

Chapter 1

PURPOSE AND NEED FOR ACTION

By petition filed with the Surface Transportation Board (Board) on April 3, 2002, Pemiscot County Port Authority (Port Authority) or Applicant seeks an exemption under 49 United States Code (U.S.C.) 10502 from the prior approval requirements of 49 USC 10901 for authority to construct and operate a new rail line in Pemiscot County, Missouri (MO). In the petition, the Port Authority proposed the construction of approximately 5 miles of new rail line along existing and new right-of-way to serve the Pemiscot County Port. In a decision served July 2, 2002, the Board found, subject to consideration of the environmental impacts, that the Applicant met the transportation-related standards of 49 U.S.C. 10502 to construct the proposed action. However, in its decision, the Board explained that the project could not receive final approval until the environmental review process required under NEPA and related laws is completed and the Board has the opportunity to fully assess the potential environmental effects of the project. The Board made clear in its decision that it would issue a final decision on the entire proposed project following completion of the environmental review process and that no construction could begin until a final decision approving the construction is issued and has become effective.

The Board, pursuant to 49 U.S.C. 10901, is the agency responsible for granting authority for the construction, operation, and maintenance of new rail line facilities. The Board, through its Section of Environmental Analysis (SEA), is the lead agency responsible for the preparation of this Environmental Assessment (EA). This EA identifies and analyzes the potential environmental impacts associated with the proposed action. SEA prepared this EA in accordance with the National Environmental Policy Act (NEPA), the Council on Environmental Quality (CEQ) guidelines, and the Board's environmental regulations to provide the Board, Federal, state, and local agencies, Native American Tribes, and the public with clear and concise information on the potential environmental impacts of the proposed action and the reasonable and feasible alternatives, including the no-action alternative.

SEA is issuing this EA for public review and comment. SEA will consider all comments received on this document in making its final recommendations to the Board. The Board will consider the entire environmental record, all public and agency comments, and SEA's final environmental recommendations including final recommended mitigation measures in making its final decision in this proceeding. The Board will decide whether to approve, approve with conditions (which could include environmental conditions to mitigate impacts), or deny the proposed action.

1.1 BACKGROUND

The Port Authority is a political subdivision of the State of Missouri, created in 1974 by the Missouri Legislature (9370 V.A.M.S. 68.010). The Port Authority's facility is located at mile 849 on the lower Mississippi River, approximately 3 miles east-southeast of Hayti, MO, 2 miles north-northwest of Caruthersville, MO, 180 miles south of St. Louis, MO, and 85 miles north of Memphis, Tennessee. The maritime jurisdiction of the Port Authority extends to all navigable waters in the State of Missouri between miles 828 and 875 on the lower Mississippi River. Figure 1 shows the general region associated with the project area and the Pemiscot Port.

The political subdivision standing gives the Port Authority the power to raise money through the issuance of bonds, as well as to construct, own, and lease facilities, engage in industrial development, and own and operate railroads.

The U.S. Army Corps of Engineers prepared a Detailed Project Study for the Port Authority in 1978. The study resulted in the dredging of the harbor in 1980-1981. The Port Authority opened its Slackwater Harbor Facility in 1981, after an \$18,000,000 capital infrastructure project was completed. A slackwater harbor, first devised on the Mississippi River at Memphis in the mid-1940's, is created by closing off a chute portion of the river that passes by an island. Once the chute is closed-off, the channel is dredged creating a slack, or a still water environment suitable for port activities. The first tenant at the Pemiscot Port, a fertilizer company, opened for

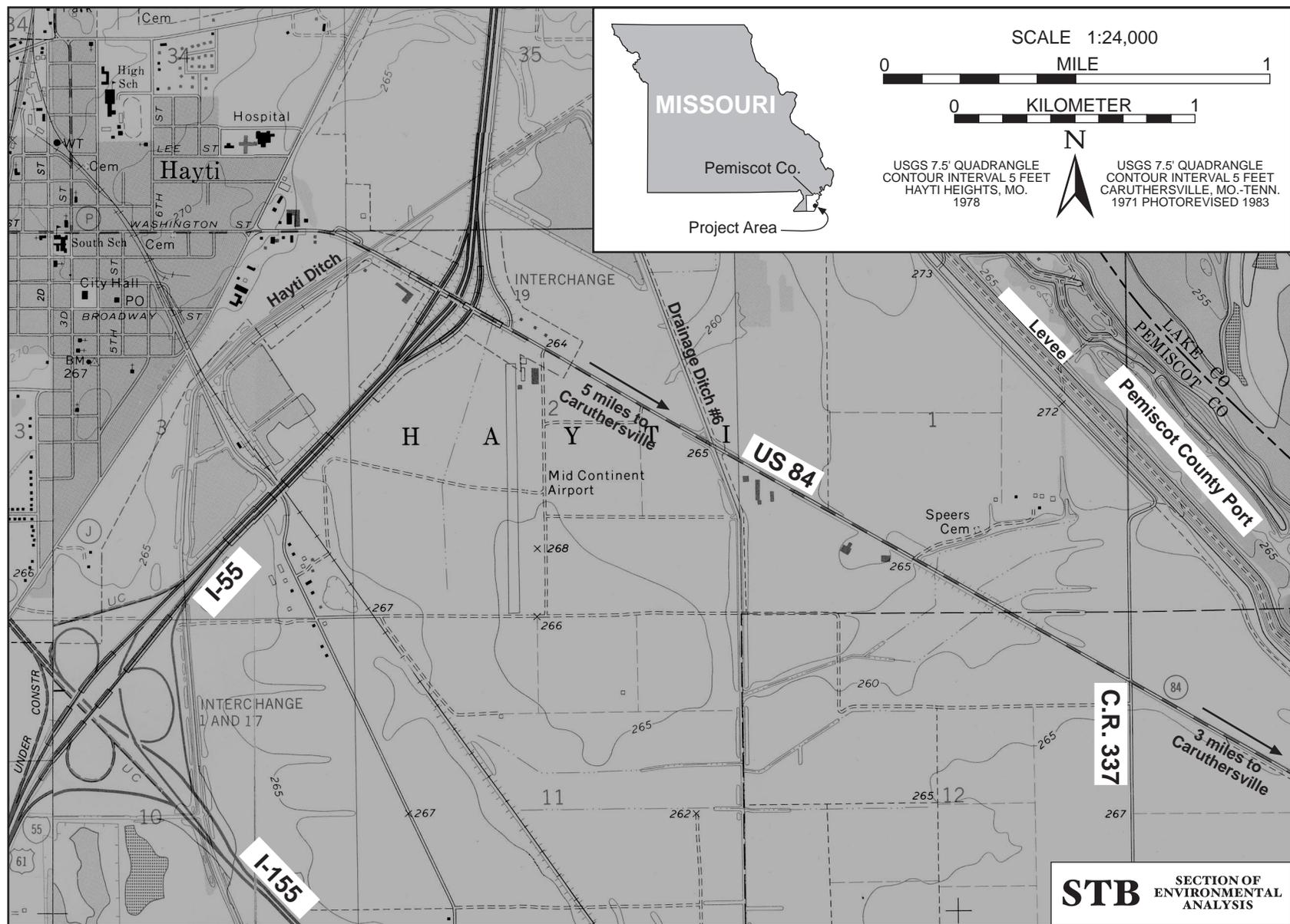


Figure 1. Project Study Area

business in 1981 and the first barge of fertilizer was moved in October, 1982. The second tenant, a grain facility, moved its first grain barge in January, 1983.

