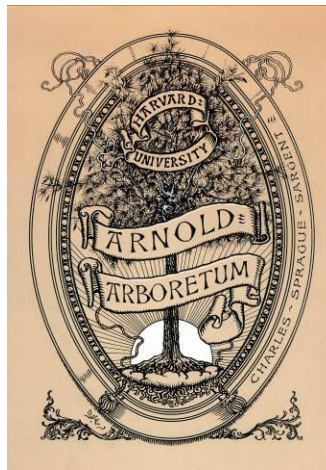


Archives I G-8 Trams

**Electric Trams records, 1979-1981: Guide.**



**The Arnold Arboretum of Harvard University**

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## Electric Trams records, 1979-1981: Guide.

Archives of the Arnold Arboretum of Harvard University  
125 Arborway, Jamaica Plain, Massachusetts

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### Descriptive Summary

**Repository:** Arnold Arboretum, Jamaica Plain, MA 02130

**Call No.:** I G-8 Trams

**Location:** Archives

**Title:** Electric Trams records, 1979-1981

**Date(s):** 1979-1981

**Creator:** Peter Ashton, Director and Wendy Marks, Manager of Public Services

**Quantity:** 3 linear inches

**Language of material:** English

**Abstract:** Electric Trams records was compiled by Peter Ashton, Director of the Arboretum and Wendy Marks, Manager of Public Services. The collection documents their efforts to implement an electric tram system at the Arboretum, and contains correspondence, photographs, and schematic drawings as well as materials promoting electric transportation. The Arboretum received five trams and three trailers as a donation from the St. Joe Lead Company of New York in 1980, but an assortment of mechanical problems and the constant necessity for new batteries brought an end to the project within one year. The materials in this collection span 1979-1981.

**Note:** Access to Finding Aid record in [HOLLIS](#).

**Preferred Citation:** Electric Trams records. Archives of the Arnold Arboretum of Harvard University.

**Additional Material:** More Wendy Marks correspondence may be available in the [Arnold Arboretum Correspondence Database](#).

### Processing Information

July 2011, Liz Francis. Revised January 2023, Larissa Glasser.

### Acquisition Information

**Provenance:** This collection was transferred from the Arnold Arboretum's departmental holdings to the Arboretum's Archives in 1984.

## Terms of Access

Researchers seeking to examine archival materials are strongly encouraged to make an appointment. The Director, or an office of origin, may place restrictions on the use of some or all of its records. The extent and length of the restriction will be determined by the Director, office of origin, and the Archivist.

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## Historical Note



In January, 1980 Arboretum Director Peter Ashton received a letter from Richard Jordan, Vice President of New York's St. Joe Lead Company. Jordan offered the Arboretum a gift of five electric trams and three trailers that were powered by the company's lead batteries.

These same vehicles had spent the previous three years in St. Louis, Missouri where they transported shoppers at no cost as part of a downtown revitalization effort by the non-profit Future Transportation Models, Inc. (FTM). The trams were manufactured by Pargo, Inc. and purchased through Centron Systems, Inc., a St. Louis dealer of electric vehicles. The St. Louis project was the first privately-funded electric shuttle system in the United States. FTM was hired as a consultant when St. Joe Lead Company purchased the trams and donated them to the Arboretum in April, 1980. <sup>1</sup>

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<sup>1</sup> Tram tour at the Arboretum. N. LeMay, photographer. [circa June, 1980]

Peter Ashton tasked Manager of Public Services Wendy Marks with managing implementation of the shuttle system at the Arboretum. She decided to run 30-minute tours along a 1.5 mile route on weekends and one weekday. The tour was narrated by a recorded transcript written by Gary Koller. The fee for the tour was \$1 for adults and 50 cents for seniors and children. All of the details were settled, and the



<sup>2</sup>



trams made their public debut on Lilac Sunday, May 18, 1980. The system was well-received by visitors, but the trams had mechanical issues immediately. By the end of the day on Lilac Sunday, Marks had a list of malfunctions including loss of power and loss of brakes.

Over the next year Marks and the Arboretum staff struggled to make the shuttle system work at the Arboretum. Each tram operated on two electric motors powered by 12, 6-volt lead batteries. Unexpected costs included specialized tools, equipment, and hundreds of batteries which had to be replaced more often than predicted.

<sup>3</sup>

The staff worked hard to address the failings of the system and re-introduced the trams the following month, June, 1980. Marks reached out to dozens of companies for donations to keep the program alive, but lack of funding led to an end to the program the same year. The trams were donated to the Massachusetts Society for the Prevention of Cruelty to Animals (MSPCA) Macomber Farm the following summer of July, 1981.

