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- Dual track airport planning process



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**DUAL TRACK AIRPORT
PLANNING PROCESS**

**SUMMARY REPORT
NEW AIRPORT SITE SELECTION**

Metropolitan Airports Commission

February 1994



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Overview

A Dual Track Airport Planning Process – designed to study the region’s long-term aviation needs – was established by the Minnesota Legislature’s “1989 Metropolitan Airport Planning Act.” The process is being conducted by the Metropolitan Airports Commission (MAC) and the Metropolitan Council.

One track addresses ways to provide the needed capacity and facilities at Minneapolis-St. Paul International Airport (MSP). The other track provides the needed capacity and facilities at a new (replacement) airport in the Dakota Search Area. A third “no build” option is also being examined, along with other feasible alternatives as they are developed.

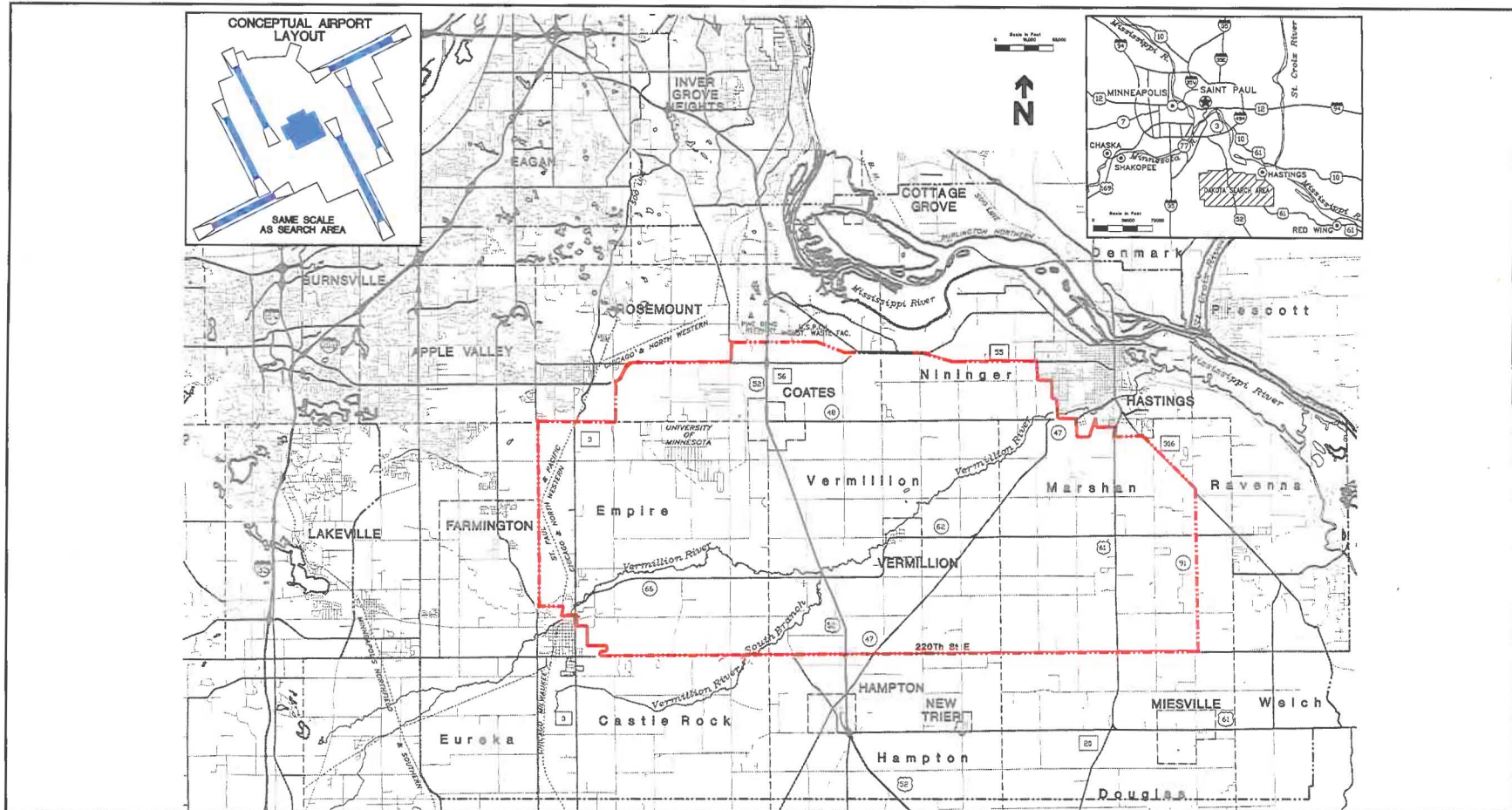
MAC is responsible for site selection in the Search Area, preparing a comprehensive plan for an airport on the selected site, developing the MSP Long Term Comprehensive Plan, and preparing the federal and state environmental documentation.

The Airport Planning Act also requires the MAC and Metropolitan Council to make a recommendation to the Legislature in 1996 on which approach should be taken for future airport development.



