
IRON RANGE OFF-HIGHWAY VEHICLE RECREATION AREA

MASTER PLAN AMENDMENT for the VIRGINIA EXPANSION

*Final Draft
January 29, 2010*



*Pursuant to Minnesota Laws 1999
Chapter 231, Section 99, Subdivision 4*

**Division of Parks & Trails
Minnesota Department of Natural Resources**



Minnesota Department of Natural Resources

500 Lafayette Road
St. Paul, Minnesota 55155-40__

January 29, 2010

TO: Iron Range Off-Highway Vehicle Citizen's Advisory Committee
FROM: Mark Holsten, Commissioner
RE: Master Plan Amendment – Final Approval

This amendment to the Master Plan for the Iron Range Off-highway Vehicle Recreation Area (dated Oct. 26, 1998) was prepared pursuant to *Minn. Laws 1999, Chap. 231, Sect. 99, Subd. 4* which authorized this 2,704-acre addition to the existing facility located in Gilbert, Minnesota. It contains detailed guidance for the management, development and operations of unique state-operated facility.

I am satisfied that planning and environmental review steps have been satisfied, and that all identified issues have been adequately addressed. Further, I believe that the project design is sensitive to the needs of the people of the Quad Cities Area, and that this facility will prove a welcome addition to the social and economic fabric of the area. I sincerely thank area residents and their elected officials for their patient support and participation throughout this extended planning process.

Pursuant to state law, and the authority vested in me, I hereby approve this amendment to the Master Plan for the Iron Range Off-Highway Vehicle Recreation Area.

A handwritten signature in blue ink, appearing to read "Mark Holsten", is written over a horizontal line.

Mark Holsten, Commissioner

A handwritten date "1-29-10" in blue ink is written over a horizontal line.

Date

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IRON RANGE OFF-HIGHWAY VEHICLE RECREATION AREA

MASTER PLAN AMENDMENT VIRGINIA EXPANSION

EXECUTIVE SUMMARY

About the Project. The Minnesota Department of Natural Resources (MDNR) will develop a 2,704 acre expansion to complement the existing Iron Range Off-highway Vehicle Recreation Area (OHVRA), located at Gilbert, Minnesota. This expansion, which was legislatively authorized in 1999, is located about one-mile north of the existing facility, partially within the City of Virginia, Minnesota (**See Overview Map - next page**). It will be linked to and managed from the existing Gilbert OHVRA facility. Together, the Virginia Expansion and the existing Gilbert Site will total about 3,900 acres.

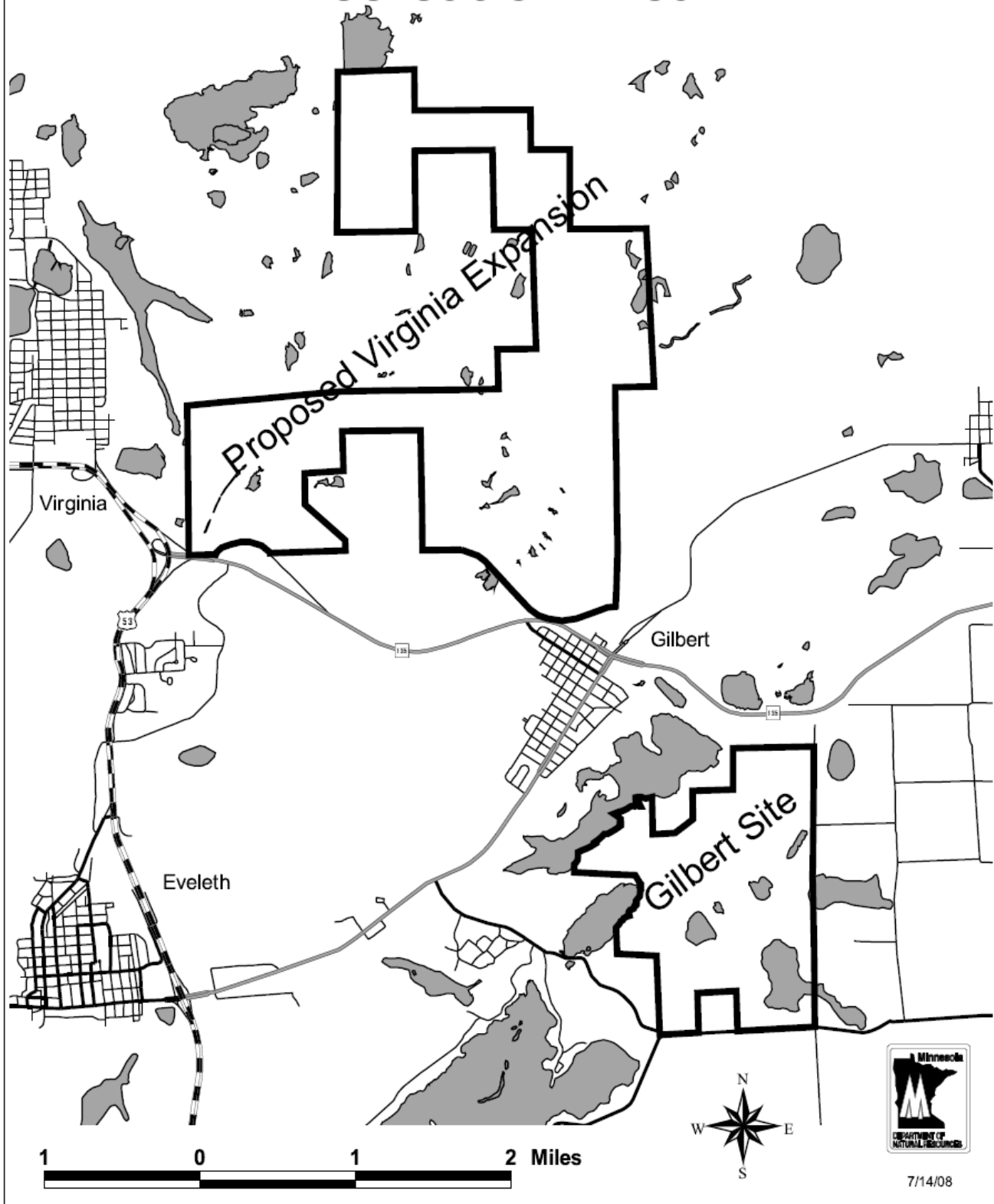
The Virginia site, or project area, will be developed exclusively for trail riding for all classes of Off-highway Vehicles (OHVs)--All-terrain Vehicles (ATVs), Off-highway Motorcycles (OHMs), and Off-road Vehicles (ORVs); ORVs include larger vehicles such as 4x4 trucks and jeeps. When completed, the new road and trail system at Virginia will total approximately 75 miles.

Specifically, this expansion project includes the development of a 75-mile road/trail system, two culvert underpasses and perimeter fencing. Little or no built infrastructure is planned for the Virginia Expansion Site. The sole vehicle entrance into the OHVRA will remain on Enterprise Trail, a gravel road approximately .5 miles east of the TH 37 & 135 intersection in Gilbert. This road enters the OHVRA at Pettit Road on the north side just west of the DM&IR railroad tracks. Just inside the gate is a Contact Station and bridge crossing of the DM&IR dual tracks which serves as the primary entrance point into the newly expanded OHVRA. A planned one-mile connector trail will link the two sites.

Purpose of this Amendment. An EAW, an EIS, and a Master Plan were previously prepared for the Iron Range OHV Recreation Area, Gilbert Site. This Amendment to the original Recreation Area Master Plan (dated 12/31/98) supplements and updates that plan to incorporate management and development guidance specifically applicable to the Virginia Site Expansion. It incorporates the original Master Plan and environmental documents by reference.

Implementation Plans and Construction Schedule. Upon completion of Environment Review, and approval of this Master Plan, this project may proceed with local permitting and construction. After a decade-long delay, funding is finally in-place for facility construction and operations. Construction is expected to take 9-12 months before the site can be opened to public use. Development of the full 75-miles of roads, trails and support facilities, however, may not be completed for 3-5 years thereafter.

Iron Range Off-Highway Vehicle Recreation Area



IRON RANGE OFF-HIGHWAY VEHICLE RECREATION AREA

MASTER PLAN AMENDMENT VIRGINIA EXPANSION

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IRON RANGE OFF-HIGHWAY VEHICLE RECREATION AREA

MASTER PLAN AMENDMENT VIRGINIA EXPANSION

I. PURPOSE & NEED FOR ACTION

A. BACKGROUND. The Minnesota Department of Natural Resources (MDNR) will develop a 2,704 acre expansion to complement the existing Iron Range Off-highway Vehicle Recreation Area (IROHVRA), located at Gilbert, Minnesota. The expansion site is located one mile north of the existing IROHVRA, partially within the City of Virginia, Minnesota. The Virginia Expansion site will be managed out of the existing facility, which will be linked to the expansion area by a connector road. This proposed expansion includes the development of the connector road, a core trail system, vehicle specified trails, and perimeter fencing.

The proposed Virginia Off-highway Vehicle Recreation Area (OHVRA), hereafter referred to as the Virginia Expansion site, Virginia site, or project area, is located in two cities--partially on the eastern limits of the City of Virginia and partially on the northern limits of the City of Gilbert (**Figures 1 & 3 – Appendix D**). The site will be developed for trail riding for all classes of Off-highway Vehicles (OHVs)--All-terrain Vehicles (ATVs), Off-highway Motorcycles (OHMs), and Off-road Vehicles (ORVs); ORVs are the class of larger sized vehicles that includes 4x4 trucks and jeeps. When completed, the road and trail system would run a distance of approximately 75 miles. The 2,704 acre-Virginia Expansion site will be connected to the existing 1,200 acre-Gilbert OHVRA by a connector trail that will serve as its only public access. Together, the Virginia Expansion and the existing Gilbert Site will total about 3,900 acres.

B. PROJECT PURPOSE, SCOPE & CONTEXT. This 2,704-acre addition to the Iron Range OHV Recreation Area (OHVRA) was legislatively authorized in 1999 (*Minnesota Session Laws, 1999, Chapter 231, Sect. 99, Subd. 4*). The addition was intended to complement off-road riding opportunities already available at Gilbert, making the OHVRA a viable long-distance destination and an attractive, challenging recreation experience for trail riders. The OHVRA, which has been operating at Gilbert since 2002, was always intended to include sufficient acreage and trail riding opportunity to attract riders from across the state and nation. The Virginia Expansion project will help achieve this vision. With nearly 300,000 registered OHVs in Minnesota, OHV riders are a fast-growing constituency.

Project beneficiaries include those that already visit the Gilbert Site (*about 10,000/yr*), and the projected 5,000 additional visitors expected annually following the park's expansion. When completed, the entire facility will be open to all types of All-Terrain Vehicles (ATVs), Off-Highway Motorcycles (OHMs), and Off-Road Vehicles (ORVs). This activity is expected to generate up to \$300,000 annually in added economic stimulus for area businesses. Since the Gilbert facility opened in 2002, initial visitor and economic projections have proven accurate and substantial development and new economic activity have occurred in the City of Gilbert.

C. PLANNING GOALS & OBJECTIVES.

1. - **Land Use/Facility Development Goal:** *"Provide diverse and challenging opportunities for off-highway vehicle enthusiasts in a socially and environmentally responsible manner."*

Objectives:

- a) Expand and complement the Iron Range OHVRA per *MS Chap. 85.013, Subd. 12a*.
- b) Provide off-road recreational trails and use areas for Off-Highway Motorcycles (OHMs), All-Terrain Vehicles (ATVs) and Off-Road Vehicles (ORVs).
- c) Design, develop, construct and maintain facilities in an environmentally sensitive manner.
- d) Provide for rider training and practice riding, vehicle testing, and organized special events.
- e) Identify those portions of the site best suited to motorized use and development, and those areas better suited for non-motorized uses (*e.g., picnic and rest areas, scenic overlooks, commons areas, walking trails or interpretive sites*).
- f) Comply with all federal, state and local standards for air and water quality, noise, land-use and environmental protection.

2. **Natural/Cultural Resources Goal:** *"Conserve and protect sensitive natural and cultural resources."*

Objectives:

- a) - Identify sensitive or high-value natural and cultural resources. Implement strategies to manage, protect, and if appropriate, to interpret these resources.
- b) Avoid, minimize and/or mitigate unavoidable impacts to natural resources.
- c) Apply Best Management Practices (*BMP's*) to create sustainable trails, while protecting and improving water quality, wetlands, wildlife habitat, scenic and visual resources.

3. **Public Safety/Enforcement Goal:** *"Provide for a safe and enjoyable OHV recreation experience."*

Objectives:

- a) Identify public safety, enforcement and emergency services needs and associated budget requirements.
- b) Identify potential public safety and legal liability risks and implement methods of reducing and managing these risks.
- c) Minimize potential traffic hazards associated with access or use of the Iron Range OHVRA.
- d) Provide informational, cautionary and directional road/trail signing to clearly identify permitted uses, designated skill levels, and other limitations or restrictions.
- e) Strictly enforce rules and regulations relating to safe vehicular operation, permitted noise levels, private property trespass, and other State Recreation Area rules and regulations.

D. PLANNING PROCESS & PUBLIC PARTICIPATION. An EAW, an EIS, and a Master Plan (*citation below*), were all previously completed for the Iron Range OHV Recreation Area at Gilbert. This amendment is intended to supplement the facility's original Master Plan by providing management and development guidance specifically applicable to the Virginia Expansion Site. The original Master Plan may be cited as follows:

State of Minnesota, Dept of Natural Resources, 1998. "Iron Range OHV Recreation Area: Facility Design, Development and Management Plan". Master Plan prepared pursuant to Minn. Laws 1996, Chapter 407 and MN Stat. Chapt. 86A.05. St. Paul, MN 55155. 142 Pages plus attachments.