Today, Pemiscot Port serves four principal industries; MFA, Inc., Consolidated Grain and Barge Co., Trinity Marine Products, Inc., and Oakley Missouri, Inc. The port facility has a 4,200-foot long and 150-foot wide Slackwater Harbor that holds a minimum depth of 9 feet. The Army Corps of Engineers provides harbor maintenance under a 99-year agreement. General operations in the harbor are centered around a Public Terminal Facility which consists of a general cargo dock (80,000 sq. ft.) built in 1989 and approximately 2 acres of land on the west bank of the Slackwater Harbor. The Public Terminal Facility offers 600 feet of waterfront including 150 feet of dock frontage, private scales, and several private loading facilities. There is direct road access to Interstate 55 via a paved state road. A potable water supply line services the Port Authority property, supported by a 100,000-gallon tank. The facility operates year-round and is considered the most northerly, ice-free, lock-free port on the Mississippi River.

In addition to the Public Terminal Facility, the Port Authority has available for development approximately 209 acres that are zoned for general commercial/industrial development. The entire Port property is located in a State Enterprise Zone and the Port has applied for a Port of Entry and Foreign Trade Zone.

A mid-1990's study commissioned by the Port Authority recommended rail service for the Port as a way of improving the intermodal capabilities of the existing port and off-site industries. In response, the Port Authority sought and obtained project funding in 1997 from the office of the U.S. Department of Agriculture's Rural Economic and Community Development (RECD). As part of its approval process, RECD reviewed the rail line project from an environmental perspective and concluded in a 1995 Environmental Assessment that the project "will not have a significant effect on the quality of the human environment." A copy of the report is provided in Appendix A.

The Port Authority began rail reconstruction activities in 1997 along 2 miles of existing rail right-of-way that it had purchased in 1994 from Burlington Northern Railroad Company (BN).¹ The Port Authority conducted these activities without realizing that prior Board authorization was required. The Port Authority re-graded the existing right-of-way, laid new ties, ballast, and rail, and built a new trestle to carry the line over a drainage ditch. The Port Authority was advised of the need for Board approval, and immediately suspended construction, contacted the Board, and filed a petition (as referenced, above) for the necessary review and approval. Upon favorable review, the Port Authority would complete the construction phases of work and undertake such work to enable trains to operate over the entire railway. If the Board denies the exemption in its final decision, the Port Authority would not be authorized to complete construction or operate the rail line. Moreover, if denied, the Port Authority would also be required to remove the portions of the rail line already constructed.

1.2 PURPOSE OF THE PROPOSED ACTION

The purpose of the proposed action is to develop rail facilities for the Port Authority in order to service shippers based at the Port. The proposed action would connect in Hayti, MO, with an existing Burlington Northern and Santa Fe Railway Company (BNSF) rail line.²

1.3 NEED FOR THE PROPOSED ACTION

The Port Authority intends to construct the rail line in four phases. Phases 1 and 2 involve the reconstruction of an abandoned rail line and right-of-way formerly owned by the predecessor to

¹ The Line was abandoned in 1985 by Burlington Northern Railroad pursuant to authority granted in AB-6 (Sub-No. 248), Burlington Northern Railroad Company Abandonment Between Hayti and Caruthersville, in Pemiscot County, MO. The Port acquired the line on September 24, 1994 from Burlington Northern Railroad.

² Burlington Northern Railroad Company merged with the Atchison, Topeka, and Santa Fe Railway Company in 1995 pursuant to authority granted in STB Finance Docket No. 32549, Burlington Northern Inc. And Burlington Northern Railroad Company – Control and Merger – Santa Fe Pacific Corporation and the Atchison, Topeka and Santa Fe Railway Company.

the BNSF. The right-of-way runs southeast from the existing BNSF interchange at Hayti, MO, between Mileposts (MP) 212.32 and 214.61, a distance of about 12,000 feet. The third and fourth phases would entail the acquisition of new right-of-way from MP 214.61 to the Port's facility on the banks of the Mississippi River. Phase 3 extends from MP 214.61 to the crossing of County Road 337, a distance of 8,800 feet. Phase 4 takes the line an additional 5,500 feet from the road crossing to the Port's facilities. The right-of-way for the proposed action is shown Figure 2. Phases 1 and 2 were the project components that were completed in 1997 before the Port Authority realized that Board authorization was required. Upon favorable review and approval, the Port Authority would complete the construction of Phases 3 and 4.

1.4 THE PROPOSED ACTION

The proposed action is the construction of a rail line on existing and new right-of-way from the BNSF track in Hayti, MO, to the Port Authority site for the purpose of providing rail service to businesses associated at the port. The proposed action includes rail operations on the proposed line. The rail line would be used to move a variety of goods including fiberglass material, grain and fertilizer. The proposed action also represents the Port Authority's preferred alternative.

The proposed action begins at MP 212.32 in Hayti where it veers to the east from BNSF's north-south main line between St. Louis, MO, and Birmingham, AL, via Memphis, TN. From there, the Port Authority re-laid track for about 2.25 mile over the former BN right-of-way, through Hayti, and crossing ten streets at grade. The right-of-way width through Hayti varies from 40 feet to 80 feet. Once outside the Hayti city limit, the reconstructed track traverses a new concrete triple culvert across the Hayti Ditch in Drainage District No. 6. From this point, the third and fourth phases of the line would be built on a new, flat right-of-way approximately 60-foot wide and 14,300 feet long along farmland. The new right-of-way would cross one highway and one county road at grade. The rail line would go up a 1.25 percent grade, traverse the Mississippi River levee on the river's west bank and enter the Port's facility.

