

UTILITIES & RAILS GUIDANCE MANUAL



ISSUED BY

COMMONWEALTH OF KENTUCKY
TRANSPORTATION CABINET

April 2026



Produced by Organizational Management Branch
Office of Human Resource Management



TRANSPORTATION CABINET

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OFFICE OF THE SECRETARY
OFFICIAL ORDER 114359

SUBJECT: *Utilities and Rails Guidance Manual*

This manual has been prepared to provide information and guidance to personnel of the Kentucky Transportation Cabinet. Its purpose is to establish uniformity in the interpretation and administration of laws, regulations, policies, and procedures applicable to the operation of the Utilities and Rails Branch within the Division of Right of Way and Utilities and its relationship with other units of the Cabinet.

The policies and procedures set forth herein are hereby approved and declared effective unless officially changed.

All previous instructions, written and oral, relative to or in conflict with this manual are hereby superseded.

Signed and approved this ____ day of 4/30/2026 2026.

Signed by:

Rebecca W. Goodman

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Legal Form

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PREFACE

This Utilities & Rails Guidance Manual has been prepared to outline the general practices, policies, and procedures in the design, administration, and coordination of utilities and railroad facilities with the Kentucky Transportation Cabinet (KYTC) properties or impacted by KYTC highway projects. This manual cannot cover every circumstance that may occur during utility and rail coordination, management, and relocation. It is intended to provide general policies and guidelines for resolving special circumstances that are encountered. The KYTC is committed to negotiate fair and equitable resolutions. The Utility & Rail Branch is part of the Division of Right of Way & Utilities. This branch is directed by the Utility Branch Manager under the supervision of the Director of Right of Way & Utilities.

Proactive coordination and management with KYTC are the first and best practice to minimize the potential impacts between existing utility/rail infrastructure and proposed KYTC projects. Effective and proactive work helps avoid costly right-of-way restoration, reduces intrusive maintenance operations, and eliminates unnecessary disruptions to the traveling public. These factors contribute to the overall cost and time to construct and maintain both the transportation system and utility and rail infrastructure. Of course, it is in the best interest of the public to minimize these costly situations, as the public ultimately bears these costs whether as a taxpayer or utility ratepayer.

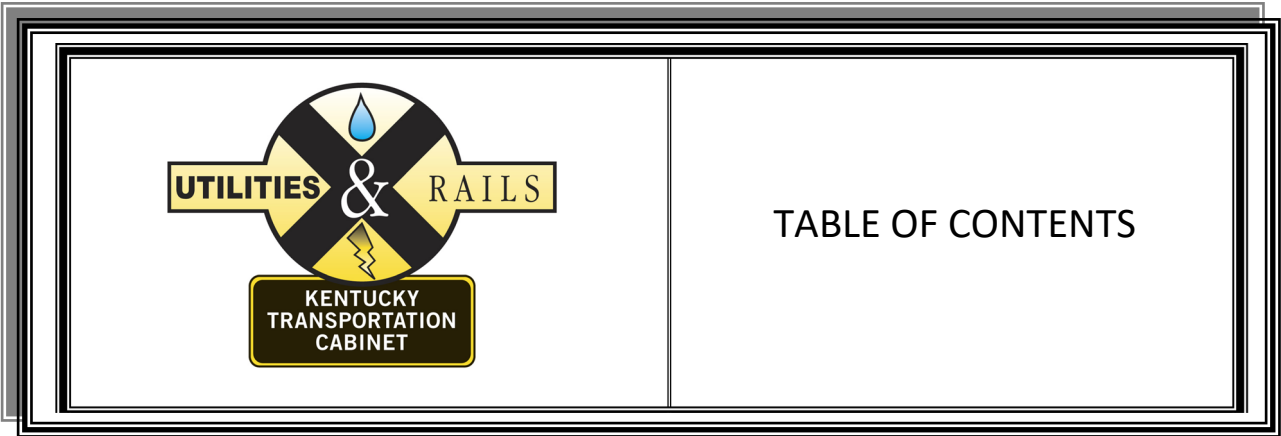
Proactive utility and rail coordination early in the planning and scoping of a project will reduce the effort needed later in the design and construction of a project. History has shown that early coordination and continuous coordination through the life of a project is the most effective method to identify and resolve issues as early as possible, facilitate timely utility relocations, and ultimately minimize the overall project costs to the KYTC, utility companies, railroads, and the public.

The Division's rail safety program promotes safety throughout the Commonwealth. The KYTC rail safety program implements projects involving railroad infrastructure that focuses on safety improvements. The program also supports public education on railroad safety awareness.

The Utility and Rails Guidance Manual is a living document that will change as laws and regulations change and as evolutions in effective management practices are identified. All users of this manual are hereby made aware that all federal and state laws and regulations, whether mentioned herein or not, must be observed and followed to be in compliance with KYTC requirements. Users are encouraged to advise the Director of the Division of Right of Way and Utilities of the need for corrections or provide suggestions that would improve the content of this manual. This manual replaces all previous utility & rails manuals by the KYTC.

Correspondence should be addressed to:

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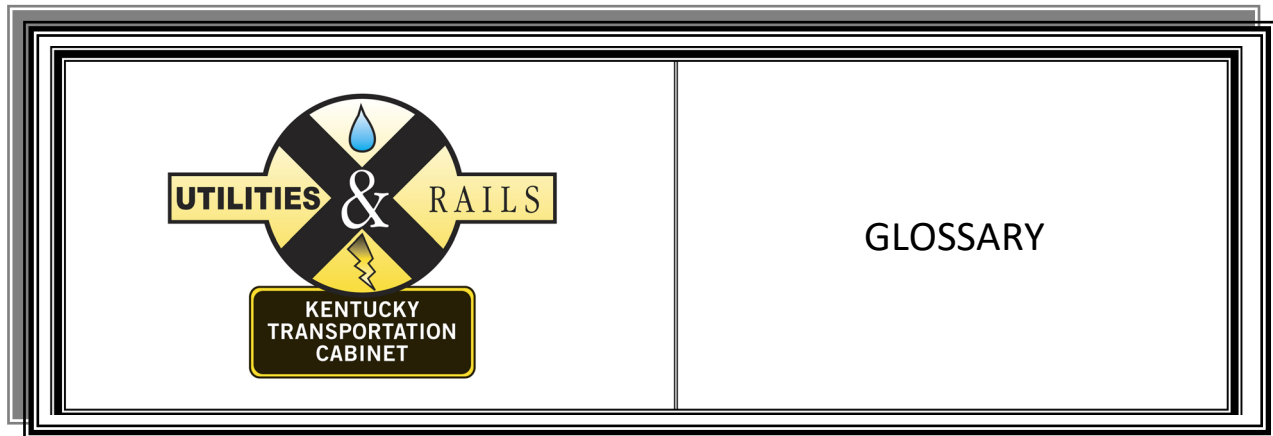
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AADT	<i>See Annual Average Daily Traffic.</i>
AASHTO	American Association of State Highway and Transportation Officials, advocates transportation-related policies and provides technical services to support states in their efforts to efficiently and safely move people and goods.
ABANDONMENT	When someone gives up their legal rights to use a piece of land (like a road or utility space) on purpose and completely.
AREA UTILITY COORDINATOR	A role established in Central Office to provide support to the district Utilities Section.
AC	<i>See Area Utility Coordinator.</i>
ACCESS CONTROL	The systematic management by the Transportation Cabinet (Cabinet) of the location, spacing, design, and operation of driveways, median openings, interchanges, and street connections to a highway; different types of controlled access highways: ➤ Fully Controlled Access Highway: gives preference to through traffic, provides for access only at selected public roads or streets, and has no highway grade crossing or intersections. ➤ Partially Controlled Access Highway: gives preference to through traffic but may provide access to selected public roads and streets and may provide some highway at-grade intersections and private driveway connections. ➤ Access-by-Permit Highway: access available by permit from the Cabinet.

GLOSSARY

UR-02

ACCOMMODATION	The policy and manner in which the Cabinet controls the proposed use of highway right of way by utility facilities.
ACQUISITION	The process of obtaining land or property rights needed for transportation projects, such as roadwork, rail improvements, or utility relocations. This may involve purchasing land or securing legal permission to use it.
AD	See <i>Administrative Coordinator</i> .
ADVERTISEMENT	A public notice published as an announcement in print and/or broadcast.
ADMINISTRATIVE COORDINATOR	Member who supports the day-to-day functions for the work of the Utilities and Rail Branch.
AGENCY	An administrative unit of government.
AGREEMENT	Any legally binding instrument between two or more parties creating mutual obligations.
ANNUAL AVERAGE DAILY TRAFFIC	The total volume of vehicle traffic on a highway for a year divided by 365 days; a useful and simple calculation used in transportation planning and engineering to quantify traffic loads; also, sometimes reported as “average annual daily traffic.”
APPURTENANCES	Additional parts or supplies (connectors, fittings, etc.) that are required to enable major items of a facility plant (pipelines, mains, conductor, etc.) to function.
ARCHIVING	The protection and storage of certain project records for a period prescribed by law or policy to maintain a trail for audit and reference; Cabinet records may be preserved by the Department of Libraries and Archives.
AS-BUILT PLANS	Plans that depict the utility facility as constructed, incorporating all field changes; also referred to as “record plans.”
AUDIT	The process by which the Cabinet Office of Audits or the Office of the State Auditor reviews project processes, personnel, and documentation to evaluate financial and regulatory compliance.
AUTHORIZATION	The approval or endorsement of a course of action, agreement, or expenditure.

GLOSSARY

UR-02

AUTHORIZATION LETTER	Conveys the Cabinet’s authorization for a utility or rail company to begin reimbursable work in the coordination, planning, relocation design, and reconstruction of their facilities affected by a proposed transportation project, using in-house personnel. The letter also generally provides guidance, policies, rules, and, in some cases, announces a joint utility meeting.
AWARD	The notice to a bidding contractor of the acceptance of the submitted bid.
BABA	See <i>Build America Buy America</i> .
BACKFILL	Noun: the material used to replace an excavation. Verb: to refill (an excavation), usually with excavated material.
BEDDING	The organization of material to support a pipe.
BETTERMENT	An upgrade or improvement made to a utility during reconstruction that goes beyond simply replacing it. This improvement is done only to benefit the utility company, such as increasing its capacity or adding new features and not because it's needed for the basic replacement.
BURY	(NOUN) Depth of an underground facility below grade of roadway or ditch. (VERB) The act of excavation, installation, backfill, and surface restoration of a utility facility.
BUILD AMERICA, BUY AMERICA	An act and a provision of the Infrastructure Investments and Jobs Act that requires iron, steel, manufactured products and construction materials used in US Federal Infrastructure projects to be domestically produced.
CABINET	Kentucky Transportation Cabinet.
CAP	See <i>Communicate All Promises</i> .
CARRIER	A pipe that directly encloses a transmitted liquid or gas.
CASING	A larger pipe enclosing a carrier.
CFR	See <i>Code of Federal Regulations</i> .
CHANGE ORDER	Additions, subtractions, or other changes to the terms of an approved agreement.

GLOSSARY

UR-02

CLEAR RECOVERY**AREA**

That portion of the roadside within the highway right of way set out by the Cabinet to be free of non-traversable hazards and fixed objects.

CLEAR ZONE

An unobstructed, relatively flat area beyond the edge of the traveled way that allows a driver to stop safely or regain control of a vehicle that leaves the traveled way. Defined in AASHTO's *Roadside Design Guide* as the total roadside border area, starting at the edge of the traveled way, available for safe use by errant vehicles; may consist of a shoulder, a recoverable slope, a nonrecoverable slope, or a clear run-out area; has a desired minimum width dependent upon traffic volumes and speeds and on the roadside geometry.

**CODE OF FEDERAL
REGULATIONS**

The codification of the general and permanent rules published in the Federal Register by the executive departments and agencies of the federal government. Divided into 50 titles that represent broad areas subject to federal regulation; updated annually with specific, scheduled titles issued on a quarterly basis.

**COMMUNICATE ALL
PROMISES**

A program that records and ensures all commitments made by the Cabinet to property owners during a project are clearly communicated and fulfilled.

COMPENSATION

Payment of eligible costs incurred by a utility company to accommodate highway construction.

CONDUIT

A pipe or tube used for protecting wires or cables.

CONSULTANT

The person or entity who provides specialized advice or services to a client.

**CONTEXT SENSITIVE
DESIGN**

Also called *Context Sensitive Solutions*; refers to highway standards and development practices that are flexible and sensitive to community values; allows highway design decisions to better balance economic, social, and environmental objectives.

**COST OF
RELOCATION**

The entire amount paid by or on behalf of the utility company properly attributable to the facility relocation, after deducting from total costs that amount attributable to any increase in value of the new facility and any salvage value derived from the old facility.

GLOSSARY

UR-02

COST OF REMOVAL	The amount expended to remove utility property, including the cost of demolishing, dismantling, removing, transporting, or otherwise disposing of the property and of restoring the former facility site to a neat and presentable condition.
COST OF SALVAGE	The amount reasonably expended to restore salvaged utility property to usable condition after its removal.
CSD	See <i>Context Sensitive Design</i> .
DEBARMENT	The act of prevention or exclusion by legal means from enjoying certain possessions or rights or practices.
DIRECT FEDERAL HIGHWAY PROGRAM	Highway projects, such as projects under the Federal Lands Highway Program, which are under the direct administration of the FHWA.
DIRECTIONAL DRILLING	The process of drilling nonvertical wells, typically for the installation of a carrier pipe.
DISPOSITION	The process of selling, transferring, or giving up land, property, or rights that are no longer needed for a transportation or utility project. This may happen after construction is complete or plans have changed.
DISTRIBUTION FACILITY	The part of a utility system connecting the transmission line with the individual consumers or with the service lines of the individual consumers.
DUCT	See <i>Conduit</i> .
DUS	See <i>US</i> .
DUA	See <i>UA</i> .
EARLY UTILITY ACCOMMODATION	A set of utility focused tasks that can be performed in advance of environmental approvals. The work may be state funded and federally reimbursed later, provided a series of conditions are met.
EASEMENT	The right to use the real property of another for a specific purpose. The easement is itself a real property interest, but legal title to the underlying land is retained by the original owner for all other purposes. Typical easements are for access to another property to, for example, install and maintain utility or sewer lines both under and above ground.

GLOSSARY

UR-02

EAU	<i>See Early Utility Accommodation.</i>
ELIGIBILITY DATE	Date specified by the Cabinet on which a vendor or contractor may begin reimbursable work pursuant to an agreement.
ENCASEMENT	The enclosing of any utility carrier pipe with a larger pipe (casing) or poured concrete to protect or facilitate the repair of the smaller pipe to limit avoidable highway traffic disturbance during repairs.
ENCROACHMENT	Any permissible or impermissible intrusion on or disturbance of highway right of way by a party other than personnel or agents of the Cabinet.
ENGINEERING SERVICE CONTRACT	An agreement between a utility company and its consultants, recognizing the Cabinet as a third party that may reimburse the utility company for all or part of the contract engineering costs.
ESC	<i>See Engineering Service Contract.</i>
EXCAVATION	The act of excavating or making hollow by cutting, scooping, or digging out a part of a solid mass.
FACILITY	Includes all property, means, and instrumentalities owned, operated, leased, licensed, used, furnished, or supplied for, by, or in connection with the business of any utility; see KRS 278.010.
FAPG	<i>See Federal-Aid Policy Guide.</i>
FEDERAL-AID POLICY GUIDE (FAPG)	An official Federal Highway Administration (FHWA) directive that contains the current policies, regulations, and nonregulatory procedural guidance information related to the FHWA's Federal-Aid Highway Program.
FEDERAL HIGHWAY ADMINISTRATION	An agency within the U.S. Department of Transportation that supports state and local governments in the design, construction, and maintenance of the nation's highway system (Federal-Aid Highway Program) and various federally and tribally owned lands (Federal Lands Highway Program). Through financial and technical assistance to state and local governments, the Federal Highway Administration is responsible for ensuring that America's roads and highways continue to be among the safest and most technologically sound in the world.

GLOSSARY

UR-02

**FEDERAL RAILROAD
ADMINISTRATION**

An agency within the U.S. Department of Transportation responsible for promulgating and enforcing rail safety regulations, administering railroad assistance programs, conducting research and development in support of improved railroad safety and national rail transportation policy, providing for the rehabilitation of Northeast Corridor rail passenger service, and consolidating government support of rail transportation activities.

FHWA

See *Federal Highway Administration*.

FISCAL YEAR

Any 12-month period that a company uses for accounting purposes.

FORCE ACCOUNT

Contracted construction work performed by a utility's employees (not by a contractor), to be paid for based on time taken and material consumed.

**FORCE ACCOUNT
ESTIMATE**

Estimate of the cost of force account project work to be performed.

**FORCE ACCOUNT
LETTER**

See *Authorization Letter*.

FRA

See *Federal Railroad Administration*.

**GEOGRAPHIC
INFORMATION
SYSTEM**

A system that integrates hardware, software, and data for capturing, managing, analyzing, and displaying all forms of geographically referenced information. Used by governments and business, including utilities, in science, education, natural resource and environmental management and conservation, cartography, remote sensing, land surveying, utility management, photogrammetry, geography, urban planning, emergency management, navigation, and in many other ways.

GIS

See *Geographic Information System*.

GRADE

The steepness or slope of a road or land surface. It's usually measured as a ratio of vertical rise to horizontal distance (rise over run). A higher grade means a steeper slope. Grade can also refer to a road that slopes upward or downward.

HCM

See *Highway Capacity Manual*.

GLOSSARY

UR-02**HIGHWAY CAPACITY
MANUAL**

A publication of the Transportation Research Board (TRB) that contains concepts, guidelines, and computational procedures for computing the capacity and quality of service of various highway facilities, including freeways, highways, arterial roads, roundabouts, signalized and unsignalized intersections, rural highways, and the effects of mass transit, pedestrians, and bicycles on the performance of these systems.

**HIGHWAY INFORMATION
SYSTEM**

System that includes a full line of Highway Advisory Radio (HAR) systems, along with supporting electronics and software, and combines sensors, controllers, communication devices, and software to provide safer traveling environments.

**HIGHWAY SAFETY
IMPROVEMENT
PROGRAM**

Program established by the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) as a core federal-aid program with the purpose of significantly reducing traffic fatalities and serious injuries on all public roads through the implementation of infrastructure-related highway safety improvements.

HIS See *Highway Information System*.

HSIP See *Highway Safety Improvement Program*.

IEEE See *Institute of Electrical and Electronic Engineering*.

**INDIRECT OR
OVERHEAD COST**

Expense not readily traceable to specific jobs or processes (generally indirect materials, indirect labor, and all other miscellaneous expenses, such as taxes, insurance, depreciation, supplies, utilities, and repairs) that may be equitably allocated to applicable jobs, processes, accounts, and other functions to which they relate in accordance with generally accepted cost accounting practices.

IN SITU Situated in the original, natural, or existing place or position.

INSPECTION The examination of work in progress or completed to determine conformity to plan and contract requirements.

GLOSSARY**UR-02****INSTITUTE OF ELECTRICAL
& ELECTRONIC
ENGINEERING**

An association dedicated to advancing innovation and technological excellence for the benefit of humanity; technical professional society that serves professionals involved in all aspects of the electrical, electronic, and computing fields and related areas of science and technology.

INVOICING

A request for reimbursement, submitted to the Cabinet by a utility or railroad company. The invoicing package generally contains three (3) elements: statement of charge form, company reimbursement invoice request, backup documentation (not required if invoice is for a lump sum agreement).

**JOINT UTILITY
INFORMATION
MEETING**

A meeting held with potentially affected utility companies in reference to a road project for the express purpose of identifying and planning utility relocation work.

JUM

See Joint Utility Information Meeting.

**KENTUCKY REVISED
STATUTES**

Laws governing the Commonwealth of Kentucky; uses a decimal numbering system for identification purposes where the broadest subject grouping is referred to as a “title” which is composed of smaller subjects called “chapters.”

**KENTUCKY
TRANSPORTATION
CABINET**

Executive branch agency responsible for overseeing the development and maintenance of a safe, efficient multimodal transportation system throughout the commonwealth.

**KENTUCKY UTILITY &
RAIL TRACKING SYSTEM**

The web-based utility and rail coordination management system utilized by KYTC. The system houses project record data specific to utility and rail coordination, including items such as relocation plans, agreements, invoices, change orders, and communications. The system also tracks workflow approvals for those files that are subject to review and approval. Other miscellaneous functions of the system include the maintenance of historical cost data, a utility and rail contact database, and electronic document generation.

KRS

See Kentucky Revised Statutes.

GLOSSARY

UR-02

KURTS	<i>See Kentucky Utility and Rail Tracking System.</i>
KYTC	<i>See Kentucky Transportation Cabinet.</i>
LET (LETTING; LETTING DATE)	The date when construction bids are opened. It marks the start of reviewing bids and choosing a contractor, leading to the beginning of the construction phase.
LITIGATION	The process of taking a dispute to court. In transportation or utility projects, this may happen if there is a legal disagreement over land, rights, or project impacts.
LOCAL PUBLIC AGENCY	A municipality, county, state agency, university, or a qualified tribal or military organization authorized by KYTC to undertake transportation-related community projects funded in part through federal or state reimbursement.
LPA	<i>See Local Public Agency.</i>
MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES	Federal Highway Administration (FHWA) publication setting minimum standards and providing guidance by which traffic control devices (including road markings, highway signs, and traffic signals) are designed, installed, and used, including specifications for the shapes, colors, and fonts used in road markings and signs; used by state and local agencies as well as private construction firms to ensure uniformity of traffic control devices across the nation.
MILE POINT	A location designation on a highway, street, road, or railroad that indicates the distance in miles from a specified reference point.
MITIGATION	Actions taken to reduce or fix negative impacts caused by a transportation or utility project. This can include restoring land, protecting the environment, or helping affected property owners.
MUTCD	<i>See Manual on Uniform Traffic Control Devices.</i>

GLOSSARY**UR-02****NATIONAL ELECTRICAL****SAFETY CODE**

A set of standards adopted by utility industries setting the ground rules for practical safeguarding of persons during the installation, operation, or maintenance of electric supply and communication lines and associated equipment.

NEGOTIATED CONTRACT

Contract awarded not through a competitive bidding process but based on direct negotiation with a contractor.

NESC

See *National Electrical Safety Code*.

NOT-TO-EXCEED**AMOUNT**

See *Upset Limit*.

OCCUPATIONAL SAFETY**& HEALTH****SERVICES**

Federal agency created by Congress with the Occupational Safety and Health Act of 1970 to ensure safe and healthful working conditions for working men and women by setting and enforcing standards and by providing training, outreach, education, and assistance.

OFFICE OF LEGAL**SERVICES**

Provides legal services for the Transportation Cabinet and is responsible for: legal matters relating to drafting, review, and approval of Administrative Regulations and guidance manual revisions; review of Official Orders, contracts, and memoranda of agreement; Board of Claims, collections, motor vehicle liability insurance, and property damage claims; general litigation; miscellaneous litigation; and administration of the Cabinet's Workers' Compensation program and related litigation.

OLS

See *Office of Legal Services*.

OSHA

See *Occupational Safety & Health Services*.

PAYMENT REQUEST**COMMODITY**

A statement of charges with an invoice and supporting documentation that, once received for final bill, is reviewed for appropriateness and submitted for payment.

PERMIT

A document by which the Cabinet gives legal consent for encroachment upon highway right of way or easements by a party other than Cabinet personnel.

GLOSSARY**UR-02**

PIPELINE	A system of connected pipes used to transport liquids or gases over long distances.
PLANS	The approval plans, profiles, typical cross sections, working drawings, and supplemental drawings, or exact reproductions thereof, which show the location, character, dimensions, and details of work to be done.
PLAT	A drawing giving the location and dimensions of a particular piece of property, generally easements or rights of way.
PLG	<i>See Preliminary Line and Grade.</i>
PR-1	Division of Program Management federal project phase funding request and approval form.
PRC	<i>See Payment Request Commodity.</i>
PRELIMINARY ENGINEERING	The early planning and design work needed to create plans, estimates, and details that define what a project will involve and how much it may cost.
PRELIMINARY LINE & GRADE	Phase where assessments of a project's environmental impact are developed through the environmental document and critical issues involving rights of way (ROW), utilities, and railroads are identified and discussed in detail; also the phase where alignment and grade are selected, public meetings are conducted, compatibility studies on future projects are performed (where feasible), and the project team verifies that project goals and objectives are being met.
PRIVATE UTILITY OWNERS	Utility companies that are privately owned.
PROGRAMMING	The organizing and allocation of federal or state funds to a specific phase function or project.
PROJECT DEVELOPMENT BRANCH MANAGER	The Project Development Branch Manager is responsible for the district project development program as a whole and the individual project development.
PROJECT AUTHORIZATION	The allocation of funds from the Division of Program Management to proceed with a phase of a project.

GLOSSARY

UR-02

PROJECT AUTHORIZATION**(STATE) LETTER**

Conveys the Cabinet's authorization for a utility or rail company to begin reimbursable expenditures in the planning and design of the relocation and reconstruction of their facilities affected by a proposed roadway construction project.

PROJECT LIMITS

The bounds of the roadway construction project, typically defined relative to roadway mile points.

PUBLIC UTILITY**OWNERS**

Utility companies that are publicly owned.

PUMPING STATION

A facility that pumps fluid material from one place to another.

QL

See *Quality Level*.

QUALITY LEVEL (QL-)

For purposes of this manual, a graduated scale of levels of quality of information generated by subsurface utilities engineering that includes the following levels:

- **QL-A** affords the highest level of precision for utility location. It involves visibly exposing existing utilities, by use of minimally intrusive excavation equipment, to determine the precise horizontal and vertical positions of the utilities. The information provided allows mapping of utilities directly onto contract plan documents and should be accurate to applicable horizontal survey and mapping accuracy and within +/- 0.05 feet for vertical information. This level also provides the type, composition, size, condition, and other characteristics of underground features.
- **QL-B** involves information obtained through the application of appropriate surface geophysical methods to determine the existence and horizontal position of virtually all utilities within the project limits. Data should be reproducible by surface geophysics at any point of the utility's depiction. The locations are surveyed to applicable tolerances and reduced for inclusion on plan documents. Knowledge of the locations of storm drainage systems, footers, foundations, and other design features can be crucial to successfully avoiding conflicts with utilities.
- **QL-C** is probably the most commonly used level of information. Data is obtained by means of surveying and plotting visible above-ground utility features and using professional judgment to correlate this information with QL-D information.

GLOSSARY

UR-02

QUALITY LEVEL (QL-)

(cont.)

- **QL-D** is the most basic level of information for utility locations. It is derived solely from existing utility records or verbal recollections and is primarily used for project planning and route selection.

RCSee *Rail Coordinator*.**RAIL COORDINATOR**

An individual who works within the Transportation Cabinet and with KYTC staff, outside agencies and railroad companies to facilitate the timely and economical execution of all phases of highway projects that may impact railroad facilities.

**RAILROAD CROSSING
INVENTORY**

Mechanism by which railroad companies and states update the US DOT National Highway-Rail Crossing Inventory File (National File) for all existing open crossings, including the inventorying and numbering of any existing or new crossings that are not in the National File and the transfer of crossings to a new operating railroad when rail lines are sold.

RCISee *Railroad Crossing Inventory*.**RECOMMENDED
HIGHWAY PLAN**

Culmination of decisions and legislation resulting in a schedule of proposed projects for planning, roadway design, right of way, utility, and construction phases within the timeframes specified in the plan; includes projects that result in smoother roads where the pavement is in disrepair, straighter roads in those spots where statistics indicate a crash problem, wider roads or bypasses where congestion is a major concern, and new roads where basic highway system access is lacking.

REHABILITATION ACT

Section 504 of the 1973 Rehabilitation Act (*Public Law 93-112*) prohibits discrimination on the basis of disability in federally assisted programs. FHWA ensures that recipients of federal aid and state and local entities that are responsible for roadways and pedestrian facilities do not discriminate on the basis of disability in any highway transportation program, activity, service or benefit they provide to the general public; and ensures that people with disabilities have equitable opportunities to use the public rights-of-way system.

REIMBURSEMENTSee *Compensation*.**RELOCATION &/OR
ADJUSTMENT**

Modification of the physical location of a utility to accommodate the construction of a proposed highway project.

GLOSSARY

UR-02

RIGHT OF WAY	Land or property, or interest therein, acquired for or devoted to transportation purposes.
ROADWAY	The portion of a highway, including shoulders, for vehicular use.
RSC	Rail safety coordinator: the role of an individual to coordinate certain activities of the Transportation Cabinet, other state and federal agencies, and railroad companies to facilitate timely, economical, and appropriate projects primarily involving railway-highway crossings and warning devices pursuant to the Federal Highway Administration (FHWA), Federal Railroad Administration (FRA) and the Railway-Highway Crossings Program (23 USC 130).
SALVAGE VALUE	The value credited for the recovery of utility property that has been removed or the value at which the recovered materials are charged to the utility's accounts if retained for reuse. This may be realized for the recovery of recyclable or high value materials such as copper, aluminum and steel.
SERVICE FACILITY	A carrier line that connects the individual consumer to a distribution line.
SIGHT DISTANCE	The length of roadway that is visible ahead of the driver.
SOLICIT	To formally ask for something, such as bids, proposals, or information, usually from contractors, utility companies, or other parties involved in a project.
SPECIFICATIONS	A part of the contract documents consisting of written requirements for materials, equipment, construction systems, standards, and workmanship.
STANDARD DRAWINGS	Detailed drawings approved for repetitive use on a specific type of construction project.
STAKEHOLDER	A person, group, or organization that has an interest in a transportation or utility project. This can include property owners, utility companies, government agencies, railroads, and the public.
STATE LETTER	See Authorization Letter
STATEMENT OF CHARGES FORM (TC 69-8)	Form submitted with a company invoice to request payment for the reimbursable percentage of a utility relocation.

GLOSSARY

UR-02

SUBSURFACE UTILITY**ENGINEERING**

Many states utilize consultants to identify the quality of subsurface utility information needed for highway plans, and to acquire and manage that level of information during the development of highway projects. This branch of engineering practice defines processes to manage certain risks associated with highway utility relocation activities involving traditional records research and site surveys, as well as the use of new technologies such as surface geophysical methods and non-destructive vacuum excavation to provide desired "quality levels" of information.

SUE

See *Subsurface Utility Engineering*.

TC 10-1

Document generated by the Office of Program Management authorizing the expenditure of funds on one or more phases of a highway construction project that details project specific fiscal information, location, project numbers, funding levels of various phases, and approval dates.

TRANSMISSION**FACILITY**

That portion of a utility system used to transport energy, information, or material over long distances, connecting a main production facility to a remote consumer distribution system.

TRAVELED WAY

The component of the thoroughfare between the curbs including elements such as parking lanes, bicycle lanes, travel lanes and medians. The traveled way also includes midblock bus stops and midblock crosswalks.

UA

District utility agent, a role established in the highway district office to facilitate project utility and rail coordination work, utility relocation inspections, and assist the utility supervisor in local utility relocation management.

UAP

See *Utility Accommodation Policy*.

UNITED STATES**CODE**

The codification by subject matter of the general and permanent laws of the United States; divided by broad subjects into 50 titles and published by the Office of the Law Revision Counsel of the U.S. House of Representatives; published every six years, with annual cumulative supplements published in between editions to present the most current information.

GLOSSARY

UR-02

**UNITED STATES
DEPARTMENT OF
TRANSPORTATION**

Federal department of the United States government concerned with transportation.

UPSET LIMIT

Maximum compensation for services under an engineering consultant contract; may be exceeded by agreement (usually written) of the parties.

US

District utility supervisor, a role established in the highway district office to facilitate project utility coordination, project rail coordination, provide local management of utility relocations, and supervise subordinate utility agents.

USC

See *United States Code*

US DOT

See *United States Department of Transportation*.

**US DOT CROSSING
INVENTORY FORM**

Form FRA F 6180.71, the mechanism by which railroad companies and states update the US DOT National Highway-Rail Crossing Inventory File (National File) on a regular basis for all existing open crossings, including the inventorying and numbering of any existing or new crossings not in the National File and the transfer of crossings to a new operating railroad when rail lines are sold. Railroads are responsible for public, private, and pedestrian crossings; states are responsible only for public crossings.

USE & OCCUPANCY

The document (written contract or permit) by which the Cabinet approves the use and occupancy of highway right of way by utility facilities or private lines.

**UTILITIES & RAILS
BRANCH**

Cabinet branch designated to administer the utility relocation function, railroad coordination function, and the Highway/Railroad Crossing Inventory Program; provides support for the district utilities agents by reviewing relocation plans, proposals, and agreements submitted by district personnel and by assisting with contracts, paying invoices, and coordinating the work with other agencies and other Cabinet divisions; maintains an inventory of rail crossings of public roads throughout the state, is responsible for prioritizing safety upgrades to public rail/highway crossings and the programming of funds for the work done to maintain and upgrade the crossings, and coordinates highway construction projects with railroad companies.

GLOSSARY

UR-02

UTILITY	A privately, publicly, or cooperatively owned line, facility, or system for producing, transmitting, or distributing communications, cable television, power, electricity, light, heat, gas, crude products, water steam, or wastewater which directly serves the public for compensation.
UTILITY ACCOMMODATION POLICY	FHWA's historic approach to handling utility use of the right of way of federal-aid and direct federal projects (maintained in 23 CFR 645 subpart B) that requires each state to develop its own utility accommodation policy setting forth the way the state will control the use of federal-aid highway right-of-way by utility facilities; also includes longitudinal utility use of freeway right of way. Note: Once the state's policy is approved by the FHWA, any utility installations proposed to be installed on federal-aid highway projects in accordance with the approved state policy may be approved by the state without referral to the FHWA.
UTILITY AGREEMENT	Standardized contract that establishes the terms by which the Cabinet and the utility company will interact on a highway project if any of the work by either the Cabinet or the utility company is compensable.
UTILITY OR RAILS AGREEMENT MODIFICATION (CHANGE ORDER)	When a utility relocation or rails accommodation requires work, services or materials beyond the original scope of work as defined in the agreement the company may request a contract modification by submitting form TC 69-4, <i>Division of Right of Way & Utilities/Change Order</i> , to the district Utilities or Rails coordinator for consideration.
UTILITY COORDINATION	Process by which utility relocation or adjustment is planned, negotiated, executed, and compensated.
UTILITY FACILITY	Property owned by a utility company that provides a utility product to consumers.
UTILITY RELOCATION PLANS	Plans defining the relocation and adjustments needed to address conflicts with the road project, which are produced by a utility company or consultant.

GLOSSARY

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UTILITY VERIFICATION	The verification of existing utility facilities within a project area.
VENDOR NUMBER	See <i>Employer Identification Number (EIN)</i> .
VENT	An appurtenance used to discharge gaseous contaminants from a casing.
WORK ORDER SYSTEM	A procedure for accumulating and recording into separate accounts of a utility all costs to the utility in connection with any change in its system or plant.



	<i>Chapter</i> INTRODUCTION
	<i>Subject</i> Design of This Guidance Manual

**ORGANIZATION &
NUMBERING**

Chapters—The subject matter in this manual is divided into chapters. The chapter title appears in the upper right-hand corner of the first page of a subject and in the upper left-hand corner of any subsequent page.

Sections—Some chapters are divided into sections. Each section title, instead of chapter title, appears in the upper right-hand corner of the first page of a subject and in the upper left-hand corner of any subsequent page.

Subjects—Chapters and sections are arranged by subjects.

Subject Number—Each subject is assigned a number, which appears in the upper right-hand corner of each page of the subject. For example, Chapter 300 includes subject 301, followed by subject 302, which is divided into section subjects 302-1 through 302-7.

Subject Title—The title of a subject appears in the upper right-hand corner of the first page of a subject and in the upper left-hand corner of any subsequent page.

“UR” Prefix—Preceding each subject and chapter number, this prefix stands for the manual title *Utilities & Rails*.

Date—The latest issuance date of a subject appears at the bottom left of each page of the subject. This date agrees with the latest issuance date shown for the subject in the Table of Contents (**UR-01**).

Page Numbering—Each subject has its own page numbering, which appears at the bottom of each page.

INTRODUCTION

Design of This Guidance Manual

UR-101**LOCATING****INFORMATION****Indexes**—Two indexes appear at the front of the manual:

- **Table of Contents (UR-01)**—This index lists the titles of the manual's chapters and sections and their subjects, as well as other information, in numerical order. It includes the latest issuance dates of all the subjects. As the manual matures, these dates change.
- **Glossary (UR-02)**—This index gives a brief description of commonly used terms and subjects used by the utilities and rails staff.

QUESTIONS**Whom to Contact**—For answers to questions about the contents of the manual, please contact:

Division of Right of Way and Utilities
Utilities and Rails Branch
Transportation Cabinet Office Building
200 Mero Street
Frankfort, KY 40622
(502) 564-3210

For copies of the manual, please contact:

Organizational Management Branch
Transportation Cabinet Office Building
6th Floor West
200 Mero Street
Frankfort, KY 40622

An ebook of the manual can be accessed at:

<https://transportation.ky.gov/Organizational-Resources/Policy%20Manuals%20Library/Utilities%20and%20Rails.pdf>



	<i>Chapter</i> INTRODUCTION
	<i>Subject</i> Manual Purpose & Overview

MANUAL PURPOSE This manual documents the policies and procedures relating to utility coordination, rail coordination, and crossing safety improvements, as shown in the graphic below.

Manual Contents

- **Utility coordination**, inclusive of identification, conflict assessment, mitigation, relocation, and adjustment of utility facilities
- **Rail coordination** to facilitate Cabinet projects
- Select **crossing safety improvements** at crossings of railroads and public roads

The manual details the internal and external procedural requirements governing utility and rail coordination on Transportation Cabinet (Cabinet) highway construction projects and Cabinet-facilitated projects. It seeks to foster uniformity in the application of state and federal laws, regulations, and policies applicable to the operations of Cabinet Utilities and Rail staff, other Cabinet personnel, consultants, and contractors involved in utility and rail coordination. The policies and procedures contained herein are applicable to the treatment of utility and railroad facilities in the Commonwealth of Kentucky that are affected by Cabinet highway construction and maintenance.

The Utilities and Rails Branch and each Department of Highways’ district Utilities Section administer the Cabinet utilities and railroad coordination functions and are responsible for Cabinet compliance with the Federal Highway Administration (FHWA) Railway-Highway Crossings Program and the US Department of Transportation (DOT) National Highway-Rail Crossing Inventory Program.

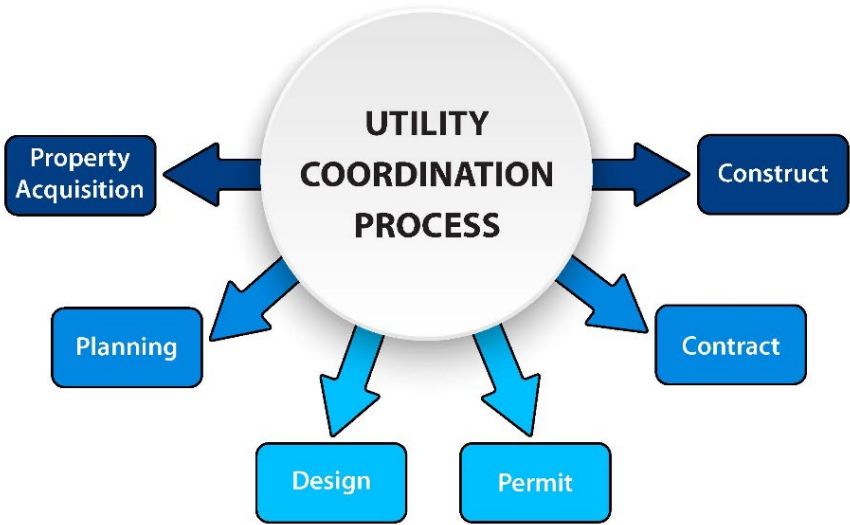
INTRODUCTION

Manual Purpose & Overview

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UTILITIES & RAIL
FUNCTIONS

The utility coordination process can involve or impact many elements of a traditional Cabinet project’s development and delivery.



UTILITIES COORDINATION
FOR HIGHWAY
CONSTRUCTION
(RELOCATION)

The Cabinet’s projects often require utility coordination. The goal of utility coordination is to identify and eliminate potential conflicts between the proposed highway construction and existing public utility facilities before those conflicts negatively impact construction activities or public utility facilities.

The utility relocation work is governed by [KRS 177.035](#) and [KRS 179.265](#). These statutes control the reimbursement of some or all of the costs of public utility relocation required by Cabinet highway construction projects. The Cabinet utilities relocation process allows public utility companies undertaking facilities relocation for the benefit of the Cabinet to use their own planning, design, construction, and accounting practices to the extent practicable. State or federal law or policy may require the use of alternative procedures for a utility company to qualify for reimbursement. A utility company may refer to federal and state law, the relocation agreement with the Cabinet, and this manual for guidance.

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UTILITIES COORDINATION
FOR HIGHWAY
CONSTRUCTION
(RELOCATION)
(CONT.)

Undertaking adequate utility coordination activities early in the highway construction project life cycle is intended to minimize unexpected conflict and unnecessary delay and expense in later phases of the project. The utility coordination process relies upon early and effective collaboration with public utility companies to provide the design team with essential information, analysis, and subject matter expertise to further the goal of avoiding existing utility facilities when possible and allowing for thoughtful planning when utility relocation is necessary. When utility impacts are unavoidable or avoidance impractical, Cabinet staff work to coordinate relocation of affected facilities in an orderly, efficient, and fiscally responsible manner.

In addition to utility coordination on individual projects nearing construction, the Cabinet’s utility coordination staff can provide information to utility companies about future planned highway construction projects that may impact their facilities in furtherance of their long-term planning efforts. **UR-500** through **UR-1900** detail the utility coordination process.

RAILS COORDINATION
FOR HIGHWAY
CONSTRUCTION

The goals of rail coordination are listed in the graphic below.

Rail Coordination Goals

- Identify conflicts with existing railroad facilities directly affected by proposed highway construction
- Promote communication between the Cabinet and the rail company to accommodate rail facilities
- Minimize or eliminate negative impacts to construction activities and rail facilities

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RAILS COORDINATION

FOR HIGHWAY

CONSTRUCTION (CONT.) The Cabinet rail coordination process allows rail companies undertaking work for the benefit of the Cabinet to use their own planning, design, construction, inspection, and accounting practices to the extent practicable. State or federal law or policy may require alternative procedures in order for a rail company to qualify for reimbursement. A rail company may refer to federal and state law, the rails agreement with the Cabinet, and this manual for guidance. Undertaking adequate rails coordination activities early in the highway construction project life cycle is intended to minimize unexpected conflict and unnecessary delay and expense in later phases of the project. The rails coordination process relies upon early and effective communication between Cabinet rail coordination staff and railroad companies to provide the design team with essential information, analysis, and subject matter expertise to further the goal of identifying, accommodating, and reconstructing affected rails facilities in an orderly, efficient, and fiscally responsible manner.

The Cabinet rail coordinator can provide information to railroad companies about future planned highway construction projects that may impact their facilities in furtherance of their long-term planning efforts. [UR-2000](#) details the rails coordination program.

ROAD-RAIL CROSSING INVENTORY & SAFETY IMPROVEMENTS

Transportation safety is of primary concern to the Cabinet, and crossings of motor vehicle traffic lanes and rail lines are of particular concern. Warning devices at highway-rail crossings may lessen the likelihood of accidents but cannot prevent highway-rail at-grade crossing accidents altogether. In the interest of increasing safety, the Cabinet and the FHWA prefer the consolidation or elimination of crossings or the provision of grade-separated crossings. When these alternatives are not practicable, the Cabinet, through the FHWA Railway-Highway Crossings Program and other federal and state law, may provide for the installation of vehicular traffic warning devices such as warning bells, lights, and gates for at-grade crossings, or require the sounding of train whistles at those crossings. Ongoing Cabinet rails safety efforts help increase the safety of the highway traveling public, reduce motor vehicle congestion, and increase rails safety, speed, and reliability.

The Cabinet rail coordinators are responsible for compliance with the US DOT National Highway-Rail Crossing Inventory Program by maintaining an inventory of crossings of railroad lines and public highways throughout Kentucky.

INTRODUCTION

Manual Purpose & Overview

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ROAD-RAIL CROSSING

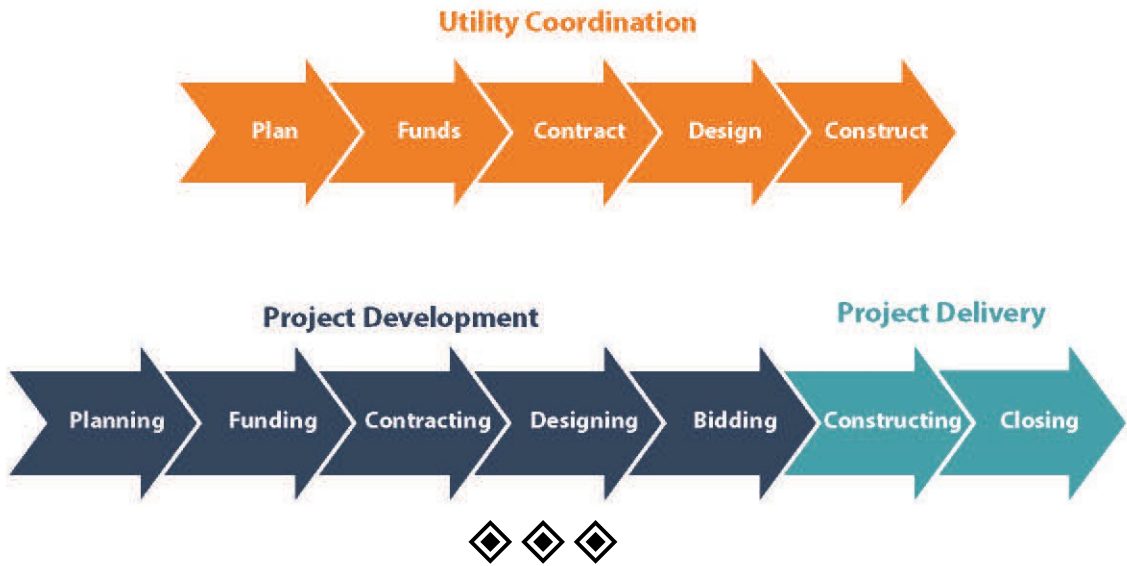
INVENTORY & SAFETY

IMPROVEMENTS (CONT.) Form [FRA F 6180.71](#) is the mechanism by which railroad companies and states update the US DOT National Highway-Rail Crossing Inventory File (National File) on an ongoing basis for all existing open crossings, including the inventorying and numbering of existing or new crossings that are not yet in the National File and the updating of existing crossing identification information after rail lines are transferred to a new operating railroad. Railroads are responsible for public and private vehicular rail crossings and pedestrian rail crossings. The Cabinet is responsible only for public crossings. Cabinet rail coordinators use the inventory to recommend priorities for the allocation of statewide crossing safety improvement funding based upon relative crossing traffic volume and condition. Rail coordinators also oversee the execution of these safety projects. These improvements are accomplished through a federally funded program further detailed in [UR-2100](#).

BRANCH FUNCTIONS
IN RELATION TO
CABINET PROJECTS

The Cabinet utility and rail coordination processes exist to facilitate highway construction, and all branch functions shall be coordinated with project schedules. Utility and rail coordination may include multiple agreements involving multiple relocation and reconstruction plans, detailed flagging requirements, and multiple design, construction, and inspection contractors for each highway construction project. The overall highway construction project schedule shall consider the time and effort involved in utility and rail coordination.

Utility & Rail Coordination Lifecycle
Relative to Transportation Project Lifecycle



	<i>Chapter</i> LAWS, RULES, & RESOURCES
	<i>Subject</i> General

GENERAL

It is in the public interest for utility facilities to jointly use the right of way of public roads and streets when such use and occupancy does not adversely affect highway use, function, or traffic safety or otherwise impair the roadway or its aesthetic quality. The opportunity for such joint use avoids the additional cost of acquiring separate right of way for the exclusive accommodation of utilities. As a result, the right of way of highways, particularly of local roads and streets, is often used to provide public utility services to abutting residences as well as to serve conventional road needs. In addition to the above guidance, the use of highway right of way for utility facilities cannot violate provisions of any applicable federal, state, or local laws and regulations.

The following sources include laws and policies that control or apply to utility accommodation and relocation within highway right of way.

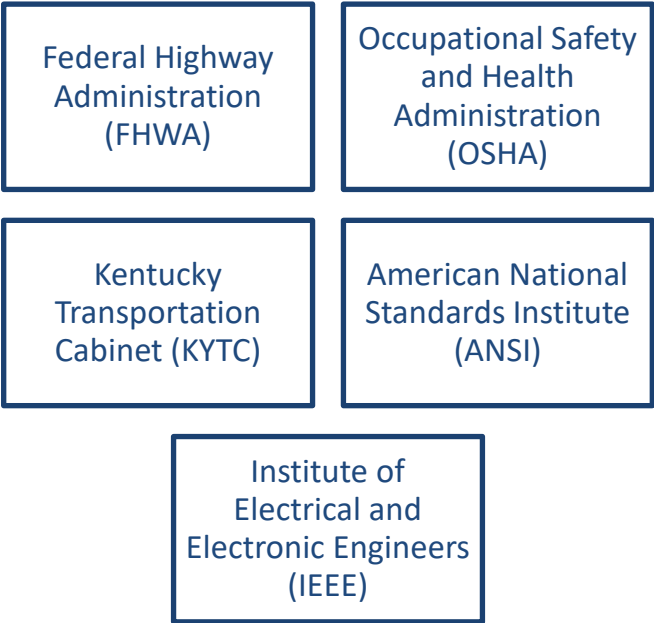
	United States Code (USC)		Code of Federal Regulations (CFR)
	Kentucky Revised Statutes (KRS)		Kentucky Administrative Regulations (KAR)
	Federal and State Executive Orders		Manual of Uniform Traffic Control Devices (MUTCD)
	National Electrical Safety Code (NESC)		FHWA Program Guide Utility Relocation and Accommodation on Federal-Aid Highway Projects

LAWS, RULES, & RESOURCES

General

UR-201

GENERAL (CONT.) The following regulatory agencies hold various authorities over utility accommodation and relocation within highway right of way.



	<i>Chapter</i> LAWS, RULES, & RESOURCES
	<i>Subject</i> Federal Laws & Regulations

GENERAL

Utility and railroad facilities, unlike most other fixed objects that may be present within the highway environment, are not owned, nor are their operations directly controlled by, state or local highway agencies. Because of this, highway authorities have developed policies and practices which govern when and how utility and railroad companies may use public highway right of way and under what conditions public funds may be used to relocate utility facilities and to accommodate railroads in highway construction. Federal laws and Federal Highway Administration ([FHWA](#)) regulations contained in Title 23 of the United States Code ([23 U.S.C.](#)) and the Code of Federal Regulations ([23 CFR](#)), respectively, have been developed to codify the use of federal highway funding and federal highway right of way.

FEDERAL

CONSIDERATIONS IN

UTILITY RELOCATION

& ACCOMMODATION

Federal code and regulation addresses utility relocation and accommodation matters, generally addressing the following.

Accommodation of Utility Facilities on Highway Right of Way	Use of Federal-Aid Highway Funds for the Relocation of Utility Facilities
• Each state must decide if, and if so, to what extent and under what conditions, it may allow utility facilities to be maintained on public right of way. • The state’s decision must be documented in FHWA approved utility accommodation policy. • A state may reasonably permit facilities of certain types of utilities and exclude others.	• Utility relocation work is frequently eligible for federal-aid participation. • This is dependent on the extent the state is obligated for reimbursing such work due to conflicts necessitated due a transportation project.

LAWS, RULES, & RESOURCES

Federal Laws & Regulations

UR-202**FEDERAL CODE (LAW)** Two sections of 23 U.S.C. deal specifically with utilities.23 U.S.C.
109(I)

- Addresses the accommodation of utilities on the right of way of federal-aid highways

23 U.S.C.
123

- Addresses reimbursement for the relocation of utility facilities necessitated by the construction of a project on any federal-aid highway

23 U.S.C. 313

- Buy America

One section of 23 U.S.C. deals specifically with railroad and highway crossings.

23 U.S.C. 130

- Addresses railroad-highway crossings.

FEDERAL REGULATION Present FHWA regulations and laws dealing with utility relocation and accommodation matters have evolved from basic principles established decades ago, with many of the policies remaining unchanged. Present utility regulations are contained in [23 CFR 645](#), and nonregulatory supplements are contained in chapter 1, subchapter G, part 645 of the [Federal-Aid Policy Guide \(FAPG\)](#).

23 CFR 645,
Subpart A

- Addresses issues related to utility relocations, adjustments, and compensation

23 CFR 645,
Subpart B

- Addresses the general accommodation of utilities

23 CFR 645,
Subpart C

- Addresses the deployment of broadband infrastructure

FEDERAL REGULATION
(CONT.)

23 CFR 635.309		• Outlines the requirements, including required utility and rail deliverables, to authorize transportation project construction
Chapter 1, subchapter G, part 645 of the FAPG		• Provides nonregulatory supplements
49 CFR 661		• Buy America Requirements
23 CFR 635.410		• Buy America Act (BA) requirements
2 CFR Part 184		• Build America Buy America (BABA) preferences for Infrastructure Projects

FHWA regulations, policies, and practices dealing with railroad companies are contained in 23 CFR 646 and 23 CFR 924.

23 CFR 646, Subpart A		• Addresses the need and applicability of railroad-highway insurance protection
23 CFR 646, Subpart B		• Addresses issues related to railroad-highway projects
23 CFR 924		• Defines the Highway Safety Improvement Program (HSIP), which includes the Railway-Highway Crossings Program

LAWS, RULES, & RESOURCES

Federal Laws & Regulations

UR-202

OTHER BABA
RESOURCES

Several other Federal policies, guidance and rules exist that may impact the application of BABA on utilities and rails. They are as follows:

- 48 FR 53099

Buy America Final Rule
- Infrastructure Investment and Jobs Act (IIJA)



	Chapter LAWS, RULES, & RESOURCES
	Subject State Laws

KENTUCKY REVISED STATUTES

The Kentucky Revised Statutes (KRS) cited are the primary state laws governing the Transportation Cabinet's (Cabinet) utility relocations and railroad coordination:

- [KRS 179.265](#) requires the cost of relocating any utility facilities originally constructed on *other than* public right of way required to be moved in the reconstruction or improvement of a public road to be borne by the Cabinet in the case of a road on the state system of highways, or by the public agency having jurisdiction over that public road and sponsoring the reconstruction or improvement.
- [KRS 177.035](#) addresses the conditions under which the cost of relocation of certain publicly owned utility equipment and appliances belonging to any municipality or a municipally owned utility, or certain water districts, certain water associations, any local school district, or certain sanitation districts, to be removed or relocated on, along, over, or under a highway in order to construct, reconstruct, relocate, or improve any highway, shall be borne by the Cabinet. It also addresses the conditions under which the department may reimburse a privately owned utility that has facilities located within the public right of way pursuant to [KRS 416.140](#) for the cost to relocate if the relocation is required due to a highway construction project.
- [KRS 177.106](#) requires a person or business to obtain a permit from the Department of Highways for encroachments under, on, or over any part of the right of way of a state highway. If the encroachment interferes with the safe, convenient, and continuous use and maintenance of the road, the Cabinet may order it removed or relocated within 7 days. If they fail to correct the issue, the Cabinet may remove the encroachment and recoup cost from the party responsible. Civil fines may also be issued, and multiple violations may result in a 3-year prohibition of new encroachments.

**KENTUCKY REVISED
STATUTES (CONT.)**

- [KRS 177.110-177.210](#) provides the Cabinet the right to eliminate any grade crossing or change any existing overhead or underpass structure where any public road crosses railroad tracks. The statutes provide procedures to execute these changes and address the policy on the interactions between the Cabinet and the involved railroad.
- [KRS 277.065](#) provides how the costs of eliminating hazards of railroad-highway crossings shall be allocated between the railroad and the governmental unit involved. Elimination of hazards includes separation or protection of grades at crossings, reconstruction of existing railroad crossing structures, and highway relocation to eliminate railroad crossings. The statute authorizes the expenditure of state funds for hazard elimination and restricts a railroad's maximum benefit to 10 percent of the total benefit resulting from the project.
- [KRS 277.190](#) requires bells and whistles on locomotive engines and regulates their use. The statute also allows local governments to regulate the sounding of train whistles at night.
- [KRS 367.4901-4917](#) requires underground utilities to be notified and located in advance of excavations and defines the terms by which underground utilities are located for design, construction, and emergency projects. The statute outlines the responsibilities of parties typically involved: utility companies, engineers, contractors, and protection notification centers.
- [KRS 416.140](#) allows any person authorized to produce, supply, transmit or sell water, electricity, gas or gasoline for light, heat, domestic use or power, to construct and maintain transmission or distribution lines for use in the transmission and sale under, on, along, or over any right of way used as a state highway, county road, public way, or dedicated road outside the limits of a city, and over, under, or across any of the waters of this state outside the limits of a city. The statute prohibits utility fixtures from interfering with, obstructing, or endangering travel on and along the highway or road or obstructing the navigation of waters. In addition, before installing a utility, the statute requires a person to first obtain a permit from the Cabinet. The statute also addresses the conditions under which the Cabinet may require the removal or relocation of such facilities and who incurs liability for the costs thereof.





Chapter

LAWS, RULES, & RESOURCES

Subject

Table of Authorities

FEDERAL STATUTORY
PROVISIONS

The following [United States Code](#) (USC) sections are available online:

United States Code (USC)	18 USC 874
	23 USC 109(I)
	23 USC 123
	23 USC 130
	33 USC 1368
	40 USC 3141-3148 and guidance
	42 USC Chapter 85 and guidance

REGULATORY
PROVISIONS

The following regulatory provisions [Code of Federal Regulations](#) (CFR) are available online:

Code of Federal Regulations (CFR)	23 CFR 635.309
	23 CFR 645, Subpart A
	23 CFR 645, Subpart B
	23 CFR 645, Subpart C
	23 CFR 646, Subpart A
	23 CFR 646, Subpart B
	23 CFR 924
	29 CFR 3.1 – 3.11
	49 CFR 18.42

LAWS, RULES, & RESOURCES

Table of Authorities

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STATE STATUTORY
PROVISIONS

The following [Kentucky Revised Statutes](#) (KRS) are available online:

Kentucky Revised Statutes (KRS)	KRS 177.035
	KRS 177.106
	KRS 177.110 – 177.210
	KRS 179.265
	KRS 45A.480
	KRS 277.065
	KRS 277.190
	KRS 278.010
	KRS Chapter 338
	KRS Chapter 341
	KRS Chapter 342
	KRS 367.4901 – 367.4917
	KRS Chapter 371 (371.400 – 371.425)
	KRS 416.140

LAWS, RULES, & RESOURCES

Table of Authorities

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OTHER SOURCES The following references provide additional information on topics encountered in this manual:

American National Standards Institute (ANSI)	<i>FHWA Program Guide: Utility Relocation and Accommodation on Federal-Aid Highway Projects</i>	<i>Finance and Administration Cabinet Manual of Policies and Procedures</i>
Institute of Electrical and Electronic Engineers (IEEE)	<i>Kentucky Standard Specifications for Road and Bridge Construction</i>	<i>Manual of Uniform Traffic Control Devices (MUTCD)</i>
National Electrical Safety Code	Occupational Safety and Health Administration (OSHA)	OSHA Safety and Health Regulations for Construction
Transportation Cabinet <i>Construction Guidance Manual</i>	Transportation Cabinet Environmental Analysis Manual	Transportation Cabinet <i>Highway Design Guidance Manual</i>
Transportation Cabinet <i>Permits Guidance Manual</i>	Transportation Cabinet <i>Right of Way Guidance Manual</i>	Transportation Cabinet <i>Standard Drawings</i>

An additional resource for RC work includes the [KYTC Railroad Design and Coordination Guide](#). This guide provides local standards and practices for coordinating and designing railroad facilities.



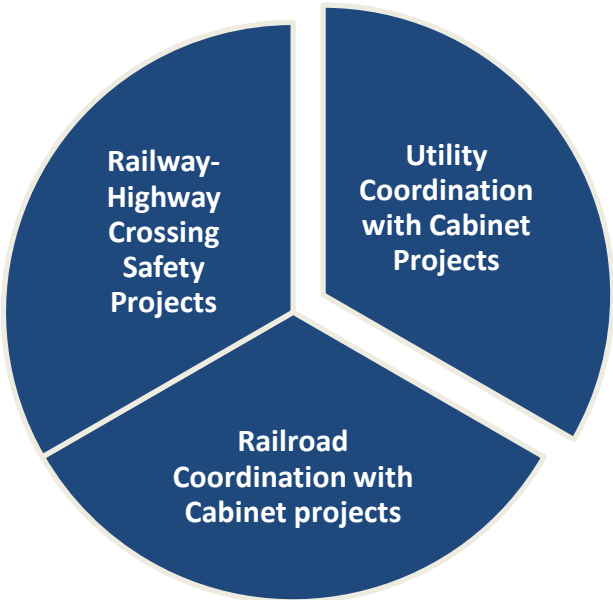
	<i>Chapter</i> ROLES & RESPONSIBILITIES
	<i>Subject</i> General

OVERVIEW

This chapter documents the subject matter experts and responsibilities involved in the coordination of utilities, railroads, and railroad safety projects within and in near proximity to public right of way. For the purpose of this discussion, the term ‘coordination’ includes identification of facilities, conflict assessment, mitigation, relocation, and/or adjustment of utility and railroad facilities.

Internal and external procedural requirements governing utilities and rails coordination on Transportation Cabinet (Cabinet) highway construction projects seek to foster uniformity in the application of state and federal laws, regulations, and policies applicable to the operations of Cabinet Utilities and Rail staff, other Cabinet personnel, consultants, and contractors involved in utilities and rails coordination.

Utility and rail expertise is critical to fulfill the Cabinet’s mission to build and maintain effective transportation systems. This specialized utility and rail expertise can be generally divided into three primary functionalities:



ROLES & RESPONSIBILITIES

General

UR-301

OVERVIEW (CONT.) Cabinet subject matter experts influence utilities and rails work with decisions that can significantly influence the outcome of Cabinet projects.

Critical Actions for All Utilities and Rail Staff

- Use specialized expertise to fulfill Cabinet goals, comply with all requirements and facilitate effective projects
- Appropriately document milestone decisions on utility and rail issues
- Communicate decisions and actions with other affected areas and utility and rail owners
- Maintain records of correspondence and documentation

**UTILITY COORDINATION
FUNCTION**

Utility coordination is the mechanism by which the Cabinet identifies utility facilities, conflict assessment, mitigation, relocation, and/or adjustment of utility facilities that are in conflict with Cabinet projects. [UR-302](#) provides insights into involved subject matter experts and their responsibilities as they relate to utility coordination.

District offices are generally responsible for direct project development and delivery of Cabinet projects, and the same is true of all necessary utility coordination. District office staff manage the activities listed below.

- Identify existing utilities
- Confirm project conflicts
- Mitigate project conflicts
- Estimate utility costs
- Facilitate relocations
- Manage contracts
- Reimburse utility companies
- Coordinate with stakeholders
- Inspect relocations

**District Utility
Experts**

ROLES & RESPONSIBILITIES

General

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UTILITY COORDINATION

FUNCTION (CONT.) The Utilities and Rails Branch utility coordination personnel are responsible for supporting Cabinet projects with a focus on utility coordination. Staff provide the day-to-day support activities below.

- Support multiple districts
- Interpret policy, law and regulation
- Provide technical support
- Support all district project utility coordination
- Facilitate programming of utility funding
- Review, monitor and execute fiscal and legal matters
- Develop standards
- Coordinate with FHWA

Central Office
Utility Experts

ROLES & RESPONSIBILITIES

General

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RAILWAY-HIGHWAY

CROSSING SAFETY

FUNCTION

The Central Office Utilities and Rails Branch has personnel assigned to facilitate railway-highway crossing safety projects. It derives its authority from [23 U.S.C. 130](#), which addresses railway-highway crossings. This is a federally funded, cooperative program between the Cabinet and railroad companies to upgrade and maintain railway-highway crossing surfaces and warning devices. Central Office staff maintains the majority of project-specific duties concerning these projects and performs the tasks below.

- Inventory crossings statewide
- Assess safety concerns of crossings
- Recommend projects
- Secure funding for recommended projects
- Coordinate projects
- Draft, acquire and manage contracts
- Issue reimbursements
- Provide support during construction
- Provide local support during project execution (district office)

**Railroad Safety
Coordination
Experts**



ROLES & RESPONSIBILITIES

General

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RAILROAD
COORDINATION
FUNCTION

The Central Office Utilities and Rails Branch personnel coordinates involvement on road projects. [KRS 277.065](#) provides direction on how the costs of eliminating hazards of railroad-highway crossings shall be allocated between the railroad and the Cabinet. This function fosters a cooperative partnership between the Cabinet and railroad companies to successfully execute road projects involving railroad facilities.

Central Office staff maintains the majority of project-specific duties concerning rail-related projects and performs the tasks listed below.

- Liaison between Cabinet and railroad companies
- Identify and negotiate railroad involvement
- Address railroad design and construction needs
- Work with ROW staff on property access
- Secure railroad coordination funding
- Manage contracts
- Reimburse railroads
- Support during construction
- Provide local support (District office)

Railroad Coordination Experts



RESPONSIBILITY OF
DATA MANAGEMENT

The Cabinet utilizes a web-enabled data system called Kentucky Utilities and Rail Tracking System ([KURTS](#)). This system is the Cabinet’s record source for utilities and rail data. The system retains coordination documents and records noted in this section. These records include the approval and retainage of relocation plans, estimates, agreements, invoices, and change orders.

System functionality and administration is the responsibility of the Division of Right of Way and Utilities, Utilities and Rails Branch. Authorized KURTS system administrators receive general user requests and new user applications. The execution of project level utility and railroad work, such as document generation, submissions, and approvals, are required to be recorded in KURTS by authorized KURTS users.

ROLES & RESPONSIBILITIES

General

UR-301

RESPONSIBILITY OF

DATA MANAGEMENT

Utility and railroad companies may also generate and submit documents in KURTS and are responsible for the quality and timeliness of the data they provide.



	<i>Section</i> UTILITIES EXPERT STAFF ROLES
	<i>Subject</i> Overview

OVERVIEW

The Cabinet utility coordination subject matter expertise is housed within the Central Office Utilities and Rails Branch and district office utility sections. An overview of responsibilities is provided here with more detail relayed via the remaining sections of **UR-302**.

The Central Office Utilities and Rails Branch is responsible for coordinating utilities and rails from a statewide perspective. The utility function of Central Office staff is to assist district staff in executing projects by providing technical support, review, and policy interpretation. Central Office staff also reviews contractual and fiscal matters for utility coordination of Cabinet projects.

Central Office Utilities and Rails Branch Personnel
Positions That Work Utility Coordination

- Utility area coordinator (AC) (**UR-302-4**)
- Program coordinator (PC) (**UR-302-5**)
- Administrative support staff (AD) (**UR-302-5**)
- Utilities and Rails Branch manager (UBM) (**UR-302-6**)

District offices are responsible for day-to-day management of highway projects, as they have the specific knowledge, expertise, and regional experience to complete the tasks at hand. There are many district-level roles dedicated to supporting the utility coordination of their respective project assignments.

UTILITIES EXPERT STAFF ROLES

Overview

UR-302-1

OVERVIEW (cont.)

District Personnel Positions That Work Utility Coordination

- Utility supervisor (US) (UR 302-2)
- Utility agent (UA) (UR 302-2)
- Project engineer (PE) (UR 302-3)
- Project Development Branch Manager (PDBM) (UR 302-6)
- Administrative support staff (AD) (UR 302-5)

Many, but not all, utility coordination responsibilities for the district-level roles of the utility supervisor (US) and utility agent (UA) can be assigned to external staff. These individuals are titled utility coordinator consultants and are typically contracted for individual project assignments, provided they have the requisite skills and certification. The viable work tasks, requirements, and process to leverage utility coordinator consultants is defined in [UR-304-11](#).



	Section UTILITIES EXPERT STAFF ROLES Subject District Utility Coordination

UTILITY AGENT (UA)**RESPONSIBILITIES**

The utility agent (UA) deals directly with the utility companies and project management relative to utility relocation. The UA is most familiar with the utility needs of the individual project. The UA reviews district plans and utility needs of the individual project. The UA communicates between project partners to prepare, review, and process all fiscal utility documents. The UA ensures proper relocation of the utilities via inspections and oversight. The UA is the liaison between the district and utility owners on project matters and assists on railroad matters as a local liaison.

UA Responsibilities

- Communicate with all involved parties via letters, emails, meetings, etc., and utilize sound management skills to ensure the utility company facilities are successfully avoided or relocated
- Review and recommend revisions to district plans and utility relocation plans
- Perform utility relocation estimates for project budgeting purposes (which may include a site visit, plan review, quantifying work, and allocating costs)
- Negotiate, prepare, and process fiscal and nonfiscal documents on projects to facilitate successful project execution
- Review project deliverables, such as plans, estimates, agreements, change orders, permits, etc., to ensure accuracy and appropriateness and provide recommendations to the utility supervisor
- Meet with project partners (project team, utility company, contractors, property owners, etc.) to coordinate work and resolve conflicts by facility avoidance or relocation
- Develop and store records and documentation specific to project and company
- Inspect the utility relocations to ensure proper delivery of the planned work
- Serve as the liaison between the district and the utility owners on project matters and assist on railroad matters as a local liaison

UTILITIES EXPERT STAFF ROLES

District Utility Coordination

UR-302-2

UTILITY SUPERVISOR (US)

RESPONSIBILITIES

The utility supervisor (US) oversees and manages the activities of the Utilities Section, approves utility agreements and other legally binding documents, issues decisions on project utility matters, enforces the Transportation Cabinet’s (Cabinet) utility accommodation policy, and resolves outstanding utility issues. The US is the liaison with Central Office and is the primary contact for the district office regarding utility issues. The roles of the US and UA are often comingled with extra tasks for the US.

US Responsibilities
•Meet with utility companies to develop strategies for conflict identification, avoidance, and relocation of facilities specific to a project •Work with the project engineer to ensure utility facilities are relocated as outlined in the project schedule or avoided when viable •Coordinate the utility relocation process for preconstruction projects •Negotiate, review, approve, and submit project deliverables, such as utility relocation agreements, relocation plans, cost estimates, invoices, change orders, and funding requests •Develop and store records and documentation specific to project and company •Develop and review documents necessary for road project bidding (utility and rail clearance notes, specs, relocation plans, and estimates going into the road contract) •Communicate utility and rail matters with project partners to promote project effectiveness •Meet with utility companies and section staff to develop relocation strategies for future projects in the Six Year Road Plan •Promote successful, effective, and fiscally responsible utility coordination, relocations, rail coordination, and safety improvements •Ensure utility relocations are monitored, including Cabinet inspections are complete •Supervise the district Utilities Section

Many, but not all, utility coordination responsibilities for the district-level roles of the utility supervisor (US) and utility agent (UA) can be assigned to external staff. These individuals are titled utility coordinator consultants and are typically contracted for individual project assignments, provided they have the requisite skills and certification. The viable work tasks, requirements, and processes to leverage utility coordinator consultants are defined in [UR-304-11](#).



	Section UTILITIES EXPERT STAFF ROLES Subject Project Management

PROJECT ENGINEER (PE)

RESPONSIBILITIES

The project engineer (PE) manages the individual road project, setting priorities and budgets for assigned transportation projects in his or her district while supporting the work of those who are involved in different aspects of the process.

PE Responsibilities in Relation to Utilities and Rails

- Establish a project team that involves each specialization within the project development process, including a utility section representative and rail coordinator (if applicable)
- Provide communication, guidance, support, and advice to the project team, including the utility section representative and rail coordinator (if applicable)
- Identify utilities in the project footprint and conflicts the project impacts on the existing utility infrastructure.
- Coordinate significant project decisions and design changes with utility and railroad experts
- Involve the Utilities Section and rail coordinator at each milestone stage in the development of the project
- Manage the project to ensure adequate schedule for utility relocation and railroad coordination
- Identify and engage the utility companies with facilities in the project scope to determine impacts and opportunities for avoidance
- Cooperatively work to address conflicts with utility facilities and subsequent remedies via avoidance or utility relocation
- Initiate and contribute to the Utility Conflict Matrix (UCM), cooperatively addressing conflicts the project creates with existing utilities



	Section UTILITIES EXPERT STAFF ROLES
	Subject Regional Utility Coordination

**UTILITY AREA
COORDINATOR (AC)
RESPONSIBILITIES**

The utility area coordinator (AC) provides regional support to multiple districts and their respective projects. The AC works with Transportation Cabinet (Cabinet) staff, state and federal agencies, and utility companies to facilitate timely, economic, and appropriate utility relocations. They perform quality assurance review, ensuring viability and compliance of plans, estimates, Cabinet policies, laws and regulations.

AC Responsibilities
• Facilitate the utility relocation process • Provide guidance and training for district personnel • Consult and advise district personnel during review of deliverables, including but not limited to: • Utility or consultant proposals • Fund requests • Agreements • Memoranda of agreement • Invoices • Change orders • Impact notes • Correspondence • Attend field inspections and meetings with Central Office, district office, and outside personnel • Manage utility documents and respond appropriately upon receipt of submittals • Support branch customers (Cabinet personnel, the public, and other agencies) and partners (project development teams and utility companies) • Develop, review, and manage project record/documentation or general utility data • Advise on Cabinet policy and procedure on utility and railroad matters • Close projects and calculate final project costs for federal projects



	<i>Section</i> UTILITIES EXPERT STAFF ROLES
	<i>Subject</i> Fiscal Processing

PROGRAM
COORDINATOR (PC)
RESPONSIBILITIES

The program coordinator (PC) provides statewide support for the utility coordination program. The PC processes data, provides data system management, and encourages the exchange of information between members of the Utilities and Rails Branch, district offices, and utility companies. The PC facilitates contracts with utility companies and their respective fiscal transactions, and communication with project partners on utility and rail contracts.

PC Responsibilities
• Provide assistance in fiscal utility and rail processes statewide • Prepare fiscal documents using the Transportation Cabinet’s (Cabinet) fiscal management system and process necessary documents • Monitor each project’s fiscal progression • Maintain utility or rail program data and Kentucky Utilities and Rail data system • Track payments to vendors and maintain pertinent vendor numbers statewide • Respond to questions related to contracts, change orders, and payments • Provide reports and program data relative to utility and rail functions

UTILITIES EXPERT STAFF ROLES

Fiscal Processing

UR-302-5

ADMINISTRATIVE
COORDINATOR (AD)
RESPONSIBILITIES

Administrative support (AD) team members support the day-to-day functions for the work of the Utilities and Rails Branch. They provide professional administrative support in the review, development, and implementation of the Cabinet’s activities and overall office support.

AD Responsibilities

- Provide general administrative and office management services
- Support fiscal processes and reporting needs
- Proof documents for accuracy and ensure the completion of review
- Prepare fiscal documents using the Transportation Cabinet’s fiscal management system
- Monitor expenditures and funding status of projects
- Track payments to vendors



	<i>Section</i> UTILITIES EXPERT STAFF ROLES <i>Subject</i> Program Management

PROJECT DEVELOPMENT**BRANCH MANAGER****RESPONSIBILITIES**

The Project Development Branch Manager (PDBM) is responsible for the district project development program as a whole and the individual project development. The PDBM oversees the individuals responsible for any particular stage of project development in the plan development process.

PDBM Responsibilities in Relation to Utilities and Rails

- Oversee activities of district projects to ensure proper coordination of all specialized project development fields
- Oversee all consultant functions of projects, ensuring the consultant understands and completes all tasks satisfactorily
- Assist and support the establishment, implementation, and maintenance of the district utilities and rails programs
- Approve both fiscal and nonfiscal decisions of the utilities section

UTILITIES AND RAIL**BRANCH MANAGER****RESPONSIBILITIES**

The Utilities and Rails Branch Manager (UBM) provides overall management for all sections and units within the branch to ensure appropriate, economical, and efficient operations. The UBM plans and reviews the work of employees in the administration of utilities and rail programs while ensuring adherence to branch policy and procedures.

UTILITIES EXPERT STAFF ROLES

Program Management

UR-302-6

UTILITIES AND RAIL
BRANCH MANAGER
RESPONSIBILITIES (CONT.)

UBM Responsibilities
• Assist in the establishment and implementation of the utility and rail programs • Provide technical assistance in the development and interpretation of policy, processes, specifications, standards, and new technologies • Communicate with divisions, districts, vendors, and the Federal Highway Administration to resolve questions and conflicts concerning the utility and rail programs • Prepare recommendations for policies, plans, and procedures • Review and approve contractual and fiscal matters developed and submitted by branch personnel, district personnel, and consultant engineers • Plan, assign, supervise, evaluate, and coordinate the work of professional, technical, and administrative personnel within the branch • Support all partners involved in the function of the branch



	Section RAILROAD EXPERT STAFF ROLES
	Subject Overview

OVERVIEW

The Central Office Utilities and Rail Branch is responsible to lead Cabinet efforts involving railroad coordination, railroad programs, and railroad safety projects directly. An overview of responsibilities is provided here with more detail relayed via the remaining sections of UR-303.

Central Office Utilities and Rail Branch personnel positions are as follows:

- Rail safety coordinator (RSC) ([UR-303-2](#))
- Rail coordinator (RC) ([UR-303-3](#)).



	Section RAILROAD EXPERT STAFF ROLES
	Subject Rail Safety Coordination

**RAIL SAFETY
COORDINATOR (RSC)
RESPONSIBILITIES**

The rail safety coordinator (RSC) coordinates certain activities of the Transportation Cabinet (Cabinet), other state and federal agencies, and railroad companies to facilitate timely, economical, and appropriate upgrades and maintenance of railway-highway crossing facilities and warning devices pursuant to the Federal Highway Administration ([FHWA](#)) Railway-Highway Crossings Program ([23 USC 130](#)) including the closure of crossings and the upgrading of crossing surfaces and warning devices.

RSC Responsibilities
• Oversee and perform field inventory surveys of public at-grade crossings for each crossing every three years • Use surveys and other criteria to rank crossings based on need for improvement • Update the Federal Railroad Administration (FRA) database of public at-grade crossings • Identify, develop, execute, and inspect rail safety program projects • Perform contractual and fiscal tasks related to the installation, operation, and maintenance of railroad crossing warning devices • Develop, review, and store program records and documentation • Serve as the Cabinet liaison for rail safety issues • Maintain the fiscal integrity of the program • Recommend improvements to the program



	Section RAILROAD EXPERT STAFF ROLES
	Subject Rail Coordination

RAIL COORDINATOR

(RC) RESPONSIBILITIES The rail coordinator (RC) works within the Transportation Cabinet (Cabinet) and with outside agencies and railroad companies to facilitate the timely and economical execution of Cabinet highway projects that impact railroad facilities. The coordinator shall be involved in a highway project during all phases that impact railroad facilities. Some coordination efforts go beyond furthering the highway construction to involve cooperative agreements between the Cabinet and a railroad company to improve a particular railroad-highway crossing.

RC Responsibilities

- Serve as the Cabinet liaison for railroad-related issues
- Coordinate project activities between the Cabinet and railroad companies
- Consult with and advise railroad companies and review project submissions
- Estimate funding needs and draft, review, and negotiate agreements, invoices, change orders, special notes, and correspondence
- Develop, review, and store records and documentation specific to project, general, and company
- Attend project-related meetings
- Support the efforts of project development teams and railroad companies



	<i>Section</i> SUPPORT TEAMS
	<i>Subject</i> Overview

OVERVIEW

The work of the Cabinet Utilities and Rails Branch and district utility sections need the support of and can be impacted by many other areas of expertise. The expertise that most frequently interacts with utilities and rail work includes the following.

Construction (UR-304-2)	Right of Way (UR-304-3)	Highway Design (UR-304-4)
Surveying (UR-304-5)	Environmental (UR-304-6)	Permits (UR-304-7)
Legal Services (UR-304-8)	Federal Highway Administration (FHWA) (UR-304-9)	Program Management (UR-304-10)



	<i>Section</i> SUPPORT TEAMS
	<i>Subject</i> Construction

GENERAL

The Cabinet’s construction subject matter experts administer transportation construction from contract award through project completion, including verification of all final estimates and payment to contractor(s).

The Central Office Division of Construction and its district personnel oversee project construction. The projects themselves create the need for utility relocation. The new location of utility facilities and the details of railroad coordination are of particular interest to construction personnel. It is imperative that they be provided the most accurate plans.

For utility relocation work to be incorporated into a transportation project, the construction subject matter experts shall oversee the work necessary to relocate such utility facilities. They are also responsible for inspecting work to ensure compliance with plans and specifications and for monitoring progress.

Construction Responsibilities

- Follow the Construction Guidance Manual, which gives detailed instructions for field inspection and contract administration
- Use the Kentucky Standard Specifications for Road and Bridge Construction, which gives specifications approved for general application and repetitive use by the Cabinet
- Provide formal training programs for project personnel
- Offer technical advice and support to district staff



	Section SUPPORT TEAMS
	Subject Right of Way

GENERAL

The Division of Right of Way and Utilities (located in the Office of Project Development) and the district right-of-way section (located in the Project Development Branch) are responsible for the acquisition and disposition of right of way in compliance with current federal and state laws and regulations.

Utility relocations may require replacement utility easements and right-of-way acquisition. Communication between right-of-way personnel and utilities and rails staff is essential to the execution of utility relocations and the avoidance of project construction delays.

Right-of-Way Responsibilities

- Appraise real property value in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Uniform Act)
- Relocate displaced persons in accordance with the Uniform Act
- Provide or assist in the development of right-of-way impact studies early in the planning stages
- Assist the Division of Planning and the Division of Highway Design in selecting the most appropriate and economically feasible roadway location
- Acquire right of way(s) needed for project execution
- Prioritize parcels necessary for utility relocations
- Acquire replacement utility easements authorized under an easement agreement and transfer easement to owner (**UR-1104**)
- Follow the Right of Way Guidance Manual, which provides detailed instructions for acquisition, relocation, and appraisal of real property

SUPPORT TEAMS

Right of Way

UR-304-3

GENERAL (CONT.) The Cabinet’s Right of Way team must follow the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Uniform Act) when acquiring any property rights, including transportation right-of-way parcels and replacement utility easements. The utility owner, however, may or may not follow the Uniform Act.

The Utilities Section must work actively with the Cabinet’s Right of Way team and share valuable information, including the following.