Minnesota
DEPARTMENT OF
NATURAL RESOURCES

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graph LR
    DNR[DNR Area Team] <--> CAC[Citizen's Advisory Committee]
    CAC <--> SDS[Site Design Subcommittee]
    DNR --> PS[Project Scoping]
    CAC --> PS
    SDS --> PS
    PS --> EAW[Envir Assessment Worksheet EAW]
    PS --> CD[Conceptual Design(s)]
    PS --> DFM[Draft / Final Master Plan]
    EAW --> EAWR[EAW Public Review]
    EAWR --> EAWD[EAW Adequacy Decision]
    EAWD --> DFM
    CD --> MOC[Mgmt/Operations Considerations]
    MOC --> IR[Implementation Recommendations]
    IR --> DFM
    EAWR <--> MOC
    EAWD <--> IR
    DFM --> PS
    DFM --> EAW
    DFM --> CD
    DFM --> MOC
    DFM --> IR
    
```

Approx. 12 Months

Public Notice → Public Consultation → Public Review / DNR Approval

After a promising start, planning ground to a halt in late 2000 due to mining concerns stemming from the discovery of economically viable mineral deposits within the boundaries of the authorized expansion area. After a 10-year hiatus, and several legislative boundary changes to the authorized parcel, planning began again in February 2008. Following public approval of the Conceptual Site Design in early 2009, this proposal was subjected to mandatory Environmental Review. In late 2009, a Environmental Assessment Worksheet (EAW) was prepared and publicly reviewed. The EAW was subsequently deemed adequate by MN DNR (the Responsible Governmental Unit). *[See Appendix E for the Project EAW, and Appendix F for the EAW Adequacy Decision Document – not attached].*

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II. AFFECTED ENVIRONMENT

A. SOCIAL & ECONOMIC SETTING.

Mining History. Despite years of trying to diversify, the economy of Northeastern Minnesota is still dependent upon its vast natural resources. More than one-half of the region's economic output is tied to just nine industries dominated by iron mining, wood and paper production. While the regional economy still relies heavily on timber and taconite, total employment has shifted somewhat towards service sector jobs. And, while the mills and mines aren't hiring as many people as they once did, payroll, fuel, taxes and ore production remain at or above historical levels.

The region today contains many active and inactive open-pit mines, underground mines, ore stockpiles, tailings basins, and many small mining towns. About 152 square miles of land in total have been disturbed by mining on the state's Mesabi Iron Range. It currently supplies two-thirds of the iron ore used to make steel in the United States. A total of 3.5 billion tons of natural ore, in total, have been mined from the Mesabi Range. About 15 million tons of ore were removed from mines located on or adjacent to the OHVRA site. Mining continues to dominate regional income and full-time employment, and plays a significant role in determining population and settlement patterns, work routines, and in defining community identity.

Quad Cities. The so-called 'Quad Cities' of Gilbert, Virginia, Mountain Iron and Eveleth owe their origins to the discovery of iron ore, and their growth to eastern capital and immigrant labor. **Mountain Iron** traces its origins to the discovery of iron in 1890 at the famous Mountain Iron Mine. Although a great ore producer, the mine closed in 1908 due to water seepage, and it was succeeded by several smaller mining operations. In 1942, the mine reopened and subsequently produced millions of tons of ore for the war effort. Depleted, it closed for good in 1956 and was placed on the National Register of Historic Places. Today, Mountain Iron is home to the giant Minntac Plant, the largest taconite producer in Minnesota.

Ore was discovered in the **Virginia Area** in 1892. By year's end, Virginia was an organized village connected by rail to surrounding communities. Destroyed by fire in 1893, the town was rebuilt and reorganized as a city only to be partially burned again in 1900. Supported by lumbering and mining, the town grew in size and importance and became known regionally as the "Queen City of the Mesabi Range". In 1997, its main street, Chestnut Street, was placed on the National Register of Historic Places as a 'Historic Commercial District'.

Although iron ore was discovered at **Eveleth** in 1892, the town was not incorporated until 1893. In 1895, ore was discovered beneath the town and it had to be moved. A new site, platted to the east, was established and by 1900 the town of 1,500 was moved a quarter mile uphill where it stands today.

Gilbert is the youngest of the Quad Cities. Its roots can be traced to Sparta, a mining community platted in 1896 on a rolling hillside sloping gently to Ely Lake. Sparta grew to 1,000 residents, but having been platted over a rich ore body it was sold to a mining company. In 1908, most of the buildings were moved to the present-day Gilbert site, a new townsite incorporated on 2,240 acres of both platted and unsettled territory. In 1909, the village, which described itself as the "City of Destiny", was re-incorporated - this time including only 143 acres within its boundaries.

B. NATURAL RESOURCE ELEMENTS. -

Topography. Regional topography is primarily the result of mining activity. Much of this site is defined by mine pits, dumps, tailings basins and ore piles. Unmined areas are characterized by gently rolling hills separated by small stream valleys. The land surface slopes gently towards the southeast. The small east-west trending knob on the property is surrounded by wetlands. The marsh on the south side of the knob is an intermittent stream and tributary of the Pike River. The Mesabi Trail, which was built on a former railroad grade, runs along the south project boundary and parallels another small ridge line. -

Landscape Characteristics. This project is located within the Nashwauk Uplands subsection of the Mixed Laurentian Forest Province that extends across northeastern Minnesota and eastward across the Great Lakes Region. The landscape ranges from rugged lake-dotted terrain with thin glacial deposits over bedrock to hummocky or undulating plains with deep glacial drift, to large, flat poorly drained peat lands. Landforms include end moraines, outwash plains and lake plains. Soils are varied and range from medium to coarse in texture. Forest communities are dominated by white pine, red pine, balsam fir, white spruce and aspen-birch. Forestry, mining and outdoor recreation are all very important land uses in the Nashwauk Uplands subsection.

Soils. The soils in the Virginia Expansion site are defined into two general groups; those in a relatively undisturbed state and those altered by iron mining activities. Soils data compiled by the Natural Resource Conservation Service (NRCS) of Northern St. Louis County was used to prepare the Soil Survey Map (**Figure 5 – Soils Map**). Each soil map unit consists of one or more different soil types. A soil type is defined by dominant soil characteristics such as texture, color, structure, and parent material. There are 29 soil map units delineated in the project area (Table 4).

The native soils, about seventy percent of the project area, are light-colored, well-drained cobbly and stony loam to sandy loam. Typically, eight to fourteen inches of loamy surface materials (loam or silt loam textures) cover clayey substrates. Nearly one-half of the project area is well drained, one-third is poorly drained, and the rest, including mine dumps and pits, is mixed and variable.

Open pit iron ore mining operations south of the Laurentian Divide involved the excavation and disposal of glacial overburden. Approximately thirty percent of the project area consists of mine 'pits', 'dumps' and 'tailings,' which are composed of an assortment of overburden piles, low-grade and reject ore piles, and other waste rock. Overburden dumps are located in Sections 10 and Section 3, north and east of the divide. The 'mine dumps' are relatively flat-topped linear embankments dumped there by rail cars. These embankments, composed of primarily silt, clay and sand, form dike-like structures from 20 to 80 feet thick across the natural land surface.

Vegetative Cover Types. The Virginia site contains both mined land and natural landscapes which contain a variety of vegetation types ranging from lowland grass and brush to mature stands of aspen, pine and upland hardwoods (**Table 1 and Figure 4 – Vegetative Cover Type Map**). Stands of upland shrub and aspen-birch cover over fifty-six percent of the project area. Lowland or wetland vegetative types cover an additional nineteen percent of the project area. Fourteen percent of the site is composed of upland deciduous stands, grasslands, or coniferous stands, including jack pine-red pine cover. The remaining portion is classified as a disturbance category containing roads, trails, and mine lands.

Table 1. Vegetative Cover Types – Virginia OHV Recreation Area. (MDNR, Parks & Trails, 2009)

COVER TYPE	ACRES	PERCENT
Aspen/ White Birch	1,034	38
Black Spruce / Tamarack / Balsam Fir / White Cedar	134	6
Black Ash / Lowland Deciduous / Deciduous Shrub	315	12
Broadleaf Sedge / Cattail / Sedge Meadow	16	1
Floating Aquatic	10	<1
Grassland	87	3
Jack Pine / Red Pine	169	6
Maple / Basswood	52	2
Upland Conifer / Deciduous Mix	27	1
Upland Deciduous	48	2
Upland Shrub	493	18
Other (e.g., roads, trails, mine dumps)	255	9
Water	64	2
TOTAL	2,704	100%

Wetlands. The USGS topographic map (**Figure 2 – USGS Topo**) provides a general perspective on the location and extent of wetlands found in the project area. Wetlands occupy fourteen percent of the project area (385 ac.). Hydric soil delineations and hydric/non-hydric soil complexes cover about 640 acres or 24% of the site (**Figure 5 – Soils Map**). Lowland or wetland vegetative cover types are estimated to cover nineteen percent of the project area (Table 1). The following wetland types were identified using the NWI maps, large-scale aerial photography, and topographical maps.

Table 2. Wetland Cover, Iron Range OHV Recreation Area - Virginia Expansion (NWI Map, 2009).

Type	Name and Description
Type 3: 39.9 ac	Shallow Marsh Emergent vegetation of forbs and grasses; soils usually are waterlogged early during growing season but often are dry later on.
Type 4 20.7 ac.	Deep Marsh Emergent vegetation forms in basins or on lake or river edges, where water remains from six inches to three feet deep during the growing season
Type 5 10.7 ac	Open Water Ponds & reservoirs less than 10 feet deep, often fringed with emergent vegetation
Type 6 213.0 ac	Shrub Swamp (Scrub/Shrub) Shrubs are the dominant form of vegetation; soil are usually flooded or waterlogged during growing season
Type 7 100.7 ac	Wooded Swamps Forest vegetation; flats or basins where soils are flooded or waterlogged during the growing season.

Watersheds. The Laurentian Watershed Divide crosses the project area and forms the boundary of two major drainage systems, Hudson Bay and Lake Superior. The Pike River watershed that is part of the Hudson Bay watershed is located on the east side of the divide and the East Two Rivers River watershed that is part of the Lake Superior watershed is on the west side. The Pike River watershed constitutes about forty percent of the watershed of Lake Vermilion. The west and parts of both the south and north sides of the project site have been impacted by mining. The eastern portion of the site features steep topography with relief up to 150-feet, is naturally vegetated, and remains as a relatively undisturbed woodland and wetland complex.

The eastern portion of the project area forms part of the headwaters of the Pike River. The Pike River and two unnamed tributaries are classified as MDNR Protected Waters. The Pike River begins in the eastern ½ of Sec. 22, T58N, R17W just south of the project site. It enters the project area in the northwest corner of Sec. 23 and continues through the center of Sec. 14 and the southeast corner of Sec. 11 before exiting along the eastern boundary of the project area (see **Figure 2 – Quad Map**).

One unnamed tributary to the Pike River, a classified protected waters, flows from southwest to east, then to about the center of Sec. 14 of T58N, R17W and its confluence with Pike River. The other unnamed classified protected waters tributary flows from north to south along the east section line of Sec. 11 to its confluence with Pike River. There are three other unnamed tributaries to Pike River that are not classified as protected, however they do flow into the unnamed protected tributaries described above. All of these Pike River tributaries are shown on the U.S.G.S. topographic quad map (**Figure 2 – USGS Topo Map**).

The Pike River is a warmwater stream that flows through wetlands and has bottom substrates predominantly composed of muddy or organic sediments interspersed with rock and in-stream vegetation. Overhanging vegetation and wetland shrubs dominate the riparian areas. The water flowing from wetlands carries natural tannins, giving the Pike River a tea-colored stain.

The western portion of the project area flows westward into the mine pits (Mesabi Mountain Pit Pond), then southward into the East Two Rivers River, a tributary of the St. Louis River and the Lake Superior watershed. A small portion of the area's watershed drains via ditches either south and around Virginia into a tributary of Manganika Lake (DNR #69-0726P) or westward through Virginia and into Silver Creek, a tributary of the East Two Rivers River.