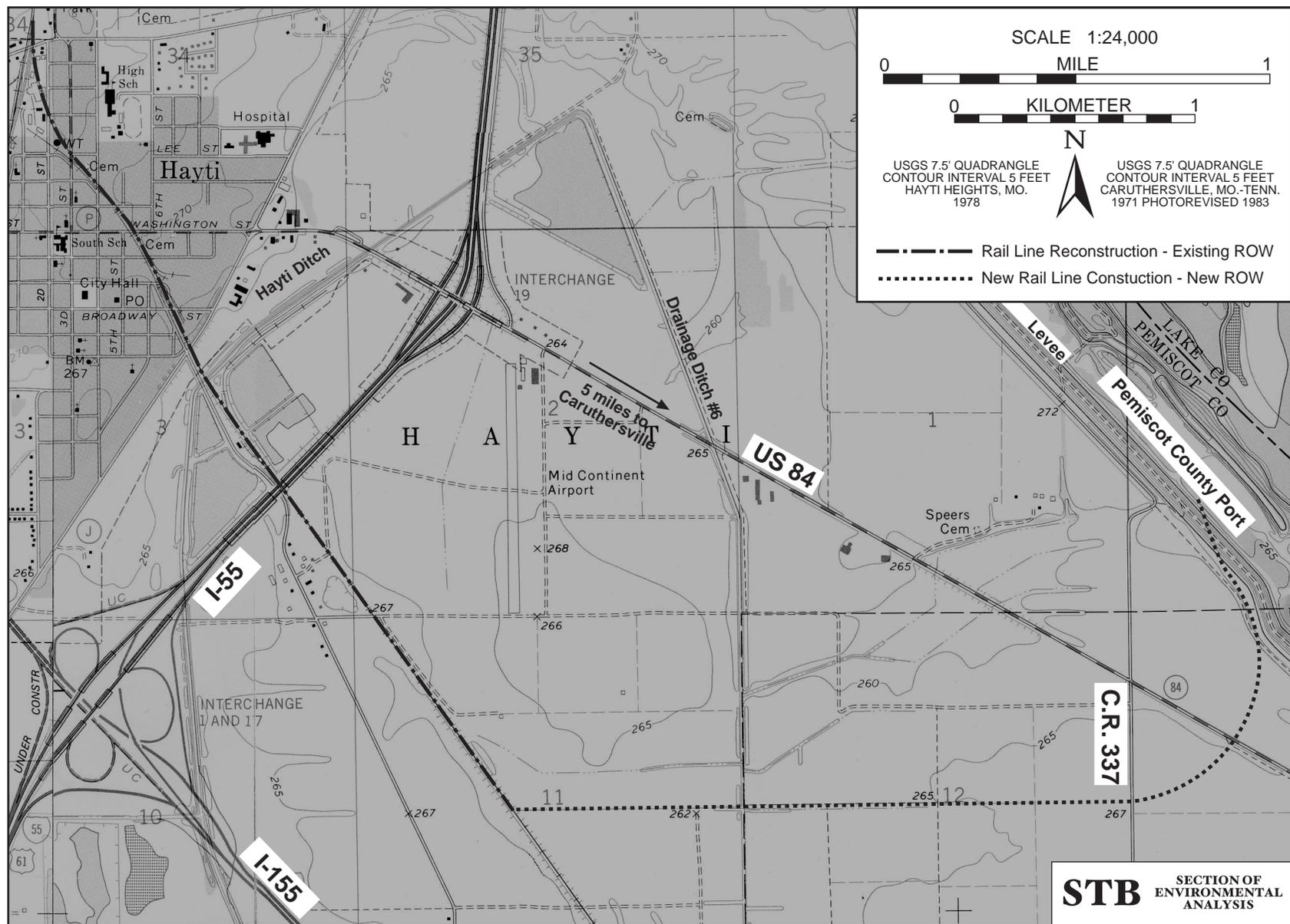


Figure 2. Proposed Action

It is estimated that one train per day would run over the new rail line. Hours of operation would vary, but would generally coincide with the operational hours of the businesses located at the Port, which are generally 8 am to 6 pm. The adjacent BNSF branchline that runs from Hayti to Kennett, MO, is classified as light rail and has an average running speed of 10 mph. It is anticipated that trains traveling through Hayti would generally maintain the same speed. Speeds outside of the town limits may be slightly higher – 15 to 25 mph. The length of the trains would vary with commodity and seasonal shipping. Trains may comprise only 3 cars. As the Port and associated businesses expand, this number may grow. At this time, however, the Port Authority has not identified any contracts or commitments for new tenants at the Port that could generate additional rail traffic in the foreseeable future. Therefore, the potential environmental impacts addressed in this EA are limited to those associated with the existing tenants at the Port.

The Port Authority would have a residual common carrier obligation on the rail line once it is constructed and anticipates contracting out operations to a short line railroad.

1.5 ROLE OF THE SURFACE TRANSPORTATION BOARD

The ICC Termination Act of 1995 (ICC 1995. L, pp 104-88; p 109 no. 803) established the Board to assume certain regulatory activities that the Interstate Commerce Commission (ICC) had previously administered, particularly those related to the regulation of railroads. The Board has jurisdiction over certain transportation matters such as rail rates, financial transactions (including railroad acquisitions and rail constructions), and abandonment of rail service.

SEA is responsible for conducting the environmental review of the proposed Port Authority project on behalf of the Board. In preparing this EA, SEA identified issues and areas of potential environmental impact, analyzed the potential environmental impacts of the proposed rail line construction project, reviewed agency and public comments, and developed mitigation measures to avoid or reduce anticipated impacts on the environment. To assist in conducting the NEPA environmental analysis and in preparing the EA, SEA approved Public Affairs Management Inc.

to act as the Board's independent third-party consultant, in accordance with the Board's environmental regulations. The third-party consultant worked on behalf of the Board and solely under SEA's direction, supervision, and control throughout the environmental review process.

SEA analyzed the Port Authority's proposed operations as described in the Petition for Exemption and supporting statements, and technical studies conducted by the Port Authority's environmental consultants. SEA prepared the EA based on its independent analysis of the proposed construction and operation, which included verifying the projected rail operations; assessing effects to biological resources; and performing archaeological and historic resource surveys. In addition, SEA and its third-party consultant coordinated with the Port Authority and visited the proposed rail line construction site on May 15, 2002, to document the existing conditions and assess the potential effects of the proposed project on the environment.

Chapter 2

ALTERNATIVE ACTIONS CONSIDERED

This chapter outlines the alternatives considered for the proposed rail line.

2.1 NO-ACTION ALTERNATIVE

Under this alternative, the Port Authority would not construct the rail line from the BNSF line in Hayti, MO, to the port facilities. None of the potential environmental effects associated with rail construction and operation would occur. These include potential impacts to the levee, pedestrian and vehicular access in Hayti, agricultural land, and noise levels. Moreover, the two miles of track reconstructed by the Port Authority without Board approval would have to be removed. The benefits that the Port Authority would obtain by creating rail access to its facility would also not be realized.

2.2 PROPOSED ACTION ALTERNATIVE

The proposed action is shown in Figure 3 and would be constructed in a long straight section south of Hayti to allow for future siding expansion of up to 7,500 feet in length. The long section is also conducive to future development of the surrounding property. This route allows the minimum amount of right-of-way to be purchased without adverse affects to adjoining property owners. The right-of-way is situated along property lines and agricultural field boundaries to minimize disruption with existing farming activities.

The proposed action would not interfere with operations at Mid Continent Airport. The proposed action would cross MO 84 in an area away from commercial development associated with highway 1-55. The rail yard would be located between the port and the shipyard, so both can have independent access to the yard. The alignment of the proposed action does not cross the Port Authority access road and therefore would not impact truck access to the existing facilities.