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<sup>2</sup> Tram operating as visitor information booth in Arboretum parking lot. 1980. 5x7" black and white photograph.

<sup>3</sup> Crane moving a tram onto a trailer truck for transport to Macomber Farm. 1981. 5x7" black and white photograph.

## Scope and Content

The Records of Electric Trams, 1979-1981 collection documents the planning, implementation, and failure of the electric tram system at the Arboretum. The bulk of the collection consists of correspondence between Peter Ashton, Director, Wendy Marks, Manager of Public Services, electric transportation consultants, and companies in the electric transportation industry. There is also correspondence with Harvard administration and among the Arboretum staff, and with Macomber Farm, which acquired the trams in 1981. The collection also includes promotional materials for electric transportation, schematic drawings, maintenance schedules, tram drivers' reports, and photographs. The items in this collection span 1979 through the donation of the vehicles to Macomber Farm in 1981.

## Arrangement

The Records of Electric Trams, 1979-1981 collection contains only one series with four folders. Within folders, items are arranged chronologically.

## Container List

### Box 1

### Series 1

### Folder 1: Project Planning and Tram Delivery



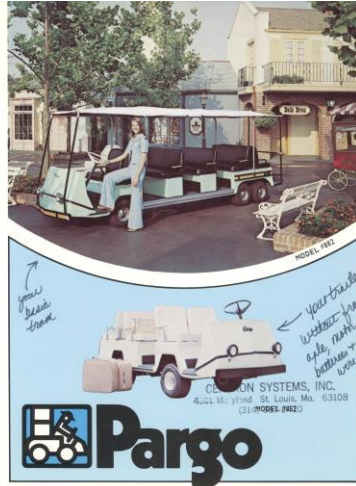
*They're breathing in the beauty of nature...and  
CLEANER AIR...Thanks to LEAD*

4

- Promotional flyer for trams powered by lead-acid batteries at the Missouri Botanical Garden. St. Joe Lead Company. [circa 1979]

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<sup>4</sup> Promotional flyer for trams powered by lead-acid batteries at the Missouri Botanical Garden. St. Joe Lead Company. [circa 1979]



5



6

- Promotional flyer for Pargo trams. [circa 1979]
- Promotional brochure for electric transportation: "Anticipate the Future". Future Transportation Models of St. Louis, Inc. [circa 1979]
- Promotional flyer for electric transportation. Union Electric, St. Joe Lead Company, and Centron Systems, Inc. [circa 1979]
- Announcement: "FTM [Future Transportation Models] Successfully Concludes 33 Month Experimental Demonstration of Electric Vehicle Transportation." June 22, 1979
- Cost estimate for five electric trams and three trailers. Centron Systems, Inc. August 7, 1979
  - "Innovative Electric Trams Revitalize St. Louis Community." *Lead Magazine*, 1978.
- Peter Ashton to Richard Jordan, Vice President, St. Joe Lead Company regarding possible donation of five trams and three trailers. January 10, 1980
- Peter Ashton to James Sharaf, General Counsel, Harvard University regarding regulations for the operation of electric vehicles. January 21, 1980
  - Annemarie Thomas-Esposito, Manager of Insurance, Harvard University to Dorothea Talbot, Secretary to the Director regarding insurance for trams and their drivers. January 10, 1980
  - Roger Moore, Attorney, Ropes & Gray to Richard Olendzki, Harvard Medical School regarding Harvard Medical School shuttle service regulations. May 10, 1975

<sup>5</sup> Promotional flyer for Pargo trams. [circa 1979]

<sup>6</sup> Promotional brochure for electric transportation: "Anticipate the Future". Future Transportation Models of St. Louis, Inc. [circa 1979]