There are no public water lakes in the project area. There are several small, unnamed open water basins that occur mostly at the edge or toe of stockpiles from previous mining activity. Many of these ponds have likely been created or otherwise influenced by mining activity.

Fisheries & Wildlife Resources. This project involves potential trail crossings of both the Pike River and two unnamed tributaries, which are state public waters regulated by the MDNR. MDNR's Division of Waters and Section of Fisheries have been consulted regarding appropriate impact avoidance measures needed to reduce potential stream crossing impacts. Specific riparian area protections are outlined in the sections that follow. Fish species identified during sampling (2003) of the Pike and Sandy Rivers are shown in Table 2.

Table 3. Fish Species of the Pike and Sandy Rivers, Summer 2003. (*Fond du Lac Resource Management and 1854 Authority Report, 2003*).

Family	Common Name	Scientific Name
Cyprinidae	Longnose Dace	<i>Rhinichthys cataractae</i>
	Blacknose Dace	<i>Rhinichthys atratulus</i>
	Finescale Dace	<i>Chrosomus neogaeus</i>
	Creek Chub	<i>Semotilus atriculatus</i>
	Spottail Shiner	<i>Notropis hudsonius</i>
Centrarchidae	Rock Bass	<i>Ambloplites rupestris</i>
Percidae	Johnny Darter	<i>Etheostoma nigrum</i>
	Yellow Perch	<i>Perca flavescens</i>
	Walleye	<i>Sander vitreus</i>
Catostomidae	White Sucker	<i>Catostomus commersoni</i>
Esocidae	Northern Pike	<i>Esox lucius</i>
Umbridae	Mudminnow	<i>Umbra limi</i>
Gadidae	Burbot	<i>Lota lota</i>

Wildlife species likely to inhabit the site are those found in similar upland habitats and forested wetlands throughout northeast Minnesota. A listing of representative species found on these habitats include the following: snowshoe hare, red squirrel, beaver, porcupine, grey wolf, red fox, black bear, fisher, bobcat, and white-tailed deer. Most of the area's inhabitants are tolerant of disturbance.

Mining History. This site lies over a portion of the Biwabik Iron Formation, geologically referred to as the 'Virginia Horn'. The western one-third of the area has an extensive mining history, including both underground and open pit mines. Mining of natural ores began in 1893 and continued until 1976 at the Minnewas Mine, which was located in the southwestern portion of the Virginia site. The nearby Rouchleau Annex was subsequently mined until 1986. As a result, the western part of the Virginia site is composed of 'auxiliary mining lands,' which contain surface waste rock dumps and lean ore stockpiles. The eastern part of the site is relatively unaffected by mining or other developments.

The site is bordered on the west by the Missabe Mountain, Minnewas, Sauntry and Rouchleau open mine pit operations. The St. Louis County Maintenance Facility and State Highway 135 is located south of the Virginia site. The Ispat Inland Mining Company's main haul road leading to the (active) Laurentian Mine is near the eastern border of the site. Ispat Inland's Minorca Pit and taconite pelletizing plant is north of the site. The Mine's haul road and pelletizing plant are operated continuously throughout the year. The park's connector road/trail will travel under this haul road.

Landscape Effects. Open pit mining operations south of the Laurentian Divide resulted in the removal and disposal of large quantities of overburden and waste rock. This overburden consists of glacial materials excavated by 'steam-shovel' methods from above the iron-bearing deposits of the Rouchleau, Missabe Mountain and Sauntry Mine operations beginning in the early 1920's.

Materials transported by rail to the other side of the divide were dumped from open rail cars in Sections 3, 10 and 15 of Township 58N Range 17W. This produced linear embankments of imported glacial material. The initial placement of the linear piles were placed side-by-side across the original topographic surface, in a southwest-to-northeast direction. Subsequent layers of material were dumped in linear embankments tending east to west in the east half of Section 3 and northwest to southeast in the northeast corner of Section 10. Rail cars entered the disposal area from the northwest corner of Section 10. At least three additional levels of overburden were deposited atop the original dump materials.

Overburden material was primarily dumped in Sections 3 and 10. Waste rock that covered the ore formations consisted of a mix of glacial sediments and Upper Cretaceous age siltstones. It was dumped primarily in Section 15, although some was also dumped in Section 10. The eastern portion of the Virginia site are mineral reserve lands on an unaltered landscape that includes a portion of the Pike River headwaters, two tributaries, wetlands and forested uplands.

Future Mining Prospects. Despite its mining history, this site still contains significant taconite reserves. As stipulated in authorizing legislation, mining can occur in conjunction with this planned recreational development. Consequently, very little built infrastructure is proposed for this site. The taconite reserves will remain available for future mining without encumbrance from the newly expanded OHVRA or related developments. Any future decision to mine the so-called 'East Virginia Reserves' will depend upon a variety of factors, including taconite prices, pellet supply and demand, business plans, land and mineral ownership, water quality issues, and other variables.

C. LAND-USE ELEMENT.

1. Current Conditions. The western portions of the Virginia Expansion feature inactive mines that consist mainly of re-vegetated mine dumps or waste rock stockpiles. The northwest portion of the site is an active gravel mine that will eventually be reclaimed as part of the Virginia OHVRA (**Fig. 3, Detail Map**). The eastern portion of the Virginia site are mineral reserve lands on an unaltered landscape that includes part of the upper Pike River watershed, associated wetlands, and forested uplands. The planned connector trail begins at the northeast corner of the existing Gilbert OHVRA where it joins an existing OHV trail on the south side of State Highway 135.

Solid Waste Facilities. In the center of the Virginia Site lies a sizable exclusion area in Sections 3, 10, and 11. This area serves as St. Louis County's Regional Landfill and recycling facility. A paved haul road connects this 920-acre facility with State Highway 135 near the southwest corner of the expansion site. The southwest portion of Sec. 15 was excluded from the project area due to its use as a former Mesabi Regional Landfill Authority dumpsite, which has been sealed and is presently monitored by MPCA through a series of test wells. Discussions are underway with MPCA to allow for some limited OHV use of approximately 150 acres adjacent to this former dumpsite in the west half of Section 15. Usage of this and other areas peripheral to the dump site and proximal to the site boundary will be investigated for possible future use and/or incorporation into the OHVRA.

Other. Four non-industrial private properties totaling 90-acres are located within the site's statutory boundary. All are seasonal recreational properties; only two have buildings. Screening and fencing will be provided, where necessary to ensure that trespass or disturbance to these private property

owners is avoided. The MDNR is unaware of any liquid or natural gas pipelines, or any other potential environmental hazards, located within the primary project area (**Fig. 3 – Detail Map**).

The MDNR will manage this area within the administrative and policy constructs established in state law and rule. State Recreation Areas (SRA's), like the OHVRA, are actively managed to provide a range of goods and services, and can host a mix of commercial, industrial and resource management activities, including timber harvest, mining, tree planting, and both motorized and non-motorized forms of outdoor recreation. Recreational vehicle use of this site is generally compatible with surrounding commercial, seasonal recreational, and industrial land-uses.

2. Scenic & Aesthetic Features. This landscape has been dramatically altered by the extraction of iron ore and the creation of man-made lakes, ore stockpiles, overburden piles, tailings basins and impoundments. Vegetation in mined areas was also removed, but has largely re-established itself with the aid of reclamation efforts. Visual scars are beginning to heal, except in the areas where active mining or commercial gravel operations continues. The OHVRA does not lie within a scenic travel corridor, nor are there any designated byways or viewsheds requiring special protection. High stockpiles and dumps (some up to 125 feet tall) are visible for some distance, however, and do warrant special consideration.

Overlook areas will be developed in the project area to complement the core trail system and individual trail networks. The overlook areas will take advantage of the impressive views from the top of 125'+ tall mine dumps. Scenic vistas and overlooks will be set-back a safe distance from overlooks to ensure visitor safety. They will also be visually unobtrusive from the surrounding area.

3. Recreational Opportunity. St. Louis County is home to 5 State Parks (9,839 acres), 7 SNAs (7,918 acres), and 16 WMAs (6,606 acres). These DNR Units are generally closed to motorized recreational use. In addition, about 325,234 acres of the 1,096,187 acre federal BWCAW are located in St. Louis County. The BWCAW also includes 31,284 acres of DNR forest lands in St. Louis County, including all or portions of the Burntside, Bear Island, Kabetogama and Lake Jeanette State Forests. All state and federally-owned lands within the BWCAW are closed to motor vehicle use. Cross-country OHV travel on both state and federal lands is also prohibited, except on state lands pursuant to *MS Chapt. 84.926 (i.e., seasonal hunter / trapper exceptions)*.

State Forests, and the 539,067 acres of US Forest Service administered lands outside the BWCAW in St. Louis County do provide a number of miles of roads and trails open to OHV use. Vehicular trails and travel routes on state lands are mapped and available at www.mndnr.gov. A number of state-funded grant-in-aid routes and other trails are described below. On federal lands, motor routes are mapped on the Superior National Forest's website at <http://www.fs.fed.us/r9/forests/superior/>.

The Moose GIA Trail is a planned seven-mile ATV/Off-Highway Motorcycle (OHM) Trail that will connect the City of Biwabik to the Iron Range OHVRA at Gilbert. The trail, currently under construction, is being developed primarily along an existing snowmobile trail corridor. The trail was originally constructed by the East Range ATV/Snowmobile Club with a grant from Iron Range Resources. It first opened during the 2004-05 winter season. This same club has initiated efforts to open the corridor to use by ATV riders during the snow-free season (**Fig. 8 – Trails In Project Area**). The Moose Trail's proximity to the OHVRA will enable DNR Staff to easily and routinely monitor trail use and trail conditions. Eventually it will provide riders with a connection to the OHVRA, to area

lodging, camping and support services located nearby. This legal access should also discourage private property trespass and reduce ditch riding in the vicinity of the OHVRA.

Mesabi Mountain GIA Trail entails development of a 4.1-mile trail designed for use by registered Off-Road Vehicles (ORVs) only. This jeep trail will begin just east of the Mesabi Range Community and Technical College in Eveleth and travel northeast for the four-mile distance through public and private lands (**Fig. 8 – Trails In Project Area**). The difficult terrain and ledge-rock provides an opportunity to create a challenging ORV trail rated “most-difficult” for experienced drivers. This two-directional trail (not a loop) will provide OHVRA visitors with added local riding opportunity.

Genoa ATV / OHM Trail provides a direct connection from the City of Eveleth to the City of Gilbert, starting at the Highway 53 and Highway 37 intersection in Eveleth and ending at the Sherwood Forest Campground in Gilbert. It is a gravel-surfaced trail approximately 3.5 miles in length open only to ATVs and OHMs. Since 2005, it has provided a vital off-road link between the Iron Range OHVRA and hotels and restaurants in the City of Eveleth (**Fig. 8 – Trails In Project Area**).

The Mesabi Trail is a paved hike/bike (non-motorized) trail that connects the communities of Grand Rapids, Coleraine, Bovey, Taconite, Marble through Calumet and Pengilly, Nashwauk, Keewatin, Hibbing, Chisholm, Buhl, Kinney, Mountain Iron, Virginia, Gilbert, Sparta, Fayal, Eveleth and McKinley. Construction continues with paving of a 3.5 mile link between McKinley and Biwabik during the summer of 2009. The Mesabi Trail winds through both the Gilbert and Virginia portions of the Iron Range OHV Recreation Area.

