

	<i>Chapter</i> PERMITS & CERTIFICATION
	<i>Subject</i> Introduction

INTRODUCTION: Federal and state laws require the Kentucky Transportation Cabinet to obtain the appropriate permit and/or certification prior to construction. Permits are always required for state- and federally funded projects that involve the waters of the United States (lakes, rivers, streams, or wetlands) in the Commonwealth of Kentucky. This chapter is devoted to these permits and certifications and the responsibilities and accountability of the designer and project manager in the permit process.

It is critical that the designer and project manager be aware of the types of waterways, the potential impacts, and the permit process. The project team should strive to develop the project so as to avoid or minimize water impacts. During the development of the range of alternatives, the project team must understand the quality of the waterways and magnitude of physical impact. Constructability issues such as temporary stream crossings, equipment pads, and waste areas must be a consideration in the determination of the impact. Awareness of impact to waterways is essential for developing the project in a manner that is sensitive to the environment, budget, and schedule.

As early in the project process as practical, the project team should identify the types of resources affected. Early communication should be established with the subject-matter experts (SMEs) who will be responsible for obtaining the permit(s).

This chapter will discuss the decisions that will go into the determination of impacts and the resulting permits that are issued by four agencies: United States Army Corps of Engineers, Kentucky Division of Water, United States Coast Guard, and the Tennessee Valley Authority.



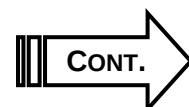
	<i>Chapter</i> PERMITS & CERTIFICATION
	<i>Subject</i> Definitions

OVERVIEW: The following definitions are intended to aid the designer's understanding of the terms associated with the permits described in this chapter:

WATERS OF THE UNITED STATES: All waters that are currently used, were being used in the past, or may be susceptible to use in interstate or foreign commerce

These include all waters subject to the ebb and flow of the tide and all interstate waters, including interstate wetlands. Also included are all other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, and prairie potholes, the wet degradation or destruction of which could affect interstate or foreign commerce including:

- A. Any such waters used or possibly used by interstate or foreign travels for recreational or other purposes
- B. Any such waters from which fish or shellfish are or could be taken and sold in interstate or foreign commerce
- C. Any such waters used or possibly used for industrial purposes by industries in interstate commerce
- D. All impoundments of waters otherwise defined as waters of the United States under this definition
- E. Tributaries of waters identified in A through D above
- F. Territorial seas
- G. Wetlands adjacent to waters (other than waters that are wetlands themselves) identified in A through F above



**NAVIGABLE WATERS
OF THE UNITED
STATES:**

Those waters of the United States subject to the ebb and flow of the tide shoreward to the mean high water mark

In addition, those waters may be used presently, or have been used in the past, or may be susceptible to use to transport interstate or foreign commerce.

WETLANDS:

Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions

Wetlands generally include swamps, marshes, bogs, and similar areas.

**ADJACENT
WETLANDS:**

Areas bordering, contiguous or neighboring bodies of water

Wetlands separated from other waters of the United States by manmade dikes or barriers, natural river berms, beach dunes, and the like are adjacent wetlands.

LAKE:

A standing body of open water that forms in a natural depression fed by one or more streams and from which a stream may flow

The lake forms due to the widening or natural blockage or cutoff of a river or stream or forms in an isolated natural depression not a part of a surface river or stream. The term also includes a standing body of open water created by artificially blocking or restricting the flow of a river, stream, or tidal area. As used in this regulation, the term does not include artificial lakes or ponds created by excavating and/or diking dry land to collect and retain water for such purposes as stock watering, irrigation, settling basins, cooling, or rice growing.

**ORDINARY
HIGH-WATER
MARK (OHW):**

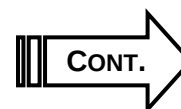
The line on the shore established by the fluctuations of water and indicated by physical characteristics

These characteristics may include a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, or the presence of litter and debris. The OHW may also be established by other appropriate means that consider the characteristics of the surrounding areas.

**DREDGED
MATERIAL:**

Material excavated or dredged from waters of the United States

This includes material excavated for channel changes, channel widening, bridge piers, abutments, box culverts, retaining walls, etc.



**DISCHARGE OF
DREDGED
MATERIAL:**

Any addition of dredged material into the waters of the United States

The term includes, without limitation, the addition of dredged material to a specified discharge site located in waters of the United States and the runoff or overflow from a contained land or water disposal area. Discharges of pollutants into waters of the United States resulting from the onshore subsequent processing of dredged material that is extracted from any commercial use (other than fill) are not included within this term. They are also subject to Section 402 of the Clean Water Act, although the extraction and deposit of such material may require a permit from the Corps of Engineers. The term does not include plowing, cultivating, seeding, and harvesting for the production of food, fiber, and forest products.

FILL MATERIAL:

Any material used for the primary purpose of replacing an aquatic area with dry land or of changing the bottom elevation of a waterbody

The term does not include any pollutant discharged into the water primarily to dispose of waste as regulating the activity under Section 402 of the Clean Water Act.

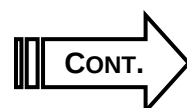
**DISCHARGE OF
FILL MATERIAL:**

The addition of fill material into waters of the United States

The term generally includes, without limitation, the following activities:

- Placement of fill that is necessary to the construction of any structure or impoundment requiring rock, sand, dirt, or other material for its construction
- Site-development fills for recreational, industrial, commercial, residential, and other uses
- Property protection and/or reclamation devices such as riprap, groins, breakwaters, and revetments
- Fill for structures such as sewage treatment facilities
- Intake and outfall pipes associated with power plants and subaqueous utility lines
- Causeways or road fills, dams and dikes, artificial islands, beach nourishment, levees, and artificial reefs

The term does not include plowing, cultivating, seeding, and harvesting for the production of food, fiber, and forest products.



