



COMMONWEALTH OF KENTUCKY
TRANSPORTATION CABINET

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Andy Beshear
GOVERNOR

Jim Gray
SECRETARY

MEMORANDUM

TO: All Contractors

FROM: Rachel Mills, P. E. *RM*
Director
Division of Construction Procurement

DATE: June 7, 2021

SUBJECT: New Prequalification Work Item
Rock Tunnel Rehabilitation – J92

The Kentucky Transportation Cabinet (KYTC) has established a new prequalification work item for Rock Tunnel Rehabilitation – J92. The newly established work item is for an upcoming project which the KYTC anticipates letting this this fall. In addition, there may be future rock face tunnels requiring rehabilitation requiring prequalification in this new work item. Any Contractor wishing to bid as a Prime on projects of this nature or those contractors desiring to subcontract this work must be prequalified with the J92 work item.

Attachment A of this document contains additional information concerning details of an impending Rock Tunnel Rehabilitation project which KYTC anticipates letting in the fall of 2021. Rock Tunnel Rehabilitation construction is generally considered to be construction work within existing tunnels for purposes that include one or more of the following: stabilizing a tunnel that has suffered some form of instability including but not limited to the following: rockfalls or damaged rock support elements; repurposing a tunnel for a different function than its original purpose; extending service life; repairing the interior structure; upgrading or repairing internal utilities such as drainage, lighting or ventilation, amongst others; transitway repairs such as for pedestrian or equestrian pathways, amongst others; and implementing drainage improvements.

Contractors wanting to be prequalified with KYTC in Rock Tunnel Rehabilitation -J92 shall submit a letter providing detailed experience in tunnel rehabilitation. The necessary minimum requirements for prequalification in Rock Tunnel Rehabilitation (J92) are provided below. These items are in addition to those normally required for contractor prequalification.

Rock Tunnel Rehabilitation – (J92)

A. To be prequalified a Contractor is required to meet the following requirements for project experience:

1. A minimum of 15 years of combined construction experience in new rock tunnel construction and rehabilitation of a rock tunnel. Note that experience in both is required. In this context, new tunnel construction means constructing a rock tunnel with a diameter (actual or equivalent, depending on shape) of at least 15 feet, with the construction involving in-tunnel crew members to operate equipment and install ground support. Further, tunnel rehabilitation means implementing or constructing designed improvements to the interior surface of a rock tunnel with a diameter (actual or equivalent, depending on shape) of at least 15 feet, by methods that require man-entry with appropriate equipment to complete the constructed improvements.
2. At least two (2) projects in the last 10 years completing rehabilitation of a rock tunnel, with at least one in a non-urban area.
3. Demonstrated experience with the following tunnel construction or tunnel rehabilitation activities. At the discretion of the Cabinet, some of these activities may be omitted with demonstrated experience and comparable technologies:
 - a. rock bolt installation
 - b. welded wire fabric/wire mesh removal and installation
 - c. mine strap removal and installation
 - d. steel channel removal and installation
 - e. steel rib removal and installation
 - f. plain and fiber-reinforced shotcrete application
 - g. steel channel lagging installation
 - h. backfill grouting and injection grouting for groundwater infiltration reduction
 - i. remote scaling and stabilizing with personnel and extension equipment located in previously stabilized tunnel sections

For the listed project(s), provide project name, actual or anticipated date of project completion, project duration, actual or anticipated contract amount, project location, and contact information for the project owner. Completed projects must have been completed to the project owners' satisfaction. The contractor must demonstrate that any in-progress projects listed are being implemented to the satisfaction of the project owner.

Note: Some projects may be used to satisfy more than one requirement.

B. Provide documentation that current company personnel (who might be proposed for positions on the project anticipated to be let in the fall of 2021) have been directly responsible for field operations of a rock tunnel rehabilitation project as described herein:

1. Rock Tunnel Rehabilitation Project Superintendent: Has worked on at least two projects involving the rehabilitation of a rock tunnel as described above, in the position of Tunnel Project Superintendent in responsible charge of all fieldwork, including staffing and equipment and scheduling and coordination of all field activities.
2. Tunnel Safety Officer: Has worked on at least two tunnel construction projects, with at least one involving the rehabilitation of a rock tunnel as described above, in the position of Tunnel Safety Officer in responsible charge of all safety aspects of the work, including both in-tunnel and out-of-tunnel work.

Some or all of the experience may be with a previous employer. If necessary, more than one superintendent or foreman can meet the requirements if all are actively involved in the project.

- C. Identify equipment owned or leased that can be brought to the project site for the project scheduled for the anticipated letting in the fall of 2021. The contemplated project includes features such as large debris (broken rock) piles, damaged existing steel ribs, areas of rock fallout extending to as much as 60 feet above the existing tunnel invert, and one end of the tunnel is completely blocked. Equipment capable of clearing and removing debris piles, reaching the indicated height above the tunnel invert, handling steel rib supports, drilling holes for and installing rock bolts of lengths of at least 14 feet, installing spiles for stabilization, handling and installing steel tunnel liner, handling and installing welded wire fabric and mine straps, equipment capable of installing shotcrete and drilling dowel holes remotely via a boom (allowing personnel to operate from previously stabilized tunnel sections), and ventilation equipment, amongst other equipment will be necessary.

