Section 1

CITIZEN INVOLVEMENT

1.1 PURPOSE AND SCOPE

In accordance with the provisions of Oregon Revised Statutes (ORS) Chapters 92, 197, 227, and 696, this ordinance sets forth the standards and procedures governing the development and use of land, and the interrelated functional and natural systems and activities relating to the use of land, in the City. Furthermore, the purpose of this ordinance shall be to promote the general health, safety, and welfare of the public, by providing for:

A. Opportunities for citizens to be involved in all phases of the community planning process;

B. A land-use planning process and policies which serves as a framework for all decisions and actions related to use of land; and an adequate factual basis for such decisions and actions;

C. Preservation and maintenance of lands used for livestock purposes;

D. Recognition of the economic values of forest lands;

E. Conservation of open space, and protection of natural and scenic resources;

F. Maintenance and improvement of the quality of the air, water, and land resources of the community;

G. Protection of life and property from natural disasters and hazards;

H. Satisfaction of the recreational needs of the community's citizens and its visitors;

I. Diversification and improvement of the economy of the community;

J. Provision for the housing needs of the citizens of the community;

K. Planning and development of a timely, orderly, and efficient arrangement of public facilities and services;

L. Provision and encouragement of a safe, convenient, and economic transportation system;

M. Conservation of energy, and development of renewable energy resources; and

N. Provision for an orderly and efficient transition from rural to urban land-use in areas surrounding the community.

1.2 CITIZEN INVOLVEMENT

The Planning Commission is designated as the Committee for Citizen Involvement for purposes of ORS 197, with the responsibility of assuring citizen participation by means of a citizens involvement program.

Through the use of the local newspaper (Burns Times Herald), the local radio station (KZZR), and public meetings, the opportunity shall be provided for citizen involvement in all phases of the community planning process. Should special areas of concern arise, the Commission shall seek to involve those persons that demonstrate an interest in the area of concern through temporary citizens advisory committees. The members of such committees will be selected through open, well-publicized processes. In addition to the methods mentioned above, two-way communication shall be encouraged by any means the citizens of Burns and the decision-making bodies of the City deem appropriate.

Citizen involvement and input shall be encouraged during data collection, plan preparation, adoption, implementation, evaluation, and revision. The technical information used in the development of the ordinance is available upon request by citizens at several locations in the community, including the Burns City Hall, County Courthouse, Harney County Library, Burns Chamber of Commerce and the Harney County Extension Service. The technical information is available to citizens for interpretation and correction, if appropriate.

A key element of the citizen involvement program is the opportunity for the Commission and Council to offer "feedback" to the community as a result of recommendations and citizen input at work shops and public hearings. The minutes of the Commission and Council meetings are published in the local newspaper and are available at City Hall.

As the need arises, periodic requests may be made to the Council for funds to insure the implementation of the citizen involvement program, through support services such as meeting room arrangements, secretarial support, postage, and

general notification.

To assure proper implementation of the citizens involvement program, the Commission shall annually conduct a public hearing to evaluate the citizen involvement program. All interested citizen comments shall be incorporated in such evaluations and shall be sent to the Council for consideration and any necessary amendments to the program and/or this ordinance.

1.3 AGENCY COORDINATION

In addition to assuring opportunities for citizens to be involved in all phases of the community planning process, the City, through the Commission, shall also assure that all agencies affected by this ordinance and the City's future development be given notice and opportunity to participate in community planning processes, and the implementation and revision of this ordinance. The agencies which the City has determined may be affected are listed in Table 1.1.

Table 1.1
AGENCY COORDINATION LIST

Burns Paiute Reservation
100 Pa-Si-Go Street
Burns, OR 97720

Burns High School
1100 Oregon Avenue
Burns, OR 97720

Burns Hines School Superintendent
550 N. Court
Burns, OR 97720

U.S. Bureau of Land Management
28910 Hwy 20 West
Hines, OR 97738

U.S. Fish & Wildlife Service
Malheur Wildlife Refuge
Burns, OR 97720

Oregon Department of Land
Conservation & Development
1175 Court St. NE
Salem, OR 97310

Oregon Department of Economic Development
155 Cottage Street
Salem, OR 97310

Harney County Court
450 N. Buena Vista
Burns,OR 97720

Oregon Department of Transportation
Transportation Building
Salem, OR 97310

Harney County Planning Department
450 N. Buena Vista
Burns, OR 97720

Harney Electric Cooperative
1326 Hines Boulevard
Burns, OR 97720

U.S. Farmers Home Administration
Room 1590 Federal Building
1220 SW 3rd Avenue
Portland, OR 97204

City of Hines
City Hall
Hines, OR 97738

Oregon Department of Fish & Wildlife
HC 74 Box 12870
Hines, OR 97738

U.S. Forest Service
Burns Ranger District
HC 74 Box 12870
Hines, OR 97738

U.S. Forest Service
Snow Mountain Ranger District
Hines, OR 97738

Oregon State Parks Division
525 Trade Street, SE
Salem, OR 97310

Oregon Public Utility Commission
Labor & Industries Building
Salem, OR 97310

Oregon Department of Energy
Labor & Industries Building
Salem, OR 97310

Oregon Department of Environmental Quality
522 SW 5th Avenue
Portland, OR 97204

Oregon Water Resources Department
555 13th Street NE
Salem, OR 97310

Section 2

LAND USE PLANNING

Findings

2.1 GENERAL

The City has established this ordinance to organize its land-use planning processes and policies, and serve as a framework for decisions and actions related to the use of land. In order to assure an adequate factual base for such decisions and actions, this ordinance presents findings, including but not limited to, identification of issues and problems; inventories; evaluation of alternative courses of action; and consideration of social, economic, energy, and environmental needs. These findings provide the factual basis for ultimate policy choices, which in turn, are implemented by specific regulatory measures.

This process is carried out through citizen involvement and agency coordination procedures as provided in Section 1. The ordinance is to be periodically revised, pursuant to Section 1, in order to take into account changing public policies and circumstances. The City presently encompasses approximately 2,037 acres, which is comprised of the following uses and related natural and functional systems: livestock lands, open spaces and natural resources, natural hazards, recreation facilities, housing, commerce and industry, public facilities and services, transportation facilities, energy resources, and the surrounding environs of Harney County and the City of Hines.

Policies

2.2 LAND USE PLANNING

A. The City shall maintain an adequate factual base for its land-use planning processes, and all decisions and actions related to the use of land.

B. The City shall identify issues and problems concerning land-use; evaluate alternative land-use actions; and select ultimate policy choices based on consideration of the social, economic, energy, and environmental needs of the community.

C. The City shall coordinate its land-use actions with affected governmental units to the greatest extent practical.

D. The City shall designate suitable and sufficient land to accommodate the residential, commercial, industrial, public facility, and open space needs of the community. Such designation shall be made by specific zoning designations for each type of needed use.

E. The City shall plan its land-uses so as to provide residential flexibility in type, location, and density of housing. The City shall continue to support the development of housing types such as single-family dwellings, duplexes, mobile homes, and apartments. Moderate and high density residential designations shall be made in a manner which assures compatibility and minimum adverse impacts with surrounding areas.

F. The City shall plan its commercial land-uses so as to increase employment opportunities, provide services needed by the community, promote energy efficient travel and land-use patterns, and assure compatibility with surrounding areas. The City shall designate commercial uses such that residential areas are buffered from potential adverse commercial impacts, traffic and pedestrian safety is accomplished, and a high level of design quality is utilized.

G. The City shall plan its industrial land-uses so as to assure an appropriate

and adequate supply of industrial sites sufficient to meet foreseeable needs, and so as to create local job opportunities. Areas designated for current or future industrial use shall be protected from encroachment by incompatible land-uses, which, by their nature, interfere with the integrity or activity of such industrial areas. Areas designated for industrial use shall be located as to derive the maximum benefit from the community's public facilities and services, and be designed so as to promote maximum conservation of energy and efficiency of land, and designed so as to minimize conflicts with surrounding land-uses.

H. The City shall accommodate changing public needs and circumstances in its land-use zones, through zone changes, conditional use permitting, site plan review, and variance procedures undertaken in a manner consistent with all applicable provisions of the Zoning Ordinance.

Section 3

LIVESTOCK LANDS

Findings

3.1 GENERAL

As a result of its rural character, agricultural economic base, and agricultural soils, certain fringe areas of Burns are still actively used for livestock purposes.

Soil mapping of Burns has been completed by the U.S. Soil Conservation Service, indicating that the City overlies soils in Capability Classes II, III, IV, and VI. Map 3.1 shows the location and relative quantities of these soil types in the Burns area.

The largest amount of soil is in Class II. These were created by the alluvial and sedimentary actions of the Silvies River. Many of these soils are wet where they occur along the river course. Some of these soils are very poorly drained in swales of lower lying areas, which are inundated during the wet seasons. The vegetation in this area is primarily rushes, and other adapted wetland flora. Soils in the Class II designation have few limitations or hazards other than flooding (see Section 7). Simple conservation practices are needed when they are cultivated. They are suited to cultivated crops, pasture, range, or wildlife.

The second largest soil group is Class VI soils. These are areas over lava flows and inter-bedded tuffaceous sediments. The soils in this class are typically very stony and shallow. The surface layers are generally silt loam, changing abruptly to clay subsoil. A thin discontinuous hardpan is often present immediately above the bedrock. Vegetation includes blue bunch wheat grass, sandburg bluegrass, big sagebrush, and rabbit brush. Soils in Class VI are generally suited to limited pasture, range, or wildlife. Notable limitations exist for urban uses, where shallow soil depths and hardpan can cause severe septic limitations and render underground utility installations occasionally impractical due to high construction costs.

Lesser amounts of the City include Classes III and IV soils, which are similar in character to Class II excepting for slightly increased limitations on use.

Policies

3.2 LIVESTOCK LANDS

A. The City shall support the preservation and maintenance of livestock lands within the City to the extent practical while meeting the community's needs for housing, commerce and industry, public facilities and services, and transportation facilities.

B. The City shall, wherever practical, support the preservation and maintenance of livestock lands for farm use, consistent with existing and future needs for agricultural products, grazing land, open space protection, renewable energy resource protection, fish and wildlife habitat protection, and cultural resource protection. The City shall implement this policy through the Open Space (OS) zone in the Zoning Ordinance.

C. Notwithstanding the foregoing policies, the City shall consider livestock lands to be urbanizable lands when demonstrated urban need is shown for such lands.

Section 4

FORESTRY

Findings

4.1 GENERAL

The City and its immediate environs do not contain any forest lands. However, major commercial timberlands lie north of the City approximately 30 miles. The nearby forest lands occur in an area consisting of two U.S. Forest Service (USFS) ranger districts, a Bureau of Land Management (BLM) district, and private lands. This area is primarily in the northern part of Harney County. The two ranger districts cover approximately 515,000 acres of timberland, and the BLM district administers 7,807 acres of productive forest, 4,754 acres of which are capable of supporting intensive forest management activities. Private lands in Harney County account for approximately 26,500 acres of forest. Table 4.1 describes the general characteristics of Harney County forest lands. The statistics given include forest lands in Harney County, as well as Crook and Grant Counties, which are also in the USFS and BLM districts; the overlap of federal district boundaries and county borders leads to log flows across county lines.

Timber sale projections for the near future have been developed by both of the USFS districts. The BLM district currently has a maximum allowable cut of 3.4 million board feet, which is relatively small compared to the USFS harvest. All of these estimates are projected through the year 2001 in Table 4.2. These projections constitute a maximum theoretical commercial harvest on forest lands available to Harney County which could possibly affect the Burns economy.

Table 4.1
Harney County Forest Land Characteristics

Table 4.2
Future Timber Sale estimates

Policies

4.2 FORESTRY

A. The City supports multiple use management of timber lands in Harney County, including timber production, harvesting, and reforestation; watershed protection; grazing; fish and wildlife protection; and recreation.

B. The City believes that non-forest related development of forest lands should not limit nor otherwise adversely affect, timber production, harvesting, reforestation, or other similar commercial uses.

C. The City supports the continued use of sustained yield management practices, so as to assure the community's economy of a sufficient and stable future supply of timber for logging and manufacturing purposes.

Implementation Measures

4.3 COORDINATION

The City shall maintain regular communications with government forestry agencies and private forestry organizations, so as to monitor forestry-related economic developments, which may affect Burns, and to communicate the City's forestry policies to said agencies and organizations.

Section 5

NATURAL RESOURCES

Findings

5.1 HISTORIC RESOURCES

A. Community History

The history of Burns has its beginnings in the late 1860s and centers around an industry that, to this day, provides a large portion of the entire County's livelihood: cattle. Fort Harney was established in 1867. In 1873, Frank McLeod moved 250 head of cattle from California to an area that is now located within the City limits. In 1881, P.M. Currey became postmaster and named his store and post office "Egan". One year later, George McGowan bought Currey out. The following year, 1883, McGowan and Pete Stenger formed a partnership and, after the "Egan" store and post office burned, relocated to 484 N. Broadway in Burns today.

The new town that was forming had to have a name and McGowan, a native of Scotland, suggested "Burns" after the Scottish poet Robert Burns. On January 22, 1884, the new town of "Burns" was officially recognized and McGowan was named its first postmaster. By the end of 1889, Burns had a population of 250 and several businesses, including 2 mercantile stores, black smith shop, meat market, drug store, harness and saddle shop, livery stable, barber, land office, school, church, jeweler, two newspapers, two hotels, three saloons, three physicians, two carpenters, a race track, two lawyers, a sawmill, surveyor, furniture store, mortician, hardware store, and a brewery.

During the 1880s, more settlers moved to the area known as southern Grant County; so much so, that the population had swelled to about 3,000 people. The two to four-day trip to the Grant County seat of Canyon City, however, was lengthy and expensive from Burns. Early in November 1888, several citizens were selected to attend a convention at Harney City to offer instructions to G.W. Gilham, state legislator, for a proposal for a county division. On January 6, 1889, Gilham introduced a bill in the

Oregon Legislature entitled "A Bill for an Act to Create the County of Harney." The bill passed and Harney County was born on February 25, 1889. Harney City was designated as the temporary County seat pending the outcome of an election to establish a "permanent" site. Burns became the county seat in 1890, winning the election by six votes over Harney City.

Harney City didn't give up the fight easily, however, and the election was appealed to the Oregon Supreme Court. The Burns townspeople then raided Harney City and "stole" the County records and established them in Burns. In 1892, the Supreme Court ruled that Burns was indeed the winner of the election. Harney City slowly declined until the mid-1930s when the last store discontinued business. Today, a state historical marker on Highway 20 east of Burns tells the story of Fort Harney, but there is nothing left to mark the army camp or Harney City.

Burns continued to grow in the 1890s and by the end of the century the population had increased to nearly 1,000. Burns built a new courthouse, a new school house, and the two oldest business buildings in town were built in 1896 (the Nathan Brown and Charles Voegtly buildings). The newly organized town band gave concerts to raise funds for the Volunteer Fire Department and eventually telephone service was extended to Burns. In the first decade of the Twentieth Century, the City granted the first franchise for an electric light and power plant. The source of power was at the board dam on the Silvies River. From two brick yards and two stone quarry a Catholic church, the First National Bank, the Harney County National Bank, the Fry building, the Dalton building, the Odd Fellows Hall, the Masonic building, the Lee Caldwell building, the Gemberling and the Byrd-Smith building were built. The population of the town was about 1,200 by 1910. Fires in 1914, 1915 and 1918 destroyed most of the wooden buildings on Main Street. But during the 1910-1919 period, a new brick school, the Tonawama building and the Levens Hotel were built.

Major changes began in the community in 1923 when the Herrick Lumber Company agreed to build a sawmill within five miles of Burns. The Oregon Short Line Railroad was extended to Burns from Crane, and the first train arrived in Burns on August 16, 1924. The prospect of a mill began development of new additions to Burns, and the City water and sewer system was completed in 1926. By 1927, there were twenty new businesses. Beset by market slumps and various obstacles, Herrick encountered many delays in completing the fifty miles of railroad north to the timberlands. In 1928, the Edward Hines Lumber Company of Chicago took over the Herrick interests, both railroad and uncompleted mill. The first log from the new Edward Hines mill was sawed on January 20, 1930.

B. Historic Landmarks

The Harney County Historical Society has compiled a preliminary inventory of historical sites and structures, which provides tentative information on site values. In addition, the Oregon State Historical Preservation Office has conducted a similar inventory.

Preliminary data was collected during 1976-77 and tentatively evaluated according to criteria used by the U.S. Forest Service, including: cultural uniqueness (is it the only one left, only one ever made, only one known?); representativeness (is it one of a group of similar resources in the area, does it represent a past way of life?); age over fifty years; association with a known person or event; integrity (has the setting been significantly altered?); relation to a historical theme (the Fur Trade, the Oregon Trail); association with a particular event or person (the first ranger station, a battle, a well-known cattleman); usable or adaptable for use; and distinctive features (engineering or architectural). Unfortunately, the 1976-77 effort was limited in scope and detail, and the Historical Society is still in the process of reviewing information and finalizing the City's inventory.