DAKOTA SEARCH AREA AND CONCEPTUAL DESIGN LAYOUT

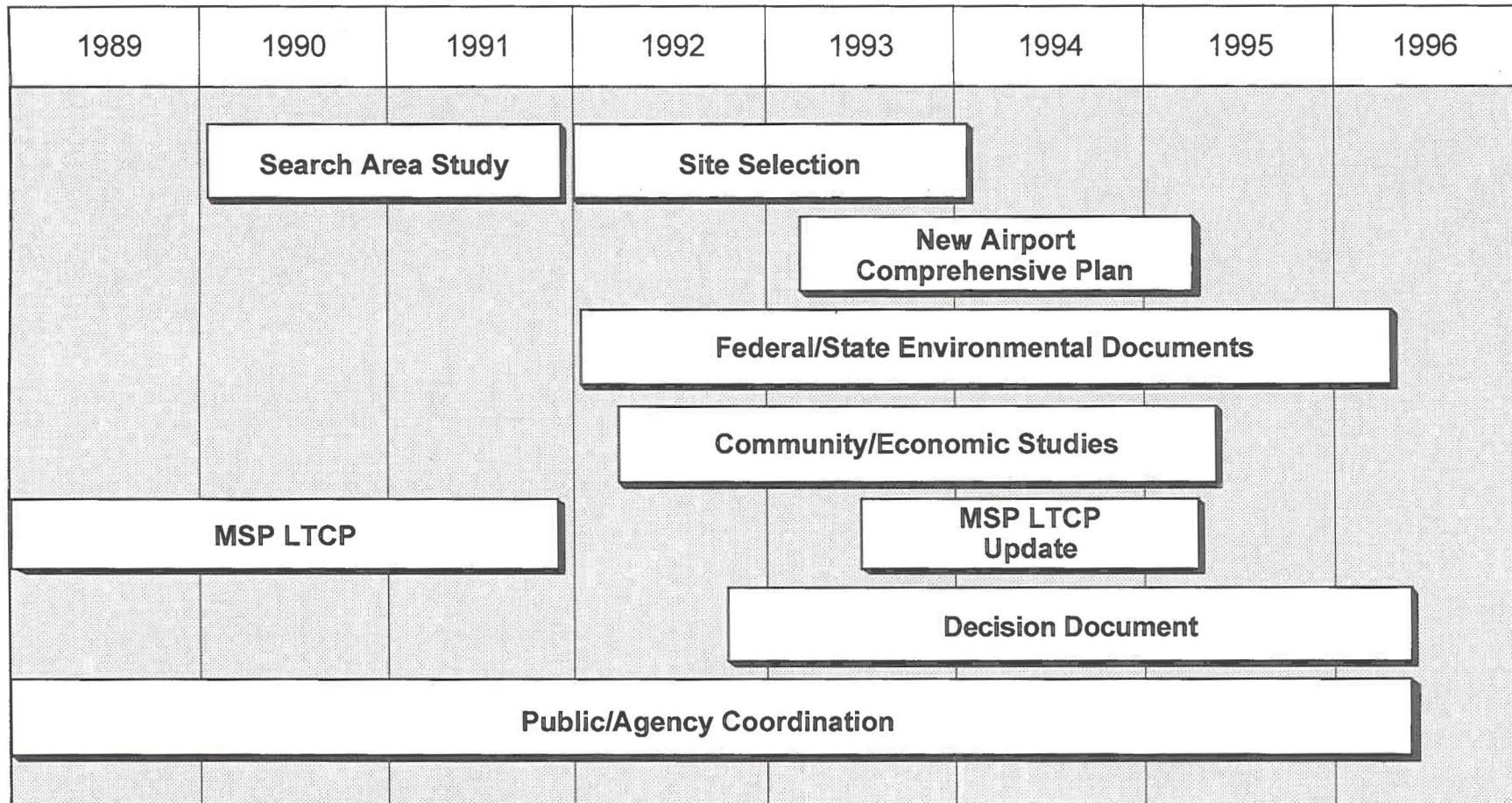
DAKOTA SEARCH AREA



In December 1991, the Metropolitan Council designated the Dakota Search Area in Dakota County for the planning and development of a new major airport. The Dakota Search Area measures 17 miles east to west and eight miles north to south and encompasses about 115 square miles or 74,600 acres. The new airport conceptual design layout, developed by MAC, was used in the site selection process in the Dakota Search Area.



SCHEDULE FOR 1989 – 1996



Dual Track Planning Process

MAC has developed this schedule, consisting of eight major elements, in order to meet the requirements set forth by the "1989 Metropolitan Airport Planning Act." The Act requires the MAC and Metropolitan Council to make a recommendation to the Minnesota Legislature in 1996 on which approach should be taken for future airport development.



AGENCY AND PUBLIC INVOLVEMENT

Throughout the Dual Track Airport Planning Process, there has been a major emphasis on public and agency involvement before, during, and after the completion of key study components.

Affected local, state and federal agencies have been contacted to determine the type and location of resources within their jurisdiction and in the new airport search area, and to identify potential issues and concerns.

In addition to these agencies, the following groups/committees were involved in the site selection process:

- **State Advisory Council.** The Minnesota Legislature established the Council to provide a forum for education and discussion on metropolitan airport planning. The Council reviews and advises the legislature on the Dual Track planning activities of the Metropolitan Airports Commission and the Metropolitan Council. Council members include House and Senate legislators, federal, state and metropolitan agencies, representatives of the aviation industry and members of the public residing within and outside the metropolitan area.

- **Contingency Planning Committee.** This group monitors trends in technology, travel habits and the economy and makes an annual assessment of any changes or modifications that may be necessary for the Dual Track Airport Planning Process. The group is

comprised of Metropolitan Council and MAC members, local officials and business representatives.

- **Site Selection Technical Advisory Committee.** This committee reviewed technical studies and documents, and provided input into the studies. Membership included representatives of affected state/federal transportation, planning and environmental agencies, local government staff and aviation industry representatives.

- **Site Selection Task Force.** The Task Force provided policy guidance and advised the MAC on policy issues during the new airport studies. The broad-based group included community officials from the Dakota Search Area vicinity, along with representatives from the metropolitan area, the business community, current airport users, MAC, Metropolitan Council and Minnesota Department of Transportation.

A public involvement program provided early and continuing opportunities for the public to be informed and to review and comment on the technical and environmental studies prior to decisions and selection of preferred alternatives. This program included public information meetings, public hearings, news conferences and news releases, informational brochures and newsletters.

The public had opportunities throughout the process to comment both informally and for-

mally. In addition, meetings of the Technical Advisory Committee and Task Force, as well as Commission meetings, were open to the public. Formal input was solicited at public hearings. Interested persons received copies of published reports and documents upon request.

