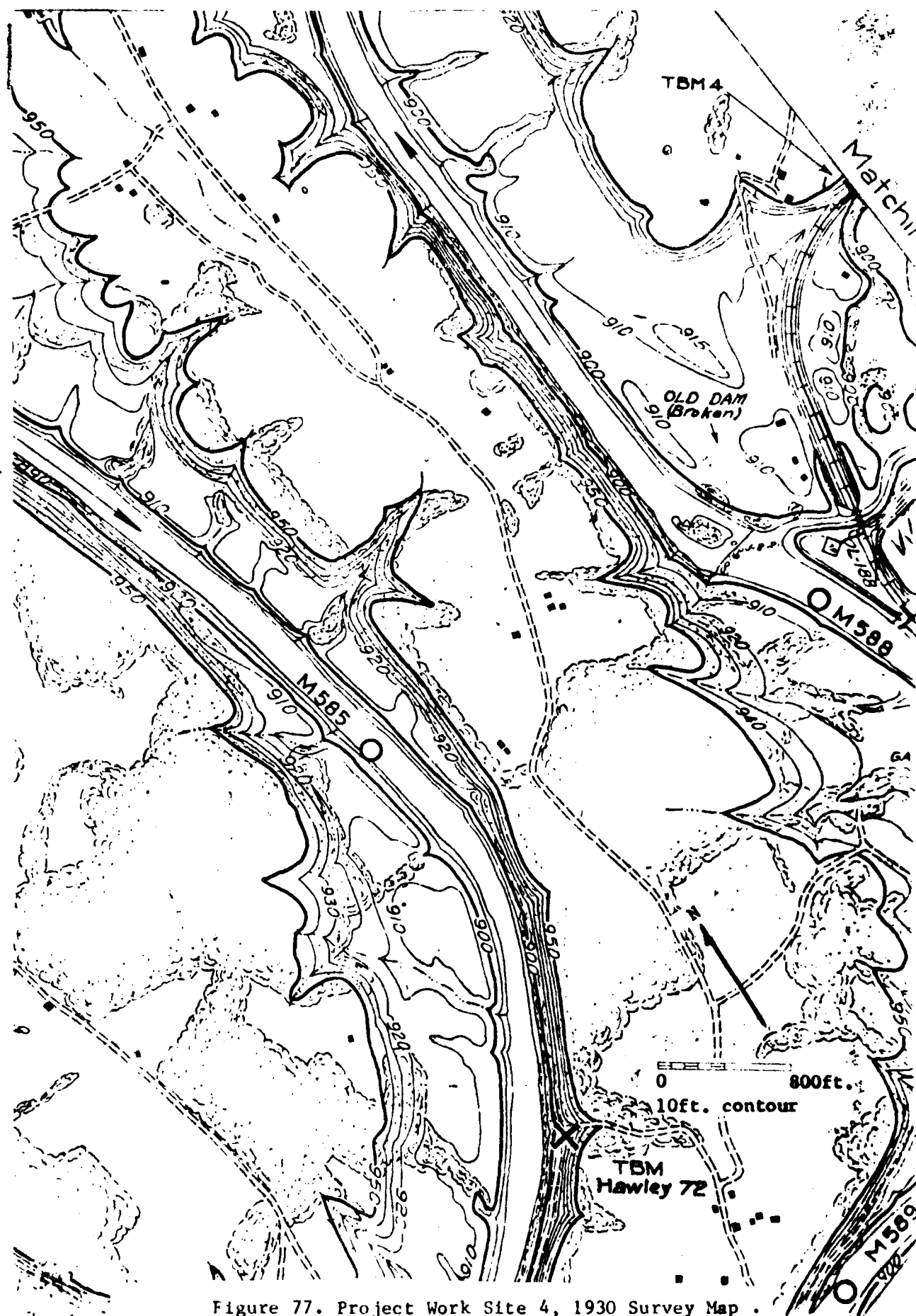


Figure 77. Project Work Site 4, 1930 Survey Map .