Information to Share with the ROW Team

- Inadequate right of way, as proposed, which will hinder the ability to relocate utility facilities
- Location of any replacement easements, particularly if the Cabinet will be acquiring that easement
- All parcels needed for utility relocation and the urgency to acquire them early (called priority parcels)
- All agreements that involve property work: prior rights agreements, easement agreements, engineering or relocation agreements that include right of way
- Any utility facility not relocating but the proposed right of way will absorb their easement
 - In such an instance, the utility section must secure a prior rights agreement, and the right-of-way team must secure a deed to extinguish the easement.



	<i>Section</i>
	SUPPORT TEAMS
	<i>Subject</i>
	Highway Design

GENERAL

The Division of Highway Design subject matter experts are fundamental to the project development process as they design proposed transportation improvements. The designers consult and coordinate with the Utilities and Rails Branch subject matter experts to determine the best transportation design.

Project Designer Responsibilities

- Ensure the project satisfies the project purpose and transportation need as agreed by a full range of stakeholders
- Ensure the project consistently and carefully considers elements such as environmental, utility, and railroad concerns
- Communicate with all stakeholders in an open, honest, early, and continuous manner
- Initiate collaborative efforts with involved companies to identify and assess project impacts to utility and rail facilities
- Identify and document utility conflicts and relocation and utility avoidance opportunities in the project's Utility Conflict Matrix (UCM)
- Consider whether the project would benefit from early utility accommodation efforts, such as early utility coordination, relocation design, construction, or materials acquisition
- Follow the Highway Design Guidance Manual, which provides detailed instructions for design components of road projects



	<i>Section</i> SUPPORT TEAMS
	<i>Subject</i> Surveying

GENERAL

Surveying is a subset of the Division of Highway Design and the district design section. The establishment of the survey control of a project area is the basis for executing the design in the field.

Beyond initiating the project survey control, the district survey team or consultant survey team collects data on utility facilities within the project area. This data includes detailed, accurate information on aboveground appurtenances. More accurate horizontal and vertical locations of underground utilities may be provided through field locations and subsurface utility surveys. These detailed investigations can help with the roadwork design and clarify the project’s utility relocation requirements. It is important that utilities and rail staff be advised of the survey control boundaries and that they proactively request utility locations within those boundaries when necessary.

Survey Team Responsibilities

- Set horizontal and vertical control points for use in all phases of project implementation
- Provide utility-specific location data that clarifies project relocation requirements
- Provide location data specific to railroad facilities for coordination with the railroad company
- Record subsurface utility engineering (SUE) services through a project design consultant or a statewide surveying contract as detailed in **UR-503**



	<i>Section</i> SUPPORT TEAMS
	<i>Subject</i> Environmental Analysis

GENERAL

The Division of Environmental Analysis (DEA) and district environmental sections are responsible for providing environmental guidance for transportation projects. They facilitate the Transportation Cabinet's (Cabinet) mission of ensuring environmental impacts associated with planning, design, construction, operation, and maintenance projects are identified and addressed. This information helps the Cabinet understand the implications of its actions and make the best possible decisions, minimizing or mitigating impacts to the human or natural environment.

This effort involves the review, development, and oversight of environmental documents, assessments, contracts, or actions as required by state and federal environmental laws and regulations. These experts are a point of contact to the public, regulating agencies, and Cabinet staff for environmental guidance, information, and concerns to ultimately secure the transportation project’s environmental clearance.

Utility relocations completed within the project disturbance area may be addressed via the transportation project’s environmental clearance. Utility relocations not included by the transportation project’s environmental clearance, including early utility relocations that predate the transportation project’s environmental assessment, must have an independent environmental clearance secured.

SUPPORT TEAMS

Environmental Analysis

UR-304-6

GENERAL (CONT.)

Environmental Analysis Responsibilities

- Identify and assess adverse impacts to or by the following:
 - Ecology
 - Endangered species
 - Archeology
 - Hazardous material(s)
 - Historic site(s)
 - Cultural resources
- Recommend means by which to minimize or mitigate adverse impacts
- Assess whether required utility relocations are included in the body of the assessment and addressed by the transportation project's environmental clearance
- Document and secure environmental clearance from regulatory agencies for transportation projects



	Section SUPPORT TEAMS
	Subject Permits

GENERAL

Any work or activity on state right of way, including utility relocations performed pursuant to highway construction, must secure approvals to proceed with construction. Utility relocation projects shall comply with the Transportation Cabinet's (Cabinet's) utility accommodation policy, which is found in the [Permits Guidance Manual \(PE-300\)](#).

District permits staff process encroachment permits for new utility installations and standard maintenance of existing facilities. Permits staff store records relating to current and historical permits, as well as all applications for permits. While utility relocations do not require a new permit, the permits subject matter experts may assist the utilities staff in determining the viability of elements of a proposed relocation.

District permits staff (located in the Traffic Engineering and Permits Section) and the Central Office Permits Branch (located in the Division of Maintenance) are primary resources for utilities and rail staff regarding Cabinet permit policies and procedures.

Permits Responsibilities

- Maintain the *Permits Guidance Manual*, which provides detailed standards for the utility accommodation policy
- Review applications and issues permits for new work or activities on state right of way
- Provide information about non-project-related utility work that may affect transportation projects



	<i>Section</i> SUPPORT TEAMS
	<i>Subject</i> Legal Services

GENERAL The Office of Legal Services and district legal sections provide attorneys to counsel the Transportation Cabinet on all legal matters, including utility and railroad issues. The legal services staff also reviews and approves all utility and rail agreements.

Utilities and rail personnel consult legal services staff members regarding contractual matters, laws, rules, or regulations that are disputed or otherwise unclear.



	<i>Section</i> SUPPORT TEAMS <i>Subject</i> Federal Highway Administration (FHWA)

GENERAL

The Federal Highway Administration ([FHWA](#)), an agency of the U.S. Department of Transportation ([USDOT](#)), coordinates highway transportation programs in cooperation with states and other partners to enhance the country's safety, economic vitality, quality of life, and the environment. Major program areas include the Federal-Aid Highway Program, which provides federal financial assistance to the states to construct and improve the National Highway System, urban and rural roads, and bridges. This program provides funds for general improvements and development of safe highways and roads. The FHWA organizational structure may be found at:

<http://www.fhwa.dot.gov/org.html>

FHWA federal-aid division offices provide front-line, federal-aid program delivery assistance to partners and customers in highway transportation and safety services.

The FHWA has program oversight, some project-level oversight, and approval responsibility for all federal-aid projects.

Pursuant to [23 USC 106\(c\)](#), the FHWA and the Transportation Cabinet (Cabinet) have agreed to follow the procedures set forth in the Cabinet and [FHWA Stewardship Plan](#) to carry out their respective oversight responsibilities in the delivery of federal-aid projects.

Federal laws and regulations (related to utility and rail activities) that are in effect at the time of the publication of this manual are listed in [UR-201](#), [UR-202](#), and [UR-204](#).



	<i>Section</i> SUPPORT TEAMS
	<i>Subject</i> Program Management

GENERAL

The Division of Program Management (Program Management) processes state and federal funding programming documents for transportation projects and prepares the Kentucky Transportation Cabinet Six-Year Highway Plan (SYP) and Statewide Transportation Improvement Program (STIP). Program Management also maintains the Kentucky Transportation Cabinet's (Cabinet) Program Delivery Platform (PDP) application and the KYTC Project Managers Toolbox, ensuring all areas of expertise have access and awareness of funding availability and expenditures.

Regarding utility and rail work, Program Management is the access point to the funding necessary to coordinate utilities and rails. This expressly includes funding to execute design, construction, or administrative utility or rail work necessary to complete the transportation project.

Division of Program Management Responsibilities

- Serve as the primary broker for management for all state and federal funding
- Provide dedicated funding for various phases of transportation projects: planning, design, right of way, utility, and construction
- Support all funding related needs of subject matter experts within the Cabinet



	Section SUPPORT TEAMS
	Subject Utility Coordinator Consultant (UCC)

UTILITY COORDINATOR CONSULTANT (UCC)

Engineering consulting firms may be contracted to provide most utility coordination responsibilities. Typically, they serve tasks commonly attributed to the utility supervisor (US) and utility agent (UA). When consultants are utilized, the staff providing the services are titled utility coordinator consultant (UCC). UCC staff are contracted for individual project assignments and provide these services:



The viable **work tasks, requirements, and process** to leverage UCC services are included within this section.

UCC WORK TASKS

A contracted UCC oversees and manages the utility coordination activities of assigned projects. The UCC will work directly with the utility companies involved on the project to identify conflicts with the project design, resolve conflicts, and manage the relocation of those facilities that cannot be minimized or avoided. The UCC staffer shall issue decisions on project utility matters in compliance with Transportation Cabinet (Cabinet) policies and law, enforce the Cabinet's utility accommodation policy, and resolve outstanding utility issues. The UCC is the liaison with District and Central Office and is the primary contact for project utility issues.

The UCC is most familiar with the utility needs of the individual project, reviewing plans, and communicating between project partners to prepare, review, and process non-fiscal utility documents. Finally, the UCC may represent the Cabinet to ensure proper relocation of the utilities via inspections and oversight. There are specific tasks that a UCC can and cannot do, which are outlined in the graphic below.

UCC WORK TASKS
(CONT.)**UCC Responsibilities**

- Meet with project partners (project team, utility company, contractors, property owners, etc.) to develop strategies for conflict identification, avoidance, and utility relocation
- Develop utility relocation estimates for project budgeting purposes (which may include a site visit, plan review, quantifying work, and allocating costs)
- Review and recommend revisions to district plans and utility relocation plans
- Coordinate the utility relocation process for preconstruction projects
- Work with the project engineer to ensure utility facilities are relocated for the project schedule or avoided when viable
- Draft, review, and recommend Cabinet processing of project deliverables, such as utility agreements, relocation plans, cost estimates, invoices, change orders, and funding requests
- Develop, review, and recommend Cabinet processing documents necessary for road project bidding (utility and rail clearance notes, specs, relocation, and plans going into the road contract)
- Develop and store records and project documentation
- Inspect the utility and rail coordination process to ensure proper delivery of the planned work
- Communicate with all involved parties via letters, emails, meetings, etc., and utilize sound management skills to ensure the utility company facilities are successfully avoided or relocated
- Serve as the liaison between the district and the utility owners on project matters
- If contracted to do so, complete utility relocation inspections as the Cabinet representative.

UCC Shall NOT

- Approve fiscal deliverables, such as utility relocation agreements, cost estimates, invoices, change orders, and funding requests
- Approve utility company consultants and contractors
- Process fiscal utility documents

UCC QUALIFICATION**REQUIREMENTS**

The UCC and consulting firm that employs the UCC must be Cabinet-prequalified to provide the utility services listed above.

The Division of Professional Services receives prequalification requests and issues approvals. Applicants are instructed to refer to the Division of Professional Services' website for current application criteria and application procedure. In general, the firm and employee must meet the following standards.

Utility Preconstruction Coordination

- Document projects the firm/staff provided utility coordination for multiple utility companies, including:
 - 2 or more municipally owned utilities
 - 2 or more privately owned utility companies
- Document understanding and acceptance of:
 - Federal policies, rules, and regulations
 - State statutes
 - Cabinet policies
 - Design management
- Record biographies of active staff to be used, including:
 - 1 or more staffer identified to lead utility coordination
 - All staff performing this work must attend Cabinet- approved training and certification

**UCC QUALIFICATION
REQUIREMENTS (CONT.)****Utility Construction Inspection**

- Document projects the firm/staff inspected the construction of multiple utility facility types:
 - Water & Sewer
 - Communication
 - Electric
 - Gas
 - Petroleum
- Document understanding and acceptance of:
 - Utility construction management
 - Utility construction inspection
 - Utility company design and construction standards
- Record biographies of active staff to be used, including:
 - 1 or more staffer identified inspect utility relocations
 - All staff performing this work must attend Cabinet approved training and certification

Utility Design

- Document projects the firm/staff designed utilities. (See prequalification criteria for facility type requirements)
- Document understanding and acceptance of:
 - Utility company standards and requirements
 - Cabinet standards and requirements
- Record biographies of active staff to be used, including:
 - 1 or more Kentucky licensed Professional Engineer with qualifying experience
 - 1 or more staff performing this work must attend Cabinet approved training and certification (We recommend all staff members performing this work attend.)

**PROCESS TO
SECURE UCC**

Utility coordination, inspection, and design services may be performed by a UCC that is secured via a contract, provided the firm and UCC are prequalified to practice. These contracts may originate from either of the following sources.



**Cabinet Project
Design Consultant**

**Statewide Utility
Management
Contract**

To use the project's design consultant, it is recommended that the UCC work be included in the original contract. If the need is identified after the contract is in place, it can be added via addendum. Contact the project manager to determine viability, funding and to get the process initiated.

The statewide utility management contract is available to provide all three of these services. To use the contract, contact the Cabinet's Central Office Utilities and Rails Branch with project details, budget, and scope to get the process initiated.

Consulting firms and UCC staff cannot be used if there is any appearance of a conflict of interest. This is a matter of notable concern for utility coordination, inspection, and design, particularly since the firm the Cabinet may use possesses valuable skills to utility companies. As a result, they are likely to contract with utility companies.

No overlap can exist between the UCC firm representing the Cabinet and utility companies involved on project assignments. A listing of conflicts of interest to consider before issuing a UCC contract (or for a consulting firm to accept a contract) includes those listed below.

**PROCESS TO
SECURE UCC (CONT.)****Potential Conflicts of Interest**

- **Direct**
 - UCC firm/staffer is also contracted with an involved utility company to perform project related services
 - UCC firm/staffer seeks contracts with utility companies while representing the Cabinet on a project
- **Indirect**
 - UCC firm accepts a Cabinet contract assignment when they are contracted with an involved utility company
 - UCC staffer accepts a new contract assignment with an involved utility company
 - UCC staffer is working unrelated contracts, held with an involved utility



	Section UTILITY ACCOMMODATION PRACTICES (UAP) Subject General

PURPOSE

This chapter discusses Transportation Cabinet (Cabinet) policy for accommodating utility facilities during highway construction. These policies apply to the utility facilities occupying and operating on Kentucky-owned or Kentucky-controlled right of way, with the exception of utility lines necessary for servicing highway facilities. The policy contained herein summarizes the Cabinet's Division of Maintenance's [Permits Guidance Manual](#) and is also supplementary to the [FHWA Program Guide: Utility Relocation and Accommodation on Federal-Aid Highway Projects](#). Readers must consult these publications for the full measure of the Cabinet's policies toward utility accommodation.

The accommodation policy and procedure herein describe the proper and permissible locations for relocation of existing utility facilities.

**DEFINITION OF A
UTILITY**

The Cabinet (from [KRS 177.035](#) and [KRS 278.010](#)) defines *utility* as shown below.



**DEFINITION OF A
UTILITY (CONT.)**

***Entity Owns,
Controls,
Operates, or
Manages a Facility
Providing to or for
the Public, for
Compensation**

- Generation, production, transmission, or distribution of electricity, for lights, heat, power, or other uses
- Production, manufacture, storage, distribution, sale, or furnishing of natural or manufactured gas, or a mixture of same, to or for the public, for compensation, for light, heat, power, or other uses
- Transporting or conveying of gas, crude oil, or other fluid substance by pipeline to or for the public, for compensation
- Diverting, developing, pumping, impounding, distributing, or furnishing of water to or for the public, for compensation
- Transmission or conveyance over wire, in air, or otherwise, of any message by telephone or telegraph for the public, for compensation
- Collection, transmission, or treatment of sewage for the public, for compensation, if the facility is a subdivision collection, transmission, or treatment facility plant that is affixed to real property and is located in a county containing a city of the first class or is a sewage collection, transmission, or treatment facility that is affixed to real property, that is located in any other county, and that is not subject to regulation by a metropolitan sewer district or any sanitation district created pursuant to KRS Chapter 220
- NOT a regional wastewater commission per KRS 65.8905

The Cabinet considers cable television and broadband companies, though not explicitly included in the above definition, utilities since they provide commonly considered utility services for public use and compensation. Therefore, these companies' facilities are covered by the accommodation policy herein.

In this manual, *utility* refers to an owner of an electric, gas, oil, water, sewage, telephone, communication line, CATV, broadband, or other similar facility for transportation of a compensable publicly used good or service.

**DEFINITION OF A
FACILITY**

[KRS 278.010\(11\)](#) defines *facility* as all property, means, and instrumentalities owned, operated, leased, licensed, used, furnished, or supplied for, by, or in connection with the business of any utility.

GENERAL POLICY

Accommodating facilities in public right of way shall not impede the use and function of the road and its appurtenances. Placement of utilities must allow intended movement, sight distance, and minimize similar impacts during utility maintenance activities.

Utility facilities are permitted to be installed longitudinally, located behind the ditch and toe of slope as near to the edge of the right of way as practical or in designated utility strips. They shall not be installed longitudinally under pavement, shoulder areas, or ditches. Utilities, other than storm sewers, shall not be placed in medians. Policy requests placement of overhead utility poles outside the clear zone.

Facilities crossing a highway shall cross perpendicular to the highway alignment, preferably via an underground conduit. If the facility is aerial, that facility shall not impede the traveled way or features of the right of way. Facilities crossing the traveled way at several points within the same area shall be combined.

Accommodation of utilities must conform to the Cabinet's Division of Maintenance's *Permits Guidance Manual and FHWA Program Guide: Utility Relocation and Accommodation on Federal-Aid Highway Projects*. Utility Accommodation Policy (UAP) exceptions may be considered. Exceptions to policy require approval of multiple individuals. Minimally, the approval of District Utility Supervisor (DUS), Area Coordinator (AC), and State Highway Engineer's Office are required. The Federal Highway Administration ([FHWA](#)) is an additional approver if the utility is on highway right of way with direct FHWA oversight.

UTILITY**RELOCATIONS**

It is the Cabinet and utility owner's responsibility to determine if the facilities within a project area will be impacted by the work proposed. The utility owner is provided project plans and given assistance and direction by the district Utilities supervisor (US) to make this determination.

If the facilities are not to be impacted by the roadwork, the utility owner may request the facilities remain in place. This request will be reviewed by the US with consideration given to the access control of the proposed road, the design constraints of the project, the needs of other impacted utility owners, and the final intended use of the road and its appurtenances. The utility owner shall certify that the facility may remain in place and that any needed maintenance will not adversely impact the function of the road and its roadside features. The US may allow the facility to remain in situ if these concerns are satisfied.

UTILITY**RELOCATIONS (CONT.)**

If facilities are to be impacted by roadwork, the relocation of those facilities shall comply with the accommodation policy described in this manual but shall be superseded by any revisions of the Cabinet's Division of Maintenance's [Permits Guidance Manual](#).

UTILITIES**IN RIGHT OF WAY****VERSUS EASEMENTS**

Utility relocations made necessary due to a transportation project are to be placed similarly to the existing utility facility, be it right of way or easement. Exceptions to this standard shall be carefully considered and executed only when necessary and valuable to the project. The following are some standards to consider when accommodating the utility in either locale.

Utility Relocations Placed in Right of Way

- Ensure the project right of way sufficiently allows space for the needed utility relocations
- Identify all parcels needed for utility relocation and the urgency to acquire them (called priority parcels)
- Communicate inadequacies and priorities to the right of way team
- Communicate any commitments to parcel owners that the utility owners may need to adhere to

Utility Relocations Placed in an Easement

- Place utility relocations in a replacement easement
- Discourage placement in easements when the existing facility was not in an easement
- General utility easements are also discouraged since they are unregulated
- Identify location of any replacement easements needed
- Identify if the utility owner or the Cabinet will be acquiring the replacement easement
- Communicate easement needs to the design team and the right of way team
- Ensure the easements are transferred to the utility owner

Note: The Cabinet's Right of Way team must follow the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Uniform Act), but the utility owner is not necessarily required to do so.

Do-Not-Disturb**UTILITY RELOCATIONS**

If an existing utility facility is not needed to complete the transportation project, they are considered a do-not-disturb utility. Items to consider in such circumstances are as follows.

Do-Not-Disturb Utility Facilities

- Identify any utility facility not relocating
- Communicate to the design team of criteria to keep the utility undisturbed, such as do-not-disturb markings on plan, concrete cap, or encasements
- If the proposed right of way will absorb an easement used by the do-not-disturb utility facilities
 - *Utility section shall secure a prior rights agreement*
 - *Right of way team shall secure a deed to extinguish the easement*

**PREFERRED UTILITY
LOCATIONS**

Multiple utility companies are typically relocated in conjunction with a given road project, and one or more of those utilities may request relocation along or within the same or similar alignment. Since more than one such facility may not always coexist in the same general vicinity, the Cabinet has developed guidelines to establish priority for assignment of such preferred locations. The right to relocate to a specific preferred location within the limits of a project shall generally be offered first to facilities with limiting criteria, including the following.

Utility Conditions that Warrant Priority Placement

- Above-ground facilities
- Safety purposes
- Avoids extraneous guying
- Avoids unnecessary property acquisition
- Requires a specific grade

Otherwise, the first utility to request relocation within a preferred location may be authorized, including priority utilities authorized for early utility accommodation as defined in [UR-504-3](#).

**PREFERRED UTILITY
LOCATIONS (CONT.)****Possible Exceptions to Priority Placement**

- Construction methods required for a particular utility relocation may endanger existing or future highway facilities
- Industry code requires separation of specific utility facilities from underground or overhead hazards
- Order of roadway or utility construction requires facilities to be relocated into specific areas

**REIMBURSABLE
RELOCATIONS**

For utility relocations that are reimbursable pursuant to [KRS 177.035](#) and [KRS 179.265](#), the utility owner shall be reimbursed only for the cost of constructing or relocating the most economical type of facility that satisfactorily meets the use and function of the former facility.

**ACCOMMODATION
VIA PERMIT**

Before any utility company, other entity, firm, individual, or other governmental agency undertakes any maintenance, construction, or other work, use of, or activity impacting the right of way of any roadway maintained by the Cabinet, it shall first obtain an encroachment permit allowing that activity from the Department of Highways.

In the case of utility relocations performed to accommodate road construction for Cabinet-involved projects, a utility relocation agreement or no-charge agreement and Cabinet-authorized relocation plan substitutes for an encroachment permit. The terms and conditions of a typical encroachment permit apply to these applicants just as they would via the traditional encroachment permit application. [UR-1100](#), "Agreements & Authorizations," further details agreements and no-charge authorizations.

**INVOLVING
PERMITS**

While not typically involved in utility relocation accommodation and authorization, the Central Office Permits Branch may need to review utility relocations for the following circumstances.

**INVOLVING
PERMITS (CONT.)****Utility Relocations
that May Benefit
from Permits Review**

- Airspace limitations
- Installations on fully controlled access
- Installations breaking access control
- Utility installations on or near bridges
- Unprecedented requests
- Highway beautification projects
- Interstate or the Appalachian Development Highway System (ADHS)
- Circumstances needing Federal Highway Administration (FHWA) approval

When such circumstance exists, the district utility supervisor and utility area coordinator may benefit from district and Central Office permit personnel consultation prior to authorization of work.



	Section UAP DESIGN CONSIDERATIONS Subject General Design Considerations

OVERVIEW

The primary function of the right of way is to carry the traveling public via roadway or pedestrian pathways. The Transportation Cabinet (Cabinet) requires utility accommodations within public right of way to consider many factors including but not limited to those listed below.

- Relative Location
- Clear Zone
- Sight Distance
- Aesthetics
- Environment
- Transportation Facility Access Control
- Depth (underground)
- Height (aerial)
- Material

General Design Considerations



RELATIVE LOCATION
REQUIREMENTS

The relative location of proposed utilities to the transportation facility and appurtenances is a priority during design of utilities. The current placement of existing utilities does not override the requirements of current Cabinet utility accommodation policy. A few critical requirements to consider are as follows.

UAP DESIGN CONSIDERATIONS

General Design Considerations

UR-402-1

RELATIVE LOCATION
REQUIREMENTS (CONT.)

Critical Requirements for Relative Location

Relocated Utility Facilities:

- Not installed longitudinally under pavement, shoulder areas, ditches, or in medians
- Placed beyond the ditch line, as close to the right- of- way line as reasonable
- Located outside the clear zone, if vertical (Example: overhead utilities)

Accommodation of Facilities in Public Right of Way:

- Cannot impede the use and function of the road and its appurtenances
- Must allow intended transportation movement
- Must not inhibit sight distance
- Should minimize traffic impacts during utility maintenance work

Facilities Crossing a Highway:

- Shall cross perpendicular to the highway alignment, preferably via an underground conduit
- If aerial, shall not impede the traveled way or features of the right of way
- Shall combine facilities crossing the traveled way at several points within the same area



Acceptable Placement

- Beyond the ditch line
- Close to the right-of-way line
- Outside the clear zone (Vertical utility)
- Crossings perpendicular to the transportation facility
- Minimize crossings
- Depth (Underground)
- Height (Aerial)



Unacceptable Placement

- Under pavement (longitudinal)
- Under ditch line
- In shoulder
- In median
- Impede transportation facility
- Impede sight distance
- Impede during maintenance

UAP DESIGN CONSIDERATIONS

General Design Considerations

UR-402-1

RELATIVE LOCATION

REQUIREMENTS (CONT.) Exceptions to these requirements are at the discretion of the State Highway Engineer’s office and, when applicable, the Federal Highway Administration ([FHWA](#)).

CLEAR ZONE

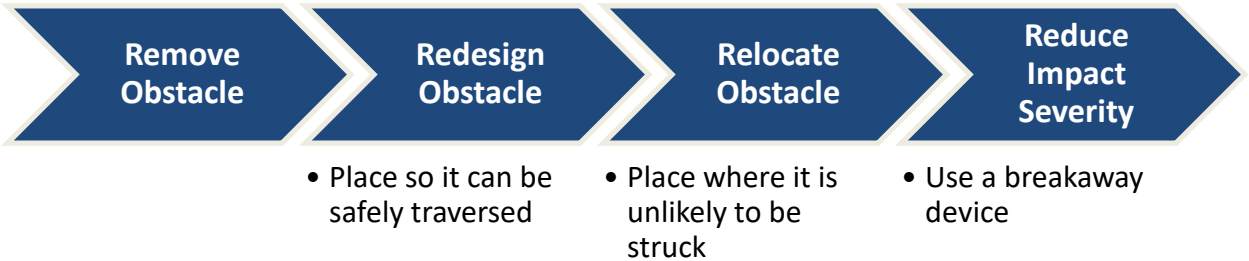
MINIMUM

REQUIREMENTS

The Department of Highways and the Federal Highway Administration (FHWA) seek to maximize the safety of roadways. One requirement for a safer roadway is to provide for a roadside clear zone where practical. A clear zone is the total roadside area, starting at the edge of the traveled way, including the shoulders, available for safe use by errant vehicles. The traveled way is the portion of the roadway for movement of vehicles, exclusive of the shoulders. Obstacles created by utility accommodation that impact the available clear zone include facilities such as poles, hydrants, regulators, junctions, cabinets, stations, and other structures.

It is the responsibility of the utility company and its facility designers to consult and comply with the Cabinet’s [Highway Design Guidance Manual](#) and [AASHTO’s Roadside Design Guide](#) for the latest policy in regards to clear zone calculations and requirements.

The Cabinet prefers utility designers utilize the following methods of addressing clear zone obstacles in the order specified.



Exceptions to clear zone policy are sometimes made if the facility is shielded by guardrail or other protection designed to ensure the safety of motorists. These exceptions shall be specifically requested within the body of the utility company submission, as detailed in [UR-1000](#).

UAP DESIGN CONSIDERATIONS

General Design Considerations

UR-402-1

SIGHT DISTANCE**MINIMUM****REQUIREMENTS**

Maintaining a clear line of sight is essential for safe movement of the traveling public. Sight distance is the length of highway that is visible ahead of the driver. Utility accommodation practices must be consistent with maintaining a clear line of sight, free of obstacles that might result in a vehicular or pedestrian accident or impact. Potential obstacles created by utility accommodation include facilities such as poles, hydrants, regulators, junctions, cabinets, stations, and other structures.

It is the responsibility of the utility company and its facility designers to consult and comply with the Cabinet's *Highway Design Guidance Manual* and AASHTO's *A Policy on Geometric Design of Highways and Streets* for the latest policy regarding sight distance calculations and requirements.

AESTHETICS

Aesthetics shall be considered when determining the effects of utility installations. Operational characteristics of the highway and the cost of the construction and maintenance of the utility in accordance with [FHWA Program Guide: Utility Relocation and Accommodation on Federal-Aid Highway Projects](#) shall also be considered.

The type and size of the utility facilities and the manner and extent to which they are permitted within scenic areas can materially alter the visual quality of highway roadsides. Such areas include scenic strips, overlooks, rest areas, recreation areas, rights of way of adjacent highways to these areas, and rights of way of highways that pass through public parks and historic sites.

ENVIRONMENTAL**CONSIDERATIONS**

Environmental reviews and permitting for utility relocations performed within the Cabinet's project footprint are secured through the Cabinet's National Environmental Policy Act ([NEPA](#)) process. Some facility relocations performed for the execution of a Cabinet Project may not be covered, and the utility company must secure the necessary environmental reviews and permits.

ENVIRONMENTAL
CONSIDERATIONS
(CONT.)

Relocations That May Need Separate Permitting

- Physically outside of the Cabinet’s project footprint
- Relocated prior to Cabinet environmental approval, see Early Utility Accommodation in **UR-504-3**
- Disturbs areas not disturbed by Cabinet project
- Impacts streams and waterbodies
- Impacts historical or other sensitive features

Note: Utility companies must secure all necessary permits for work performed under their authority. The Cabinet does not guarantee or secure permits specifically for another entity including utility companies.

STREAMS AND
WATERBODIES

Minimizing impacts to streams and waterbodies is an important environmental consideration when planning the relocation of utility facilities. Generally, streams and waterbodies unimpacted by the transportation project shall not be impacted by the utility relocation. Exceptions require separate permitting, secured by the utility owner, authorizing any disturbance. The *Highway Design Guidance Manual* (HD-500) provides more information.

TRANSPORTATION
FACILITY ACCESS
CONTROL
REQUIREMENTS

For the purpose of this manual, two general types of road facilities impact the design criteria for utility placement in right of way.

Fully Controlled
Access (FCA)

Non-Fully Controlled
Access

These road types are discussed at a high level below.

UAP DESIGN CONSIDERATIONS

General Design Considerations

UR-402-1

TRANSPORTATION
FACILITY ACCESS CONTROL
REQUIREMENTS (cont.)

Access Level	Fully Controlled Access (FCA)	Non-Fully Controlled Access
Definition	A road or highway that has been designed for higher- speed, unhindered vehicular movement	A road or highway that has been designed for lower- speed vehicular movement
Ingress/Egress Points	Entrances and exits are limited and highly regulated.	Entrances and exits are more frequently permitted.
Utility Permits	Limited access, in some cases only permitting crossings	Commonly permitted for longitudinal installations and crossings

As shown above, the access granted to utility companies varies dependent on the level of access control for the road facility. More information on standards can be found within the Cabinet’s Division of Maintenance’s *Permits Guidance Manual* and *FHWA Program Guide: Utility Relocation and Accommodation on Federal-Aid Highway Projects* which govern underground facility depths. The following section discusses high level standards which are acceptable unless the *Permits Guidance Manual* requires more conservative measures be taken. Further requirements exist in the *Permits Guidance Manual* and utility relocation design reviewers must ensure compliance with all criteria.

DEPTH
REQUIREMENTS

Underground utility depth policies are defined within the *Permits Guidance Manual* and *FHWA Program Guide: Utility Relocation and Accommodation on Federal-Aid Highway Projects* which governs utility accommodation. The following standards are acceptable unless the *Permits Guidance Manual* requires more conservative measures be taken.

UAP DESIGN CONSIDERATIONS

General Design Considerations

UR-402-1

DEPTH
REQUIREMENTS (CONT.)

Underground Depths						
FCA = Fully controlled access						
Location	Under Roads, Ramps, & Ditch Lines			Other Areas		
Utility Type	Electric	Gas, Oil	Water, Sewer, Comm, Other	Electric	Gas, Oil	Water, Sewer, Comm, Other
FCA	60"	60"	42"	60"	60"	42"
Non-FCA	60"	60"	42"	42"	42"	42"

Note: Exceptions may be made only where the terrain is such that specified requirements are proved to be impractical and where a lesser depth will not interfere with highway maintenance, construction, safety, or aesthetics. Exceptions are considered minimally by the Chief District Engineer and may require State Highway Engineer’s Office and Federal Highway Administration (FHWA) acceptance, dependent upon the road and access type.

Utility designs of underground facilities should consider the transportation project design carefully. The Cabinet has minimum depth standards, but utility relocation designs must consider the transportation features that may warrant additional depth, such as those listed below.

Features That May Impact Utility Depth

- New pavement footprint
- Pavement typical section
- Subgrade stabilization
- Edge drains
- Storm drainage
- Other utility facility designs

UAP DESIGN CONSIDERATIONS

General Design Considerations

UR-402-1

AERIAL (OVERHEAD)
REQUIREMENTS

Aerial utility accommodation policies defined within the *Permits Guidance Manual* and *FHWA Program Guide: Utility Relocation and Accommodation on Federal-Aid Highway Projects* govern overhead utility placement. The following height standards are acceptable unless the *Permits Guidance Manual* requires more conservative measures be taken.

Overhead Heights	
Lowest wire during lowest sag	
FCA = Fully controlled access	
Location	Over Roads, Ramps & Shoulders
FCA	24'
Non-FCA	18'

MATERIAL
REQUIREMENTS

Materials for construction of utilities varies widely dependent upon type of utility. Generally, the Cabinet requires use of encasement pipes and, in some circumstances, trenchless construction methods. For flammable and hazardous utilities, specialty materials are required. The policies for utility construction in right of way is defined within *Permits Guidance Manual* and *FHWA Program Guide: Utility Relocation and Accommodation on Federal-Aid Highway Projects*. This manual addresses only high-level material criteria in this chapter, but utility plan reviewers must ensure overall compliance with the *Permits Guidance Manual* in addition to the contents of this manual.



	Section UAP DESIGN CONSIDERATIONS Subject Fully Controlled Access (FCA) Design Policy

FCA POLICIES

Utilities may be permitted longitudinally and allowed to cross fully controlled access (FCA) right-of-way limits if doing so does not interfere with the transportation facility and very specific criteria are met. The exception shall be those FCA right of ways (ROW) that are under direct Federal Highway Administration ([FHWA](#)) oversight, such as interstate highways. Direct FHWA oversight rights of way are further limited to only crossings, with a high preference for underground crossings.

Utilities in fully controlled access right of way are highly limited. Pertinent design concepts of utility placement are found in [UR-402-1](#). The content in this section includes a bit more specifics related to FCA installations. Please note this manual addresses only high-level material criteria, and utility plan reviewers must ensure overall compliance with the Division of Maintenance [Permits Guidance Manual](#) in addition to this manual.

Aerial (Overhead) Utility Responsibilities for FCA Right of Way

- Meet the Kentucky Transportation Cabinet's Permits Manual policy
- Meet National Electrical Safety Code (NESC) Grade "B" - Heavy Loading standards
- Be independent of approach spans
- Be self-supporting
- Include no:
 - *Ancillary equipment*
 - *Splices*
 - *Support structures in ROW*
- Approved exceptions must place utility infrastructure outside the clear zone

Underground Utility Responsibilities for FCA Right of Way

- Meet the Kentucky Transportation Cabinet's Permits Manual policy
- Require encasement except for natural gas, petroleum fraction lines, electric, cable, phone, fiber optic lines
- Include no:
 - *Open cuts in the clear zone*
 - *Longitudinal installations under pavement, shoulder areas, or ditches*
 - *Surface features such as valves, vents, drips, blow-offs, etc.*

UAP DESIGN CONSIDERATIONS

Fully Controlled Access (FCA) Design Policy

UR-402-2

FCA MINIMUM CHARTS
PER UR-402-1

Access Level	Fully Controlled Access (FCA)	Minimum Overhead Heights
Definition	A road or highway that has been designed for higher speed and unhindered vehicular movement	Lowest wire during lowest sag
Ingress/ Egress Points	Entrances and exits are limited and highly regulated	Over roads, ramps, & shoulders
Utility Permits	Limited access, in some cases only permitting crossings	24'

Underground Depths						
Location	Under Roads, Ramps, & Ditch Lines			Other Areas		
Utility Type	Electric	Gas, Oil	Water, Sewer, Comm., Other	Electric	Gas, Oil	Water, Sewer, Comm., Other
FCA	60"	60"	42"	60"	60"	42"

EXCEPTIONS

Utility accommodation policy (UAP) exceptions may be considered. In scenarios of utility relocation exceptions on FCA ROW, approval of the district utility supervisor (DUS), area coordinator (AC), and State Highway Engineer’s Office are minimally needed. The FHWA is an additional approver if the utility is on a highway right of way with direct FHWA oversight.

UAP DESIGN CONSIDERATIONS

Fully Controlled Access (FCA) Design Policy

UR-402-2

EXCEPTIONS (CONT.) UAP exception requests must be justified and supported by an engineering study that shows the following.

Engineering Study Requirements for UAP Exception

- No adverse effects to use and function of the transportation system
- Utility construction and servicing will not create a net negative impact
- No traffic stoppages during utility construction
- No interference of the transportation facility
- Alternative location of the utility is not in the public interest



	Section UAP DESIGN CONSIDERATIONS Subject Non-Fully Controlled Access (Non-FCA) Design Policy

Non-FCA POLICIES

Utilities may be permitted longitudinally and cross right-of-way limits if it does not interfere with the transportation facility and conditions are met.

Pertinent design concepts of utility placement in non-fully controlled access right of way are found in [UR-402-1](#). This section includes a bit more specifics related to non-FCA installations. Please note this manual addresses only high-level material criteria, and utility plan reviewers must ensure overall compliance with the Division of Maintenance [Permits Guidance Manual](#) in addition to the contents of this manual.

Aerial (Overhead) Utility Responsibilities for Non-FCA Right of Way

- Meet the Kentucky Transportation Cabinet's Permits Manual policy
- Comply with criteria in **UR 402-1**

Underground Utility Responsibilities for Non-FCA Right of Way

- Meet the Kentucky Transportation Cabinet's Permits Manual Policy
- Be encased under pavement or within ditch line is required except natural gas and petroleum fraction lines, crossings 2 inches or less in diameter, and electrical, cable, phone, fiber optic lines encased in conduit
- Include no open cuts in pavement, shoulder areas, or ditches
- Limit open trenching to outside of the traveled way or shoulders
- Include encasement for water and/or sewer lines that:
 - Cross state highways or railroads*
 - Cross waterbodies*
 - Are shallow under roads, shoulders, or entrances*
 - Have Inadequate clearance with other utilities*
- Require casings that:
 - Have a 4" minimum clearance with the carrier pipe*
 - Extend from ditch line to ditch line for road crossings,*
 - Extend minimally 3' beyond edge or pavement or back of curb*
 - Have a minimum strength of 35,000 psi.*
- Utilize borings that are no more than one (1) inch larger than the outer diameter of the encasement

UAP DESIGN CONSIDERATIONS

Non-Fully Controlled Access (Non-FCA) Design Policy

UR-402-3

NON-FCA MINIMUM
CHARTS PER UR-402-1

Access Level	Non-Fully Controlled Access			Minimum Overhead Heights		
Definition	A road or highway that has been designed for <u>lower speed</u> vehicular movement			Lowest wire during lowest sag		
Ingress/Egress Points	Entrances and exits are more frequently permitted			Over Roads, ramps, & shoulders		
Utility Permits	Commonly permitted for longitudinal installations and crossings			18'		

Underground Depths						
Location	Under Roads, Ramps, & Ditch Lines			Other Areas		
Utility Type	Electric	Gas, Oil	Water, Sewer, Comm, Other	Electric	Gas, Oil	Water, Sewer, Comm, Other
Non-FCA	60"	60"	42"	42"	42"	42"

EXCEPTIONS

Utility accommodation policy (UAP) exceptions may be considered. In scenarios of utility relocation exceptions on non-FCA ROW, approval of the district utility supervisor (DUS), area coordinator (AC), and State Highway Engineer’s Office are minimally needed.



	Section UAP DESIGN CONSIDERATIONS Subject Uncommon Designs

OVERVIEW

This chapter describes high-level matters on uncommon utility designs, such as natural gas and petroleum fraction utilities and bridge installations. The policy contained herein summarizes elements of the Cabinet's Division of Maintenance [Permits Guidance Manual](#). Readers must consult this publication for the full measure of the Cabinet's policies toward utility accommodation.

**NATURAL GAS
AND PETROLEUM**

Natural gas and petroleum lines impart hazards to public right of way when installed within. Most other utilities do not inherently possess the same flammable and explosive capacities, so natural gas and petroleum facilities should be carefully considered when a relocation design is created.

General Natural Gas and Petroleum Requirements

- Cannot be installed longitudinally under pavement, shoulders, or ditches.
- Must be installed in accordance with Department policy for new underground utility installations
- Encasement is required unless one or more of these criteria are met:
 - *Cathodically protected lines*
 - *60 inches of cover*
 - *Two (2) inches and less lines on non-FCA rights of way*
 - *Longitudinal lines on non-FCA rights of way*

Transmission Line Guidelines

- Shall be constructed of coated steel carrier pipe
- Fully controlled access (FCA) installations shall adhere to the design factor of Class IV per Part 49 CFR 192
- Non-fully controlled access (non-FCA) shall adhere to the design factor of Class III per Part 49 CFR 192

UAP DESIGN CONSIDERATIONS

Uncommon Designs

UR-402-4

**NATURAL GAS
AND PETROLEUM (CONT.)****Distribution Line Guidelines**

- Steel distribution lines designed to operate at a hoop stress less than 20 percent of the specified minimum yield strength (SYMS) shall be cathodically protected carrier pipe as defined by Part 49 CFR 192.105
- Polyethylene pipes (PE) shall be allowed for distribution lines when the proposal meets the Kentucky Public Service Commission and the PHMSA requirements.
- Lines shall be:
 - *High-density or medium-density polyethylene*
 - *Continuous or joined by an acceptable method*
 - *Uniform in diameter*
 - *Installed with a tracer wire or other reliable means of location within the right of way.*

**UTILITY INSTALLATIONS
ON BRIDGES**

The Cabinet prefers not to have any utility installations on bridges and will only consider them when an engineering study and research proves that there are no other reasonable options. In addition to typical utility relocation reviews, utility relocations on bridges must be carefully considered and reviewed by both the district bridge engineer and the Central Office Division of Maintenance's Bridge Preservation Branch. Combustible utilities such as gas, petroleum, or similar materials should be relocated off the bridge if at all possible.

UAP DESIGN CONSIDERATIONS

Uncommon Designs

UR-402-4

UTILITY INSTALLATIONS
ON BRIDGES (CONT.)

General Requirements for Utility Installations on Bridges

- Transportation interest cannot be compromised or sacrificed.
- Bridge beams cannot be drilled, welded, or torch cut.
- Additional weight cannot require load restriction of bridge.
- Emergency shut-off valves, switches, or automatic regulators must be installed near each bridge approach.
- Installations MUST:
 - *Be placed below the elevation of bridge floor*
 - *Address expansion and contraction due to temperature*
 - *Insulate water carrier pipes*
 - *Insulate and shield electrical transmission lines*
 - *Utilize attachment hardware that:*
 - *Have corrosion inhibition*
- Installations MUST NOT:
 - *Impede bridge inspection or access*
 - *Be field welded*
 - *Run through back walls of abutments*
 - *Reduce bridge vertical clearances*



	Chapter UTILITY COORDINATION (UC) IN PLANNING Subject Introduction

GENERAL

Utility coordination (UC) is an essential element of the Cabinet's project development and delivery process. It is defined below.

Utility Coordination (UC)

- Active effort to communicate, share information, and interact productively with all applicable stakeholders about utility involvement, adjustment, and relocation during all phases of the delivery of a transportation project
- Phases include planning, design, construction, operation, and maintenance.
 - *(Thorne et. al. 1993)*

Utility coordination during planning generally notifies utility companies, both publicly and privately owned, of proposed roadway projects and the potential impact the projects may have upon their facilities. If identified proactively and early, the companies and the Cabinet project team can better avoid the facilities or plan effective relocation/adjustment of utilities within the highway right of way or within private easements.

Utility Coordination

- Fosters an open exchange of information among private and public facilities, governmental agencies, and construction-related organizations
- Promotes cooperation among said groups in the planning, design, and construction of projects

UTILITY COORDINATION (UC) IN PLANNING

Introduction

UR-501

GENERAL (CONT.)

Preliminary road project design involves analysis of corridors to determine preferred alignments. Project safety, cost, and schedule are all potentially impacted by existing utilities, so utility coordination planning may help with the selection of alignment. Providing utility feedback assists the designers in tailoring the project to minimize utility impacts. Consideration of utility impacts in alignment selection can provide better design decisions.

The more complex the road project, the more attention to detail needed in this utility planning stage. For example, a district utility supervisor and project engineer should not invest much time in planning utilities for a small bridge rehabilitation or replacement. The planning effort recommended is most likely to simply identify the utilities involved. On a major road widening in an urbanized setting, a detailed utility plan should be established along with conflict identification, cost, and schedule estimation. The utility plan should include early and frequent communication with the involved utility owners and the project team. General utility coordination planning tips and tasks are listed below.

Utility Coordination Planning Tips

- **Minimal Required Tasks**
 - *Identify and contact utility companies*
 - *Establish a communication and engagement plan*
 - *Collect early utility location data and assess accuracy*
 - *Properly depict existing utility infrastructure*
 - *Account for right of way and replacement easement needs*
 - *Partner and collaborate to avoid and minimize conflicts*
- **Effective Tools to Consider Using**
 - *Establish a plan for Subsurface Utility Engineering (SUE)*
 - *Initiate a utility risk assessment*
 - *Build a utility conflict matrix (UCM)*

UTILITY CONFLICT
MANAGEMENT (UM)

Utility conflict management (UM) is a complex process that has a significant impact to the successful completion of transportation projects. UM involves the identification and resolution of utility conflicts and has five stages.



UTILITY COORDINATION (UC) IN PLANNING

Introduction

UR-501

UTILITY CONFLICT
MANAGEMENT (UM)
(CONT.)

Utility conflict management (UM) incorporates utility coordination (UC) to achieve goals. UM is an effective tool to use through the entirety of the project’s development and delivery since utility facilities are consistently a critical factor to the project. UM is defined below.

Utility Conflict Management (UM)

- The process of identifying, confirming, managing, and ultimately resolving design conflicts with existing utility infrastructure within a construction project
- Resolutions may come in the form of:
 - **avoiding** utility facilities
 - **minimize** scope of impacts
 - **mitigating** remaining impacts via relocation

A **utility** is defined in [UR-401-1](#), “General Utility Accommodation Policies.” However, a utility is generally defined as below.

Utility

- Facility owner or operator provides for public consumption:
- Generation, transmission, or distribution of **electricity, gas, or water**
 - Communication links, including **telephone, cable, data, and internet**
 - Collection and treatment of **wastewater**

The basic transmission and distribution of these services is accomplished by use of aerial and underground wiring, utility poles, pipe and conduit of various types and sizes, fiber optic cable, and various appurtenances as required.

The effort to communicate, share information, and interact in regard to utility facilities is the essence of utility coordination (UC).

The management to resolution of design conflicts with utility facilities is utility conflict management (UM).



	<i>Chapter</i> MINIMAL UC PLANNING TASKS <i>Subject</i> Field Review

OVERVIEW

When a project is presented, the district utility agent (UA) shall perform a field review of existing utility facilities within the project limits of the proposed roadway construction project to visibly identify those facilities potentially affected by the proposed construction.

Field Review

- Review facility maps and as-built plans provided by the utility companies.
- Review Transportation Cabinet survey maps for potential physical survey information (such as location of manholes, utility poles, etc.).
- Interview area residents to determine probable utility locations.
- Identify and document potential utility conflicts using the Kentucky Utilities and Rail Tracking System (KURTS), utility conflict matrix (UCM) and mobile application.
- Utilize KURTS' conflict matrix to identify and document alternative solutions or remedies for those conflicts identified above.

The UA shall also use the field review to become familiar with the area proposed for roadway construction and to identify potential problems or conflicts between existing utilities, easements, or other physical features by using available information. Additional information may be necessary to properly coordinate utility relocation activities.

Any reimbursable preliminary engineering required by utility companies shall first be authorized and funded as discussed in [UR-603](#) and [UR-604](#) and shall be requested as discussed in [UR-700](#).



	Chapter MINIMAL UC PLANNING TASKS
	Subject Initial Contact Letter

OVERVIEW

Upon identification of a roadway project, the district utility agent (UA) or project engineer (PE) may prepare and mail or email an initial contact letter to each utility company that may have facilities along the proposed route. This letter notifies the utility companies of the proposed construction and its potential impact upon their facilities. A record of the letter shall be maintained in hard-copy format or electronically. The Kentucky Utility and Rail Tracking System (KURTS) houses standardized templates for this document, which can be electronically generated, sent, and saved.

This initial contact letter is not a *Notice to Proceed* for preliminary engineering services, as discussed in [UR-700](#). Any work performed by a utility company prior to the date of a *Notice to Proceed* is not reimbursable.



	Chapter MINIMAL UC PLANNING TASKS
	Subject Utility Contact Lists

GENERAL CONTACT LIST The district utility supervisor (US) shall maintain an accurate, up-to-date list of utility companies operating within their region (district). This district wide contact list shall include all utility owners identified within the district. Each active transportation project must maintain an up-to-date contact list as well, to be discussed in next section.

The district wide contact list shall be updated as necessary to include the correct company name, utility type, contact name, title, mailing address, email address, and telephone and fax numbers. The use of the Kentucky Utility and Rail Tracking System (KURTS) facilitates tracking of all utility companies and their contacts, allowing all users to access, locate, and update the business address, facility type, contacts, and service area in a single database.

This list shall be readily accessible to the following team members.

General Contact List Access

- Project Development Branch Manager (PDBM)
- Utility Supervisor (US)
- Utility Agent (UA)
- Area Coordinator (UA)
- Project Engineer (PE)

**PROJECT-SPECIFIC
CONTACT LISTS**

Upon involvement in the project, the US shall maintain an accurate, up-to-date list of utility companies within the project area of every active transportation project. This list shall include utilities impacted by the roadwork and within the project bounds. The US shall consult with the PE to gather any information received during the project’s early development, including contact information. This project contact list shall be maintained in KURTS for the duration of the project’s lifetime.

MINIMAL UC PLANNING TASKS

Utility Contact Lists

UR-502-3

PROJECT-SPECIFIC

CONTACT LISTS (CONT.) The contact list shall be updated as necessary to include the correct contact names and must be made available to the following team members:

Project-Specific Contact List Access

- Project Development Branch Manager (PBDM)
- Utility Supervisor (US)
- Utility Agent (UA)
- Area Coordinator (AC)
- Administrative support staff (AD)
- Project Engineer (PE)



	<i>Chapter</i> MINIMAL UC PLANNING TASKS
	<i>Subject</i> Facility Location and Depiction

OVERVIEW

Facility location is critical to most projects. Identifying the presence and physical location of all utilities potentially affected by the proposed transportation construction is the only way to avoid, adjust, or relocate them. Without this first step, the project will be detrimentally impacted during construction in terms of safety, cost, and schedule, or a combination thereof. Collaboration between the utility companies, the district utility staff, and the project engineer is necessary to produce complete and accurate facility locations.

FACILITY LOCATION
COMPONENTS

The components for accurate and useful facility location for the project includes the following.



MINIMAL UC PLANNING TASKS

Facility Location and Depiction

UR-502-4**POTENTIAL****COLLABORATION STEPS** The utility and design staff may collaborate by these means as applicable.**Collaboration Steps****Utilize project contact list.**

- Solicit facility maps from utility companies likely in the project area.
- Use the facility data received to depict utilities on the plans.

Visit sites.

- Identify utility facilities in the area.
- Assess impact potential to overhead and underground utilities.
- Use KURTS' Mobile Field Application to collect suspected conflicts and features of interest.

Survey all visible utility features.

- Depict those features on the transportation plans.
- Use the collected data to improve utility locations on the transportation plans.

Revisit utility data.

- Receive facility mapping from the utility company.
- Seek out and secure any available Geographic Information System (GIS) data.
- Review any available plans retained by the Cabinet or received from outside organizations.

Consult with utility companies.

- Seek concurrence on placement of utilities on transportation plans.
- Work together to identify possible conflicts that the utility company anticipates.
- Ask the utility company of any facilities that may be higher risk to the project safety, cost or schedule.
- These are the facilities that avoidance provide the greatest benefit.
- Any consultation with a utility company is non-reimbursable prior to the project authorization letter (state letter) and shall be undertaken with discretion and with the prior knowledge and consent of the utility company to the reimbursement limitation.

Perform subsurface utility engineering (SUE) / investigation (UR-503)

- Identify utility facility locations that would benefit from SUE investigation, including but not limited to, Quality Level A data.
- Secure SUE data to the quality level necessary.
- Review SUE findings and seek utility avoidance when appropriate.

Utility Conflict Management (UR-504-1)

- Develop and manage a utility conflict matrix (UCM) as defined in **UR-504-1**.
- Document and assess conflicts with utilities to minimize risk, increase safety and decrease costs.
- Repeatedly update and assess those conflicts with utilities together until resolution.

MINIMAL UC PLANNING TASKS

Facility Location and Depiction

UR-502-4

NATIONAL GUIDANCE

ON UTILITY LOCATION The American Society of Civil Engineers ([ASCE](#)) developed a standard guidance series on utility investigation, location, and depiction. They are listed below:

- ASCE/UESI/CI 38-22 Standard Guideline for Investigating and Documenting Existing Utilities
- ASCE/UESI/CI 75-22 Standard Guideline for Recording and Exchanging Utility Infrastructure Data

ASCE 38-22 Standard Content to Consider When Utility Planning	
Utility Attributes to Collect (Chapter 3)	Depiction Recommendations (Chapter 5)
• Depth • Owner • Type/Material • Unknown utilities • Size/Shape • Encasement • Configuration • Operational status • Age • Condition • Tracer wire • Pressure • Voltage • Means located • Quality of location • Date located • Firm/Individual locator	• Line type • Labeling • Symbol embedding • Color • Quality level • Line weights • Profiles / Cross section • Vaults

ASCE 38-22 provides information and guidance on subsurface utility engineering. While discussed in more detail in section [UR 503](#), it is worth noting here that this national guidance provides valuable recommendations on utility facility attributes useful to collect for the benefit of the project team. It also recommends formatting recommendations for depiction. It is worth considering these recommendations if no Transportation Cabinet standards are established.

MINIMAL UC PLANNING TASKS

Facility Location and Depiction

UR-502-4

NATIONAL GUIDANCE
ON UTILITY LOCATION
(CONT.)

ASCE 75-22 provides guidance on recording and exchanging utility data, including attributes such as the utility’s location, size, orientation, function, and ownership. This national guidance provides valuable recommendations on minimum data to collect and how to best share it with the project team. Adherence to this guidance is expected to help minimize utility damages for the current project and is recommended to be retained for future project use. Some of the recommendations are summarized below.

Figure 5-1 ASCE 75-22 Positional Accuracy Levels

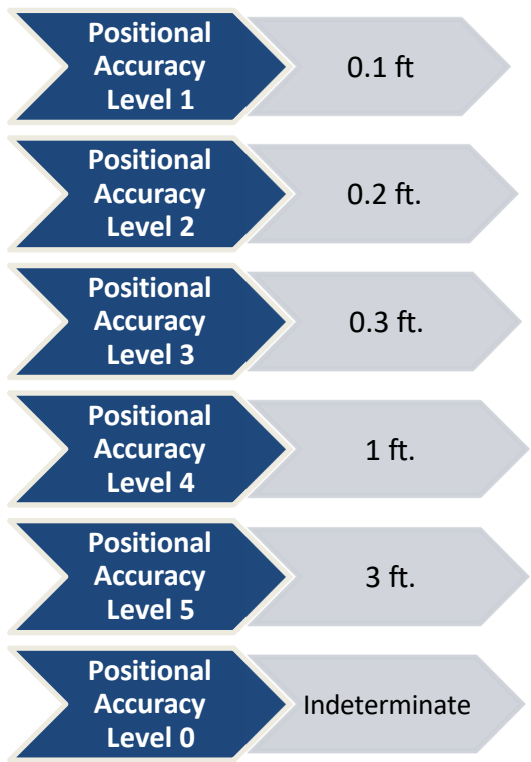


Figure 5-2 ASCE 75-22 Feature Types with Corresponding Geometry Types

ASCE 75-22	
Feature Types:	Geometry Types:
•Segment	•Line string
•Device	•Point
•Access point	•Point
•Support structure	•Point
•Containing structure	•Polygon
•Secured area	•Polygon
•Encasement	•Line string
•Marker	•Point
•Tracer	•Line string

MINIMAL UC PLANNING TASKS

Facility Location and Depiction

UR-502-4

NATIONAL GUIDANCE
ON UTILITY LOCATION (CONT.)

Minimum Feature Attributes for Utility Data Collection
(See ASCE 75-22 for optional and conditional attributes.)

- ID
- Owner
- Utility type
- Feature type
- Component
- Delivery classification
- Operational status
- Horizontal spatial reference
- Vertical spatial reference
- Horizontal accuracy
- Vertical accuracy
- X Y Z centroid

UNKNOWN
UTILITIES

The Utility Coordinator (UC) is charged with identifying the utility infrastructure within the bounds of the project. If, after an inventory of infrastructure is performed, the UC identifies a utility facility and is unaware of the utility owner, they shall take steps to determine the owner.

Identifying Unknown Utilities

- Inquire with all known utility owners within the county
- Contact KY811 and make a design information request
- Contact the County Clerk to identify any unknown utility owners
- Contact Cabinet Permits staff to identify any permits in the area
- Consider a SUE contract to further investigate ownership
- If all other steps are fruitless, present the findings to the Division of Right of Way and Utilitiies and the Office of Legal Services. They will advise any viable solutions, including but not limited to: contract relocation or removal.

Note: Removal or relocation of an unknown utility may result in claims and must have approval of Cabinet management.

MINIMAL UC PLANNING TASKS

Facility Location and Depiction

UR-502-4

ABANDONED

UTILITIES

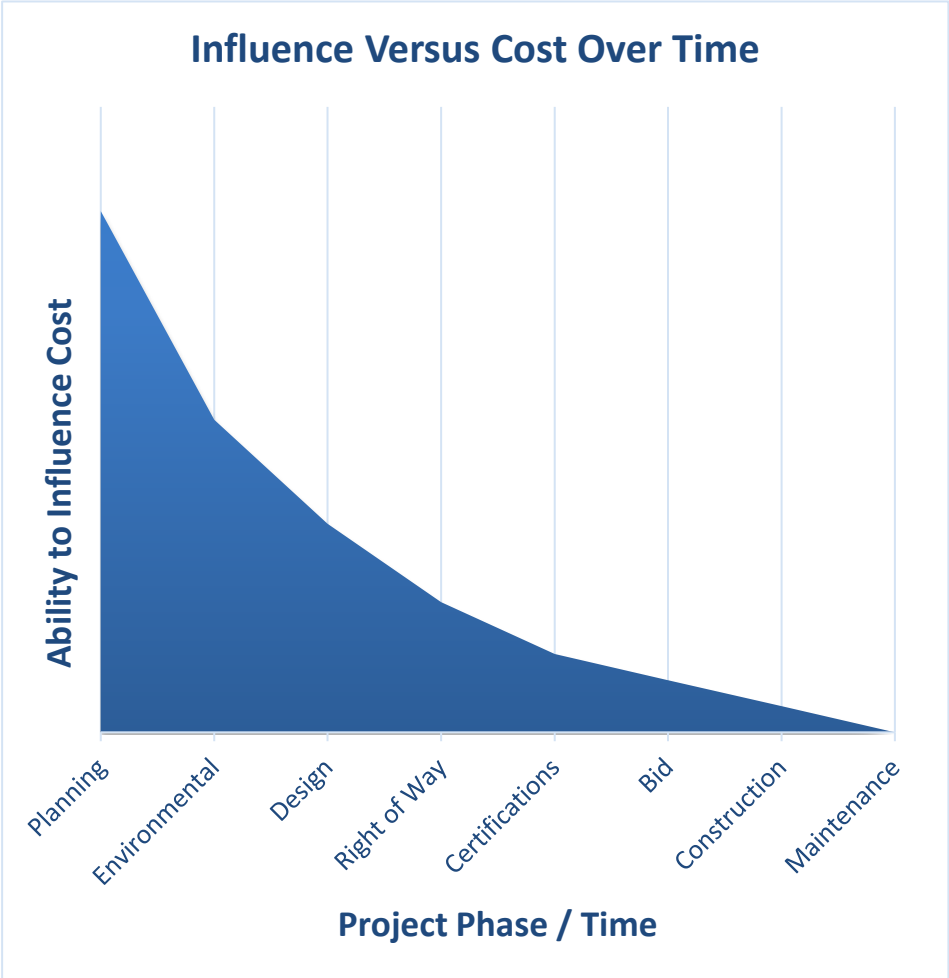
Utility infrastructure is assumed as owned by the utility owner, even if it is abandoned, out of service, decommissioned or otherwise not in use. The Utility Coordinator (UC) should seek out and share the location of such infrastructure if data is available. This information is valuable to be documented on the project plans, provided it is clearly denoted as ‘Assumed Out of Service’. The Cabinet’s contractor must adhere to Kentucky Underground Utility Damage Prevention Law for facilities identified as ‘assumed’ Out of Service’, since they may potentially be put back in service at any time.



	Chapter MINIMAL UC PLANNING TASKS
	Subject Confirmed Conflicts

OVERVIEW

Facility location is critical to most projects. Identifying the presence of utilities and the physical location of all utilities potentially affected by the proposed transportation construction is the only way to avoid, adjust, or relocate them. Without this first step, the project will be detrimentally impacted during construction in terms of safety, cost, and schedule, or a combination thereof. Collaboration between the utility companies, district utility staff, and project engineer is necessary to produce complete and accurate facility locations.



MINIMAL UC PLANNING TASKS

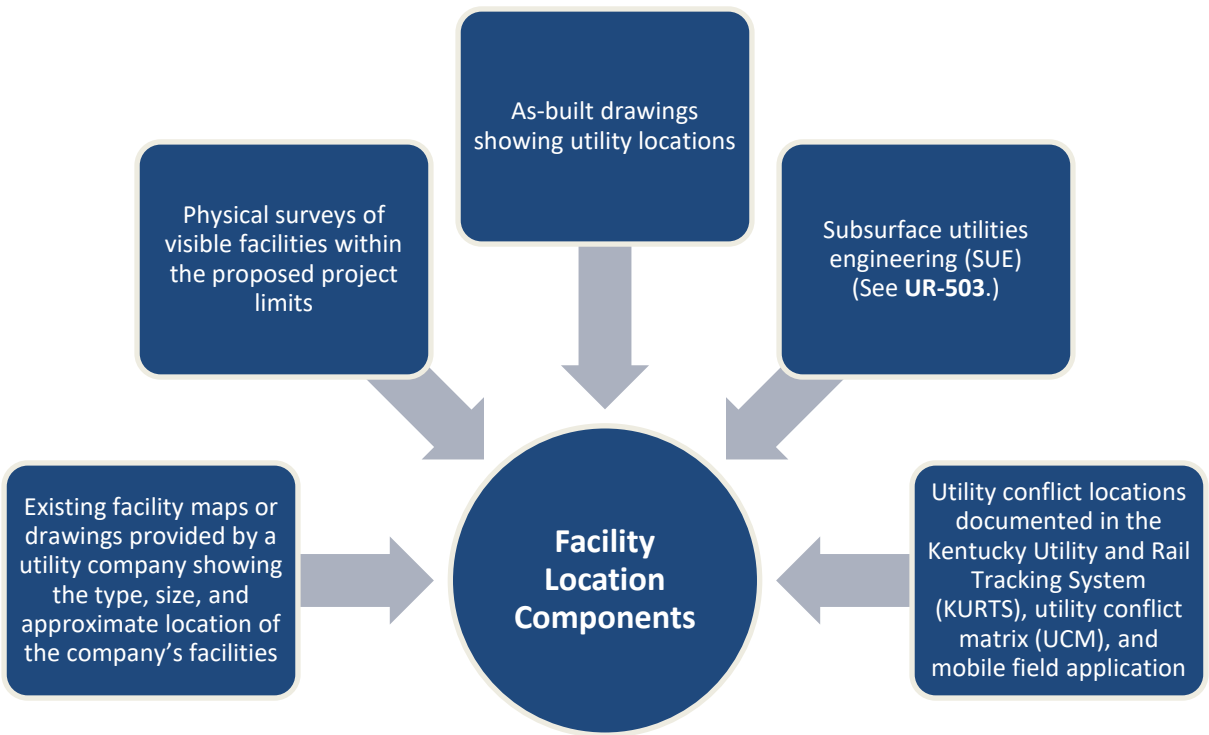
Confirmed Conflicts

UR-502-5

FACILITY LOCATION

COMPONENTS

The components for accurate and useful facility locating for the project includes the following.



POTENTIAL

COLLABORATION STEPS

The utility and design staff may collaborate by the following means as applicable.

Collaboration Checklist
• Have the required utility relocations been designed? • Have those designs been fully considered in ROW needs? • How are the utilities being relocated? • What are the associated ROW impacts? • How could acquisition be handled in these situations? • Are the reimbursable vs. non-reimbursable relocations quantified accurately? • Have dig-once opportunities been considered (trenchless / shared trenches / utility strips)? • Were ROW & Utility timelines for clearance factored into the project schedule?

MINIMAL UC PLANNING TASKS

Confirmed Conflicts

UR-502-5

POTENTIAL COLLABORATION
STEPS (CONT.)

Considerations by Project Phase

Planning

- Identify existing ROW and utility locations within ROW.
- Identify septic and wells within the project limits.
- Discuss likely needs of probable utility relocations.

Preliminary Engineering

- Establish a preliminary layout for ROW and the placement of utilities which might require relocation.
- Transparency in utility location is critical. Make sure that everyone knows where everyone goes.
- Determine who will acquire ROW for the project and for relocations.
- Determine who will physically clear and stake the ROW.
- The project does not have to account for utilities when engineering project ROW but must account for the schedule necessary for relocations.
- Utilities are not required to follow the Uniform Act to buy ROW, which can complicate ROW acquisition.
Note: It is recommended to account for utilities replacement ROW needs and simplify the process.

Design and ROW Acquisition

- Coordinate with ROW and project manager.
- Identify critical parcels to advance utility relocations.
- Cooperate to clear utility easements to obtain clear title
- Communicate the acquisition status with utilities to prepare for relocation.
- Use ROW Best Practices for Utility Accommodation.
- Understand the impacted utilities' ROW needs. Utility coordinator and project manager work must be a team effort.
- Attempt to negotiate once since a combined utility and highway acquisition is efficient.
- Priority parcels must be identified and communicated to ROW to expedite relocations.
- Seek to identify issues early since utility relocation is frequently the project's critical path.
- Always prioritize the 3C's (communication, cooperation, and collaboration). Utility companies' business interests are not ours.

MINIMAL UC PLANNING TASKS

Confirmed Conflicts

UR-502-5

POTENTIAL COLLABORATION
STEPS (CONT.)

Pertinent Federal Highway Administration Guidance to Consider

Federal Highway Administration Utility Program Guide

“....when a State or locality routinely dedicates or permits a portion of the road and street right-of-way for use by utilities in accordance with established standard criteria pursuant to State law, ordinance, or administrative practice, such right-of-way may be considered eligible for Federal-aid reimbursement as an integral part of the project right-of-way.”



	<table><tr><td><i>Section</i> SUBSURFACE UTILITY ENGINEERING (SUE)</td><td><i>Subject</i> Definition & Purpose</td></tr></table>	<i>Section</i> SUBSURFACE UTILITY ENGINEERING (SUE)	<i>Subject</i> Definition & Purpose
<i>Section</i> SUBSURFACE UTILITY ENGINEERING (SUE)	<i>Subject</i> Definition & Purpose		

DEFINITION OF
SUBSURFACE UTILITY
ENGINEERING (SUE)

Subsurface utility engineering (SUE) is a systematic engineering process of identifying and locating existing underground utility facilities using various means and levels of accuracy.

The American Society of Civil Engineers ([ASCE](#)) developed guidance on subsurface utility investigation, location, recording, and depiction.

ASCE Guidance

- ASCE/UESI/CI 38-22 Standard Guideline for Investigating and Documenting Existing Utilities
- ASCE/UESI/CI 75-22 Standard Guideline for Recording and Exchanging Utility Infrastructure Data

PURPOSE

Accurate location of underground utility facilities is necessary, to some degree, on each highway project to identify, avoid, and successfully plan the relocation or adjustment of such facilities to prevent service disruptions during construction. This is particularly true on projects involving large concentrations of utilities or major utility facilities. Project designers can reasonably know the location of existing facilities early enough to design around many potential conflicts. Utilizing SUE benefits the Cabinet and the utility companies in several respects, shown below.

Benefits of Early Knowledge of Existing Facility Location

- Reduce the **number, scope, and cost** of facility relocations
- Reduce **project delays** resulting from unnecessary or unexpected utility relocation work that must be completed prior to the beginning of roadway construction
- Increase timeframe for **public awareness** of possible disruptions

SUBSURFACE UTILITY ENGINEERING (SUE)

Definition & Purpose

UR-503-1

PURPOSE (CONT.) Unexpected conflicts with utility facilities are minimized or eliminated. The exact location of virtually any utility facility can be determined and accurately shown on construction plans via SUE Quality Level A data.

Benefits of SUE Quality Level A Data for Exact Facility Location and Depiction on Construction Plans

- **Delays** due to utility conflicts are reduced
- Construction delays caused by cutting, damaging, or discovering **unidentified utility lines** are reduced
- **Contractor claims** for delays resulting from unexpected encounters with facilities are reduced
- **Safety** improves if excavation shifts away from existing facilities, lowering chance of facility damage and personal injury, property damage, or product release



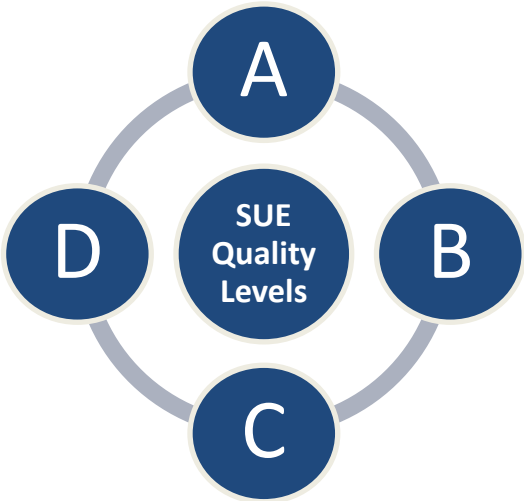
	Section SUBSURFACE UTILITY ENGINEERING (SUE)
	Subject Applicability & Quality Levels

SUE APPLICABILITY Location of utility facilities is a critical element of the Cabinet project’s development. Minimally, the Cabinet requires subsurface utility engineering (SUE) data include the following.

SUE
Location
Data

- Horizontal position
- Vertical position (depth)
- Material composition
- Size
- Other pertinent data concerning the facilities

Nationally accepted policy defines four basic quality levels of SUE work.



These quality levels provide varying degrees of accuracy relative to the horizontal and vertical position of the utility facility.

SUBSURFACE UTILITY ENGINEERING (SUE)

Applicability & Quality Levels

UR-503-2

SUE APPLICABILITY
(CONT.)

The SUE quality level utilized depends to some degree upon the current stage of development of a roadway project. For example, during a corridor study to determine potential alternatives, the use of existing utility company records or verbal recollections will usually suffice. The quality level utilized in locating existing utility facilities should improve as a route is selected, refined, and designed in detail.

The SUE quality level needed is also dependent upon the impact potential as the road project develops. For example, if the designer has an approximate horizontal location of a utility facility and the proposed road project can in no way impact it, then there is no need to determine an accurate depth. If there is a significant probability that the roadwork will impact on the facility and the potential exists to design the highway to avoid the facility, it may be prudent to request Quality Level A data that provides accurate horizontal and vertical data at this location.

SUE QUALITY LEVELS The following describes the quality levels of SUE facility location.

Quality Level D (QL-D)	Quality Level C (QL-C)	Quality Level B (QL-B)	Quality Level A (QL-A)
•Most basic level of information for facility locations •Derived solely from existing utility company records or verbal recollections and is primarily used for project planning and route selection	•Most commonly used level of information •Obtained by surveying and plotting visible aboveground facility features and using professional judgment to correlate this information with QL-D information	•Obtained through the application of appropriate surface geophysical methods to determine the existence and a more accurate horizontal position of virtually all facilities within the project limits •Surveys locations to applicable tolerances and included on plan documents	•Affords highest level of precision for utility facilities location •Involves visibly exposing existing facilities, by use of minimally intrusive excavation equipment to determine precise horizontal and vertical positions of the facilities •Allows mapping of facilities directly onto plans and is the most accurate level available •Provides type, composition, size, condition, and other characteristics of underground features

SUBSURFACE UTILITY ENGINEERING (SUE)

Applicability & Quality Levels

UR-503-2**SUE QUALITY LEVELS****(CONT.)**

The American Society of Civil Engineers ([ASCE](#)) guidance provides more detail on SUE quality levels.

ASCE Guidance

- ASCE/UESI/CI 38-22 Standard Guideline for Investigating and Documenting Existing Utilities
- ASCE/UESI/CI 75-22 Standard Guideline for Recording and Exchanging Utility Infrastructure Data



	Section SUBSURFACE UTILITY ENGINEERING (SUE)
	Subject Cabinet Employment of SUE

CABINET SUE POLICY The Transportation Cabinet (Cabinet) recognizes the American Society of Civil Engineers ([ASCE](#)) developed guidance for subsurface utility engineering (SUE) processes, including investigation, location, recording, and depiction.

ASCE Guidance (More detail is located in UR-502-4.)

- ASCE/UESI/CI 38-22 Standard Guideline for Investigating and Documenting Existing Utilities
- ASCE/UESI/CI 75-22 Standard Guideline for Recording and Exchanging Utility Infrastructure Data

These are the recommended guidelines for proper execution of SUE, along with the Division of Highway Design's [Highway Design Guidance Manual](#) and Design Memorandum 12-4.

PROJECTS REQUIRING

SPECIAL SUE EMPHASIS The Cabinet recognizes that SUE is employed to varying degrees, depending upon the project itself. Care and emphasis shall be exercised on projects that may be defined within a category listed below.

Project Types Recommended to Use SUE

- Urban highway construction projects
- Projects with high potential utility facility conflicts
- Projects with complex utility networks (either aged or high potential cost)
- Limited, narrow, and congested right of way
- High-profile highway projects
- Projects that have a critical or otherwise taxing schedule
- Projects where underground utility facilities are unknown and cannot be determined by review of utility facility maps, or mapping does not exist

SUBSURFACE UTILITY ENGINEERING (SUE)

Cabinet Employment of SUE

UR-503-3

**CABINET SUE
PROCEDURE**

The district project development team members shall determine the appropriate SUE scope for the project. Team members to be consulted include the project engineer (PE), the utility supervisor (US), and the project development branch manager (PDBM). The US may consult with utility companies on facility locations and the potential impact of construction on their facilities, review the facility mapping or utility location data available at the time, and consider needs for SUE on the specific project.

Available Methods to Integrate SUE in Cabinet Projects

Include SUE in the project design scope via the consulting engineering services.

Note: Consultant services are available and recommended for inclusion in the initial request for engineering services. Consultant services must be approved by the PE and the PDBM.

Request SUE services under the statewide utility services contract.

Use the continuing contract for survey services, which includes SUE.

Note: Such SUE requests shall be coordinated by the PE and routed through the Cabinet survey coordinator located in the Central Office Division of Highway Design.

SUBSURFACE UTILITY ENGINEERING (SUE)

Cabinet Employment of SUE

UR-503-3**CABINET SUE****PROCEDURE (CONT.)**

The Cabinet requires all consultants performing SUE services be prequalified to perform the project scope. The Cabinet's *Highway Design Guidance Manual (HD-304)* and selected excerpts from Highway Design Memorandum 12-4 provide additional information concerning the Cabinet's SUE program.



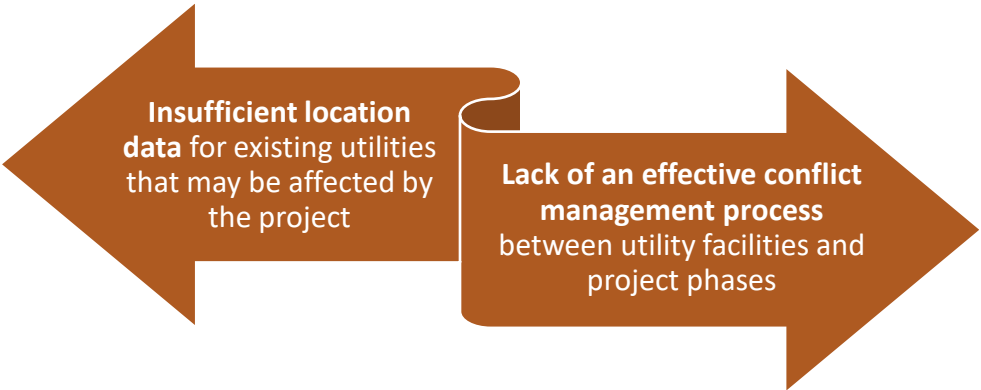
	Section EFFECTIVE UTILITY PLANNING TOOLS
	Subject Utility Conflict Management (UM) and Utility Conflict Matrix (UCM)

**UTILITY CONFLICT
MANAGEMENT (UM)**

Utility conflict management is a complex process that has a significant impact to the successful completion of transportation projects. Utility conflict management involves the identification and resolution of utility conflicts. Utility conflict management has five stages.



Utility inefficiencies in the project delivery process are impacted by two critical factors.



To facilitate a successful project, there must be early and clear communication between all parties to resolve conflicts as early as possible in the project. Tracking of any potential conflicts can be archived in KURTS. A utility conflict matrix (UCM) introduces efficiency into the utility conflict management process, allowing the entire project team to understand and address project complexities regarding utilities.

EFFECTIVE UTILITY PLANNING TOOLS

Utility Conflict Management (UM) and Utility Conflict Matrix (UCM)

UR-504-1

UTILITY

CONFLICT MATRIX

A **utility conflict matrix (UCM)** is the living record of utility conflict management, documenting project impacts and complexities imparted on existing utilities throughout the project development process. It is a mechanism for the team to work together to identify utility conflicts early in the design stage, document needs, and determine the optimum means of conflict resolution. Identification of utility facilities and confirmation of conflicts establish a clear scope of potential project impacts, minimizing inefficiencies. Mitigating identified conflicts is necessary for a successful project. Critical factors that are known contributors to utility inefficiencies in transportation projects are shown below.

Contributors to Inefficiencies

- Inadequate utility facility information
- Unidentified utility impacts to the project
- Ineffective management of potential conflicts

These inefficiencies can negatively impact the project in varied means: higher bids, change orders, damage or delay claims, redesign, delayed schedules, and litigation.

Impacts Due to Inefficiencies

- Unexpected disruptions during construction
- Damage to utility installations
- Unnecessary costs
- Delays extending development or delivery
- Unnecessary utility relocations

To minimize inefficiency and impacts, the project team is charged to identify utilities and address conflicts. The UCM is a tool to record all findings.

EFFECTIVE UTILITY PLANNING TOOLS

Utility Conflict Management (UM) and Utility Conflict Matrix (UCM)

UR-504-1

USING A UCM

A UCM can provide value to any project with utilities. The team shall look for the following types of conflicts.

UCM Conflict Types

- Utility facilities and transportation design features
- Utility facilities and transportation construction or phasing
- Planned utility facilities and existing utility facilities
- Noncompliance of utility facilities with accommodation policies
- Noncompliance of utility facilities with safety or accessibility policies

Early detection of utility conflicts via the UCM optimizes opportunity to implement a variety of strategies to resolve conflicts. The resolution strategies should avoid conflicts first, minimize impacts second, and, if neither of these two strategies is feasible, then consider relocating the utility facility. In practice, utility conflict resolutions may include one or more of the following.

UCM Conflict Resolutions

- Make modification(s) to the proposed transportation facility, such as:
 - Change the horizontal and/or vertical alignment
 - Alter the drainage design to avoid existing utility lines
 - Alter noise walls or traffic signal components
 - Optimize construction phases
- Implement an engineering measure to protect-in-place a utility
- Remove, abandon, or relocate the utilities in conflict
- Accept an exception to policy

Note: The ultimate selection of a resolution strategy must consider practical execution, cost, and schedule.