4. Transportation Systems. The City of Gilbert is located in central St. Louis County on TH 37 just east of State Highway 53 and Eveleth, Minnesota (**Fig. 1 – Location Map**). Gilbert is served by major arterials TH 37 (N-S) and TH 135 (E-W) which meet at the north end of town. The Gilbert portion of the OHVRA lies entirely within the Gilbert City Limits just across Lake Ore-be-gone. The OHVRA (at Gilbert) is bordered on the south by County State Aid Highway (CSAH) 97 and on the east by the Gilbert-Fayal Township dividing line, which also defines the Gilbert City Limits. Chestnut Street is a north-south gravel road just 1/2 mile inside of Fayal Township.

OHVRA Access Road

The only public entrance into the OHVRA is on Enterprise Trail, a gravel road approximately .5 miles east of the TH 37 & 135 intersection in Gilbert. This route, which is shared with Mesabi Bituminous Co., accesses the OHVRA at Pettit Road on the north side just west of the DM&IR railroad tracks. Enterprise Trail is also used by area residents who hunt, fish and ride OHV trails along the east side of Lake Ore-be-gone. Once inside the gates of the OHVRA, there is a Contact Station and bridge crossing of the DM&IR dual tracks which serves as the primary entrance point (*for both Gilbert and Virginia*). A rear gate on Chestnut Street is open only to official vehicles, and may be used as an emergency vehicle access.

An off-road trail along Dakota Avenue connects the OHVRA entrance with the Sherwood Forest Campground in City of Gilbert. This trail is signed and maintained by DNR in cooperation with the City of Gilbert. This important recreational vehicle trail also links to the Genoa ATV/OHM Trail which provides a direct (off-road) connection between Eveleth and Gilbert.

Existing Traffic Volumes

TH 37 is the principal arterial serving urbanized Gilbert. The Average Daily Traffic count (or ADT) for TH 37 from Gilbert's western city limits to Alaska Avenue is 3,650 vehicles, 175 of which are classified as 'heavy' vehicles. TH 135 is the primary east-west arterial. ADT counts for TH 135 east of TH 37 are 4,350 vehicles, including 325 heavy vehicles. West of TH 37 the ADT on TH 135 is 6,400 with 310 heavy vehicles. County Road 97, east of CSAH 96 has an ADT count of 980, and between TH 37 and CSAH 96 the average daily traffic count is 1,900. Traffic volumes and road conditions in the Gilbert Area are considered to be within normal design standards and operating capacities by the St. Louis County Traffic Engineer.

III. FACILITY DESIGN & DEVELOPMENT PLAN

A. FACILITY DESIGN PLAN.

1. Conceptual Development Plan. This project consists of five principal developments: 1) the connector trail (one-mile), 2) two vehicle underpasses, 3) the core trail system (about eight miles), 4) a series of vehicle-specified trail networks (about 66 miles) and 5) perimeter fencing. The new connector trail will exit the existing Iron Range OHVRA and travel north through planned culverts under both State Hwy 135 and Arcelor Mittal's primary haul road (**Fig. 4 – Connector Trail Detail**).

The connector trail and core trail system will be constructed to serve as multi-use arterials suited for both Off-highway vehicle (OHV) and Highway Licensed Vehicle (HLV) travel. The connector road and the core trail system will range in width from 12 to 20 feet, have a high load bearing capacity, and will be constructed to forest road standards. The trail networks will be developed along new corridors and will be constructed to specifically accommodate each class of OHV. The vehicle-specified trail networks will be built to specifications and sizes appropriate for the size of vehicles within each class [*i.e., 24" for Off-highway Motorcycles (OHMs); 72" for All-Terrain Vehicles (ATVs); and 108" for Off-Road Vehicles (ORVs)*]. In certain cases, however, where major grading and trail bed work is required, construction corridors must first be widened to 10 to 12 feet in order to accommodate standard (full-sized) trail construction equipment. The core trail system and the areas proposed for the series of vehicle-specified trail networks are shown in **Figures 3 & 4**.

The final location of the roads and trails will be determined using trail siting criteria that: 1) Make maximum use of existing disturbed corridors, 2) Select new corridors that are judged to be sustainable and suitable for their intended purpose, and that 3) Minimize negative effects on the site's natural resources. Wetlands, riparian areas, shoreland zones and other low-lying areas will be generally avoided, as will steep hills, rocky cliffs (*except for access to overlooks*) and upland areas of dense or unbroken vegetation. Large overstory trees will also be avoided to the extent possible.

2. Vehicle Access & Site-Use Plans. Public access to the facility will be via Enterprise Trail to Petit Road and through the main gate/contact station located in Gilbert. No access will be allowed from the City of Virginia, or from the connector trail that links the Gilbert and Virginia portions of the park. Signing, fencing, gating and enforcement will ensure that visitors always use the main gate.

The OHV trails on the Virginia site will be designed using MN DNR's recently published "*Trail Planning, Design and Development Guidelines for Sustainable Trail Development (MDNR 2006)*". Trail construction techniques will also be strongly influenced by local site conditions (*e.g., vegetation, terrain, soil types*), the presence of surface waters and/or wetlands, and by pre-existing roads, trails, railgrades or other travel corridors located on the site.

3. Day-Use & Support Facilities. Throughout the trail system, points of interest, such as overlooks, scenic vistas, pull-offs, picnic/rest areas, and day-use sites will be developed to enhance visitor experiences at the Virginia site. Some of the proposed overlooks are shown on the project maps (**Fig. 3 & Fig. 4**). Other areas may be developed as new opportunities arise or new trails are constructed. Future development will be limited mostly to areas previously disturbed by construction activities or other areas that can be developed with little disturbance or impact.

4. Berms, Buffers, Fences and Boundaries. Highway barrier fencing, similar to that used at the Gilbert Site, will be used to prevent uncontrolled public ingress or egress along most of the park's boundaries. Barrier fencing will not be placed in wetlands, riparian areas, or other areas where installation might impact natural resource values. This barrier fence is a recycled product that resists damage and has proven effective at preventing unlawful entry into the park and trespass (intentional or otherwise) onto neighboring properties by park visitors. Since 2002, this fencing has proven very effective in discouraging unlawful activity.

B. OPERATIONS ELEMENT.

1. Policies & Operating Procedures. The Iron Range OHVRA, which opened in 2002, is presently operated year-round during daylight hours, with a reduced operating scheduling during winter months. The facility is closed during the annual firearms deer season. There is no fee for admission, except for attendance at some special events. The sole public entrance to the OHVRA is via State Highway 135 off Enterprise Trail to Pettit Road (in the City of Gilbert).

2. Public Safety & Inspections.

Registered vehicles that possess the required safety equipment, mufflers and spark arrestors will be admitted if they comply with applicable sound regulations (*ATVs = 99dB(A) and OHMs = 96 or 99 dB(A), depending upon the year manufactured, using the Standard SAE 1287 sound test*). All vehicles must be equipped with standard manufacturer-supplied noise suppression equipment. Vehicle checks are conducted at the main gate. Random spot-checks will also be conducted to ensure that noise suppression devices are not altered after gaining entrance to the park.

3. Monitoring, Maintenance and Enforcement.

Trail Monitoring & Maintenance. The objective is to keep trails sustainable and minimize unwanted soil compaction, displacement, erosion or damage to living vegetation. Designated riding trails may be closed temporarily following heavy precipitation events, for regular maintenance, or for emergency rehabilitation or repairs. All active use areas will be fenced. Signage and barriers will also help prevent unlawful entry, trespass or unauthorized off-trail riding.

Trail treadway conditions will be regularly monitored for debris, fallen limbs, washouts, rutting, and vegetative conditions. Trail signage and support structures (*e.g., culverts, bridges, drainage devices, retention ponds*) will also be periodically inspected to ensure that they are functioning properly and in good working condition. Specific maintenance prescriptions will depend upon local site conditions, soil types, traffic levels, and other factors.

Vegetation Management. Vegetation along the trail will be managed to maintain a 'clearance zone' and to preserve the integrity of the trail surface. This includes removal of encroaching vegetation by

cutting and/or spraying of an approved herbicide by a licensed applicator. Vegetation along trails will be maintained and restored if damaged or destroyed.

Monitoring/Inspection Schedule. Trail monitoring and inspection will occur regularly throughout the year to detect potential maintenance issues before unsustainable conditions or safety concerns arise. Table 4 provides suggested inspections for each season of the year.

Table 4. Vegetative Cover Types – Virginia OHV Recreation Area. (MDNR, Parks & Trails, 2009)

Inspection Schedule	
Routine inspections are necessary to stay on top of maintenance issues and to address potential problems at an early stage. The following suggests an overall seasonal approach to inspections.	
Season	Inspection Focus
Spring	Inspect for damage from winter season use and freeze-thaw cycles. Check for erosion, plugged culverts, vehicle-caused damage, unauthorized uses, and other visible signs of tread imperfections. Record problems and schedule maintenance on a priority basis. Stabilize tread and clear debris from the trails as soon as possible in the spring.
Summer	Conduct daily/weekly inspections to keep trail in safe, usable condition. Inspect vegetative growth and encroachment. Pay special attention to erosion issues, drainageways, and ditches that receive heavy spring runoff. Record all problems and fixes, and schedule needed maintenance on a priority basis.
Fall	Conduct ongoing inspections to keep trails in a safe, usable condition. Focus on maintenance issues that must be taken care of <u>before</u> winter to avoid added damage during spring thaw. Special focus on tread dips, drainage crossings, culverts, and drainageways that must be operational in order to handle spring runoff.
Winter	Inspect low areas and drainages that cannot be easily accessed during summer. This includes culverts, ditches, water crossings and beaver ponds.

Controlling Invasive Species. Preventing the spread of invasive plants is a major concern for resource managers. Trails staff should become familiar with these species and contemporary practices for controlling their spread. Best management practices and departmental policy related to controlling invasive species is available in the Div. of Parks & Trails' Appendix to *DNR Operational Order 113*.

Enforcement. The DNR's Enforcement Officers are responsible for enforcing regulations at the Iron Range OHVRA. They may be assisted by state or local officers on occasion, or even by 'Trail Ambassadors'. These trained, certified volunteers may help monitor activity in the OHVRA, but since they are not licensed peace officers they cannot detain or arrest suspected violators. They can help educate trail users, give minor aid in emergencies, and provide useful information about OHV trails and the responsibility of those who use them. At the conclusion of each shift, Trail Ambassadors complete a 'Daily Trail Log'. These logs are collected, filed and observations are shared with affected MN DNR divisions. Enforcement issues, for example, are forwarded to local Conservation Officers for follow-up.

Good communications with local and state enforcement agencies is critical to lasting success. The Off Highway Vehicle (OHV) Safety Enforcement Grant Program, administered by DNR Enforcement, provides grants to County Sheriff's Offices and local agencies to assist with OHV enforcement. Grant funds are available to assist with officer training, rider safety training, and field enforcement activity. Funds are available to local enforcement authorities in the vicinity of the Iron Range OHVRA to intensify enforcement monitoring and patrol activity.

C. PROGRAMMING & VISITOR SERVICES.

1. Visitor Services. Upon arrival, visitors need to quickly orient themselves to the park, and locate essential services (*e.g., telephone, rest rooms, contact station, vehicle testing area*). Visitors also require information regarding emergency and support services (*e.g., emergency medical assistance, gasoline, food, lodging, restrooms, campgrounds, vehicle towing and repair services*). A comprehensive map of the park and guide to local public services will be provided upon arrival, and displayed publicly at conveniently located information kiosks within the park.