Environmental Review Process

As part of the Dual Track environmental review process, which was approved by the Minnesota Environmental Quality Board, environmental documents were prepared for the site selection work. This work complemented the technical analysis, and is being co-sponsored by the Federal Aviation Administration and MAC.

The environmental documentation associated with the Site Selection Study provided a record of community and agency participation in the process. While the environmental documentation was separate from technical reports on the Site Selection study, the work and timing of tasks on the two processes were necessarily intertwined.

A document, entitled "Environmental Review Procedures" for the Dual Track Airport Planning Process, was published by MAC in March 1993. This booklet details the environmental procedures and is available to the public by calling the MAC.



SITE SELECTION STUDY APPROACH

The Metropolitan Airports Commission (MAC) began the new airport site selection study in January 1992. This work was initiated after the Metropolitan Council designated the Dakota Search Area as the general area within which a potential new airport would be located.

The Dakota Search Area is 115 square miles in size. It includes the cities of Coates and Vermillion, and Empire and Vermillion Townships, as well as parts of the city of Rosemount, Nininger and Marshan Townships.



SITE IDENTIFICATION

The first phase of the process included identification of all possible locations for the new airport within the Dakota Search Area. This phase began in January 1992. The MAC, working with its Site Selection Technical Advisory Committee and Site Selection Task Force, developed six site identification criteria to identify potential sites, as follows:

- Airport runways, taxiways and other facilities must be contained within the Search Area. It was also assumed that Federal Aviation Administration (FAA) Runway Protection Zones and land within the FAA Building Restriction Lines should also be contained within the Search Area, because the FAA requires these areas to be airport property. State Safety Zones may extend

To select a site in the Search Area, a three-step approach was developed by the MAC, as follows:

- 1) Site Identification – to identify all possible locations for a new airport based on a limited number of general criteria.
- 2) Site Screening – to reduce the number of potential sites to the three or four best sites using a set of detailed criteria to assess physical characteristics, operational efficiency, community/social

beyond the Search Area boundary.

- State Safety Zones A and B and the LDN 65 noise contour may not impact urbanized areas or population centers outside the Search Area.
- The runway layout must maintain the full operational capability of the Conceptual Layout design.
- No site would be considered which places airport facilities in areas of extensive wetlands.
- No site may be considered which would result in major ground facilities located in floodways.
- Physical features not compatible with low altitude aircraft overflight must be avoided (specifically avoiding overflights of the Pine Bend Refinery).

impacts, environmental impacts, and development costs.

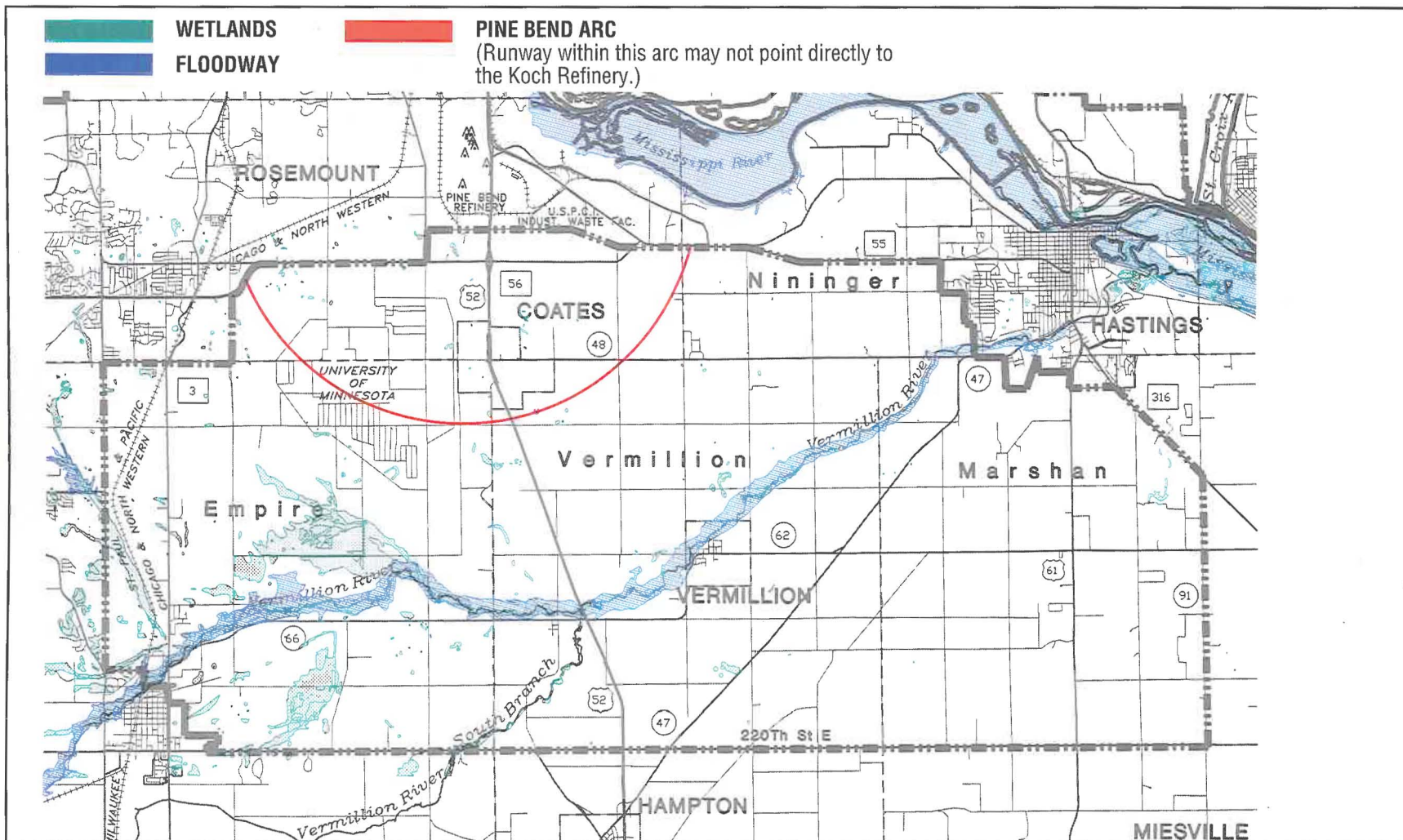
- 3) Site Selection – to analyze the final candidate sites and recommend a “preferred” site. Analysis during this final phase included the factors addressed during site screening at a more comprehensive level, and additional factors that were required to distinguish among the sites and to meet Alternative Environmental Document (AED) requirements.