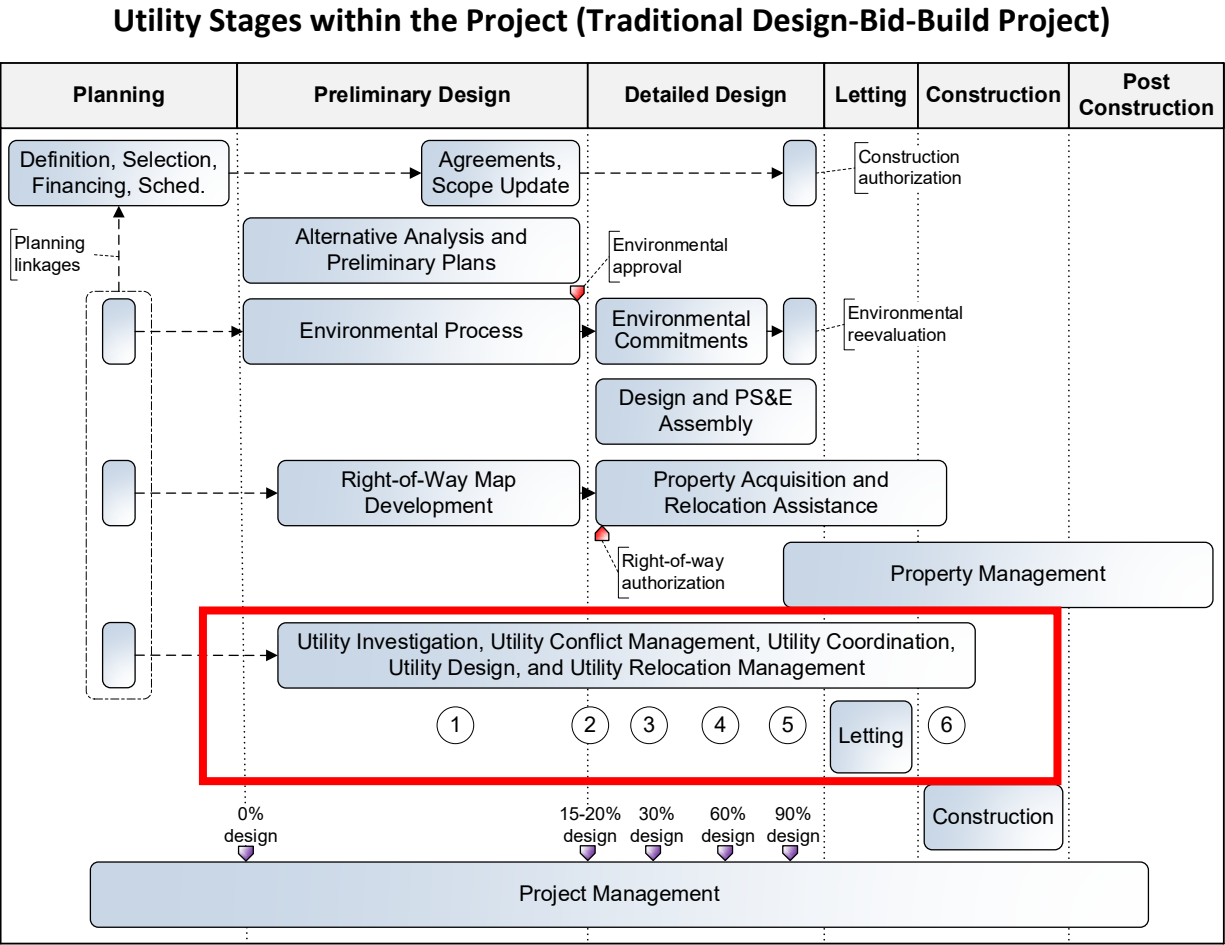
UCM PROCESS

There are advantages to using a UCM for all stages in the project development and delivery process. From planning to letting, including all stages in between, the UCM tracks critical utility activities. As an element of effective utility conflict management, a project will benefit from a well-maintained UCM.

EFFECTIVE UTILITY PLANNING TOOLS

Utility Conflict Management (UM) and Utility Conflict Matrix (UCM) UR-504-1

UCM PROCESS (CONT.) The UCM is revisited during each stage of the project, evolving and documenting utility conflicts and resolutions throughout the project lifetime. The figure below provides a representation of a traditional design-bid-build project and recommended UCM reviews.



STAGES OF THE UCM

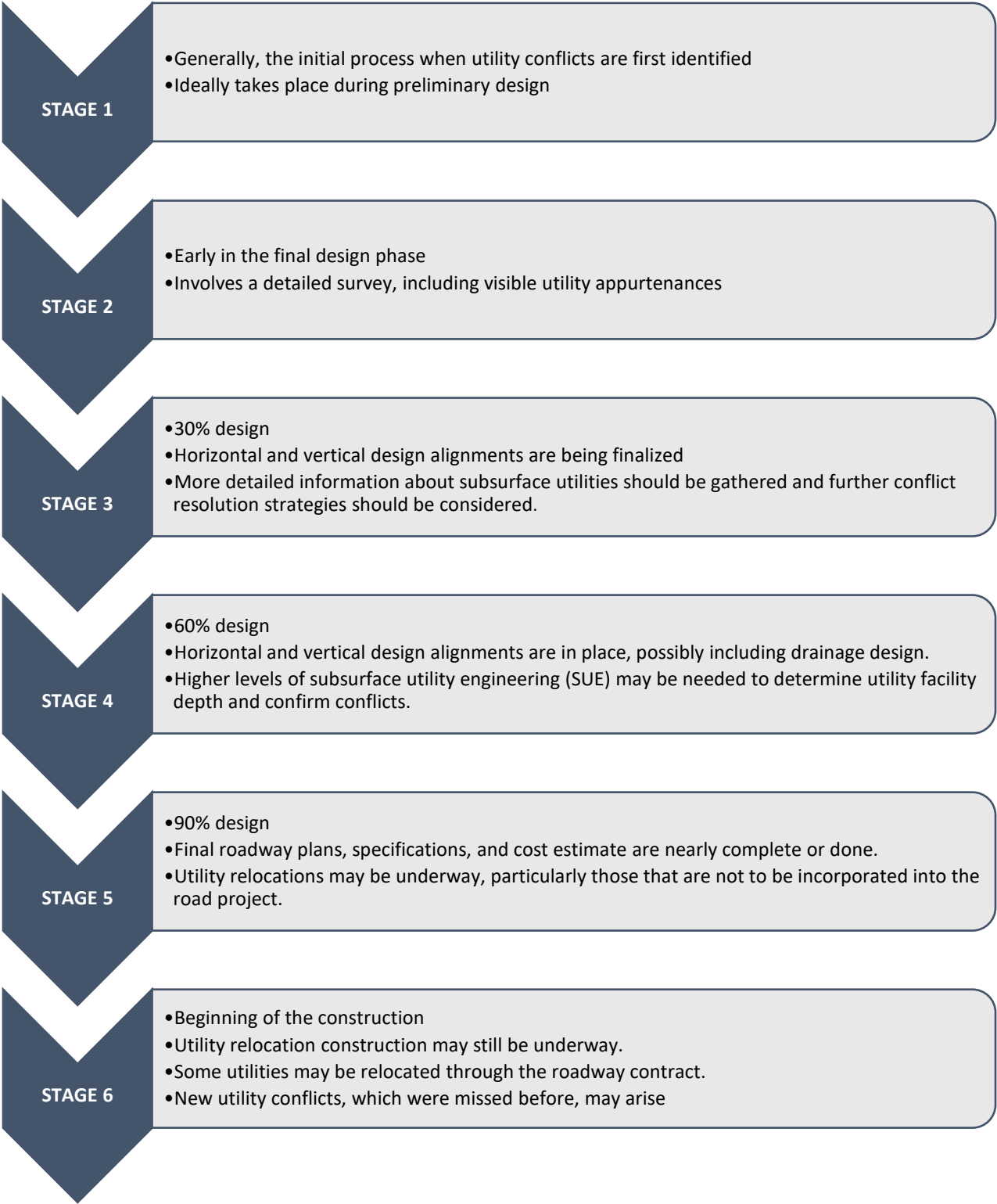
The six stages defined in the prior figure denote critical points in the development of the project. At these points, it is advantageous to use a UCM in addition to other utility conflict management activities. The six stages of project development are outlined here, with more details relayed in [UR-504-2](#).

EFFECTIVE UTILITY PLANNING TOOLS

Utility Conflict Management (UM) and Utility Conflict Matrix (UCM)

UR-504-1

STAGES OF
THE UCM (CONT.)



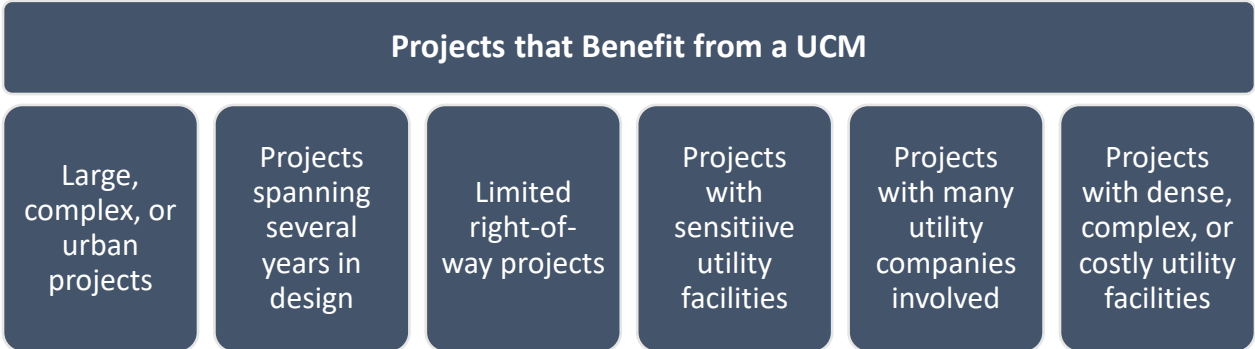
	Section EFFECTIVE UTILITY PLANNING TOOLS
	Subject Leveraging a Utility Conflict Matrix (UCM)

GENERAL The general definition of a **Utility Conflict Matrix (UCM)** is that it is the living record of utility conflict management. The Cabinet recognizes it as a tool to document project impacts and complexities imparted on existing utilities throughout the project development process. The team is recommended to work together within the UCM to collaboratively identify utility conflicts and arrive at resolutions.

KENTUCKY’S UCM The Kentucky Utilities and Rail Tracking System (KURTS) provides a UCM tool for each initiated transportation project. This tool is available for contribution from Cabinet utility, design, and project management staff. The UCM allows for the documentation of all utility conflicts for coordination and resolution, allowing the proposal of multiple alternative conflict resolutions, and documents decision making.

The Cabinet has a field collection tool, which enables the collection of real-time and spatially connected utility conflicts. This data can be field collected and uploaded into the KURTS database.

While the UCM can provide value to any project with utilities in the project footprint, there are certain project types for which the UCM can be leveraged for maximum benefit.

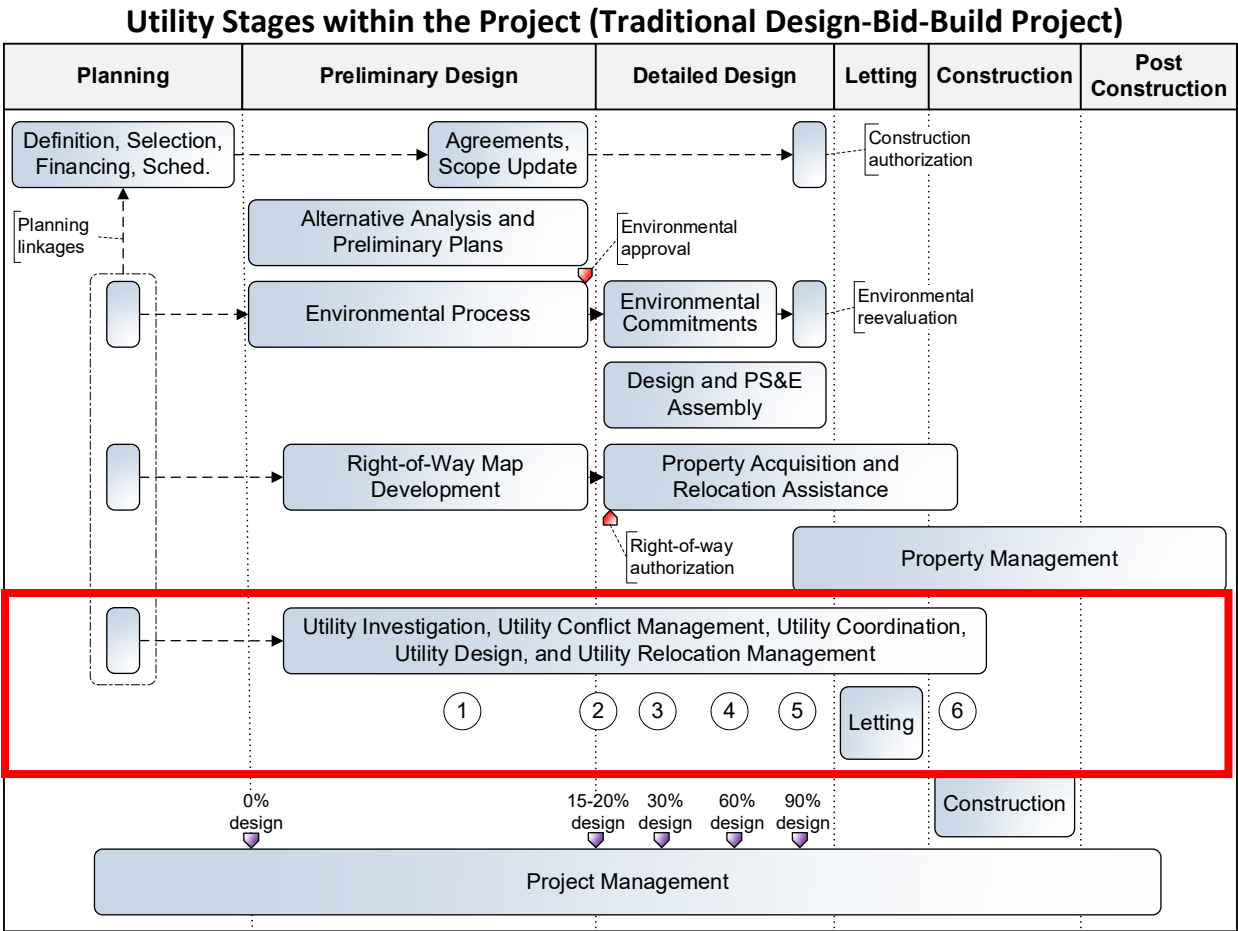


EFFECTIVE UTILITY PLANNING TOOLS

Leveraging a Utility Conflict Matrix (UCM)

UR-504-2

UCM PROCESS The UCM must be revisited repeatedly during the project, evolving and documenting utility conflicts and resolutions throughout the project lifetime. The figure below provides a national representation of a traditional design-bid-build project and recommended UCM reviews. A detailed explanation of these nationally recognized stages can be found in [UR-504-1](#). The utility stages of a design-bid-build project are depicted below.



The graph below depicts some of the tasks Kentucky recommends completing during the varied stages described above. Tasks may be completed at various stages, or omitted altogether, as appropriate for the project at hand.

EFFECTIVE UTILITY PLANNING TOOLS

Leveraging a Utility Conflict Matrix (UCM)

UR-504-2

Tasks Recommended to be Completed During Utility Stages of Design-Bid-Build Project

	Stage 1 - Preliminary Design	Stage 2 - Early Final Design	Stage 3 - 30% Design	Stage 4 - 60% Design	Stage 5 - 90% Design	Stage 6 - Road Project Construction
Investigate existing utility records.						
Request utility owners provide constraints.						
Assess and document conflicts.						
Hold joint utility meeting (JUM), if needed.						
Survey visible utilities and compare to plan.						
Determine if more comprehensive locations are needed.						
Conduct subsurface utility engineering (SUE).						
Develop/update conflicts in UCM.						
Develop/update resolutions in UCM.						
Review conflict resolution strategies.						
Coordinate utility relocation design.						
Request utility owners confirm locations and feedback.						
Prepare utility relocation agreements.						
Inspect and coordinate utility relocations.						
Assemble relocation plans and specs needed for letting.						
Prepare utility and rail certification notes.						

**VARYING UCM BY
PROJECT TYPES**

In practice, the number of utility conflict management stages and activities within each stage can vary widely, depending upon the specific characteristics and delivery method of the project. Three different project types: are identified and described below.

EFFECTIVE UTILITY PLANNING TOOLS

Leveraging a Utility Conflict Matrix (UCM)

UR-504-2

**VARYING UCM BY
PROJECT TYPES (CONT.)****Large Project with a Traditional Design-Bid-Build Process**

- Executed by leveraging the full plan as identified above.
- All of the identified six stages and associated activities are valuable elements of the project development and delivery process.

Project with an Accelerated Project Delivery

- Many agencies are pursuing strategies to shorten the time it takes to complete project development phases.
- A project team may consider incorporating the activities defined in stage 2 (early final design) into stage 1 (preliminary design). This strategy provides information to the project development team early, allowing opportunity for utility conflict identification and avoidance. Avoidance of conflicts is the preferred means to minimize delays, promoting accelerated project delivery.
- Consider consolidating utility stages and activities, including the following:
 - Consolidate utility investigation activities by conducting SUE, Quality Level B (QL-B), and Quality Level A (QL-A) investigations early.
 - Assess utility conflicts and impacts earlier if critical elements of the design are fixed or known early.
 - Improve utility coordination by identifying parcels to acquire and starting right-of-way acquisition early.

Small Project in which Many Elements Are Fixed

- Project development teams have little they can do to avoid utility conflicts if the project has known, fixed design elements.
- All activities become time compressed, especially with a shortened development schedule.
- Project team must allow the utility conflict management process to focus on identifying, planning, and relocating any conflicts with existing utility installations.
- Consider consolidating utility stages and activities, including the following:
 - Incorporating the activities defined in stage 2 (early final design) into stage 1 (preliminary design). This strategy provides information to the project development team early, allowing opportunity for any utility conflict avoidance.
 - Merge stages 3, 4, and 5 (30, 60, and 90 percent design) since there are minimal opportunity to avoid conflicts through design and utility relocation is needed.

EFFECTIVE UTILITY PLANNING TOOLS

Leveraging a Utility Conflict Matrix (UCM)

UR-504-2

UTILITY CONFLICT
MATRIX DATA

The Kentucky Utilities and Rail Tracking System ([KURTS](#)) provides a utility conflict matrix (UCM) tool for each initiated transportation project. This tool is available for contribution from Cabinet utility, design, and project management staff. The UCM allows listing of all utility conflicts for coordination and resolution, provides alternative conflict resolution solutions, and documents decision making for avoiding or minimizing utility impacts altogether.

The UCM allows documentation and comparison of costs and time schedule variety for alternative utility conflict resolutions. It helps with early project planning and design to identify utility conflict resolutions that will be feasible, cost-effective, and beneficial.

A UCM collects utility conflict and resolution data in a multi-step process throughout the lifetime of the project.

UCM Conflict Data

- Utility location, type, and ownership
- Identification of potential utility conflicts with the project
- Confirmation of conflict with an aspect of the road project

UCM Resolution Data

- Alternative proposals to resolve the conflict
- Analysis of alternative resolutions
- Selection of a resolution
- Execution of the resolution

UCM
DATA COLLECTION

The in-house collection of utility conflicts may be recorded in the project housed within the KURTS project coordination pages, as shown here.

KURTS Project Coordination Page

Project StatusPlanningInitiationCoordinationAgreements/ApprovalsConstructionCloseout

Project ID: [11-189.00](#)

Description: IMPROVE CONGESTION AND FREIGHT MOVEMENT BY CONSTRUCTING A TWO WAY LEFT TURN LANE. (LET W/ 11-8701)(12CCR)

Route Info: US 119

BMP: 0.37 EMP: 1.17

Type Of Work: SAFETY(P)

County: BELL

Letting Date: 8/21/2015

Pre. L/G Date: 1/13/2015

Authorization#: 86549

RR: N

Right of Way Clearance: Undetermined

Utility Clearance: Undetermined

No data available.

Conflict Matrix(0)

EFFECTIVE UTILITY PLANNING TOOLS

Leveraging a Utility Conflict Matrix (UCM)

UR-504-2

UCM DATA COLLECTION

(CONT.) Utility, design, and project management staff can open the “Conflict Matrix” button to access the UCM and add conflicts. Some of the conflict data that can be collected includes the following.

Latitude and Longitude	• Selected on interactive mapping feature • Collected in the field
Location	• Descriptive explanation of the conflict location
Conflict Type	• Air clearance/air space impact • Structural impact • Typical impact • Work-around facilities • Unknown utility
Conflict Type Detail	• Varies based upon conflict type
Primary Utility	• Utility company primarily involved in the conflict
Additional Utilities	• Other companies involved in conflict
Accuracy of Utility Location	• Subsurface utility engineering (SUE) quality level of the utility location • QL-A: Locating • QL-B: Designating • QL-C: Surveying • QL-D: Existing Records
Utility Conflict Description	• Notes about the utility conflict
Status of Conflict	• Pending • Unconfirmed • Deferred • Resolved – Relocation • Resolved – No relocation

UTILITY CONFLICT RESOLUTIONS

Conflicts are identified on utility relocation projects and are not limited to any specific aspect of the utility work. A conflict can be prevalent between utility companies or multiple other factors. Conflict resolution alternatives are proposed solutions to these conflicts. Each conflict may have multiple resolution alternatives but only one may be determined as the selected alternative.

EFFECTIVE UTILITY PLANNING TOOLS

Leveraging a Utility Conflict Matrix (UCM)

UR-504-2

UTILITY CONFLICT

RESOLUTIONS (CONT.) All KYTC KURTS users can contribute to the UCM, providing a proposed resolution. The resolution alternatives are utility conflict specific and are posted for an opened conflict.

Resolutions can be either **utility centric** (typically a relocation of the utility facility in conflict) or **KYTC centric** (typically a redesign or design modification that accommodated the existing utility facility).

For **utility-centric resolutions**, the user is offered opportunity to provide a line-item estimate of the relocation costs, the advantages and disadvantages of utility relocation, a proposed relocation schedule, and a recommended action. The cost estimating feature that is found in KURTS may assist by offering historical line items and pricing. The user may also enter costs for engineering, state forces, right of way, and a contingency factor when drafting a cost estimate.

For **KYTC-centric resolutions**, the user can provide an estimate of the cost, advantages, disadvantages, schedule, and a recommended action. However, the cost estimate for this resolution type does not offer relocation costs, only engineering, state forces, right of way, and a contingency factor. As with a utility centric resolution, the ultimate decision of the project team may be recorded.

LEVERAGING THE
UCM DATA

This UCM data is accessible in multiple ways to best suit the user’s role in the process. UCM data is accessible as follows:

Individual Conflict Analysis – Users can access utility conflict and resolution data by selecting the conflict matrix button on the coordination page of the KURTS project. Users may make contributions at any point in the project’s development and execution and may download the conflict report into a file which can be shared with others.

Project Conflict Report – The project’s entire list of conflicts may be downloaded into an Excel report file, which can then be shared with others.

EFFECTIVE UTILITY PLANNING TOOLS

Leveraging a Utility Conflict Matrix (UCM)

UR-504-2

LEVERAGING THE

UCM DATA (CONT.)

Spatial Conflict Data – The project’s entire list of conflicts is viewable in KURTS by selecting the conflict matrix button on the coordination page of the KURTS project and viewing the map. KURTS uses the utility conflict color coding as defined by the American Public Works Association ([APWA](#)). KURTS also adds symbology to aid in identifying conflict types. Spatial conflicts may be imported from KYTC’s enterprise database into the project’s design files.

Note: Spatial locations of the conflicts are GPS-collected locations and are not survey quality.



	Section EFFECTIVE UTILITY PLANNING TOOLS
	Subject Early Utility Accommodation (EUA)

EUA DEFINITION Early utility accommodation (EUA) is a set of utility focused tasks that can be performed in advance of environmental approvals. The work may be state funded and federally reimbursed later provided a series of conditions are met. Any EUA work, including utility relocations, may take place early, prior to the transportation project’s environmental approval. The scope of EUA may include any of the following.

EUA Scope

- Utility Design Services
- Utility Coordination Services
- Specialty Material Acquisition
- Utility Relocation Construction

Note: Early utility relocation construction requires independent environmental reviews to use.

EUA REQUIREMENTS EUA is a tool that can help ensure a project achieves the scheduled letting. Using this tool does impart some constraints to the project, which must be carefully considered. Therefore, EUA is unlikely to be a common practice. Some of the most pertinent requirements of the transportation project and the EUA scope are listed below.

Transportation Project Requirements

- Title 23 eligible transportation project
- Included in Kentucky’s Statewide Transportation Improvement Program (STIP) and/or Regional/Local’s Transportation Improvement Program (TIP)

EFFECTIVE UTILITY PLANNING TOOLS

Early Utility Accommodation (EUA)

UR-504-3

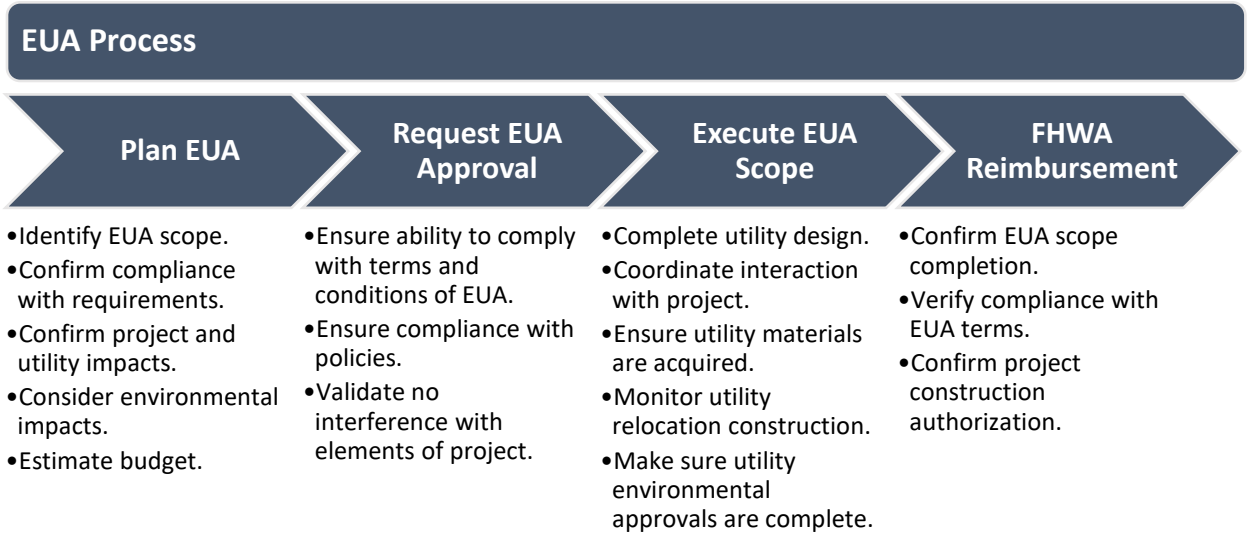
EUA REQUIREMENTS
(CONT.)

EUA Scope Requirements

- EUA Scope MUST:
 - Be reimbursable under law and regulation
 - Be required to accommodate the transportation project
 - Be clearly identified through an agreement
 - Comply with applicable laws, regulations, and policies
 - Have an approved environmental evaluation (early utility relocation construction only)
- EUA Scope MUST NOT:
 - Cause significant adverse environmental impacts
 - Influence the transportation project's environmental review

EUA PROCESS

Choosing to leverage EUA should involve the entire project team, especially during the planning of requesting EUA. It is important to ensure the need exists and the EUA work will benefit the project. Once confirmed, the utility staff may go about the process of requesting approval to use EUA and secure funding to do so. The balance of the process should operate similarly to a typical project, with the exception of seeking Federal Highway Administration ([FHWA](#)) reimbursement post completion. A high-level overview of the EUA process is shown below.



EFFECTIVE UTILITY PLANNING TOOLS

Early Utility Accommodation (EUA)

UR-504-3

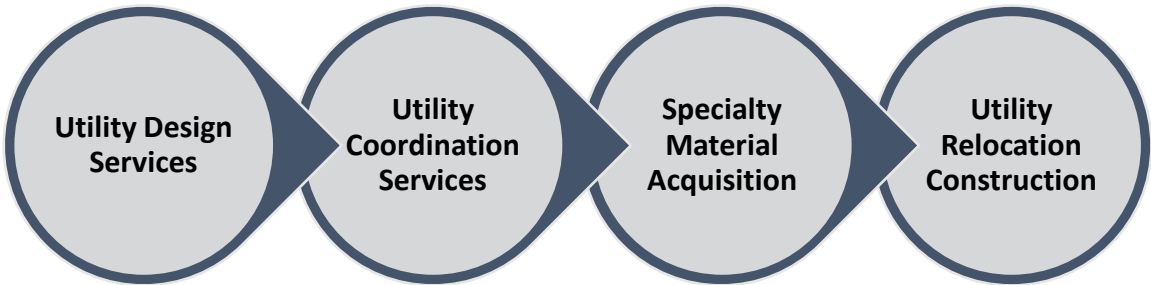
EUA PROJECTS Not all transportation projects would benefit from using the EUA tool. Generally, the following projects are candidates for which to consider whether one or more of the scope tasks can be done early.

Consider EUA for Projects with these Criteria

- Cabinet priority
- Firm deadline to construct
- Firm/set alignment
- New corridor
- No critical environmental features
- Unavoidable utility impacts
- Utility relocations require more time to design or construct
- Utility materials require more time to secure, engineer, or fabricate
- Impacts a large utility company
- Impacts large scale utility facilities (i.e., buildings or pump stations)
- Utility relocations located within existing ROW

**EUA SCOPE
PREFERENCES**

Each task viable for EUA imparts unique value to the project and is discussed in more detail below.



**EARLY UTILITY
DESIGN**

Early utility design is an excellent value to a project that has a firm deadline to construct and the utility facilities involved in the EUA scope are unavoidable. Generally, it is preferred that the team opt to use EUA-phase funds to perform this work, but, as an alternative, the team may choose to use existing design-phase funds if the budget allows and no EUA relocation or material acquisition is included in the EUA.

EFFECTIVE UTILITY PLANNING TOOLS**Early Utility Accommodation (EUA)****UR-504-3****EARLY UTILITY****DESIGN (CONT.)**

This task may require the early identification and, in rare cases, acquisition of specific parcels of right of way (ROW) and/or replacement easements to properly execute. If the EUA scope includes ROW and/or replacement easement, the project team must decide whether the Cabinet or the utility company will acquire the property rights. If the Cabinet is acquiring the replacement easement, it must be transferred to the utility company once completed. In such instances, the Cabinet likely must implement early ROW acquisition and acquire the necessary ROW parcels and/or the replacement utility easement. When a parcel includes both ROW and easement, it is recommended the parcel be acquired by the Cabinet as a single acquisition.

EARLY UTILITY**COORDINATION**

Early utility coordination benefits a project that has a firm deadline to construct and the utility impacts are either unknown or suspected to be avoidable. Generally, it is preferred that the team opt to use EUA-phase funds to perform this work, but, as an alternative, the team may choose to use existing design-phase funds if the budget allows and no EUA relocation or material acquisition is included in the EUA.

Treatment of ROW and replacement easement needs for this task follows those described above for early utility design.

EARLY UTILITY**MATERIALS**

Early utility materials acquisition will be useful only in select circumstances and impart some risk to the Cabinet. Materials must be stored and secured. They could be acquired too early, then later be made unnecessary or somehow spoiled. Any materials left not permanently incorporated into the transportation project cannot be FHWA-reimbursed, so the financial risk in using state funds would not be remedied at a later date. It is an FHWA requirement that the Cabinet use EUA-phase funds to perform this work. Due to the risk imparted, this scope item is only to be used when the utilities are unavoidable and the materials needed are well known. Materials to be acquired via EU must be documented to adhere to at least one of the following.

EFFECTIVE UTILITY PLANNING TOOLS

Early Utility Accommodation (EUA)

UR-504-3

EARLY UTILITY
MATERIALS (cont.)

Early Utility
Materials

- Limited in supply
- Anticipated to increase in cost by more than 20% before a standard utility agreement would be available
- Anticipated to require a long lead time to acquire (6 months or more)
- In high demand and likely to become unavailable prior to construction, and /or
- In need of extensive engineering or specially designed pieces

The project team should carefully consider risks to the project before requesting to acquire early utility materials. Items to consider are shown below.

Considerations Prior to Early Utility Materials Request			
Restocking Fees	Delivery	Damages	Storage
•Any restocking fees or penalties must be addressed in the agreement between the Cabinet and the utility company.	•Materials are preferred to be delivered directly on the project site in tandem with the construction work. •If not viable, material storage location and standards should be in the agreement between the Cabinet and the utility company.	•Liability of damages and material inspection criteria must be clear.	•Delivered EU materials may be stored by the utility company (preferred) or by the Cabinet. •If the Cabinet stores materials, the utility company shall inspect the material upon delivery and once again when on the project site. •Cabinet liability for damages shall be minimized when possible.

EFFECTIVE UTILITY PLANNING TOOLS

Early Utility Accommodation (EUA)

UR-504-3

EARLY UTILITY**RELOCATION**

Early utility relocation is likely the least commonly viable EUA task. It is only useful in rare circumstances when the project can accommodate relocation with minimal or no ROW needs and the project has a schedule that demands early relocation. There is significant risk to the Cabinet by employing this task, since the costs may be deemed ineligible for FHWA reimbursement. It is an FHWA requirement that the Cabinet use EUA-phase funds to perform this work. Due to the risk imparted, this scope item is only to be used when the utilities are unavoidable, the utility relocation alignment is certain, and the relocation may proceed unimpeded by ROW or easement needs. The utility company must also be prepared to execute their own environmental approvals independent of the Cabinet project National Environmental Policy Act ([NEPA](#)) review.

Due to the above challenges, the project team should carefully consider the risk to the project before requesting to relocate utilities early.

Early utility relocation may proceed with ROW and/or replacement easement needs, but they require the early identification and very early acquisition of specific parcels of right of way (ROW) and/or replacement easements. If the EUA scope includes ROW and/or replacement easement, it is recommended that the Cabinet acquire the property rights. Replacement easements must be transferred to the utility company once completed. Early ROW acquisition is necessary to acquire the parcels needed to complete the relocation. When a parcel includes both ROW and easement, the parcel should be acquired by the Cabinet as a single acquisition.

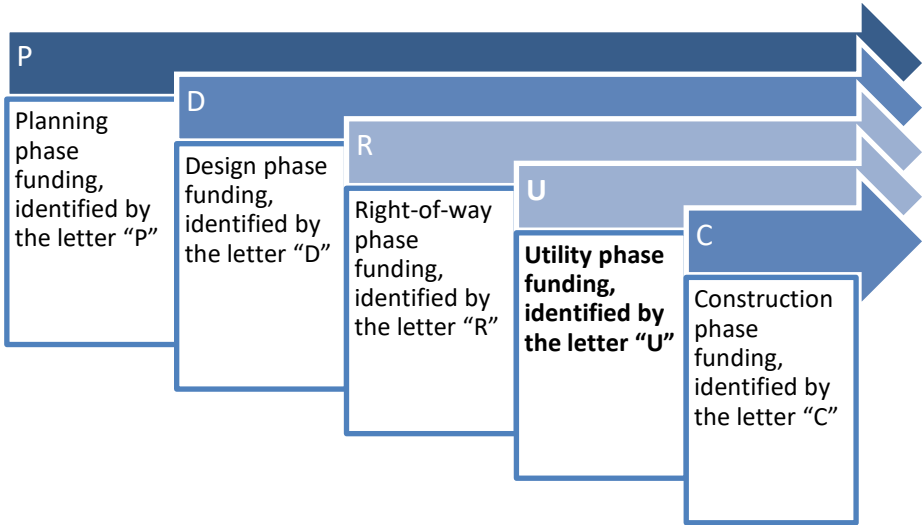
Note: The Cabinet must adhere to the uniform act in all acquisition. If the utility owner acquires the property right, they may or may not adhere to the uniform act.



	Chapter UTILITY ESTIMATING & PROGRAMMING FUNDS
	Subject General

FUNDING
CLASSIFICATION
OVERVIEW

Typical Transportation Cabinet (Cabinet) road projects are budgeted with several different types or classifications of funding phases, which may be classified as follows.



The U phase funds are budgeted to cover expenses associated with utility relocations, including railroad coordination and Cabinet labor to execute the work. Most utilities and rail functions utilize U phase funding. In some instances, utility and rail work may be undertaken with other phase funding, usually D or C. These instances of alternative funding are approved exceptions as described in this chapter.

Having funds budgeted is not equivalent to having funds available for use. Funding authorization, as described in [UR-603](#), is required prior to any expenditure.

UTILITY ESTIMATING & PROGRAMMING FUNDS

General

UR-601

DEFINITIONS PERTINENT

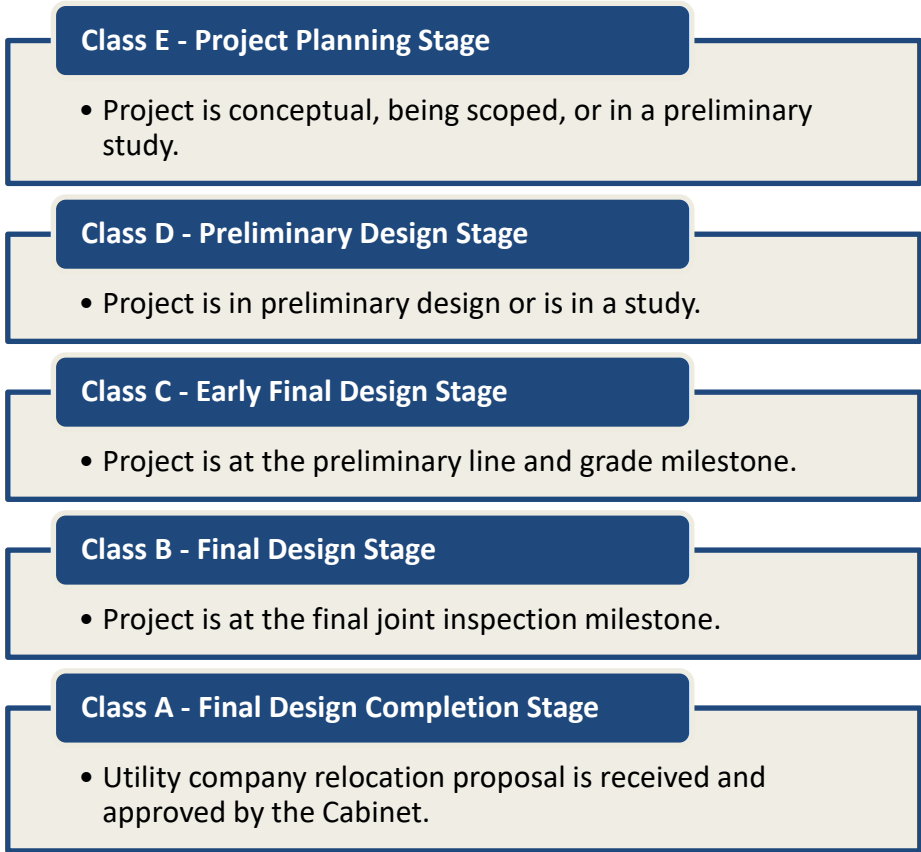
TO PHASE FUNDING **U phase estimate** is the estimated amount of funding required to complete the U phase work.

Programming is the process by which the funding is provided or authorized by the Cabinet or the Federal Highway Administration ([FHWA](#)).

Programmed funds are the amount authorized by the Cabinet or FHWA to complete a scheduled phase of work. This amount is based upon the submitted funding request.

PROGRAMMING &
ESTIMATING
GENERAL OVERVIEW

Cabinet road projects typically include established development and execution milestones. The funding phases are periodically reviewed and updated as these milestones approach. U phase funding may be updated at each of the milestones below:



The estimates produced at each iteration should become more accurate as the project progresses in design detail and utility information increases. Requests for U phase funding shall be completed using the highest class estimates available (generally Class B or C), utilizing right-of-way plans that have been reviewed and approved via the final joint inspection review team and applying the latest utility location information available.

UTILITY ESTIMATING & PROGRAMMING FUNDS

General

UR-601**RECORDS OF ESTIMATES
& FUNDING REQUESTS
WITH KURTS**

The Kentucky Utility and Rail Tracking System (KURTS) is used to develop and record utility phase estimates and utility budget programming requests. KURTS contains actively updated utility pricing data for each of the twelve districts. All utility phase estimates and funding requests shall be generated, recorded, and submitted for funding through KURTS.



	<i>Chapter</i>
	UTILITY ESTIMATING & PROGRAMMING FUNDS
	<i>Subject</i>
	Estimate Development Procedures

ESTIMATING PROCESS Estimates for U phase funding are developed by the utility supervisor (US) who initiates the development and update of the estimates.

When a project involves railroad coordination, the Utilities Section shall consult with the railroad coordinator (RC) in the Central Office Utilities and Rails Branch. Costs associated with the coordination of railroads including upgrading rail facilities shall be included in the U phase funding. [UR-2000](#), “Rail Coordination Program,” provides additional details.

The Utilities Section is recommended to use the Kentucky Utility and Rail Tracking System ([KURTS](#)) pricing data or known historical costs to calculate the utility coordination and relocation budgetary estimate. The project schedule must also be considered for early estimates such as Class E, D, and C estimates. This is due to the tendency for construction cost increases with time.

**PROJECT
PLANNING STAGE
CLASS E ESTIMATES**

During the scoping or pre-study phase of a project the project development team shall request the US to participate in a preliminary route study.

The Class E utility cost estimate shall require the US or utility agent (UA) to conduct a field visit to the proposed project, assume the utilities involved, and create an estimate by counting utility poles and estimating the location of underground utilities based on the observed location of water meters, fire hydrants, gas meters, etc.

Utilities Section Responsibilities (After Project Evaluation)

- Complete a Class E utility cost estimate in the Kentucky Utility and Rail Tracking System (KURTS) for determining the economic feasibility of alternate route locations
- Submit the estimate to the PDBM and project planner or PE and retain the estimate in KURTS

UTILITY ESTIMATING & PROGRAMMING FUNDS

Estimate Development Procedures

UR-602

PRELIMINARY

DESIGN STAGE

CLASS D ESTIMATES

During the preliminary design or study phase of the project, the project development team shall provide the US with a topographic map, aerial photograph, or rough project plan, indicating alternate alignments. The project development team shall request that the Utilities Section prepare a Class D utility cost estimate in KURTS for each alternate. The estimate shall provide sufficient detail to assist in identifying a preferred alternate. The Utilities Section shall make the estimate available to the Project Development Branch Manager (PDBM) and project engineer (PE) by retaining the estimate in KURTS.

EARLY FINAL

DESIGN STAGE

CLASS C ESTIMATES

The project development team shall notify the US of the preliminary line and grade inspection and provide a set of plans. This is the basis for a Class C estimate.

Utilities Section Responsibilities (Class C Estimate)

- Prepare a Class C utility cost estimate in KURTS
- Make the estimate available to the PDBM and PE by retaining the estimate in KURTS
- The area coordinator (AC) shall review the estimate if the project development is progressing

Class C estimates include but are not limited to the following.

Class C Estimates
• Facility owner(s) • Type of facility(ies) • Facility size(s) • Material type(s) • Quantity to replace facilities from an existing location to clear construction • Percentage of existing facilities located on public right of way (for privately owned facilities)

UTILITY ESTIMATING & PROGRAMMING FUNDS

Estimate Development Procedures

UR-602

FINAL DESIGN STAGE

CLASS B ESTIMATES

The project development team shall notify the US of the final joint inspection and provide a set of plans and any utility location data available. This is the basis for a Class B estimate.

Utilities Section Responsibilities (Class B Estimate)

- Prepare a Class B utility cost estimate in KURTS
- Make the estimate available to the PDBM, PE, and AC by retaining the estimate in KURTS
- The area coordinator (AC) shall review the estimate

Class B estimates include but are not limited to the following.

Class B Estimates
• Facility owner(s) • Type of facility(ies) • Facility size(s) • Material type(s) • Quantity to replace facilities from an existing location to clear construction • Percentage of existing facilities located on public right of way (for privately owned facilities) • Record reimbursable facilities • Document railroad involvement (If applicable)

PREPARE AGREEMENT

CLASS A ESTIMATES

After the US submits the final right-of-way plans to the utility company, the utility company shall prepare a proposal that includes a set of plans showing the proposed relocation of their facilities and a construction cost estimate. This cost estimate is known as a Class A Estimate.

Utilities Section Responsibilities (Class A Estimate)

- Review the utility company’s proposal and, if acceptable, draft an agreement based on the Class A Estimate uploaded into KURTS
- Upload the agreement into KURTS to the AC for review

UTILITY ESTIMATING & PROGRAMMING FUNDS

Estimate Development Procedures

UR-602

PREPARE AGREEMENT

CLASS A ESTIMATES

(CONT.)

The US and area coordinator (AC) shall review and approve the agreement. Upon concurrence, the US may submit the agreement to the utility company for signature. The KURTS-approved agreement is the document of record.

Class A estimates include but are not limited to the following.

Class A Estimates
• Facility owner(s) • Type of facility(ies) • Facility size(s) • Material type(s) • Quantity to replace facilities from an existing location to clear construction • Percentage of existing facilities located on public right of way (for privately owned facilities)



	<i>Chapter</i> UTILITY ESTIMATING & PROGRAMMING FUNDS <i>Subject</i> Utility Funding Requests & Authorizations

UTILITY FUNDING REQUEST

Funding request packages are submitted through the Kentucky Utility and Rail Tracking System ([KURTS](#)) and shall include a detailed estimate and a request for funding authorization. They are to be reviewed and approved in KURTS by the Project Development Branch Manager (PDBM), Utilities and Rails Branch Manager (UBM), and the area coordinator (AC). It is the AC's responsibility to support the district's project by providing a thorough review of the costs, quantities, budgeting codes, and viability for reimbursement for quality control purposes. Any discrepancies, errors, or omissions must be addressed prior to final approval and submission of the package to the Division of Program Management for funding.

Upon approval of the documents in KURTS, the package may be submitted electronically to the Division of Program Management for processing. Documentation of these steps is retained in KURTS.

PROGRAMMING/FUNDS AUTHORIZATION

For state-funded projects, the Division of Program Management approves the funding for a request for funding authorization and generates a project authorization. For federally funded projects, the Federal Highway Administration (FHWA) also must approve funding requests. Once funding is secured, the available funding will post in KURTS on the project initiation tab.

The Cabinet utilities staff are now authorized to truly begin any utility relocation processes required. The right-of-way plans and a project authorization (state letter) shall be sent to the applicable utility companies, as detailed in [UR-700](#).

ADDITIONAL FUNDS**REQUEST**

When there are necessary scope changes, cost increases, or unexpected utility relocations encountered on a project, the funding may be inadequate, and additional funding may be necessary. Additional funds request packages are developed and submitted through the Kentucky Utility and Rail Tracking System (KURTS) as was the initial funding request.

A request for additional funds shall include only those additional costs necessary to address the scope change, cost increase, or additional utility relocation. It may include construction or engineering costs, rate increases, service hour increases, and unforeseen contingencies, provided they were not previously included. Any request for additional funding must include a clear description of the additional expense and justify the need.



	<i>Chapter</i> UTILITY ESTIMATING & PROGRAMMING FUNDS
	<i>Subject</i> Alternative Utility Funding

FUNDING PRELIMINARY

UTILITY ENGINEERING

WITH D PHASE FUNDS

Utility engineering work may be initiated **prior to** the authorization of utility (U phase) funding. Examples of projects for which early initiation is encouraged are listed below.

Extensive Utility Work	• Needed to complete the project and cannot be completed without early utility engineering
Held Letting Date	• Project schedule unsuccessful without early utility engineering
Complex Utilities	• Utility relocations requiring extensive and time-consuming coordination
Utility Easements	• Needed and preliminary engineering is required to identify the easement

In such scenarios, it is viable to utilize design (D phase) funding to perform preliminary utility engineering services. **This process must be approved by the Project Development Branch Manager (PDBM) and Project Engineer (PE).**

PROCEDURE FOR USE OF

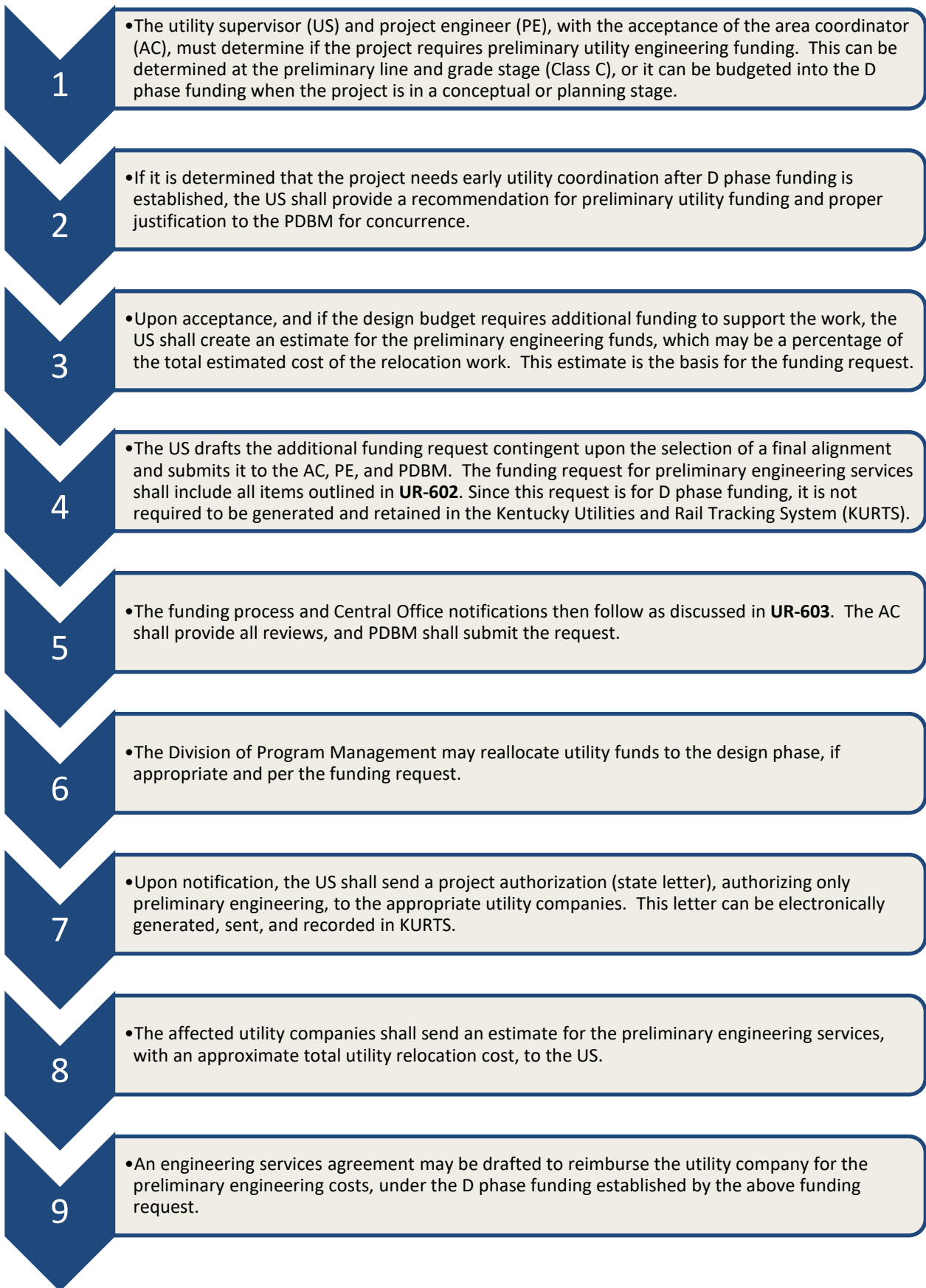
D PHASE FUNDS

The Cabinet may accept utilizing D phase funding for some utility engineering services as shown in image below.

UTILITY ESTIMATING & PROGRAMMING FUNDS

Alternative Utility Funding

UR-604



UTILITY ESTIMATING & PROGRAMMING FUNDS

Alternative Utility Funding

UR-604

PROCEDURE FOR USE OF

D PHASE FUNDS

Utilizing this procedure indicates preliminary engineering will be reimbursed by a separate agreement and by a funding source entirely different than the actual utility relocation construction. Engineering will be reimbursed via an engineering services agreement ([UR-900](#)) using D phase funding. By utilizing D phase funding, utility phase engineering may begin as early as preliminary line and grade.

The relocation construction may be reimbursed under a typical keep cost or lump sum relocation agreement, using approved U phase funding. In such instances, expenses would be invoiced separately, and there would be two agreements and two funds to request and manage.

Note: No construction may be funded utilizing D phase funding, only engineering-related work.

FUNDING

EARLY UTILITY

ACCOMMODATION

Early utility accommodation (EUA) is a set of utility-focused tasks that can be performed in advance of utility phase funding. When used, the work may be state funded and federally reimbursed later. The scope of EUA may include any of the following.

EUA Scope

- Utility Design Services
- Utility Coordination Services
- Specialty Material Acquisition
- Utility Relocation Construction

Details on the EUA process and how to secure EUA funding may be found in [UR-504-3](#).

UTILITY ESTIMATING & PROGRAMMING FUNDS

Alternative Utility Funding

UR-604

FUNDING UTILITY
WORK-IN-THE-ROAD
CONSTRUCTION
PROJECT

Utility relocation work may be completed by the highway contractor (as detailed in [UR-1700](#)). Examples of appropriate utilization of this option include the following.

Extensive Utility Relocation	• Utility relocations cannot be completed prior to the roadwork commencing.
Held Letting Date	• Project schedule cannot be delayed to allow for utility relocation prior to road construction.
Complex Utility Relocations	• Utility relocations are best completed in conjunction with the road improvement.
Utility Company Requested	• Utility company has scheduling conflicts or limited resources.

In such scenarios, it is likely appropriate to utilize construction (C phase) funding to perform utility relocation services. This process is only to be used when needed and when Cabinet officials agree that it is in the best interest of the project.

C Phase Funding for
Utility Relocation

- The US, PE, and affected utility company, with the acceptance of the AC, must agree the project is best executed in this manner.
- The Division of Program Management may reallocate utility funds to the construction phase, if appropriate and per the funding request. The funding process and Central Office notifications then follow similar steps to that discussed in [UR-603](#). Since this request is for C Phase funding, it is not required to be generated and retained in KURTS.

UTILITY ESTIMATING & PROGRAMMING FUNDS

Alternative Utility Funding

UR-604**FUNDING RAILROAD****COORDINATION WITH**

CONSTRUCTION FUNDS Some projects require detailed coordination with railroads, as defined in **UR-2000**. In such scenarios, it is appropriate to utilize construction (C phase) funding to perform railroad coordination services. This process is only to be used when needed and when Cabinet officials agree that it is in the best interest of the project.

U phase funding may be used to reimburse the railroad company for rail coordination work. If executing the relocation agreement with U phase funding will delay the closure of the U phase for a long time (if the roadwork is not to take place for years), it may be best to use C phase funding for the execution of the coordination work-in-the-road contract rather than tie up two funding phases.

This procedure is similar to “Funding Utility Work-in-the-Road Construction Project” listed above.



	Chapter PROJECT AUTHORIZATION LETTERS (STATE LETTERS)
	Subject General

GENERAL

Upon securing the appropriate funding, the district utility supervisor shall issue a project authorization letter, otherwise known as a state letter or force account letter, to the utility companies whose facilities may be affected by the highway project. The state letter can be electronically drafted, sent, and retained in the Kentucky Utilities and Rail Tracking System (KURTS). The project authorization letter provides three primary functions, shown below.

Project Authorization Letter Functions		
1	2	3
• Notifies the recipients of funding availability	• Authorizes preliminary engineering services, if performed by the utility companies' forces	• Sets up a first official meeting, called a joint utility meeting (JUM), of affected utility companies with the district staff. (Optional)

Note: A modified version of the state letter exists if the project team determines no JUM is needed.

This letter shall be sent only after funds have been authorized for the appropriate phase of the project and utility facilities potentially affected by construction have been identified.

PROJECT AUTHORIZATION LETTERS (STATE LETTERS)

General

UR-701

GENERAL (CONT.)

Secondary Functions
of the Project
Authorization Letter

- Establish a written line of project-specific communication between the Transportation Cabinet (Cabinet) and affected utility companies
- Outline the process by which to seek and attain Cabinet approval of needed and reimbursable consulting or contracting services
- Define Cabinet reimbursement policy and procedures
- Request those utilities that are ineligible for reimbursement send an acknowledgement letter, often called a no-charge letter
- Act as the legal authorization for the relocation planning to begin, with the date of the letter serving as the start date of utility agreements

APPLICATION

The project authorization letter (state letter) is a critical documentation of the utility and rail company authority to proceed with reimbursable preliminary engineering and planning services. This is the reason that funding must be available prior to issuance of the letter. The date of the authorization is a milestone point for the project and noted on both the agreement and any applied invoices.

Agreements

- Processed with a start date of the project authorization letter
- Work performed prior to the project authorization letter date are not reimbursable
- Any such expenses shall not be incorporated into agreements unless otherwise funded

Invoices

- Statement of charges must specify the service dates of the work being reimbursed
- Project authorization date must predate work performed and invoiced

PROJECT AUTHORIZATION LETTERS (STATE LETTERS)

General

UR-701

GENERAL (CONT.)

UR-600 provides additional information on funding policies and procedures.



	Chapter PROJECT AUTHORIZATION LETTERS (STATE LETTERS) Subject Contents

GENERAL

The project authorization letter (state letter) shall be formatted to clearly provide the utility or rail company with project-specific information. The Kentucky Utility and Rail Tracking System ([KURTS](#)) houses the standard template for this letter, which can be electronically generated, sent, and recorded. It is highly recommended that this template be used; however, the minimally required data is listed in the chart below.

Authorization (State Letter) Contents

Header

- Current date, the authorization date for recipients to proceed with work
- County
- Project identification number
- Federal and state funding source for work

Body

- Joint utility meeting date, time and location
- Transportation project proposed letting date
- Procedures for obtaining authorization to use consultant or contractor services
- Procedure for negotiating reimbursement via agreement
- Pertinent laws and regulations including adherence to Build America, Buy America
- Requests:
 - *Recipients' facility mapping*
 - *Assessment of impacts, if any, to existing utility facilities*
 - *High level scope of work to adjust, relocate, or protect the recipients' facilities*
 - *Relocation plans and estimated costs associated with needed facility adjustment or relocation*
 - *Identification of any betterment work (cost and scope) the recipients propose*
 - *Schedule and deadlines to receive recipients' plans, estimates, and construction*
 - *Identification of any right-of-way parcels or easements needing priority clearance*

GENERAL (CONT.)**Attachments**

- Minimally, a location map of the proposed highway project
- Right-of-way plans, profiles and cross-sections, if available
Note: If right-of-way plans are unavailable, Cabinet personnel shall distribute plans at the joint utility meeting or once available.

Other Information

- Detailed instructions for estimate preparation
- Requirements for submittal of water and sewer line modifications to the Energy and Environment Cabinet's Division of Water, if applicable



	Chapter UTILITY COORDINATION (UC) IN DESIGN
	Subject Next Steps

GENERAL

As discussed in [UR-500](#), “Utility Coordination (UC) in Planning,” **utility coordination (UC)** is an essential element of the Cabinet’s entire project development and delivery process. It can be defined as follows.

Utility Coordination (UC)

- Active effort to communicate, share information, and interact productively with all applicable stakeholders about utility involvement, adjustment, and relocation during all phases of the delivery of a transportation project
- Phases include planning, design, construction, operation, and maintenance
 - *(Thorne et. al. 1993)*



Utility coordination during Cabinet design must build upon many of the activities defined in [UR-502](#) “Minimal Utility Coordination in Planning Tasks,” [UR-503](#), “Subsurface Utility Engineering (SUE),” and [UR-504](#) “Effective Utility Planning Tools.” At the active design stage of the project, additional tasks may be needed since this is the point when the Cabinet collaboratively works with utility companies, both publicly and privately owned, on proposed roadway projects. This is the time to confirm impacts the projects may have upon the existing utility facilities. If identified proactively and early, the companies and the project team can better avoid the facilities or plan effective relocation /adjustment of utilities in the right of way or private easements.

UTILITY COORDINATION (UC) IN DESIGN

Next Steps

UR-801

GENERAL (CONT.)

UC Fosters an Open Exchange of Information

- Among private and public facilities, governmental agencies, and construction-related organizations
- Promotes cooperation among said groups in the planning, design, and construction of projects

Cabinet project design processes typically involve a full design of a selected alignment. Project design features, safety, cost, and schedule are all potentially impacted by existing utilities, if they are to be left in situ or relocated. Due to this interaction, utility coordination design must be a touchstone during the project design. Sound utility information and feedback will assist the designers to avoid and minimize utility impacts. The more complex the transportation project, the more work may be needed in this utility design stage. General utility coordination in design tips and tasks are listed below.

Utility Coordination in Design Tips

- **Minimal Required Tasks (if applicable)**
 - Conduct a joint utility information meeting (JUM)
 - Propose relocation alignments
 - Communicate with relocating utilities
 - Review Cabinet plan facility locations and plan depiction
 - If relocations are inevitable, start utility design efforts early
 - Offer for the road designer to perform utility design
 - Advance utility conflict management (UM) work
 - Monitor for utility deliverables
 - Discuss relocations with Project Team: design, construction, environmental, right of way, and maintenance
 - Review deliverables for constructability
- **Effective Tools to Consider Using**
 - Update utility conflict matrix (UCM) regularly
 - Execute subsurface utility engineering (SUE) plan
 - Scope SUE QL-A based on the tolerance zone for each utility



	Chapter MINIMAL UTILITY COORDINATION (UC) DESIGN TASKS Subject Joint Utility Information Meeting (JUM)

GENERAL

The project authorization letter, otherwise known as a state letter (see [UR-700](#)), is the method by which the Transportation Cabinet (Cabinet) sets up a first official meeting of potentially affected utility companies with the district utility staff, which is called a **joint utility information meeting (JUM)**.

The JUM is an opportunity to discuss the highway project with potentially affected utility companies. Some discussion points are listed below.

**Purpose of
the JUM**

- Determine the accuracy of the existing facilities shown on the plans
- Identify facility conflicts with the highway design
- Define possible relocations to address the conflicts
- Examine resolutions with all involved utility companies to identify and resolve conflicts with their relocation plans
- Plan utility design and relocation schedules
- Identify reimbursable and non-reimbursable utility work
- Consider the highway project schedule
- Look for minor highway redesign measures that could minimize utility relocations
- Look for any utility data needs that can be easily addressed with SUE or surveying

MINIMAL UTILITY COORDINATION (UC) DESIGN TASKS

Joint Utility Information Meeting (JUM)

UR-802-1

JUM ATTENDEES All potentially affected utility companies as identified on the project utility contact list recorded in the Kentucky Utility and Rail Tracking System (KURTS) shall be invited to the joint utility information meeting (JUM) via the project authorization letter. This project utility contact list may have been developed at the project planning stage (UR-502-3). If no contact list has been developed, the district utility supervisor (US) shall send the project authorization letter, which includes an invitation to the JUM, to all utility companies that may be in the project area.

The project engineer shall be invited to the JUM. At the discretion of the US, additional Transportation Cabinet (Cabinet) staff members shall be invited based upon the special needs of the project itself. Possible invitees may include Cabinet staff involved with the Division of Environmental Analysis, Division of Construction, Division of Right of Way & Utilities, Central Office Utilities and Rails Branch, Division of Traffic Operations, or other functions. Some projects may be best addressed with the highway project design consultant represented.

JUM SCHEDULING Generally, appropriate scheduling of the JUM shall depend upon the project, commonly based upon project complexity and schedule. For urgent projects, the US shall schedule the JUM as soon as possible (generally within 2 months of sending the project authorization letter).

Some projects are best suited to delay a JUM. The term of the delay is dependent upon the specific project circumstances.

The Utilities and Rails Branch does not recommend the practice of foregoing the meeting since early and clear communication will assist project development. Rarely will a project not require a JUM at all; however, there are instances that may not require a JUM.

JUM Scheduling and Timing Factors		
Hold JUM within 60 days if the project:	Delay the JUM if the project:	No JUM may be required if the project:
•Has a short schedule •Contains complex utility relocations •Involves many utility relocations	•Lacks critical project data needed to determine conflict potential •Is likely to be significantly redesigned •Impacts few utility facilities •Will not take place for years	•Impacts only one or two utility companies •Needs only minor utility relocations •Needs no utility relocation

MINIMAL UTILITY COORDINATION (UC) DESIGN TASKS

Joint Utility Information Meeting (JUM)

UR-802-1**JUM MATERIALS****PREPARATION**

The US is responsible for preparing several items to hold a successful JUM.

Since this meeting is scheduled after utility funding authorization (which occurs at the same time or shortly after right-of-way authorization), right-of-way plans may be developed. Utility companies shall use these plans to begin their facility relocation designs. In preparation of the JUM, the US shall obtain the latest plans, including the digital format. More detail on the necessary plans is defined in [UR-1002](#).

A JUM agenda shall lay out the purpose of the meeting with an application of project-specific matters to the general purpose of a JUM.

If applicable, a general project information sheet can be provided, making available valuable project information. This project information sheet is included in the state letter template found in KURTS and discussed in [UR-702](#).

JUM MATERIALS

Plans shall be available at the joint utility information meeting (JUM) with digital formats available for attendees and limited hard-copy sets available.

All disseminated plans shall be clearly defined with the following disclaimer.

“The electronic files are provided by the Kentucky Transportation Cabinet, Department of Highways (Department), and are for use by anyone who has a need for the information. The information contained herein is not the official plans for the project and is not to be construed as a legal document. The Department takes no responsibility and accepts no liability for information lost in transmitting or in converting these files to formats usable in other programs or systems.”

Companies unable to use electronic files can request specific sheets as needed.

MINIMAL UTILITY COORDINATION (UC) DESIGN TASKS

Joint Utility Information Meeting (JUM)

UR-802-1**JUM MATERIALS****(CONT.)**

The project authorization letter is the typical point where highway plans are provided to the utility company. However, it may be more effective to distribute the plan sets at the JUM. Hard-copy and digital formats shall be made available to attendees, if not provided previously. Digital formats may be saved in the Kentucky Utility and Rail Tracking System (KURTS) and shared with the involved utility companies that have access to KURTS data.

The utility companies shall be furnished with the general project information sheet if one is available. The general project information sheet provides valuable project information such as the highway project's proposed letting date and the date that the utility companies' relocation submittal package (relocation plans and estimate) is needed. This project information sheet is included in the state letter template found in KURTS and discussed in **UR-702**.

JUM MEETING**EXECUTION**

The JUM meeting shall be conducted by the district utility supervisor or an agent, and it is recommended that a project designer is also present. It may be conducted at the project site, at the district office, or at a mutually convenient location. Please note on-site meetings can be very beneficial and are encouraged when appropriate. An ideal solution is to hold the JUM at the district office and conduct a walkthrough of the project thereafter.

Absent utility companies that may be affected by the highway project shall receive the meeting minutes and all materials provided at the JUM. Non-attendees shall be included on the project utility contact list in KURTS until they are confirmed to be uninvolved.

The general purpose of the JUM must be satisfied; however, the format and delivery of the meeting is at the discretion of the district staff. In general, a successful JUM will be focused on the goal of implementing the project, but specific goals to arrive there are shown in the image below.

MINIMAL UTILITY COORDINATION (UC) DESIGN TASKS

Joint Utility Information Meeting (JUM)

UR-802-1

JUM MEETING

EXECUTION (CONT.)

Detailed JUM Goals

Review general correctness of the plans relative to utility facility in location, type or size.

- If discrepancies exist, note corrections on the plans, so the project engineer (or consultant) can make the appropriate corrections.
- Once corrections are made, new plan sets (or specific replacement sheets) can be distributed to the companies.

Review project.

- Discuss project schedule, right of way, environmental issues, and alignment.
- Look for minor redesigns that may save time and cost.
- Actively look for how relocations may impact the project.
- Look for where plans lack needed utility data.

Identify general, high-level utility conflicts.

- Utility conflict analysis takes time, so set a deadline for utility deliverables.
- Identify potential conflicts and certain conflicts.
- Document recommendations to confirm, mitigate, or avoid potential conflicts.

Collaboratively develop relocation design concepts.

- Consider all relocation designs to minimize construction conflict.
- Identify any locations of inadequate right of way, replacement easement needs, and priority parcels.

Discuss next steps.

- Review erosion prevention and sediment control (EPSC) needs of the project site.
- Utility relocations may require individual permitting.
- Relocation plan, estimates, and construction schedules should be discussed.
- Look to avoid overlapping schedules.
- Determine if relocations will be completed before project begins.
- If relocations will not be completed before project begins:
 - Consider whether the project letting should be delayed
 - Include the relocation in the Cabinet project, and
 - Agree that the work can overlap

MINIMAL UTILITY COORDINATION (UC) DESIGN TASKS

Joint Utility Information Meeting (JUM)

UR-802-1**JUM MEETING****EXECUTION**

The intended general result of a JUM is the identification and planning of how to best address any potential conflicts the project imparts on existing utility facilities. Specific results to arrive there are shown here.

Results of a successful JUM

- JUM-purpose items addressed
- Pertinent project data and materials conveyed
- Project utility contact list developed in KURTS
- Needs of utility companies identified
- Conflicts and best-avoided utilities identified
- Future meetings scheduled and deliverable deadlines determined

MEETING MINUTES

Meeting minutes shall be kept by the district utility staff and should be distributed within one week of the meeting. The minutes should include a copy of the sign-in sheet.



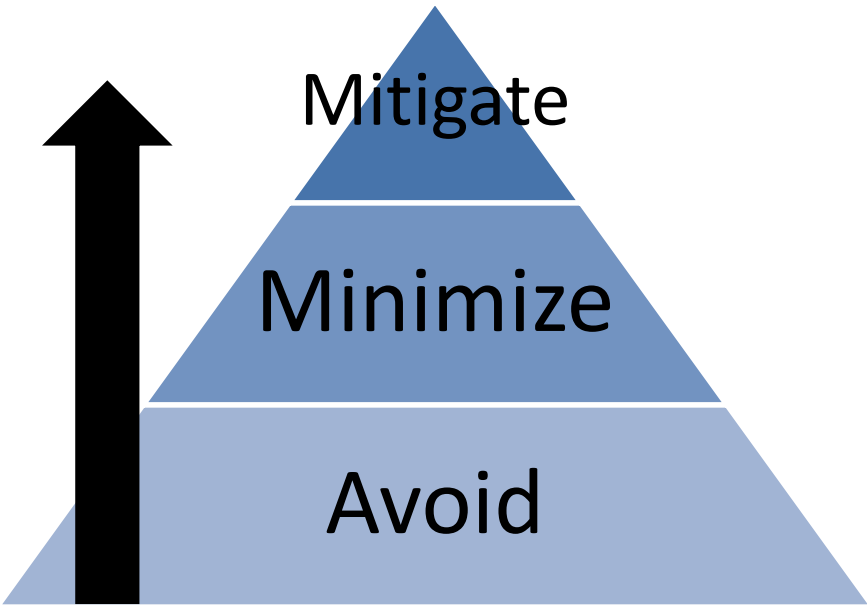
	<i>Chapter</i> MINIMAL UTILITY COORDINATION (UC) DESIGN TASKS <i>Subject</i> Avoid, Minimize, Mitigate (AMM)

OVERVIEW

Avoid, minimize, mitigate (AMM) is a strategy to impart efficiency to a project in regard to utility management. The AMM strategy should be a consideration throughout project design. The strategy starts by identifying elements of the existing utility infrastructure that can reasonably avoided. If the infrastructure cannot be avoided altogether, the district utility supervisor (US) should consider if there are any reasonable methods to protect the facility, thereby minimizing the impacts. Finally, the US seeks to determine what methods are necessary to mitigate the remaining conflicts, which typically involves adjusting or relocating them. Collaboration between the utility companies, the district utility staff, and the project engineer is necessary to effectively implement an AMM strategy.

AMM
COMPONENTS

The components of an AMM strategy lessen impacts to existing utility infrastructure by narrowing the scope in stepped reviews, as depicted below.



MINIMAL UTILITY COORDINATION (UC) DESIGN TASKS

Avoid, Minimize, Mitigate (AMM)

UR-802-2

AMM COLLABORATION**STEPS**

The utility and design staff may collaborate by the means listed below, as applicable.

Avoid, Minimize, Mitigate (AMM) Steps

- Confirm utility facility locations are properly depicted on the plans.
- Assess impact potential to utilities.
- Develop and manage a utility conflict matrix (UCM) as defined in **UR-504-2**.
- Identify critical utility infrastructure elements. Focus on infrastructure that, if relocated, imparts:
 - *Safety concern*
 - *High cost to the company or the project*
 - *Delay to the schedule*
- Confirm these are the facilities for which avoidance may provide the greatest benefit.
- Review the remaining impacts for any easy avoidance of the remaining facilities.
 - *Look for areas where minor design adjustments could avoid existing utility infrastructure.*
- Enact iterative and collaborative utility conflict management (UCM) by consulting the design team and utility company on:
 - *Viability to avoid the utilities impacted identified above*
 - *Viability to minimize the utilities impacted to the remaining utilities with protective measures like concrete caps and guardrail*
 - *Viability to mitigate unresolved utilities impacted with relocation.*
- Document decision making in the UCM for each conflict.

MINIMAL UTILITY COORDINATION (UC) DESIGN TASKS

Avoid, Minimize, Mitigate (AMM)

UR-802-2

RISK REDUCTION AMM is a risk reduction strategy for the project and is of significant value since utility infrastructure is frequently attributed to increased project costs and delays. Factoring in utility relocation impacts to timeline, schedule, and costs helps to assess the risk to the project. The team must consider the risk to timeline, schedule, and cost to determine the best resolution strategy for each conflict with existing utility infrastructure.

AMM Risk Reduction Considerations



Time and Schedule

- Utility company resources
- Allowable utility service downtime
- Lead times to secure utility materials
- Environmental restrictions (tree cutting, water crossing, etc.)
- Time necessary to secure a contractor for the utility relocation construction
- Ability to include the utility relocation in the road construction project
- Construction phasing
- Utility company dependency on other utility companies to complete their own construction
- Clearing and grading needs to construct the utility relocation
- Right of way and easement needs



Costs

- Relocation cost
- Reimbursement (partial, full, non-reimbursable)
- Project design/redesign costs
- Delay costs (including inflation)
- Safety costs
- Additional clearing and grading costs
- Additional right-of-way and easement costs

PHYSICAL CONDITIONS

IMPACT AVOIDANCE Avoidance of utility relocations in AMM is valuable due to schedule and cost savings, but leaving a utility in place must be safe, practical and reasonable. Above all, the integrity and use of the transportation facility must be reasonably maintained with the utility in place. Physical conditions should be assessed before the facility is avoided, including the following factors.

MINIMAL UTILITY COORDINATION (UC) DESIGN TASKS

Avoid, Minimize, Mitigate (AMM)

UR-802-2

PHYSICAL CONDITIONS

IMPACT AVOIDANCE (CONT.)

Physical Conditions Impacting Ability to Avoid Utility Relocations

- Depth of cover at final grade
- Depth of cover under subgrade and other project features
- Service placements in right of way and under pavement
- Utility failure potential during or after the project construction (if the failure would harm the transportation facility)
- Maintenance concerns that will significantly impact or damage the transportation system
- Utility features, such as manholes and valves, that may significantly negatively impact transportation system use



	<i>Chapter</i> MINIMAL UTILITY COORDINATION (UC) DESIGN TASKS
	<i>Subject</i> Managing Utility Deliverables

GENERAL

All utility companies completing utility relocations, must deliver a utility relocation plan, schedule and enter into a legally binding agreement with the Cabinet. Utility companies expecting reimbursement for relocation are also responsible for delivering a detailed cost estimate. There are minimum requirements for each deliverable, which are detailed in [UR-1000](#).

To successfully complete the mitigation work defined in the avoid, minimize, mitigate (AMM) strategy, the district utility supervisor (US) must manage the receipt and review of these utility company deliverables. This management work is discussed within this section.

TIMING

These utility-company- supplied deliverables are essential to mitigate conflicts with utility infrastructure. The plan, estimate, and schedule are necessary to bind parties via the agreement. The agreement is required before the utility construction work may begin and before the project’s construction phase can be federally funded.

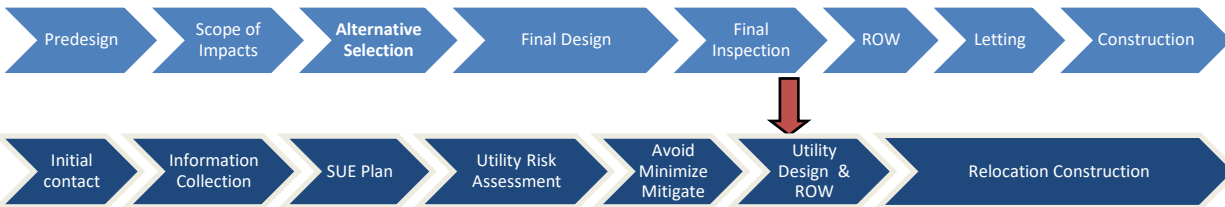
The US shall secure the utility company deliverables as soon as possible post JUM and utility coordination planning phase. These submissions shall be reviewed, refined, and incorporated into the relocation agreement (detailed in [UR-1100](#)). Relative to the project design process, the deliverables must be secured and built into a binding agreement within the final design phase and joint inspection. The US shall validate that the deliverables are accurate, constructible, and economical, also verifying the utility relocation requirements shown below.

Utility Relocation Requirements

- Avoid physical conflicts with the transportation project.
- Avoid conflict with other utility facilities (existing and proposed).
- Comply with Cabinet utility accommodation policy.

MINIMAL UTILITY COORDINATION (UC) DESIGN TASKS

Managing Utility Deliverables

UR-802-3**TIMING (CONT.)****Primary Stages of Project Development****Primary Stages of Utility Coordination****General Requirements of Deliverables****Plan Requirements**

- Identify facilities to be removed, materials to be installed, materials to be transferred, and items planned to be left in place
- Seek out pertinent specifications and standard drawings.
- Identify priority parcels, if necessary, for expedient utility relocation construction.
- Seek out traffic control and erosion control plans in context with project schedule.
- Identify any special requests related to project development or execution (See below).

Estimate Requirements

- Complete a total project cost estimate, which shall be itemized and divided into engineering, administrative, and construction costs.
- Calculate cost participation in the form of a percentage reimbursable, to be justified in writing (**UR-1004**).
- Secure an engineering service contract package (if applicable and executed as described in **UR-900**).

Agreement Requirements

- Confirm a schedule of consecutive days to complete the utility relocation.
- Document the cost participation calculation.

MINIMAL UTILITY COORDINATION (UC) DESIGN TASKS

Managing Utility Deliverables

UR-802-3

PLAN The utility relocation plan provides a clear understanding of what existing utility infrastructure will need to be adjusted or relocated. This deliverable is necessary to execute a relocation agreement and must be available as soon as reasonably possible post AMM. The US must review the plan (in accordance with **UR-1000**) to ensure the following.

Plan Review

- No conflicts between utility companies' plans
- No conflicts with transportation facilities (existing or planned)
- No conflicts with construction methods
- All ROW needs are met
- All ROW commitments are compliant (Communicating All Promises [CAP])
- Plan is within the project's National Environmental Policy Act (NEPA) footprint, or the utility has an independent environmental approval

SCHEDULE The utility-supplied schedule provides minimally a number of days to complete the work, but the Cabinet Utilities and Rails Branch prefers to receive a more detailed assessment of work. This deliverable must be relayed to the Cabinet before an agreement can be reached. The US must consider the reasonableness of the schedule and how the schedule will interact with other utility companies and the project.

Utility company schedules must be considered as a group and vetted against the Cabinet project schedule, since utility relocation construction frequently overlap, in terms of both footprints and timeframe, with one another and the Cabinet project construction. Questions that the US must address include the following.

Schedule Questions to Consider

- Who needs to move first? Next?
- How do the dates and constraints align with the letting date?
- Is phasing necessary?
- What are the critical factors for the letting date?
- Are there traffic control needs?

MINIMAL UTILITY COORDINATION (UC) DESIGN TASKS

Managing Utility Deliverables

UR-802-3

COST ESTIMATE The utility relocation cost estimate provides a detailed cost of utility relocation for utility companies deemed reimbursable under state law. This deliverable is necessary to execute a relocation reimbursement agreement and must be available as soon as reasonably possible post AMM. The US must review the cost estimate (in accordance with **UR-1003**) to ensure it includes reasonable costs. These costs may include the scope below.

Cost Estimate Scope

- Administrative Costs
- Plan Development Costs
- Construction Costs
- Construction Management Costs
- Early Utility Accommodation (EUA) Costs
- Property Right Costs

The utility relocation cost estimate must be reviewed for agreement with plan, reasonableness, and economy. Questions that the US must address include the following considerations.

Cost Questions to Consider

- Is the relocation work & cost estimate in agreement?
- Is it within the scope of the agreement?
- Is the U phase funding sufficient to cover the relocations?

MULTIPLE RELOCATIONS The utility relocations for a project typically involve multiple utility company owners. The US must carefully manage this work, leading effective deployment by ensuring the key components listed below.

Utility Relocations Involving Multiple Utility Companies

- Understand individual processes of utility companies.
- Ensure commitments and plans are what happens onsite.
- Understand the critical path.
- Lead by consistently and effectively communicating.
- Understand how multiple company processes must work together:
 - Order
 - Precedence
 - Timing

MINIMAL UTILITY COORDINATION (UC) DESIGN TASKS

Managing Utility Deliverables

UR-802-3**BUILD AMERICA****BUY AMERICA (BABA)****CONSIDERATIONS**

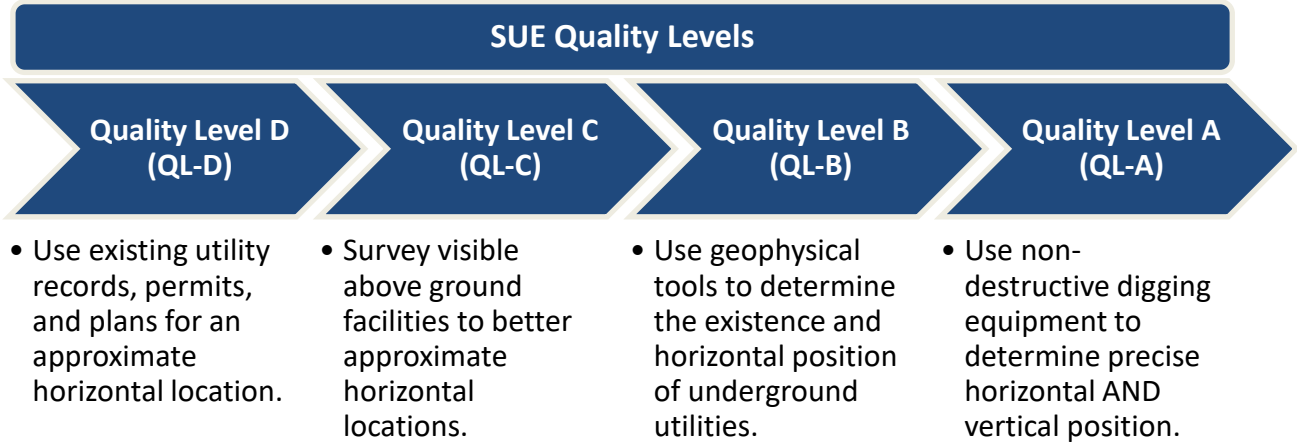
BABA applies to any utility relocation construction for a Cabinet project that is determined to be eligible for reimbursement. The utility is obligated to comply with the latest requirements of law and retain records validating compliance. As a result, the US should consider BABA compliance when reviewing plans and estimates. More information on BABA can be found in **UR-1302-4**.



