

III: LAND USE

Introduction

This chapter examines the pattern of existing land uses in Lewis and Clark County and presents a vision for future land use development. This chapter is broken down into sub sections, one for each of the five planning areas in the County, including the following: Augusta; Canyon Creek/Marysville; Canyon Ferry/York; the Helena Valley; and Wolf Creek/Craig. Each sub-section in this chapter contains a general description of the planning area and its existing land use, as well as action items.

Maps for each planning area can be found in the Appendices. Planning Area maps show the extent of each planning area, lands that may have development constraints, areas of current development, and shows preferred areas for future development. Other maps for each section depict environmental characteristics, population, service information, and other data.

The Helena Valley Planning Area is under the greatest pressure for land development and overall change. In order to help address these changes, a future land use map was compiled to help guide and manage new development. The section dealing with the Helena Valley Planning Area also includes analysis of how implementation of the land use map would affect a variety of conditions in the Valley.

Augusta Planning Area

History

The first record of non-native exploration in the Augusta area was by Meriwether Lewis of the Lewis and Clark Expedition. Lewis describes his trip through Lewis and Clark Pass just past Shishequaw Mountain (believed to be Haystack Butte) and down Elk Creek to the present day Augusta town site. Lewis noted that the party saw large numbers of deer, goats and wolves, but no elk or buffalo. His journal describes the Augusta/Gilman area as expansive and beautiful.

A special appropriation from the U.S. Congress in 1862 assured safe passage west by providing military protection for wagon trains from hostile Indians, predominantly the Blackfeet. It was at this time that the cattle industry got started in the Augusta area. Cattlemen with large herds controlled huge areas of land under the customary open range law. It was reported that forty-two thousand head of cattle were on the Sun River Range. However, the terrible winter of 1886-87 put an end to the open range. From then

on, the ranchers had to adjust to barbed wire, closed areas, winter-feeding, and growing numbers of homesteaders in the area.

When Montana was designated a Territory in 1864, small communities were encouraged to organize, and Augusta became a town. The area was first included in the early Deer Lodge County, but when Edgerton County changed its name to Lewis and Clark County in 1886, the county lines were change to include Augusta. The Augusta town site was first surveyed and dedicated in May 1893. The most accepted version of naming the town is that it was named after Augusta Hogan, the first white child born in the new community.

By 1901, Augusta had become a booming agricultural community, with a developed business district. In April 1901, the entire business section of the original town site burned to the ground. The day after the fire, some say that Augusta became “the most moral town in the state,” having three churches and no standing saloons or dance halls. The town was rebuilt and by 1914 had reached its business and cultural peak. In the 1920's street lights were installed, the volunteer fire department organized, the high school built and a railroad spur line was extended from Gilman to Augusta. The extension of the spur line lead to Augusta becoming the area’s major community and began the slow decline in Gilman’s importance and growth. Also in the twenties, an attempt to have a town water system failed, as did an attempt to change the Augusta area into a separate County.

Agriculture, which has always played an important role in the Augusta area, was spurred in 1908 when the Bureau of Reclamation built Willow Creek Reservoir and enlarged it in 1941. In 1915, the Gibson Diversion Dam was built and the head works for the Sun River slope canal and Pishkin Reservoir were started. The activities of the Bureau also spurred hunting, fishing and other recreation opportunities in the area. In 1908, the Augusta Ranger District was formed. The expansive Bob Marshall Wilderness was created in 1940, while the state-managed Sun River Game Range was established in 1947.

Over time, the Augusta area has undergone change. It has lost its newspaper, bank, and railroad service. The community, however, has continued to make improvements. A new school was built in 1954, a swimming pool in 1957, and a community sewer system--which was originally installed in the 1960s--was improved in 2001. The area continues to be a Mecca for hunters, fishermen, recreationalists and tourists. In addition, agriculture still plays a dominant role in the economy and area’s character.

Existing Conditions

The Augusta planning area consists of approximately 1,277 square miles located in the northern portion of Lewis and Clark County (see Appendix B for maps). The area is bounded on the north by the Sun River, on the east by Cascade County, on the south by the Dearborn River and State Highway 200 and on the west by the Scapegoat and Bob Marshall Wilderness Areas. Located approximately 75 miles north of Helena on U.S. Highway 287, the town of Augusta is geographically separated from the major population center of the County. To area residents, it feels more a part of the Great Falls and Choteau trade areas. Because the town of Augusta is not incorporated, it must rely on County government for administration of public services.

Physical Conditions

Topography

Topography of the planning area varies from low rolling hills around Augusta and riparian habitat along the Sun River to the high mountains along the Continental Divide. The eastern portion of the planning area is dominated by open and rolling grasslands. The western half of the planning area includes the Rocky Mountain Front, which rises dramatically out of the rolling plains. Beyond the Rocky Mountain Front lies spectacular mountainous terrain that includes portions of the Bob Marshall and Scapegoat Wilderness areas.

Climate

Due to topographic variations, climate conditions also vary across the planning area. The western portion of the planning area along the continental divide receives more than 40 inches of average annual precipitation, the majority as snowfall during the winter. The eastern portions of the planning area are the driest, receiving about 10 to 12 inches of average annual precipitation, the majority as rainfall in the spring and from occasional summer storms. Winds are generally westerly to southwesterly. The planning area experiences strong chinook winds associated with the east side of the Rocky Mountains.

Hydrography

All of the water courses that traverse the Augusta planning area originate from the Rocky Mountains along the western portion of the planning area. The major drainages in the planning area include the Sun River, Dearborn River, Elk Creek, and Flat Creek. All eventually drain into the Missouri River. These watercourses are important for

agricultural uses, wildlife, and recreational uses. Most of the Augusta town site is located within the Elk Creek floodplain.

Vegetation

Vegetation in the planning area consists of four distinct vegetative groups. The vegetative groups are: 1) Grasslands, which dominate the eastern portion of the planning area east of the Rocky Mountain Front; 2) Upland shrub, usually found uphill from areas of grassland vegetation; 3) Riparian vegetation, found adjacent to water courses in the area including the Sun River, Flat Creek, Elk Creek, Willow Creek, and Dearborn River; and 4) Coniferous forest which is largely found in the western half of the planning area within the Rocky Mountain Front, and the Bob Marshall and Scapegoat Wilderness areas.

Wildlife and Habitat

The Augusta planning area provides habitat for a broad range of wildlife species. The Bob Marshall and Scapegoat Wilderness Areas are home to diverse populations of wildlife, while private lands also provide significant wildlife habitat, including critical winter range.

Whitetail and mule deer are found throughout the planning area. Elk are distributed primarily along the Rocky Mountain Front and throughout the Bob Marshall and Scapegoat Wilderness areas. Critical elk winter range has been identified in various pockets along the Rocky Mountain Front. Antelope are widely distributed throughout the eastern portion of the planning area, east of the Front. Mountain goats and big horn sheep can be found along the rocky ridges of the Front. Mountain lion, black bear, coyote, and fox can also be found throughout the planning area with concentrations heaviest along the Front.

Haystack Butte, located in approximately the center of the planning area east of the Rocky Mountain Front Range, is noted as one of the premier and most productive raptor nesting sites in the state. The pothole and wetland area from Bean Lake to Gibson Reservoir provides important habitat for an unusually high diversity of bird species, particularly waterfowl. A major waterfowl flyway, the Pacific, extends through the planning area continuing down to the Missouri River. Of particular importance to waterfowl in this flyway are ice-free zones, stock ponds, reservoirs, the Dearborn River, and grain fields adjacent to water bodies.

As part of the Montana Fluvial Arctic Grayling Restoration Plan, the Montana Department of Fish, Wildlife and Parks (FWP), in cooperation with the Lewis and Clark National Forest, has introduced river-dwelling fluvial arctic grayling into the North and South Forks of the Sun River above Gibson Reservoir.

Population and Population Trends

Census figures for the Augusta Census Division indicate 834 persons resided in the area in 1990, which is approximately the same number as the 1980 and 1970 censuses. Approximately 500 of the area's residents live within or adjacent to the Augusta town site. In 1990, there were 535 occupied housing units in the planning area and an average housing occupancy rate of 1.56 persons per housing unit. Based upon electrical permit information and post office box rentals, the population in the area is increasing by small increments.

Land Ownership

Lands held in private ownership comprise approximately 38 percent of the land within the planning area. The bulk of these private lands are contained in large ranching operations.

The U.S. Forest Service, the Bureau of Land Management (BLM), and the State of Montana manage extensive public land holdings, comprising approximately 61 percent of the land in the planning area. The Lewis and Clark and Flathead National Forests, which include portions of the Bob Marshall and Scapegoat Wilderness Areas and the Sun River Game Range, encompass much of the western portion of the planning area and make up the bulk of the public land. The BLM controls additional land in the Steamboat Mountain area and along the Middle Fork of the Dearborn River. The BLM and Bureau of Reclamation jointly hold lands surrounding the Willow Creek Reservoir. Public land in the planning area is used primarily for wildlife habitat, recreation, grazing, and watershed management.

The remaining 1 percent of the planning area is comprised of water bodies.

Area Economy

Agriculture is the primary economic base for the Augusta area. Tourism and recreational services (e.g., outfitting) contribute to this base as hiking, hunting, fishing, and other recreational activities increase in the area. The Augusta elementary and high schools, the County and State road departments, and the Forest Service also provide employment for area residents. Many residents commute to the Great Falls area for employment.

Transportation

U.S. Highway 287, which connects Augusta with Interstate 15 approximately two miles north of Wolf Creek, is the main north-south highway through the planning area. It is a popular route for travelers heading to Glacier National Park. State Highway 200, which serves as the major connecting route between Great Falls and Missoula, forms the southern boundary of the planning area. County Route 435 connects Augusta with Highway 200 along the Front Range. State Route 21 connects Augusta with Simms where it connects to Highway 200. Several roads provide access to the Front Range areas including the Augusta Ranger Station Road, the Sun River Road, Dearborn Canyon Road, Elk Creek Road, and Smith Creek Road.

Table 3.1 identifies roads within the planning area, which are maintained by Lewis and Clark County or some other government agency. The level of maintenance for each road is determined by the entity providing the maintenance and may range from annual grading and repair to little or no maintenance activity.

The roads within the Augusta Town site including Bandy St., Broadway St., Hogan St., Flemming St., Laura St., Mann St. Manix St. and Walrath St. These roads are owned and maintained by Lewis and Clark County with the exception of a portion of Main St. (Highway 287), which is maintained by the State of Montana. A road improvement district (RID) was formed in the area in 2001.

In the spring and summer of 1997, the County Public Works Department and their consulting engineer conducted an inventory of all bridges and culverts greater than five feet in diameter located on County roads. The inventory listed structures that were in need of replacement or repair based upon critical, poor/critical, poor and fair condition. Twelve structures in need of repair are located within the planning area. A structure located on the Augusta-Hogan Road was identified as being in critical condition. The historic Highway 434 Bridge over the Dearborn River was recently rebuilt by the Montana Department of Transportation.

Structures in poor/critical condition were identified on Elk Creek Road and Flat Creek Road. Structures in poor and fair condition (but needing improvements) were identified on the Augusta-Clemmons Road, Augusta-Hogan Road, Flat Creek Road, Sun River Road, Warden Road, and Elk Creek Road (planned for 2002). By definition, the critically rated structures should be replaced or undergo major repairs within one to two years, and the poor structures within five years.

Table 3.1

Publicly Maintained Roads in Augusta Planning Area

ROAD NAME	MAINTENANCE RESPONSIBILIY	ROAD CLASS.	ROAD SURFACE
Hwy 287	State of Montana	principal arterial	asphalt
Hwy 21	State of Montana	major collector	asphalt
Hwy 435	Lewis & Clark Co. (Federal - FAS)	major collector	asphalt/ gravel
Allen Road	Lewis & Clark Co.	local access	gravel
Augusta Clemmons Road	Lewis and Clark Co.	local access	gravel
Augusta Ranger Station Road	Lewis & Clark Co.	minor collector	gravel
Augusta-Willow Creek Road	Lewis & Clark Co.	local access	gravel
Beaver Willow Road	Lewis & Clark Co. U.S. Forest Service	minor collector/recreation	gravel
Benchmark	Lewis & Clark Co. U.S. Forest Service	minor collector/recreation.	gravel
Black Rock	Lewis & Clark Co.	local access	gravel
Bob Thomas Road	Lewis & Clark Co.	local access	gravel
Camp Walker Road	Lewis & Clark Co.	local access	gravel
Chisolm Barrett	Lewis & Clark Co.	local access	gravel
Dearborn Canyon Road	Lewis & Clark Co.	local access	gravel
Dry Creek	Lewis & Clark Co.	local access	gravel
Elk Creek	Lewis & Clark Co.	local access	gravel
Flat Creek	Lewis & Clark Co.	minor collector	gravel
Hay Coulee Road	Lewis & Clark Co.	local access	gravel
Long Butte Road	Lewis & Clark Co.	local access	gravel

Simms Creek Road	Lewis & Clark Co.	local access	gravel
Skyline Road	Lewis & Clark Co.	local access	gravel
Smith Creek Road	Lewis & Clark Co.	local access	gravel
Sun Canyon Lodge Road	U.S. Forest Service	local access	asphalt/ gravel
Sun River Road	Lewis & Clark Co. U.S. Forest Service	minor collector	asphalt/ gravel
Swallow Canyon Road	Lewis & Clark Co.	local access	gravel
Van Eman Road	Lewis & Clark Co.	local access	gravel
Warden Road	Lewis & Clark Co.	local access	gravel

Public Facilities and Services

Law Enforcement

Law enforcement within the Augusta planning area is a cooperative effort of four agencies: the Lewis and Clark County Sheriff's Department, which has primary responsibility; the Montana Highway Patrol, which is responsible for law enforcement on Highways 287, 200, and 21; the Montana Department of Fish, Wildlife and Parks game wardens, whose primary responsibility is to enforce fish, game and boating regulations and to assist other law enforcement official as needed; and the U.S. Fish and Wildlife Service, game wardens, with law enforcement responsibilities on Federal lands.

The Lewis and Clark County Sheriff's Department maintains one full-time deputy in Augusta with law enforcement duties within the Augusta planning areas and beyond as demand in other areas may warrant. Due to distances across the planning area, response times can be lengthy. Response times for emergency service personnel are often hampered by substandard roads and lack of posted addresses.

Fire Protection and Emergency Medical Services

Structural fire protection within the Augusta fire district is provided by the Augusta Volunteer Fire Department (VFD). Funding for the Augusta VFD is provided through the Augusta fire district with tax assessments for each qualifying lot within the district. Boundaries for the Augusta fire district include the town site and lands along Highways 435, 287, and 21 extending several miles to the southwest, south, and northeast from Augusta.

While most of the planning area is not within a fire district or fire service area, the district does include the area with the highest concentration of development. The Augusta VFD typically responds to fire calls outside of the fire district, though such parcels do not directly contribute to the costs of fire services. Volunteers for the volunteer fire department are paged by the County's Sheriff's Department in case of fire.

The Lewis and Clark County Volunteer Fire Department contributes to fire protection services in the portions of the planning area outside of the August fire district. Due to distance from the County's station in Helena, response times are lengthy and cannot be counted on to provide quick response to structure fires. Volunteer fire departments in Wolf Creek and Craig are sometimes called upon to respond to various calls within the planning area.

The Augusta ambulance service operates a volunteer ambulance service. Funding for the ambulance service is provided through donations only. Persons requiring medical services are typically transported to Great Falls approximately 56 miles to the east.

Wildland fire protection is a cooperative effort consisting of personnel from the volunteer fire department, U.S. Forest Service, Department of Natural Resources and Conservation, U.S. Bureau of Land Management, and the Lewis and Clark Volunteer Fire Department.

Water Supply and Sewage Disposal

Sewage disposal for most structures within the Augusta town site is provided by a central sewer system. The central sewer system uses gravity to transport wastewater to the town's treatment facility. Prior to 1997, funds for operation and maintenance of the system were collected through a Rural Improvement District (RID) and the lagoon and collection system were owned by Lewis and Clark County.

A Montana Department of Environmental Quality's inspection of the sewer facilities in 1996 identified ten items of concern including leakage from the lagoon and potential unpermitted discharges to Elk Creek. In response to the concerns, the town of Augusta formed the Augusta Sewer and Water District in October 1997. All assets owned by the County were transferred to the district.

An engineering evaluation of the wastewater treatment system was conducted in 1997 to determine a course of action. In order to comply with current design standards, the evaluation indicated that an additional cell was needed, existing cells needed to be lined, a system operation and maintenance plan would have to be prepared, and certified operators would have to be available to oversee the system operation and maintenance. The project is now complete; funds for maintenance and operation of the sewer facilities come from user fees levied by the district.

Outside of the Augusta Sewer and Water District, wastewater treatment is primarily provided by individual septic systems. There are no public water facilities in the Augusta planning area. Water for area residents is primarily provided by individual wells.

Solid Waste

The Augusta planning area is within the Augusta Solid Waste Disposal District. A transfer site is located adjacent to the town site and user fees are assessed to all property owners within the district. Due to regulatory compliance issues, a landfill located adjacent to the town site was closed in 1996. Solid waste from the area is being hauled to landfills in the Great Falls area.

Utilities

Electrical power is provided in the planning area by the NorthWestern Energy and the Sun River Electric Cooperative. Telephone service is provided by Three Rivers Telecommunication, which has also recently installed fiber optic lines through the Augusta area. Natural gas is available within the Augusta Town site and east along Highway 21, and at the Milford Colony.

Education

The Augusta elementary and high schools, located within the town site, serve most of the school students within the planning area. The Hutterites Milford Colony maintains a small elementary school and encompasses School District No. 27. The Wolf Creek School District covers a small part of the planning area in the southwest portion of the area.

Analysis of Existing Land Use

Residential Development Patterns

The town site of Augusta contains typical residential development along a grid system of streets. Most dwellings are located on 0.25 to 1-acre parcels and include a variety of housing styles from mobile homes to site-built construction. Housing units consist primarily of single-family dwellings with a few duplex units. The Augusta town site is divided into approximately 300 lots, typically less than 0.25 acre in size. Many of the town's housing units occupy more than one lot.

Outside of the town of Augusta, residential development is scattered throughout the planning area in an open and rural environment. Most dwelling units outside of the town

are associated with ranch and farming operations, which dominate the Augusta area. Some recreational cabin and second home development can be found throughout the area with small concentrations along the Rocky Mountain Front, the Sun River Canyon, and the Dearborn Canyon.

In 1972, some 2,500 acres of agricultural land were divided into 400 individual lots, generally five to six acres in size. Known as the Willow Creek Subdivision, only approximately 25 of the lots have been developed due in part to its isolated location. Subdivision activity in the 1990s has been limited to a few scattered parcels, cabin sites and one 11-lot subdivision just northeast of town. Augusta area residents have expressed interest in providing additional lots adjacent to the town site due to demand.

Commercial Development Patterns

Commercial development within the Augusta planning area is largely located within the town of Augusta. The town includes a variety of commercial operations including several bars and restaurants, a grocery store, local arts, a hotel, a motel, a campground, bulk distributors, automotive repair shops, taxidermy, service stations, a welding shop, and hardware stores. Other commercial operations within the planning area are limited primarily to private outfitters and guides serving the recreational opportunities in the area. A new post office was opened in the spring of 1998.

Public or Governmental Uses

Public lands in the planning area are managed for a variety of uses including grazing, recreation and timber harvesting. A recent decision issued by the Lewis and Clark National Forest closed the Rocky Mountain Front area to gas and oil exploration and development for a period of time. This decision has important consequences for wildlife habitat and scenic resources, but may also have an effect upon the exploration for gas and oil on privately owned lands.

Parks and Open Spaces

The County's 1998 Comprehensive Parks, Recreation and Open Space Plan identifies several parks in the Augusta area although only one developed park, Pings Park, is County owned. Pings Park is a narrow strip of landscaped land within Augusta that contains several picnic tables. Its primary benefit is to provide a seating area in the main portion of town. The County also owns an undeveloped, 2.4-acre tract of parkland in Gilman.

There are several recreation sites in town including a baseball field, an outdoor swimming pool, a community center building, and a rodeo arena. All of these are owned

by public entities. Several privately owned facilities provide recreational opportunities for the youth, including the Masonic Hall. The parks plan identifies a need in Augusta for additional sports fields.

Open spaces are what define the Augusta planning area. Rolling grasslands and sparse development dominate the eastern half of the planning area. The grasslands end abruptly at Rocky Mountain Front, which rises dramatically out of the plains. This provides stunning vistas from nearly every direction. The Lewis and Clark County Voluntary Agricultural Land Conservation Program identifies significant open space and recreational values within the planning area.

Recreational values are primarily associated with the area's waterways including the Sun River, Dearborn River, Willow Creek, and Flat Creek. A High Quality Scenic Areas, as identified in the Program, includes the Rocky Mountain Front Range. The travel corridors through the area, including Highways 435, 287 and 21, provide travelers with outstanding views of the rural open spaces. The relative lack of billboard advertising and other road signs enhances the roadway corridors. The large expanses of open ranch lands contribute to the unique open space nature of this area.

The planning area includes portions of the Bob Marshall and Scapegoat Wilderness areas, which make up the largest wilderness area in the contiguous 48 states. Public campground and recreational areas in the Augusta planning area include: Benchmark, Home Gulch, Mortimer Gulch, South Fork, Wood Lake and others.

Agricultural Uses

Agricultural uses dominate the Augusta planning area and are the primary economic base. Cattle grazing represents the predominant use of private land. Where conditions are favorable, wheat, barley, hay, and other crops are grown with lands supporting both irrigated and dryland crop production. Farms and ranches in the area benefit from the privately owned Dearborn Irrigation Canal Project and the State's Nilan Storage Project. The most productive cropland is located near the Augusta town site, along the Sun River and along Flat Creek.

Population Growth and Future Land Use Needs

The absence of job opportunities and distance from commercial amenities has served to discourage new persons from moving into the area. Population increases have been generally due to development of existing parcels and limited subdivision activity. However, the high quality scenic resources of the area will continue to attract more residents. Demand for seasonal cabins and recreational homes is also likely to increase. Recreational and seasonal land uses will place unique demands on local services due to seasonal population increases. High groundwater and floodplain in the Augusta town site present challenges for the town site's ability to expand.

Augusta Planning Area Priorities

The following issues were identified through stakeholder interviews, public workshops, and the work of the Lewis and Clark County Comprehensive Plan Citizen's Advisory Group. The focus here is not intended to exclude the broader framework of the County-wide goals and policies. Rather, the intent is to focus the effort of Lewis and Clark County on short-term (e.g., the next five years) priorities that are specific to the Augusta planning area, and were developed by people living in the area.

Citizens of the Augusta planning area feel the priority for the short-term is a continued and increased focus on the provision of basic services. In the stakeholder interviews there were very few complaints about current county service provision; in general, the citizens of Augusta see the role of Lewis and Clark County as focusing on road maintenance and fire and police protection. According to local residents, the County should focus its resources on maintaining and upgrading the following basic services:

- A.** Road maintenance should be the primary emphasis of the County in the Augusta planning area.

Action Items

- Work with the Augusta Planning Area residents to prioritize needed road improvements.

- B.** Provide adequate fire protection.

Action Items

- Work to ensure that the Augusta area has adequate fire protection.

C. Provide adequate police protection.

Action Items

- Work with the Lewis and Clark County Sheriff's office to ensure that the Augusta planning area has adequate police protection.

D. Work to control and eradicate noxious weeds.

Action Items

- Educate citizens about the importance of noxious weed management and means to eradicate the spread of noxious weeds.
- Work to enforce existing weed abatement regulations.

Canyon Creek/Marysville Planning Area

Introduction

Canyon Creek or Canon Creek as it is spelled on early maps, is a very old settlement on the travel route of the Piegan Indians from the plains area to the Blackfoot River Valley (see Appendix C for maps). The trails in this area were used by the early trappers, followed by fur companies, and were later surveyed for wagons roads and railroads. The area was first settled in the 1840s by men with "Blood" or Piegan wives who had friendly connections to the Blackfoot Indians.

The valley of the Little Prickly Pear had all the elements for comfortable living for the early settlers. The cottonwood bottoms provided shelter and fuel for heat, along with an abundance of wildlife for food and furs. The grassy windswept hills and hilltops provided plenty of area for livestock grazing. Many of the early settlers became hunters who supplied meat or woodchoppers who provided heating fuel to the trading posts and stage stops that sprang up in the area.

In the 1860s, after gold was discovered in the bed of Silver Creek, placer mining brought thousands of men to the area and, a lively camp called Silver City sprang up. In 1864, Silver City became the county seat of Edgerton County, which later became Lewis and Clark County. During that same time, Canyon Creek had settled into a rural farming community consisting of stockmen, farmers and several businesses including a blacksmith, several stores, a saloon, and a Catholic Church at the head of Little Prickly Pear Creek.

By 1865, Silver City and Helena had become rivals and both wanted the county seat. The dispute was settled when Colonel W.F. Sanders rode to Silver City, stole the county records and spirited them back to Helena. Thereafter, Helena became the county seat and Silver City remained little more than a supply point and stage station for the Marysville mining district and the Fort Benton to Helena segment of the Mullan Trail.

In 1866, a water shortage for the placer miners and the settlers of the valley began. The communities of Georgetown, Trinity and Silver City, that once had thriving businesses, folded up. Trinity was the first to go, but it left the Little Prickly Pear Valley with a public school - the Trinity School, District #4, at Canyon Creek. The Trinity School is the oldest school building still in use in the State of Montana; it has been continually used for over 100 years.

After Thomas Cruse uncovered high-grade gold ore at his Drumlummon mine and other rich lodes like Gloster, Belmont, Bell Boy and Bald Butte were opened, Marysville blossomed into a prosperous settlement with a population of 5,000. During its heyday it supported four churches and two newspapers. However, according to local historians, when the Drumlummon Mine ceased operation in 1910, the town declined rapidly.

Today, the communities of Canyon Creek, Marysville, and Silver City have returned for the most part to the pre-gold boom character. Development, in the planning area, except for the Marysville town site, is scattered and rural in character.

Existing Conditions

Physical Conditions

The Canyon Creek/Marysville planning area consists of approximately 298 square miles located in the west central portion of Lewis and Clark County. The planning area boundaries generally correspond with the Continental Divide on the north and the west; the Wolf Creek/Craig planning area on the northeast; the Helena Valley planning area on the southeast and south; and the Powell County line on the southwest and west.

Topography

The topography of the Canyon Creek/Marysville planning area is variable and typically rugged. Slopes range from the gently eastward sloping Silver Valley floor, 4,380 to 4,340 feet in elevation to; the rolling hills found in the eastern portion of the planning area; to the peaks and passes located along the Continental Divide, 7,331 - 6,131 feet in elevation.

Prominent landmarks and elevations include Mount Belmont (7,331 feet), Bald Butte (7,052 feet), Edward Mountain (6,713 feet), Stemple Pass (6,376 feet), Flesher Pass (6,131 feet), Marysville town site (5,400 feet), Gravelly Range Lake (4,904 feet), Canyon Creek Community (4,380 feet) and Silver City (4,347 feet).

