



# Manistee Area Rail Relocation Feasibility Study

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With Assistance from:



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## **I. EXECUTIVE SUMMARY**

Manistee County has obtained a Community Development Block Grant from the Michigan Economic Development Corporation to study the best land use and most desirable rail route to promote economic development in the Manistee Lake area.

The Alliance for Economic Success contracted with Pathfinder Engineering, Inc. to study the feasibility of a rail relocation project within the Manistee Lake area. Pathfinder Engineering, Inc. teamed with Abonmarche and was also assisted by Marquette Rail and the Alliance for Economic Success for portions of this study.

This study was desired for many reasons and potential benefits. A feasibility study with virtually the same goals and similar expected benefits was previously prepared for the City of Manistee in 1989.

The premise behind the studies is to determine the feasibility of eliminating the railroad route along the north side of the lake. This would allow numerous positive opportunities to occur such as re-development of areas along the old route, enhanced rail service, elimination of some hazardous rail highway crossings and elimination of travel over old railroad bridges as well as elimination of the swing bridge near downtown. This project would also have a positive aesthetic value associated with elimination of the highly visible old railroad yards along US-31 as well as the potential for a rails to trails project.

This study first began with a review of the 1989 Study and then continued with gathering of existing condition information such as topography, utilities, roadways and parcel information.

Meetings were held with various potential interested and/or affected parties and review agencies to discuss issues associated with this potential project.

Six major relocation options were considered as part of this study with minor variations within some of the options. Four of these options were similar to options considered in 1989, however some of the existing conditions have changed since then. After studying the

options in more detail, four of the six options were not considered further as a result of various issues such as excessive railroad grades, excessive earthwork and unlikelihood of being able to obtain approvals.

The study then focused on two options which were explored in further detail. Both of these options are very similar in that they generally follow the same route. The major difference between the two options is that Option 1 requires major road re-construction along its route, whereas Option 2 does not. Option 1 significantly increases public motorist safety over Option 2, however Option 1 costs significantly more than Option 2

Both options would relocate the four existing rail yards currently located on the northwest side of Manistee Lake to a location in Mason County along the existing mainline just south of South County Line Road.

The preliminary cost estimate for option 1 is \$10.5 million and the cost estimate for option 2 is \$8.7 million.

There are various possibilities for obtaining funding for this project and it appears that funding for this project would be needed from multiple sources. The Federal Government and the Michigan Department of Transportation both have two funding programs for rail projects. Marquette Rail would fund a portion of the project and money may be available through the Manistee County Road Commission for a portion of the road relocations. Other funds could be pursued from various other entities once a majority of the funding is secured.

The results of this study show this project is feasible to construct from an engineering standpoint based on current information and knowledge. The feasibility of the project moving forward however will be dependant on obtaining financing as well as solidifying numerous other details.

It is therefore recommended to continue to pursue support of this project and begin the major effort necessary to secure funding sources for the project.

## II. PURPOSE

Manistee County has obtained a Community Development Block Grant from the Michigan Economic Development Corporation to study the best land use and most desirable rail route to promote economic development in the Manistee Lake area. Utilizing funds from this Grant as well as funds from Marquette Rail, the Alliance for Economic Success has contracted with Pathfinder Engineering, Inc. to provide a Rail Relocation Feasibility Study of the existing Marquette Rail Line within the Manistee Lake area. Pathfinder Engineering, Inc. has teamed with Abonmarche from Manistee, Michigan to assist with local knowledge and support services. This study focuses on the feasibility of a proposed rail connection along the southern end of Manistee Lake which would allow for abandonment of a large portion of the existing railroad around the northern portion of Manistee Lake. As part of this relocation, the existing rail yards would also need to be relocated and consolidated.

The major reasons that both the Alliance for Economic Success and Marquette Rail has conscripted the effort necessary to make this study possible are the potential benefits envisioned from this project. These benefits are:

- Continued, enhanced services to the area's rail shippers.
- Supports further rail-dependent economic development.
- Enables the use of high-capacity unit trains, should such an alternative to lake vessel transportation be desired or required.
- Elimination of five grade crossings, including two hazardous, high-traffic crossings of a primary arterial (US-31).
- Eliminates the need for a prohibitively expensive capital investment to replace low-capacity, older bridges.
- Mitigates the risk of impeding lake vessel traffic by eliminating the swing bridge.
- Opens land in the area for lucrative development, particularly in the area immediately north of the swing bridge.
- Removal of track materials while leaving the bridges in place facilitates the development of an attractive rail trail through the north shore.

In addition to these potential benefits, other benefits were realized throughout the course of the study. These other benefits are:

- Elimination of highly visible non-aesthetically pleasing rail yards along US-31.
- Limits the possibility of a catastrophic spill into Manistee Lake.
- Re-development would likely require clean-up and/or mitigation of possible existing contaminated soils associated with the old rail yards.
- Potential expansion of industrial property which would allow for economic growth through new job creation.

The purpose of this study is to obtain information and existing data, study possible alternative routes and designs as well as review these routes to provide cost estimates for the most promising alternatives.

### **III. BACKGROUND**

In 1989, Envirodyne Engineers was contracted by the City of Manistee to conduct a feasibility study for possible relocation of the railroad facility around Manistee Lake. This study was done based on most of the same potential benefits as envisioned today. At the time of the study, CSX Transportation (CSXT) owned the railroad facilities.

The 1989 CSXT study considered five options and these five were reduced to two most favorable options. All the options required the relocation of the existing rail yards to a location north of South County Line Road in Stronach Township. The two options deemed “feasible and realistic” were:

- 1) Construction of a bridge across Manistee Lake from Stronach to the PCA property.
- 2) Construction of track along an old abandoned railroad grade and within the PCA plant property.

Option 1 was estimated to cost \$14.4 million and option 2 was estimated to cost \$14.8 million. Option 1 was looked at unfavorably by the Michigan Department of Natural Resources (MDNR); however option 2 was looked at unfavorably by Packaging Corporation of America (PCA). Even though there were these potential options to pursue, the project

ceased due to lack of obtaining funding for the anticipated capital expenditure of construction.

Mr. Ben Bifoss of Abonmarche was involved with the 1989 study, as the City Manager of Manistee. This 1989 study was made available to us for review and reference.

There were two major items contained in the 1989 study which had a dramatic effect of the project costs. These are:

- CSX required all new materials to be used for any new construction, therefore materials removed from this project could not be used for construction of track within the project.
- The proposed Rail Yard was an elaborate design, as well as being constructed of all new materials. The Cost Estimate for the relocated Rail Yard was \$7.7 million or over half of the total project costs.

#### **IV. EXISTING CONDITIONS**

This project is located in the Manistee Lake area in Manistee and Mason County Michigan (see Figure 1 for a location Map). Figure 2 illustrates details of existing conditions within the Manistee Lake Area. Figure 3 provides an overall parcel illustration for reference. The existing Marquette Rail mainline enters the Manistee Lake area from the south near Stronach and continues north along the east side of Manistee Lake. The existing mainline follows the shoreline of Manistee Lake around the north end of the lake and continues back towards the south along the west shoreline of the lake. The existing mainline track ends at the Packaging Corporation of America (PCA) facility on the east side of Filer City.

Current industrial facilities that are highly dependent on rail service in the Manistee Lake area include Martin Marietta which lies north of Stronach, Morton Salt within the City of Manistee, and PCA on the east side of the Filer City area. In addition there is a transloading operation that currently takes place in the PM Yard just north of the swing bridge (see Figure 2). As part of this project, Marquette Rail has stated this operation could be easily relocated. Martin Marietta is the only current user on the east side of the lake that utilizes

rail service. Morton Salt is the facility that lies the farthest north that is highly dependent on rail service. There is approximately seven miles of track around the north part of Manistee Lake between Martin Marietta and Morton Salt. Near the General Chemical Site, Marquette Rail has indicated two additional users intend to use rail service in the future. These include Liquid Dustlayer, Inc. who has acquired a portion of the General Chemical Site and Rieth-Riley who will be located south of the General Chemical Site.

Between the 3.5 mile stretch from Morton Salt to the north side of East Lake Village, there are five existing public street crossings, as well as three bridge crossings. The first grade crossing is Gillespie Street just north of East Lake Village. The existing track continues nearly one mile north through a wetland area and crosses two bridges over the Manistee River. The track wraps around the north end of the lake where there are two crossings of US 31 (the West Parkdale Crossing and the Arthur Street crossing). As the track follows the west edge of Manistee Lake moving south, the track crosses a swing bridge over the channel that connects to Lake Michigan. Between the existing swing bridge and Morton Salt, the track crosses River Street and Lake Street.

The existing route along the north portion of the lake includes the following challenges:

- Track yards located on the north side of lake have limited capacity and are placed at four separate locations. Some of these yards are near Lake Front and residential areas.
- Current route includes five public street grade crossings including two along US-31, which is a major thoroughfare.
- Two bridge crossings at the Manistee River were constructed in 1892. These bridges are pin-connected truss bridges of steel construction. This type of bridge cannot be upgraded or re-built. Therefore, the only option is to completely remove and replace these bridges at a significant expense, if required.
- Swing bridge at the Manistee Lake channel to Lake Michigan was constructed in 1939 and requires continued maintenance. This bridge also requires continued operation to allow for marine navigation to and from the channel. This bridge

provides challenges for dredging as the center support for this bridge bisects the channel.

- At the current time, the bridge over the Little Manistee River (constructed in 1887) is insufficient to handle heavy unit trains and large volumes of traffic. Marquette Rail currently operates one road train over the bridge each day with traffic to and from all Manistee-area customers. If a bypass along the south portion of the lake is constructed, this bridge will only handle the traffic to and from Martin Marietta. This allows for a significant reduction in traffic levels which will result in lower stress levels on the bridge and therefore an extended life span.
- Morton Salt, PCA and Martin Marietta are highly dependent on rail service, therefore if any of the above mentioned bridges were out of operation, these facilities would be required to find an alternative to their existing rail transportation service.
- Future rail users Liquid Dustlayer, Inc. and Rieth-Riley will further stress the existing bridges and rail yards.

## V. RELOCATION STUDY

### a. Review of Available Data

Mapping and Geographical Information System (GIS) data has been obtained for purpose of reviewing existing conditions and planning proposed routes. Mapping information collected for review includes the following:

- GIS parcel data obtained from the Manistee County Equalization Department
- Existing utility information within the Filer City area and the south side of Manistee Lake
- United States Geological Survey (USGS) Topographical Quadrangles
- Street Construction Record Plans
- National Wetlands Inventory Information
- Federal Emergency Management Agency (FEMA) Floodplain Maps
- United States Department of Agriculture Soils Survey Maps

#### Parcel Data

Parcel data was obtained from the Manistee County Equalization Department. This data

was used for two purposes. The first purpose is to determine property owners along the routes of the rail relocation portion of the project. The second purpose is to determine existing property owners along the northern portion of Manistee Lake that could benefit from rail removal and/or the release of existing right of way property or easement(s). Figure 3 represents an overall parcel map of the Manistee Lake area with existing conditions. This figure provides a general illustration of property that may be near a proposed route along the southern portion of Manistee Lake, property near the proposed removal of the existing route along the north portion of Manistee Lake and property owned by current rail users. Figures 10.1A & B through 10.5A & B as well as figures 11A, 11B and 11C further illustrate parcels within the studied areas and tables 1 & 2 list additional parcel information. These figures and tables will be discussed in additional detail later in this report.

#### Existing Utilities

Existing utility information was collected for planning and review of potential utility relocation(s) that may be necessary as a result of the proposed routes. This data has been collected from record plans provided by several local sources. Figure 4 illustrates existing utilities within the Filer City area and along Stronach, Heuer Hill and Preuss Roads. Existing utilities illustrated include water main, gas main, overhead power lines and underground communication cables. Multiple utilities exist along Filer City Road, Mee Street and Grant Street.

A significant existing utility is an 8" high pressure gas main owned by DTE Energy shown in Figure 4. The route for this gas main follows the south side of Mee Street east through the PCA property, which then turns south and crosses Stronach Road south of the Grant Street intersection. The gas main follows the west and south sides of Stronach Road. At the Heuer Hill Road and Stronach Road intersection, the gas main splits to follow the west side of Stronach Road and also follows the southwest side of Heuer Hill Road. At the Heuer Hill Road and Preuss Road intersection, the gas main turns towards the west to follow the north side of Preuss Road.