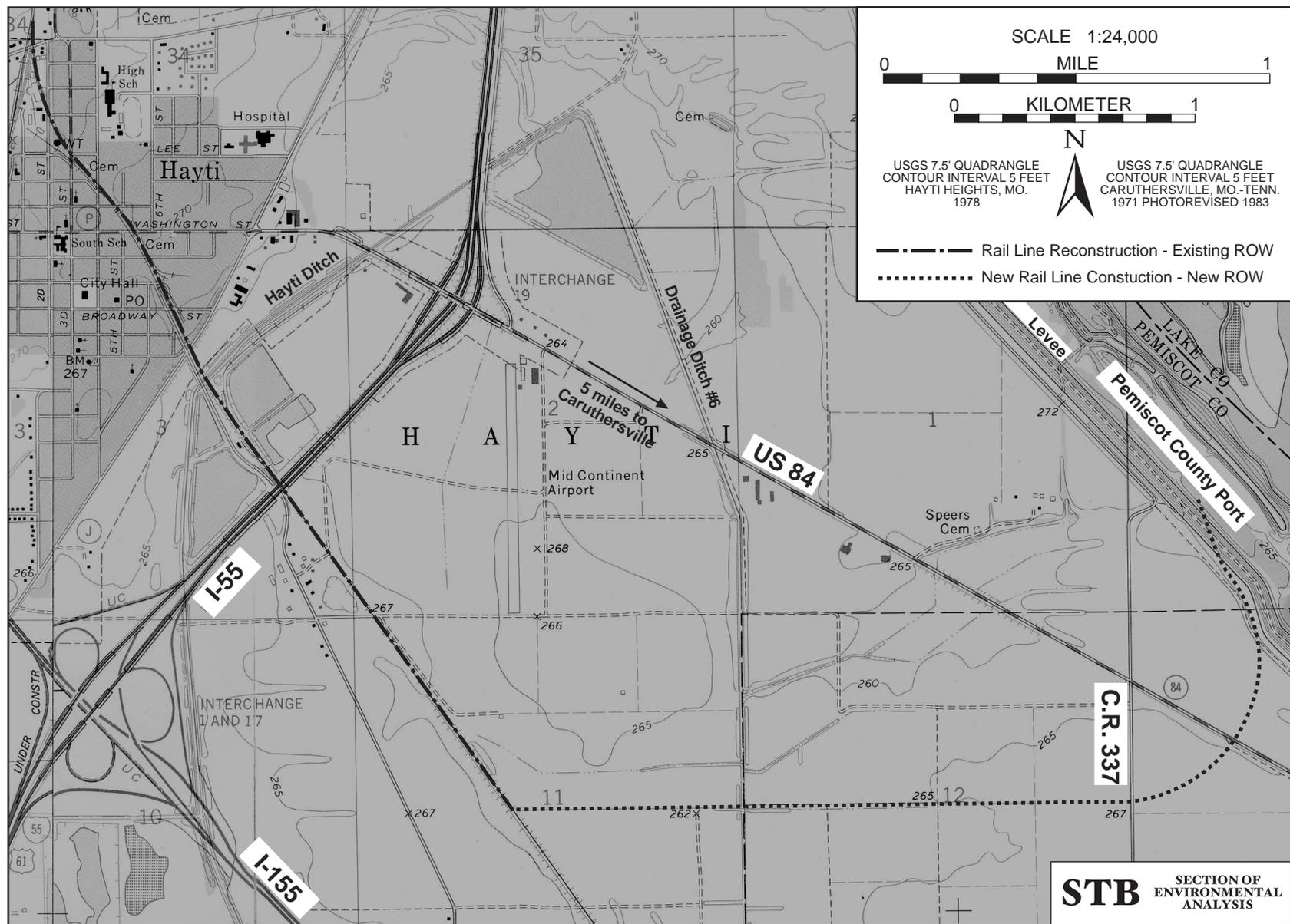


Figure 3. Proposed Action

Chapter 3

AFFECTED ENVIRONMENT

Chapter 3 provides an overview of the environment that may be affected by the construction and operation of the Port Authority rail line (rail line), the proposed action. The overview discusses information provided by Federal, state and local agency contacts and data and information collected in the field.

Existing environmental conditions are described so that the potential environmental impact of the proposed action may be assessed. It is the environmental conditions in the vicinity of the proposed rail line that are the primary focus of this chapter. Figure 4 shows the general project study area.

3.1 TRANSPORTATION AND SAFETY

This section describes the existing transportation resources and their role in the project area. SEA collected information about the local transportation system from field observations, existing studies, and project plan information from the Missouri Department of Transportation (MoDOT). Vehicle counts taken in the Spring of 2002 for Missouri 84/412 and Route J were provided by MoDOT for review.

3.1.1 Existing Road Network

The local road network in the project area is shown in Table 3-1. The Pemiscot County Port is located near the intersection of three major highways:

U.S. Interstate 55 – US I_55 is the principal north-south route in southeast Missouri, connecting the region to St. Louis and Memphis. The Port is located approximately 2 miles from this highway. Current improvements to I-55 includes concrete resurfacing of the southbound lane

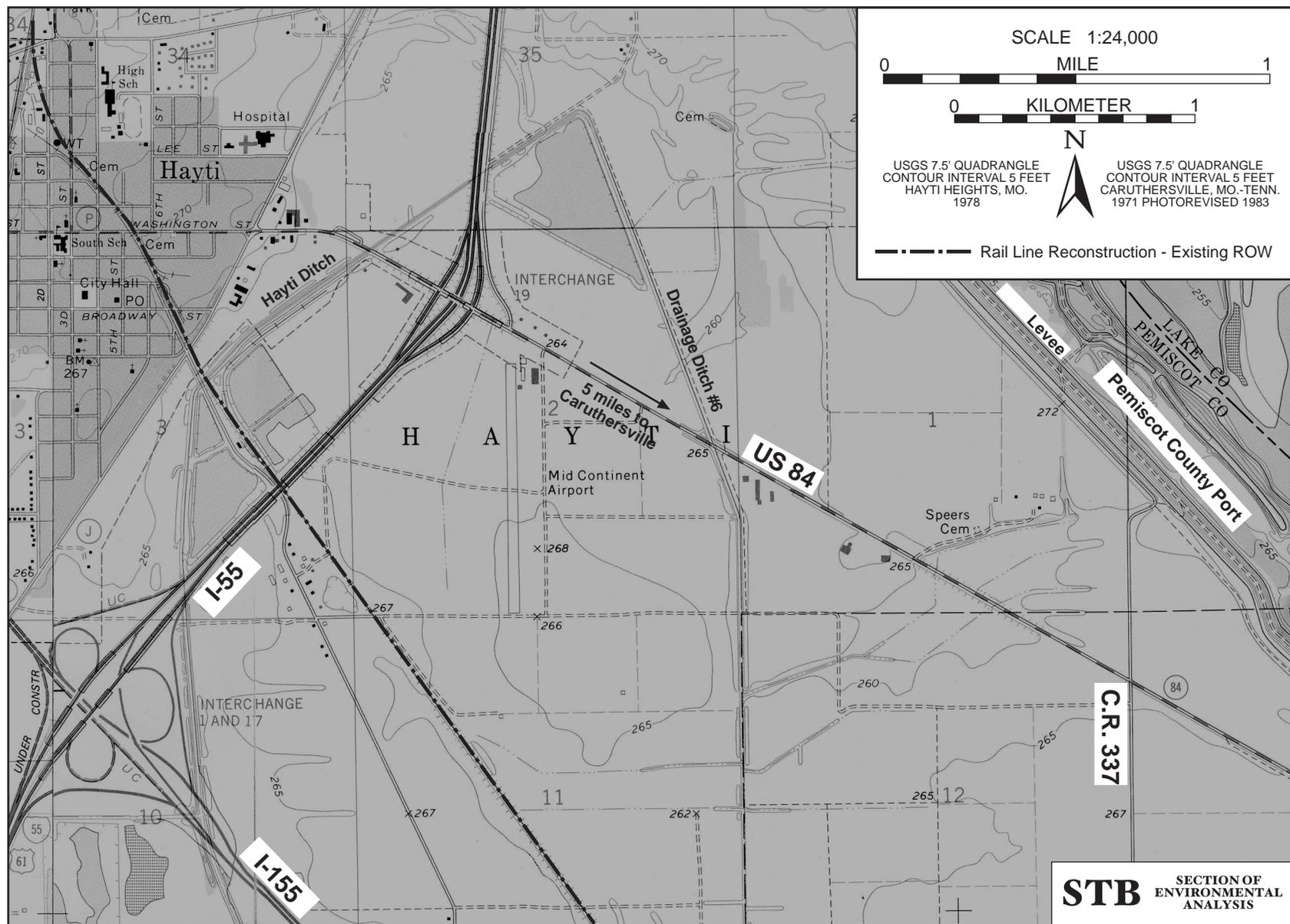


Figure 4. Project Study Area

STB SECTION OF ENVIRONMENTAL ANALYSIS

Table 3-1 Local Roads Crossed by the Proposed Rail Line

Street	US DOT Number	Notes
West Cleveland Street	665 554D	BNSF & MFA sidings also cross West Cleveland. Maintenance is the responsibility of BNSF.
2nd Street and East Grant Street	665 660Y	Passes through the intersection of these two streets.
3rd Street and Lee Street	665 662M	Passes through the intersection of these two streets. Lee Street is also known as State Highway P
North 4th Street	665 661F	
East Madison Street	665 664B	
Missouri Route 84	665 665H	State highway also called Washington Street
Lincoln Street	665 667W	
East Main Street	665 668D	This road is closed to through traffic.
Broadway	665 669K	
State Highway J	665 670E	This road is also known as Old US Hwy 61
County Highway 337	None	Also known as State Highway D, this road has an existing gravel surface and is proposed for upgrade.
Missouri Route 84	None	Second crossing of this road, west of Caruthersville

from one mile south of Interstate 155 to 2 miles north of the Arkansas state line. This work was scheduled for completion in the winter of 2002.