Climate

The Canyon Creek/Marysville planning area is located along the eastern front of the Rocky Mountains and exhibits climatic characteristics of the modified maritime climate typical of the mountainous areas of western Montana and the continental climate of eastern Montana. Weather patterns are influenced by Pacific and Canadian fronts. Winds are predominantly out of the northwest and may have wind gusts in excess of 40 m.p.h. Average precipitation varies according to elevation, with the higher elevation along the Continental Divide receiving 25 to 30 inches per year and the Silver Valley area only receiving 10 to 12 inches per year. June is typically the wettest month and January receives the most snowfall. Daily temperatures also vary according to elevations. The annual temperatures can range from -35 degrees to 100 degrees Fahrenheit. The average growing season for the lower elevations ranges from 90 to 120 days.

Hydrography

The headwaters of three major stream networks are located within the Canyon Creek/Marysville planning area. The Little Prickly Pear Creek has its headwaters in Beartrap and McQuithy Gulches on the east slope of the Continental Divide. This perennial stream trends eastward until it eventually drains into the Missouri River north of Holter Lake. Its main tributaries located within the planning area include: Lost Horse Creek, Marsh Creek, Piegan Creek, Trinity Creek, Canyon Creek, Willow Creek, Little Sheep Creek and Big Sheep Creek.

Canyon Creek has its headwaters south of Flesher Pass. The stream trends southward until it drains into the Little Prickly Pear Creek, north of the Canyon Creek community. Its main tributaries include Weino, Specimen, Big and Little Mill, Virginia, and Sears Creeks.

Silver Creek has its headwaters south of the Marysville town site. It trends generally in a southeast direction, through the Helena Valley to discharge into Lake Helena. The stream morphology and water quality has been severely impacted by past mining practices in the area.

None of these watersheds have been mapped by the Federal Emergency Management Agency (FEMA) for the 100 or 500-year floodplains that could be associated with these stream corridors.

The only lake found within the planning area is the Gravelly Range Lake located approximately eight miles west of the community of Canyon Creek. The lake is located on private land. The lake is a naturally occurring lake, which has been enhanced to provide irrigation water for hay fields to the east. It is approximately 160 acres in size.

Geology

The Canyon Creek/Marysville planning area contains a diversity of geological units. The dominant geologic feature of the area adjacent to the Continental Divide is a tertiary stock and its surrounding metamorphic zone. The intrusive has been called quartz diorite or granodiorite. The rock is medium grained and consists of plagioclase, quartz, orthoclase, hornblende and biotite; it has a hypidiomorphic granular texture. The width of the contact metamorphic zone suggests that the size of the intrusive increase downward.

Several textural and mineralogic varieties of dikes related to the granodiorite also occur. These intrusives cut through Empire Shale and Helena Dolomite of the Belt Supergroup. Other Belt Units include the Spokane Shale, Marsh formation, and the Missoula Group.

Outside the metamorphic circles, the Empire Shale consists of pale-green and deep-red argillite and fine-grained quartzite. The Empire Shale is about 1,000 feet thick in some areas. Within metamorphic zones, the formations are dark cordierite hornfels with interbeds of white calcic hornfels. The Helena Dolomite is described as a buff-weathering, dark-gray Dolomite. Within the contact zones, the Helena Dolomite is light-colored diopside and tremolite-bearing skarn.

In the areas that have rolling hills, such as those surrounding the Canyon Creek and Silver Valley areas, the predominant geology consists of Pre-Tertiary rocks including Precambrian to Cretaceous sedimentary rocks, and Cretaceous plutonic and volcanic rocks.

In the Silver Valley and along most of the larger water courses, one can find Holocene terraces and stream-channel deposits, and alluvial plain deposits. These deposits are comprised of gray to brown coarse sandy to cobble gravels. The degree of sorting and rounding of clasts and geomorphic forms vary widely depending upon the size and the volume of discharge in the particular drainage.

The Canyon Creek/Marysville planning area is located within the Intermountain Seismic Belt, a seismically active zone associated with major fault structures. A majority of the planning area is located in Seismic Risk Zone 2. Major fault lines identified in the area include: the Bald Butte fault (strike-slip fault), Helena Valley Fault (strike-slip fault) and the Hoadley-Lyons Thrust Fault (see figure 3, pg. 14, USGS Professional Paper 1316).

The Bald Butte Fault is named for Bald Butte, a prominent peak located along the Continental Divide southwest of Marysville. This fault seems to have been the focus of many small earthquakes in 1973 and may be the most seismically active fracture in the area. The fault trends southeasterly through the Birdseye area, north of Fort Harrison. The fault apparently extends along the southern margin of the Helena Valley and joins another fault along the northern front of the Elkhorn Mountains. The fault extends northwesterly across the Continental Divide and reaches the northwest border of the Avon Valley. The fault then joins a major northwest trending fracture near Nevada Lake in Powell County.

The Helena Valley Fault is well exposed along the northwest margins of the Helena Valley and in the low range of hills between the Helena Valley and the Silver Valley. The fault extends along the northwestern margin of the Silver Valley, crosses the area northwest of the community of Canyon Creek and continues to the Continental Divide near Stemple Pass. The epicenter of the main shock of the Helena earthquake of 1935 and the epicenters of several small earthquakes recorded in 1973 lie near the trace of the Helena Valley fault. It seems likely that this fault is still undergoing intermittent movement and may be considered an active break.

The Hoadley-Lyons Thrust Fault originates in the area of the Lyons Creek headwaters and trends in a southerly direction, until it intersects the Helena Valley Fault northeast of Silver City. It appears it may then continue south until it connects with the Silver Creek Fault in the Helena Valley. Thrust faults, in general, are situated in the Montana disturbed belt, a broad zone of intricately folded and faulted rocks that extend from the Canadian border southward along the eastern front of the northern Rocky Mountains. These types of faults are generally considered inactive.

Several smaller faults such as the Beartrap, North Fork, Granite Butte, Marsh Creek, and Prickly Pear faults have also been identified in the planning area.

Groundwater

The groundwater resources of the Canyon Creek/Marysville planning area have not been well studied. Most of the information available concerning groundwater in the planning area is a result of well logs and anecdotal reference.

It appears that most of the area is underlain with bedrock aquifer systems. The productivity and quality of water from a bedrock aquifer system is extremely variable. The variability is due to recharge rates, subsurface geomorphology, and the degree of fracture and faulting.

In areas that have a high degree of fracturing, the groundwater is extremely susceptible to contamination. The fractures act as conduits for contaminants, such as wastewater effluent and improperly applied or disposed of chemicals and the groundwater. The fractures also provide an avenue for groundwater recharge from precipitation, runoff, and irrigation.

In areas in which the subsurface materials have a high percentage of granitic materials, radon can be found in the groundwater. Ingesting water, containing radon is considered a minor health risk. The risk may be mitigated by aeration or the use of granular activated carbon water filtering systems.

Vegetation

Vegetation types in the area vary from the dry, rolling sagebrush/grassland in the eastern portion of the planning area to riparian areas along the numerous creeks, to coniferous forest in the western portion of the planning area.

Wildlife and Habitat

The planning area provides for a variety of habitat types, which are utilized by a diverse group of non-game and big game species. Big game species include pronghorn, elk, mule deer, whitetail deer, and black bear. Other species include red fox, badger, coyote, fisher, martin, wolverine, mountain lion, and an occasional wolf and lynx along the Continental Divide.

Upland birds include ruffed grouse, blue grouse, and an occasional sharp tailed grouse and Hungarian partridge. Other bird species include long-billed curlew, goshawk, merlin, and a variety of owls and woodpeckers. Thirty-one species classified as Species of Special Interest or of Special Concern by the State of Montana occur within the planning area. Species included as sensitive according to the Endangered Species Act that occur in the area include the ferruginous hawk, lynx, wolverine, flammulated owl, and boreal owl. The Continental Divide area provides critical habitat and movement corridors for many species from the Little Prickly Pear Creek area to Glacier National Park.

Land Ownership

Approximately 52 percent or 99,538 acres of land within the planning area is in private ownership. These private lands are located within the eastern two-thirds of the planning area. A majority of the private lands are held by the numerous moderate to large sized ranches. The U.S. Forest Service manages approximately 36 percent, or 68,333 acres in the western third of the planning area, adjacent to the Continental Divide. The Bureau of Land Management manages approximately nine percent of the land in the planning area, equivalent to 16,296 acres, concentrated in the Marysville and Mount Belmont area.

Area Economy

The planning area's economy is principally dependent upon employment opportunities in Helena. Most area residents commute to Helena on a daily basis. While a majority of the land use in the area is agricultural, most of the agricultural operators are dependent upon other nonagricultural employment to supplement their income. Limited service sector income is generated from the operation of the bar/restaurant at Silver City, the bar/restaurant in Marysville, and seasonally at the Great Divide Ski area. Limited industrial sector income is generated by sand and gravel operations, logging, and the operation of a sawmill at Silver City.

Transportation

Lincoln Road, West 279 is the main travel corridor through the planning area. This road connects the Helena Valley with Highway 200 east of Lincoln. The road has a chip-sealed surface and is maintained by Lewis and Clark County. The segment of Lincoln road from Flesher Pass to Stemple Pass Road was improved and resurfaced in the summer of 1997. The segment of Lincoln Road from Stemple Pass Road to the Interstate 15 interchange was scheduled for improvements and resurfacing in the summer of 1998.

Table 3.2 identifies roads within the planning area, which are maintained by Lewis and Clark County or some other government agency.

Table 3.2: Publicly Maintained Roads, Canyon Creek/Marysville Planning Area

ROAD NAME	MAINTENANCE RESPONSIBILITY	ROAD CLASS.	ROAD SURFACE
Lincoln Road -West (279)	Lewis & Clark Co. (FED FAS)	major collector	chip-sealed
Marysville Road	Lewis & Clark Co. (FED FAS)	rural minor collector	gravel
Blossburg Road	Lewis & Clark Co. (not on regular basis)	rural minor collector	gravel
Hope Creek Road	U.S. Forest Service	logging/recreation	gravel
Ophir Creek Road	U.S. Forest Service	logging/recreation	gravel
Beartrap Road	U.S. Forest Service	logging/recreation	gravel
Little Prickly Pear Creek Road	Lewis & Clark Co.	rural minor collector	gravel
Marsh Creek Road	U.S. Forest Service	rural minor collector	gravel
Canyon Creek - Gould Road	Lewis & Clark Co. (not on regular basis)	local	gravel
Virginia Creek - Gould Road	Lewis & Clark Co. (not on regular basis)	local	gravel
Stemple Pass Road	Lewis & Clark Co.	rural minor collector	gravel
Silver Station- Willow Creek Road	Lewis & Clark Co.	rural minor collector	gravel
Duffy Lane	Lewis & Clark Co.	rural minor collector	gravel
Empire Creek Road	Lewis & Clark Co.	rural minor collector	gravel
Long Gulch Road	Lewis & Clark Co.	rural minor collector	gravel

In the spring and summer of 1997, the County Public Works Department and their consulting engineer conducted an inventory of all bridges and culverts greater than five feet in diameter located on County roads (the inventory was updated in 2020). Of the 179 structures inventoried, three are located within the planning area.

The structures located on Empire Creek Road and Sieben Canyon Road crossing Little Prickly Pear Creek were identified as being in critical condition; the former was replaced in 1997, the latter rehabilitated in 1999. Another structure on Little Prickly Pear Road crossing the irrigation ditch was identified as being in poor condition. By definition, the critical rated structures should be replaced or undergo major repairs within one to two years, and the poor structures within five years.

Public Facilities and Services

Law Enforcement

Law enforcement within the Canyon Creek/Marysville planning area is a cooperative effort of three agencies: the Lewis and Clark County Sheriff's Department, who has primary responsibility; the Montana Highway Patrol, who is responsible for law enforcement on Lincoln Road; and Montana Department of Fish, Wildlife and Parks game wardens, whose primary responsibility is to enforce fish and game regulations and to assist other law enforcement official as needed. Response times by the Lewis and Clark Sheriff's Department vary from moderate to long, due to the areas distance from Helena, variable weather conditions, substandard roads and lack of posted addresses.

Fire Protection

The Canyon Creek Volunteer Fire Department provides both structural and wildland fire protection for approximately 80 square miles of the planning area (see Appendix C for fire district map). The district's equipment is housed on private property approximately 1.5 miles north east of the Canyon Creek Store on the west side of Lincoln Road.

Structural fire protection within Marysville is provided by Marysville Volunteer Fire Department. The Canyon Creek and Marysville Volunteer Fire Departments are funded by a tax assessed on all properties within the respective district. Additional monies are generated by fundraisers and private donations.

Areas outside the Canyon Creek and Marysville Fire Districts fall within the jurisdiction of the Lewis and Clark County Volunteer Fire Department, which is housed on the Lewis and Clark County shop complex on Cooney Drive in Helena. By Montana statute, the Lewis and Clark County Volunteer Fire Department is only charged with fighting

wildland fires. In practice, the Department will attempt to suppress structural fires and prevent them from becoming wildland fires.

In addition to the County Volunteer Fire Department, wildland fire protection is provided by an interagency team consisting of personnel from the U.S. Forest Service, Department of Natural Resources and Conservation, Bureau of Land Management and the local volunteer fire departments. Equipment and personnel from the various agencies are dispatched from the Interagency Fire Center located north of Helena on North Montana Avenue. Depending upon fire conditions and severity of the fire, response time can vary from five minutes by helicopter to thirty minutes by fire engine. Wildland fire protection is funded by a tax levied on all property and improvements.

At the present time both the Canyon Creek and Marysville fire districts are considering expanding their boundaries. In the Canyon Creek fire district, possible areas of annexation include Stemple Pass Road to the Continental Divide and the Flesher Acres area. The Marysville fire district is considering annexation of the Great Divide Ski area and along the Marysville Road east to the boundary with the Canyon Creek Fire District. The Canyon Creek Fire District is also considering the possibility of locating an additional station in the southeastern portion of the district in the Birdseye Road/Silver City area.

Water Supply

There are no public/community water systems operating within the planning area. Water users are dependent upon individual water wells. Well depths vary greatly depending upon location. Development adjacent to the numerous creeks and water courses in the area are served by wells, which are shallow and generally have good yields. As the distance increases from the water courses, well depths increase, and volumes and water quality decrease. In the eastern portion of the planning area, north of Lincoln Road, the groundwater has high mineral and iron content.

Sewage Disposal

Sewage disposal within the planning area is provided by individual on-site wastewater treatment systems. Constraints for the installation and operation of on-site systems include shallow depth to ground water along water courses, poor percolation rates in the eastern portion of the planning area, slopes and depth to bedrock in the western portions, and the lack of adequate replacement areas due to small parcel size or lot configuration in the Marysville area and Stemple Pass Road. In Marysville, because of the age of many of the existing systems, small lot sizes and lack of undeveloped space a community wastewater treatment system will need to be considered in the near future.

Solid Waste

The planning area is located within the Scratchgravel Landfill District. The County operates a solid waste collection station approximately one-half mile south of Lincoln Road on the Marysville Road. Area residents are assessed a tax to operate the collection station in addition to the regular Scratchgravel assessment.

Utilities

Electrical power is currently provided to the planning area by NorthWestern Energy (previously Montana Power). Qwest provides telephone service in the eastern portion of the planning area. In the Canyon Creek area, telephone service is provided by the Lincoln Telephone Company.

Education

The Canyon Creek/Marysville planning area and the Birdseye and Austin areas are located within District #4, Trinity Elementary School District. The school building is located on Duffy Lane, approximately one-half mile east of Lincoln Road in Canyon Creek. Enrollment at the school varies from year to year but averages a dozen students. Parents who live more than three miles from the school and who are not provided transportation by their own district, can choose to enroll their children in the adjacent school district, if space is available. Many parents in the school district have elected to enroll the children in School District #1 in Helena. The receiving district receives a tuition payment from District #4. Placement of the tuition students is at the receiving district's discretion. Usually District #4 students are placed in Broadwater or Hawthorne Elementary Schools. High school students from the planning area attend Capital High in Helena.

Analysis of Existing Land Use

Residential Development Patterns

Within the Canyon Creek/Marysville planning area it is estimated that there are 246 residential dwellings. Approximately 20 percent of these dwelling are used on a seasonal basis.

With the exception of the Marysville town site, most of the residential development is scattered and rural in character. Much of the area east of Silver City and near the intersection of Birdseye Road and Lincoln Road has been subdivided into 20-acre parcels. Development of these parcels has been slow due to the cost of extending

utilities and concerns about long-term water availability. However, the pace of development has picked up in recent years.

Most of the more recent residential development throughout the remainder of the planning area has occurred adjacent to Canyon Creek or Little Prickly Pear Creek. Development pressures for retirement or seasonal homes have also been seen in the area.

In Marysville, there are approximately 73 existing structures, about a quarter of which are unoccupied due to their deteriorated condition. According to residents, there are approximately 56 full-time residents in Marysville. Future development in Marysville will be constrained due to the lack of adequate area for drain field replacement.

Commercial and Industrial Development Pattern

There is limited commercial and industrial activity within the planning area. The Canyon Creek Store operates as a gas station, convenience store, and post office. West of and adjacent to the store is a five-unit trailer court. A restaurant/bar is located at the intersection of Birdseye Road and Lincoln Road. The Marysville House Restaurant and Bar is the only commercial activity within the town site.

The Great Divide ski area is the largest commercial enterprise within the planning area. The ski area operates a lodge/restaurant, ski lifts and approximately 60 trails for downhill skiing and snowboarding on private and Bureau of Land Management property. The operators of the ski area submitted a proposal to the BLM to expand the ski area. The expansion includes approximately 700 acres, one-half on BLM property and the other half on private property. Proposed improvements include home sites, condominiums, and overnight lodging facilities; new ski trails and lifts were added in 2001.

Industrial development in the planning area is limited to a sawmill, which is located north of Lincoln Road, and east of Birdseye Road at Silver City.

Public or Governmental Uses

A majority of the western portion of the planning area is managed by the U.S. Forest Service. The area is primarily managed for recreation, wildlife, timber production, and summer livestock grazing. BLM holdings are also managed for the same purposes, plus occasional mineral exploration or mining. The only County holdings within the planning area are a sand shed located west of Lincoln Road on Stemple Pass Road, and the Marysville solid waste collection station.

Parks and Open Space

The Lewis and Clark County Comprehensive Parks, Recreation and Open Space Plan, adopted in January 1998, does not identify any parkland or proposed acquisition or improvements within the planning area.

Because of the area's rural character and the large amount of public lands in the planning area, individual recreational activities abound. The U.S. Forest Service maintains the Continental Divide Trail along the western boundary of the planning area. The trail provides opportunities for hiking and mountain biking in the summer and cross country skiing and snowmobiling in the winter. Trailheads and facilities are maintained at Stemple Pass and Flesher Pass.

The numerous creeks found throughout the Little Prickly Pear drainage provide ample opportunity for fishing.

Agricultural Uses

Livestock grazing and hay production have historically been the major land use in the planning area.

Canyon Creek/Marysville Planning Area Priorities

The following issues have been identified through the stakeholder interviews, public workshops, and the work of the Lewis and Clark County Comprehensive Plan Citizens Advisory Group. They represent the issues that have been emphasized in these forums and therefore have been identified as short-term priorities (five years). The focus on these issues is not intended to exclude the broader framework of the County-wide goals and policies. Rather they are intended to focus the effort of Lewis and Clark County in the Canyon Creek/Marysville planning area.

Citizens of the Canyon Creek/ Marysville planning area feel the top priority, short-term issues are: a continued and increased focus on the provision of basic services, maintaining agricultural lands, and reducing conflicts between residential and agricultural uses. During area meetings on the Growth Policy, residents expressed interest in receiving assistance from the County to develop a neighborhood plan for their planning area. In the one to five year periods, Lewis and Clark County should focus on the following planning priorities in the Canyon Creek/Marysville planning area.

A. Maintain and improve the existing transportation system.

Action Items

- Increase maintenance on County roads in the planning area, based on availability of funds.
- Work to mitigate the impact of dust created by automobile traffic on hay quality.
- Clean road culverts in the fall.
- Maintain Stemple Pass as an unpaved road.
- Complete improvements to Marysville Road.

B. Provide adequate fire protection.

Action Items

- Work to ensure the Canyon Creek/Marysville area has adequate fire protection.
- Expand the Canyon Creek Fire District to include areas adjacent to main thoroughfares.

C. Provide adequate police protection.

Action Items

- Work with the Lewis and Clark County Sheriff's Office to ensure that the Canyon Creek/Marysville area has adequate police protection.

D. Preserve agricultural lands and existing uses, and minimize conflicts between agricultural and residential, industrial, commercial uses.

Action Items

- New residential land uses should be required to provide buffers between themselves and conflicting agricultural uses.
- Further explore the advantages of cluster development to protect the quality of life in the community.
- Consider appointing an Agricultural Representative to the Planning Board.
- Encourage adherence to the Wildland-Residential Interface Guidelines.
- Work to see that industrial development doesn't interfere with agricultural uses.

E. Implement a strategy for controlling the spread and eradication of noxious weeds in the area.

Action Items

- Educate citizens about the importance of noxious weed management and means to eradicate the spread of infestation of noxious weeds.
- Work to enforce existing weed abatement regulations.

- F. Require new development within the Canyon Creek/Marysville planning area to meet minimum design guidelines and criteria.

Action Items

- Develop on existing lots or parcels.
- Establish minimum design standards and criteria for new development within the planning area. Included as part of these design standards would be the following:
 - Ensure that the cost of developing and maintaining roads to serve new developments is covered by the developer/new homeowners.
 - Require roads to be constructed prior to subdivision.
 - Require minimum standards to meet fire access requirements.
 - New development should preserve and protect water quality, aesthetics, wildlife, and environmental concerns of the area.
 - Establish impact fees or pay as you go fees for services necessary to support new development.
 - Maintain the aesthetics of the community rather than encourage development.
 - Discourage temporary housing developments of more than 5 units within the planning area.
 - Discourage temporary housing developments of more than 5-10 units at one location.

- G. Preserve and enhance the natural environment within the planning area.

Action Items

- Encourage natural buffer zones or setbacks from drainage ways.
- Preserve water and air quality.
- Preserve the natural visual integrity of the planning area.
- Encourage wildlife conservation and habitat protection; preserve natural vegetation.
- Logging should follow the DNRC Best Management Practices with an emphasis on maintaining the visual integrity of the timbered areas.

- H. Monitor the potential impact of any proposed mines or industrial projects in the area to identify possible implications for the Canyon Creek/Marysville area.

- I. Address concerns regarding areas of possible community decay and mechanisms available to eliminate or limit such development.

J. Support continued efforts for rural addressing.

Marysville Sub-area Concerns

- Promote a feasibility study and pursue grant money for a centralized water and sewer system.
- Implement design or performance standards to keep residential development standards high and to maintain the current character of the neighborhood.
- Encourage the post office to remain in the town site and be kept sufficiently staffed and in good condition so that it can handle the needs of the community.
- Preserve the natural visual integrity of the surrounding scenery.
- Preserve cattle grazing rights.
- Support mine reclamation.
- Support clean up the old Marysville dump.

Stemple Sub-area Concerns

- Encourage continued annexation into the neighboring fire districts.
- Continue to support the rural addressing system.
- Support mine reclamation.

Flesher Acres Sub-area Concerns

- This area will be the most severely impacted by increases in traffic and development along the Highway 279 corridor. Impact fees or other mechanism should be put in place to help mitigate these impacts.
- Future development needs to address water quality, access of emergency vehicles, and new roads detracting from the aesthetic value of the area impacts.

Silver City Sub-area Concerns

- The existing junkyard in the area is a concern and should be addressed through existing ordinances and through zoning or community decay performance standards to abate this type of development.
- Commercial development may be best suited at the intersection of Highway 279 and Birdseye Road.
- Water quantity is a concern in the area.

- Water and air quality are concerns in area residents.
- This is an area for potential development. Many parts of the area are subdivided into 20-acre tracts and other landowners have expressed an interest in subdividing other portions.

Prickly Pear Road Sub-area Concerns

- Many of the roads in this area are impacted by logging/mining equipment and fall hunting traffic. Because of this, speed and maintenance are constant issues.
- Rural addressing would enhance the delivery of emergency services.
- Preserve existing development density patterns while keeping an agricultural aspect.
- Maintain aesthetics of the area rather than encourage development.

Canyon Ferry/York Planning Area

Introduction

The earliest documentation of the Canyon Ferry/York Area and the Missouri River Corridor comes from the Lewis and Clark Expedition. Lewis and Clark navigated up the Missouri River in this area in July, 1805 and camped near American Bar, between Soup and Trout Creek, just above the old town of Canyon Ferry.

The Canyon Ferry/York area has undergone significant change since Lewis and Clark first entered the area in 1805. The first major change occurred when gold was found at Last Chance Gulch in Helena. Subsequently, discoveries of gold were made at French Bar, just below the location of the current Canyon Ferry Dam, at Cave Gulch, York Gulch, and numerous other sites in the area. During the 1860s and 1870s, it was estimated 10,000 people were mining the gulches of the northern Big Belt Mountains.

In the late 1890s and early 1900s, the once free flowing Missouri River was dammed. The original Canyon Ferry Dam was built in 1898. Hauser Dam, which was intended to provide power for mining operations in the Helena area, was first constructed with plate steel in 1907. The dam failed in 1908, and was then rebuilt with concrete. Holter Dam was built farther down stream in 1918. The present Canyon Ferry Dam, a 50-MW facility operated by the U.S. Bureau of Reclamation, was completed in 1954, replacing the previous Montana Power dam. In addition to its own hydroelectric generation, the Canyon Ferry Dam affects the generation in seven downstream generation facilities by regulating the flow of the Missouri River all the way to Great Falls. Today, the impounded waters of Canyon Ferry, Hauser and Holter Lakes provide for electrical

generation, flood control, irrigation and drinking water, and outstanding recreational activities.

Existing Conditions

Physical Conditions

The Canyon Ferry/York Planning Area consists of approximately 252.24 square miles located in the southeast portion of Lewis and Clark County. The planning area boundaries are the northern boundary of the Gates of the Mountain Wilderness Area on the north; the Lewis and Clark County/Meagher and Broadwater County lines on the east; the Lewis and Clark/Broadwater County lines on the south; the Spokane Hills on the southwest (generally corresponding with the western boundary of the Canyon Ferry Fire Service Area); and the Missouri River on the west (see Appendix D for maps).

Topography

The topography of the planning area is highly variable and typically very rugged. Slopes range from gentle and rolling adjacent to the east shores of Canyon Ferry Lake (3,696 feet in elevation) and Hauser Lake (3,650 feet in elevation) to very steep areas, along sheer rocky cliffs, in the northern areas of the planning area. Prominent landmarks and elevations include: Hedges Mountain (7,124 feet), Devil's Tower (5,090 feet), Sawtooth Mountain (6,000), Sacajawea Mountain (6,539 feet), Hogback Mountain (7,813 feet), Middleman Mountain (7,491 feet), and Moors Mountain (7,980 feet).

Climate

The climate of the planning area is classified as a modified continental climate; it is influenced by Pacific Ocean air masses, drainage of cooler air from the surrounding mountains, and the protection afforded by the surrounding mountains. The average annual temperature is around 44 degrees and the annual precipitation twelve to thirteen inches in the lower elevations. The higher elevations are typically cooler and receive considerably more precipitation.

According to the National Weather Service, the prevailing wind over Canyon Ferry Lake is from the southwest. Frequent storm fronts move along the slopes of the mountains with winds of 20 to 35 miles-per-hour. These winds typically switch directions as the storm fronts pass.