Another significant existing utility that we will review is a Charter Communications "Critical

Fiber Optic” cable. Charter Communications has indicated that this is a large county fiber optic cable that provides communication services to the northern portion of Michigan as well as Michigan’s Upper Peninsula. The route for this cable follows the north side of Mee Street and the north side of the curve from Mee Street to Grant Street. The cable follows the east side of Grant Street until it crosses to the west side of Grant Street just north of the Stronach Road intersection. The cable continues along the west and south sides of Stronach Road and crosses from the south side of Stronach Road to the north side of Stronach Road at the Heuer Hill Road intersection.

Several other underground communication, overhead power lines and underground utilities have been reviewed for potential relocation requirements as a result of the proposed routes. Potential utility relocations will be discussed further in section V.d of this report.

#### Topographical Information

United States Geological Survey Topographical Quadrangles were obtained for general route planning purposes. These maps were issued by the USGS on July 1, 1982. These maps contain 3 meter contours (approximately 10 foot contours) which typically have a maximum error of 1.5 meters (or approximately 5 feet). Figure 5 represents a general overall map of the existing contours within the vicinity of the proposed routes. These maps have been used to determine estimates of grading constraints, route location planning, connections from proposed to the existing rail and earthwork involved for proposed routes. These maps have also been used to help determine a new rail yard location.

Figure 5 illustrates the elevation of Manistee Lake at 177 m (580.6 feet above mean sea level “amsl”). The elevations within Filer City are generally in the range of 600 to 615. The topography along the west edge of Filer City has limited development to the west of the City as a result of a large ridge approximately 50 to 60 feet in height. This ridge continues southeasterly along the east edge of the City and crosses Stronach Road west of Grant Street. The ridge parallels the west side of Stronach Road after the Grant Street intersection. This ridge continues along the south side of Stronach Road and crosses Heuer Hill Road. East of Heuer Hill Road an abandoned railroad grade exists that is built

into the slope of this ridge. As the slope continues east and crosses the existing Marquette Rail Mainline east of Camp Road, the abandoned railroad grade runs along the top of the ridge.

### Street Construction Plans

Street construction plans for Grant Street, Stronach and Heuer Hill Roads were obtained to review grading and additional utility data available for these areas. These plans provide centerline grades along the streets, which have been used to estimate railroad grades. These plans also provide typical street cross sections, which are used in the cost estimate portion of this project.

### National Wetlands Inventory Information

Figure 6 provides an illustration of existing wetlands from the National Wetlands Inventory in the areas along the south side of Manistee Lake. This figure indicates wetlands along the north and south sides of Stronach Road south of PCA as well as wetlands on the east side of Heuer Hill Road. We utilized this figure to assist with identifying areas where wetlands exist and therefore may require permitting from the Michigan Department of Environmental Quality as a result of the location of the proposed routes.

### Floodplain Information

Federal Emergency Management Agency (FEMA) floodplain maps near the north end of Manistee Lake were reviewed to estimate existing floodplain locations around Manistee Lake as a result of the proposed improvements. FEMA Floodplain Maps were not available for the southeast portion of Manistee Lake where the Little Manistee river outlets to the lake. The FEMA Floodplain elevation for the northern portion of Manistee Lake near the Manistee River outlet as well as near eastern portion of the channel to Lake Michigan is illustrated at an elevation of 584 amsl. Figures 7A, 7B, 7C and 7D illustrate this information. In addition these figures illustrate areas that lie within the "Flood Zones". A majority of the existing rail line illustrated is shown to be out of the 100-year floodplain. The floodplain for figures 7A and 7B on the northeast side of Manistee Lake was determined November 15, 1989 and the floodplain for Figures 7C and 7D for the northwest side of Manistee Lake was determined

March 18, 1987.

A FEMA map was available for the Filer City area (see Figure 7E) which does not show floodplain elevations, however an area designated as “Flood Zone A” (i.e. areas estimated to lie within the 100-year floodplain) is illustrated on the north side of Filer City north of the existing mainline near the TES Filer City and PCA properties as well as near the south portion of Manistee Lake. These areas were determined November 26, 1976.

### Soils

Some soils information has been obtained. The southern portion of the project, including the proposed rail yard area generally consists of well drained sands. Soils in the Filer City area appear to consist of sandy soils. However, due to the uncertainty of soils near the lake, an allowance for removal of any unsuitable soils encountered around the southern portion of the lake is accounted for in the cost estimate. Unsuitable soils are defined as soils that are not able to adequately support infrastructure improvements.

### **b. Identification of Potential Routes**

Several potential routes have been reviewed for this project. Options 1 through 4 are illustrated in Figure 5. Options 1 and 2 are shown with additional detail on figure 8 as well as figures 10.1 to 10.5. These two options have been considered the two most feasible options (this will be discussed in Section VI of this report). In this section, all of the routes that were considered are discussed including those that were determined to not be feasible.

Each route was reviewed with the geometrical constraints which included minimum degree curvature of 10 degrees for the proposed rail route as well as maximum mainline slope of 1.5%. Utilizing these constraints we are able to review the geometric feasibility of each route.

### Route Options 1, 2 & 3 East of Heuer Hill Road

East of Heuer Hill Road, we found that options that crossed in the Heuer Hill Road area will

be required to be topographically constrained to follow the old railroad grade south of the Little Manistee River. Figure 5 illustrates the proposed route in this area. The old railroad grade for this area appears to have been built within the ridge that runs east towards the existing Marquette Rail mainline east of Heuer Hill Road. East of Heuer Hill Road this ridge drops over 70 feet towards the Little Manistee River. The ridge continues at this slope for about a half mile east of Heuer Hill Road. The ridge continues towards the Marquette Rail mainline where the slope falls about 30 to 40 feet to the north. The large slope and limited area between Preuss road and the Little Manistee River constrains the route to within the sloped portion of this ridge, which coincidentally follows the same location of the old railroad grade in this area.

Just east of Camp Road the route would follow this location east toward the mainline and along the top of a ridge from the existing mainline west toward the intersection of Camp Road and Preuss Road. This section lies within the limits of the Gary Hodge, Manistee Clan of Muzzle Loaders and Brian Lindeman properties. The route may also require right of way from the Leonard Raczkowski parcel, however property and topographical survey would be required to determine if right of way would be required (for purposes of this option we are assuming obtaining right of way from this parcel can be avoided). The old railroad crossed the existing Marquette Rail mainline with a bridge, which appears existed approximately 20 to 25 feet above the existing mainline. Therefore, in order to connect with the existing Marquette Rail mainline grade, a large amount of earth excavation (cut depths up to 25 feet) over a considerable distance (up to 1600 feet) would be required. Marquette Rail has expressed concern that this route may require excessive snow removal as it would lie in this large cut area (an alternate will be discussed for this east route which will review a route that is intended to reduce the potential for excessive snow removal). Near the existing Marquette Rail mainline, the route would follow an 8 degree curve to the south and parallel the existing mainline for approximately 500 feet until it would connect to the mainline with a Number 12 turnout. Paralleling the mainline for this distance allows for the turnout to be placed at a slope near 1%. This route is the same for options 1, 2 and 3. Two alternates exist for this route.

*Alternate Connection* - This connection also includes a No. 12 turnout, however the turnout would be placed approximately 200 feet south of the old railroad crossing of the existing Marquette Rail mainline. This connection would be the most cost effective as it minimizes the amount of rail that would need to be constructed (i.e. approximately 500 feet less rail). However, a negative aspect of this connection is the turnout would be placed on a relatively steep gradient of the mainline which appears to be in the range of 2 to 2.5%.

*Alternate East Route* – Another route considered is within the same east west limits as the previous mentioned route between the mainline connection and Camp Road. However the route would be north of the previously mentioned route in this location to align this route near the midpoint in the sloped portion of the ridge. The purpose of this is to allow for construction of this route to cut into the slope to minimize disturbance of the Muzzle Loaders property and also earthwork. This would also reduce snow removal concerns previously discussed. Earth excavation up to 20 feet deep will still be required near the 10 degree curve near the mainline connection. However, earth excavation will be minimized, as it would run for a length of approximately 200 feet before this route would follow near the midpoint of the ridge slope. Therefore, construction costs would be reduced with this alternate. As a result of the location of this route, we have assumed a partial land acquisition for right of way would be required from the Leonard Raczkowski parcel. The route would connect to the mainline in the same location as discussed for previously mentioned route (for options 1, 2 and 3).

Option 1 West of Heuer Hill Road – Beginning on the east side of Heuer Hill Road in the westerly direction, this route would be designed to follow a 10 degree curve from the old railroad grade to the north side of Stronach Road (See Figure 5). Near this area there may be work or fill required in the wetlands and/or floodplain on the east side of Heuer Hill Road as a result of fill required for the construction of this route. At this time it is undetermined if the existing home on the southwest corner of this intersection would need to be acquired. Additional data with survey accuracy would be required to determine if this is the case. For purposes of this report, we have assumed that this home will not required to be removed for this option. West of Heuer Hill Road the centerline of the route would be placed

approximately 5 feet north of the centerline of Stronach Road.

As the route follows Stronach Road west it will approach a curve in the road where a 10 degree curve would be required. The existing curve in Stronach Road is smaller than a 10 degree curve, therefore, additional fill on the north side will be required. This fill may be placed in the existing wetlands and/or floodplain in this area. The centerline of this route would continue north approximately 5 feet east of the centerline of Stronach Road until it reaches the intersection of Stronach Street and Grant Street. At this intersection this route follows a 6 degree curve until it parallels Avenue "D" approximately 110 feet west of the centerline of Avenue "D" and 105 feet east of the centerline of Grant Street where several land acquisitions of private parcels and PCA owned parcels will be required.

The route moves north until it follows a 10 degree curve to the west in order to follow the north side of Mee Street. The northerly portion of the curve in this area is planned to pass along the south side of the existing TES Filer City office building. As the route continues west, the centerline of the route is proposed approximately 58 feet north of the centerline of Mee Street. Towards the west end of Mee Street the route would follow a 10 degree curve to the north and parallel Filer City Road until it would re-connect with the existing Marquette Rail mainline with a No. 10 turnout.

This route would require relocating a portion of Heuer Hill Road, Stronach Road, Grant Street and the Grant Street to Mee Street curve (see details in figures 10.1 to 10.5). In addition, two intersections will be required to be reconstructed which include the Heuer Hill Road and Stronach Road intersection as well as the Stronach Road and Grant Street intersection. The crossing for this route at the Heuer Hill Road and Stronach Road intersection would require this intersection to be reconfigured to allow Heuer Hill Road to curve into Stronach Road toward Filer City. As a result, Stronach Road east of Heuer Hill road would be reconfigured to intersect Heuer Hill Road at a right angle. The purpose of this is to allow for a railroad crossing to be at or near a right angle across the reconfigured Stronach Road near the new intersection. This also allows northbound traffic on Heuer Hill Road to continue to Filer City without stopping. Traffic to and from the Stronach and East

Lake areas would be required to stop at this intersection, which is not the case currently.

Currently Heuer Hill Road has a down gradient slope of 7.3% towards the lake for over a length of 500 feet. The Heuer Hill Road reconstruction would allow this road to be re-graded to allow for a more gradual slope towards Stronach Road. West of the Heuer Hill Road intersection Stronach Road would be required to be moved south of the proposed route approximately 38 to 58 feet (approximately 32 to 52 feet from the current location). Stronach Road would continue to be relocated along the south and west sides of the proposed route from Heuer Hill Road to the intersection of Stronach Road and Grant Street. The proposed improvements may also require work or fill within the existing wetlands on the south side of the relocated curve in Stronach Road. The Stronach Road and Grant Street intersection will be required to be slightly reconfigured and moved west approximately 60 feet.

Grant Street would be completely removed and a new street would be constructed from this intersection north to Mee Street. The width of the road right of way for this portion of relocated street could be 100 feet wide as opposed to a typical 66 foot wide street right of way. The location of this portion of the street is shown to be approximately 52 feet east of the centerline of Avenue "D" (assumed as a 30 foot wide right of way) which is 67 feet east of the existing right of way line of Avenue "D" and would be 33 feet west of the proposed east right of way line. The purpose of offsetting the centerline of the relocated street within the right of way and providing additional right of way width is to provide an additional buffer between the homes along the west side of Avenue "D".