BLUELINE

STREAM: Identifying a river, creek, branch, etc., on an NGS (National Geodetic Survey) (United States Geological Survey [USGS]) topographical map by a solid or intermittent blue line

SPECIAL AQUATIC

SITES: Wetlands, mudflats, vegetated shallows, coral reefs, riffle and pool complexes, sanctuaries, and refuges

SPECIAL USE

WATERS: Rivers, streams, and lakes listed in the Kentucky Administrative Regulations or the Federal Register as:

- Cold Water Aquatic Habitats
- Exceptional Waters
- Reference Reach Waters
- Outstanding State Resource Waters
- Outstanding National Resource Waters
- State Wild Rivers
- Federal Wild and Scenic Rivers



	<i>Chapter</i> PERMITS & CERTIFICATION
	<i>Subject</i> Impact Determination

OVERVIEW:

During the development of the range of alternatives, the project team must understand the quality of the waterways and magnitude of physical impact. On any project, there are judgments that need to be made about the qualitative characteristics of each waterway. After the qualitative characteristics are assessed, the magnitude of impact can be measured and the type of permit can be identified.

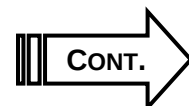
The types of waterways that are typically dealt with are blueline streams, ephemeral streams, and wetlands. This section gives the qualitative and associated measurement of physical impacts.

The project team needs to consider the impacts of the alternatives to the jurisdictional waters defined below. Impact costs in terms of dollars for mitigation and adverse environmental effects can be high. The project team should strive to avoid or at least minimize waterway impacts, beginning with the analysis of the range of alternatives available and continuing through alternative selection and development.

**BLUELINE
STREAMS:**

Blueline streams are classified as either perennial or intermittent.

- Perennial blueline streams flow year-round during a typical year. The water table is above the streambed for most of the year, with runoff from rainfall supplementing the stream flow.
- Intermittent blueline streams flow during certain times of the year, when groundwater provides water for stream flow. During dry periods, they may not have flowing water. Runoff from rainfall supplements stream flow.



**EPHEMERAL
STREAMS:**

An ephemeral stream has flowing water only during and for a short time after rainfall events in a typical year. Ephemeral streambeds are located above the water table year-round and have a defined channel. Groundwater is not a source of water; rainfall is the primary source for stream flow.

WETLANDS:

Wetlands are areas that are inundated or saturated by water sufficient to support vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

**SPECIAL AQUATIC
WATERS:**

Special aquatic waters have been designated as such by a federal agency, such as the National Wild and Scenic River System, or have been listed for possible inclusion in their system. The agency with direct management responsibilities for a river will determine whether adverse effects will occur (e.g., National Park Service, United States Forest Service, and United States Fish and Wildlife Service). For purposes of an Army Corps of Engineers permit, state-designated waters do not apply (see discussion on Water Quality Certifications below in the section on Army Corps of Engineers [ACE] permits).

The Environmental and Public Protection Cabinet administers the Wild River System. Construct new roads outside the limits of the visual horizon of the Wild River stream, provided the visual horizon does not exceed 2,000 feet from the center of the river in both directions. The listed rivers may be found on the Division of Water's Web site:

http://nrepcapps.ky.gov/special_waters/specialwaters.htm

It is the designer's responsibility to investigate and determine whether a project encroaches upon a Wild River area.



	<i>Chapter</i> PERMITS & CERTIFICATION
	<i>Subject</i> Types of Permits/Certification

**ARMY CORPS OF
ENGINEERS
PERMITS:**

The United States Army Corps of Engineers (ACE) authorizes permits in accordance with Section 10 of the Rivers and Harbors Act of 1899 (33 USC 403) and Section 404 of the Clean Water Act (33 USC 1344). These permits must be obtained for any design feature that creates an obstruction or alteration by excavating, filling, or crossing any of the waters of the United States.

Under ACE guidelines for issuing permits, the application must be judged first on its own merits, separate from mitigation considerations. The application includes statements of the need for the project and an exploration of alternatives. ACE must perform the public interest review and determine that there are "no practicable alternatives" with less impact and "no unacceptable adverse impacts" on aquatic resources.

ACE may allow other balancing factors to enter the equation, such as:

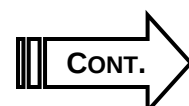
- Cost
- Presence of endangered species
- Cultural resources
- Economic factors
- Social impacts

Any of these factors may allow the selection of an alternative with greater wetland impacts if there are overriding considerations that make other alternatives impracticable, such as the additional costs of avoidance or excessive minimization. In some situations, ACE may consider residential displacements an overriding factor.

**FORMS OF
PERMITS:**

There are various forms of ACE permits:

- General Permits (Nationwide Permits and Regional Permits)
- Individual Permits
- Emergency Authorizations



FORMS OF**PERMITS (cont.):**

The form of permit required is based upon the extent and significance of impact to the waters. Any one of four ACE districts that have jurisdictional responsibility for waters within the Commonwealth of Kentucky issues these permits (**Exhibit 500-01** shows the KYTC and ACE District Boundary Map).

GENERAL**PERMITS:**

General permits are issued on a nationwide or regional basis for a category or categories of activities that are substantially similar in nature. These activities cause only minimal individual and cumulative environmental impacts. Also, the permit may result in avoiding unnecessary duplication of regulatory control exercised by another federal, state, or local agency provided that the environmental consequences of the action are individually and cumulatively minimal.

NATIONWIDE**PERMITS:**

Nationwide permits (NWP) are issued for specified activities throughout the nation. These permits allow certain activities to occur with little, if any, delay and are valid only if the activities meet the conditions applicable to that permit.

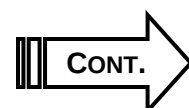
Covered under NWP are 43 separate activities. Roadway projects routinely use only six. Each is specific to a proposed impact or need as described below:

- **No. 3, “Maintenance”**—Used for repair, rehabilitation, or replacement of a structure or fill; for sediment and debris removal; or for repair, rehabilitation, or replacement of a structure or fill damaged by a storm event, flood, or other event
- **No. 13, “Bank Stabilization”**—Used for bank stabilization activities for erosion prevention but limited to 500 feet and cannot exceed 1 cubic yard of material placed below the ordinary high-water mark per running foot of stream

Note: These limits can be exceeded with special notification to and approval by ACE.