During the site identification phase, a potential site included a specific land area within a site boundary and a specific runway configuration. A conceptual airport layout, which was developed and adopted by the MAC in the New Airport Conceptual Design Study in 1990, was used in the identification process.

In June 1992, a number of potential sites were identified by the Site Selection Technical Advisory Committee. After eliminating duplicate and/or overlapping sites, seven potential sites were identified. Three sites were east of the Vermillion River, southwest of Hastings. Four sites were west of the Vermillion River, near the center of the Search Area.



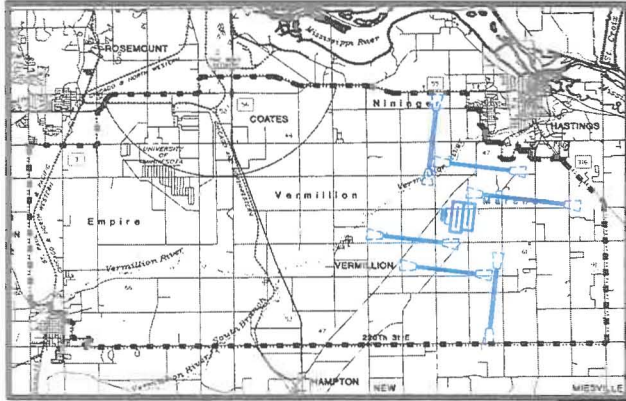
SITE IDENTIFICATION CRITERIA





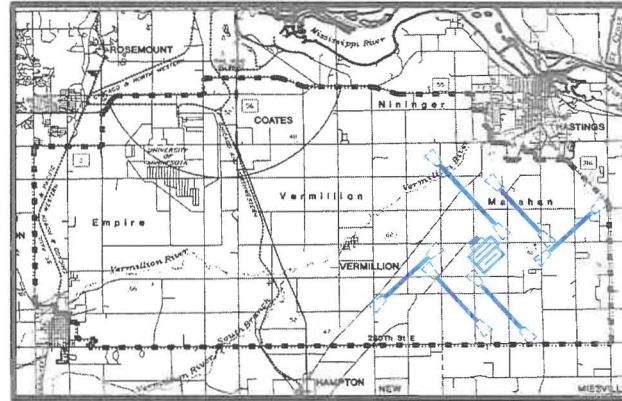
SITE LOCATIONS AND DESCRIPTIONS – EASTERN SITES

SITE 1



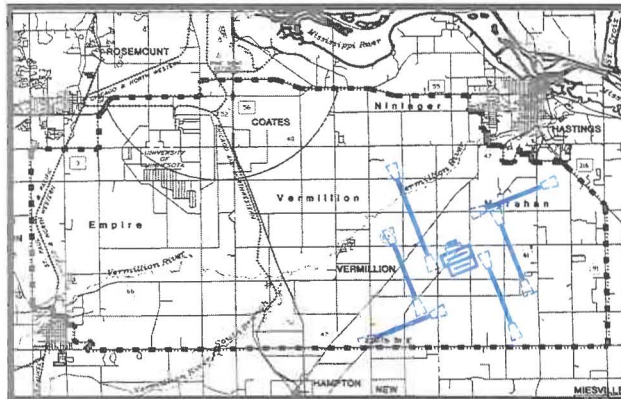
- East of the Vermillion River, south of Hastings.
- East-west primary runway orientation.

SITE 2



- East of the Vermillion River, south of Hastings.
- Northwest-southeast primary runway orientation.

SITE 3

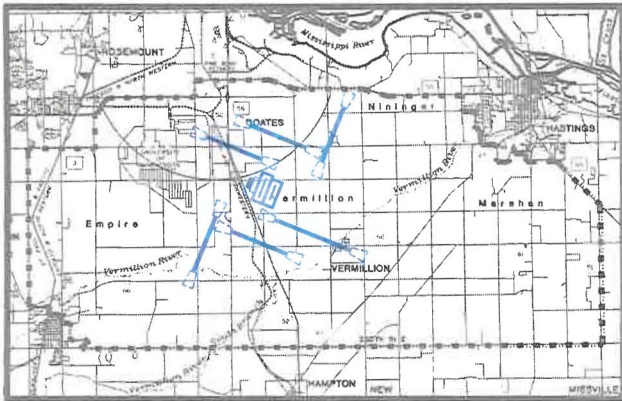


- East of the Vermillion River, along Search Area southern edge.
- Northwest-southeast primary runway orientation.