The newly constructed street paralleling Avenue "D" will require a new curve to be constructed to Mee Street. As a result of the location of this proposed railroad route, the curve on the proposed street would be south and west of the exiting street curve. The new street curve would require the Linke Lumber property to be acquired as well as a portion of the facility to be removed, since the centerline of the road will lie within the Linke Lumber Parcel. In addition, right of way acquisition will be needed from four parcels west of the Linke Lumber Parcel.

As we understand, the Manistee County Road Commission has abandoned portions of the existing public streets within Falleen Street area as part of the property acquisitions that Filer City Real Estate (FCRE) has purchased. The streets that have been abandoned include Falleen Street east of Avenue "A" and Staunton Street, Avenue "B" and Sheridan Street north of Mee Street. There are current residents in the Taylor Street, Falleen Street and Avenue "D" area north of Mee Street. If this route or the route in option 2 is used for this project, these properties are proposed to be acquired since they lie within the route area. After property acquisition, the remainder of Falleen Street as well as the portions of Avenue "A" and Taylor Street that lie north of Mee Street are intended to be abandoned. Therefore, this option and the following options do not include street crossings at these street locations.

This route would require one public street grade crossing and four private grade crossings (assuming two for PCA and two for TES Filer City). The public street crossing would cross Stronach Road near the reconfigured intersection of Heuer Hill Road and Stronach Road.

Option 2 West of Heuer Hill Road – This route is similar to Option 1 however, the intent of this route is to reduce the road relocation to allow for minor removal/relocation of existing streets and intersections (see figure 5 as well as details in figures 10.1 to 10.5). Beginning on the east side of Heuer Hill Road, this follows a 10 degree curve from the old railroad grade to the south side of Stronach Road. At this time it is undetermined if the existing home on the southwest corner of this intersection would need to be acquired. Additional data with survey accuracy would be required to determine if this is the case. For purposes of this report, we have assumed that this home will not required to be removed for this option.

The center line of the route would follow the south and west sides of Stronach Road approximately 58 feet from the existing centerline of Stronach Road to the Stronach Road and Grant Street intersection where a grade crossing would be placed across Stronach Road. The centerline of the route would continue north along the west side of Grant Street

approximately 58 feet from the centerline of the road. Three grade crossings along the west side of Grant Street are included as part of this route. These grades crossings would be at Warren Street, Filer Street and Hilty Street. The route follows a 10 degree curve to the west when Grant Street curves west into Mee Street (similar to the configuration of option 1). This route would cross Mee Street at an acute angle (20 degrees +/-). Following the Mee Street crossing, the route would be placed on the north side of Mee Street in the same location and configuration as Option 1 until the connection with the existing Marquette Rail mainline. Six new public street grade crossings and two private grade crossings for TES Filer City would be required as part of this route.

The Heuer Hill Road and Stronach Road intersection is required to be relocated as part of this route (see figure 10.3). In addition, the removal and abandonment of several streets and rights of way is proposed. As discussed in Option 1, Heuer Hill Road has a relatively steep grade. The proposed route illustrates it would cross Heuer Hill Road in the existing street location. If Heuer Hill Road was to remain in the existing street location, it would require street re-construction in each direction of the crossing, which may require grades that exceed the existing slope of 7.3% that would approach the crossing. In addition, the crossing would be at an acute angle with Heuer Hill Road. Therefore, it is proposed as part of this route to re-construct a portion of Heuer Hill Road on a new curve that moves from north to west as well as a reverse curve that allows for Heuer Hill Road to intersect Stronach Road approximately 500 +/- feet west of the existing intersection. This would intersect at a higher street elevation than the existing Stronach Road intersection and result in an additional length of street, which in turn provides for the Heuer Hill Road to be reconstructed at a slope that is much less than the existing slope. This would also allow for a perpendicular grade crossing at the new street intersection.

Option 3 West of Heuer Hill Road – This route follows the existing ridge that runs northwesterly along the west side of Filer City with a crossing at Heuer Hill Road that allows for Heuer Hill Road to remain in its current location (see figure 5). Beginning on the east side of Heuer Hill Road, this route aligns with the old railroad grade and continues west across Heuer Hill Road just north of the Pruess Road intersection. Crossing at this location

would require some minor street construction of Heuer Hill Road for a grade crossing. However, Heuer Hill Road could remain at its current location. This route would move northwesterly where it would bisect several existing residential parcels. In this area, the proposed railroad would lie below the existing grade level (15 to 25 feet), which would require driveways to be relocated if it was determined that existing homes would remain. As this route approaches the curve in Stronach Road it would cross a potential wetland area and would require a large amount of fill. The railroad grade would follow the ridge curving towards the west after Stronach Road curves towards the north and would increase in grade with a 1.5% slope in order to intersect Stronach Road approximately 600 feet northwest of the Grant Street intersection. The grade would reach a high point north of Stronach Road and begin to slope towards the northwest at a 1.5% grade to meet the existing Marquette Rail mainline grade north of Filer City Road as well as a grade crossing at Filer City Road.

Option 4 - A route that was considered in the 1989 CSXT Study was a Bridge Connection across Manistee Lake rather than an overland connection south of Manistee Lake. This option was also reviewed as part of our study. This was reviewed in the same location as the 1989 CSXT Study. The east side of the bridge would connect to the mainline north of Stronach and the west side of the bridge would connect back into the mainline north of the PCA plant (see figure 5).

Other Options Reviewed – Additional routes were also reviewed as part of this project. A route was reviewed that would follow Option 3 along Filer City but continue south past the Stronach Road curve for the purpose of avoiding the existing wetland area on the south side of the Stronach Road curve. The route was reviewed to curve south to west and towards the Heuer Hill Road between Stronach and Preuss Roads to align with the old railroad grade east of Heuer Hill Road. Excessive grade differences were found in this area that would require mainline slopes exceeding 1.5% as well as major earthwork with cuts and fills exceeding 50 feet. In addition, major right of way and grading easements would be required near the north curve of Preuss Road as well as potential street reconstruction near this curve. For these reasons, this option was not considered feasible for the purposes of

this study.

Another option was studied that would include the previous option however this option would continue south with the intent to not use the old railroad grade east of Heuer Hill Road. This option would move south across Preuss Road and curve east near an existing east-west Consumers Power overhead power line, which traverses towards the existing Marquette Rail mainline. This option would also require mainline slopes exceeding 1.5%. Portions of the rail would also need to be constructed in cut areas of 50 to 70 feet near Preuss Road as well as require major right of way and grading easement acquisition and major reconstruction or relocation of Preuss and Linke Road. The homes within the vicinity of these roads would be required to be relocated as a result of the inability to re-connect driveways to the reconstructed Preuss and Linke Roads. Therefore, for the above reasons this option was considered not feasible for the purposes of this study.

### **c. Street Crossings (Options 1 and 2)**

As previously discussed, there is only one public street crossing necessary for Option 1. There would also be at least two private crossings each for both PCA and TES Filer City. Option 2 would require six new public street crossings and two private crossings for TES Filer City.

The number of crossings required assumes that the following streets and/or right of ways in the Filer City area would not require crossings:

- The platted ally (or Avenue "G") located between Warren St. and Hilty St. – This currently is not used as a roadway.
- Avenue "F" – This is currently not used as a roadway east of Avenue "D"
- Avenue "E" - This is currently not used as a roadway east of Sherman St.
- Sheridan Street north of Mee Street – Our understanding is that this is in the process of vacation and may be completed.
- Avenue "B" north of Mee Street – Our understanding is that this is in the process of vacation and may be completed.

- Staunton Street north of Mee Street – Our understanding is that this is in the process of vacation and may be completed.
- Avenue “A” north of Mee Street – that this could be vacated if the remainders of parcels are acquired for this project and Filer City Real Estate Development Corporation (FCRE) concurs
- Taylor Street north of Mee Street – that this could be vacated if the remainders of parcels are acquired for this project and FCRE concurs .
- Falleen Street north of Mee Street – that this could be vacated if the remainders of parcels are acquired for this project and FCRE concurs

The street crossing of Mee Street at Sherman Street on Option 2 will most likely be required to be signalized with flashers and cantilevers with flashers. This is due to the obtuse angle of the crossing, site distance and train and vehicular movements. We have therefore included signalization of this crossing in the Construction Cost Estimate for Option 2.

The proposed crossing at Stronach Road and Heuer Hill Road for either Option 1 or Option 2 is not anticipated to require flashers for the purpose of this report. It is assumed that a stop sign and cross bucks would be sufficient. This is because the crossing would be designed on the stopping leg of the intersection. Therefore vehicular traffic would be slowing down to stop at the intersection regardless of any train movements. During the design phase of the project, however, the geometrics of this intersection along with traffic counts, train movements and other pertinent data, such as school bus routes should be reviewed to determine if a higher level of signalization would be required. The crossing of Stronach Road at Grant Street in Option 2 also falls into the same category.

The other proposed crossings associated with Option 2 at Warren Street, Hilty Street and Filer Street are also proposed for stop signs and cross bucks. It could also be studied to determine if possibly one or two of these streets could be eliminated from access to Grant Street. If this could be done it would limit the total number of crossings for Option 2 to either four or five, depending whether one or two are eliminated.

#### **d. Utility Relocations (Options 1 and 2)**

Option 1 will require additional utility relocation as part of the relocation of Grant Street. For the purposes of this study we have assumed that removal and abandonment of the existing right of way along Grant Street will include removal or relocation of all of the existing underground and above ground utilities that parallel near this street. Utility relocations specific to Option 1 which are along Grant Street are the following:

- DTE - 3” gas service line
- Public watermains - 4” and 6” diameter
- International Transmission Company/Michigan Electric Transmission Company - high voltage overhead powerline
- Consumers Power – Overhead distribution power lines
- Charter Communications - Aerial “Critical Fiber Optic Cable”
- Charter Communications – Underground Fiber Optic Cable
- AT&T - underground cables (2 locations)

South of the intersection of Grant Street and Stronach Road options 1 and 2 are assumed to generally include the same utility relocations for purposes of this study. These utility relocations include:

- DTE - 8” high pressure gas service line (beginning approximately 400 feet south of the Grant Street and Stronach Road intersection and ending at end of the Heuer Hill Road relocation)
- Charter Communications - Aerial “Critical Fiber Optic Cable” (continuing from the Grant Street and Stronach Road intersection and ending near the intersection with Heuer Hill Road)
- AT&T - underground cable(s) (beginning approximately 1,500 feet south of the Grant Street and Stronach Road intersection and ending at end of the Heuer Hill Road relocation)

In addition, there will be several crossings of underground utilities and overhead wires. Also, as we understand there are multiple underground private utility crossings for the PCA plant south of the intersection of Stronach Rd and Grant Street. One of these utilities

includes a 36" concrete pressure line. As part of the cost estimating portion of this study we have included encasing or extending encasements for underground utility crossings and raising overhead utilities for several crossings.

The above information has been used to determine preliminary cost estimates associated with utility relocations for this project. Further discussions in the future with the utility companies and PCA may change the extent of utility relocations which are estimated in this report. For example, it may be possible to leave portions of the existing utilities at their current location, which would lower the costs of these utility relocations. In addition, during the design phase of the project, more precise locations of the utilities would be determined which could also change the extent of the relocations.

#### **e. Discussion with Municipal Officials**

Our review of the feasibility of each of the options was also based on input and feedback from municipal officials. Therefore we met with the following offices to discuss this project and the contemplated proposed routes:

- Michigan Department of Environmental Quality (MDEQ) and the Michigan Department of Natural Resources (MDNR)
- Manistee County Road Commission (MCRC)
- Michigan Department of Transportation (MDOT)
- Filer and Stronach Township
- United States Forest Services (USFS)
- Mason County Drain Commission (MCDC)

#### **Michigan Department of Environmental Quality and Department of Natural Resources**

A meeting with the Michigan Department of Environmental Quality and the Michigan Department of Natural Resources was held to discuss the feasibility of Option 4 (i.e. constructing bridge across Manistee Lake) and potential work or fill within existing wetlands and/or floodplains as a result of the routes near the southwesterly curve in Stronach Road.