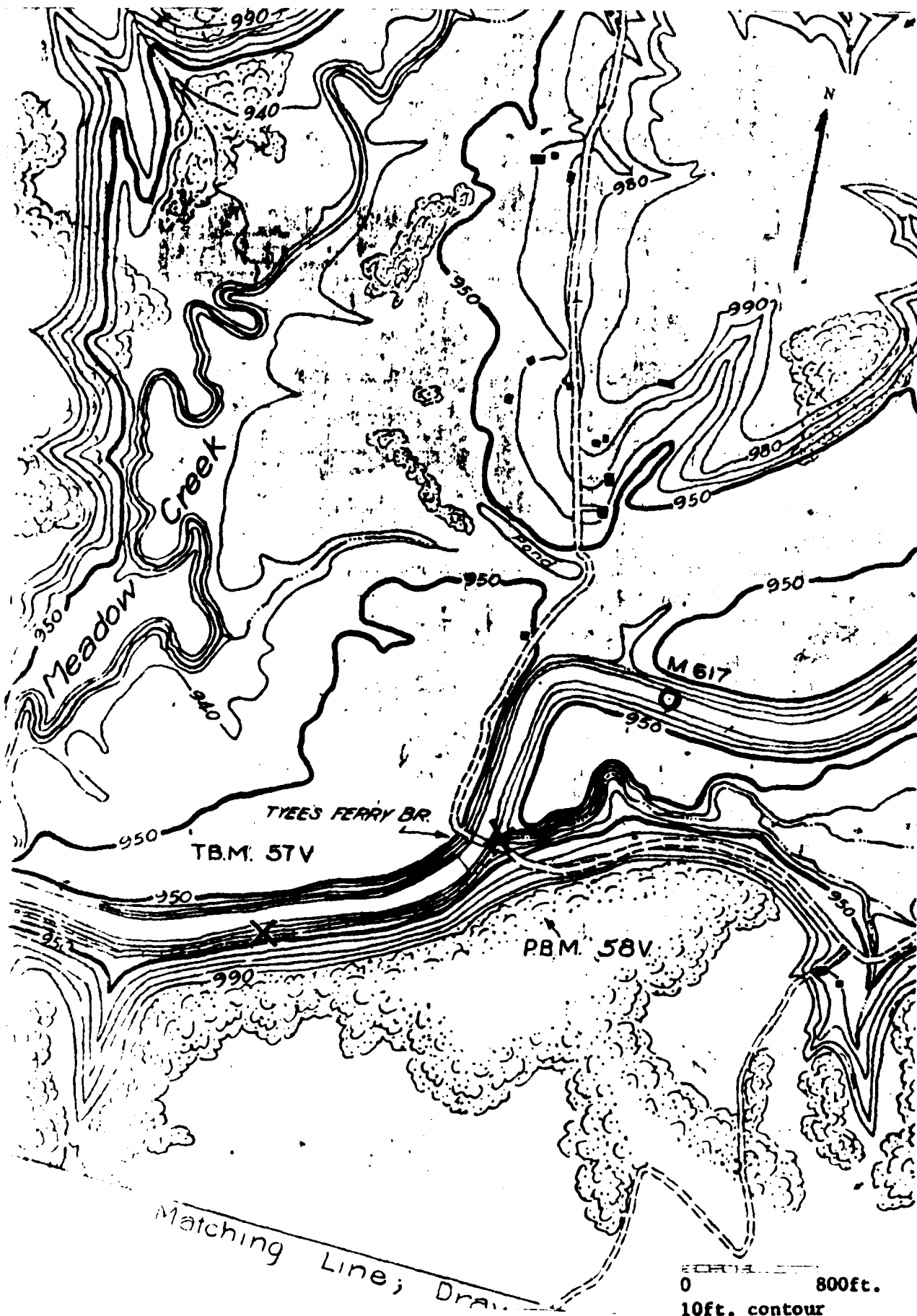


Figure 78. Project Work Site 6, 1930 Survey Map

Disposal Site U approximately 1000 feet to the south. Disposal Site U consists of a low-lying area (elevation 990 to 995 feet), south of and adjacent to a prominent terrace (elevation 1000 to 1010 feet) which extends across the bottom in a northeasterly to southwesterly direction. Access to the work site will follow a centrally located fence line which runs perpendicular to the river. Equipment, a pick-up, chainsaws, possibly a D-6 or D-9 dozer, would be "walked" across the bottom to the work site.

The terrace which separates the work site from the proposed disposal site shows evidence of prehistoric occupation. Lithic artifacts and debris are exposed in a roughly 400 foot by 250 foot area of corn field through which access will occur (Figure 79). The northwestern and highest point of this terrace is in short grass and is separated from the corn field by a shallow, wide swale. Surface visibility is very poor here. Extruder tests revealed carbon, small flakes, and stained subsoil to a depth of approximately 6 inches where artifacts were exposed in the corn field. No diagnostic materials were recovered. Existing disturbances are limited to cultivation and a natural gas line marked by a meter in the swale.

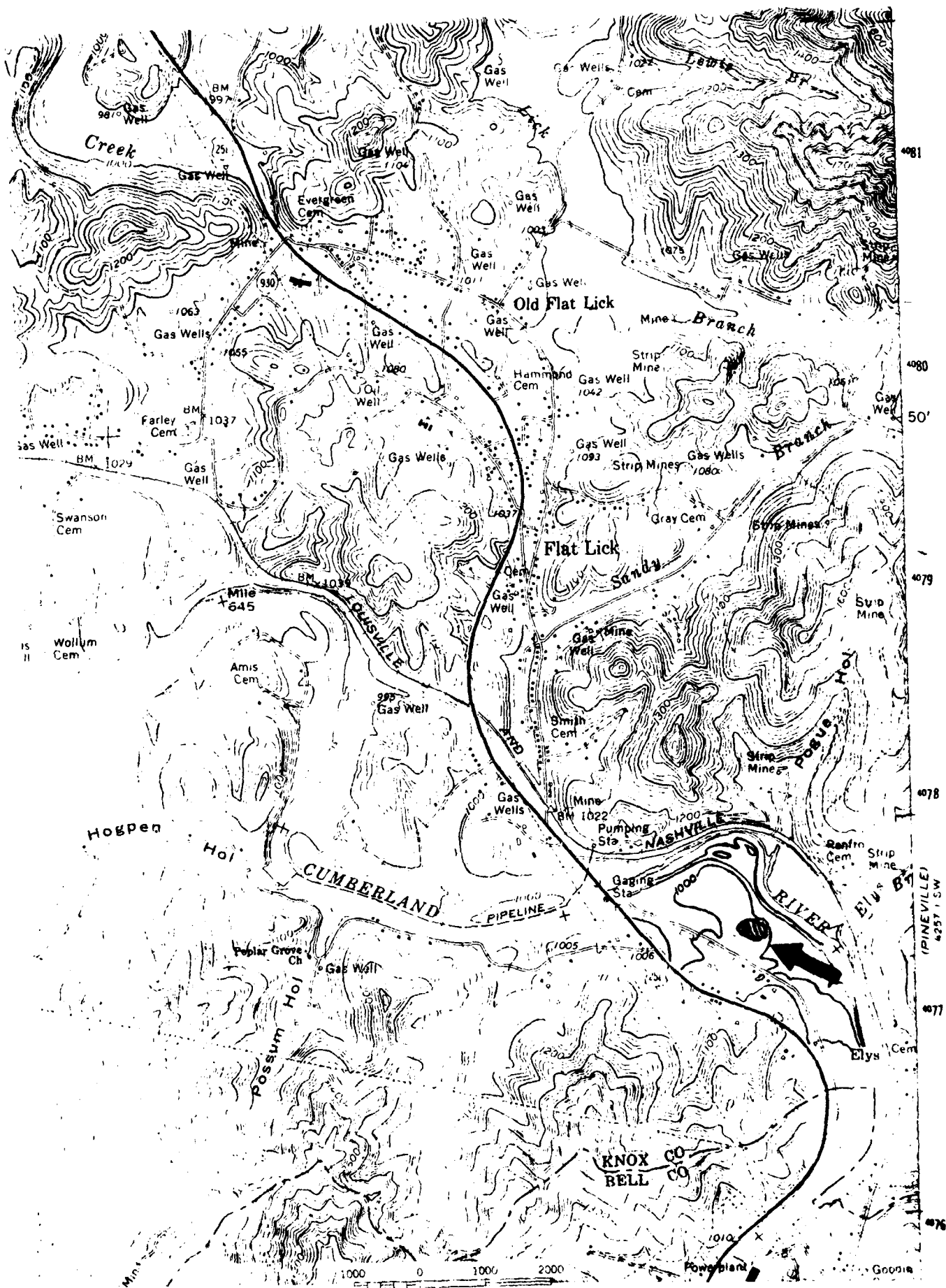


Figure 79. Cultural Resources, Project Site 9 and Disposal U, Artemus, KY
7.5' (1974)