Hydrography

The Missouri River, Canyon Ferry and Hauser Lakes are the most prominent hydrographical features located within the planning area. The Missouri River drains 43,000 square miles before it empties into Canyon Ferry Lake. The annual inflow, measured upstream from the reservoir, averages 3.8 million acre feet. According to the U.S. Department of the Interior, annual inflow volumes have varied from in excess of five million acre feet to below two million acre feet.

Water quality in Canyon Ferry and Hauser Lakes is generally suitable for the propagation of cold water fish, is safe for recreation, and is potable after filtration and treatment. During late summer periods that are hot, dry, and calm, Canyon Ferry Lake has experienced toxic blue-green algae blooms, which temporarily lower water quality. Although the blue-green algae blooms have occurred in the lake since it was filled, public attention was not focused on the blooms until the mid-1980s. Aside from periodic decreases in aesthetics along the shoreline, the major water quality problem caused by the algae is its periodic toxicity.

There are two naturally occurring contaminants in Canyon Ferry and Hauser Lakes: phosphorus and arsenic. Phosphorus enters the lakes largely from natural sources in the Missouri River Basin. Soils and water in southwest Montana are particularly rich in phosphorus. This natural fertility sets the stage for blue ribbon trout streams, but also contributes to the nutrient load and the periodic algal blooms in the lakes. Arsenic is carried to the Missouri River via the Madison River, a tributary that receives large volumes of arsenic-bearing thermal waters from Yellowstone Park. The Helena water treatment plant removes about one-half of the arsenic, and the remaining concentration is diluted by mixing with water from the Tenmile Treatment Plant. New arsenic standards for drinking water were recently established by the federal Environmental Protection Agency.

Numerous perennial streams, such as Trout Creek, Magpie Creek, Soup Creek and Beaver Creek, also feed into the Missouri River and the lakes within the planning area. During the spring and summer months, much of the water in the creeks is diverted for irrigation; thus, only a small amount of the water reaches the river and lakes. These creeks do provide important spawning areas for the various species of fish.

Geology

A considerable amount of geologic work has been accomplished along the Missouri River in the Canyon Ferry/York Planning Area. The Big Belt Mountains, which lie along the eastern boundary of the Planning Area, form an anticline that has been complicated by numerous subsidiary folds, high angle faults, predominantly normal faults, and large displacement thrust faults with relative movement in a northeast direction. Exposed sedimentary rocks include the Newland Limestone, Greyson Shale, Spokane Shale, and Helena Dolomite of the Precambrian Belt Supergroup. Remnants of tertiary gravel

deposits are found on slopes and benches throughout the area. Quaternary stream and eolian deposits are found along stream courses.

The Planning Area is located within seismic zone 2B of the Intermountain Seismic Belt. The area is a seismically active zone associated with major geologic fault structures. Major faults include: the Eldorado thrust fault and the Soup Creek thrust fault.

The trace of the Eldorado thrust fault extends eastward in the bedrock hills north of Lake Helena, bends sharply to the southeast at Eldorado Bar and continues down the west side of the Big Belt Mountains to Market Gulch, where it ends against the Helena Valley Fault. The Eldorado Fault is well exposed where it crosses the Missouri River south of Eldorado Bar and again near the mouth of Trout Creek, north of York Road.

A thrust fault subsidiary to the Eldorado is present to the north of the Eldorado thrust in the area north of Eldorado Bar. The subsidiary thrust is inclined to the south, and its trace is generally parallel to that of the Eldorado fault.

The Soup Creek thrust fault cuts through sedimentary bedrock north and south of Soup Creek, east of the Eldorado thrust fault. This fault trends to the northeast and then dips to the southwest. At the north, the fracture is folded in a broad arc and is cut by the subsidiary thrust along the Eldorado fault; to the south, it extends into the valley of Trout Creek and continues southeastward. A small thrust fault approximately 2 km long and a maximum displacement of a few hundred meters lies between the Eldorado and Soup Creek thrust faults.

Groundwater

Most of the Canyon Ferry/York Planning Area is underlain by bedrock aquifer systems. The bedrock aquifer systems are complex due to the variety of rock types and the degree of fracture and faulting. In general, groundwater flows are more restricted and well yields are not as productive as the Helena Valley alluvial aquifer system. Recharge is highly dependent upon precipitation and the potential for over withdrawal is high. In areas that have a high degree of fracturing, the groundwater is extremely susceptible to contamination. The fractures act as conduits for contaminants, such as wastewater effluent and improperly applied or disposed of chemicals, and the groundwater.

Vegetation

Vegetation in the planning area consists of four distinct vegetative groups. The vegetative groups are: 1) grasslands, which are found adjacent to the east shore of Canyon Ferry Lake, Metropolitan Bar, American Bar and El Dorado Bar; 2) upland shrub, found usually uphill from areas of grassland vegetation; 3) riparian vegetation, found adjacent to the Missouri River, Trout Creek, Soup Creek, Magpie Creek, Beaver

Creek and other perennial watercourses; and the predominant vegetative group, and; 4) coniferous forest.

One sensitive plant, rabbit crazyweed (*Oxytropis lagopus*) is known to occur within the planning area. The Montana Natural Heritage Program (1991) identified this species as being globally secure, but imperiled in Montana. It is typically found on the northwest shore of Canyon Ferry Lake, in the coniferous forest vegetative group.

Wildlife and Habitat

The Canyon Ferry/York Planning Area provides for a broad range of wildlife habitat for numerous species. Whitetail and mule deer are found throughout the planning area. Elk are distributed throughout the area north of Canyon Ferry Lake. Critical elk winter range has been identified in the area of Eldorado Bar, American Bar, and Hedges Mountain. Mountain goats can be found along most of the cliffs of the northern Big Belt Mountains, particularly in the Beaver Creek area. Mountain lion, black bear, coyote, fox, and other carnivorous species can also be found throughout the area. The numerous small caves found among the many cliffs are home to resident bat species.

Avian species include a large number of resident and migratory species. Some resident raptor species include: Red Tail Hawks, Peregrine Falcons, Osprey, Golden, and Bald Eagles. In recent years, the Hauser Lake area has been a major congregating point from October to December for migrating Bald Eagles. The number of the congregating Bald Eagles varies from year to year, depending upon the availability of spawning kokanee salmon for them to feed on.

Human development has the potential to not only displace many of the species found within the planning area, but also to reduce the habitat base. Increased development can make it more difficult to manage species like deer, elk, and predatory species through hunting, and can increase the potential for wildlife/human conflicts.

Land Ownership

Of the 151,014 acres within the planning area, the federal government owns approximately 80 percent of the land. The U.S. Forest Service, which controls over 109,169 acres or approximately 72 percent of the area is the largest property owner. The Bureau of Land Management manages approximately 5,239 acres or approximately 3.5 percent of the area. Private ownership accounts for approximately 19 percent or 28,511 acres. The State of Montana owns less than one percent of the area or approximately 1,090 acres.

As discussed in more detail in the section titled "Residential Development Patterns," the federal Bureau of Reclamation is in the process of selling leased cabin sites on Canyon

Ferry Reservoir to private owners. Another federal land management issue in the area is the planned transfer of some U.S. Forest Service land around the York Townsite to private landowners.

Area Economy

The economy of the Canyon Ferry/York planning area is heavily reliant upon the recreational use of Canyon Ferry, Hauser, and Holter Lakes, the Missouri River and the adjacent public lands. In 1995, the Bureau of Reclamation (BOR) and the Department of Fish, Wildlife and Parks (FWP) estimated that between 60 and 65 full time equivalent (FTE) public sector and private sector service jobs are generated in the Canyon Ferry area in Lewis and Clark County. The BOR maintains between 18 and 21 FTEs for the operation and maintenance of Canyon Ferry Dam. An additional 6 to 9 FTEs are employed for the operation and maintenance of the Canyon Ferry recreation sites. FWP employs approximately 5 FTEs for wildlife management, fisheries management, and enforcement in the area.

The remaining jobs account for private sector employment in the area. The primary private sector employment is associated with the commercial operation of the Yacht Basin Concession located on the west shore of Canyon Ferry Lake, O'Malley's Bar and Restaurant, Kim's Marina, several boat and engine repair shops, storage facilities, and several light manufacturing operations located along the northeast shore of the lake.

The last time the economic impact of Canyon Ferry Lake was studied by FWP in 1989, it was estimated that Canyon Ferry Lake generated over \$4.4 million in sales and tax revenue benefits to Lewis and Clark County.

Today, agriculture plays a very limited role in the economy of the planning area. In the 1870s, the land adjacent to the Missouri river was described as one of the best grazing and agricultural districts of this mountainous territory. Today some ranching is found in the Nelson area, north of York and adjacent to Eldorado and Metropolitan Bars.

The York area currently has a very small economic base. There is occasional logging and several small sapphire mines in the area. The York Bar and Store and two sapphire faceting shops are the only public commercial activities in the northern part of the planning area. Other commercial activities in this area include several small private businesses.

A significant impact on tourism in the area was the loss of the "Figure 8 Route," due to flood damage to Trout Creek Road and its subsequent closure to vehicle traffic. This route had been a very popular vehicle tour in the Helena area for many years.

Transportation

Primary access to the planning area is via two roads: Canyon Ferry Road to the southern portion of the planning area and York Road to the northern portion of the planning area.

Canyon Ferry Road is maintained by Montana Department of Transportation (MDT) and extends from the eastern city limits of Helena to the Broadwater County line. It is paved from its junction with York Road to Magpie Gulch. From there to the Broadwater County line the road is gravel surfaced. In the summer of 1993, the County resurfaced Canyon Ferry Road from Diehl Lane to Magpie Gulch, and regraded and widened the remaining segment of Canyon Ferry Road.

Two gravel surface roads maintained by the Bureau of Reclamation are accessed from Canyon Ferry Road on the east and west sides of Canyon Ferry Lake. East Shore Drive turns off Canyon Ferry Road at the Jo Bonner recreation area. It is approximately four (4) miles in length and accesses a majority of the lake's cabins and Cave Bay. West Shore Drive turns off Canyon Ferry Road at the Yacht Basin and curves along the west side of the lake, accessing more cabin sites and several day use facilities. West Shore Drive is maintained more frequently by the Bureau of Reclamation because it serves the most heavily used day use areas.

Jimtown Road, a gravel surface, county maintained road, connects the Canyon Ferry area with the York and Hauser Lake areas, intersecting Canyon Ferry Road near the turnoff to the Riverside Recreation Area.

During the summer months, the average daily trip generation on Canyon Ferry Road and the intersecting roads, nearly double or triples, depending upon the road segment. The increased traffic generation during the summer months creates a severe bottleneck, where Canyon Ferry Road narrows to cross the dam. Other traffic hazards along Canyon Ferry Road in this area are due to poorly designed and poorly located private driveway approaches onto Canyon Ferry Road.

York Road is a chip sealed road, maintained by Lewis and Clark County and extends from the intersection of York Road with Canyon Ferry Road to approximately three (3) miles past the intersection of York Road with the Nelson Road. The remaining three (3) miles along Trout Creek Road is a gravel extension of the York Road. Two gravel surface roads maintained by Lewis and Clark County are accessed from York Road in the community of York (Jimtown and Nelson Road). Nelson Road provides access to both County maintained gravel roads of Beaver Creek Road and Owl Gulch Road. Also, Nelson Road provides access to numerous U.S. Forest Service roads and trails, and is the major access point to public land in the northern part of the planning area, including the Gates of the Mountains Wilderness Area. Table 3.3 identifies all roads

within the planning area, which are maintained by Lewis and Clark County or another governmental agency.

Table 3.3: Publicly Maintained Roads--Canyon Ferry/York Planning Area

ROAD NAME	MAINTENANCE RESPONSIBILITY	ROAD CLASSIFICATION	ROAD SURFACE
East Shore Drive	BOR	rural minor collector	gravel
Beaver Creek Road	US Forest Service	recreation	gravel
Owl Gulch Road	L&C County	rural minor collector	gravel
Jimtown Road	L&C County	rural minor collector	gravel
Bonner Park Road	L&C County	local	gravel
Nelson Road	L&C County	rural minor collector	gravel
West Shore Drive	BOR	rural minor collector	gravel
Canyon Ferry Road	MDT	major collector	chip sealed
York Road	MDT	rural major collector	chip sealed
York Road (Trout Creek)	L&C County	rural minor collector	gravel

Public Facilities and Services

Law Enforcement

Law enforcement within the Canyon Ferry/York Planning Area is a cooperative effort of four agencies: the Lewis and Clark County Sheriffs Department, who has primary responsibility; the Montana Highway Patrol, who is responsible for law enforcement on Canyon Ferry Road and York Road; Montana Department of Fish, Wildlife and Parks game wardens, whose primary responsibility is to enforce fish, game and boating regulations and to assist other law enforcement officials as needed; and the U.S. Forest Service, who is responsible for law enforcement on national forest land. Response times by the Lewis and Clark County Sheriff's Department vary from moderate to long, due to the area's distance from Helena, variable weather conditions, substandard roads and lack of posted addresses.

Fire Protection

In the southern portion of the planning area, structural fire protection is provided by the Canyon Ferry Volunteer Fire Department. The York Volunteer Fire Department provides protection in the northern portion of the area (see fire service map in Appendix D).

Each of these volunteer fire departments serves a designated Fire Service Area. The Fire Service Areas are funded by assessments on structures that have an assessed

value of fifty (50) dollars or more. Volunteers for each of the volunteer fire departments are contacted by the Support Service Division and have a pager system in case of fire.

Currently, the Canyon Ferry Volunteer Fire Department houses its equipment across from the Jo Bonner Campground on the east side of Canyon Ferry Lake and directly southwest of the Yacht Basin concession area on the west side of Canyon Ferry Lake. The York Volunteer Fire Department houses its equipment in the lower level of the community hall on the Nelson Road.

Wildland fire protection is provided by an interagency team consisting of personnel from the U.S. Forest Service, Montana Department of Natural Resources and Conservation, U.S. Bureau of Land Management, the Lewis and Clark County Volunteer Fire Department, and the local volunteer fire departments. Equipment and personnel from the various federal and state agencies are dispatched from the Interagency Fire Center located at the Helena Regional Airport and local volunteer fire departments are dispatched by the Support Services Division. Depending upon fire conditions and severity of the fire, response time can vary from five minutes by helicopter to thirty minutes by fire engine.

The planning area was significantly impacted by the Bucksnot and Cave Gulch wildfires in 2000, blazes that destroyed some homes and threatened many others.

The interagency team automatically responds to all wildland fires within the planning area, but is only responsible for wildland fire suppression. The interagency team will assist the local fire department in structural fires from the outside and supply water when necessary.

Solid Waste

The Canyon Ferry/York Planning Area is located within the Scratchgravel Refuse District, which is operated by the Lewis and Clark County Publics Works Department. All businesses and households are assessed a fee to cover the disposal costs. Individual property owners or contract waste haulers are responsible for transporting solid waste to the City of Helena Transfer Station located on Benton Avenue, north of Carroll College.

Water Supply

There are no community public water supply systems located within the Canyon Ferry/York Planning Area. Development in this area relies on individual wells for potable water. Except for areas immediately adjacent to watercourses, the source of water for most of the planning area is a fractured bedrock aquifer. Domestic well depths (50 to 700 feet) and yields (6 to 60 g.p.m.) vary greatly.

Sewage Disposal

Aside from the community wastewater treatment system at Canyon Ferry Village, sewage disposal in the planning area is handled by individual on-site wastewater treatment systems. Moderate to severe soil constraints, such as slow percolation rates, depth to bedrock, and slope may limit development densities throughout the planning area. The underlying fractured bedrock geology can also contribute to groundwater contamination by acting as a conduit between drain fields and groundwater.

Education

The southern two-thirds (2/3) of the Canyon Ferry/York Planning area is located within School District #9. The northern one-third (1/3) of the planning area is located within School District #1. However, all of the elementary students from the area attend either Eastgate, Radley, or East Valley Middle School in the City of East Helena. High school students attend Helena High School. All students in the planning area are bused at the general taxpayers' expense. In the Canyon Ferry Lake area, school busses travel as far as the Jo Bonner Campground to pick up students, stopping at the Yacht Basin, Canyon Ferry Village, O'Malley's Bar and Jim Town Road. In the York area, school busses travel as far as the intersection of York and Nelson Roads to pick up students, stopping at Jimtown Road and various private drives.

Utilities

NorthWestern Energy provides electrical power to the Canyon Ferry/York Planning Area. Natural gas is not available within the planning area. Telephone service is provided by Qwest. Cellular providers are used in the northern portion of the planning area, where standard telephone service is not available.

Analysis of Existing Land Use

Residential Development Patterns

Residential development in the planning area is concentrated along the northeast and northwest shores of Canyon Ferry Lake, Canyon Vista Estates, Trout Creek, York Gulch, Eldorado Bar, Eldorado Heights, and American Bar.

There are 265 cabin sites leased from the U.S. Bureau of Reclamation at Canyon Ferry Lake, 167 along the northeast shoreline and 98 along the northwest shoreline. These recreation home leases were first issued by the State of Montana in 1958, and were intended for seasonal uses only.

In 1965, the Department of Interior called for a phase out of all cabin leases on Department of Interior land. The Department granted an exemption from the phase out policy to the Canyon Ferry lease sites because at that time the sites were under the control of the Montana Department of Fish, Wildlife and Parks. Since 1965, the leaseholders have been attempting to purchase their individual lease sites.

In 1984, the lessees proposed they be able to purchase the cabin sites and that the proceeds would be dedicated to purchase development rights of irrigated agricultural lands in the Helena Valley identified as having important values, such as prime agricultural soils, critical wildlife habitat, open space, recreation or environmental values. Though no formal proposal was ever submitted, the management agencies concluded that the proposed use of the monies would not maintain the recreational and wildlife values at Canyon Ferry Lake, and the sale of the cabin sites did not protect the future public and management agency's needs at the lake.

Since 1988, the lease fees have been increased several times to bring them to market value, in some cases doubling. The fee increases have prompted the leaseholders to more seriously consider ownership, since the cost of leasing is no longer economically advantageous. The Bureau of Reclamation has in place a long-term national policy to phase out cabin leases on all Bureau-managed public lands. In addition to the continuing question of ownership of the cabin sites, the use of on-site wastewater treatment system at the cabin sites has become an issue of concern for the Lewis and Clark County Health Department and the Montana Department of Environmental Quality. The lot sizes do not meet the current state minimum lot-size standard and, in most cases, are too small for replacement drain field areas. The underlying geology also presents severe constraints for effective wastewater disposal. The cabin lessees have expressed an interest in finding off-site replacement areas for those cabin sites experiencing problems.

Late in 1998, the US Congress passed TITLE X - CANYON FERRY RESERVOIR, MONTANA, ACT. This Act would allow the sale of the Canyon Ferry lease cabin sites to private individuals. The Act requires the Department of Interior to establish the fair market value of the lease sites, exclusive of improvements and to solicit sealed bids for the properties.

The sale of the property would be to the highest bidder above the minimum bid. If the highest bidder is not the current lessee, the lessee would have the right to match the highest bid and purchase the property at a price equal to the amount of the highest bid. If the current lessee is unable or unwilling to purchase the property, he would be provided the opportunity to continue to lease the property for fair market value rent under the same terms and conditions as the existing lease. The current lessee would also have the right to renew the terms of the lease for two consecutive five-year terms. If the current lessee declines to purchase or continue to lease the property, the purchaser would be required to compensate the lessee for the fair market value of all improvements on the property.

Ten percent of the proceeds from the sale of the cabin site would be used to reduce the outstanding debt for the Pick-Sloan project, which developed Canyon Ferry Lake; and ninety percent of the proceeds would be deposited into the to be established *Montana Fish and Wildlife Conservation Trust*. The Trust would provide for a permanent source of funding to acquire land and easements to restore and conserve fisheries and wildlife habitat; enhance public hunting, fishing and recreational opportunities; and to improve public access to public lands.

Land transfers are not expected to take place until around 2002. Nothing will proceed until at least three (3) million dollars is obtained for the Broadwater County trust account for recreational enhancement and the completion of an Environmental Impact Statement (EIS) to address issues like road construction and improvements, and wastewater treatment.

On the west side of Canyon Ferry Lake, there are approximately 1,500 acres in private ownership. Much of the property was originally subdivided into twenty (20) acre parcels and some of those parcels have been further subdivided into five (5) acre parcels. Future subdivision in this area would be limited due to service provision constraints, such as wildfire protection and physical constraints such as slope, rock outcroppings, vegetation and underlying geology. The physical constraints make it difficult and costly for the extension of utilities and for the development of roads that meet current county road standards.

There are two R.V. trailer parks located northwest of Canyon Ferry Lake. The Yacht Basin Trailer Court, located south of Canyon Ferry Road and McMaster R.V. Court located along the west shore of Hauser Lake. The Yacht Basin trailer court consists of 23 units that are used on a full-time and seasonal basis. Future expansion of this trailer court is somewhat limited due to constraints for access. The McMaster RV Park is used seasonally by private leaseholders. Occupancy of the R.V. court is prohibited from October 1 through December 15, to prevent disturbance of the migrating bald eagles that congregate in the area during this time period.

On the east side of the Canyon Ferry Lake, private residential development is concentrated in the Cave Bay, Magpie Gulch and Jo Bonner areas. Lot sizes vary from half-acre parcels to tracts in excess of 160 acres. The residential development in the area is a mix of full-time and seasonal use.

In early 1998, the Lewis and Clark County Board of Commissioners gave preliminary approval to the Canyon Ferry Crossings Major Subdivision. This subdivision would consist of approximately 108 parcels for residential and a limited number of commercial uses on approximately 700 acres. The project is located east of Cave Gulch Road and north and south of Canyon Ferry Road. The lot sizes would range from one (1) to seven (7) acres in size; however, most would average approximately 2.5 acres in size.

Canyon Vista Estates is a 68 unit unreviewed subdivision located in the southeast portion of the planning area, adjacent to the Broadwater County line. Most of the parcels are twenty (20) acres in size. However, some smaller lots were created using a subdivision exemption. Approximately one-third of the parcels are currently developed. Future subdivision in this area would be limited due to substandard road construction and maintenance, the location of some roads outside platted right-of-way easements, the difficulty of identifying suitable sites for on-site wastewater treatment, and distances from services.

In the York/Trout Creek area, residential development is concentrated on old mining claims adjacent to Trout Creek. There are approximately 110 housing units in this area, used mostly on a full-time basis with some seasonal use. Additional residential development in this area would be extremely limited, mainly due to the lack of private land. However, there are approximately 65 undeveloped parcels in the area. According to the U.S. Forest Service, there are seven (7) remaining cabin leases in York. Also some of the existing private development in the area is encroaching onto Forest Service property.

An effort is currently underway to have the leases and properties resurveyed, and the lessees and the encroaching property owner given the opportunity to purchase that property from the U.S. Forest Service. In addition, many existing homes are located in a potential floodplain associated with Trout Creek. Trout Creek has been mapped by the Federal Emergency Management Agency (FEMA), but the results have not been published. Many of the existing homes are located in areas with high seasonal groundwater and are not in compliance with state health department regulations. The improper location and maintenance of on-site wastewater treatment systems is resulting in the degradation of water quality in this area.

There are approximately 100 unreviewed twenty (20) and ten (10) acre parcels located in the Eldorado Bar and Eldorado Heights area. Approximately thirty (30) percent of these parcels are currently developed. Most of the homes constructed in this area are occupied on a full-time basis. Limitations for development and future subdivision in this area include: substandard roads, lack of road maintenance, high to extreme fire hazards, cost and construction constraints for utility extension, and constraints for on-site wastewater treatment systems, due shallow depth to bedrock and slopes.

In the American Bar area, there is a 91 unit subdivision (Gates of the Mountain Lakeshore Homes) that was created without County review in 1973. The lot sizes vary between one (1) and five (5) acres in size. Approximately twenty-five (25) percent of these parcels are currently developed. Few of the homes constructed in this area are occupied on a full-time basis. Access to the area is via a steep and narrow road from the Nelson-Beaver Creek area and can be extremely difficult during winter months. Residents in the area have repeatedly requested the County to provide regular road maintenance and snow plowing to the area. The cost of providing these services would need to be borne by the area's residents. However at this time the area's residents

have not been able to agree upon the establishment of a road improvement district (RID).

Commercial and Industrial Development Pattern

Commercial operations in the southern portion of the planning area are concentrated along the northern area of Canyon Ferry Lake and located on private land or leases from the Department of Reclamation. Kim's Marina, located on the northeast side of the lake and the Yacht Basin Marina, located on the northwest side of the lake, are commercial concession leases. Concession leases are renewed on a ten (10) year basis, at which time fees can be renegotiated. Current lease fees range from 1.5 to 6.0 percent of gross revenues. The best-known private commercial establishment is O'Malley's Bar and Restaurant located east of Kim's Marina, adjacent to Canyon Ferry Road. Other existing private commercial developments includes engine repair and maintenance shop, mini-warehouse and boat storage area cabinet making shop, and a light industrial manufacturing shop, all located along the northeast shore of the lake.

Future commercial development (possibly associated with the Canyon Ferry Crossing, Major Subdivision) could potentially include the following: bed and breakfast facilities, motel, convenience store, sit-down and fast food restaurants, hunting and fishing supply shops, and R.V. storage and repair shops.

The best-known commercial establishment in the northern portion of the planning area is the York Bar and Store. Other existing commercial businesses in the York area include: sapphire mines, sapphire faceting shops, a trucking company, a landscape service, building contractors, and other small businesses. Future commercial development could include: a convenience store, restaurant, bed and breakfast and other development catering to recreationalists.

The only industrial activity in the planning area is the operation of Canyon Ferry and Hauser Dams. Currently Canyon Ferry Dam has an existing generating capacity of 50 MW of electricity and is operated by the Bureau of Reclamation. The Hauser Dam has an existing generating capacity of 16.5 MW of electricity and is operated by Pennsylvania Power and Light (PPL). Hauser Dam and associated facilities are operated as a base load, run-of-river facility. Under existing operation, the plant uses flows as they occur and the reservoir levels are maintained relatively constant by spilling water during high flows and curtailing generation during low flows.

Public or Governmental Uses

As noted previously, the federal government owns 80 percent of the land within the planning area. Most of the development by government agencies is associated with the recreational and campground use of Canyon Ferry Lake. The major non-recreational

government development in the area is Canyon Ferry Village. Canyon Ferry Village, located on the north shore of the lake, consists of an office building and parking for Bureau of Reclamation staff, the Canyon Ferry Visitors Center, a visitors pavilion, government camp, tennis court, boat dock for BOR and FWP personnel, garages, and warehouse facilities. All the structures in the village, except the Visitors Center, were built in the late 1940s and early 1950s when the dam was being constructed. The Visitors Center was originally a schoolhouse located in the original Canyon Ferry Village.

In the northern portion of the planning area, the York Community Hall, York Fire Hall, Mike Smith Memorial, and York's historic cemetery all occupy Forest Service land. The community of York, along with Lewis and Clark County, are trying to obtain community ownership of these parcels.

Parks and Open Space

The Canyon Ferry/Missouri River corridor offers a full breadth of water related recreational activities, from sailing and sail boarding to fishing, motor boating and swimming. Camping, picnicking and passive forms of recreation such as bird watching are available. Hauser Lake has traditionally been one of the most heavily fished lakes in Montana. Recreationalists are attracted to the area's Forest Service land for such uses as upland bird and big game hunting, fishing, camping, picnicking, and hiking. Many motorists drive the still-accessible portions of the scenic "Figure 8 Drive," to the fire lookout or top of Hogback Mountain. According to the Forest Service and the BOR, even with all the existing recreational opportunities, much of the planning area's recreation potential remains untapped.