	Chapter EFFECTIVE UTILITY DESIGN TOOLS
	Subject Subsurface Utility Engineering (SUE)

**DEFINITION OF
SUBSURFACE UTILITY
ENGINEERING (SUE)**

Subsurface utility engineering (SUE) is a systematic process of identifying and locating existing underground utility facilities using various means and levels of accuracy. Details on SUE may be found in [UR-503](#), but, generally, SUE includes four levels of accuracy, called Quality Levels. SUE providers use their technical knowledge to apply these quality levels as the project requires. The quality levels are identified below.



Accurate location of underground utility facilities provides a critical opportunity for the project team to identify, avoid, and successfully plan the relocation or adjustment of utility facilities impacted by the project design. Proper use of SUE during design benefits the Cabinet and the utility companies in terms of the following.

**Benefits of
SUE**

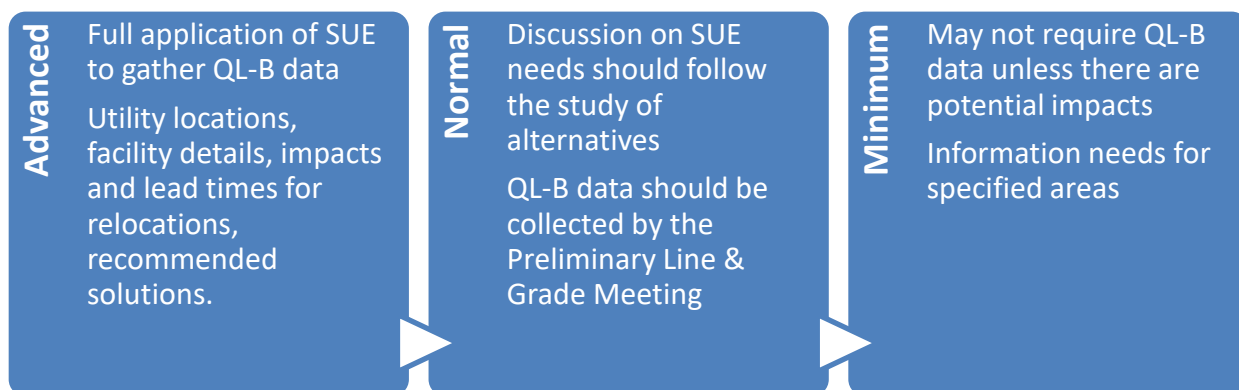
- Knowledgeable decisions
- Time savings
- Cost savings
- Job site safety
- Decreased utility outages

EFFECTIVE UTILITY DESIGN TOOLS

Subsurface Utility Engineering (SUE)

UR-803-1**VARIOUS DEGREES**

OF SUE INVESTIGATION SUE is employed to varying degrees, depending upon the project needs. The degree of investigation needed may be classified as described below.

Degrees of SUE Investigations

A sampling of projects that would benefit from SUE and the degree of investigation recommended is shown below.

Project Type	Urban	Suburban	Rural
New Road	Advanced	Advanced	Advanced
Major Widening	Advanced	Advanced	Advanced
Minor Widening	Advanced	Normal	Normal
Interchange	Advanced	Normal	Normal
Bridge Replacement	Normal	Normal	Normal
Bridge Rehabilitation	Minimum	Minimum	Minimum
Resurfacing	Minimum	Minimum	Minimum
Maintenance	Minimum	Minimum	Minimum

SUE DURING DESIGN

The project designer and team members need an approximate location of utility infrastructure within the project scope. The project must consider impacts to utility infrastructure, and SUE helps to locate the facilities, confirm conflicts, and consider designs that avoid or minimize impacts.

It is preferred that SUE services be incorporated in the project early, during planning, but the project team can add SUE to the project during design. Generally, the district project development team members shall determine the appropriate SUE scope for the project, sometimes with utility company consultation on facility locations and the potential impact of construction on their facilities.

Here are some suggested elements for the project team to consider while developing a SUE scope of work. More detailed steps and procedures for securing SUE services can be found in **UR-503**.

EFFECTIVE UTILITY DESIGN TOOLS

Subsurface Utility Engineering (SUE)

UR-803-1

**SUE DURING DESIGN
(CONT.)****Develop SUE Scope of Work**

- Solicit work from pre-qualified firms, which may involve the project designer or statewide contract.
- Consider the specific needs of the project.
- Define authorities to be retained by the Cabinet versus those relayed to the SUE firm.
- Define the deliverable format.
- Define how to recommend design adjustments.
- Communicate your goals:
 - *Know what is needed.*
 - *Know where it is needed.*
 - *Document areas where the Cabinet is unsure of the investigative needs.*





Chapter

EFFECTIVE UTILITY DESIGN TOOLS

Subject

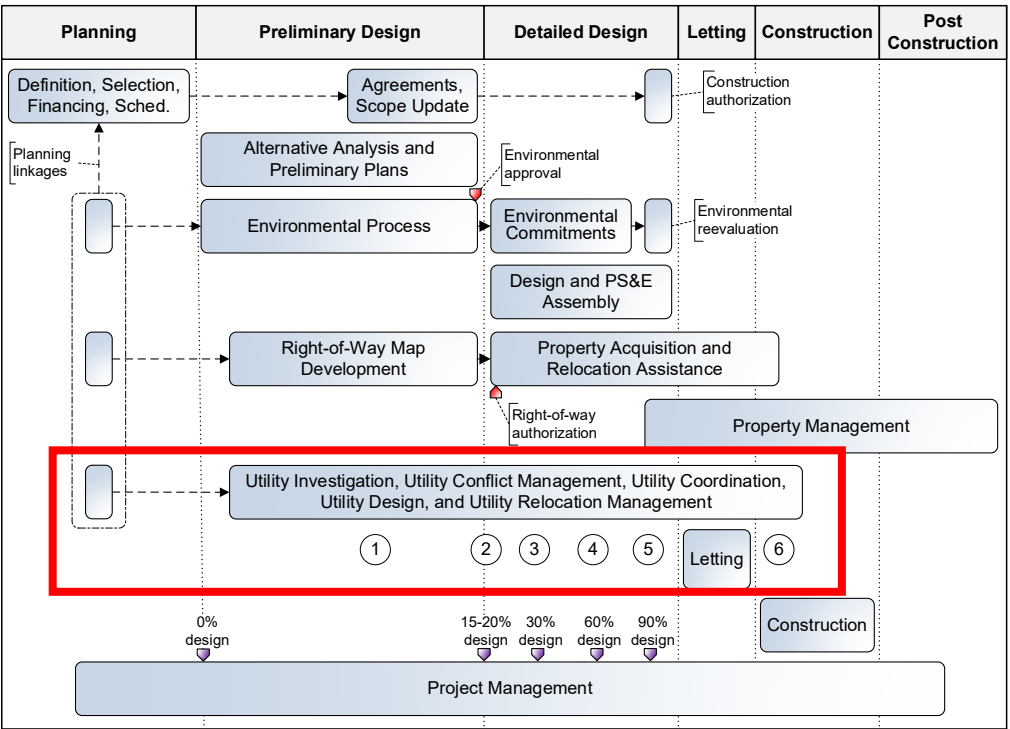
Utility Conflict Management (UM)

UTILITY CONFLICT
MANAGEMENT (UM)

As the utility coordination process moves further into the design phase, Utility conflict management (UM) becomes an even more critical and complex process. UM has a significant impact to the successful completion of transportation projects. Utility conflict management is a strategy to proactively identify and resolve conflicts with existing utility infrastructure. Utility conflict management has five stages.



Successful projects must be actively worked to resolve conflicts the project imparts to existing infrastructure, including utilities. More details on UM may be found in [UR-504-1](#), but, generally, UM belongs throughout the project development process.



EFFECTIVE UTILITY DESIGN TOOLS

Utility Conflict Management (UM)

UR-803-2

UM DESIGN STRATEGY Generally, the strategy of UM is a proactive choice for project development.

Benefits of UM

- Introduces efficiency into the project development process
- Identifies utility conflicts early in the design stage for avoidance and minimizing impacts
- Documents needs
- Determines the optimum means of conflict resolution

UM during design involves a series of steps for the project team, some of which may be iterative.

UM Steps During Project Design

- Confirm conflicts with existing utilities.
- Perform SUE investigation (if needed).
- Document conflicts in a utility conflict matrix (UCM). (See **UR-803-3.**)
- Assess resolution opportunities:
 - **Avoid the facility** via project design changes.
 - **Minimize impacts** to utilities.
 - **Initiate Mitigation** of the remaining conflicts by planning a utility relocation.

Project Team Actions for Realization of UM Benefit

- Establish project goals and critical elements.
- Provide accurate information to stakeholders.
- Avoid and minimize impacts to utilities when reasonable.
- Provide iterative collaboration opportunities.
- Communicate frequently, effectively, and efficiently.





Chapter

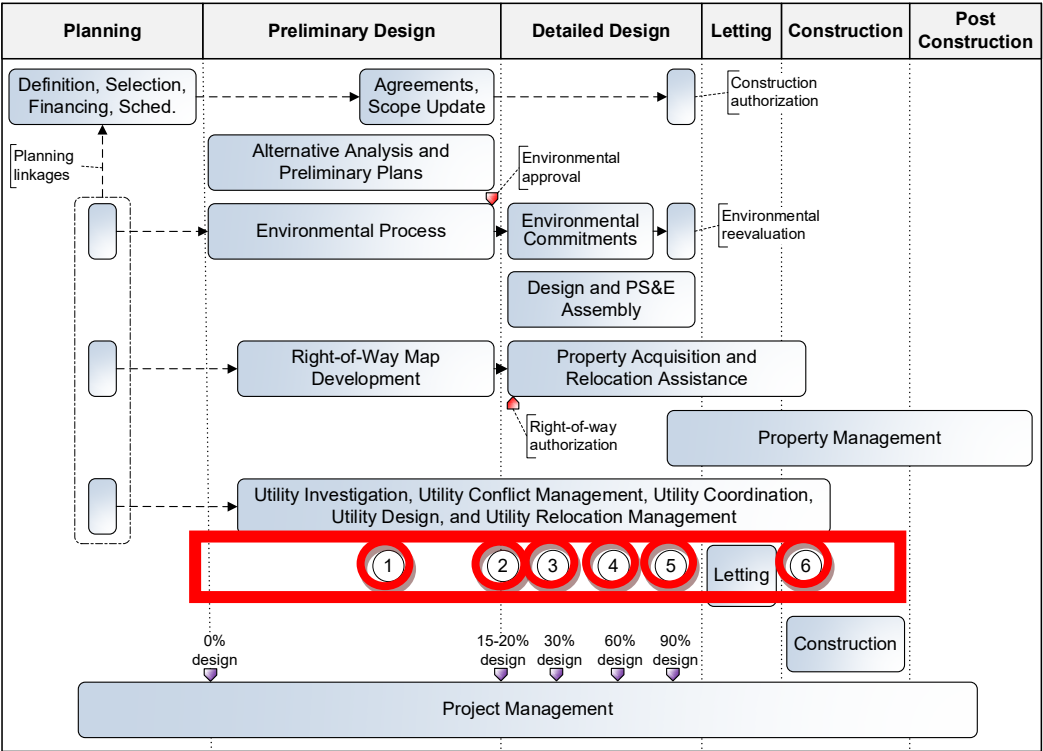
EFFECTIVE UTILITY DESIGN TOOLS

Subject

Utility Conflict Matrix (UCM)

UTILITY CONFLICT
MATRIX (UCM)

A **utility conflict matrix (UCM)** is the living record of utility conflict management, documenting project impacts and complexities imparted on existing utilities throughout the project development process. It is a mechanism for the team to work together to identify utility conflicts early in the design stage, document needs, and determine the optimum means of conflict resolution. More details on UCM may be found in [UR-504-2](#), but, generally, UCM is revised throughout the design process.



EFFECTIVE UTILITY DESIGN TOOLS

Utility Conflict Matrix (UCM)

UR-803-3

UTILITY CONFLICT
MATRIX (UCM)
(CONT.)

Identification of utility facilities and confirmation of conflicts during design establishes a clear scope of potential project impacts. During design, the project team can use the UCM tool to find opportunities to avoid or minimize impacts to existing utility infrastructure. By doing so, the district utility supervisor (US) can arrive at the minimized scope of utility relocation construction that remains for mitigation.

Without this level of collaborative analysis, the project may be at risk of avoidable negative impacts such as higher bids, change orders, damage or delay claims, redesign, delayed schedules, and litigation.

Project Impacts Due to Inefficiencies

- Unexpected disruptions during construction
- Damage to utility installations
- Unnecessary costs
- Delays extending development or delivery
- Unnecessary utility relocations

To minimize inefficiency and impacts, the project team is charged to identify utilities and address conflicts, and the UCM is a tool to record all findings.

USING A UCM

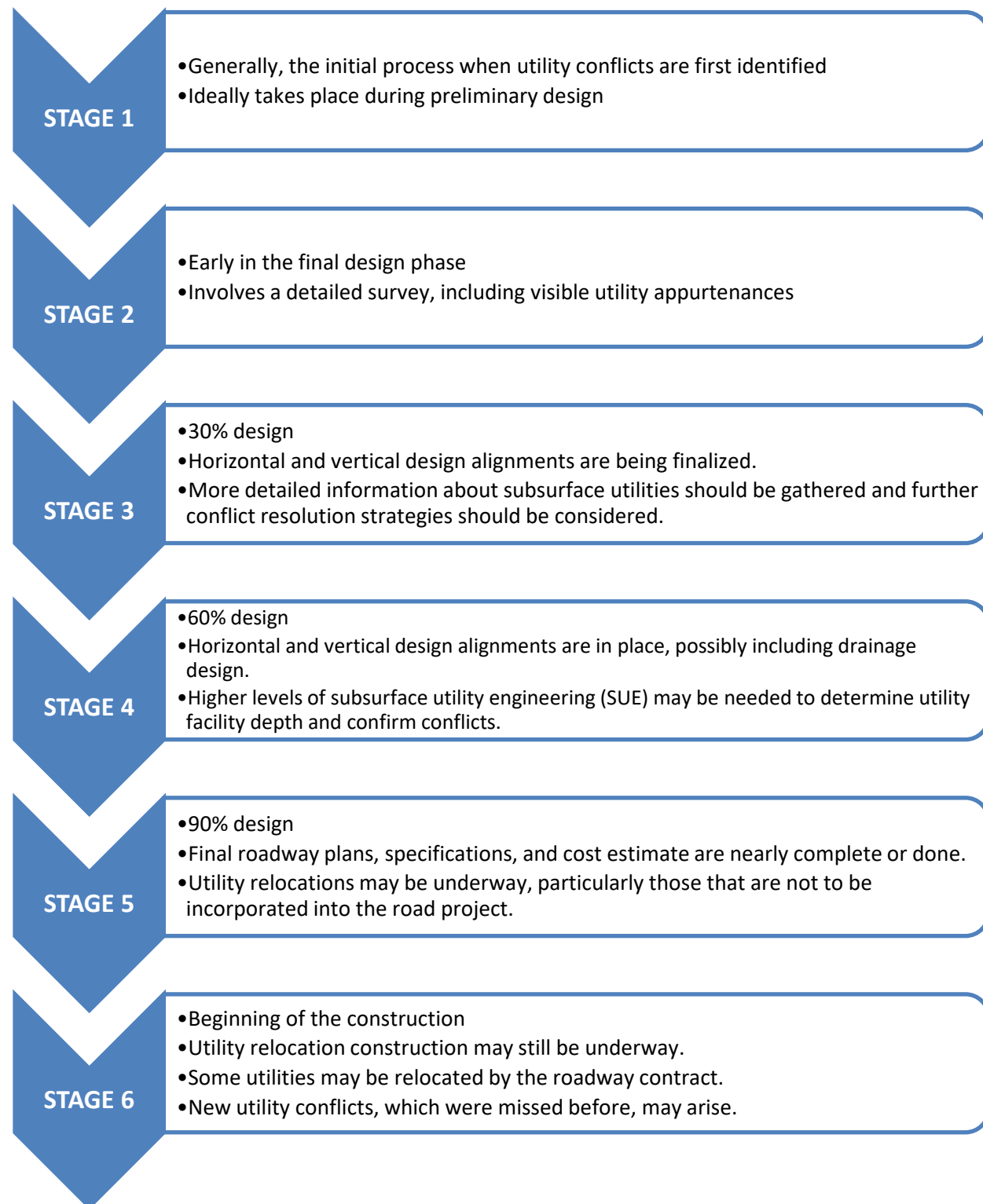
The six stages defined in the prior figure denote critical points in the development of the project. At these points, it is advantageous to use a UCM in addition to other utility conflict management activities. The six stages of project development are outlined here, with more details relayed in **UR-504-2**.

EFFECTIVE UTILITY DESIGN TOOLS

Utility Conflict Matrix (UCM)

UR-803-3

USING A UCM (CONT.)



EFFECTIVE UTILITY DESIGN TOOLS

Utility Conflict Matrix (UCM)

UR-803-3

USING A UCM (CONT.) During design, the project team shall look for the following types of conflicts.

UCM Conflict Types

- Utility facilities and transportation design features
- Utility facilities and transportation construction or phasing
- Planned utility facilities and existing utility facilities
- Noncompliance of utility facilities with accommodation policies
- Noncompliance of utility facilities with safety or accessibility policies

Note: The ultimate selection of a resolution strategy must consider practical execution, cost, and schedule.

The project shall then consider the following utility conflict resolutions.

UCM Conflict Resolutions

- Make modification(s) to the proposed transportation facility, such as:
 - *Change the horizontal and/or vertical alignment*
 - *Alter the drainage design to avoid existing utility lines*
 - *Alter noise walls or traffic signal components*
 - *Optimize construction phases*
- Implement an engineering measure to protect-in-place a utility.
- Remove, abandon, or relocate the utilities in conflict.
- Accept an exception to policy.

EFFECTIVE UTILITY DESIGN TOOLS

Utility Conflict Matrix (UCM)

UR-803-3

USING A UCM (CONT.) The graph below depicts some of the tasks Kentucky recommends completing during the varied stages described above. Tasks may be completed at various stages, or omitted altogether, as appropriate for the project at hand.

	Stage 1 - Preliminary Design	Stage 2 - Early Final Design	Stage 3 - 30% Design	Stage 4 - 60% Design	Stage 5 - 90% Design	Stage 6 - Road Project Construction
Investigate existing utility records.						
Request utility owners provide constraints.						
Assess and document conflicts.						
Hold joint utility meeting (JUM), if needed.						
Survey visible utilities and compare to plan.						
Determine if more comprehensive locations are needed.						
Conduct subsurface utility engineering (SUE).						
Develop/update conflicts in UCM.						
Develop/update resolutions in UCM.						
Review conflict resolution strategies.						
Coordinate utility relocation design.						
Request utility owners confirm locations and feedback.						
Prepare utility relocation agreements.						
Inspect and coordinate utility relocations.						
Assemble relocation plans and specs needed for letting.						
Prepare utility and rail certification notes.						



	<i>Chapter</i> ENGINEERING SERVICES
	<i>Subject</i> General

OVERVIEW When the Transportation Cabinet (Cabinet) issues project authorization letters ([UR-700](#)), utility companies are authorized to initiate preliminary engineering using utility company personnel only. They are advised that the necessary engineering services may be performed by a consultant engineer if the utility company is not adequately staffed to perform engineering.

If the utility company prefers to enlist the services of a consultant engineer, it shall provide a written request to that effect, and specific steps shall be taken to receive the Cabinet’s approval, as detailed in this chapter.

DEFINITION The engineering service contract (ESC) is a document binding the utility company and its consultant. The Cabinet shall act as an interested party to the ESC if it shall be reimbursing the utility company for all or part of the costs of contract engineering.

APPLICABILITY Cabinet approval and authorization of engineering services (company personnel or consultant) is applicable only to utility companies authorized to receive reimbursement for the relocation work. The Cabinet has no interest in approving engineering services for non-reimbursable utility relocations.

Regarding reimbursable utility relocations, a utility company intending to secure a consultant for engineering work shall comply with the Cabinet’s engineering authorization process. It is of utmost importance that the ESC process be completed, thereby allowing the Cabinet to review and approve the consultant usage. Any work conducted prior to approval is not reimbursable by the Cabinet. Consulting expenses associated with proposal preparation are not reimbursable, as they are typical to securing any work.

ENGINEERING SERVICES

General

UR-901

EARLY UTILITY

ACCOMMODATION Early utility accommodation (see [UR-504-3](#)) may include utility design services performed by a Cabinet-approved utility company contracted consultant. If enlisting consulting services is deemed of value to the Cabinet project, an ESC will be necessary as defined within this chapter.

**CABINET-SUPPLIED
ENGINEERING**

If the utility company is not adequately staffed to perform the necessary utility design engineering services, they may ask the Cabinet (in writing) to secure these services. These services may be secured via the following means.

Cabinet-Supplied Engineering

- Cabinet project's engineering consultant or sub
- Statewide contract consultant utility design engineering services

If applicable, utility company reimbursement to the Cabinet shall be arranged via utility agreement. This agreement will ensure compliance with Kentucky statute and federal regulation. See [UR-200](#) for pertinent laws and regulations addressing reimbursement. In such cases, the agreement will include these costs payable to the Cabinet and will require reimbursement secured as defined in [UR-1802-3](#), Recovering Receivables.

**KYTC PROJECT
CONSULTANT**

The Cabinet may choose to secure utility design services through the project’s consultant contract. The prime project consultant should possess KYTC prequalification to perform the work or enlist the services of a prequalified subconsultant who would then perform the utility design work. Prior to entering into a contract for the work or modifying an existing contract, the utility company should verify satisfaction with the enlisted consultant.

**STATEWIDE UTILITY
CONTRACT**

The Cabinet may also choose to secure utility design services via statewide consultant utility design contract, secured by the Cabinet. Prior to entering into an agreement with the statewide consultant, the utility company should validate they are satisfied with the enlisted consultant. Requests to secure these services may be made to the statewide contract manager. Requests are typically managed within the Central Office Utilities and Rails Branch.



	Chapter ENGINEERING SERVICES Subject Proposal Package Contents & Submittal

REQUEST TO CONSIDER

USAGE OF CONSULTANT

ENGINEERING

The Transportation Cabinet (Cabinet) must receive a written request from the utility company to consider utilization of a consultant engineer. This initial request for consideration shall be submitted to the utility supervisor (US). If the US and Area Coordinator (AC) review and find the consultant request viable, the US shall reply to the utility company, in written form, authorizing the process to continue.

ESCP PACKAGE

SUBMITTAL

The utility company shall provide the Cabinet the following items in the engineering service contract proposal (ESCP) package:

Engineering Service Contract Proposal (ESCP) Package

- Engineering service contract proposal (ESCP) between Utility Company and Consultant*
- Engineering services proposal, including scope*
- Engineering services rates and hours estimate, including fee estimate
- Preliminary construction estimate
- Preliminary utility relocation plan
- Consultant and debarment certification

* The Cabinet has template examples for company use.

These items may be prepared by the consultant engineer representing the utility company. All items must be explicitly reviewed and approved by the utility company before submission to the Cabinet.

ENGINEERING SERVICES

Proposal Package Contents & Submittal

UR-902**ESCP PACKAGE****SUBMITTAL (CONT.)**

The Cabinet provides the engineering service contract proposal (ESCP) and above checklist for ease of dissemination. The utility company and consultant may utilize their own documents, but the information retained within the above-listed documents must be available and readily located. Incomplete, inaccurate, or disjointed submissions may be delayed or rejected altogether.

The utility company may include many services in their scope of work with an approved consultant. Below is a list of viable services to include in the ESC scope of work.

Services Viable for Scope of Work

- Identification of existing facilities to be avoided, adjusted, relocated, removed, or abandoned
- Preliminary planning and cost estimation for adjustment or relocation of existing facilities
- Meeting with Cabinet's project team to determine whether changes to the highway plans may eliminate or reduce impacts
- Preparation of plans, specifications, and cost estimation for the relocation or adjustment of existing facilities
- Securing of permits and construction approvals
- Obtaining wage rate schedules and incorporating them into project documents, if applicable
- Preparation of bid documents and performance of necessary services to publicly advertise, bid, and award work
- Preparation and acquisition of replacement utility easements
- Utility construction inspection and contract administration
- Final inspection and field testing of new facilities
- Billing preparation and creation of as-built plans



	Chapter ENGINEERING SERVICES
	Subject Proposal Review & Approval

**CABINET
RESPONSIBILITIES**

The utility supervisor (US) is the Transportation Cabinet’s (Cabinet) initial reviewer of engineering service contracts (ESCs). The US shall review the ESC proposal package, defined as an ESCP, to determine if he or she is satisfied the consultant can deliver the professional work product in an economically reasonable, viable, workmanlike, and timely manner. If the Cabinet is aware of consultant failures to deliver professional, fiscally responsible, or timely work product, the US shall request to reject the consultant.

The US and Central Office area utilities coordinator (AC) both review and approve or reject the ESCP. Rejections shall include a documented reason for rejection. Upon review, the US or AC shall notify the utility company of the findings. The review and approval of the ESC is done within the Kentucky Utility and Rail Tracking System (KURTS). When submitted and reviewed electronically, KURTS generates an approval or rejection letter that can be automatically sent to the utility company of interest.

If necessary, the US or AC may forward the package to the Utilities and Rails Branch Manager (UBM) for approval.

**CONTRACT
NEGOTIATIONS**

All negotiations shall take place between the Cabinet and the utility company. Cabinet staff shall not negotiate directly with the consultant. Negotiations should address any questions the Cabinet reviewers have regarding scope, rates and fees.

**Viable
ESC Modification
Requests**

- Scope is generally inappropriate
- Scope does not match the construction estimate scope
- Rates exceed the maximum established by KYTC Division of Professional Services
- Total fee or a component of the total fee is excessive or inappropriate

ENGINEERING SERVICES

Proposal Review & Approval

UR-903**CONTRACT**

NEGOTIATIONS (CONT.) The Cabinet shall request the utility company provide an explanation when the Cabinet finds any of the above situations exist. The Cabinet shall also ask the utility company to submit a new proposal if the explanation provided by the consultant is not satisfactory.

If the Cabinet receives the consultant's second proposal and finds it is still unacceptable, the Cabinet shall divulge the conditions considered to be reasonable. If the consultant states he or she cannot perform the services under the stated conditions, an impasse is reached, and the Cabinet shall request the utility company do one of the alternatives listed in the chart below.

Negotiation Impasse Alternatives**Utility may:**

- Assume the financial obligation for the cost above those deemed necessary and acceptable

Note: *This allows the utility company to use the consultant.*

- Secure another proposal from a different consultant
- Utilize a Cabinet-provided consultant (**see UR-901**)

Only in cases where the utility company has no preference for a consultant or refuses to follow the guidelines above shall the Cabinet become actively involved in providing a consultant.

After the Cabinet has approved the engineering fees, the utility company's consultant engineer is approved to provide the utility company with any or all of the engineering services noted as being necessary in the proposal.

The dollar amount established in the ESC is a "not to exceed" amount. Prior approval by the Cabinet is required before any additional work is performed on behalf of the utility company or the "not to exceed" limit is increased.



	<i>Chapter</i> ENGINEERING SERVICES
	<i>Subject</i> Compliance

REQUIRED SUBMITTALS**DURING RELOCATION****PROCESS**

The utility company is expected to ensure their approved consultant submits these deliverables for utility relocation work. Deliverables must be submitted, reviewed and approved in Kentucky's Utility and Rail Tracking System (KURTS).

Required Relocation Deliverables

- Executed engineering service contract proposal (ESCP)
 - Marked-up preliminary plans showing the consulting engineer's conceptual plan for the relocation of existing facilities and the approximate estimate of cost
 - Marked-up road plans that show the final alignment for all relocated utilities and provide the necessary details of the consulting engineer's proposal for the relocation of existing facilities
- Note:** Plans are to be approximately 50 percent complete.
- Final construction plans, specifications, and estimate of cost to be submitted by the company to the district utilities section for review and approval
 - Approval letter from the Division of Water, which shall be provided to the district utilities agent (if applicable)
 - As-built plans
 - Billing information

The deliverables are submitted to the Cabinet for review and approval in Kentucky's Utility and Rail Tracking System (KURTS).

PROJECT**CONSIDERATIONS**

Utility companies and their consultants shall follow Cabinet policy regarding permissible construction and design standards. Utility relocation designers are advised to consult the Cabinet's Division of Maintenance [Permits Guidance Manual](#) and [UR-400](#), "Utility Accommodation Policy."

PLAN PRODUCTION**REQUIREMENTS**

Consultants shall adhere to the following plan submittal requirements.

Plan Submittal Requirements

- All existing topography and information missing from the Cabinet plans that affect the relocation of the proposed utility facility shall be brought to the attention of the district utilities supervisor.
- Any right of way, centerlines, pipe sections, etc., needed by the consultant to develop the utility relocation plans shall be requested in writing. The request may include a marked-up set of highway drawings showing the information that is to be furnished or located in the field.
- Where sizes of existing facilities are increased to comply with statutory or regulatory requirements, a copy of these requirements shall be submitted to the district utilities supervisor prior to completing the proposed utility relocation plans.
- Existing sizes, lengths, and types of underground facilities that are to be abandoned shall be shown on the plans.
- All proposed skewed cross sections shall be field located. Right-angle cross sections taken from the Cabinet's plans shall not be permitted for skewed cross sections.
- Method of supporting all carrier pipes in casing pipes shall be shown in the plans and noted in the specifications.

TRAFFIC CONTROL

Traffic control is a requirement of utility relocations and shall comply with the [Manual on Uniform Traffic Control Devices](#) and Department of Highways' [Standard Drawings](#). The project may require traffic control drawings to be developed and incorporated into the utility relocation plans. Special working hours may be required during the construction of the proposed facility. The district utilities supervisor (US) shall make this determination.

INVOICES	After the agreement is executed and the utility company has been notified to start their work, the TC 69-8 form, <i>Utility/Rail Agreement Statement of Charges</i>, may be submitted periodically for payment. Documentation of charges, whether submitted by the consultant or the contractor, shall be attached to the TC 69-8 form. All TC 69-8 forms shall be signed by either the utility company or the utility company's legal agent. This designation shall be noted on the form. Such a designation shall be in writing and provided to the Cabinet before any submissions. The TC 69-8 form can be accessed on the Cabinet's utility coordination webpage or generated and submitted electronically in KURTS.
CHANGE ORDERS	The consultant shall not exceed the costs as identified in the engineering service contract for any single phase (planning, design, right of way, construction management, etc.) of the contract without notifying the utility company and the US. The consultant shall provide a detailed explanation of why a particular item of work is to be overrun. These expenditures shall be documented and approved via change order. Each submitted TC 69-4 form, <i>Utility/Rail Agreement Change Order</i>, shall be signed by either the utility company or the utility company's legal agent. This designation shall be noted on the form. The TC 69-4 form can be accessed on the Cabinet's Utility Coordination webpage or generated and submitted electronically in KURTS. Any change to the scope of work shall be preapproved by the US before the consultant begins work on revised items.
SUBCONTRACTS	When the proposed construction is to be done by contract, the consultant shall furnish the district utilities agent for approval the bid tab with the contract of the lowest qualified bidder.
PERSONNEL & DIRECT COSTS	Maximum allowable personnel and direct costs shall be computed in accordance with the Cabinet's Professional Services Guidance Manual.
FINANCIAL RECORDS	All firms shall be required to maintain financial records in accordance with the Federal Acquisition Regulations (48 CFR, Chapter 1, Part 31). All firms shall maintain payroll records for all employees, including principals.



	Chapter UTILITY COMPANY SUBMISSIONS
	Subject General

OVERVIEW

Utility relocation plans document the work necessary to clear utility facilities from the highway contractor’s proposed work area while leaving the facilities functioning in a like manner after relocation work is complete. Utility relocation plans are required for both reimbursable and non-reimbursable utility relocations. Prompt submission of these required plans is essential for the Cabinet to ensure quality relocations.

Guidelines for
All Utility
Relocations

- Avoid physical conflicts with the transportation project
- Avoid conflict with other utility facilities (existing and proposed)
- Comply with Cabinet utility accommodation policy

Only utility companies expecting reimbursement are responsible for submitting both detailed relocation plans and a cost estimate.

DELIVERABLES OF
REIMBURSABLE
UTILITIES

Utility companies receiving reimbursement for utility relocations must provide utility relocation plans and estimates and enter into a legally binding agreement. There are minimum requirements for each deliverable.

UTILITY COMPANY SUBMISSIONS

General

UR-1001**DELIVERABLES OF
REIMBURSABLE
UTILITIES (CONT.)****Reimbursable Submittal Requirements**

- Facilities to be removed, materials to be installed, materials to be transferred, and items planned to be left in place
- Pertinent specifications and standard drawings
- Identification of priority parcels if necessary for expedient relocation construction
- Traffic control and erosion control plans, in context with project schedule
- Any special requests related to project development or execution, see below.

Estimate Requirements

- Total project cost estimate, which shall be itemized and divided into engineering, administrative, and construction costs
- Calculation of cost participation in the form of a percentage reimbursable, to be justified in writing (**UR-1004**)
- Engineering service contract package (if applicable and executed as described in **UR-900**)

Agreement Requirements

- Reasonable schedule of consecutive days to complete the relocation
- Cost participation calculation

Special requests may be considered by the Cabinet and will likely involve additional submission requirements. Some examples of special requests are listed below.

Special Requests

- Approval of expenses made necessary only due to utility company requirements, i.e., utility company policies on minimum materials or methods
- Non-reimbursable improvements to the facilities, defined as “betterments” (**UR-1004 and UR-1102-2**)
- Requests for a lump sum agreement (**UR-1104-2**)
- Requests to include utility relocations in the transportation contract (**UR-1104-4 and UR-1700**)
- Early utility accommodation (EUA) requests (**UR-504-3**)
- Requested transportation project design changes to minimize utility impacts
- Priority parcels in need of acquisition

UTILITY COMPANY SUBMISSIONS

General

UR-1001

REQUIREMENTS OF
NON-REIMBURSABLE
UTILITIES

Companies involved in non-reimbursable utility relocations shall provide the following information.

Non-reimbursable Submittal Requirements

- No charge letter as requested in the project authorization letter
- Relocation plans showing facilities to be removed, materials to be installed, materials to be transferred, and items planned to be left in place
- Pertinent specifications and standard drawings
- Any special requests related to project development or execution, which shall be submitted in written detail, see above

DISTRICT UTILITY
SECTION DUTIES

The utility supervisor (US) and utility agents (UAs) shall review all utility company submissions. Submissions from all impacted utility companies shall be reviewed to ensure the relocation work is necessary, appropriate, and both physically and fiscally viable. The US and UA shall validate that packages include all necessary attachments and information and verify utility relocation requirements.

Requirements for
All Utility
Relocations

- Avoid physical conflicts with the transportation project
- Avoid conflict with other utility facilities (existing and proposed)
- Comply with Cabinet utility accommodation policy

The US and UA shall review all reimbursable relocation packages to ensure that costs are appropriate, reimbursable, and consistent with the proposed scope of work. The US shall review and approve or reject the utility’s engineering service contract (ESC), relocation plans, and estimates in KURTS.

If the proposal is approved, the US shall indicate approval to the utility company. Utility relocations are then to be drafted as agreements. (Agreement activities are defined in [UR-1100](#).) If the US and UA are not satisfied with the terms of the proposal, additional negotiations shall be undertaken.

UTILITY COMPANY SUBMISSIONS

General

UR-1001**DISTRICT UTILITY**

SECTION DUTIES (CONT.) The US or UA should ensure the utility company's traffic control, erosion prevention and sediment control (EPSC) plans, and individual permitting needs have been satisfactorily addressed.

CENTRAL OFFICE**UTILITIES & RAILS****BRANCH DUTIES**

The Utilities and Rails Branch shall review the terms of the above deliverables submitted. The branch shall support the district by advising on any matter related to the proposal (design, accommodation, costs, etc.). The AC shall review and approve or reject the utility company's deliverables uploaded into KURTS.



	Section UTILITY COMPANY SUBMISSIONS
	Subject Utility Relocation Plans

SUMMARY

Affected utility companies shall submit detailed plans showing the relocation work necessary to clear their facilities from the highway contractor’s proposed work area while leaving their facilities functioning in a like manner after relocation work is complete. The utility supervisor (US) shall review this comprehensive plan set showing the existing and proposed location plans for all utility companies. This set of plans shall show existing facilities to be removed, relocated, replaced, or transferred, as well as those that are to remain in place or to be newly installed.

Utility Relocation Plan Requirements

- Clearly depict the utility relocation plan
- Address conflicts with utility facilities
- Comply with applicable Utility Accommodation Policy (UAP), as defined in **UR-400**
 - *UAP exemptions may be considered.*

UTILITY PLAN
DEVELOPMENT

The utility company designer preferably shall provide all utility relocation plan information electronically via the Kentucky Utility and Rail Tracking System (KURTS). If the utility company designer provides it electronically via an email or in hard copy, the US or assigned utility agent (UA) shall upload it to KURTS. Utility designers shall adhere to the following criteria when developing and submitting utility relocation plans.

UTILITY COMPANY SUBMISSIONS

Utility Relocation Plans

UR-1002**UTILITY PLAN****DEVELOPMENT (CONT.)****Source Data for Utility Relocation Plans**

- Cabinet plan sheets shall be used in the relocation plan.
 - *Exceptions are considered if the work is outside the project limits or if the submitted utility company-generated plan includes sufficient roadway feature detail to facilitate review, determined by the US and AC.*
- Cabinet cross sections showing utility facility crossings shall be included.
 - *Profile sheets may be substituted if acceptable and Cabinet accepted.*
- Develop relocation plans using Cabinet software of record.
 - *Exceptions are only considered if the utility assumes liability of conversion data loss.*
 - *The Cabinet shall not provide the utility designer electronic CADD data in any other format; otherwise, the Cabinet assumes liability of lost data.*

Utility Relocation Plan Drafting

- Utility relocation plans are preferred to be the same scale as road plans.
- Text scale on relocation plans shall be of sufficient size to read at half scale.
- Bold lettering shall identify the type of utility to be relocated and the utility owner.
- Only utility company notes pertinent to project plans shall be shown.
- Existing facilities shall be depicted. (Existing facilities shall be marked to show whether they are on or off existing right of way. Existing facilities shall be broken down to show estimated quantities on public and private right of way.)
- Facilities to be removed, proposed relocations, structures, facilities to be removed, materials to be installed, and materials to be transferred shall be depicted.
 - *Proposed facilities shall be itemized to show estimated quantities to be installed, on each sheet or on a summary sheet of the line-item quantities. The summary sheet is required if the relocation is to be included in the road contract.*
- Items planned to be left in place or abandoned shall be depicted.
- Proposed facility location data such as station and offset of all changes in direction, junctions, or changes in grade shall be included. (Coordinates or offsets from the right of way may be acceptable alternatives if appropriate and accepted.)
- Existing and proposed right-of-way or easement lines shall be depicted.
- Any increases to the functional capacity of facilities or more expensive material shall be clearly designated.
- Applicable specifications and standard drawings shall be included.
- Traffic control and erosion control plan shall be included.

UTILITY COMPANY SUBMISSIONS

Utility Relocation Plans

UR-1002

UTILITY COMPANY

DUTIES

The utility company is responsible for production of utility relocation plans as described above. The plans shall be submitted to the US in a timely manner to allow the US to complete the tasks identified as district duties. It is generally preferable for the utility company to submit relocation plans electronically via the Kentucky Utility and Rail Tracking System (KURTS). Hard copies may be requested by the US. If the utility company provides the plans via email or hard copy, the US or authorized agent shall upload it into KURTS.

DISTRICT UTILITY

SECTION DUTIES

The US shall ensure that the work proposed is necessary and remediates conflicts between utility facilities and highway construction. The US shall also verify that the materials being used are consistent with the materials to be replaced, follow utility company policy, depict betterments, and follow utility accommodation policy, as defined in [UR-400](#).

Specifically, the following processes must occur.

District Utility
Section Duties

- Review the proposal in detail to ensure UAP compliance.
- Address any questions, errors, or omissions.
- Ensure the final relocation plans are posted for record and approved in KURTS.
- Draft a reimbursement, betterment, or no charge agreement as appropriate and execute it.
- Ensure construction work is accomplished so the utility facilities do not conflict with the Cabinet’s construction.

Utility accommodation policy (UAP) exceptions may be made, only implementing policy requirements that are proved to be impractical, ineffective, or contrary to the project interest. If a UAP exemption is proposed on a non-fully controlled access road and will not interfere with transportation use and function, it may be considered minimally by the Chief District Engineer and State Highway Engineer’s Office.

A Federal Highway Administration ([FHWA](#)) approval is required for any relocation to be constructed within fully controlled access right of way of FHWA oversight roads, even if compliant with UAP.

UTILITY COMPANY SUBMISSIONS

Utility Relocation Plans

UR-1002

CENTRAL OFFICE
UTILITIES AND RAILS
BRANCH DUTIES

The area coordinator (AC) shall review the plans submitted to ensure that work addresses project needs and adheres to Cabinet accommodation policy. The AC shall review, approve or reject the plans in KURTS.

CENTRAL OFFICE
UTILITIES AND RAILS
BRANCH DUTIES (CONT.)

The AC must ensure all utility accommodation policy (UAP) requests are made, when needed. The review and approval of the Chief District Engineer and State Highway Engineer’s Office are required for all UAP exemption requests involving non-fully controlled access roads. A FHWA approval is also required for any relocation to be constructed within fully controlled access right of way of FHWA oversight roads, even if compliant with UAP.

The Utilities and Rails Branch Manager may advise on any matters that cannot be resolved by the US, UA, and AC.

AS-BUILT PLANS

As-built plans are updates to the approved utility relocation plans submitted by the owner utility company. Generally, as-built plans document existing and relocated facilities as they were constructed, removed, relocated, transferred, or left in place in the field. Owner utility companies should ensure the documentation and recording of field changes and true location of the facilities as they are constructed. As-built plans benefit both the owner utility and the Cabinet.

As-Built Plan
Benefits

- Avoids future damages to the facilities
- Validates costs for reimbursement requests
- Provides opportunity to avoid future impacts

Upon completion of utility facility relocation construction, the owner utility must submit as-built plans to the Cabinet. As-built plan requirements are listed below.

UTILITY COMPANY SUBMISSIONS

Utility Relocation Plans

UR-1002

AS-BUILT PLANS (cont.)**As-Built Plan Requirements**

- Use Cabinet-approved, compliant utility relocation plan
- Update plan sheets
- Provide updated cross sections or profile sheets if actual depths vary from as-designed plans. (If not updated, plans shall include a note explaining why no data was updated.)
- Show utility company notes of significant variance from design and construction
- Depict facilities that exist prior to construction as one of the following:
 - *Existing if active and in use*
 - *Abandoned if never to be again used and was left in situ*
 - *Decommissioned if may be again used and was left in situ*
 - *Removed if the facility was removed from site*
- Depict newly installed facilities as:
 - *Existing relocations*
 - *Document actual facility location, including all changes in direction, junctions, or changes in grade via coordinates using project control or station and offset using centerline or right of way*
- Depict materials used and facility sizes
- Clearly note field changes to materials and sizes



	Chapter UTILITY COMPANY SUBMISSIONS
	Subject Utility Cost Estimates

SUMMARY In addition to utility relocation plans ([UR-1002](#)), reimbursable utility companies shall submit a cost estimate for reimbursable work necessary to clear their facilities from the highway contractor’s proposed work area while leaving their facilities functioning in a like manner after relocation work is complete.

COST ESTIMATE REQUIREMENTS The utility company cost estimate shall include an estimate of all costs associated with the proposed work, which may include the following.

Cost Estimate Scope Breakdown

Plan Development costs, which shall include services, rates, and hours for:	•Engineering •Surveying •Property acquisition, priority parcels, or easements •Administration
Construction costs, which shall include an estimate of:	•Materials •Labor estimates •Construction management costs, which shall include services, rates, and hours for: •Construction engineering •Administration •Inspection
Early Utility Accommodation (EUA) costs, which shall include services, rates, hours for:	•Environmental permitting (NEPA) •Engineering & plan development •Property acquisition, including priority parcels or replacement easements
Other Construction costs, which shall include an estimate of:	•Erosion control and mitigation plans and work •Traffic control measures, devices, and plans •Permitting •Replacement easements

UTILITY COMPANY SUBMISSIONS

Utility Cost Estimates

UR-1003**COST ESTIMATE**

REQUIREMENTS (CONT.) The estimate shall take into account the Cabinet participation percentage, as detailed in [UR-1004](#). The total project cost and the Cabinet's cost shall be clearly stated and validated.

UTILITY COMPANY**DUTIES**

The utility company is responsible for production of a utility company cost estimate as described above, outlining the method of calculating costs. It shall detail the method proposed to complete work, whether by contract, force account, or by inclusion in the Cabinet's highway contract. The estimate shall be submitted to the district utilities supervisor (US) in a timely manner to allow the US to complete the tasks identified as district duties.

The estimate is submitted electronically for review through the Kentucky Utility and Rail Tracking System (KURTS).

**DISTRICT UTILITY
SECTION DUTIES**

The US shall ensure the cost estimate is mathematically correct, viable, economical, and compliant with Cabinet policy. Upon acceptance of the estimate, the US shall approve the estimate in KURTS, draft the agreement, and submit it electronically to the area utilities coordinator (AC) for approval.

Specifically, the following must occur:

- The US shall have the estimate reviewed in detail.
- The US shall address any questions, errors, or omissions.
- An agreement shall be written, approved by the AC, and executed.
- Construction work shall be accomplished so the utility facilities do not conflict with the Cabinet's construction.

**CENTRAL OFFICE
UTILITIES AND RAILS
BRANCH DUTIES**

The AC shall review the agreement in KURTS, the utility relocation plan, and the cost estimate to ensure that the work is necessary for project completion and for the maintenance of function of the utility facility. The AC shall also review whether the work will be by force account or contractor, ensure that a continuing contract is in place and up to date, if applicable, and ensure that work is properly advertised.

UTILITY COMPANY SUBMISSIONS

Utility Cost Estimates

UR-1003

CENTRAL OFFICE

UTILITIES AND RAILS

BRANCH DUTIES (CONT.) The Utilities and Rails Branch Manager may advise on any matters that cannot be resolved by the US, UA, and AC.



	Chapter UTILITY COMPANY SUBMISSIONS Subject Calculating Cost Participation

OVERVIEW

Companies whose utility relocation costs are reimbursable in accordance with [KRS 179.265](#) are reimbursed only for those utility facilities originally constructed on *other than* public right of way that are required to be moved due to reconstruction or improvement of a public road.

If a utility's facilities were all originally constructed outside the limits of any public right of way, the utility company is entitled to 100 percent reimbursement of necessary relocation costs. If the utility company has part of its facilities initially constructed outside any public right of way (Private R/W) and part of its facilities constructed inside public right of way (Public R/W), a participation percentage shall be calculated for the agreement to cover the reimbursable costs. The participation percentage defines the reimbursable percentage of work in the project.

This percentage participation is appropriate to calculate if the reimbursable relocations are being reimbursed pursuant to KRS 179.265. The Transportation Cabinet (Cabinet) has an option for reimbursing utility relocations under KRS 177.035(3)—(5), which is discussed in [UR-1100](#).

There are several acceptable methods of calculating the percentage participation. The utility company shall choose the most appropriate method with the utility supervisor's acceptance.

The utility company shall use a consistent method when calculating participation percentage on highway projects. Specifically, it is inappropriate for the utility company to use the method that yields the best cost return for the transportation project. However, it may be necessary to use different methods given the type of facilities on different projects. For example, a company generally uses pole count, but the pole count method will not work if the utility company must also relocate reimbursable underground facilities.

UTILITY COMPANY SUBMISSIONS

Calculating Cost Participation

UR-1004

UTILITY COMPANY

DUTIES

The utility company shall calculate the participation percentage using the data in the proposal (relocation plans and cost estimate) and utility easement knowledge. The method used to derive the percentage of participation for the project shall be provided to the Cabinet in the proposal. Any documentation necessary to validate the participation percentage shall be provided in the proposal.

DISTRICT UTILITY

SECTION DUTIES

The district utility supervisor shall perform the responsibilities below.

District Utility Section Responsibilities

- **Review relocation plans and cost estimates** to validate the participation percentage
- **Review the method** that the utility company uses to calculate percentage of participation and ensure that it is appropriate to the situation
- **Check the calculation** of percentage participation and ensure that they are mathematically correct

CENTRAL OFFICE

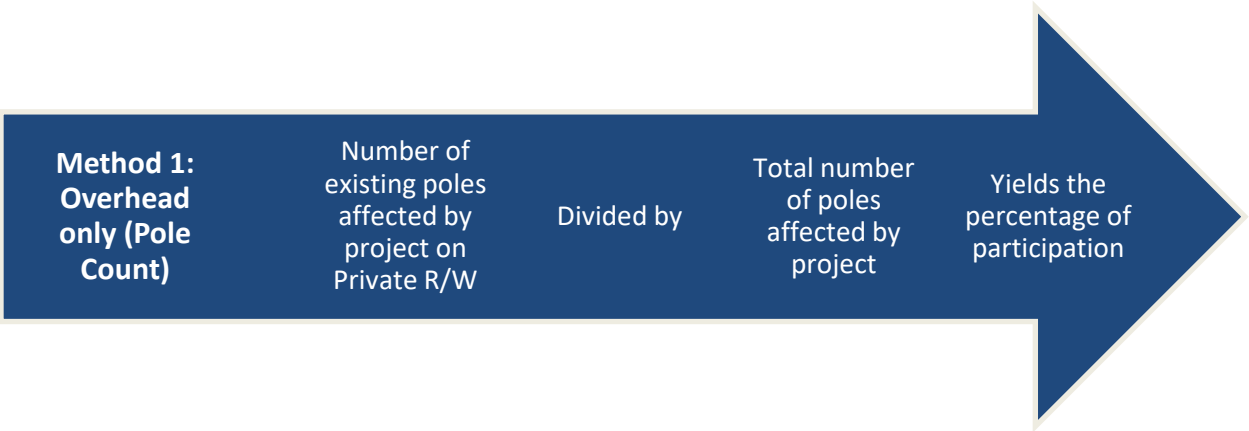
UTILITIES AND RAILS

BRANCH DUTIES

The utility area coordinator (AC) shall review relocation plans and cost estimates to ensure the method for calculating participation percentage is appropriate, mathematically correct, and the method usually used by the company.

METHODS TO CALCULATE

PARTICIPATION PERCENTAGE



UTILITY COMPANY SUBMISSIONS

Calculating Cost Participation

UR-1004

METHODS TO CALCULATE
PARTICIPATION PERCENTAGE
(CONT.)

$$\% \text{ of Participation} = \frac{\text{Poles on Private R/W}}{\text{Total Poles Affected}}$$

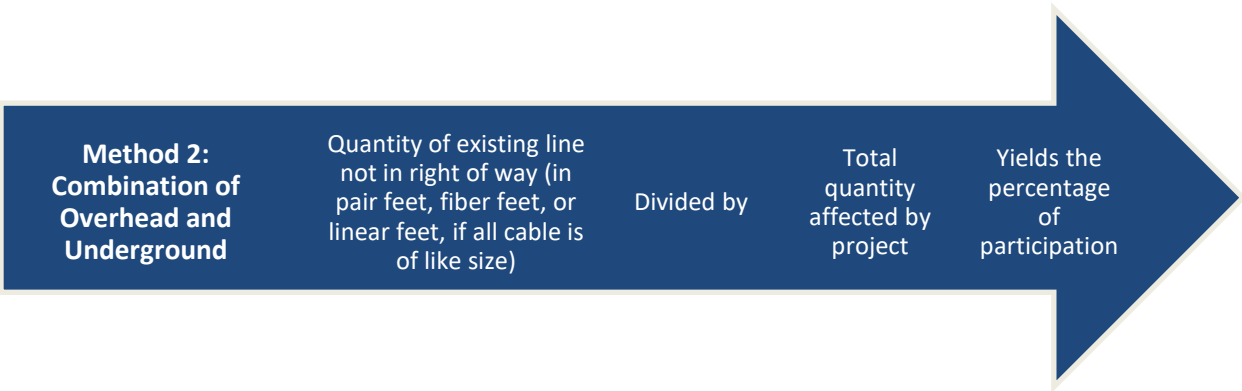
Method 1 Example

The utility company must remove or rearrange attachments to a total of 10 poles, and 6 of those poles were originally constructed on other than public right of way.

The percentage of participation will be calculated as follows:

$$\% \text{ of Participation} = \frac{6}{10} = 60\%$$

Therefore, the agreement would be written for 60 percent of the approved relocation cost.



$$\% \text{ of Participation} = \frac{\text{Pair Feet Private}}{\text{Total Pair Feet Affected}}$$

Method 2 Example

If there are a total of 1,000,000 pair feet of existing cable affected and 250,000 pair feet of cable are on private right of way, the percentage of participation is calculated as follows:

$$\% \text{ of Participation} = \frac{250,000}{1,000,000} = 25\%$$

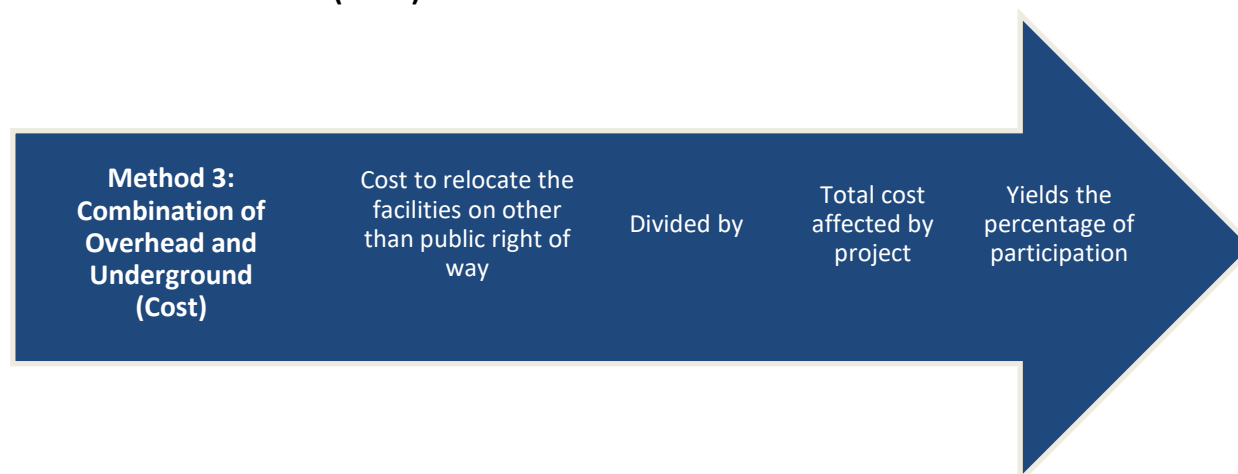
UTILITY COMPANY SUBMISSIONS

Calculating Cost Participation

UR-1004

METHODS TO CALCULATE

PARTICIPATION PERCENTAGE (CONT.)



1. Calculate each area based on pole count and underground cable (reduced to pair feet, fiber feet, or linear feet [if all cable is of like size]).
2. Calculate a cost for each type of existing plant to be relocated.
3. Apply the respective percentage of participation to each type of existing plant.
4. Calculate a cost for private and a total cost for each.
5. Add the costs to relocate the facilities existing on private of both types.
6. Calculate a total cost of relocation of existing facilities and a percentage using the formula below.

$$\% \text{ of Participation} = \frac{\text{Cost to Relocate Private}}{\text{Total Cost to Relocate}}$$

Method 3 Example

The percentage of participation is calculated if the allowable costs of relocation are \$200,000 (\$120,000 for overhead facilities and \$80,000 for underground facilities) and there are 200 feet of underground facilities on public and 800 feet on private facilities with 6 poles on public and 4 poles on private right of way,

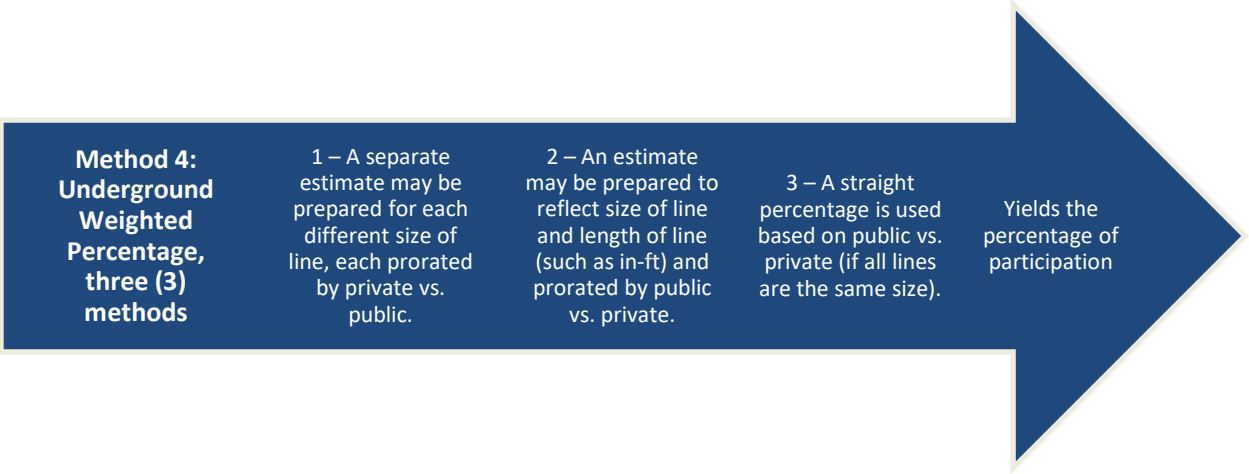
$$\% \text{ Participation} = \frac{(800/1000) \$80,000 + (4/10) \$120,000}{\$200,000} = \frac{\$64,000 + \$48,000}{\$200,000} = 56\%$$

UTILITY COMPANY SUBMISSIONS

Calculating Cost Participation

UR-1004

METHODS TO CALCULATE
PARTICIPATION PERCENTAGE (CONT.)



Method 4 Example

If there are 1000 feet of 4-inch line (500 feet on private and 500 feet on public), 1000 feet of 6-inch line (600 feet on private and 400 feet on public), and 1000 feet of 8-inch line (800 feet on private and 200 feet on public right of way); the participation percentage is calculated as follows:

$$\begin{aligned} \text{\% Participation} &= \frac{(500 \text{ ft})(4 \text{ in}) + (600 \text{ ft})(6 \text{ in}) + (800 \text{ ft})(8 \text{ in})}{(1000 \text{ ft})(4 \text{ in}) + (1000 \text{ ft})(6 \text{ in}) + (1000 \text{ ft})(8 \text{ in})} \\ &= \frac{12,000 \text{ in-ft}}{18,000 \text{ in-ft}} = 66.67\% \end{aligned}$$



	<i>Chapter</i> AGREEMENTS & AUTHORIZATIONS
	<i>Subject</i> General

OVERVIEW

In compliance with federal regulation, the Transportation Cabinet (Cabinet) executes agreements with utility companies to provide a clear, written understanding of the responsibilities of the utility company and the Cabinet. Agreements are required for utility relocations regardless of Cabinet reimbursement.

The Cabinet grants permit to utility companies to allow them to perform work on publicly owned right of way. In cases involving utility relocations, an agreement serves as the permit application, and once the agreement is approved, the agreement number serves as permit number for the project.

This chapter describes the different types of agreements that the Cabinet develops with utility companies. The procedure of agreement development and approval is defined.

INVOLVED PARTIES

The primary parties involved with agreements and authorizations include the following.

Parties Who Are Required to be Involved

- District Utility Supervisor (US)
- District Utility Agent (UA)
- Area Utility Coordinator (AC)
- Utilities and Rails Branch Manager (UBM)
- Program Coordinator (PC)
- Utility Companies
- District and Central Office Attorneys

Parties Who Also May Be Involved

- FHWA
- Project Engineer (PE)
- Project Development Branch Manager (PDBM)

AGREEMENTS & AUTHORIZATIONS

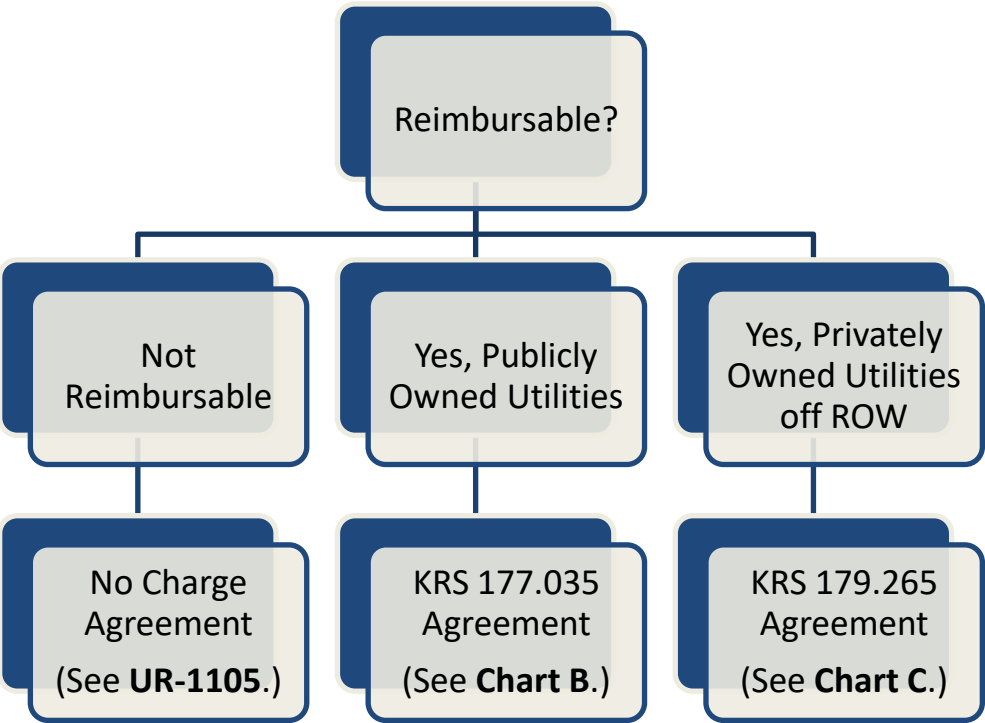
General

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AGREEMENT
SELECTION

Agreements are legally binding contracts, generally executed between the Cabinet and utility company owners. They address terms of utility relocation, including matters such as scope, schedule, methods of scope execution, pertinent regulatory matters, and responsibilities for reimbursement of expenses. The Cabinet requires the use of its standardized templates for agreements to ensure all required clauses are included. The following charts assist in selecting the appropriate agreement type.

Chart A – Selection of Utility Agreement

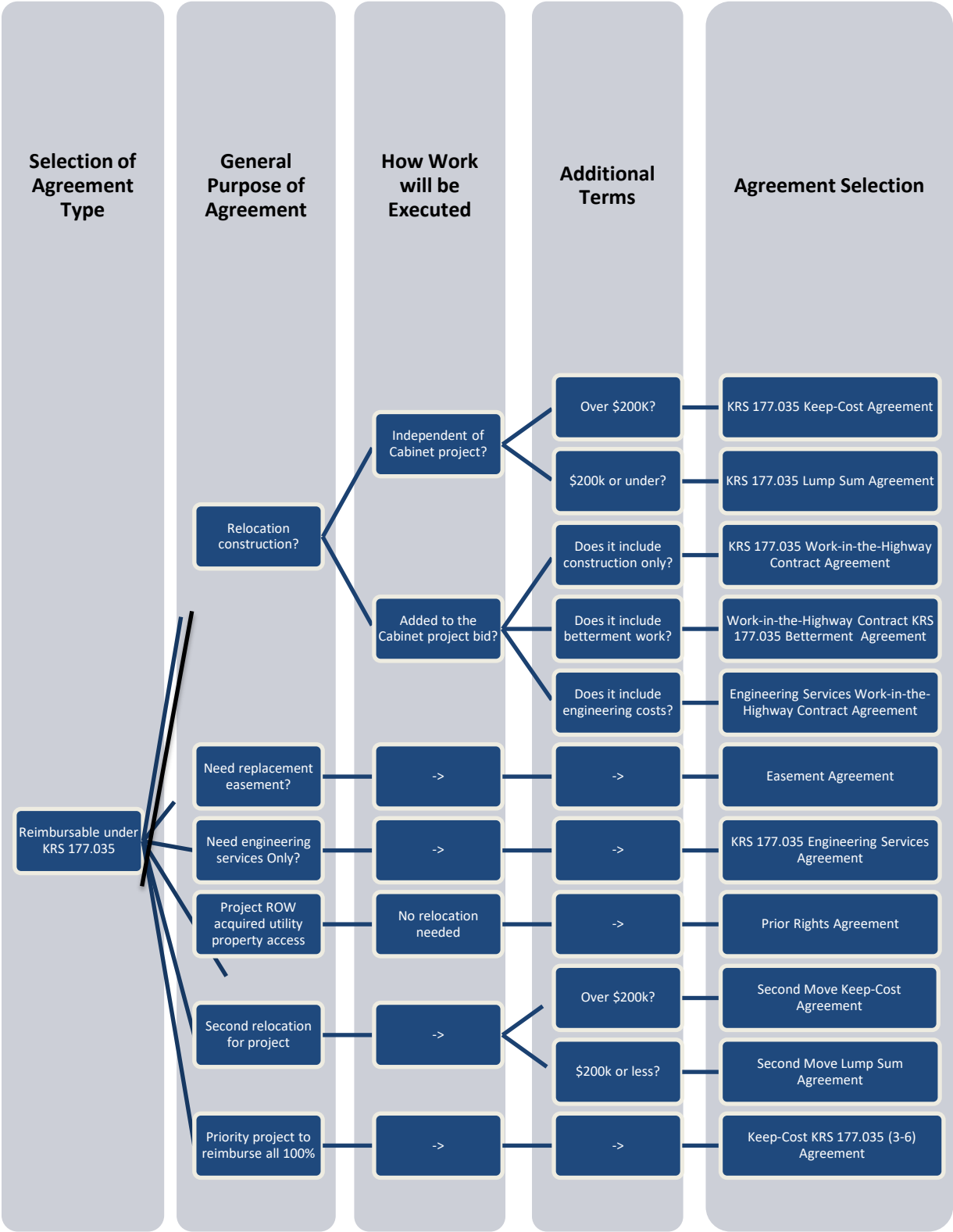


AGREEMENTS & AUTHORIZATIONS

General

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Chart B – KRS 177.035 Utility Agreement Selection



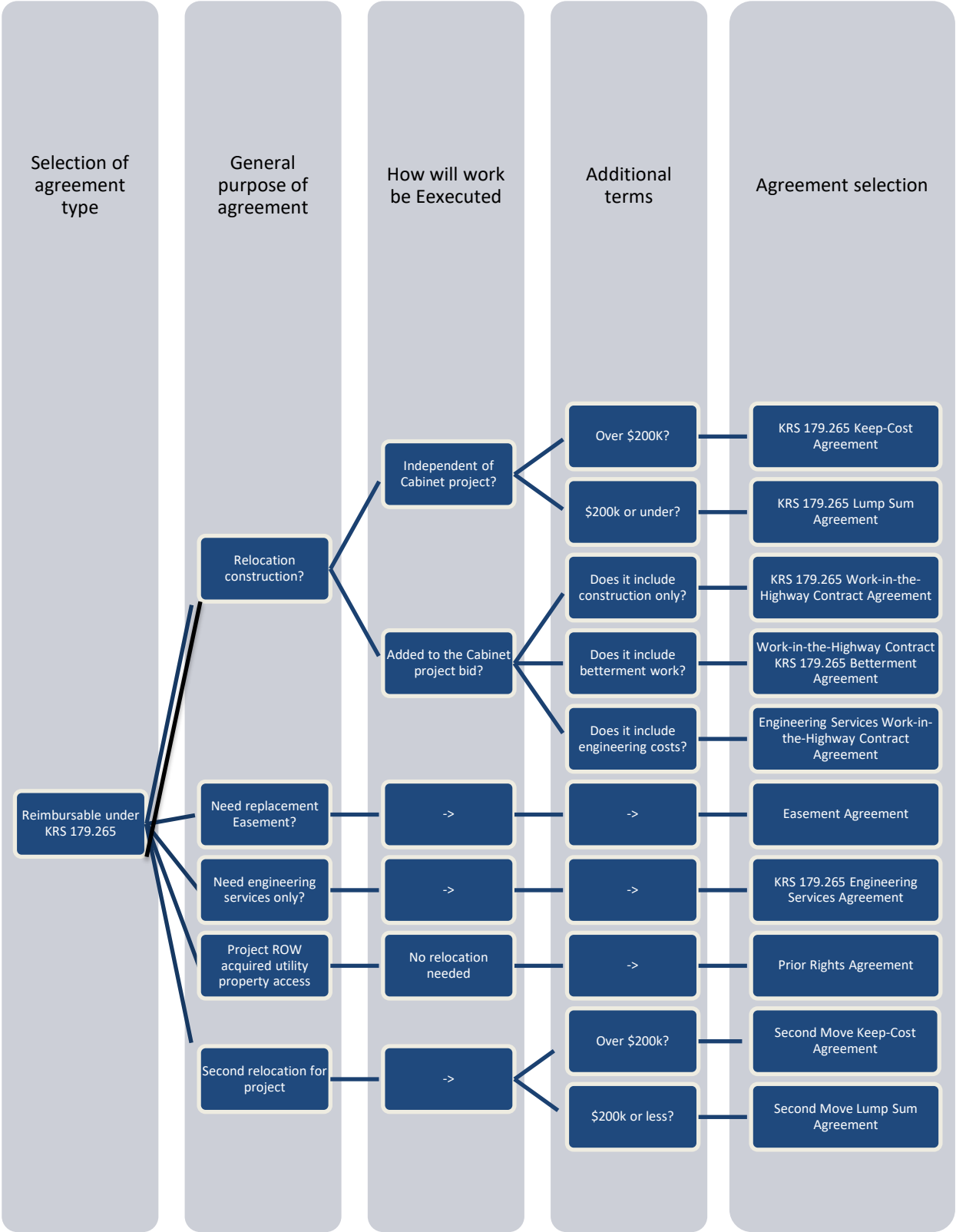
Note: Use of a lump sum agreement is optional. The US may use keep cost agreement templates for work scoped at \$200k or less.

AGREEMENTS & AUTHORIZATIONS

General

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Chart C – KRS 179.265 Utility Agreement Selection



Note: Use of a Lump Sum agreement is optional. The US may use keep cost agreement templates for work scoped at \$200k or less.

AGREEMENTS & AUTHORIZATIONS

General

UR-1101**OTHER AVAILABLE****AGREEMENTS**

When a utility is impacted by a transportation project, an agreement between the utility company owners and the Cabinet is required and must be created using one of the agreement templates above. These agreement templates are described further within this chapter. While not included in the above charts, utility relocations performed under a long term (term or master) agreement are also described briefly in [UR-1103](#). Templates for impacted railroad owners are also available and are described in [UR-2003](#).



	<i>Section</i> REIMBURSEMENT
	<i>Subject</i> Reimbursable Work

**QUALIFYING
RELOCATIONS**

[KRS 179.265](#) requires the Transportation Cabinet (Cabinet) to reimburse a utility company if a road project requires the relocation of a utility facility located on other than public right of way.

Per [KRS 177.035](#), the Cabinet may reimburse certain utility companies for relocating their facilities as needed to complete a road project. This includes relocations of utility facilities owned by publicly held companies and, in certain instances, facilities owned by privately held companies. A publicly held utility may be a municipally owned utility, water district, water association, sewer district, or local school district. The transportation project team may determine a private utility shall receive full reimbursement for relocations typically not reimbursable under KRS 179.265. If so, the reimbursement will be under KRS 177.035(3-6), and the team must document a significant and ascertainable benefit to the project that is valued beyond the additional cost to the project.

If it is determined that employing full reimbursement is in the project’s interest, a memorandum shall be drafted and submitted through the project development branch manager (PDBM) and through the Utilities and Rails Branch Manager (UBM) to the State Highway Engineer’s Office Project Development Assistant State Highway Engineer.

For reimbursement of qualifying relocations, the damaged utility company shall enter into an agreement with the Cabinet. Relocations may be performed as a part of the road construction contract or prior to the road project. If the relocation work is completed before the road project, it may be done with utility company personnel or a continuing contractor approved by the Cabinet, or the utility company may elect to bid and award its own contract for the relocation.

REIMBURSEMENT

Reimbursable Work

UR-1102-1**BUILD AMERICA****BUY AMERICA (BABA)****CONSIDERATIONS**

BABA applies to any utility relocation construction for a federally funded Cabinet project that is determined to be eligible for reimbursement. The utility is obligated to comply with the latest requirements of law and retain records validating compliance. More information on BABA can be found in **UR-1302-4**.

REIMBURSABLE**SERVICES INVOLVING****SMALL PURCHASES**

Professional services needed for qualifying utility relocation work may not require formal agreement if amounts are less than or equal to \$1,000. In such cases, an invoice may be processed in Central Office without an agreement. Professional services would include (but not be limited to) legal, engineering, accounting, appraising, or consulting.

The decision to proceed as such must satisfy both the utility supervisor and area coordinator. **FAP 111-55-00-S** provides further information and can be found at:

<https://finance.ky.gov/office-of-the-secretary/office-of-policy-and-audit/Finance%20Policies/FAP%20111-55-00.pdf>

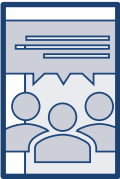


	Section REIMBURSEMENT Subject Non-Reimbursable Work

GENERAL

The Transportation Cabinet (Cabinet) may allow utility companies to relocate their facilities on state right of way by permit pursuant to [KRS 416.140](#). When the Cabinet deems improvements or changes to that right of way necessary, utility companies shall relocate their facilities. Facilities owned by privately held utility companies that unreasonably interfere in any way with the convenient, safe, and continuous use and maintenance of a highway shall be removed or relocated at the company's expense.

The Cabinet shall not reimburse a utility company for relocation work involving the following circumstances.

Non-Reimbursable Work	
	Removal or relocation of private utility facilities •Unreasonably interferes per KRS 416.140
	Unfunded work •Work completed prior to funding authorization
	Betterments •Unnecessary improvements or upgrades to utility facilities
	Poor documentation •Improperly documented expenditures
	Uncontracted work •Work not included in the approved relocation plans, cost estimates, or change orders
	Unscoped work •Work not required by the transportation project
	Unnecessary work •Utility work or costly changes for the benefit/convenience of utility company or contractor
	New facilities •Utility facilities that do not replace existing facilities and do not serve the project

REIMBURSEMENT

Non-Reimbursable Work

UR-1102-2

BETTERMENT [23 CFR 645.105](#) is the Cabinet’s primary resource for defining betterment on utility relocation work. Betterment is defined as “any upgrading of the facility being relocated that is not attributable to the highway construction and is made solely for the benefit of and at the election of the utility.”

Betterment differs from making a utility company whole. According to the Federal Highway Administration (FHWA) [Program Guide: Utility Relocation and Accommodation on Federal-Aid Highway Projects](#), making the utility whole in many cases means that “various facilities will have to be functionally restored” and that “a utility’s service should be restored so that it may continue to provide its product to its users in a fashion similar to that which existed prior to its relocation as a result of the highway project.”

The concept of making a utility company whole may involve the following.

Functional Capacity	Current Standards
• Replacement facilities that maintain the overall functional capacity, including those that may rearrange to a more efficient operation due to present-day design or operation needs	• Replacement facilities that maintain the overall functional capacity, including changes that may be required to meet present standards

Betterment occurs when the relocated utility is upgraded by the utility company. The Cabinet shall only reimburse for the "replacement-in-kind" component of the cost, not for betterment.

Construction of a relocation facility that has greater capacity or utilizes longer life or more expensive materials than the project requires or than are present in the existing facility shall generally be considered betterment. General examples of betterment include an increase in the pipe size and system capacity or the use of more expensive material.

REIMBURSEMENT

Non-Reimbursable Work

UR-1102-2

BETTERMENT (CONT.) The utility company may provide a written request to exclude the facility change from the definition of betterment. This request shall be submitted to the utility supervisor (US), and the US shall submit the request and his or her recommendation to the area coordinator (AC) for consideration. Such requests shall justify the change, documenting how the work is not betterment. The justification may be based on the following conditions.

Valid Justifications for Changed Materials and Conditions

- Required for the transportation project
- Equivalent standard in terms of lifetime, cost, and capacity
- Higher grade or size, but existing devices or materials are no longer regularly manufactured
- Required due to law, regulation, or policy under governmental or regulatory commission code
- Required by current documented design practices regularly followed by utility company in its own work
- Directly benefits transportation project, due to but not limited to:
 - *Economy*
 - *Time savings*
 - *Aesthetics*
 - *Safety*
 - *Environmental*
 - *Future use*

When utility relocation involves betterment and the complexity of the project makes it difficult to separate the specific items where betterment occurs, more extensive methods for determining the betterment credit may be required.



Utility companies shall provide the following **two estimates** to the Cabinet for determining a betterment credit:

- **In-kind replacement cost only**
- **Total cost including betterment**

New facilities may be defined as facilities that do not require relocation because they did not exist prior to the road project development. Such new facilities are in no manner reimbursable and shall be considered betterment.

REIMBURSEMENT

Non-Reimbursable Work

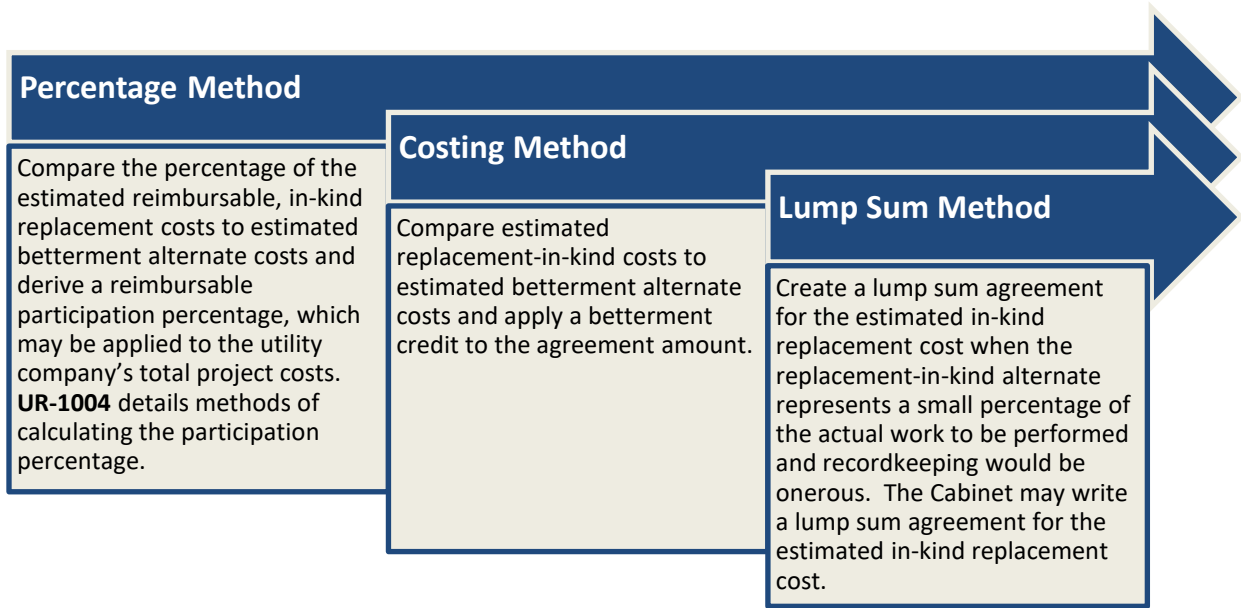
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REIMBURSEMENT

CALCULATION

METHODS INVOLVING

BETTERMENT Reimbursement involving betterment may be calculated by one of the following methods.



In all cases, the Cabinet and the utility company shall agree to the scope of work and the reimbursement calculation method before finalizing an agreement. ([UR-1802-3](#) provides additional details on betterment invoicing.)

**BETTERMENT COSTS
REIMBURSABLE TO
THE CABINET**

When a utility incorporates betterment work into the road project's bid package, the utility company owner will likely be obligated under agreement to reimburse the Cabinet. This reimbursement will be for the Cabinet-contractor-supplied betterment facilities.

Recovery costs shall be secured through a cooperative effort of the groups named below.

Roles Involved in Recovering Costs

- District Office Utilities Section
- District Office Project Delivery and Preservation Branch
- Division of Accounts
- Utilities and Rails Branch

REIMBURSEMENT

Non-Reimbursable Work

UR-1102-2

BETTERMENT COSTS

REIMBURSABLE TO

THE CABINET

The means by which the Cabinet receives reimbursement for betterment costs from the utility company are defined in **UR-1802-3**, “Utility Company Closeouts: Recovering Receivables.”

UNDERGROUNDING OF

EXISTING OVERHEAD

FACILITIES

The Cabinet may reimburse a utility company for relocating existing overhead facilities underground if it can be proven to be a more cost-effective alternative. However, the Cabinet shall not reimburse additional costs attributed to placing existing overhead facilities underground unless the underground placement directly benefits the Cabinet.

If local ordinances, public opinion, or project need require undergrounding of existing overhead facilities, the discretion of utilizing transportation funds to perform such work shall reside with the Transportation Cabinet Secretary or the Secretary’s designee. If the project is federally funded, the FHWA shall be asked to approve the recommendation.



	Section AGREEMENT DEVELOPMENT & EXECUTION
	Subject Overview

INTRODUCTION

Agreements help fulfill the requirements of [KRS 177.035](#) and [KRS 179.265](#) and [23 CFR 645](#). They provide a clear, written understanding of the responsibilities of the utility owner and the Transportation Cabinet (Cabinet) and may include details of Cabinet reimbursement to a utility owner or utility owner reimbursement to the Cabinet. The Cabinet uses several types of utility agreements which are detailed in [UR-1104](#).

AGREEMENT
COMPONENTS

Utility agreements generally include five specific sections.