TABLE 10

Proposed Project Site	Cultural Resources Present	Recommendations		Status of Work Site
		Eliminate	Avoid	
1				
2				
3				
4				
5				
6				
7				
8				
9	X prehistoric		X	
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
22				
23				
24				
25				
26				
28	X historic		X	
29	X historic		X	
30				
31				
32				
101				
102				
103				
104				
106	X historic		X	
107				
108				
110	X historic	X		
113	X historic		X	
114				

TABLE 11

Proposed Disposal Areas	Cultural Resources Present	Recommendations		Status of Project Site
		Eliminate	Avoid	
A (floodplain)				Eliminated
B (stream bank)				Eliminated
C (floodplain)				
D (floodplain)				
E (floodplain)				heavy disturb.
F (floodplain)				Eliminated
G (floodplain)				Eliminated
H (floodplain)				
I (floodplain)				Eliminated
J (floodplain)				half-filled
K (floodplain)	X historic	X		Eliminated
L (floodplain)				Eliminated
M (floodplain)				
N (floodplain)				Eliminated
P (floodplain)				borrow pit
Q (floodplain)				
R (upland)				land fill
S (floodplain)				county road
T (floodplain)				fill slope
U (floodplain)	X prehistoric	X		
V (floodplain)				prop. land fill
W (floodplain)				
X (upland)				land fill
Y (upland)				county road
Z (upland)				

Formerly, US 25E (the Old Wilderness Trail) passed through this bottom before crossing the Cumberland approximately 900 feet downstream. This highway has been relocated to the south. The potential exists here for significant historic and prehistoric resources.

A profile was cut on the river bank at the work site. This profile revealed an intensely lensed, sedimentary structure of silts, sands, and undecomposed vegetation. A fragment of orange plastic was observed at three feet depth. Flooding has deposited tremendous amounts of sediments below the terrace.

Recommendations for this work site include avoiding the entire terrace as an access route and elimination of Disposal Site U.

Project Site 28. Located on the Clear Fork of the Cumberland River at Mile 24.0, right bank, near Highcliff, Tennessee (Campbell County). The Clear Fork at this location is fairly straight and flows through a broad floodplain of little relief. At the work site, the right bank drops rapidly from a paved road bed (elevation 960 feet) to a natural bench approximately 20 feet in width. The bank drops again to the water. The bank and bench are forested with large hardwoods. The work to be performed here involves removal of a low water bridge which will be hauled to a disposal area.

Cultural resources include the bridge, an unused road bed, wooden shed remains, wagon remains, and rough stone walls (Figure 80). Local informants related that the bridge crossing is an old ford and the structural remains, the remnants of a livestock weigh station. The bridge is a rough construction of five foot diameter metal culverts capped by paving concrete. It is not considered significant. Archeologically, little remains of the weigh station due to road construction. The wooden remnants are of milled lumber (not hewn). The wagon remains have been disposed of within the 6x6 foot weigh station foundations immediately adjacent to the paved road. Mr. Hugh Perkins, the current property owner, stated that he wished to salvage the wagon remains (both axles, a bolster, 3 wheels and hubs, and iron accoutrements) prior to initiation of rehabilitation work.

Recommendations for Site 28 include notifying the property owner of initiation of construction and allowing him the opportunity to salvage the wagon. If this is not done, the wagon and shed remains must be avoided. The bridge is not considered significant due to its recent age. No cultural materials were recovered from the surface or subsurface and therefore the weigh station as an archeological site is not considered of potential significance.

Proposed Site 29. This site involves clearing and snagging of Elk Creek, a tributary of the Clear Fork of the Cumberland River, from its mouth to Mile 2.2 (Figure 81). Elk Creek flows in a northerly direction west of Jellico, Tennessee, in Campbell County,

