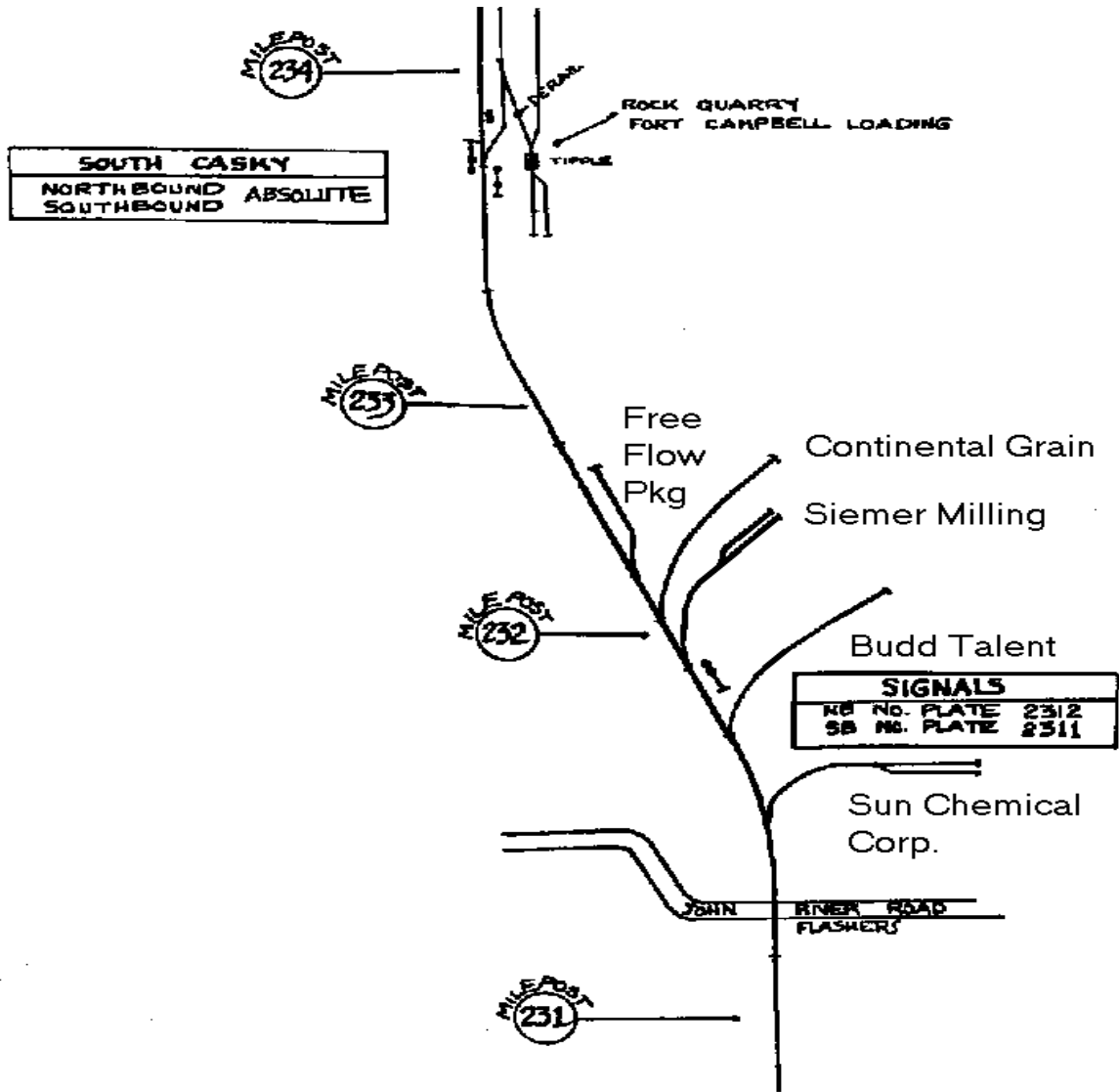


#1 - Casky, KY - Project Survey



<p>Project Summary</p>	<p><u>Location</u></p> <ul style="list-style-type: none"> • Casky, Christian County, Kentucky <p><u>Description</u></p> <ul style="list-style-type: none"> • Construct new mainline in order to create new 5,600 TF stub ended industrial lead track. <p><u>Railroad(s) involved</u></p> <ul style="list-style-type: none"> • CSX Transportation, Inc. <p><u>Construction Cost</u></p> <ul style="list-style-type: none"> • \$1.47 Million
-------------------------------	--