Interstate 155 – I-155 branches off I-55 near Caruthersville and heads eastward into Tennessee. I-155 is collocated with US 412 the entire route. This interstate is the only roadway connection between Missouri and Tennessee. The Port is approximately 3 miles from I-155.

Missouri 84/U.S. Highway 412 – Missouri 84 is a state highway. Under the state's numbering scheme, state highways numbered 1 – 100 serve principal cities and towns in Missouri. Missouri 84 runs between Caruthersville and Hayti. West of Hayti the highway becomes U.S. 412. U.S. 412 is presently being upgraded to a four-lane divided highway from Kennett to Hayti. Completion is scheduled in the fall of 2005. Additionally, a bypass around Hayti is also planned as a future improvement.

3.1.2 Existing Vehicular Traffic

Missouri Route 84 had traffic volumes in the Spring of 2002 of 18,894 vehicles per day (vpd) in Hayti, 19,000 vpd at Route J, to 18,974 vpd east of Interstate 55, and 10,046 west of Caruthersville. This route is a 2 to 4-lane major arterial that links Hayti to Caruthersville and would be crossed twice by the proposed rail line, at grade.

Volumes on Route J (Old Highway 61), a 2-lane arterial south of Missouri 84, were 1,540 vpd. The crossing of the proposed rail line and Route J would also be at-grade.

3.1.3 Air Service

Air service in the project area is provided by Mid Continent Air and is located south of Highway 84, east of Hayti. The runway is 3,200 feet in length with a sod surface. It is not lighted and has no storage facilities or fuel service. Maintenance services are available. The nearest commercial field is Memphis International Airport. Mid Continent Airport is north and east of the project area.

3.2 LAND USE

Land use information is an important indicator of where people live and work. This information helps characterize the physical area and the relationship to the land. It is beneficial to an understanding of how the changes to land use associated with the proposed construction and operation of the Port Authority rail line, described in the following chapter, might affect the region.

Pemiscot County is in the extreme southeastern corner of Missouri. The area of the county is 488 square miles, or 312,320 acres. The proposed Port Authority rail line would be located within the jurisdictions of the incorporated town of Hayti and Pemiscot County, Missouri. The proposed project would be in proximity to, but outside of, the corporate limits of the Town of Caruthersville, Missouri. The following agencies and jurisdictions were contacted for information pertaining to land use resources in the study area:

- Pemiscot County
- City of Caruthersville,
- Town of Hayti, and
- Bootheel Regional Planning and Economic Development Commission.

3.2.1 Land Use Planning

Land use planning is performed at the local, county, and regional levels. The jurisdictions of Hayti and Caruthersville are responsible for planning within their corporate limits. As noted above, the proposed rail line would not be within the corporate limits of Caruthersville. The Bootheel Regional Planning and Economic Development Commission is the regional planning organization (RPO) in the area. The jurisdiction of the RPO covers Pemiscot, Dunklin, New Madrid, Stoddard, Mississippi, and Scott counties. Because RPOs coordinate local issues related to regional planning and development, they maintain an active working relationship with state agencies (such as the Missouri Department of Transportation). Federal law requires that states consult local officials in the transportation planning process. The Bootheel RPO helps to

develop regional consensus and address transportation, development, and growth issues. Missouri agencies rely on RPOs to provide uniform planning services that reflect local needs and priorities.

In 1975, the Bootheel Regional Planning Commission prepared a comprehensive plan for development in Pemiscot County. This represents the most recent planning document for the county. A copy of this plan could not be located for this study. Contacts with the Bootheel RPO were unable to locate a copy of the plan. However, conversations with the RPO staff indicated that regional planning in the Pemiscot County area had not been done for over 20 years.

3.2.2 Land Use in Hayti

The community of Hayti is legally categorized in Missouri as a Fourth Class City. A Fourth Class City is generally a city or town with population of at least 500 but less than 3,000. Fourth Class cities are governed by a mayor and board of alderman. The mayor presides over the board. Land use in Hayti is mixed residential and commercial, with some light industry and warehousing. Retail uses are situated along major arteries (e.g.; I-55, US 412, and MO84).

The existing rail right-of-way (ROW) in Hayti is adjacent to light industry and residential properties. The residential dwelling units are predominately small-lot single-family detached homes dating to the late 1940s through the 1960s.

3.2.3 Land Use in Pemiscot County

The Bootheel Region is chiefly characterized by agricultural production. Pemiscot County's agriculture is made up mostly of row crop farming. There are also farming operations in the county that raise hogs, cattle and horses. The primary row crops raised are:

- Cotton,
- Rice,
- Corn,
- Soybeans,

- Grain sorghum,
- Bermuda sod,
- Wheat,
- Watermelons,
- Cantaloupes, and
- Various vegetable crops.

The existing land use in the area of the new ROW is predominately agricultural.

In 1981, the U.S. Congress passed the Farmland Protection Policy Act (FFPA) which directs the U.S. Department of Agriculture through the Natural Resources Conservation Service (NRCS) to provide technical assistance to Federal agencies, and state and local governments or organizations that desire to develop programs or policies to limit the conversion of productive farmlands to non-agricultural use. The goal of the FFPA is to minimize the extent to which Federal programs contribute to the unnecessary and irreversible conversion of important farmland to nonagricultural uses. SEA contacted the NRCS for assistance in identifying the presence of prime agricultural land in the project area. The NRCS responded that “important farmland” exists within the proposed ROW.

3.2.4 Visual Environment

The visual environment of the project area is of moderate quality. The area is characterized by neighborhood residential, agricultural fields, and occasional drainage ditches with accompanying underbrush and hardwood vegetation. No scenic roads or vistas are in the vicinity of the project area. Views of the Mississippi River are generally obstructed by levees.

3.2.5 Coastal Zone Management Areas

The State of Missouri has no Coastal Zone Management Areas.

3.3 SOCIOECONOMICS

The economic setting and demographics of the project area provide indicators of the local and regional economic strength, population trends, and population characteristics. This information helps define the economic setting of the proposed action and is beneficial to an understanding of how the construction and operation of the proposed rail line would affect the local economy.

3.3.1 Population

The Bootheel Region of Missouri is generally considered to be a ten-county area in the southeast corner of Missouri that is predominately rural. The ten counties in the Bootheel Region – Butler, Carter, Dunkin, Mississippi, New Madrid, Ripley, Scott, Stoddard, Wayne, and Pemiscot – have all experienced low growth rates for the past 20 years. Since 1990, the population growth in the Bootheel Region has been only 1.4 percent compared to 9.1 percent for the state. The population of Pemiscot County, as recorded in the 2000 Census is 20,047. This represents a population decrease of 8.5 percent from the 1990 Census population of 21,886. This is the highest percentage decrease of all the counties in the Bootheel Region.