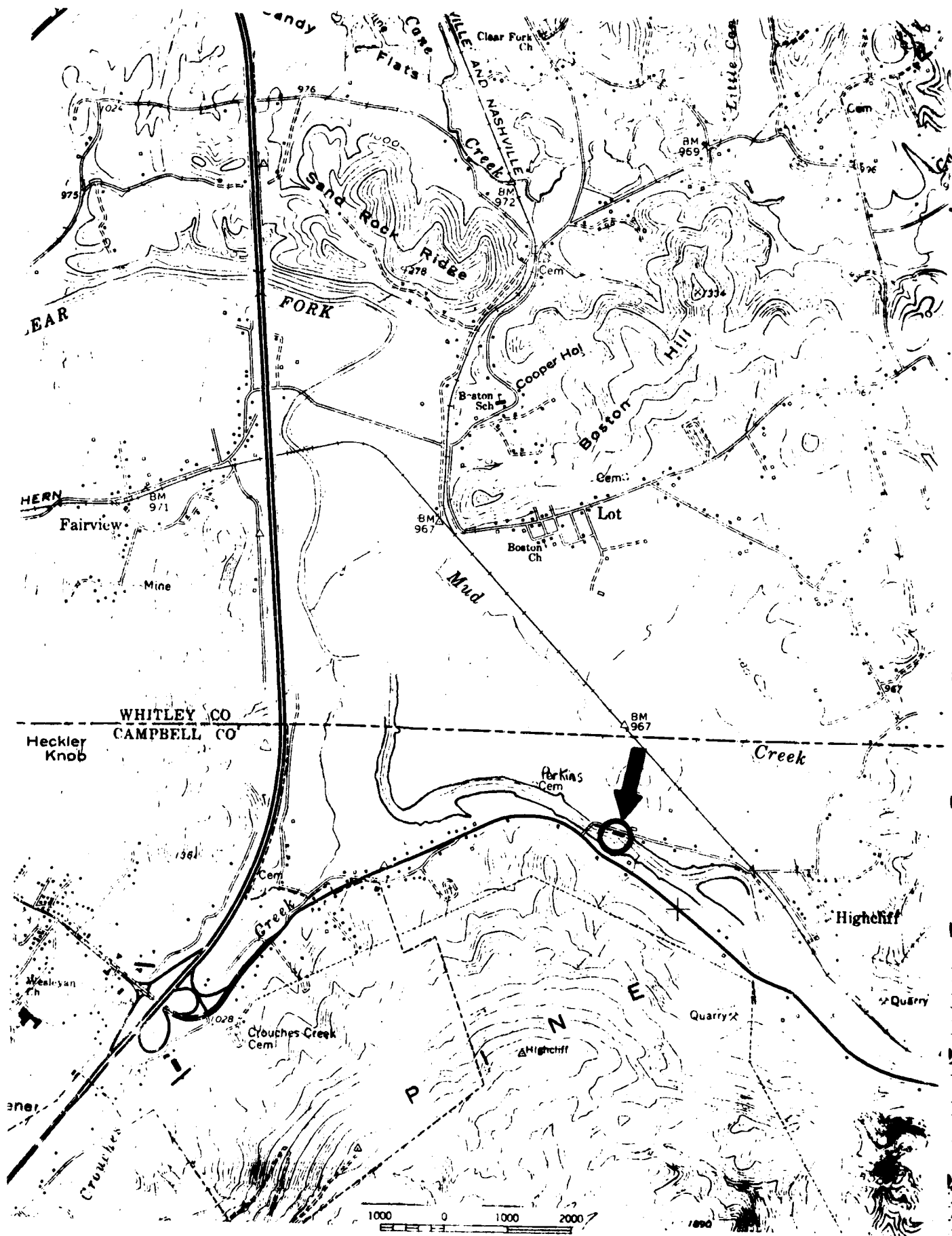
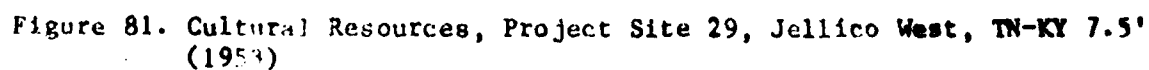


Figure 80, Cultural Resources, Project Site 28, Jellico East, TN-KY 7.5' (1970)



Tennessee, and Whitley County, Kentucky. The creek flows through a fairly broad floodplain which has been the subject of past mining activities. Numerous old borrow pits occur along the creek. It is possible that mining for clay or shale has occurred along the creek. Portions of the creek, notably between approximate stream mile 1.5 and 2.0, are bordered by high, levee like features. These "levees" normally occur between the creek and old borrow pits. The exposed bank profile of these "levees" exhibit shale deposits overlying sandy clay-like deposits. Geodic crypto-crystalline, siliceous nodules occur on the stream bank at these locations. Vegetation is jungle-like along the creek. Thick cane brakes, briar patches and underbrush occur along the creek. The "levees" support mixed hardwoods. Pines occur in formerly cultivated areas.

Current land use along the creek bottom includes a sanitary land fill on the right bank, north of the Ball Park road at Mile 2.0. A sewage treatment plant exists opposite the land fill.

Cultural resources along Elk Creek include an historic house site and trash dump immediately north of Ball Park Road on the left bank opposite the sanitary land fill. A pony truss bridge crosses the creek at Mile 1.0. The historic site includes prefabricated concrete porch steps and a displaced concrete flooring slab fragment. Trash deposits were noted in an area of approximately 150 by 200 feet and include surface and subsurface deposits. Glass, ceramics, and metal were noted and suggest a late nineteenth century-early twentieth century occupation. An abandoned rail line exists on the right bank from approximately Mile 2.1 to Mile 1.9 at which point it veers away from the creek toward the Jellico freight yards. One cinder block service structure exists between the creek and the railbed at the juncture of a small tributary stream. The structure is a shell with no roof and no clue to its function.

Recommendations for Elk Creek work include avoidance of the historic site located at Mile 2.1, and use of the railbed as access whenever possible. The cinder block structure has no potential significance. The truss bridge located at Mile 1.0 will not be affected by this work.

Project Site 106. Located on the Poor Fork of the Cumberland River at Mile 27.9, Blair, Kentucky (Harlan County). Work here involves the excavation and removal of gravel bars in the channel. The Poor Fork flows through a tightly confined floodplain here and almost all available floodplain is in use for residential and light agricultural purposes. Vegetation includes grasses and secondary growth. Large boulders occur at the base of a very steep right bank. The left bank is level from the stream edge.

Cultural resources were identified on the right bank in a narrow strip of level land between the Route 119 road bed and the bank edge. The resources include rough mortar and gravel, poured-form, structure foundations, brick and mortar piers below the crest of the bank, and what might be a displaced stone mill dam in the stream channel. The Benham,