The preliminary inventory of historic landmarks in Burns are given in Table 5.1. The Harney County Historical Society has advised the City that the preliminary inventory contains inaccurate and omitted data that is necessary to identify with particularity the location, quality, and quantity of the inventoried sites. The Historical Society has advised the City by letter dated January 17, 1983, that final completion of the inventory will require approximately 24 months. For purposes of OAR 660-16-000, the City is treating all sites listed in Table 5.1 as "1B," and will complete the Goal 5 process in accordance with the Historical Society's schedule.

5.2 **FISH & WILDLIFE RESOURCES**

A. Big Game

The only big game specie that is found within Burns is the mule deer. Small numbers can be found along the Silvies River and adjacent to agricultural lands northwest of town.

B. Upland Game

Three species of upland game occur in the City: Valley quail, pheasants, and sage grouse. Valley quail are the most common and are found throughout the edges of town. Most of the nesting and rearing is done in the sagebrush surrounding the City, and the birds move into the City for food handouts during the winter. Pheasants are found primarily on the

edge of town near agricultural land in limited numbers. A few sage grouse move in and out of the hills north of town to feed and some nesting takes place in the sagebrush.

C. Waterfowl

Large numbers of waterfowl use the Silvies River and its floodway annually for resting, feeding and nesting. Peak numbers occur in the spring and fall during migrations. Mallards, Cinnamon Teal, Greenwing teal, Gadwalls, Pintails, and Canadian geese all frequent the Silvies River floodway near Burns.

D. Marsh and Shore Birds

Twenty-six species of marsh birds use the Silvies River floodway near Burns. Birds in this category include coots, grebes, rails, herons, killdeer, snipe, wilets, avocoets, phalaropes, sandpipers and gulls; also, the long-billed curlew and snowy plover are two notable species in this group. The total Silvies River floodplain is reported to contain some of the most important long-billed curlew habitat in Oregon. Very few acres of habitat or numbers of birds are involved within Burns, however; of the approximate 115,200 acres designated by the Nature Conservancy as constituting the Silvies River floodplain habitat area, only 44 acres, or 0.0004 percent, occur within the City. The majority of the habitat area is governed by the Harney County Comprehensive Plan.

E. Furbearers

Limited numbers of furbearers are found near the Silvies River floodway, including beaver, mink, muskrat and raccoon.

F. Nongame Species

This group includes snakes, lizards, mice, squirrels, robins, sparrows, kestrels, and owls. They occur in limited to moderate numbers throughout the City.

G. Fish

Fish resources are limited to the Silvies River. There are approximately 200 angler days of use annually, primarily for yellow perch, bluegill, crappie and bullhead catfish. High populations of nongame fish (carp and suckers) also inhabit these waters. Low summer flows, high water temperatures, siltation and diversions all contribute to a relatively poor fish population.

H. Fish & Wildlife Summary

For purposes of OAR 660-16-000, the City has determined that adequate information is available to identify with particularity the location, quality, and quantity of the fish and wildlife resources enumerated above; and moreover, that such resources are sufficiently important to be inventoried in this ordinance. The fish and wildlife inventory indicates that any use, other than open space, permitted in the City's zones may conflict or negatively impact a resource site. The consequences of such potential conflicts are analyzed as follows:

(1) The economic consequences of such conflicts may include: loss of growth and development (pursuant to Section 9) if fish and wildlife sites impede permitted land-uses (other than open space); and no

economic loss (recreation, tourism) from urban encroachment on

resource sites, due to the vastly larger and environmentally-superior surrounding rural habitats which support the inventoried species.

(2) The social consequences of such conflicts may include: reduced ability to meet commercial, housing, and public facility needs (pursuant to Sections 9, 10, and 11) if resource sites are allowed to impede such development. The social benefit of wildlife viewing and hunting would not be diminished due to surrounding rural habitats.

(3) The environmental consequences of such conflicts may include: the loss of a small fraction of available habitat areas, if urban development is allowed to encroach upon resource sites. However, such encroachment will not jeopardize, in a material way, resource sites which are necessary to sustain local or migratory populations of the inventoried species.

(4) There are no apparent energy consequences to such conflicts.

5.3 **WATER RESOURCES**

A. Groundwater

In the groundwater system of Harney Valley, deep, confined aquifers remains filled at a volume that is essentially constant, and shallower unconfined aquifers remains filled to an average water table stage, which is locally related to the stage of the Silvies River. Water moves through the shallow, unconfined zone to recharge the deeper confined aquifer in recharge areas. In discharge areas, the confined aquifers lose water through upward movement through the unconfined aquifers. The ultimate source of ground water in the area is precipitation on the surface of the catchment area. Recharge to the groundwater body results from infiltration of precipitation on the land surface and from percolation from streams. Water levels in the Harney Valley fluctuate seasonally, being the highest in early spring and lowest in late summer and autumn. During wet seasons water levels rise largely in response to additions of water to storage, and water levels decline owing to the movement and withdrawal of water by natural discharge and by pumping during the summer growing season.

In general, it appears that the Harney Valley, which includes Burns and Hines, can sustain large ground water developments without serious problems. This is due largely to several deep and unused aquifers. The only constraint identified to date in ground water investigations has been

the expectation that artesian pressures in the Burns area may decline over the long-term from greater development. Ground water is presently used to supply the City water system (see Section 11), as well as a limited number of residential, irrigation, and light industrial users. Total ground water consumption is estimated in the City at 250 gallons per day per person. This amount is considered to be well below the carrying capacity of underlying aquifers.

B. Surface Water

Surface water resources in the City are limited to the Silvies River, which flows in a southerly direction along a portion of the eastern City limits. As one of two major rivers in the northern Harney Basin, the Silvies drains approximately 480 square miles of basin north of the City, producing an annual average flow through the City of approximately 130 cubic feet per second. As indicated in the discussion of fish and wildlife resources, the Silvies and its associated floodplain is a major wildlife habitat area, as well as being a main water supply for the Malheur National Wildlife Refuge, approximately 30 miles south of the City. No consumptive uses are made of the Silvies during its passage through the City, nor are any discharges made to it in the City.

C. Water Resource Summary

For purposes of OAR 660-16-000, the City has determined that adequate information is available to identify with particularity the location, quantity, and quality of the water resources described above; and moreover, that such resources are sufficiently important to be inventoried in this ordinance. An examination of the land-uses permitted in the City's zones indicates no potential conflicts between these water resources and such permitted uses.

5.4 MINERAL & AGGREGATE RESOURCES

There are very limited mineral and aggregate resources in the Burns area, including a deposit of scoria, or cinders, west of Burns, and a pumice deposit southwest of Hines. There are no identified mineral or aggregate deposits or extraction sites within the City. For purposes of OAR 660-16-000, a mineral and aggregates inventory is determined to be inapplicable.

5.5 OPEN SPACES

Open spaces are those lands, which conserve or enhance natural or scenic resources; protect air or water supplies; promote conservation of soils; conserve landscape areas; enhance the value of public recreation areas; and which promote orderly urban development. An inventory of such open spaces in the City is given in Table 5.2. For purposes of OAR 660-16-000, the City has

determined that adequate information is available to identify with particularity the location, quantity, and quality of the open spaces listed in Table 5.2; and that they are sufficiently important to be inventoried in this ordinance. An examination of the uses permitted in any of the City's zones (except Open Space) indicates that such uses may conflict or negatively impact those open spaces which are not protected by public dedication, e.g. park or school ground; or which are otherwise unbuildable, e.g. flood or slope hazard. The consequences of such conflicts are analyzed as follows:

A. The economic consequences of such conflicts may include: the loss of farm products and income from livestock areas lost to urbanization; or alternatively, impeded economic growth where permitted uses would otherwise develop. The economic value of energy resources which occur in open spaces may be seriously degraded if urbanization and parcelization precludes effective resource collection, e.g. a large geothermal wellfield or solar collector area. Also, difficulties in managing natural storm drainages may result in property loss from flooding induced by development in such natural drainage areas.

B. The social consequences of such conflicts may include: the loss of open spaces needed to enhance scenic qualities, enhance neighboring property values, and enhance the value to the public of wildlife habitat, and related open space values.

C. The environmental consequences of such conflicts may include: the loss of open spaces which buffer wildlife resources from urban uses; and the loss of a buffer which promotes orderly urban development.

D. The energy consequences of such conflicts may include: degradation of renewable energy resource sites, i.e. geothermal and solar, through urban parcelization and development; and increased energy costs attendant to urban development in fringe urban areas.

Table 5.2
OPEN SPACE INVENTORY
(Dedicated Lands & Hazard Areas Only)

	Acres
Parks	
Veterans Memorial Field	10
Davidson	4
Washington	2
Cemeteries	
Municipal	25
Schoolgrounds	
Slater	5
Lincoln	2
Filmore	3
Burns High School	26
Public Lands/Long-Term Facility Sites	
Burns Paiute Reservation	308
School District	40
County	25
Hazards	
Silvies Floodway	44
Steep Slopes	30
TOTAL	524

ENERGY RESOURCES

See Section 13.

5.6 NATURAL AREAS

One significant natural area has been identified in the City: the Silvies River floodway (Nature Conservancy Reference No. HA-32). The portion of the natural area, which lies within the City is comprised of approximately 44 acres, or 0.0004% of the total natural area, which covers approximately 115,200 acres lying primarily south of the City towards the Malheur National Wildlife Refuge. The natural area has been inventoried by the Nature Conservancy to include 26 species of waterfowl. Local observations indicate that relatively few numbers of these species frequent the urban area, in comparison to the more preferred rural habitats south of the City towards the Malheur National Wildlife Refuge.

For purposes of OAR 660-16-000, the City has determined that adequate information is available in the Nature Conservancy site report to identify with particularity the location, quantity, and quality of the Silvies River natural area; and moreover, that the natural area is sufficiently important to be included in this ordinance. An examination of the uses permitted in the City's zones, except for the Open Space (OS) zone, indicates that such uses may conflict or negatively impact the Silvies River natural area. The consequences of such potential conflicts may be as follows:

A. The economic consequences of such conflicts may include: loss of growth (pursuant to Section 9) if the natural area impedes necessary and permitted uses. This is not expected, however, due to the availability of superior alternative development areas, and the natural hazard (flooding) potential of the natural area. No wildlife-related economic loss is expected from urban encroachment on the natural area, due to the vastly larger surrounding habitats, which support the inventoried species, and the recreation and tourist activities that follow them.

B. The social consequences of such conflicts may include: reduced ability to meet commercial housing and public facility needs (Sections 9, 10, and 11) if the natural area significantly impedes such development. Such an impediment to meeting needs is not expected, however, due to superior alternative development areas, and the natural hazard (flooding) potential of the natural area.

C. The environmental consequences of such conflicts may include: the loss of a small fraction of the available natural area, if urban development is allowed to encroach upon it. However, it is not expected that such encroachment will jeopardize, in a material way, the ability of the

remaining natural area to sustain local or migratory populations of inventoried fish and wildlife species. It should be noted that the Nature Conservancy site report for the Silvies River natural area does not cite urban encroachment as one of the recognized threats to the natural area.

D. There are no apparent energy consequences to such conflicts.

5.7 SCENIC QUALITIES

No outstanding scenic views or sites have been identified within the City. The City takes note of numerous scenic qualities in the surrounding rural areas of Harney County; however, the City's flat topography and considerable distance from outstanding rural scenic sites results in the lack of identified sites or views in the City. For purpose of OAR 660-16-000, an inventory of this resource is determined to be inapplicable. This finding applies to scenic resources for purposes of ORS 197 only; the City recognizes the conventional scenic values inherent in neighborhood appearance, park maintenance, and general community cleanliness.

5.8 CULTURAL AREAS

A portion of the Burns Paiute Indian Reservation is located in the northwest portion of the City. The portion within the City limits, approximately 308 acres, is dedicated to agricultural rangeland, a casino, and an RV Park. The portion outside the City includes cultivation and range, residences, and the Reservation community center. The Reservation, working through the U.S. Bureau of Indian Affairs (BIA), has prepared a Master Development Plan, which includes the development of light industrial, commercial, residential, and agricultural uses in a planned unit development fashion. Indian lands are not subject to City jurisdiction. The BIA and Tribe have indicated a willingness to continue to work with the City to assist each other in meeting common needs and avoiding conflicts. For purposes of OAR 660-16-000, the City has determined that the Indian Reservation can be identified with particularity, and is sufficiently important as a cultural resource to be included in this ordinance. Despite its lack of jurisdiction, the City takes note of the potential for conflicts between permitted City uses (other than open space) and the Reservation's agricultural designation for its lands inside the City. The consequences of such potential conflict are similar to those discussed in Section 5.5.

Policies

5.9 GENERAL

For purposes of OAR 660-16-000, in the event information is lacking with which to adequately identify the location, quality, and quantity of any resource in Section 5, the City shall continue to evaluate resource potentials and collect resource information on a diligent basis, so as to incorporate such information into the next ordinance amendment occurring after the information is available, and thereby complete the process required by OAR 660-16-000. Ordinance amendments shall occur according to the timetable given in Section 1.4.

5.10 HISTORIC LANDMARKS

A. The City shall encourage the conservation and protection of historic landmarks.

B. The City shall complete the OAR 660-16-000 process for historic resources no later than December 31, 1984.

C. In the interim period the City shall consider potential historic landmarks and conflicting uses as being important relative to each other, so as to allow potentially conflicting uses in a way that protects the potential historic landmark to the extent possible for the landmark owner and the public.

5.11 FISH AND WILDLIFE RESOURCES

A. The City shall encourage the conservation and protection of fish and wildlife resources.

B. The City shall fully allow uses which may potentially conflict with fish and wildlife resources, notwithstanding the possible negative impacts to resource sites, except for the Silvies River floodway (see Section 7 for applicable policy). However, the City shall seek to minimize conflicts by designating habitat areas as open space needed in conjunction with livestock activities and storm drainage management, wherever practical. The intent of this policy is to minimize habitat disruption, while recognizing the superior importance of potentially conflicting uses.

C. The City shall encourage the development of its surface water resources in such a way as to enhance wildlife habitats and riparian vegetation.

5.12 **WATER RESOURCES**

A. The City shall encourage the conservation and protection of water resources.

B. The City, in recognition of the lack of conflicting uses with water resources, shall continue to avoid such conflicts by supporting actions, which assure the long-term productivity and availability of its water resources. The City acknowledges the primary regulatory responsibilities of the Oregon Water Resources Department in this regard.

C. The City shall encourage the use of water saving devices to the maximum extent practical, and shall encourage the use of reclaimed water for appropriate uses.

D. The development of land-uses which require inordinately high amounts of water in the opinion of the City Engineer shall be permitted only if such consumption is determined not to have a materially adverse affect on the community's water resources.

5.13 **MINERALS AND AGGREGATES**

A. The City shall encourage the conservation and protection of nearby mineral and aggregate resources.

B. The City shall continue to collect information on potential deposits of mineral and aggregates within or near its planning area. The City recognizes the economic value of such resources, and shall seek to support the continued availability and productivity of these resources in the vicinity for the community's benefit.

5.14 **OPEN SPACE**

A. The City shall encourage the conservation and protection of open spaces.

B. In order to protect open spaces from potentially conflicting uses the City shall designate needed open spaces through Open Space (OS) zoning. The intent of this policy is to prevent potentially conflicting uses from encroaching upon non-dedicated or otherwise unprotected but

nonetheless needed open spaces. This policy shall be applied where practical to livestock areas, natural storm drainages, large public land holdings, wildlife habitat, hazard areas, and natural areas.

C. City-owned sites, which are dedicated to open space (parks, cemetery) shall continue to be managed so as to assure the conservation and protection of open space values.

D. The City shall encourage other public agencies which own open space in the City (Indian lands, school grounds) to conserve and protect their open space values.

ENERGY RESOURCES

See Section 13.

5.15 NATURAL AREAS

A. The City shall encourage the conservation and protection of the Silvies River natural area.

B. The City shall support the continued monitoring and evaluation of the ecological significance of the Silvies River floodway within the City limits. The City shall cooperate with other agencies engaged in such research.

C. In view of the small fraction of the Silvies River natural area which occurs inside the City limits (0.0004% of the total natural area), the City shall treat natural area resources as being equally important to other potentially conflicting uses permitted in City zones. The City shall allow potentially conflicting uses in a limited manner, through its Open Space (OS) zone and flood hazard regulations, so as to reinforce low-density natural area values to the greatest extent practical.

D. The City shall encourage development in the Silvies River natural area, which directly and materially enhances wildlife habitats and riparian vegetation.

E. In the event of a zone change, conditional use permit, land development, or annexation which affects the Silvies River natural area, the City shall request opinions from state or federal fish and wildlife officials as to the probable impacts to natural area resources from such actions, before

rendering a final decision on such actions.

5.16 SCENIC QUALITIES

A. The City shall encourage the conservation and protection of scenic sites and views.

B. The City shall continue to collect information on potential outstanding scenic views and sites which may warrant inclusion in future ordinance inventories.

C. The City shall encourage scenic values within the community through implementation measures which call for sign controls, landscaping, enclosure of commercial and industrial materials, and removal of property debris.