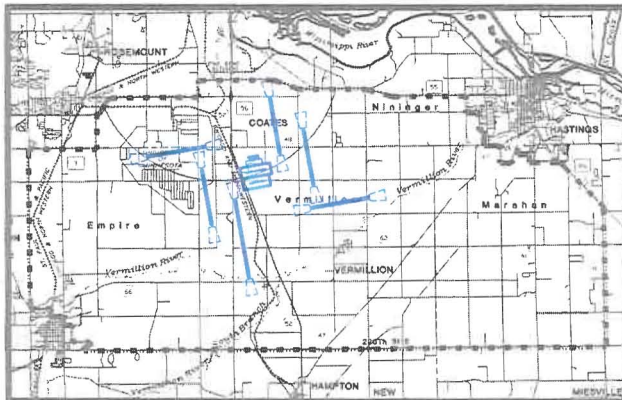
SITE LOCATIONS AND DESCRIPTIONS — WESTERN SITES

SITE 4



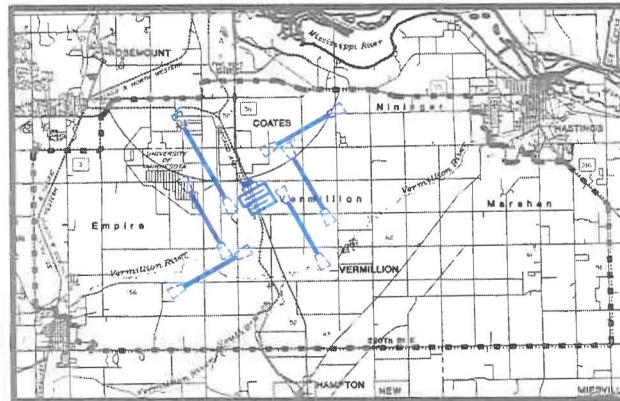
- West of the Vermillion River, near center of Search Area.
- Northwest-southeast primary runway orientation

SITE 6



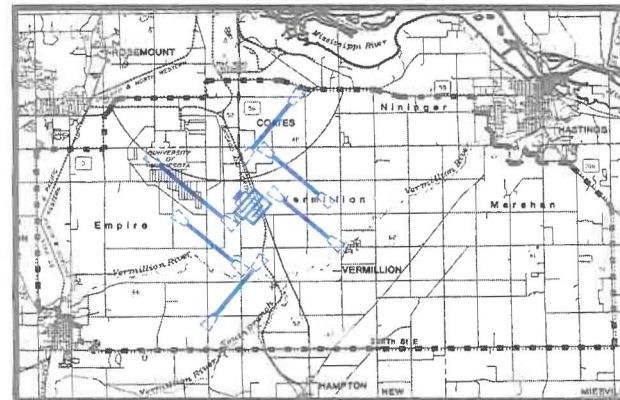
- West of the Vermillion River, south of Pine Bend.
- North-south primary runway orientation.

SITE 5



- West of the Vermillion River, south of Pine Bend.
- Northwest-southeast primary runway orientation.

SITE 7



- West of the Vermillion River, south of Pine Bend.
- Northwest-southeast primary runway orientation.



SITE SCREENING ANALYSIS

The site screening process began in the fall of 1992 and included extensive input from the Site Selection Technical Advisory Committee and the Site Selection Task Force. Each of the seven potential sites for a new airport was examined using 56 criteria within the following broad categories:

- Airport characteristics
- Community/social impacts
- Other environmental impacts
- Differential site preparation costs

As a result of the screening process, two eastern sites (Sites 2 and 3) and one western site

(Site 6) were recommended to the MAC by the Technical Advisory Committee and the Task Force. The MAC adopted Sites 2, 3 and 6 in February 1993 for the final step of the site selection process.

SITE 1

- Good site expandability
- Virtually no wetland impacts
- Relatively low site preparation costs
- Greatest potential impact on Hastings
- Likely displacement of Vermillion
- Less than optimal runway orientation

SITE 2

- Good operational characteristics
- Does not displace Vermillion or Coates
- Minimal natural environmental impacts
- Few siting constraints
- Longer access time than for western sites
- Potential impacts on Hastings

SITE 3

- Good operational characteristics
- Does not displace Vermillion or Coates
- Minimal natural environmental impacts

- Longer access time than for western sites
- Least impacts on Hastings of eastern sites

SITE 4

- Displaces Vermillion and Coates
- Highest site preparation costs
- Proximity to encroaching urban development
- Only fair runway expandability
- Highest potential bird strike hazard

SITE 5

- Shorter access time than for eastern sites
- No impact on "very highly sensitive" aquifer areas
- Displaces Coates and likely Vermillion
- Significant potential off-site noise impact
- Constrained by Pine Bend Refinery and Vermillion River
- Highest population in State Safety Zones

SITE 6

- Lowest travel time from metro area
- Fewest off-site noise impacts
- Lowest population in State Safety Zones
- Displaces Coates
- Higher wetland impacts than eastern sites
- Two landfills and three contaminated waste sites within site boundary
- Site constrained by Pine Bend Refinery

SITE 7

- Shorter access time than for eastern sites
- No impact on "very highly sensitive" aquifer areas
- Displaces Coates and likely Vermillion
- Greatest potential off-site noise impacts
- Most significant noise impacts on public parks
- Highest wetland impacts
- Site expandability complicated by Vermillion River floodway



SITE SELECTION

The final phase of the site selection process involved a detailed evaluation of Site 2, Site 3 and Site 6.

This evaluation had the most extensive crite-

ria in the overall site selection process, including specific factors to measure the operational, environmental, geographic, economic and cost aspects of the alternatives.

Some refinements were made to each site at the beginning of the site selection phase to minimize impacts. Other minor adjustments were made during the site selection analysis.



SITE SELECTION CRITERIA

The purpose of the site selection criteria was to help choose the “best” site and to meet environmental analysis requirements. These criteria were developed during the site screening process, and were supplemented by additional criteria and detail to meet the documentation requirements of the site selection phase.

Airport Characteristics

- Operational Efficiency
- Airspace Interaction
- Site Expandability
- Site Accessibility

Community/Social Impacts

- Displaced Communities/People
- Land Use Plans
- Community Services/Infrastructure
- Noise Impacts
- State Safety Zones A and B
- Total Population Impacts Summary
- Historic/Archaeological Resources
- Farm and Non-Farm Businesses
- Farmland
- Public Parks/Recreation Land

Other Environmental Impacts

- Wild and Scenic Rivers
- Wetlands
- Waste Disposal Sites
- Water Quality
- Air Quality
- Bird Strike Issues
- Endangered/Threatened and Special Concern Species
- Energy Supply and Natural Resources
- Floodplains

Differential Development Costs



SITE DESCRIPTIONS

Two eastern sites (Sites 2 and 3) and one western site (Site 6) were selected for detailed analysis in order to identify a preferred site for a potential new airport. Descriptions of the three sites appear on this page, followed by illustrations of each site on the next three pages.