According to Department of the Interior information, Montana residents make up from 75 percent to 85 percent of the park users, and non-residents from 15 percent to 25 percent. There are 23 designated camping and day use facilities located within the planning area (see Table 3.4).

The only open space or parkland under Lewis and Clark County control is an approximately 22 acre undeveloped parcel located north of the Gates of the Mountain Lakeshore Homes Subdivision in the American Bar area. Access to the parcel is difficult because of substandard roads. The Lewis and Clark County Comprehensive Parks, Recreation and Open Space, which was adopted in January 1998, recommends that the ownership of this parcel be transferred to the U.S. Forest Service for operation and maintenance.

Table 3.4
Designated Public Recreation Sites Within the Canyon Ferry/York Planning Area

Recreation Site	Location	Camp units	Picnic Units	Trailer Spaces	Water	Toilet	Desig. Beaches	Boat Dck.	Boat Ramp	Handicap Accessible
Hellgate	east side CFL	61 developed 100 undeveloped	23	yes	2	8	yes	no	1	no
Jo Bonner	eastside CFL	2 developed 15 undeveloped	4	no	1	1	no	80 sq ft	1	no
Cave Bay	east side CFL	day use only	2	no	no	1	no	no	no	no
Chinaman	eastside CFL	31	35	yes	1	4	no	no	no	partially
Ponderosa	eastside CFL	30	31	yes	3	2	yes	80 sqft	3	no
Court Sheriff	eastside CFL	12	12	yes	1	1	no	80 sqft	2	no
Shannon	northside CFL	day use only	0	no	no	2	no	320 sqft	2	no
Little Sandy	northside CFL	day use only	0	no	no	no	no	no	no	no
Riverside	eastside Hauser	34 developed 100 undeveloped	45	yes	3	6	no	252 sqft	2	yes
Chalet	westside CFL	day use only	6	no	no	2	no	no	no	no
Fishhawk	westside CFL	day use only	10	no	no	1	no	no	no	no
Cemetery Island	westside CFL	day use only	2	no	no	1	no	no	no	no
Overlook	westside CFL	day use only	4	no	no	2	no	no	no	no
Lorelei	westside CFL	day use only	6	no	no	1	no	no	no	no
Lewis and Clark	westside CFL	day use only	6	no	no	1	no	no	no	no
Orchard	westside CFL	day use only	6	no	no	1	no	no	no	no
Crittendon	westside CFL	day use only	10	no	no	1	yes	no	no	no
Mahogany Cove	westside CFL	day use only	3	no	no	1	no	no	no	no

Pikes Gulch	northeast of York	5	no	yes	no	yes	no	no	no	no
Vigilante	northeast of York	13	3	yes	yes	yes	no	no	no	no
Beaver Creek	northwest of York	day use only	no	no	no	1	no	no	no	no
Meriwether	east side Holter	day use only	15	no	yes	yes	yes	yes	no	no
Coulter	east side Holter	6	no	no	yes	yes	no	yes	no	no

(Source: Montana Department of Fish, Wildlife and Parks, 1995)

Agricultural Uses

Livestock grazing is the predominant agricultural activity that occurs within the planning area on both private and public lands. The three (3) principal operators in this area are the Rankin Ranch Company, the Running W Cattle Company, and the Sieben Livestock Company. The Rankin Ranch Company owns approximately 640 acres in the Hellgate area and approximately 1,900 acres in the Sunshine Basin Area. However, a majority of the Rankin operation takes place within Broadwater and Meagher Counties. The Sieben Livestock Company owns approximately 2,250 acres east and adjacent to the Gates of the Mountains Wilderness Area at the head of Beaver Creek (the Martien Ranch). A majority of their ranch holdings are located in Cascade County. The Running W Cattle Company owns approximately 2,800 acres in the Soup, Pikes, and Beaver Creek areas. The rest of their holdings are in Meagher County and in the Helena Valley.

Several smaller cattle and hay operations can be found in the Nelson area, American Bar, Eldorado Bar, upper Trout Creek and Metropolitan Bar areas. Most of these smaller operations are feeling pressure to subdivide their lands for residential use.

Canyon Ferry/York Planning Area Priorities

The following issues were identified through stakeholder interviews, public workshops, and the work of the Lewis and Clark County Comprehensive Plan Citizen's Advisory Group. The focus here is not intended to exclude the broader framework of the County-wide goals and policies. Rather, the intent is to focus the effort of Lewis and Clark County on short-term (e.g., the next five years) priorities that are specific to the York/Canyon Ferry planning area, and were developed by people living in the area.

Citizens of the York /Canyon Ferry planning area feel that the top priority short-term issue is a continued and increased focus on the provision of basic services, maintaining water quality, and controlling land subdivision. In the York /Canyon Ferry planning area,

Lewis and Clark County should focus its energies on maintaining and upgrading the following basic services:

A. Control and eradicate noxious weeds.

Action Items

- Educate citizens about the importance of noxious weed management and various means to eradicate the spread and infestation of noxious weeds.
- Work to enforce existing weed abatement regulations.
- Establish a weed district boundary in cooperation with the BLM, US Forest Service, and local landowners.
- Apply for weed grants to help eradicate noxious weeds in the area.

B. Maintain high standards for subdivisions in order to minimize their impact on both the natural environment and taxpayers.

Action Items

- Establish minimum design standards.
- Compile standards for developing in riparian areas.
- Ensure that new subdivisions are provided with adequate fire protection, either through an on-site water supply or services provided through a fee.
- Require roads to be constructed prior to subdivision.
- Require that maintenance funds be established for long-term preservation of improvements.
- Clearly define the economic responsibility for road construction and maintenance.
- Work with local Fire Departments and the Rural Fire Council to ensure new subdivisions will have adequate fire protection.

C. Address Canyon Ferry/York Roads Road traffic and maintenance concerns.

Action Items

- Review traffic control and safety issues along the Canyon Ferry and York Roads and take the appropriate actions.
- Resurface York Road from the York Bar to the end of the pavement.
- Evaluate the possibility of the installation of a four way stop or better traffic control at York Road/Nelson Road/Black Bear Road junction.

D. Maintenance of other public County roads.

Action Items

- Increase maintenance, based upon the availability of funds, as a high priority in Lewis and Clark County.
- Dust control along Nelson and Jimtown Roads within the York town site.
- Work with Federal agencies to increase the availability of funding for County roads accessing U.S. Government recreational land.

E. Work to improve water quality.

Action Items

- Develop and enforce septic system regulations.
- Preserve riparian areas along Magpie, Soup, Beaver, and Trout Creeks; establish setbacks.
- Encourage the development of wellhead protection areas in areas of source water use or proposed use.
- Provide citizen education regarding the source and distribution of water supplies, the potential threats to the quality and quantity of drinking water, and pollution prevention methods.

F. Maintain the integrity of the Missouri River corridor.

Action Items

- Work cooperatively with local watershed groups, conservation districts, private landowners, and other entities involved with Missouri River issues.
- Missouri River corridor access should be maintained and protected.
- Maintain public access through private land to public land.

G. Continue to improve fire protection, emergency, and safety services.

Action Items

- Assist with_a process to attract more volunteers.
- Assist with a joint purchase agreement for new equipment.
- Work to ensure that all residences and roads are clearly marked and addressed in rural areas.
- Assist_with the development of better emergency medical service (EMS) service in the area.

H. Preserve agricultural/ranching, lands.

Action Items

- Update the Lewis and Clark County Voluntary Agricultural Land Preservation Program and the resulting Land Evaluation and Site Assessment system. Utilize as a tool in land use planning.
- Convene a task force to study ways to manage rural land changes.
- Establish minimum lot sizes within agricultural lands.
- Explore the use of cluster subdivision where residential development occurs in rural and agricultural areas.

I. Commercial and recreational development should be encouraged in appropriate locations.

Action Items

- Support efforts to identify locations in Canyon Ferry and York where commercial/recreational site development is appropriate.

J. Better community services should be encouraged.

Action Items

- Complete work with the U. S. Forest Service to determine the future of the York Community Hall, York Fire Station, Smith Memorial, and York Cemetery.
- Assist in developing a community park on land between York Community Hall and the Smith Memorial.
- Work with local residents to determine the future of county park land on American Bar.
- Consider use of an RID to establish a closer transfer site and recycling area.
- Encourage community representation on county matters affecting this planning area.

Helena Valley Planning Area

Introduction

The first exploration by white men in the Helena Valley or the Valley of the Prickly Pear was recorded in the journals of Lewis and Clark. The party of explorers passed through the Gates of the Mountains area in July 1805. Their journals reported sighting antelope, deer, elk and goats in the area. They also reported being troubled by mosquitoes and prickly pear cactus as they worked their way up river towards the three forks of the Missouri River.

During the period between the Lewis and Clark Expedition and the beginning of the gold mining era, the only white visitors to the area were fur trappers and traders. Prior to the influx of Europeans, the area was controlled primarily by the Blackfoot Indians, who were noted for their fierce opposition to the white incursions into their territory.

From 1858 to 1860, Lt. John Mullan of the U.S. Army directed the construction of a military wagon road from Fort Benton, at the head of navigation on the Missouri, to Fort Walla Walla in Washington. The road passed through the canyon of Little Prickly Pear Creek north of the Helena Valley, and crossed the Continental Divide at Mullan Pass. The greatest use of the road came after the discovery of gold in Montana in 1862. The eastern segment of the Mullan Road was heavily traveled after the discovery of gold in Last Chance Gulch in 1864.

The first record of prospecting activity in the area dates back to 1862, when gold was reported to have been found along Prickly Pear Creek near the later site of the mining camp called Montana City, about four miles above the present site of East Helena. In June 1862, Captain James Fisk led a government-sponsored wagon train from Minnesota to the gold fields of Montana along the Mullan Road. According to historical records, the Fisk expedition consisting of 123 persons camped on the future site of Montana City. They reportedly encountered a miner named Gold Tom living in a tepee who was placer mining along Prickly Pear Creek. About half of Fisk's party wintered in the area to search for gold. They were apparently unsuccessful, since major mining development in the Helena Valley area had to wait until the Last Chance discovery by the legendary Four Georgians in July 1864. News of their strike spread and by fall of that year tents and cabins had sprung up along the gulch. Within one year, the mining camp had over one hundred cabins.

The gold deposits in Last Chance Gulch and other rich mineral discoveries in the area spurred the growth of the City of Helena and other communities like Rimini, Unionville and East Helena. By 1867, a number of stone buildings had been erected and a land office opened in Helena. The Fort Benton to Helena stage logged 2,500 passengers between May and October 1866, with the passengers stopping at stage stops in Silver City, Three Mile Creek, Seven Mile Creek, and Tenmile Creek. Helena flourished not only as a mining camp, but also as a trade center for other camps in the region. Situated on the trade route between Fort Benton and Bannack/Virginia City, Helena rapidly developed into one of the leading commercial emporiums of the mountain country. By 1875, Helena had eclipsed Virginia City in size, population, and influence and was voted the Territory's capital.

The Town of Rimini was once a trade center for a mine district, which produced gold, silver, and lead. The town was originally named Young Ireland, but was renamed in the 1880s by the citizens after they had seen the drama, *Francesca da Rimini*. The town, to which a branch of the Northern Pacific Railroad was built between 1885 and 1900, consisted of one long street with false-fronted frame buildings, which included at one

time 14 saloons, several hotels, and “sporting” houses. A second street parallel to and behind it, was filled with houses and cabins, except where mine dumps crowd close against them. At the end of the street rises Red Mountain, which includes one of the oldest lead-zinc mines in Montana, with patent survey Nos. 3, 4 and 5. Lee Mountain, located to the west of the town site, has survey No. 13 and was discovered in 1864. Lode mining on Red Mountain (e.g., the Nelly Grant, General Grant, Good Friday and Little Jenny lodes) began before 1870 and was actively pursued until the late 1920's. In addition to lode mining, placer mining above the Rimini town site continued on a large-scale basis from the 1870s until the early 1900s.

In the 1880s James J. Hill, president of the Great Northern Railroad, founded the Red Mountain Consolidated Mining Company. Hill had hoped to build a branch of his railroad into Rimini, so shipments from the area's mines could be sent directly to the Helena and Livingston Smelting and Reduction Company smelter, located in East Helena. The project was started after Hill's death by the Montana Lead Company. However, the attempt came to an abrupt stop after a tunnel was already bored 4,000 feet into the mountain because the City of Helena Water Department, which had Chessman Reservoir near Rimini, refused to permit the erection of a concentrating plant near the mines. From that time on, additional large-scale mining development in the area stopped.

The real impetus to develop the community of East Helena was the 1888 construction of the Helena and Livingston Smelter, now ASARCO. Prior to the development of the smelter, the area around East Helena was developed as homesteads and a way station on the stagecoach route between Helena and the gold camps in the Big Belt Mountains. The Northern Pacific Railroad which had reached Helena in 1883, had its original station, named Prickly Pear Station, located at the railroad's crossing of Prickly Pear Creek.

About the same time the smelter property was purchased, several local land owners subdivided portions of their property into a town site. Local newspapers touted the new community as the place to invest in real estate for quick returns.

The town quickly became the homes of many of the plant employees. Many of the smelter's early employees came from the surrounding mining camps; later employees were recruited from the immigrant populations. The plant not only provided the primary payroll but also played a critical role in the social, recreational, cultural, and educational lives of the community.

East Helena has survived its share of disasters, as have many other Montana communities. The Flood of 1908, which covered several blocks in the center of town, filled cellars with water, tore out bridges and floated houses off foundations; the fire of 1919, which destroyed the town's business district and many homes; and the infamous earthquake of 1935. Today the City of East Helena remains a cohesive, independent, industrial community, although the smelter closed in 2001.

Another notable development, which has had a great influence on the character and the economy of the Helena Valley, was the construction of Fort Harrison approximately six miles west of the City of Helena. Fort William Henry Harrison was authorized by an act of Congress in 1892. The Fort was originally named Fort Benjamin Harrison in compliment to the then President. The name was changed in 1906 to eliminate duplication with a fort in Indiana. The military reservation was acquired by donations through the efforts of Col. C.A. Broadwater (who owned the adjoining Broadwater Hotel and Natatorium), the local Optimist Club, and interested private parties.

The Fort was built from 1894 to 1896. In 1895, a detachment of the Hospital Corps from Fort Assinboine south of Havre and several small military posts, which were scheduled to close in the Dakotas, began training at the post. The Montana National Guard began utilizing Fort Harrison for training in 1911, after abandoning Fort Ellis near Bozeman.

Fort Harrison was abandoned and left in the charge of a caretaker by the U.S. Army in 1913. The Montana National Guard occupied the Fort in September 1915, beginning the development of the military post we see today. In June 1916, the Montana National Guard was notified by the War Department to mobilize to guard the U.S./Mexican border. With the start of World War I, the Guard was again trained and mobilized in 1917 to protect major railroad and industrial facilities, until they could be dispatched to eastern camps and eventually overseas. After World War I, the Fort became a Public Health Service hospital and eventually a Veterans Administration medical facility (No. 72). During the first years, it was designated as a tuberculosis hospital and expanded to 300 beds. In 1925, the designation was changed to a general medical and surgical hospital.

After the October 1935 earthquakes that rocked the Helena area, the hospital facility was closed and the patients transferred to facilities in Washington and Oregon. The Hospital facility was reopened in 1937. The Guard continued to use the reservation for training after the earthquake.

During the Second World War, the U.S. Army assumed control of the facility and used it for very new and distinctive military units. These units included the First Special Service Force, the 474th Quartermaster Truck Regiment and the War Dog Training Center (Camp Rimini).

Since 1947, the Fort has been used for training by numerous active and inactive combats, support and combat service support units. Numerous major improvements and increased training facilities were completed at Fort Harrison in 2001.

Existing Conditions

Physical Conditions

The Helena Valley planning area is located in the southern part of Lewis and Clark County, and contains approximately 400 square miles east of the Continental Divide. The area is bound by the Marysville-Canyon Creek planning area on the northwest, the North Hills on the north (boundary with the Canyon Ferry planning area), the Missouri River, Hauser Lake, and the Spokane Hills on the east (boundary with the Canyon Ferry-York planning area), the County Line with Jefferson and Broadwater Counties on the south, and the Continental Divide on the west. The incorporated City of Helena is the County seat and is located in the south-central part of the planning area. The City of East Helena is the only other incorporated municipality in the County and is also located in the southern part of the planning area.

Topography

The topography of the Helena Valley planning area includes approximately 75 square miles, and varies from the broad, gently sloping floor of the Helena Valley to elevations of 3650-4000 feet. The mountains along the Continental Divide reach elevations of approximately 6000-8000 feet. The North Hills form a drainage divide (ranging between 4700-5200 feet) at the northern edge of the area.

Significant geographic features in the northeastern portion of the area include the Missouri River canyon below Hauser Dam, Hauser Lake, and Devil's Elbow, a feature along the Missouri River described in the Journals of Lewis and Clark.

Rolling hills and bench lands are present in the eastern part of the area, culminating in the Spokane Hills (4600-5600 feet). The South Hills (the majority of which is in Jefferson County) bind the southern edge of the area, and blend into the Continental Divide Range to the west.

Principal peaks and their elevations are Mount Ascension (5365 feet), Skihi Peak (6583 feet), Black Mountain (7149 feet), Colorado Mountain (7217 feet), and Red Mountain (8150 feet). The Scratchgravel Hills cover about 15 square miles in the central part of the area, and rise above the Valley floor to an elevation of 5253 feet.

The narrow valley of the Tenmile Creek drainage extends westward to the divide, while the Seven Mile Creek drainage winds to the northwest through rolling terrain.

Climate

Climatic conditions vary across the planning area due to topographic conditions. The western portion of the area along the Continental Divide receives 20-30 inches of average annual precipitation, the majority as snowfall. The northeast Helena Valley, between Lakeside and the Causeway, is the driest part of the area and receives approximately 10 inches of annual precipitation, the majority as spring rainfall.

The annual range of air temperatures at the Helena Regional Airport is -35 to 100 F, with mean monthly temperatures ranging from 18 F in January to 68 F in July. Winds are generally westerly to northwesterly; the area experiences chinook winds that are associated with the east side of the Rocky Mountains. The Helena Valley is an intermountain basin subject to air inversions in the winter months.

Hydrography

Engineered and constructed water bodies make up approximately 2 percent of the Helena Valley planning area. The major lakes are Lake Helena (located in the northeast corner of the Valley floor) and Hauser Lake (forming a portion of the Area's east boundary). Both of these lakes were formed in 1911 as a component of the Hauser Dam project on the Missouri River. Another significant lake is the Helena Valley Regulating Reservoir (one square mile), established in 1958 for the purpose providing irrigation water (Missouri River) to the Helena Valley floor and drinking water to the City of Helena.

Chessman and Scott Reservoirs are storage facilities for the City of Helena drinking water supply, located in the southwest corner of the planning area. Chessman Reservoir (100 acres) was constructed at the turn of the century and refurbished in the early 1990s. Scott Reservoir (25 acres) was constructed in the early 1960s.

Spring Meadow Lake is a small lake (10 acres) just west of Helena established as a result of gravel quarrying activities; the lake and surrounding shoreline is now a state park. Two small private recreation lakes (25 acres total) are located in the center of the Helena Valley floor, established in 1990.

Two water bodies are associated with the ASARCO smelting facility at East Helena--a reservoir contains about 12 acres and associated wetlands, and a waste pond contains about 5.5 acres. Seven wastewater treatment lagoons are located within the Helena Valley. Several small private ponds exist for stock water or minor irrigation purposes. Several major stream networks cross the planning area and drain into the Missouri River system. Spokane Creek (located in the southeast corner of the area) drains the hills, benches, and rolling terrain on the west side of the Spokane Hills. This is a perennial stream that has some utilization for irrigation. The 100-year floodplain has

been approximated, but not formally mapped by the Federal Emergency Management Agency (FEMA).

Prickly Pear Creek has its headwaters in northern Jefferson County, enters the planning area south of East Helena, and drains northward to Lake Helena. The stream has been significantly utilized for irrigation in the Helena Valley, although the extent of such applications is declining with the conversion of agricultural lands to other uses. The 100-year and 500-year floodplain boundaries have been mapped by FEMA (1985). As with Tenmile, Seven Mile, and Silver Creeks, Prickly Pear Creek's morphology (i.e., stream bed structure) and water quality have been adversely affected by a variety of human activities, such as mining agriculture, industry, and development/construction.

The Tenmile Creek watershed includes the southwest portion of the planning area and drains northeastward toward Lake Helena. The 100-year and 500-year floodplain boundaries have been mapped by FEMA (1985) downstream of the Rimini Road/Highway 12 intersection; another section of floodplain has been mapped at a less detailed level in the vicinity of the Rimini town site. This stream has also been significantly utilized for irrigation in the Helena Valley. The extent of irrigation is declining with the conversion of agricultural lands to other uses.

Seven Mile Creek is a tributary of Tenmile Creek, and is a perennial stream with a watershed area that drains the northwestern portion of the planning area. The only section of the stream that has been mapped for the 100-year floodplain (FEMA, 1985) is two miles above its confluence with Tenmile Creek. Some irrigation diversions are utilized in the lower reaches of the stream.

The headwaters of Silver Creek are located in the Marysville-Canyon Creek planning area; the lower sections of the stream drain eastward across the Helena Valley floor toward Lake Helena. Silver Creek is intermittent due to the porous nature of the Valley floor, limited precipitation in the watershed, and irrigation diversions. The stream reach east of Green Meadow Drive has been mapped for the 100-year and 500-year floodplains (FEMA, 1985). The 100-year floodplain boundaries have been approximated for an additional five miles of stream section west of Green Meadow Drive, but not formally mapped by FEMA.

The Water Quality Protection District is charged with on-going monitoring, research, and public education on the surface water systems. The District is governed by an appointed Board, and its activities are funded by fees on each property within the District and by grants.

Helena Valley Irrigation District

Background: As one descends into the Helena Valley from the north on Interstate 15 during the summer, a striking feature of the valley is its core of green irrigated lands,

surrounded by non-irrigated grazing and croplands, as well as developed areas. However, it didn't always look this way and many County residents may not be aware that the Helena Valley's irrigated lands are a man-made environment representing a multi-million dollar investment of federal funds.

The earliest agriculture in the Helena Valley consisted of gardens and small dairy and livestock operations. Crop farming began slowly. Farmers and ranchers developed gravity flow irrigation systems utilizing Prickly Pear and Ten Mile Creeks. The first large scale effort to irrigate the Helena Valley with a pumped water source was initiated in 1912 by the Montana Reservoir and Irrigation Company, a subsidiary of what was then known as the Montana Power Company. (In 1934, Montana Power assumed direct control of the irrigation project.) The company served two separate irrigation systems: the Helena Valley Water Users' Association and the Lakeside Water Users' Association.

Both systems drew their water from Lake Helena and irrigated almost 4,500 acres. The Helena Valley system was supplied by a pumping station located on the north shore of Lake Helena. (The property, now in private ownership, is located about 1/2 mile west of the Causeway on Lincoln Road East.) The Lakeside system was supplied by a pumping station on the east shore of Lake Helena. (The property, also in private ownership, is located just south of the Causeway on Lake Helena Drive.)

As of 1956, the original Helena Valley system served 31 water users and irrigated 2,937 acres, while the Lakeside system served 17 water users and irrigated 1,559 acres. In 1946, Montana Power deeded the irrigation project over to the State Water Conservation Board that governed the systems until the Helena Valley Irrigation District was created in 1955, in conjunction with the Canyon Ferry Dam project.

Construction of Canyon Ferry Dam was authorized by Congress through the 1944 Flood Control Act, and funding was appropriated for the project in 1947. The U.S. Bureau of Reclamation selected the site for the dam in 1945. Initial activities to prepare for construction began in 1947 with a formal groundbreaking for actual construction in 1949. Construction of the dam was completed in 1954 at a total cost of \$28,772,465. (According to the Montana Department of Commerce (MDOC), Census and Economic Information Center (CEIC), this would be equivalent to \$205,517,607 in 1999 dollars.) In addition to providing power generation, flood control, and water-based recreation opportunities, Canyon Ferry Dam supplies water to the Helena Valley Irrigation District (HVID) and the City of Helena drinking water system.

The broad, gently sloping floor of the Helena Valley made it especially attractive for the development of a valley-wide irrigation system -- a project consistent with the long-term mission of the U.S. Bureau of Reclamation. Development of the Helena Valley irrigation system also provided a means to help offset the loss of agricultural lands inundated by Canyon Ferry Reservoir. Water is pumped from the reservoir to the Helena Valley via a tunnel drilled through the Spokane Hills and a canal to the Helena Valley Regulating Reservoir. The reservoir is located on the Spokane Bench, just south of York Road,

and covers 518 acres. From the reservoir, water is diverted to the City of Helena Missouri River Water Treatment Plant and through an irrigation canal system around the south, west and north sides of the Helena Valley floor. Ultimately, the irrigation water is discharged back to Lake Helena, part of Hauser Reservoir.

Construction of the Spokane Hills tunnel began in 1957 and was completed in 1959. The total original cost of the irrigation system which included the pumping plant at the dam, tunnel, regulating reservoir, main canal, laterals, and drains, was \$2,637,000. In addition, a series of open and closed drains were constructed in the 1960's to relieve drainage problems in the central part of the district. Additional work on the drainage system was done in the 1970's and 1980's. In 1977 and 1980, major modifications were made to the Regulating Reservoir dam to address excessive seepage and concerns regarding dam safety in the event of an earthquake.

Existing Conditions: The physical components of the current irrigation system include the pumping station at Canyon Ferry Dam, the 2.6-mile tunnel through the Spokane Hills, the Regulating Reservoir, and the 31.7-mile canal distribution system, 64 miles of lateral ditches, as well as 56.3 miles of drains that collect excess water and return it to Lake Helena. The total miles covered is nearly 155, not including the 518 acres that comprise the reservoir.

The HVID currently (2003) irrigates approximately 15,000 acres in the Helena Valley and on the Spokane Bench under full service irrigation contracts and some additional agricultural operations through supplemental agreements, for an approximate total of 17,000 acres irrigated. This represents almost half of the total 38,000 acres of irrigated cropland in Lewis and Clark County (1998, Montana Agricultural Statistics Service). Agricultural production within the HVID consists of small grains, alfalfa hay, and irrigated pasture from approximately 200 active irrigators, for an average operating unit of about 85 acres.

The Helena Valley's irrigated hay lands are an important agricultural resource for Lewis & Clark County. This complex irrigation system represents a significant investment by U.S. taxpayers. The Helena Valley irrigation system also represents a major investment by private landowners in equipment, land leveling, and annual maintenance costs.

Issues: The interest in preserving the HVID isn't new; the lands irrigated by the HVID serve the needs of both Helena Valley and city residents. Retention of the Helena Valley's irrigated lands has been a recurring issue throughout the process of developing the County Growth Policy, including discussions within the Citizens Advisory Group, and comment in the public meetings and hearings. During the public involvement process, several persons commented that allowing continued incremental conversion of irrigated croplands to subdivisions and other development could eventually destroy the viability of the HVID as a whole. The conversion of irrigated croplands and the potential impact

on adjacent irrigated lands of subdivisions or other development has also been raised during the review of many proposed subdivisions, while some indicate it may adversely impact the area, others indicate the water supply to irrigated lands may improve.