D. The City shall encourage the planting of trees and other landscaping so as to: provide noise buffering and visual separation of various uses; improve wildlife habitats; conserve soil and stabilize land; maintain clear, clean air and water; enhance outdoor recreational activities; and generally beautify the community.

E. The City shall support community efforts to improve the appearance of main thoroughfares and shopping districts, so as to reinforce historic values, and promote economic stability and growth.

5.17 CULTURAL AREAS

In recognition of the federal authority over Indian lands inside City limits, the City shall continue to coordinate its community planning process with the Burns Paiute Indian Reservation and the U.S. Bureau of Indian Affairs, including City land-use designation of Indian lands consistent with designations contained in the Burns Paiute Indian Reservation Master Plan, and notification of the Tribe of proposed land-use actions which may affect Indian lands.

5.19 WATER RESOURCES

All persons and land-uses within the City shall comply with all applicable statutes and rules administered by the Oregon Water Resources Department and the Harney County Water Master. In connection with protecting and conserving the community's water resources, the City may require evidence of such compliance in applications for land-use actions.

5.20 MINERALS AND AGGREGATES

The exploration for, and production of, minerals and aggregates for commercial or industrial purposes shall be permitted as a conditional use in Heavy Industrial (IH) zones (see Zoning Ordinance). Prior to commencement of such operations, including either exploration or production, the land owner or its authorized agent shall file with the Commission a plan describing the proposed operations, measures to visually screen such operations, measures to prevent unauthorized access, and measures to restore the site after completion of such operations.

Section 6

ENVIRONMENTAL QUALITY

Findings

6.1 WATER QUALITY

In general, surface water quality in Harney County is less than excellent. The Oregon Department of Environmental Quality (DEQ) has cited low flows and coliform bacteria as limiting parameters for the Silvies River in the Statewide Water Quality Management Plan of 1976. These parameters are not within established water quality standards or desired limits. In addition, temperatures appear to be undesirably high during the summer months for salmonoids.

There are no industrial wastes or municipal discharges into the Silvies River in Burns. Therefore, the major impact on the River's water quality is probably from the agricultural activities along it, such as flood irrigation. Overland runoff generally increases the level of turbidity and coliform bacteria in the River. Short-term turbidity increases may be caused by bank stabilization projects, bridge construction and repair, dredging or other instream work.

Near Burns the River's gradient becomes extremely low and the dissolved oxygen frequently falls below desirable levels bringing dangerous situations for fish and other water life. The stream flow is heavily enriched with plant nutrients, and algae growth sometimes reaches nuisance levels. The extremely low assimilation capacity, i.e. the ability to absorb pollutants, of the River suggests that the most effective method for maintaining desirable water quality is prevention of threatening discharges.

6.2 AIR QUALITY

Overall, according to DEQ, the air quality in Burns is considered very good. DEQ indicates that slash burning, agricultural tillage, and industrial "upset" conditions (those temporary equipment malfunctions that may increase certain pollutants for short periods of time, such as at local mills) may result in short-term localized negative impacts on air quality. The prevailing wind from the west precludes a significant amount of air pollution reaching the Burns community, especially from mills to the south of the City.

DEQ has not performed noise inventorying or monitoring in Burns. The City has conducted a preliminary inventory of noise sources, and determined that no major point-sources of noise exist within the City, e.g. heavy industrial activity or high-speed traffic. The City has identified the following general types of noise sources: truck and automobile traffic moving on City streets at speeds of 10-40 mph; light industrial activities (shop machinery, loading dock activities); and common residential and commercial background noises throughout the community. The greatest concentration of these noises occur along the corridor of Highway 395/20, where vehicular traffic and building density are highest. There is no indication of DEQ noise standards being exceeded in any of these areas.

6.3 LAND QUALITY

The City contains a single solid waste landfill, which is located immediately west of the City limits; this landfill is discussed further in Section 11. Its operation is currently within applicable state standards, and is expected to remain so for several years. Individual septic disposal systems are allowed only with DEQ approval, and only when City sewer service is impractical.

Table 6.1
HARNEY COUNTY AIR POLLUTION EMISSIONS
Estimated Annual Emission Rates
(Tons Per Year)

Source	Particulates	Oxides	Nitrogen	Monoxides	Organics
Agriculture	715.00				
Lumber & Wood Products	3,136.01	--	565.00	113.00	143.10
Petroleum Refining & Related Industries	2.75	--	--	--	--
Stone, Clay, Glass & Concrete	0.83	--	--	--	--
NONCLASSIFIABLE					
Surface Coating	--	--	--	--	18.87
Dry Cleaning	--	--	--	--	9.77
Slash Burning	683.53	--	151.90	4,860.00	911.38
Forest Fires	23.40	--	5.21	166.72	31.26
Motor Vehicles (Light Duty)	48.32	12.67	417.56	6,883.69	777.74
Motor Vehicles (Heavy Duty)	15.55	16.70	177.30	497.22	72.7
Gas Marketing	--	--	--	--	63.53
Off-Highway Fuel Use	9.05	6.71	79.85	1,166.97	58.91
Residential Space Heating	2.11	34.01	15.18	4.32	0.84
Comm. & Indus. Space Heating	7.98	68.41	20.82	1.39	1.39
Industrial Fuel Combustion	0.20	2.68	0.66	.05	0.01
Railroads					
TOTAL ANNUAL EMISSION RATES	4644.73	141.18	1433.48	13693.36	2089.5

Source: DEQ

Policies

6.4 ENVIRONMENTAL QUALITY

A. The City shall comply with all applicable state and federal noise, air, water and land quality regulations.

B. The City shall continue to collect information on the quality of its water, air and land resources so as to promptly identify threats to such qualities, and alert appropriate state or federal officials.

C. The City shall not allow any waste or process discharges from future development which is within its jurisdiction, and which, when combined with such discharges from existing development, will threaten to violate, or violate, applicable state or federal regulations.

D. The City shall ensure that new developments are designed and sited in a manner, which complies with state noise standards, and so that noise sensitive properties, e.g. hospital or nursing home, are not adversely affected by new development.

Implementation Measures

6.5 GENERAL

A. Individual septic disposal systems shall not be installed within the City unless and until the Oregon Department of Environmental Quality has issued a permit for said system.

B. No land-use shall be conducted with the City, which creates a nuisance because of any noise, land, air, or water emission or discharge.

6.6 COORDINATION

The City shall coordinate the implementation of its environmental quality policies through the Oregon Department of Environmental Quality, in recognition of that agency's primary regulatory responsibilities in this regard.

Section 7

NATURAL HAZARDS

Findings

7.1 FLOODING

Floods on the Silvies River and its tributaries are generally classified as spring floods, which result from rapid snowmelt augmented by rainfall; and infrequent winter thunderstorm floods. Thunderstorm floods can cause major flood damages to small, local drainage areas in the foothill region west of Burns. Spring floods often generate widespread and prolonged flooding of the Silvies River near Burns. The largest flood of historical record on the Silvies River occurred in 1897, and was estimated to have had a peak discharge of 9,000 c.f.s., which is considered a 300-year flood. There were four major floods in Burns during the 13-year period between 1952 and 1965.

There are eight distinct drainages in the foothills west of Burns. These drainages, separately or together, have the potential of flooding a common floodplain between the base of the hills and the Silvies River. Drainage F suffers from the lack of a direct channel across the floodplain to the Silvies River and, in addition, the gradients of its meandering ditches are very flat, thereby causing overflow along its route. Table 7.1 summarizes these flooding sources and their peak discharges.

Local farmers and the City have constructed minor channel revetments and a low levee which extends about one mile along the right bank of the Silvies River from the bridge on U.S. Highway 20 downstream to State Highway 78. This levee affords partial flood protection for the City. River forecasting for the Burns area is the responsibility of the National Weather Service (NWS) Portland River Forecast Center. Daily observations of river stage are available from the NWS gage at the Highway 20/395 bridge, where bankfull is 8 feet and flood stage is 10 feet. Flood warnings and stage forecasts are prepared for this gage, and are disseminated through the NWS Portland Weather Service Forecast Office (WSFO) and the Burns Weather Service Office (WSO). Utilizing flash flood guidance, radar observations and rainfall reports, the Portland WSFO issues watches to alert the public and local authorities to the threat of a flash flood, and warnings when flooding is imminent. NWS watches and warnings are released to the Oregon Emergency Services Division, local authorities, and the media for

distribution to the public.

Table 7.1
FLOODING SOURCES & DISCHARGES

Peak Discharges (cfs)

Flooding Source & Location	10-Year	50-Year	100-Year	500-Year
Silvies River 0.5 mile north of Paiute Indian Reservation	3,050	5,350	6,550	11,000
Silvies River at Highway 20-395 Bridge	3,100	5,450	6,650	11,200
Drainage E1 at Mouth of E2	270	N/A	477	N/A
Drainage E2	95	N/A	168	N/A
Drainage E1 at Mouth	365	N/A	645	N/A
Drainage F	252	N/A	445	N/A

Source: U.S. Corps of Engineers, 1982

Encroachment on floodplains reduces the flood-carrying capacity, increases the flood heights of streams, and increases flood hazards in areas beyond the encroachment itself. One aspect of floodplain management involves balancing the economic gain from floodplain development against the resulting increase in flood hazard. The area of the 100-year flood is divided into a floodway and a floodway fringe, which together constitute the total floodplain. The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment in order that the 100-year flood may be carried without substantial increases in flood heights. As minimum standards, the Federal Insurance Administration limits such increases in flood heights to one (1) foot, provided that hazardous velocities are not produced. A preliminary flood hazard area is shown in Map 7.1; this Map is presently being revised by the Federal Emergency Management Agency, which expects to complete its work in August, 1983; this revised information will be incorporated into this ordinance during the next following ordinance amendment.

7.2 STEEP SLOPES

Steep slopes occur intermittently in the north and west portion of Burns, and are limited in their development potential because of rock outcroppings and steep topography, i.e. greater than 25% slope. The areas of steep slopes in Burns are shown on Map 7.1. Any extensive disruption of these slopes by cuts, fills, or added weight of structures, may cause serious slippage or erosion problems.

7.3 EARTHQUAKE HAZARD

Burns is classified in Seismic Risk Zone 1 by the Oregon Emergency Services Division, which indicates that a major earthquake is likely to produce minor damage. This level of hazard is not considered sufficient to warrant treatment by specific policies and implementation measures.

Map 7.1
Hazard Areas

Policies

7.4 FLOODING

A. The City, in cooperation with federal and state agencies, shall continue to collect and refine information which delineates areas of known or potential flooding, and to incorporate said information into this ordinance as it becomes available.

B. The City shall not plan for, nor locate, intensive urban development in known areas of flooding, as designated by the final FEMA flood map. The City shall assure that maximum protection is afforded to life and property in known areas of flooding by implementing special building standards and procedures in such areas. Development in flood hazard areas shall not be allowed unless appropriate safeguards to prevent loss of life and property damage are provided.

7.5 STEEP SLOPES

The City shall not plan for, nor locate, intensive urban development on steep slopes, e.g. greater than 25%, which can be shown to be physically threatening to such development or surrounding properties. Development on steep slopes shall not be allowed unless appropriate safeguards to prevent loss of life and property damage are provided.

Section 8

RECREATION

Findings

8.1 GENERAL

A variety of recreational resources can be found in the City. Table 8.1 presents an inventory of recreational facilities in and around the City. Responsibilities for meeting the local recreational needs of citizens and visitors lies with the Cities of Burns and Hines, the High Desert Park and Recreation District, Harney County, and the U.S. Forest Service and Bureau of Land Management. Local school districts also support community recreational needs through their athletic and playground facilities, and recreational programs.

Based on the recreational needs analyses of the Harney County Comprehensive Plan and the Oregon Statewide Comprehensive Outdoor Recreation Plan, the City has determined its future recreational needs to be those shown in Table 8.2. These needs are based on the population projection discussed in Sections 10 and 14, and the number of expected tourists or other visitors discussed in Section 9.

In addition to the quantified needs shown in Table 8.2, the community has expressed interest in covering the community swimming pool for year round use, and expanding other types of recreational programs, e.g. winter sports.

Table 8.1
INVENTORY OF RECREATIONAL DEVELOPMENTS
BURNS, HINES AND HARNEY COUNTY

Name	Water	Toilet	Picnic Sites	Overnight Sites	Activities	Comments
Anderson Park (Burns)					SW	Pool
Camper Corral	X	X	X	X	F-G-H-V	Electricity Private
Page Spring	X	X	X	X	F-G-H-V	
Fish Lake	X	X	X	X	B-G-F-L-V-SW	No motors allowed
Jackman Park	X	X	X	X	G-V	
Blitzen Crossing		X	X	X	F-G-V	
Krumbo		X	X		B-G-F-L	No motors
Malheur Environmental Field Station	X	X		X	G-H	Electricity Dormitory
Yellow Jacket Reservoir	X	X	X	X	B-F	
Sands	X	X		X	SW	Pool
Valley Golf Course (Hines)	X	X				Golf Course
Hines Ball Park		X				Bleachers
Hines City Park	X	X	X			Playground Tennis Ct.
Washington Park (Burns)	X	X				Playground facilities
Davidson Park (Burns)	X	X	X			

Village Trailer Park	X	X	X			Electricity
Sage Hen	X	X	X			St.Rest Area
Joaquin Miller	X	X	X	X		Forest Service Campgrnd Ballfield
Veteran's Memorial Field (Burns)						
Fillmore Park (Burns)						
Buchanan Spring	X	X	X		G-H-V	
Buchanan					G	Rockhounding
Thunder Egg Beds Altnow Pond					B-L-F-SW	Warm water fishing
Chickahominy Reservoir	X	X	X	X	F-WS	
CODE: B-Boating; G-Geology; L-Lake; SW-Swimming; F-Fishing; H-History; V-Scenic; WS - Water Skiing						

Table 8.2
ESTIMATED RECREATIONAL NEEDS

Needed Facility	Unit Type	Current Supply	Year 2000 Needs
Swimming Pool	Pool	1	1
Bike Trails	Mile	2	2
Ball Fields	Field	5	7
All Purpose Courts	Court	2	3
Golf Courses	Holes	9	9
Tennis Courts	Court	3	3
Community Parks	Acres	3.4	6

Derived from the Harney County Comprehensive Plan and the Oregon SCORP.

Policies

8.2 RECREATION

A. The City shall encourage development which helps satisfy the recreational needs of its citizens and visitors.

B. The City shall continue to cooperate with other public and private organizations with recreational interests or responsibilities, so as to meet the community's recreational needs in a comprehensive and coordinated manner.

C. The City shall support economic development activities, which improve or expand recreational opportunities for tourists in and around the community.

D. The City shall develop parks and related recreational facilities, in such a way as to be conveniently located, accessible to all age groups, and capable of supporting a variety of recreational activities.

Implementation Measures

8.3 GENERAL

A. Any recreational area (park, parkway, bike path) proposed as part of a land development under Section 10, shall be located, designed, and improved in conformity with the policies of this Section.

B. Prior to taking final action on any major park or recreation decision, the City shall consult with Harney County, the City of Hines, the High Desert Park and Recreation District, or other interested organizations, to assure consistency and coordination in meeting the community's recreational needs.

8.4 CASINO

In 1999 the Burns Paiute Tribe opened the gaming casino on West Monroe Street. It consists of a RV park, restaurant, gift shop and slots to elevate the tribe’s economy.

Section 9

COMMERCE AND INDUSTRY

Findings

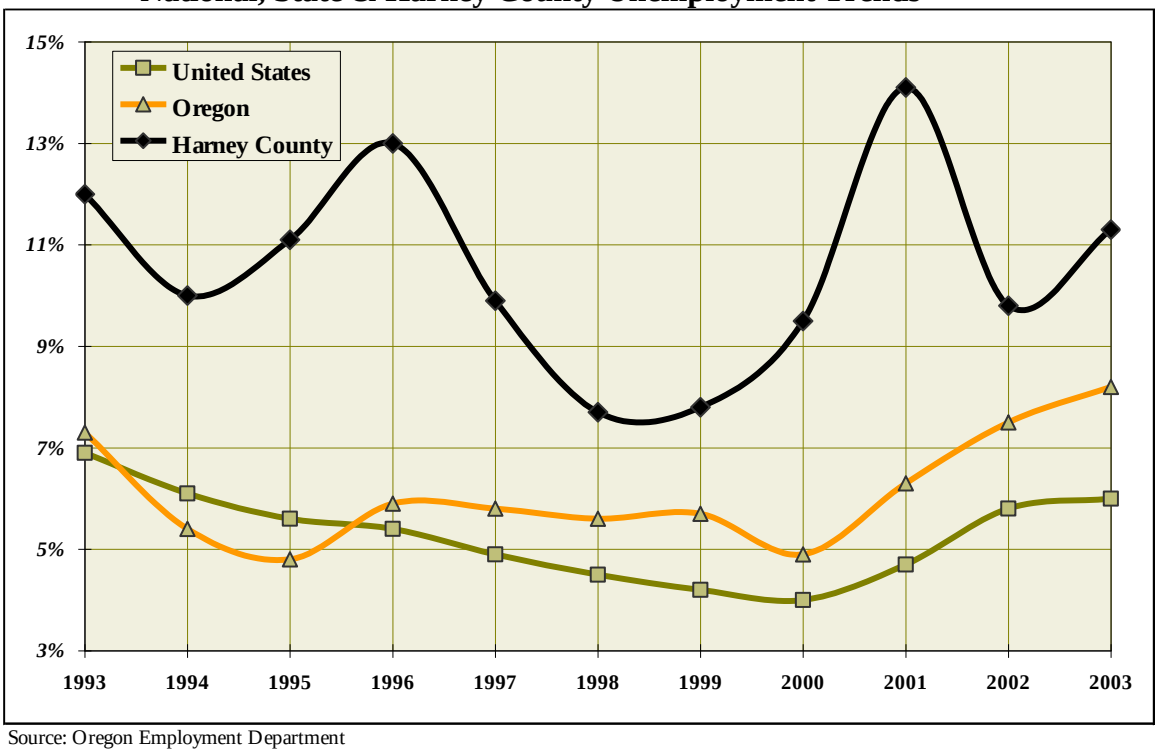
9.1 GENERAL ECONOMIC CONDITIONS

The City has served for decades as the hub of commerce and industry in Harney County. As the County's largest population center, the City has historically been the site of the County's most intensive economic activities. As such, the economies of Burns, the County, and the City of Hines are closely connected and interdependent, forming for the most part a single economic unit. Therefore, the scope of the following economic analysis addresses Harney County and the City of Hines, as well as commerce and industry specific to Burns.