- **No. 14, “Linear Transportation Crossings”**—Used for construction, expansion, modification, or improvement of a linear transportation crossing such as bridge and culvert placement/replacement; limited to 0.5 acre of loss of waters and/or 500 linear feet at each impact site

Note: Special notification to and approval by ACE is required for wetland impacts or other special aquatic sites, and the limit of impact is reduced to 0.1 acre of loss of waters.



**NATIONWIDE
PERMITS (cont.):**

- **No. 15, “United States Coast Guard-Approved Bridges”**—Used for bridges in navigable waters previously approved by the United States Coast Guard; does not cover causeways or approach fills
- **No. 23, “Approved Categorical Exclusions”**—Used for projects funded and authorized by another federal agency (e.g. Federal Highway Administration), where that agency has determined the conditions for a categorical exclusion under the National Environmental Protection Agency (NEPA) process have been met
- **No. 33, “Temporary Construction, Access and Dewatering”**—Used for temporary crossings (that is, diversions), cofferdams, and dewatering of construction sites as long as normal flows to downstream areas are maintained and flooding is minimized; requires complete removal and restoration of disturbed areas

**GENERAL CONDITIONS
FOR NATIONWIDE
PERMITS:**

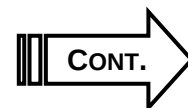
The following general conditions must be valid for the authorization of a nationwide permit:

- No activity may cause more than a minimal adverse effect on navigation.
- Any activity must properly maintain any authorized structure or fill to ensure public safety.
- Appropriate erosion and siltation controls must be used and maintained by the contractor in effective operating condition during construction, and all exposed soil and other fills must be permanently stabilized by the contractor at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low flow or no flow.
- No activity may substantially disrupt the movement of those species of aquatic life indigenous to the water body, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. Culverts must be designed and installed to maintain low-flow conditions.



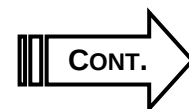
**GENERAL CONDITIONS
FOR NATIONWIDE
PERMITS (cont.):**

- Heavy equipment used in wetlands must be placed on mats or other measures must be taken to minimize soil disturbance
- The activity must comply with any regional conditions that ACE's division engineer adds and with any case-specific conditions ACE adds.
- No activity may occur in a component of the National Wild and Scenic River System. In addition, no activity may occur in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status.
- No activity or its operation may impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.
- In certain states the permit must contain or waive the state's water-quality certification. Permittees are encouraged to provide vegetative buffers next to open waters as a component of their water-quality management.
- No nationwide permit authorizes any activity that is likely to jeopardize the continued existence of a threatened or endangered species or that may destroy or adversely modify its critical habitat. This policy includes proposed threatened or endangered species identified by the Federal Endangered Species Act. Nonfederal permittees shall notify ACE's district engineer if possibly affecting any listed species or critical habitat near the project. The permittee shall not begin the activity until the ACE district engineer (1) gives notification that the project meets the requirements of the Endangered Species Act and (2) authorizes the activity.
- No activity that may affect historic properties listed or eligible for listing in the National Register of Historic Places is authorized until the ACE's district engineer has complied with the provisions of 33 CFR 325, Appendix C. The prospective permittee must notify the ACE district engineer if the authorized activity may affect any historic properties listed. This includes properties determined to be eligible, or which the prospective permittee has reason to believe may be eligible, for listing on the National Register of Historic Places. Moreover, the permittee shall not begin the activity until the ACE district engineer (1) gives notification that the project meets the requirements of the National Historic Preservation Act and (2) authorizes the activity.



**GENERAL CONDITIONS
FOR NATIONWIDE
PERMITS (cont.):**

- Where required by the terms of the nationwide permit, the prospective permittee must notify the ACE district engineer as early as possible and shall not begin the activity:
 - ◆ Until notified by the ACE district engineer that the activity may proceed under the nationwide permit with any special conditions imposed by the ACE district or division engineer
 - ◆ If notified by the ACE district or division engineer that an individual permit is required
 - ◆ Unless 45 days have passed from the ACE district engineer's receipt of the notification and the prospective permittee has not received notice from the ACE district or division engineer. Subsequently, the ACE district engineer may modify, suspend, or revoke the permittee's right to proceed under the nationwide permit.
- Compensatory mitigation may be required for impacts to the aquatic environment. It will first be determined whether the project is designed and constructed to avoid or minimize adverse impacts to the maximum extent practicable. Mitigation will be at a minimum one-for-one ratio. Mitigation costs and constructability issues will be carefully examined to determine the feasibility of on-site mitigation. Vegetative buffers will normally be required. Permittees may also utilize mitigation banks or in-lieu fee arrangements.
- In addition to the general conditions, the following conditions apply only to activities that involve the discharge of dredged or fill material and shall be followed for authorization by the nationwide permits to be valid:
 - ◆ No discharge of dredged or fill material may occur in the proximity of a public water supply intake except where the discharge is for repair of the public water supply intake structures or adjacent bank stabilization.
 - ◆ No discharge of dredged or fill material may occur in areas of concentrated shellfish production unless the discharge is directly related to a shellfish-harvesting activity authorized by a Nationwide Permit 4.



**GENERAL CONDITIONS
FOR NATIONWIDE
PERMITS (cont.):**

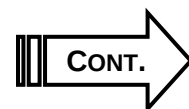
- ◆ No discharge of dredged or fill material may consist of unsuitable material (for example, trash, debris, car bodies), and material discharged must be free from toxic pollutants in toxic amounts (see Section 307 of the Clean Water Act).
- ◆ Discharge of dredged or fill material into waters of the United States must be minimized or avoided to the maximum extent practicable at the project site.
- ◆ Discharge of dredged or fill material must be avoided to the maximum extent practicable in spawning areas during spawning seasons.
- ◆ To the maximum extent practicable, discharges must not permanently restrict or impede the passage of normal or expected high flows or cause the relocation of the water (unless the primary purpose of the fill is to impound waters).
- ◆ If the discharge creates an impoundment of water, adverse impacts on the aquatic system caused by the accelerated passage of water and/or the restriction of its flow shall be minimized to the maximum extent practicable.
- ◆ Discharge into breeding areas for migratory waterfowl must be avoided to the maximum extent practicable.
- ◆ Any temporary fills must be removed in their entirety and the affected areas returned to their preexisting elevations.