- Tom Wheatley, Ropes & Gray to Mr. [Roger] Moore, [Attorney, Ropes & Gray] regarding Harvard Medical School shuttle service regulations. May 7, 1975
- Roger Moore, Attorney, Ropes & Gray to Daniel Steiner, Harvard University regarding licensing of student drivers for Harvard-Radcliffe shuttle service. October 4, 1974
- Roger Moore, Attorney, Ropes & Gray to Thomas Vacha, Department of Buildings and Grounds, Harvard University regarding licensing of shuttle drivers. May 25, 1974
- Draft: Peter Ashton (on behalf of St. Joe Lead Company) to the President and Fellows of Harvard College regarding proposed donation of five trams and three trailers to the Arboretum. February 4, 1980
  - Peter Ashton to Richard Jordan, Vice President, Labs, St. Joe Lead Company regarding draft letter to the President and Fellows of Harvard College. February 4, 1980
- D. Broward Craig, President, St. Joe Minerals Corporation to The President and Fellows of Harvard College regarding proposed donation of five trams and three trailers to the Arboretum. February 13, 1980
- Peter Ashton to Toni Underwood, FTM [Future Transportation Models] of St. Louis, Inc. regarding Arboretum images for FTM publicity. February 25, 1980
- President and Fellows of Harvard College to St. Joe Minerals Corporation thanking them for their "generous gift" of five trams and three trailers. March 3, 1980
- James Floodman, Jr., City Bank to Peter Ashton acknowledging receipt of \$27, 500 "for payment of five electric trams and three trailers." March 31, 1980
- Cost estimate for installation of ten 120 volt circuits for battery charging. H.F. Mayer Electrical Company. April 2, 1980
- Orville [Brotherton, Future Transportation Models of St. Louis, Inc.] to Peter Ashton regarding tram implementation plan. April 2, 1980
  - "Tram Implementation 10 Week Program Projection." Future Transportation Models of St. Louis, Inc. [circa April, 1980]
- Peter Ashton to Orville Brotherton, Future Transportation Models of St. Louis, Inc. regarding tram implementation plan and projected costs. April 4, 1980
- Orville Brotherton, Future Transportation Models of St. Louis, Inc. to Peter Ashton regarding tram implementation plan and projected costs. April 7, 1980
- Joni Underwood, Future Transportation Models of St. Louis, Inc. to Peter Ashton recommending parts suppliers and service providers for trams. April 8, 1980
- James Floodman, Jr., City Bank to Peter Ashton enclosing a "Manufacturer's Statement of Origin to an Electric Vehicle" for each of the five trams and three trailers. April 16, 1980
  - (8) "Manufacturer's Statement of Origin to an Electric Vehicle." August, 1976

**THIS MEMORANDUM**  
 is an acknowledgment that a bill of lading has been issued and is not the Original Bill of Lading, nor a copy or duplicate, covering the property named herein, and is intended solely for filing or record.

**MISSOURI PACIFIC RAILROAD COMPANY**  
 SHIPPING NOTICE

RECEIVED, subject to the classifications and tariffs in effect on the date of the receipt by the carrier of the property described in the Original Bill of Lading.

the property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below, which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property, under the contract) agrees to carry to its usual place of delivery at said destination, if on its own route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each carrier of all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every notice to be performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Official Southern, Western and Illinois Freight Classifications in effect on the date hereof, if this is a rail or a rail-water shipment; or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment. Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading set forth in the classification or tariff which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

SHIPPER'S NO. 8796 AGENT'S NO. \_\_\_\_\_  
 BUYER'S NO. \_\_\_\_\_ MINE NO. \_\_\_\_\_  
 SHIPPER'S NO. \_\_\_\_\_ AGENT'S NO. \_\_\_\_\_  
 BUYER'S NO. \_\_\_\_\_ MINE NO. \_\_\_\_\_  
 SHIPPER'S NO. \_\_\_\_\_ AGENT'S NO. \_\_\_\_\_  
 BUYER'S NO. \_\_\_\_\_ MINE NO. \_\_\_\_\_  
 CAR CAPY. \_\_\_\_\_ MAX. CAPY. \_\_\_\_\_

AT HERCULANEUM, MO. APRIL 16 19 80 FROM St. Joe Lead Company  
Division of St. Joe Minerals Corp.

CONSIGNEE TO HARVARD UNIVERSITY  
C/O ARNOLD ARBORETUM  
SUSSEX COUNTY  
BOSTON, MASSACHUSETTS

(Mail or street address of consignee—For purposes of notification only.)

DESTINATION \_\_\_\_\_ STATE OF \_\_\_\_\_ COUNTY OF \_\_\_\_\_ DELY. ADD \* \_\_\_\_\_  
 (\* To be filled in only when shipper desires and governing tariffs provide for delivery thereat.)