Site 2

Site 2 is located east of the Vermillion River in the eastern third of the Search Area. The terminal area is centered about 4 miles southwest of Hastings and 3 miles east of the City of Vermillion. Site 2 is generally bordered by the Vermillion River to the northwest, Route 316 to the northeast, U.S. 61 to the southeast, 220th St. to the south, and Goodwin Ave. to the west.

The four main parallel runways are oriented in a northwest-southeast direction. The crosswind runways are perpendicular to the main runways, with one runway on the east and one on the west side of the main runways.

Two refinements to the site were made during the early phase of the site selection process. First, the site was rotated approximately 10 degrees clockwise from its initial site screening alignment to reduce noise impacts in Hastings and Prescott, Wisconsin. Also, the eastern parallel runway nearest the terminal area was shifted to the southeast to move it off the Vermillion River floodway.

Site 3

Site 3 is also located east of Vermillion River within the eastern third of the Search Area. The terminal area is centered about 5 miles southwest of Hastings and 3 miles east of the City of Vermillion. Site 3 is generally bounded by the Vermillion River to the northwest, U.S. 61 to the east, 220th St. to the south, and Goodwin Ave. to the west.

The four main parallel runways are oriented in a north northwesterly-south southeasterly direction. The two crosswind runways are in the northeast and southwest quadrants of the site, opposite to the crosswind runways in Site 2.

Three refinements were made to Site 3 at the outset of the site selection process. First, the entire site was shifted approximately 1,000 feet southeast relative to its initial site screening position to reduce impacts on the Vermillion River and Hastings. Next, the crosswind runways were rotated 10 degrees toward the main parallel runways. This enables aircraft using the northeast crosswind runway to stay farther south of Hastings and Prescott, Wisconsin. Third, the longest runway was moved to the farther west position to eliminate its crossing the Vermillion River.

Site 6

Site 6 is located northwest of the Vermillion River in the central third of the Search Area, about 6 miles west of Sites 2 and 3. The terminal area is centered about 9 miles west of Hastings and 3 miles northwest of the City of Vermillion. Site 6 is bordered by Rt. 42 to the north, Goodwin Ave. to the east, the Vermillion River to the south and University of Minnesota property to the west.

The four main parallel runways are oriented in a north-south direction. The western crosswind runway is perpendicular to the main runways and centered on the University of Minnesota property. The eastern crosswind is also perpendicular to the main runways and located in the southeast quadrant of the site, approximately 1 mile north of the City of Vermillion.

Three refinements were made to Site 6 as the final phase of site selection began. The first two changes included a shift in the entire site approximately 1,500 feet south, and a slight rotation of the site from its initial site screening position. These refinements moved the runways farther away from the Koch Refinery at Pine Bend. The last refinement moved the longest runway to the far west parallel runway position. This resulted in better clearance of the refinery's tall stacks and also eliminated any runway crossings of the Vermillion River.