**REGIONAL
PERMITS:**

The ACE division or district engineer issues regional permits after compliance with other regulatory procedures. Individual activities that fall within the categories authorized by such permits need no further authorization. To protect the public interest, the issuing authority may condition the permit to require a case-by-case reporting and acknowledgment system.

**INDIVIDUAL
PERMITS:**

Individual permits (IPs) are required for those activities that are not specifically covered by, or exceed the limits of, a nationwide permit or its general conditions. Activities that may require an IP approval include channel changes, waste sites, and other impacts to specially designated waters of the United States, such as wetlands or wild and scenic rivers.



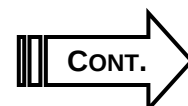
EMERGENCY

AUTHORIZATIONS: Emergency authorizations are permitted for situations needing corrective action within a period less than the normal time needed under standard procedures. These include situations that may result in an unacceptable hazard to life, a significant loss of property, or an immediate, unforeseen, and significant economic hardship. Even in an emergency, reasonable efforts should be made to receive comments from interested federal, state, and local agencies and the affected public. A public notice should be published as soon as practicable.

OTHER REQUIRED PERMITS:

In compliance with state and federal laws, the Department of Highways shall apply for and obtain the following permits when required:

- **Tennessee Valley Authority Permits**—The Tennessee Valley Authority's Board of Directors, through the Division of Land and Forest Resources, authorizes and issues these permits in accordance with Section 26a of the Tennessee Valley Authority Act of 1933, as amended (49 Statute 1079, 16 USC Section 831y1). These permits are to be obtained before the construction, operation, or maintenance of any structure or obstruction affecting the Tennessee River or any of its tributaries.
- **State Water Quality Certifications**—The Kentucky Natural Resources and Environmental Protection Cabinet, through the Division of Water, authorizes and issues these certifications in accordance with Section 401 of the Clean Water Act (33 USC 1341). These certifications are to be obtained before conducting any activity that discharges a pollutant into waters of the United States and are issued by the state from which such discharge would originate. In certain cases, such as individual permits, obtaining a certification is required before the authorization of a Department of the Army permit or a Tennessee Valley Authority permit. Activities that require an individual water quality certification are:
 - ◆ Any activity that may result in discharging pollutants into waters of the United States as regulated by the Department of the Army and in certain cases the Tennessee Valley Authority
 - ◆ Discharges into, and causing or resulting in the loss of or adverse impact (impoundment, excavation, or drainage) to, one acre or more of wetlands



**OTHER REQUIRED
PERMITS (cont.):**

- ◆ Discharges into 200 feet or more of any stream or stream bank (below ordinary high water) depicted as an intermittent or solid blue line on a USGS 7.5-minute (1:24 000) topographic map
- ◆ Any activity that will result in a discharge into Special Use Waters

In addition, Chapter 151 of the Kentucky Revised Statutes and Title 401, Chapter 4, of the Kentucky Administrative Regulations require the Department of Highways to obtain permits for the withdrawal, transfer, or diversion of public water. The Division of Environmental Analysis is responsible for requesting and obtaining the appropriate approvals from the Natural Resources and Environmental Protection Cabinet, Division of Water.

The Division of Water has agreed to combine the processing of the two approvals regarding water quality and water diversion. The combination will be accomplished by adding the following statements to applications for water-quality certifications:

- "Chapter 151 of the Kentucky Revised Statutes and Title 401, Chapter 4, Kentucky Administrative Regulations, provide that the Natural Resources and Environmental Protection Cabinet has the authority to regulate the diversion of waters of the Commonwealth."
- "Permission shall be obtained from all adjacent landowners and water users impacted by the diversion."



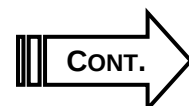
	<i>Chapter</i> PERMITS & CERTIFICATION
	<i>Subject</i> Procedures & Responsibilities

PROCEDURES &

RESPONSIBILITIES: Upon determining what permit type may be required for the project alternatives, the project team shall notify the Division of Environmental Analysis (DEA). Notification should occur during the range of alternative analysis, which includes a statement of "Avoidance Alternatives to Water-Related Impacts" that must identify each stream/wetland impact with a description of the anticipated construction activity. DEA will provide additional comments or recommendations as required.

After the project team selects a preferred alternative, the project manager will provide DEA with plans and a statement of "Avoidance Alternatives to Water-Related Impacts" for the chosen alternative, which must identify each stream impact with a description of the anticipated construction activity. If DEA determines that an individual permit is appropriate, the project manager, with guidance and support from DEA, shall begin identifying mitigation needs (e.g., additional right of way may be necessary) and any opportunities for further avoidance or minimization of impacts. Any required mitigation design work shall begin at this phase of design.

When (or before) submitting right-of-way plans, the project manager will provide DEA a copy of the plans, drainage folder, and permit drawings (**Exhibit 500-02**). Nationwide permits (NWP) may require up to six months for processing. In certain cases a preconstruction notification (PCN) may be required before beginning construction, which involves a 30-day review by the Army Corps of Engineers (ACE) and includes specific information very much like what is required in an individual permit application. Individual permits typically require 9 to 12 months or longer for processing, including a minimum 30-day public notice comment/response period.



**PROCEDURES &
RESPONSIBILITIES****(cont.):**

Upon approval of a permit, DEA will notify the project manager; Plans, Specifications, and Estimates (PS&E); and the district office (with copies as required). Any plan changes affecting the waterway or conditions of the permit after its issuance may require additional review and approval by ACE, and in the case of an approved IP, another 30-day public notice may be required. Impacts not noted on the approved plans (e.g., temporary stream crossings) may require a separate permit, or permit modification, before construction may begin. Surplus excavation sites or other significant changes or additions not indicated for a project approved under an NWP may require an IP before construction may begin.