Trail User Orientation. Trail user orientation is important so that visitors make informed choices regarding potential trail destinations, travel times, required skill level and equipment, and the type of recreational opportunities they might expect. Riders must also understand park rules and regulations. Visitor information will be included on maps, in printed brochures, on web links, and is displayed on information boards at parking/staging areas, at trail junctions and along most major access roads. Locational and directional signing, once inside the facility, helps visitors orient themselves, and enables emergency personnel to quickly locate distressed vehicles or visitors. Mile markers, maps and signing of all road and trail crossings (*even water crossings*) are also helpful in this regard.

Interpretation. Natural and cultural resources of interest include lakes, rivers, bluffs, wetlands, mine pits and dumps, tailings basins, forested and riparian areas. Providing interpretive information adds to the overall visitor experience, and fosters a sense of stewardship. Interpretive displays will be developed in consultation with other DNR divisions and the Minnesota Historical Society to ensure accuracy.

Staff and volunteers can add a uniquely valuable dimension to the recreation area experience through formal or informal visitor contacts. They can greet visiting groups and individuals, answer questions, or provide information, even present audio-visual shows or give tours of the facility.

2. Safety Training & Volunteer Programs. The OHVRA provides a safe, well-maintained recreational facility with dedicated indoor/outdoor training and practice riding facilities. The curriculum focus is on rider safety and skills training, vehicle maintenance, trail etiquette and ethics, and a variety of youth-oriented certification courses. Typically, DNR Enforcement Education & Training Section Staff assist in developing or reviewing the training curriculum for this facility, and in training volunteer instructors in the delivery of ATV and OHM safety training coursework.

Volunteer participation is critical to the long-term success of the OHVRA. Authorizing legislation calls for the implementation of "*adopt-a-recreation area*" measures as set forth under *MS 85.045*. This program encourages individuals, business and civic groups to volunteer to improve and maintain state recreation facilities. Volunteers are an excellent source of labor for trail construction, maintenance, management and long-term monitoring efforts. Volunteer programs can lead to improved, mutually-supportive relationships between constituent groups and facility managers

Examples of volunteer projects might include helping develop rest areas, interpretive projects, or cleaning-up litter and debris. Special project assignments, like developing non-motorized hiking trails, scenic overlooks, interpretive materials or facilities, or carrying out restoration or planting programs are also important. In so doing, OHV groups can also sponsor concurrent safety or equipment demonstrations, trail repair workshops, or skills training workshops for club members. Trail inventory, mapping or monitoring projects, are another area where volunteer labor can be especially helpful.

3. Special Events. The OHVRA is well-suited for hosting Special Events. Events generate revenue and bring in large numbers of visitors. However, from a management standpoint, events can be costly, labor intensive, time-consuming, and carry an element of risk. For that reason, it is important that events be well-planned and coordinated, and that event areas be properly designed, located and maintained. Various type of competitive or non-competitive outdoor events may be staged at the OHVRA, subject to environmental and noise considerations. Specific permit conditions will vary depending on the type of event and expected attendance.

No vehicle races or other competitive events may be held at the Gilbert location, due to its proximity to occupied dwellings. These events may, however, be permitted at the Virginia Expansion site.

Special events require prior approval by DNR Parks & Trails and issuance of a Special Event Permit. A fee may be charged to cover the DNR's costs associated with staff time, equipment or materials needed to conduct the event. A surety bond will also be held to ensure that sponsors restore the facility to its' pre-event condition. Permit terms are negotiable and depend upon the required level of services, and who provides these services. The Facility Manager will notify the Local Area (Citizen's) Advisory Committee annually of the proposed schedule of special events. He/she will also notify and consult with the Gilbert City Council regarding the annual calendar of planned special events at the OHVRA.

Vehicle checks will be conducted at the main gate. All OHVs entering the facility, except for special competition vehicles, must display a current off-road sticker. Vehicles licensed in another state need not purchase a Minnesota off-road sticker. There is no fee for general admission or for parking, except during certain events.

Registered competition vehicles, with engine or exhaust modifications, will be admitted to designated event areas only for practice and competition. All operators must wear helmets, unless their vehicle is equipped with an approved roll-cage and passenger harnesses. All event participants must wear helmets.

IV. PROJECT EFFECTS

A. ENVIRONMENTAL EFFECTS.

1. Land-Use. This project complies with all provisions of both the Gilbert and Virginia City Zoning Ordinances. The Land-use districts in eastern Virginia include mostly 'Mining and Open Space,' but also a mixed classification for Section 21, which includes areas classified as 'Public Property,' 'Industrial,' or 'Residential' land-uses. Land-use classifications in those portions within the City of Gilbert include the '*Public, Recreation and Forest Reserve District*' (Sections 11, 12, 14 and 23) and the '*Mining and Industrial Activity District*' (Sec. 12, 13 and 24). Development of the OHVRA expansion is consistent with and conforms to current zoning ordinances. Public recreation is deemed a 'permitted use' in each of these municipal land-use districts.

Land Cover. Approximately 80% of disturbed acres are assumed to come from the Brush/Grassland cover type, with the remaining 20% coming from the Wooded/Forest type. No permanent or irreversible cover type conversions are associated with this project. Development activities will be limited primarily to improving existing road and trail corridors, establishing new trail networks, and stabilizing associated soils, slopes and cutbanks. The following table summarizes expected pre/post project cover type changes.

Table 5. Cover Type Changes Resulting from the OHVRA Expansion at Virginia (MDNR 2009). -

Cover Type	Before	After	Cover Type	Before	After
Types 1-8 wetlands	26 ac.	26 ac.	Lawn/landscaping	0	0
Wooded/forest	1,779 ac.	1761 ac.	Impervious surfaces	0	91 ac.*
Brush/Grassland	580 ac.	507 ac.	Stormwater Pond	0	0
Cropland	0	0	Other (mine dumps and disturbed areas)	255 ac.	255 ac.
			Other (open water)	64 ac.	64 ac.
TOTALS				<u>2,704 ac.</u>	<u>2,704 ac.</u>

* Hardened surfaces, like gravel roads or hardened trail treadways, can act like impervious surfaces by shedding rainfall and surface water flow. They are not, however, true impervious surfaces. Truly impervious surfaces, like asphalt, concrete, or plastic materials, repel water and have zero infiltration rates. Compacted natural surfaces do retain infiltration capability, albeit much reduced from natural uncompacted conditions.

2. Surface Water Quality. This project involves trail crossings of both the Pike River and two unnamed tributaries, which are state public waters regulated by the MDNR. MDNR's Division of Waters and Section of Fisheries have been consulted regarding impact avoidance and minimization measures. The Pike River crossing will extend approximately 1,100 feet across associated wetlands. This crossing will require the construction of a new bridge, and some fill will also be needed along the wetland segment. The crossing will be built to forest road standards to support construction and maintenance equipment. The road will be graveled and elevated by using fill material through the wetlands. Guidelines for the construction of road crossings are provided in the 2006 MDNR report, "Best practices for meeting MDNR General Public Waters Work Permit (GP 2004-001)."

Once across the Pike River lowlands, the core trail will use segments of existing roads and trails, which may already have crossing structures in-place. These existing stream and wetland crossing structures will be used when feasible and repaired or upgraded when necessary. Little new or added construction is anticipated. The exact locations or numbers of any new or expanded water crossings has not yet been determined.

All bridge and culvert placements will be appropriately sized, and installed when drainageways are dry. Both the upstream and downstream culvert ends will be protected with rock and rip-rap material. Trail crossings of smaller ephemeral drainageways will use a combination of culvert and rock rip-rap materials that will provide a hardened trail surface, while protecting the stream bed and banks from wheeled-traffic. Where crossings do prove necessary, bridges will be preferred to culverts. All such crossings will be developed according to Best Practices Guidelines and permit specifications.

Since much of the riparian area of the Pike River is comprised of wetlands, the river substrate is composed of mostly soft, unconsolidated sediments. This contributes to a less diverse invertebrate community than that typically found in lake systems, and one that is relatively tolerant of increased nutrient or sediment loads. Fauna in this riverine system are fairly resilient to water quality changes. However, continued monitoring of the Pike River and its tributaries is suggested (by DNR

Fisheries) to identify any future impacts to water quality and/or the invertebrate population of these rivers.

3. Lakes, Streams & Wetland Impacts. The MDNR will design, construct, operate and maintain OHV trails with the goal of protecting and maintaining water quality and surface hydrology. Construction setbacks in riparian areas, along steep slopes or in unstable soils will help minimize erosion and stream sedimentation. Vegetated filter strips will also help preserve the integrity of shoreland zones. Project planning, design, and construction will be conducted in accordance with site-level water quality guidelines and best management practices. **(Surface hydrology is shown in Fig. 6 - NWI Map).**

Riparian Area Protections. Practices that improve trail drainage and manage runoff will include a mix of design features such as rolling dips and grades and outsloped or crowned trail treads. Structural erosion controls include measures such as tread hardening, water bars, and sediment basins, which help minimize soil erosion and stream sedimentation. Trails will be designed, located, constructed and maintained in a manner which will not impede natural flow conditions.

Trail construction will be setback a distance of 50 feet or more from the Ordinary High Water Level (OHWL) of all surface waters and tributaries, with the exception of unavoidable water crossings. Where no feasible placement alternative exists, trails will maintain as sizable a setback distance as is possible and feature an enhanced vegetative filter. Vegetated filter strips will be maintained around all riparian areas, especially adjacent to the Pike River and its unnamed tributaries. Runoff will be directed into these strips for on-site filtration. Public water access will be limited to footpaths which will be signed, fenced, gated and/or landscaped to prevent vehicular access.

Wetlands. The NWI map shows that wetlands occupy 14% of the project area (or 385 ac.). According to the NRCS soils map, hydric soil delineations and hydric/non-hydric soil complexes cover about 640 acres or 24% of the site **(Figure 5 – Soils Map)**. Hydric soils are characterized as poorly to very poorly drained. Lowland or wetland vegetative cover types are estimated to cover about 19% of the project area (Table 1).

Sequencing steps (*i.e., avoidance, minimization, delineation, permitting and mitigation*) will be followed during all phases of project development. When unavoidable environmental effects are identified, impacts will be minimized and wetland loss mitigated according to the “no net-loss” requirements of the Wetlands Conservation Act.. Wetland mitigation will be in-place and in-kind, wherever and whenever possible. Restoration of previously degraded wetlands on site will also be given serious consideration by DNR’s Area Management Team Members.

Wetland soils and vegetation, shoreland zones, stream crossings, and seepage areas will be avoided during initial trail placement. After flagging lowland routes, a wetland technical evaluation panel will evaluate actual site conditions. The team will be comprised of representatives from the MDNR, the Soil & Water Conservation District, and the U.S. Army Corp of Engineers. No construction will begin until wetlands and areas of hydric soils have been delineated, mitigations identified, and all necessary construction permits have been issued.