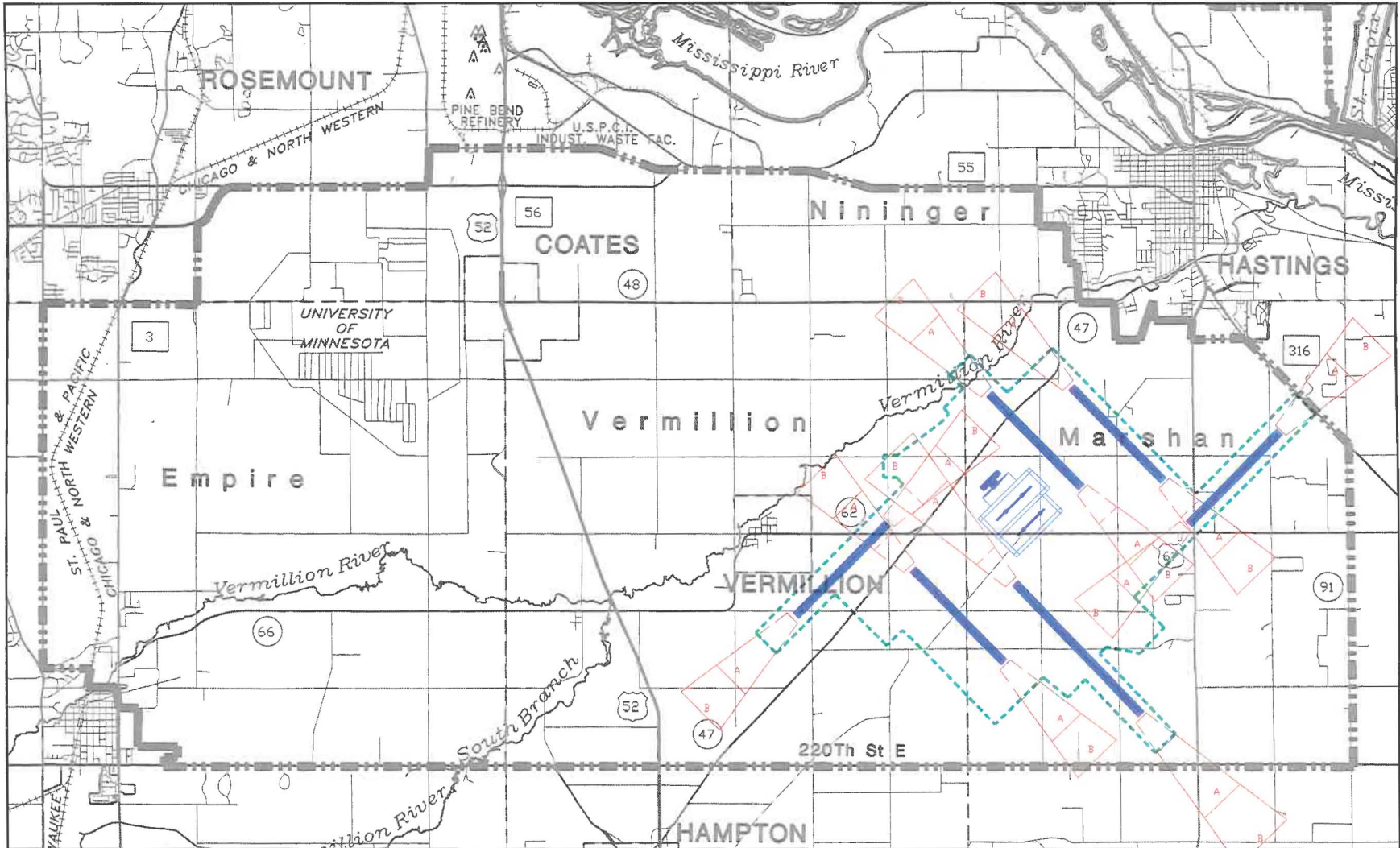


SITE 2

 State Safety Zones and Runway Protection Zones

 Terminal Building and Runways

 Airport Boundary

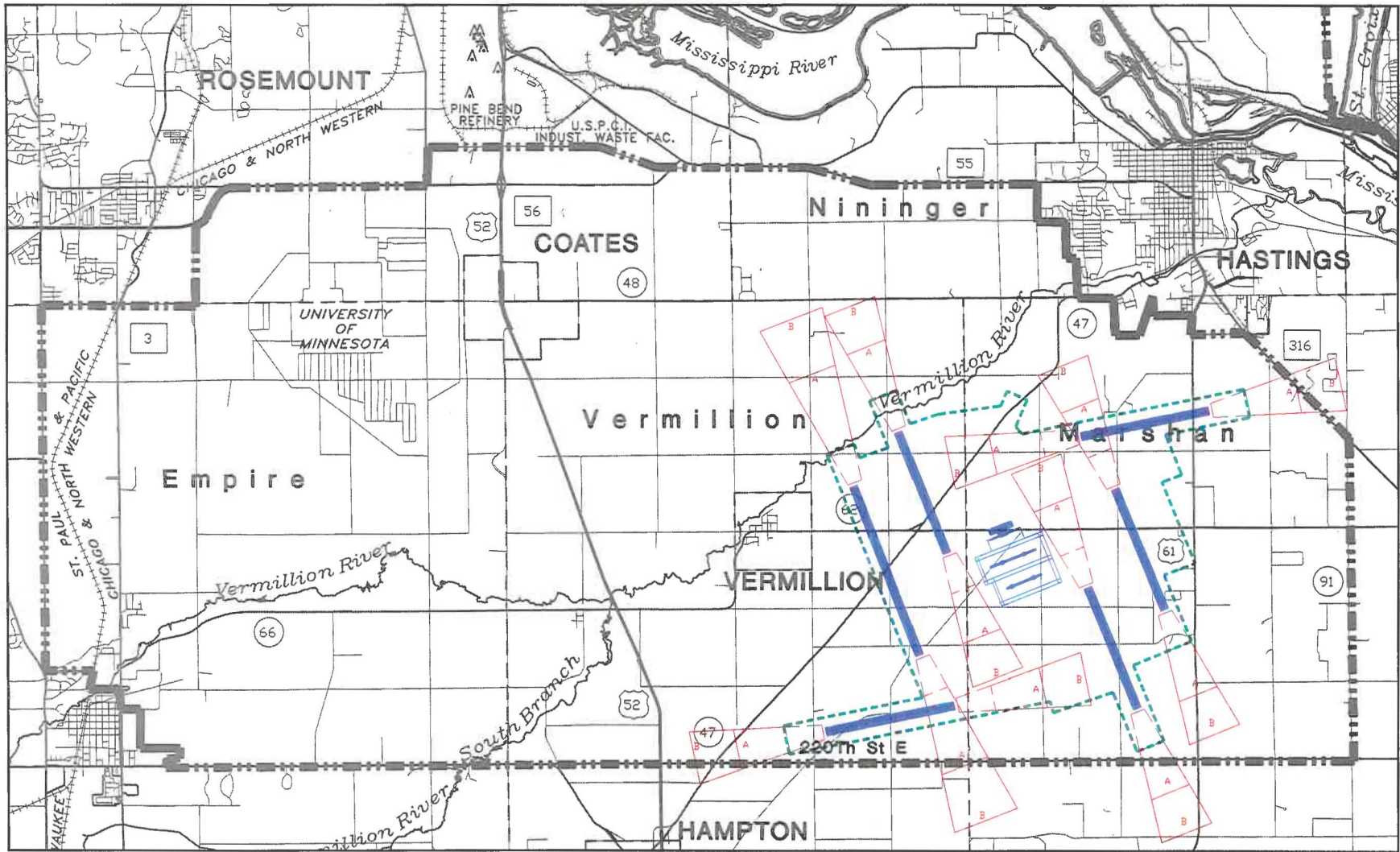




SITE 3

 State Safety Zones and Runway Protection Zones

 Terminal Building and Runways
 Airport Boundary



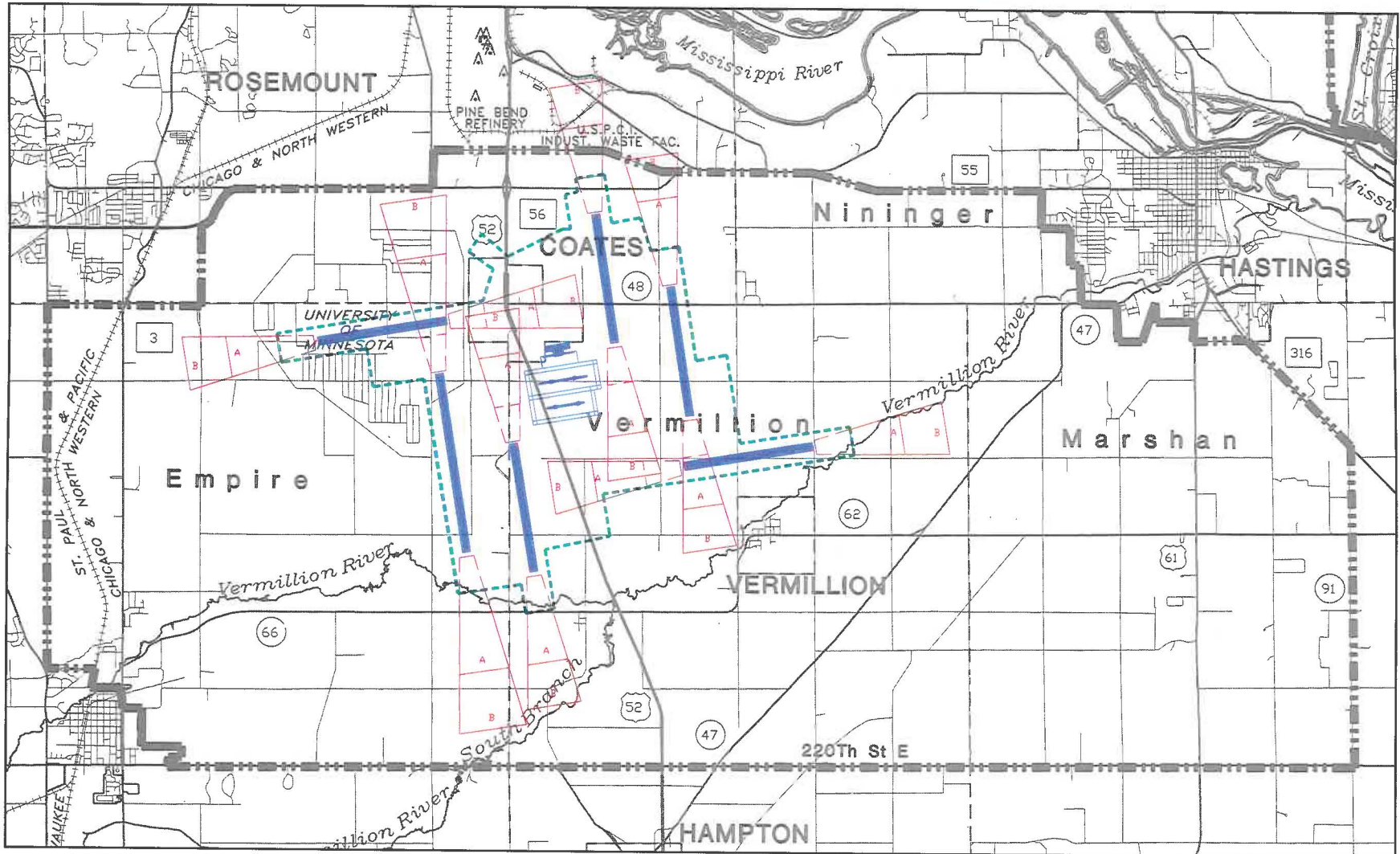


SITE 6

 State Safety Zones and Runway Protection Zones

 Terminal Building and Runways

 Airport Boundary





SITE 3 SELECTED

The analysis of Sites 2, 3, and 6 indicated that the two eastern sites (Sites 2 and 3) offered the best opportunities for airport development while producing the fewest impacts on surrounding communities.

Since Sites 2 and 3 occupy approximately the same piece of land, they have similar impacts. In 27 of the 67 site selection criteria, both sites have identical impacts, and for most of the remaining criteria, the differences were considered to be negligible.

One principal difference is that Site 3 offered greater expansion flexibility for the City of Hastings to the west and south, as well as more airport development flexibility to the north and east.

The second principal difference is that with Site 3, Hastings would be located north of the major flight corridors to and from the new airport. With Site 2, however, Hastings would be situated between two heavily used aircraft flight corridors to the south and north.

The western site (Site 6) had some drawbacks compared to the two eastern sites. First, the proximity of Site 6 to the Koch Refinery would

result in potential adverse visibility impacts for aircraft. Second, future airport expansion would be constrained by the refinery to the north, wetlands to the west, and the Vermillion River to the east. Expansion of the refinery would also be restricted by the airport if it were in this location.

Third, Site 6 would displace the City of Coates, and would be the closest site to the encroaching suburban development to the west.