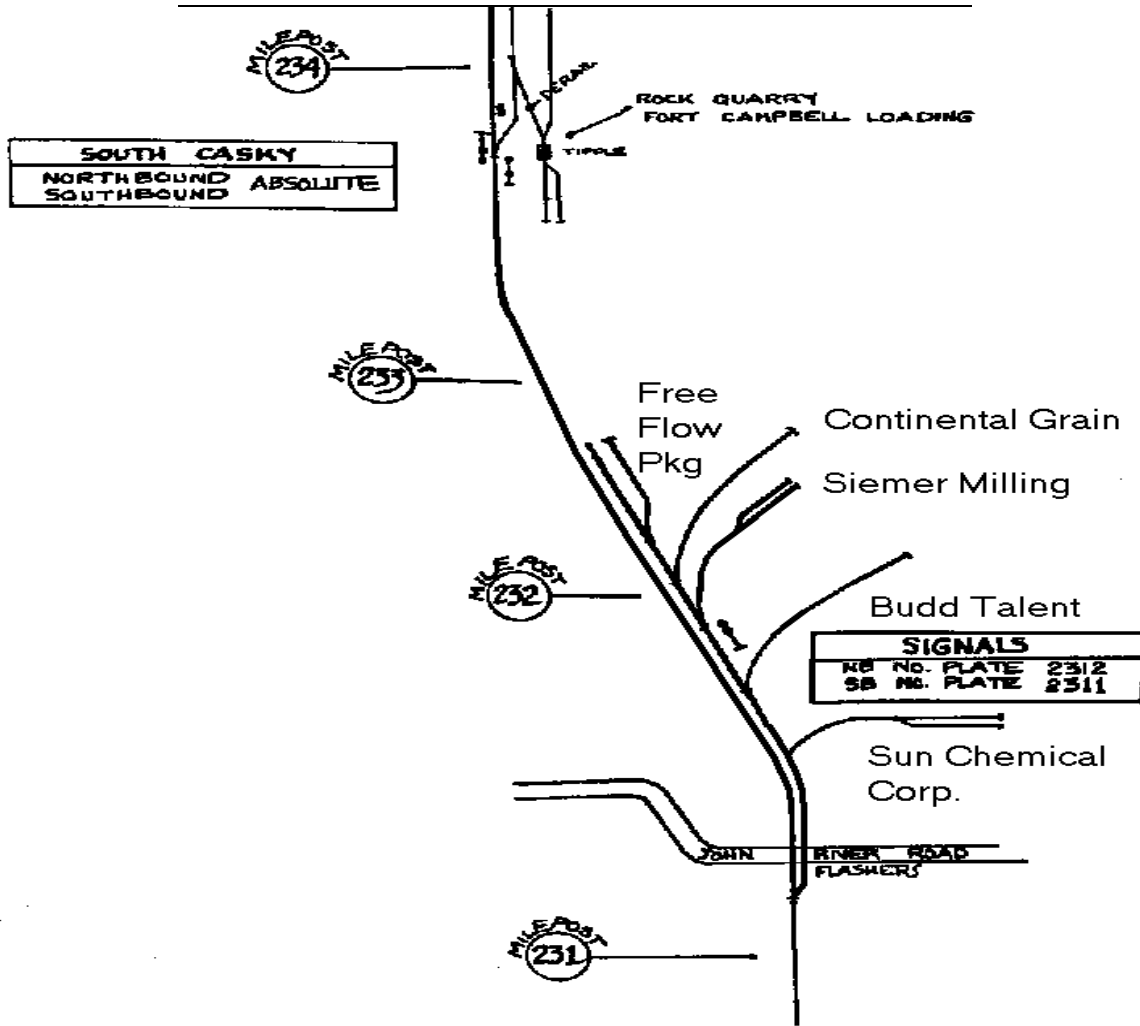
	<p><u>Construction Duration</u></p> <ul style="list-style-type: none"> Proposed - Spring 2001 to Fall 2001 Actual – Summer 2001 to Spring 2002
--	---

Statement of Need	<ul style="list-style-type: none"> The traffic flow along this corridor is high density and high speed. Switching industries off the main track has caused transportation delays for through trains and impacted switching operations for five industries. In addition, future industrial growth in this area is suspended. This location is the fastest growing industrial area for the CSXT. Five industries were installed in the last five years. The benefits gained from the new construction will allow CSX to increase velocity of trains operating in this corridor and increase the opportunity for future growth in the Hopkinsville Industrial Park.
--------------------------	---