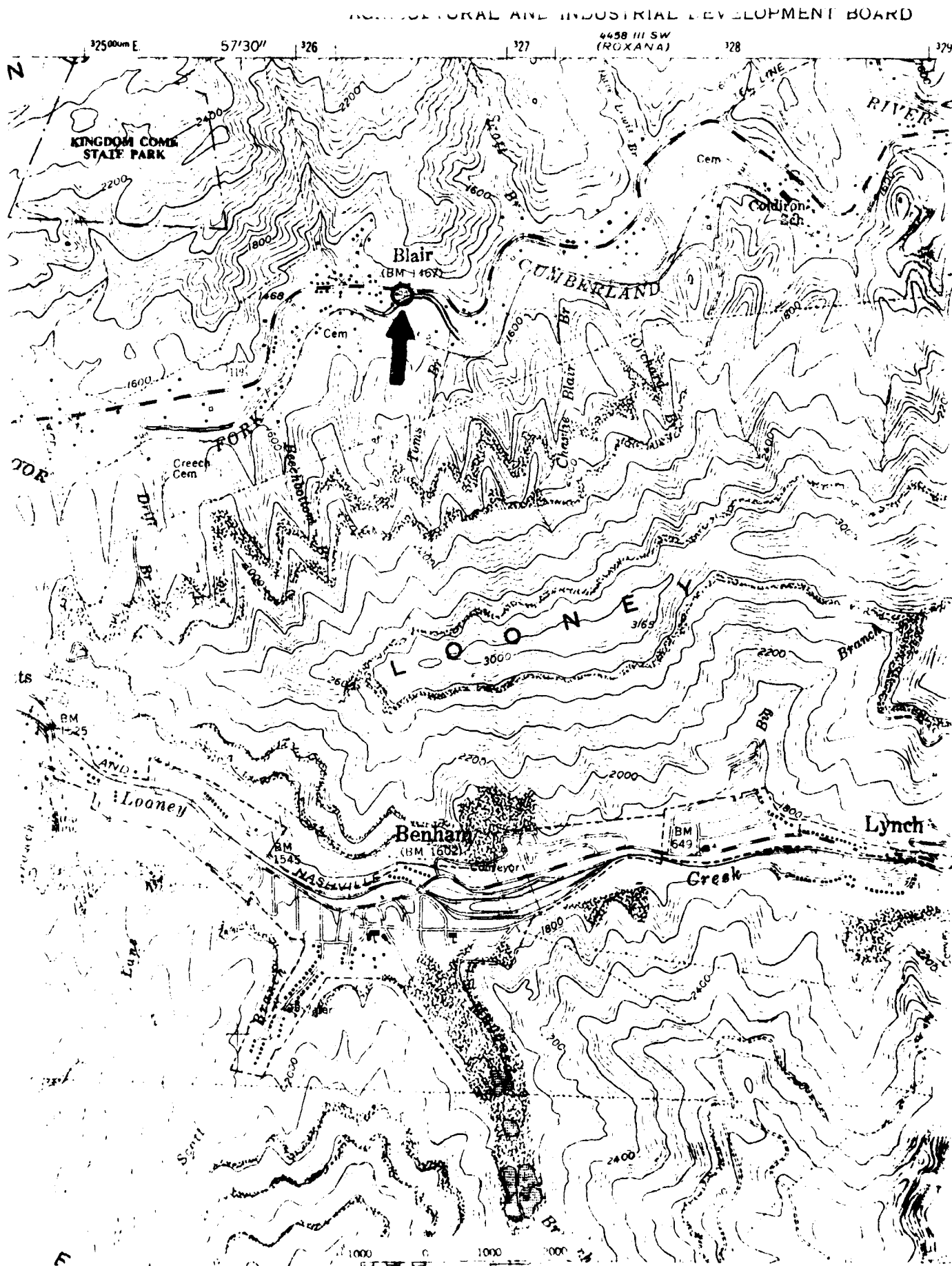


Figure 52. Cultural Resources, Project Site 106, Benham, KY-VA 7.5' (1954) .

Kentucky quad sheet illustrates two structures at this location which no longer exist. High water prevented the close examination of what was suspected as the dam (Figure 82).

Recommendations for Site 106 include avoidance of the right bank and the possible dam remains.

Project Site 110. Cannon Creek, on which this stream rehabilitation site is located, is a small tributary of Yellow Creek in Bell County, Kentucky. It joins Yellow Creek at approximately Mile 3.2. Cannon Creek flows northeast through rugged terrain, originating in the Log Mountains (1400 to 2000 feet elevation) roughly four miles to the southeast. The creek has been impounded immediately west of US Route 25E south of Ferndale, Kentucky. At 25E, it flows north to Ferndale where State Route 1534 turns east to Yellow Creek and thence northeastward through a gap between Flag Top Mountain (2295 feet elevation) and Rocky Face Mountain (2130 feet elevation). State Route 1534 parallels the creek here but turns north at the stream's juncture with Yellow Creek. It is here that a dirt track veers south off of State Route 1534 and crosses Cannon Creek near its mouth with Yellow Creek. This dirt track continues south parallel to Yellow Creek (left bank) til it becomes State Route 516 where it diverges west from the creek and then back to cross the creek and become a system of interconnecting state routes (188 west along Yellow Creek to Meldrum and US Route 25E, 988 south to Middlesboro, 217 east to Hutch).

A local informant has claimed that the dirt track which crosses Cannon Creek and parallels Yellow Creek to the south is the old Wilderness Trail. Dr. Thomas Walker's Journal of 1750, in which he chronicles his explorations along the Trail in the project area, describes his route from Cumberland Gap to Cumberland Ford as that of the old Trail as it passes through the Yellow Creek valley to the Cumberland River (Kincaid 1973). The existing US Route 25E between Pineville and Middlesboro is called the Wilderness Road. At Meldrum, where State Route 188 begins, the existing 4-lane 25E leaves the Yellow Creek Valley, passes parallel to the long western base of Rocky Face to Ferndale and State Route 1534. The highway runs north to Pineville and meets the Cumberland River roughly four river miles west of the mouth of Yellow Creek. Presumably, if Thomas Walker followed the Trail down the Yellow Creek valley, he would have passed along the eastern base of Rocky Face Mountain and then crossed Cannon Creek near its mouth on Yellow Creek and reached the Cumberland River east of the Ford. At Project Site 110, a very deeply-worn creek ford exists which crosses Cannon Creek immediately east of a double span pony truss bridge. The project sketch map in Figure 71 illustrates this crossing as "existing access". The "gravel bar" here is a substantial island with several good sized boulders. The central bridge pier is anchored on this island. A very high probability exists that this crossing is indeed the old Wilderness Trail of the early historic past. From about 1775 to the present day, the Trail has been the subject of continued maintenance and rerouting as an important transportation route. First named "Boones Road"