4. Soil Erosion and Stream Sedimentation. (Fig. 7 - Soils Map) The construction of an estimated 75 miles of roads and trails will disturb approximately 91.0 acres, calculated at 1.21 acres per mile of

10-foot wide trail (max.-width). Using an estimated one-foot deep soil disturbance zone, a maximum of about 150,000 cubic yards of soil will be moved or otherwise disturbed as a result of this expansion. This 'worst-case' estimate presumes that construction corridors are essentially 'undisturbed', which is often not the case. Much of this site has been previously disturbed as a result of road or trail building, mining or mineral exploration, or informal public use. Most of the site features gentle to moderate slopes and moderate soil erosion hazard ratings. Areas with severe erosion risks or other identified physical limitations will be avoided.

Accelerated soil erosion can result from improper trail design, construction, grading, or failure to control storm water runoff. Uncontrolled soil erosion can, in turn, lead to the sedimentation of surface waters and wetlands, degradation of aquatic habitat, and disturbance to the natural (hydrologic) functioning of wetland areas. The MDNR's *Trail Planning, Design, and Development Guidelines* (MDNR 2006) provides guidance for building sustainable trails across challenging slopes, soils, sub-soil conditions, and in areas with serious erosion hazards. All construction will comply with these guidelines and recommendations.

Mitigation Measures. Although mechanical action will be required along both new and existing corridors, the areal extent and depth of excavation will be kept to a minimum. Treadway improvements may include elevating the treadway, surface grading or out-sloping, installing or modifying culverts, or in some cases, installing geotextile construction fabric or geocells (*structural stabilizer blocks*). Irregularities in the treadway will be rectified by filling rather than cutting in order to minimize disturbance. Areas deemed too wet, unstable or too highly erosive will be avoided. Off-site soil loss or movement, beyond naturally occurring levels, is not expected.

Overland runoff during construction will be controlled using hay bales, check dams, and silt fences; vegetative cover through seeding and/or mulching; or by creating small sediment ponds or catchment basins. Runoff will also be re-directed into vegetated areas for on-site filtration. Cut banks will be revegetated with a native seed mix formulated to benefit wildlife. Hydrologic flow conditions will be maintained or improved in most work areas. A Stormwater Pollution Prevention Plan (SWPPP), including best management practices for preventing erosion and sedimentation, will be developed and followed per MPCA Construction Stormwater General Permit requirements.

5. Fish, Wildlife & Ecologically Sensitive Species. Construction related activities will, to some extent, reduce the quality of affected wildlife habitats. Game and non-game species will also be subject to disturbance caused by the ongoing human activity and noise associated with OHV use. Upon completion, the 3,900 acre Iron Range OHVRA is expected to accommodate up to 100 riders per day, based upon a projected 50% increase in visitation over present levels. This equates to approximately 40 acres per rider. Wildlife should be minimally impacted by this intensity of use.

Sizable inactive or unused areas: 1) On the southwestern end, 2) Within buffer areas and private in holdings, 3) Along a broad wetland zone of the Pike River, and 4) Outside of the project area, will give most species the opportunity to escape disturbances attributable to trail riders. Given the area's long history of forestry, mining and landfill activity, most of the common species present in the project area are likely to be quite tolerant of disturbance. Species which are tolerant of, and in some cases thrive upon, disturbance and early successional vegetative stages (*i.e., white-tailed deer, red fox, raccoon*) are not likely to be seriously affected by a project of this size and character at either the site-level or population-level. While for other, less mobile species inhabiting the

project area, some displacement may occur, and limited mortality could be expected as a result of intra-species competition and loss of habitat.

Priority conservation actions needed to protect and maintain key habitats and species are focused on 1) Upland deciduous mixed hardwood-pine forest, 2) Upland coniferous red-white pine forest, 3) Jack Pine woodlands, 4) Lowland coniferous forest, and 5) Stream habitats. Less than 10% of the Virginia Expansion Site contains these habitats. Trail construction in or near these habitats will be minimized, or carefully designed to preserve and maintain habitat integrity. Area Management Team members will help guide trail development and will consult with facility managers on potential wildlife habitat management issues.

Habitat Condition and Fragmentation. The ‘disturbed’ soils and vegetation of mined areas cover approximately 29% of the 2,704-acre site. Having a limited value for wildlife, the disturbed sites are well-suited for developing recreational trails. Proper avoidance and mitigation steps can further limit the wildlife habitat effects. Examples include avoiding wetlands and observing appropriate construction setbacks from surface waters, routing trails around (rather than through) contiguous habitat types, and limiting public access to nesting sites or critical habitat features. Habitat connectivity, biodiversity and forest fragmentation effects can also be minimized by keeping newly constructed trails narrow and soil/site disturbance to a minimum.

Habitat fragmentation will be minimized by 1) Using primarily existing corridors, 2) Keeping corridors as narrow as possible, and 3) Minimizing disturbance associated with new trail construction. Although trail bed grading and shaping will be required along portions of some existing corridors, forest canopy alteration will only occur along new trail segments where vegetation will be cleared to a height of about 10-feet for rider safety. Overhead forest canopy will be retained whenever possible, and trail alignments will generally avoid large trees or dense, unbroken vegetation.

Invasive Terrestrial Species. All new trails will be closely monitored for invasive species during the first year after construction and periodically thereafter, according to established standards and protocols (*DNR Op Order 113*). These site-level guidelines contain procedures specific to trails and trail use intended to “*prevent or limit the introduction, establishment and spread of invasive species*”. Where infestations are identified, control methods will be applied to limit their spread to uninfested areas. Keeping riders on designated trails will limit the potential transport of invasives to uninfested woodlands. A vehicle wash facility already exists near the Gilbert Contact Station so that seeds, soil, and vegetative material can be removed from vehicles. Information on identifying and preventing the spread of invasive species will be provided to OHVRA visitors.

Rare or Sensitive Species Protections. MDNR Natural Heritage and Nongame Research Program database (NHIS) reviews of this site were conducted in October 1999, then again in February and November of 2009 to identify significant natural features known to occur within or proximate to the project area. These reviews noted the presence of **Peregrine Falcon (*Falco peregrinus*)**, **Red-Shouldered Hawk (*Buteo lineatus*)**, **Grape-ferns (*Botrychium* sp.)** and **Canada Lynx (*Lynx Canadensis*)**. Suggested measures for avoiding or minimizing impacts to these species were provided by NHIS Staff and have been incorporated into the project design and construction plan.

Adaptive Management. Should evidence of any of these species be identified during project planning, design or construction, appropriate steps will be taken to reduce the potential for population or habitat effects. Among the approaches most commonly taken are the following:

- Spatially separate humans and wildlife in sensitive or unique habitats. Separate - humans and wildlife during critical periods (*e.g., breeding or nesting*);
- Strictly control human use of access and development corridors. Restrict off-road - and off-trail vehicle use, especially in sensitive areas (*e.g., riparian areas*);
- Whenever possible, avoid trail development in unroaded areas, minimize corridor - width, increase curvilinearity, maintain forest canopy cover, and develop and - maintain corridors at the minimum standard necessary for intended use(s), and -
- Actively work to prevent the introduction of exotic plant species. These species - greatly diminish the quality and utility of native habitat. -

With these precautions, and with continuous site monitoring, no significant, lasting or irreversible impacts to sensitive species or their habitats are anticipated to result from implementation of this project as described.

6. Construction Effects (Temporary). Seventy five miles of new and existing trail is proposed over the life of the project. Little or no mechanical action is proposed for most existing upland corridors, with activity limited to remedial measures, (*i.e., filling ruts and holes; soil stabilization, out slope maintenance, etc.*) Some limited construction will be necessary to improve cut and fill slopes, treadway conditions in wet areas, and any unstable or erosive segments. Ground fabrics and fill material, such as gravel or other aggregate materials, will be applied to rutted areas to stabilize and elevate the trail treadway.

Excavation will be kept to a minimum to reduce soil erosion and potential future drainage problems. In areas of highly compactable soils, dry granular soil or gravel fill will be added to stabilize trail surfaces and fill low spots (rather than by cutting with heavy equipment). Treadway crowning, hardening, outsloping and other suitable grade modifications will also be employed to manage runoff and erosion. Runoff will be directed into vegetated areas by ditching, and secondary measures may be applied if vegetated buffers lack the capacity to absorb the flow. Cut and fill slopes will be maintained to ensure treadway stability. Periodic grading and filling will also help shape the trail treadway to shed water and stabilize the treadway surface.

New trail corridors will typically be sinewy and limited to required vehicle widths, from two to six feet wide, in order to improve rider interest, enjoyment, and challenge. These new corridors will be configured to control erosion in hilly areas by incorporating grade dips, grade reversals, rolling dips, and switchbacks into the alignment.

Clearing new corridors will entail flagging suitable pathways for the trail system and removing brush and small trees to ground level and delimbing larger trees to a height of 10-feet. Chainsaws, brush saws, overhead limb saws, and possibly a brush mower, will be used for brushing trails. The treadway will be further prepared by grubbing the surface to remove roots, stumps and large rocks. Debris will be pushed away from the trail so as not to create a safety hazard. Materials disturbed during construction will be reused when possible, or deposited at borrow sites and revegetated.

New trail corridor construction may require treadway elevation, out-sloping, bench cuts, culvert

installation, and/or heavy surface blading. Equipment necessary to accomplish this may include an AT300; Sweco dozer or crawler; backhoe; or ASV Posi-Track loader. Sign installation will require the use of post-hole diggers or pounders. The locations of borrow pits are not known at this time. Wet areas, riparian areas, and steep, unstable or erosive sites will be avoided.

Invasive Terrestrial Species. Existing infestations will be identified within specific construction areas. Construction work will begin in non-infested areas **before** moving to infested areas, and equipment will be thoroughly cleaned after all work in infested areas. Disturbed areas will be immediately re-vegetated per departmental policies and guidelines.

The introduction of exotic or invasive weeds from construction activities will be minimized by removing the top organic layers prior to excavating fill materials so that only mineral soils are removed. Borrow pits will also be situated as close to the work site as possible, and will not be located near natural areas. Any material (*top soil, gravel, seed mix*) brought to the site from an outside source will be certified weed free.

7. Noise, Dust, Traffic & Odors. Noise will be generated both during trail construction and facility operations. Construction-related noise will be temporary and occur only during daylight hours. OHV generated noise depends upon the number and types of machines operating in a particular area, on the type of engines (*i.e., 2-cycle vs. 4-stroke*), engine displacement, RPM levels at which machines are operating, and the effectiveness of vehicle noise emission controls (*i.e., mufflers and exhaust baffles.*)