**INFORMATION
REQUIRED
FOR PERMIT
APPLICATION:**

The project team is to furnish the following information to the DEA permits coordinator to finalize the permit application:

➤ Purpose and need, and alternatives analysis

An approved environmental document should provide the information needed to satisfy ACE requirements.

On projects without an approved environmental document, the project team should document the selection process of the preferred alignment. The designer may accomplish this by documenting the decision process and specifically how water-related issues were taken into consideration. The information should include:

- ◆ Purpose and need for the project
- ◆ Alternative analysis
- ◆ Scope of impacts
- ◆ Constructability
- ◆ Other environmental considerations

➤ Site-specific minimization and mitigation narrative

Once it has been clearly demonstrated that no practicable avoidance alternative exists, the designer should address minimization of impacts. A narrative describing the minimization and mitigation efforts utilized at each specific site shall be provided.

Minimization requires implementing appropriate measures that will reduce impacts. Lengthening bridges, steepening slopes, reducing the lengths of channel changes, and minor alignment shifts are just a few examples.



**INFORMATION
REQUIRED
FOR PERMIT
APPLICATION
(cont.):**

After consideration and implementation of minimization measures, appropriate mitigation should be considered. Mitigation includes, but is not limited to:

- ◆ Revegetation of the impacted area
- ◆ Instream habitat replacement
- ◆ Restoration, enhancement, or creation of wetlands

DEA is responsible for providing guidance in this area.

➤ **Permit drawings (Exhibit 500-02)**

The permit drawings shall show:

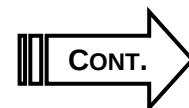
- ◆ Plan view
- ◆ Elevation and/or cross-section view (typical channel section and/or structure section)
- ◆ Stream profile (optional, except for channel changes)
- ◆ Rock line soundings (along proposed channel change locations)
- ◆ Vicinity map

All permit drawings shall be submitted on a KYTC sheet cell: SCOE located in cell library: KYTC_SHEET.CEL (**Exhibit 500-03**).

➤ **Volume of displacement and area of impact**

The volume of displacement (only below the ordinary high-water elevations) and area of impact (at the ordinary high-water elevations) shall be estimated and shall include, but not be limited to, the following, as applicable:

- ◆ Excavation
- ◆ Embankment
- ◆ Piers, footers, etc.
- ◆ Channel lining (riprap)
- ◆ Temporary equipment crossings or pads
- ◆ Old channel fills (fill placed in abandoned stream)
- ◆ In-stream structures (stone riffles and deflectors)
- ◆ Area of impact (measured surface disturbed)



**INFORMATION
REQUIRED
FOR PERMIT
APPLICATION
(cont.):**

➤ Plan Set

The project manager is to furnish one set of plans. These plans shall contain:

- ◆ Layout sheet
- ◆ Typical channel sections
- ◆ Plan and profile sheets
- ◆ Structure and/or pipe sections
- ◆ Stream profile

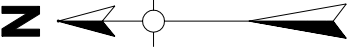
The permit coordinator will be responsible for reviewing this material and notifying the project manager of any additional information required or corrections to be made. The project manager shall submit revised drawings and/or plans to the permit coordinator when revisions are made affecting any activity requiring a permit.

DEA will furnish the environmental documentation and expertise necessary to coordinate and fulfill the obligations concerning all social, economic, biological, historical, and archaeological conditions of a permit. DEA will submit all correspondence with the ACE and the Division of Water for obtaining all water-quality certifications and water-withdrawal permits.

After approval and issuance of the permit, the project manager is to insert a copy of the permit into the contract bid proposal and forward additional copies to the Division of Construction and other appropriate personnel and/or agencies. After the letting procedures have been concluded, the Division of Construction will furnish a copy to the contractor that was awarded the project. The contractor will post a copy of the permit in a conspicuous place at the project site for the duration of the project construction or as directed by the permit. The contractor will perform the work in compliance with the terms and conditions of the permit.