The interest in preserving the HVID isn't new. The 1989 County Comprehensive Plan included an issues statement that subdivision of agricultural land served by the irrigation district is conducted without regard to the effects on the public investment in the canal system. A Policy Statement in the 1989 Plan states that "The County will minimize land use conflicts with existing economic uses for which there has been substantial economic investment such as the Helena Valley Irrigation District."

According to the manager of the HVID, whether the amount of land that remains in agriculture and not developed is tied to the future and viability of the HVID is a debatable point. Legally, even if irrigated land is subdivided into small parcels for homes, the land remains in the district and is still assessed. Though these acres will not be receiving water, the HVID tax base will not have changed. Presently, there are still far more requests for people to bring land into the district to receive water for agricultural irrigation than requests to take the land out. The HVID's biggest concern with development in or near its irrigation facilities is public safety. The open canal and lateral system includes many miles of waterways, culverts, and siphons that are potentially extremely dangerous to the public, especially children. The HVID encourages the County to seriously consider the issue of public safety when reviewing proposed developments adjacent to its facilities. (Note: The preceding is paraphrased from written testimony submitted by Jim Foster, HVID Manager, at the November, 2000 hearing on the Growth Policy.)

Health: Much of the irrigated land in the valley has shallow groundwater, often with poorly drained soils -- conditions poorly suited to building construction and the use of on-site wastewater treatment systems.

Safety: The Helena Valley was the site of Montana's second largest earthquake (in 1935) and, according to the U.S. Geological Survey (USGS), has a high potential for additional severe earthquakes. Geologic investigations by the Montana Bureau of Mines and Geology in 1981 and 1988 indicated that a probable earthquake of magnitude 7.5 on the Richter Scale could occur, subjecting the Helena Valley to severe ground shaking and liquefaction. A 1993 study by the Bureau and MSU further evaluated the risk for liquefaction and mapped the areas of the Helena Valley where the soil has the potential to liquefy in the event of an earthquake. The areas shown to have moderate and high potential for liquefaction and significant ground movement coincide closely with the areas served by the HVID and have some of the highest potential for property damage and injury in the event of a serious earthquake.

Welfare: The HVID serves a critical role in assuring adequate water for residents of the Helena Valley and the City of Helena, in addition to providing important open space values and serving as a vital component of Lewis and Clark County's agricultural economy.

Ground water in the Helena area is the sole source of drinking water for over 27,000 citizens, approximately 55 percentage of the local population. The Helena Valley alluvial aquifer provides water through approximately 5,600 domestic wells and 71 public water supplies (L&C County Water Quality District, 2003).

The 1989 Comprehensive Plan, citing a 1983 Hydrometrics study, stated, "It is important to note that 'significant rises in the groundwater table in shallow aquifers during the irrigation seasons show irrigation is a major source of recharge in the Helena Valley'." A 1992 USGS study concluded that 31 percent of the recharge of the Helena Valley aquifer results from irrigation water infiltration while leakage from the Helena Valley irrigation system canals accounts for another 8 percent. With almost 40 percent of the recharge of the Helena Valley aquifer attributable to the operation of the irrigation system, the more than 27,000 people in the valley currently relying on groundwater for their drinking water have a keen interest in maintaining this vital recharge in the future. In drought years, such as 2000, the HVID assumes even greater importance for recharging the Helena Valley aquifer because low flows in the Prickly Pear and Ten Mile drainages are insufficient to provide the normal recharge that valley residents rely on for water.

Residents of the City of Helena have a similar interest in maintaining the viability of the Irrigation District as a major and dependable source of water. The District's Helena Valley Regulating Reservoir, in addition to providing water to the irrigation canal system, also supplies the City's Missouri River water treatment plant. In 2000, with the Ten Mile Creek drainage at record low flows, the regulating reservoir provided the majority of Helena's water supply.

During the public involvement process for the development of the county plan, several persons noted that most Helena Valley agricultural operations are relatively small and that few could survive independently without off-farm employment to supplement family income. A report prepared for the Citizen Advisory Group by Dr. James Johnson of MSU supports this. According to Dr. Johnson's report (which was based on 1992 data, the latest available), over 60 percent of the agricultural operations in the county were comprised of less than 180 acres, while statewide only 31 percent of operations were smaller than 180 acres. (As noted previously, the size of the average operation served by the HVID is about 85 acres.)

As another indication of the comparatively smaller nature of the farming operations in Lewis and Clark County as a whole (and the Helena Valley in particular), 74 percent of the farms in the County had sales of less than \$25,000 annually, while the statewide figure was 50 percent. Additionally, 43 percent of Lewis and Clark County farms and

ranches reported 200 or more days of off farm employment, while statewide the percentage was only 23 percent. While 70 percent of the farm operators in Montana indicated that farming was their principal occupation, the figure was 47 percent in Lewis and Clark County. Clearly, farmers in Lewis and Clark County as a whole and the Helena Valley in particular are more closely linked economically to a nearby urban job market than many of their counterparts elsewhere in Montana.

Farmers and ranchers have been confronted by low market prices in recent years, as well as major changes in federal agriculture policies, which sometimes make it difficult to achieve a reasonable return on investment and a decent standard of living. Most agricultural operations in the Helena Valley are too small to sustain a family, and at least one adult must do non-agricultural work in order to make ends meet. As a result, the Growth Policy acknowledges the right and periodic need of agricultural operators to sell portions of their property, for purposes such as estate planning or retirement purposes or to help their operations weather difficult financial circumstances.

However, in instances where agricultural operators find that development of agricultural lands is necessary, the Growth Policy encourages them to focus development on the least agriculturally viable portion of their property such as marginal, non-irrigated grazing or non-irrigated crop lands with adequate access to existing roads. When conversion of irrigated croplands is proposed, the Plan encourages land owners to utilize "cluster" subdivision design which groups small lots in a limited area in order to maximize the amount of irrigated land which can be retained in agricultural production.

Geology

The Helena Valley planning area contains a diversity of geologic units and landforms. Very old, dense, fractured sedimentary rocks are found across the area, principally along the northern and eastern boundaries and in the western portion. The northern extent of the Boulder Batholith is found in the south part of the area; much of the mineral development in the region is associated with this igneous body (e.g., produced by volcanic action or intense heat). The Scratchgravel Hills are also an igneous intrusion. The region was the subject of significant crustal deformation, which established the Overthrust Belt. Due to the rock types involved, some potential for oil and gas resources exists. The Helena Valley is a fault-bound structural basin that is filled with younger sedimentary units eroded from the surrounding mountains or deposited as a result of nearby volcanic activity. The youngest sediments are found on the floor of the Helena Valley. During the last glacial period the Missouri River was dammed by the continental ice sheet creating a large lake that extended into the Helena Valley area; related deposits are observed near White Sandy.

The Helena Valley is located within the Intermountain Seismic Belt, a seismically active zone associated with major geologic fault structures. The Valley is located at the north end of Seismic Zone 3. The Helena area has a long history of seismic activity; the

earliest recorded earthquake was in 1869, and the most severe recorded earthquakes occurred in 1935 (measuring up to 6.3 on the Richter scale). Geologic investigations conducted by the MT Bureau of Mines and Geology (1981, 1988) indicate that a probable earthquake of magnitude 7.5 Richter could occur, subjecting the Helena Valley to severe ground shaking and liquefaction. A geologic map indicates the general location of potentially active faults. Other faults may exist but their locations are speculative at this time.

A large part of the Valley floor is underlain with partially consolidated sediments saturated with groundwater, which are susceptible to liquefaction. Such conditions affect the probability and magnitude of ground failure and structural damage in a seismic event. In 1993, the County participated with the Bureau and MT State University to further evaluate the risk for liquefaction in the Valley. Based upon the physical characteristics of geologic materials and degree of saturation, a map of liquefaction potential was developed. Areas were classified with very low to high susceptibility for liquefaction; development in these areas should provide for appropriate mitigation measures to reduce the associated risks.

Some rock types in the area contain minerals subject to radioactive decay and the production of radon gas. The MT Occupational Health Bureau has collected data in the area for the last ten years, which indicate a potential for radon gas in the Helena Valley planning area. Currently there is not enough statistical data to define more specific areas of concern. Some uranium leasing and exploration has occurred in the Helena Valley, but no development or extraction has taken place.

There do not appear to be significant areas of unstable slopes related to particular geologic rock types within the Helena Valley planning area. However, several erosive soil types have been located. Expansive soils are not common, but some bentonitic materials are present in some areas.

Groundwater

The groundwater resources of the Helena Valley planning area are quite variable and not completely understood at this time. However, considerable research has been conducted in an effort to characterize the aquifer systems. A major alluvial aquifer underlies the Helena Valley floor, which supplies drinking water for most of the population outside the municipal service areas. This is a very productive aquifer system, but is vulnerable to contamination. The remainder of the planning area contains bedrock aquifer systems with varying characteristics. In some areas these systems have limited production and recharge and are also vulnerable to contamination, which could impede development. Continued urban development in the planning area could result in additional contaminant load to parts of these aquifer systems caused by wastewater treatment, industrial discharges, stormwater runoff, and accidental spills.

The Helena Valley-fill alluvial aquifer system has been the subject of research for many years; the most recent and most comprehensive study was completed in 1992. The Valley-fill aquifer covers about 65 square miles and is sustained by stream infiltration (15 percent), irrigation infiltration (39 percent), and bedrock groundwater contributions (46 percent). It provides the sole source of drinking water for more than 13,000 residents relying upon individual and community wells. Many of these wells are less than 70 feet deep and seasonal fluctuations in static water levels have been observed in these shallow wells. Groundwater flow is generally from the margins of the Valley toward Lake Helena where the system discharges its flow.

Water quality analyses indicate that the overall condition of the groundwater is good. None of the sampling for hydrocarbons or pesticides indicated any significant contamination by organic compounds; removal of underground storage tanks continues and sites are remediated and/or monitored. Nitrate analyses (conducted in three studies of the alluvial-fill aquifer) identified several areas where levels were slightly elevated. There appears to be an association between the age and density of septic systems and nitrate levels in areas of shallow groundwater.

In 1995, the City of Helena was granted a significant groundwater reservation in the Valley-fill alluvial aquifer for future municipal water supply. This reservation was based upon deep drilling of the aquifer and the identified potential of substantial amounts of groundwater that hasn't been appropriated. The City's Water Master Plan was updated in 1997. A principal direction of the Plan was to investigate the development of this groundwater reservation. This was determined to be a more cost-efficient option for meeting the projected needs of the municipality. The other principal option was reconstruction of the Missouri River Water Treatment Plant and continued use of surface water. The first phase of this effort has been initiated and test wells have been drilled. The demand projections are based on increased population and some expansion of the City water service area, resulting in a maximum day demand of 18 mgd in year 2020.

The bedrock aquifer systems are complex due to the variety of rock types and the degree of fracture and faulting. In general, groundwater flow is more restricted and the well yields are not as productive as the alluvial aquifer system. Recharge is more dependent upon precipitation and there is a higher potential for over withdrawal of groundwater.

The County is presently cooperating with the U.S. Geological Survey on an evaluation of the bedrock aquifers surrounding the Helena Valley. The Water Quality Protection District is charged with on-going monitoring, research, and public education on the aquifer systems.

Vegetation

Vegetation in the planning area consists of several vegetative classes. Grasslands/rangelands are predominant in the northern, eastern, and western portions of the planning area as well as in pockets throughout the area. Shrub lands are found in foothill areas between grassland and forest vegetation types, and along drainages. Coniferous forest is predominant in the western half of the planning area that includes pine and fir types. Forest (consisting generally of pines) is also present in the Scratchgravel Hills and along the eastern boundary of the area. Riparian vegetation (i.e., influenced by a water body) is found adjacent to many watercourses in the area including Sevenmile Creek, Tenmile Creek, Prickly Pear Creek, Spokane Creek, and Silver Creek. Significant riparian zones exist around and south of Lake Helena. Portions of these zones are influenced by irrigation activities and naturally occurring high groundwater conditions.

Agricultural vegetation types include dry land grain fields and improved pasture, predominant in the eastern part of the area. Irrigated cropland (principally hay) is predominant on the Helena Valley floor, and associated with perennial stream drainages elsewhere in the area.

Wildlife and Habitat

The Helena Valley planning area includes habitat for a broad range of wildlife species. The area is located along the Pacific Flyway, a major flyway for migratory birds, raptors, and waterfowl. It is also associated with the Northern Rocky Mountain ecosystem.

Several ungulate species (i.e., mammals having hoofs) utilize available habitat and are managed as big game species by Montana Fish, Wildlife & Parks (FWP). Whitetail deer are found along the riparian corridors of perennial streams. Mule deer are found throughout the area, and critical winter range for mule deer has been identified near the base of MacDonald Pass. Antelope are found in several parts of the planning area, principally in the southeastern corner, the North Hills area, and the western part of the Scratchgravel Hills. Critical elk winter range has been identified along the Tenmile Creek drainage west of Helena; elk utilize most of the southwest portion of the area. Moose are also found in the western portion of the Area. Mountain goats and mountain sheep are not usually found in the planning area, although they have been observed to the north around the Sleeping Giant formation.

Coyotes may range throughout the planning area but generally do not inhabit the densely developed portions of the area. Fox species can also be found throughout the zone, even in small areas of habitat close to urban development. Grey wolf, an endangered species, has been observed in the western portion of the area, along the Continental Divide; this population is a result of natural expansion of the species into the

region from Canada. Other large mammal species found within the planning area include mountain lion and black bear.

Bald Eagles utilize the Missouri River-Hauser Lake corridor, including the Lake Helena area. Spring migratory bald eagles generally move through the area quickly, while the duration of the fall migration is governed by weather and available food supply. The spawning of kokanee salmon can provide a significant food source and have attracted eagles at the peak period in November. (Total and peak numbers appear to fluctuate with the availability of the salmon). The highest concentrations are usually below Canyon Ferry Dam and Hauser Dam and at the mouths of tributary streams. Eagles may also utilize other water bodies in the planning area. Wintering bald eagles have been observed at Lake Helena. Other raptors are observed within the planning area, including roughed-leg hawks, red-tailed hawks, marsh hawks, ferruginous hawks, golden eagles, and peregrine falcons.

Population and Population Trends

The Helena Valley was relatively agricultural until the 1970s, but has since accommodated the largest percentage of growth in the County. Based upon well log filings and septic system permits, the unincorporated area experienced two significant periods of growth. The last half of the 1970s saw the first real expansion of suburban development into the Valley. This was followed by a period of much slower growth in the 1980s. The first half of the 1990s witnessed a larger expansion that is still continuing at this time

Land Ownership

Lands held in private ownership comprise approximately 66 percent of the Helena Valley planning area. Some of this private land is held in moderate to large size ranches and farms, including Seiben, Running W, McMaster, Diehl, and RV ranches. Numerous ranchettes (5-25 acres) have been established in the areas of Birdseye, Sweeney Creek, Colorado Gulch, the Helena Valley, North Hill, and the Spokane Bench. Smaller private parcels have been created throughout the area but concentrations of higher density development (outside of municipalities) are principally found on the west side of Helena, the west Helena Valley, and the southeast Helena Valley.

Publicly owned lands comprise approximately 31 percent of the land area in this planning area, which constitutes a smaller percentage of public land than is found in the other rural areas of the County. The U.S. Forest Service (Helena National Forest) manages 22 percent of the land area, which is located in the southwest and western portions of the area. These lands are the headwaters of the Tenmile, Sevenmile, and Threemile Creek drainages. Principally located north of the drainage divide with Jefferson County and along the eastern slopes of the Continental Divide, these lands

are generally managed for grazing, timber production, recreation, wildlife, and watershed resources.

The U.S. Bureau of Land Management (Headwaters Resource Area) manages approximately seven percent of the land area, made of several parcels scattered within the planning area. The largest block of BLM ownership is in the Scratchgravel Hills and south of Austin Road in the Birdseye area. Other blocks of ownership are located in the North Hills east of Interstate 15, and in the vicinity of Hauser Lake. BLM lands are generally managed for grazing, timber production, recreation, wildlife, and mineral resources.

The State of Montana oversees about 2.4 percent of the planning area. The State controls a number of parcels scattered throughout the area, some of which are school trust lands. The primary uses of these lands are livestock grazing, wildlife habitat, and recreation. Public lands along the Missouri River corridor, in particular, are primarily managed for public access for water-based recreation activities. The remaining two percent of the area within the planning area is comprised of water bodies.

Area Economy

The Helena Valley, including the City of Helena, is the economic hub of Lewis and Clark County. According to the 2000 data, the County's economy is predominantly based on government and the services industry (see Demographics and Economics chapter for more details). Service and retail industries generally consist of lower wage jobs; whereas, manufacturing generally supports higher wages. High-paying jobs have lagged behind low-paying positions during the last decade, and Montana routinely ranks among the bottom five states in the country in various income indices. Within Montana, however, Lewis and Clark County generally ranks among the leading counties in various income and other economic indices.

Transportation

Interstate 15, the major north-south highway through west central Montana, passes through the center of the Helena Valley planning area and serves as the primary link between Great Falls and Butte. It is functionally classified as an interstate, is part of the National Highway System, and is maintained by the Montana Department of Transportation (MDT). Two interchanges (Capitol and Cedar Street) serve the urban area, and one interchange (Lincoln Road) serves the north part of the area. A fourth interchange (Forestvale) was originally scheduled for construction in the central Valley in 2000, but was (at least temporarily) removed from the current construction list as result of disagreements about its utility. The MDT has contracted with a private vendor to conduct a two-year environmental impact study to recommend appropriate location(s) for interchanges along I-15; an analysis of Forestvale is part of this study.

Highway 12, the major east-west route through the central part of the state, traverses across the southern part of the area and serves as the primary link to Missoula. It is functionally classified as an arterial highway, is part of the National Highway System, and is maintained by the MDT. It is a two-lane highway east of East Helena, and a four-lane highway westward to MacDonald Pass on the Continental Divide.

North Montana Avenue is a north-south arterial road that is the principal conduit for traffic between the City of Helena and the Valley. The Frontage Road (east of the Interstate) is another north-south collector road providing access to the Valley. Both these roads are maintained by the MDT.

Other major collector roads within the Helena Valley planning area include Lincoln Road, York Road, Canyon Ferry Road, Birdseye Road, Green Meadow Drive and Spokane Creek Road. All these roads (with the exception of Birdseye Road) are part of the State Secondary Roads system and are eligible for funding from State and Federal sources. Maintenance responsibility on these routes is divided between MDT and the Lewis and Clark County Public Works Department.

Minor collector roads include Head Lane, McHugh Lane, Applegate Drive, Floweree Drive, Wylie Drive, Valley Drive, Lake Helena Drive, John G. Mine Road, Sierra Road, Forestvale Road, Mill Road and Franklin Mine Road. Some of these road segments have bituminous surfaces and some have gravel surfaces. These roads are all maintained by the County Public Works Department.

Local roads in the planning area range from asphalt surfaced urban sections with curb and gutter to gravel surfaced rural sections with borrow ditches. Maintenance of these roads may be performed through the County Public Works Department, Rural Improvement Districts (administered through the County), private homeowner associations, or in some cases, private individuals.

Lewis and Clark County, the City of Helena, and the MDT developed the Helena Area Transportation Plan Update in 1993. This document provides guidance for addressing the transportation needs of the urban/suburban portion of the planning area. Major improvements within the urban limits are coordinated and prioritized by the Transportation Coordinating Committee, a body representing the City, County, State, and Federal transportation entities and includes local citizen members.

Some recently completed or ongoing major projects within the planning area include the following: the Canyon Ferry Road safety project (between York Road and Prickly Pear Creek east of Helena—now completed); the North Main reconstruction and widening project (between Lyndale Avenue and North Montana Avenue in Helena), the Euclid Avenue overlay project (between Williams Street and Dearborn Street on the westside of Helena), and; on-going work and planning along the I-15 corridor.

The Helena Area Regional Airport is located within the City of Helena in the south-central part of the planning area. Passenger service has been provided by one major airline (Delta) and two regional airlines (Horizon, Sky West); in 2002, however, Northwest Airlines agreed to resume service between Helena and Minneapolis, via Billings. Air passenger and air freight traffic have been steadily increasing for several years. The airport property also contains a National Guard helicopter battalion, a fire training facility, a fire dispatch facility, some federal offices, and facilities for private planes. The airport is governed by the Airport Authority Commission, an autonomous membership appointed by the City of Helena and Lewis and Clark County governing bodies.

Two railroad lines cross the planning area, providing freight services to the Helena area. A major east-west line roughly parallels Highway 12 (but crosses the Continental Divide at the Mullan Tunnel) and is operated by Montana Rail Link. A north-south line extends northward to Great Falls and is operated by Burlington Northern Santa Fe.

Public Facilities and Services

Law Enforcement Law enforcement within the Helena Valley planning area is provided by several agencies. The municipalities of Helena and East Helena maintain their own police forces that respond within those jurisdictions. The Lewis and Clark County Sheriff's Office provides services to the unincorporated portions of the area. The Montana Highway Patrol provides law enforcement on Interstate 15 and U.S. Highway 12.

Game wardens for the Montana Department of Fish, Wildlife and Parks enforce fish, game, and boating regulations, and assist other law enforcement officials as needed. Law enforcement on federal lands is provided by personnel from the U.S. Forest Service, the U.S. Bureau of Land Management, or the US Bureau of Reclamation.

Dispatch of emergency service providers is conducted by the Support Services Division, a cooperative effort between the City of Helena and Lewis and Clark County. A 911 dispatch system serves this area. Law enforcement services are greatly enhanced by the Sheriff's Reserve and volunteer deputies that assist officers. Dispatch of emergency service providers is conducted by the Support Services Division, a cooperative effort between the City of Helena and Lewis and Clark County. Initial planning and preparations are now being conducted to implement an Enhanced 911 program.

The Law Enforcement Center is located in the City of Helena in the south-central part of the planning area. Due to distances across the area, response times can vary depending on the location of patrols at the time of dispatch. Response times are also affected by the number of available patrol officers, substandard road conditions and incomplete posting of road names and addresses in the rural areas.

The expansion of rural-suburban residential development within the planning area over the past 20 years has led to increasing constraints on the provision of law enforcement services. The increasing population results in a proportionate growth in service demand; this demand is compounded by the rural distribution and physical location of residences. The time spent per response has increased, thus reducing the overall level of service in the area.

Increasing the challenge of providing adequate service, property taxes are limited to the amount assessed in the prior year, plus one-half of the average rate of inflation for the prior three years. In order to help address these issues, the voters approved a public safety mill levy for \$1,739,852 in June 2000. The levy is used to ensure that seven officers hired through the Community Oriented Policing Service (COPS) Grant can be retained when the grant funding runs out at the end of Fiscal Year 2003. Additionally, the levy provides funding for the Drug Abuse Resistance Education (D.A.R.E) program, City/County dispatch/911 program, Search and Rescue, records services, and the replacement of obsolete radio and computer systems.

Fire Protection

Fire protection services are provided by several entities in the Helena Valley planning area. The City of Helena has a paid professional fire department that serves the municipal jurisdiction. The City of East Helena has a volunteer force that serves its jurisdiction. The remaining portions of the planning area are served by rural volunteer fire departments, including formal Fire Districts, Fire Service Areas, and Lewis and Clark County. Due to State and Federal ownership in the region, these entities also provide response to wild land fires.

A unique organization of local fire departments is the Lewis and Clark Rural Fire Council. This body provides for inter-jurisdictional communication, coordination of training opportunities, and other activities. The Council also provides a focus for mutual-aid agreements that have been developed between participating fire protection entities. The agreements have proven essential to increasing the level of service provided to the constituents of the area. The mutual-aid structure provides for assistance among fire departments, thus expanding the equipment and personnel resources available to respond to an incident. This mechanism allows for increased utilization of the expensive capital equipment that is necessary for fire protection service and achieves a higher level of service in the planning area than could be achieved by any one fire protection entity.

The Westside Fire Service area is located on the northwest edge of the City of Helena and includes about three square miles. Properties within the service area are presently assessed an annual fee (variable) for services, which are provided by the City of Helena Fire Department under a contractual agreement with the service area.

The Baxendale Fire District provides structural and wild land fire protection to about 91 square miles in the southwest portion of the area. Properties within the District are assessed a tax levy (34.91 mills) for services. The District has one station centrally located at the intersection of Blue Cloud Road and Highway 12 West; it has recently been negotiating for additional ground to expand its station and related facilities.

The Birdseye Fire District provides structural and wildfire protection to about 26 square miles in the northwest portion of the planning area. Properties within the District are assessed a tax levy (9.38 mills) for services. The District has one station centrally located near the intersection of Eagle Ridge Road and the Birdseye Road. In recent years the District has requested voter approval for temporary assessment increases for specific proposes.

The West Helena Valley Fire District provides structural and wildfire protection to about 38 square miles in the west-central portion of the planning area. Properties within the District are presently assessed a tax levy (16.70 mills) for services. The District presently maintains two stations, one near the intersection of Forestvale Road and North Montana Avenue, and the other at the intersection of Valley View Road and North Montana Avenue. Voters approved a tax increase in 1996 to provide funds for construction of a new Valley View Road station to replace the present one; several neighborhoods (about 10 square miles) adjacent to the District are in the process of petitioning for annexation.

The East Valley Fire District provides structural and wildfire protection to the central portion (about 33 square miles) of the planning area. Properties within the District are presently assessed a tax levy (25.36 mills) for services. The District has two stations, and is building a third. Several neighborhoods were recently annexed into the District for fire protection services.

The Lakeside Fire Service Area provides structural and wildfire protection to about 65 square miles of the eastern portion of the planning area. Properties within the service area are presently assessed an annual fee (\$91.20) for services. The service area presently maintains three stations--one near the intersection of Lincoln Road East and Hauser Dam Road, one at Lakeside, and one south of the intersection of Canyon Ferry Road and Spokane Creek Road. Two neighborhoods were recently annexed into the service area for fire protection services.

The Eastgate Fire District provides structural fire protection to a six square mile area in the southeast portion of the planning area. Properties within the District are presently assessed a tax levy (42.56 mills) for services. The District has one station centrally located in the Eastgate Subdivision. Several neighborhoods were recently annexed into the District for fire protection services.

The Fort Harrison Veterans Administration facility maintains a small paid professional fire department that responds to incidents at the VA hospital, while Lewis and Clark

County is responsible for the military reservation. There is current discussion about a cooperative agreement between the Fort and the County relating to coverage on all reservation property.

The Lewis and Clark County Volunteer Fire Department is charged with responding to wild land fires on private lands in those portions of the County not within a formal fire district or service area. The Department has traditionally had limited ability to respond to structural fires due to insufficient equipment and personnel training. The Department houses its equipment at the County Shop complex on Cooney Drive. In 2003, Lewis and Clark County completed the process of forming a County Fire Service Area, encompassing portions of the jurisdiction not previously part of a fire district or service area.

Fire response on rural Federal and State lands is coordinated through the Interagency Fire Dispatch Center, located at the Helena Regional Airport. This is a cooperative effort involving the U.S. Forest Service, U.S. Bureau of Land Management, and the Montana Department of Natural Resources and Conservation. Response may include personnel and equipment from these agencies, as well as the Lewis and Clark County Volunteer Fire Department and the local volunteer fire departments.

The Helena Regional Airport has specially trained personnel and special foaming equipment used in response to aircraft accidents. An aircraft training facility was recently constructed on the airport property. A complete emergency service training center is planned at the facility and is expected to be complete and operational in approximately five years.