Agreement Premise	Scope of Agreement	Responsibility of KYTC	Additional Clauses	Agreement Execution
•Provides an overall description of the project •Specifies the net dollar amount of the agreement •Describes the type of facilities that shall be moved •States the participation percentage •Authorizes the utility company to begin final work	•Details project responsibilities •Describes the affected existing facilities •Describes the reimbursable work •Describes the total work •Outlines any betterment •Defines the schedule / duration for completion •Describes change order submittal requirements •Requires conformance to Cabinet codes and policy	•Describes the Cabinet responsibilities for the project, i.e. responsibility to reimburse the utility •Describes how billings must be submitted Note: Easement agreements and prior rights agreements exclude this section.	•Lists all federal and state policies and regulations the utility company shall follow throughout the project Note: These terms cannot be omitted or revised without the Cabinet’s Office of Legal Services’ written acceptance and acceptance of all signing parties.	•Includes the statutory authority for the agreement •States all parties have read and agreed to the terms •Includes all parties' signatures •Includes the date the agreement is signed



	Section AGREEMENT DEVELOPMENT & EXECUTION Subject Agreement & Delivery Order Preparation

**IDENTIFYING NEED
FOR AGREEMENT OR
DELIVERY ORDER**

An agreement or delivery order is required if a utility facility is impacted or relocation is required due to a transportation project. This determination is made by the district utility supervisor (US) or utility agent (UA). The Transportation Cabinet (Cabinet) must work to determine and negotiate the terms of the utility impact by the transportation road project. The resultant product of this negotiation is an executed agreement with the utility company or a delivery order when one is viable.

**WHEN A DELIVERY
ORDER (DO)
IS VIABLE FOR USE**

A project relocation delivery order form (DO) is a short version of an agreement, with some variance in preparation. It is shortened because the bulk of the standard terms and conditions are already met in an overarching master (term) agreement (see [UR-2003](#)).

When a utility agrees to enter into a long-term agreement with the Cabinet, it is commonly referred to as a master (term) agreement. This agreement is typically executed through negotiations with the Cabinet's Central Office Utilities and Rails Branch. They include common terms and conditions for the coordination of utility relocations for the Cabinet projects, along with common terms of reimbursement (if reimbursement is part of the agreement). When such a master (term) agreement exists, a DO may be utilized.

**INFORMATION COLLECTION
FOR THE AGREEMENT
OR DELIVERY ORDER**

After identifying the need for an agreement or delivery order, the following information may be required.

AGREEMENT DEVELOPMENT & EXECUTION

Agreement & Delivery Order Preparation

UR-1103-2**INFORMATION COLLECTION
FOR THE AGREEMENT
OR DELIVERY ORDER (CONT.)**

Agreement Type	• UR-1104, "Agreement Types," includes the various types of agreements available.
Project Identifiers	• Project Item Numbers, Authorization Numbers, and Dates • TC 10-1 form, Project Authorization (includes project item number, authorization number, and date)
Uniform Project Numbers (UPN) and Federal Numbers	• TC 10-1 form includes the following components of the UPN: • Funding category (FD04, FD52, etc.) • County number • Program number • Federal number [If applicable, this number is included on the FPA-1 form, issued by Program Management (TC 90-124).]
Utility Owner Name and Address	• Utility owner name per Tax ID • Legal company address
Agreement Net Value (if work is reimbursable)	• Agreement net value, per utility estimate, is provided by the utility company and approved by KYTC prior to drafting agreement. • Delivery orders and estimate arrive together, but the delivery order shall not be executed unless the estimate is approved.
Cost Share Participation (if work is reimbursable)	• Ratio of reimbursable work to the total work to be performed must be included in the agreement. • Determining the state participation percentage is discussed in UR-1004.
Scope of Work	• Scope describes the quantity and type of all existing materials impacted, materials to be constructed, removed, or abandoned. • Materials defined as betterment must be clearly denoted in the scope.
Schedule	• Project schedule must include the number of days to complete the scope of work.

AGREEMENT DEVELOPMENT & EXECUTION

Agreement & Delivery Order Preparation

UR-1103-2**WRITING THE
AGREEMENT**

The US or UA drafts the agreement by choosing the appropriate type of agreement template and providing the information above as needed. Agreements should be drafted using KURTS agreement templates and uploaded into KURTS for US and AC approval. The Central Office area coordinator (AC) shall review and approve the drafted agreement and justification documentation prior to submission to the utility company.

If an agreement requires any revisions to boilerplate language to meet the specific needs of the project or utility company, the utility agreement writer shall confer with the district office legal staff and the AC to verify the viability of the revised language of the agreement.

**WRITING THE
DELIVERY ORDER**

The utility company may complete a delivery order (DO) providing the information above as needed. The template for this form can be found on the project page in KURTS or supplied by the US for utility company completion. The DO shall be submitted with estimate and relocation plans. The US and AC shall review and approve the drafted DO and supporting documentation prior to seeking signatures and execution. Reviews of the estimate and relocation plans shall take place in KURTS with hard copies accompanying the DO for formal execution and recording.

**IMPACTS OF
BETTERMENT**

When a utility incorporates betterment work into the road project's bid package, the utility company owner may be obligated under agreement to reimburse the Cabinet for work performed. This agreement is defined as a "work-in-the-highway contract betterment agreement". More detail may be found in [UR-1104](#).

When drafted, these agreements require the area coordinator (AC) to notify the Division of Accounts. The AC shall provide the Division of Accounts the project, company, and betterment amount. The Division of Accounts will set up a C phase funding line with zero dollars (\$0) that will be funded prior to agreement execution.

The means by which the Cabinet receives reimbursement for betterment costs from the utility company are defined in [UR-1802-3](#), "Utility Company Closeouts: Recovering Receivables."



	Section AGREEMENT DEVELOPMENT & EXECUTION
	Subject Agreement & Delivery Order Execution

OBTAINING AGREEMENT

APPROVAL

The negotiated agreement shall be reviewed by the Central Office area coordinator (AC) for quality control measures and advisement. The AC review takes place electronically in the Kentucky Utility and Rail Tracking System (KURTS). If necessary, the agreement may be sent to and reviewed by the district legal services.

Upon approval of the AC and, if applicable, the district office attorney, the utility supervisor (US) uploads the utility relocation agreement, which consists of the full legal document and the approved justification documentation attached as exhibits, for electronic signatures. This package is sent to all signatory parties via a Cabinet-approved signature collection software. The fully signed electronic document package is considered the original agreement. The agreement package is to be electronically signed by the following representatives.

Agreement Signatories

- Cabinet Attorney
- Utilities & Rail Branch Manager
- Division Director of Right of Way & Utilities
- Utility Company Authorized Representative

For these agreement originals, the Cabinet requires the electronic signature of a utility company authorized representative, typically an officer of the utility company or an employee with the delegated authority to negotiate contracts and sign agreements on the utility company’s behalf.

Note: Legal electronic signatures of approved agreements may be completed in any order.

AGREEMENT DEVELOPMENT & EXECUTION

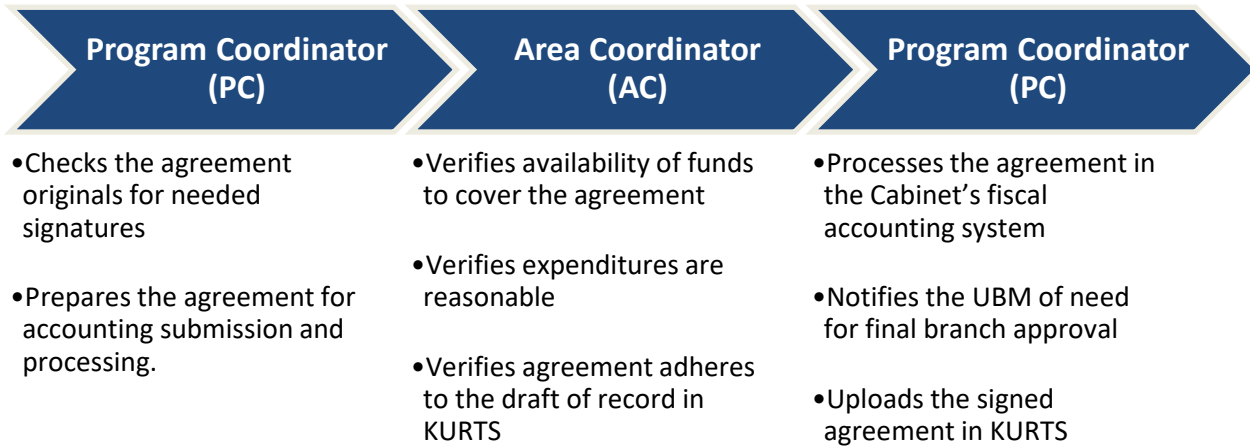
Agreement & Delivery Order Execution

UR-1103-3

OBTAINING
AGREEMENT
APPROVAL (CONT.)

A project relocation delivery order form (DO) is a short version of an agreement that originates with the utility company. It is typically submitted with the estimate and relocation plans, if available. The DO arrives to the Cabinet from the utility company, therefore, drafting an agreement for submission to the utility company. Reviews, approvals, and processes for delivery order signatures are otherwise similar to a standard agreement.

Once the agreement is fully electronically signed, the program coordinator (PC) and the AC execute the responsibilities outlined in the image below.



Approving parties must approve the agreement or DO in the Cabinet’s accounting system to have a fully executed utility relocation activity. Once fully executed, the program coordinator (PC) shall notify the AC of execution. The AC shall then notify the US.

Note: Utilities personnel do not process easement, prior rights, or no-charge agreements in the Cabinet’s fiscal accounting system since these agreements do not encumber any funds. Only agreements that involve an expenditure of Cabinet funds between the parties must be put into the Cabinet’s accounting system.

Execution of the utility relocation agreement or DO implies authorization to relocate. The US shall, upon receipt of the executed agreement or DO, provide the utility company the agreement authorization number, which indicates formal authorization to relocate.

AGREEMENT DEVELOPMENT & EXECUTION**Agreement & Delivery Order Execution****UR-1103-3****OBTAINING****AGREEMENT****APPROVAL (CONT.)**

It is advisable for the US to verify the necessary right-of-way acquisitions have taken place, utility companies are properly scheduled, and the authorized relocation work can commence. Otherwise, the notification shall clearly state that the work cannot commence until instructed as such. The unique agreement number from the Cabinet's accounting system is a valid authorization number.

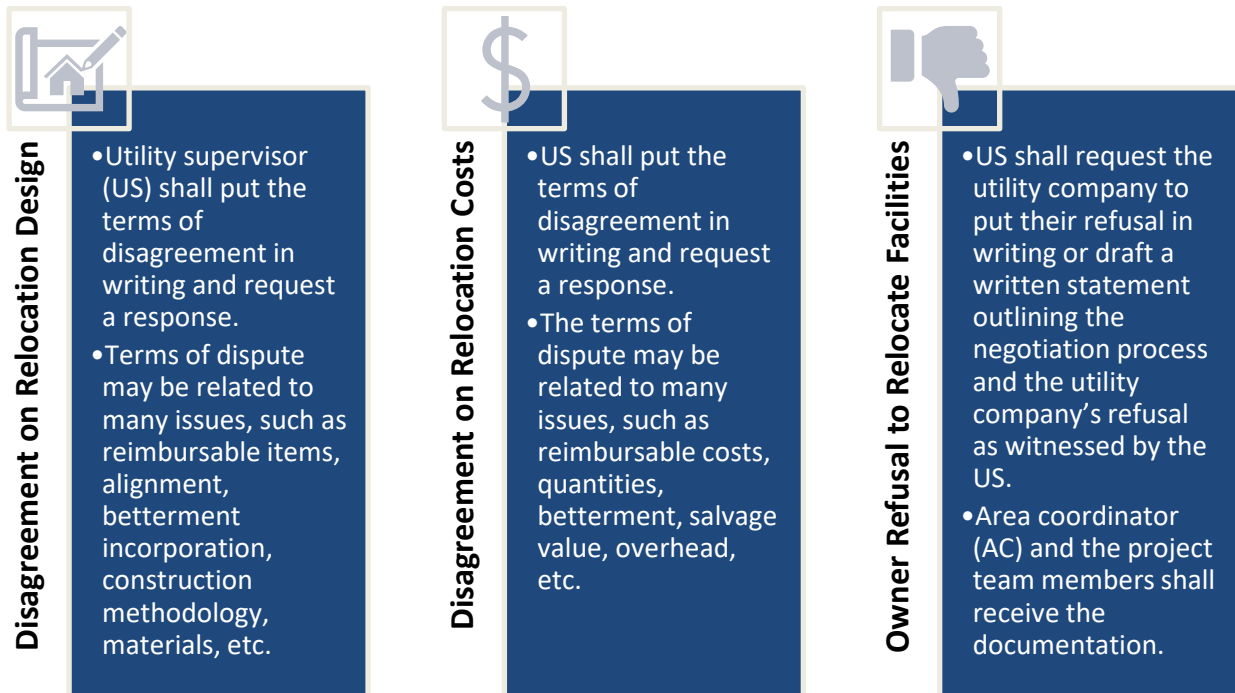
The relocation of reimbursable and non-reimbursable facilities is quite similar after the authorization numbers have been issued. The district Utilities Section shall monitor the construction and provide regular utility progress reports. The remaining differences are mostly fiscal in nature as shown in the following chapters.



	Section AGREEMENT DEVELOPMENT & EXECUTION Subject When Agreements Cannot Be Reached

GENERAL

Occasionally, the Transportation Cabinet (Cabinet) and the utility company fail to agree upon the relocation of the utility's facilities. In such instances, it may become necessary to turn to more intensive negotiations involving Central Office staff or possibly legal action. Some potential scenarios of contentious utility relocation negotiations are described here.



Resolving Disagreement on Relocation Design

- If an agreement cannot be reached and the project schedule allows, it is recommended that the US request Central Office negotiation support.
- AC may include many support teams, such as Legal Services, the Utilities and Rail Branch Manager (UBM), etc.
- If the schedule does not allow for further negotiation or further efforts are fruitless, the Cabinet may proceed with litigation or as prescribed by state law.

AGREEMENT DEVELOPMENT & EXECUTION

When Agreements Cannot Be Reached

UR-1103-4**CABINET'S RIGHT TO
RELOCATE FACILITIES
IN PUBLIC R/W**

The Cabinet relies on [KRS 177.106](#) and [KRS 416.140](#) to proceed with utility relocations of facilities within public right of way. If utilities interfere with the convenient, safe, and continuous use and maintenance of a highway, the Cabinet shall issue a notice to the owner to remove, relocate, or change such utility facilities within 30 days.

If the owner fails to comply with the terms of this notice, the Cabinet is authorized by statute to remove the obstruction at the owner's expense and thereupon charge, levy, and collect such cost from the facility owner. In proceeding to have facilities removed from public right of way, the Cabinet has several methods from which to choose.

Work in the Highway Contract

- The Cabinet may incorporate the proposed relocation into its highway plans and specifications proposal.

Cabinet Advertisement

- The Cabinet may advertise and solicit bids for the removal or relocation of the utility facility as a separate contract, handled by the US with Central Office staff support.
- Bid proposals may be prepared to include plans, specifications, bid forms, a bid bond, and wage rates.
- Bid proposals are advertised for a minimum of three weeks and are normally solicited from known contractors in the vicinity.

Other Options

- The Cabinet may make other arrangements as necessary to have the work performed, provided that the most practical, lawful, and economical method is used.

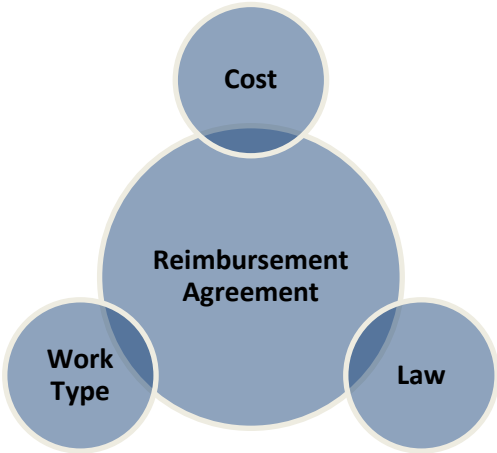
Regardless of the method utilized by the Cabinet in accomplishing the removal or relocation of utility facilities from public right of way, upon completion of the work involved, utilities staff shall report the cost to the Division of Accounts, who shall be requested to bill the owner in an effort to recover the money which the Cabinet has expended. After normal procedures for collecting these bills have been exhausted, the Division of Accounts shall furnish the file to the Office of Legal Services for necessary legal action.



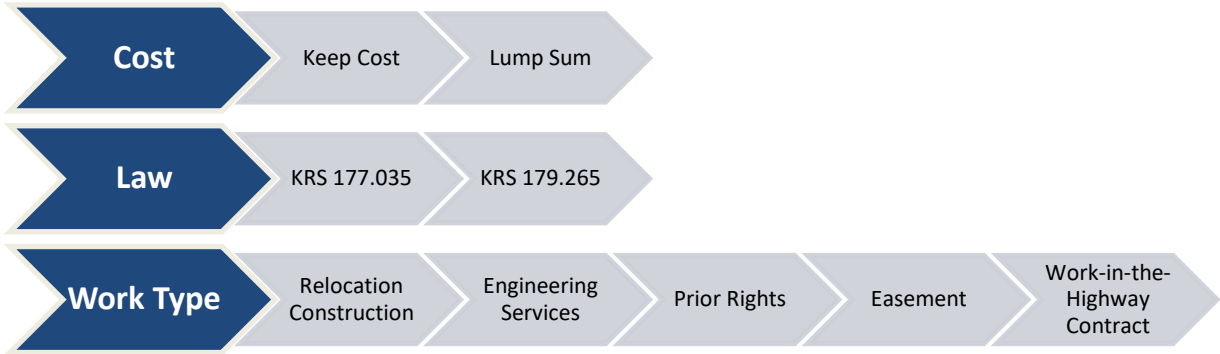
	Chapter AGREEMENT TYPES
	Subject Overview

OVERVIEW

The Transportation Cabinet (Cabinet) executes agreements with utility companies to provide a clear, written understanding of the responsibilities of the utility company and the Cabinet, in compliance with Federal regulation. The Cabinet reimbursement agreements are dependent upon specific conditions of the work needed. These primary criteria are shown below.



This section describes the different criteria that determine the type of template agreement needed.



	Section AGREEMENT TYPES
	Subject Cost: Keep-Cost and Lump-Sum Agreements

GENERAL

Agreements involving reimbursement require the Transportation Cabinet (Cabinet) define agreed cost to reimburse. The value of the agreement may be keep cost or lump sum. Each method of valuing the agreement requires different qualities of estimate and documentation when executing reimbursement. Each method is described in this section.

Agreement Type	Keep Cost	Lump Sum
Description	Agreement is for the actual cost of the expense to the utility company for the relocation.	Agreement is for a negotiated lump sum amount and based upon an estimate of the work.
Cost Paid	The amount paid may be more or less than the agreement amount.	The Cabinet may only reimburse up to the agreement amount.
Cap	There is no capped amount for these agreements.	The reimbursable amount is recommended to be capped at \$200,000.
Invoices	Each billing must be itemized.	Billings are viable throughout the project but do not require itemization.
Change Orders	Change orders are required to modify the amount of the agreement or change the scope.	No change orders are required unless the additional scope was unanticipated and not readily capable of being anticipated.

AGREEMENT TYPES

Cost: Keep-Cost and Lump-Sum Agreements

UR-1104-2**KEEP-COST****AGREEMENTS**

In a keep-cost agreement, the Transportation Cabinet (Cabinet) agrees to pay the actual cost of the expense to the utility company for the relocation. The amount paid to the utility company may be more or less than the agreement amount. Keep-cost agreements can be for any amount.

Billings from the utility company can be issued throughout the project but shall be specifically itemized to aid in verification of expenses. This itemization shall be submitted with interim payments, not solely with the final bill. The Cabinet reserves the right to request additional justification if expenses are called into question. [UR-1400](#) details invoicing requirements and procedures.

Change orders are required to modify the amount of keep-cost agreements, as detailed in [UR-1500](#).

The Kentucky Utility and Rail Tracking System (KURTS) houses standard templates for all agreement types, each of which can be electronically generated, sent, and recorded. KURTS users are advised to use these templates to ensure use of the most up-to-date version.

LUMP-SUM**AGREEMENTS**

In a lump-sum agreement, the Transportation Cabinet (Cabinet) agrees to pay a lump sum to the utility company based upon an estimate of the work. If the amount of the utility relocation exceeds the agreed amount, the Cabinet may only reimburse up to the agreement amount, unless the utility company can justify the overage as a project scope change.

Note: Lump-sum agreements include only estimated costs of known items of work and not miscellaneous or contingency costs.

Lump-sum agreements are recommended only for relocations totaling \$200,000 or less. Rarely do lump-sum agreements exceed this amount, and such instances are highly scrutinized. The district utility supervisor (US) shall consult the area coordinator (AC) if considering a lump-sum agreement greater than \$200,000.

To execute a lump-sum agreement in excess of \$200,000, the utility company shall provide a thorough justification and documentation of costs. The utility company shall not execute multiple lump-sum agreements on the same project for the same type of facility if the total of those agreements exceed \$200,000.

AGREEMENT TYPES**Cost: Keep-Cost and Lump-Sum Agreements****UR-1104-2****LUMP-SUM**

AGREEMENTS (CONT.) With lump-sum agreements, the amount of the agreement is non-negotiable unless a change in scope of the project is required to complete the project. In this case, a change order may be issued on the agreement. Otherwise, no change orders can be made against this agreement type.

The utility company may submit invoices (bills) for payment throughout the project. However, unlike keep-cost agreements, lump-sum agreements do not require itemization.

The Kentucky Utility and Rail Tracking System (KURTS) houses standard templates for all agreement types, each of which can be electronically generated, sent, and recorded. KURTS users are advised to use these templates to ensure use of the most up-to-date version.



	Section AGREEMENT TYPES
	Subject Law: KRS 177.035 and KRS 179.265 Agreements

GENERAL Agreements involving reimbursement require the Transportation Cabinet (Cabinet) define agreed cost to reimburse. The laws authorizing reimbursement of the work must be cited in all reimbursement agreements. The pertinent laws are described in this section.

Agreement Type	KRS 177.035	KRS 179.265
Description	Publicly held utility companies (i.e. municipalities) are reimbursed for the relocation of existing facilities. (Rarely, this can be applied to private utility companies too.)	Privately owned utility companies are reimbursed for relocating existing utilities located on other than public right of way.
Reimbursement	Agreements commonly require 100% reimbursement of the relocation expenses. (Exceptions include company-proposed facility betterment.)	Agreements may be partially or 100% reimbursable. (This is dependent on the percentage of utility facilities on or off right of way and company-requested betterments to their facility.)

AGREEMENT TYPES

Law: KRS 177.035 and KRS 179.265 Agreements

UR-1104-3**KRS 177.035****AGREEMENTS**

[KRS 177.035](#) agreements may be keep-cost or lump sum. These agreements allow reimbursement for relocations if a road project requires a publicly, or, in some cases, privately held utility company to relocate their facilities.

These agreements usually require the Cabinet to pay 100 percent of the relocation expenses. Exceptions exist when the utility company proposes facility betterment.

The terms of change order execution and invoicing shall be as described in the appropriate prior section, be it keep-cost or lump sum.

The Kentucky Utility and Rail Tracking System ([KURTS](#)) houses standard templates for all agreement types, each of which can be electronically generated, sent, and recorded. KURTS users are advised to use these templates to ensure use of the most up-to-date version.

KRS 179.265**AGREEMENTS**

[KRS 179.265](#) agreements may be keep-cost or lump sum and are typically written with privately owned utility companies. These agreements allow the state to reimburse a utility company if a road project requires the relocation of a utility located on other than public right of way. The Transportation Cabinet (Cabinet) will normally enter into a relocation agreement to reimburse the utility owner for the cost of moving the facilities and to authorize the entire relocation work to proceed. The Cabinet may also authorize the utility company to perform relocation work within public right of way, which is not reimbursable under KRS 179.265.

These agreements may be partially or 100 percent reimbursable. The Cabinet may consider betterment on this type of agreement, and the Cabinet's participation percentage is often an item of consideration.

The terms of change order execution and invoicing shall be as described in the appropriate prior section, be it keep-cost or lump sum.

KURTS houses standard templates for all agreement types, each of which can be electronically generated, sent, and recorded. KURTS users are advised to use these templates to ensure use of the most up-to-date version.



	Section AGREEMENT TYPES
	Subject Work Type: Agreement Templates

GENERAL

The Transportation Cabinet (Cabinet) uses standardized agreement templates for all common work types. The Kentucky Utility and Rail Tracking System (KURTS) houses those templates for all agreements described in this section. KURTS users are recommended to use these templates to ensure use of the most up-to-date version.

Agreement	Engineering Service Agreement	Second-Move Agreement	Prior-Rights Agreement	Easement Agreement	Work-in-the-Highway Contract Agreement	Work-in-the-Highway Contract Betterment Agreement	KRS 177.035(3)-(6) Agreement
Description	Keep-cost agreements used to reimburse relocation engineering & administrative work for utility staff or approved consultant.	Lump sum or keep-cost agreements that cover a second relocation for the same Cabinet project.	Addresses utilities that do not require relocation but a property right is being subordinated by a right-of-way acquisition.	Provides the Cabinet authority to acquire a permanent replacement easement in which the utility company may relocate	Keep-cost agreements that authorize the Cabinet to include the utility relocation work in the Cabinet project	Keep-cost agreements that authorize the Cabinet to include the utility relocation and betterment work in the Cabinet project	Keep-cost agreements that allow KYTC to employ full reimbursement for all relocations if a road project requires it
Uses	(1) Utility company requires the capacity to invoice non-construction work, (2) Utility relocation will be in the highway contract, and/or (3) Utility engineering predates U phase funding availability	Design changes or other Cabinet decisions occur that cause a utility company to relocate a second time for the same road project	A facility previously on private property is affected by a road project and now lies within newly acquired public right of way with no utility relocation. Acknowledges the prior right.	(1) A utility must be relocated out of an existing permanent easement or (2) a utility on existing right of way cannot be relocated in the new right of way.	Alleviate conflicting schedules, work activities, or utility company construction resource issues. Describes how the Cabinet will relocate the utility via road contractor or subcontractor.	See work in the Highway Contract agreements.	A road project requires special attention provided to utility relocations, i.e., expeditious relocation. (Requires special request and justification to the State Highway Engineer's Office)
Reimbursement	May be partially or 100% reimbursed	Usually, 100% reimbursable	Does not incur any transfer of funds	Does not incur any transfer of funds	Often no reimbursement, the work is being billed directly to the Cabinet. Exceptions possible if scope includes engineering, inspection, non-reimbursable work, or betterments.	See work-in-the-Highway Contract agreements.	Provides 100% reimbursement unless the utility company proposes betterment

AGREEMENT TYPES

Work Type: Agreement Templates

UR-1104-4

ENGINEERING

SERVICE AGREEMENTS Engineering service agreements are keep-cost agreements and are used by the Transportation Cabinet (Cabinet) to reimburse for relocation engineering and administrative work to be completed by utility company staff or an approved consultant. These agreements describe the services that will be rendered by the utility company or their consultant and the associated costs.

Engineering Service Agreement Use Cases

- The utility company requires the immediate ability to invoice the engineering work only.
- The utility relocation shall be included in the highway contract and there will be no direct reimbursement to the utility company for construction costs.
- The Cabinet has identified a need to initiate utility relocation engineering prior to U phase funding availability. (Typically, design phase funding is used. The use of D phase funding should be approved in advance by the project team.)

These agreements may be partially or 100 percent reimbursed. Items of consideration include betterment and the Cabinet’s participation percentage.

SECOND MOVE
AGREEMENTS

Second move agreements are needed when design changes or other Transportation Cabinet (Cabinet) decisions occur that cause a utility company to relocate a second time for the same road project.

For all second move agreements, a lump sum or keep-cost agreement may be executed to relocate facilities previously moved under a no charge or a reimbursable agreement.

Second move agreements shall not be approved for plan changes that are strictly for the convenience of the highway contractor. These agreements are usually 100 percent reimbursable.

PRIOR-RIGHTS
AGREEMENTS

The Transportation Cabinet (Cabinet) uses prior-rights agreements when a facility previously on private property is affected by a road project and now lies within the newly acquired public right of way without relocation of the utility facility. This typically occurs in road widening projects.

AGREEMENT TYPES

Work Type: Agreement Templates

UR-1104-4

PRIOR-RIGHTS

AGREEMENTS (CONT.)

This agreement includes language stating the Cabinet shall reimburse the utility company if the facility must be relocated due to future road projects. If the road plans do not clearly exclude the facility from public right of way, the utility company shall provide evidence of rights of occupancy of private property.

This type of agreement does not incur any transfer of funds at its execution and therefore does not require incorporation into the Cabinet’s accounting system.

Additional steps are needed when a prior-rights agreement is used, as listed here.

Required When Using Prior-Rights Agreements

- Communicate agreement with the district Traffic Engineering and Permits Section
- Notify the right of way team so a deed to extinguish the easement is secured

EASEMENT

AGREEMENTS

The Transportation Cabinet (Cabinet) uses an easement agreement when a utility company must be relocated out of their existing permanent easement or when a utility facility on existing right of way cannot be relocated in the new right of way. In the agreement, the Cabinet is provided the authority to acquire a permanent easement in which the utility company may relocate.

The utility company shall provide a request for the Cabinet to enter into such an agreement and for a drafted easement layout if one is not available via the road plans. Upon agreement execution, the Cabinet shall bear the costs associated with the easement acquisition, including all negotiations performed by Cabinet right-of-way personnel.

This type of agreement does not incur any transfer of funds between the utility company and the Cabinet and, therefore, does not require incorporation into the Cabinet’s accounting system. However, it is critical that the Cabinet records such agreements with the district Traffic Engineering and Permits Section.

The [Right of Way Guidance Manual](#) details Cabinet policy and procedure for right-of-way acquisitions and the transfer of easements to the utility company.

AGREEMENT TYPES

Work Type: Agreement Templates

UR-1104-4

WORK-IN-THE-HIGHWAY

CONTRACT AGREEMENTS Work-by-highway-contractor agreements are keep-cost agreements that may be under [KRS 177.035](#) or [KRS 179.265](#). These agreements are between the Transportation Cabinet (Cabinet) and a utility company, describing the conditions in which the Cabinet's road contractor, or subcontractor of, shall perform the utility relocation work and authorizing the Cabinet to do so.

[UR-1700](#), "Utility-Work-in-the-Road Contract," details the process of incorporating utility work into a road contract.

WORK-IN-THE-HIGHWAY

CONTRACT BETTERMENT

AGREEMENTS

Work-by-highway-contractor betterment agreements are keep-cost agreements that may be under KRS 177.035 or KRS 179.265. These agreements are between the Transportation Cabinet (Cabinet) and a utility company and describe the conditions in which the Cabinet's Road contractor performs the work for a utility relocation in lieu of the utility company's forces or contractors.

Work-by-highway-contractor betterment agreements address such instances when betterment results in the utility company being the payee to the Cabinet under the terms of the agreement for betterment costs.

The means by which the Cabinet receives reimbursement for betterment costs from the utility company are defined in [UR-1802-3](#), "Utility Company Closeouts: Recovering Receivables."

KRS 177.035(3)-(6)

AGREEMENTS

KRS 177.035(3)-(6) agreements are keep-cost. These agreements allow KYTC to employ full reimbursement for relocations if a road project requires a privately held utility company to relocate their facilities, but those facilities are not reimbursable under KRS 179.265.

These agreements are intended to be used when a road project requires special attention provided to utility relocations, i.e., expeditious relocation. In cases where this agreement is to be exercised, the district utility supervisor (US) and Project Development Branch Manager (PDBM) must submit a request for utilization of 100 percent reimbursement to the State Highway Engineer's Office via internal memorandum. This request shall identify the project need and the additional cost to be incurred by the Cabinet and provide a justification. If approved, the US shall execute KRS 177.035(3)-(6) agreements for all utility relocations, and the Cabinet shall pay 100 percent of the relocation expenses. Exceptions exist when the utility company proposes facility betterment.

AGREEMENT TYPES

Work Type: Agreement Templates

UR-1104-4**KRS 177.035(3)-(6)****AGREEMENTS (CONT.)**

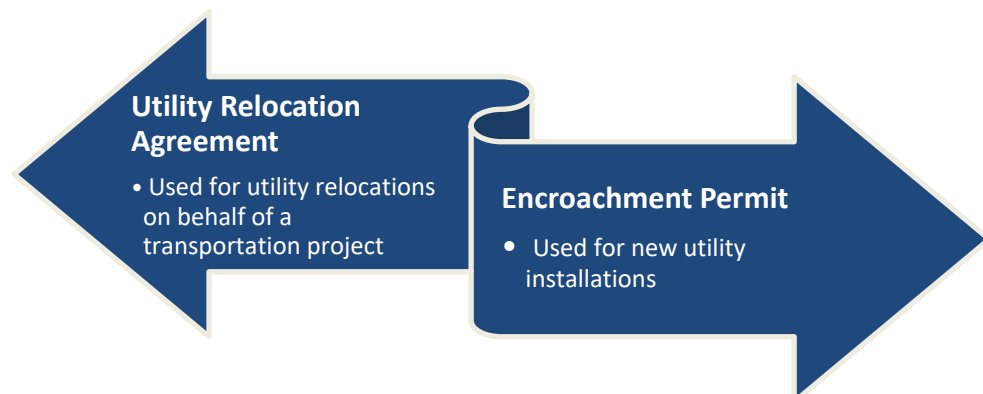
Note: While the noted authority of these agreements is denoted as KRS 177.035, it must be clarified that this statute allows the Cabinet to reimburse only for utility relocations performed for facilities within public right of way. The relocation work performed for facilities originating outside of public right of way must be reimbursed under KRS 179.265. If there are relocations eligible for reimbursement under KRS 179.265, a second agreement will be necessary to address that portion of the project scope.



	Section NON-REIMBURSABLE UTILITY WORK
	Subject Relocations and New Utilities

OVERVIEW

Any work or activity by a utility company on the right of way of any state road or street requires the approval of Kentucky Transportation Cabinet (Cabinet). The approval of utility installations occurs by one of the following mechanisms.



When a utility company is performing utility relocation work on behalf of a transportation project, the work may be reimbursable by the Cabinet project, or it may be non-reimbursable. This is determined by the application of the available laws found in [KRS 177.035](#) or [KRS 179.265](#). In either circumstance, a utility relocation agreement is required and is the Cabinet's authorization to relocate the utility facilities as planned. The approved relocation plans included in the agreement substitute for an encroachment permit, but the terms and conditions of a typical encroachment permit still apply.

Upon approval of relocation work via a utility relocation agreement, an authorization number is issued, which serves as the authorization number for reimbursable relocations. The Cabinet's management system, Kentucky Utility and Rail Tracking System (KURTS), issues a unique authorization number to non-reimbursable utility relocation plans upon approval and issuance of the no charge utility relocation agreement.

OVERVIEW (CONT.)

When a utility company is proposing new utility installations within the bounds of a transportation project actively in planning, design, or construction, the proposal must be jointly reviewed by the district office Permits Section and Utilities Section. This is to ensure the new utility will not detrimentally impact the proposed transportation project in any way. The team must consider the following impacts.

**Impacts to Consider
When a New Utility
Is Proposed During
Project
Development**

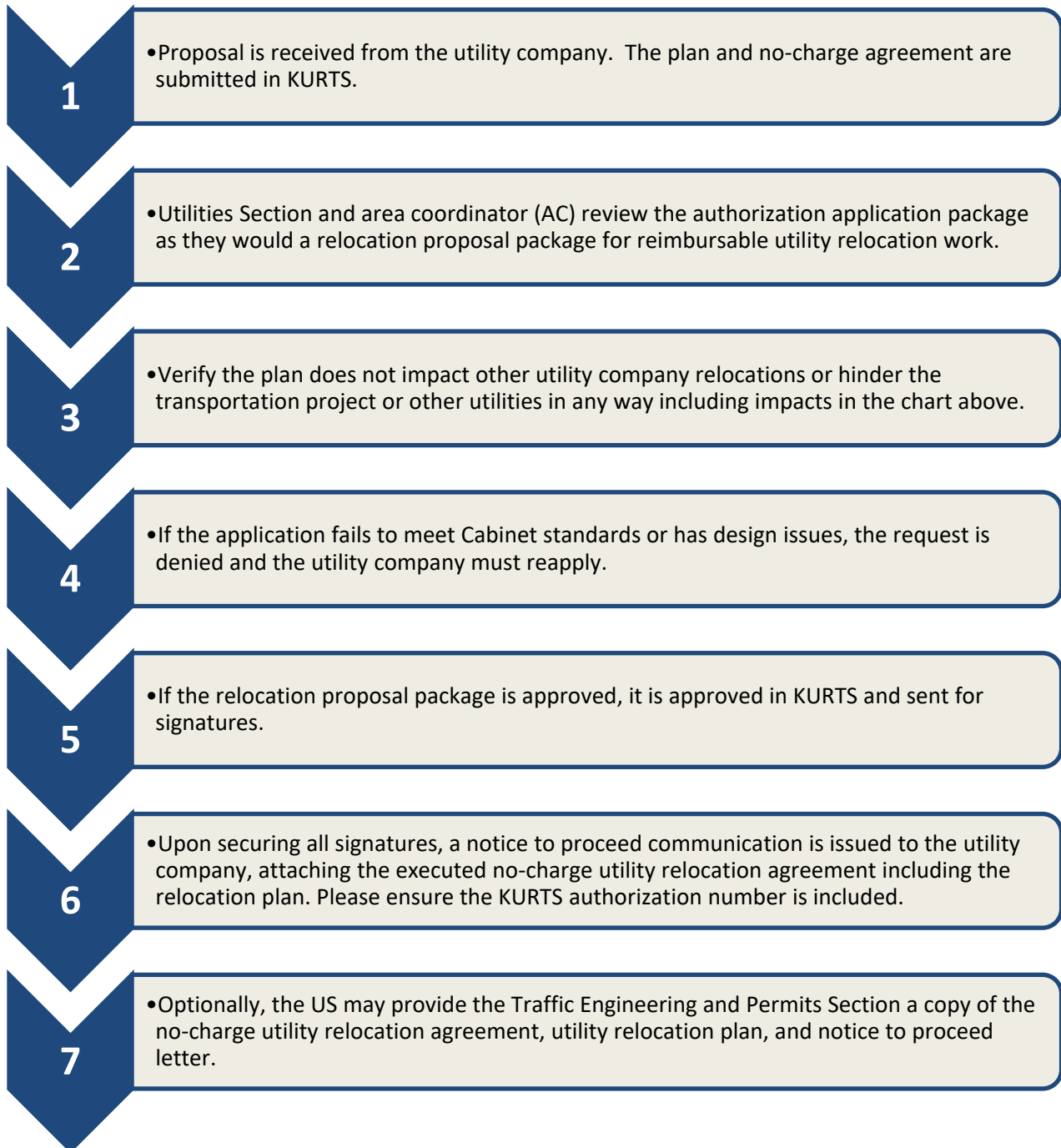
- Transportation project design
- Transportation project construction
- Project schedule
- Project cost
- Impacts to existing utilities
- Impacts to utility relocation designs

Securing an encroachment permit from the Permits Section is typically required for new utility installations that are unrelated to a project utility relocation. Exceptions to this policy may be issued by the chief district engineer (CDE). If excepted, typically the district utility section will be the responding and authorizing entity, under a no charge agreement (described below).

In either scenario, utility companies must have a copy of their utility relocation agreement or approved encroachment permit available for inspection at all times during utility construction. Failure to do so may result in forced work cessation, at no cost to the Cabinet.

**NON-REIMBURSABLE
UTILITY RELOCATIONS**

Utility relocations involving non-reimbursable facilities enter into no-charge utility relocation agreements, which act as authorization applications. Companies submit no-charge utility relocation agreements with their relocation plans. The procedure to process no-charge utility relocation agreements is shown in the graphic below.

**NON-REIMBURSABLE
UTILITY RELOCATIONS
(CONT.)**

Note: Acceptance of the relocation proposal package and issuance of an authorization number generally imply a notice to proceed.

**NON-REIMBURSABLE
UTILITY RELOCATIONS
(CONT.)**

Prior to issuing a notice to proceed, the US shall consider the following actions:

Utility Supervisor (US) Responsibilities

- Verify that the necessary right-of-way acquisitions have taken place
- Verify that the utility companies are properly scheduled
- Give permission for authorized relocation work to commence

**NEW UTILITIES
IN PROJECTS**

The Transportation Cabinet's (Cabinet) highway projects are identified long in advance of their construction phase. The project development team, which includes the district Utilities Section, are the project experts and should be consulted when an application for new utility facilities is proposed within project boundaries.

It is essential that permits applied for on these projects be submitted as early as possible so the proposed location may be shown on the Cabinet's plans. Any permit for a completely new facility which is not approved in time to show the proposed location on the Cabinet's plans prior to award on federal-aid projects or prior to advertisement on non-federal-aid projects may be held without action until the project is awarded on federal-aid projects or advertised on non-federal-aid projects. At that time, the application shall be reconsidered. If the highway project has valid highway plans at the time of permit submission, the Cabinet may require the utility company to resubmit their design on the highway plans for consideration to take place. It is at the district Traffic Engineering and Permits Section's discretion to either hold the permit application or allow the overlay of the utility plan to the highway plan. The responsibilities above fall to the district utility section if the chief district engineer (CDE) has assigned approval authority as such.

Unlike relocations, regulations do not require the District Utilities Section to inspect construction of new facilities in highway project bounds. However, it is advisable that the district Utilities Section monitor the construction and develop inspection reports, which can be generated in the field or office and saved via the Cabinet's management system, KURTS.

NEW UTILITIES**IN PROJECTS (CONT.)**

Acceptance of the plan and issuance of a permit number from the Permits Section generally indicates authorization to construct. Prior to permit authorization, it is advisable for the utility supervisor (US) to verify the necessary right-of-way acquisitions have taken place, the utility companies are properly scheduled, and the relocation work authorized can commence. The graphic below details the process to permit new facilities involving an active transportation project. These responsibilities fall to the district utility section if the chief district engineer (CDE) has assigned approval authority as such.



	<i>Chapter</i> UTILITY CONSTRUCTION
	<i>Subject</i> General

OVERVIEW

The preparation of utility relocation is the process by which utility companies, both publicly and privately owned, communicate with the Transportation Cabinet (Cabinet) to identify, design, organize, and otherwise make ready any affected utility facilities for relocation.

When a road project’s utility relocation plans are finalized, approved, and contracted with the Cabinet, and confirmed that all necessary right-of-way parcels and replacement utility easements (permanent and/or temporary) are acquired, the utility supervisor (US) or assigned utility agent (UA) shall prepare for utility relocations to commence.

Initial Steps for Utility Relocation Construction

- Final relocation plan preparation, review, and approval
- Budgetary/legal preparation (agreements and accounting documents)
- Authorization to proceed

These general steps involve coordination between the Cabinet and all utility companies with facilities in the project scope. The US or UA shall also convey information to the highway contract bidders regarding utility relocation schedules and any utility relocations to be executed in the highway contract.



	<i>Chapter</i> PREPARING FOR UTILITY CONSTRUCTION
	<i>Subject</i> Plan Preparation

PLAN REVIEW

The utility supervisor (US) or utility agent (UA) shall review existing and proposed location plans for all utility companies. These reviews shall give the US or UA an opportunity to analyze the relocation plans of all utility companies for potential conflicts of workspace or method. All utility relocations must include erosion control and traffic control plans.

Note: Utility companies that complete early utility accommodation (EUA) relocations must complete their own individual environmental document.

If the US or UA is unable to develop and review the comprehensive plan set, the Project Development Branch Manager (PDBM) shall coordinate this activity with district design staff. The area coordinator (AC) may also provide review assistance.

**ACQUISITION OF
AS-BUILT PLANS**

Upon completion of each utility facility relocation, the US or UA shall request as-built plans from the utility company. As-built plans are required for processing of final bills as well.

As-built plans must show existing and relocated facilities as they were constructed, removed, relocated, transferred, or left in place. More details on as-built plan requirements may be found in [UR-1002](#), "Utility Company Submissions: Utility Relocation Plans."

**VERIFICATION
THAT PROPERTY
ACQUISITIONS ARE
COMPLETE**

Prior to commencement of a utility relocation, the US or UA shall verify that all rights of way and easements needed to complete the relocation have been acquired by the Cabinet or the utility company.

PREPARING FOR UTILITY CONSTRUCTION

Plan Preparation

UR-1202-1

**COMMUNICATION OF
CABINET
COMMITMENTS**

Communicate All Promises (CAP) is a program to codify the covenant between the Cabinet and property owners potentially affected by the project.

The US shall be responsible for communicating all CAP issues to utility companies so that their facility relocation and adjustment plans incorporate those requirements into their plans.

**RELOCATION
SCHEDULES**

The US or UA shall consult the affected utility companies to determine their anticipated completion date for relocation. These schedules must be reviewed in relation to each other and to the road project’s schedule for viability.



	Chapter PREPARING FOR UTILITY CONSTRUCTION Subject Budget Preparation

PROJECT OVERVIEW

The utility supervisor (US) or utility agent (UA) shall review the project file and correspond with each utility company in the project scope to ensure all reimbursable work is included in a fully executed agreement. The Central Office area utilities coordinator (AC) may assist the US in fulfilling this task.

REVIEW-PHASE

BUDGET

The US or UA shall analyze the utility program budget to ensure that funding is sufficient to complete the relocation of utility facilities on the project.

Utility Program Budget Analysis

- Set funding levels.
- Determine Cabinet labor needs and cost.
- Establish agreement amounts.
- Include anticipated change orders.
- Calculate/estimate billings, including under-runs.
- Seek early utility accommodation (EUA) reimbursement (if Cabinet construction is authorized).

If the analysis shows funding levels for a program dipping below zero dollars (\$0), the US shall request additional funds as discussed in [UR-600](#). The request for additional funds should allow the program to remain solvent.

In addition, this analysis shall consider expenditures and encumbrances from any affected program phase. Typically, utility phase funding is the source for expenditures related to utility and rail work. However, EUA, design, and construction program funds sometimes are utilized and must be considered.

PREPARING FOR UTILITY CONSTRUCTION

Budget Preparation

UR-1202-2**REVIEW-PHASE****BUDGET (CONT.)**

If expenditures related to utility relocation or rail coordination appear to be putting a D or C phase program fund in the negative, the appropriate holder of those funds (design or construction) shall be informed. EUA funds should be requested for Federal Highway Administration ([FHWA](#)) reimbursement once the transportation construction funding is authorized.



	Chapter PREPARING UTILITY CONSTRUCTION Subject Field Preparation

PRE-LETTING MEETING A utility company pre-letting meeting is highly recommended to communicate the project design and coordinate utility relocation. The decision to conduct such a meeting is at the discretion of the utility supervisor (US) or utility agent (UA).

The meeting offers participants the opportunity to review and discuss the proposed sequence of operations and to raise and resolve concerns about the overall construction plan. The Transportation Cabinet (Cabinet) and the utility companies shall exchange names of emergency contacts that are available 24 hours a day. The district Utilities Section maintains a record of decisions, contacts, and actions resulting from the meeting.

PROJECT

WALK-THROUGH

If the US or UA and utility companies are unable to develop an adequately coordinated plan at a pre-letting meeting or if the project warrants, the US or UA may schedule a project walk-through.

At the project walk-through, each utility company shall explain their needs on the project. Their request shall include their access needs to joint-use facilities and specific locations for the project. In addition, the company shall explain special circumstances that dictate their need to be in specific locations on the work site.

Construction Issues Identified During Walk-Through

- Conflicting utility relocation schedules
- Conflicting utility design elements
- Site-specific obstructions to relocations
- Traffic control conflicts
- Erosion control conflicts
- Completion conflicts within the project
- Any road project complications (i.e., outstanding property acquisitions, commitments to property owners, road design elements, etc.)

PREPARING UTILITY CONSTRUCTION

Field Preparation

UR-1202-3

PROJECT
WALK-THROUGH
(CONT.)

The US or UA shall use the field review to become familiar with the area proposed for roadway construction and to delineate potential problems or conflicts between existing utilities, easements, or other physical features.

RELOCATION
SCHEDULES

The US or UA shall review the relocation scheduling information provided by utility companies to ensure that the schedules, when considered together, allow for the timely relocation of facilities which will not delay the progress of the Cabinet’s contractor.

If the relocation schedule does not provide the road contractor with appropriate workspace to accommodate his or her project construction schedule, the US shall consult with utility companies about modifying their schedule. If it is not possible to modify the utility relocation schedule, the US shall recommend to the Project Development Branch Manager (PDBM) an adjustment to the road project letting date to reflect the utility relocation schedule.

LOCATION DISPUTES

The first rights to specific areas of the project shall generally be granted to facilities which are required to maintain a specific grade throughout the project or at specific locations throughout the project. Otherwise, the first utility company to request the location shall be granted it.

Exceptions for First-Rights Utility Location

- Construction methods will endanger existing or future highway facilities
- Industry code requires separation of specific utility facilities from underground or overhead hazards
- Order of construction requires facilities to be relocated into specific areas

UTILITIES SECTION
INSPECTION

The UA shall inspect the relocation work to the degree capable with the available Utilities Section staff as prescribed in [UR-1203-4](#). Minimal inspection frequency is shown below.

Overhead Utilities

- Minimally, 1 inspection/week

Underground Utilities

- Minimally, 2 inspections/week

Note: These requirements are weather and active work dependent.

PREPARING UTILITY CONSTRUCTION

Field Preparation

UR-1202-3

UTILITIES SECTION

INSPECTION (CONT.) Field inspections will utilize the Kentucky Utility and Rail Tracking System (KURTS) mobile data collection (tablet) application in the field to collect progress and location. This report shall be saved for record in KURTS.

**EARLY UTILITY
ACCOMMODATION
(EUA)**

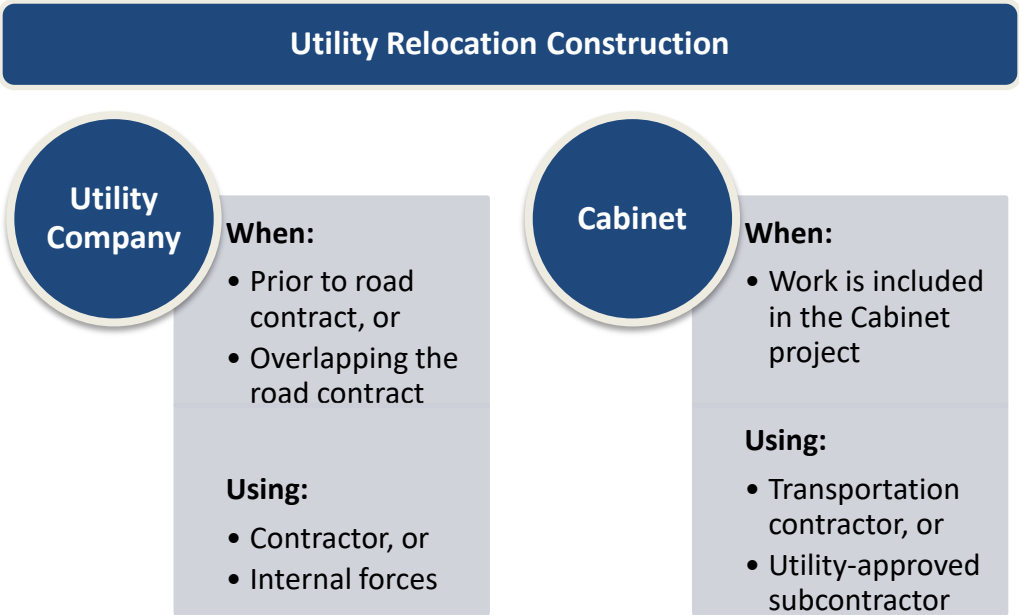
Any early utility accommodation (EUA) relocation construction may be prioritized for placement. This is due to the early design efforts and release to construction typically enjoyed when employing EUA.



	Chapter ACTIVE UTILITY CONSTRUCTION Subject Initiating Utility Relocation

OVERVIEW

Utility relocation construction may be executed under the authority of the utility company owner or the Transportation Cabinet (Cabinet), via multiple means.



This section discusses steps commonly needed if the utility relocation construction will be performed under the direct authority of the owner utility company. Section [UR-1700](#) will cover utility relocation construction included in the Cabinet project.

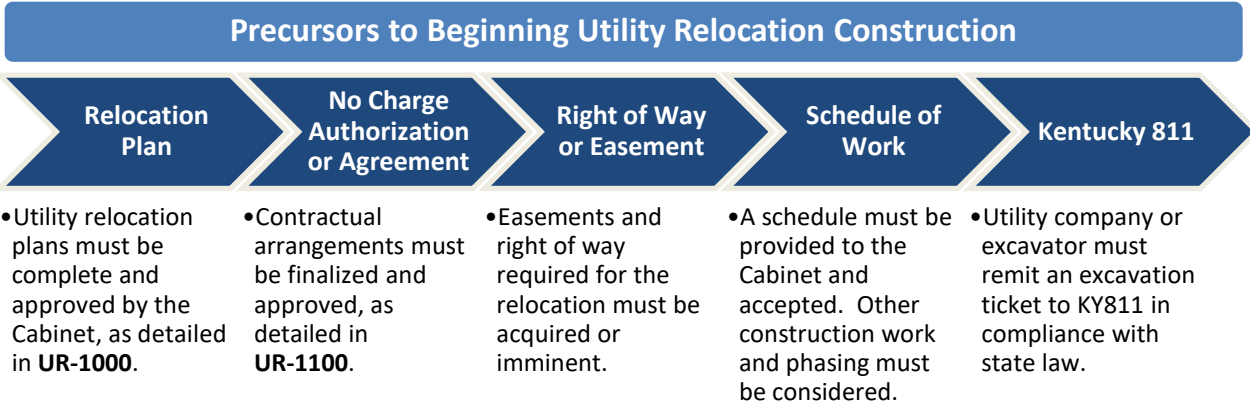
Utility relocation construction may begin when the following tasks have been minimally achieved.

ACTIVE UTILITY CONSTRUCTION

Initiating Utility Relocation

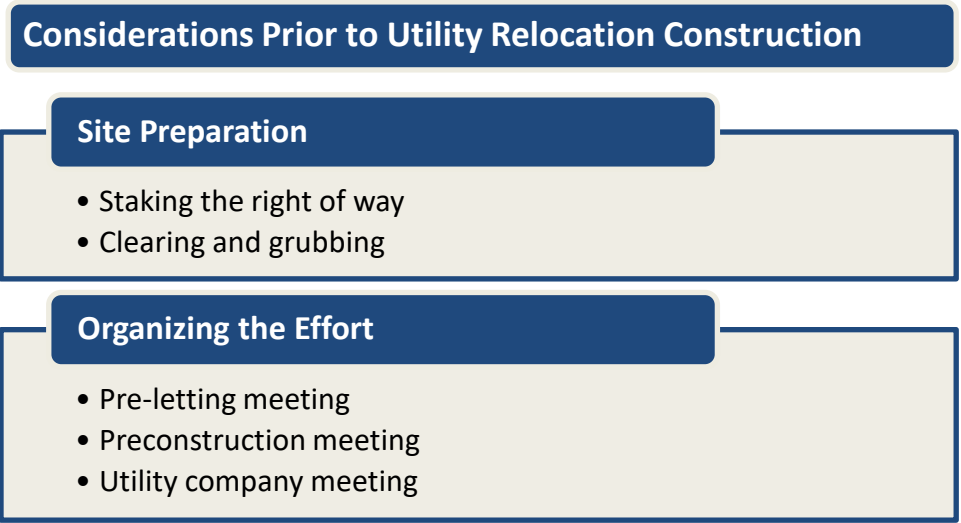
UR-1203-1

OVERVIEW (CONT.)



Note: The decision to begin relocations without full property acquisition is to be considered carefully. Such authorizations must be approved by both district and Central Office staff.

Utility companies and the Cabinet often must consider other factors, as outlined below, before beginning utility relocation construction.



RIGHT-OF-WAY
STAKING

Utility companies may require staking of right of way or other pertinent project features to successfully relocate their facilities. A utility company may provide staking services by company forces or by an approved contractor. The district Utilities Section may arrange the use of in-house resources or a consultant to perform staking of control points and other highway features necessary for a utility company to stake facility construction.

ACTIVE UTILITY CONSTRUCTION

Initiating Utility Relocation

UR-1203-1

ENVIRONMENTAL

APPROVALS

Utility company relocations must be executed within the Cabinet project’s National Environmental Policy Act ([NEPA](#)) approval footprint and compliant with terms and conditions. Exceptions to this may exist if the utility company conducted an independent individual environmental clearance review. Applicable environmental reviews must be secured, and terms of approval shall be verified by the district Utilities Section prior to issuing a notice to proceed.

CLEARING &

GRUBBING

Utility companies may need to clear and grub vegetation or other obstructions in order to construct the utility relocations. A utility company may perform the service by company forces or by an approved contractor. The Cabinet may also arrange for the clearing and grubbing work if viable.

Clearing & Grubbing Considerations

Property rights of access acquired

Commitments to property owners

Environmental approval requirements

When clearing, utility companies must comply with Cabinet tree and vegetation protection and disposal requirements. The image below shows additional factors to consider prior to clearing and grubbing.

NOTICE TO PROCEED

The Cabinet’s utility supervisor shall notify the utility company in writing when it is authorized to begin utility relocation construction work on the project. This notice may be relayed once the minimum criteria above have been successfully addressed. A template of the Cabinet’s notice to proceed letter is available in the Kentucky Utility and Rail Tracking System (KURTS).

ACTIVE UTILITY CONSTRUCTION

Initiating Utility Relocation

UR-1203-1**MEETINGS**

Utility company participation at project meetings may be beneficial, particularly on projects with significant utility involvement, overlapping construction work, and/or complex transportation projects. Meetings of interest to utility companies include the following.

Utility Focused Pre-Letting Meeting

- A utility company pre-letting meeting and walk-through are highly recommended to communicate the project design and to coordinate utility relocations.

Preconstruction Meeting

- On all projects, the utility companies in the project area shall be invited to attend the Cabinet's preconstruction meeting.
- This meeting provides an opportunity to convey project-specific utility information to the road contractor awarded the project.
- The utility companies in attendance should bring as-built plans for the transportation contractor and Cabinet.
- This meeting provides an opportunity to discuss relocation nuances, requirements, coordination needs, and construction scheduling.

Other Meetings

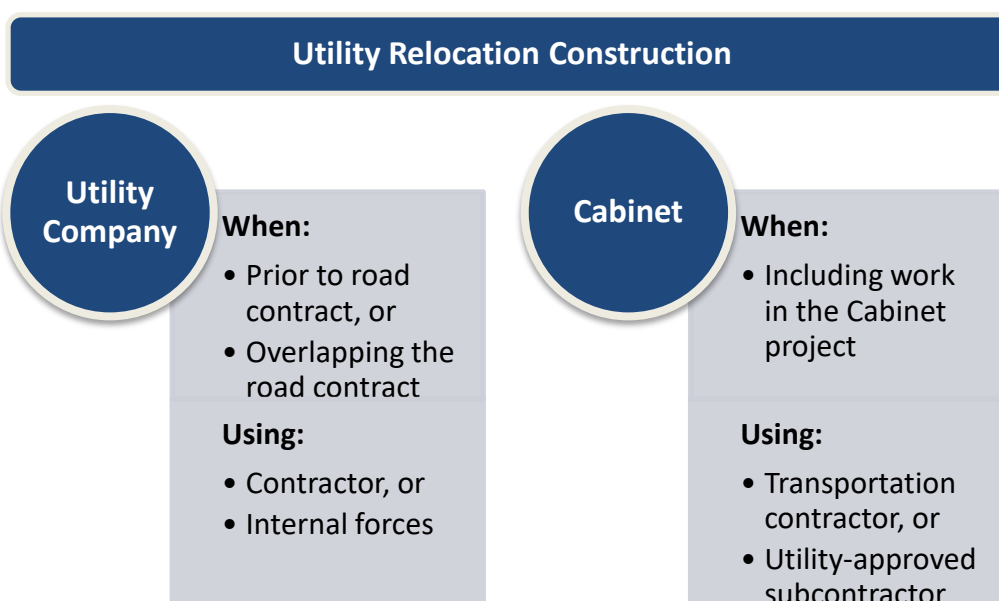
- Additional utility meetings may be necessary, particularly on complex projects with significant utility involvement and/or utility primary and secondary phase relocations.
- The Cabinet, utility companies, or contractors may request these meetings.
- The project may require one or more meetings or a series of meetings. The Utilities Section is charged with the responsibility of coordinating these meetings.



	<i>Chapter</i> ACTIVE UTILITY CONSTRUCTION <i>Subject</i> Construction Requirements

OVERVIEW

Utility relocation construction requirements vary dependent upon whose authority under which the work is completed.



This section discusses general requirements of utility relocation construction performed under the direct authority of the owner utility company. Section [UR-1700](#) will cover circumstances involving utility relocation construction included in the Cabinet project.

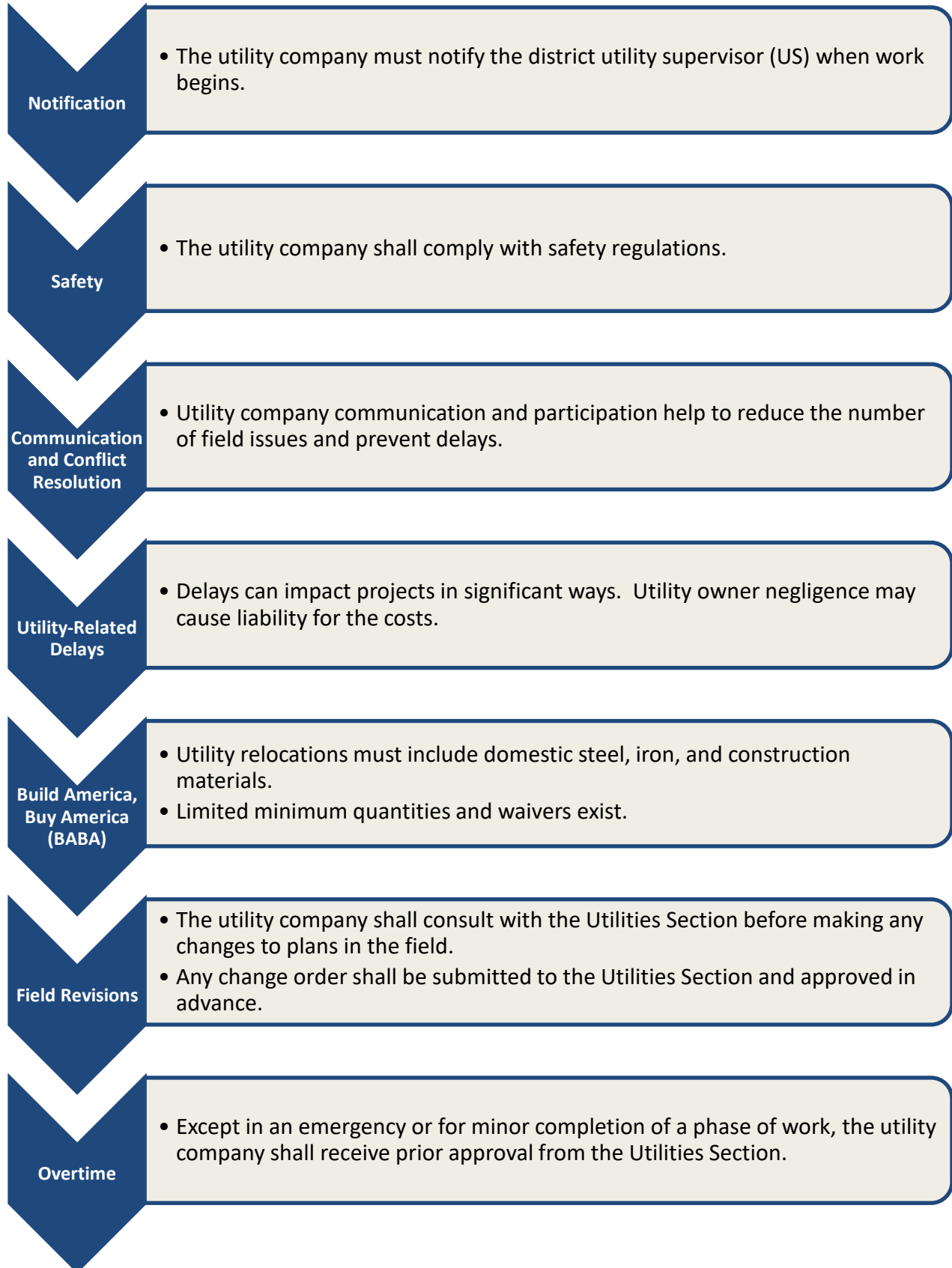
Once the Cabinet's utility supervisor notifies the utility company in writing it is authorized to begin utility relocation construction work on the project, the utility relocation construction is required to consider the following.

ACTIVE UTILITY CONSTRUCTION

Construction Requirements

UR-1203-2

OVERVIEW (cont.)



ACTIVE UTILITY CONSTRUCTION

Construction Requirements

UR-1203-2

NOTIFICATION The utility company shall notify the district utility supervisor (US) when its crews or its subcontractor’s crews arrive to begin work on the project. A utility company representative shall carry a copy of the executed agreement or the fully approved permit while on the job. For the utility company to be eligible for reimbursement, a fully executed agreement must be in force before any work begins.

SAFETY At all times, the utility company shall comply with safety regulations. Terms may be pursuant to law or regulation or identified in the body of the binding agreement.

**COMMUNICATION /
CONFLICT RESOLUTION** Effective coordination requires communication and participation by the utility company and the Transportation Cabinet (Cabinet). Through early and thorough coordination, the utility coordination process helps to reduce the number of field issues and prevent delays. Utility companies benefit by participating in this process because early coordination potentially reduces the overall amount of utility relocations. The utility company is also better able to plan and budget time and resources for required utility relocations in advance.

If the utility relocation construction overlaps the transportation project construction, utility company communication is critical to reducing impacts and delays for the transportation project and their contractor. In some circumstances, the utility work is more likely to detrimentally impact the transportation project. If so, the project team should consider including a bid item in the transportation project’s bid package for ‘utility coordination.’ This is a standardized lump sum item that expressly requires the transportation contractor meet and communicate regularly with involved utility companies to avoid conflict and delay.

**Project Conditions
that May Benefit
from a Utility
Coordination
Bid Item**

- **High volume of utility relocations** actively overlapping the transportation project
- Potential **phasing conflicts** between the project and ongoing utility relocations
- Potential **schedule conflicts** between the project and ongoing utility relocations
- Unfinished utility **work** that will **directly impede the project**
- Unfinished utility **work** that is **likely to change in the field**

Utility-related delays can impact projects in significant ways. The letter submitted to the utility company authorizing the initiation of the utility relocation shall state that if a utility owner negligently fails to respond to requests from the Cabinet during construction, it can be considered liable for the costs that a utility-related delay may cause.

ACTIVE UTILITY CONSTRUCTION

Construction Requirements

UR-1203-2

BUILD AMERICA,

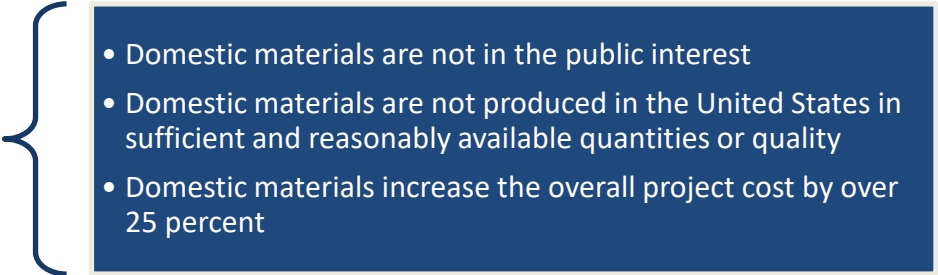
BUY AMERICA (BABA) Utility relocation steel, iron, manufactured products, and construction materials used to make way for road construction work in Kentucky generally shall comply with the Build America, Buy America (BABA) requirements as specified in [23 U.S.C. 313](#) and [23 CFR 635.410](#), Build America, Buy America Act (“the Act”). Any materials that do not meet BABA requirements may not be permanently incorporated into road project utility relocations.

Utility relocation steel, iron, manufactured products, and construction materials used to make way for road construction work in Kentucky generally shall comply with the Build America, Buy America Act (“the Act”) requirements as specified in [23 U.S.C. 313](#) and [23 CFR 635.410](#). Any materials that do not meet Build America, Buy America (BABA) requirements may not be permanently incorporated into road project utility relocations.

Utility companies must comply with BABA, which is agreed in the executed agreement, and the utility company certifies compliance with every invoice submitted. The Cabinet, however, reserves the right to request material certifications when needed.

The Federal Highway Administration ([FHWA](#)) has provided a minimum threshold for Buy America to apply. Non-compliant materials may be accepted if under \$2,500 (total amount of iron/steel products delivered to the project) or 0.1 percent of the total contract amount, whichever is greater.

**Secretary of
Transportation
BABA Waivers**



- Domestic materials are not in the public interest
- Domestic materials are not produced in the United States in sufficient and reasonably available quantities or quality
- Domestic materials increase the overall project cost by over 25 percent

The Federal waivers described above are available but are particularly difficult and time consuming to secure. If a utility company needs a waiver cited above, the request must be made well in advance to the Cabinet and well justified via written report. Waiver requests are not a valid reason to impede a transportation project.

The Cabinet advises utility companies to assume BABA compliance is a requirement unless the Cabinet explicitly identifies the project as completely non-federally funded and waives BABA.

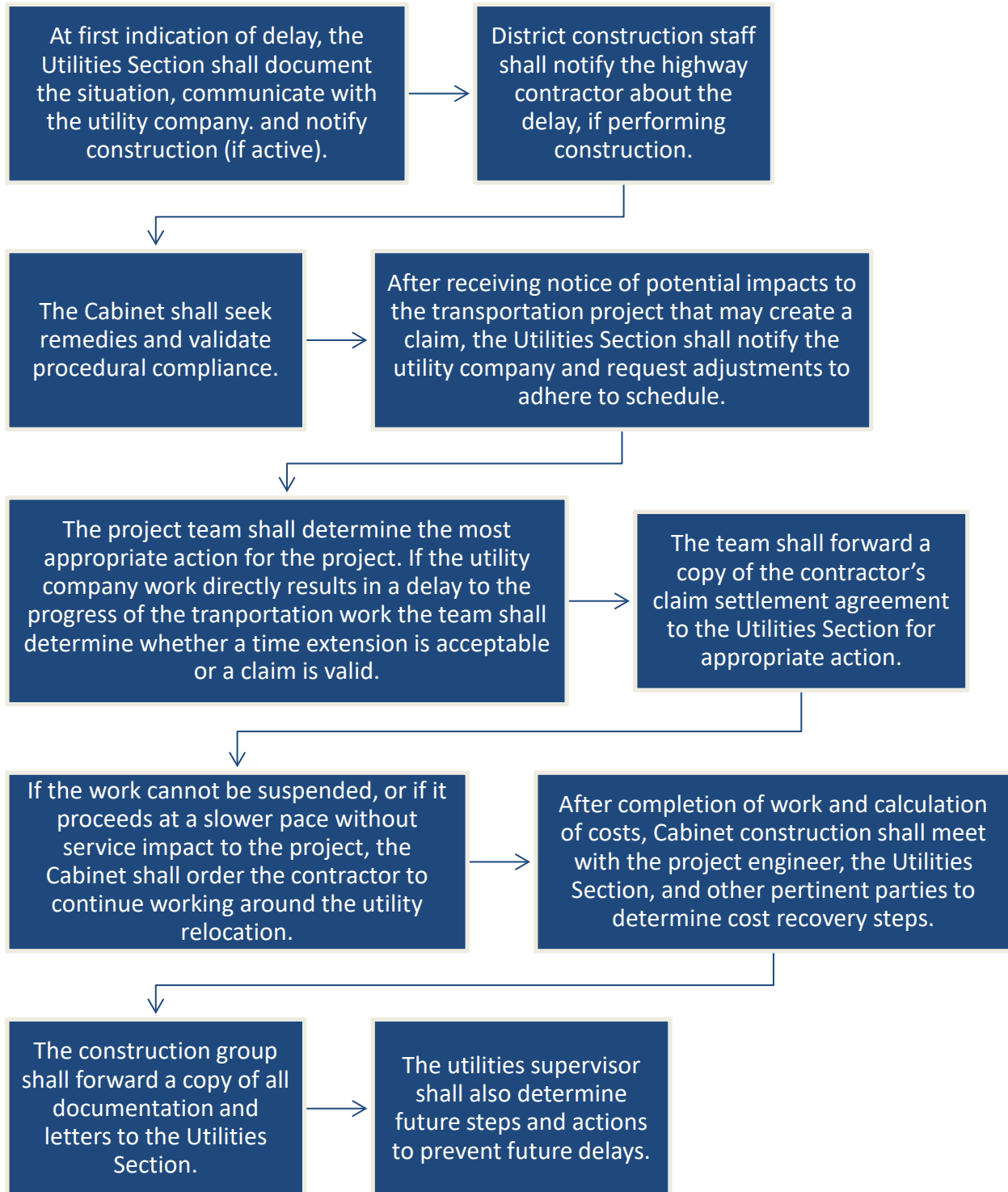
ACTIVE UTILITY CONSTRUCTION

Construction Requirements

UR-1203-2

UTILITY DELAYS

The Cabinet may follow a series of steps in cases of utility delays.



Note: If the contractor or utility company make facility moves, changes or agree to do work solely for their benefit or convenience, the Cabinet is not responsible to reimburse for the work.

ACTIVE UTILITY CONSTRUCTION

Construction Requirements

UR-1203-2

FIELD REVISION

APPROVAL The utility company shall first consult with the Cabinet Utilities Section before making any changes to plans in the field. The Cabinet highway construction inspector shall also be involved in this review if the highway construction is underway. The utility company shall receive approval from the Cabinet Utilities Section before making changes.

If the agreement calls for the Cabinet to reimburse the utility company for relocation costs and these changes are anticipated to increase the project cost, a change order shall be submitted to the cabinet Utilities Section and approved before work may commence.

TRAFFIC CONTROL The utility company shall comply with traffic control standards. Terms to be adhered to are identified in the body of the agreement, plan, and Cabinet permitting policy.

ENVIRONMENTAL APPROVALS The utility company shall comply with requirements of the environmental approvals, be it under the Cabinet transportation project’s approval or utility company’s independently secured approval. Additional terms are in the body of the agreement.

CONSTRUCTION RESTRICTIONS The utility company shall comply with any restrictions imparted to the utility relocation construction and, in some cases, the transportation project. Restrictions may be found in Cabinet right-of-way commitments, environmental approvals, policy, procedure, law, regulation, or in the agreement. Some restrictions may involve the following.

Restrictions

- Unacquired property
- Commitments to property owners
- Environmental
- Clearing and grubbing
- Maintenance of traffic
- Traffic control
- Scheduling
- Phasing

OVERTIME Except in an emergency or for minor completion of a phase of work, the utility company shall receive prior approval from the Utilities Section for all overtime work to qualify as a reimbursable expense.



	Section ACTIVE UTILITY CONSTRUCTION Subject Utility Relocation Contractor

OVERVIEW

All contractors that contract directly with the utility company to perform reimbursable work shall be approved in advance by the Transportation Cabinet (Cabinet). When the Cabinet issues a notice to proceed for utility relocations, the subject utility company is authorized to begin relocation construction by one of three mechanisms, specified below.

Viable Means of Relocation Construction

- Utility company construction personnel
- Cabinet-approved contractor selected through a proper and validated bidding process
- Cabinet-approved contractor retained via an accepted continuing contract

Note: The authorization to begin relocation construction assumes that the relocation work is not incorporated into the road contract. [UR-1700](#) details processes when the relocation work is incorporated into the road contract.

The utility supervisor (US) is the Cabinet’s initial reviewer of contractor(s) selected by the utility through bidding or continuing contract. The Central Office area utility coordinator (AC) also has authority to approve or reject the utility’s contractor selection. If necessary, the US or AC may involve the Utilities and Rail Branch Manager (UBM) for additional reviews.

BID WORK

If the relocation work is bid, the utility shall provide the US with the bid tab, which indicates a minimum of three (3) contractor bids. If the US is satisfied that the selected contractor is qualified and can deliver the utility relocation work in an economic, viable, workmanlike, and timely manner, he or she shall recommend approval.

ACTIVE UTILITY CONSTRUCTION

Utility Relocation Contractor

UR-1203-3

BID WORK (CONT.)

The US and AC shall review and approve or reject the bid tab. Rejections shall include a documented reason for rejection. Upon review, the US or AC shall notify the utility company of the findings. The review and approval or rejection of the contractor is recommended to be done within the Kentucky Utility and Rail Tracking System (KURTS). When the bid tab is submitted and reviewed electronically, KURTS generates an approval or rejection letter that can be automatically sent to the utility company of interest.

CONTINUING CONTRACTS

If the relocation work is awarded to a contractor under a continuing contract with the utility company, the utility shall provide the UBM with a copy of the continuing contract. The continuing contract may already be on file with the Cabinet UBM. If so, the utility company may notify the US that this is the contract to be used. The UBM is responsible for validating that the continuing contract rates are viable and commonly used by the utility company of interest. Once validated, the UBM may recommend approval.

Note: Continuing contracts that are supplied by the utility company are not subject to open records.

REASONS FOR REJECTION

The Cabinet may reject a utility contractor due to one of the following reasons.

Reasons to Reject Utility Contractor

- Utility company does not issue the award to the low bid contractor and cannot justify the decision
- Cabinet finds the scope of work is inappropriate
- Contractor rates exceed the maximum established by the Cabinet
- Cabinet finds the total construction costs or a component thereof as excessive or inappropriate

If rejected, the Cabinet shall request that the utility company provide an explanation. The Cabinet may request the selection of another contractor if the justification is not satisfactory.

ACTIVE UTILITY CONSTRUCTION

Utility Relocation Contractor

UR-1203-3**APPLICABILITY**

Cabinet approval and authorization of construction relocation services is applicable to all utility companies conducting reimbursable relocation work on a Cabinet project.

If a utility company does not utilize its own constructive forces and desires to secure a contractor who is not already on a current Cabinet-approved continuing contract list for relocation work, the utility company shall comply with the Cabinet's review and approval process.



	Chapter ACTIVE UTILITY CONSTRUCTION
	Subject Cabinet Responsibilities

**PROJECT PARTNER
DUTIES**

Utility relocation construction is the ultimate step to mitigate conflicts existing utility facilities have with the transportation project. The proper completion of this work is imperative to facilitate a timely and efficient project.

Oversight, inspection, and documentation of utility relocation construction plays an important role in a successful project, including early resolution of issues, decisions about claims, auditing issues, and utility reimbursement.

The owner utility company and Cabinet are statutorily and contractually obligated to work together in a partnership to facilitate the project, including the utility relocation construction. As a project partner, the Cabinet must carefully consider the following minimally during utility relocation construction and transportation project construction.

Cabinet Responsibilities

- Generally oversee project work
- Validate the relocation clears the Cabinet project
- Coordinate ALL utility relocation construction
- Utility company/Contractor oversight
- Communicate with parties
- Inspection
- As-Built review
- Invoice review (If applicable)

ACTIVE UTILITY CONSTRUCTION**Cabinet Responsibilities****UR-1203-4****GENERAL CABINET****INVOLVEMENT**

Priority one of the Cabinet's utility staff is to ensure utilities clear the transportation project. To do so, the district utility supervisor (US) must make sure all utility relocation construction is well coordinated relative to location, staging, and schedule.

Prior to mobilization, relocating utility companies must notify the district utility supervisor (US) in writing of the anticipated date to begin work. An email containing this notification is an adequate substitution for mailed correspondence.

The US must work with involved utility companies to ensure contractually compliant, legal, safe, effective, and efficient utility relocation installations. Towards this goal, an inspector representing the Cabinet must be employed periodically if utility relocation construction is underway. The Cabinet's inspector shall focus on compliance with agreements, Cabinet utility accommodation policy, avoidance of conflicts with other ongoing utility work, and ultimately remedy impacts to the transportation project. Additional information on Cabinet utility inspection standards is described in 'Cabinet Utility Inspection' below.

If owner utility companies wish to have a consultant inspector onsite, the US shall receive and review the inspector's contact information, contract, and rates. If utility company inspection is proposed to be done by the utility company under force account, the company may have an inspector assigned to the relocation project whenever the utility contractor is on site. Additional information on utility supplied inspection standards is described in 'Owner Utility Company Inspection' in [UR-1203-5](#).

UTILITY COMPANY**AND CONTRACTOR****INVOLVEMENT**

The Cabinet and owner utility company are partners via binding agreement. The US shall offer assistance to owner utility companies, their contractors, and/or utility company consultants to mobilize and then execute the work. During transportation project construction, the US shall be available to respond to questions and conflicts the project contractor identifies.

If the owner utility company is using contractor(s) and consultants, the Cabinet may communicate with those parties but must understand that decision making matters must overtly involve communication with the owner utility company. The Cabinet recognizes the owner utility company's oversight of utility relocation construction. Exceptions exist in cases of safety or direct detriment to the transportation project.

ACTIVE UTILITY CONSTRUCTION

Cabinet Responsibilities

UR-1203-4

UTILITY COMPANY
AND CONTRACTOR

INVOLVEMENT (CONT.) Cabinet or Cabinet contractor concerns may be directed to the owner utility company, contractor, or consultant dependent upon urgency, schedule, or proximity. The Cabinet expects responsiveness on such inquiries as indicated in the law and agreement. Any adjustments to utility company design or construction that changes schedule or agreement scope must be documented in writing. In cases of a reimbursement agreement, these should be documented in a change order. These changes may originate with the owner utility contractor or consultant, but the utility company must submit them. A utility company staff signature of the documentation submitted by the consultant is acceptable.

COMMUNICATION The Cabinet is expected to strategically deploy and schedule multiple active utility relocations to minimize field conflicts and delays. To do so, the US must plan work and communicate with the owner utility companies while the utility relocation construction is active. An open line of communication is critical until an agreement release is sent by the Cabinet.

The Cabinet’s utility inspector is recommended to regularly meet and communicate with active utility company relocation inspectors, the transportation contractor and utility representatives to ensure project effectiveness.

CABINET UTILITY
INSPECTION

Inspection and documentation of utility relocation construction play an important role in a successful project, including early resolution of issues, decisions about claims, auditing issues, and utility reimbursement. The Utility Supervisor is responsible for ensuring these relocations are completed and inspected. The actual inspection work may be completed by viable Cabinet inspectors listed below.

Viable Cabinet Inspectors

- Utility Supervisor (US)
- Utility agent (UA), **under US oversight**
- Other KYTC inspectors, **if assigned**
- Utility Coordinator Consultant (UCC), **if contracted**

ACTIVE UTILITY CONSTRUCTION

Cabinet Responsibilities

UR-1203-4

CABINET UTILITY
INSPECTION (CONT.)

The Cabinet generally inspects for the following.