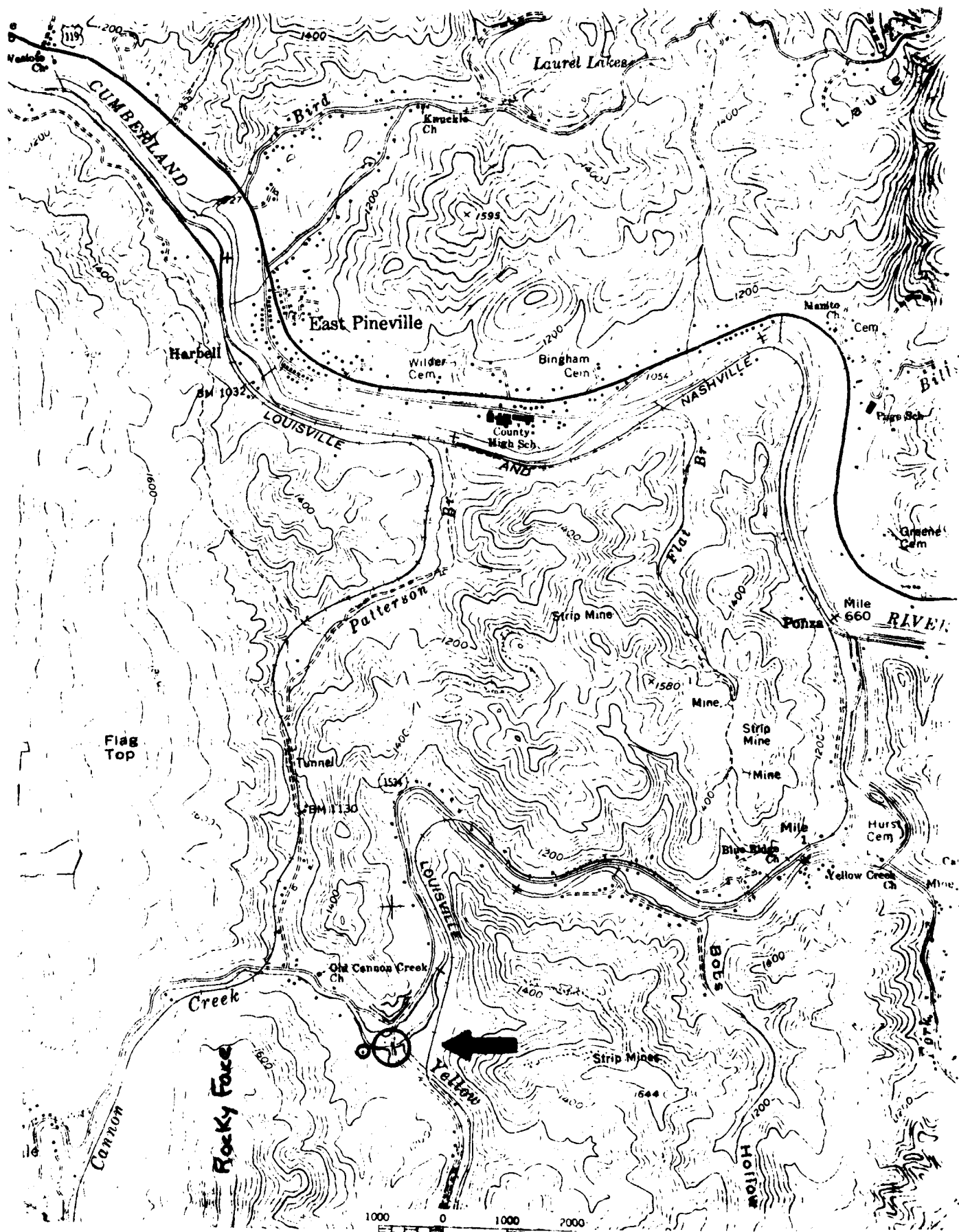


Figure 83. Cultural Resources, Project Site 110, Middlesboro North, KY 7.5' (1974)

in the late eighteenth century, the trail followed its original route until north of Barbourville. "Boones Road" was dubbed the "Wilderness Road" in 1792 when the State of Kentucky improved it to allow wagon travel. A portion of the road was relocated somewhere between Crab Orchard and the Gap (Kincaid 1973: 184). In 1907, the pass over Cumberland Mountain was macadamized (Kincaid 1973: 351). Beginning in this year, improvements to the road were almost constant. The new Wilderness Road link of the transcontinental "Dixie Highway" was completed before the 1920s. In 1926, the "Dixie Highway" became US Route 25E. Between 1926 and 1940, the road was subject to more improvements and relocations. Thus, it is entirely possible that the current section of US Highway 25E from Meldrum to the Cumberland River at Wasioto is a relocation constructed to avoid the winding, narrow, Yellow Creek valley and original trail at the eastern base of Rocky Face.

The bridge located at the crossing is a double span Warren pony truss with verticals. The bridge is of riveted construction and is supported by poured-form concrete end supports and wooden center supports. Warren truss bridges were introduced in the 1840s and the form has continued in use into the twentieth century. The diagonals serving as tension members and the vertical compression members are rigid metal posts. Earlier Warren trusses often utilized thin eyebars for tension members (Comp and Jackson, m.d.). The bridge at Cannon Creek was probably built around 1910 or 1911.

No archeological remains were noted in the immediate vicinity of the crossing. A residence site is located southeast of the crossing but well away from the work site (Figure 83).

Recommendations for Site 110 include elimination of this work site from consideration due to its potential historic importance as the Wilderness Trail crossing. The bridge, potentially significant as a historic technological resource of the early twentieth century, has additional potential significance by virtue of its association with the crossing.

Project Site 113. The work proposed for this site includes the removal of a collapsed footbridge from the Cumberland River channel at Mile 639.6 across the river from Artemus, Kentucky (Knox County). Access will be from the left bank. Land use in the area is predominantly agricultural and rural residential.

An historic architectural resource is located in the immediate vicinity of this work site (Figure 84). A single pen, hewn log dwelling is located adjacent to the light-duty road from which the work crew will access. As noted in the section of this report on architectural resources, single-pen, hewn log dwellings are relatively uncommon and represent an early architectural resource of significance. Date of construction is unknown in this instance, but the dwelling is almost certainly a nineteenth century building.