The Pemiscot County's seat and largest town is Caruthersville with a 2000 population of 6,760. The town encompasses approximately 5.2 square miles of land area.

Caruthersville's population peaked in the 1950's and 1960's at about 8,600 persons. Beginning in 1980, the population in Caruthersville has steadily declined to the current population of 6,760.

Hayti had a 2000 population of 3,207, a decrease of 2.2 percent from the 1990 population. The population of Hayti has generally remained between 3,000 and 4,000 persons for the past 50 years. The 1950 population of 3,302 is almost identical to the present population.

3.3.2 Economic Conditions

Missouri's overall economy is healthy. Median household income increased significantly between 1979 and 1989; however, there was substantial disparity among counties, ranging from

\$40,307 in St. Charles County, Missouri, to \$14,000 in several counties in the largely agricultural area of the Bootheel. The Bootheel Region economy generally lags behind the economy of the State of Missouri. Notably, the eastern part of the Bootheel and Pemiscot County have struggled to maintain strong economies. The poverty rate in the Bootheel is 20.4 percent, which is the highest rate among the state's regions. Missouri as a whole has a poverty rate of 11.8 percent.

Timber originally covered almost all of Pemiscot County, but 40 percent of the area had been cleared by 1910, and 86 percent by 1963. In 1963, approximately 270,000 acres was in crops, mainly soybeans, cotton, corn, wheat, and alfalfa. The crops are grown almost entirely for the cash market.

Corn, the first staple crop grown in the county, reached a maximum of 46,000 acres in 1950. Soybean production started in 1940, but this crop has now grown to approximately 175,000 acres, and the acreage is still increasing. Cotton production began in 1870, reached a peak of 155,000 acres in 1949, and has since decreased to approximately 85,000 acres.

The number of livestock on farms has been decreasing for several years. The number of beef and dairy cattle has decreased from 14,000 in 1939 to about 5,000 today; hogs have decreased from 31,000 in 1939 to less than 5,000; and only a few horses and mules are left. The cattle graze principally on pasture produced on the levees. The size of farms has been increasing, and the number, decreasing. In 1964, the average farm was 262 acres in size.

Farming and commerce and industry related to farming continue to be the main enterprises in the county. Cotton gins, compresses, grain elevators, an alfalfa mill, a packing plant, and numerous related businesses operate in the county. Industrial enterprises not closely related to farming include a shoe factory, a stainless steel products plant, garment factories, a box company, a sand and gravel company, a veneer company, and a recently established shipbuilding industry.

The unemployment rate during 2001 was 4.7 percent for the state, 7.2 percent for the Bootheel Region, and 9.4 percent for Pemiscot County. The growth in personal income and per capita income in the Bootheel Region over the past decade has remained below that for the state. Per capita income in the region was \$20,120 during 2000, compared with \$27,271 for the state. Per capita income in Pemiscot County was \$19,355 in 2000.

Significant training, retraining and placement programs are available locally through the Vocational School and the Private Industry Council, in addition to existing state and Federal programs. There are also extensive and flexible financing programs available for capital improvements, working capital, job training, infrastructure, site improvements or utilities.

3.4 GEOLOGY AND CLIMATE

The geology and soils of the region are described for the project area. General climate conditions are also described using historic climatic data. Pemiscot County, part of the Mississippi River delta, has three main physiographic regions. These regions are the Mississippi River floodplain in the eastern part of the county, the Little River basin on the western side, and the old natural levees interspersed throughout the county. The levees are close to Portage Open Bay, Little River basin, Pascola, and Hayti.

3.4.1 Soils

Pemiscot County ranks near the top of all Missouri counties in the production of cotton, wheat, soybean, rice, sorghum, and corn. This is due in great part to the favorable soil conditions in the county. The soils in the Bootheel region were formed in Mississippi River alluvium and are relatively young. Parent material consists of varying amounts of glacial drift, loess, and weathered rock. The soils are classified as part of the Dundee Association. The characteristics of the Dundee Association of soils are:

C Level to very gently undulating topography,

- C Somewhat poorly drained,
- C Native trees of mainly oak and hickory,
- C Soils developed in moderately fine-textured alluvium,
- C Surface layers of silty clay loam, silt loam, or sandy loam, and
- C Subsoils typically consisting of silty clay loam.

3.4.2 Geology

Earthquakes are relatively common in Missouri. Although most of Missouri's earthquakes have been minor, the most intense series of earthquakes ever recorded in the lower 48 United States took place in the Missouri Bootheel, across the New Madrid Seismic Zone, over several months in the winter of 1811-1812. Missouri has an average of 200 earthquakes per year even though only two or three are felt.

3.5 BIOLOGICAL RESOURCES

Biological resources include the fauna and flora of the area and the habitats in which they occur.

3.5.1 Sensitive Species

SEA consulted with the Missouri Department of Conservation and U.S. Fish & Wildlife Service to identify the potential presence of species of concern and to ensure compliance with the Endangered Species Act. In response, the U.S. Fish & Wildlife Service stated that there were no Federally-listed species or designated critical habitats within the project area. The Missouri Department of Conservation in their response also stated that sensitive species or communities are not known to exist on or near the project site.

3.5.2 Wildlife

The clearing of forests and improvement of drainage for intensive farming have reduced the wildlife population in Pemiscot County. The squirrel population was decimated by clearing of forests. Populations of quail and cottontail rabbits increased rapidly after the clearing of forest

but declined as farming became more intensive. Drainage of bayous and lakes has reduced the number of migratory waterfowl and furbearing animals. The ditches built for drainage, however, have helped maintain a population of muskrat and mink.

Increased acreage in grain crops has brought about an increase in number of mourning doves, as grain lost during harvest provides a year-round source of food. Fishing has declined since the original lakes and bayous were drained, but it is still a popular pastime. The large drainage ditches and the Mississippi River provide countless fishing holes. Some of the best fishing is in the borrow pits and bayous on the riverside of the levee, after the floods have subsided.

The proposed rail line would follow an existing ROW through Hayti, then traverse open agricultural fields before crossing the levee into the Port. The majority of the rail line to be constructed on new ROW would be situated on land previously disturbed by farming, tree harvesting, and general development. No field investigations were conducted to specifically identify wildlife in the project area; however coordination with the Missouri Department of Conservation and U.S. Fish & Wildlife Services did not reveal the need to conduct any field research for sensitive species or unique habitats.

The project area does not contain forests, uncultivated fields, wetlands or other unique habitats that are typically used by a wide variety of terrestrial and aquatic wildlife species. Surface water habitats in the project area occur as drainage ditches. The project area contains two drainage ditches, both within Drainage District Number 6. The larger of the two ditches, called the Main Ditch 6 is locally known as the Hayti Ditch. It is located east of Route J. The other ditch, simply known as Drainage Ditch 6, is a smaller drainage ditch that bisects the proposed rail line approximately one-half mile from the Hayti Ditch. These are the only surface water habitats that were observed in the field. The Hayti Ditch is bordered on either side by low scrub brush and hardwood trees. The Hayti Ditch and the adjacent areas are most likely habitat for small mammals, deer, and birds, as well as aquatic species. The proposed rail line would cross over this water body via a triple-box culvert that was constructed in 1997.