ROUTE \_\_\_\_\_

- Shipping notice for trams and trailers. Missouri Pacific Railroad Company. April 16, 1980
- "Tram Implementation Agreement" between the Arboretum and St. Joe Lead Company. Future Transportation Models of St. Louis, Inc. [circa April, 1980]
  - Invoices for consulting fees. Future Transportation Models of St. Louis, Inc. April 22, 1980 and May 1, 1980
- Shipping notice for tram. Missouri Pacific Railroad Company. May 9, 1980

## Folder 2: Lifecycle of the Trams at the Arnold Arboretum

- Press release about the planned premiere of the trams during Lilac Sunday (May 18). [circa May, 1980]

7) There are FUNCTIONAL PROBLEMS WITH ALL OF THE TRAMS. ONE LOST POWER, ONE LOST BRAKES ETC. IN 1 HR TIME PERIOD.  
 8) NEED TO ASSESS ACTUAL COSTS, SOON + REALISTICALLY.

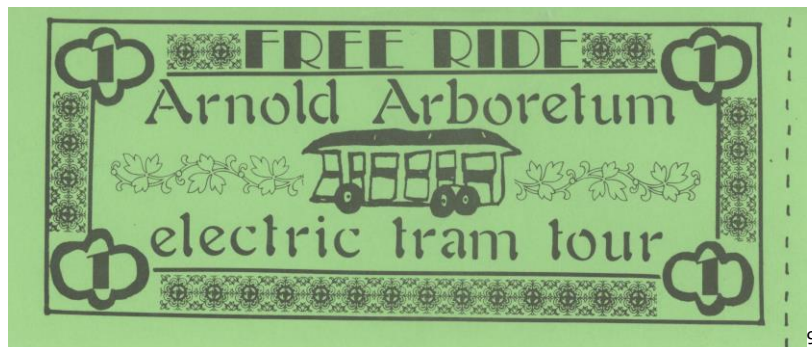
- Wendy Marks to Peter Ashton regarding her "initial impressions" of the trams after their first day of operation. Notes functional problems with *all* of the trams on their first day, including loss of brakes and loss of power. May 18, 1980
- Draft transcript of narrative for recorded tram tours. Gary Koller. [circa May, 1980]
- Draft transcript of narrative for recorded tram tours, with revisions. Gary Koller. [circa May, 1980]
- Orville Brotherton, Future Transportation Models of St. Louis, Inc. to Peter Ashton regarding labor cost for Dee Yarnall, Mechanic. May 23, 1980

<sup>7</sup> Shipping notice for trams and trailers. Missouri Pacific Railroad Company. April 16, 1980

<sup>8</sup> Wendy Marks to Peter Ashton regarding her "initial impressions" of the trams after their first day of operation. Notes functional problems with *all* of the trams on their first day, including loss of brakes and loss of power. May 18, 1980



- Invoice for labor (tram repair). Dee Yarnall, Mechanic. May 18, 1980
- Tram Operation Report. "Left rear wheel fell off." Frank Povilaitis. May 24, 1980
- Tram Operation Report. Frank Povilaitis. June 1, 1980
- List of duties related to tram maintenance. Frank Povilaitis. [circa May, 1980]
- Joni Barron Underwood, Future Transportation Models of St. Louis, Inc. to Pat Willoughby, Superintendent of Grounds recommending parts suppliers for trams. June 4, 1980
- Joni Barron Underwood, Future Transportation Models of St. Louis, Inc. to Wendy Marks regarding promotional materials and significance of the trams as "the first privately run electric shuttle system that ran in this nation." June 3, 1980
- Form letter seeking battery donations for trams. Wendy Marks. June 9, 1980
  - List of 58 corporations to which the above letter was sent.
- Wendy Marks to Annemarie Thomas-Esposito, Manager of Insurance, Harvard University regarding details of tram operation at the Arboretum. June 12, 1980