A. Unemployment and Job Growth

Unlike some other counties in Oregon, Harney County did not fare better than the State during the recent recession. Several measures, including unemployment and job growth, underperformed the statewide average over the last three years. The following Table provides a comparison of unemployment trends nationally, statewide and in Harney County.

Table 9.1
National, State & Harney County Unemployment Trends



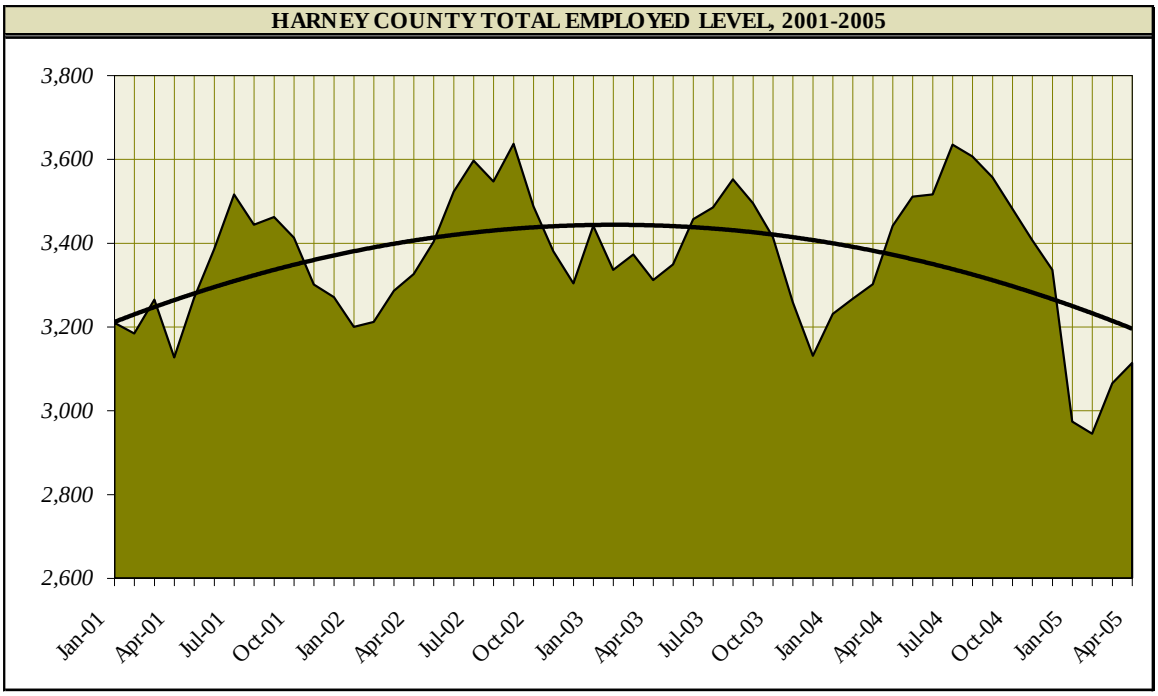
Source: Oregon Employment Department

- The Harney County unemployment rate suffered a nearly 4.0%-point increase, to

11.3%, as a result of the recent economic weakness. The local jobless rate significantly exceeded the Oregon rate which experienced a 3%-point increase to 8.2% by the beginning of 2004.

- At the end of 2003, the national and Harney County unemployment rates differential was even more pronounced, with a 6.5% difference in joblessness.

Table 9.2



Source: Oregon Employment Department

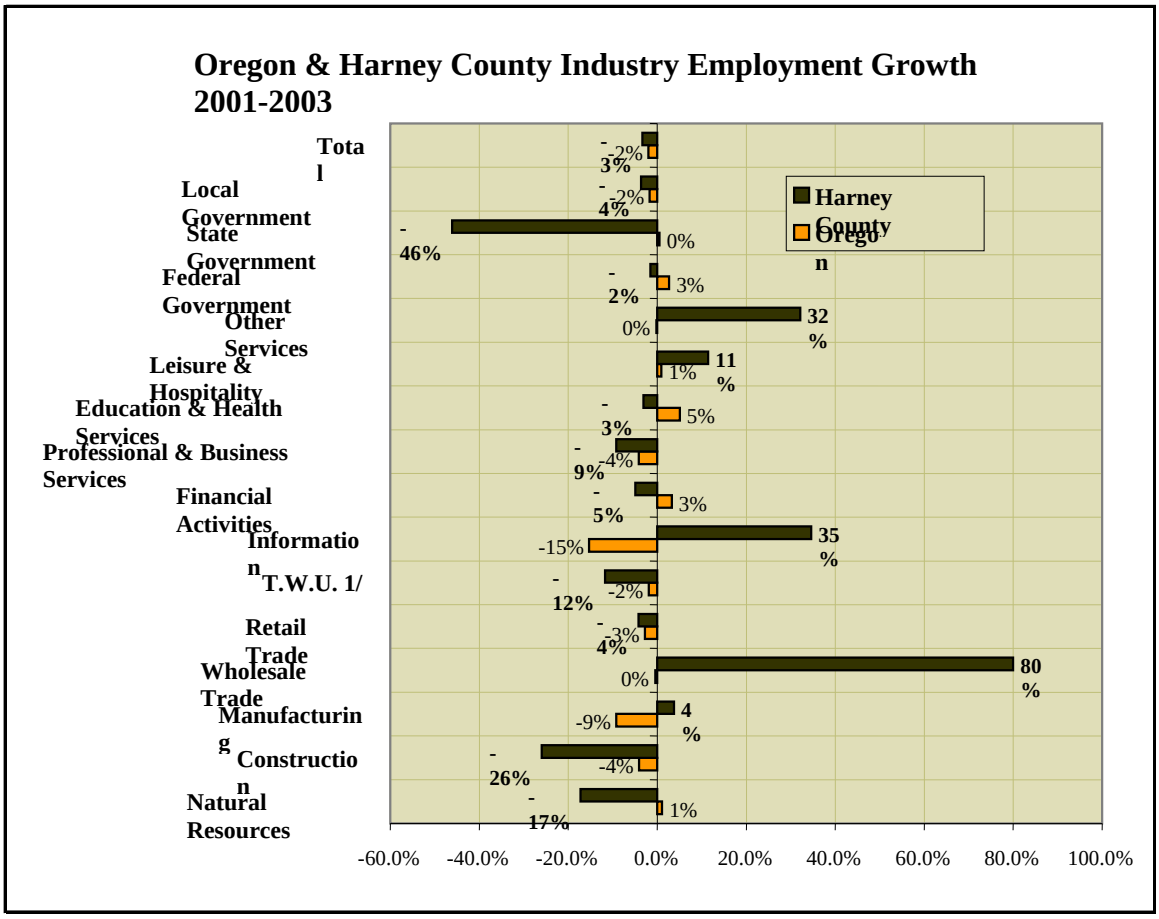
- Harney County total employment has not changed significantly over the past four years. Despite significant seasonal variation, local employment appears to have peaked between 2002 and 2003.
- Despite little significant change, Harney County employment has begun a slight downward trend since early 2003, with seasonal employment peaks and valleys declining slightly in recent months compared to the prior twelve months.
- The State, in contrast, enjoyed its first 12-month period of positive job growth in 2003 and continued job growth, though sluggishly, through 2004. State job growth has strengthened significantly in the last six months.
- Historically, annual job patterns have been far more erratic in Harney County than Statewide, largely due to the seasonal nature of local industry.

B. Industry Job Growth

- 2003 industry employment in Harney County was more than 3% lower than industry jobs at the end of 2001; the local economy has been hit hard by the recession.
- The State, although comparatively better than Harney County, has also not performed

well through the recession; industry employment at the end of 2003 was 2% below its mark at the end of 2001.

Table 9.3

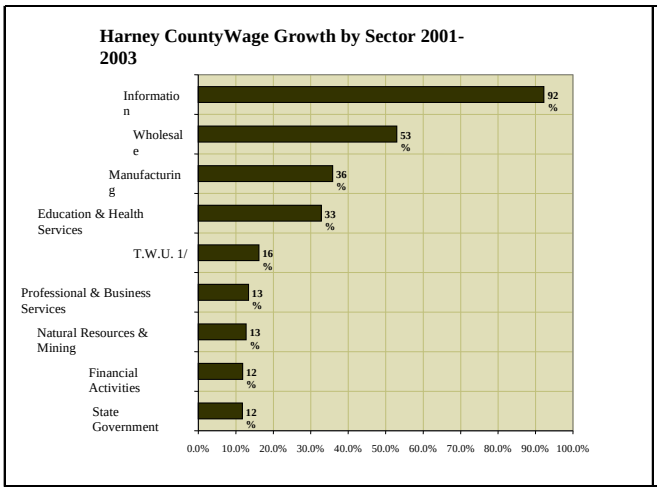


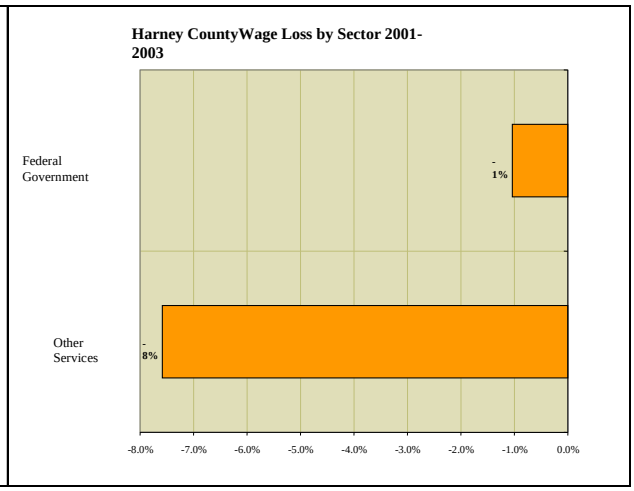
SOURCE: Oregon Employment Department

- Harney County Wholesale Trade, Information, and Other Services sectors exhibited the greatest growth in terms of percentage over the last three years.
- Other expanding sectors included Leisure & Hospitality and Manufacturing, with 11.5% and 3.8% job growth respectively. Leisure and Hospitality led all sectors in terms of total employment growth with the addition of 26 jobs.
- Statewide, Education & Health Services, Financial Activities, and Federal Government employment experienced growth, though modestly, through the recession. All other sectors declined, particularly Information (software, internet and publishing) and Manufacturing, which were the hardest hit.

A summary of industries demonstrating the wage growth strength and weakness since 2001 is found in the following Table.

Table 9.4





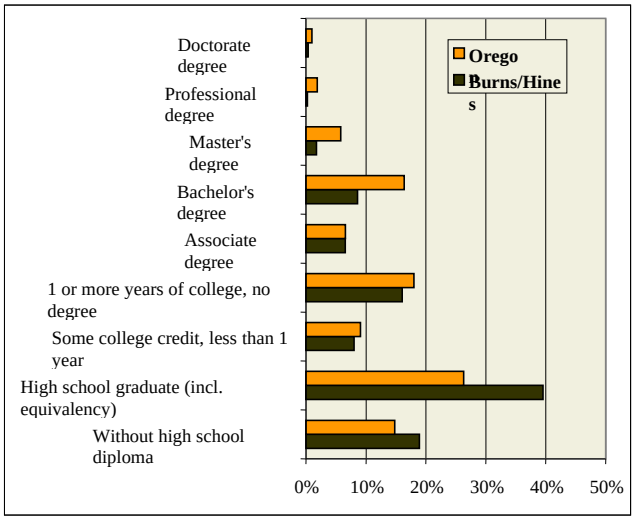
SOURCE: Oregon Employment Department
1/ Transportation, Warehousing, & Utilities

The following Table provides a summary of education/training for the adult labor force in Harney County in comparison to Oregon.

Table 9.5
Educational Attainment in Harney County and the State of Oregon, 2000

Burns/Hines Adult Educational	Tota	Mal	Femal
Population 25 years and over	**3,130**	**1,561**	**1,569**
Without high school diploma	592	279	313
High school graduate (incl. equivalency)	1,238	603	635
Some college credit, less than 1 year	251	111	140
1 or more years of college, no degree	502	256	246
Associate degree	205	117	88
Bachelor's degree	269	159	110
Master's degree	55	29	26
Professional degree	7	7	0
Doctorate degree	11	0	11
Percent of population 25 years and over	**100 %**	**100 %**	**100 %**
Without high school diploma	19%	18%	20%
High school graduate (incl. equivalency)	40%	39%	40%
Some college credit, less than 1 year	8%	7%	9%
1 or more years of college, no degree	16%	16%	16%
Associate degree	7%	7%	6%
Bachelor's degree	9%	10%	7%
Master's degree	2%	2%	2%
Professional degree	0%	0%	0%
Doctorate degree	0%	0%	1%

SOURCE: U.S. Census Bureau



- The portion of the Burns/Hines region's population with no college background, at almost 60%, is substantially higher than that of the state in general.
- Burns and Hines trail the state in terms of population with at least a bachelor's degree. The percentage of local residents in the Burns/Hines area with at least a bachelor's degree or higher is less than half the statewide average proportion.

- Given the prevailing educational trends, the Burns/Hines area is at a comparative disadvantage for attracting knowledge-based employment, though workforce training programs and targeted industry recruitment can help mitigate disadvantages.

9.2 ECONOMIC DEVELOPMENT SITES AND TARGETS

The objective of this section is to calculate the number of acres of buildable commercial and industrial land in each plan designation in the existing Urban Growth Boundary (UGB) of the City of Burns. Buildable land is defined as land that is suitable, available, and necessary for the designated uses. This section provides the basis for subsequent calculations on the capacity of the UGB to accommodate future growth.

A. BURNS AND HARNEY COUNTY COMMERCIAL AND INDUSTRIAL ZONES

Harney County has a GIS-based parcel database that was current as of January 2005. In March 2005 TBAC field-checked all the parcels with commercial and industrial zoning within the Burns UGB.

Those parcels considered as vacant in the following analysis include fully vacant parcels and parcels that are partially vacant and/or redevelopable.

Table 9.6 indicates the commercial and industrial land use zones designated by the City of Burns and Harney County.

Table 9.6
Burns and Harney County Commercial/Industrial Zoning Districts

Zone	Code
City of Burns	
General Commercial	CG
Light Industrial	IL
Heavy Industrial	IH
Harney County	
Commercial & Industrial	C-1

Source: City of Burns Zoning Ordinance, Harney County Zoning Ordinance

B. BURNS GROSS AND NET BUILDABLE VACANT ACRES BY ZONING DISTRICT

The gross vacant buildable commercial/industrial acreage figures within the UGB of the City of Burns are shown in Table 9.7. Unbuildable vacant land is defined as vacant land which is subject to physical constraints, such as steep slopes. For the purposes of this calculation, unbuildable vacant land also includes the developed portion of partially vacant or redevelopable parcels.

Table 9.7 below contains an inventory of all parcels identified as vacant and in the UGB for Burns. The parcels have been given four classifications: 1) "vacant" – 100% of the parcel has been identified as buildable; 2) "partially vacant" – parcels with some development on the site and with development potential on the vacant portion of the site, or parcels with major development constraints (such as steep slopes or floodway) on a portion of the site; 3) "redevelopable" – parcels exhibiting potential for redevelopment; and 4) "unbuildable" – 100% of the site has been identified as unbuildable, due to constraints such as steep slopes on the site.

As shown in Table 9.7, a total of 274.72 acres of commercial/industrial land in the City of Burns UGB is classified as vacant buildable. Exhibit 9.1, entitled "City of Burns Vacant Buildable Lands Inventory, Commercial and Industrial Parcels," illustrates all of the parcels listed in Table 9.7.