As visitation increases, an increase in noise over current conditions can be expected. However, the Virginia expansion area is substantially more remote and has fewer close neighbors than does the Gilbert Site. No occupied dwellings are located within 2,500 feet of planned vehicle operations in the expansion area. Moreover, the area is predominantly located within the ‘industrial’ land-use classification, which permits higher ambient noise levels under state law.

Under normal operating conditions, the Minnesota Pollution Control Agency’s Daytime Ambient Noise Standards for $L_{50} = 60$ dB(A) (*that level exceeded 50% of the time*), or the $L_{10} = 65$ dB(A) standard (*that level exceeded 10% of the time*), will not be exceeded by park visitors. Vehicles entering the facility are routinely checked for required noise suppression equipment, then tested and certified if they meet state vehicle noise emission standards. Machines that fail to meet standards cannot be used at the facility.

Repeated ambient testing conducted by MDNR staff, with the assistance of MPCA staff, at sensitive noise receptors located adjacent to the Gilbert facility, has shown that State Noise Standards can be met regardless of seasonality (*leaf-on or leaf-off*), prevailing wind conditions, or the numbers or types of vehicles in operation during the testing cycles.

Despite the remoteness of the Virginia expansion area, some may still characterize the ATV/OHM engine sound as “annoying,” especially considering the low ambient noise levels typical for rural areas. While acknowledging the potential for annoyance, the MDNR does not believe that anticipated noise levels will, under any circumstance, constitute a ‘nuisance’ under state law [See *Minn. Rules, Chap. 7030*]. MPCA, acting in concert with MDNR and local governmental units, is charged with enforcing Minnesota’s State Noise Standards.

Although the additional OHV traffic will produce increased noise levels over current conditions, over the longer term, OHV noise, in the aggregate, is expected to decline with the advent of newer, quieter machines. Noise propagation is also mitigated by foliage and dense understory vegetation during the summer months and by snow during late fall and winter. The hilly landscape, and wind patterns will also help to attenuate or ‘muffle’ vehicle generated noise.

Since operations of the active Iron Range OHVRA-Gilbert site began in 2002, no noise issues or complaints have surfaced, despite the close proximity of several homes and businesses. The Gilbert facility has achieved a voluntary 10-15 dB(A) reduction from noise levels allowed under state law. This has been achieved through the use of setbacks, berms and buffers, and by implementing trail design techniques and traffic flow restrictions that act to limit noise. **This reduced noise standard will not be necessary in the Virginia Expansion site given its remote location, its industrial land-use classification, and its lack of any nearby sensitive noise receptors (e.g., occupied dwellings).**

Odors. Ambient odors generated from nearby stationary sources, (*i.e., asphalt processing plant, open pit mining operations, landfill operations, DM&IR Railway, etc.*) are likely of greater magnitude than vehicle emissions generated on the Virginia Expansion site. Construction and maintenance-related odors and emissions will be of a minor and temporary nature, while operational emissions will vary in intensity as a function of the amount of OHV traffic generated along established trails. The odors are anticipated to dissipate quickly under typical climate and wind conditions.

Dust. Operation of OHV’s during dry conditions on graveled or natural surface trails will result in the generation of airborne dust. Dust generated during dry, windy conditions can be troublesome, both for neighbors and for recreation area visitors. However, dusty conditions are expected to be localized, and limited to a narrow zone along heavily used roads and trails. Little or no off-site transport of fugitive dust is anticipated. Problem segments will be stabilized with additional gravel, or temporarily closed until conditions improve.

8. Vehicle Emissions & Air Quality. Vehicle exhaust emissions will increase during both construction and facility operations. Construction-related emissions will be minor and temporary in nature, arising from the use of heavy equipment to create or improve roads and trails. Longer-term operational emissions will result from the operation of highway-licensed vehicles (*needed to access and manage the site*) and off-highway vehicles operated on-site. Emissions from these sources are currently at low ambient levels in the project area. With the proposed expansion, emissions will increase proportionate to the number of new riders that visit and use the park. Visitation is expected to increase by about 50% over current levels, or to about 15,000 riders/yr.

Off-highway Vehicles (OHVs) emit pollutants that can linger, especially at intersections or where vehicles congregate. Local climatic conditions will, however, act to dissipate, dilute, and control concentrations of noxious vehicle emissions. Winds are more pronounced in open areas, atop mine dumps, and in other upland areas where most road/trails will be located. Although OHV tailpipe emissions may be objectionable to some, they are unlikely to exceed state or federal air quality standards.

B. SOCIAL, ECONOMIC & COMMUNITY EFFECTS.

1. Character of the Project Area. Any potential large-scale community effects related to this project (positive or negative) would be similar in scope and scale to those resulting from nearby recreational trail developments (**Figure 8**). That is, socio-economic or environmental effects stemming from the Virginia Expansion will likely be comparable to those of other area recreation projects. More importantly, project (*negative*) impacts will pale in comparison to the effects of nearby commercial and industrial operations. This expansion project is expected to contribute positively to the social and economic well-being of the greater Quad Cities Area.

2. Scenic, Visual or Aesthetic Effects. Overlook areas will be developed to complement the core trail system and vehicle specified trail networks. The overlook areas will take advantage of the impressive views from the top of 125'+ tall mine dumps. Vehicle restraints and pedestrian set-backs from scenic vistas and overlooks will be installed to ensure that overlooks are safe for visitors, and that they do not impair natural, scenic or aesthetic values.

3. Recreational Opportunity. Several complementary recreational trail developments are currently underway in the vicinity of the Iron Range OHVRA. Some trail connections (to the OHVRA) already exist and more are planned. Among the projects currently underway are the Moose ATV/OHM Trail, the Mesabi Mountain ORV Trail, the Genoa ATV/OHM Trail, and the Mesabi Hiking/Biking Trail. Each is discussed briefly below. **All are shown in Figure 8 in Appendix D.**

The Moose Trail is a planned seven-mile ATV/Off-Highway Motorcycle (OHM) Trail that will connect the City of Biwabik to the Iron Range OHVRA at Gilbert. The trail, currently under construction, is being developed largely along an existing snowmobile trail corridor. The East Range ATV/Snowmobile Club hopes to accommodate ATV use of the corridor during the snow-free season. The trail's proximity to the OHVRA will enable MDNR Staff to monitor trail use and trail conditions, and will eventually connect to the OHVRA, as well as lodging, camping and support services located nearby. This new trail access should help alleviate (*mostly unintentional*) private property trespass and reduce ditch riding in the vicinity of the OHVRA.

The Mesabi Mountain GIA Trail is a 4.1-mile trail, currently being developed for use by registered Off-Road Vehicles (ORVs). The trail will begin just east of the Mesabi Range Community and Technical College in Eveleth, then wind northeastward through heavily forested public and private lands. The difficult terrain and ledge-rock will create a challenging jeep trail rated "*most-difficult*" for experienced drivers. Its proximity to the Iron Range OHVRA will provide park visitors with an additional nearby riding opportunity.

The Genoa ATV/OHM Trail provides a direct connection from the City of Eveleth to the City of Gilbert, beginning at the intersection of Highways 53 and 37 in Eveleth, and traveling 3.5 miles east to the Sherwood Forest Campground in Gilbert. It is a gravel-surfaced trail open only to ATVs and OHMs. This trail serves as an important connection between the Iron Range OHVRA and hotels and restaurants in the City of Eveleth.

The Mesabi Trail is a paved non-motorized hike/bike trail that connects the communities of Grand Rapids, Coleraine, Bovey, Taconite, Marble through Calumet and Pengilly, Nashwauk, Keewatin, Hibbing, Chisholm, Buhl, Kinney, Mountain Iron, Virginia, Gilbert, Sparta, Fayal, Eveleth and McKinley. Most recently, a 3.5 mile link between McKinley and Biwabik was paved during Summer

2009. The Mesabi Trail, winds through both the Gilbert and Virginia portions of the Iron Range OHV Recreation Area.

4. Transportation & Vehicle Traffic. Visitor and recreational vehicle traffic in and around the Quad Cities Area of St. Louis County (*i.e., Virginia, Eveleth, Gilbert and Mountain Iron*) will increase marginally with the expansion of the Iron Range OHVRA at Virginia. Noise, traffic, and vehicle exhaust emissions will also increase accordingly. This additional increment of disturbance associated with park expansion is, however, not anticipated to be problematic or deleterious, especially when considered on a regional scale.

5. Public Safety & Enforcement. During its first seven years of operation, there have been few problems with illegal activity in or around the Gilbert OHVRA. There have been no breaches of the perimeter fence, and no complaints from adjacent landowners or homeowners. Rider compliance with posted rules and regulations has been excellent. Site Managers expect this same level of visitor cooperation and compliance when the Virginia Expansion is added sometime in 2010.

Local law enforcement, first-responders, and emergency medical services personnel have helped to ensure public safety at the Iron Range OHVRA. Since operations began at the Gilbert site in 2002, local officials have not deemed this added workload to be problematic or deleterious to their operations. Special legislative appropriations have also been made available to local enforcement authorities to step-up OHV enforcement patrols.

6. Land-Use Compatibility. A large taconite mining operation is located just east of the Virginia Expansion site; a gravel mining operation is located on the northwest; and an active solid waste facility and haul road border the southwest portion of the project area. In addition, a former (now closed) solid waste facility is located in Section 10, just outside of the southern project boundary. Noise, dust and vegetative cover type changes resulting from this project will pale in comparison to impacts associated with these and other nearby commercial and industrial operations.

Pending Developments. Gravel mining operations have recently been approved for an area just south of the project boundary in Section 22. A retail development along Highway 135, also in Section 22, is contemplated, but construction permits have not yet been issued.

United Taconite plans on moving its mining activities into Section 16, which is within the southwestern quadrant of the project area. This development would restrict OHV activities within the active mine area for an extended period. However, The timeframe for United Taconite's planned expansion has not been finalized. Until a final resolution is provided, development of the Virginia site will proceed as outlined in this Master Plan Amendment.

7. Local Economic Effects. Research sponsored by DNR and conducted in 1997, prior to opening the Gilbert Site, estimated visitation at between 10,000 and 20,000 user-days per year. The associated economic impact was estimated at between \$200,000 and \$400,000 annually to the local economy. This was based upon a number of factors, including location and travel distances, vehicle registrations, and per capita visitor spending of \$20 per day. This impact was expected to occur gradually, as the facility was developed, and it did anticipate a connected site nearby.

Visitor estimates have proven remarkably accurate, despite the lengthy delay in securing the Virginia Expansion, which was authorized in 1999. The typical number of riders that use the existing Iron Range OHVRA facility (at Gilbert) during the peak summer use period ranges from 25-45 visitors per day, with peak visitation ranging up to as many as 100 visitors per day on weekends and holidays. Contact Station records indicate that the park currently receives about 10,000 visitors annually. With the expansion, visitation is expected to jump by 50% to about 15,000 riders/yr.