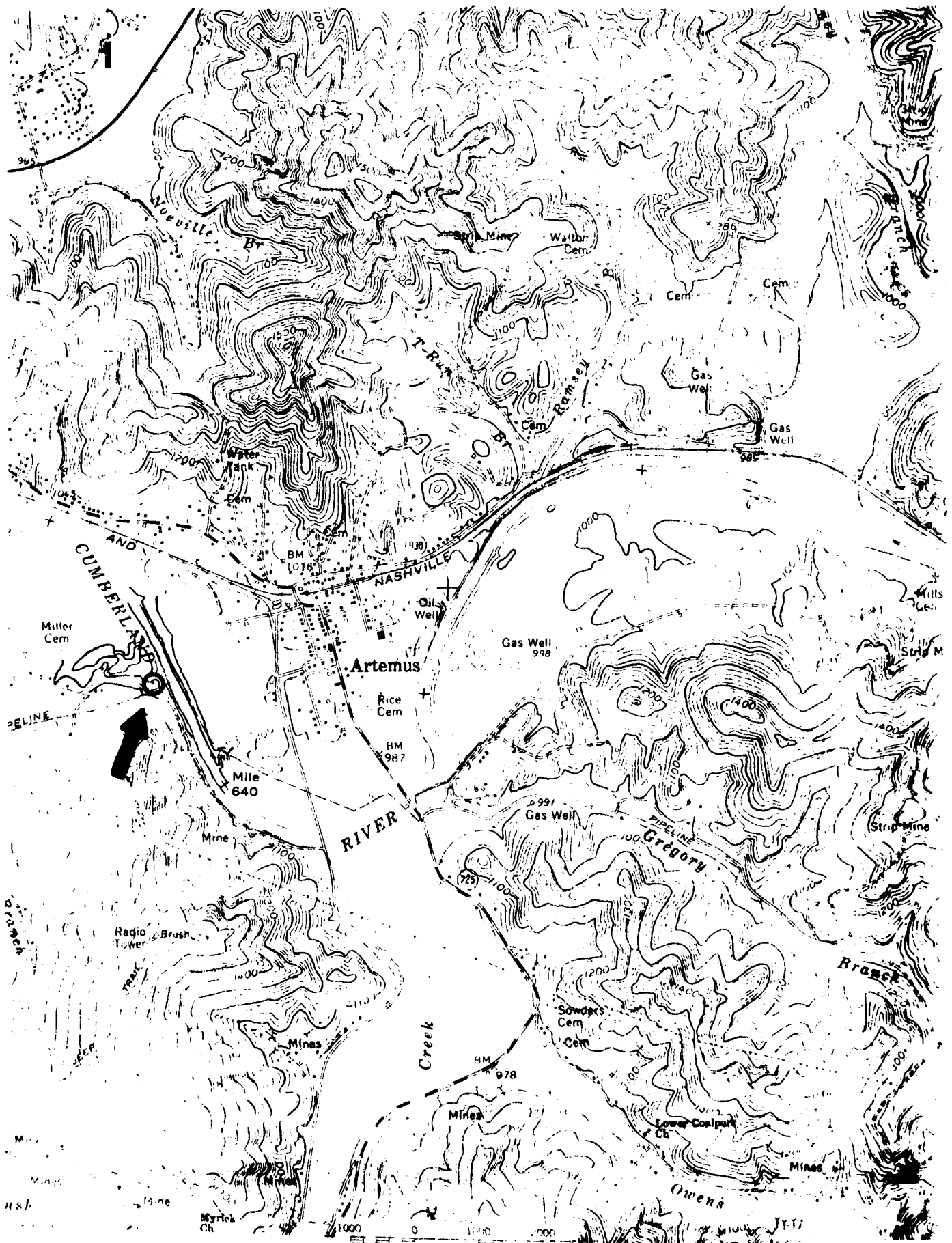


Figure 84. Cultural Resources, Project Site 113, Artemus, KY 7.5' (1974)

Recommendations for Project Site 113 include avoidance of this structure and immediately adjacent area. The type of work proposed for this site is not expected to directly affect the building.

Proposed Disposal Site K. (This disposal site has been eliminated due to its location within the active floodway.) This former project site consists of approximately 15 acres of gently sloping floodplain on the right bank of Straight Creek near its mouth with the Cumberland River directly across the river from Pineville, Kentucky. State Route 66 crosses the river approximately 500 feet downstream. This point is historically known as the site of the Cumberland Ford crossing of the Wilderness Trail. An historical plaque commemorates the site.

The project site is bounded by Straight Creek on the southeast, the L&N railbed on the northwest, the L&N crossing of Straight Creek on the southwest, and the State Route 66 crossing of Straight Creek on the northeast.

The City of Pineville has, in the past, deposited a large amount of fill to the line illustrated on Figure 85.

Two historic archeological sites were identified within this proposed disposal site; (1) a homestead and orchard site, and (2) an unidentified industrial site. These sites are illustrated in Figure 85. Archeological site 1, located in the northern end of the project site, consists of a house site with river cobble fireplace remains, fence rows demarcating yards and pens, an apple and chestnut orchard, well site, and abandoned road. Archeological site 2, located in the southern end of the project site, consists of six localized surface features, mound-like in appearance, cut stone foundations and steel reinforcement rods associated with the mound-like features. Soil extruder tests determined the presence of midden deposits at both sites to depths of six to seven inches. The probable industrial site is characterized by burned deposits. The two archeological sites are separated by a fence row and are sandwiched in between existing fill and Straight Creek.

These two archeological sites have potential significance and though they will not be affected by the ARC project, are threatened by local land filling. Their presence near the Cumberland Ford increases their potential significance.