EXHIBIT 500-01



LICKING, KENTUCKY, SALT, LOWER OHIO, GREEN
BIG SANDY, UPPER OHIO
TENNESSEE, CUMBERLAND
MISSISSIPPI

LOUISVILLE
HUNTINGTON
NASHVILLE
MEMPHIS

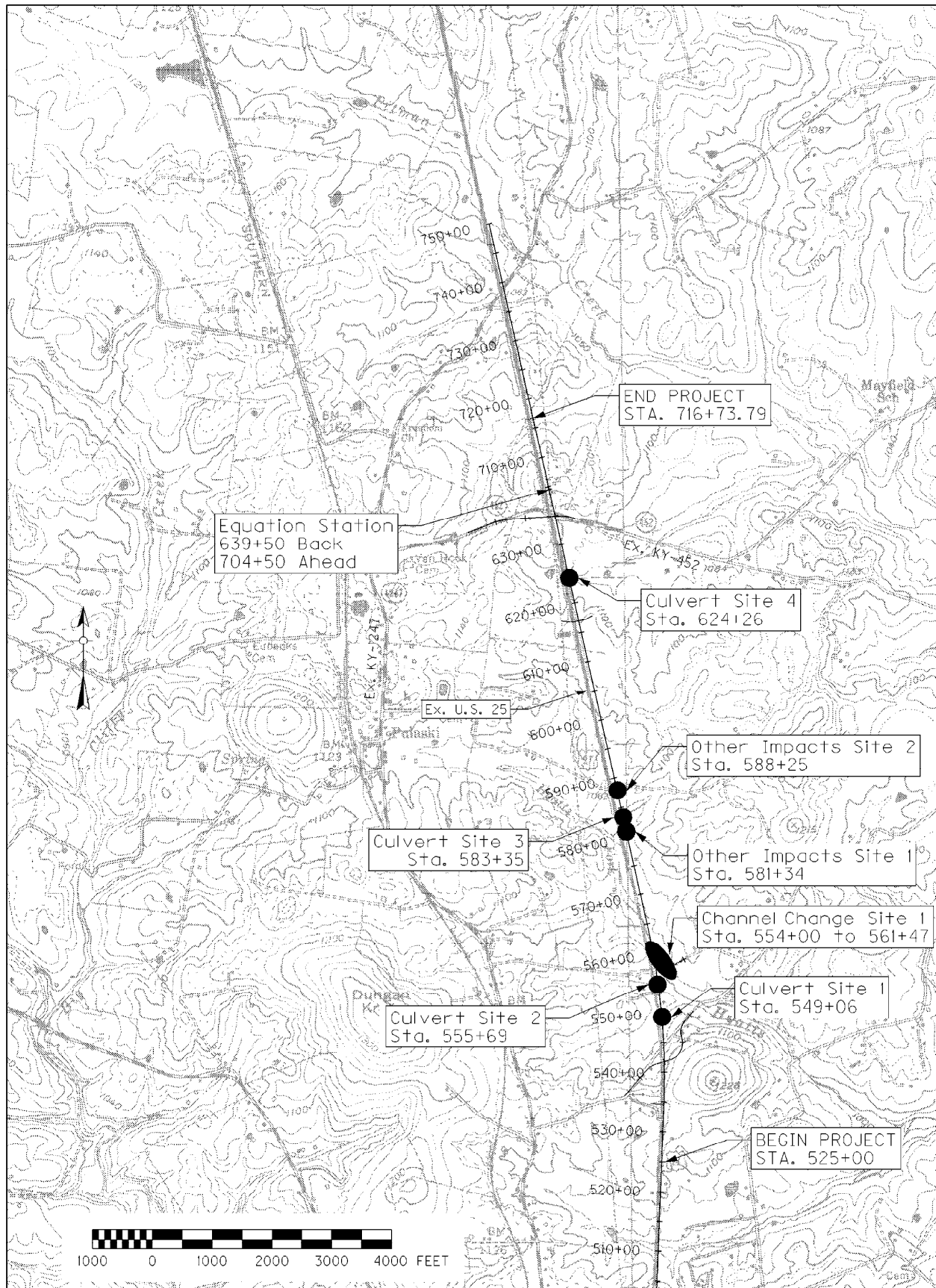
KYTC HIGHWAY DISTRICTS

ARMY CORPS OF ENGINEERS DISTRICTS

7-29-2004

EXAMPLE VICINITY MAP

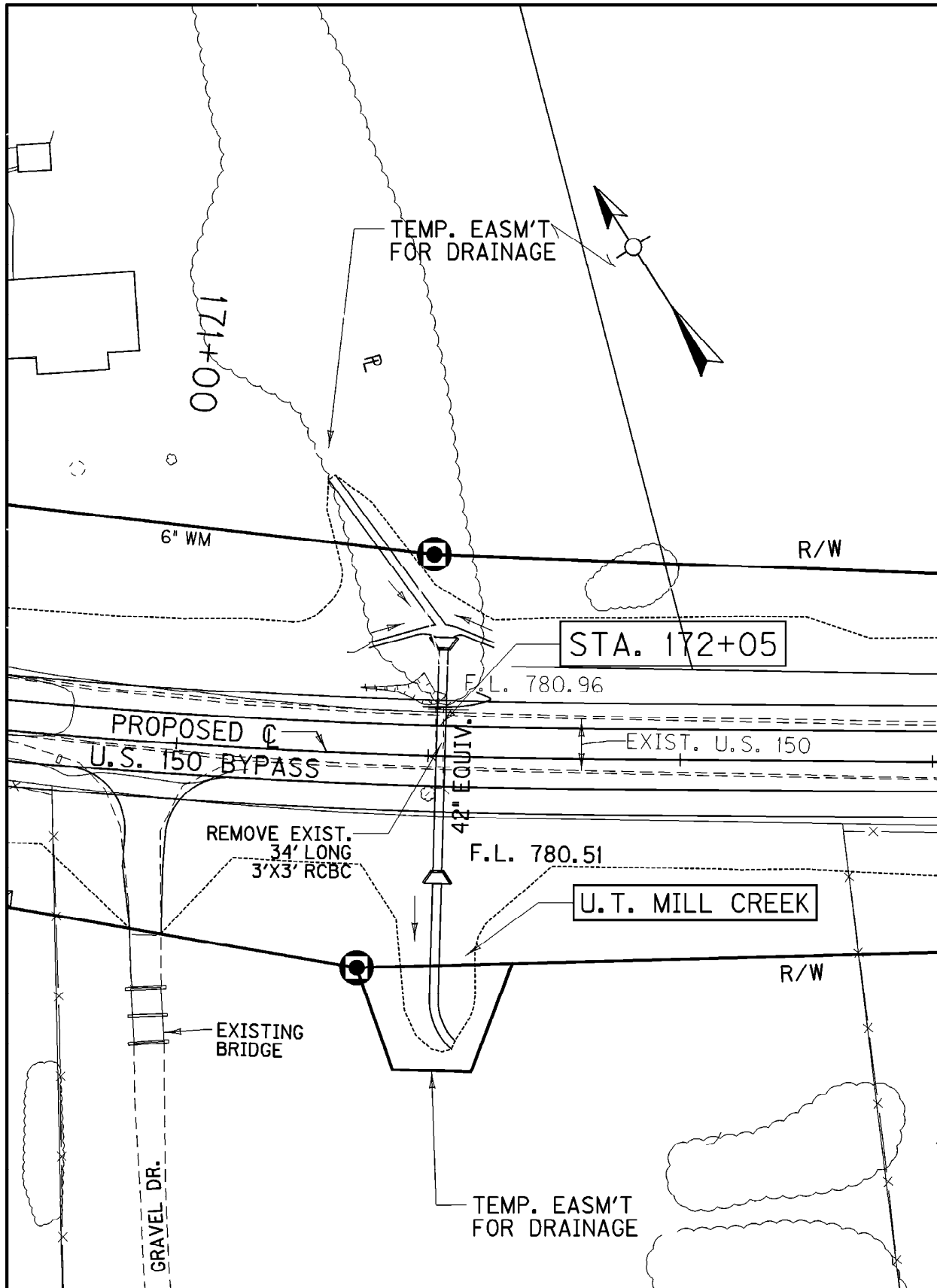
EXHIBIT 500-02
(Page 1 of 5)