Table 9.7
Inventory of Burns Vacant Commercial & Industrial Parcels by Zoning District

Township, Range, Section, & Quarter	Taxlot	Zone	Classification	Acres	Comments	Unbuildable Acreage	Gross Buildable Acreage
UGB							
23301300	1700	C-1	Partially Vacant	24.14		6.04	18.10
23301300	1900	C-1	Partially Vacant	12.51		2.09	10.42
233013DD	500	C-1	Partially Vacant	1.39		0.69	0.70
23301300	2000	C-1	Unbuildable	4.46	Walking Trail	4.46	0.00
23301300	1800	C-1	Vacant	2.97		0.00	2.97
23301300	1801	C-1	Vacant	11.58		0.00	11.58
233013DD	200	C-1	Vacant	0.30		0.00	0.30
233013DD	300	C-1	Vacant	1.18		0.00	1.18
SUB-TOTAL				**58.53**		**13.28**	**45.25**
CITY							
233013AA	900	CG	Partially Vacant	0.35		0.17	0.18
233013CA	300	CG	Partially Vacant	2.30		1.84	0.46
233013CB	1100	CG	Partially Vacant	2.36		0.59	1.77
233107AB	400	CG	Partially Vacant	4.89	RV Park/4.51 acres in floodway	4.51	0.38
233107CA	10500	CG	Partially Vacant	0.29	Parking/storage in rear	0.15	0.14
233107CA	10600	CG	Partially Vacant	0.17		0.08	0.09
233107CA	10700	CG	Partially Vacant	0.23		0.12	0.11
233107CA	6700	CG	Partially Vacant	0.23	Parking/storage in rear	0.12	0.11
233107CC	3700	CG	Partially Vacant	0.63		0.32	0.31
233107CD	1900	CG	Partially Vacant	0.20	Parking/storage in rear	0.10	0.10
233107CD	2000	CG	Partially Vacant	0.23		0.12	0.11
233107CD	6400	CG	Partially Vacant	0.34		0.17	0.17
233107DD	6400	CG	Partially Vacant	2.26		1.13	1.13
233118BB	1900	CG	Partially Vacant	0.50		0.25	0.25
233012DD	7400	CG	Redevelopable	0.23	Storage	0.00	0.23
233013AC	800	CG	Redevelopable	0.21		0.00	0.21
233013CA	200	CG	Redevelopable	1.02		0.00	1.02
233013CA	502	CG	Redevelopable	0.65		0.00	0.65
233013CA	800	CG	Redevelopable	3.44		0.00	3.44
233107BD	300	CG	Redevelopable	0.78	Storage	0.00	0.78
233107CA	5200	CG	Redevelopable	0.23		0.00	0.23
233107CA	6400	CG	Redevelopable	0.24		0.00	0.24
233107CA	6500	CG	Redevelopable	0.10		0.00	0.10
233107CA	6600	CG	Redevelopable	0.10		0.00	0.10
233107CD	3400	CG	Redevelopable	0.10		0.00	0.10
233107CD	600	CG	Redevelopable	0.12	Storage	0.00	0.12
233107CD	6100	CG	Redevelopable	0.12		0.00	0.12
233107CD	8600	CG	Redevelopable	0.14		0.00	0.14

Township, Range, Section, & Quarter	Taxlot	Zone	Classification	Acres	Comments	Unbuildable Acreage	Gross Buildable Acreage
233118BA	201	CG	Redevelopable	0.86		0.00	0.86
233118BB	1700	CG	Redevelopable	0.11		0.00	0.11
23301300	200	CG	Vacant	0.48		0.00	0.48
23301300	1501	CG	Vacant	0.47		0.00	0.47
233012DD	8100	CG	Vacant	0.34		0.00	0.34
233012DD	8200	CG	Vacant	0.10		0.00	0.10
233012DD	8300	CG	Vacant	0.09		0.00	0.09
233012DD	8400	CG	Vacant	0.49		0.00	0.49
233013AA	100	CG	Vacant	0.12		0.00	0.12
233013AA	1100	CG	Vacant	0.10		0.00	0.10
233013AA	1300	CG	Vacant	0.40		0.00	0.40
233013AA	8500	CG	Vacant	0.35		0.00	0.35
233013AC	1500	CG	Vacant	0.25		0.00	0.25
233013AC	1800	CG	Vacant	0.23		0.00	0.23
233013AC	500	CG	Vacant	0.74		0.00	0.74
233013AC	8600	CG	Vacant	0.08		0.00	0.08
233013AC	8700	CG	Vacant	0.20		0.00	0.20
233013AC	8800	CG	Vacant	0.10		0.00	0.10
233013AC	8900	CG	Vacant	0.29		0.00	0.29
233013AC	900	CG	Vacant	0.14		0.00	0.14
233013AC	9000	CG	Vacant	0.15		0.00	0.15
233013BD	2600	CG	Vacant	0.26		0.00	0.26
233013BD	3500	CG	Vacant	0.13		0.00	0.13
233013CA	100	CG	Vacant	0.50		0.00	0.50
233013CA	101	CG	Vacant	1.44		0.00	1.44
233013CA	600	CG	Vacant	1.40		0.00	1.40
233013CA	700	CG	Vacant	2.08		0.00	2.08
233013CB	1000	CG	Vacant	1.87		0.00	1.87
233013DB	500	CG	Vacant	2.11		0.00	2.11
233013DB	600	CG	Vacant	1.15		0.00	1.15
233013DB	700	CG	Vacant	2.38		0.00	2.38
233107BA	1200	CG	Vacant	1.35	0.10 acres in floodway	0.10	1.25
233107BD	200	CG	Vacant	2.77		0.00	2.77
233107CA	2000	CG	Vacant	0.22		0.00	0.22
233107CA	5700	CG	Vacant	0.12		0.00	0.12
233107CA	5900	CG	Vacant	0.91		0.00	0.91
233107CA	7100	CG	Vacant	0.11		0.00	0.11
233107CA	7400	CG	Vacant	0.22		0.00	0.22
233107CC	3500	CG	Vacant	0.06		0.00	0.06
233107CC	3800	CG	Vacant	0.15		0.00	0.15
233107CC	5000	CG	Vacant	0.23		0.00	0.23
233107CC	5300	CG	Vacant	0.23		0.00	0.23
233107CC	5600	CG	Vacant	0.32		0.00	0.32
233107CC	5700	CG	Vacant	0.86		0.00	0.86

Township, Range, Section, & Quarter	Taxlot	Zone	Classification	Acres	Comments	Unbuildable Acreage	Gross Buildable Acreage
233107CD	2900	CG	Vacant	0.12		0.00	0.12
233107CD	6200	CG	Vacant	0.03		0.00	0.03
233107CD	6600	CG	Vacant	0.35		0.00	0.35
233107CD	700	CG	Vacant	0.15		0.00	0.15
233107CD	7100	CG	Vacant	0.20		0.00	0.20
233107CD	7700	CG	Vacant	0.07		0.00	0.07
233107CD	7800	CG	Vacant	0.01		0.00	0.01
233107CD	7900	CG	Vacant	0.11		0.00	0.11
233107CD	8000	CG	Vacant	0.08		0.00	0.08
233107DC	10800	CG	Vacant	0.09		0.00	0.09
233107DC	10900	CG	Vacant	0.04		0.00	0.04
233107DC	8700	CG	Vacant	0.46		0.00	0.46
233107DC	9500	CG	Vacant	0.34		0.00	0.34
233107DD	5600	CG	Vacant	0.35		0.00	0.35
233107DD	5700	CG	Vacant	0.10		0.00	0.10
233107DD	6102	CG	Vacant	0.33		0.00	0.33
233107DD	6300	CG	Vacant	1.70		0.00	1.70
233118AB	1600	CG	Vacant	0.11		0.00	0.11
233118AB	200	CG	Vacant	0.21		0.00	0.21
233118BA	100	CG	Vacant	0.10		0.00	0.10
233118BA	1300	CG	Vacant	0.28		0.00	0.28
233118BA	200	CG	Vacant	0.53		0.00	0.53
233118BB	100	CG	Vacant	0.12		0.00	0.12
233107BA	100	CG/RS	Partially vacant	10.88	8.25 acres RS/0.93 acres in floodway	9.18	1.70
233107BA	1100	CG/RS	Partially vacant	1.38		0.55	0.83
233107DC	7600	CG/RS	Partially vacant	0.15		0.06	0.09
23301200	100	CG/RS	Vacant	153.81	115.67 acres zoned RS	115.67	38.14
233107AB	300	CG/RS	Vacant	4.90	Ag. corral/2.78 acres RS/1.97 acres in floodway	4.75	0.15
233107BD	101	CG/RS	Vacant	3.05		0.44	2.61
233107BD	601	CG/RS	Vacant	2.83		1.75	1.08
23311800	400	IH	Partially vacant	10.72	Rock/gravel equipment	5.36	5.36
233013DB	801	IH	Partially vacant	3.23	Outdoor storage	1.62	1.61
233118BA	2900	IH	Partially vacant	1.62		1.08	0.54
23311800	300	IH	Redevelopable	1.99		0.00	1.99
233118AB	5300	IH	Redevelopable	0.65		0.00	0.65
23311800	600	IH	Vacant	5.30		0.00	5.30
23311800	700	IH	Vacant	14.07	No access	0.00	14.07
233013DB	802	IH	Vacant	7.83	No access	0.00	7.83
233118AB	2700	IH	Vacant	0.27		0.00	0.27
233118AB	2800	IH	Vacant	0.13		0.00	0.13
233118AB	5500	IH	Vacant	4.45		0.00	4.45
233118AB	5600	IH	Vacant	0.50		0.00	0.50
233118AB	5700	IH	Vacant	0.93		0.00	0.93
233118AB	6001	IH	Vacant	2.13		0.00	2.13

Township, Range, Section, & Quarter	Taxlot	Zone	Classification	Acres	Comments	Unbuildable Acreage	Gross Buildable Acreage
233118AB	6200	IH	Vacant	0.67		0.00	0.67
233118B0	400	IH	Vacant	11.38		0.00	11.38
233118BA	3000	IH	Vacant	3.24		0.00	3.24
233013DA	100	IL	Partially vacant	1.47		0.74	0.73
233013DA	400	IL	Partially vacant	2.01		0.67	1.34
233013DA	101	IL	Vacant	2.63		0.00	2.63
233013DA	501	IL	Vacant	2.55		0.00	2.55
233013DB	100	IL	Vacant	1.72		0.00	1.72
233013DB	200	IL	Vacant	4.69		0.00	4.69
233118BA	2300	IL	Vacant	0.11		0.00	0.11
233118BC	100	IL	Vacant	0.37		0.00	0.37
233118BC	4000	IL	Vacant	0.23		0.00	0.23
233118BC	4200	IL	Vacant	0.18		0.00	0.18
233118BC	4400	IL	Vacant	0.35		0.00	0.35
233013DA	502	IL/IH	Partially vacant	13.40		0.84	12.56
233118BC	4900	IL/IH	Partially vacant	2.18		0.22	1.96
233118BC	4800	IL/IH	Redevelopable	2.91		0.00	2.91
23301300	2000	IL/IH	Unbuildable	4.35	Walking trail	4.35	0.00
23311800	200	IL/IH	Vacant	36.75		0.00	36.75
233118BC	4700	IL/IH	Vacant	9.56		0.35	9.21
SUB-TOTAL				**386.87**		**157.40**	**229.47**
TOTAL				**445.40**		**170.68**	**274.72**

Source: The Benkendorf Associates Corp., 2005 from data provided by Harney County (January 2005).

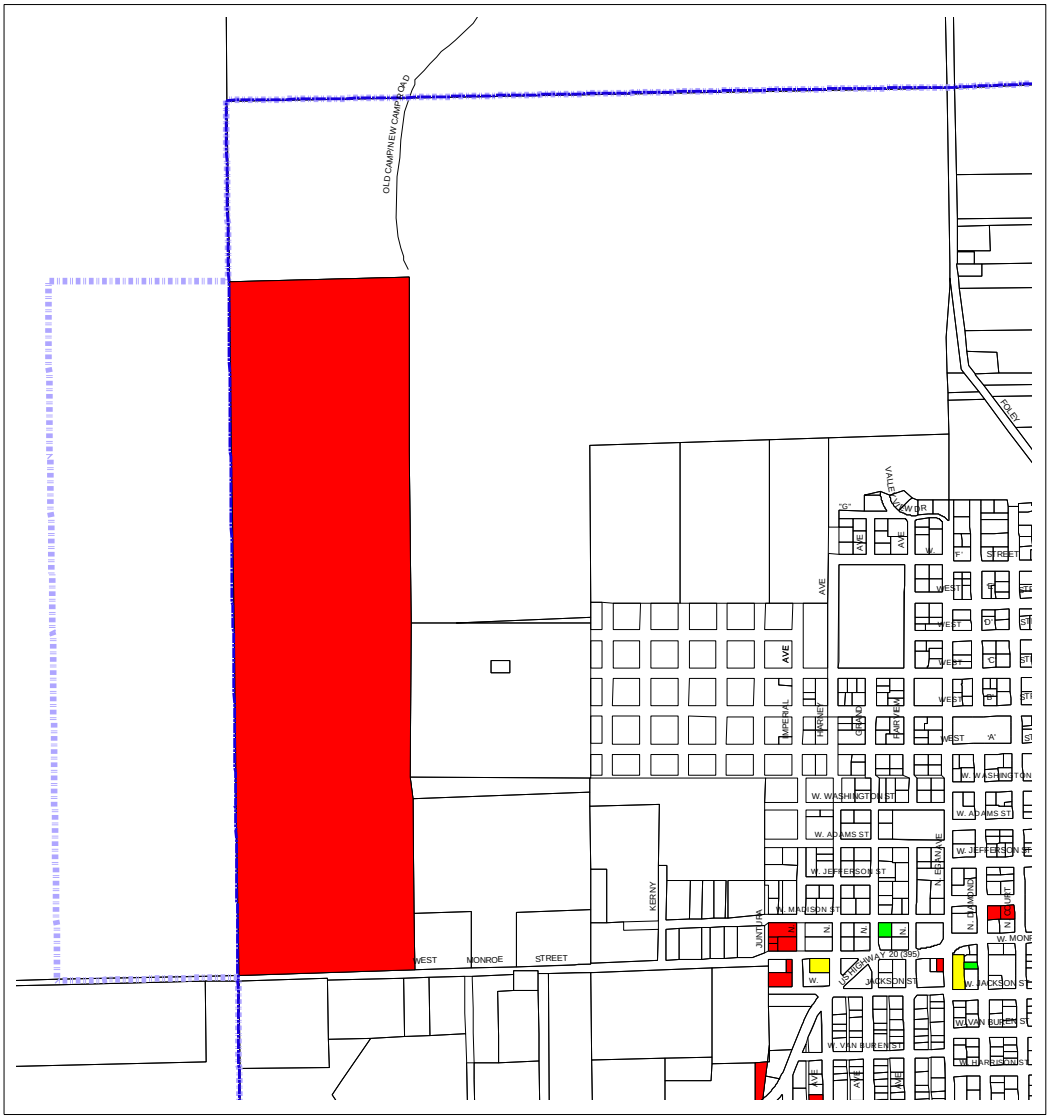
Table 9.8 is a summary of the data in Table 9.7 by Zoning District.

Table 9.8
Summary of Vacant Commercial and Industrial Parcels within Burns UGB by Zoning District

	Total			Vacant			Partially Vacant/Redevelopable			Unbuildable	
primary zone	parcels	total acres	buildable acres	parcels	total acres	buildable acres	parcels	total acres	buildable acres	parcels	total acres
CG	95	55.30	45.53	65	31.87	31.77	30	23.43	13.76	0	0.00
CG/RS	7	177.00	44.60	4	164.59	41.98	3	12.41	2.62	0	0.00
IH	17	69.11	61.05	12	50.90	50.90	5	18.21	10.15	0	0.00
IL	11	16.31	14.90	9	12.83	12.83	2	3.48	2.07	0	0.00
IL/IH	6	69.15	63.39	2	46.31	45.96	3	18.49	17.43	1	4.35
Subtotal City	**136**	**386.87**	**229.47**	**92**	**306.50**	**183.44**	**43**	**76.02**	**46.03**	**1**	**4.35**
C-1	8	58.53	45.25	4	16.03	16.03	3	38.04	29.22	1	4.46
Subtotal UGB	**8**	**58.53**	**45.25**	**4**	**16.03**	**16.03**	**3**	**38.04**	**29.22**	**1**	**4.46**
Total	**144**	**445.40**	**274.72**	**96**	**322.53**	**199.47**	**46**	**114.06**	**75.25**	**2**	**8.81**

Source: The Benkendorf Associates Corp., 2005.
Note: figures may not add due to rounding.