The dam sites and ferry crossing identified through the archival search exhibited no evidence of terrestrial archeological remains. Presumably, any associated structures or buildings were dismantled or destroyed by fire or flood prior to 1930 when the aerial survey photographs were made. Due to high water, no visible remains of the dams could be seen. Only one dam site (Project Site 1) could be given a temporal assignment; the Parks Dam. Mr. Millard Bryant, the current property owner at Site 1, indicated that his father had worked at the Parks Grist Mill in 1882 at the age of nine. He indicated that an elderly resident, Mr. Charlie Smith, could

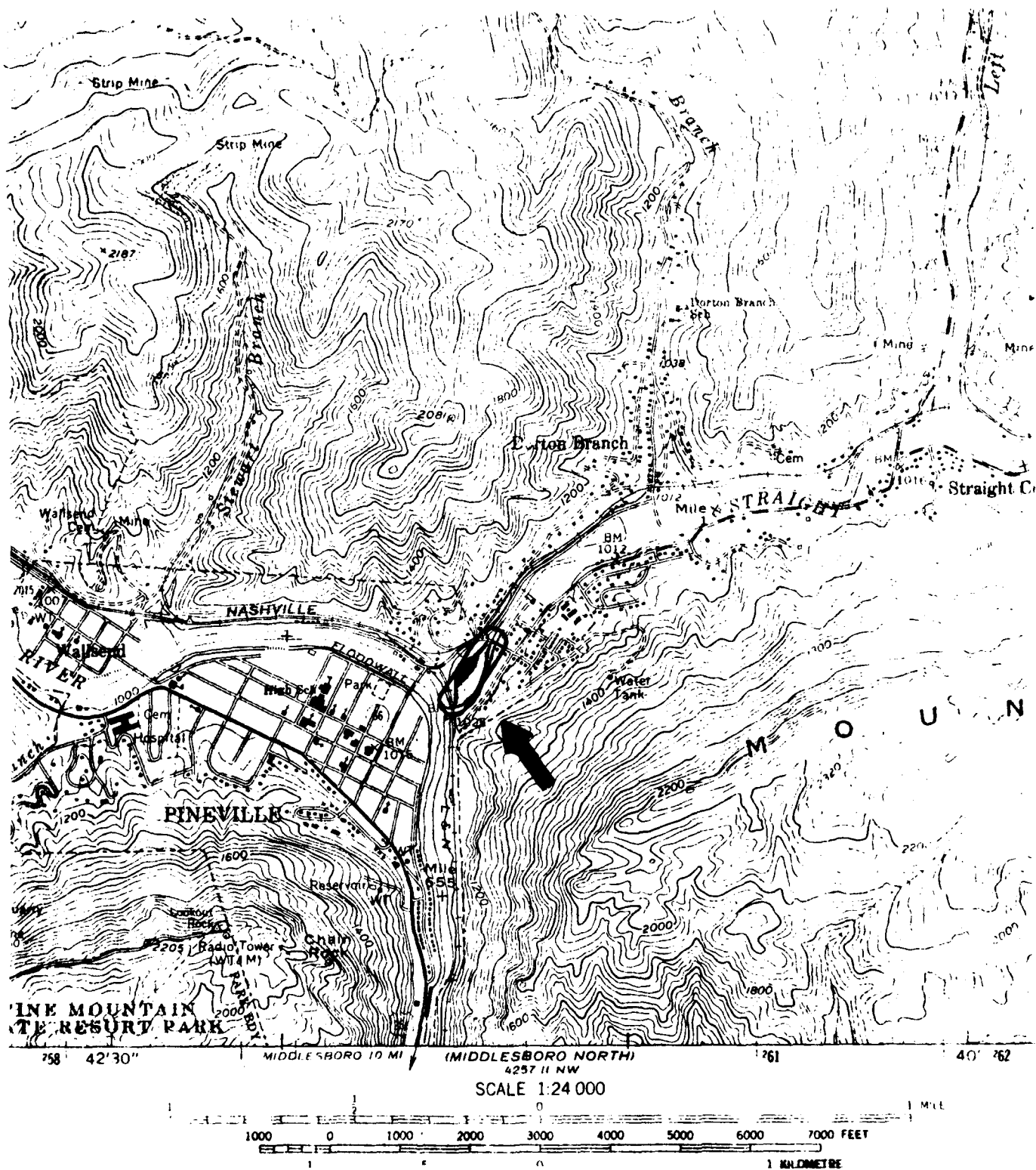


Figure 85. Cultural Resources, Disposal Site K, Pineville, KY 7.5' (1974) .

ENC. NORTH
OF SHEET

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
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KENTUCKY GEOLOGICAL SURVEY, LEXINGTON, KENTUCKY 40506.
AND KENTUCKY DEPARTMENT OF COMMERCE, FRANKFORT, KENTUCKY 40601
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

provide additional information. Mr. Smith lives at the juncture of State Route 204 and White Oak Road near Steely Cemetery. Mr. Smith was not contacted for further information due to time constraints. The work proposed for Project Sites 1, 3, 4, and 6 will not affect any remains of dams which may be located within the channel.

In recent years, mill sites have become the subject of interdisciplinary investigations utilizing historic and industrial archeology, history, cultural geography, and oral history (Jean 1979; Newman personal communication; Adams 1979).

VI. SUMMARY

A cultural resources literature-archival search and field reconnaissance was performed on 40 proposed stream rehabilitation sites and 25 proposed disposal sites in the upper Cumberland River basin of Whitley, Knox, Bell and Harlan Counties, Kentucky, and Campbell County, Tennessee.

Archival maps of 1930 illustrated dam sites at three project work sites (Sites 1, 3, and 4). A ferry site is illustrated at Site 6. No terrestrial archeological remains were identified which would indicate historic occupation. Only one dam site, at Project Site 1, was identified. This is the Parks grist mill in operation as late as 1882 (local informant information). All of the presumed mill sites were dismantled or destroyed prior to 1930. Due to high water, no remaining structural features of the dams could be seen. The nature of the proposed work at these sites will not affect any submerged resources. No archeological evidence of associated historic features was identified at Project Site 6.

The field reconnaissance located cultural resources at eight other project sites (9, 28, 29, 106, 110, 113 Disposal sites K and U). Disposal K has been eliminated from the project. Of the remaining project sites, site 110 and Disposal U should be eliminated from the stream rehabilitation project. Work at Sites 9, 28, 29, 106, and 113 should be modified to avoid the resources illustrated in the text.

No sites on, or eligible for, the National Register of Historic Places will be affected by the proposed work. No archeological sites recorded by the State of Kentucky will be affected.

Recommendations include a monitoring program in which work at project sites 9, 28, 29, 106 and 113 is observed by Corps cultural resource personnel to ensure close coordination and avoidance of cultural resources. Any additional stream rehabilitation work or disposal area changes must be reviewed by Corps cultural resource personnel to assess potential impacts.

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