Kentucky Transportation	SITE: U. S. 27 Somerset - Summary of Section 404 Impacts			STREAM:	
	COUNTY: Pulaski	STATE: Kentucky	NEAR: Somerset	ITEM: 08-55.02	SHEET: 1 of 2

EXAMPLE PIPE PLAN SHEET

EXHIBIT 500-02
(Page 2 of 5)



Kentucky Transportation	SITE: Sta. 172+05 - 42" Pipe, Ephemeral Stream			STREAM: U.T. Mill Creek		
	COUNTY: Washington	STATE: Kentucky	NEAR: Springfield	ITEM: 04-103.05	SHEET:	

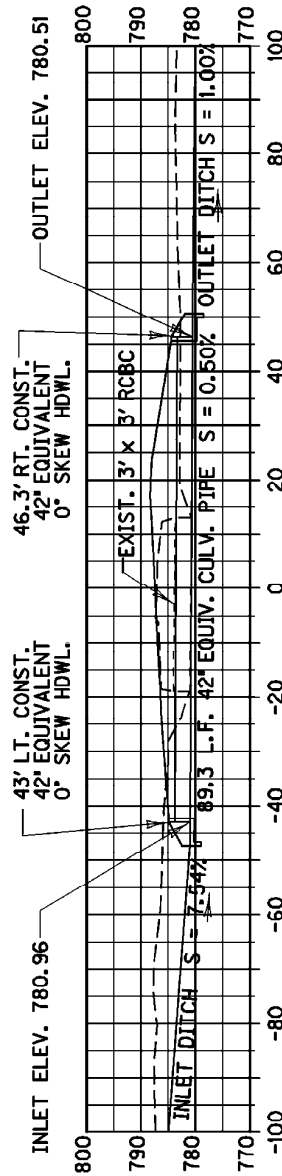
EXAMPLE PIPE PROFILE SHEET

EXHIBIT 500-02
(Page 3 of 5)

FLOOD EVALUATION DATA			
	RETURN INTERVAL (YRS)	Q (CFS)	HW ELEV (ft)
DESIGN	25	43.55	785.21
CHECK	100	54.57	785.70

CONST. 68 L.F. 3.5' BOT.
OUTLET DITCH W/3:1 SIDE SLOPES
92.1 CU. YD. EXC.

CONST. 77.8 L.F. 3.5' BOT.
INLET DITCH W/3:1 SIDE SLOPES
168.3 CU. YDS. ROADWAY EXC.