Exhibit 9.1
City of Burns Vacant Buildable Lands Inventory, Commercial and Industrial Parcels



City Limits
Burns
Hines
UGB
Burns
Hines
Commercial/industrial Parcels
Vacant
Partially Vacant
Redevelopable
Unbuildable
Streets
Parcels

City of Burns
Vacant Buildable Lands Inventory
Commercial and Industrial Parcels

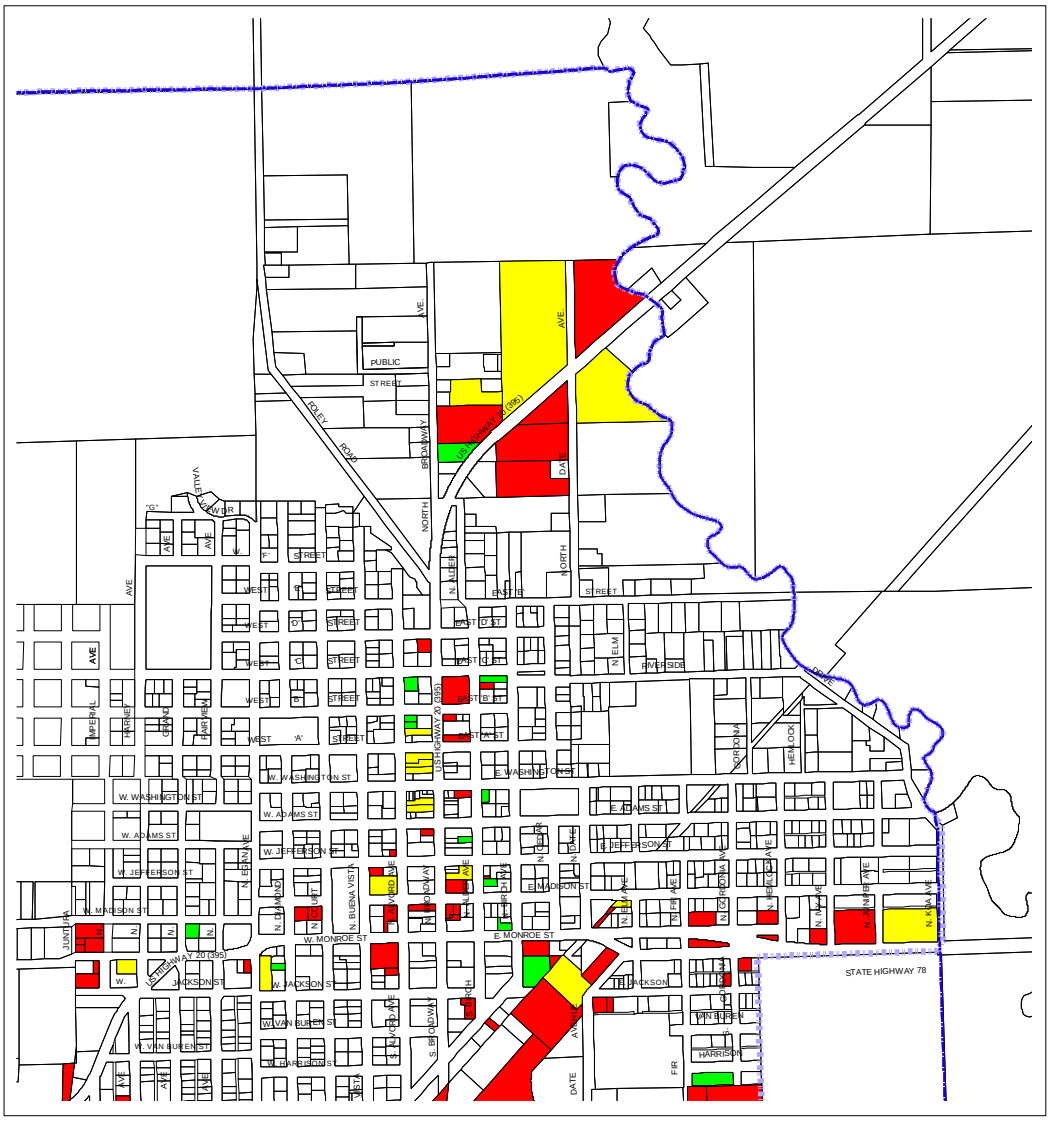
Sheet 1 of 4

500 0 500 1000 Feet

N

The Benkendorf Associates Corp.
May 2005

Exhibit 9.1 (continued)



City Limits
- Burns
- Hines

UGB
- Burns
- Hines

Commercial/industrial Parcels
- Vacant
- Partially Vacant
- Redevelopable
- Unbuildable
- Streets
- Parcels

City of Burns
Vacant Buildable Lands Inventory
Commercial and Industrial Parcels

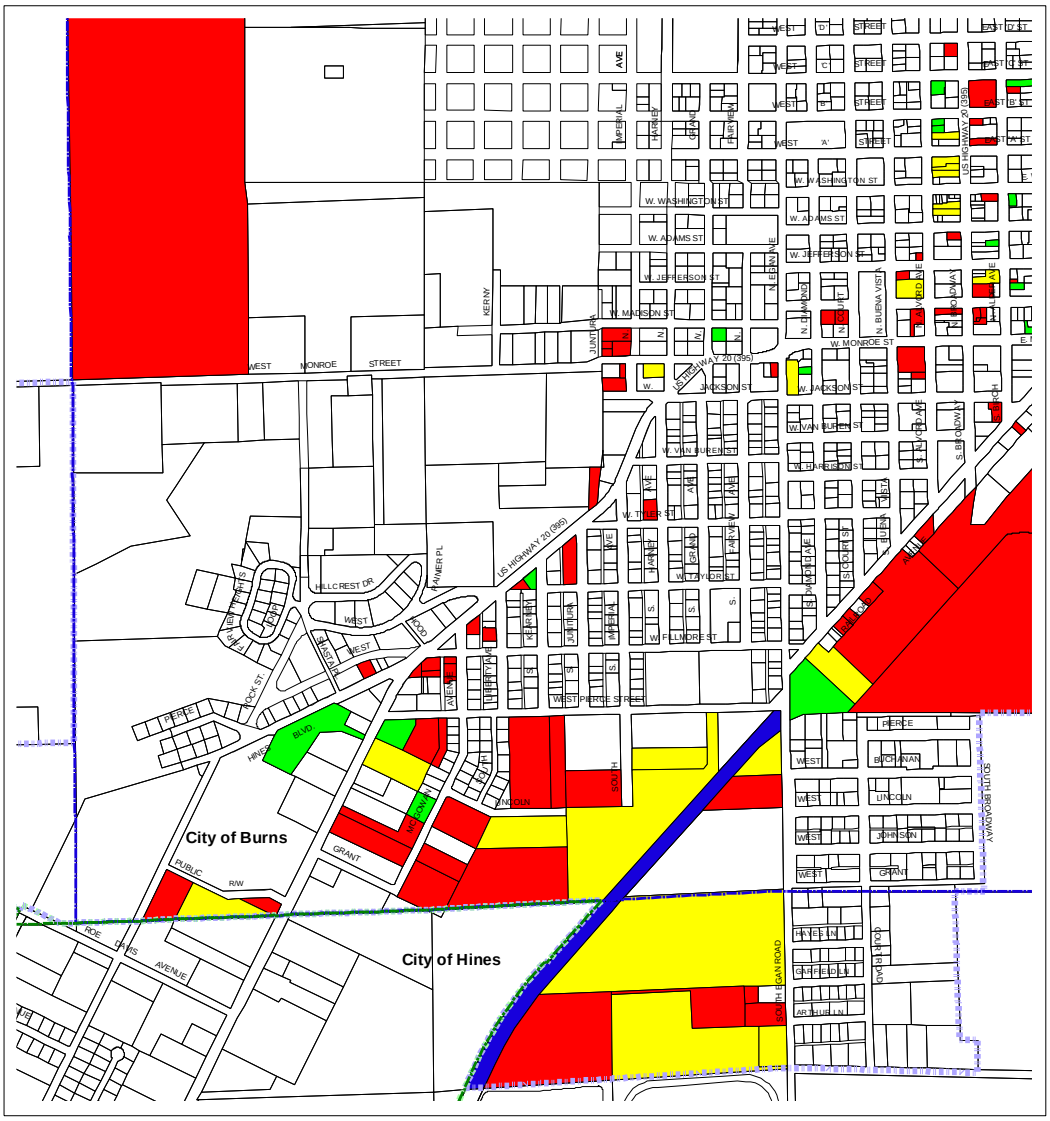
Sheet 2 of 4

500 0 500 1000 Feet

N

The Benkendorf Associates Corp.
May 2005

Exhibit 9.1 (continued)



City Limits
- Burns
- Hines

UGB
- Burns
- Hines

Commercial/industrial Parcels
- Vacant
- Partially Vacant
- Redevelopable
- Unbuildable
- Streets
- Parcels

City of Burns
Vacant Buildable Lands Inventory
Commercial and Industrial Parcels

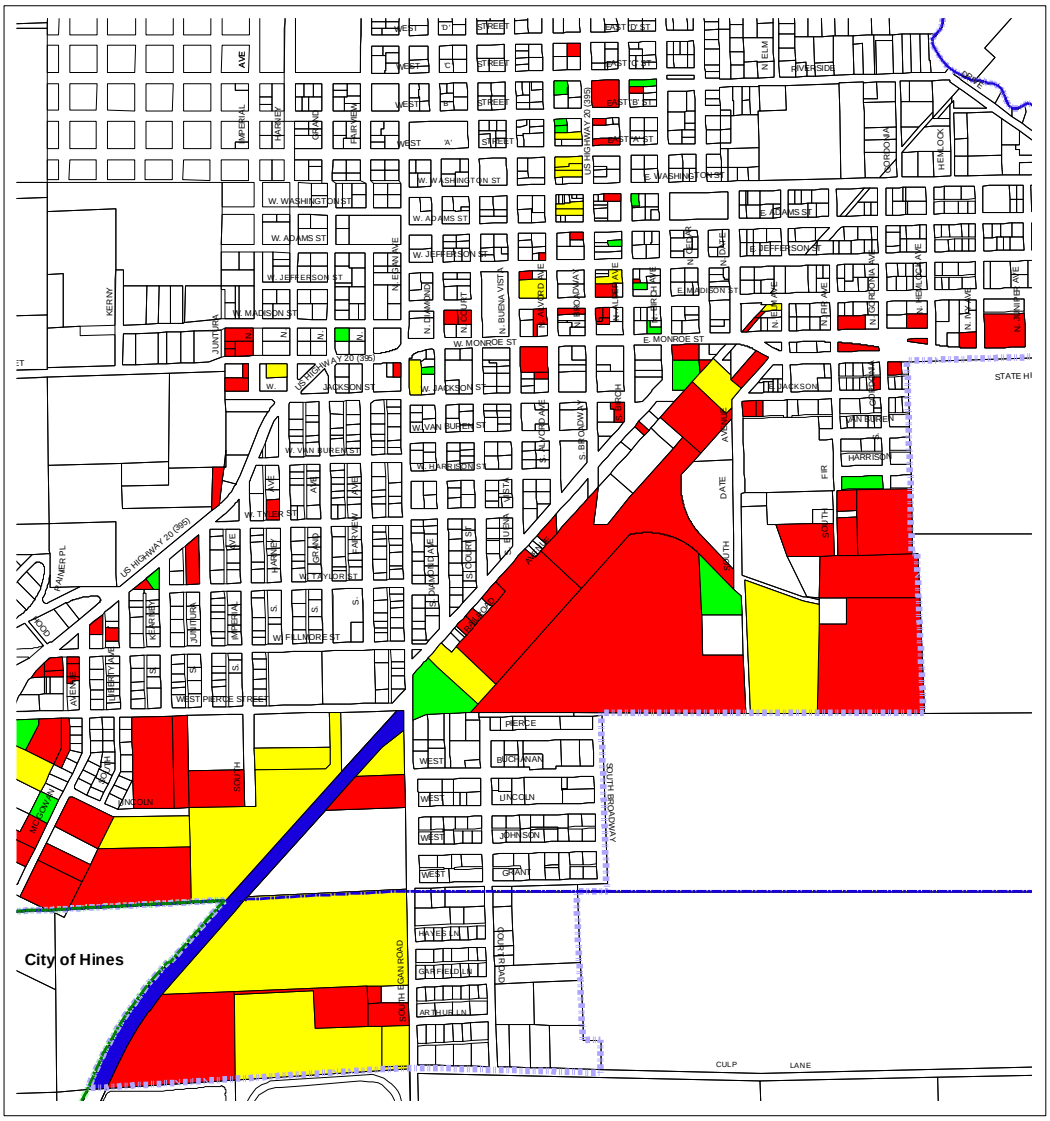
Sheet 3 of 4

500 0 500 1000 Feet

N

The Benkendorf Associates Corp.
May 2005

Exhibit 9.1 (continued)



City Limits
- Burns
- Hines

UGB
- Burns
- Hines

Commercial/industrial Parcels
- Vacant
- Partially Vacant
- Redevelopable
- Unbuildable
- Streets
- Parcels

City of Burns
Vacant Buildable Lands Inventory
Commercial and Industrial Parcels

Sheet 4 of 4

500 0 500 1000 Feet

N

The Benkendorf Associates Corp.
May 2005

Table 9.9 is the inventory for total parcels, vacant parcels and gross buildable land within the Burns UGB. Within the City Limits and UGB, there are 142 buildable commercial and industrial parcels with 274.7 vacant buildable acres.

Table 9.9
Inventory of Vacant and Developed Commercial and Industrial Land in the City of Burns UGB

			Total Parcels (Vacant + Developed)		Vacant, Partially Vacant/Redevelopable, & Unbuildable Parcels				
	Zone		**Total Acres**	**Total Parcels**	**acres**	**parcels**	**unbuildable acreage**	**buildable acreage**	**buildable parcels**
Commercial									
	Commercial	C-1	59.1	9	58.5	8	13.3	45.3	7
	General Commercial	CG	144.2	401	55.3	95	9.8	45.5	95
	General Commercial/Residential	CG/RS	177.0	7	177.0	7	132.4	44.6	7
Total Commercial			**380.4**	**417**	**290.8**	**110**	**155.5**	**135**	**109**
Industrial									
	Heavy Industrial	IH	97.7	32	69.1	17	8.1	61.1	17
	Light Industrial	IL	21.7	24	16.3	11	1.4	14.9	11
	Light Industrial/Heavy Industrial	IL/IH	69.2	6	69.2	6	5.8	63.4	5
Total Industrial			**188.6**	**62**	**154.6**	**34**	**15.2**	**139**	**33**
TOTAL			**568.9**	**479**	**445.4**	**144**	**170.7**	**274.7**	**142**

Source: The Benkendorf Associates Corp., 2005.
Note: figures may not add due to rounding.

Net buildable vacant acres are calculated by subtracting land needed for future public facilities from gross buildable vacant acres. For the purpose of this analysis, land needed for future facilities is defined as 25% of all non-public vacant land.

The calculations for subtracting 25% from gross buildable acres to convert to net buildable acres are shown in Table 9.10 below.

Table 9.10
Inventory of Net Buildable Commercial/Industrial Land by Zoning District, Burns UGB

	Zone		buildable parcels	gross buildable acres	net buildable acres
Commercial					
	Commercial	C-1	7	45.3	33.9
	General Commercial	CG	95	45.5	34.1
	General Commercial/Residential	CG/RS	7	44.6	33.5
Total Commercial			**109**	**135.4**	**101.5**
Industrial					
	Heavy Industrial	IH	17	61.1	45.8
	Light Industrial	IL	11	14.9	11.2
	Light Industrial/Heavy Industrial	IL/IH	5	63.4	47.5
Total Industrial			**33**	**139.3**	**104.5**
TOTAL			**142**	**274.7**	**206.0**

Source: The Benkendorf Associates Corp., 2005.
Note: figures may not add due to rounding

As shown in Table 9.10 above, there are 206.0 acres of net buildable commercial and industrial land on 142 parcels within the UGB of the City of Burns.

C. TARGET INDUSTRIES

1. Location Quotient Analysis

An analysis of Harney County's industry concentration was conducted to help identify current and future economic development opportunities. An industry concentration analysis is used to determine industries with higher than average concentrations in a particular region. Industries with a high concentration create a base industrial core that, along with their vendors and support services, help support the broader economy of a community. Industry concentrations are determined by the relative prevalence of an industry relative to nationwide averages. High concentrations are, therefore, not necessarily indicative of a large industrial presence in and of themselves, but rather indicate which industries have an appreciably above-average presence in the region relative to elsewhere.1 An industry concentration does not describe the entire economy, but rather those businesses that are the most distinct and specialized to an area and its various competitive advantages.

Industry concentrations are typically driven by the unique nature of local geography, environment, population, culture and public investment. Because of their unique qualities in any given location, it must be a high priority in economic development efforts to retain, strengthen

1 Industry concentration is measured by a location quotient (LQ). The numerator of the industry LQ is the share of local employment attributable to the specific sector. The denominator of the industry LQ is the share of national employment attributable to the sector nationwide. An LQ greater than 1.0 signifies an industry with above-average concentration in a local economy. An LQ less than 1.0 signifies an industry with below-average presence in a local economy.

and build upon existing concentrations to maintain an economic competitive advantage.