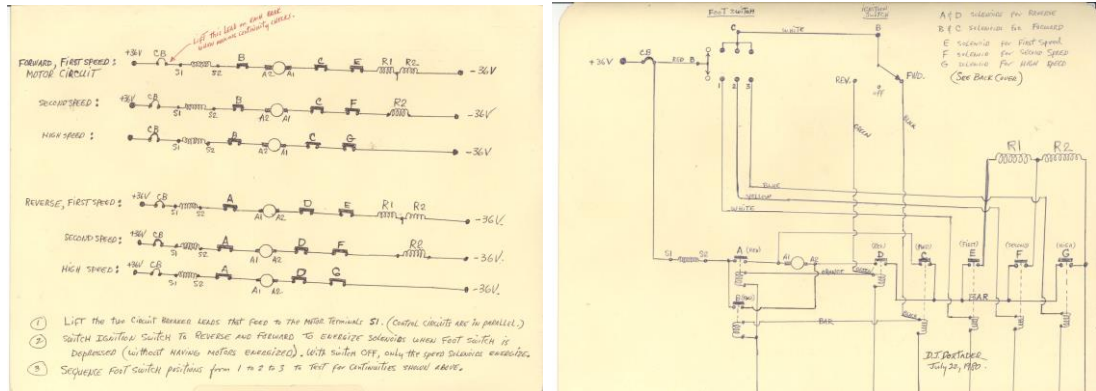


- Wendy Marks to Friend [of the Arboretum] announcing implementation of the tram system and enclosing a voucher for a free ride on the tram. June 16, 1980
  - Voucher: "Free ride. Arnold Arboretum electric tram tour." 1980
- Memo: Wendy Marks to All Staff regarding the progress of the tram system, the recorded tram tour, etc. June, 17, 1980
- C.M. Springer, Executive Director, Westinghouse Electric Fund to Wendy Marks declining to donate batteries. June 19, 1980
- James Sharaf, Office of the General Counsel, Harvard University to Alan Austin, Commissioner, Department of Parks and Recreation regarding operation of motor vehicles within the Arboretum. June 20, 1980
  - James Sharaf, Office of the General Counsel, Harvard University to Alan Austin, Commissioner, Department of Parks and Recreation. Informal letter regarding operation of motor vehicles within the Arboretum and personal matters. June 20, 1980

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<sup>9</sup> Voucher: "Free ride. Arnold Arboretum electric tram tour." 1980

- Annemarie Thomas-Esposito, Manager of Insurance, Harvard University to Wendy Marks regarding insurance for trams, passengers, and pedestrians. June 24, 1980
- Linda E. Howell, Communications Executive, Chloride Incorporated to Wendy Marks declining to donate batteries. June 24, 1980
- John Rowan, President, Energy Development Associates to Wendy Marks, regarding Zinc-Chloride batteries. June 25, 1980
- Wendy Marks to Robert McDonald, President, Bay State Battery thanking him for providing batteries at "a reasonable price." June 27, 1980
- Robert Scholl, Manager of Public Relations, The Garrett Corporation to Wendy Marks declining to donate batteries. June 30, 1980
- James Sharaf, Office of the General Counsel, Harvard University to Peter Ashton regarding a letter from the Department of Parks and Recreation. July 10, 1980
  - James Sharaf, Office of the General Counsel, Harvard University to Alan Austin, Department of Parks and Recreation regarding the impact of the tram system on the lease of Arboretum land from the city to Harvard. June 20, 1980
- Paul Bernat, Friend of the Arboretum to Peter Ashton approving of the tram system and enclosing a donation for the Arboretum. July 14, 1980
  - Peter Ashton to Paul Bernat, Friend of the Arboretum thanking him for his donation. July 14, 1980
- Memo: Wendy Marks to All Staff regarding an update to the tram schedule. July 16, 1980
- Joni Underwood, Future Transportation Models of St. Louis, Inc. to Wendy Marks regarding thank you notes for Exide's battery donation. July 25, 1980
- Wendy Marks to Timothy Anderson, Director, Franklin Park Zoo thanking him for sending the zoo's mechanic, [Harry] Doxtader, to the Arboretum. Doxtader created a schematic drawing and maintenance schedule for the trams. July 28, 1980
  - Wendy Marks to Harry Doxtader, Mechanic, Franklin Park Zoo thanking him for creating a schematic drawing and maintenance schedule for the trams. July 29, 1980
  - "Maintenance on Electric People Movers." Harry Doxtader. July 23, 1980



10

- “Electric People Movers” schematic drawings and maintenance schedule created on manila folder. Harry Doxtader. July 22, 1980
- Wendy Marks to John Wright, President, St. Joe Lead Company thanking his company for its efforts to acquire batteries for the trams. July 28, 1980
- Wendy Marks to Ray Keirny, Director of Purchasing, Exide thanking him for his company’s donation of 36 batteries. July 29, 1980
  - Wendy Marks to Paul Picone, Purchasing Department, Exide thanking him for his company’s donation of 36 batteries. July 29, 1980
- Wendy Marks to Peter Ashton (cc: James Papargiris, Hank Goodell, and Patrick Willoughby) recognizing the efforts of Papargiris, Goodell, and Willoughby to repair and maintain the trams. July 29, 1980
- Check stub for \$12 subscription to Electric Vehicle News. July 29, 1980
- Alfred Connell, Public Relations, Harrison Higgins, Inc. to Wendy Marks enclosing a draft of an article for review about the tram system at the Arboretum for publication by the Lead Industries Association. August 27, 1980
  - Draft: “Lead Battery-Powered Trams Popular at Boston Arboretum.”
- Hartley Crowe, Boston Edison Company to Wendy Marks regarding maintenance of the trams and enclosing a schematic diagram for “trouble shooting” the trams. September 9, 1980
  - “Schematic Diagram Empire Model 882 Motor & Control Circuit.” Hartley Crowe. September 2, 1980
- Descriptions of the tram project written by Cora Warren (Arboretum volunteer) and Wendy Marks after the project’s end for the Arboretum Archives. [circa 1980s]