Project Understanding (Definition)	<ul style="list-style-type: none"> A new main track, west of the existing line, will be constructed. The old main track will be used as an industrial lead with access on the south end only. Industrial Development gains the opportunity to grow the business on the north side by future extension of the industrial lead. When fully developed, this industrial lead will connect to the south end of “Casky Siding,” providing CSX with a 20,000 foot siding when the industrial lead is not in use. The rate of return is 18% for \$1.47 Million
---	--

Identify Stakeholders	<p><u>Train Operations</u></p> <ul style="list-style-type: none"> CSX Transportation, Inc.
Railroad (Critical Dependencies)	<p><u>Planning Department</u></p> <ul style="list-style-type: none"> Train Operations, Design & Construction, Industrial Development, M/W, Train Control, Real Property, Inc. and Outside Railroad Contractors (Design, Grading and Track) were main players from the railroads approach to the project. <p><u>Train Operations/Industrial Development Dept.</u></p> <ul style="list-style-type: none"> Defined project scope and provided funding for construction. <p><u>Design & Construction</u></p> <ul style="list-style-type: none"> Design and Construction performed preliminary design, prepared estimate for the track, performed project inspections, managed budget expenditures, employed track and grading contractors, monitored construction progress, ordered track materials, coordinated curfews & track time and coordinated with the County for local road closing. <p><u>Engineering Department</u></p> <ul style="list-style-type: none"> MOW – performed track inspections, scheduled work trains and provided track protection for the project. Train Control – performed all work associated with signals. <p><u>Real Estate Department</u></p> <ul style="list-style-type: none"> Real estate group researched property issues and negotiated price sales with local landowners. In addition, handled deed records for new acquisitions.

	<p>Design Contractor</p> <ul style="list-style-type: none"> • Provided detailed design engineering and construction quantities. <p>Grading Contractor</p> <ul style="list-style-type: none"> • Constructed roadbed in accordance with CSX specifications. <p>Track Contractor</p> <ul style="list-style-type: none"> • Constructed all track and performed track shifts in accordance with CSX specifications.
--	--



<p>Identify Stakeholders</p> <p>Non-Railroad</p> <p>(Critical Dependencies)</p>	<ul style="list-style-type: none"> • Christian County – the county transportation officials reviewed road crossing approach design and helped coordinate road crossing closing. Advance warning signal protection remained flashing lights only. • WorldCom – fiber optic company relocated fiber optic cable outside project limits to allow the start of construction. • 5 Industries – Sun Chemical Corp., Budd Talent Co., Seimer Milling, Continental Mills, and Free Flow Pkg. gain better switching operations. Coordination with Sun Chemical to relocate switch out of mainline and install in new industrial lead. Track was out of service for 1 week.
--	--

<p>Project Approach</p>	<p><u>Feasibility Assessment</u></p> <ul style="list-style-type: none"> • Construct new main line on west side of existing main track and realign existing main track, at each end, into the new main. Will need to purchase property from adjoining property owners in order obtain enough area to build roadbed in accordance to CSX specifications. <p><u>Alternative Analysis</u></p> <ul style="list-style-type: none"> • Build new industrial lead track on east side and relocate all industrial switches out of the main and into the new lead track. Will need to construct roadbed and realign all industrial tracks for 5 industries. No new property needed, right of way is sufficient to support roadbed according to CSX specifications. Rejected this alternative because all 5 industrial tracks would require sub-standard curvature. <p><u>Design</u></p> <ul style="list-style-type: none"> • All construction according to CSX specifications. • Roadway materials to be built in accordance with KYTC specifications. • Maximum degree of curvature for industrial tracks is 12 degrees. (Should never exceed 17 degrees) • All railroad construction is to not interfere with the wetland area. • All track work and grading work to be performed by outside contractors. <p><u>Operating Criteria</u></p> <ul style="list-style-type: none"> • Time table speed to remain at 60 mph for this segment of track with temporary slow orders as the work was in process. • Curfew times would only be available on Mondays and not to exceed 8 hours. Maximum allowable track time for any other day would not exceed 4 hours. • Road crossing could be closed for a period of 1 week. <p><u>Project Management</u></p> <ul style="list-style-type: none"> • Overall project management falls with the Project Engineer from Design & Construction. The Roadmaster will schedule track protection during the work and schedule work trains to dump ballast. In addition, the Roadmaster will provide final inspection of the track construction. Train Control will be responsible with progressing along with the track construction and manage all signal-related issues.
--------------------------------	---