3.5.3 Vegetation

The majority of native vegetation along the proposed ROW has been removed in order to facilitate agricultural uses. Some native vegetative areas remain adjacent to the Hayti Ditch. The loss of native vegetation in Pemiscot County has resulted in a loss of topsoil to sheet-rill and wind erosion. Experimental plantings of grass filter strips has been undertaken along field edges and riparian corridors to reduce sedimentation, provide wildlife habitat, create windbreaks, and to stop excessive erosion. None of these measures are being undertaken in the project area.

3.6 WATER RESOURCES

Water availability, quality and uses are discussed in this section for the project area. Water resource information and data are provided for water quality, wetlands, floodplains, and recreational waters. SEA contacted the following agencies for information pertaining to water resources:

- The U.S. Army Corps of Engineers Memphis District (Corps). The Corps has jurisdiction and permitting authority over impacts to wetlands and navigable waters in the United States.
- The State of Missouri's Department of Natural Resources (DNR). The DNR shares responsibility with the Corps for regulatory oversight of impacts to wetlands and streams.
- The St. Francis Levee District. The Levee District has authority over the daily maintenance of the levee and any related construction activities. The St. Francis Levee District, organized in 1893, constructed the St. Francis Levee along the Mississippi River from New Madrid to the Missouri State line. The Levee District maintains 57 miles of the levee from the Arkansas border to the city of New Madrid.

3.6.1 Floodplains

The project area is within the 100-year floodplain of the Mississippi River. The existing levee is maintained on a daily basis by the St. Francis Levee District. The Corps has the long-term maintenance responsibility for the levee. In 1999, the Corps reported a problem with water seepage and inadequate interior drainage along the levee in areas east Caruthersville, MO. To correct this, the Corps is in the process of drilling 30 relief wells around the Caruthersville area and has plans for ditch-widening and enlargement projects in order to drain water from the relief wells.

Both the City of Caruthersville and Pemiscot County are participants in the National Flood Insurance Program. Any developments within the special flood hazard area must meet the requirements of the floodplain ordinances of both jurisdictions. The proposed project is not within the boundaries of a special flood hazard area.

3.6.2 Wetlands

The DNR and the Corps both have jurisdiction over wetlands. A review of the proposed action by these agencies indicate that there are no known wetlands or wetland systems associated with the project area.

3.6.3 Surface Water and Groundwater

Pemiscot County has a bountiful supply of groundwater, which is used almost to the exclusion of surface water. The three principal water-bearing strata are the surface deposit of alluvium, the Wilcox Group, and the McNairy (Ripley) Formation.

The alluvium is a surface formation 150 to more than 200 feet thick. Water from this alluvium is moderately hard but is satisfactory for irrigation. Unless treated, it contains too much iron for satisfactory domestic use. Yields from wells range from 600 to more than 4,000 gallons per minute. The Wilcox Group underlies the alluvium and belongs to the Tertiary System. The quality of water is similar to that from the alluvium, but yields are generally less. The McNairy

(Ripley) Formation, a water-bearing strata of the Cretaceous System, is beneath the Wilcox Group. The water is generally low in iron, soft, and very desirable for use in municipal systems. Internal pressure causes water to flow, and under favorable conditions wells yield 200 to 500 gallons per minute.

The project lies within the Pemiscot Bayou watershed. This watershed is approximately 46,490 acres in size. The project area has two waterways that the proposed rail would cross: 1) the Hayti Ditch east of Route J; and 2) Drainage Ditch 6 in the area of new construction. The proposed rail line crosses the Hayti Ditch over a new triple box culvert that was constructed in 1997. This construction was permitted by the Corps on June 3, 1998, under a Nationwide Permit No. 3 (Permit number 98-003-0730). The crossing of Drainage Ditch 6, would require permitting under the Nationwide Permit No. 14.

3.7 AIR QUALITY

SEA considered air quality resources as part of the environmental analysis, and reviewed existing air quality data and coordinated with local and State regulatory agencies to identify air quality concerns in the region. This section summarizes regulatory controls and baseline air quality conditions for the project area.

3.7.1 Regulatory Control

The U.S. Environmental Protection Agency (EPA) has established National Ambient Air Quality Standards (NAAQS) under the Clean Air Act for six pollutants of concern. NAAQS are established for: carbon monoxide, nitrogen dioxide, ozone, lead, particulate matter, and sulfur dioxide. Regions within a state are designated as either “attainment” or “nonattainment” areas for each NAAQS pollutant. If emissions of a particular air pollutant exceed the established NAAQS, the region is designated as a nonattainment area for that air pollutant. Areas of nonattainment are typically part of a larger Air Quality Control Region that monitors air quality

and sources of pollution. Likewise, if emissions do not exceed the established NAAQS, the region is designated as an attainment area for the specific air pollutant.

Pemiscot County is part of the Southeast Missouri Intrastate Air Quality Control Region. This Region controls air quality for the territorial area encompassed by the boundaries of 24 counties in southeast Missouri.

3.7.2 Existing Conditions

Current sources of emissions in Pemiscot County include vehicles, light industries, locomotives, electric generating plants, a tire manufacturing plant and natural gas transmission operations. Current sources of emissions in or near the project area include vehicles, light industries, and locomotives.

Air quality in southeast Missouri is monitored by an air quality monitoring station located in Stoddard County, north of Pemiscot County. A review of the air quality data from this station and seven other stations in southern Missouri revealed no exceedances in the National Ambient Air Quality Standards in the past three years.

EPA indicates that Pemiscot County is in attainment for each NAAQS pollutant. The county, therefore, is not subject to the additional regulatory air quality controls required for areas of poor air quality.

3.8 NOISE

The existing noise environment for the project area reflects a variety of land uses consisting primarily of residential, commercial, and light industrial uses in the incorporated limits of Hayti, and cultivated agricultural fields from Hayti to the St. Francis District levee, near Caruthersville. SEA observed that steady automobile traffic on MO 84 creates relatively constant low-level ambient noise, frequently punctuated by higher levels of noise created by diesel engines and gear

shifting of trucks. Additionally, Hayti is served by a network of local neighborhood streets that contain a mixture of trucks and passenger vehicles. Ambient noise levels in the neighborhoods near the proposed rail line reflect a fairly quiet residential environment, especially north and west of Missouri Route 84. South and east of MO 84 the land use changes to a steady mixture of residential, commercial, and light industrial. Noise levels in this area are higher and punctuated by higher traffic volumes, heavy truck braking and shifting, and machinery associated with light industry.

The noise environment beyond the corporate limits of Hayti is characterized by a reduction in noise-generating sources. The land use is predominately agricultural. Some noise associated with farm activities is audible, but the noise environment is fairly pristine. In the vicinity of the proposed crossing of Missouri Route 84 near the Port entrance, the noise levels increase in proximity to the highway. Noise in this area is generated by vehicular traffic, most noticeably heavy trucks.

3.9 HAZARDOUS WASTE AND TRANSPORTATION OF HAZARDOUS MATERIAL

SEA consulted with EPA to identify any known hazardous waste sites in the vicinity of the Proposed Action. EPA indicated that no known sites containing hazardous materials were in the Pemiscot project area.

3.10 CULTURAL RESOURCES

SEA conducted a thorough investigation of the archaeological and historical resources within the project area. SEA contacted the State of Missouri's Department of Natural Resources State Historic Preservation Officer (SHPO) for information about resources in the project area. American Resources Group, Ltd., Carbondale, Illinois, conducted background research on the area's potential historic and pre-historic resources, tested the project area for the presence of archaeological artifacts, and gathered information informally from discussions with local

residents. The study was conducted for the purpose of documenting resources in compliance with the SHPO's request for information. The archaeological report prepared for the SHPO is titled "Phase I Archaeological Survey of the Proposed Pemiscot County Port Authority Rail Line Project."