Several departments attended this discussion including the MDEQ Water Bureau and the Land & Water Management Division as well as the MDNR Fisheries and Wildlife Divisions.

Option 4 was presented to the MDEQ and MDNR as the shortest connecting route for this project. Their response to this option was unfavorable and therefore receiving a MDEQ permit for construction of this option was considered “very unlikely”.

Following our meeting with the MDEQ and MDNR, the MDEQ was provided Figure 5 which illustrates the routes of options 1, 2 and 3. These options are near the existing wetland and floodplain areas near Stronach and Heuer Hill Roads. The routes for these options may require potential permits from the MDEQ, pursuant to Part 303, Wetland Protection, and the Floodplain Regulatory Authority found in Part 31, Water Resources Protection, of the Natural Resources and Environmental Protection Act, 1994 P.A. 451, as amended (NREPA).

The acreage of proposed wetland impact with Options 1-3 would need to be evaluated, as well as the values and functions those wetlands currently provide. Statutory criteria contained in Sec. 30311 of Part 303 must be met before a permit could be issued by the MDEQ. The MDEQ stated that a pre-application review process could be used if it is desired to have the MDEQ staff visit the site. They may make suggestions regarding Options 1-3, or means of minimizing impacts, what types of information or plans that would be needed to ensure a complete permit application, potential wetland mitigation requirements should the project be permitted, information concerning the nature of the resource present on the site(s), identification of significant issues, information regarding the need to coordinate with other agencies (U.S. Army Corps of Engineers, or MDNR if state or federally listed species may be present). After the pre-application meeting the MDEQ will provide a report within a few days, and their findings would be binding for two (2) years; a definitive answer on whether a specific project will be authorized will not be provided. We recommend the pre-application review process to be used, as we believe this would be valuable knowledge to gain prior to proceeding very much further with the project.

Following the pre-application meeting and prior to construction, an application for permit would be submitted which would show the limits of the proposed excavation, fill, or construction within existing wetlands and/or floodplain.

#### Manistee County Road Commission

Mr. Gerald Peterson, the director of the Manistee County Road Commission (MCRC) was presented with Option 2 and 3 of this report for discussion. Mr. Gerald Peterson at this time suggested that we consider the proposed rail be placed within the existing street as presented in Option 1 which would require portions of Stronach Road and Grant Streets to be relocated. Mr. Gerald Peterson mentioned this as a way of eliminating road-rail crossings. Option 1 requires one street crossing as opposed to potentially 6 proposed street crossings with Option 2. Therefore, the MCRC determined Option 1 is the most desirable option. Mr. Gerald Peterson mentioned that there was a good likelihood of utilizing previous grant monies of \$200,000 to help with the relocation of the roads. Mr. Gerald Peterson also mentioned that he would also try to obtain another \$200,000 of funding using another program for a potential total financial assistance of \$400,000.

#### Michigan Department of Transportation

A meeting was held with the Michigan Department of Transportation for the purpose of reviewing the proposed street crossings associated with the proposed routes for this project as well as the removal of several existing street crossings along the northerly route. Option 1 and Option 2 were presented to MDOT and Option 1 was the obvious preferred option due to elimination of five public street crossings with the addition of only one new public street crossing. Option 2 also would remove five crossings however would require six new public street crossings. This option was not ruled out however each new crossing would have to be warranted and sanctioned by MDOT's Rail Safety Section. If Option 1 was chosen, there would be funding available from MDOT's Local Grade Crossing Program due to the net elimination of two local crossings. The amount of funding available is based on a number of factors including existing train and vehicular movements at the crossing. If MDOT is provided with the current number of train movements, they will provide estimate amounts available for the crossings. Any monies available from the Local Grade Crossing Program



would be in the form of reimbursed expenses. The two US-31 crossings are handled by a different area within MDOT and currently the same funding process is not available for elimination of these crossings. There likely would be monies however to help with costs associated with removal of the crossings and restoration of the roadways, as well as possibly with the same type of work at the local crossings. That work would be performed by, and the monies available to MDOT forces or MDOT contractors.

If Option 2 was chosen, there would not be any monies available under the Local Grade Crossing Program because there would not be a net reduction of road crossings.

#### Filer and Stronach Township

Kevin Ruble from Marquette Rail and Renee Ihlenfeldt from the Alliance for Economic Success presented the concept of the Manistee Area Rail Relocation Project to both the Charter Township of Filer and Stronach Township prior to engaging Pathfinder Engineering for this rail relocation feasibility study. These meetings were meant to inform community members of the project concept, the perceived benefits to Manistee County and local industry and to share with them the plans to proceed to study the viability of the project. Some of the feedback and concerns from community members during these meetings and during follow-up conversations were as follows:

- Determine the feasibility of an alternative route of a bridge going across Manistee Lake
- Concerns were communicated about the protection of the southern wetlands and wildlife
- Concerns were raised about fill dirt going into the river
- Questions were raised as to the effect this would have on local traffic
- Comments were made that a new route should not shift the same number of road crossings to other communities
- Landowners were concerned about the impact on their quality of life and their property values
- Questions were raised as to what compensation would be given to effected landowners if the project came to fruition

- Questions were raised as to how the project could proceed if landowners were not willing to sell or provide access to their property

#### United States Forest Service

A meeting was held with the United States Forest Service (USFS) to discuss the possibility of the rail yard construction within National Forest System lands. The existing Marquette Rail mainline is situated in a southeasterly direction south of Stronach. The rail bisects the National Forest System land south of the Gary Hodge property and the Manistee Clan of Muzzle Loaders property. Options for a potential rail yard location were discussed within National Forest System land on the south side of County Line Road within Mason County as well as north of County Line Road in Manistee County. The USFS does not have the authority to sell National Forest System lands to provide the property needed for the proposed rail yard. However, the USFS is willing to consider a land exchange, which would require properties of approximately the same size and value. A tract of land could be exchanged for the National Forest System lands needed for the rail yard. Land exchanges require a net public benefit. In this case, the public would benefit from a rerouting of the rail line through Manistee, as well as additional National Forest which could be managed for protection of sensitive species, like the bald eagle. The property exchange could take two to three years to finalize.

#### Mason County Drain Commission

We met with the Mason County Drain Commissioner to discuss storm water management within the proposed rail yard if the rail yard was constructed within Mason County. Mr. David Hasenbank mentioned that storm water detention would not be required within the rail yard, however a swale may be required along the property line of the rail yard to prevent increased storm water runoff from moving across adjacent properties. The Drain Commissioner noted that the soils in the area south of County Line Road are sandy with a low water table and a high infiltration rate. Therefore, infiltration for this swale would most likely be utilized for the proposed rail yard. Soil borings, as part of the construction design phase of this project, would be required to determine infiltration rates.

#### Other Municipal Officials

As part of this study we also reviewed with Abonmarche the potential drainage improvements that may be required by the Manistee County Drain Commission. It should be noted that we found no published rules regarding development and drainage from the Manistee County Drain Commission.

#### **f. Discussion Coordination with Corporate Entities**

Providing secure, economical, and efficient rail service to Manistee County's industry is the driving factor behind the consideration of this project. Therefore it was essential to discuss potential routes with two large industrial facilities, Packaging Corporation of America (PCA) and TES Filer City (TES), and two industrial real estate holding companies, Filer City Real Estate Development Corporation (FCRE) and Drop Forge Development Corporation (DFDC). Therefore, meetings were held to discuss and review the proposed routes through their properties.

#### Coordination with PCA

Project team members met with PCA. The meetings with PCA were held to review design options and to receive input. The main items discussed included potential routes, right of way widths, and connection to the existing track.

PCA owns a majority of the property along Grant Street as well as parcels on the north side of Stronach Road west of Heuer Hill Road and on both sides of Stronach Road north of the southwest curve in Stronach Road. Options 1, 2 and 3 will require coordination with PCA for acquiring large portions of right of way and potential property exchanges. Option 4 would interrupt a facility expansion currently under construction by PCA. PCA has expressed that they are not willing to support a relocation option that interrupts their current expansion project. As discussed previously, PCA also does not support an option that would allow for the mainline to be reconnected to the south side of the rail that runs through their facility due to recent, significant new construction in that area for their facility.

PCA was willing to discuss location of the rail line over their property, however not within the

current confines of the plant facility. PCA owns several properties on the west side of Grant Street that are not used for their current operations. Two meetings were held with PCA, the first meeting to obtain existing utility data and listen to PCA's questions and concerns. The second meeting was to discuss the results of route possibilities in the plant vicinity. The second meeting was also held after we studied the MCRC's idea of relocation of Grant Street. The Grant Street relocation presented in option 1 would provide PCA a direct expansion of property towards the east. The width of the area that could be available if the proposed route and relocated Grant Street were located as described in option 1, would be approximately 110 feet (assuming the existing Grant Street right of way).

#### Coordination with TES

The project team members met with TES. The meeting with TES was held to review design options and to receive input. TES's existing facility currently lies north of Mee Street in the Filer City area.

Option 1, as presented in this report, is generally agreeable to TES. However, TES has raised a concern that emergency management services must be able to respond to their site without impediment from a train. There must be at least two entrances to TES, configured in such a way that the largest train contemplated by Marquette Rail cannot simultaneously block both entrances. A meeting was held to discuss this concern.

Meeting participants were the Filer Township Supervisor, the Filer Township Fire Chief, TES, Marquette Rail and AES. It was determined that at least one potential solution to this issue would need to involve a cooperative effort between TES, PCA and FCRE, with these entities agreeing to coordinate access to each others facilities through shared entrances. If this project moves forward, this issue will need to be addressed and resolved.

#### Coordination with FCRE & DFDC

Project team members met with FCRE and DFDC. The meeting with FCRE and DFDC was held to review design options and to receive input. The main items discussed included potential routes, right of way widths, and connection to the existing track at the west end.

FCRE has acquired properties along Falleen Street west of the existing plant. In addition, the DFDC owns the former Manistee Drop Forge properties north of Falleen Street and east of Filer City Road. Options 1 and 2 would require property acquisition from the FCRE. As the route parallels Mee Street, it would require a 50 foot wide right of way through the south portion of this property adjacent to Mee Street. Near Filer City Road the route would continue through the DFDC property on a northwesterly curve and continue towards the existing mainline.

#### Manistee Manufacturers' Council

The Manistee Manufacturers' Council (MMC) supported this rail relocation feasibility project, and the coordination of this project by the Alliance for Economic Success, including an assessment of feasibility, costs and community benefits. Specifically, the MMC supported investigation of the removal of the rail lines around the north end of Manistee Lake, as the project would seem to be beneficial to the wise use and development of the property surrounding the north end of Manistee Lake while providing shipping and distribution benefits to Council member businesses.

#### **g. Preliminary Rail Yard Relocation Considerations**

Because of the curves, gradients and developed areas around the lake area, it is not feasible to have a consolidated rail yard constructed in proximity to the lake. Also, the existing mainline begins to descend towards Manistee Lake approximately a half mile north of South County Line Road. Proper design for the rail yard should be flat or even slightly bowl shaped for containment of cars.

For these reasons, the best location for a new consolidated rail yard is between South County Line Road and Hoague Road. This is just across the Manistee County Line and would be in Freesoil Township, Mason County which is illustrated in Figure 9A. There is approximately 1 ½ miles between South County Line Road and Hoague Road. The mainline track through this area is flat and straight. The surrounding ground grades also appear relatively flat. This 1 ½ mile distance allows for an efficient design of a rail yard.

The proposed relocated rail yard design is shown on Figure 9B. This design allows all property acquisition to occur within the US Forest Service Property. As discussed earlier, a potential property exchange could occur to obtain this land.

The north half of Track 1 would be used for outbound trains and the southern half of track 1 would be used as temporary storage for the inbound train. A crossover would allow the road engine to deliver the inbound train, connect to the outbound train and leave. The southern portion of track 1 would then be also used as the switching track.

An engine track, yard office building and shed are proposed at the north end of the yard where infrastructure improvements would be minimal to access this from South County Line Road.

The ladder tracks would have 30 foot centers to allow internal vehicular access as well as future tracks, should the need arise in the future. It is proposed to relocate an existing metal building from the Sparta, Michigan area to serve as the yard office building.