In the past 15 years, the Helena area has witnessed a number of wildfires that have destroyed property and affected wildlife habitat, scenic resources, and air quality. The most dramatic of these fires were in the North Hills (1984), and Squaw Gulch (1988), followed by a number of large fires in the area during the summer of 2000 (e.g., Canyon Ferry Complex fires). The Tri-county Fire Group has sponsored public displays, lectures, and workshops on the subject.

A recent product is the creation of fire hazard rating maps, which classify the susceptibility of an area to wildfire hazard based upon slope and vegetative fuel conditions. Most of the Helena Valley planning area has been mapped, with the exception of the western third of the area. High fire hazard areas exist in several places including the South Hills, the Scratchgravel Hills, the North Hills, and the Spokane Hills. Any development in these areas should provide for mitigation measures to reduce the associated risks.

Emergency Medical Services

In 1998 the Board of County Commissioners established a Countywide Ambulance District to address the coordinated provision of such service in the County. The County will authorize an ambulance service provider in the near future. Presently, ambulance service in the Helena Valley planning area is provided from Saint Peter's Hospital and Ambulance Service located on the southeast side of Helena. Due to distances across the area, response times can vary. Response times are also affected by traffic congestion in the vicinity of the hospital, substandard road conditions in some areas, and incomplete posting of road names and addresses in the rural areas.

Emergency medical response is available from most of the local volunteer fire departments. A major component of the West Helena Valley Fire Dept. dispatches are emergency medical response. Other fire companies with the ability to be first responders are Baxendale, East Valley, Lakeside, Eastgate, East Helena, and Helena. These companies can respond and provide emergency medical service on-site, but they are not authorized to transport victims. Due to distance from the hospital and access conditions, such service by the fire companies is essential to improve response time and the associated level of service.

Water Supply

Outside the municipal water service areas of Helena and East Helena, the population of the planning area relies upon groundwater as a drinking water supply. The major source of groundwater in the Helena Valley is the Valley-fill Alluvial Aquifer. Beyond the limits of this aquifer, water supplies are obtained from bedrock aquifer systems, or small alluvial aquifer systems associated with stream courses.

There are more than 50 public or community water facilities located in the planning area. The major facilities are the Cities of Helena and East Helena that serve about 60 percent of the population. Other systems serve the major subdivision areas of Treasure State Acres, Tenmile Creek Estates, Pleasant Valley, Forestvale North and South, Ranchview Estates, Townview Estates, Mountain Heritage, Leisure Village, Homestead Valley, Eastgate Village and La Casa Grande. Several smaller subdivisions and mobile home parks are also served by central systems. These subdivision systems are governed by various local bodies such as homeowner associations, water user associations, or water districts. The MT Department of Environmental Quality has regulatory control over the systems and requires periodic sampling and reporting. The provision of central water systems can provide opportunities for higher density land use patterns. Wellhead protection for these water supplies is also an issue of concern.

Water supply for the lower density suburban and rural development is generally provided by individual on-site wells. Current design standards require minimum well

depths, well production and separations. However, there is no analysis of cumulative effects of development on the quantity or quality of the water supply.

There are several locations in the West Helena Valley where older subdivision development provided for individual wells and/or individual wastewater treatment systems on small lots, where wells are located in a shallow aquifer zone, and where soils have some constraints for treatment of effluent. These locations may have a higher potential for contamination of water supplies from domestic uses; increased nitrate levels have been measured and monitoring continues by the Water Quality Protection District.

The City of Helena utilizes several water resources to supply the daily needs of the community. The principal resources are the Tenmile Creek watershed, Chessman and Scott Reservoirs and the Tenmile Water Treatment Plant (located about eight miles west of the City); this system produces eight mgd, or about 90 percent of the average daily use and 60 percent of the maximum daily use. The other principal resource is the Missouri River, which is used to meet peak demands in the summer. The Missouri River Water Treatment Plant processes four mgd, or about 30 percent of the maximum daily use; however, this facility is in poor condition.

The City of Helena Water Master Plan was updated in 1997. The demand projections are based on increased population and some expansion of the City water service area, resulting in a maximum day demand of 18 mgd in year 2020. A principal direction of this plan was to investigate the development of the City's groundwater reservation of the Helena Valley-fill alluvial aquifer. This was determined to be a more cost-efficient option for meeting the projected needs of the municipality; the other principal option was reconstruction of the Missouri River Water Treatment Plant and continued use of surface water. The first phase of this effort has been initiated and one test well has been drilled.

Other aspects of the Plan include improvements in the distribution system, a water conservation element, and construction of an eastside reservoir that would expand the potential service area on the east side of the community. (It is worth noting that Lewis and Clark County as a whole has a Drought Task Force working on water conservation issues.)

The City of East Helena utilizes two sources of water to meet its needs. A collection gallery located on McClellan Creek (about three miles south of the City) captures surface/groundwater that is piped into the community system. This system meets 100 percent of the average daily demand (0.62 mgd) of the community. A well field located north of the City along Wylie Drive produces groundwater from the Valley-fill alluvial aquifer. This system provides supplemental water to meet the maximum daily demand of 1.43 mgd. The City completed a Water Master Plan in 1995 that identified storage capacity constraints (related to maintaining fire flows) that limit its ability to expand its water service area. The City is currently considering replacement, relocation, and

expansion of its storage facility to meet community needs. The City is also examining options for metering water use.

Sewage Disposal

Wastewater treatment in the planning area is provided by central treatment systems and individual on-site treatment systems. The City of Helena operates a mechanical treatment plant located at the north edge of the City, which treats the municipal wastewater, about 60 percent of the entire area's wastewater. The City of Helena completed expansion and redesign of the wastewater treatment plant in 2001, including the addition of collection distribution capabilities. There are seven lagoon systems located in the Helena Valley that treat about 10 percent of the wastewater generated in the area. The remaining 30 percent of wastewater is treated through individual on-site treatment systems.

Lewis and Clark County adopted the Helena Area Wastewater Treatment Facility Plan in 1998, which addresses wastewater issues in the Helena Valley (this study is adjunct to the City of Helena Wastewater Facility Plan). The Plan recommends continued groundwater monitoring to identify contamination related to wastewater, upgrades or replacement of poorly performing treatment systems (lagoons and individual systems), and development or expansion of central systems (where feasible) to accommodate additional development.

The City of East Helena operates a central collection system and a three-cell aerated lagoon facility located about a quarter mile north of the City. The treatment facility was constructed in 1982, has a design capacity of 0.63 mgd, is in good condition and has a permit for discharge into Prickly Pear Creek. Operational improvements are being pursued.

Fort Harrison formerly operated a two-cell lagoon facility located on Head Lane near Sevenmile Creek. This facility experienced leakage problems, prompting the Fort to investigate other treatment alternatives. Fort Harrison opted to abandon the lagoons, and sewer service is now provided by City sewer lines.

Areas of higher density development served by individual on-site wastewater treatment systems include the following: Forestvale Subdivision, Big Sky Subdivision, Homestead Valley Subdivision, Sunny Lane Subdivision, La Casa Grande Subdivision, Motsiff Road, and portions of the westside of Helena.

Solid Waste

The majority of the Helena Valley planning area is included in Scratchgravel Landfill District. The purpose of the District is to provide for landfill facilities for disposal of solid waste. The District operates a Class 2 landfill located in the northeast Helena Valley. This facility was licensed in 1994 and has an available life of 47 years, based upon projections. The landfill is operated by the County Public Works Department, overseen by the Scratchgravel Solid Waste Board and is governed by the Board of County Commissioners. The landfill also serves as the repository for solid waste for the City of Helena and the City of East Helena, pursuant to inter-local agreements. The landfill is not open to the public.

All local waste received at the landfill is routed through the City of Helena transfer station for the purpose of controlling the deposit of hazardous or other wastes that do not conform with the Class 2 license and to reduce traffic to the landfill. All real property with improvements valued over \$5,000 and all mobile homes within the District are assessed an annual fee. The current assessment is \$81.60/ year for the transfer station and landfill services. A partial fee may be assessed for properties documented as seasonal occupancies; commercial rates are currently under consideration.

The landfill is also permitted to receive regional waste from Broadwater and Jefferson Counties. Currently, only waste from northern Jefferson County is received on a contractual basis.

There is no governmental collection of solid waste outside of the two municipalities in the planning area. Landowners either haul their own waste to the transfer station, or contract with a local collection firm for such service.

Recycling is conducted through a partnership between the City of Helena and Lewis and Clark County. Each ton of waste received at the transfer station is assessed a surcharge to fund a recycling program. Commodities accepted for recycling include aluminum and steel cans, glass, certain plastics, newsprint, magazines, corrugated cardboard, white goods, tires, batteries, waste oil, antifreeze, and yard and wood wastes.

There were 4,116 tons of such materials diverted from the landfill in FY-97, constituting approximately 10 percent of the total waste stream. Most commodities are processed through local private sector recycles. Glass is processed at a local cement company and waste oil is used as heating fuel at the City Shop.

Municipal and County green waste composting has been available since 1994 through a private contractor. Such wastes may be separated at the transfer station and transported to the compost facility near the landfill. The City of Helena will soon issue a request for proposals to address bio composting of green waste and municipal sewage sludge (which is currently land filled).

There is a need for a Class 3 or Class 4 landfill in the planning area. Due to the lack of such a facility, demolition, construction, and other qualifying wastes are disposed of at the Scratchgravel Class 2 site, thereby reducing its capacity and life. Such a facility would also provide a more economical means for disposal of such wastes.

Utilities

Electrical power is generated in the planning area by Pennsylvania Power and Light (PPL). Hauser Dam, located on the Missouri River in the northeast corner of the area, was constructed in 1911. This is a run-of-the-river hydropower facility with a generating capacity of 16.5 MW; flows are governed by operations at Canyon Ferry Dam, which is controlled by the U.S. Bureau of Reclamation. The FERC license (50 years) for the Hauser Dam facility is up for renewal and the Montana Power Company (MPC) applied for a new license, which was approved. PPL has purchased the generating facilities but MPC retained its distribution system, until it was taken over by NorthWestern Energy in 2002. The City of Helena and Lewis and Clark County are investigating the potential for purchase of this and other hydropower facilities on the Missouri River proposed for sale. The electrical demands of the area exceed the available locally generated capacity; additional power resources are imported from BPA and other sources.

Several major transmission lines cross the eastern half of the area. These range from 69-100 KV, and are operated by NorthWestern Energy or Avista. Generally, there are no major capacity constraints in the system; however, some rural locations may have specific distribution constraints. The recent growth in the 1990s and related demand has been accommodated by the system, although extensions for new services can get backlogged at times.

Telephone services in the area are provided by a number of entities. US West (now Qwest) has historically been the principal provider and maintains a network of lines (principally underground). The recent growth in the 1990's and related demand has been accommodated by the system; however, US West/Qwest experienced significant delays in providing extensions for new services. Since deregulation of the industry and advancements in fiber optic and cellular communications technology, other providers are also servicing the area. Several communications towers have been sited in the area, some of which have been controversial due to visual and/or other impacts.

Natural gas is also distributed in the planning area by NorthWestern Energy. The extent of the distribution system is generally confined to the Helena Valley. Some major supply lines and pump stations were installed in the Valley in the 1990s to increase the service area and the capacity of the distribution system.

The Yellowstone Pipeline maintains three major petroleum product transmission lines in the planning area. These are related to the bulk storage facility located at the east edge

of the City of Helena. A rupture and spill occurred in the East Valley in the 1970s, the effects of which have been mitigated.

Education

Until recently, there were four elementary school districts within the planning area: District #1 (Helena), District #2 (Kessler), District #4 (Canyon Creek), and District #9 (East Helena). Due to growing student population and limited expansion, District 2 was annexed into District #1 in July, 2000. Similar circumstances in the 1980s led to the annexation of a suburban school district (#3) into District #1, providing more flexibility in the use of facilities. All the districts are included in the Helena High School District.

As of February, 2002, district #1 had the largest student population (5,079) of all the elementary districts in the County. It serves the majority of the City of Helena and the majority of the Helena Valley. It operates 11 elementary schools, each providing Kindergarten through 5th Grade curricula. Three schools are located in the Helena Valley: Warren School is centrally located in the Valley and has a current census of 274 students; Jim Darcy School is located in the northwest Valley and has a current census of 220 students; Rossiter School is located in the west Valley and has a current census of 485 students.

The District also operates two middle schools, both of which are located in the City of Helena. These schools provide Grades 6th-8th curricula and currently serve 1,741 students.

The Kessler Elementary School (the old District 2) is located on the west edge of the Helena urban area. This facility provides for Kindergarten through 6th Grade curricula, and currently serves 310 students. Students in 7th and 8th Grades attend middle school in District #1 on a tuition basis.

The southern portion of District #4 is located in the northwest corner of the Helena planning area. The District operates the Canyon Creek School that provides K-5 curricula and serves 4 students at this time. The students from the Birdseye area attend classes in either District #2 or #1 on a tuition basis.

District #9 operates two elementary schools and one middle school in the East Helena area. Eastgate School is located in the County and provides K-5th curricula and serves approximately 356 students. The District recently purchased a site east of and adjacent to East Helena and has requested annexation of the site for municipal services. The Helena Valley Middle School was built on that site.

The high school district of District #1 covers the entire planning area; it operates 2 high schools in Helena, which presently provide 9th-12th grade curricula and serve approximately 3,090 students. Each school is undergoing expansion to accommodate anticipated student population.

School transportation is an important factor in the planning area. State statutes require districts to provide transportation for any students located more than three miles from a school facility. This policy was established in the 1920s in an effort to provide equal educational opportunities for agricultural-based students. The suburban land use patterns established in the planning area during the last three decades has created an increased transportation burden. Where local elementary facilities reach capacity, additional students are bused into schools that are below capacity.

Analysis of Existing Land Use

Residential Development Patterns

Over the last ten years, the bulk of residential development in Lewis and Clark County has occurred in the Helena Valley. During the last fourteen years the number of parcels created through subdivision review has increased substantially. In 1986, 94 lots were granted through subdivision review (via either preliminary or final plat approval) in the County. By 2002, that number increased to 685. Variations over the period reflect economic conditions as well as population growth. Additionally, unreviewed land divisions created 2020 lots between 1986 and 1999 (last year data is available). Dramatic variations occurred in several years, due to anticipated legislative changes.

Residential development in the Valley is a mixture of housing styles that includes both manufactured homes and on-site built construction. Most of the development consists of single family dwellings. A majority of the residential lots located outside the City of Helena are served by individual wells and on-site wastewater treatment systems. According to the City-County Environmental Health Department, since the inception of the County Wastewater Treatment Regulations, approximately 5,100 on-site wastewater treatment systems have been permitted and completed within the planning area.

Examination of a population density and parcel density map of the Helena Valley indicates that four areas have experienced the most residential growth outside the City of Helena (see Appendix E for Helena Valley maps). The areas are described as follows:

- The East Valley, bound by York Road on the north, East Helena on the south, Lake Helena Drive on the east, and Prickly Pear Creek on the west.
- The West Valley, bound by Lincoln Road on the north, the City of Helena on the south, US Interstate 15 on the east, and the Scratchgravel Hills on the west.

- The northwest Helena Valley, bound by the Helena Valley Irrigation canal and Silver Creek to the south, Green Meadow Drive on the west, and Lincoln Road on the north.
- Lands adjacent to the City of Helena, particularly those to the north and east of the City limits.

Currently the City of Helena is reconsidering its annexation policy. Except for the annexation of over 50 acres of wholly surrounded area in 2001, the City has not conducted a major annexation of lands outside the city limits for the last ten years. The City has re-examined its annexation policy, and identified the following priorities:

- Enforcing existing policies for annexation with the extension of water and wastewater services.
- The annexation of wholly surrounded areas.
- The annexation of unincorporated properties now served by City water and wastewater services.
- Assessing and promoting annexation of unincorporated fringe areas.

The City and County have cooperatively identified areas outside the city limits that might be suitable for annexation. The East Side of Helena has been one of the areas of particular focus by the City and County. The East Side area being considered is located east of Saddle Drive and I-15, from Custer Avenue/Canyon Ferry Road on the north to the Jefferson County line on the south. Helena's Eastside was selected as an area for potential infrastructure extension for several reasons. First, there appears to be substantial acreage of undeveloped land suitable for urban development. Second, infrastructure needed for urban-scale development is lacking. Third, it appears that it would be cost effective to provide public infrastructure due to the area's access to existing infrastructure systems.

Prior to future development of contiguous areas, the City and the County should jointly identify design standards that would be incorporated into new development.

Commercial Development Patterns

Commercial development within the planning area is primarily concentrated within and adjacent to the City of Helena. The area adjacent to North Montana Avenue has seen the most retail business expansion. These businesses range from the development of large retail facilities, restaurants and banks near the intersection of Montana and Custer, to a grocery store and gas station at the intersection of North Montana and Lincoln Road. There are commercial developments in and adjacent to the City of East Helena. These are primarily small retail and service establishments, which include but are not limited to gas stations/convenience stores, a grocery store, bars, and restaurants.

Employment payrolls are indicative of the existing commercial base the planning area has. According to 1998 data, government accounts for 30 percent of the jobs in the County. The service sector is second, capturing 27 percent, while retail occupies the third position, at 18 percent. The relative stability of the government sector helps cushion the Helena area against rapid declines in employment, but also makes rapid growth less likely during times of expansion.

Helena has seen an expansion in regional health care services, including a new cancer treatment facility at St. Peters Hospital, the construction of retirement complexes, and extended care facilities near the hospital. The fields of finance, insurance and real estate have also experienced modest growth in recent years (source: *Guide to Helena Living & Business, Helena Chamber of Commerce, 2000*).

Industrial Development Patterns

The principal industrial developments within the planning area include the ASARCO smelting facility at East Helena (closed in 2001), the petroleum product bulk storage facility just east of Helena (and related transmission lines), Hauser Dam and hydroelectric facilities, rail lines and switching yard, several gravel quarry operations, and several wastewater treatment facilities.

Parks and Open Spaces

There is a need in the planning area for more parks and open spaces. Currently, Lewis and Clark County holds fee title to 30 sites that were dedicated for use as parks. These 30 sites total 257 acres. Only seven of these sites are maintained. The maintenance is performed by various organizations and neighborhood groups.

The Comprehensive Parks, Recreation and Open Space Plan identifies four roles that the County should pursue. The roles are as follows: Acquire and develop four large multi-use parks in the Helena Valley; assist outlying communities in forming park districts; discontinue the practice of acquiring small neighborhood parks; and act as a grant agency to distribute money to homeowner groups to develop parks. The County is investigating the sale of non-utilized parkland in order to assist in funding the proposed multi-use parks. The County is also considering trading non-useable land or using some of the profits realized from the sale to purchase wetland/riparian areas.

Spring Meadow Lake State Park is the one State-owned park within the planning area. The park is managed by the Department of Fish, Wildlife and Parks (FWP). FWP also manages the Lake Helena Wildlife Management Area along the northwest corner of the lake; this site includes both open space for recreation and high quality wildlife habitat. The United States Bureau of Reclamation operates and maintains the Helena

Regulating Reservoir, which includes a large amount of open space that can be utilized for recreation and wildlife habitat.

Population Growth and Future Land Use Needs

As discussed in more detail in chapter II, the Helena Valley is the primary population center and economic hub for Lewis and Clark County. According to the most recent U.S. Census, the County's population was 55,716 persons in 2000, more than double the population in 1950 (24,540). The rate of population growth in the County—like the Valley--has fluctuated significantly over the years, varying with the economy and other factors, as listed below:

- 1950s: 14 percent increase
- 1960s: 19 percent increase
- 1970s: 29 percent increase
- 1980s: 10 percent increase
- 1990s: 17 percent increase

The last decade represents a rebound from the County's relatively slow population and economic growth during the 1980s, a period of slow growth in the state as a whole. The first half of the 1990s saw a rapid, 11 percent growth in the County's population, while the second five-year period experienced a 6 percent increase. If the growth rate experienced during the 1990s continues in the present decade, Lewis and Clark County will have a population of approximately 65,000 in the year 2010.

Because the Helena Valley represents more than 85 percent of the overall County population, it tends to drive demographic and economic trends in the County as a whole. Increasingly, much of the growth has been in unincorporated portions of the Valley, outside the boundaries of Helena and East Helena. For example, in the five Census Designated Places (CDPs) in the Valley lying outside the municipal boundaries of Helena and East Helena, the population increased from 17,113 to 21,681 between 1990 and 2000, a 27 percent increase. Conversely, the population of Helena—East Helena during this period grew from 26,147 to 27,422, a 5 percent increase.

The Helena Valley has historically been economically stable and employment data bears this out. Between 1980 and 2000, the number of employed individuals in the County's annual average civilian labor force grew from 23,474 to 27,251, an increase of 16 percent. The relative labor force stability in the Helena Valley is partly due to the large number of government jobs in the area, which tend not to fluctuate as much as private sector positions. The largest job category is the service sector, which—when combined with government employment—accounts for more than half the jobs in the County. Employment forecasts suggest that the service and retail trade sectors, in particular, will continue to grow at a robust rate during the next decade in Lewis and Clark County.

If the forecasts for the County are accurate, the Helena Valley Planning Area will likely experience substantial growth in the coming decades. To serve an increasing population, there will be an on-going need for new housing in the greater Helena Valley. The following sections discuss those areas of the Valley with the development and infrastructure levels that will likely make them the most compatible with expanded residential development.

Helena Valley Future Land Use

Future land use in the Helena Valley planning area will be guided by the Future Land Use Plan map and policies contained in this section of the Growth Policy (see Appendix E). The Future Land Use Plan was developed by the Lewis and Clark County Comprehensive Plan Citizens Advisory Group (CAG).

The proposed future land use plan acknowledges some existing development patterns and infrastructure have been committed for development, though they may have some environmental, service, or other constraints. The Future Land Use Plan also reflects the community interest in preserving natural resource values, mitigating environmental issues, preserving public investments in infrastructure, and providing for efficient, cost-effective expansion of the community.

The major facilities plans for the Cities of Helena, East Helena and the unincorporated Helena Valley were instrumental documents in the designation of Transitional Areas where land uses could efficiently utilize existing and planned infrastructure. These plans address wastewater facilities, water supplies, transportation, parks, recreation, and open space.

Other significant documents contributing to the Future Land Use Plan include the following: groundwater aquifer studies, water quality studies, wildlife and winter range mapping, species of special concern mapping, hazards mapping (floodplains, wildfire, seismic, etc.), parcel and land use mapping, agricultural lands information, cultural resource mapping, slope analyses, and public lands mapping.

Principal stream corridors were identified as having multiple community values, including watershed and floodplain management, wildlife and fisheries (and related habitat), recreation, open space, and irrigation supplies.

Urban Areas

Three Urban Areas adjacent to the City of Helena were identified as compatible with planned municipal infrastructure within the next 20 years. Based on the current City of Helena Wastewater Treatment Plan and Water Master Plan, these areas will eventually

be annexed to the City of Helena, and development will need to meet City development standards. It is anticipated that these areas could accommodate high-density development, with an emphasis on infill and a range of uses.

Most of the area within this "Urban" designation was previously included within the Class I Preferred Development Areas of the 1989 County Comprehensive Plan. Possible urban development areas adjacent to East Helena, where its municipal infrastructure could be extended, have not been identified.

East Helena policies on service extension and annexation have been fairly conservative due to deficiencies in infrastructure; however, recent improvements related to its capital facilities plans may alter this policy. It would be important to pursue a specific dialogue with the governing body of East Helena before such areas could be effectively delineated.

Area A: The urban area on the west side of Helena was identified due to anticipated needs for municipal sewer; existing septic systems are reaching the end of their useful life, and availability of suitable on-site treatment areas is limited. One special district is already served by the City wastewater system, the result of threats to public health. Infill residential development could increase density and efficiency of service provision. Steep slopes to the south and west, and the Ten-Mile Creek corridor to the north limit expansion of the area.

City of Helena water supply lines traverse this area and have provided water supply to some development. The street network in this area is well integrated with the City of Helena, due to old plats established prior to incorporation. However, the condition of streets ranges from adequate to poor. In addition, the City of Helena Fire Department currently provides fire protection service to the area on a contractual basis.

Most of the area south of Euclid Avenue is residentially zoned, except for a commercial strip adjacent to Euclid Avenue. Though several undeveloped tracts exist, their efficient development is constrained by limited water supply and wastewater treatment areas. The area north of Euclid Avenue is a mixture of undeveloped tracts, residential development, mobile home parks, and commercial and light-manufacturing uses. It is not zoned at this time. Pursuant to requests from landowners, incremental annexations to the City have occurred over time. This process may inhibit efficient expansion of the municipal infrastructure and has resulted in confusion over jurisdictional boundaries and related service provision.

The designation of the Westside area as an Urban Development Area anticipates the planned extension of central services to address the following issues: public health and safety concerns, deficiencies in service provision, opportunities of existing infrastructure, efficient land utilization, and creation of logical jurisdictional boundaries. Due to existing circumstances, it is anticipated that special provisions for phasing improvements will be necessary.

Area B: The area southeast of Helena (on both sides of the Interstate) is presently used for rangeland and dry land farming, has few environmental constraints, and is within the City of Helena planned service for municipal water and sewer. Residential uses and related commercial and public facilities are anticipated. The City of Helena has laid out a development concept for portions of Area B located south of Highway 12 and east of Interstate 15.

The City of Helena has constructed a water storage tank that will provide adequate supply and pressure for this area, as identified in the Water Master Plan. Future transportation linkages will need to be developed to serve this area. The Wastewater Treatment Facility Plan identifies available capacity to serve this area, with some improvements to the collection system.

Several transportation links are identified in the Transportation Plan, including the eastward extension of Broadway (under I-15) to Highway 12 and a southward extension of Colonial Drive to Montana City. Additional future transportation linkages will need to be delineated, including an I-15 interchange or overpass (Beltview, Saddle) and eastward extensions to Highway 12. As of September 2003, an I-15 study is in the final stages of completion, with a record of decision (ROD) expected in the next few months. The results will identify potential transportation links, funding, and timelines.

The Parks Plan identifies an open space area and trail loop (East Ridge Loop) west of the Interstate and a linear trail corridor (East Ridge-Prickly Pear) extending northeastward to Prickly Pear Creek.

The area south of the Helena Airport and north of Highway 12 is considered to have high value for commercial/light manufacturing and industrial uses due to rail access, highway and air transportation alternatives and existing similar development. The area has some City of Helena infrastructure, including water supply lines, wastewater collection lines, and a stormwater collection system. An arterial linkage between Highway 12 and the Deport area is identified in the Transportation Plan.

The designation of these eastside areas as Urban Development Areas anticipates the planned extension of central services to address the following issues: traffic congestion and safety concerns; opportunities of existing infrastructure and its efficient extension; efficient land utilization in an area with limited environmental constraints; and creation of new mixed-use neighborhoods. Due to existing circumstances, it is anticipated that it

will be necessary to establish special provisions to address rural fire district obligations and to phase in improvements.

Area C: An area north of Helena (within one mile, roughly between I-15 and Green Meadow Drive) was identified as an Urban Development Area due to present development and annexation trends. This area has few environmental constraints, and is within City of Helena planned service areas for water supply and wastewater treatment.

A major wastewater transmission line has been installed in the western portion of this area, and sewer service has been extended to Fort Harrison. The area is located within the Urban limits of the Helena Area Transportation Plan, which identifies several improvements. Future transportation linkages will need to be developed. A major study analyzing potential infrastructure improvements on the West Side was completed in 2002.