TABLE 9.11
HARNEY COUNTY LOCATION QUOTIENT ANALYSIS

Industry		Emp.	Location Quotient
10	All other crop farming	396	102.9
11	Cattle ranching and farming	449	28.4
350	Motor vehicle parts manufacturing	112	7.1
496	Other federal gov't denterprises	10	6.7
18	Agricultural & forestry support	94	5.7
480	Other Accommod.	18	5.5
506	Federal Non-Military	222	5.4
73	Bread and Bakery,except frozen, manufacturing	26	4.6
489	Drycleaning and laundry services	41	3.2
491	Religious organizat.	116	3.0
470	Social assistance	127	2.9
30	Power generation &	21	2.4
171	supply	2	2.3
433	Video tape & disc	10	2.2
485	rental	20	2.1
413	Newspaper pub.	19	2.0
407	Gasoline Stations	41	2.0
498	State & local gov't electric utilities	3	1.9
405	Food and beverage stores	117	1.7
	Total	***3,684***	

SOURCE: Implan, Oregon Employment Department

Economic data for Harney County and the State of Oregon indicate that Harney County presently is host to three distinct concentrations. These are:

- Other Crop Farming
- Cattle Ranching & Farming
- Motor Vehicle Parts Manufacturing

2. Supply-Chain Targeted Industries Analysis

A concentration-based analysis of industries that may prove most feasible or successful for any City or County-based economic development efforts was conducted. The theory employed is that industries and business that might most likely seek a Burns or Harney County location are those that would like to be nearby major customers, in order that transportation, production, and marketing costs can be reduced while regional market share can more easily be enhanced, i.e. cost and locational efficiencies of company supply chains.

Utilizing IMPLAN methodology,2 as well as Oregon Employment Department (OED) data, the following methodological steps were used:

- Local Concentration Customers: Industries that regularly purchased goods and services produced by Harney County's concentrations were identified with input-output analysis utilizing IMPLAN.
- Local Concentration Vendors: Industries that provide goods and services to each of the concentrations were identified via results expressed above as well as additional analysis of OED data.
- Local Input Analysis: After identifying all vendors to local industry, the share of products and services sold to local concentrations by local businesses was estimated.
- Input Import Analysis: Once local input production for business was known, the quantity of goods and services imported from outside Harney County by local businesses was then estimated.

Harney County's Other Crop Farming, Cattle Ranching & Farming, and Motor Vehicle Parts Manufacturing all rely on significant amounts of imported goods and services. Each of these industries require at minimum $17 million in vendor goods and services from outside of Harney County, making these inputs and their respective industries of primary interest. Targeting of these sectors for expansion and attraction would not only diversify the local economy, but also enhance the supply chain and business costs of existing industry in Harney County.

a. Other Crop Farming

The County's largest economic concentration is Other Crop Farming with an emphasis on alfalfa, hay, rye, barley, and oats. The following Table provides a summary of inputs required by the sector for production, as well as information about how much of those inputs, in millions of dollars annually, are from local firms or are imported from outside of Harney County.

2 IMPLAN (IMPacts for PLANning) is a standardized input/output economic model that was developed by the U.S. Forest Service for estimating the economic impacts of management policies. The model is utilized by academia, the public and private sectors for the purposes of measuring relationships between different industries in any geographic area in the U.S.

TABLE 9.12
OTHER CROP FARMING INPUT ANALYSIS

Industry	Goods & Services Used	Local Goods & Services	Imported Goods & Services
Pesticide and other agricultural chemical	2.170	0.000	2.170
Wholesale trade	2.120	0.080	2.040
Nitrogenous fertilizer manufac.	1.640	0.000	1.640
Petroleum refineries	1.450	0.000	1.450
Insurance	1.020	0.100	0.920
Carry	0.760	0.000	0.760
Other inorganic chemical manufac.	0.440	0.010	0.430
Steel wire drawing	0.410	0.000	0.410
Monetary authorities & depository credit intermed.	0.610	0.330	0.280
Warehousing and storage	0.260	0.000	0.260
Truck transport.	0.660	0.420	0.240
Industrial truck-trailer-and stacker manufact.	0.250	0.010	0.240
Farm machinery & equipment manufact.	0.200	0.000	0.200
Machinery and equipment rental & leasing	0.180	0.000	0.180
Rail transportat.	0.170	0.000	0.170
Power generation	0.160	0.010	0.150
Automotive equipment rental & leasing	0.500	0.370	0.130
Total	0.120	0.000	0.120
	0.110	0.000	0.110
	28.331	***6.830***	***21.501***

SOURCE: MIG
* In millions of dollars

- The industry currently directly employs 396 people directly within the county, making it the region's second largest employer, behind cattle ranching. True employment is actually much greater due to the seasonal nature of the industry, a significant component of which is not included here.
- The 396 year-round employees represent 10.75% of the entire covered employment workforce.
- Vendors and support industries for All Other Crop Farming provide almost $7 million on an annual basis to the local economy. Truck transportation, power generation and supply, monetary authorities and depository credit intermediaries, commercial machinery repair, and maintenance.
- Imported goods and services to support All Other Crop Farming exceed $21 million annually, led by Pesticide and Fertilizer Manufacturing, Wholesale Trade, and Refined Petroleum Products.

2. Cattle Ranching & Farming

The second largest economic concentration in the Harney County economy is Cattle Ranching & Farming, which includes a diverse range of primary business sectors. The following Table summarizes the concentration in terms of direct, indirect and tertiary/induced employment by local business sector.

- Cattle Ranching directly employs roughly 449 individuals in Harney County making the industry the county's leading employer, representing 12.2% of the covered workforce.
- Vendors and services to the primary cattle ranching firms provide over twenty million dollars on an annual basis to the local economy. The local industries that are impacted the greatest are Crop Farming, Cattle Ranching, Agriculture & Forestry Support Services, Power Generation, and Truck Transportation.
- Imported goods and services to support Cattle Ranching & Farming near $20 million annually, led by Real Estate Services, Animal Food Manufacturing, Grain Farming, and Wholesale Trade.

c. Motor Vehicle Parts Manufacturing

A major employer for Harney County is Monaco Coach, which manufactures fiberglass at a plant in Hines, Oregon. Monaco Coach has operated the plant since its acquisition of SMC Corp. in 2001. Monaco Coach cites a "strong work ethic" among the over one hundred employees as the plant's primary asset, indicating a highly-marketable local labor force. Oregon's sales-tax free environment has also contributed to the high-end motor home industry in the state.

The following Table summarizes this emerging concentration of non-traditional manufacturers and the growing array of sectors they help to support locally. Results are summarized in terms of annual employment.

TABLE 9.14
MOTOR VEHICLE PARTS MANUFACTURING ANALYSIS

- Motor Vehicle Parts Manufacturing employs 112 on an annual basis with the vast majority working at the Monaco Coach plant.
- Tertiary or induced employment created by primary and secondary commerce in the concentration provide over 3.6 million dollars on an annual basis to the local economy, led by Other Motor Vehicle Parts Manufacturing, Truck Transportation, Power Generation & Supply, Machine Shops, and Monetary Authorities & Depository Credit Intermediaries.
- Imported goods and services to support motor vehicle parts manufacturing top $17.5 million annually, led by Wholesale Trade, Iron and Steel Mills, Motor Vehicle Parts Manufacturing, Management Services, and Aluminum Foundries.
- The outlook for the concentration may be tempered by erratic and escalated fuel costs, which not only drive up the cost of production, but also make recreational vehicle and trailer usage more expensive to consumers as well.

3. Combined Targeted Industries

The following Table provides a summary of the top twenty candidate industries for recruitment, in terms of gross annual sales to local businesses, but located outside Harney County. Oregon average annual wages for each candidate industry are also provided.

As the following Table indicates, local economic development efforts have the opportunity to tap sectors that are traditionally industrial: Manufacturing, Wholesale Trade and Natural Resources. Animal food, pesticide, petroleum products, fertilizer, and motor vehicle parts are all some of the many manufacturing sectors from outside the area that local business rely on most heavily for vendor goods and services. Non-manufacturing candidate industries are led by real estate, wholesale trade, agriculture and forestry support, and insurance. Although some industries will be more feasible than others, the profile of industries summarized above provides a roadmap for business retention and recruitment efforts grounded in Harney County's existing competitive advantages.

Finally, not only are the above industries presently underrepresented in the local economy based on commercial vendor import, the candidate industries pay quality, family wages on average.

The lowest annual wage among the candidates is $20,166 for Agriculture & Forestry Support Services. The average salary in Harney County in 2003, according to Oregon Employment Department data, was roughly $25,612. Eighteen of the twenty targeted industries, based on Oregon averages, pay in excess of the local average indicating significant room to enhance local income over the short and long-term.

D. COMMERCIAL AND INDUSTRIAL LAND NEEDS

An analysis of the Cities of Burns and Hines 20-year need for industrial and commercial land was conducted as part of the 2005 Cities' Goal 9 Review.

Three employment growth scenarios were analyzed to provide a baseline confidence interval for which the Cities should plan. Assumed growth rates are largely based on historical trends for the Cities of Burns and Hines, but modified to reflect recent developments in the local economy as appropriate. The three scenarios are:

- Medium Growth Scenario: The baseline or conservative forecast of likely employment growth in Burns/Hines. Annual average payroll growth is assumed to be 0.81%.
- High Growth Scenario: An average, annual rate of growth of 1.0%. Reflects greater-than-expected success with local and County economic development efforts over the next twenty years.
- Slow Growth Scenario: An average, annual growth rate of 0.70%, the average annual growth rate projected by the Oregon Employment Department for Harney County for 2002 to 2012. Recent economic strength statewide renders this annual growth rate a more conservative lower bound for the confidence interval.

1. Cities of Burns and Hines Employment Projections

Over the 20-year study period, Burns and Hines can expect to add over 330 jobs in the Medium Growth scenario assuming the local economy generally follows historical trends. Government, Leisure & Hospitality (including Tourism) and Professional & Business Services are expected to be the most promising sectors in coming years. Results of the employment forecast are summarized in Table 9.16.

Table 9.16
CITIES OF BURNS AND HINES 20-YEAR EMPLOYMENT FORECAST:
MEDIUM, HIGH, SLOW GROWTH SCENARIOS

Medium Growth Scenario	Total Employment				
Employment Sector	**2005**	**2010**	**2015**	**2020**	**2025**
Construction	47	48	50	51	53
Manufacturing	209	209	209	209	209
Wholesale Trade	24	25	26	27	28
Retail Trade	253	264	275	287	300
Transportation, Warehousing & Utilities	36	37	39	41	43
Information	17	17	18	18	19
Financial Activities	54	56	59	62	65
Professional & Business Services	49	54	59	65	70
Education & Health Services	105	115	125	136	148
Leisure & Hospitality	195	213	232	253	276
Other Services	45	47	49	52	54
Government	739	762	787	813	840
Total	**1,771**	**1,847**	**1,928**	**2,014**	**2,105**
High Growth Scenario	**Total Employment**				
Employment Sector	**2005**	**2010**	**2015**	**2020**	**2025**
Total	**1,771**	**1,844**	**1,941**	**2,046**	**2,158**
Slow Growth Scenario	**Total Employment**				
Employment Sector	**2005**	**2010**	**2015**	**2020**	**2025**
Total	**1,769**	**1,847**	**1,916**	**1,988**	**2,064**

2. Summary of Industrial and Commercial Land Need Findings

The resulting calculations of land need based on the above employment projections are summarized in the following Table. Projections of gross new demand in Burns/Hines for commercial and industrial land between 2005 and 2025 are detailed. The figures include a 25% gross-up factor for roads, public facilities, infrastructure, and open space.

Through 2025, net new demand for industrial and commercial land is estimated to range from 19.4 acres to 35.2 acres depending upon whether Burns/Hines realizes slower economic growth or high economic growth relative to historical trends. The baseline "Medium Growth Scenario" indicates that Burns/Hines will see demand for industrial and commercial land reach 25.5 acres through 2025.

Table 9.17
GROSS NEED FOR COMMERCIAL AND INDUSTRIAL LAND
BURNS/HINES, OREGON
2005-2025
MEDIUM, HIGH AND LOW GROWTH SCENARIOS

	Gross Need for Land (acres) By Scenario Through:		
	Medium Growth	High Growth	Low Growth
Use	2025	2025	2025
Office Commercial	*1.4*	*1.6*	*1.3*
Industrial	*2.7*	*3.1*	*2.3*
Retail Commercial	*21.4*	*30.4*	*15.9*
Resident-Driven	7.9	11.3	6.7
Visitor-Driven 1/	13.5	19.2	9.2
Total	***25.5***	***35.2***	***19.4***

1/ Includes tourist/highway traffic as well as shoppers from neighboring areas.

3. Employment Land Reserve Issues

Employment land need forecasts in the above analysis assume a natural or organic rate of expansion for the Burns/Hines economy based on existing industries and trends. In addition to natural growth, however, it will be important for the City to have additional land capacity to accommodate economic developments that are presently impossible to anticipate. These specifically include:

- Abnormally high rates of growth in existing or spin-off industry;
- "Home Run" business attraction, such as a sizeable new distribution center for a national retailer. The recent commitment by Google.com to site a significant internet infrastructure facility in The Dalles on Port of The Dalles property and the new Tillamook Creamery facility in Boardman on Port of Morrow property are examples;
- Contingency for countering potential economic displacement, such as closure of local major employers and its negative economic consequences;
- Ample supply to meet City planning and economic development goals, such as a growing role as a regional trade or tourism center.

Finally, industrial parcels of versatile size and reasonable development cost have grown more scarce in the Willamette Valley near Interstate 5, particularly in the Portland metro area. The decision by Google.com to locate in The Dalles – an hour by Interstate 84 to the Portland International Airport – was driven in part by the issue of industrial land availability with excellent transportation access and reasonable cost.

It is, therefore, reasonable to expect that Burns/Hines can have some future measure of success in attracting an unprecedented industry or firm(s) who find Bend or Hermiston expensive or environmentally unacceptable to seek a location within the Burns/Hines urban growth boundaries. It is therefore recommended that the Cities of Burns/Hines consider an industrial land reserve for just such a new traded sector employer in the area.

4. Employment Space and Land Orientation Considerations

Employment growth prospects in the Burns/Hines area, with the exception of accelerated economic development initiatives and success, are not expected to drive substantial employment land demand over the next twenty years. As expressed in Table 9.17, Retail Commercial land demand, driven by population growth and tourism growth, will account for the vast majority of non-residential land need expected through 2025.

Industrial and office commercial space absorption, via natural employment growth or the attraction of an unprecedented industry, employer or groups of employers, will materialize in specific individual development orientations. The following is a summary of likely industrial and commercial development formats that will be most probable in accommodating future employment growth.

Industrial

At two to three acres of demand in twenty years from natural growth, it should be expected that flexible development types will accommodate most industrial growth. Among industrial sectors projected to grow in twenty years, Transportation, Warehousing & Utilities, Wholesale Trade and Other Services (auto and machine repair predominantly) can be expected to account for most demand for industrial space in the local economy over the planning period.

All three industries generally require flexible use industrial/business park type space. Qualities include:

- 0% to 5% parcel gradient
- Excellent road access required and rail access preferred
- Mix of traditional industrial shell space and small office allocation combined
- Warehouse/general industrial space with drive-in/high-cube doors and/or bay door access
- Wide turning radius, limited storefront/sales office and parking access.

Flexible business/industrial park space not only provides tenants with flexible space for combined office and industrial uses, but also provides flexible economic development tools for business expansion and attraction. Business incubators, small-scale food processing and a host of other potential industries can easily be accommodated in business park/industrial park orientation development.

Office Commercial

Among industries projected to grow the fastest over the next twenty years, Government, Leisure & Hospitality, and Professional & Business Services can be expected to account for the majority of space need. Although small in scale, office commercial land demand will likely take the form of business park space over the next twenty years.

Single-story business park space, combined with more industrial-oriented tenants or greater office build-out, is generally a lower-cost development type than traditional single or multi-story

office development. Accordingly, government agencies seeking least-cost space with some flexible use and general services firms have increased interest and use of business park space throughout the State for cost and flexibility reasons. Business park space accommodating office users will have 80% or greater office build-out, potentially shell space for storage or light assembly, as well as no need for bay and drive-in doors as necessary for industrial/business park space. Leisure and hospitality industry has also grown in its use of lower-cost business park space, typically with slightly greater shell space build-out to accommodate odd-sized or large merchandise, activity or practice facilities, or light manufacturing or repair space for recreational service firms.

Some degree of traditional office space, particularly for some government employment, legal services firms and healthcare will be required as well. Single-story wood construction with higher parking ratios can be expected to accommodate firms seeking space with nicer finish and common areas associated with strictly office-oriented development.

Retail Commercial

Baseline retail commercial land need is estimated at roughly 25 acres over the twenty-year planning period, the majority of which will be driven by tourism commerce. The overwhelming retail orientation will be small, individual buildings or strip/neighborhood anchored centers developed over the twenty-year horizon. Medium and large-format retail, which require no less than 15 acres and up to 25 acres for individual outlet locations, are the least-likely formats for future growth.

E. Evaluation of Commercial and Industrial Land Supply and Demand

To assess the adequacy of the Burns and Hines existing supplies of commercial and industrial properties within City Limits and the Urban Growth Boundaries (UGBs), this section compares the land supply with the land demand.

1. Commercial and Industrial Land Supply

An inventory of the commercial and industrial properties has been performed for sites within the respective City Limits and UGBs. Table 9.7 and Exhibit 9.1 illustrated the vacant lands inventory for the commercial and industrial parcels for Burns.