3.10.1 Approach and Field Methodology

The Phase I archaeological survey examined a proposed rail line ROW 60 feet wide and approximately 11,750 feet long. The survey of the proposed alignment was conducted in two steps. The first step involved a surface survey of the entire alignment, supplemented by shovel testing in areas exhibiting poor ground surface visibility. The second step involved the excavation of deep test probes across the natural terrace located between an unimproved, north-south oriented field road and Highway 84.

The surface survey was conducted along six transects spaced 5 meters (m) apart. Virtually the entire survey corridor was contained in cultivated fields at the time of survey, with soybeans and cotton being the principal crops. Ground surface visibility along the ROW varied from 0 to 75 percent; surface survey in areas exhibiting less than 25 percent ground surface visibility was supplemented through the excavation of screened (¼ inch mesh) shovel tests at 15-m intervals along a single transect positioned on the centerline of the proposed rail route. The portion of the proposed alignment traversing the terrace corresponds to the slightly elevated surface defined by the 265-foot contour; this portion of the project corridor was investigated for buried cultural deposits through the excavation of deep test probes at 30-m intervals along the centerline. Black and white photographs of Drainage Ditch 6 and the Main Line Levee (adjoining the Mississippi River) were taken at the points where the proposed alignment intersects these properties.

3.10.2 Cultural Resource Findings

Correspondence with the SHPO indicated the presence of two project area cultural resources determined to be eligible for inclusion in the National Register of Historic Places; Ditch No. 6 and the Main Line Levee. The SHPO requested that black and white photographs of these two

resources be made and printed on archivally stable paper and submitted to the SHPO, along with a brief history of Ditch No. 6 and the Drainage District No. 6. This work was performed in the fall of 2002.

One historic site (23PM661) was recorded during the field investigation. Site 23PM661 is a small historic artifact scatter located in the Mississippi River floodplain, approximately half-way between Hayti and Caruthersville, Missouri, and about one and one-half mile southwest of the current river channel. The site is located in the southeastern corner of a large cultivated field, immediately west of an unimproved, north-south oriented field road and north of an east-west oriented drainage ditch. A small portion of site 23PM661 is contained in the ROW of the project corridor, but it extends some 20 to 30 m outside the project area to the north.

At the time of survey, the harvested soybean field containing site 23PM661 was partially covered by crop litter. Ground surface visibility was estimated to range from 25 to 40 percent, and the surface was well washed. The site was located and defined entirely through surface survey conducted along transects spaced 5-m apart. No standing buildings were found at site 23PM661, and no evidence of a cistern, well, or intact foundation was observed at the site. The soil profile observed in a single shovel test excavated at the site consisted of a 22-centimeter-thick plow zone of dark brown silty clay over a yellowish-brown loamy sand subsoil. No artifacts were recovered in the shovel test.

A total of five artifacts was recovered at site 23PM661 during the present investigation, all from the site surface. The site collection includes one unidentified stoneware vessel fragment, two clear glass jar rim fragments with continuous screw closure (circa 1903+), one clear glass bottle base fragment, and one aqua glass soda bottle body fragment.

Site 23PM661 appears to represent a historic discard/disposal area. It is probably the result of a one time disposal of domestic trash. It is not entirely clear whether the artifacts were originally deposited in their present location or, instead, were redeposited by run-off coursing through the

adjacent drainage ditch. No evidence of structural remains or subsurface features was recovered at the site. No structures are shown at the location of site 23PM661 on the 1957 U.S. Geological Survey (USGS) 15' Caruthersville, Mo.-Tenn.-Ark. topographic map or on the current 1971 USGS 7.5' Mo.-Tenn. quadrangle, suggesting, together with the available artifactual data, that the site dates to the early twentieth century.

3.10.3 Historic Resource Findings

The SHPO indicated in correspondence dated October 22, 2002, that the 1921 Hayti Water Plant building, located west of the proposed rail line ROW on Lee Street, was eligible for inclusion in the National Register of Historic Places. The SHPO requested that black and white photographs of the building be made and printed on archivally stable paper and submitted to the SHPO. This work was performed in the fall of 2002.

3.11 ENVIRONMENTAL JUSTICE COMMUNITIES

SEA prepares environmental documents following the guidance presented in Executive Order 12898 _ “Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations.” This Executive Order directs Federal agencies to analyze the environmental effects of their actions on minority and low-income communities. This section identifies potential environmental justice populations in the project area for the proposed action.

3.11.1 Approach and Methodology

EPA defines Environmental Justice as the “fair treatment for people of all races, cultures, and incomes, regarding the development of environmental laws, regulations, and policies.” Federal Agencies are responsible for identifying and addressing the significant and adverse effects that have a high and disproportionate impact on minority and low-income communities. Agencies must ensure their actions:

- Do not discriminate based on race, color, or origin.

- Identify and avoid discrimination and avoid disproportionately high and adverse effects on minority populations and low-income populations.
- Provide opportunities for input from the community.

The United States Department of Transportation (DOT) established procedures for complying with Executive Order 12898 in the February 3, 1997, DOT Order “Department of Transportation Actions to Address Environmental Justice in Minority Populations and Low-Income Populations.” Although the Board is an independent regulatory agency housed in the DOT, it is not bound by the DOT Orders. However, the Board considers environmental justice to be in the public interest and utilizes Executive Order 12898, the DOT Order, CEQ regulations, and guidance issued by EPA in examining environmental justice issues related to its actions.

The CEQ guidance explains that a minority or low-income population may be present if the minority or low-income population percentage of the affected area is “meaningfully greater” than the minority or low-income population percentage in the general population or other appropriate unit of geographic analysis. SEA uses the term "meaningfully greater" to be greater than 50 percent or more than 10 percent above the average. In order to determine whether the proposed action would have a disproportionately high and adverse effect on a minority or low-income population, data was first gathered comparing the populations in communities adjacent to the existing right-of-way in Hayti.

Information regarding minority and low-income populations in the relevant census blocks of Hayti and Pemiscot County was obtained from the U.S. Census Bureau and compared with the criteria for establishing environmental justice communities contained in the Federal law and policies described below.

3.11.2 Hayti Project Area Information

The U.S. Census Bureau maintains demographic data below the county level in units known as census tracts, which are small, relatively permanent statistical subdivisions of counties. Census tracts usually have between 2,500 and 8,000 persons and, when first delineated, are designed to be homogenous with respect to race and income. Census

tracts do not cross county boundaries and vary in size according to the density of population. Each census tract has a unique number and may be further divided for statistical purposes into smaller units referred to as “blocks.”

Pemiscot County had a total 2000 Census population of 20,047. Of these, 5,259 were identified in the Census as black. This number represents a 6 percent reduction in the black population from the 1990 Census that identified 5,597 black persons. Hayti has a disproportionately high number of blacks within the town limits – 1,403 blacks and 1,753 whites – compared to the rest of the County.

The 2000 Census data was reviewed to identify the census blocks adjacent to the existing rail ROW in Hayti. The ROW associated with the proposed new construction traverses open agricultural fields with no adjacent population. A total of 20 census blocks were identified in Hayti along the existing rail line. The Year 2000 population data in these census blocks was approximately a 2:1 white to black population ratio.