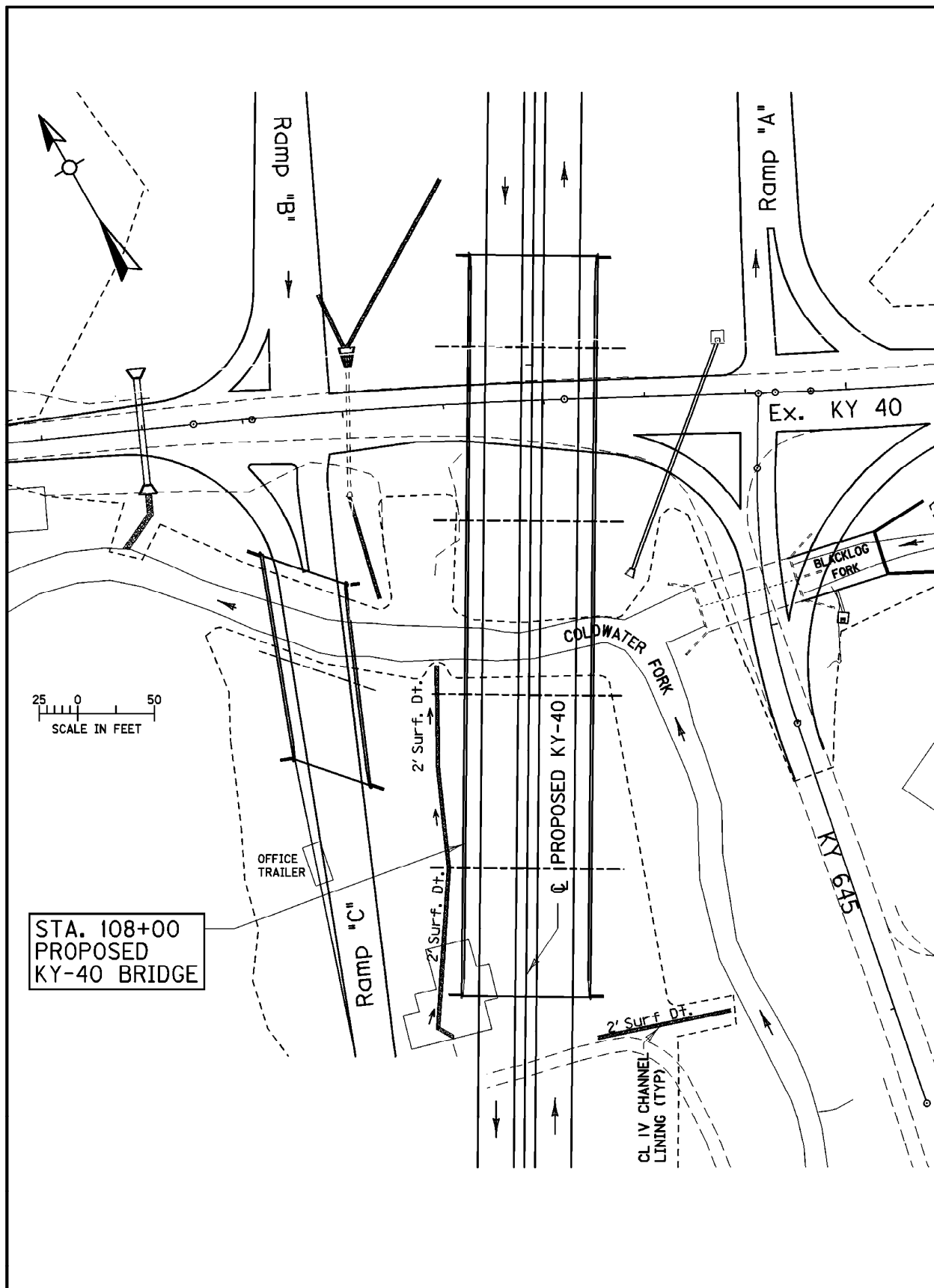


STA. 172+05
0° SKEW
CONST. 89' OF 42" PIPE

Kentucky Transportation	SITE: Sta. 172+05- Pipe Sheet			STREAM: U.T. Mill Creek	
	COUNTY: Washington	STATE: Kentucky	NEAR: Springfield	ITEM: 04-103.05	SHEET:

EXAMPLE BRIDGE PLAN SHEET

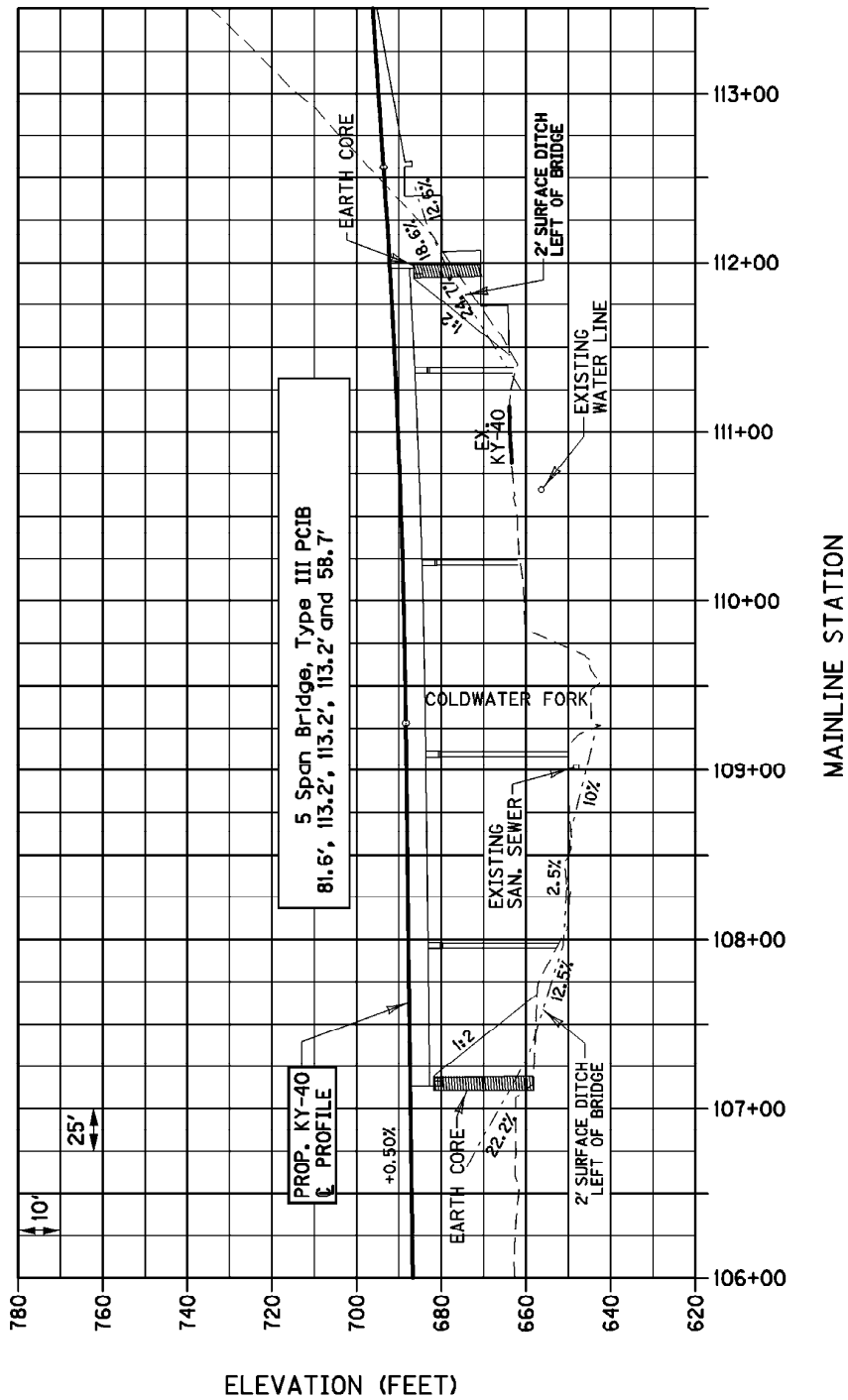
EXHIBIT 500-02
(Page 4 of 5)



Kentucky Transportation	SITE: Sta. 108+00- Mainline Bridge Plan			STREAM: Coldwater Fork		
	COUNTY: Martin	STATE: Kentucky	NEAR: Inez	ITEM: 12-154.00	SHEET:	

EXAMPLE BRIDGE PROFILE SHEET

EXHIBIT 500-02
(Page 5 of 5)



Kentucky Transportation	SITE: Sta. 108+00- Bridge Profile			STREAM: Coldwater Fork		
	COUNTY: Martin	STATE: Kentucky	NEAR: Inez	ITEM: 12-154.00	SHEET:	

EXAMPLE EXHIBIT SHEET CELL

EXHIBIT 500-03

CELL LIBRARY: KYTC_SHEET.CEL

CELL NAME: SCOE

02-'04
Cell Library: KYTC_SHEET
Cell Name: SCOE
DD-MM-YYYY HH:MM

Kentucky Transportation	SITE:		STREAM:		
	COUNTY:	STATE:	NEAR:	ITEM:	SHEET:

DATE: Feb. '04