The eastern portion of the area is subject to the Noise Influence Area of the Helena Regional Airport. Significant commercial development has occurred along North Montana Avenue, which has been incrementally annexed into the City of Helena. This lot-by-lot extension of services has associated problems of integrating development, and the design and installation of infrastructure. The commercial emphasis has been auto-oriented, contributing to increased traffic congestion. A phased major residential area is planned and additional open land area is available for similar development

The designation of this northside area as an Urban Development area anticipates the planned extension of central services and transportation improvements to address the following issues: traffic congestion and safety concerns, opportunities of existing infrastructure and its efficient extension, efficient land utilizations in an area with limited environmental constraints, integration of individual developments, and the logical extension of jurisdiction boundaries. Due to existing circumstances, it is anticipated that special provisions to address rural fire district obligations will be necessary. It is recognized that this area has become a community/regional commercial area and will continue as such.

Transitional Areas

Three Transitional Areas are identified. These areas contain existing low-density development and community services (schools, parks, fire protection, neighborhood, commercial, etc.) and could accommodate additional infill development.

Public investment would not be focused in these areas in the near term. To support future public investment in utilities and service provision, interim design and service provision strategies would be utilized, until a time when urban level services are

indicated in these areas. Existing utility systems and roadways should be upgraded and expanded where feasible. Future transportation linkages will need to be developed to serve these areas.

Sub-area plans should be prepared for each of the three Transitional Areas to plan for future Valley Centers which could serve many of the daily shopping and service needs of residents within these areas. The anticipated overall development density could average 2-3 housing units to the acre upon buildup.

Area D: This area is located in the West Helena Valley. It has undeveloped areas with potential for infill development, particularly if a decision is made to build the Forestvale Road/I-15 interchange. However, this area is located beyond a reasonable service boundary for the City of Helena within their 20 year planning horizon.

Tenmile Creek is the southern boundary of the area and has been identified as a corridor for flooding, riparian habitat and a linear park/trail system. The north and west boundaries reflect agricultural lands, low-density residential developments (ranchettes), and/or public lands. The east boundary is Interstate 15, beyond, which are principally agricultural, lands.

Some environmental constraints exist in the area (e.g., 100 year floodplain, groundwater quality issues), which will need to be acknowledged. Wastewater treatment alternatives will be the principal factor in determination of build-out density. The alluvial aquifer provides available groundwater for additional development, but its quality needs to be preserved.

North Montana Avenue traverses the area and provides connection to the City of Helena. Safety/capacity improvements for the southern section are scheduled. If the Forestvale Road/I-15 interchange is constructed, additional commercial development is expected in that vicinity. Related traffic generation would require other transportation improvements. The area within the West Valley Fire District, including a new station, is centrally located on Forestvale Road. Rossiter Elementary School is located within the area. Portions of the area are zoned for agricultural, residential, and commercial uses. The Parks, Recreation, and Open Space Plan identifies Sierra Park (at Rossiter School) as a community park site.

The designation of this West Valley area as a Transitional Area recognizes the existing development pattern and anticipates the need for upgrading and extension of infrastructure to accommodate additional infill development. Planning will need to address the following issues: traffic congestion and safety concerns, multiple modes of transportation, opportunities of existing infrastructure, and its efficient extension, efficient land utilization, environmental constraints in the 100 year floodplains, and protection of water quality.

Area E: This area is located in the northwest Helena Valley and is bordered by the major irrigation canal and Silver Creek on the south, and Green Meadow Drive on the west. These boundaries reflect agricultural lands, low-density residential developments (ranchettes) and/or floodplain. The northern limit of this area is approximately one mile north of Lincoln Road and is representative of the boundary between the productive alluvial aquifer to the south and limited bedrock aquifer to the north.

The area principally contains residential development of varying densities. Some non-residential development is also present. A portion of the area is zoned for residential use. The area is within the West Helena Valley Fire District and a station is located in the northeast corner of the area on North Montana Avenue. Jim Darcy Elementary School and a commercial center are located just east of the area on Lincoln Road.

The principal road network has been established, but additional linkages will need to be established to integrate the area and provide for infill development of interior areas. Most of the road network is gravel-surfaced and pavement improvements will be necessary to accommodate additional development.

Water availability is a critical issue in the accommodation of additional development. As long as the alluvial aquifer is recharged by Silver Creek, current irrigation practices, and bedrock sources, adequate supplies should be available to serve additional development. Since water availability is a constraint (as evidenced in part by the appearance of dry wells), additional development to the north must be limited unless or until an alternate water supply is established.

A study is currently under way to analyze the availability of groundwater in this area. Depending on the results, it may no longer be appropriate to designate this area a Transitional Area. A draft Environmental Assessment completed by the Department of Natural Resources and Conservation (DNRC) in response to a petition to establish a controlled groundwater area in the North Hills (which was established in 2002) stated the following:

The amount of groundwater development that can be sustained in the North Hills depends on the properties and boundaries of the bedrock aquifer, the pattern and amount of recharge, and the pattern of groundwater development. Variable and often unpredictable hydrogeologic conditions within the North Hills, in addition to variable well construction, result in considerable differences in depths and yields of wells, often over relatively short distances. The combination of these factors needs to be considered in order to assess the potential for future groundwater development (DNRC, 2002).

Designation of this Northwest Valley as a Transitional Area recognizes the existing development patterns and anticipates the need for upgrading and extension of infrastructure to accommodate additional infill development. Future planning will need to address the following issues: transportation network and road surface conditions; multiple modes of transportation; opportunities of existing infrastructure and its efficient extension; efficient land utilization; protection of the groundwater resources; and establishment of a community park facility.

The Parks, Recreation, and Open Space Plan identifies a community park site for this general area.

Area F: The southeast Helena Valley is bordered by York Road on the north. North of York Road irrigated agricultural lands, possible environmental constraints and natural resource values may limit development potential. The eastern boundary approximates the boundary between rural-residential/suburban development and agricultural lands to the east. The southern boundary is Highway 12 West, south of which lie lands with significant environmental constraints to development related to heavy metals. The western boundary is established by the Prickly Pear Creek corridor and irrigated agricultural lands.

The area is characterized by a range of residential development (urban density, mobile home parks, ranchette density), a small commercial hub (Wylie Drive and Canyon Ferry Road), two gravel resource extraction operations, designated 100-year floodplains, and irrigation facilities. Portions of the area are zoned for residential and ranchette uses, but a majority of the area is not zoned.

The principal road network has been established, but additional linkages would need to be established to integrate the area and provide for infill development of interior areas. Much of the road network is gravel-surfaced and pavement improvements will be necessary to accommodate additional development.

The area is served by East Valley Fire District and Eastgate Fire District. Three stations are spaced within the area. Two elementary schools (Warren and Eastgate) are located within the area. The Parks, Recreation and Open Space Plan identifies two community parks within this general area.

High-density developments are served by central water supply and wastewater treatment system. Moderate and low-density developments are served by individual systems. The alluvial aquifer provides available groundwater for additional development, but its quality needs to be preserved. Elevated levels of nitrate in the groundwater have been identified in the southern portion of the area. There may be a correlation with the concentration of on-site wastewater treatment systems.

The designation of the Southeast Valley area as a Transitional Area recognizes the existing development pattern and anticipates the need for upgrading and extending infrastructure to accommodate additional infill development. Planning will need to address the following issues: transportation network and road surface conditions, multiple modes of transportation, opportunities of existing infrastructure and its efficient extension, efficient land utilization, environmental constraints (e.g., floodplain, metals, water quality, major transmission corridors), protection of groundwater resources, and establishment of a community park facility.

Special Use Areas

Two Special Use Areas--Fort Harrison and the ASARCO Smelting Facility—are identified on the Future Land Use Map (shown in yellow circles). These areas are so unique that they require their own special master plan studies. Analyzing these areas in detail for their development potential is beyond the scope of the Growth Policy update.

Fort Harrison Federal Community: The Fort Harrison Federal Community is located about two miles west of Helena. It serves the National Guard and VA Hospital, and is undergoing significant expansion. It is presently served by municipal water and recently approved for service by municipal sewer. The presence of these infrastructure facilities could influence additional development in the area, however, there are also other natural resource values and physical conditions (e.g., high groundwater, wetlands, floodplain, irrigated agricultural lands, low density zoning, etc.) that need to be considered.

ASARCO Smelting Facility: The ASARCO smelting facility and Superfund site in East Helena has affected environmental quality and land uses in the vicinity. Soils and groundwater contamination will continue to influence the types of land uses that may occur, including possible types of mitigation. The ASARCO plant suspended operations in 2001.

Balance of Helena Valley Planning Area

Development outside of identified Urban and Transitional Areas needs to be self-sufficient, served by on-site wells, individual septic systems, and/or community well and sewer systems that serve individual and/or adjacent subdivisions, and may include private roadways. Development density may be dependent upon the following: the level of service that could be provided by the developer, the environmental constraints identified on the property, and the design standards in place at the time of review.

Effect on Housing Needs

The Preferred Land Use Plan for the Helena Valley would guide housing development to Urban Areas that include neighborhood-focused centers where services are more accessible. Additionally, these centers could eventually be served by public transportation. Housing developed in Urban Areas would be required to meet city standards for roads and service provision, so it could be annexed at some point in the future without deficiencies. While the initial cost for development may be higher than what could be constructed in these areas today, the long term cost of service provision should be less and the overall level of service higher.

Housing development outside of Urban Areas and Transitional Areas would need to be self-sufficient, meaning that it would need to provide and maintain its own private roadway system as needed to access the public roadway network, and would need to provide its own on-site water and sewer system.

Affordable and particularly assisted/subsidized housing will be most feasible in the incorporated cities where higher densities and higher level of service is available. In the unincorporated portions of the Helena Valley, affordable and assisted housing will be most feasible in the Urban Areas and Transitional Areas, where the overall level of service is higher and services, including public transit are feasible. The higher densities permitted in these areas would also be supportive of affordable housing development, and may act as an incentive to the developer (note: see definition of affordable housing in glossary).

Effect on Employment Trends

The adoption of Transitional Areas with their valley centers would provide economic opportunity outside of incorporated areas. The increased residential development in Transitional Areas would, over time, support new retail, commercial, and service business. Increased opportunity in outlying areas may result in a slightly reduced new business potential in the incorporated cities. There could be related positive impacts on the transportation system as people in outlying areas may not need to drive in to the cities for all shopping/service errands, and there will be nearby employment opportunities for those who live outside the city limits.

Effect on Natural Resources

Guiding a greater share of future development into locations where higher density and intensity of land uses is planned for and can be accommodated will leave a larger portion of the rural area with less demand for development and greater retention of natural resource lands. The establishment of the Urban Areas and Transitional Areas took into consideration the location of most valuable natural resources, natural systems, and habitat and then guides development away from these areas; there will be an on-going need to identify and prioritize key resources as development continues.

While the Land Use Plan does not prohibit development outside of Urban Areas and Transitional Areas, it does identify constraints on that development. In addition, clustering provisions may provide another incentive to leave large tracts of land in a natural state or agricultural use while still accommodating some development of these rural lands.

Effects on Agricultural Land

The amount of land being utilized for agriculture in Lewis and Clark County will decrease, as residential development continues. The majority of the growth and development in the County is occurring in the Helena Valley. According to the most recent Montana Census of Agriculture, the amount of acreage in farms in Lewis and Clark County decreased 7 percent between 1992 to 1997, from 883, 479 acres to 822,066 acres. The average farm size in the County decreased 19 percent during the same period, from 2,017 acres to 1,638, while the number of full-time farms actually increased from 207 in 1992 to 211 in 1997. (Source: *USDA, Montana Agricultural Statistics Service, 1997.*)

The loss of agricultural lands has negative and positive aspects. As agricultural lands are developed, agricultural values are not the only thing lost. Farms and ranches provide large amounts of open space and wildlife habitat, and agricultural lands contain wetlands and other habitat types that can reduce runoff and therefore reduce flooding. Residents in agricultural lands typically require fewer services than those who live in residential areas. Thus the conservation of agricultural lands can help to minimize public expenditures on services.

Agricultural lands are attractive for development, because they are relatively free of environmental constraints. In general, agricultural lands are level and conducive to the construction of buildings and roads. Also, agricultural soils are generally suited to establishing on-site water wells and on-site wastewater treatment systems than other types of soils.

Analysis of Facility Impacts

Effect on Ability to Provide Capital Facilities

The overall resources available to provide capital facilities are not greatly affected by the Preferred Land Use Plan for the Helena Valley. Essentially, there is limited capital available in the County budget to provide services to residents of unincorporated Lewis and Clark County. The Land Use Plan does aim to focus the investment of this limited capital in such a way that the greatest potential number of county residents can receive the greatest level of service.

Investment of county capital facility improvements should be coordinated with the City of Helena by identifying projects within Urban Areas, especially transportation infrastructure. The County and the City can coordinate for service extension/provision for these areas that will eventually be annexed into the City of Helena. Depending upon the nature of County investment and time frame for annexation, an inter-local cost-sharing agreement may be necessary. Any refund to the County could then be utilized for needed improvements in other developing areas of the County.

While the initial investment of County resources would be high in the Urban Areas, over time the investment could be diminished as the City eventually took over responsibility for these areas. County capital improvement investment could shift focus within the Helena Valley to the Transitional Areas to support higher density development and particularly the development of mixed use valley centers.

Outlying areas of the Helena Valley would receive little capital improvement investment dollars, as development in these areas is intended to be self-sufficient and pay its own way. The overall effect of focused capital investment would be improved level of service for a greater number of residents who choose to live within the urban areas and transitional areas, and a lower level of service for those who chose to live in the outlying areas. Citizens who own irrigated property are not currently prohibited from developing their land, if their proposals meet subdivision regulations.

Effect on the Transportation System

The Helena Valley transportation network consists of numerous north-south road corridors, such as North Montana Avenue, McHugh Drive, Green Meadow Drive, Applegate Drive, Wylie Drive, Valley Drive, and Lake Helena Drive. These roads traverse large sections of the Valley and allow relatively unrestricted travel north and south. There is a lack of corresponding east-west routes across the Valley; consequently, many of the Valley residents are limited to using the north-south routes for travel purposes. The most heavily used east-west routes are Lincoln Road, York Road and Canyon Ferry Road. There is a compelling need to establish east-west road corridors to facilitate the efficient movement of traffic within the Valley. Interstate 15 is

the major north-south transportation corridor through the Helena Valley, but it is also a major barrier to east-west transportation.

Transportation routes are identified in the Future Land Use map in red. Those shown in solid lines are included in the Helena Area Transportation Plan Update (1993), or are otherwise identified as a project by the Montana Department of Transportation (MDOT). Those shown in dotted lines are conceptual linkages that would improve access to interior land areas or integrate neighborhood street networks.

Future transportation system improvements would be concentrated in the Urban Areas and Transitional Areas as described for capital facilities in the preceding section. Specific new corridor alignments are proposed to serve these developing areas, and funding should be prioritized for these new corridors. Where possible, roadway development in urban areas would need to meet minimum standards for pavement.

Public transportation routes will need to be planned to serve the emerging Transitional Areas, in addition to roadway improvements. Sub-area plans should consider transit stops as part of the design. Transit service would provide alternatives to single occupancy vehicle travel.

Effect on the Provision of Parks and Open Space

Existing and future planned parks and school locations were criteria considered in establishing the location for Transitional Areas. The Comprehensive Parks, Recreation and Open Space Plan identifies four roles that the County should take. Those roles are as follows: to acquire and develop four large multi-use parks in the Helena Valley, assist outlying communities in forming park districts, discontinue the practice of acquiring small neighborhood parks, act as a grant agency to distribute money to homeowner groups to develop parks, and acquire wetland/riparian areas. Each of the Transitional Areas would include at least one of the large multi-use parks. Public investment in these facilities will be in areas that benefit the greatest number of citizens.

A Description of Implementation Options

The following are recommended actions or strategies to implement the Future Land Use Plan for the Helena Valley planning area.

Develop Sub-area Plans for Each of the Transitional Areas

These sub-area plans would identify the mix of land uses anticipated for each Transitional Area, identify preferred park locations (if not already identified in the Parks

Plan), and identify where new Valley Centers could be located. Capital facility and infrastructure needs could be detailed, and improvements prioritized for funding.

Develop Inter-local Agreements with the City of Helena

Inter-local agreements between the City and County would specify roles, responsibilities, appropriate development design standards, and mechanisms for infrastructure funding.

Work with Existing Utility Providers to Plan for Service Expansion in Transitional Areas

During the development of sub-area plans, the County should coordinate with existing utility providers to plan for future service needs, and plan for appropriate development type and density.

Identify and Consider Transportation System Improvements to Serve Transitional Areas

Certain corridor extensions and connections will be necessary to support infill development in Transitional Areas. These improvements should be prioritized for funding and built into future year transportation improvement programs.

Identify Urban Areas Adjacent to the City of East Helena

Urban Areas adjacent to East Helena, where municipal infrastructure could be extended should be identified. East Helena policies on service extension and annexation have been fairly conservative due to current deficiencies in infrastructure. A dialogue with the governing body of East Helena should be pursued to identify areas where development is most feasible and service needs are greatest.

Establish Future Land Use Plan Evaluation and Update Process

A process should be established to regularly review, evaluate, and modify the Future Land Use Plan. Record keeping systems to track new development, infrastructure improvements, identified deficiencies, or future needs will assist in the analysis of proposed changes as well as potentially lead to modifications.

As development pressures spread beyond the Helena Valley planning area, there should be continued dialogue with residents in outlying planning areas so they have a

means to communicate their own development trends and facility needs. At the time of this Comprehensive Plan/Growth Policy update, the Helena Valley Planning Area was the only planning area, which considered developing a Future Land Use Plan and strategies for guiding future development to certain geographic areas. All the planning areas should have a means for planning for Transitional Areas and/or Urban Areas as it becomes necessary or beneficial to do so.

Helena Valley Planning Area Priorities

The following issues were identified through stakeholder interviews, public workshops, and the work of the Lewis and Clark County Comprehensive Plan Citizen's Advisory Group. The focus here is not intended to exclude the broader framework of the County-wide goals and policies. Rather, the intent is to focus the effort of Lewis and Clark County on short-term (e.g., the next five years) priorities that are specific to the Helena Valley, and were developed by people living in the area.

The Helena Valley is facing considerable growth and development pressure. Citizens of the Helena Valley planning area have many separate and interconnected concerns related to land use, transportation, and the natural environment. In the Helena Valley Planning Area, Lewis and Clark County should focus its resources on the action items outlined below:

- A.** Opportunities for urban, suburban, and rural development must be made available, while at the same time assuring that adverse impacts related to this development are minimized. Identifying those areas where growth should occur can help direct the location and design of new development, creating a more cohesive community and minimizing initial and future costs to taxpayers.

Action Items:

Identify areas that may be classified using the following criteria:

- Areas already developing in an urban pattern and that have existing public facilities and service capacities.
- Areas already characterized by an urban pattern that will be served efficiently by public facilities in the near future (five years) should to be designated as Urban Growth Areas.
- Areas that will be served efficiently by public facilities in the five to twenty year period.
- New development should be encouraged to connect to public services whenever practical and provide the future opportunity for connections when not.
- New development should be encouraged to be contiguous to existing development in order to avoid the long-term cost to tax payers of providing services to an inefficient development pattern.

- Encourage subdivision design in the Transitional Areas in a fashion that can be converted to higher densities if urban services become available, including cluster design.

B. Development should be encouraged in areas without environmental constraints.

Action Items

- Allow development in areas that do not have development constraints (e.g., areas with steep slopes, within the 100-year flood plain, critical wildlife corridors, wildlife habitat, ground water quantity and quality), or where constraints can be properly mitigated.

C. Improve the level of service of the existing transportation system, and establish and maintain an efficient transportation network, utilizing a variety of transportation modes.

Action Items

- Develop a prioritized maintenance plan, related to the Transportation Plan, with funding sources identified.
- Support alternatives to single occupancy vehicles.
- Provide for connecting streets among neighborhoods.
- Design a truck route to bypass the City center.
- Develop a plan to address forecasted transportation growth needs.

D. Provide a safe pedestrian and bicycle circulation network in the Helena Valley.

Action Items

- Consider pedestrian/bicycle needs when planning and designing new roads.
- Consider improvement and dedication of bikeways and pedestrian paths through developing areas.
- Provide widened shoulders where possible to accommodate pedestrians/bicycles on existing roadways as appropriate, with a preference for physical separation between motorized and non-motorized traffic.
- Provide widened shoulders where possible to accommodate pedestrians/bicycles on existing roadway, with a preference for physical separation between motorized and non-motorized traffic.
- Encourage mixed-use development that integrates compatible residential, office, and commercial uses to reduce the need for automobile trips.
- Create additional connections between the trails/open space systems in Helena/East Helena and Lewis and Clark County.

E. Encourage the continuation of viable farming and ranching opportunities.

Action Items

- Use the Lewis and Clark County Voluntary Agricultural Land Preservation Program.
- Convene a task force to study ways to manage rural land changes, and to identify ways to preserve irrigated agricultural lands in the Helena Valley.

F. Work to reduce conflicts between agricultural and residential uses.

Action Items

- New residential uses should be required to provide buffers between themselves and conflicting agricultural uses.
- New agricultural uses that conflict with urban development should provide mitigation.
- Educate citizens about the importance of noxious weed management, and the means for eradicating noxious weeds and preventing their spread.
- Enforce existing weed abatement regulations.
- Support educating citizens about the importance of leashing or fencing their pets to keep them away from agricultural/farm land and from other animals.

G. Preserve access to public and recreational lands.

Action Items

- Use the Lewis and Clark County Comprehensive Parks, Recreation, and Open Space Plan to guide the siting of new facilities.
- Identify, protect, maintain, and—when appropriate—acquire rights-of-way providing access to key public and recreational lands, along with potential parking areas.
- Abandonment of public rights-of-ways should be prohibited unless shown to be in the public interest.

H. Protect and improve water quality and quantity of the Helena Valley watersheds.

Action Items

- Implement the recommendations of the Helena Area Wastewater Study (HAWT).
- Review the Helena Area Wastewater Treatment Facility Plan (HAWT); prioritize and implement strategies, as feasible.
- Protect and improve water quality and quantity along Ten Mile Creek.

- Consider extending the water quality district to include the Spokane Bench and Lakeside area.
- Make information about water quality and quantity available, particularly to prospective land buyers.

I. With increasing population growth, the air quality of the Helena Valley is threatened.

Action Items

- Encourage activities that ensure that County and Federal air quality standards are upheld.
- Design and locate new development in ways that minimize additional automobile traffic.
- Encourage the use of alternative cleaner burning fuels.
- Work to mitigate dust from traffic on dirt and gravel roads.
- Develop and implement transportation demand management (TDM) strategies pursuant to the Transportation Development Plan.
- Examine opportunities for transit, car-pooling, and other transportation management strategies.
- Promote an integrated street network.
- Conduct public education on what individuals can do to preserve good air quality.

J. Coordination between adjacent counties, the Cities of Helena and East Helena, and Lewis and Clark County is necessary in order to ensure that mutual land use goals are reached.

Action Items

- Establish an agreement between Lewis and Clark County, Jefferson County, Broadwater County, and the cities of Helena and East Helena for better coordination of land use change and transportation in Transitional Areas.
- Define the areas where city services can logically be extended based upon immediate five-year growth projections and negotiate inter-local agreements with the cities of Helena and East Helena for development review.
- Within the inter-local agreements with the cities of Helena and East Helena, establish common development standards, coordinated land use planning, urban service boundary areas and service area amendment processes.

K. Planning and design can assist in the development of a sense of community in existing settlement and developing areas of the Helena Valley.

Action Items

- Encourage the preservation and protection of existing residential areas and plan future development in a manner, which promotes neighborhood settings and environments.
- Provide land use buffers between residential neighborhoods and incompatible land uses.
- Minimize the encroachment of industrial development on existing residential neighborhoods.
- Design subdivisions, planned residential developments, multifamily units, or other residential projects in a manner that encourages neighborhood environments.
- Provide for integration of individual subdivisions through transportation linkages.
- Encourage the preservation and enhancement of neighborhoods in existing residential areas.
- Plan future development that promotes neighborhood cohesion and pedestrian-friendly environments.
- Encourage mixed-use development that integrates compatible residential, office, and commercial uses to reduce need for automobile trips.

- L. Adequate opportunity for non-residential growth and development in the Helena Valley to meet the needs of a growing population and market place demands.

Action Items

- Encourage commercial and office development to locate in cities and within Transitional Areas whenever possible.
- Encourage commercial development, such as neighborhood commercial services, in areas that are currently under serviced, when adequate market area population is present.
- Encourage mixed-use development that integrates compatible residential, office and commercial uses to reduce need for automobile trips.
- Encourage cluster commercial development over strip commercial development.
- Large commercial and office developments should be encouraged only in areas served by a major street, and where adequate public services can be provided.
- Encourage the development of a commercial/industrial subdivision with all services, including roads, water, sewer, fiber optics, and other services, as required.

M. Ensure that all parts of the Helena Valley have adequate fire protection.

Action Items

- Encourage the annexation of areas served by the Lewis and Clark County Volunteer Fire Department to be annexed into existing fire districts.
- Implement the design plans that are being formulated by the Fire Council.
- Ensure that roads and bridges can accommodate fire trucks.
- Develop a process to attract more volunteers.

N. Lewis and Clark County has sufficient marginal, non-irrigated grazing or non-irrigated croplands to meet the needs for the County's growth and development over the next 10 to 20 years. While the continued existence of the Helena Valley Irrigation District (HVID) appears secure at this point, the development of high density subdivisions adjacent to irrigated farm lands and the facilities of the HVID frequently results in management problems for agricultural operators and the District. Problems that can occur include interference with irrigation ditches and vandalism, harassment of livestock, and the spread of noxious weeds.

Action Items

- Support the public investment in the HVID and preserve its vital role in the County's agricultural economy and as a major source of recharge for the Helena Valley aquifer.
- When considering the proposed subdivision of agricultural lands irrigated by the HVID or adjacent to these irrigated lands, minimize potential land-use conflicts or adverse impacts on the HVID or agricultural lands irrigated by the HVID.
- Adopt development standards to limit development activities in areas with shallow groundwater.

Wolf Creek/Craig Planning Area

Introduction

The development of the Wolf Creek/Craig planning area has been greatly influenced by transportation, the weather, ranching and tenacity of the people who live there (see Appendix F for maps). Prior the arrival of people of European descent, the Indians (predominantly the Blackfoot) followed trails through the area to make their seasonal journeys from the high country in the fall to more protected areas for the winter. Between the 1820s and the 1840s, these Indian trails were used by trappers and traders trying to capture their piece of the flourishing fur trade. These trails would become roads in later years.

The Missouri and the Dearborn Rivers also offered a way of travel into uncharted territory. The Lewis and Clark Expedition traveled the rivers in 1804-05 on their way west. Captain Lewis, on his way back, followed an old Indian trail through what is now called Lewis and Clark Pass and over the mountains. The Mullan Road, which was completed between Fort Benton and Walla Walla in 1863, was opened just in time for the discovery of gold at Last Chance Gulch. The growth of Helena and the surrounding mining camps spurred a need to transport freight and passengers between Fort Benton and Helena. In one three month period in 1888, 700 wagons shipped 600 tons of supplies to Helena. All of the traffic was required to pass through the Dearborn area, until the coming of the railroad.