#### **h. Runaround Track**

With both options contemplated, a runaround track will be needed in a location north of TES to adequately serve the existing and proposed customers on the west side of Manistee Lake.

The runaround track would allow the locomotive to lead the train rather than push the train for service to customers north of TES. It appears that the best location for the runaround is on the east side of the existing track beginning immediately south of Morton Salt and continuing approximately 1,400 feet south. The location is shown on Figure 8. This length allows for approximately 23 rail cars (assuming 60 foot long cars). This should be adequate to serve the existing, proposed and future service to this area unless in the future, a very large rail user desires service.

There is a sharp curve located in the existing track just south of the proposed runaround track, therefore this item also includes relocation of approximately 530 track feet of salvaged mainline for replacing the existing 20 degree curve with a 10 degree curve.

## VI. RESULTS AND OPTIONS

After obtaining study information and performing initial design work, we met with municipal officials as well as corporate entities. Based on all of this information, we continued our design work and have determined that the two most feasible options are Option 1 and Option 2. Options 3 and 4 were determined not feasible for the reasons mentioned below.

Option 3 was determined not feasible for the following reasons:

- This route provides the greatest impacts to residential properties:
  - The route bisects residential parcels on the southwest side of Heuer Hill Road and would require driveway location or removal of homes in this area.
  - The route also would require the greatest amount of residential parcel acquisition in the Filer City area.
  - The route is not placed through or adjacent to an industrial area as proposed in Option 1 and 2.
- This route is less desirable to the Manistee County Road Commission and the Michigan Department of Transportation as a result of the number of grade crossings that could be avoided by using Option 1, therefore funding availability may be more challenging than Option 1.
- This route would require extensive earthwork.
- Since a large portion of PCA's property would be used for this route, their cooperation, potential financial assistance and support is essential. This route does not benefit PCA in terms of releasing additional property adjacent to their existing facility as in Option 1.

Option 4 was determined not feasible for the following reasons:

- The Michigan Department of Environmental Quality considered an MDEQ permit that would allow for the construction of a bridge crossing Manistee Lake "very unlikely".
- This option would require mainline track construction through the north side of

PCA's property where a current facility expansion is under construction. PCA does not support a track connection would require the removal of this facility expansion.

- The Coast Guard and Army Corps of Engineers would also be involved if further warranted and it is expected that there would also be a lack of support from these agencies.

Options 1 and 2 are illustrated in detail on Figures 10.1 through 10.5. The benefits and challenges of these two options are listed below. Preliminary Construction Cost Estimates for these two options have been provided in section IX of this report.

#### Benefits of Option 1:

- This option is proposed within or adjacent to a proposed industrial zone in the Filer City area
- Minimal Public Street grade crossings (one at the Stronach Road & Heuer Hill Road intersection)
- Most desirable option for the Manistee County Road Commission
- Most desirable option for the Michigan Department of Transportation
- Most desirable option for PCA as a result of additional property acquisition adjacent to their current facility as previously discussed.

#### Challenges of Option 1:

- This option will have a higher construction cost compared to option 2 as a result of relocating Stronach Road and Grant Street. However, this higher construction cost could be somewhat offset by increased availability of potential funding as a result of funds from the MCRC and MDOT.
- If compared to option 2, this option would require additional property to be acquired along Grant Street which would increase the overall project cost. This may be offset by cooperation with PCA due to the property that may be gained adjacent to their facility.
- Obtaining MDEQ permits

#### Benefits of Option 2:

- This option is also proposed within or adjacent to a proposed industrial zone in the

Filer City area

- This option minimizes the relocation required for Stronach Road and Grant Street. The construction cost is less than Option 1.

Challenges of Option 2:

- Public Street Grade crossings total six, which is an additional five public street grade crossings if compared to Option 1. The MCRC, MDOT and PCA determined this option the less desirable option when reviewing options 1 and 2.
- Obtaining MDEQ permits

## VII. OTHER CONSIDERATIONS

### a. Right of Way Acquisition

Option 1 would require acquisition of right of way for approximately 44 parcels (or portions of parcels) of land. If only a portion of a parcel would be required, it is possible that an easement right of way could be obtained, rather than a deed. Table 1 identifies properties which the railroad right of way would pass through. This table is associated with the parcels illustrated in Figures 10.1 to 10.5. We have also included some parcels along Preuss Road in this category even though the right of way would not be needed on these properties. We have done this however, because the right of way may directly affect access and/or be located within the proximity of an existing or potentially proposed house or structure.

As can be seen, the majority of the parcels required for right of way are owned by PCA and Filer City Real Estate Development Corporation. This is why it is extremely important to have correspondence with these entities.

Option 2 would require similar parcels with the exception of the following (which is detailed in Table 1):

- Less parcels along the west side of Grant Street
- More partial or full parcel acquisition near the Stronach Road curve
- Slight changes in amount of property required near Heuer Hill Road.

## **b. Environmental Cleanup**

In the 1989 Study, an environmental audit was performed. Although no spill incidents were known, it was observed that there was soil staining mostly associated with the rail yards.

This current study has not included work associated with existing environmental contamination or clean-up. One of the next steps to consider if this project continues to evolve, would be obtaining an Environmental Site Assessment of the existing facilities to be removed. This could lead to additional environmental work including a Phase II ESA with a Baseline Environmental Assessment.

## **VIII. IMPLEMENTATION, PHASING AND SUBSIDIARY PROJECTS**

### **a. Implementation and Phasing**

The Following is a list of agencies and permits/approvals which may be required to construct this project:

<u>Agency</u>	<u>Type</u>
Manistee County Road Commission	Approval for road crossings and removals Approval for work in Right of Way Approval for relocation of roads/storm sewers Permitting for contractors
Michigan Department of Environmental Quality & the Department of Natural Resources	Permit for impact to wetlands Permit for impact to inland lakes and streams Approval or exemption for filling of floodplain NPDES Storm water permit for construction NPDES Storm water permits for industrial facility (unless exempt)
Corp of Engineers	Wetlands Permit Near Navigable Waters
Environmental Protection Agency	May have reviewing authority of Wetlands Fill

	Permit
Manistee County Drain Commission (if required)	Approval for drain crossings/stormwater management
Mason County Drain Commission	Approval for drain crossings/stormwater management Permit for Soil Erosion and Sedimentation Control
Manistee County Planning Department	Soil Erosion and Sedimentation Control
Marquette Rail	Approval for track construction and removal and permitting for contractor
United States Forest Service	Land Exchange
CSX Transportation	Project Disclosure
Michigan Dept. of Transportation	Approval of road crossings and removals
City of Manistee	Approval of removal work within road rights of way
Filer Township	Relocation of Watermain and Roadways
Utility Companies	Approvals & Permits for relocations/impacts

In addition to these agencies and associated types of approvals, communications with Manistee County, Stronach, Filer Townships, Manistee Township, East Lake Village, the City of Manistee and the Little Band of Ottawa Indians should also be maintained for project disclosure although we are not aware of any approvals required by these entities. Also,

depending on sources of funding for this project, other agencies such as the federal and state government may become involved in additional reviews and approvals.

Marquette Rail has an interest in addressing the dual goals of community development and the preservation and enhancement of vital rail services. However it should also be noted that as a common carrier railroad, Marquette Rail is subject primarily to federal legislation which effectively preempts many state laws and local regulations.

In order to construct any of the options contained in this report, the new relocated rail line around the southern portion of the lake would need to occur as the first item of construction. Existing materials from this project would therefore not be available for this portion of the construction. In order to provide a rail structure that meets more modern standards as well as better accommodate future heavier loads on rail cars, it is proposed to use 132# to 136# rail for this construction. Class one relay rail would be acceptable if it is available in this quantity. This track would be constructed in its entirety and then connected at the ends lastly. Once the connections are made, then the track along the northern portion of the lake could begin to be removed.

As illustrated in Figure 8, the proposed track removal limits are from just southwest of Gillespie Street in East Lake Village around the northern portion of Manistee Lake to a point just north of 7<sup>th</sup> Street (extended) in the City of Manistee (i.e. the southern part of the Morton Salt property). The mainline track consists mostly of 110# to 115# track. The existing sidings and rail yard tracks are thought to consist of mostly 90# rail as well as some 75# rail. Although this track would possibly be removed at the same time as the mainline, most of this track would not be recommended to be used for this project. There would however be a salvage value for these materials to rail suppliers/contractors in the Michigan, Indiana and Illinois area.

There is approximately 18,000 track feet of mainline track which could be removed. Even though a majority of the track is on curved sections, it is estimated that approximately 75% (or 13,500 track feet) of this track would be usable as relay track for the proposed rail yard.

The entire yard will require 18,000 track feet of track for yard option No. 1, therefore there probably will be a deficiency of existing track available unless there is some large pound rail in some of the sidings or yards. As part of the removal of the mainline, there will also be numerous turnouts that can be removed. These will also be available for use in the construction of the proposed rail yard.

For the purpose of this report, the swing bridge is shown to be removed whereas the two bridges crossing the Manistee River are to remain. Also, there may need to be a construction sequencing event for the removal of the portion of the track from the swing bridge to Morton Salt, as the main rail yard exists south of the swing bridge.

## **b. Subsidiary Projects**

### Removal of Existing Railroad

There are two known potential subsidiary projects which could occur as a result of removal of the existing track structure. One of the projects that could occur would be a nature trail utilizing the abandoned portion of the rail line. The other project would consist of assemblance of parcels along with utilizing the rail road right of way for future economic development. This could be accomplished by the City, County, developers or a combination of these. Figures 11A, 11B and 11C illustrate the existing parcels along the existing route in this area and Table 2 lists associated parcel data (i.e. owners address, class, etc.). It should be studied by planning agencies as to what type of development would best be suited for the various sections available for re-development. To support this effort, the Alliance for Economic Success is coordinating two supporting projects. Whittaker Associates has been engaged to study potential economic development and land use options for this area. Michigan State University through its Small Town Design Initiative program is facilitating a community-driven project to understand citizen's desired and concern regarding this underdeveloped land. If the rail relocation project is eminent, the local governing bodies should utilize these studies to modify their existing Land Use Plans to support smart growth economic and community development opportunities highlighted by these studies.

It should be noted here that CSX Transportation (CSXT) is the owner of the Railroad Right

of Way, whether it is in deed form or easement form. CSXT will be a key factor on whether these projects could occur as CSXT would have to relinquish their rights to the Right of Way. In 1989 CSXT was willing to consider this. Recently, Mr. Kevin Ruble from Marquette Rail has had preliminary discussions with CSXT to make them aware of this study and potential project. Mr. Ruble has indicated further discussion will occur upon the completion of this study.

### Manistee Renaissance Park Siding

Another potential subsidiary project was also contemplated and has therefore been considered as part of this study. There is a newly developed Industrial Park in Manistee Township (the Manistee Renaissance Park). This park contains 61 acres with a total of 12 industrial parcels, of which nine are available. This development is located on M-55 approximately two miles southeasterly of US-31. This section provides basic information on whether rail service to this park is possible and/or feasible. It should be noted however, that if this project was desired, it is not dependant on the rail relocation project to occur.

The first item to consider is a route for the proposed track. The most practical route is shown on the map contained in figure 12. The turnout off the mainline would be near the Martin Marietta Plant. The rail could follow along the west side of East Lake Road alongside the existing powerlines. East Lake Road continues east until it intersects M-55.

One major item with constructing this track is relative to the grades. There is approximately 60 to 70 feet of rise in the grade from the mainline to the park. Most of the grade change occurs near the mainline. There are three street intersections that need to be reviewed as part of the geometric constraints of this siding. The street intersection for the East Lake Estates access currently intersects East Lake Road just north of Harrison Road. Assuming the siding is constructed with a grade of 2.5% to 3% (this is at the upper limits of established grades for industrial park spur tracks) a large cut through this area will be required, which would not allow this street to access East Lake Road. This street could potentially be constructed to the north to connect with 3<sup>rd</sup> street.

If the siding continued northeast at 2.5% to 3.0% grade, the siding would be able to cross 3<sup>rd</sup> street with a grade crossing. Our calculations are based off of United States Geological Survey (USGS) Topographical Quadrangle Maps, therefore the accuracy of the elevations cannot fully be relied upon. Also, there would be major earthwork which would need to occur, as well as an extra wide Right of Way and/or retaining wall construction.