Although economic effects are more subtle and difficult to quantify, there has been a noticeable increase in economic activity that followed the opening of the OHVRA in Gilbert (in 2002). Many formerly vacant storefronts are no longer, and several new businesses have opened – some catering to OHVRA visitors. Occupancy at the City's Sherwood Forest Campground has also increased dramatically, leading to plans to substantially expand this facility. Special events held at the OHVRA have boosted general economic activity in Gilbert, and lodging at Eveleth hotels and motels is at or near capacity during larger events. Tentative plans call for future construction of a hotel or motel in the City of Gilbert. Such plans may well hinge on this planned expansion, and on the many visitors – new and old that this expanded off-road riding opportunity is likely to attract.

8. Infrastructure & Public Services. This project will have no discernable impact on local roads, public utilities or services, aside from the nominal increase in tourism and traffic (discussed above). This added visitor traffic is not expected to tax existing roads, utilities or public services.

9. Historic & Cultural Resources. No historical, cultural or architectural features were identified within or immediately adjacent to the Virginia Expansion site during the database search conducted by the Minnesota State Historic Preservation Office (SHPO) in 2009. Historical properties located within one-mile of the project area include: Gilbert High School, Gilbert City Hall, First National Bank, Hopkins Park and the Glen Avon Presbyterian Church. Several historical houses and commercial buildings are also located in the nearby City of Virginia, Minnesota. Should any unknown archeological resources be identified during site development, MDNR will consult with the SHPO and the State Archeologist to determine the nature of the discovery and likely development effects, as well as the possible need for mitigation.

10. Unique Local/Regional Resources. The Iron Range OHVRA is Minnesota's only state-run off-highway vehicle recreation area. As such, it represents a new and innovative approach to mine land reclamation. It adds a new dimension to traditional outdoor recreation in Northeastern Minnesota. It is also the state's only user-funded State Recreation Area, supported solely by appropriations from dedicated funding accounts. Account revenues generated through vehicle registrations and unrefunded fuel taxes have financed the planning, design, construction, operation and maintenance of this facility since it was first authorized in 1996.

V. PLAN IMPLEMENTATION

A. ENGINEERING DESIGN & CONSTRUCTION. Road and trail construction will total about 75 miles when this facility is completed. The disturbance zone is estimated to be 91.0 acres in size (*1.21 acres per mile of trail for ten-foot wide corridors*). Although most trail construction will not exceed a width of 108 inches (nine feet), a ten-foot width was selected as a representative corridor width to ensure that total disturbance was not underestimated. This calculation also presumes that construction corridors are essentially 'undisturbed', which is often not the case. Much of this site has been previously disturbed as a result of road or trail building, informal public use, or through mining or

mineral exploration. Overlooks, scenic vistas, pull-offs, rest areas, and day-use sites will also eventually be developed at the Virginia site. Maintenance and operation of the expansion area will be integrated with operations at the Gilbert Site.

B. INITIAL OPERATIONS, YEARS 1-2. Initially, during the first season of operation, only major Core Trails and Connector Trails will be open to public use. The development of secondary or ‘feeder’ trails and support facilities will proceed gradually throughout the first 2-3 years of operation, and perhaps beyond. Completion of all planned 75-miles of roads and trails, and planned support facilities is not expected prior to the fifth season of operation.

The final location of roads and trails will be determined using trail siting criteria that: 1) Make maximum use of existing disturbed corridors, 2) Select new corridors that are judged to be sustainable and suitable for their intended purpose, and 3) Minimize negative effects on the site’s natural resources. Wetlands, riparian areas, and shoreland zones will be steadfastly avoided. Steep hills, rocky cliffs (except for access to overlooks) and dense vegetation or areas with large trees will also be avoided whenever and wherever possible.

C. FUTURE EXPANSION PLANS & OHV TRAVEL LINKS. While future expansion or boundary modifications remain a possibility, no plans exist at this time to seek legislative authorization or funding for any future additions to the park. There are no plans to develop additional infrastructure or expanded parking facilities at either Gilbert or Virginia. Mining can and will continue to occur in conjunction with recreational activity as stipulated in authorizing legislation. Some relocation of OHV trails may prove necessary in the future should existing mine leases be activated or expanded.

D. LONG-TERM OPERATIONS, MAINTENANCE & MONITORING.

Facility Operations. The Iron Range OHVRA, which opened in 2002, is operated year-round during daylight hours, with reduced scheduling during winter months. It is closed during the annual firearms deer season. There is no fee for admission, except for attendance at some special events.

There is only one public entrance to the OHVRA via State Highway 135 off Enterprise Trail to Pettit Road (*in the City of Gilbert*). Registered vehicles that possess the required safety equipment, mufflers and spark arrestors are admitted if they comply with applicable sound regulations (ATVs = 99dB(A) and OHMs = 96 or 99 dB(A), depending upon the year manufactured, using the Standard SAE 1287 sound test). All vehicles must be equipped with manufacturer-supplied noise suppression devices. Vehicle checks will be conducted at the main gate. Spot checks will also be conducted periodically, in and around the park, to ensure compliance with state noise regulations.

Seasonal or temporary road and trail closures may be imposed at any time due to wet soil conditions, active logging or mining operations, wildfire danger, or for trail maintenance and repair. Temporary trail closures are most likely to occur during spring thaw or following heavy summer rainfall events. All active use areas are fenced and barriers have been erected to prevent unlawful entry or trespass.

Trail Monitoring & Maintenance. Trail monitoring and trail maintenance will be done by DNR Area Staff using state equipment per standard agency operating policies and procedures. Methods, materials and technical specifications will be consistent with accepted Best Management Practices as described in DNR’s *‘Trail Planning, Design & Development Guidelines’* (MN DNR, 2006). Monitoring

and maintenance protocols are also discussed in this publication and in various supplemental guidance documents such as the *DNR Parks & Trails, Trails & Waterways Section, Discipline Guidelines for Invasive Species Management per Operational Order #113* (Eff. Date 02/10/09).

Trail Ambassadors may assist land managers in monitoring trail use. The DNR Division of Enforcement administers the '*Minnesota Off-highway Vehicle Safety & Conservation (or Trail Ambassador) Program*' (MS Ch. 84.9011) which promotes safe, environmentally responsible operation of OHVs through informational and educational contacts, and through volunteer monitoring efforts. Trail Ambassadors provide a positive role model for peers, and can provide welcome support for park visitors. Trail Ambassadors are also trained and certified in trail monitoring, invasive species identification, first aid, OHV rules and regulations, and trail use policies and guidelines.

Enforcement. Local law enforcement, first-responders, and/or emergency medical services personnel will assist DNR Conservation Officers in ensuring public safety during the operation of the newly expanded Iron Range OHVRA. Since operations began in 2002, local officials have not considered this added workload to be problematic or deleterious to their local operations. Although Trail Ambassadors may also assist, on a volunteer basis, they are not licensed peace officers and they cannot arrest or detain violators.

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APPENDIX A
IRON RANGE
OFF-HIGHWAY VEHICLE RECREATION AREA
CITIZEN'S ADVISORY COMMITTEE

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APPENDIX B
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OFF-HIGHWAY VEHICLE RECREATION AREA
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APPENDIX C

IRON RANGE OFF-HIGHWAY VEHICLE RECREATION AREA MEETING DATES – VIRGINIA SITE 1998 - Present

Local Area Advisory Committee [LAAC] Meetings

- | | | |
|----------------------|--------------|---|
| 1. December 17, 1997 | Gilbert, MN | Orientation / Organizational Pre-Planning Meeting |
| 2. May 11, 1998 | Virginia, MN | Public Info Meeting |
| 3. December 10, 1998 | Virginia, MN | Public Info Meeting |
| 4. January 19, 1999 | Virginia, MN | Public Info Meeting |
| 5. April 5, 1999 | Virginia, MN | Public Info Meeting w/Virginia P&Z Committee |
| 6. July 22, 1999 | Virginia, MN | First regular LAAC Meeting on Virginia |
| 7. August 21, 2000 | Virginia, MN | Public Info Meeting w/Virginia City Council |
| 8. July 22, 2008 | Mtn Iron, MN | Public Info Meeting |
| 9. Feb. 6, 2009 | Mtn Iron, MN | Public Review Meeting |

LAAC Steering Committee Meetings

- | | |
|--------------------|----------------|
| 1. May 11, 1998 | Virginia, MN |
| 2. August 31, 1999 | Teleconference |

Site Design Subcommittee Meetings

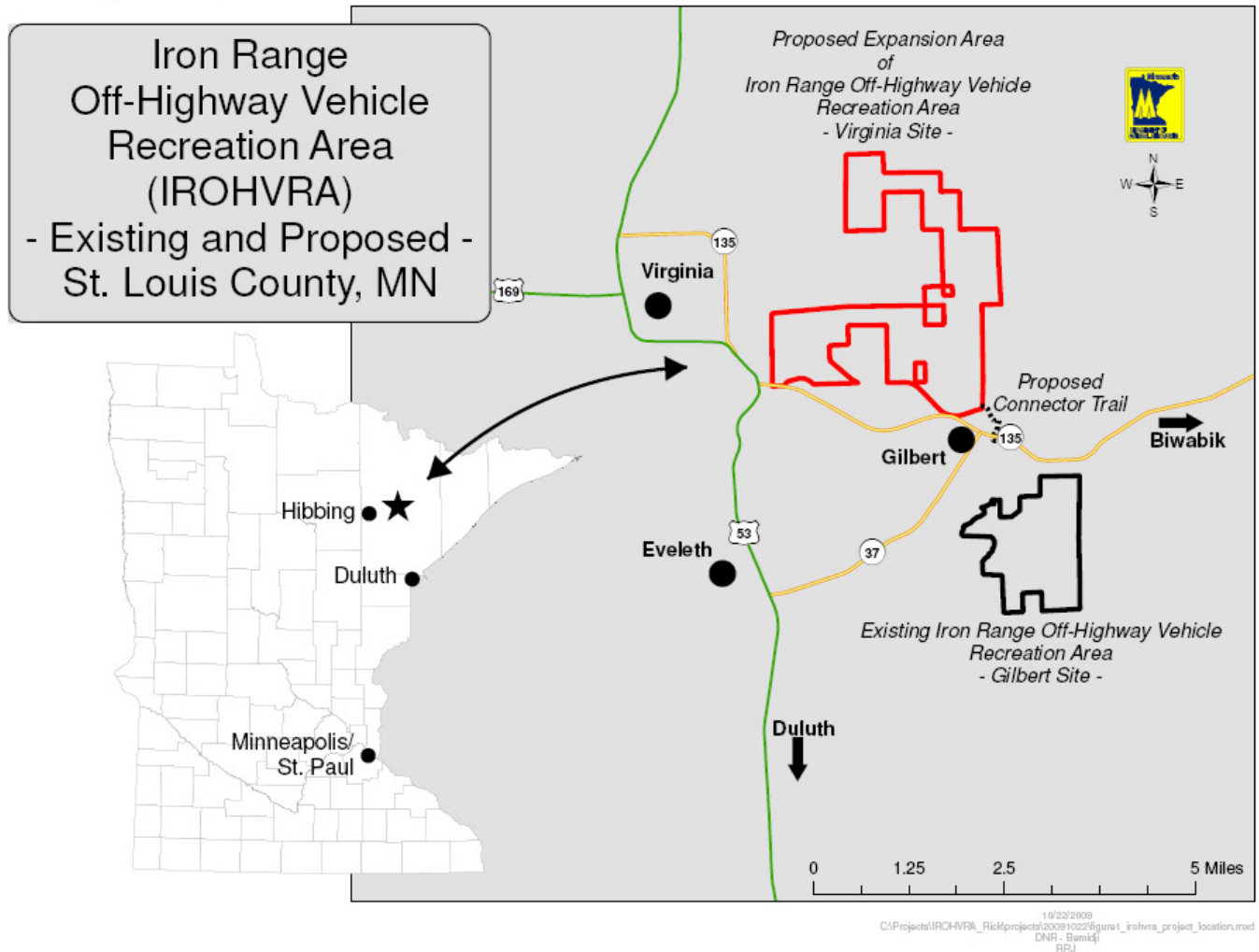
- | | |
|-----------------------|--|
| 1. August 31, 1999 | Teleconference |
| 2. Sept. 23, 1999 | IRRRB, Eveleth, MN |
| 3. Oct. 14, 1999 | IRRRB, Eveleth, MN |
| 4. Nov. 4, 1999 | IRRRB, Eveleth, MN |
| 5. Dec. 2, 1999 | IRRRB, Eveleth, MN |
| 6. Jan. 18, 2000 | Chisholm, MN (Joint Meeting w/DNR Tech Team) |
| 7. Jan. 27, 2000 | DNR Offices, Eveleth, MN |
| 8. Feb. 1, 2000 | IRRRB, Eveleth, MN (Joint Meeting w/DNR Tech Team) |
| 9. March 2, 2000 | DNR Offices, Eveleth, MN |
| 10. April 21, 2000 | IRRRB, Eveleth, MN (Joint Meeting w/DNR Tech Team) |
| 11. February 21, 2008 | Gilbert OHVRA |
| 12. March 20, 2008 | Gilbert OHVRA |

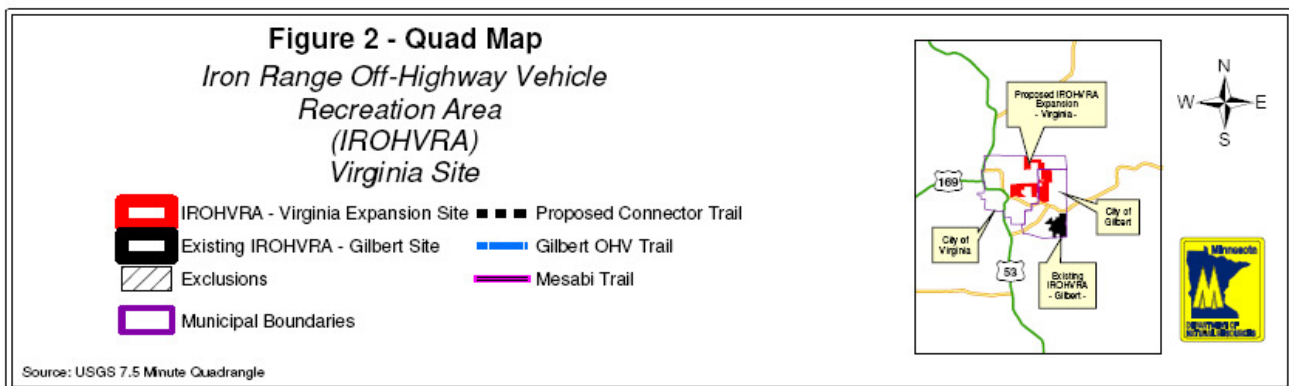
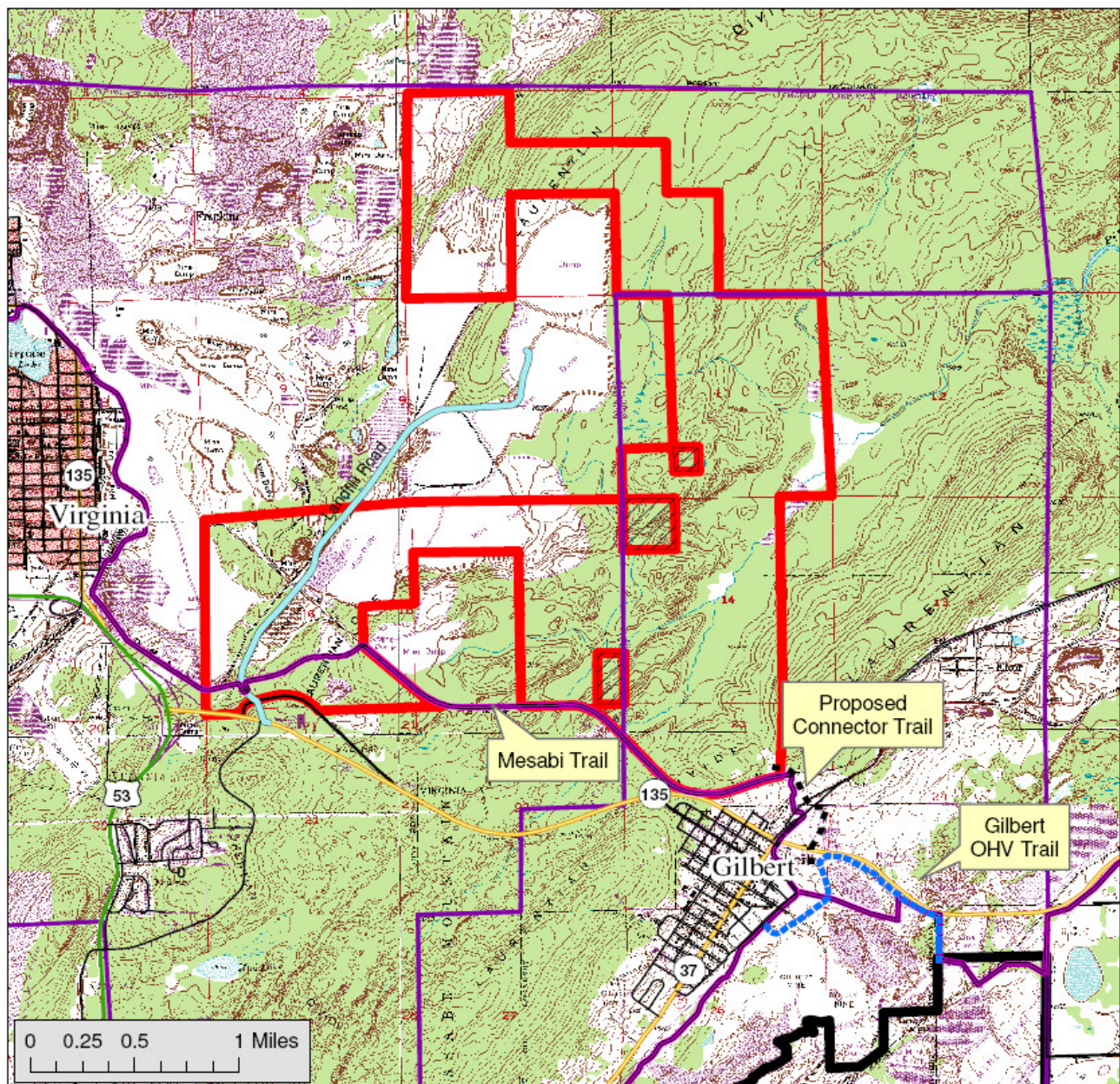
DNR Tower / Hibbing-/ Eveleth Area Team Meetings (pertaining to the OHVRA)

- | | |
|---------------------|---|
| 1. April 1, 1999 | Eveleth, MN |
| 2. August 10, 1999 | Eveleth, MN |
| 3. October 5, 1999 | Eveleth, MN |
| 4. January 18, 2000 | Chisholm, MN (Joint Meeting w/Site Design Team) |
| 5. February 1, 2000 | IRRRB, Eveleth, MN (Joint Meeting w/Site Design Team) |
| 6. April 21, 2000 | IRRRB, Eveleth, MN (Joint Meeting w/Site Design Team) |
| 7. April 3, 2008 | Tower, MN |

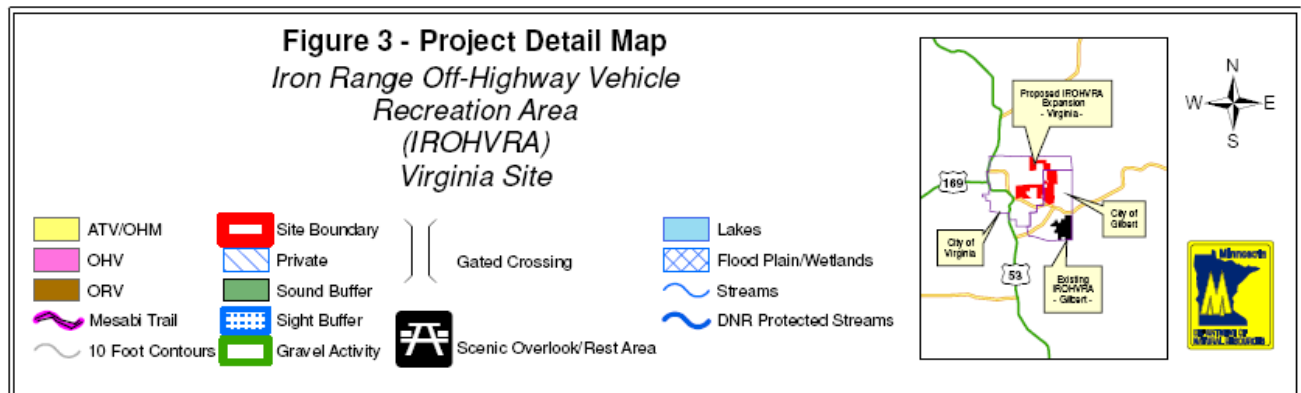
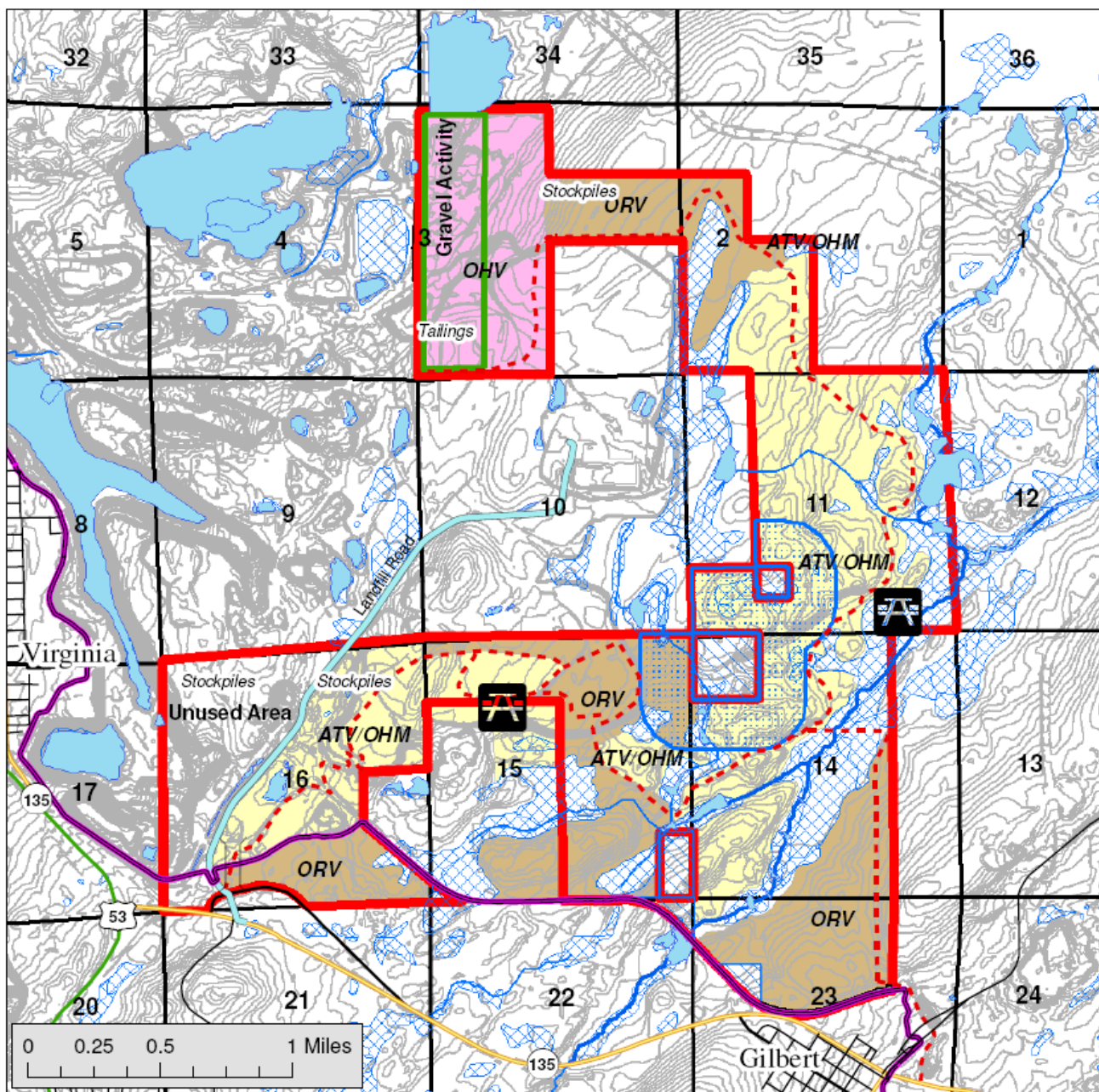
APPENDIX D - FIGURES 1-8

Figure 1 - Project Location Map





10/23/2009
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 DNR - Bemidji
 RRJ



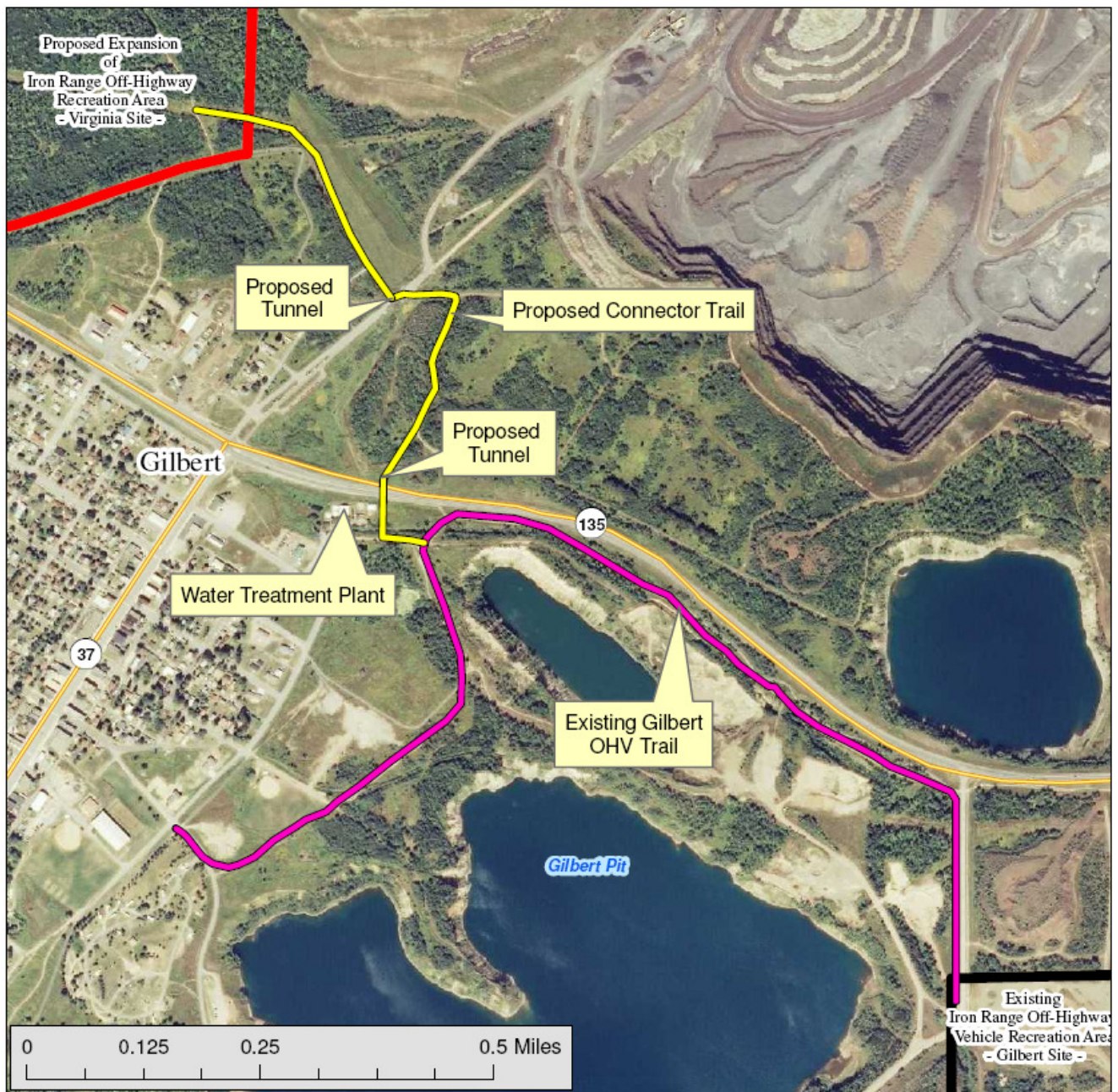
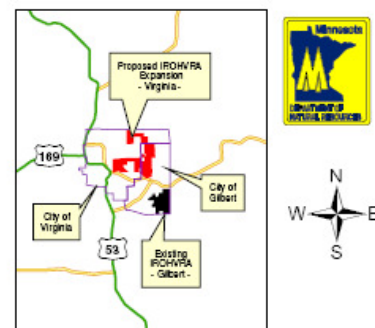


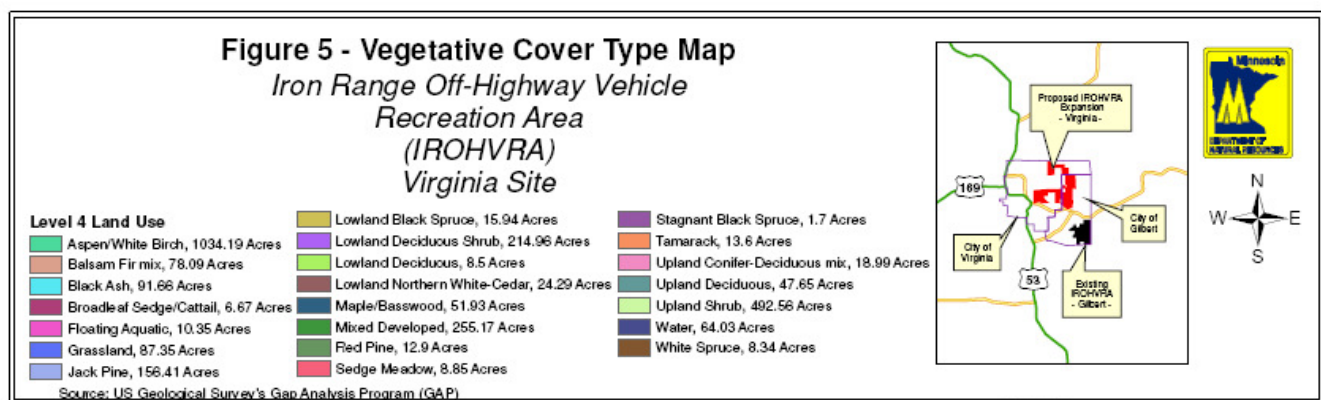
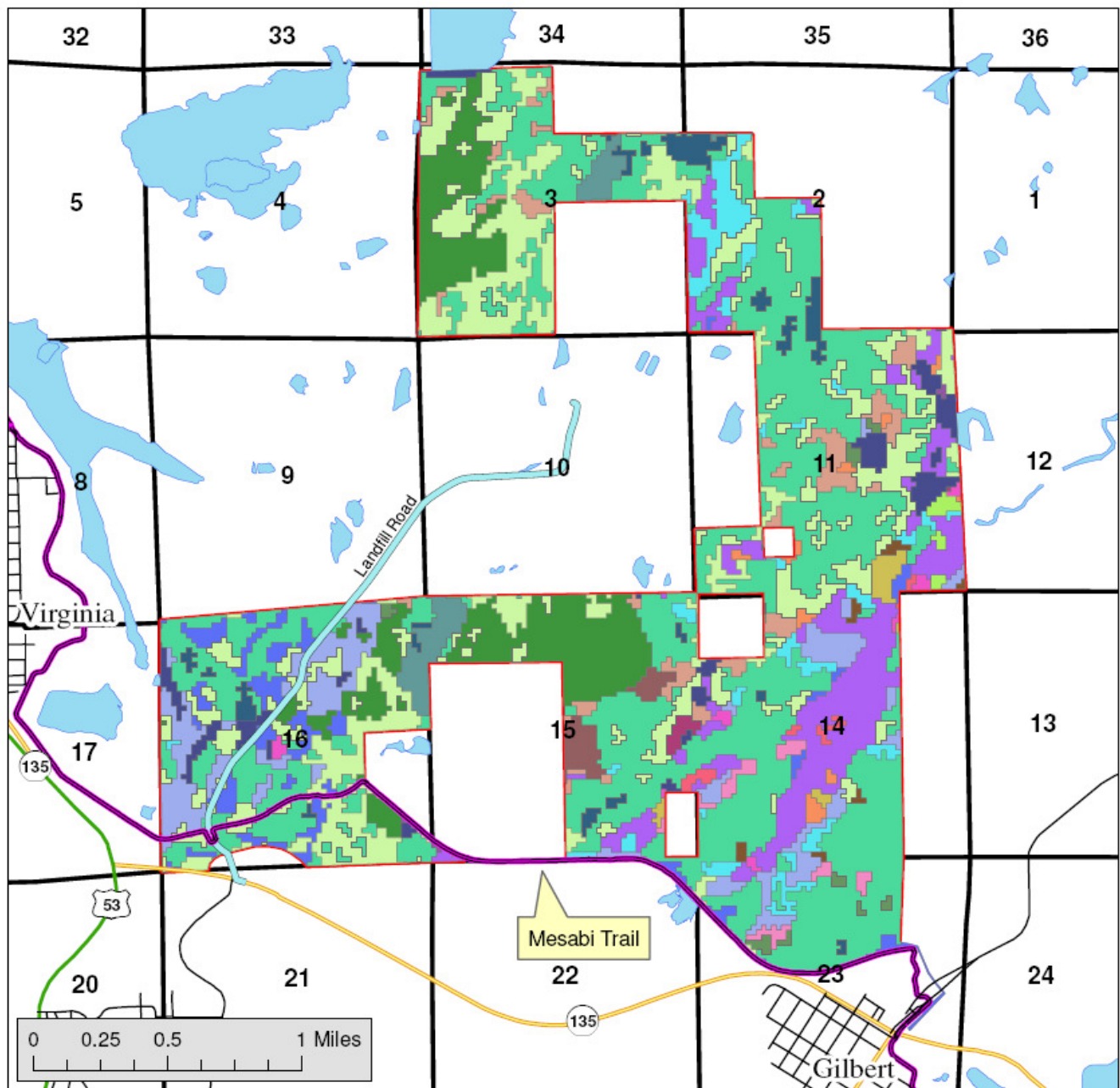
Figure 4 - Connector Trail Detail

Iron Range Off-Highway Vehicle Recreation Area (IROHVRA) Virginia Site

- Existing OHV Trail
- Proposed Connector Trail



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DNR - Bemidji
RRJ



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DNR - Bemidji
RRJ

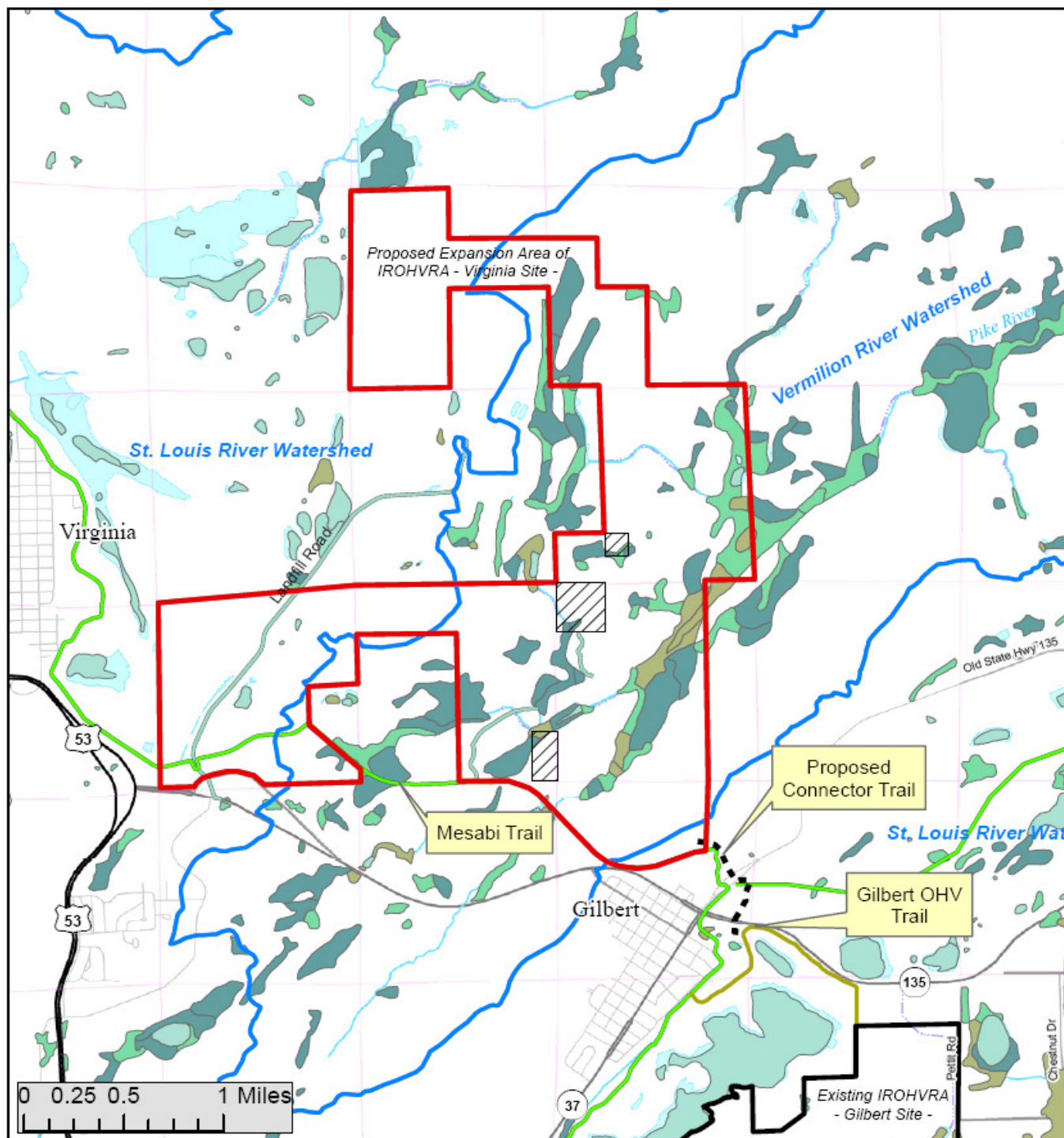
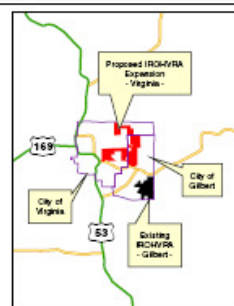


Figure 6 - National Wetlands Inventory (NWI) Wetlands Map

Iron Range Off-Highway Vehicle Recreation Area (IROHVRA) Virginia Site

- Legend**
- IROHVRA - Virginia Expansion Site selection
 - Existing IROHVRA - Gilbert Site
 - Connector Trail
 - Major Watersheds
 - Exclusions
- NWI**
- Wetland Type**
- Emergent Vegetation (Types 3, 4, 5)
 - Forested (Type 7)
 - Scrub-Scrub Forest (Type 6)
 - Unconsolidated Bottom (Type 5)
 - Lakes
 - Streams



11/14/09 - VIRGINIA_01/11/09/2014.mxd
DNR - St. Paul, DKA



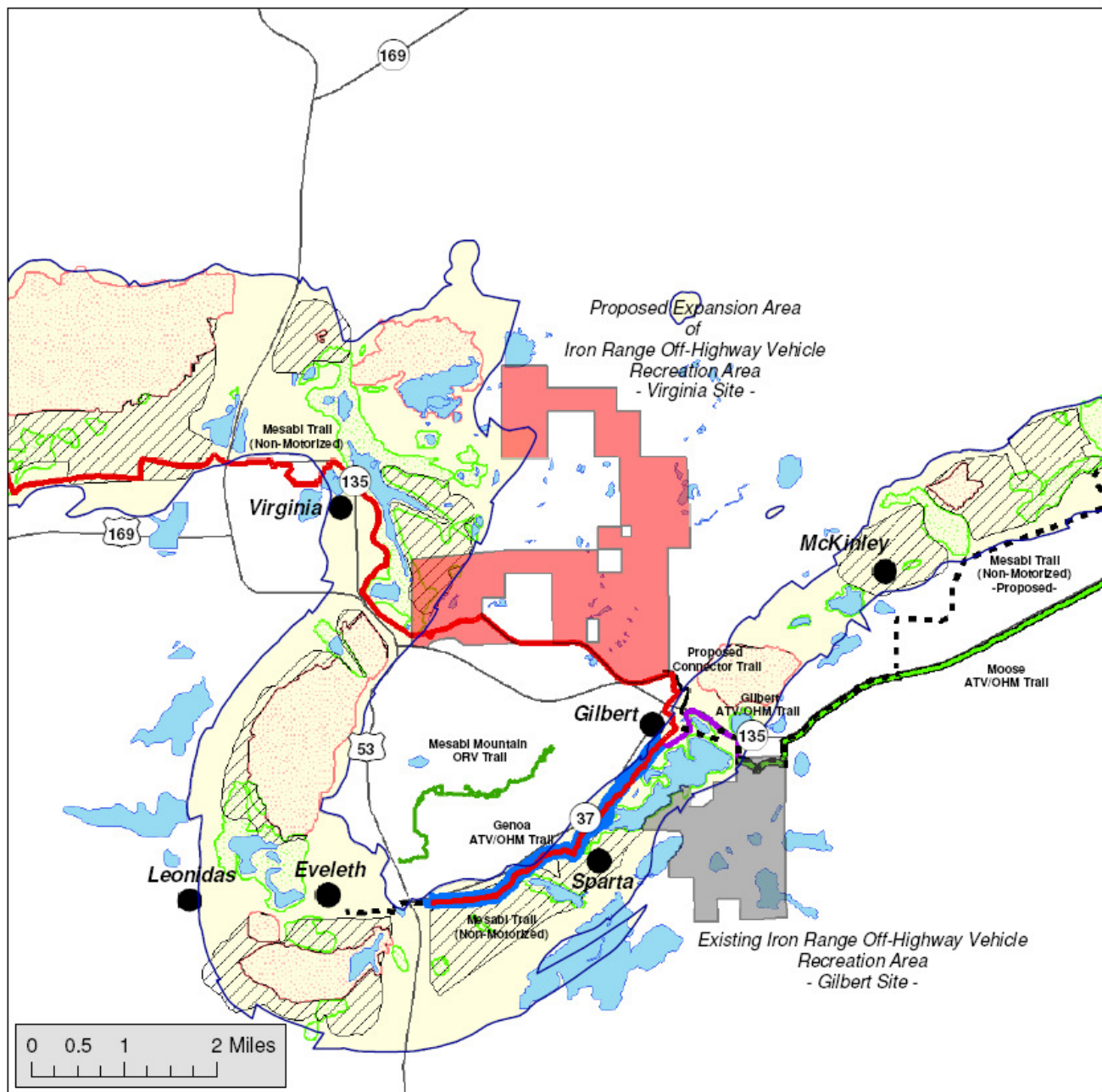
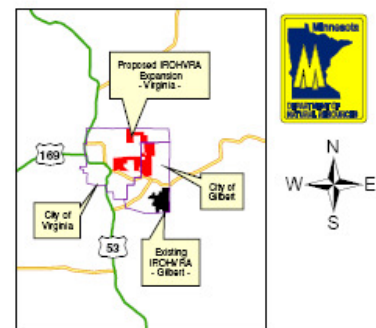


Figure 8 - Major Projects and Trails (Active or Proposed) in Vicinity of Project Area
Iron Range Off-Highway Vehicle Recreation Area (IROHVRA)

- | | |
|--|--------------------------|
| IROHVRA - Virginia Expansion Site | Connector Trail |
| Existing IROHVRA - Gilbert Site | Gilbert - IROHVRA Trail |
| Potential Open Pit Magnetic Taconite Development | Genoa ATV/OHM Trail |
| Natural Ore Pit | Mesabi Trail - Completed |
| Taconite Pit | Mesabi Trail - Proposed |
| Biwabik Iron Formation | Mesabi Mtn ORV Trail |
| | Moose ATV/OHM Trail |

Source: DNR Lands and Minerals, DNR Parks and Trails



11/2/2009
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 DNR - Bemidji
 RRJ

APPENDIX E: Natural Resource Reports (Not attached)

1. *Vegetative Cover Type Assessment (06/30/2000)*
2. *Floristic Survey Results, July 1997 – Aug. 1999*
3. *Soils and Geology (06/30/2000)*
4. *Minerals and Mining (10/05/2000)*
5. *Wetland Resource Assessment (12/08/1999)*
6. *Riparian Area Assessment (12/23/1999)*
7. *Natural Heritage Information System (Database Searches Conducted 06/2000, 03/2009, and 11/2009)*

APPENDIX F: Environmental Assessment Worksheet (EAW),
Dated Nov. 12, 2009. (Not attached)

APPENDIX G: EAW Adequacy Decision Document, Dated
January 15, 2010. (Not attached)