When the railroads came through the area they brought many railroad employees and many settlers. The railroad also brought with it the ability for the cattle and sheep ranchers, who were already established in the area, to easily ship their livestock to market. Far back before European settlement, the area had vibrated with the hoofbeat of the Indian's livestock: deer, elk, antelope, and buffalo.

Large scale livestock raising was limited in the 1860s due to constant Indian raids and the lack of suitable breeding stock. In the early 1870s, the new settlers of the area began to realize there might be a fortune to be gained (or lost) by raising livestock. About the same time, rich men back east became interested in the livestock business. The Chicago Livestock Company and several other large outfits ranged their cattle in the area.

Cattle, sheep and horses were rapidly increasing in number. They could range freely and at little expense, until the winter of 1886-87. The terrible winter of that year, with its deep snow and sub-zero temperatures, put an end to the open range. From then on, the ranchers had to adjust to barbed wire, closed areas, winter-feeding, the rise and fall of livestock prices, floods, drought and the continued onslaught of homesteaders into the area.

The communities of Wolf Creek and Craig really began to thrive with the coming of the railroads in the late 1880s. Wolf Creek got its name from an Indian legend, which stated that when buffalo were driven over a nearby cliff or Pishkin, a wolf went along for the ride. The Indians called the creek that flowed by the cliff, the creek where the wolf jumped too.

Craig was named after Warren Craig, who staked out his homestead and ran a blacksmith's shop where the town now stands. With the coming of the railroads came the building of additional shops, stores, saloons, hotels and stockyards to the two existing communities. Both communities experienced damage when the Hauser Lake Dam collapsed in April 1908.

The construction of Holter Dam (1916-18) had a very real impact on the economy and growth of both communities. Today, Holter Lake has a storage capacity of 66,500-acre

feet and has become a well-known recreational area. During the summer it offers camping, boating, fishing and water-skiing opportunities, and ice fishing during the winter.

Existing Conditions

Physical Conditions

The Wolf Creek/Craig planning area is located between fifteen and thirty-five miles north of Helena. The Wolf Creek/Craig planning area consists of approximately 630 square miles located in the central portion of Lewis and Clark County, east of the Continental Divide.

The area is bounded by Highway 200 to the northwest, the Cascade County Line to the north and east, the Missouri River and the Gates of the Mountains Wilderness to the southeast (boundary with the Canyon Ferry planning area), the southern end of the Hilger Valley to the south, and the Continental Divide and drainage divides to the west and southwest (boundary with the Canyon Creek and Lincoln planning areas).

Topography

Topography of the planning area varies from low riparian lands along the Missouri River to the high mountains along the Continental Divide. The planning area includes significant open and rolling grass lands punctuated by sharply rising ridges. The Wolf Creek Canyon provides spectacular scenery along Interstate 15 with its narrow breadth and high cliffs.

The southern portion of the planning area includes the Sleeping Giant, a topographical feature that resembles a giant at rest when viewed from the Helena Valley and beyond. A portion of the southeast boundary of the planning area includes the Gates of the Mountains, a feature along the Missouri River described in the Journals of Lewis and Clark. With its 1,100 foot high limestone cliffs and abundant wildlife, the Gates of the Mountains area is a significant tourist and recreational draw.

Climate

Due to topographic variations, climate conditions also vary across the planning area. The Gates of the Mountains Wilderness and the high ridges along the Continental Divide receive 20 to 30 inches of average annual precipitation, the majority as snowfall during the winter. Other portions of the planning area tend to be drier with annual average precipitation of 10 to 12 inches, the majority as rainfall in the spring and occasional summer storms. Winds are generally westerly to northwesterly. The planning area experiences chinook winds associated with the east side of the Rocky Mountains.

Hydrography

The major drainages in the planning area include the Dearborn River, Little Wolf Creek, Lyons Creek, Little Prickly Pear Creek, Stickney Creek and the Missouri River. All of the drainages flow towards the Missouri River, which traverses the planning area in a northeasterly direction. These watercourses are important for agricultural uses, wildlife and recreational uses. A portion of the Wolf Creek town site and many areas along the Missouri River are within a floodplain. Many other creeks may have associated floodplains but have not been mapped.

Vegetation

Vegetation in the planning area consists of four distinct vegetative groups. The vegetative groups are: 1) Grasslands, found in large concentrations in the northeastern half of the planning area along Highway 287 and in pockets throughout the area; 2) Upland shrub, usually found uphill from areas of grassland vegetation; 3) Riparian vegetation, found adjacent to water courses in the area including the Missouri River, Dearborn River, Little Wolf Creek, Lyons Creek and Little Prickly Pear Creek; and 4) Coniferous forest which is largely found in the western half of the planning area and the Beartooth Game management area.

Wildlife and Habitat

The Wolf Creek/Craig planning area provides habitat for a broad range of wildlife species. Whitetail and mule deer are found throughout the planning area. Elk are distributed primarily west of County Route 434 and on the east side of the Missouri River. Smaller concentrations are located north of Craig. Antelope are widely distributed throughout the planning area with concentrations north and west of the Missouri River in the grasslands along Highway 287 and County Route 434. Critical elk winter range have been identified in the Beartooth Game Range, the south facing hills west of the Sieben Road and several pockets spread throughout the area. Mountain goats and big-horn sheep can be found along the cliffs in the Gates of the Mountain area that form part of the southeast border of the planning area and the Sleeping Giant Wilderness Study Area. Mountain lion, black bear, coyote and fox can also be found throughout the planning area. Avian species include a large number of resident and migratory species. Bald Eagles may often be spotted along the Missouri River-Holter Lakes corridor.

Population and Population Trends

The population of the area has increased slightly in the 1990s. These population increases are largely due to development of year-round occupancies on 20+ acre tracts in the vicinity of Little Wolf Creek, Stickney Creek and Rogers Pass. Second home and recreational home development along Holter Lake and the Missouri River is also increasing and contributes to seasonal demands for County Services. Because the area is attractive for year-round living due to the recreational amenities and rural lifestyle, additional development in the area can be expected.

Land Ownership

Lands held in private ownership comprise approximately 73 percent of the planning area. Most of this private land is held in large ranches. Numerous small private parcels line the Missouri River and Holter Lake and provide for a mixture of housing types including seasonal and year-round residency. The town sites of Wolf Creek/Craig provide concentrations of small private parcels with a mixture of residential and commercial development.

Public Land, comprising approximately 26 percent of the land area, constitutes a smaller portion of land in the Wolf Creek/Craig planning area than is found in the other rural areas of the County. The U.S. Forest Service manages several sections of land in the Rogers Pass area along the eastern slopes of the Continental Divide. These lands are generally managed for grazing and timber production. The Bureau of Land Management manages a few parcels in the Hilger Valley, along Holter Lake and the Sleeping Giant Wilderness study area.

The State of Montana is the largest public landowner in the planning area. The State controls a number of school trust lands, various parcels along the Missouri River and the Beartooth Game Range. The primary uses of these lands are cattle grazing and wildlife habitat. Public lands along the Missouri River are primarily managed for public access for water recreation activities.

The remaining one percent of the area within the planning area is comprised of water bodies.

Area Economy

Cattle ranching has traditionally served as the economic base for the Wolf Creek/Craig planning area. The portion of the planning area west and northwest of Interstate 15 is comprised almost entirely of large cattle ranches. Recreational activities provide a significant economic base and several guide and outfitter services are located in the Wolf Creek and Craig areas. The planning area includes the Missouri River, which is world renown for trout fishing. Holter Lake provides numerous recreational activities and attracts summer home residents.

Transportation

Interstate 15, the major north-south route through west central Montana, serves as the primary commuter link for Wolf Creek-Craig residents working in Helena and Great Falls. The Recreation Road, which travels along the Missouri River and the Little Prickly Pear Creek through the Wolf Creek Canyon, serves as a recreation, and farm and ranch access road.

U.S. 287, which intersects I-15 two miles north of Wolf Creek, is a popular route for vacationers traveling to Glacier National Park. This road, which runs through Augusta, also provides access to ranches in the Dearborn River area of this planning area. County Road 434 connects Wolf Creek to State Highway 200 and Augusta. County Route 434 also provides access to numerous ranching operations.

The Beartooth Road serves residences and recreational activities along the eastern shore of Holter Lake. The first 6.5 miles of the road were chip-sealed in 1994 through a cooperative effort between the County, the State of Montana, the U.S. Department of the Interior, and area landowners. A Rural Improvement District was created to help fund improvement and maintenance costs of the road. The Beartooth Road extends approximately 8.5 miles south of the Recreation Road before entering the Beartooth Game Management area.

Table 3.5 identifies roads within the planning area, which are maintained by Lewis and Clark County or some other government agency. The level of maintenance for each road is determined by the entity providing the maintenance and may range from annual grading and repair to little or no maintenance activity.

Table 3.5
Publicly Maintained Roads in the Wolf Creek/Craig Planning Area

ROAD NAME	MAINTENANCE RESPONSIBILITY	ROAD CLASS.	ROAD SURFACE
Interstate 15	State of Montana	Interstate HW	chip-sealed
Highway 287	State of Montana	arterial	chip-sealed
Highway 434	Lewis and Clark County	arterial	chip-sealed.
Allen Gulch Road	Lewis and Clark County	local access	gravel
Beartooth Road	Lewis and Clark County, BLM, U.S. Forest Service	local access/recreation	chip- seal/gravel
Benton Fork Road	Lewis and Clark County	local access	gravel
Craig Frontage Road	State of Montana	Local access	asphalt
Craig River Road	Lewis and Clark County	local access	gravel
Deadman Coulee Road	Lewis and Clark County	local access	gravel
Little Wolf Creek	Lewis and Clark County	local access	gravel
Lyons Creek	Lewis and Clark County	local access	gravel
Ox Bow Road	Lewis and Clark County	local access	gravel
Recreation Road	State of Montana	minor collector	chip-sealed
Rock Creek Loop Road	Lewis and Clark County	local access	gravel
Seven Mile Road	Lewis and Clark County	local access	gravel
Sieben Canyon Road	Lewis and Clark County	local access	gravel
Woods Creek Road	Lewis and Clark County	local access	gravel

In the spring and summer of 1997, the County Public Works Department and their consulting engineer conducted an inventory of all bridges and culverts greater than five (5) feet in diameter located on County roads. Structures on Lyons Creek were identified as being in critical condition, but were repaired in 1998 due to subsequent failure of the structures.

PUBLIC FACILITIES AND SERVICES

Law Enforcement

Law enforcement within the Wolf Creek/Craig planning area is a cooperative effort of three agencies: the Lewis and Clark County Sheriff's Department, who has primary responsibility; the Montana Highway Patrol, which is responsible for law enforcement on Interstate 15 and U.S. Highways 287 and 200; and Montana Department of Fish, Wildlife and Parks (FWP) game wardens, whose primary responsibility is to enforce fish, game, and boating regulations, and to assist other law enforcement officials as needed.

Due to distances across the planning area, response times can be lengthy. The large influx of second home residents and recreationalists along the Missouri River-Holter Lake Corridor greatly increases service demands in this area, without significantly contributing to the funding necessary to ensure those services. Substandard roads and lack of posted addresses often hamper response times for emergency service personnel.

Fire Protection and Emergency Medical Services

Structural fire protection within the planning area is provided by the Wolf Creek and Craig Volunteer Fire Departments. Each of these volunteer fire departments is a part of the Wolf Creek-Craig fire service area. The fire service area is funded by a \$55.00 assessment based upon each Assessor's Office Code Number. Volunteers for each of the volunteer fire departments are contacted by the County's Sheriff's Office and have a paging system in case of fire. A small portion of the planning area is served by the Dearborn fire service area, a cooperative effort with Cascade County. Volunteer Fire Departments are located in the town sites of Wolf Creek/Craig.

The southern portion of the planning District (the Hilger Valley) is not within a fire service area or fire district. Fire protection services to this portion of the planning area are provided by the Lewis and Clark County Volunteer Fire Department. Due to distance, response times are lengthy. Because there is little development, demand for services in the Hilger Valley is quite low. Members of the local fire departments participate in the Rural Fire Council.

Ambulance service to the planning area is provided from Helena or Great Falls, located 35 to 45 miles away. Due to distance, response times are lengthy.

Wild land fire protection is a cooperative effort consisting of personnel from the U.S. Forest Service, Department of State Lands, Bureau of Land Management, the Lewis and Clark Volunteer Fire Department, and the local volunteer fire departments.

Water Supply and Sewage Disposal

There are no public sewer or water facilities located in the planning area. Wastewater treatment is generally provided by individual on-site septic systems. Water is generally provided by on-site wells.

Solid Waste

The Wolf Creek/Craig planning area is not included in any solid waste district. Parcels are not taxed for solid waste services and no access to County facilities is provided. Waste Management Inc., a private company in Great Falls provides collection services on a fee basis in this area. Some area residents purchase permits from Cascade County in order to use the Hardy Creek container site located in that County. A few residents purchase permits from the Scratch Gravel Landfill District in order to use the Marysville container site or the Helena Transfer Station. Residents have resisted attempts to include the Area in the Scratch Gravel Solid Waste District.

Utilities

Electrical power is provided in the planning area by the North Western Energy. Telephone service is provided by Qwest. Natural Gas is not available in the planning area.

Education

Wolf Creek and Craig maintain their own elementary school districts within the planning area. Both Districts are included in the Helena High School District, but many high school students attend high school in the Town of Cascade. Average enrollment in the elementary schools is approximately 20 students for each school.

Analysis of Existing Land Use

Residential Development Patterns

The town sites of Wolf Creek and Craig create concentrations of residential development in a mixture of housing styles from mobile homes to site-built construction. Most residential development consists of single-family dwellings. The town sites of Wolf Creek and Craig include approximately 30 and 45 single-family residences respectively. Outside of the town sites, residential development tends to be rural in nature. With the exception of the Missouri River Corridor, residences tend to be spread out among the numerous ranches that comprise the bulk of the planning area.

The Missouri River Corridor north of Holter Dam includes approximately 70 single-family residences, almost all north of Craig. Approximately 55 of those dwellings are located in two concentrations near the Cascade County line. Smaller concentrations of development can be found in the Lyons Creek drainage south of Wolf Creek and on the Missouri River Tracts, the former Pollack Ranch, east of Craig. Second home and recreational home development concentrations are located along the Missouri River-Holter Lake Corridor including both seasonal and year-round residences.

The eastern shore of Holter Lake continues to see additional development of both seasonal and year-round residences. A windshield survey conducted along the Beartooth Road indicated approximately 65 permanent single-family dwellings and approximately 20 parcels with permanent recreational vehicles parked on them. Two private RV parks also contained numerous RVs that appear to be left year-round. Though many of the RVs appear to be left on parcels or in spaces year-round, most appear to be used solely for seasonal occupancy.

During the 1990s, residential subdivision activities have been limited primarily to the Missouri River-Holter Lake corridor. Conflicts between residential development and recreational users along the Missouri River-Holter Lake corridor may increase as development continues.

Numerous parcels, most greater than 20 acres in size, created through exemptions in the subdivision and platting act have seen significant development during the 1990s. Development of these parcels has occurred in concentrations along Stickney Creek, Little Wolf Creek, and Lyons Creek. Conflicts have arisen in many of these areas due to poor access, lack of utilities and problems with water availability.

Commercial and Industrial Development Pattern

Commercial development within the planning area is primarily limited to the town sites of Wolf Creek, Craig, and the Holter Lake area. Wolf Creek includes two restaurants/bars, two motels, a laundromat, an auto repair shop, a hardware store, a gas/convenience store, and several recreational outfitters and guide services.

Commercial services at Holter Lake include two private marinas, a bar/restaurant, a lodge, and a seasonal convenience store. There are also two public campgrounds, one public boat launch, and one public marina.

Commercial development in Craig includes one convenience store, two bar/restaurants, and two recreational outfitters and guide services.

The rural portion of the planning area includes bed and breakfast operations as well as recreational outfitters and guide services. The planning area does not include any full-service grocery stores or other retail stores. Residents must travel to Helena or Great Falls for traditional commercial amenities found in larger towns.

Public or Governmental Uses

Public lands in the planning area are primarily used for grazing, wildlife habitat, hunting, and recreation.

Parks and Open Spaces

The planning area does not contain any County owned park facilities. The State of Montana maintains several waysides, fishing access sites, and campgrounds that primarily serve the recreational needs of travelers along the Recreation Road and fishing and boating activities on the Missouri River-Holter Lake Corridor.

The Lewis and Clark County Voluntary Agricultural Land Conservation Program identifies significant open space and recreational values within the planning area. Recreational values are primarily associated with river corridors including the Missouri River-Holter Lake area, Little Prickly Pear Creek, Little Wolf Creek, and the Dearborn River. High Quality Scenic Areas as identified in the Program include the Wolf Creek Canyon along the Recreation Road and Interstate 15, and along the Missouri River-Holter Lake corridor. Highway 287, the Recreation Road, and Interstate 15 provide travelers with outstanding views of the rural open spaces. The relative lack of billboard advertising and other road signs enhances the roadway corridors. The large expanses of open ranch lands contribute to the unique open space nature of the planning area.

Public campground, recreational and fishing access areas in the Wolf Creek/Craig planning area include Holter Lake, Coulter, Departure Point, Lodgepole, Meriweather, Stickney Creek, and many others.

The Missouri-Madison Comprehensive Recreation Management Plan prepared in 1996 for Montana Power as part of the Federal Energy Regulatory Commission's relicensing process for hydropower generating rights within the corridor. This Recreation Management Plan provides a framework for an ongoing and dynamic decision-making process to determine future needs, establish goals and objectives, develop facilities, and supplement annual operation and maintenance needs for the recreation resources. The plan indicates that nearly 50 percent of surveyed visitors to the Holter Lake-Missouri River corridor within the Wolf Creek/Craig planning area felt that additional facilities or services were needed, most often citing the need for better RV facilities. The Recreation Plan states that during peak periods, conflicts occur between users, particularly at the developed facilities on Hauser and Holter Lakes. Surveyed visitors cited conflicts between jet skiers, powerboats and shoreline development.

Agricultural Uses

Agricultural operations continue to dominate the landscape and economic base of the Wolf Creek/Craig planning area. Cattle ranching make up the bulk of the agricultural uses.

Population Growth and Future Land Use Needs

The absence of job opportunities and distance from commercial amenities has served to discourage new persons from moving into the area. Population increases are generally due to development of existing 20+ acre parcels. Seasonal population increases can be attributed to additional second home and recreational home development along the Missouri River-Holter Lake corridor. Topographical constraints, high groundwater and floodplain in the Wolf Creek town site severely restrict the town site's ability to expand. Development pressures in the Missouri River-Holter Lake corridor can be expected to increase which in turn creates more demand for public services.

Wolf Creek/Craig Planning Area Priorities

The following issues were identified through stakeholder interviews, public workshops, and the work of the Lewis and Clark County Comprehensive Plan Citizen's Advisory Group (see Appendix F for maps). The focus here is not intended to exclude the broader framework of the County-wide goals and policies. Rather, the intent is to focus the effort of Lewis and Clark County on short-term (e.g., the next five years) priorities

that are specific to the Wolf Creek/Craig planning area, and were developed by people living in the area.

Citizens of the Wolf Creek/Craig planning area feel that the issues that need to be addressed are a continued and increased focus on the provision of basic services, the preservation of agricultural lands and open space and the development of tourism. In the one to five-year periods, Lewis and Clark County should focus on the following planning priorities in the Wolf Creek/Craig planning:

A. Improve maintenance of County roads throughout the years.

Action Items

- Develop a prioritized maintenance plan connected to specific funding sources.
- Lyons Creek and Little Wolf Creek Roads need improved maintenance.
- The Seven Mile Road between Craig and Highway 287 needs improved maintenance.
Monitor the traffic safety issues at Bowman's Corner.
- Explore options for road improvement and maintenance in the Wolf Creek area.

B. Preserve and protect agricultural lands.

Action Items

- Identify prime agricultural lands in the Wolf Creek/Craig planning area and determine which lands should be preserved over the long term.
- Support identification of prime agricultural lands in the Wolf Creek/Craig planning area and determine which lands should be preserved over the long term.
- New residential uses should be required to provide buffers between themselves and conflicting agricultural uses.
New agricultural uses that conflict with existing development should provide mitigation.

C. Control and, wherever possible, eradicate noxious weeds.

Action Items

- Educate citizens about the importance of noxious weed management and means to eradicate the spread of infestation of noxious weeds.
- Work to enforce existing weed abatement regulations.

D. Ensure that all parts of the Wolf Creek/Craig area have adequate fire and law enforcement protection.

Action Items

- Ensure that roads and bridges can accommodate fire trucks.
- Work with the Lewis and Clark County Sheriff's Office to ensure that the Wolf Creek/Craig planning area has adequate police protection.
- Develop a process to attract more volunteers.
- Develop a joint purchase agreement for new equipment.
- Work to ensure that all residences and roads are clearly marked and addressed in rural areas.

E. Increase the emphasis placed on tourism development in the area.

Action Items

- Coordinate with the County's economic development effort to ensure that tourism development is a high priority.

F. Maintain the integrity of the Missouri River corridor.

Action Items

- Work cooperatively with local watershed groups, conservation districts, private landowners, and other entities involved with Missouri River issues.

Lincoln Planning Area

The Lincoln Sub-area Plan is being rewritten as part of a separate process, and will be adopted as part of the Lewis and Clark County Growth Policy. The Lincoln Sub-area Plan is incorporated by reference as part of this Growth Policy.

Information regarding the Lincoln Sub-area is contained in the adopted Lincoln Planning Area Comprehensive Plan/Growth Policy and can be obtained by contacting the Lewis and Clark County Development office at (406) 447-8373.

County-wide Land Use Issues, Goals and Policies

Introduction/Purposes

It is generally understood that land, and the various uses put to it, is what drives our economy. We grow food with land, harvest trees from it, recreate on it, and build our homes and businesses on it. How land is used is a chief ingredient in our community character. But what goes largely unnoticed is that growth and land development--when not managed or planned thoughtfully--may carry significant costs affecting not only a

developer or builder, but surrounding land users, the broader community, and the natural and cultural environment.

Additionally, once land is developed, an on-going financial responsibility results for the entire taxpaying public. Roads, water and sewer systems, police and fire protection and other services all have costs which must be considered when designating land for development. Since public and private fiscal resources are limited, it only makes sense to think carefully about the long-term effects of our land use decisions. With careful planning, the substantial investment which is often necessary to serve land is better secured and protected.

Defining how our various lands can and should be used provides predictability for individuals and businesses making long-term decisions. More importantly, the public costs associated with serving these lands can be minimized, and the qualities that make many of them unique preserved. Furthermore, public costs associated with serving these lands can be minimized, and the qualities that make many of them unique preserved.

Public comments reflected a recurring concern throughout the process of developing the County Growth Policy regarding a lack of land use predictability. Many commented they feel they have no say in the land use changes going on around them. In recent years, the subdivision process has generated on-going conflict over proposed changes in land uses and densities: Examples include low density neighborhoods versus high density residential development, farmers and ranchers opposing residential subdivisions near their operations, and homeowners resisting commercial or industrial development in or near their residential neighborhoods.

Property owners are often surprised that subdivision regulations provide little or no protection against what they see as the intrusion of incompatible land uses into their neighborhoods. Likewise, developers are frustrated that there appears to be so little consensus on the types of development that are appropriate or acceptable for areas of the county.

Nationally, and under Montana law, the appropriate legal tool for determining appropriate land uses for areas of the community and for regulating changes in land use is zoning. Zoning was developed approximately a hundred years ago to protect residential areas and property values from negative impacts from uses considered undesirable or incompatible. Since its origins, zoning has evolved into a more flexible tool that can be tailored to achieve particular goals. For example, it can be used not only in its traditional role of demarcating general types of land use zones, but it can also identify uses that would be acceptable only if they meet certain conditions. Zoning can be used to establish general performance standards for various types of development, or overall density of development, with or without specifying particular land uses for geographic areas. It can also be used to help preserve open space or prime agricultural land.

Residents of several areas of Lewis and Clark County have asked for the County's assistance in developing zoning regulations to provide them protection from types of development they see as incompatible or inappropriate for their neighborhoods. A related concern regarding "predictability" has been raised by both developers and homeowners. The desire is that the County provide better guidance on where future growth should or should not be directed (e.g., which areas of the County are most suitable for development as well as least suitable due to issues such as water quality and availability, soils, earthquake or liquefaction prone areas, floodplains, seasonal high groundwater, and wildland urban-interface areas.) Many commented that areas with development constraints should be more clearly mapped or otherwise identified so that developers and prospective homebuilders or homebuyers know where the problem areas are and avoid them.

Issues, Goals, and Policies

ISSUE A **Development is affecting the rural character of Lewis and Clark County.**

Goal 1 Maintain the opportunity for a rural lifestyle.

Policy 1.1 Encourage low-density residential, agricultural, and forestry-related rural development outside the urban and transitional areas.

Policy 1.2 Level of Service/Design Standards shall reflect the goals and policies of the Growth Policy.

Goal 2 Support the continuation of farming and ranching operations.

Policy 2.1 Establish review procedures for land uses that may be especially sensitive to locations near existing agricultural activities (e.g., schools, day care facilities, hospitals, medical clinics, outdoor recreational facilities, etc.).

Policy 2.2 When considering the proposed subdivision of agricultural lands, minimize potential land use conflicts or adverse impacts that may be detrimental to adjacent agricultural operations.

Policy 2.3 Guide appropriate growth to less productive agricultural lands or nonproductive lands that are suitable for development.

Policy 2.4 Evaluate rural, agricultural, or open space zoning as a tool for limiting non-agricultural development to densities and development patterns that are consistent with the continuation of agriculture, and the desires of the affected planning areas or neighborhoods.

- Policy 2.5** Encourage the purchase of conservation easements by private non-profit land trusts or other entities to retain agricultural lands in production.
- Policy 2.6** Encourage in-fill development of urban and transitional areas already committed to development, where community facilities and services can be provided cost effectively in order to reduce development pressure on agricultural lands.
- Policy 2.7** Support federal or state agricultural policies that help maintain the viability of agriculture.
- Policy 2.8** Encourage agricultural land owners considering land subdivision to develop the least agriculturally viable portion of their properties, such as grazing land or non-irrigated cropland.
- Policy 2.9** Create incentives for cluster development where the majority of the land would remain undeveloped and in agricultural production.
- Policy 2.10** Convene a task force to study ways to effectively retain agricultural lands in production and provide landowners options for a reasonable financial return.
- ISSUE B** **Some property owners perceive they have no control over the quality and character of development occurring around them. Some developers believe there is no predictability or community consensus on where development should take place, or the types of development that are appropriate.**
- Goal 3** Provide more predictability for property owners and the development community regarding appropriate changes in land use by directing growth to areas most suitable for development, and by developing standards that allow county residents to more effectively manage change within the affected planning area.
- Policy 3.1** Inform developers and prospective homebuilders or homebuyers (through maps or other means) about areas of the county that are most suitable for development and those which are least suitable because of development constraints.
- Policy 3.2** Guide growth to urban and transitional lands or nonproductive lands that are suitable for development.
- Policy 3.3** Adopt minimum countywide development standards to address general land use concerns (e.g., compatibility with adjacent land uses, site

suitability, access and traffic generation, road construction, lighting or noise, etc.).

- Policy 3.4** Assist interested planning areas or neighborhoods in developing appropriate development standards or zoning regulations consistent with local objectives. Establish minimum requirements for neighborhood plans that can be used as templates.