Cabinet
General Utility
Inspections

- Compliance with policy and agreement
- Safe Operations
- Documentation of Progress and Schedule
- Documentation of Location

The Cabinet is obligated to inspect the utility relocation work performed to ensure satisfactory completion as prescribed in [23 CFR 645.115](#). The cited regulation indicates that inspection of utility relocation work is required to ensure that the work to be reimbursed is completed as specified in the agreement. As a result, the Cabinet recommends the minimum frequency of inspections.

Overhead Utilities

- Minimally 1 inspection/week

Underground Utilities

- Minimally 2 inspections/week

Note: These requirements are weather and active work dependent.

The federal regulation also indicates that inspection reports provided by the utility company are required for accurate billing throughout. The Cabinet’s utility inspector is expected to collect and manage the following data.

Minimal Inspection Data to Collect

- Complete regular utility progress reports based upon site visits (Digitally field collected and recorded in KURTS).
- Safely collect digital as-built location of the active utility construction when on-site.
- Collect pictures of construction work when onsite.
- Record utility-supplied inspection reports in KURTS.

The district Utilities Section shall secure an inspector to collect data and monitor the work of the owner utility company/utility contractor. This Cabinet utility inspector shall be provided a copy of the agreement, utility inspection reports, the latest highway plans, and any other relevant information.

ACTIVE UTILITY CONSTRUCTION

Cabinet Responsibilities

UR-1203-4

CABINET UTILITY
INSPECTION (CONT.)

The Cabinet’s utility inspector shall review the agreement to understand charges that are eligible for reimbursement and review the latest plans to become familiar with the location and the construction limits.

The inspector shall arrange to meet strategically with the utility representatives to ensure project effectiveness.

The inspector shall notify appropriate Cabinet officials of any discrepancies found via field inspection. Addressing discrepancies as a team will prevent utility installation or relocation that might conflict with the Cabinet’s construction operation or with other utility companies.

Due to limited manpower, the Cabinet’s utility inspector must carefully manage the amount of inspection time spent on utility relocations, limiting tasks to those the Cabinet needs. Normally, the time required would depend upon the type of jobsite activities being accomplished and the amount of information needed to document relocations for reimbursement. The Cabinet-supplied utility inspector represents the Cabinet and primarily works to ensure that utility facilities are compliant with Cabinet accommodation policy and clears the way for the Cabinet project. The owner utility inspector represents the owner utility company. As such, their interest is validating quality of construction as well. The graphic below shows how the inspections vary between the utility owner inspector and Cabinet inspector.

Utility Inspector	Cabinet Inspector
• Utility accommodation policy compliance • Cabinet project clearance • Quality construction • Material testing	• Utility accommodation policy compliance • Cabinet project clearance • Avoids impact to other utility relocations

ACTIVE UTILITY CONSTRUCTION

Cabinet Responsibilities

UR-1203-4

CABINET UTILITY
INSPECTION (CONT.)

During construction, the Cabinet inspector shall review regular utility reports and inspect the site(s). Daily field data collection information including pictures must be collected in the field digitally, minimally weekly. Field data collection entries into KURTS are required. Data reports may include the following data points and specific tasks.

Data Points		
Date	Time	Location of work, (Latitude/Longitude)
Percent complete	Photographs	Composition of the crew
Vehicles and equipment	Type of work	Location of facility in relationship to road design elements
Recently delivered materials and their condition		

ACTIVE UTILITY CONSTRUCTION

Cabinet Responsibilities

UR-1203-4

CABINET UTILITY
INSPECTION (CONT.)

Inspection Tasks

- Document (consider design, policy, & specifications):
 - Lateral placement of utilities
 - Depth and height of utilities and structures
 - Size and type of materials
 - Construction method and backfill
 - Quantities of utilities installed
 - Materials removed
 - Potential salvage value of materials
 - Spatial and digital location of facilities
- Note potential conflict locations.
- Note poor soil conditions.
- Note whether abandoned facilities (out of service) are buried or removed.

SUBMISSION OF
COMPLETION NOTICE
& AS-BUILT PLANS

After completing installation, the utility company shall submit a statement of project completion along with as-built plans and a final bill, if applicable, to the district utility supervisor. The assigned utility agent shall inspect the completed work and notify the Central Office area coordinator that the work is completed satisfactorily. After a satisfactory amount of time, the authorization may be released. In cases involving an agreement, the agreement shall remain open until a final invoice is paid, but it shall be paid no more than one year after completion of the defined work.

INVOICING

Pursuant to Kentucky statute ([KRS 177.035](#)) and federal regulation ([23 CR 645 Subpart A](#)), utility companies have one (1) year post completion to seek reimbursement. Invoices shall be submitted by the utility company under the legally binding agreement with the Cabinet. A consultant agent representing the utility company may submit the invoice, if expressly designated to do so by the utility company. Any invoices do however require the utility company signature of the document submitted.

Final invoicing and project closeout are issues pertinent to project completion and are addressed in [UR-1400](#) and [UR-1800](#).



	<i>Chapter</i> ACTIVE UTILITY CONSTRUCTION <i>Subject</i> Utility Company Responsibilities

**PROJECT PARTNER
DUTIES**

Utility relocation construction is the ultimate step to mitigate conflicts between existing utility facilities and the transportation project. The proper completion of this work is imperative to facilitate a timely and efficient project.

The owner utility company and Cabinet are statutorily and contractually obligated to work together in a partnership to facilitate the project, including the utility relocation construction. As a project partner, the owner utility company must carefully consider the following minimally during utility relocation construction and transportation project construction.

Owner Utility Company Responsibilities

- General oversight
- Validation that relocation clears the Cabinet project
- Contractor/consultant oversight
- Communication with parties
- Inspection
- As-built submission
- Invoicing (if applicable)

**GENERAL UTILITY
OVERSIGHT**

Prior to the start of relocation, the utility company shall notify the district utility supervisor (US) in writing of the anticipated date to begin work. An email containing this notification is an adequate substitution for mailed correspondence.

ACTIVE UTILITY CONSTRUCTION**Utility Company Responsibilities****UR-1203-5****GENERAL UTILITY****OVERSIGHT (CONT.)**

The utility company shall be available to assist the utility contractor in locating facilities and valves for isolation. During transportation project construction, the utility company shall be available to respond to questions and conflicts the project contractor identifies.

The utility company must ensure a contractually compliant, legal, safe, effective, and efficient utility installation. Towards this goal, an inspector representing the utility company may be employed. If an inspector is desired, the utility company shall supply the Cabinet with the inspector's contact information, contract, and rates. If inspection is performed by the utility company under force account, the company may have an inspector assigned to the relocation project whenever the utility contractor is on site. The utility company's inspector shall ensure quality facilities are relocated as designed, in compliance with utility company specifications and remedies impacts to the transportation project. Additional information on utility-supplied inspection standards is described in 'Owner Utility Company Inspection' below.

CONTRACTOR AND**CONSULTANT****INVOLVEMENT**

If the owner utility company enlists contractors and consultants to perform utility relocation construction, the owner utility company shall provide full oversight of the work performed. The contractor or consultant shall respond to concerns or questions that arise in the field.

Cabinet or Cabinet contractor concerns may be directed to the owner utility company, contractor, or consultant dependent upon urgency, schedule, or proximity. The Cabinet expects responsiveness on such inquiries as indicated in the law and agreement. Any adjustments to utility company design or construction that changes schedule or agreement scope must be documented in writing. In cases of a reimbursement agreement, these should be documented in a change order. These changes may originate with the owner utility contractor or consultant, but the utility company must submit them. A utility company staff signature of the documentation submitted by the consultant is acceptable.

COMMUNICATION

The owner utility company must communicate with the Cabinet while the utility relocation construction is active. An open line of communication is critical until an agreement release is sent by the Cabinet.

ACTIVE UTILITY CONSTRUCTION

Utility Company Responsibilities

UR-1203-5

COMMUNICATION
(CONT.)

The owner utility company must provide direct oversight of their contractors and consultants while the utility relocation construction is active. The owner utility’s inspector is recommended to strategically meet and communicate with other active utility companies’ relocation inspectors, the transportation contractor, and utility representative to ensure project effectiveness.

OWNER UTILITY
COMPANY INSPECTION

Inspection and documentation of utility relocation construction plays an important role in a successful project, early resolution of issues, decisions about claims, auditing issues, and for utility reimbursement.

Direct inspection of permitted utility relocations and construction is recommended for the owner utility company. This activity is reimbursable if approved and eligible under law. The owner utility inspector shall comply with utility company inspection standard to accomplish the work. The owner utility company inspector shall be on site to ensure the facilities are relocated as designed and clear the path for the Cabinet project.

Inspection reports shall be kept and submitted regularly to the owner utility company and the Cabinet (if requested). The inspection of utility relocation work generally shall validate that the requests for reimbursement are compliant and as specified in the agreement. Inspection reports provided by the owner utility company are required for accurate billing throughout.

The Cabinet-supplied utility inspector represents the Cabinet and primarily works to ensure that utility facilities are compliant with Cabinet accommodation policy and clears the way for the Cabinet project. The owner utility inspector represents the owner utility company. As such, their interest is validating quality of construction as well.

Utility Inspector	Cabinet Inspector
• Utility Accommodation Policy Compliance • Cabinet Project Clearance • Quality Construction • Material Testing	• Utility Accommodation Policy Compliance • Cabinet Project Clearance • Avoids Impact to other Utility Relocations

ACTIVE UTILITY CONSTRUCTION

Utility Company Responsibilities

UR-1203-5**OWNER UTILITY
COMPANY INSPECTION
(CONT.)**

The inspector shall minimally document the following.

Inspection Documentation Requirements

- Placement and material adherence to design
- Adherence to accommodation policy
- Location of new and abandoned facilities (survey or GIS quality preferred)
- Materials
- Quality control of construction and materials
- Salvage value
- Clearance for the Cabinet project

**SUBMISSION OF
COMPLETION NOTICE
& AS-BUILT PLANS**

After completing installation, the utility company shall submit a statement of project completion along with as-built plans and a final bill, if applicable, to the district utility supervisor (US). The US has the discretion to review the submission and release the utility company of the agreement. This action shall not be taken unless an acceptable as-built plan is submitted.

In cases involving a reimbursement agreement, the agreement shall remain open until a final invoice is paid but no more than one year after completion of the defined work.

INVOICING

Pursuant to Kentucky statute ([KRS 177.035](#)) and Federal regulation ([23 CR 645 Subpart A](#)), utility companies have one (1) year post completion to seek reimbursement. Invoices shall be submitted by the utility company under the legally binding agreement with the Cabinet. A consultant agent representing the utility company may submit the invoice if expressly designated to do so by the utility company. Any invoices do, however, require the utility company signature of the document submitted.

Final invoicing and project closeout are issues pertinent to project completion and are addressed in [UR-1400](#) and [UR-1800](#).

MAINTENANCE

Once construction is complete, the utility company shall maintain the facilities at its own expense. The utility company shall follow the standard procedure in procuring an encroachment permit when it performs any maintenance work.



	<i>Chapter</i> UTILITY COORDINATION IN CONSTRUCTION <i>Subject</i> Wrapping UC and Supporting Project Construction

GENERAL

As discussed in [UR-800](#), “Utility Coordination (UC) in Design,” **utility coordination** is an essential element of the Cabinet’s entire project development and delivery process. It is defined below.

Utility Coordination (UC)

- Active effort to communicate, share information, and interact productively with all applicable stakeholders about utility involvement, adjustment, and relocation during all phases of the delivery of a transportation project
- Phases include planning, design, construction, operation, and maintenance
 - (*Thorne et. al. 1993*)



Utility coordination during Cabinet project construction must build upon activities defined in [UR-802](#) “Minimal Utility Coordination Design Tasks” and [UR-803](#), “Effective Utility Design Tools.” At the active construction stage of the project, the utility process is focused on two goals, shown below.

Utility Construction Goals

Wrap up utility coordination and relocation management

Support project construction

UTILITY COORDINATION IN CONSTRUCTION

Wrapping UC and Supporting Project Construction

UR-1301

GENERAL (CONT.) These goals are both critical to executing an effective project, but they require different tasks. The tasks of each are discussed in further detail, but listed below are general tasks the utility coordinator needs to complete.

Tips for Utility Coordination in Construction

- **Ensure completion of minimal tasks required (if applicable)**
 - Manage and inspect ongoing utility relocation construction
 - Communicate work to project construction team
 - Seek out conflicts between project and utility activities/schedules
 - Review and process utility reimbursements and modifications
 - Collect utility relocation as-built records
 - Close utility agreements as work is completed and accepted
 - Archive project in KURTS when all work is complete and no reasonable opportunity for emergency relocations exist
- **Consider using effective tools such as:**
 - Create and manage a utility conflict matrix (UCM)
 - Use Subsurface Utility Engineering (SUE)

**WRAP-UP UTILITY
COORDINATION (UC)
AND UTILITY RELOCATION
MANAGEMENT (URM)**

Cabinet project construction is what utility coordination work is for. While the project is being built, there may be ongoing utility relocation construction in need of coordination and utility relocation management. If so, the utility coordinator shall minimally need to inspect the ongoing work, looking for the items listed below.

Utility Coordinator (UC) Inspection

- Compliance with policy and agreement
- Safe operations
- Documentation of progress and schedule
- Documentation of location

More detail on utility relocation inspection can be found in [UR-1203-5](#).

UTILITY COORDINATION IN CONSTRUCTION

Wrapping UC and Supporting Project Construction

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SUPPORTING

PROJECT CONSTRUCTION The utility coordinator may also need to support the project, acting as a liaison between the project construction team and utility companies in the project. A utility coordinator providing this service can benefit the project as listed below.

Benefits of UC Support During Project Construction

- Track, coordinate, and monitor relocations
- Resolve unexpected conflicts in a timely manner
- Suggest innovative solutions
- Improve communication, cooperation, and collaboration (3Cs) among the DOT, contractors, utilities, and subcontractors

More detail on coordinating project construction in [UR-1302-1](#).



	<i>Chapter</i> MINIMAL UTILITY COORDINATION CONSTRUCTION TASKS <i>Subject</i> Coordinating with Project Construction

GENERAL

The utility construction project may need utility coordinator liaison support, particularly for projects with the following characteristics.

Projects that Benefit from a Utility Liaison

- Ongoing utility relocation construction
- Complex project phasing
- Hard project completion date
- Restrictive project schedules and milestone work
- Complex or large volumes of utility facilities

A utility coordinator providing this service can benefit the project in terms of improved project execution in terms of safety, cost, and schedule. The collaborative sharing and consideration of utility information will assist the construction team avoid and minimize utility impacts. The more complex the transportation project, the more work may be needed in this stage.

The support provided to the project team by a utility coordinator involves three general focus areas, as shown below.

Management

Collaboration

Problem Solving

A short list of example work done within these focus areas is provided below.

MINIMAL UTILITY COORDINATION CONSTRUCTION TASKS

Coordinating with Project Construction

UR-1302-1

GENERAL (CONT.)

Management

- Ensure existing utility facilities are marked onsite.
- Ensure information found in the bid package is still valid.
- Review schedules of utility work and project work.
- Consider utility and project phasing plans.
- Look for means to use project traffic control, erosion control, clearing, demolitions, and staking for utility relocation and vice versa.
- Monitor utility relocations conducted by:
 - *Utility owner*
 - *Work-in-the-highway contract*

Collaboration

- Serve as liaison between project team and utility owners.
- Ensure contractors understand the utility data.
- Communicate errors in field marked utilities.
- Share changes in utility work that varies from the bid package data
- Communicate status and changes to:
 - *Scheduling*
 - *Phasing*
 - *Traffic control*
 - *Erosion control*
 - *Clearing*
 - *Demolitions*
 - *Staking*
- Coordinate communication of field construction changes.
- Provide SUE information and quality levels as needed
- Communicate conflicts with existing and proposed utilities.

Problem Solving

- Offer recommendations to avoid utility facilities.
- Continually assess work for conflicts, including field modifications.
- Solve plan conflicts between utility work and project work.
- Work with project team to solve conflicts between utility work and project work on:
 - *Scheduling*
 - *Phasing*
 - *Traffic control*
 - *Erosion control*
 - *Clearing*
 - *Demolitions*
 - *Staking*



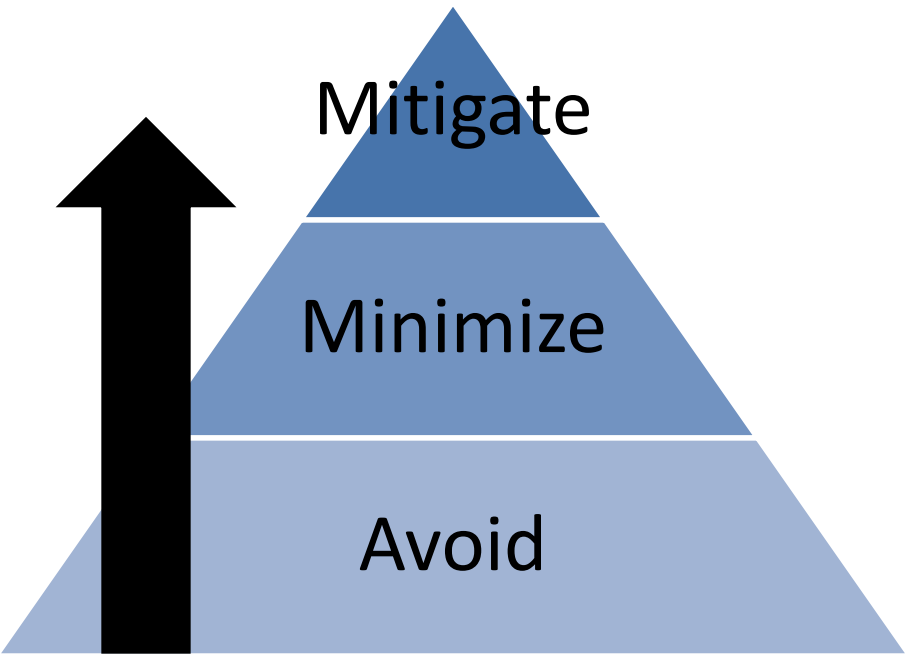
	Chapter MINIMAL UTILITY COORDINATION CONSTRUCTION TASKS Subject Avoid, Minimize, Mitigate (AMM)

OVERVIEW

Avoid, minimize, mitigate (AMM) is a strategy to impart efficiency to projects in regard to utility management. The AMM strategy during project construction is largely focused on mitigation. The strategy starts by identifying elements of infrastructure that can be avoided. The remaining conflicts are then reviewed for protection opportunities, thereby minimizing the impacts. The last step of mitigation involves adjusting or relocating conflicts, which should be well underway as the Cabinet project construction begins. Collaboration between the utility companies, the district utility staff, and the project construction team is necessary for effective implementation of this phase.

AMM
COMPONENTS

The components of an AMM strategy lessen impacts to existing utility infrastructure by narrowing the scope in stepped reviews, as depicted below.



MINIMAL UTILITY COORDINATION CONSTRUCTION TASKS

Avoid, Minimize, Mitigate (AMM)

UR-1302-2

AMM

COLLABORATION STEPS The utility and construction staff may collaborate by the following means as applicable.

AMM Steps During Construction

- Share the utility relocation plans and schedule.
- Share the utility conflict matrix (UCM) as defined in **UR-803-3**.
- Confirm utility facility locations as depicted on the project plans, utility relocation plans, and KY811 excavation locates.
- Discuss critical utility infrastructure elements **avoided, minimized, and mitigated**.
Focus on facilities with:
 - *Safety concerns*
 - *High costs*
 - *Possible Schedule Delays*
- Look for areas where project and utility relocation construction may conflict:
 - *Phasing*
 - *Scheduling*
 - *Traffic and erosion control*
- Communicate, collaborate, and cooperate (3Cs)

RISK
REDUCTION

AMM is a risk reduction strategy during project construction and is of significant value since utility infrastructure is frequently attributed to increased project construction costs and delays. Project construction benefits from a consistent evaluation of risk to timeline, schedule, and cost.



	Chapter MINIMAL UTILITY COORDINATION CONSTRUCTION TASKS Subject Ongoing Utility Work

GENERAL

Not all utility companies will complete utility relocation construction before the Cabinet project construction begins. It is a regulatory requirement to enter into a legally binding agreement with the Cabinet in advance of authorizing the Cabinet project to begin construction, but the utility construction itself is not a requirement. Utility company relocation construction can operate concurrently with the Cabinet project construction, but the utility work should not interfere in the following ways.

Utility Construction Influences on the Project

- Obstructions
- Delays
- Phasing Strategies
- Traffic and Erosion Control Plans

To successfully complete the concurrent work, the district utility supervisor (US) must manage by communicating and collaborating with the project construction team and involved utility companies. This management work is discussed within this section.

Primary Stages of Project Development



Primary Stages of Utility Coordination

MINIMAL UTILITY COORDINATION CONSTRUCTION TASKS

Ongoing Utility Work

UR-1302-3

OBSTRUCTIONS The utility relocation construction is unlikely to impact the entire footprint of the Cabinet project construction. The utility coordinator (UC) tasks at this point in the project may be completed by the utility supervisor (US), an assigned utility agent (UA) or a utility consultant coordinator (UCC). The UC must ensure a strategic plan is executed to provide a clear path for the project construction to commence. The UC shall understand, communicate, and seek resolution of potential obstructions.

Challenges that Contribute to Obstructions

- Incomplete utility work within the project disturbance limits
- Incomplete utility work that impedes project construction
- Outstanding easement or ROW acquisitions
- Conflicts with utility and project phasing
- Abandoned utility facilities the project team is not aware of
- Live utility facilities that must be abandoned for project construction
- Seasonal limitations for utility outages

DELAYS A utility-supplied schedule may provide just a number of days to complete the work. The UC does include an approximate completion date for potential bidders of the Cabinet project. If the utility work schedule will overlap the Cabinet project construction, the UC should seek out a more detailed schedule. This detailed schedule helps coordinate work with the Cabinet project. The UC must relay both details on schedule and any schedule changes to the project team.

The UC must consider the reasonableness of the schedule and how the schedule will interact with other utility companies and the project.

The utility company schedules must be considered as a group and vetted against the project schedule, since utility relocation construction frequently occurs in overlapping footprints and timeframes. Questions that the UC must address include the following.

**UC Considerations
for Utility and
Project Schedules**

- Who needs to be moved first? Next?
- How do the dates and constraints align with the letting date?
- Is phasing necessary?
- What are the critical factors for the letting date?
- Are there traffic control needs?

MINIMAL UTILITY COORDINATION CONSTRUCTION TASKS

Ongoing Utility Work

UR-1302-3

PHASING

The utility relocation construction team will have a plan of attack: likely, documentation of where they will begin, progress to, and finish the construction work. This can generally be called the **phasing** of the construction activities. The project construction team will have their own, independent phasing for the Cabinet project. The UC shall work with the project construction team and utility companies to ensure these phasing plans do not conflict. The UC shall understand, communicate, and seek resolution of potential phasing conflicts.

Common Phasing Conflicts

- Direct overlap in phases and schedules
- Traffic control
- Erosion control
- Staging and material store
- Utility construction that impedes project phases
- Utility work needed before project phase execution (such as live utility facilities that must be abandoned and overhead facilities that must be removed)

TRAFFIC CONTROL &
EROSION CONTROL

Ongoing utility relocations will require a traffic control plan and erosion control plan. The Cabinet project will have a set of independent plans. The UC shall review these plans for the following.

**Traffic & Erosion
Control
Considerations**

- Redundancy
- General conflicts
- Scheduling conflicts

MANAGING

MULTIPLE RELOCATIONS

The ongoing utility relocation construction for a project may involve multiple utility company owners and multiple contractors. The UC must carefully manage all items described above to minimize similar conflicts between multiple active utility construction projects. The UC shall lead multiple companies by doing the following.

MINIMAL UTILITY COORDINATION CONSTRUCTION TASKS

Ongoing Utility Work

UR-1302-3

MANAGING
MULTIPLE RELOCATIONS
(CONT.)

UC Responsibilities
in Leading Multiple
Utility Companies

- Understanding individual company processes
- Understanding how company processes must work together in terms of:
 - *Order*
 - *Precedence*
 - *Timing*
- Ensuring commitments and plans are what happens onsite
- Understanding the critical path
- Communicating consistently and effectively

INSPECTION

The UC must inspect utility relocation construction or ensure the project construction team provides the requisite inspection. Inspection standards can be found in [UR-1203-4](#) but, generally, the Cabinet inspector shall ensure the following.

Cabinet Inspection Standards for Relocated Utility

- Avoids physical conflicts with the transportation project
- Avoids conflict with other utility facilities (existing and proposed)
- Complies with Cabinet utility accommodation policy



	<i>Chapter</i> MINIMAL UTILITY COORDINATION CONSTRUCTION TASKS <i>Subject</i> Build America Buy America (BABA) Compliance

GENERAL

Utility Owners must comply with the Buy America and Build America Buy America requirements set forth in regulations and all relevant provisions. For any project that uses Federal funding in any phase and to any extent, it is required that we use domestic utility infrastructure, for infrastructure that is:

- Permanently Installed Utility Infrastructure
- Eligible for Project Reimbursement

Per 2 CFR 184.4(e), the applicable items of infrastructure must be confirmed by the utility coordinator (UC), and FHWA when needed, as within one of these three general categories.

BA/BABA Applies to:

- Steel and Iron
- Manufactured Products
- Construction Materials

Buy America focuses strictly on iron, steel, and manufactured products while BABA (Build America, Buy America) expands this, applying stricter, broader domestic content rules to all federally funded infrastructure projects—including utilities. It requires domestic iron, steel, construction materials, and manufactured goods to be domestically produced. Violations can result in contract termination, debarment from future federal contracts, or false claims liability.

Items of infrastructure should not fall into multiple categories and there are different standards for each category. First, it is important to understand the categories which are defined below:

MINIMAL UTILITY COORDINATION CONSTRUCTION TASKS

Build America Buy America (BABA) Compliance

UR-1302-4**GENERAL (cont.)****Steel and Iron [23 CFR 635.410(c)(1)(iii)]**

- Articles, materials, or supplies that consist wholly or predominantly of iron or steel or
- Combination of both
- *Note: FHWA defined “predominantly of iron or steel or a combination of both” as a material where the cost of the iron and steel content >50% the total cost of all its components [23 CFR 635.410(c)(1)(vi)]*

Manufactured Products {23 CFR 635.410(c)(1)(iv)}

- Articles, materials, or supplies that have been **processed** into a specific form and shape or
- **Combined** with other articles, materials, or supplies to create a product with **different properties** than the individual articles, materials, or supplies
- Cost of domestic components must be **greater than 55% of the total cost** of all components of the manufactured product (*Obligations on or after October 1, 2025*)

Construction Materials [2 CFR 184.3]

- Articles, materials, or supplies that consist of only one of the following items
 - **Non-ferrous metals**
 - **Plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables)**
 - **Glass (including optic glass)**
 - **Fiber optic cable (including drop cable)**
 - **Optical fiber**
 - **Lumber**
 - **Engineered wood or**
 - **Drywall**
- Minor additions of articles, materials, supplies, or binding agents to a construction material do not change the categorization
- All manufacturing processes must occur in the United States
- 70917(c) materials excluded from the construction material category:
 - *Cement and cementitious materials*
 - *Aggregates such as stone, sand, or gravel or*
 - *Aggregate binding agents or additives*

MINIMAL UTILITY COORDINATION CONSTRUCTION TASKS

Build America Buy America (BABA) Compliance

UR-1302-4

GENERAL
(CONT.)

The remainder of this section will provide high level information on the requirements, process, exceptions, and validating compliance. Be advised that this content and project specific circumstances must be validated. A much more detailed investigation is required when a utility may need to use non-domestic BA/BABA infrastructure.

REQUIREMENT
CITATIONS

Utility Owners must comply with the Buy America (BA) and Build America Buy America (BABA) requirements set forth in the Federal regulation, code, and rulemaking. This includes the following citations.

Buy America (BA)

- 23 CFR 635.410
- 23 U.S.C. 313
- 48 FR 53099

Build America, Buy America (BABA)

- 2 CFR part 184
- Executive Order (EO) 14005: Ensuring the Future Is Made in All of America by All of America’s Workers,
- Title IX of the Bipartisan Infrastructure Law’s (BIL)
- Infrastructure Investment and Jobs Act, Pub. L. No. 117-58
- Build America, Buy America Act (“the Act”)

Buy America (BA) requires compliance for steel and iron items and manufactured products. Build America Buy America (BABA) adds the requirements for construction materials.

CABINET PROCESS

The Cabinet has developed a multi-pronged process to address BA/BABA as they relate to utility infrastructure relocations. The utility coordinator (UC) must consider domestic infrastructure use at specific milestones and perform specific actions, which are listed below and discussed in more detail within this section.

MINIMAL UTILITY COORDINATION CONSTRUCTION TASKS

Build America Buy America (BABA) Compliance

UR-1302-4

CABINET PROCESS
(CONT.)

Process Milestones
• Notification with a State letter • Binding Terms via Agreement • Verify Compliance with Field Inspections • Owner certification via Invoice • Communicate outcomes in Utility and Rail Impact Note • Conduct Compliance Reviews

The Cabinet provides explicit instructions to utility companies regarding domestic compliance requirements. The Cabinet then follows up throughout the project with reminders, binding utility companies via agreement, utility certification of compliance, and field validation.

The first time a utility owner is reminded and relayed BA/BABA instruction for a specific project is the project authorization letter, otherwise known as a **State Letter**, more information on this document can be found in [UR-700](#). This letter is sent by the UC after necessary funding is secured, and it provides a very high-level understanding of BA/BABA requirements and notifies the utility companies that the project will require compliance if they are permanently incorporating reimbursement-eligible iron or steel products, manufactured products or construction materials into the project.

The next formal documentation and validation of BA/BABA requirements occurs when the **Agreement** between the utility owner and the Cabinet is struck. All Cabinet and utility company relocation agreements that may install steel, iron, construction material or manufactured products include a clause which provides both requirements and expectations. By signing the agreement, the Utility Owner agrees that in the performance of this work, they are bound to use only applicable articles, materials or supplies for which the Utility Owner has received and retained a domestic certification from its manufacturer, supplier, or provider of construction services. More information on the development and execution of the agreement may be found in [UR-1100](#).

The Utility Owner certifies BA/BABA compliance via regular **Invoice** submission. The invoice package includes a utility company certification on the statement of charges form. The Utility Owner retains domestic material certifications, which the Cabinet may demand at any time. More information on invoicing may be found in [UR-1400](#).

MINIMAL UTILITY COORDINATION CONSTRUCTION TASKS

Build America Buy America (BABA) Compliance

UR-1302-4

CABINET PROCESS
(CONT.)

Once the utility company relocation commences, the Cabinet is charged to provide **Inspections**. The UC or assigned agent must inspect utility relocation construction and monitor utility materials delivered and permanently incorporated for BA/BABA compliance.

When the inspector discovers non-domestic materials onsite, they shall:

Non-Domestic
Discovery

- Review documentation for minimal use or waivers
- If not acceptable, stop contractor from using material
- Take additional steps to remove non-domestic, secure domestic, and/or address the matter
- Involved parties: utility owner, project team, Central Office Utilities and Rails Branch BABA compliance expert, and FHWA

Inspection standards can be found in [UR-1203-4](#).

There are a set of narrow, specific circumstances that non-domestic steel, iron or construction materials may be permanently incorporated into the project. It is the responsibility of the US, with the support of Central Office BABA expertise, to determine if the non-domestic item may be accepted and validate it is accepted by both the project team and FHWA.

When Non-Domestic May
Be Acceptable

- Adheres to the project's minimal use threshold
- A waiver is secured
- A national waiver exists

Note: See the section below on ‘Using Non-Domestic’ to learn more about making the determination.

Provided the non-domestic item is accepted by both the project team and FHWA, a special clause must be included in the **utility and rail certification** note. This clause will document the non-domestic items and category, cost, and other items.

The Division of Right of Way and Utilities, Utilities and Rail Branch is committed to BA/BABA compliance and will conduct periodic sample **compliance reviews**. On demand reviews may also be requested of utility relocations if non-compliance is suspected. More information on sample compliance reviews may be found in [UR-1803-2](#).

MINIMAL UTILITY COORDINATION CONSTRUCTION TASKS

Build America Buy America (BABA) Compliance

UR-1302-4

Non-Domestic Use Generally, all utility relocations eligible for reimbursement must comply with BA/BABA. A few options exist when non-domestic steel, iron, construction materials or manufactured products must be used.

Viability of Non-Domestic Use

- Minimal Use
- Project-Specific Product Waiver
- National Waiver
- Determined as a Kit (No longer considered non-domestic)

The Utility Owner and UC must look for non-domestic needs as early in project as possible. Any requests for minimal use, de minimis use, product waivers, or temporarily issued waivers will take an extended period of time and are a direct risk to the project if not found at least 9 months before letting.

ID Non-Domestic Needs at Least 9 Months Before Letting

**MINIMAL USE AND
DE MINIMUS**

Limited use of non-domestic steel, iron, manufactured products and construction materials may be determined as acceptable. The UC and area utility coordinator (AC) must verify the item qualifies as steel, iron, manufactured product or construction material categories, which may involve seeking FHWA concurrence. The UC must work with the utility owner to determine and document the quantity, cost, and justification of need.

If the non-domestic item is categorized as a **steel and iron** item, it may be considered acceptable if it falls within this calculation.

Steel and Iron Minimal Use [23 CFR 635.410(b)(4)]

- **\$2,500** of iron and steel products as delivered to the project, **or**
- **0.1% of the total contract** amount

If the non-domestic item is categorized as a **manufactured product or construction material**, it may be considered acceptable if it falls within this calculation:

MINIMAL UTILITY COORDINATION CONSTRUCTION TASKS

Build America Buy America (BABA) Compliance

UR-1302-4

MINIMAL USE AND
DE MINIMUS (CONT.)

Manufactured Product and Construction Material Minimal Use

- Cost of non-compliant manufactured products + construction materials is the **non-compliant value**
- Total non-compliant value <= **\$1,000,000 or 5% of total applicable costs** under the Federal financial assistance award
- Federal financial assistance award < **\$500,000**; or
- Non-domestically produced miscellaneous **minor components** < **5% of the total material costs** (Iron+Steel+MP+CM).

Non-domestic manufactured product and construction material minimal use applies to the entire Federal financial assistance award, which means the project in its entirety. Therefore, it is imperative that any non-domestic manufactured products and construction materials be vetted with the project team and documented in the utility and rail certification note. This is to ensure bidding contractors consider this in their calculation of minimal use of non-domestic construction material and execute the project accordingly.



This threshold is based on the actual cost of the steel, iron, manufactured products, and construction materials, not just the anticipated cost of those materials. The US must run calculations for the utility facilities and provide, for approval and acceptance, to the project engineer, AC, Cabinet BABA expert, and, if requested, FHWA. These non-compliant values must also be communicated to the construction contractor and engineer so it is considered in the overall project noncompliant calculations.

MINIMAL UTILITY COORDINATION CONSTRUCTION TASKS

Build America Buy America (BABA) Compliance

UR-1302-4

WAIVERS Elements of relocated utility infrastructure that cannot be sourced domestically may be considered for a waiver, to be determined by the Federal government’s Made in America Office (MIAO) on a project-by-project basis. The US must allow a minimum of 9 months to secure a waiver and there is no guarantee that it will be accepted. Therefore, the waiver process must be identified and secured far in advance of the project letting.

To ensure that the waiver request will be considered, the UC and utility owner shall document the following:

Preparing for a Waiver

- Confirm product category
- Make sure existing allowances do not apply
- Verify it is not domestically available
- Verfiy there is no domestic equivalent available
- Note the project funding obligation date

Waivers are only considered for limited circumstances. Those circumstances include the following:

Reasons for Waiver

- Domestic item is not the **public interest**
- Item is **not domestically produced**:
 - Sufficient, reasonable **quantities**
 - Satisfactory **quality**
 - **Equivalent** domestic option
- Domestic item **increases the overall project cost by >25%**

For utility relocations, the most reasonable justification for a waiver is domestic unavailability (due to quantity or quality).

MINIMAL UTILITY COORDINATION CONSTRUCTION TASKS

Build America Buy America (BABA) Compliance

UR-1302-4

WAIVERS (CONT.) The UC and AC must verify which category applies, which may involve seeking local FHWA concurrence. The UC and AC must work with the utility owner to fully justify need for a waiver, attributing the need to a specific reason as cited above. This includes a full report that proves the item is not domestically produced in sufficient, reasonable quantities, in satisfactory quality and/or no viable alternative domestic item is available. This request for waiver report must be processed as follows.

Waiver Process

- Development of report by UC, AC and utility owner
- Review by Project team and Project Development Branch Manager (PDBM)
- Review by AC and UM
- Submission to the Division Director and SHE office
- Submission to the FHWA Division Office
- Submission to the FHWA Headquarters and Made in America Office (MIAO)
- Request for Waiver is posted for public comments
- Comments must be addressed
- MIAO makes a determination

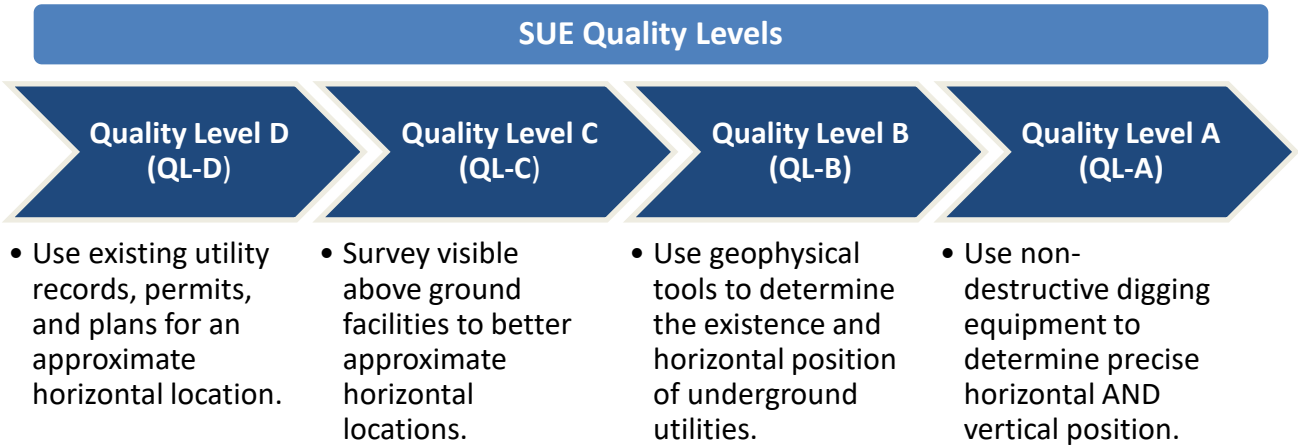
Note: The waiver request may be rejected or returned for revision at any point in this process.



	<i>Chapter</i> EFFECTIVE UTILITY CONSTRUCTION TOOLS
	<i>Subject</i> Subsurface Utility Engineering (SUE)

DEFINITION OF
SUBSURFACE UTILITY
ENGINEERING (SUE)

Subsurface utility engineering (SUE) is a systematic process of identifying and locating existing underground utility facilities using various means and levels of accuracy. Details on SUE may be found in [UR-803-1](#), but, generally, SUE includes four levels of accuracy, called quality levels. SUE providers use their technical knowledge to apply these quality levels as the project requires. The quality levels are generally identified as shown below.



SUE DURING
CONSTRUCTION

The project team members and utility company owners benefit from having an approximate location of utility infrastructure within the project scope. Construction work is more effective when there is a known confidence in the location of facilities, and SUE helps to locate them and determine their confidence. Having this data and vetting it versus field locations can help avoid or minimize impacts.

EFFECTIVE UTILITY CONSTRUCTION TOOLS

Subsurface Utility Engineering (SUE)

UR-1303-1**SUE DURING**

CONSTRUCTION (CONT.) It is preferred that SUE services be incorporated in the project early, during planning, but the project team can use the existing SUE data and seek out additional SUE work during construction. Below are some suggested tasks to effectively use the SUE data during construction. The Cabinet project construction team, utility companies, and utility coordinator (UC) may benefit from this data while initiating their respective construction work.

More detailed steps and procedures for securing SUE services can be found in [UR-503](#).

SUE for Construction

- Communicate the existing SUE data to the project team.
- Assess KY811 excavation location data versus SUE findings.
- Make field adjustments if needed.
- Seek out additional SUE if needed.





Chapter

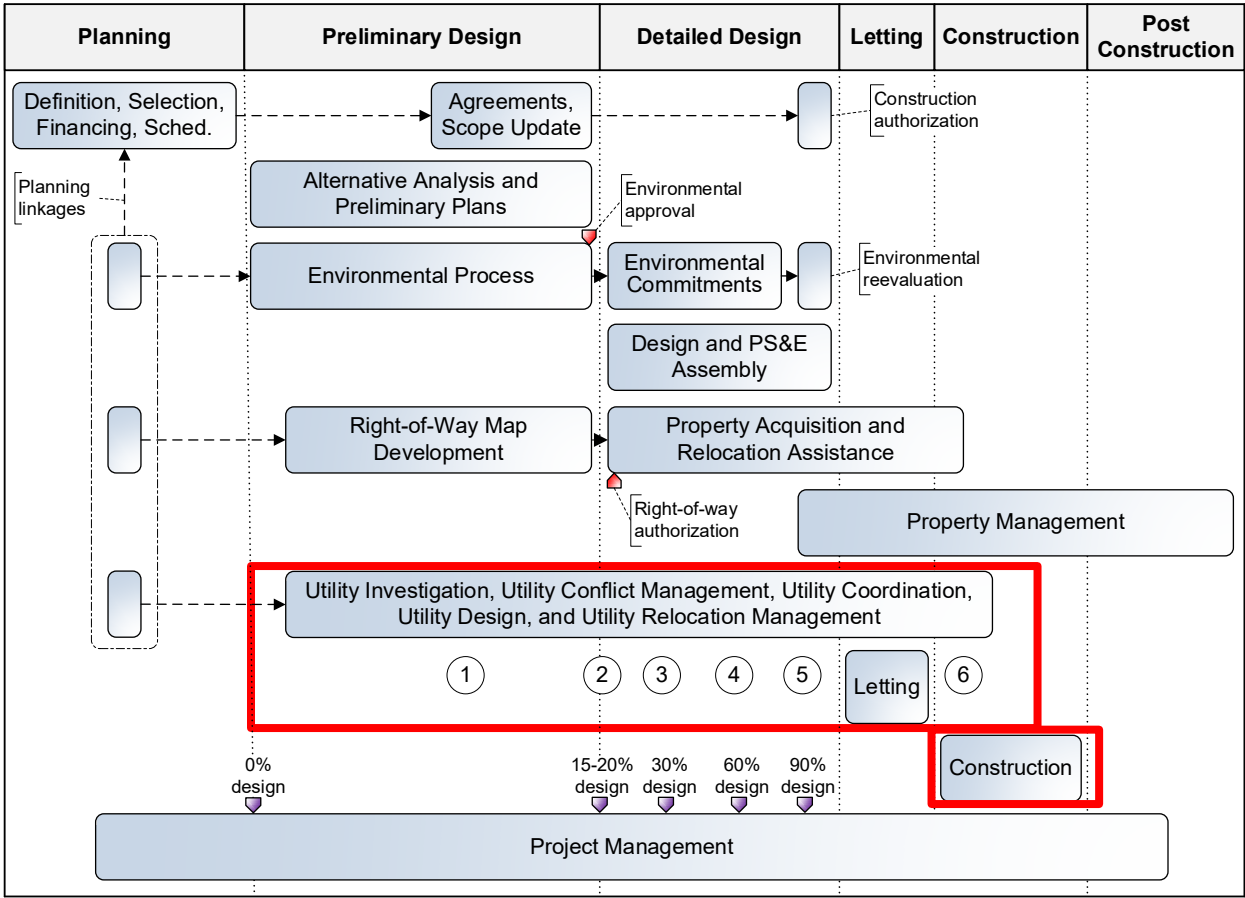
EFFECTIVE UTILITY CONSTRUCTION TOOLS

Subject

Utility Conflict Management (UM)

UTILITY CONFLICT MANAGEMENT (UM)

As the utility coordination process moves further into the design phase, utility conflict management (UM) becomes an even more critical and complex process. UM has a significant impact to the successful completion of transportation projects, as it is a strategy to proactively identify and resolve conflicts with existing utility infrastructure. UM has five stages, identified in the image below.



EFFECTIVE UTILITY CONSTRUCTION TOOLS

Utility Conflict Management (UM)

UR-1303-2

UTILITY CONFLICT

MANAGEMENT (UM) Successful projects must be actively worked to resolve conflicts the project imparts to existing infrastructure, including utilities. Details on UM may be found in [UR-504-1](#) and [UR-803-2](#) but generally UM belongs throughout the project’s development and delivery.

UM CONSTRUCTION

STRATEGY Generally, the strategy of UM is a proactive choice during project construction. Some of the benefits imparted to the project during construction are listed below.

Benefits of UM

- Efficient collaboration with utility owners
- **Communication, collaboration, and cooperation (3Cs)** between the Cabinet, contractors, and utility owners
- Proactive resolutions to challenges with:
 - *Existing utilities*
 - *Relocated utilities*
 - *Ongoing utility construction*

UM during construction primarily involves utility relocation management, which includes a series of steps for the project team, some of which may be iterative.

UM Steps During Construction

- Manage and inspect ongoing utility relocation construction.
- Review and process utility reimbursements and modifications.
- Collect utility relocation as-built records.
- Communicate work to project construction team.
- Seek out conflicts between project and utility activities/schedules to:
 - **Avoid** the facilities and project construction
 - **Minimize** impacts to utilities and project construction
 - **Mitigate** remaining conflicts as liaison for other Cabinet staff, contractors, and utility owners

EFFECTIVE UTILITY CONSTRUCTION TOOLS

Utility Conflict Management (UM)

UR-1303-2

UM CONSTRUCTION STRATEGY (CONT.)

Project Team Efforts to Realize UM Benefits

- Establish project goals and critical elements.
- Provide accurate information to stakeholders.
- Avoid and minimize impacts to utilities when reasonable.
- Provide iterative collaboration opportunities.
- Communicate frequently, effectively, and efficiently.





Chapter

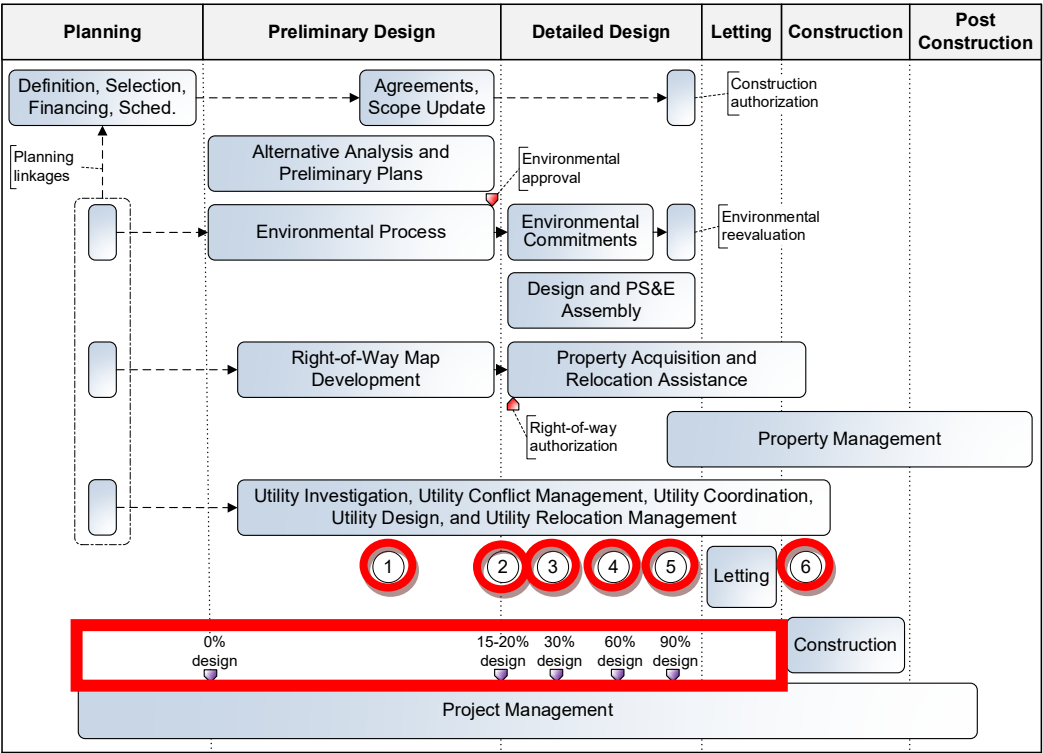
EFFECTIVE UTILITY CONSTRUCTION TOOLS

Subject

Utility Conflict Matrix (UCM)

UTILITY CONFLICT
MATRIX

A **utility conflict matrix (UCM)** is the living record of utility conflict management, documenting project impacts and complexities imparted on existing utilities throughout the project development and delivery process. It is a mechanism for the team to work together to identify utility conflicts, document needs, and resolve conflicts. Details on UCM may be found in [UR-803-3](#) and [UR-504-2](#) but, generally, UCM is revised throughout project development.



Resolution of utility facility conflicts during construction is the point of the entire process, so the Cabinet project can be efficiently and effectively constructed. During construction, the project team can use the UCM tool to understand utility facility characteristics such as those listed below.

EFFECTIVE UTILITY CONSTRUCTION TOOLS

Utility Conflict Matrix (UCM)

UR-1303-3

UTILITY CONFLICT
MATRIX (CONT.)

UCM-Identified
Utility Data

- Avoid and do not disturb
- Leave special mitigation needs in situ
- Abandoned utilities
- Relocated utilities

Without this level of collaborative understanding, the project construction may be at risk of avoidable negative impacts, such as change orders, damage or delay claims, delayed schedules, and litigation.

Project Impacts Due to Inefficiencies

- Unexpected disruptions
- Damage to utility installations
- Unnecessary costs
- Delays extending delivery
- Additional utility relocations

USING A UCM

The six stages of the UCM are defined in **UR-803-3**, but Stage 6 is the only point during the Cabinet project’s construction.

STAGE 6

- Beginning of the construction
- Utility relocation construction may still be underway.
- Some utilities may be relocated through the roadway contract.
- New utility conflicts, which were missed before, may arise.

EFFECTIVE UTILITY CONSTRUCTION TOOLS

Utility Conflict Matrix (UCM)

UR-1303-3

USING A UCM (CONT.) During construction, the project team looks for the following types of conflicts.

UCM Conflict Types

- Utility facilities and transportation design features
- Utility facilities and transportation construction or phasing
- Planned utility facilities and existing utility facilities
- Noncompliance of utility facilities with accommodation policies
- Noncompliance of utility facilities with safety or accessibility policies

The project shall then consider the following utility conflict resolutions.

UCM Conflict Resolutions

- Make minor field modifications to the proposed transportation facility, such as:
 - *Alter the drainage design*
 - *Alter noise walls or traffic signal components*
 - *Rearrange construction phases*
 - *Implement an engineering measure to protect a utility in place*
- Remove, abandon, or relocate the utilities in conflict
- Accept an exception to policy

Note: The ultimate selection of a resolution strategy must consider practical execution, cost, and schedule.

EFFECTIVE UTILITY CONSTRUCTION TOOLS

Utility Conflict Matrix (UCM)

UR-1303-3**USING A UCM (CONT.)**

The graph below depicts some of the tasks Kentucky recommends completing during the varied stages described above. Tasks may be completed at various stages, or omitted altogether, as appropriate for the project at hand.

	Stage 1 - Preliminary Design	Stage 2 - Early Final Design	Stage 3 - 30% Design	Stage 4 - 60% Design	Stage 5 - 90% Design	Stage 6 - Road Project Construction
Investigate existing utility records.						
Request utility owners provide constraints.						
Assess and document conflicts.						
Hold joint utility meeting (JUM), if needed.						
Survey visible utilities and compare to plan.						
Determine if more comprehensive locations are needed.						
Conduct subsurface utility engineering (SUE).						
Develop/update conflicts in UCM.						
Develop/update resolutions in UCM.						
Review conflict resolution strategies.						
Coordinate utility relocation design.						
Request utility owners confirm locations and feedback.						
Prepare utility relocation agreements.						
Inspect and coordinate utility relocations.						
Assemble relocation plans and specs needed for letting.						
Prepare utility and rail certification notes.						



	<i>Chapter</i> INVOICING
	<i>Subject</i> General

OVERVIEW

Utility invoices are mechanisms by which the Cabinet reimburses eligible utility companies for the work necessary to clear utility facilities from the transportation project’s proposed work area while leaving the facilities functioning in a like manner after relocation work is complete. Utility invoices are only viable for reimbursable utility relocations, those eligible under Kentucky statute ([KRS 177.035](#) or [KRS 179.265](#)). Prompt submission of invoices helps the Cabinet to ensure that utility companies are reimbursed for the following items.

Utility Company
Costs Eligible for
Reimbursement

- Preliminary studies to confirm conflicts
- Relocation engineering design
- Project management & administration
- Property & easement acquisition
- Relocation construction
- Construction management & inspection

Only utility companies eligible for reimbursement and under a relocation agreement may submit invoices.

INVOICE DEFINITION

An invoice is a document that a utility company submits to the respective district office requesting payment for costs associated with the relocation or adjustment of their reimbursable facilities that are impacted by the Transportation Cabinet’s (Cabinet) transportation project and in accordance with an executed agreement with the Cabinet.

INVOICING

General

UR-1401

INVOICE TYPES Two forms of invoices are submitted for reimbursement.

Partial Bills	Final Bills
• Generally defined as current payments • Request payment for partial work • Indicative that further requests for payment will be submitted since work is not fully complete • May be submitted monthly	• Generally defined as the last invoice needed to complete reimbursement • Request payment for remaining balance of work • Indicative that no further requests for payment will be submitted since work is complete • An as-built plan must be submitted to process

Utility companies may submit current bills for partial payment of the amount encumbered for keep-cost and engineering services agreements. The Cabinet may reimburse up to 90 percent of the total agreement amount on current invoices. A 10-percent retainage is recommended until final invoice submission.

Utility Company Final Bills
• Request payment for remaining amount of unbilled work completed for any agreement • Request reimbursement of total or remaining amount of agreement for lump sum agreements • Recover retainage costs

The Cabinet prefers reimbursing utility companies in one complete and final billing for lump-sum agreements; however, companies may request partial payment for these agreements with proper justification. Utility companies may need to invoice for preliminary engineering or materials before relocation or adjustment begins, thereby making a partial payment necessary.

Note: Current invoices shall be paid within 30 business days after receipt by the Cabinet, per contractual agreement, unless the invoices must be returned to the utility company for correction. Invoices may be returned to the utility company due to errors or omissions, such as a lack of documentation, an incomplete form, or inaccuracies.



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Chapter INVOICING			
Subject Required Documentation			

UTILITY COMPANY

INVOICE SUBMITTALS

Utility invoices are mechanisms by which the Transportation Cabinet (Cabinet) reimburses eligible utility companies for the work necessary to clear utility facilities from the transportation project's proposed work area while leaving the facilities functioning in a like manner after relocation work is complete. Utility companies shall submit invoices electronically using the Kentucky Utility and Rail Tracking System (KURTS). Invoices shall minimally contain the following.

Invoice Package Contents

- Completed TC 69-8 form, *Utility/Rail Agreement Statement of Charges*
- Company reimbursement request memorandum
- Company invoice
- Statement certifying economic relocation (if not previously provided)
- Supporting documentation detailing reported expenditures invoiced

The TC 69-8 form, *Utility/Rail Agreement Statement of Charges*, is electronically generated and submitted using KURTS. The TC 69-8 form must be signed by the owner utility company or authorized agent of the company.

The supporting documentation is optional for lump sum agreement invoicing and keep-cost current bills. It is a requirement for final keep-cost bills. If the utility company does not provide documentation on current keep-cost bills, the final bill must provide documentation of all reimbursable costs during the project duration. It is the utility supervisor's discretion to accept partial billing that lacks itemized documentation.

INVOICING

Required Documentation

UR-1402

INVOICE SUPPORTING
DOCUMENTATION

The Cabinet is obligated by agreement and law to reimburse for the work performed. The Cabinet is also obligated under federal regulation [23 CFR 645 Subpart A](#) to ensure the costs are fair, reasonable, in line with the terms of the agreement, and viable for reimbursement. As a result of this obligation, the Cabinet requires supporting documentation.

Minimum Supporting Documentation Contents

- Right-of-way or easement acquisition costs
- Labor costs which may require man-hours and rates
- Overhead costs
- Cost of material
- Cost to remove materials
- Equipment costs
- Salvage credit
- Betterment credit
- Service life credit
- Other applicable agreement items
- As-built plans (for final bills)

INVOICE SUBMITTALS
TO UTILITY COMPANY

If an invoice to a utility or rail company is necessary for reimbursement of costs to the Cabinet due to betterment or overcharges, the procedure outlined in [UR-1802-3](#) shall be followed to properly account for the reimbursement.

AS-BUILT PLANS

Upon completion of each utility facility relocation, the utility supervisor (US) or utility agent (UA) shall request from the utility company the as-built plans, which are required for processing of final bills.

As-built plans must show existing and relocated facilities as they were actually constructed, removed, relocated, transferred, or left in place. More details on as-built plan requirements may be found in [UR-1002](#), *Utility Company Submissions: Utility Relocation Plans*.



	Chapter INVOICING
	Subject Processing Invoices

**DISTRICT OFFICE
INVOICE REVIEW**

The district utility supervisor (US) shall ensure submitted invoices and documentation is recorded in the Kentucky Utility and Rail Tracking System (KURTS). A utility coordinator consultant is generally provided authority to review and approve invoices and considered the US in this section. The US shall review the invoice package in detail and perform the following tasks.



INVOICING

Processing Invoices

UR-1403

DISTRICT OFFICE

INVOICE REVIEW (CONT.)

**Items to Review
in Utility Company Statement of Charges (SOC)**

- Company address
- Remittance address
- Company or agent signatures
- Project title and road name
- County name
- Federal project funding
- State project funding
- Project item number
- Contract number
- Agreement start date
- Invoice number
- Identification of invoice as current or final
- Amount due
- Amount invoiced to date
- Service dates of invoiced work (beginning and ending)
- Build America, Buy America certification
- Economic relocation certification

If the invoice is accepted and approved by the US and chief district engineer (CDE) or designee, the package may then be electronically reviewed by Central Office staff (if applicable).

Note: Final cost invoices and all rail invoices are received and reviewed by Central Office staff. Any corrections needed are communicated to the utility supervisor (US).

INVOICING

Processing Invoices

UR-1403

INVOICE

DOCUMENTATION

Cabinet utility staff must verify that the information in the utility company invoice, documentation, and statement of charges form is in agreement and valid. The documentation must consistently and uniformly validate the items listed below.

Items to Validate in Documentation

- Costs associated with right of way or easement acquisition
- Labor costs which may require man-hours and rates
- Overhead costs
- Cost of materials
- Cost to remove materials
- Equipment costs
- Salvage credit
- Betterment credit
- Service life credit
- Other applicable agreement items
- As-built plans (for final bills)

SUPPORTING

DOCUMENTATION

Cabinet utility staff must review the supporting documentation to validate that the dates of delivery or execution, quantities, and prices (either bid prices or engineer’s set rates) agree with what is stated on the invoice and adhere to the terms of the referenced agreement, policy, regulation, and law. Specifically consider the following items.

Supporting Document Requirements

- Match items in agreement
- Match quantities in agreement
- Match observed work performed
- Use as bid or as negotiated pricing
- Fall within dates specified in SOC
- Occur within dates of agreement
- Comply with agreement terms (i.e., cost sharing)
- Follow policy, regulation, & law (i.e., BABA)

INVOICING

Processing Invoices

UR-1403**SERVICE DATES**

An invoice shall be processed for payment only if it has valid beginning and ending service dates. These dates shall be the actual dates the invoiced work began and ended. The service dates shall be reflected in the entire invoice package.

If the invoice package does not indicate the service dates, the US shall contact the utility company to provide the information in writing. An email containing the request is an adequate substitution for mailed correspondence. However, if the project requires a swift response such that an email or mail cannot provide, a call to the vendor may suffice if documented and the invoice is corrected.

Note: The beginning service date may not precede the project authorization letter date. The project authorization letter date may only be used as a beginning date if the attached documentation and invoice both show this to be the date the work began.

ADDITIONAL FINAL BILL**INVOICE REVIEWS**

After relocation completion and if under a keep-cost agreement, the utility company shall submit a final invoice. Once a final keep-cost invoice is approved at the district-office level in the Kentucky Utility and Rail Tracking System (KURTS), the Central Office area coordinator (AC) checks the invoice package in the same manner as the US.

If the AC encounters any errors, omissions, or discrepancies, the AC shall reject the invoice, denoting those reasons for rejection in the comments. If the issue is a matter of obvious typographical error or something that is only pertinent to the Cabinet for processing purposes (such as the Cabinet's internal accounting line typo or item number typo), the matter will be conveyed to the utility via email or call.

If the invoice is determined acceptable, the AC approves the invoice. The utility branch manager (UBM) and director shall also review and approve the invoice.

INVOICE PROCESSING

If the signed and approved invoice is a current bill or lump-sum final bill, the US may process the invoice at the district office. This is initiated when an approved fiscal programmer (typically, the administrative support staff) finds an approved invoice in KURTS and then enters the payment into the Cabinet's accounting system. Once the approved invoice payment has been entered into the accounting system, the fiscal programmer shall enter the accounting system's unique payment number into KURTS. Once the accounting system number is saved, the invoice posts to KURTS for the CDE, or designee, to approve in the accounting system. Then, the CDE or designee confirm accounting system invoice approval in KURTS.

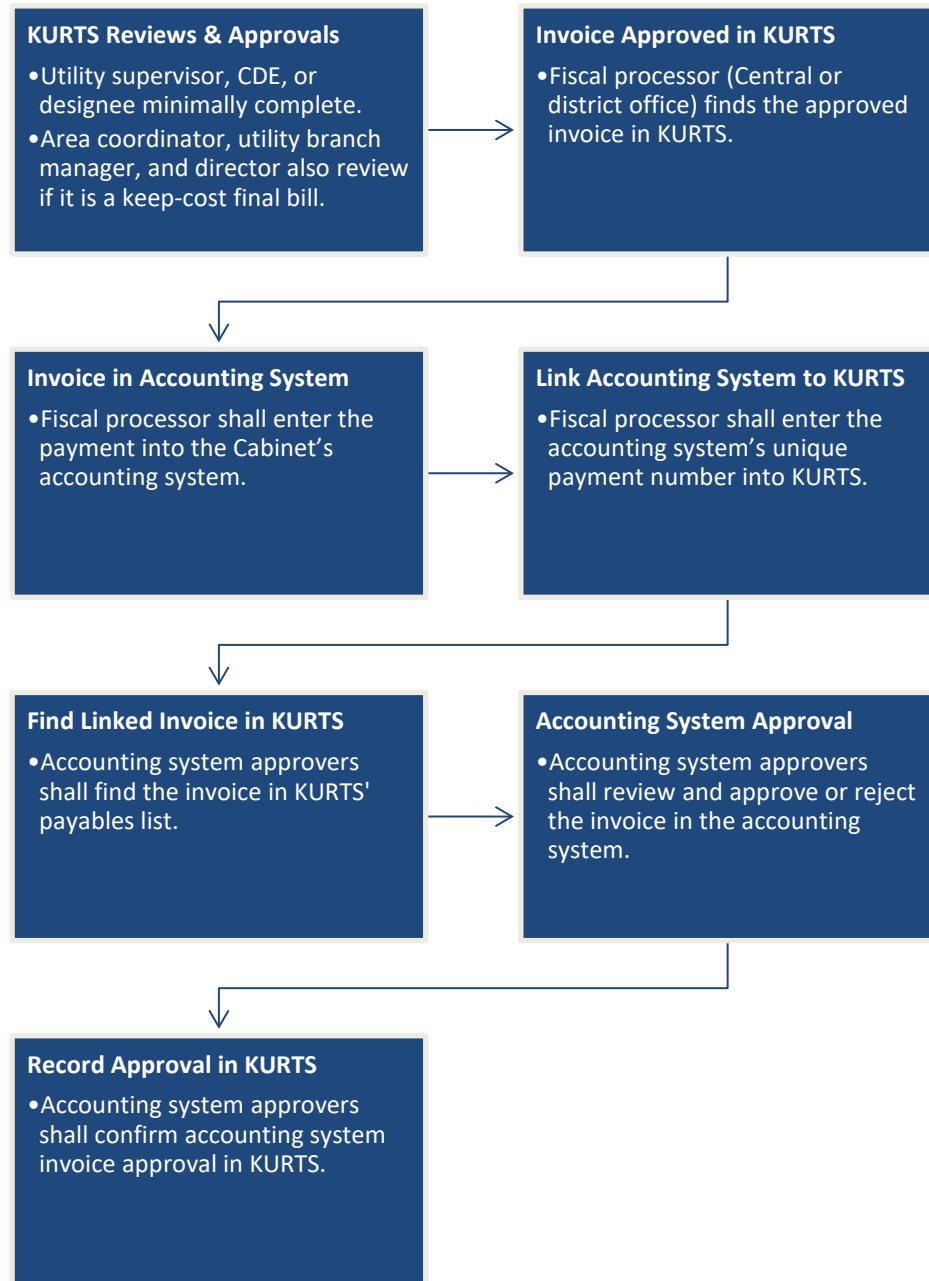
INVOICING

Processing Invoices

UR-1403

INVOICE PROCESSING (CONT.)

If the invoice is a keep-cost final bill, the US and CDE or designee shall approve the invoice package as defined above in KURTS. Central Office staff shall perform additional approvals and execute the remaining tasks as defined above. Final processing, including inputting the invoice into the Cabinet's accounting system and ultimately paying the invoice, will be addressed by Central Office staff. A summary of invoice processing is provided below.



INVOICING

Processing Invoices

UR-1403

RAILROAD INVOICE

PROCESSING

Invoices received for railroad work are reviewed, approved, and processed by the Central Office. The fiscal processor enters the data into the Cabinet's accounting system and enters the unique accounting system invoice number into KURTS, then monitors the invoice processing status in the accounting system.

Central Office may request field support and review from the district office staff to validate that the work for which reimbursement is requested has been sufficiently executed. Railroad invoices are further detailed in [UR-2006](#) and [UR-2103-6](#).

UTILITY COORDINATOR

CONSULTANTS

A contracted utility coordinator consultant (UCC) is generally provided authority to review invoices as defined in this manual and recommend approval of assigned Cabinet staff, typically the US or assigned UA. The UCC shall review the invoice package as defined in this chapter with the following limitations.

Utility Coordinator Consultant (UCC) Review Limitations

- Cannot approve the invoice
- Cannot process in accounting system
- Cannot review invoices that include charges for their own company
- Must avoid any appearance of conflict of interest



	<i>Chapter</i> INVOICING
	<i>Subject</i> Audit

INVOICE AUDITING Invoice reviewers are charged to validate many aspects of the invoice package submitted as defined in [UR-1403](#). If a reviewer takes issue with the contents and/or details of the package and requests correction, but no resolution is reached during consultation with the utility company, an external audit may be requested.

To request an audit, the area coordinator (AC) or utilities supervisor (US) may submit an audit request memorandum through the Kentucky Utilities and Rail Tracking System (KURTS), indicating that the final bill should be **paid prior to audit** or **audited prior to payment**. KURTS shall email the request to the External Audit Branch Manager, who may use KURTS data or request access to hard-copy files for investigation.

Note: The decision regarding payment is the discretion of the AC, utility supervisor (US), or Utilities and Rails Branch Manager (UBM).

AGREEMENT AUDITING Suspicious invoicing, documentation, or work observed should be documented and discussed with the utility company involved. At times, concerns may extend beyond a single invoice and call into question a larger issue with the agreement. In such instances, a request for clarity and/or correction must be made in writing. If no resolution is reached during consultation with the utility company, an external audit may be requested for the entirety of the agreement. The US shall email a request to the External Audit Branch Manager, who may use KURTS data or request access to hard-copy files for investigation.

SAMPLE AUDITS The External Audit Branch in the Office of Audits conducts annual audits of sample utility company and railroad final invoices. They may include specific audit requests in the annual review unless the Cabinet is holding payment until completion of the audit. Requests for audit prior to payment will be coordinated with the Office of Audits and the AC assigned. [UR-1800](#), “Closeouts,” provides more detail on utilities and rails audits.



	<i>Chapter</i> CHANGE ORDERS
	<i>Subject</i> General

OVERVIEW

The Transportation Cabinet (Cabinet) utility staff shall carefully monitor all projects regularly to ensure that the work being performed complies with the agreement between the Cabinet and the utility company.

Utility companies may request a change order from the utility supervisor (US) for additional work, services, and materials omitted or unanticipated when the keep-cost agreement was created. For lump-sum agreements, change orders are only considered for work, services, and materials that could not have been reasonably anticipated when the agreement was created.

When a utility requires additional work beyond the original scope of work as defined in the agreement, the utility company shall submit a TC 69-4 form, *Utility/Rail Agreement Change Order*, to be evaluated and approved by the Cabinet before the work is performed and before any reimbursement is made for the additional work. The form shall be electronically generated in the Kentucky Utilities and Rail Tracking System (KURTS) but must be sent along with justifying documentation to the Cabinet for review and electronic signatures.

**CHANGE ORDER
REQUIREMENTS**

The utility company is not authorized to perform additional work until a completed TC 69-4 form, *Utility/Rail Agreement Change Order*, and justifying documentation have been reviewed, processed, and approved by the US and the Central Office Utilities and Rails Branch.

Upon written approval by the Cabinet, the utility company is authorized to proceed with the additional work. Failure of the company to obtain such written approval from the Cabinet prior to proceeding with the additional work specified in the change order may jeopardize reimbursement of costs.

Note: This form may be electronically generated in KURTS but must be sent to the Cabinet for review and electronic signatures.

CHANGE ORDERS

General

UR-1501**CHANGE ORDER**

REQUIREMENTS (CONT.) To be accepted for processing, the change order shall meet the following requirements.

Change Order Requirements

- Funding must be available and not obligated to other agreements.
- Available funding to be obligated to the change order request must be associated with the agreement.
- Additional work to be performed or items presented for inclusion are not covered in the original scope of work or in the costs associated with the original agreement.
- Additional work is economic, justified, and necessary.
- For lump sum agreements, the additional work was not reasonably anticipated at the time of agreement execution.

In extreme situations where a project requires immediate action on the part of the company and utility funds are unavailable for the change order amount, the US shall contact the Central Office area coordinator for assistance with determining a funding source. The process for requesting additional funds is detailed in [UR-603](#).

**CHANGE ORDERS
ON INVOICES**

Upon completion of the qualified work presented on the change order, the utility company shall submit the documents required for invoicing any additional charges.

Utility companies shall submit all remaining payment requests to the district office following the policies and procedures outlined in [UR-1400](#).

All succeeding TC 69-8 forms, *Utility/Rail Agreement Statement of Charges*, shall reflect the approved change order amount and revised total in the respective lines on the form. Payment requests submitted after approval of a change order will reflect the items listed below.

Pay Request Items

- Revised amount in the project budget
- Amount of the change order
- Modified agreement amount

CHANGE ORDERS

General

UR-1501

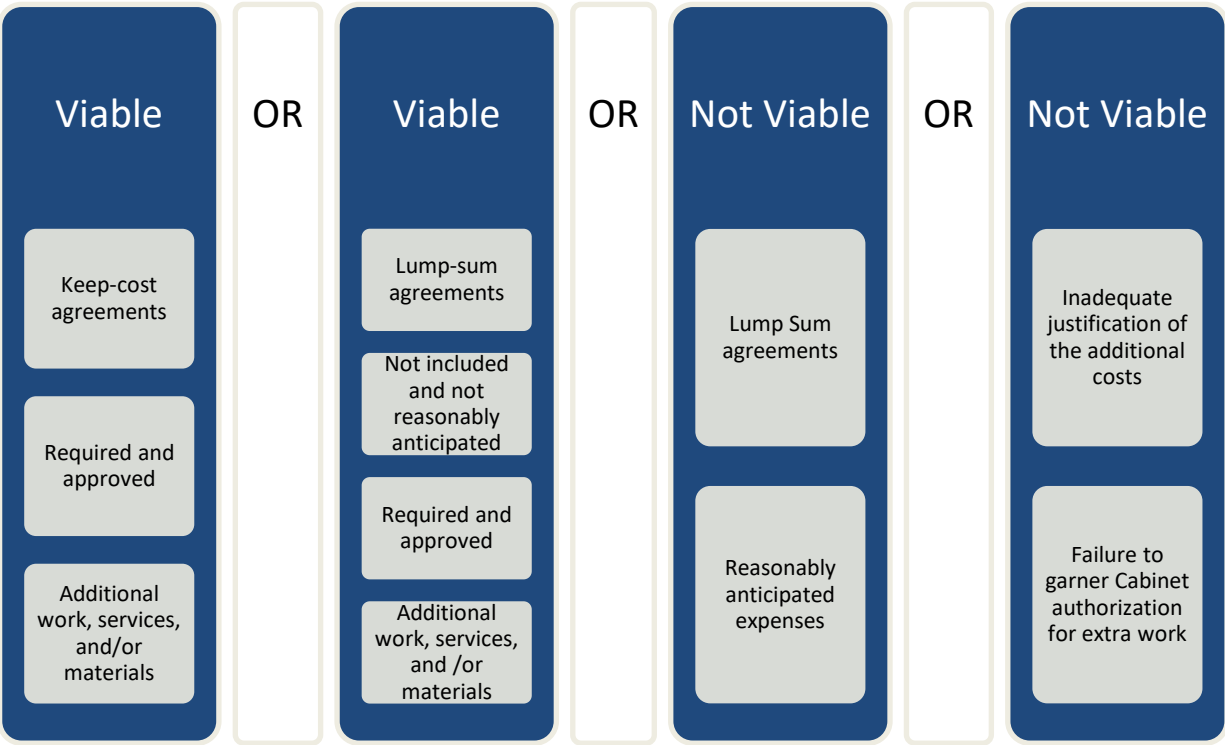
CHANGE ORDER

VIABILITY

Utility companies shall request a change order from the utility supervisor (US) for additional work and services performed and materials used on keep-cost agreements or for additional work and services and materials used that are not included and unanticipated in the agreed-upon scope of work for lump sum agreements.

Keep Cost Agreement Change Order Viability	Lump Sum Agreement Change Order Limitation
Additional work, services, and materials omitted or unanticipated	Additional work, services, and materials that could not have been reasonably anticipated

A change order is generally not approved, nor can the work proceed without adequate justification, available funding, or Cabinet authorization.



ADDITIONAL FUNDING

REQUESTS

If funds are unavailable to cover the change order amount, the Utilities Section shall acquire additional funding by submitting a request in KURTS for additional funds as detailed in [UR-603](#).



	Chapter CHANGE ORDERS
	Subject Required Documentation

**REQUIRED
DOCUMENTATION**

When submitting a request for a change order, the utility company shall submit the following completed documents to the utility supervisor (US).

Change Order Package

- Completed Utility/Rail Agreement Change Order Form
- Utility company letter requesting the change order
- Valid Justification* documenting the necessity and validity of the request

Note: The TC 69-4 form may be electronically generated in the Kentucky Utility and Rail Tracking System (KURTS) but must be sent to the Cabinet for review and electronic signatures.

* Valid Justification

- Company estimate of charges for all additional materials, labor, equipment, engineering, and overhead costs
- Documentation of quantities, unit costs (as bid by the contractor), and line-item subtotals and total cost
- Detailed reasoning for the additional costs, i.e., scope changes, increased cost of materials or services due to length of a project, unforeseen objects, or unmapped utilities encountered, etc.

CHANGE ORDERS

Required Documentation

UR-1502

REVIEWING

CHANGE ORDERS

The US and area coordinator (AC) shall review any change order for the following criteria.

Change Order Review Criteria

- Requested changes are in general compliance with original agreement, policy, regulation, and law
- Estimate effectively document reasonable additional materials, labor, equipment, engineering, and overhead costs
- Quantities effectively document reasonable additional units (as bid by the contractor)
- Costs and quantities are mathematically correct
- Justification validates legality, reasonableness and necessity
- All Information provided is accurate

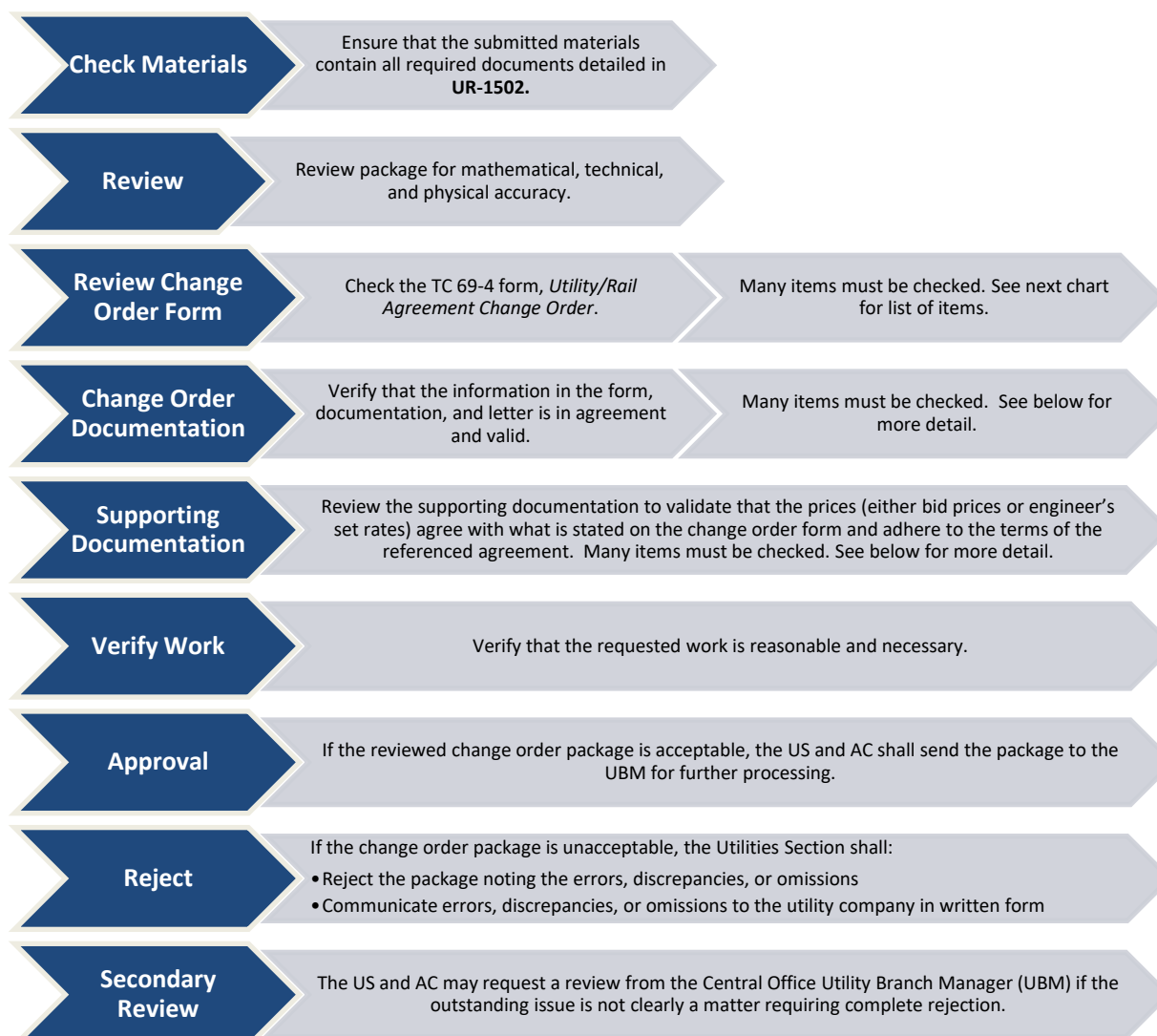
Additional information on reviewing and processing change orders is included in [UR-1503](#).



	Chapter CHANGE ORDERS Subject Reviewing and Processing

REVIEWING**CHANGE ORDERS**

The district utility supervisor (US) and area coordinator (AC) ensure change orders and documentation are valid, reasonable, and compliant. A utility coordinator consultant is generally provided authority to review and approve change orders and considered the US in this section. The US and AC shall review the change order package, performing the following tasks.



CHANGE ORDERS

Reviewing and Processing

UR-1503

REVIEWING
CHANGE ORDERS (CONT.)

Note: [UR-603](#) details the procedure to acquire additional funding.

Items to Review on Change Order Form

- Company address
- Company Name and Contact
- Project title and road name
- County name
- Federal project funding
- State project funding
- Project item number
- Contract number
- Contract type
- Line items: description, quantity, and price
- Amount requested
- Cost share

Items to Verify During Change Order Documentation Review

- General compliance with original agreement, policy, regulation, and law
- Scope is absolutely necessary for successful completion of the project or beneficial to/in the best interest of the Cabinet or the general public
- Scope is of the same type as specified in the original agreement, economic and reimbursable under the terms of the agreement and law
- Estimate documents additional materials, labor, equipment, engineering, and overhead costs
- Quantities document reasonable additional units (as bid by the contractor)
- Costs and quantities are mathematically correct
- Justification validates legality, reasonableness, and necessity
- All Information provided is accurate
- Funds are available to cover the requested change order amount

CHANGE ORDERS

Reviewing and Processing

UR-1503

CHANGE ORDERS (CONT.)

If the change order package is **acceptable** to the US and AC, they shall do the following.

Recommend Approval

- Recommend approval with a description of the change order and acceptance of the terms.

Send to UBM

- Send the change order package to the Utility Branch Manager (UBM) for review.

Send for Signatures

- If approved by the UBM, send the change order package out for electronic signatures.

Note: The TC 69-4 form may be electronically generated in the Kentucky Utility and Rail Tracking System (KURTS) but must be submitted unsigned to Central Office to secure electronic signatures.

If the change order package is **unacceptable** to the US and/or AC, they shall do the following.

Communicate

- Communicate the errors, discrepancies, or omissions to the utility company in written form via e-mail.

Address Minor Errors

- If the issue is a matter of typographical error or other minor error (such as a Cabinet internal accounting line typo), the Cabinet shall notify the utility of the correction via email and/or call.

Address Major Errors

- If the issue is more significant, such as lack of documentation, mathematical errors, etc., the package shall be rejected and returned to the utility company. The reply shall document errors, discrepancies, or omissions.

CHANGE ORDERS

Reviewing and Processing

UR-1503

PROCESSING

CHANGE ORDERS

When a change order is required on a project, the method of determining payment can vary based on the type of agreement in place between the Transportation Cabinet (Cabinet) and the utility company.