Finally, South St. Paul Airport would have to close and operations at the Downtown St. Paul Airport and the new airport would be dependent on each other during bad weather, which would limit capacity at both airports.

The primary asset of Site 6 is that it had the shortest ground access time from the centers of the metropolitan area.

The Site Selection Task Force recommended Site 3 at a meeting on July 28, 1993. Following public review and comment, Site 3 was selected as the preferred site by the Metropolitan Airports Commission on Jan. 27, 1994.

Next Steps

With the selection of a preferred new airport site, work will begin on developing a New Airport Comprehensive Plan. The plan will determine the size, location, phasing, and initial design of runways and taxiways, passenger terminals, ground access and parking, air cargo, general aviation, support facilities and utilities.

A series of alternative airport development concepts will be evaluated. The final plan will be similar in scope and detail to the Minneapolis-St. Paul International Airport Long Term Comprehensive Plan in order to compare the two. The New Airport Comprehensive Plan will be completed in early 1995.

In addition, a New Airport Alternative Environmental Document will be prepared, which will detail environmental impacts. Scoping for the environmental process begins in February 1994.



APPENDIX

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Site Selection Task Force

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Commissioner Alton J. Gasper,
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Scott Bunin
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Site Selection Technical Advisory Committee

Metropolitan Airports Commission
Metropolitan Council
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Metropolitan Airports Commission

6040 28th Avenue South

Minneapolis, Minnesota 55450