As shown in figure 12, if the park is served with rail from this location, an east-west and/or north-south siding could be constructed that would allow for service to the lots adjacent to the rail. Property acquisition or easement acquisition would be required for constructing a siding with these parcels. Lots 8 to 12 are not illustrated as having rail service since another street crossing and additional right of way acquisition would be required.

A preliminary cost estimate for the construction of this siding, assuming that the track could be constructed, is between \$700,000 to \$900,000. This cost estimate does not include property acquisition costs. Also the lot which the track would first gain access to the park appears to be a lot already sold.

If this option is determined feasible (from a financial and right of way acquisition standpoint as well as the East Lake Estates access street can be relocated), a basic topographical survey could provide better information to determine whether a track could be built. With this information there would be a better idea of the costs.

## **IX. PRELIMINARY CONSTRUCTION COST ESTIMATES**

Preliminary construction cost estimates are included for Options 1 and 2. These estimates include 10% for contingencies as well as 10% for engineering and legal fees. The costs of right of way acquisition and any environmental cleanup required are not included within these cost estimates. A more detailed cost analysis, including appraisals, is needed to determine property values. Also any environmental cleanup issues required are unknown at this time.

The cost estimates are broken down into 6 main categories. Tables 3 and 4 illustrate a tabular outline of each of these categories for Options 1 and 2, respectively:

- 1) Existing Utility Relocation – Includes the encasement or relocation of existing utilities affected by the railroad track construction. Records were obtained from the County Road Commission, private utility companies, and private industries to determine type, size and approximate location of the existing utilities. Approximate locations of known utilities are shown in Figure 4 – “Existing Utilities”.

We have also obtained preliminary estimates from some of the utility companies for the cost of relocation of their facilities. Other utilities we have estimated ourselves for the purpose of this report. If the other utility companies provide cost estimates in the future, these should be compared with the estimated costs contained in this report and be adjusted if they are substantially different. The details of these cost and if they are assumed or provided are as follows:

#### Charter Communications

Aerial Critical Fiber Optic Relocation – We have assumed an estimate of \$15,000 per pole relocation as well as an additional \$50,000 for pedestal relocation, if needed.

Underground Fiber Optic Cable Relocation - We have assumed an estimate of \$20/ft for the cost of relocating this utility as well as an additional \$20,000 for pedestal relocation.

#### DTE Energy

8” High Pressure Gas Main Relocation - DTE estimated relocation costs in the range of \$50 to \$100 per foot on these utilities. For the purposes of this estimate we have used \$60/ft.

3” Gas Service Line - We have assumed the cost of removing this service line is approximately \$2/ft.

#### International Transmission Company/Michigan Electric Transmission Company

High voltage overhead powerline – ITC and the METC recently acquired this

powerline from Consumers Energy. However, Consumers Energy was contacted as they are more familiar with this line. If Consumers Energy were to relocate this line they mentioned assuming \$15,000 per power pole would be a typical cost estimate for relocation of this type of transmission line.

#### AT&T

Underground cables – AT&T stated that relocating their underground cables in the Filer City area could cost up to \$5/ft and up to \$10,000/cross box. Therefore, we used these numbers as well as assuming 10 cross box relocations for option 1 and 4 cross box relocations for option 2.

#### Consumers Power

Overhead distribution power lines - For the purposes of this estimate we have estimated \$10,000 for each power pole that would need to be relocated.

#### Public Watermains

For the purposes of this estimate we have estimated \$10/ft for removal of the existing 4" water main in Grant Street and assumed that the existing 6" will need to be relocated at an estimated cost of \$40/ft.

#### Utility Crossings

All underground utility crossings were assumed to be protected by encasements. The estimated cost of encasing crossings ranged from \$4,000 to \$20,000 per crossing depending on the size of encasement required. For the purposes of this report, we have assumed an estimated \$20,000 for each overhead utility crossing that is assumed to be raised or modified.

- 2) Earthwork (for Track Construction) – Includes items such as topsoil removal, earth moving and restoration along the track. A majority of the earthwork is associated with the construction of the track south of Manistee Lake from PCA to Heuer Hill Road and at the connection point to the existing mainline track.

- 3) Street Relocation – Includes the removal and replacement of streets as a result of the proposed routes including earthwork and restoration for the street.
- 4) Track Construction – Includes items such as rail, ties, tie plates, spikes, ballast, sub-ballast, and grade crossings for the construction of the proposed mainline track.
- 5) Existing Track Removal – Includes the removal of rail, ties and other appurtenances for the existing mainline track and yards. It is assumed that a portion of the existing mainline track to be removed would be salvaged and used for the construction of the proposed rail yard.
- 6) Rail Yard – Includes salvaging a portion of the existing mainline rail for use in a portion of the yard.
- 7) Runaround and Curve Relocation - This runaround includes use of the salvaged mainline rail and also includes the curve relocation south of the runaround.

### **Option 1**

- 1) Existing Utility Relocation - \$1,600,000  
This estimate assumes that the existing utilities in Grant Street will be relocated as discussed previously. The track construction would require multiple utility encasements and relocation as generally described below.
- 2) Earthwork - \$500,000  
Using USGS maps it was calculated approximately 120,000 Cubic Yards of material will need to be moved for this option. Using a unit price of \$2.50 per cubic yard yields an amount of \$300,000. Also included in this item are costs for topsoil stripping, restoration, and unsuitable soil removal and replacement along the mainline which are approximated to cost \$200,000.
- 3) Street Relocation - \$1,300,000  
It is proposed to relocate Grant Street, Stronach Road, and a portion of Heuer Hill

Road. Approximately 6,200 feet of street is proposed to be removed and replaced.

4) Track Construction - \$2,301,400

This item consists of approximately 14,300 track feet of 132# new mainline track, new ties, ballast, sub-ballast (30' top width), crossings, and two No. 10 Turnouts. If relay rail is available for this track, this could reduce the cost by approximately \$150,000.

5) Existing Track Removal - \$692,000

The mainline track removal consists of approximately 18,000 track feet of 110# - 115# rail of which 75% (13,500 track feet) of the rail is proposed to be used for the rail yard. It is estimated that 25,000 track feet of 75# - 90# rail are contained within the existing yards, all of which will be removed. Approximately 55 turnouts would also be removed. A unit price of \$10/ track foot was assumed for the track being removed and used for the proposed yard and a unit price of \$5/ track foot was assumed for the rail being removed and salvaged.

Removal of the existing structures is not included in the cost estimate, other than the removal of a portion of the swing bridge. The removal of the steel swing-span portion of the bridge that crosses the existing Manistee Lake to Lake Michigan channel could potentially be removed for a cost of \$400,000 (as estimated by Marquette Rail). However, the existing channel piles, pier and supporting H piles will have a significant costs associated with removal, which could add \$700,000 to the bridge removal cost. Therefore, for the purposes of this report we have assumed that only the swing span portion of the bridge will be removed as part of this project and the center pier and supporting piles will remain.

6) Rail Yard - \$2,000,000

The proposed rail yard will require a total of 18,000 track feet of track, of which 13,500 track feet will come from the salvaged mainline. A deficit of 4,500 track feet of track will be required from off-site, however is estimated as 110# - 115# Class I relay rail. This also includes relocating an existing pole building from the Sparta, MI to the yard.

7) Runaround and Curve Relocation - \$393,000

As shown in Figure 8, a new runaround and track curve relocation south of Morton Salt is included in this cost estimate. This runaround includes the use of approximately 1,370 track feet of salvaged mainline and two new number 10 turnout (however number 10 turnouts may be able to be salvaged from the removal of the rail yards, which would lower the estimated costs).

The total preliminary construction cost estimated for Option 1 is \$10.5 million (as detailed in Table 3). This cost includes 10% for contingencies as well as 10% for engineering and legal fees.

### **Option 2**

Option 2 is similar to Option 1 with the exception of the utility relocations, street relocation and earthwork. Although the major utility relocations for Grant Street is not necessary, this option will require more utility relocations along Stronach Road and will require more earthwork along the southern portion of Manistee Lake, but will not require as much street relocation as Option 1. Below is a general breakdown of the estimated costs:

- 1) Existing Utility Relocation - \$1,000,000
- 2) Earthwork (for track)- \$550,000
- 3) Street Relocation - \$200,000
- 4) Track Construction - \$2,430,400
- 5) Existing Track and Bridge Removal- \$692,000
- 6) Rail Yard - \$2,000,000
- 7) Runaround and Curve Relocation - \$393,000

The total preliminary construction cost estimated for Option 2 is \$8.7 million (as detailed in Table 4). This cost also includes 10% for contingencies as well as 10% for engineering and legal fees.

## **X. FUND DEVELOPMENT**

Although a grant was obtained for this study, funding for this project will be one of the major challenges, in order for the project to proceed. As previously discussed, funding was a major reason that construction, based on the 1989 study, was not able to be implemented. Today, however, there are two new programs created by the federal government for rail line rehabilitation and relocation projects.

The first program is called the Short Line Grant Program. This program was enacted into law in December of 2007. This program authorizes \$50 million per year to rehabilitate short line freight track, however at this time money is not actually available for this program until appropriated by Congress.

A second program is called the Rail Line Relocation Program. This program authorizes grant money to States to “mitigate the affects of rail traffic on safety, motor vehicle traffic flow, community quality of life, economic development or lateral or vertical relocations of any portion of a rail line”. This program has received actual appropriations for project funding, and there is currently a \$15 million balance which is administered by the Department of Transportation.

In addition to these programs, Michigan Department of Transportation also has two other programs which could be of assistance. The first program is the Michigan Rail Loan Assistance Program (MiRLAP) and the second one is the Freight Economic Development Program (FED).

A MiRLAP loan is a non-interest loan issued for the purpose of “preserving and improving Michigan's rail freight infrastructure and, by so doing, contribute to the stability and growth of the state's business and industry”. Railroads, local governments, economic development corporations, and current or potential users of freight railroad services are eligible to apply for loan funds. Loans are limited to \$1 million per project (and per applicant) for each year of the program. This years budget includes \$3.3 million available for assisting projects. The loan repayment period may not exceed ten years.

A FED loan/grant offers financial assistance to transportation companies, private companies or local units of government in the development and/or expansion of business and industries. The program offers financial assistance in the form of loan/grants covering up to 50 percent of the rail freight portion of the project when the rail improvement facilitates economic development. This loan has the ability to transfer into a grant if measurable economic improvement is demonstrated over time (i.e. the number of freight car deliveries increases after the route relocation).

Marquette Rail is able to fund a portion of this project. Funding is anticipated to also be available from numerous other sources. At this time other potential funding sources to consider and pursue may be:

- 1) Manistee County Road Commission for Road Relocation.
- 2) United States Coast Guard and/or United States Army Corps of Engineers for removal of the swing bridge impediment.
- 3) CSX Transportation for value of land obtained for area for track removal and adjacent property owners.
- 4) Michigan Department of Transportation for elimination of local crossings as well as construction funds available for removal of State Highway crossings.
- 5) Donations and/or reduced costs for acquiring right of way for the railroad track.
- 6) Any other donations available from private donors.

## **XI. SUMMARY AND RECOMMENDATIONS**

This study has focused on the feasibility of a rail connection along the south side of Manistee Lake. If this connection were to be made, numerous other benefits and resulting projects would be possible. Some resulting benefits are vital to the success of this project, some may be a necessity, whereas others may not be crucial however desirable.

The two options detailed in this report are the two options found that have the most merit for implementation. This judgment is based upon compliance with engineering standards, project costs and availability to obtain approvals as well as mitigation of impacts to property owners.

As a result of the large amounts of property that PCA, TES Filer City (TES) and Filer City Real Estate Development Corporation (FCRE) owns, it was decided that if the proposed railroad right of way location could be considered on these parcels, this could be the best possible route from a standpoint of cost as well as the least impact on other private property owners. PCA, TES and FCRE have expressed cooperation associated with this potential project. The basis for our study has been to focus on these particular properties, however

the cost component of obtaining the right of way for the rail has not been discussed. This cost for the right of way still needs to be determined and if the costs are excessive other options near the studied options should then be reviewed.