### Folder 3: Donation of Trams to the Massachusetts Society for the Prevention of Cruelty to Animals (MSPCA)

<sup>10</sup> “Electric People Movers” schematic drawings and maintenance schedule created on manila folder. Harry Doxtader. July 22, 1980

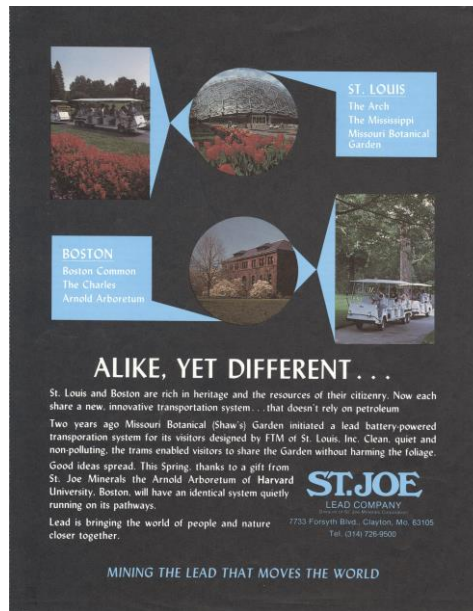
- Robert Johnson, Director, Macomber Farm, Massachusetts Society for the Prevention of Cruelty to Animals to Wendy Marks welcoming the possible donation of trams to Macomber Farm. May 19, 1981
- Wendy Marks to Robert Johnson, Director, Macomber Farm regarding details of tram donation. May 24, 1981
- Robert Johnson, Director, Macomber Farm to Wendy Marks regarding details of tram donation. June 25, 1981
- Purchase order for \$2,000 donation from Macomber Farm to the Arboretum as compensation for four trams and two trailers. Copy. [circa July, 1981]

#### Folder 4: Photographs



- Three trams, "Glow Worm", "Lindell East" a.k.a. "Firefly", and "Euclid West" at the Missouri Botanical Garden. [circa 1977]. (2) 8x10" black and white photographs.
- Tram with trailer, "Euclid West" at the Missouri Botanical Garden. [circa 1977]. (3) 8x10" black and white photographs.
- Tram, "Lindell East" at the Missouri Botanical Garden. [circa 1977]. (2) 8x10" black and white photographs.
- Tram, "Glow Worm" at the Missouri Botanical Garden. [circa 1977]. 8x10" black and white photograph.
- Tram with passengers at the Arboretum. N. Le May, photographer. 1980. 8x10" black and white photograph.
- Tram with passengers at the Arboretum. N. Le May, photographer. May or June, 1980. 8x10" black and white photograph.
- Tram. [circa 1980]. 3x5" black and white photograph.
- Tram operating as visitor information booth in Arboretum parking lot. 1980. 5x7" black and white photograph.

<sup>11</sup> Three trams at the Missouri Botanical Garden. [circa 1977]



12

- Promotional flyer for St. Joe Lead Company showing tram tour at the Arboretum. [circa 1980]



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- Crane moving a tram onto a trailer truck for transport to Macomber Farm. 1981. 5x7" black and white photograph.
- Crane moving a tram onto a trailer truck for transport to Macomber Farm. 1981. Vertical 5x7" black and white photograph.
- Crane lifting a trailer. 1981. 5x7" black and white photograph.
- Close-up view of crane. 1981. 5x7" black and white photograph.

<sup>12</sup> Promotional flyer for St. Joe Lead Company showing tram tour at the Arboretum. [circa 1980]

<sup>13</sup> Crane lifting a trailer (left) and crane moving a tram onto a trailer truck (right) for transport to Macomber Farm.

- Visitors waiting for tram. 1981. 5x7" black and white photograph. N. Le May, photographer.
- Arboretum visitors with tram in the background. 1981.
- Tram, "Glow Worm". [circa 1977]. 8x10" black and white photograph on with red mat. Centron Systems, Inc. logo on mat. Promotional photograph.