Processing a Change Order

- Change order package is sent out for signatures via DocuSign to:
 - *Utility company*
 - *CDE or Designee*
 - *Utility Branch Manager*
 - *Director*
- Signed change order is entered into the Cabinet’s fiscal processing system. Modification is made to the original agreement amount in the Cabinet’s fiscal system.
- Signed change order is recorded electronically in KURTS.
- Utilities and Rails Branch Manager (UBM) approves the change order in the accounting system.
- Accounts Division completes the approval.
- Upon full approval in the accounting system, the AC is advised of the change order status.
- AC immediately notifies the US of the change order approval. US may then notify the utility company.
- Change orders are maintained in KURTS to document approval to perform the work as proposed.

VARIANCES IN

CHANGE ORDERS

When a change order is required on a project, the method of determining payment can vary based on the type of agreement in place between the Cabinet and the utility company.

KEEP-COST

(ACTUAL COST)

AGREEMENTS

Change orders for keep-cost agreements (including construction or engineering services) require separate line items and itemized billing. This requires detailed record keeping on the part of the utility company. Fully reimbursable charges for labor, materials, and other items shall include complete supporting documentation for each line item, as shown in chart below.

CHANGE ORDERS

Reviewing and Processing

UR-1503

KEEP-COST (ACTUAL COST)
AGREEMENTS (CONT.)

Supporting Documentation for Line Items		
Labor	Materials	Miscellaneous
• Labor classification and number of workers within classification • Rate of pay • Hours worked on project	• Description • Quantity • Unit cost	• Shipping • Administrative costs • Overhead • Mileage • Per diem • Lodging • Equipment rentals

LUMP-SUM
AGREEMENTS

Change orders for lump-sum agreements are generally disallowed but may be executed to cover justifiable and substantiated costs for the following conditions.

Criteria for Change Orders on Lump Sum Agreements
• Scope of the road project substantially changes • Road work forces a redesign during construction • Unexpected weather conditions occur • Not anticipatable field conflicts arise

The utility company is responsible for consideration of all elements of the work proposed when negotiating a lump-sum agreement. Therefore, change orders associated with lump-sum agreements may be for items that could not be anticipated at the time of the agreement execution. Most change orders on lump-sum agreements are a direct result of a change in the road project development or execution after the relocation agreement was executed.

These change orders are based on negotiated costs for the additional scope of work. Supporting documentation, as shown for keep-cost agreement change orders, is required for the purpose of Cabinet verification of the company’s estimates and the amount requested. The Cabinet may approve lump-sum change orders that do not exceed a total cost agreement threshold of \$200,000. Exceptions to this must be made in writing, justified, and approved by all parties.

CHANGE ORDERS

Reviewing and Processing

UR-1503

BETTERMENT

WORK

Betterment work is not a reimbursable cost. When changes are made to a utility company’s facilities that are not strictly pertinent to facility relocation or adjustment, the cost of such work shall be deducted from the change order costs.

CHANGE ORDER DOES NOT REQUIRE FUNDS

When the scope of work on an agreement has changed but no extra funds are needed, the US may want to do a scope-of-work change order. A scope-of-work change order needs the following documentation.

Scope-of-Work Change Order Package

- Utility/Rail Agreement Change Order
- Written documentation of the scope of work that changed and the reason for the change

Once a final invoice is paid on an agreement, the agreement closes automatically in the Cabinet’s fiscal system. Any leftover funds are rolled over into the original phase fund.

If the project is fully complete regarding utility coordination, the project should be closed out. This process releases excess utility phase funding and is fully detailed in [UR-1800](#).

UTILITY COORDINATOR CONSULTANTS

A contracted utility coordinator consultant (UCC) is generally provided authority to review and recommend change order approval. The UCC shall review the change order package as defined in this chapter with the following limitations.

Contracted UCC Change Order Review Limitations

Cannot approve

Cannot process in accounting system

Cannot review change orders that include charges for their own company or competitors

Must avoid any appearance of conflict of interest



	Chapter UTILITY & RAIL CERTIFICATION NOTES
	Subject General

OVERVIEW

Successful road project construction is the primary purpose for utility coordination. Bidders need to know the locations of existing utility facilities, the location of proposed facilities, and the schedule for relocation facility relocations that will occur concurrently during the highway construction process. The Transportation Cabinet's (Cabinet) goal is to prevent or minimize conflicts, project delays, and service disruptions and ensure the safety of construction personnel and the public during the construction phase of the project.

Utility and rail certification notes are an integral part of such communications and are included in every set of construction bid documents to effectively communicate the presence, location, and relocation of utilities and related structures. They shall fully inform highway construction companies of utility facilities or utility relocations or adjustments that have occurred or are planned and the schedules for planned relocations.

PURPOSE

Contractors use utility and rail certification notes to assist in the bidding process for highway construction projects. Additionally, construction personnel use utility and rail certification notes to do the following.

Utility and Rail Certification Notes Usage in Construction

- Plan project execution
- Identify possible hazards during excavation and grading activities
- Plan and safely execute operations involving the use of cranes, booms, or other equipment that may be of sufficient height or reach to encounter aerial utilities or related structures or encroach upon privately owned rights of way

UTILITY & RAIL CERTIFICATION NOTES

General

UR-1601

FEDERAL REGULATION The utility and rail certification note is a required deliverable before a federally funded road project may be authorized to bid. The Federal Highway Administration (FHWA) regulation is [23 CFR 635.309](#). The Cabinet has adopted the utility and rail certification note as a required deliverable for all projects prior to the release of construction funds.

REQUIRED DATA Utility and rail certification notes convey information regarding the presence and relocation of all utility company facilities in the project area. The degree of detail may vary depending on the factors listed below.

Factors that Influence Utility and Rail Certification Notes

- Transportation project needs
- Complexity of the facilities being described
- Complexity of the project
- Impact potential to the project

Generally, the utility and rail certification note shall include the following information.

Data to Include in Utility and Rail Certification Notes

- Utility companies in the project area
- Location and description of utility facilities, including:
 - *Existing facilities*
 - *Relocated or adjusted facilities*
 - *Facilities to be relocated*
 - *Facilities to be installed*
 - *Facilities to remain*
- Completion dates and other scheduling information of facility relocations or adjustments
- Statement that the location of facilities as planned is approximate and must be verified in the field
- Certification of any rail involvement
- Buy America / Build America Buy America Minimal Use utility materials
- Any information that the highway contractor may need to fully understand the project needs regarding utility facilities

UTILITY & RAIL CERTIFICATION NOTES

General

UR-1601

CATEGORIES There are four primary categories that a utility facility may be classified as in the body of the utility and rail certification note. These four categories are listed here and discussed in more detail in [UR-1602](#).

Primary Categories in Utility and Rail Certification Note

- Do-not-disturb utilities
- Utilities adjusted or relocated by the owner prior to the transportation project
- Utilities adjusted or relocated by the owner concurrently with the transportation project
- Utilities included in the transportation project construction contract



	<i>Chapter</i> UTILITY & RAIL CERTIFICATION NOTES <i>Subject</i> Contents

GENERAL

Utility and rail certification notes convey information regarding the presence and relocation of all utility company facilities in the project area. The degree of detail may vary depending upon the following.

Factors that Influence Utility and Rail Certification Notes

- Transportation project needs
- Complexity of the facilities being described
- Complexity of the project
- Impact potential to the project

Generally, the utility and rail certification note shall include the following information.

Data to Include in Utility and Rail Certification Notes

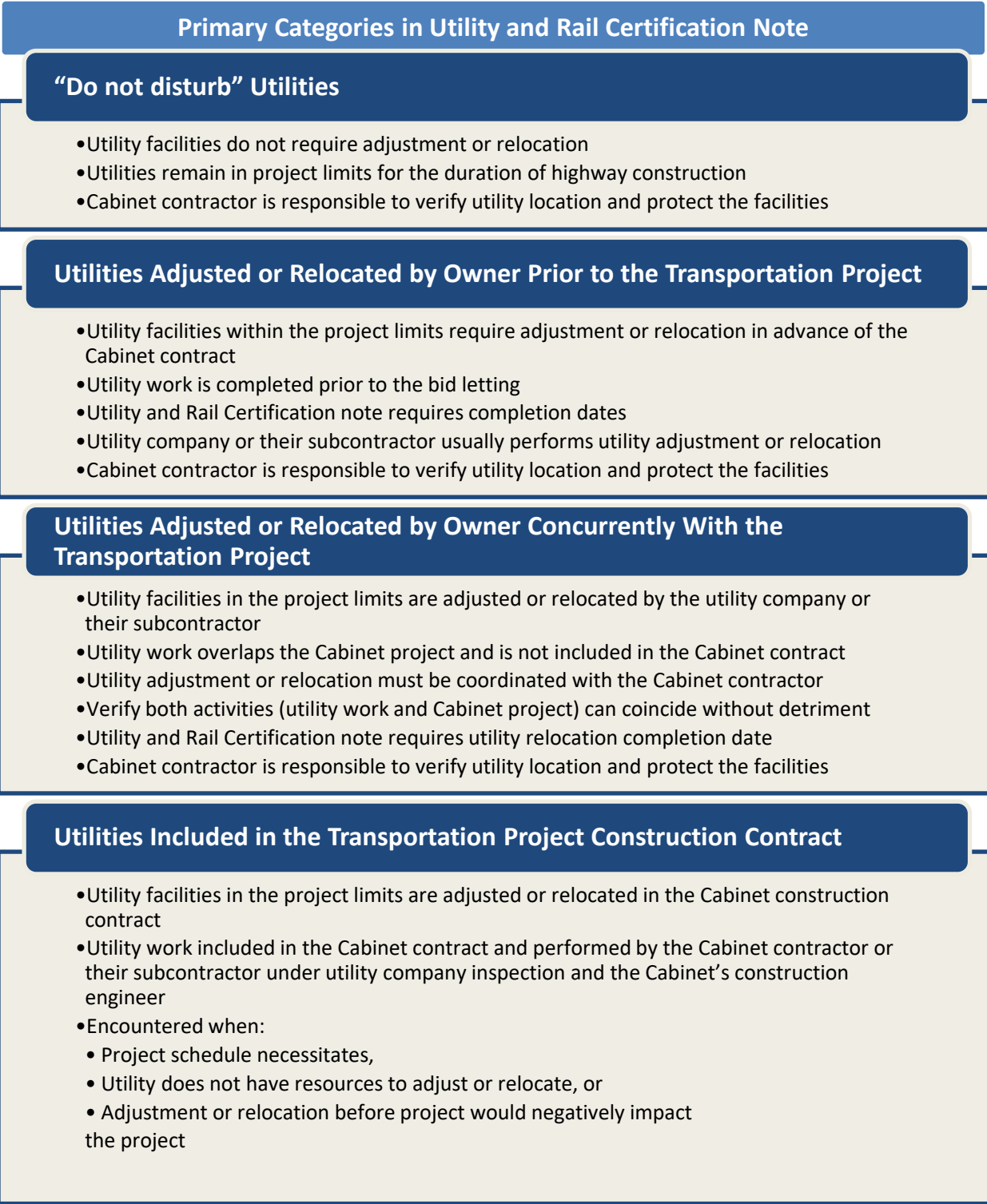
- Utility companies in the project area
- Location and description of utility facilities, including:
 - *Existing facilities*
 - *Relocated or adjusted facilities*
 - *Facilities to be relocated*
 - *Facilities to be installed*
 - *Facilities to remain*
- Completion dates and other scheduling information of facility relocations or adjustments
- Statement that the location of facilities as planned is approximate and must be verified in the field
- Certification of any rail involvement
- Buy America / Build America Buy America Minimal Use utility materials
- Any information that the highway contractor may need to fully understand the project needs regarding utility facilities

UTILITY & RAIL CERTIFICATION NOTES

Contents

UR-1602

CATEGORIES There are four primary categories that a utility facility may be classified as in the body of the utility and rail certification note. These four categories are described in the chart below.

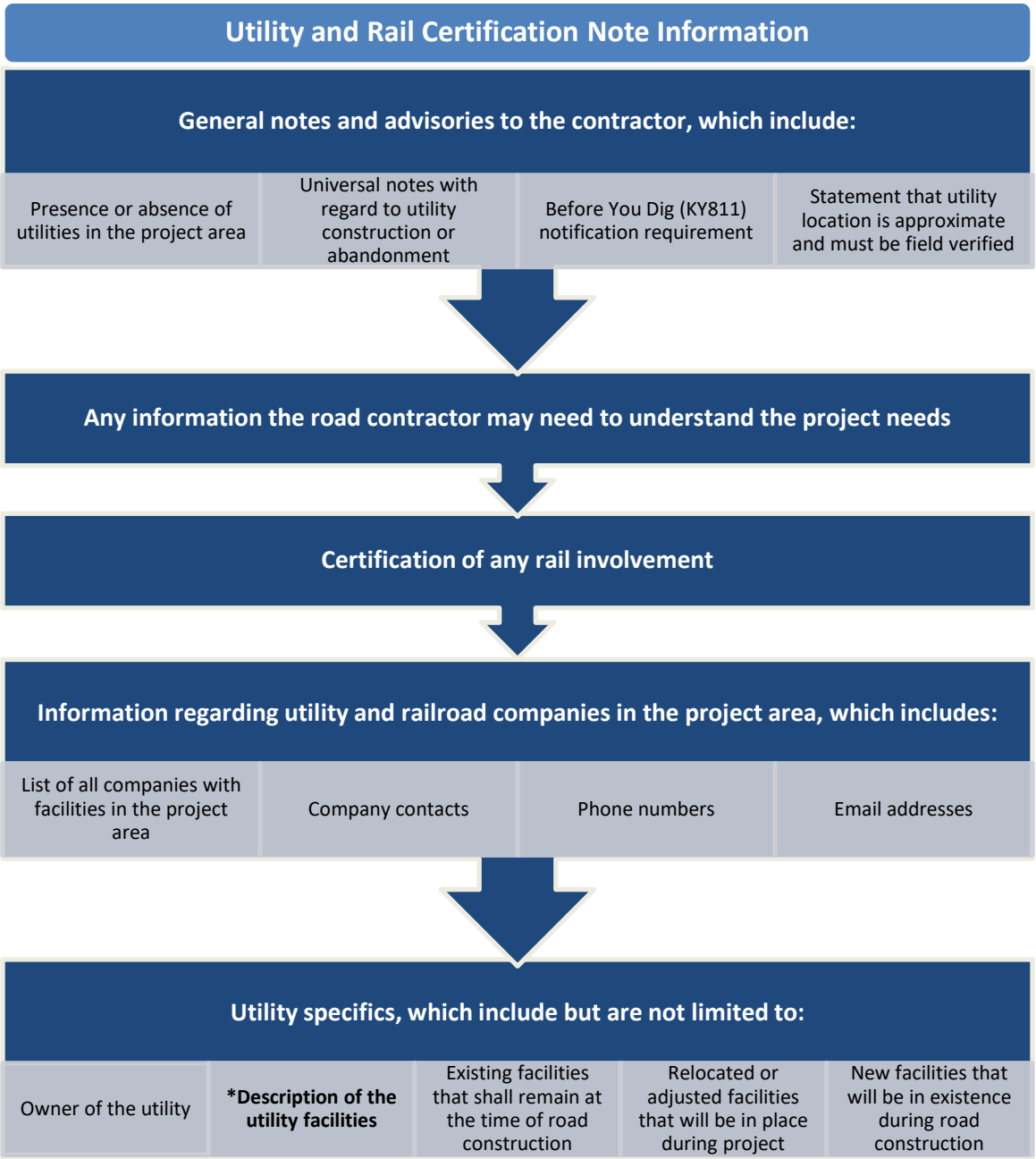


UTILITY & RAIL CERTIFICATION NOTES

Contents

UR-1602

CATEGORIES (CONT.) Generally, the utility and rail certification note shall include the following information.



CATEGORIES (CONT.)

***Description of Utility Facilities**

- Existing, proposed, abandoned, or new utilities
- Size and type of utility
Note: A range may be listed for a utility with multiple sizes (for example, 2” to 12” water line with appurtenances).
- Location of the utility facilities, specified by station and offset, coordinates, distance off right-of-way line, or other reasonable method
- Summary of relocation or adjustment work performed to date with a focus on the final location
- Actual or anticipated completion date for utility work

**UTILITIES OVERLAPPING
THE TRANSPORTATION
PROJECT**

For utility facilities that fall into the category, **“Utilities adjusted or relocated by the owner concurrently with the transportation project,”** the utility and rail certification note shall, in addition to the above information, do the following.



**UTILITIES INCLUDED IN
THE TRANSPORTATION
PROJECT**

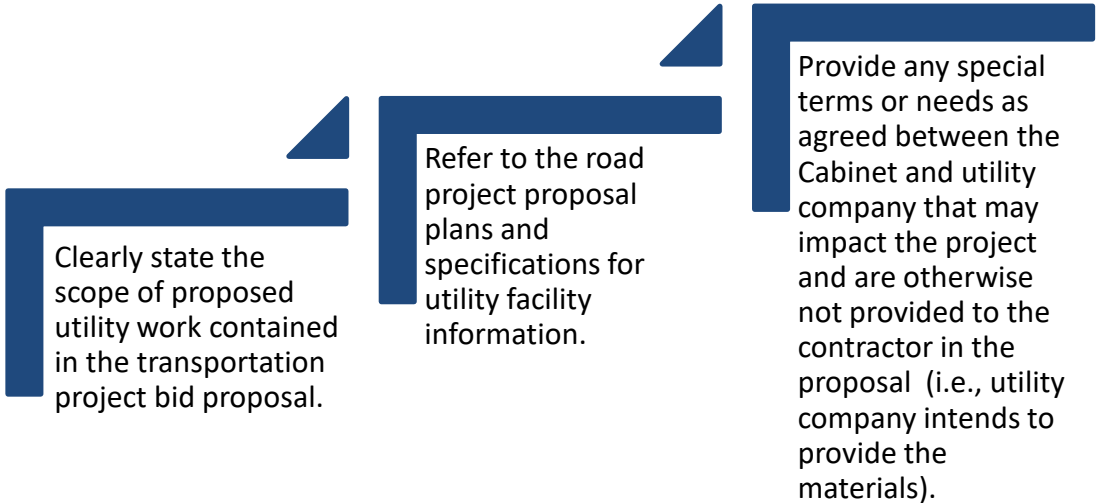
For utility facilities that fall into the category, **“Utilities included in the transportation project construction contract,”** the utility and rail certification note shall do the following.

UTILITY & RAIL CERTIFICATION NOTES

Contents

UR-1602

UTILITIES INCLUDED IN
THE TRANSPORTATION
PROJECT (CONT.)



When utilities are included in the transportation project construction contract, the Cabinet must provide a few items in addition to the certification note.

Additional Documentation
• <u>General utility note which includes:</u> • <i>Standards for utility work performed by Cabinet contractor or their subcontractor</i> • <i>A shortlist of Utility Company approved subcontractors (Optional)</i> • <i>Special notes requested by the owner utility company</i> • Utility relocation bid items that adhere to the Cabinet's standardized bid item list • Utility company standard specifications

Note: The general utility note template and standardized bid items list described above are available from the Division of Construction’s Contract Administration Branch.

KY 811
(BEFORE YOU DIG)

Each set of utility and rail certification notes shall contain verbiage regarding underground utility location and damage prevention.

UTILITY & RAIL CERTIFICATION NOTES

Contents

UR-1602

KENTUCKY UTILITY &
RAIL TRACKING SYSTEM
(KURTS)

The template for the utility and rail certification note is generated in KURTS for use. This template offers up the required format and many of the commonly used notes. Users generate a base note which is downloaded for completion. The final note shall be uploaded to KURTS for record retainage. Details of this process can be found in [UR-1603](#).

RAILROAD
INVOLVEMENT

Railroad involvement in the project must be marked in the utility and rail certification note. This is accomplished by selecting the appropriate option in the chart below.

Types of Railroad Involvement for Projects

No Rail Involvement

- There are no railroads in or near the project.

Rail Involvement

- The project will require the contractor to coordinate with one or more railroad companies.

Rail Adjacent

- There is a railroad facility adjacent to the project but may not require the contractor to coordinate with the railroad.

If either Rail Involvement or Rail Adjacent is selected, a note shall be added stating, "Please see railroad notes." The Rail Coordinator compiles the railroad notes for inclusion in the proposal.

CONTACT LIST

The utility and rail certification note shall contain a list of contacts for all utilities in the project area. This list is automatically generated in the template by KURTS and may be edited as needed prior to uploading the final certification note.

UTILITY & RAIL CERTIFICATION NOTES

Contents

UR-1602**Non-Domestic****MATERIALS**

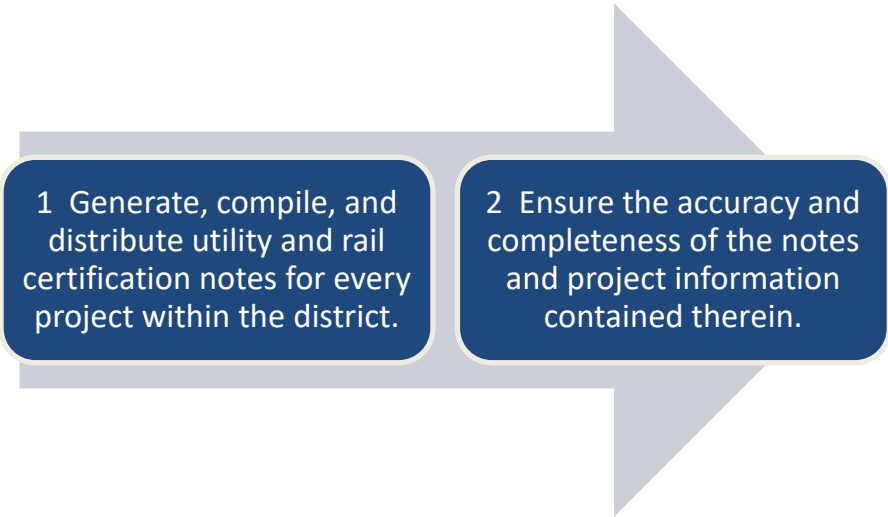
For projects that use federal funding in any phase, a special clause must be included in the utility and rail certification note if any non-domestic materials were permanently used for reimbursement-eligible utility relocations. This clause will document the non-domestic items and category, cost, and other items. More information on this clause may be found in [UR-1302-4](#).



	Chapter UTILITY & RAIL CERTIFICATION NOTES
	Subject Completion Guidelines

GENERAL

The utility supervisor (US) is the subject matter expert for the Transportation Cabinet (Cabinet) relative to each highway project’s utility relocation and adjustment activities. The US shall provide a utility and rail certification note to convey their Utilities Section knowledge to the construction staff for each transportation project. The steps involved in the development of the utility and rail certification note are as follows.



**DEVELOPMENT
PROCEDURE**

The US or assigned utility agent (UA) shall ensure that a complete and accurate utility and rail certification note is made available to the Division of Construction Procurement prior to the compilation and release of bid packages for transportation projects. The note shall be uploaded to the Kentucky Utility and Rail Tracking System (KURTS) and electronically submitted for inclusion in the bid package.

As early in the project development process as is reasonable, but no later than 2 months prior to the letting date, the US or assigned UA shall execute the utility and rail certification note activities listed in the image below.

UTILITY & RAIL CERTIFICATION NOTES

Completion Guidelines

UR-1603**DEVELOPMENT PROCEDURE (CONT.)****Utility and Rail Certification Note Activities During Project Development**

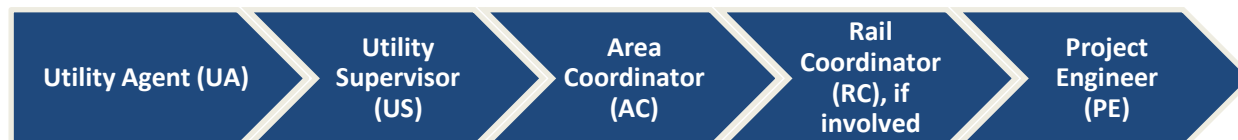
- Inventory existing, proposed, relocated, and adjusted facilities in project scope.
- Verify that all utility companies are identified and contacts are still valid.
- Check the road plan set to ensure the contact list provided is current.
- Generate a base utility and rail certification using the KURTS template.
- Finish the utility and rail certification note by adding minimally the data in **UR-1602** using the following:
 - *Agreements as executed*
 - *Approved relocation plans*
 - *Subsurface utility engineering (SUE) data*
 - *Road plans*
 - *Utility facility relocation inspection reports*
- Upload the final note to KURTS for record retainage.
- Submit certification note for inclusion in the bid package.

The area coordinator (AC) shall ensure the rail coordinator (RC) has provided pertinent railroad data and documentation. The AC shall then submit the final utility and rail certification notes to the Division of Construction Procurement at least five (5) weeks prior to the scheduled project letting date. The notes shall be electronically recorded and submitted to the Division of Construction Procurement through KURTS. Once submitted, the note is available for all project team members.

Note: If the project has railroad involvement, the AC shall make sure to submit the railroad notes and railroad project summary sheet with the utility and rail certification note. If no documents are available in KURTS, the AC shall collect and upload them from the project's assigned rail coordinator (RC). The railroad project summary sheet is the TC 69-11 form, *Summary for KYTC Projects that Involve a Railroad*.

REVIEWS

Draft utility and rail certification notes shall be thoroughly reviewed by the following parties to ensure the notes are complete and accurate.

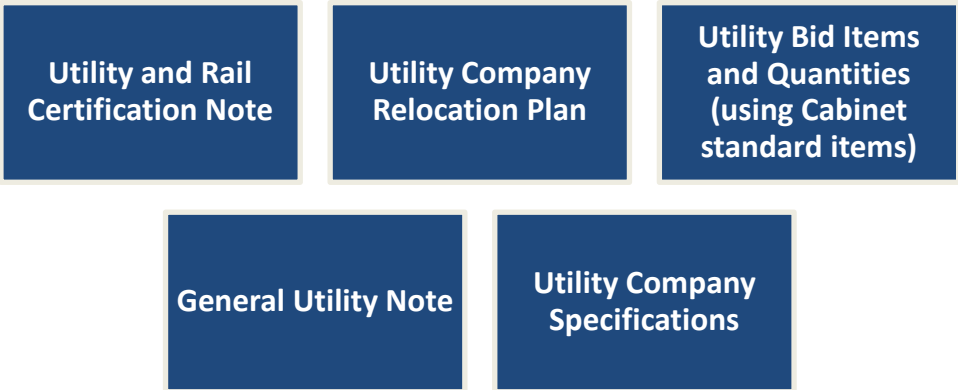


Note: The PE shall review the notes if some utility relocation, rail, or adjustment work will overlap the highway project schedule or will be incorporated into the highway project proposal.

UTILITY & RAIL CERTIFICATION NOTES

SUBMISSION After the utility and rail certification notes and any other documentation needed for the Cabinet bid package have been thoroughly reviewed and revised as appropriate, the US or AC shall provide them in digital format to the Division of Construction Procurement. Then the utility and rail certification note and other documentation shall be incorporated into the construction contract bid documents, specifications, and plans.

If including utility relocations into the Cabinet’s bid package, the US and AC must provide the Division of Construction Procurement the following items.



	<i>Chapter</i> UTILITY WORK-IN-THE-ROAD CONTRACT
	<i>Subject</i> General

OVERVIEW

Having utility relocations or other utility work completed by the highway contractor can be beneficial to the project. The reasons for incorporating utility work into the highway contract can vary. The following serves as a guide in determining appropriateness and the process to include utility work in the transportation contract.

If the decision is made to incorporate the work into the highway contract, the agreements available are defined in [UR-1100](#) as is the drafting and execution of agreements. [UR-1400](#) can also be valuable, as it details applicable invoicing procedures.

Note: Most utility work incorporated into highway contracts is for the relocation or adjustment of underground utility facilities. This chapter focuses on underground utilities. However, appropriate assumptions can be made to adapt the discussion for overhead utilities.

DECIDING WHETHER
TO INCLUDE UTILITY
WORK IN THE CABINET
CONTRACT

When road plans have been developed to a point where the utility impacts can be reasonably assessed, the following may be considered.

Is the **utility company** **willing** to allow the Cabinet to control a contract for the relocation of their facilities?

Does the project as a whole **benefit** from including the utility work in the highway contract?

Note: If the utility work is incorporated into the highway contract, additional conditions may apply for contractor prequalification.

UTILITY WORK-IN-THE-ROAD CONTRACT

General

UR-1701

DECIDING WHETHER TO INCLUDE UTILITY WORK IN THE CABINET CONTRACT (CONT.)

Additional Considerations for Including Utility Work in Cabinet Contract

- Does it shorten the overall project time?
- Does it shorten the duration of inconvenience to motorists and nearby residents?
- Does the motoring public benefit from a reduced delay of daily traffic and potential roadway hazards?
- Can temporary utility restoration be eliminated, to save cost for the taxpayer or utility consumer?
- Can the placement of the utility facilities be enhanced by placing the utility facilities in constructed roadway areas, such as new roadway embankment or excavation areas (improving maintenance and services)?
- Will the project benefit from coordination of work, i.e., coordinated lane closures?

Advantages of Including Utility Work in Cabinet Contract

- Known utility facilities location and contractor responsibility for damages or corrections, if transportation contractor places the utility facilities
- Reduced coordination needs, as the transportation contractor will coordinate personnel and resources for the construction of both utility facilities and transportation work
- No complaints by the highway contractor that a utility company contractor is causing delays to the project, and, therefore, no claims for delays
- Minimal disruption to the community in terms of time and physical disturbance

UTILITY WORK-IN-THE-ROAD CONTRACT

General

UR-1701

MINIMUM
DOCUMENTATION

If utility work is determined to be included in the transportation contract, the utility company and Cabinet must mutually agree to the decision and do the following.

Minimum Documentation to include Utility Work in Transportation Contract

- Enter into a work-in-the-highway contract agreement
- Develop an approved utility relocation plan
- Develop an approved utility relocation estimate, including Cabinet standard bid Items
- Develop a general utility note
- Develop utility company specifications
- Provide a short list of three or more contractors that are approved by the utility company, or accept the contractor awarded the transportation contract



	Chapter UTILITY WORK-IN-THE-ROAD CONTRACT
	Subject Developing Plans, Specifications, & Estimates

DEVELOPING MINIMUM
DOCUMENTATION

If utility work is determined to be included in the transportation contract, the utility company and Cabinet must mutually agree to the decision and follow the steps in the image below.

Enter into a Work-in-the-Highway Contract Agreement	
Utility company provides:	Cabinet provides:
• Minimum documentation • <i>Utility relocation construction plans</i> • <i>Relocation cost estimate</i> • <i>Utility supplied specifications</i> • Short list of three or more contractors that are utility approved (optional) or accept the contractor awarded the transportation contract	• Approval of utility minimal documentation • Cabinet standard bid items based upon utility estimate • General utility note • Agreement between Cabinet and utility company • Bid item descriptions

Three of the items above will be discussed in more detail herein.

Utility Relocation Construction Plans	Utility-Supplied Specifications	Standard Bid Items from Estimate

The need for plans and specifications is evident. The estimate is used to add the utility items to the project bid sheets, for bid review, and to address budgeting for the utility relocation work.

DEVELOPING UTILITY
RELOCATION PLANS

The utility company must either provide a relocation design using in-house forces, secure utility design services, or request Cabinet engineer consultant services, as explained in [UR-900](#), “Engineering Services.” The utility designer shall provide all utility relocation plan information for review electronically via the Kentucky Utility and Rail Tracking System (KURTS) or in hard copy to the utility supervisor (US) or assigned utility agent (UA). Utility designers shall adhere to the following criteria when developing and submitting utility relocation plans.

Developing Utility Relocation Plans

- Use plan sheets that are 36 inches by 22 inches cut size, or as specified by the design team.
- Include a summary sheet with utility quantities in the utility relocation plans in the same format as the roadway plan general summary (i.e., “Sanitary Sewer Summary,” “Water Relocation Summary,” or as appropriate).
- Ensure summary sheet column headings include “Bid Item Code,” “Description,” “Unit,” and “Quantity.”
- Ensure all sheets have the Cabinet’s normal sheet block in bottom right corner or as specified by the project team with space for county, item, and sheet number (Starting U-1).
- Use bold lettering across the bottom of each sheet to identify the type of utility to be relocated and the utility owner and state that the sheets are only for that utility work (i.e., the lettering may read “WATER RELOCATION FOR THE CITY OF WILLIAMSTOWN ONLY”).
- For each utility plan set, include a unique set of sheet numbers separate from the sheet numbers assigned by the Cabinet, commonly placed at the bottom right corner of each sheet.
- Design to the same scale as the roadway plans if possible.
- Ensure text scale is readable when printed 1/2 scale.
- Include only notes specific to the utility work on the plans and/or sheet.
- Propose plan to the US and obtain approval of any betterment and/or new facilities shall be proposed to the US and approved prior to design. (All costs associated are non-reimbursable and negotiated prior to incorporation.)

UTILITY WORK-IN-THE-ROAD CONTRACT

Developing Plans, Specifications, & Estimates

UR-1702**DEVELOPING UTILITY****RELOCATION PLANS (CONT.)****Submitting Utility Relocation Plans**

- Develop all utility sheets using MicroStation (if the utility designer has this capability) or KYTC approved software.
- Ensure compliance to reduces opportunity for the loss of data due to program conversion.
- Advise utility that if they opt to use other programs, they assume liability of data loss in the conversion process.
(Note: The US or UA shall not provide the utility designer electronic CADD information in any format other than that currently adopted by the Cabinet.)
- Typically, provide the final utility relocation plans to the US or UA in digital format.

PLAN CHANGES

A change in the Transportation Cabinet (Cabinet) road project plans during construction may impact utility relocations. There are two types of plan changes.

Changes proposed by
the Cabinet contractor
for their convenience
or for the benefit of the
utility company

Changes proposed to
resolve a design error
or omission

When a contractor proposes the change as a **matter of convenience**, the contractor must gain the utility company's acceptance of the change, and any cost responsibility shall be between the contractor and the utility company. The Cabinet shall not bear any additional costs due to such a change nor a change made at the request and solely for the benefit of the utility company.

When the Cabinet or the utility company proposes a change due to some **design error in plans or contract documents**, the Cabinet or utility company shall bear any additional cost as deemed appropriate by the agreement as executed. If the work is outside of the negotiated terms of the relocation agreement, reimbursement may be negotiated between the utility supervisor and utility company.

UTILITY WORK-IN-THE-ROAD CONTRACT

Developing Plans, Specifications, & Estimates

UR-1702

UTILITY SPECIFICATION

DEVELOPMENT

When developing utility specifications, the utility designer shall adhere to the following guidelines.

Developing Utility Specifications

- Use sheets that are **8.5-inch by 11-inch**.
- Ensure all sheets have their own **numbering** located at the bottom of each sheet.
- Ensure bid items conform to the **Cabinet's standardized bid item list, codes, units, and descriptions** as denoted on the Cabinet's latest bid items list. (These items can be found on the Cabinet's Construction web page.)
- **Specialty bid items** may use item codes defined as 'special,' and these descriptions may be contained in the utility-supplied specifications.
- Avoid conflicts between **utility specifications and general project specifications** if possible (i.e., utility specifications should not have one set of criteria for flowable fill material and the road specifications have another).
- Define **utility-company-supplied inspector responsibilities** at the beginning of the specification.
- Defer to **Cabinet construction engineer** as the final authority in resolution of all conflicts
- Include **definition of "engineer"**: "The Cabinet construction engineer or his or her designated representative in consultation with the utility company engineer or his or her designated representative. (The Cabinet construction engineer has final authority in all disputes.)"
- Include **only information pertinent** to the project.
- For each set of utility specifications, include a **cover sheet** stating:
 - *Type of utility*
 - *Utility company*
 - *Statement that the specifications apply only for the construction of that utility owned by the identified utility owner*

UTILITY WORK-IN-THE-ROAD CONTRACT

Developing Plans, Specifications, & Estimates

UR-1702**DEVELOPING BID ITEMS****AND ESTIMATE**

When developing the final utility estimate, the utility designer shall adhere to the following guidelines.

Developing Cost Estimates

- **Identify** the project:
 - *Project name*
 - *Project item number*
 - *Type of utility*
 - *Utility company*
- **Include** the following:
 - *Item code*
 - *Description*
 - *Unit*
 - *Quantity*
 - *Unit cost*
 - *Total Item cost*
 - *Grand total cost*
 - *Documentation of betterments and new facilities*
- **Exclude:**
 - *Contingencies*
- **Plan** (plan summary sheet and estimate must match):
 - *Item codes*
 - *Item descriptions*
 - *Item units*
 - *Item quantities*

STANDARD**BID ITEM CODES**

The Cabinet requires that bid codes be assigned to each bid item based on the wording of the bid item description. The codes are to come from a list of standard bid codes maintained by the Cabinet. The bid code that is recorded for a particular item shall be shown on both the plan summary and on the estimate. The list of standard bid item codes is maintained by the Cabinet for tracking and recordkeeping purposes. These items can be found on the Cabinet's Division of Construction web page at:

<https://transportation.ky.gov/Construction/Pages/default.aspx>

UTILITY WORK-IN-THE-ROAD CONTRACT

Developing Plans, Specifications, & Estimates

UR-1702**BID ITEM CODES**

Each bid item on the plans should be matched to a particular item on the Cabinet standard bid code list and Cabinet standard utility bid item descriptions. If an exact match can be found, the code and bid item shall be used on both the plan summary and estimate. If an item on the plans does not exactly match an item on the bid code list, the utility designer shall determine if the differences are significant enough to use a bid item code defined as 'special,' which allows use of a unique bid item description in the utility-company-supplied specifications. If a special bid item is used, its description should be generated on a separate sheet with appropriate heading and placed at the end of the utility-company-supplied specifications or elsewhere in the proposal.

If a standard bid code is used, the exact bid item title and description must be used on the bid sheet, plan sheet, specification and estimate. When special items are used, the plan summary sheet can include a note in a separate column to the right of the special bid item that identifies in short text the work to be paid under the bid item.

Bid item descriptions shall largely adhere to the Cabinet's descriptions. The description of the bid items can also be found on the Cabinet's Division of Construction web page.

<https://transportation.ky.gov/Construction/Pages/Utility-Bid-Item-Descriptions.aspx>

If no bid item exists in the Cabinet's list that conforms to the plant required, the Cabinet has limited ability to expand the permanent bid item list. Requests for the establishment of a new bid item may be submitted, provided the request is made well in advance. If the requested bid item is not likely to have reasonable recurring use, the request may be denied, and the use of a special bid item may be encouraged. Utility companies are advised to use the existing bid items if at all possible.

OTHER CONSIDERATIONS:**AS-BUILT PLANS**

Upon completion of each utility facility relocation, the Cabinet requires as-built plans (as-builts). As-builts are supplied to the Cabinet by the utility company, typically as recorded by their field inspector. The utility company may delegate the as-built record to the contractor if included in the utility bid specification as a requirement. If the as-built collection is delegated to the utility contractor via specification, it remains the utility company's responsibility to monitor progress on as-built information. The utility company shall secure completed as-builts from the contractor and advise the US If the contractor fails to provide them. The US shall then require the KYTC Section Engineer to enforce the specification.

UTILITY WORK-IN-THE-ROAD CONTRACT

Developing Plans, Specifications, & Estimates

UR-1702**OTHER****CONSIDERATIONS:**

AS-BUILT PLANS (CONT.) As-built plans must show existing and relocated facilities as they were constructed, removed, relocated, transferred, or left in place. More details on as-built plan requirements may be found in [UR-1002](#), "Utility Company Submissions: Utility Relocation Plans."

CABINET NOTES

The Cabinet will include in the bid package a document called "General Utility Notes and Instructions Applicable to All Utility Work made a Part of the Road Contract." It will accompany utility-company-supplied plans and specifications. This note addresses many items related to including utility work in the project contract and supersedes any conflicting information.

There is a template for these notes on the Cabinet Division of Construction website. This note is created and submitted by the district utility supervisor (DUS).



	Chapter UTILITY WORK-IN-THE-ROAD CONTRACT
	Subject Submission and Review Procedure

SUBMISSION

The Transportation Cabinet (Cabinet) typically requests that the submissions included in the bid package be provided electronically. The utility supervisor (US) must verify preferred format for submissions, such as CADD files or Adobe PDF format. The bid package utility documents must be complete and include specific, minimum documentation.

Utility Work in Transportation Contract Submission

- Approved utility relocation plan
- General utility note
- Utility company specifications (if applicable)
- Short list of three or more contractors that are approved by the utility company, or accept the contractor awarded the transportation contract

The US shall review and accept the bid package utility documents prior to submission for incorporation into the bid package. The bid package utility documents must also be reviewed by the area coordinator (AC) before the project plan submittal deadline. The AC will review the documents and, if approved, forward them as appropriate for inclusion in the contract plans and documents.

Bid Package Utility Document Submission

- Provide package to appropriate construction procurement staff.
Note: Electronic submittals are often placed in ProjectWise for retrieval.
- Document the submission in KURTS.
- Communicate any special handling of bid items (i.e., any request to establish a new bid item, description or a request for a bid code).
- Communicate any special factors on plans, specification, or estimate.
- Communicate with the AC on all decisions and actions.

UTILITY WORK-IN-THE-ROAD CONTRACT

Submission and Review Procedure

UR-1703

SUBMISSION (CONT.) The submittal deadline is the date assigned to the project engineer (PE) for submission of final roadway plans and documents. If utility document submission will not be ready by the submittal deadline, the US and AC must communicate with the PE, Division of Construction Procurement, and the Division of Highway Design’s location engineer so an exception can be considered. Once accepted by US and AC, the US shall transmit the package, (plans, specifications, and estimate) for inclusion in the bid.

CABINET NOTES The Cabinet will include in the bid package a document called the “General Utility Notes and Instructions Applicable to All Utility Work made a Part of the Road Contract”. It will accompany utility-company-supplied plans and specifications. This note addresses many items related to including utility work in the project contract and supersedes any conflicting information. This note is created and submitted by the US. A template for this note can be found on the Cabinet’s Division of Construction website at:

<https://transportation.ky.gov/Construction/Pages/Utility-Bid-Item-Descriptions.aspx>

CONTRACTOR SELECTION If utility work is determined to be included in the transportation contract, the utility company may provide a short list of three or more utility contractors that have been approved by the utility company. This list shall be provided to the US. The utility company does not have to provide a list of contractors; however, if no list is provided and the utility company does not address the preapproval requirements in their specifications, the utility company shall accept the contractor awarded the highway construction contract.

CONTRACTOR SELECTION (CONT.) The Cabinet would prefer that the listed utility contractors are prequalified with the Cabinet. If they are identified in the Cabinet bid proposal and are not prequalified by the Cabinet, the Cabinet shall consider those services as specialty contracting, which does not require prequalification.

Cabinet Responsibilities After Utility Company Submittal of "Approved Contractors" List

Provide this list as a part of the utility notes to be included in the Cabinet's bid package

Allow only a utility contractor included on this list to perform utility construction

UTILITY WORK-IN-THE-ROAD CONTRACT

Submission and Review Procedure

UR-1703**INSPECTIONS**

The utility company should provide an on-site inspector for viewing the installation as it is being constructed. The utility company inspector may have direct interaction with the contractor and make the contractor aware of concerns with the construction of the utility; however, any changes to construction and any disputes must ultimately be resolved by the Cabinet section engineer or designee. Any concern the utility company inspector has with the construction of the utility facility that he or she cannot resolve by direct interaction with the utility contractor should be reported as soon as practical to the section engineer or designee for resolution.

Utility company failure to provide representative inspection may result in utility facilities deemed inadequate post completion. The utility company accepts this risk and cost to remedy if it is determined by the Section engineer that the issue would have been readily identified by utility company representative inspection.

ACCEPTANCE OF WORK

The utility company representative inspector provides utility company authorities onsite. As the utility company representative, the supplied inspector has the right to refuse to accept any item of work that does not comply with the plans and specifications as long as the utility company has made timely notice to the section engineer or designee of any concerns for correction.

The utility company shall not be responsible for the contractor's compliance with backfill, restoration, and traffic control requirements. The contractor's compliance with these items shall be the responsibility of the section engineer or designee.

**RECORDING PAY
QUANTITIES**

The utility company may or may not be responsible for recording pay quantities. If the Cabinet is responsible for most or all of the cost of construction of the utility relocation, usually the section engineer or designee shall record pay quantities. If the utility company is responsible for most or all of the cost of construction of the utility relocation, usually the utility company inspector shall be responsible for recording pay quantities.

The entity responsible for recording pay quantities and reporting the quantities to be paid through the road contract shall be decided by the section engineer and the utility company engineer and/or inspector before utility construction begins.

UTILITY WORK-IN-THE-ROAD CONTRACT

Submission and Review Procedure

UR-1703

RECORDING PAY

QUANTITIES (CONT.) If the utility company records pay quantities, the utility company shall report the quantities to the section engineer for payment to the contractor. The section engineer shall not adjust any disputable pay quantities without prior consultation with the utility company.

BETTERMENT When a utility company incorporates betterment work into the road project’s work by highway bid package, the utility company owner shall likely be obligated under agreement to reimburse the Cabinet. This agreement is defined as a keep cost “Work by the Highway Contractor Betterment” agreement or PRDO.

23 CFR 645.105 is the Cabinet’s primary resource for defining betterment on utility relocation work. Betterment is defined as “any upgrading of the facility being relocated that is not attributable to the highway construction and is made solely for the benefit of and at the election of the utility.” Betterment occurs when the relocated utility is upgraded by the utility company beyond what is present in the existing facility, which increases capacity, extends life, uses more expensive materials, etc. The Cabinet shall only reimburse for the replacement of “in-kind” cost components and not for the betterment cost portion. The recovery of costs shall be secured through a cooperative effort of the groups named below.

**Groups
Involved in
Recovery
Costs**

- District Office Utilities Section
- District Office Project Delivery and Preservation Branch
- Division of Accounts (*Contact early on for assigned agreement C funding line.*)
- Utilities and Rails Branch

BETTERMENT (CONT.) The Division of Accounts will set up a construction phase funding line with zero dollars (\$0) that will be funded prior to agreement execution. The estimated betterment amount for the agreement will be payable to the Cabinet either in full at completion of the road project or, when able, in interim payments during a project with road work ongoing for a lengthy period of time. The means by which the Cabinet receives reimbursement for betterment costs from the utility company are defined in **UR-1802-3**, “Utility Company Closeouts: Recovering Receivables.”



	Chapter CLOSEOUTS
	Subject General

OVERVIEW

Closing the utility coordination process is two-fold, starting with addressing **individual utility activities** and finishing with the closure of the **entirety of the project’s utility coordination work**.

Coordinating utilities for transportation projects requires the development of a contractual agreement between the Cabinet and impacted utility owner, documenting the individual utility activities needed for the project. When the utility work is completed, reimbursed (if applicable), and accepted, the Cabinet follows utility company closeout steps to officially close the agreement.

Utility Company Closeout

- Completed to officially end an individual utility company’s contract
- Closed when the utility company’s construction, relocation, or adjustments are complete, accepted, and reimbursed
- Recommended after potential for future conflicts becomes unlikely
- Considered the Cabinet's formal acceptance of all contractual and authorized work in the contract

Utility company agreements often involve the completion of reimbursable utility relocations. Such closures may be called *agreement closeouts* due to the involvement of a legally binding agreement with an individual utility company.

If the utility relocations in the agreement are not reimbursable, the agreement closure may be called a *no charge closeout*.

Details on utility company closeouts are found in [UR-1802](#).

CLOSEOUTS

General

UR-1801

OVERVIEW (CONT.)

Coordinating utilities for transportation projects requires the project closure and release of funding, after the closure of individual utility activities. When all utility company closeouts are complete, the Cabinet follows project closeout steps to officially close the project utility coordination.

Project Closeout Steps

- Completed to officially end the highway project's utility coordination process as a whole
- Executed when all utility construction, relocation, adjustments, and rail work are completed, accepted, and reimbursed, and agreements are closed
- Completed after all betterment work reimbursement owed to the Cabinet is received
- Recommended only after all conflict potential with the highway project is reasonably abated
- Implemented to initiate the release of unexpended funding and begin the archiving process

Project closeouts occur after all agreement closeouts and no charge closeouts ([UR-1802](#)) have taken place. Further, rails coordination must also have been fully completed in cases where railroad coordination was required and the work was contracted under utility phase funding.

Details on project closeouts are found in [UR-1803](#).



	Section UTILITY COMPANY CLOSEOUTS
	Subject Agreement

GENERAL Utility company closeouts often involve the completion of reimbursable utility work. Such closures are called *agreement closeouts* due to the involvement of a binding agreement with an individual utility company.

PROCEDURE FOR AGREEMENT CLOSEOUT Agreement closure must be completed when a reimbursable and legally bound utility company’s construction, relocation, and adjustments are complete, accepted, and reimbursed. It is also recommended to close only after all conflict potential with the highway project is reasonably abated.

The procedure to perform an agreement closeout involves both the district and Central Office staff. The utility supervisor (US), utility agent (UA), and area coordinator (AC) must agree that the agreement terms have been satisfied and the conflict potential with the highway project is abated. This concurrence may require verification of the actions outlined in the image below.

US, UA, and AC
Concurrence
for Closeout
Agreement

- Construction, relocation, and adjustments are complete
- Final invoicing is processed and reimbursed
- Funds owed the Cabinet are paid by the utility company
- As-built plans are secured and satisfactory
- Auditing requests prior to closure are complete

The Cabinet may accept all work of the utility company. The following diagram details the procedure to perform an agreement closeout.

Agreement Closeout Procedure



UTILITY COMPANY CLOSEOUTS

Agreement

UR-1802-1

BETTERMENT COSTS
REIMBURSABLE TO
THE CABINET

23 CFR 645.105 is the Cabinet’s primary resource for defining betterment on utility relocation work. Betterment is defined in the image below.

Betterment

- Any upgrading of the facility being relocated
- Not attributable to the highway construction
- Made solely for the benefit of and at the election of the utility

The Cabinet shall not reimburse a utility company for relocation work involving circumstances identified in the image below.

Non-Reimbursable Circumstances

- Privately owned utility facilities that unreasonably interfere with a highway per KRS 416.140
- Work completed prior to funding authorization
- Betterments or improvements to utility facilities
- Improperly documented expenditures
- Work not included in the approved relocation plans, cost estimates, or change orders
- Work not required by the transportation project
- Utility work or costly changes to an approved design for the benefit or convenience of the utility company or its contractor
- New facilities that do not replace existing facilities and that do not directly serve the transportation project

When a utility has work incorporated into the road project’s bid package which involves betterment work (work in the highway with betterment agreement), the utility company owner shall likely be obligated under agreement to reimburse the Cabinet. This reimbursement will be for the Cabinet-contractor-supplied betterment facilities. Recovery costs shall be secured through a cooperative effort of the Cabinet groups involved.

UTILITY COMPANY CLOSEOUTS

Agreement

UR-1802-1

BETTERMENT COSTS
REIMBURSABLE TO
THE CABINET (CONT.)

Groups
Involved
in Cost
Recovery

- District Office Utilities Section
- District Office Project Delivery and Preservation Branch
- Division of Accounts (Contact early-on for assigned agreement special construction funding line for work-in-the-highway agreements)
- Utilities and Rails Branch

The means by which the Cabinet receives reimbursement for betterment costs from the utility company are defined in [UR-1802-3](#), “Utility Company Closeouts: Recovering Receivables.”

Prior to closing out an agreement, these repayments must be recorded in KURTS, as defined previously.



	Section UTILITY COMPANY CLOSEOUTS Subject 60-Day Notice of Closure

**FORCING AGREEMENT
CLOSURE**

The Cabinet typically does not close a utility construction agreement without the completion of final invoicing. However, waiting for submission of a final invoice may keep funding tied up for an unacceptable duration if the utility company fails to perform as requested. If no final bill has been submitted within one year of completion of the utility relocation work covered in the agreement, the Cabinet may close out the contract. This is a matter of state law (Kentucky Revised Statute [KRS 177.035](#)).

As prescribed in law, the Cabinet may provide the contracted utility company notice and a brief opportunity to remit a final invoice. In such instances, a letter warning of contract closure may be sent, allocating the utility company owner 60 days to remit a request for payment. This standardized letter is typically called the 60-day project closeout letter (letter) and may be sent to the utility company when specific conditions are met.

**Conditions that
Warrant a 60-Day
Closeout Letter**

- Utility company work is completed beyond 1 year
- Utility company work invoicing submitted is reimbursed
- Agreement closure terms are satisfied, except for a final invoice

If the conditions are met, the utility supervisor (US) may send such a letter. The letter template is available on the Kentucky Utility and Rail Tracking System (KURTS) project closeout page. The letter can be generated and submitted to the utility company electronically.

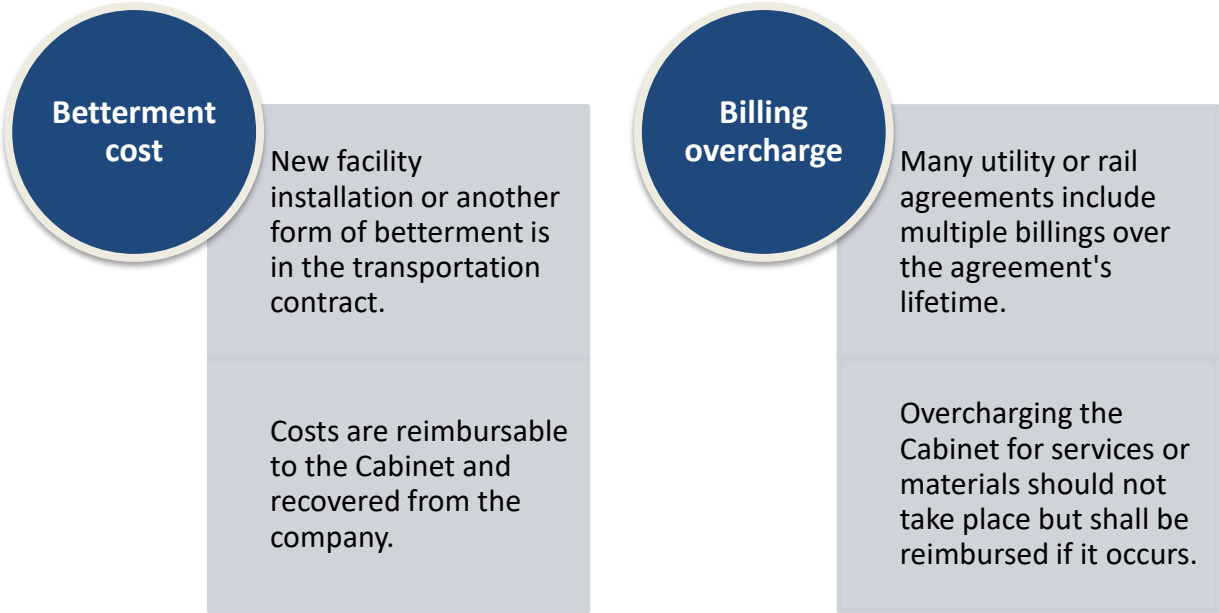
If no final invoice is received within the timeframe specified in the letter, the agreement shall be closed as defined in [UR-1802-1](#). Any invoicing received after the timeframe specified must be returned to the utility company. As indicated in the letter, the utility company may petition the General Assembly for payment.



	Section UTILITY COMPANY CLOSEOUTS
	Subject Recovering Receivables

GENERAL

There are two primary scenarios where the Transportation Cabinet (Cabinet) may be owed funds from a utility or rail company and the recovery of these costs shall take place prior to project closeout.



If an invoice is required for either of the above, the Division of Accounts is solely responsible for invoicing to ensure accurate reporting in the Cabinet’s fiscal management system.

The Division of Account’s collection process is dependent upon a cooperative effort of cost data collection and analysis of specific groups within the Cabinet.

- Groups involved in Cost Data Collection and Analysis**

 - District Office Utilities Section
 - District Office Project Delivery & Preservation Branch (PDPB)
 - Utilities and Rails Branch

UTILITY COMPANY CLOSEOUTS

Recovering Receivables

UR-1802-3

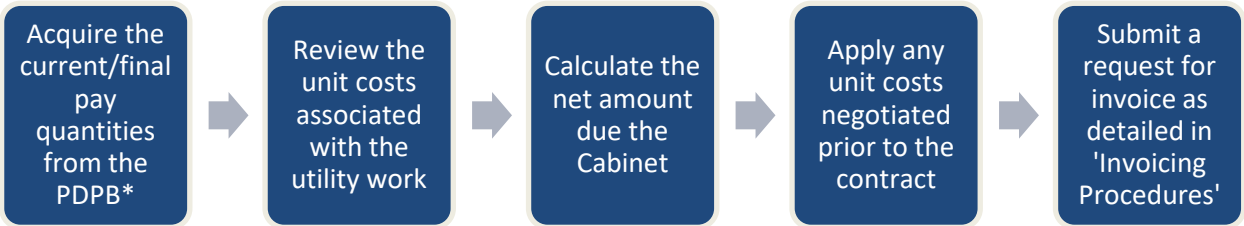
BETTERMENT COSTS There are two instances when invoicing for betterment may be required.

Partial Betterment	100% Betterment
• Agreement includes both betterment and reimbursable work. • Reimbursable costs to the company less any betterment costs results in a net amount due the Cabinet. • An Invoice is required to recover costs.	• Pure betterment on behalf of a utility or rail company is included in a transportation project. • An invoice is required, either before or after the letting, to recover costs as reimbursement for work performed.

In both cases, the area coordinator (AC) shall inform the Division of Accounts. The Division of Accounts will configure the affected fiscal management program account for the betterment and provide the AC with the fund, function, and program code. The AC shall forward this information to the district utilities supervisor (US).

Note: Invoices for a net reimbursable amount are only allowable when both the betterment work performed by the road contractor and reimbursable work completed by a utility or rail company are payable under the same funding source and program number.

If the betterment (non-reimbursable) costs are larger than the relocation (reimbursable) costs, the US or assigned utility agent (UA) shall follow the steps below.



* PDPB is the Project Delivery and Preservation Branch.

OVERCHARGES FROM PREVIOUS BILLINGS

If overcharges by a utility or rail company occur, the overcharge amount shall be addressed prior to the next payment due the company for reimbursable costs.

If an overcharge is recognized after final payment has been made to the company, the Cabinet shall recover these costs by following the invoicing procedures detailed below.

UTILITY COMPANY CLOSEOUTS

Recovering Receivables

UR-1802-3

INVOICING
PROCEDURES

When an invoice is required for reimbursement of costs to the Cabinet by a utility or rail company, the US and AC shall obtain the following project-specific information.

Invoicing Information

- Email or other form of notification specifying the need for establishment of betterment or overcharge costs due from the company
- Complete funding strip for proper invoicing and crediting of received payments
- Billing address for the utility or rail company being invoiced
- Contact name for the utility or rail company representative handling the project billings
- Contact phone number for that utility or rail company representative

Note: The AC may request a reimbursement invoice be sent on an interim basis if the project exceeds one fiscal year with no immediate end.

Invoicing procedure for Utility or Rail Company Overcharges

- US and AC formulate an estimate of the reimbursement amount, reconciling the actual construction line items and quantities.
- US and AC provide estimate in a request to the Division of Accounts. (This reconciliation should involve actual items, quantities, and communication with the construction engineer or project manager.)
- US and AC set up bid packages with separate line items for in-kind versus betterment costs for ease of reconciliation.
- Division of Accounts validates the request and sends AC the funding line being used for pay receipt.
- Once the request is validated, the Division of Accounts invoices the company to collect the reimbursable betterment charges or billing overcharges.
- Division of Accounts documents the receivable (RE) in the Cabinet's fiscal management system and process it.
- Upon utility or rail company repayment, the Division of Accounts documents the cash receipt (CR) in the Cabinet's fiscal management system. (CR can be viewed in KURTS under the Construction Tab for the AC and US to track.)
- Division of Accounts notifies the AC and the US of the final payment receipt to initiate closure of the agreement

UTILITY COMPANY CLOSEOUTS

Recovering Receivables

UR-1802-3

INVOICING

PROCEDURES (CONT.)

Note: Receivables (RE) and cash receipts (CR) are visible and trackable in KURTS.

Note: Prior to closing out an agreement, the US and AC shall ensure that any repayments are recorded in KURTS, as defined previously.



	Section UTILITY COMPANY CLOSEOUTS Subject No Charge Authorizations

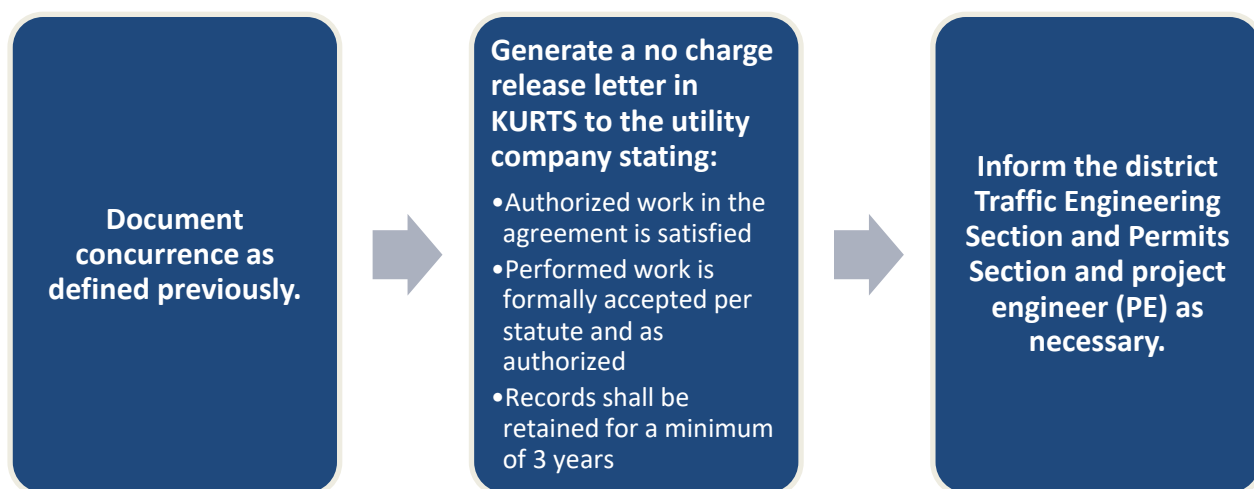
GENERAL

Utility company closeouts often involve the completion of non-reimbursable utility relocations. Such closures may be called *no charge closeouts* due to the involvement of non-reimbursable work with an individual utility company.

PROCEDURE FOR**NO CHARGE CLOSEOUT**

Such a closure shall be completed when a utility company's construction, relocation, and adjustments, which are not reimbursable and are covered by a no charge agreement, have been completed and accepted.

The procedure to perform a no charge closeout primarily involves the district office staff. The utility supervisor (US) and utility agent (UA) must agree that the conflict potential with the highway project is abated. If agreed, they are ready to formally accept all work of the utility company, as detailed below.



	Section PROJECT CLOSEOUTS
	Subject Project Completion

GENERAL Project closeouts occur after the completion of all reimbursable and non-reimbursable utility relocations. All agreement closeouts ([UR-1802-1](#)) and no charge closeouts ([UR-1802-4](#)) must have taken place. Further, rails coordination must also be complete for projects that include railroad coordination, provided the railroad coordination work was completed under utility phase funding.

PROCEDURE FOR PROJECT CLOSEOUT The procedure to perform a project closeout involves both the district and Central Office staff. The utility supervisor (US), area coordinator (AC), and Utilities and Rails Branch Manager (UBM) must agree that the project is ready for closure. This concurrence may require specific verifications.

Project Closeout Verification Checklist

- All construction, relocation, and adjustments are complete.
- All final invoicing is reimbursed or the completion of utility relocation work on a contract has been completed beyond one year.
- Any funds owed the Transportation Cabinet (Cabinet) have been paid by the utility company.
- All necessary as-built plans have been acquired and are satisfactory.
- Any auditing needs prior to closure were requested and completed.
- All agreements have been closed and archived in KURTS.

Note: If the project involves rail coordination, the rail coordinator (RC) shall be involved in each step throughout the project closeout procedure, as is the US or UA.

PROJECT CLOSEOUTS

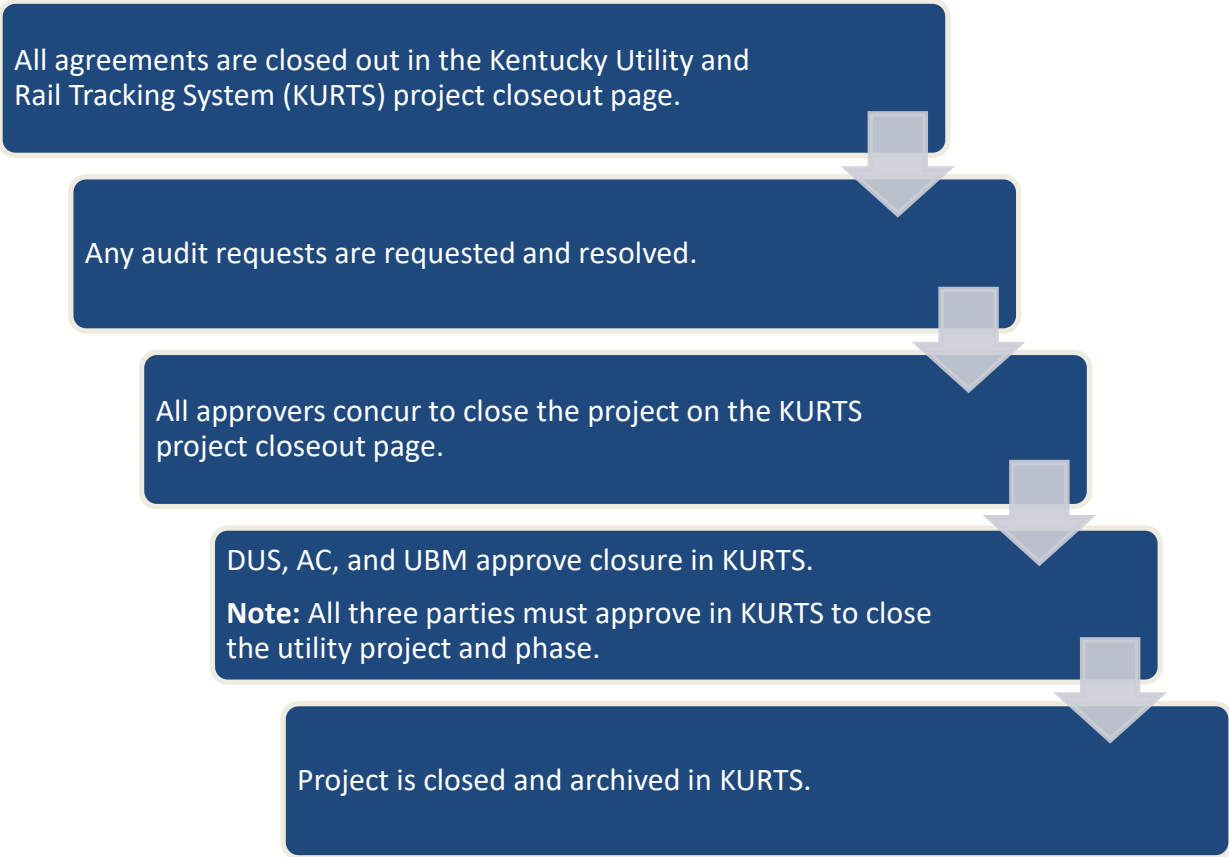
Project Completion

UR-1803-1

PROCEDURE FOR
PROJECT CLOSEOUT
(CONT.)

If the above terms are satisfied, the Cabinet is ready to formally close the utilities phase of the project, release the funds, and archive the project files. The image below details the procedure to perform a project closeout.

Project Closeout Procedure



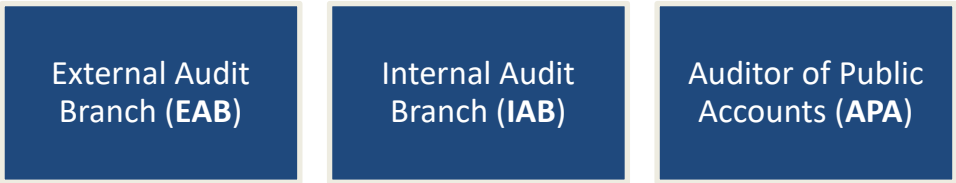
Note: The auditing process is independent of the project closure and is detailed in [UR-1803-2](#).

Note: The Cabinet hard-copy archiving process is independent of the KURTS project closure. Hard-copy archiving processes are detailed in [UR-1803-3](#).



	Section PROJECT CLOSEOUTS
	Subject Audits and Compliance Reviews

POLICY There are three primary auditing entities involving utility and rail processes:



The Transportation Cabinet’s (Cabinet) Office of Audits performs audits and attestations of Cabinet agreements with external entities and the Cabinet’s internal processes. The External Audit Branch (EAB) and Internal Audit Branch (IAB) perform such audits and attestations.

The Auditor of Public Accounts (APA) is external to the Cabinet and performs the Comprehensive Annual Financial Report audit and the Statewide Single Audit of Kentucky.

EXTERNAL AUDIT BRANCH (EAB) The EAB performs audits of utility and railroad companies in accordance with Generally Accepted Government Auditing Standards ([GAGAS](#)).

The utility supervisor (US), utility agent (UA), or area coordinator (AC) may request an invoice, estimate, or agreement be audited by the EAB before payment, execution, or acceptance.

Conditions that Warrant Request for External Audit

- Suspicious, inconclusive, incomplete, or erroneous terms exist
- Multiple efforts to remedy suspicions were made in writing
- No resolution has been reached

PROJECT CLOSEOUTS

Audits and Compliance Reviews

UR-1803-2

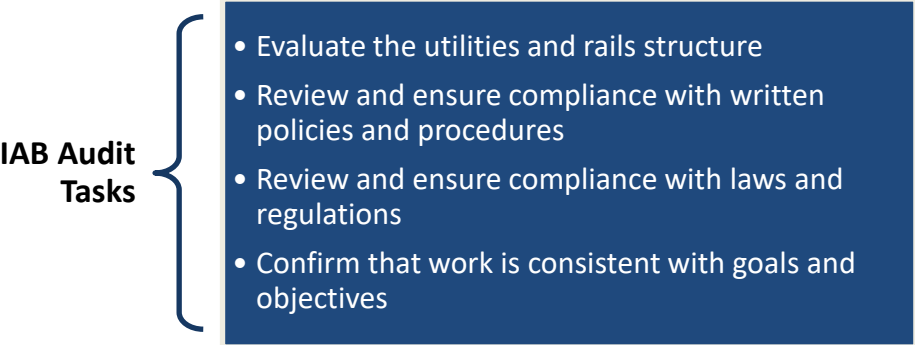
EXTERNAL AUDIT
BRANCH (EAB)
(CONT.)

Audit requests may be made in writing by the AC or US to the EAB via the Kentucky Utility and Rail Tracking System (KURTS) project closeout page. The AC and US will assist the EAB with review and coordination as needed. The auditing staff must be informed clearly what the utility staff concerns are and how their assistance may remedy those concerns.

If the utility staff does not request an audit, final invoices may be processed. After the project is closed, the project or the utility company agreement may be selected for audit. A sample audit of Utilities and Rails Branch final payments may be conducted periodically by the EAB. In these audits, the branch shall provide project files to the EAB and respond to all questions. A report will follow the audit, which is submitted to the Utilities and Rails Branch Manager (UBM). The UBM shall provide any items of note to the affected ACs and utilities sections. The EAB directly addresses findings with the utility companies involved.

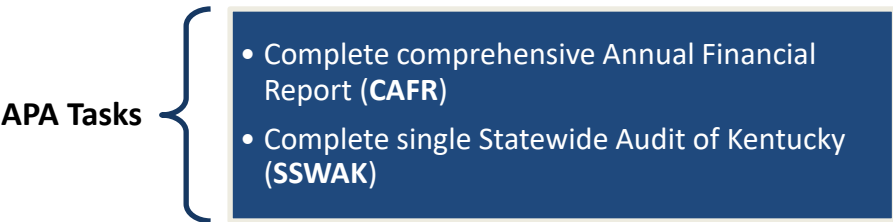
INTERNAL AUDIT
BRANCH (IAB)

The IAB conducts audits of Cabinet processes. Regarding the utilities and rails functions, the IAB periodically performs audit tasks outlined in the image below.



AUDITOR OF PUBLIC
ACCOUNTS (APA)

The APA primarily performs two engagements with the Cabinet as shown in the image below.



PROJECT CLOSEOUTS

Audits and Compliance Reviews

UR-1803-2

AUDITOR OF PUBLIC
ACCOUNTS (APA)
(CONT.)

The CAFR audit, normally conducted between July and December, primarily looks at internal controls over expenditures (adequate approvals, timely payment, etc.). The SSWAK, normally conducted between January and March, focuses on reviewing transactions to ensure payments were made in compliance with laws, regulations, and grant agreements.

APA audits are very similar in nature to the work performed by the EAB and IAB, with the exception that any discovered discrepancies and any recommendations for corrective action are reported to parties outside of the Cabinet, such as legislators and the media.

BUILD AMERICA
BUY AMERICA (BABA)
COMPLIANCE REVIEWS

The Cabinet is committed to compliance with all Federal and state policies, rules and regulations. Federal and state requirements for domestic material procurement are of particular interest. The Division of Right of Way and Utilities, Utilities and Rails Branch will ensure a periodic sample compliance review of projects executed. The review will sample utility relocations and rail projects for the preceding fiscal year and will work to validate compliance with Build America Buy America law.

The utility supervisor (US), utility agent (UA), or area coordinator (AC) may also request a review of utility relocations if non-compliance is suspected.

BABA Compliance Sample Invoice Reviews

- Confirm requirements were communicated
- Verify the executed contract bound parties to BABA compliance
- Validate BABA self-certifications were provided
- Investigate a sample of steel/iron, manufactured products, and construction materials
- Confirm any non-domestic items were acceptable due to a waiver, minimal use, or other consideration viable under law
- Report and seek out means for resolution of any non-compliant findings



	<i>Chapter</i> PROJECT CLOSEOUTS <i>Subject</i> Records Archiving

GENERAL

Project closeouts occur after completion of all reimbursable and non-reimbursable utility relocations. Further, rails coordination must also be complete in cases where railroad coordination was required and work was contracted under utility phase funding.

This chapter is dedicated to records retention and outlines steps to retain both digital and hard copy files.

Digital project files are the preferred means of archiving data, but paper archives may still be used as needed. Most utilities and rail records are now digitally housed in the Kentucky Utility and Rail Tracking System (KURTS) and secured indefinitely when archived. All records retained digitally via KURTS project archiving surpass all duration standards of the authorities named below.

Hard-copy records (i.e., paper copies) are subject to policies that define record retention standards.

The State Archives and Records Commission, Public Records Division, and the Kentucky Department for Libraries and Archives are the governing authorities regarding records and retention policy. These authorities require utilities and rails files be divided into two categories, “General Project Files” or “Individual Company Project Files.” These files are assigned unique codes and official series numbers for storage and archiving purposes.

**Projects
Subject to
Record
Retention
Standards**

- Recommended highway plan projects
- Highway Safety Improvement Program (HSIP) projects
- Maintenance projects
- Section 130 road and rail safety projects
- Rails coordination projects

PROJECT CLOSEOUTS

Records Archiving

UR-1803-3**UTILITY HARD-COPY FILES****(SERIES 05810)**

All utility coordination hard-copy files are classified as **Series 05810**. These files include all documents, transactions, and activities associated with utility coordination and relocation projects.

**Utility Coordination / Project Hard-Copy Files
(05810)**

Maintain in house for **1 year** after final payment and audit

Then transfer to the State Records Center

Retain for **3 years** after project completion and audit

If no off-site records center is available, archive hard copies on site, adhering to the same durations

RAILS HARD-COPY FILES**(SERIES 04077)**

Series 04077 (Rail Coordination and 130 Program) documents highway construction or reconstruction activities that encroach on rights of way owned by railway companies.

**Rail Coordination / Project Hard-Copy Files
(04077)**

Maintain in house for **3 years** after final payment and audit

Transfer to the State Records Center

Retain for **20 years** after project completion and audit

If no off-site records center is available, archive hard copies on site, adhering to the same durations.

PROJECT CLOSEOUTS

Records Archiving

UR-1803-3**RAILS HARD-COPY FILES****SERIES 04077)**

These hard-copy files include official documentation of the contracts with railway companies to permit the construction of highway projects. In addition, the series documents railroad crossing improvements and safety projects undertaken.

**Series 0477
Example
Hard-Copy
Documents**

- Official orders
- Project authorization
- Programming documents
- Project cost estimates
- No-charge letters and permits
- Contract agreements between Cabinet and company
- Statement of charges
- Change orders
- Inspection reports
- Audit reports
- Plans
- Records of negotiation
- Related documents and related correspondence
- Signal device agreements

RESTRICTED ACCESS**HARD-COPY FILES**

Any records package with restricted-access documents must be clearly marked on the transmittal form, citing Kentucky Revised Statutes ([KRS](#)), Kentucky Administrative Regulations ([KAR](#)), or Code of Federal Regulations ([CFR](#)).

HARD-COPY**ARCHIVING PROCESS**

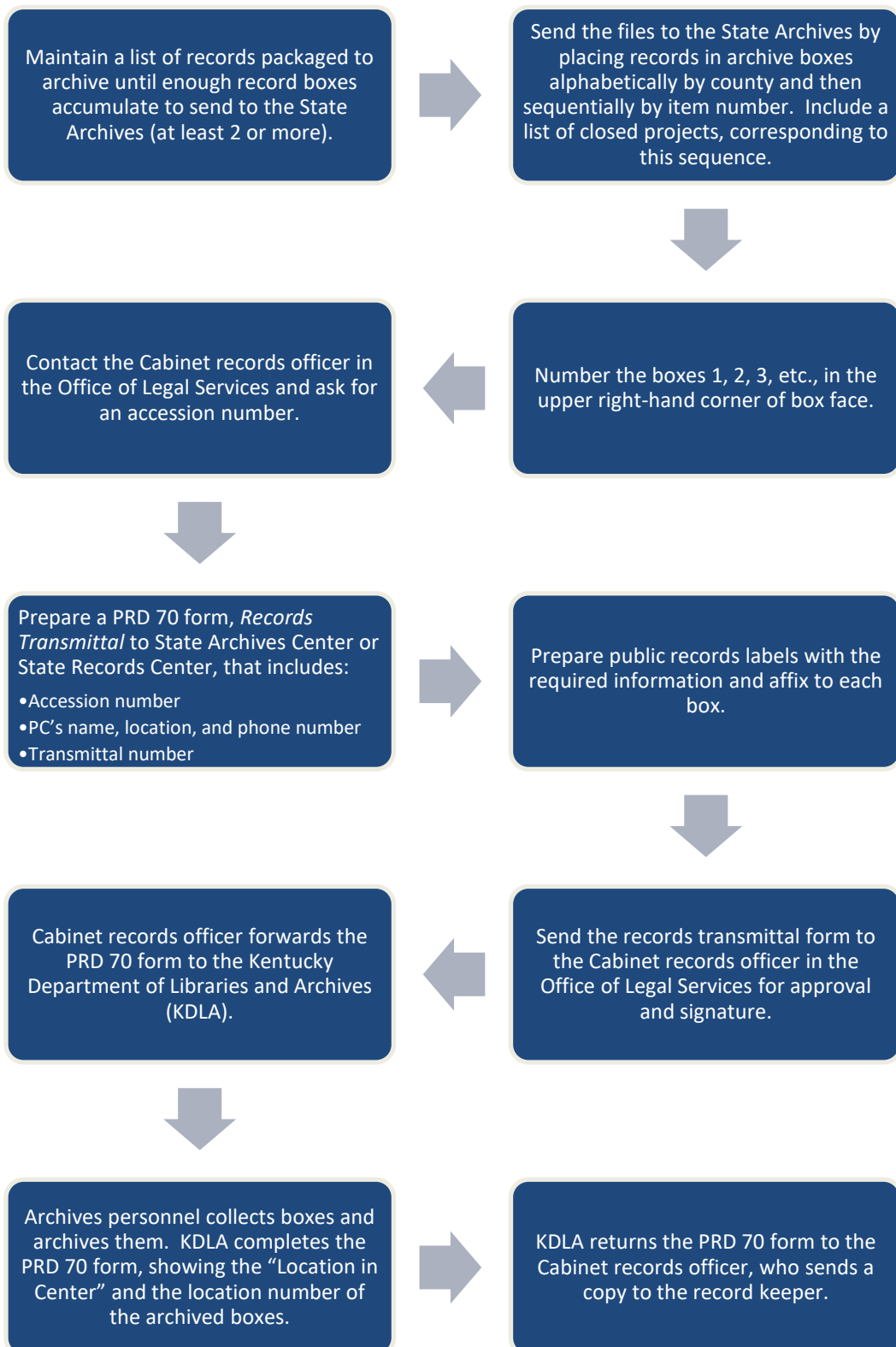
The area coordinator (AC) gives closed-out, hard-copy project files to the program coordinator (PC), who adds them to the list of projects to be archived before filing them in the library. Usually, state-funded projects are closed without a notice from the Division of Accounts and can be added to the list as the AC indicates they are to be closed. The Division of Accounts sends a list via email showing the federally funded projects that are closed. The PC adds these records to the list of closed projects.

The following process is only for closed projects that have been determined by the AC and closed by the PC, determined by the Division of Accounts, or processed and closed by the district offices. The AC may receive the information from his or her district upon closure of projects.

PROJECT CLOSEOUTS

Records Archiving

UR-1803-3

Hard-Copy Archiving Process

PROJECT CLOSEOUTS

Records Archiving

UR-1803-3**DISTRICT OFFICE**

HARD-COPY ARCHIVING The Utilities Section should follow similar archiving procedures, but the Kentucky Department of Libraries and Archives ([KDLA](#)) is not a likely repository for long-term archiving of district files. Therefore, the district office should archive as defined herein to the degree capable. Records shall be maintained as directed in the *Records Retention Schedule*. District staff may contact the Central Office Utilities and Rails Branch program coordinator for assistance with long-term archiving with KDLA.

RETRIEVING**HARD-COPY ARCHIVES
FROM KDLA**

If an archived file is needed, the record keeper shall contact the Kentucky Department for Libraries and Archives (KDLA) and provide a completed records request form. The archive box's assigned location number must be provided. KDLA personnel shall send the file to the requester.