It is recommended to continue to work with PCA, TES and FCRE for options and acquisitions associated with their parcels. Regarding other parcels required for acquisition, it is recommended to have the properties appraised to obtain current market values. Existing property owners should be contacted and discussions held regarding any potential acquisitions. If a property needs to be acquired, the compensation associated with this acquisition should be more than the fair market value.

If negotiations cannot provide a suitable outcome for obtaining the right of way, Marquette Rail has the right of eminent domain. This could be utilized to obtain the right of way, if “public convenience and necessity” can be proven in court.

Using eminent domain should be considered only as a last effort if all negotiations fail. We have asked MDOT for their policies and procedures regarding their eminent domain process, and we will review this when obtained to determine whether this highly evolved process would also be suitable for use on this project, if required.

In addition to continuing discussions for right of way acquisitions, we would recommend that local support of the project continue to be obtained.

This study can serve as a useful tool in communicating ideas and direction relative to this project. This study can also be used to provide better information to both the MSU Small Town Design Initiative as well as the Economic Development and Marketing Strategy for the Manistee Lake area.

We recommend obtaining appraisals of properties needed for right of way acquisition as well as obtaining an Environmental Site Assessment for the existing facilities to be removed. If both these items are completed, a more complete project cost estimate would

then be known.

Once local support of the project is obtained at a planning level, we would recommend using any available resources to obtain funding for this project. Funding for this project will likely be complex, as the funding will need to come from numerous agencies and sources. A large portion of funding appears to be possible from one of the two Federal Rail Grant programs, however various other monies will probably also be needed to complete funding for the project.

CSX Transportation (CSXT) should be supplied information out of this report with the intent that decisions could be made relative to release of right of way.

Some field survey work should also be performed to gain more knowledge of elevations, particularly in a few areas. After obtaining this surveyed information, it could affect the preliminary design of the proposed route as well as the Preliminary Construction Cost Estimates. Some areas which could be surveyed where we do not have accurate elevations and better information is desired, even at the planning level of design are:

- The existing mainline track from South County Line Road to north of the proposed turnout.
- The area near the intersection of the four property owners northeast of the E. Preuss Road and Camp Road intersection.
- The old railroad grade along E. Preuss Road.
- Grades in proximity to the Heuer Hill Road and Stronach Road intersection.

We have also obtained preliminary estimates from some of the utility companies for the cost of relocation of their facilities. Other utilities we have estimated ourselves for the purpose of this report. Construction Cost Estimates should be obtained from utility companies as one of the next steps of this project, these should be compared with the estimated costs contained in this report and be adjusted if they are substantially different.

When the project appears to be feasible and eminent, detailed engineered plans would

need to be completed in order to obtain permits and approvals as well as to provide plans for construction of the project.

It is envisioned that at least three major contracts would be utilized to construct the project. One contract would be awarded for demolition, one for excavating, road building and placing of subballast. A third contract would be awarded for the track construction. Other contracts and items would also be required for some utility relocations as well as any potential clean up required.

The results of this study show that this project is feasible to construct from an engineering standpoint based on current information and knowledge. If the two current design options are compared with the two more favorable options contained in the 1989 study, the project costs are significantly lower than the costs estimates performed nearly 20 years ago. The current cost estimates range from approximately 60% to 75% of the actual costs contained in the 1989 study and this does not even include a present worth calculation. The feasibility of the project moving forward however will be dependant on obtaining financing as well as solidifying numerous other details. We recommend that if possible, work continue on the project so that any momentum gained by this study is not lost.

# APPENDIX A

## FIGURES

**Figure 1 – Location Map**

**Figure 2 – Existing Conditions**

**Figure 3 – Existing Parcels**

**Figure 4 – Existing Utilities (24" x 36")**

**Figure 5 – USGS Topography & Overall Options Reviewed**

**Figure 6 – Wetlands Inventory**

**Figure 7A-7E – FEMA Floodplain Mapping**

**Figure 8 – Overall Proposed Improvements & Option (11" x 17" & 24" x 36")**

**Figure 9A – Rail Yard Relocation Map**

**Figure 9B – Relocated Rail Yard**

**Figure 10.1 A&B to 10.5 A&B – Proposed Route Options**

**Figure 11A, B & C – North Manistee Lake Parcel Map**

**Figure 12 – Manistee Renaissance Park Siding Route**

## **APPENDIX B**

### **TABLES**

**Table 1 – Estimated List of Parcels for Full or Partial Right of Way Acquisition  
/Easement**

**Table 2 – Parcels included in Figures 11A, B & C (North Manistee Lake Area)**

**Table 3 – Preliminary Construction Cost Estimate Option 1**

**Table 4 – Preliminary Construction Cost Estimate Option 2**

# TABLE 1

## OPTION 1

### ESTIMATED LIST OF PARCELS FOR FULL OR PARTIAL RIGHT OF WAY ACQUISITION/EASEMENT

#### FILER TOWNSHIP

PARCEL NO.	OWNER	ADDRESS	CLASS	PARTIAL OR FULL ACQUISITION
0601910003	PACKAGING CORP OF AMER	2700 S COMMERCE PKWY#300 WESTON FL	33331 IND. IMPROVED	PARTIAL
0601910010	T.E.S. FILER CITY	PO BOX 12 FILER CITY MI	49634 IND. IMPROVED	PARTIAL
0601912501	DROP FORGE DEVELOPMENT CORP	414 WATER STREET MANISTEE MI	49660 IND. IMPROVED	PARTIAL
0601947500	MICHIGAN LAND BANK FAST TRACK AUTHORITY		EXEMPT IMPROVED	FULL
0602035005	SCHUELKE WALTER ETAL	1112 E 24TH ST MANISTEE MI	49660 RES. IMPROVED	PARTIAL
0602035006	RUTKOWSKI ARLENE & RAYMOND	400 SPRUCE ST MANISTEE MI	49660 RES. IMPROVED	PARTIAL
0630170101	T.E.S. FILER CITY	PO BOX 12 FILER CITY MI	49634 IND. IMPROVED	FULL
0630170201	FILER CITY REAL ESTATE	414 WATER STREET MANISTEE MI	49660 RES. IMPROVED	PARTIAL
0630170202	FILER CITY REAL ESTATE	414 WATER STREET MANISTEE MI	49660 RES. VACANT	PARTIAL
0630170203	FILER CITY REAL ESTATE	414 WATER STREET MANISTEE MI	49660 RES. IMPROVED	PARTIAL
0630170207	FILER CITY REAL ESTATE	414 WATER STREET MANISTEE MI	49660 RES. VACANT	PARTIAL
0630170301	FILER CITY REAL ESTATE	414 WATER STREET MANISTEE MI	49660 RES. VACANT	FULL
0630170303	WALKER KENNETH T + JANE	572 MEE ST FILER CITY MI	49634 RES. IMPROVED	FULL
0630170305	FILER CITY REAL ESTATE	414 WATER STREET MANISTEE MI	49660 RES. IMPROVED	FULL
0630170307	HARRIS BUCKY & GINGER	516 MEE ST FILER CITY MI	49634 RES. IMPROVED	FULL
0630170309	WHEELER MAXINE	PO BOX 47 ONEKAMA MI	49675 RES. IMPROVED	FULL
0630170501	D.A. PICARDAT & D.D. OLSON	2048 HILL RD MANISTEE MI	49660 COM. IMPROVED	FULL
0630170601	MJC LINKE INC	719 MEE ST FILER CITY MI	49634 COM. IMPROVED	FULL
0630170604	GIELCZYK GEORGE	711 MEE ST FILER CITY MI	49634 COM. IMPROVED	FULL
0630170605	SMITH CHAUNTEL	639 MEE ST MANISTEE MI	49660 RES. IMPROVED	FULL
0630170607	RAHM ENTERTAINMENT, LLC	1881 84TH ST CALEDONIA MI	49316 COM. IMPROVED	FULL
0630170703	PACKAGING CORP OF AMER	2700 S COMMERCE PKWY#300 WESTON FL	33331 IND. IMPROVED	PARTIAL
0630170709	JACH LORI	758 FILER ST FILER CITY MI	49634 RES. IMPROVED	PARTIAL/FULL
0630171101	PACKAGING CORP OF AMER	2700 S COMMERCE PKWY#300 WESTON FL	33331 RES. VACANT	PARTIAL
0630171103	PACKAGING CORP OF AMER	2700 S COMMERCE PKWY#300 WESTON FL	33331 RES. IMPROVED	FULL
0630171113	PACKAGING CORP OF AMER	2700 S COMMERCE PKWY#300 WESTON FL	33331 RES. VACANT	FULL
0630171114	TYCZKOWSKI DOLORES ETAL	2602 NELSON ST MANISTEE MI	49660 RES. VACANT	FULL
0630171115	TYCZKOWSKI DOLORES ETAL	2602 NELSON ST MANISTEE MI	49660 RES. IMPROVED	FULL
0630171501	PACKAGING CORP OF AMER	2700 S COMMERCE PKWY#300 WESTON FL	33331 RES. VACANT	PARTIAL
0630171503	C & L INVESTMENT PARTNERSHIP LLC	11688 N BROOKS RD IRONS MI	49644 RES. IMPROVED	FULL
0630171513	BEDINGHAM DAN E	800 WARREN ST FILER CITY MI	49634 RES. IMPROVED	FULL
0630171515	SCHULTZ RICK L & TERI L	2416 GRANT ST FILER CITY MI	49634 RES. IMPROVED	FULL
0630172001	PACKAGING CORP OF AMER	2700 S COMMERCE PKWY#300 WESTON FL	33331 IND. VACANT	FULL

#### STRONACH TOWNSHIP

PARCEL NO.	OWNER	ADDRESS	CLASS	PARTIAL OR FULL ACQUISITION
1412001910	MANISTEE CO RD COMM	425 E. PARKDALE AVE MANISTEE MI	49660 EXEMPT IMPROVED	FULL
1412002000	LABODA PAUL THOMAS	166 CAMINO VISTA REAL CHULA VISTA CA	91910 RES. VACANT	PARTIAL
1412002200	MCGRATH JAMES P & SHELLI	1300 E PREUSS ROAD MANISTEE MI	49660 RES. IMPROVED	PARTIAL
1412002300	MCGRATH JAMES & SHELLI	1300 E PREUSS MANISTEE MI	49660 RES. VACANT	PARTIAL
1412002510	RUTOWSKI ARLENE & RAYMOND	400 SPRUCE STREET MANISTEE MI	49660 RES. VACANT	PARTIAL
1412002600	COLIN ARDIS A & MUECKLER EDWIN	2939 MOHAWK LANE ROCHESTER HILLS MI	48306 RES. VACANT	PARTIAL
1412002900	HEUER ERVIN + JEAN	RR 3 1500 E PREUSS RD MANISTEE MI	49660 RES. VACANT	PARTIAL
1412003400	LINDEMAN BRIAN P & TONYA	1869 E PREUSS RD MANISTEE MI	49660 RES. IMPROVED	PARTIAL
1412800200	HODGE GARY E ETUX	2181 CARTY ROAD MANISTEE MI	49660 RES. IMPROVED	PARTIAL
1412800400	MANISTEE CLAN MUZZLE LOADERS INC.	55 W PREUSS ROAD MANISTEE MI	49660 RES. IMPROVED	PARTIAL
1412900200	MANISTEE CO RD COMM	425 PARKDALE AVE MANISTEE MI	49660 EXEMPT IMPROVED	PARTIAL

**OTHER IMPACTS TO PARCELS**

PARCEL NO.	OWNER	ADDRESS	CLASS	TYPE OF IMPACT
0602035001	SCHUELKE MARIE ETAL	01060 E PREUSS RD RR3	MANISTEE MI 49660	RES. IMPROVED GRADING EASMENT
1412000600	CONSUMERS POWER COMPANY	ONE ENERGY PLAZA	JACKSON MI 49201	IND. VACANT ACCESS
1412003000	HARVEY JAMES & KRISTIN	1726 E PREUSS RD	MANISTEE MI 49660	RES. IMPROVED PROXIMITY OF TRACK TO HOUSE
1412003010	SMITH GERALDINE L	2930 S WENTWARD CT	HUDSONVILLE MI 49426	RES. VACANT UNDETERMINED
1412003100	LINDEMAN LAWRENCE R ET	3435 LINDEMAN RD	MANISTEE MI 49660	RES. VACANT ACCESS
1412003200	HEUER ERVIN ETAL	1500 E PREUSS ROAD	MANISTEE MI 49660	RES. VACANT ACCESS
1412003300	COLIN ARDIS A & MUECKLER EDWIN	2939 MOHAWK LANE	ROCHESTER HILLS MI 48306	RES. VACANT ACCESS
1412103500	RACZKOWSKI LEONARD	PO BOX 161	MANISTEE MI 49660	RES. IMPROVED ACCESS
14120UKNOWN	UNKNOWN			ACCESS
1412002900	HEUER ERVIN + JEAN	RR 3 1500 E PREUSS RD	MANISTEE MI 49660	RES. VACANT ACCESS