The application for contractor prequalification (TC 14-1 - Certificate of Eligibility) may be found at the web address below. Prequalification approvals may take up to 90 days. Please submit the application on or before July 23, 2021, to ensure qualified contractors obtain prequalification in the new work item before the anticipated fall 2021 letting date. Should any contractor have an issue completing the entire application before this date, please note the following portions outlined above are required to be submitted prior to July 23, 2021, documentation of work history, equipment, and experience.

[https://transportation.ky.gov/Organizational-Resources/Pages/Forms-Library-\(TC-14\).aspx](https://transportation.ky.gov/Organizational-Resources/Pages/Forms-Library-(TC-14).aspx)

If you have questions or need additional information, please contact the Division of Construction Procurement at (502) 564-3500.

Attachment A

The following information is provided to illustrate typical conditions to be expected both for the anticipated project to be let in the fall of 2021 and, generally, for work associated with the prequalification: Rock Tunnel Rehabilitation – J92. It is not intended as a comprehensive list or precise representation of all conditions expected to be encountered at this or future project sites.

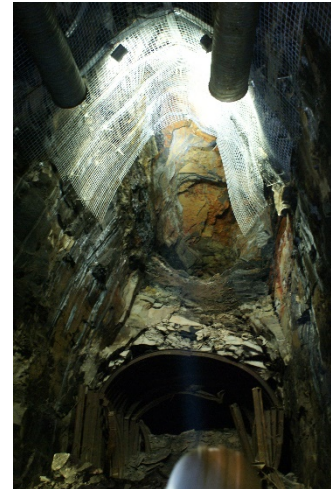
Example:

Carver Tunnel Pre-fire:



Example:

Carver Tunnel (approximately 600' south of the North Portal, Post Fire):



The current project involves the rehabilitation of the Carver Tunnel on the Breathitt/Magoffin County line. The approximately 1550-ft abandoned railroad tunnel is part of the Rails to Trails Program. Before initiating tunnel work for Rails to Trails, a fire in the tunnel ignited a coal seam, which led to stability issues within the tunnel and resulted in a partial collapse. The fire weakened the tunnel steel rib sets and burned all or nearly all of the wood lagging that previously lined the tunnel. Additionally, as the fire burned along coal seams associated thermal stresses fractured rock in the tunnel roof. The tunnel is unstable and collapsed through the majority of its length. Based upon available information, the amount of collapsed, loosened rock ranges in height from 20 to 70 feet. The loosened rock has settled on the steel rib supports, causing complete failure in some locations and partially supported rock loads bearing on overstressed, damaged steel rib sets at other sites.

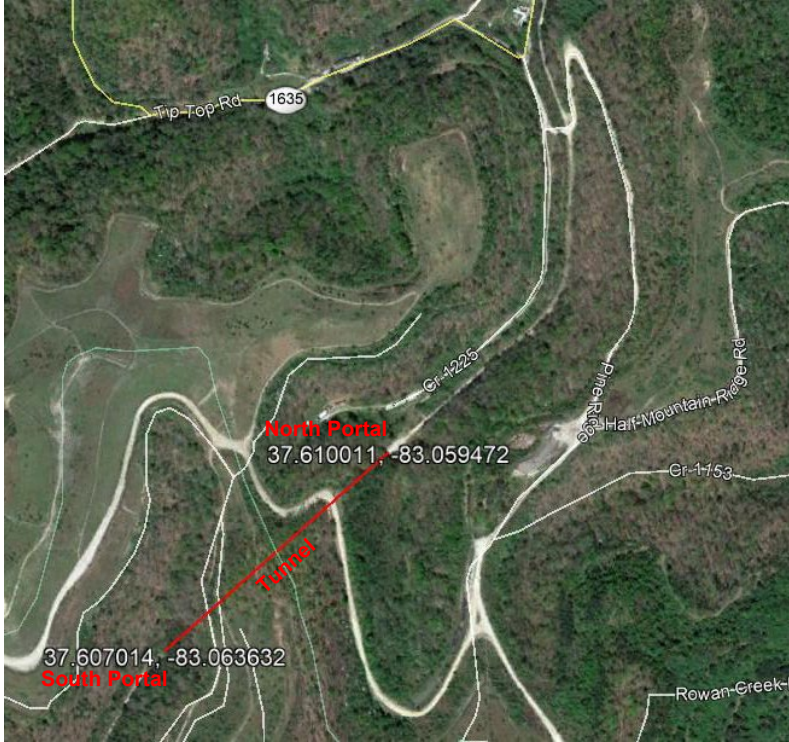
This project was previously let on June 26, 2015. The Contractor stabilized approximately six hundred feet of the tunnel. There was a partial roof fall through the north portal in early 2016, after which the Contractor stopped work on the project.

The project objective will be to provide a stabilized tunnel opened to a recreational, mixed-use trail. This project scope may potentially include stabilization work from the 2015 letting. Work items include but are not limited to temporary stabilization both installation and design, scaling and stabilizing of sections with loosened rock (collapsed material heights may approach 70 feet above the original tunnel roof and may be wedged over failed, deformed steel sets), completion of scaling and stabilization activities with personnel and extension equipment located in previously stabilized tunnel sections, removal of collapsed materials, removal of previous tunnel remnants, installation of specified liner type, installation of dowels, construction of planned tunnel trail surface and drainage features (possibly will include processing and reuse of collapsed material), construction of planned canopies extending from north and south portals, and installation of a planned lighting system.

EXAMPLE:
Tunnel Location and Portal Conditions

North Portal (2021):
37.610011, -83.059472

Site



South Portal (2013):
37.607014, -83.063632