DESTROYING**HARD-COPY ARCHIVES**

The day, month, and year the records are due to be destroyed is the destruction date. To compute the destruction date, use the retention period from the approved retention schedule for the series being transferred and apply it to the latest date of the records in the shipment. Record keepers shall maintain a record of all transfers, archives, retrievals, and destruction of files.

**DIGITAL FILE ARCHIVAL,
RETRIEVAL, AND
DESTRUCTION**

All utility and rail files housed in KURTS are maintained in digital format. These digital files include any of the documentation defined in the above two series and do not require transfer to the State Records Center. The Cabinet intends to house this digital file data indefinitely but conforms minimally to the retention durations defined above.

The process by which digital files are archived is defined in [UR-1803-1](#), "Project Closeouts: Project Completion." Once the project is digitally archived, it is no longer immediately available in the Kentucky Utility and Rail Tracking System ([KURTS](#)) active project list. Digital files archived in KURTS are accessible by searching for inactive projects. Once the project is located and opened, all data and documentation are immediately accessible but not editable.



	Chapter SPECIAL PROJECT PROGRAMS
	Subject General

OVERVIEW

The Cabinet’s utility coordination process is designed to be as flexible as possible to allow utility companies to utilize their own planning, design, construction, and accounting procedures to the greatest extent.

Most of the projects that involve utility and rail coordination are developed from the enacted Highway Construction Plan and are typically subject to the Cabinet’s traditional project development process. However, not all projects undertaken by the Cabinet are subject to the Cabinet’s formal project development process. The following project types may be considered “special programs” in the sense that they do not fully adhere to traditional utility and rail coordination policies.

Projects Developed by Outside Agencies (See UR-1902.)	Projects Developed by a Specialized Program (See UR-1903.)	Projects Not in the Highway Construction Plan (See UR-1904.)
These projects are developed and sometimes coordinated by outside entities. Example: local public agency (LPA) projects	These projects are the product of a program that has been established to achieve a specific goal. Example: Highway Safety Improvement Program (HSIP) projects	These projects may be undertaken with maintenance funds or other funding types and are not specific to the enacted Highway Construction Plan. Example: maintenance projects

Although these projects are not subject to traditional project development processes, the Cabinet utility coordinator may need to provide expertise and support on utility and rail impacts. The utilization of KYTC utility sections on such projects may be requested via the *Request for Utilities Involvement for Non-RHP Projects* form. This form and accompanying documentation provide needed details to initiate utility coordination.

SPECIAL PROJECT PROGRAMS

General

UR-1901

OVERVIEW (CONT.) This chapter outlines procedures to guide Cabinet personnel in utility and rail matters on such atypical projects.



	<i>Section</i> SPECIAL PROJECT PROGRAMS
	<i>Subject</i> Outside-Agency-Led Projects

OVERVIEW

Outside-agency-led projects, i.e., local public agency (LPA) projects, are projects funded with state or federal funds and administered by outside agencies such as a local government.

Cabinet Role for Outside-Agency-Led Projects

- Relay technical advice
- Provide oversight
- Act as a pass-through agency for funding

The project is initially defined and otherwise established in a memorandum of agreement (MOA), a legally binding agreement between the Transportation Cabinet (Cabinet) and outside agency. The MOA defines the roles, responsibilities, and funding budgets of the outside agency and the Cabinet. Relative to responsibilities, the MOA specifically assigns project development and delivery tasks, such as responsibility for design, utility and rail coordination, construction oversight, etc.

VARIANCES IN PROCEDURES

When the outside agency is responsible, via the MOA, for administering the utilities and rail coordination of the project, they shall generally be responsible for assuming the duties of the Utilities Section and rails coordinator (RC). They shall be responsible for complying with this manual, Cabinet policies, federal regulations, and state law.

When the Cabinet is responsible, via the MOA, for administering the utilities and rail coordination of the project, the Utilities Section and RC shall be responsible for the duties as is typical.

SPECIAL PROJECT PROGRAMS

Outside-Agency-Led Projects

UR-1902

UTILITY COORDINATION

PROCEDURES

If directed by the MOA, the outside agency shall be responsible for all steps in the administration of the utilities and rail coordination of the project, including the following duties.

Outside Agency Utility Coordination Duties

- Develop preliminary estimates for the utilities phase
- Contact utility companies located on or near the project which may be potentially affected by road construction
- Authorize companies via state letter, forwarding plans and other project information to utilities
- Review engineering service contracts, relocation plans, and proposals to ensure the work is consistent with the project scope, warranted and the associated costs are reasonable
- Review current bills for correctness and submit them to the LPA’s fiscal affairs office for payment

The outside agency may submit current bills to the Cabinet for reimbursement of costs the outside agency has incurred on the project. They shall submit a final bill to the Cabinet for reimbursement when all utility coordination and relocation work on the project is complete.

CABINET UTILITY

EXPERT TASKS

The Cabinet Utilities staff may provide aid to the outside agency when requested. Duties may include the following.

Cabinet Utilities Expert Duties

- Provide technical advice
- Clarify state law, federal regulations, and policies
- Process reimbursement requests
- Review funding requests
- Perform project closeout
- Track and monitor the project
- Share project information
- Coordinate utility work with FHWA and other outside agencies

SPECIAL PROJECT PROGRAMS

Outside-Agency-Led Projects

UR-1902

PROJECT

MANAGEMENT

The outside agency may be authorized to use the web-based Kentucky Utilities and Rail Tracking System (KURTS) to coordinate the utility and rail work. This system is managed by the Cabinet and can be shared to users such as outside agencies, provided a user agreement is executed.



	Section SPECIAL PROJECT PROGRAMS
	Subject Specialized Program Projects

OVERVIEW

Specialized program projects, i.e., Highway Safety Improvement Program (HSIP) projects), are commonly federally funded programs, monitored and administered by a Cabinet division or office, and executed for a specific goal. While other special programs exist, this section will discuss the HSIP program with the understanding that other Special Programs will operate similarly.

HSIP projects are administered by the Division of Traffic Operations (TO) and the Federal Highway Administration ([FHWA](#)) Division Office. The HSIP program includes a grouping of projects produced to address identified safety problems.

Typical HSIP
Low-Cost
Safety
Measures

- Signage
- Paint and markings
- Flashing beacons
- Defining center or edge line
- Rumble strips
- High-friction surface
- Treatments
- Tree and brush removal
- Shoulder improvements
- Guardrail
- Median barriers

HSIP program projects such as those above historically do not impact existing utilities to a degree that warrants utility relocation. As a result, HSIP projects may not need formal utility coordinator services through the Cabinet’s Utility Section. However, there are occasions where a HSIP project may involve more extensive countermeasures, such as endeavors that will require excavation. In such cases, and in cases of guardrail and median barrier installation, utility facilities may be more actively involved and impacted.

SPECIAL PROJECT PROGRAMS

Specialized Program Projects

UR-1903

OVERVIEW (CONT.)

HSIP Coordinator Actions for Projects with Potential Utility Impacts

- Locate the existing utilities.
- Secure utility plans and field locate as necessary during development.
- Assess if utility impacts are possible. (If so, reconsider the design or project scope to avoid utility impacts.)
- Evaluate project for viability, benefit, and schedule relative to utility impacts.
- Seek advisement of the subject matter experts.

The HSIP coordinator may need to seek the advisement of the subject matter experts and should enlist the support of the utility supervisor (US). The US can serve as an expert on utilities, providing guidance, support, and formal utility coordination if needed.

HSIP Coordinator Actions to Enlist Utility Section Support

- Identify project scope activities that may impact existing utilities, such as general excavation, road widening, guardrail installation, and construction work involving cranes.
- Assess the likelihood of existing utilities within the project footprint by looking for visible utility features such as, poles, valves, vaults, and manholes.
- If the project scope and presence of utilities is possible, submit a *Request for Utilities Involvement for Non-RHP Projects* form.
- This form and its supporting documentation should be provided as soon as the need is identified and shall provide enough project details to demonstrate conflict potential.

VARIANCES IN PROCEDURES

Once utility impact has been identified on a specialized program project such as the HSIP program, the utility coordination process is very similar to the typical process. The process varies in the early stages, when the US works with the HSIP coordinator to determine if impact potential exists, as detailed below.

Note: Such projects should avoid railroad involvement due to the cost-prohibitive and time-consuming nature of the coordination.

SPECIAL PROJECT PROGRAMS

Specialized Program Projects

UR-1903

TYPICAL PROCEDURES The HSIP coordinator should invite the US to site surveys so utility impact potential is identified as early in the process as possible. Potential HSIP projects are identified by the district HSIP coordinator or TO.

The HSIP coordinator is responsible for ensuring existing utility facilities are identified at the project location by a KY 811 (formerly, BUD) design information ticket or other means. The HSIP coordinator shall request the US’s support if a conflict concern exists. The HSIP coordinator may submit a *Request for Utilities Involvement for Non-RHP Projects* form and request a field visit and review.

Utility Supervisor and HSIP Coordinator Responsibilities

- US determines if a site visit is necessary.
- US performs the visit, if needed.
- US gives the HSIP coordinator an inventory of potential utility impacts.
- If utility conflict potential exists, the US provides estimates to include in the HSIP funding request.
HSIP coordinator is responsible for creating a bid proposal that includes drawings and notes, which must include utility coordination matters.
- HSIP coordinator submits proposal to TO for approval and copies the US.
- Once the HSIP coordinator receives project approval, they shall notify US of all potential locations (and any deadlines).
- US shall be notified by the HSIP coordinator of any locations with approved funding, schedule and deadlines for required utility impact notes.
- US shall execute utility coordination as typical.

Once funding is secured and the project is approved, the appropriate guidelines, outlined below, shall be observed.

SPECIAL PROJECT PROGRAMS

Specialized Program Projects

UR-1903

TYPICAL PROCEDURES

(CONT.)

**Guidelines
for Projects
With
Expected
Utility
Impacts**

- Add the project to KURTS and then the US may coordinate those activities as is typical.
- The funding for the utility relocations and state forces charges may be derived using a funding strip of \$25,000 per district under planning, or TO may establish utility funds specific to the project at hand.
- US may coordinate the utility work as typical, if HSIP coordinator approves.

**Guidelines for
Projects With
No Expected
Utility Impacts**

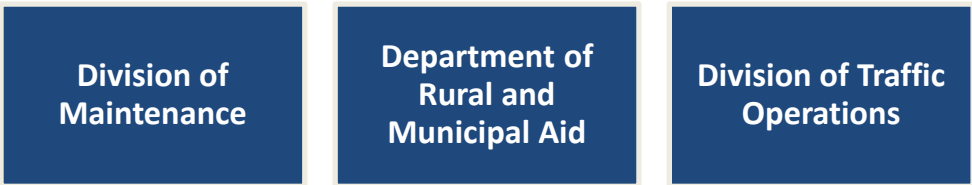
- HSIP coordinator shall provide the memorandum required for funding approval.
- HSIP coordinator or TO may draft a “no impact” utility and rail clearance note and incorporate it into the proposal.
- If the note is drafted by the HSIP coordinator and includes special comments, the note should be provided to the Utilities and Rails Branch and US.
Note: Typical projects with no impacts include signs, markings, flashing beacons, centerline, edge line, rumble strips, high-friction surface treatments, and tree removal.
- The utility and rail clearance note may also be drafted and stored in the Kentucky Utilities and Rail Tracking System (KURTS).
Note: Tree removal projects involving stump removal shall be carefully considered for nearby underground utilities.



	<i>Section</i> SPECIAL PROJECT PROGRAMS
	<i>Subject</i> Projects Not in the Highway Plan

OVERVIEW

Not all projects undertaken by the Transportation Cabinet (Cabinet) are expressly included in the enacted Highway Construction Plan. For example, many projects are undertaken with maintenance funds or other funding types which are not specific to the enacted Highway Construction Plan. Programs that may develop such a project are shown in the image below.



Although the Utilities Section is part of the project development process, their expertise may be needed to assist in coordinating utility impacts of projects that do not go through the traditional project development process. The project engineers and managers of such projects should solicit the aid of the Utilities Section in assessing and mitigating utility impacts on these nontraditional projects, including the submission of a request for utility coordination to the district utility supervisor (DUS) overseeing the project’s region. This request and its supporting documentation should be sent as soon as the need is identified and shall provide enough project details to demonstrate conflict potential. The process is very similar to that defined for HSIP projects in [UR-1903](#).

VARIANCES IN PROCEDURES

Once utility impact has been identified on a project not in the highway plan, the utility coordination process is very similar to the typical process. The process varies in the early stages, when the DUS works with the program owner division or department to determine if impact potential exists, as detailed below.

Note: Such projects should avoid railroad involvement due to the cost-prohibitive and time-consuming nature of the coordination.

SPECIAL PROJECT PROGRAMS

Projects Not in the Highway Plan

UR-1904

TYPICAL PROCEDURES The project coordinator should invite the US to site surveys so utility impact potential is identified as early in the process as possible. The project coordinator is responsible for ensuring existing utility facilities are identified at the project location by a [KY 811](#) (formerly, BUD) design information ticket or other means. The project coordinator shall request the DUS’s support if a conflict concern exists. The project coordinator may submit this request for utility coordination and recommend a field visit to review.

PROJECT COORDINATOR
ENGINEER PROCEDURE Duties of the project coordinator engineer (PE) or project manager (PM) are shown below.

PE or PM Procedure	
Projects with no utility impacts expected	Projects with utility impacts expected
• Draft a “no impact” utility and rail clearance note and incorporate it into the bid package. • If the note includes special comments, provide the note to the Utilities and Rails Branch and US. [The note may also be drafted and stored in the Kentucky Utilities and Rail Tracking System (KURTS).] Note: Tree removal projects involving stump removal shall be carefully considered for nearby underground utilities.	• Seek the support of the US as early as possible in the project's development. (Recommended) • Formally enlist the aid of the Utilities Section early in the development of the project. • Provide project plans, manuscripts, or a detailed project description, including project schedule to the Utilities Section. • Provide the Utilities Section enough detail to assist in identifying utility impact potential. • Provide project plans, manuscripts, or a detailed project description, including project schedule to the rails coordinator (RC) if a railroad facility is in the project scope or immediately adjoining. • Procure funding for both utility and rail coordination associated with the project.

SPECIAL PROJECT PROGRAMS

Projects Not in the Highway Plan

UR-1904

DISTRICT UTILITIES

SECTION PROCEDURES Utility Section duties are shown below.

Utilities Section Duties

- Support the project by assisting in identifying and assessing impacts to utility facilities in the project area.
- Send the state letter to utility companies, providing plans and project information.
- Coordinate utility representatives.
- Oversee utility coordination activities.
- Review utility engineering and relocation proposals.
- Write agreements for relocation work.
- Process invoices.
- Coordinate projects with Central Office utilities personnel.
- If utility conflicts exist, recommend the project be added to KURTS. (The US may coordinate those activities as is typical.)

AREA COORDINATOR
PROCEDURES

Area coordinator duties are shown below.

Area Coordinator (AC) Duties

- Handle such atypical projects in the same manner as Recommended Highway Plan projects.

Exception: Funding will generally originate in the Division of Maintenance, Division of Traffic Operations, Department of Rural and Municipal Aid, or other funding source.



	Chapter RAIL COORDINATION PROGRAM
	Subject General

OVERVIEW

Any time a highway project has the potential to impact a railroad, coordination between the Cabinet and the railroad company is required. This includes projects that are at-grade, over, or under railroad right of way and, possibly, adjacent to it.

While rail coordination may not be necessary on every transportation project, it is an integral factor in the project development process when a railroad is present. Therefore, it is vital that a line of communication be established early between design and maintenance personnel and the rails coordinator (RC), and the communication is maintained throughout the development process for project plans and the construction process.

PURPOSE

The purpose of the Cabinet’s railroad coordination program is to negotiate coordination efforts with railroad companies directly affected by a Cabinet highway construction project. When a highway project adjoins or encompasses a railroad facility (such as a railroad track or railroad right of way), that facility owner becomes an active partner in the project’s development.

**Cabinet
Obligation in
Railroad
Coordination**

- Negotiate the terms of the project’s design as it impacts the railroad owner.
- Reimburse the railroad owner for their involvement in the project as a whole.
- Comply with laws, regulations, and policies.

**LAWS, REGULATIONS,
& RESOURCES**

Resources for RC work include Federal Highway Administration ([FHWA](#)) regulations, policies and practices, federal guidelines, and Kentucky Revised Statutes ([KRS](#)). These are used to guide Cabinet interaction with railroad owners. Each are briefly listed here but more fully described in [UR-200](#).

RAIL COORDINATION PROGRAM

General

UR-2001

LAWS, REGULATIONS,
& RESOURCES (CONT.)

Federal Highway Administration (FHWA) Regulations, Policies, and Practices:	Federal Guidelines Pertinent to the Cabinet’s Rail Coordination Program Execution:	Kentucky Revised Statutes (KRS) Govern Railroad Coordination and Safety Efforts:
•23 CFR 646 Subpart A (Addresses the need and applicability of railroad-highway insurance protection) •23 CFR 646 Subpart B (Addresses issues related to railroad-highway projects)	•23 CFR 140.807 (Addresses reimbursement for railroad work) •<i>Railroad-Highway Grade Crossing Handbook</i> (most recent version) •<i>Manual on Uniform Traffic Control Devices</i> (MUTCD)	•KRS 177.110—177.210 (Gives the Cabinet the right to facilitate the elimination of grade crossings of highways and railroads or facilitate the modification of existing grade separation structures) •KRS 277.065 (Defines the allocation of costs of eliminating hazards of crossings between railroads and highways) •KRS 277.190 (Requirements of bells and whistles on trains and the proper usage of such appurtenances)

An additional resource for RC work includes the *KYTC Railroad Design and Coordination Guide*. This guide provides local standards and practices for coordinating and designing railroad facilities.

IMPLEMENTATION

The rail coordination program and related projects has RC oversight from within the Division of Right of Way and Utilities. Duties associated with the role of RC are defined in [UR-303](#) but are briefly listed below.

RAIL COORDINATION PROGRAM

General

UR-2001**IMPLEMENTATION (CONT.)****RC Duties for Effective Program Execution**

- Act as liaison between the Cabinet and railroad companies.
- Provide information about future projects to railroad companies for long- and short-term planning (**UR-2002**).
- Prepare and execute master agreements with railroad companies in Kentucky (**UR-2003-1**).
- Prepare and execute individual project agreements with railroad companies in Kentucky (**UR-2003-3**).
- Negotiate crossing rehabilitations in need of repair.
- Notify the railroad about identified projects.
- Provide early and proactive communication in the project development, encouraging avoidance.
- Work to provide the design team information and feedback from the railroad when avoidance is not feasible.
- Work to meet both parties' design requirements.
- Execute a project-specific addendum to the master agreement, (Delivery Order) or individual project agreement to address each party's roles, responsibilities, and reimbursement.
- Establish appropriate accounting procedures.
- Document pertinent decisions and documentation in the Cabinet's management system, KURTS.
- Assist as needed during construction to encourage an efficient, safe, and economic project.



	Chapter RAIL COORDINATION PROGRAM
	Subject Planning

PROJECT TRACKING

The rail coordinator (RC) shall maintain a constant awareness of the status of each of all rails involved in the projects, including those in the enacted Biennial Highway Construction Plan utilizing the Cabinet’s database.

RC Project Tracking

- Maintain a list of all projects with railroad involvement tracking.
 - *Project item number*
 - *Project letting date*
 - *Status of the coordination and latest updates*
- Review the status of each project that has been identified as having railroad involvement.
- Monitor Kentucky Utility and Rail Tracking System (KURTS) to identify new projects involving railroads.
- Review the status of each known project in KURTS.
- Monitor unresolved issues on known projects, such as:
 - *Special notes*
 - *Legal documents*
 - *Design needs*
 - *Estimates and Proposals*
 - *Negotiations*

PLANNING FUTURE INVOLVEMENT

The RC shall frequently provide updates to Kentucky’s railroad companies, on known rail-involved projects. A minimally annual report on future transportation projects is required of the RC. This effort is to assist the railroad companies in their long-term and short-term planning.

PROJECT PREPARATIONS

When a new project is identified that requires rail coordination, the preliminary plan development phase begins, as detailed in [UR-2004-1](#).



	Section AGREEMENT PROCESS Subject Master Agreement

GENERAL

The Utilities and Rails Branch employs master agreements with most of the railroad companies in Kentucky to facilitate railroad coordination on highway projects. Instead of executing an agreement for each project, the Cabinet employs one master agreement with each of the major railroads. The purpose of the master agreement is to minimize the time required to negotiate and formally agree to terms between the Cabinet and the railroad company for highway project execution.

Master Agreement Documents of Interest

- Rail Coordination Master Agreement
- Rail Coordination Project Agreement Addendum
- Special Notes for Protection of Railroad Interests

Note: The Kentucky Utilities and Rail Tracking System (KURTS) houses the standard templates for some of the above documents, which can be electronically generated.

CONTENT OF AGREEMENT

The master agreement contains all of the static details of rail coordination agreements and does not change from project to project. This includes the various responsibilities of both the Cabinet and railroad company. The rail coordination master agreement is not project specific. Each project is added to the master agreement via the *Rail Coordination Project Agreement Addendum* as described in [UR-2003-2](#). Each project addendum will include *Special Notes for Railroad Protection*.

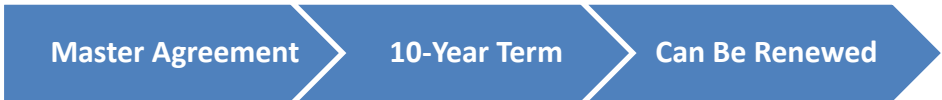
AGREEMENT PROCESS

Master Agreement

UR-2003-1

TERM OF AGREEMENT

The duration of the master agreement is 10 years, after which the agreement may be renewed. If the terms are still agreeable to both parties, the same language shall be used. If changes are to be made, the document shall be modified and then executed.



VIABILITY OF AGREEMENT

Master agreements are generally viable with railroad companies if both parties agree to participate. The negotiation of a master agreement is commonly more involved than a project specific individual agreement. Therefore, not all railroads would benefit from a master agreement. Here are scenarios wherein negotiating a master agreement makes sense.

Master Agreement Viability

- Highway projects frequently impact the rail company.
- Existing master agreement is at the end of the term and must be renewed, OR
- Conditions have changed and cannot be rectified with an addendum or modification.

MASTER AGREEMENT PROCESS

When a master agreement needs to be executed, whether for new or renewed agreements, the process outlined in the image below is followed.



Note: The execution of a master agreement is similar to the execution of the utility agreement as identified in [UR-1103-3](#), with RC serving the same role as the area coordinator (AC)



	Section AGREEMENT PROCESS
	Subject Agreement Addendum

OVERVIEW The rail coordination project addendum, also referred to as the delivery order, is attached to an existing master agreement ([UR-2003-1](#)). The addendum contains all of the project-specific information for a highway project. This includes the highway and railroad location information and estimate of reimbursement due to the railroad. An addendum is executed for each project that requires rail coordination and can be generated by Cabinet or railroad staff via the Kentucky Utilities and Rail Tracking System (KURTS).

ADDENDUM PURPOSE The purpose of the addendum is to include all of the project-specific details since the master agreement includes only static details.

Addendum / Delivery Order

- Highway project description
- Statement of needs relative to rail coordination
- Estimated cost of railroad services towards project execution
- Description of how coordination work is to be performed
- Identified benefits to the rail company

When a Cabinet project is identified to involve a railroad company, and once sufficient plans are available, the rail coordinator (RC) sends a package to the potentially impacted railroad company. This package shall include the following items.

AGREEMENT PROCESS

Agreement Addendum

UR-2003-2

ADDENDUM

PURPOSE (CONT.)

Contents of Initial Package to Railroad

- Letter submitting plans to the potentially affected railroad
- Rail coordination project addendum showing project information only
- Preliminary TC 69-11 form, *Summary for KYTC Projects That Involve a Railroad* (project summary sheet)
- Preliminary highway project plans

Note: The Kentucky Utilities and Rail Tracking System (KURTS) houses the standard templates for some of the above documents, which can be electronically generated.

The letter described above authorizes the railroad company to incur preliminary engineering costs for the project. It acts as the project authorization letter described in [UR-700](#). Therefore, appropriate funding must be available before the issuance of the letter.

Note: This document may be generated, sent, and collected via KURTS.

ADDENDUM

NEGOTIATION

Once the rail company has a copy of the drafted rail coordination project addendum, they shall routinely start their preliminary engineering work by reviewing the plans and details of the addendum. The rail company may make comments on the plans and details which shall be addressed to the RC. The RC shall communicate all railroad company comments to the highway project design team, particularly the project engineer (PE).

The railroad company shall give the RC a cost estimate for providing highway project coordination, such as preliminary engineering, final engineering, administration, construction management, flagging, etc. The terms of this estimate shall be dutifully reviewed by the RC as the area coordinator (AC) may do on a utility estimate, as detailed in [UR-1003](#).

ADDENDUM

PREPARATION

Once both the Cabinet and the railroad company are satisfied with and agree to the addendum, the rail company may complete the rail coordination project addendum and send it to the RC. This process may shorten the duration to execution. However, it is at the discretion of the RC to resubmit a revised rail coordination project addendum to the railroad company, accompanied by a submittal letter.

AGREEMENT PROCESS

Agreement Addendum

UR-2003-2**ADDENDUM**

PREPARATION (CONT.) The signed addendum will be “Exhibit A” to the term agreement as it pertains to the highway project of interest. The “Special Notes for Protection of Railroad Interests” will become “Exhibit B.”

Copies of the rail coordination estimate and all pertinent project plan sheets shall be attached to the addendum for execution.

ADDENDUM**EXECUTION**

Upon receipt of a signed addendum from the railroad company, Cabinet approval signatures include the Director of the Division of Right of Way and Utilities, Utilities and Rails Branch Manager (UBM), and a representative from the Office of Legal Services.

The formal execution of a rail coordination project addendum is similar to the execution of the utility agreement and utility agreement change order as identified in **UR-1103-3** and **UR-1503**. The RC shall perform all duties of the AC and shall execute the addendum within the fiscal management system.

The executed addendum constitutes a formal agreement between the Cabinet and the railroad company. It shall be distributed to the railroad company with an approval letter and a copy sent to the district office with an approval memorandum in a manner similar to that of a utility agreement as defined in **UR-1103-3**.

Note: These documents are generated, sent, and collected via the Kentucky Utility and Rails Tracking System (KURTS).



	<table border="1"> <tr> <td><i>Section</i></td> <td>AGREEMENT PROCESS</td> </tr> <tr> <td><i>Subject</i></td> <td>Individual Project Agreement</td> </tr> </table>	<i>Section</i>	AGREEMENT PROCESS	<i>Subject</i>	Individual Project Agreement
<i>Section</i>	AGREEMENT PROCESS				
<i>Subject</i>	Individual Project Agreement				

OVERVIEW

Occasionally, there are highway projects that impact railroads wherein the Cabinet does not have a master agreement. In this case, an individual project rail coordination agreement (IPA) needs to be executed. It should include the same general terms and language as the term agreements but only address a single project.

CONTENT OF AGREEMENT

The IPA covers all details of the project, including the project specifics. The IPA shall include reimbursement and the roles and responsibilities of both the Cabinet and railroad company.

IPA Sections

- Agreement premises
- Scope of agreement
- Responsibilities of the rail company
- Responsibilities of the Cabinet
- Additional requirements
- Project information sheet
- Special notes for protection of railroad interest

NEGOTIATION OF IPA

An IPA always requires a full negotiation effort from the rails coordinator (RC). When a highway project arises and potentially impacts a railroad that the Cabinet does not have a term agreement with, the RC shall submit to the potentially affected railroad company a package of documents.

AGREEMENT PROCESS

Individual Project Agreement

UR-2003-3**NEGOTIATION
OF IPA (CONT.)****IPA Package
Contents**

- Letter submitting plans to the potentially affected railroad
- Preliminary TC 69-11 form, *Summary for KYTC Projects That Involve a Railroad*
- Preliminary road project plans
- *Special Notes of the Protection of Railroad Interest*

Note: The Kentucky Utilities and Rail Tracking System (KURTS) houses the standard templates for some of the above documents, which can be electronically generated.

The letter described above authorizes the railroad company to incur preliminary engineering costs for the project. It acts as the project authorization letter described in [UR-700](#). Therefore, appropriate funding must be available before the issuance of the letter.

Once the railroad company has this package, they shall routinely start their preliminary engineering work by reviewing the plans and details of the IPA. The rail company may make comments on the plans, special notes, and details, which will be addressed to the RC. The RC shall communicate all railroad company comments to the highway project design team, particularly the project engineer (PE).

The railroad company shall provide the RC a cost estimate for providing highway project coordination, such as preliminary engineering, final engineering, administration, construction management, flagging, etc. The railroad company shall also complete the TC 69-11 form, *Summary for KYTC Projects That Involve a Railroad*. The railroad company shall submit the following to the RC.

Railroad Submissions

- Estimate for railroad coordination services
- TC 69-11 form, *Summary for KYTC Projects That Involve a Railroad*
- Comments on the *Special Notes for Protection of Railroad Interest*
- Design comments on road project plan

The RC shall use this information to consider, negotiate, and draft the IPA. This package shall be dutifully reviewed by the RC, including the terms of the estimate as the area coordinator (AC) may do for a utility estimate, as detailed in [UR-1003](#).

AGREEMENT PROCESS

Individual Project Agreement

UR-2003-3**EXECUTION****OF IPA**

Once both the Cabinet and the rail company are satisfied with and agree to the plans and estimate package, the RC shall draft and submit an IPA and submission letter to the railroad company for signature and execution. KURTS houses standard templates for all agreement types, each of which can be electronically generated, sent, and recorded. The RC is recommended to use KURTS for access to current templates and to document the record document.

Upon receipt of a signed IPA from the railroad company, Cabinet approval signatures include the Director of the Division of Right of Way and Utilities, Utilities and Rails Branch Manager (UBM), and the Office of Legal Services.

The formal execution of an IPA is quite similar to the execution of the utility agreement and as identified in [UR-1103-3](#). The RC shall perform all duties of the AC. The IPA shall be distributed to the railroad company with an approval letter and a copy sent to the district office with an approval memorandum. These documents are recommended to be generated and housed in KURTS.



	<i>Section</i> PLANS DEVELOPMENT
	<i>Subject</i> Preliminary Plans Development

PREDESIGN MEETING A highway project typically begins at the planning level. Once it has been determined that a project is necessary and viable, the project development process begins. The designers develop manuscripts or plans sufficiently to warrant a predesign meeting. It is vital that the rail coordinator (RC) be notified of any predesign meeting. This first contact provides notice to the RC that a conceptual project is being advanced to the preliminary design phase. Notification at this stage allows ample opportunity for provision of reasonable and valuable railroad information to the designers.

ESTABLISHING PROJECT FILES Documentation relative to the decision-making process, pertaining to the project, shall be gathered. The project should be initialized in KURTS to include the railroad company.

PRELIMINARY LINE & GRADE INSPECTION A representative for rails coordination should attend the preliminary line and grade inspection meeting whenever possible. This representative is typically the RC, if available, or a utility section representative, depending upon RC availability and project complexity. This initial field assessment of the project location allows for a comprehensive review of the work involved and of the physical and geographical nature of the location. The manner in which the railroad will be affected by the project, both during and after construction, shall be assessed at this time.

PLANS DEVELOPMENT

Preliminary Plans Development

UR-2004-1

PRELIMINARY LINE &
GRADE INSPECTION

Railroad Factors Examined

- Factors may include but are not limited to:
 - *Track signalization*
 - *Communications services*
 - *Track geometry*
 - *Sight distance issues*
 - *Drainage considerations (railroad property)*

**Details Shared by Rail
Coordination Representative**

- Railroad requirements
- Type of trains per day
- Number of trains per day
- Train speeds



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<i>Section</i>	PLANS DEVELOPMENT				
<i>Subject</i>	Final Plans Development				

**PLAN SUBMITTAL
TO RAILROAD
COMPANIES**

Once sufficient preliminary plans are available, the rail coordinator (RC) shall prepare and submit an appropriate number of copies (typically 3 sets) of roadway plans and structure plans, if applicable, to the affected railroad company for their use in preparing estimates of costs for work by their forces on behalf of the Transportation Cabinet (Cabinet). These plans are part of the rail coordination project addendum package defined in [UR-2003-2](#) or the individual project rail coordination agreement defined in [UR-2003-3](#).

The submission of the plan is the first official contact with the rail company, and the package authorizes the railroad company to incur costs for the project.

**RAILROAD COMPANY
INPUT**

The railroad company prepares submissions for the benefit of the project.

Project Submissions Prepared by Railroad Company

- Cost estimates
- Project notes
- Propose plan changes, including:
 - *Comments to be incorporated into the project*
 - *State exceptions to roadway plans over railroads or their right of way*
- Complete the rest of the TC 69-11 form, *Summary for KYTC Projects That Involve a Railroad*, with the railroad information

PLANS DEVELOPMENT**Final Plans Development****UR-2004-2****RAILROAD COMPANY****INPUT (CONT.)**

This information is typically submitted to the RC within 90 days, but in some instances, it may take 6 months or more, based upon staff availability or design changes requested.

The RC shall maintain a line of communication with the railroad company to ensure the required rails information, agreement preparation, and agreement execution progresses in a timely manner to prevent delays in the project letting schedule.

FINAL PLAN**REVIEW**

Construction plans, once received by the Division of Highway Design's Plan Processing Branch, shall be reviewed by the RC. This is to ensure that the railroad company's comments and requirements, not heretofore addressed, have become a part of the formal plans. Items may include, but are not limited to, the railroad detail sheet and the pavement elevation sheet at the railroad crossing.

It is important to confirm that necessary amendments required by the railroad company or the railroad's consultant have been addressed and incorporated into the project plans. This is the best way to avoid delays in both time and funding during the construction process.



	Chapter RAIL COORDINATION PROGRAM
	Subject Railroad Notes

OVERVIEW Special notes or provisions that were made a part of the binding agreement between the Transportation Cabinet (Cabinet) and the railroad company shall be included in the project proposal for the bid letting with the utility and rail certification note.

CONTENTS The *Special Notes for Protection of Railway Interest* is a standard document that is agreed upon by the Cabinet and each railroad company. As such, there is a separate document for each company that contains the company’s specific requirements. This document is static and does not generally change from project to project. The only time the document should change is when there is a change in policy. Some railroads may require additional notes also.

The TC 69-11 form, *Summary for KYTC Projects That Involve a Railroad* contains all of the project-specific information. It is filled out by the RC and the railroad company for each project and is provided as part of the railroad notes.

TC 69-11 Form Contents

- Flagging rates
- Insurance information
- Number and types of trains per day
- Train speed
- Contact information for the Cabinet and railroad company

RAILROAD-ADJACENT NOTE If the project is adjacent to a railroad but not directly impacting the railroad, a special note is recommended. This note will instruct the contractor to not enter the railroad right of way and will provide emergency railroad contact information.



	Chapter RAIL COORDINATION PROGRAM
	Subject Construction & Fiscal Management

CONSTRUCTION The rails coordinator (RC) shall coordinate work by the railroad company once the construction of the project begins. Upon request, the district Utilities Section supervisor (US) may assist the RC regarding field issues that the RC cannot attend to due to distance from the project site.

The RC shall provide railroad liaison services and inspection services as necessary for the Division of Construction during the road construction. The RC shall be available to negotiate field issues, shop drawing submissions, etc. on behalf of the Kentucky Transportation Cabinet (Cabinet). The RC shall request verification of work and costs when invoicing is questioned by the Cabinet.

FISCAL MANAGEMENT The documentation, policy, and procedures for invoice processing and change order processing of rail coordination work is very similar to utility coordination, as detailed in [UR-1400](#) and [UR-1500](#). For invoicing, the primary variation is that the district utility supervisor (US) approval identified in the chapters shall instead be the rail coordinator (RC), and the Chief District Engineer (CDE) approval shall instead be the Utilities Branch Manager (UBM). For change orders, the CDE approval is not required. Further, there is no need for a recommendation letter from the CDE and US.

INVOICING At any time during the construction period, the railroad company may submit invoices for payment. Progress and final billings are checked for accuracy and reviewed by the RC. The RC ensures the invoice is sent to the Division of Accounts for payment processing. This procedure is similar to utility coordination final keep cost invoices as detailed in [UR-1400](#), "Invoicing."

Invoices received for railroad work are reviewed, approved, and processed by the Central Office. The Central Office may request field support and review from the district office staff to validate that work for which reimbursement is requested has been sufficiently executed.

RAIL COORDINATION PROGRAM

Construction & Fiscal Management

UR-2006

INVOICING (CONT.) The RC shall perform all duties of the US as identified in **UR-1400**. The RC shall review the TC 69-8 form, *Utility/Rail Agreement Statement of Charges*, and all documents in the invoice package as indicated in **UR-1400**. The RC may enlist the guidance of the US, assigned UA, or section engineer as the subject matter experts on the project and railroad company work performed to date.

FINAL INVOICING Upon project completion, the railroad company may then submit a final invoice to the Central Office. Invoicing procedures for rail coordination work are very similar to utility coordination, which is generally defined in **UR-1400**.

Upon payment of a final invoice, the RC shall draft a memorandum to the Division of Accounts, with a copy to the US, requesting that the project be closed.

INVOICE AUDIT After review of the invoice package for a final bill, the RC may determine that some questionable billing practices have taken place. In such instances, an audit may be necessary. The RC would then prepare an audit request memorandum as detailed in **UR-1803-2**.

CHANGE ORDERS The US or assigned UA need not be involved in the review and approval of change orders involving rail coordination, though the RC may request guidance for district level questions. The CDE is not required to review or approve change orders involving rail coordination. The RC shall perform all duties of the US as identified in **UR-1500**.

CLOSEOUTS Generally, closeout procedures for rail coordination work are similar to processes for utility companies.

Rail Coordination Closeout Procedures
(Similar to utility company closeout processes)

- Rail agreement closeout, see **UR-1802-1**, "Utility Company Closeouts: Agreement"
- Project closeout, see **UR-1803-1**, "Project Closeouts: Project Completion"
- Auditing, see **UR-1803-2**, "Project Closeouts: Audits"
- Overdue final invoices, see **UR-1802-2**, "Utility Company Closeouts: 60-Day Notice of Closure"
- Archiving and retrieval, see **UR-1803-3**, "Project Closeouts: Records Archiving"



	Chapter RAIL COORDINATION PROGRAM Subject Highway-Rail Crossing Rehabilitations

OVERVIEW

Over time, just like any pavement, a highway-rail crossing will deteriorate and require rehabilitation work. A severely deteriorated crossing is a potentially hazardous nuisance to the public. It is the duty of the rail coordinator (RC) to coordinate the efforts between the Transportation Cabinet (Cabinet) and the rail companies to restore damaged crossings as safely and economically as possible.

**IDENTIFICATION OF
TROUBLE CROSSINGS**

A crossing in need of rehabilitation may be identified by various parties. A complaint could be placed by a concerned citizen, the district office staff may request a rough crossing be repaired (see policy in [Maintenance Guidance Manual](#), **MAIN-402**), Central Office staff may identify one, or the railroad company may come forward with a crossing restoration project. When a crossing is identified as needing rehabilitation, information must be collected.

**Highway-Rail
Crossing
Information
Gathered by RC**

- Crossing identification number (DOT Number)
- Rail line and mile post
- Highway route and mile post
- GPS coordinates
- Current crossing material
- Documentation of the damaged crossing via photography and physical assessment in written form
- Identification of any nearby highway project or maintenance work

FUNDING

As partners with shared involvement and interest in the restoration, the Cabinet and the involved railroad company may enter into a cost-sharing agreement. The Cabinet may provide (or reimburse for) the material outside the track itself, including the approaches.

The RC shall determine from where the funding to perform the work will come. The district may provide funding from maintenance or discretionary funds.

RAIL COORDINATION PROGRAM

Highway-Rail Crossing Rehabilitations

UR-2007

ROLE OF DISTRICT The district may work with the railroad company as defined in **MAIN-402**, or they may request that the RC develop a partnering agreement. Such requests shall be submitted in writing (email requests shall be acceptable). If the district initiates the work or provides Cabinet funding for the improvement with the execution via partnering agreement, the district shall be consulted regarding the crossing material and means of rehabilitation.

Materials Used in Fabricating Crossing Panels

- Concrete
- Composite
- Rubber
- Asphalt with rubber or timber flange

The district may also determine if an underlayment shall be installed. The district may seek the recommendation of the RC regarding these design decisions. The district should utilize district maintenance crews for any necessary approach work. The work can also be performed by contractor or contracted to railroad crews; however, this is not recommended.

**NEGOTIATIONS WITH
RAIL COMPANY**

After the funding and material details have been worked out, the RC shall contact the railroad company to solicit their participation in the rehabilitation. This entails an email sent to the respective railroad contact stating the intentions of the project and all details about the crossing, such as an exact location, crossing material preference, and a time frame. Typically, the railroad company shall provide the labor needed to install the crossing material, the material needed between the cross ties, and all associated flagging and other services.

Note: The railroad company is responsible for rehabilitation costs between the ties, as indicated in **MAIN-402**.

AGREEMENT PROCESS

Once scope and cost of the crossing rehabilitation have been agreed to by both the Cabinet and the railroad company, an agreement shall be executed defining costs, roles, and responsibilities of each party. The process for executing agreements can be found in [UR-2003-2](#) and [UR-2003-3](#).



	<i>Chapter</i> RAILWAY-HIGHWAY CROSSINGS PROGRAM
	<i>Subject</i> General

PURPOSE

The goal of Kentucky’s Railway-Highway Crossings Program is to reduce the number and severity of highway-rail accidents by eliminating hazards to vehicles and pedestrians at existing highway-rail crossings.

Kentucky Railway-Highway Crossings Program Mission

- Maintain data on railway-highway crossings in Kentucky
- Monitor safety improvement needs of railway-highway crossings in Kentucky
- Deliver rail safety projects that fulfill those needs

LAWS, REGULATIONS,
& RESOURCES

In 1970, the federal government developed the Federal Railroad Safety Act, which created nationally recognized safety regulations. Additional federal rail safety legislation was enacted in 1987 with the Surface Transportation and Uniform Relocation Assistance Act, which established Section 130 of Chapter 23 of the [United States Code](#), giving the federal-aid Railway-Highway Grade Crossing Safety Program permanent status for the first time and subsequently in following similar legislation. This is the foundation of the Kentucky Railway-Highway Crossings Program.

Title 23 United States Code, Section 130 ([23 USC 130](#)) defines the federal-aid Railway-Highway Grade Crossing Safety Program.

Federal Railway-Highway Grade Crossing Safety Program Focus

- Develop and maintain an inventory of all public crossings
- Execute safety improvement projects at crossings with the most need

RAILWAY-HIGHWAY CROSSINGS PROGRAM

General

UR-2101

**LAWS, REGULATIONS,
& RESOURCES (CONT.)**

The Federal Railroad Administration ([FRA](#)) regulates alternative improvements for highway-rail crossings and maintains the National Highway-Rail Crossing Inventory database and guidelines for industry standards. The FRA database provides information on highway-rail grade crossings as well as characteristics of the crossing environment. From this information, physical and operational improvements can be made at crossings to enhance the safety and operation of both highway and rail traffic.

While 23 USC 130 addresses the Railway-Highway Crossings Program specifically, additional pertinent FHWA regulations, policies, and practices dealing with railroad-highway projects are generally included in Subpart B of [23 CFR 646](#).

Federal guidelines for the Kentucky Railway-Highway Crossings Program execution and project execution are listed in the image below.

Railway-Highway Crossings Program Resources
(UR-200 provides more information regarding laws and resources.)

- **23 CFR 924**, which establishes the Highway Safety Improvement Program (HSIP) [Railway-Highway Crossings Program is a facet.]
- **Highway-Rail Crossing Handbook** (Available from the FRA)
- Manual on Uniform Traffic Control Devices (**MUTCD**), available from the FHWA
- **Surface Transportation and Uniform Relocation Assistance Act of 1987**
- **Rail Safety Improvement Act of 2008**
- Kentucky Revised Statutes (KRS) citations
 - **KRS 177.110-177.210** gives the Cabinet the right to facilitate the elimination of grade crossings of highways and railroads or facilitate the modification of existing grade separation structures.
 - **KRS 277.065** defines the allocation of costs of eliminating hazards of crossings between railroads and highways.
 - **KRS 277.190** establishes the requirements of bells and whistles on trains and the proper usage of such appurtenances.

An additional resource for RC work includes the KYTC [Railroad Design and Coordination Guide](#). This guide provides local standards and practices for coordinating and designing railroad facilities.

RAILWAY-HIGHWAY CROSSINGS PROGRAM

General

UR-2101

PROGRAM

IMPLEMENTATION The Railway-Highway Crossings Program is overseen by the rail safety coordinator (RSC) in the Division of Right of Way and Utilities. Duties associated with the role of RSC are defined in [UR-303](#). For effective implementation, the Railway-Highway Crossings Program is composed of the following components.

Components of
Railway-
Highway
Crossings
Program

- Maintain inventory of Kentucky’s crossings ([UR-2102-2](#))
- Record accident data ([UR-2102-2](#))
- Complete crossing field inventories to gather new data ([UR-2102-3](#))
- Report to the FRA and others ([UR-2102-4](#))
- Identify crossings in need of improvement ([UR-2103-1](#))

PROJECT

IMPLEMENTATION Identified rail safety projects are also overseen by the RSC. The RSC shall recommend projects for execution based on the program assessment defined above. For effective project execution, rail safety projects’ activities are completed by a subject matter expert RSC.

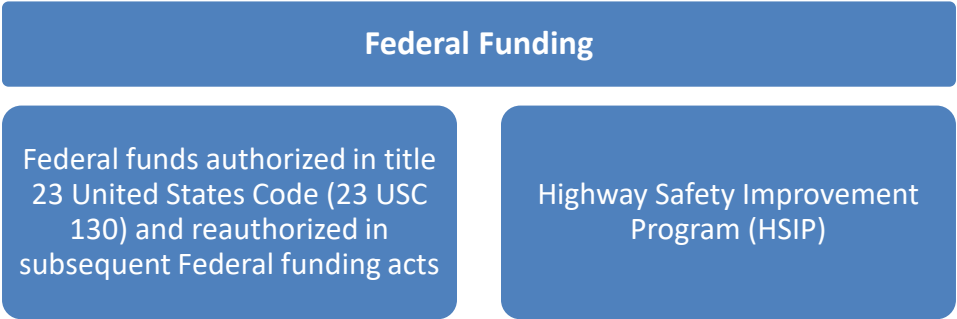
Subject Matter Expert RSC Activities

- Recommend safety improvement projects ([UR-2103-1](#))
- Obtain necessary regulatory & funding approvals ([UR-2103-2](#))
- Prepare and execute agreements ([UR-2103-4](#))
- Oversee the project design ([UR-2103-3](#))
- Establish accounting procedures ([UR-2103-6](#))
- Manage the project construction ([UR-2103-5](#))
- Reduce hazard potential by:
 - Eliminating at-grade crossings and/or
 - Install warning devices and/or
 - Upgrade warning devices ([UR-2103-5](#))
- Ensure the installed facilities are maintained
- Compensate maintenance needs ([UR-2104](#))



	Section RAIL SAFETY PROGRAM
	Subject Funding

FUNDING SOURCES Funding for Railway-Highway Crossings Program improvements comes primarily from the annual apportionment as provided under the current federal funding act. Other sources of funds for highway-rail grade crossing improvements may include other state agencies and the railroad industry. Funding is primarily federal with a percentage of the participation by the railroad company.



The designation of a safety set-aside in the Surface Transportation Program (STP) funding for each state for categorical safety programs, including the *Railway-Highway Crossings Program*, also known as the *Section 130 Program*, began in 1973 and shifted to the new *Highway Safety Improvement Program (HSIP)* in 2006. The HSIP has policy and procedures defined in [23 CFR 924](#). The Kentucky Railway-Highway Crossings Program is an intrinsic aspect of HSIP.

Federal-aid highway funding can also be used. Up to 10 percent of the state’s apportionment of federal-aid highway funding can be designated as G funds, or 100-percent funding, for purposes such as upkeep of the National Highway System, bridge replacement, STP funding, and railroad safety projects (see [23 USC 120](#).)



	<i>Section</i> RAIL SAFETY PROGRAM
	<i>Subject</i> Statewide Inventory

OVERVIEW

One of the primary functions of the Railway-Highway Crossings Program and the Rail Safety Program is to monitor and update information about all public highway-rail intersections (crossings) in the Commonwealth of Kentucky. This information is necessary to identify crossings that have the greatest need for safety improvements and to make available certain reliable information regarding the physical characteristics of highway-rail crossings.

The Utilities and Rails Branch rail safety coordinator (RSC) is charged with maintaining an inventory of all public at-grade highway-rail crossings in the state. This inventory is kept current by routinely making on-site inspections of each crossing. These efforts are supported by the railroad crossing inventory (RCI) database. An in-house application with restricted access, the RCI system maintains the inventory records for state highway-rail crossings. In accordance with Federal Railroad Administration ([FRA](#)) requirements, the Utilities and Rails Branch is expected to update each specific crossing’s information every 3 years.

The Utilities and Rails Branch uses the information garnered from this RCI database to evaluate the crossings in most need of repair or attention annually in the spring and recommend improvements. These decisions are driven by “hazard ranking calculations”—formulas recommended by the FRA for calculating which crossings are most at risk for accidents and can be made safer through upgrade or repair.

**RCI DATABASE:
COMPONENTS**

The RSC uses the RCI database to record and maintain inventory data for all public at-grade highway-rail crossings in the state. Individual crossing data includes all information necessary to complete the U.S. DOT Crossing Inventory Form for the FRA.

RAIL SAFETY PROGRAM

Statewide Inventory

UR-2102-2

RCI DATABASE:
COMPONENTS (CONT.)

RCI Database
Capabilities

- Ability to view and update existing crossing data
- Historical crossing records tracking mechanisms
- Spatially based data that can be used for visual inspection, location and shared
- Mapping functionality capable of specific crossing drill-down
- Easy conversion and transfer of data to FRA, the federal agency charged with oversight which requires all states to submit regular update information

Field Data Collection	The Utilities and Rail Branch uses handheld GPS-driven equipment to gather field data during crossing inspections, as detailed in UR-2102-3 .	
	The handheld GPS unit uses ESRI's ArcGIS Mobile Programs.	
	A Geodatabase has been created using the required fields classified by the FRA and US DOT National Highway Rail Crossing Inventory Program.	
	The RSC uses the GPS equipment to electronically collect accurate positional field data (latitude and longitude) that will automatically populate the required fields.	
	After collecting information in the field, the RSC downloads the captured data into the Central Office system.	Using a simple 'sync' tool, field inventories are processed and transferred to the RCI Database within 24 hours of download.
In-Office Data Entry	Whenever a new crossing record is created, the railroad company supplies the Transportation Cabinet with a federal form.	
	The RSC enters this information into the RCI Database using a web browser, where it is validated for accuracy and correctness.	
	The RSC may also enter changes to a crossing that has not been discovered by an inspection using the RCI system.	
	A crossing can have many different areas of information, and the database application allows a user to:	See the latest inspection record
		Run a report against all records
		Generate reports to be transmitted to other parties, such as the FRA

RAIL SAFETY PROGRAM

Statewide Inventory

UR-2102-2

DATA ACQUISITION The collection of data is a primary function of the program. The RSC uses information supplied by the railroad company and Cabinet data collection in conjunction with the RCI Database to collect and record data.

REPORTING Various reports may be run against the RCI database to view queries of crossing status and crossing type for each county and district. Users performing advanced search queries can also sort and print search results as if they were an ad-hoc report. The annual hazard ranking report is very important for the reasons listed in the image below.

**Annual Hazard
Ranking Report**

- Generated from the Peabody Accident Prediction and New Hampshire Hazard Index mathematical calculations, as recommended by the FRA.
- Lists all of Kentucky’s crossings in order of their safety to the public.
- Crossings at the top of this list have been evaluated as being the most hazardous to public safety, and it is from this list that decisions for safety upgrades are made.

DATA ACCESS The RCI system is a web- and app-based database application with restricted access. It is managed by the Utilities and Rails Branch in the Division of Right of Way and Utilities. Any requests for access or data shall be directed to the branch.



	Section RAIL SAFETY PROGRAM
	Subject Crossing Inspections

INTRODUCTION According to Federal Railroad Administration ([FRA](#)) standards, each highway-rail crossing shall be inspected every three years. Each inspection documents specific crossing data, such as location, existing railroad warning devices, pavement markings, advance warning signage, reflectivity, number of tracks, highway speed, etc. Railroad crossing inspections may be performed using technology as described for utility inspections ([UR-1200](#)) but typically collecting different data.

INSPECTION Specific actions are required for each crossing inspection.



Inspector Actions

- Document the physical characteristics of the crossing.
- Document traffic control devices at the crossing.
- Use the mobile components of Railroad Crossing Inventory (RCI) database.



Crossing Photographs (4 minimum)

- DOT Number sign
- Crossing surface
- View from each direction, looking at the crossing from a distance no farther than 30 yards away

Note: Some crossings may need more pictures taken for atypical features or variances, such as cut rails.



Field Collection with Equipment:

- Collect latitude and longitude readings in between the rails (to the left or right of the traffic lane) in the median.
- If multiple tracks, take readings close to the center of all the tracks and in the same area as above.

RAIL SAFETY PROGRAM

Crossing Inspections

UR-2102-3

SUPPORT

District office staff, interns, or others may be asked to assist the rail safety coordinator (RSC) in performing site inspections of crossings. On occasion, the FRA, railroad company, other state personnel, or the public may ask a question concerning a crossing, and this support staff may be asked to visit and respond.



	Section RAIL SAFETY PROGRAM
	Subject Reporting

TYPES OF REPORTS Numerous reports are needed for proper execution of the Railway-Highway Crossings Program. Some of the reporting needs are within the Transportation Cabinet (Cabinet) and some are for outside agencies.

Most Commonly Needed Reports

- **Federal Railroad Administration (FRA) Annual Report**, a requirement as stated in 23 USC 130
- **Federal Highway Administration’s (FHWA) Annual Highway Safety Improvement Program (HSIP) Report**, a requirement as stated in 23 CFR 924.15
- **Hazard Index Ranking Report**, an internal-only report ranking all open public at-grade crossings not equipped with automatic gates, using the Peabody Accident Prediction and New Hampshire Hazard Index mathematical calculations
- **Internal Cabinet reports**

FRA Report

- Crossing inventories shall be updated at least every three years.
- FRA requests crossing data be provided annually so state and federal records match.
- The Utilities and Rails Branch and Office of Information Technology send crossing data to the FRA annually.
- Railroad Crossing Inventory (RCI) database has a simple conversion and transfer process for data. (This data transfer includes all the highway-rail crossings with information of each crossing.)

RAIL SAFETY PROGRAM

Reporting

UR-2102-4

TYPES OF REPORTS (CONT.)

FHWA Report

- A summary and assessment of the executed rail safety projects shall be submitted to the FHWA as a section of the annual HSIP Report.
- The Division of Traffic Operations develops the annual report and annually secures a summary from the Utilities and Rails Branch.
- The Railway-Highway Crossings Program portion of the HSIP Report includes:
 - *Historical data of the crossings improved*
 - *Monitoring the of improved crossings for accidents*

Cabinet Reports

- Cabinet personnel with access to RCI can run numerous administrative reports.
- Reports:
 - *Are generated to summarize information about crossings with similar characteristics that are recorded in the database*
 - *Can breakdown crossings by county, district, at grade or grade separated, crossing status (open, closed, abandoned, all, unknown), or crossing type (public, private, pedestrian, all, unknown)*
 - *Mapping functionality can be used to assist in report preparation*
- The ranking report, which is the most common report, is the primary means of selecting rail safety projects. (Other reports may be needed for planning or assessing crossings by region.)

Note: If an outside agency requests a report, the Cabinet does not authorize all data to be released, such as ranking or private railroad company data. Such requests shall be considered carefully prior to executing the report.



	Section RAIL SAFETY PROJECTS
	Subject Project Identification & Approval

RCI RANKINGS

The *Federal-Aid Policy Guide* ([FAPG](#)) specifies that each state shall maintain a priority schedule of crossing improvements. To comply with these requirements, the Utilities and Rails Branch ranks the information compiled in the Railroad Crossing Inventory (RCI) database to determine the crossings that have the most need for safety or operational improvements.

A hazard index ranks crossings in relative terms (the higher the calculated index, the more hazardous the crossing). The program uses the Federal Railroad Administration ([FRA](#)) formula for determining the hazard-ranking indices. Currently, the Section 130 Program ranks crossings using two different formulas. One formula is based upon the physical characteristics of the crossings, while the other formula applies a factor based upon the number of crashes that have occurred at the crossings within the previous five years. Additional information can be found at:

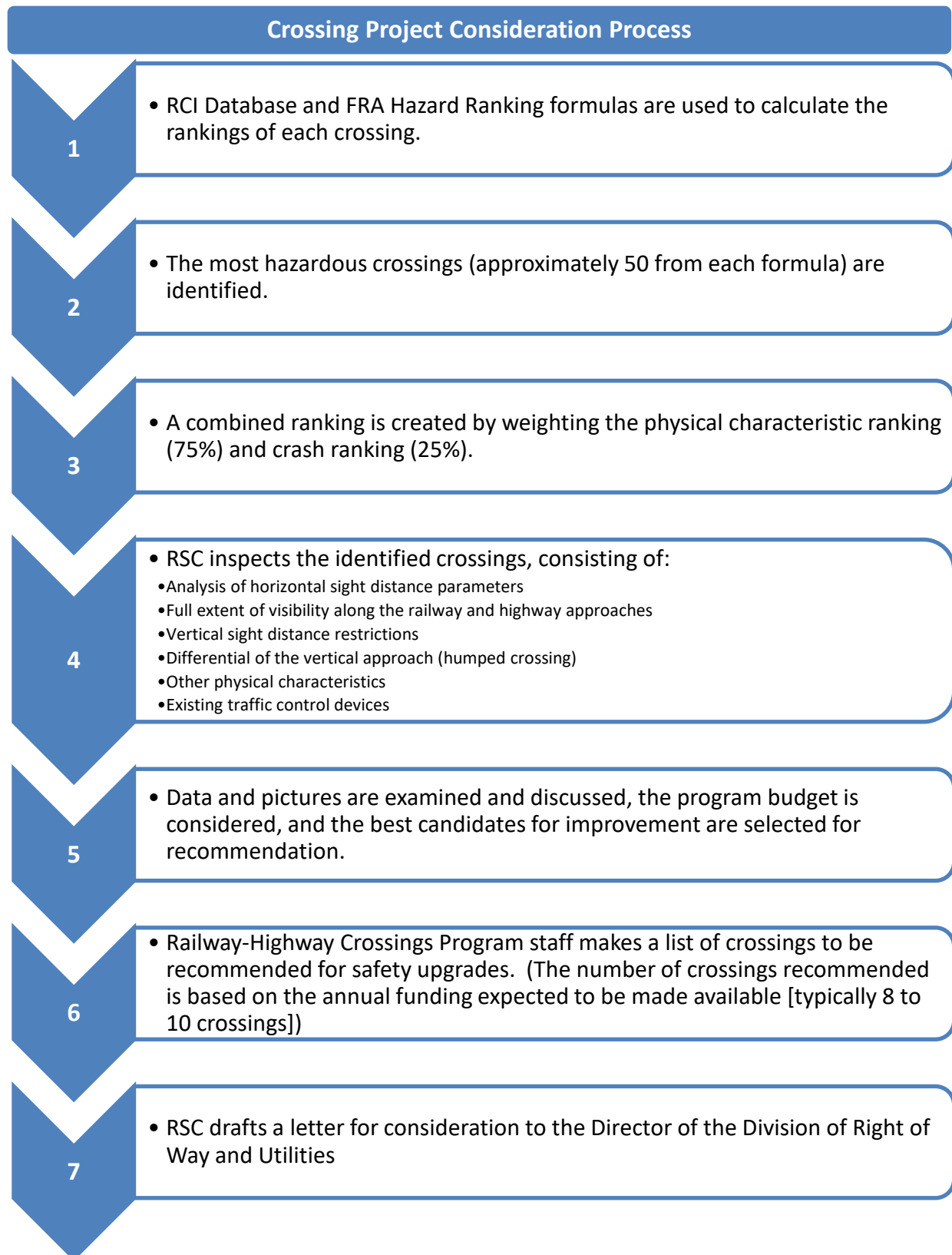
<https://transportation.ky.gov/RightofWay/Pages/Railroad-Programs.aspx>

**PROJECT SELECTION
AND APPROVAL**

The rail safety coordinator (RSC) is responsible for preparing a list of recommended crossings annually.

RAIL SAFETY PROJECTS

Project Identification & Approval

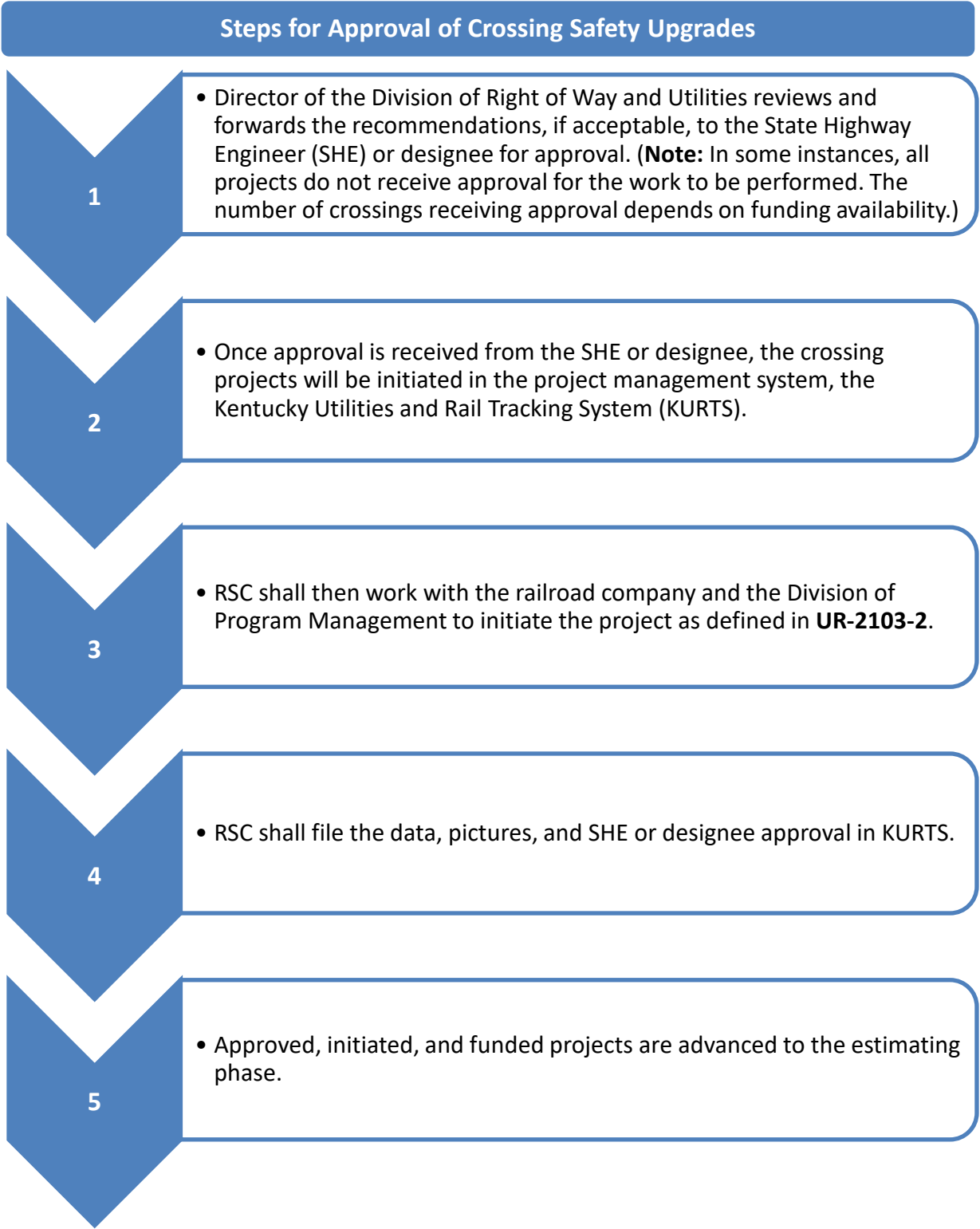
UR-2103-1**PROJECT SELECTION
AND APPROVAL (CONT.)**

RAIL SAFETY PROJECTS

Project Identification & Approval

UR-2103-1

PROJECT SELECTION
AND APPROVAL (CONT.)



	Section RAIL SAFETY PROJECTS
	Subject Estimating & Programming Funds

PROGRAMMING

After projects have been approved by the Director of the Division of Right of Way and Utilities and the State Highway Engineer (SHE) or designee for safety upgrades, the program must be budgeted, and projects must be funded and estimated.

Steps to Secure Rail Safety Project Funding

Completed by the rail safety coordinator (RSC) and the Division of Program Management (Program Mgmt.)

Request - RSC	Authorize - Program Mgmt.	Contact - RSC	Proposal - Railroad Co.	Review - RSC	Contract - RSC
•Request funds from Program Mgmt. (via the Kentucky Utilities and Rail Tracking System [KURTS]). •Funds requested include a utility phase and a construction phase. (Utility funds are for the agreement amount. Construction funds are for Cabinet personnel labor.)	•Authorize and allocate the funds. •Create a TC-10-1 form, <i>Project Authorization</i>, with the authorization number for the project. •Receive a PR-1 form from FHWA upon Federal approval. Note: Process is similar to that defined in UR-603.	•Contact the railroad company and request preliminary engineering estimate. •Send an authorization letter. (Authorization letter is generated and sent through KURTS.) Note: Process is similar to that defined in UR-700.)	•Railroad company provides a proposal package. •Receipt of proposal occurs between weeks to months. •Proposal package is recorded in KURTS. •<u>Proposal package includes:</u> •Force account estimate •Rail safety project plans •Wiring schematic	•Review estimate to determine if it is acceptable and within budget. •Review <u>plans whether project sufficiently:</u> • improves safety •compliant with policy, law and standards •agrees with the estimate Note: Review process is detailed in UR-2103-3 and is similar to the process defined in UR-1003.	•If acceptable, an agreement is drafted using KURTS. •The agreement is submitted to the railroad company. •Preliminary engineering-only agreements may be used at the railroad's request. Note: Process is detailed in UR-2103-4.

RAIL SAFETY PROJECTS

Estimating & Programming Funds

UR-2103-2

RAILROAD COMPANY

DUTIES The railroad company is responsible for production of a railroad company cost estimate (outlining the method of calculating costs) and a project plan. The estimate shall detail the method proposed to complete work, whether by contract or force account. The estimate shall be submitted to the RSC in a timely manner to allow the RSC to complete the tasks identified.

RSC DUTIES The RSC shall ensure the cost estimate is mathematically correct, viable, economical, and compliant with Transportation Cabinet and federal policy.

RSC Processes

- Review the estimate fully.
- Review and accept the design. (UR-2103-3)
- Address questions, errors, or omissions. (UR-2103-3)
- Draft, manage, and execute agreement. (UR-2103-4)
- Manage construction. (UR-2103-5)



	<i>Section</i> RAIL SAFETY PROJECTS <i>Subject</i> Review of Rail Company Submissions

OVERVIEW

Detailed rail safety project plans, specifications, and estimates document the work necessary to construct the safety improvement at the highway-rail crossing. Rail safety project proposals are required of involved railroad companies. Prompt submission of proposals is essential for the Transportation Cabinet (Cabinet) to ensure the proposed work achieves the following.

Rail Safety Projects

- Address the crossing needs
- Avoid conflict with the road functionality
- Adhere to Cabinet and federal policy

REQUIREMENTS OF
RAILROAD COMPANIES

The items outlined in the image below must be included in the railroad company’s proposal to complete the safety improvement at the highway-rail crossing.

Items Included in Railroad Company Proposal

- Plans showing work to be performed, materials to be installed, materials to be transferred or removed, and items planned to be left in place
- Pertinent specifications and standard drawings
- Total project cost estimate, itemized and divided into engineering, administrative, and construction costs
- Calculation of the Cabinet’s reimbursement participation
- Engineering service contract package (if applicable and as described in **UR-900**)
- Any special requests on project development or execution

RAIL SAFETY PROJECTS

Review of Rail Company Submissions

UR-2103-3

REQUIREMENTS OF
RAILROAD COMPANIES
(CONT.)

Special requests may be considered by the Cabinet and likely involve additional submission needs, as detailed elsewhere in this manual.

Special Request
Examples

- Additional expenses incurred due to railroad company policy changes (I.E. Specific construction materials or methods required due to written railroad policy)
- Non-reimbursable improvements to the railroad facilities, otherwise defined as “betterments” (Similar to those in UR-1004 and UR-1102-2)

RSC DUTIES

The rail safety coordinator (RSC) is responsible for receipt and diligent review of all railroad company proposals.

RSC Duties for Railroad Company Proposal Review

- Necessary
- Appropriate
- Physically and fiscally viable

Verify all work is:



- Plan, estimate, specifications, and wiring layout
- Design that addresses crossing needs and does not impair the road function
- Detailed estimate
- Documented standards and policy
- Appropriate, reimbursable, and reasonable costs that are consistent with the proposed scope of work

Validate the package includes:



If the submitted documents constituting the proposal are acceptable to the RSC, the RSC shall approve the submission and communicate approval to the railroad company. The proposal may then be drafted as an agreement. If the RSC is not satisfied with the terms of the proposal, additional negotiations must occur. The submissions shall be recorded, approved or rejected, and communicated to the railroad electronically via the Kentucky Utilities and Rail Tracking System (KURTS).

RAIL SAFETY PROJECTS

Review of Rail Company Submissions

UR-2103-3

DISAGREEMENTS

DURING NEGOTIATION Occasionally, the Cabinet and the railroad company fail to agree upon the safety project submissions. In such instances, it may become necessary to turn to more intensive negotiations or possibly legal action. Potential scenarios of obstructed railroad safety projects are described below.

Disagreement on Costs	Disagreement on Design	Owner Refusal to Provide Improvement	Dispute Resolution: Question of Fact
•Disagreement occurs when the railroad company and the RSC disagree on the proposed cost estimate. •Dispute may be related to many issues, such as reimbursable costs, quantities, betterment, salvage value, overhead, etc. •RSC puts the terms of disagreement in writing and requests a response from the railroad company within a reasonable timeframe. (An electronic rejection is an adequate response.) •If an agreement cannot be reached and the project schedule allows: •RSC should request negotiation support from the Utilities and Rails Branch Manager (UBM). •Negotiation may include support teams, such as the Federal Railroad Administration (FRA), Federal Highway Administration (FHWA), and Cabinet personnel (Division of Construction, Division of Planning, Office of Audits, Office of Legal Services, etc.). •If the schedule does not allow for further negotiation, or if further efforts are fruitless, the Cabinet may proceed with litigation as prescribed by state law.	•Disagreement occurs when the railroad company and the RSC disagree that the proposed design is adequate. •Dispute may be related to many issues, such as reimbursable items, construction methodology, materials, etc. •RSC puts the terms of disagreement in writing and requests a response from the railroad company within a reasonable timeframe. (An electronic rejection is an adequate response.) •If an agreement cannot be reached and the project schedule allows: •RSC should request the UBM to advise and provide negotiation support. •Negotiation may include support teams, such as the Federal Railroad Administration (FRA), Federal Highway Administration (FHWA), and Cabinet personnel (Division of Construction, Division of Planning, Office of Audits, Office of Legal Services, etc.). •If the schedule does not allow for further negotiation, or if further efforts are fruitless, the Cabinet may proceed with litigation as prescribed by state law.	•Disagreement occurs when a railroad company refuses to provide reimbursable safety improvements to a selected crossing. •RSC shall request the railroad company refuse to relocate in writing, or the RSC shall draft a written statement outlining the negotiation process and the railroad company refusal. •RSC provides the written document to the UBM and FRA liaison. •If an agreement cannot be reached and the project schedule allows: •RSC should request UBM negotiation support. •Negotiation may include support teams, such as the Federal Railroad Administration (FRA), Federal Highway Administration (FHWA), and Cabinet personnel (Division of Construction, Division of Planning, Office of Audits, Office of Legal Services, etc.). •If the schedule does not allow for further negotiation, or if further efforts are fruitless, the Cabinet may proceed with litigation as prescribed by state law.	•Disagreement occurs when some negotiations are obstructed by differing understandings of specific law or project facts. •Dispute may involve interpretation of law, property rights, agreement conditions, etc. (Such issues should be addressed with the assistance of the Cabinet’s legal services staff.) •If resolution cannot be achieved: •A court of competent jurisdiction may decide cases involving disputes arising from a difference of opinion, such as ownership rights or the legality of policies and procedures. •When a final determination by the courts is expected to require a lengthy amount of time, the Cabinet shall request the railroad company to agree in writing to proceed with the project (in order not to impede necessary safety improvements) with the provision that one of the parties shall institute a suit on the question of law or fact.



	Section RAIL SAFETY PROJECTS
	Subject Agreements

OVERVIEW

After determining that the railroad company’s proposal package is valid, the rail safety coordinator (RSC) shall draft a rail safety project agreement detailing the project terms and conditions. This can be done electronically through the Kentucky Utilities and Rail Tracking System (KURTS).

Rail safety project agreements are developed and executed in a manner very similar to utility coordination agreements. (UR-1103 provides guidance on utility coordination agreement development and execution.) While the rail safety project development and execution are similar to that of the utility agreement and execution, the base language of a rails safety project agreement is quite different from utility coordination agreements.

Rail Safety Project Agreement

Rail safety project agreements shall include:

- County name
- Federal project number
- State project number
- Crossing location
- DOT number
- Description of work to be done
- Terms of the agreement
- Signature of the Director of the Division of Right of Way and Utilities
- Signature of the railroad company
- Signature of the Office of Legal Services
- Signature of the Utilities and Rails Branch Manager

RAIL SAFETY PROJECTS

Agreements

UR-2103-4

**AGREEMENT
PROCESSING**

The rail safety project agreement shall be executed following the process laid out in [UR-1103-3](#) but with the RSC fulfilling the role of the utility supervisor (US) or district utility agent (UA) and the utility branch manager (UBM) approving the agreement.



	Section RAIL SAFETY PROJECTS
	Subject Project Construction

OVERVIEW After securing an agreement with the railroad company and finalizing project plans, the rail safety coordinator (RSC) prepares for construction.

Rail safety projects are prepared for construction and inspected in a manner very similar to utility coordination. [UR-1200](#) may provide guidance on preparing for rail safety project construction. However, while the preparation for construction and inspection is similar, the actual construction is different from utility coordination, caution is to be used.

INSPECTION OF SAFETY UPGRADES During construction, the railroad company will execute the construction via contractor or in-house staff. The RSC provides jobsite representation for the Cabinet, reviewing materials or construction reports, inspecting the site, and completing progress reports in the Kentucky Utility and Rail Tracking System ([KURTS](#)).

Minimal Information to be Collected in Safety Upgrade Inspection

- Date
- Time
- Composition of the crew
- Vehicles and equipment
- Location of work
- Type of work
- Recently delivered materials and condition
- Photos

After construction is complete, the RSC shall perform a site visit to take pictures of the finished product and to check that all work is satisfactory. The RSC shall complete a final *Railroad Project Progress Report* in KURTS.

RAIL SAFETY PROJECTS

Project Construction

UR-2103-5

FIELD INSPECTION

SUPPORT

The RSC may request support staff to assist with field inspections.

Support Staff
Actions

- Gather minimal information (See above.)
- Observe the number of employees and their duties at the project site
- Verify that the major items of materials utilized are in agreement with the design
- Drive the project vicinity to determine the presence or need for pavement markings, advance warning signs, and any other design elements that may have been overlooked
- Note locations of possible conflict prior to the RSC’s final inspection



	Section RAIL SAFETY PROJECTS
	Subject Invoicing & Change Orders

OVERVIEW The documentation, policy, and procedures for invoice processing and change order processing of rail safety projects is very similar to utility coordination, as detailed in [UR-1400](#) and [UR-1500](#). For invoicing, the primary variation is that the district utility supervisor (US) position approval identified in the chapters shall instead be the rails safety coordinator (RSC) and the Chief District Engineer (CDE) approval is instead the Utilities Branch Manager (UBM). For change orders, the CDE approval is not required. Further, there is no need for a recommendation letter from the CDE and US.

INVOICING RESPONSIBILITIES Invoicing responsibilities differ for Central Office and district offices.

Central Office Invoicing Responsibilities

- Invoices received for railroad work are reviewed, approved, and processed by Central Office.
- RSC performs duties of a US and UC identified in [UR-1400](#).
- RSC ensures that the invoice documentation on the TC 69-8 form, Utility/Rail Agreement Statement of Charges, includes the Highway-Rail Crossing Identification Number (DOT number).

District Office Invoicing Responsibilities

- District office staff may be asked to field validate the reimbursement request is reflective of field work completed and that work is acceptable.

INVOICE AUDIT After review of the invoice package for a final bill, the RSC may determine that some questionable billing practices have taken place, and, in such instances, an audit may be necessary. If the audit is necessary, the RSC prepares an audit request following the audit request procedures detailed in [UR-1404](#).

CHANGE ORDER RESPONSIBILITIES Change order responsibilities differ for Central Office and district offices.

**Central Office
Change Order
Responsibilities**

- Change orders received for railroad work are reviewed, approved, and processed by Central Office.
- RSC performs duties of a US and UC as identified in UR-1500.

**District Office
Change Order
Responsibilities**

- US or assigned UA need not be involved in the review and approval of change orders involving rail coordination.
- RSC may request guidance for district level questions.
- CDE is not required to review or approve change orders involving rail coordination.



	Section RAIL SAFETY PROJECTS Subject Closeouts

OVERVIEW Generally, closeout procedures for the rail safety projects are similar to the processes defined for utility work. Details may be found as noted below.

Rail Safety Project Closeout	
Closeout Procedures	•UR-1801, "Closeouts"
Rail Safety Agreement Closeout	• UR-1802-1, "Utility Company Closeouts: Agreement"
Rail Safety Project Closeout	•UR-1803-1, "Project Closeouts: Project Completion"
Rail Safety Project Audit	•UR-1803-2, "Project Closeouts: Audits"
Overdue Final Invoicing	•UR-1802-2, "Utility Company Closeouts: 60-Day Notice of Closure"

FINAL INVOICING Upon project completion, the railroad company shall notify the rail safety coordinator (RSC) that the project is complete. The railroad company may then submit a final invoice to Central Office.

Invoicing procedures for rail safety program projects are generally similar to utility coordination as defined in [UR-1400](#). Nuances specific to rail safety projects are described in [UR-2103-6](#).

Upon payment of a final invoice, the RSC shall complete the closeout process in KURTS.

RECORDS RETENTION File archiving and retrieval policies and procedures are detailed in [UR-1803-3](#).



	<i>Chapter</i> RAILWAY-HIGHWAY CROSSINGS PROGRAM
	<i>Subject</i> Protective Device Maintenance

OVERVIEW

Some highway-rail crossings have protective devices installed for the safety of the travelling public. The Transportation Cabinet (Cabinet) shall compensate the railroad company for maintenance of these protective devices which consist of lights, bells, gates, and any combination thereof installed for the Department of Highways subsequent to June 19, 1958, according to a previously agreed schedule.

Maintenance funds for protective devices at crossings are included in the Division of Maintenance’s annual budget. These funds are used to compensate for eligible railroad safety device maintenance.

Railroad Safety Device Maintenance Responsibilities

- Facilitate the agreement for maintenance of protective devices
- Review, verify, and process associated payments
- Secure data needed for maintenance verification from resources including Cabinet managed data and Cabinet staff information

CLASSIFYING CROSSINGS

The Division of Right of Way and Utilities’ Utilities and Rails Branch shall keep an inventory of crossings for the entire state, as defined in [UR-2102-2](#). This list shall be updated by the rail safety coordinator (RSC) and shall include a quantitative description of the protective devices at each crossing. The data management system housing this information shall be capable of generating a report of crossings with protective devices. The report shall be used by the RSC to determine the specific protective devices at each crossing.

RAILWAY-HIGHWAY CROSSINGS PROGRAM

Protective Device Maintenance

UR-2104

CLASSIFYING CROSSINGS
(CONT.)

Protective Device Classifications

Type 1 - Lights and bells for a single track

Type 2 - Lights and bells for multiple tracks

Type 3 – Lights, bells, and gates for a single track

Type 4 – Lights, bells, and gates for multiple tracks

ROLES Protective device maintenance roles differ for Central Office and district offices.



Central Office

- RSC keeps a current master inventory of crossings for the entire state (**UR-2102-2**).
- RSC maintains the term maintenance agreements with the railroad companies.
- RSC reviews, verifies, and processes pertinent invoices.
- Agreement drafting and execution process is similar in content and process to that of the term agreement, as detailed in **UR-2003**.
- Compensation of railroad companies via invoice payment is as defined in **UR-1400**.



District Office

- Notify the Division of Right of Way and Utilities, RSC, Division of Planning, and the Division of Maintenance of new protective device installations, abandonments, or removals.
- Provide the RSC an inspection of new protective device installations when encountered.

RAILWAY-HIGHWAY CROSSINGS PROGRAM

Protective Device Maintenance

UR-2104

MAINTENANCE

AGREEMENT The term maintenance agreement shall contain the following information.

All of the static details of protective device maintenance, utilizing the classifications listed above

Responsibilities of the Cabinet and railroad company

AGREEMENT TERM The duration of the term shall be **10 years**, after which the term maintenance agreement may be renewed. If the terms are still agreeable to both parties, the same language shall be used. If changes are to be made, the document shall be modified and then executed.

AGREEMENT EXECUTION When a maintenance agreement needs to be executed, whether for new or renewed agreements, the RSC shall draft the document. A term maintenance agreement should only be executed if one of the following conditions is true.

Conditions Eligible for Term Maintenance Agreement		
Crossings exist with protective devices that require compensation.	The term agreement is at the end of the term and must be renewed.	There has been a change in the terms that cannot be rectified with an addendum or modification.

The Cabinet’s Office of Legal Services shall review and approve the document. A copy of the drafted document shall be transmitted to the rail company for review. The rail company shall make comments, and the RSC shall address the comments as necessary. Once the document is agreeable to both parties, the agreement is signed, executed, and put into use.

The formal execution of a maintenance agreement is quite similar to the execution of the utility agreement, as identified in **UR-1103-3**. The RSC shall perform all duties of the area coordinator (AC) as identified in **UR-1103-3**.