**OPTION 2 - SAME AS OPTION 1 WITH THE FOLLOWING DIFFERENCES**

**ADDITIONAL ACQUISITIONS**

PARCEL NO.	OWNER	ADDRESS	CLASS	PARTIAL OR FULL ACQUISITION
0601947503	LINKE RICHARD ESTATE TRUST	1037 E PREUSS RD	MANISTEE MI 49660	RES. VACANT PARTIAL/GRADING
0602035001	SCHUELKE MARIE ETAL	01060 E PREUSS RD RR3	MANISTEE MI 49660	RES. IMPROVED PARTIAL
0602035002	MARTIN MARIETTA	PO BOX 398	MANISTEE MI 49660	IND. VACANT ACCESS
0630172001	PACKAGING CORP OF AMER	2700 S COMMERCE PKWY#300	WESTON FL 33331	IND. VACANT PARTIAL
1412002200	MCGRATH JAMES P & SHELLI	1300 E PREUSS ROAD	MANISTEE MI 49660	RES. IMPROVED FULL

**PARCELS TO NOT BE ACQUIRED**

PARCEL NO.	OWNER	ADDRESS	CLASS	PARTIAL OR FULL ACQUISITION
0630171103	PACKAGING CORP OF AMER	2700 S COMMERCE PKWY#300	WESTON FL 33331	RES. IMPROVED N/A
0630171113	PACKAGING CORP OF AMER	2700 S COMMERCE PKWY#300	WESTON FL 33331	RES. VACANT N/A
0630171114	TYCZKOWSKI DOLORES ETAL	2602 NELSON ST	MANISTEE MI 49660	RES. VACANT N/A
0630171503	C & L INVESTMENT PARTNERSHIP LLC	11688 N BROOKS RD	IRONS MI 49644	RES. IMPROVED N/A
0630171513	BEDINGHAM DAN E	800 WARREN ST	FILER CITY MI 49634	RES. IMPROVED N/A

**OTHER IMPACTS TO PARCELS**

PARCEL NO.	OWNER	ADDRESS	CLASS	TYPE OF IMPACT
0602035002	MARTIN MARIETTA	PO BOX 398	MANISTEE MI 49660	IND. IMPROVED GRADING EASMENT

**ALTERNATE FOR EAST ROUTE**

**ADDITIONAL ACQUISITIONS**

PARCEL NO.	OWNER	ADDRESS	CLASS	PARTIAL OR FULL ACQUISITION
1412103500	RACZKOWSKI LEONARD	PO BOX 161	MANISTEE MI 49660	RES. IMPROVED PARTIAL

**PROPOSED RELOCATED RAILYARD**

**ADDITIONAL ACQUISITIONS**

<b>PARCEL NO.</b>	<b>OWNER</b>	<b>ADDRESS</b>	<b>CLASS</b>	<b>PARTIAL OR FULL ACQUISITION</b>
	US FOREST SERVICE (ATTN MR. HOJNNOWSKI)	412 RED APPLE ROAD MANISTEE MI 49660		PARTIAL/SWAP

## TABLE 2

### PARCELS INCLUDED IN FIGURES 11A, 11B & 11C

#### EASTLAKE VILLAGE

PARCEL NO.	OWNER	ADDRESS	CLASS
3700703000	LITTLE RIVER BAND OF OTTAWA INDIANS	375 RIVER STREET MANISTEE MI 49660	COM. IMPROVED
3700703100	CHANGED TO 5137007031DR STATE OF MI	STATE OF MI	REFERENCE ONLY
3700703210	ARMSTRONG JOHN J JR & STEWART	731 S GARFIELD TRAVERSE CITY MI 49686	COM. IMPROVED
3700703300	EAST LAKE ESTATES LLC	731 SOUTH GARFIELD AVE TRAVERSE CITY MI 49686	COM. VACANT

#### MANISTEE TOWNSHIP

PARCEL NO.	OWNER	ADDRESS	CLASS
0700600100	CHANGED TO 5107066001DR STATE OF MI	STATE OF MI	REFERENCE ONLY
0700600300	B I C CORP	1920 LAKESHORE DR MUSKEGON MI 49441	RED. VACANT
0733607700	SOLBERG BOAT YARD INC	267 ARTHUR ST MANISTEE MI 49660	COM. IMPROVED
0733608000	KUHR GEORGE & GLORIA	20 PARK AVE MANISTEE MI 49660	COM. IMPROVED
0733608700	CHANGED TO 5107336084DR STATE OF MI	STATE OF MI	REFERENCE ONLY
0734000500	GUNIA ROBERT & JANE	1011 VETERANS OAK GROVE MANISTEE MI 49660	COM. IMPROVED

#### CITY OF MANISTEE

PARCEL NO.	OWNER	ADDRESS	CLASS
5110122525	GUNIA ROBERT R & JANE	211 BLUFF AVENUE EASTLAKE MI 49626	COM. VACANT
5110122530	CITY OF MANISTEE	70 MAPLE ST MANISTEE MI 49660	EXEMPT IMPROVED
5110125002	WRZESINSKI JEROME & KATHY	700 MARLAWN DR MANISTEE MI 49660	COM. IMPROVED
5110125004	CITY OF MANISTEE	70 MAPLE ST MANISTEE MI 49660	EXEMPT IMPROVED
5110125005	KOZELKA ROBERT C JR & CAROL	8763 MILARCH ROAD BEAR LAKE MI 49614	COM. IMPROVED
5110125006	KRETZ THEODORE J	456 BIRCHWOOD MANISTEE MI 49660	COM. IMPROVED
5110125008	MANNOMI INC	301 S SAGINAW RD MIDLAND MI 48640	COM. IMPROVED
5110125009	KOZELKA ROBERT C JR & CAROL	8763 MILARCH RD BEAR LAKE MI 49614	COM. IMPROVED
5110127503	ADAMSKI PAUL	74 ARTHUR STREET MANISTEE MI 49660	COM. IMPROVED
5110127504	MARQUAND TIMOTHY & LYNN	2076 WILDWOOD RD MANISTEE MI 49660	COM. IMPROVED
5110127506	CITY OF MANISTEE	70 MAPLE ST MANISTEE MI 49660	EXEMPT IMPROVED
5110130001	CONSUMERS POWER CO	ONE ENERGY PLAZA JACKSON MI 49201	IND. IMPROVED
5114670415	SAND PRODUCTS CORP	63 KERCHEVAL SUITE 200 GROSSE POINT FARMS MI 48236	RED. VACANT
5114670419	BLARNEY CASTLE INC	PO BOX 246 BEAR LAKE MI 49614	COM. IMPROVED
5114670423	BLARNEY CASTLE OIL CO	PO BOX 246 BEAR LAKE MI 49614	COM. IMPROVED
5114670903	BLARNEY CASTLE OIL CO	PO BOX 246 BEAR LAKE MI 49614	COM. IMPROVED
5114671317	GIELCZYK PATRICK	13 BOWERMAN ROAD MANISTEE MI 49660	COM. VACANT
5117470501	LOR YENG & SUE VUE	8724 MIDWAY ST NE BLAINE MN 55449	RED. IMPROVED
5117470510	RENGO JOHN E ET UX	620 BROAD AVE MANISTEE MI 49660	COM. IMPROVED
5117470601	HORVAT LAURA J & BIELSKI LARRY	PO BOX 466 MANISTEE MI 49660	COM. VACANT
5117470701	MURRAY MARY D TRUST	224 ARTHUR ST MANISTEE MI 49660	RED. IMPROVED
5117470801	HORVAT ROBERT & LAURA	PO BOX 466 MANISTEE MI 49660	COM. IMPROVED
5117470809	STATE OF MICH		EXEMPT IMPROVED
5144870201	MANISTEE IRON WORKS LLC	33 LAKE STREET MANISTEE MI 49660	IND. IMPROVED
5144870805	JOHNSON WARREN C ET UX	600 BROWNING MANISTEE MI 49660	COM. IMPROVED
5144872903	HAMILTON LYLE	11841 LINDEMAN RD BEAR LAKE MI 49614	COM. IMPROVED
5144873205	DIXON DALE M & KATHY M	2638 LAKEVIEW DR ONEKAMA MI 49675	IND. IMPROVED
5144873509	SENG JEFFREY A &	33 LAKE STREET MANISTEE MI 49660	IND. IMPROVED
5144873601	CONSUMERS ENERGY COMPANY	ONE ENERGY PLAZA JACKSON MI 49201	COM. IMPROVED
5151227502	HANSON WM & MARY ELLEN	103 SIBBEN ST MANISTEE MI 49660	RED. IMPROVED
5151227504	MUSZYNSKI RONALD & SHARON TRUST	115 SIBBEN ST MANISTEE MI 49660	RED. IMPROVED
5151227505	VIRTA VICTORIA	119 SIBBEN STREET MANISTEE MI 49660	RED. IMPROVED
5151227506	LAFAVE CHAD M & JENNIFER	121 SIBBEN ST MANISTEE MI 49660	RED. IMPROVED
5156070101	NEW MORTON INTERNATIONAL	PO BOX 723427 ATLANTA GA 31139	REFERENCE ONLY
5171215000	CITY OF MANISTEE	70 MAPLE STREET MANISTEE MI 49660	EXEMPT IMPROVED
5171215001	NEW MORTON INTERNATIONAL	1700 MARKET ST PHILADELPHIA PA 19103	IND. IMPROVED
5171215010	CITY OF MANISTEE	70 MAPLE ST MANISTEE MI 49660	EXEMPT IMPROVED

## CHESAPEAKE & OHIO (CSX) RAIL ROAD LAND IN FIGURE 11A, 11B & 11C

### CITY OF MANISTEE

PARCEL NO.	OWNER	ADDRESS			CLASS
5110122520	CHESAPEAKE + OHIO RR	500 WATER ST	JACKSONVILLE FL	32202	EXEMPT IMPROVED
5110125007	CHESAPEAKE + OHIO RR	500 WATER ST	JACKSONVILLE FL	32202	EXEMPT IMPROVED
5110132501	CHESAPEAKE + OHIO RR	500 WATER ST	JACKSONVILLE FL	32202	COM. IMPROVED
5144873201	CHESAPEAKE + OHIO RR	500 WATER ST	JACKSONVILLE FL	32202	EXEMPT IMPROVED
5144873401	CHESAPEAKE + OHIO RR	500 WATER ST	JACKSONVILLE FL	32202	EXEMPT IMPROVED
5151215001	CHESAPEAKE + OHIO RR	500 WATER ST	JACKSONVILLE FL	32202	EXEMPT IMPROVED
5151215002	CHESAPEAKE + OHIO RR	500 WATER ST	JACKSONVILLE FL	32202	EXEMPT IMPROVED

### MANISTEE TOWNSHIP

PARCEL NO.	OWNER	ADDRESS			CLASS
0733607600	CHESAPEAKE + OHIO RR	500 WATER ST	JACKSONVILLE FL	32202	COM. VACANT
0734000600	CHESAPEAKE + OHIO RR	500 WATER ST	JACKSONVILLE FL	32202	COM. VACANT
07006C&ORR	CHESAPEAKE + OHIO RR	500 WATER ST	JACKSONVILLE FL	32202	UNKNOWN
07336C&ORR	CHESAPEAKE + OHIO RR	500 WATER ST	JACKSONVILLE FL	32202	UNKNOWN

### EAST LAKE VILLAGE

PARCEL NO.	OWNER	ADDRESS			CLASS
37007C&ORR	CHESAPEAKE + OHIO RR	500 WATER ST	JACKSONVILLE FL	32202	UNKNOWN