<p>Key Project Elements</p>	<p><u>Operating Parameters</u></p> <ul style="list-style-type: none"> • The railroad operates approximately 40-45 trains per 24-hour period. Mondays generally have one scheduled critical train, UPS, which runs during morning hours.
------------------------------------	---

	<p><u>Schedule</u></p> <ul style="list-style-type: none">• Project to start early Spring 2001 and be completed prior to Thanksgiving, due to UPS peak season. In addition, asphalt plants close in early November.
--	---

Critical Design Considerations	<p><u>Property Acquisition</u></p> <ul style="list-style-type: none">• Need to acquire two adjoining parcels of land in order to construct roadbed according to CSX specifications. <p><u>Utility Service Availability</u></p> <ul style="list-style-type: none">• Utility service for crossing protection and industrial switch is not an issue. The 5 industrial switches are dispatch controlled and already have electrical service. Industrial lead switch required one pole drop and power was fed by a nearby electrical line. <p><u>Grade-Crossing Considerations</u></p> <ul style="list-style-type: none">• Asphalt approaches for new road crossing shall fall off at a minimum of 1%, for a distance of 28 feet from the outside edge of rail. Extending further away, approaches can fall off no greater than 8% until it ties into the existing road. <p><u>Construction Phasing</u></p> <ul style="list-style-type: none">• Grading construction will start after fiber optic cable has been relocated. Train Control will install buried signal wire in roadbed prior to subballast installation. Track contractor will start track work after subballast is installed and all material delivered. Train Control will work along with track contractor schedule in order to keep signal protection for the railroad. Track and Grading contractors will coordinate road crossing installation in order to minimize road crossing closure time.
---------------------------------------	--

Project Challenges	<ul style="list-style-type: none">• Complete project prior to CSX-UPS peak season, which begins November 23rd and ends December 25th.• Start grading work prior to having all property acquisitions under contract. In addition, Fiber Optic company was waiting on final property lines to determine which side of track to relocate fiber optic cable.• Completing grading work within 45 days was not attainable. Contractor experienced 20 days of weather related delays.• Redirect waterway for pipe outlet after grading contractor built pond for local property owner. Waterway originally exited into wetland/tree line area. Local property owner, as part of his construction contract with grading contractor, instructed the contractor to build a pond near the CSX property line and direct all ditch lines to the north to empty into pond. The pond elevation was higher than outlet end of pipe, causing water to pond up in water channel and soak into roadbed. CSX had grading contractor to close south water channel to pond and redirect waterway for the pipe in opposite
---------------------------	--

	<p>direction.</p> <ul style="list-style-type: none"> • Providing a location to spot 8 ribbons of rail prior to grading work being completed. • Finding a staging area to receive and distribute track material onto roadbed. Track contractor did not have same construction easement with local property owner. • Dump ballast on the new main and surfacing the track prior to the track shifts. Project had limited access and trucking in ballast was not an option. Our original proposal was to construct the industrial lead up to the first track shift location on the south end, then shift the main on to the industrial lead and run trains through the industrial lead switch for 3 days. This meant that this section of corridor would operate without signals for 3 days. A week prior to cutover, Transportation rescinded their original plan of approval. We then decided to install a temporary turnout on the north end in order to dump ballast and surface track. Track shifts on the north and south ends would both occur during the same curfew.
--	---

Lessons Learned	<ul style="list-style-type: none"> • Need property acquisition to occur prior to construction season starting. Property acquisitions for project caused 2 months delay, preventing the Grading Contractor from starting in April. • Provide language in construction contract where Contractor will be penalized for not meeting the construction schedule. Granted, 20 days of delay was attributed to weather delays but other outside interferences caused additional delays.
------------------------	--

Recipe for Success	<ul style="list-style-type: none"> • Be firm with outside contractors. Remember that contractors are working for you. In addition, cover the general conditions during the pre-bid meetings and after the contract has been awarded. Contractors sometimes forget their responsibilities and play stupid when told of them. • Instruct Contractors to complete a daily progress report and provide this to you on a daily/weekly basis. This will allow you to keep up with days worked, activities performed on each day and can be used as a tool for future references. • Preach the importance of Safety from the pre-bid meeting up until the contractor completes the job. • Watch the finances from the beginning and complete budget forecasting every few weeks to determine if project is on budget.
---------------------------	--

AREMA Reference #	<ul style="list-style-type: none"> •
--------------------------	---