A summary of the supply of vacant buildable land in the Burns UGB is included in the following Table.

Table 9.18
Summary of Buildable Commercial and Industrial Land Supply within the Burns UGB

	Zone		Gross Buildable Acres
Commercial			
	Commercial	C-1	45.3
	General Commercial	CG	45.5
	General Commercial/Residential	CG/RS	44.6
Total Commercial			**135.4**
Industrial			
	Heavy Industrial	IH	61.1
	Light Industrial	IL	14.9
	Light Industrial/Heavy Industrial	IL/IH	63.4
Total Industrial			**139.3**
TOTAL			**274.7**

By way of comparison, a summary of the supply of vacant buildable land in the Hines UGB is included in the following Table.

Table 9.19
Summary of Buildable Commercial and Industrial Land Supply within the Hines UGB

	Zone		Gross Buildable Acres
Commercial			
	Commercial	C & C-1	282.1
	Commercial/Industrial	C/I	33.7
Total Commercial			**315.8**
Industrial			
	Industrial	I	76.6
	Industrial/EFU	I/EFU	90.5
Total Industrial			**167.0**
TOTAL			**482.8**

2. 2025 Gross Land Demand for Commercial & Industrial Uses

As observed previously, Burns and Hines requires 25.5 acres to accommodate the commercial and industrial land needs, using the Medium Growth Scenario. The following Table illustrates the need for each of the commercial and industrial land uses in the year 2025.

Table 9.20
Commercial & Industrial Land Demand

Use Type	2025 Demand (Gross Acres)
Office Commercial	1.4
Industrial	2.7
Retail Commercial	21.4
Resident-Driven	*7.9*
Visitor-Driven 1/	*13.5*
TOTAL	**25.5**

1/ Includes tourist/highway traffic as well as shoppers from neighboring areas.

The land demand for these uses is compared to the supply of vacant buildable land in the following subsections.

a. Office and Retail Commercial

The 2025 land demand for office commercial is 1.4 acres, and the land demand for retail commercial is 21.4 acres; together, these two uses have a need of 22.8 gross acres. There are currently 135.4 vacant buildable acres with commercial zoning in the Burns City Limits and UGB and 315.8 vacant buildable acres with commercial zoning in the Hines City Limits and UGB. Combined, the Burns and Hines commercial land supply totals 451.2 acres, which is a significant surplus over the need for 22.8 gross acres.

b. Industrial

The 2025 land demand is 2.7 acres for industrial uses. The land supply in the Industrial zones includes 139.3 vacant buildable acres in the Burns City Limits and UGB and 167.0 acres in the Hines City Limits and UGB. Combined, the Burns and Hines industrial land supply totals 306.3 acres, which is a significant surplus over the need for 2.7 gross acres.

Update to Burns-Hines Economic Opportunities Analysis

The following is proposed to be added to the Burns Comprehensive Plan as an augmentation to the city's Economic Opportunities Analysis (EOA) adopted in 2008. In addition, the City of Hines may also consider including the following EOA amendment as part of its Comprehensive Plan at a subsequent date.

Augmentation to City of Burns Economic Opportunity Analysis

GENERAL ECONOMIC CONDITIONS

Burns and Hines have served for decades as the hub of commerce and industry in Harney County. As the County's largest population centers, these Cities have historically been the site of the County's most intensive economic activities. As such, the economies of Burns, the County, and the City of Hines are closely connected and interdependent, for the most part as a single economic unit. Therefore, the scope of the following economic analysis addresses Harney County, the City of Hines, as well as commerce and industry specific to the City of Burns.

GOAL 9 EOA UPDATE

To create a valid update to the existing EOA requires revisiting the demand for suitable employment land by conducting a review of trends, suitable site requirements, inventory of suitable sites and economic development potential.

That information is included in this document, or exists in separate documents that are companions to this EOA update such as the GIS site suitability and inventory map.

KEY FINDINGS

- Total 20-year demand for suitable employment land remains the same. Land need requirements are therefore established out to 2029.
- Many of the vacant, available employment sites are unsuitable for the likely uses due to flood zone impacts.
- A mix of sites generally ranging from 10 to 50 acres will be needed.
- At least 100-acres of suitable employment land is needed in the short term.
- The short-term supply is anticipated to become available within the existing UGB by rezoning residential land.
- Specific sites and groups of sites will be evaluated for continued inclusion in the long-term supply or possible adjustment to the UGB as funding becomes available.
- Alternative energy is anticipated to be the main demand driver for employment land of all kinds. Energy related and other light manufacturing support industries are projected to be part of this demand.
- It is anticipated that a full EOA and related comprehensive plan updates will be required within the next 5 years, depending on the progress of the alternative energy sector and the availability of state funding assistance.

National, State, Regional, County and City Trends Review

The State of Oregon over the course of the past 5 years has become a leader in the areas of alternative or "green" energy development. Oregon is known for its hydroelectric capabilities but over the past several years have developed a very strong portfolio (and growing) of biomass wind, solar and geothermal sites.

Harney County has identified biomass, wind, solar, and geothermal energy opportunities as a key growth sector and there are currently several energy projects, which are now in process moving toward development. The feeling is that this trend is likely to continue for the foreseeable future since the County is very large with a relatively low population (7,600) and a progressive and open-minded citizenry. This allows for energy projects that in more urban areas may not get the approvals they need. The location of the County with respect to its access to regional power lines for sale and distribution of power from the County to the power grid make it even more attractive to potential energy project investors and developers.

In light of these opportunities, it is critical that Harney County position itself (within it's two largest cities of Burns and Hines) to allocate a logical and necessary amount of industrial land for future use and application by these or other companies related to the energy industry. Potentially

many extended business supply or produce product to support energy firms that could very easily locate in Harney County. Although no fixed numbers are available, employment estimates or projections of 300 to 500 new jobs would be well within the total employment figures discussed over the next 3-5 years.

Harney County is home to several light-manufacturing firms. There are existing available manufacturing locations, including a 69 acre property recently vacated by Louisiana Pacific Corporation, which is available for purchase.

It is estimated that the 20-year future demand for suitable employment remains at the same level as found in the previous EOA adopted by Burns and Hines.

Assessment of Community Economic Development Potential

Relevant economic advantages and disadvantages related to future renewable energy product development and light to medium manufacturing companies locating in Harney County include:

(a) Location, size and buying power of markets;

The two largest cities in Harney County (Burns and Hines) are located along State Highway 20 which connects Portland, Oregon on the West to Boise, Idaho and beyond on the East. The population base of both Burns and Hines combined is roughly 5,200 with an average income of just over $28,000 does not currently generate significant buying power and financial capacity but does allow for a good foundation to build on. Harney County has a quality of life that is highly sought after which will attract a significant number of potential employers looking to leave the high costs of large metro locations behind. Harney County is 2 - 3 hours from two airports making it a relatively close commute.

(b) Availability of transportation facilities for access and freight mobility;

Harney County has access to State highways and State roads that connect the County to the rest of the State in all directions. State Highway 20 runs directly through both Burns and Hines east and west from Portland, OR to Boise, ID and beyond. There is no rail service in the County. Harney County/Burns does have an airport and has acreage to expand as needed in terms of additional runway requirements and industrial park / business expansion sites.

(c) Public facilities and public services;

Harney County provides law enforcement (Sheriff's Dept.), as do the Cities of Burns and Hines (Fire and Police). Burns and Hines have city parks. The Harney District Hospital provides Advance Life Support Emergency Medical Services and Harney County has a Fairgrounds.

The County also sponsors a Dial-a-Ride program, which transports anyone who needs a ride within the County to and from his or her requested location for a nominal charge.

(d) Labor market factors;

The Harney County labor market is driven in largest part by the agricultural sector but also includes a sizeable headcount within forestry, light manufacturing and County Government. The current hiring need for a manufacturing type of job could be filled without significant or potentially any outside recruitment effort due to the recent layoff (October, 2007) of 94 employees of the Louisiana Pacific plant that shut down in Hines. The majority of these employees remained in the County and are available for work. This assessment re-accepts the 2028 job growth estimates from the EOA adopted by both cities during 2008.

(e) Access to suppliers and utilities;

There are product suppliers including building materials located within the Burns/Hines area. There are two local electric Co-ops one is located within the Burns/Hines area and the other handles customers outside the two city limits into the further reaches of the County. Sufficient power is available for new expansion.

(f) Necessary support services;

Harney County boasts a new hospital, ample doctors and dentists, a highly respected and award winning library, as well as the necessary primary, secondary and post-secondary educational opportunities.

(g) Limits on development due to federal and state environmental protection laws

With all of the currently identified industrial lands located in a flood plain or flood zone, the high cost of construction in areas prone to flooding or high-velocity wave action (rising water and/or water that is moving horizontally) will be affected by the following considerations:

1. The need for well-designed flood gates within the foundation that permit water to flow through easily in any direction.

2. Special requirements for water damage-resistant construction materials.

3. Emphasis on appropriate flood loads; grading and fill requirements.

4. Building design that avoids placing any electrical, mechanical, and plumbing system components on or through exterior walls that are designed to break away under flood loads

(h) Educational and technical training programs.

Harney County boasts two high schools (Burns and Crane) and has a Jr. High and nine elementary schools (with one each in Burns and Hines). Additionally, located at the high school in Burns, both Eastern Oregon University and Treasure Valley Community College have distance learning campuses which allow local residents the opportunity to take college or technical training courses as required or needed. This center represents a great pre-College opportunity for high school students who are not quite ready to make the move outside of the area to full-time college education or the funds to do so.

Site Requirements

It is imperative to the financial and economic viability of the area that Harney County is allowed

to identify and move on securing new industrial land areas within the Burns/Hines city limits. Because they're located in the flood plain, existing industrial land sites will require a significant and in most cases unbearable burden of financial responsibility to comply with current requirements necessary to build or develop the identified areas.

When the first Goal 9 project was completed several years ago, the economic development opportunities that are now simultaneously being pursued and brought to the County and City leaders for their support were not even on the radar screen. Southeastern Oregon (Harney County in particular) represents a significant growth area for wind, geothermal, biomass and solar power generation. For example, the wind that blows in Harney County (identified areas) blows at different times to that on the Columbia River Gorge (where most of the existing wind turbines are located) meaning that wind power for the first time in the State can be a consistent contributor to power grids as opposed to the peaks and valleys heretofore.

Additionally, with these new economic opportunities come support and other product expansion / extension opportunities that will need to be based in or around the larger populated areas (Burns and Hines) and require industrial land development for their respective operations. This would also lend itself and give Harney County, Burns and Hines a leg up in other product categories including the existing agriculture base support and innovation and light manufacturing innovation and development. The acreage we are requesting to move through the State certified process (for industrial development opportunities) and to meet this forecasted need is up to 100 acres in the short-term supply. The County understands that this represents part of the 20 year out view but some if not most of the businesses and industries we are talking about i.e. Biomass energy plants, renewable energy manufacturing facilities (wind tower construction, wind turbine remanufacturing) coming in will require larger land footprints i.e. in excess of 10-15 acres at a minimum for development. This would potentially include a (or multiple) dairy processing facilities, beef and/or beef production facility (branded product) as well as other agricultural innovation. It is difficult to narrow this down however, anticipation is for development of the significant Ag base found in Harney County.

The Oregon Economic and Community Development Department Officer for Harney County, Rick Minster is a strong and supportive advocate for this change to occur as quickly as reasonably possible. In particular, the change of the identified 100 acres of land to industrial designation so as to support economic development activities in Harney County, Burns and Hines in the future. All parties including Harney County, Burns and Hines are interested in the future of looking at an Urban Reserve for additional industrial facilities.
It is crucial that Harney County and Cities of Burns and Hines be given the opportunity to certify newly identified industrial land in the next 6-12 months.

3. Locating Needed Industrial Lands

A constrained mapping exercise was conducted to determine where to best locate 100 acres of needed industrial lands outside of the floodplain *(Map 1).* This analysis included review of existing development patterns, slope and serviceability, particularly for water, sewer and transportation. Suitable sites large enough to accommodate a 100-acre industrial area were limited to a large area of undeveloped residentially designated land located generally within the

northern sector of the Burns UGB, which includes a significant portion of trust land owned by the Burns Pauite Tribe. A vacant 100-acre site located just east of Monroe Street and adjacent to the Oregon Youth Authority facility approximately 0.5 miles north of the junction of Monroe Street and Highway 20 was determined to be the most suitable site *(Map 2 & DPW Memo)*.

Approximately 40 acres of the site are owned by Harney County while the remaining 60 acres, will be identified in the near future and incorporated into the industrial site. It was determined by the Burns Department of Public Works that adequate water and sewer service capacity are available to serve the entire site (DPW Memo,7/30/2008 incorporated by reference).

Transportation - In order to comply with the state's Transportation Planning Rule (TPR) at OAR 660-012-0060, the coordinating group determined a trip cap on future industrial development of the 100-acre site by calculating the number of trips that would be likely generated by the site's currently acknowledge residential zoning as follows:

(100 acres) (4 dus/ac) = 400 dus at buildout

(400 dus) (9.8 trip/day/du) = **3,920 trips/day trip cap**

And

(3,920 trips/day) (10% peak hour) = **396 trips/hour trip cap**.

Thus, the acknowledged residential equivalent trip caps would be set as not-to-exceed 3,920 trips per day or 396 trips per hour.

In order to meet these TPR requirements, both not-to-exceed daily and hourly trip caps are proposed to be included as amendments to the Comprehensive Plan and Zoning Ordinance.
Long-range industrial lands needs and locational considerations – During the coordinating groups effort to identify the location of a 100-acre industrial tract, a number of related planning concepts and issues emerged which will likely be important to future planning efforts between the City of Burns and the Burns Paiute Tribe. These concepts and issues should be considered during subsequent planning efforts, such as those that are suggested by proposed policies. These proposed policies support continuation of certain efforts between the City and Tribe. These include preparation of a comprehensive state planning grant application for the larger City/Tribe joint planning area, gaining of state certification of the proposed 100-acre industrial site, coordination in developing the area's infrastructure needs and coordination of the management of the Tribe's trust lands that are located within the Burns UGB.

If development of the 100-acre industrial site occurs in the manner anticipated by the augmented EOA, then additional demand for adjacent industrial lands are considered likely, and perhaps sooner than the augmented EOA projection. It will be important for subsequent planning efforts to consider reserving key industrial/energy development sites during joint planning exercises, since it appears there are few other good options remaining for large-scale and constraint-free industrial sites within the Burns-Hines UGB area.

4. Assessment of Residential Land Capacity in the Burns and Hines UGBs

The Burns-Hines EOA amendment has identified the need for 100 acres of serviceable industrial land,which is located out of the floodplain. The cities first evaluated whether locations within the existing UGBs could be utilized for this industrial land need. Generally, it was discovered that the combined UGB have an ample supply of unbuilt residential land to serve the cities 2028 population. The following is a general assessment of residential land capacity within the joint Burns-Hines UGB planning area:
According to Harney County GIS data the Burns-Hines UGBs includes 2087 acres of land. Buildable land designated for residential uses includes 1245 acres. This acreage does not include potential residential properties that could provide additional residential units through infill and redevelopment. Also, it was determined that little or none of the 1245 acres can be considered constrained for residential development, after an evaluation for slopes greater than 25%.

The Burns-Hines UGB is projected to contain a population of 5537 in 2028. The PSU 2007 population estimate for the Burns-Hines UGB was 4945, which means an additional 592 persons are expected in the planning area by 2028.
If the 1245 acres of currently available buildable residential land were to develop at an average buildout density of 4 dwelling units per acre while assuming 2.4 persons/household, the present UGB planning area could yield a population holding capacity of 11,952 persons. At 5 dwelling units per acre, the holding capacity would increase to 14,940 persons. These assumptions point to the fact that there is a very large surplus of designated and buildable residential land with the Burns-Hines planning area which can easily absorb the cities combined 2028 population projection.

If the 100 acres of needed industrial land were formed from this residential land surplus, it would reduce the above holding capacity by 900 persons, assuming 4 units per acre and 2.4 persons per unit. This conversion from residential to industrial land would still allow the cities to have an ample surplus of buildable residential land far beyond the 20-year planning timeframe.

The following table illustrates the calculations used in developing this residential land capacity estimate:

Buildable Residentially Designated Lands inside the Burns & Hines UGB	
[redacted]	
Total Acreage:	**2087.02**
[redacted]	
Buildable *(Not improved or constrained)*:	**1244.9**
[redacted]	
Persons Per Dwelling Unit (DU)	**2.4**
Units Per Acre:	**4**
Persons on Buildable 4 DU/Acre:	**11952 persons**

Units Per Acre:	**5**
Persons on Buildable 5 DU/Acre:	**14940 persons**
[redacted]	
Industrial 4 units/acre	960 persons
	10992 persons
Projected Population for Urban Areas:	5537 persons

Conclusion: B&H UGB unconstrained residential lands after the industrial 100 acres is converted to industrial designation is nearly twice the 2028 forecast

This assessment concludes that the conversion of 100 acres from residential to industrial designation within the existing Burns and Hines UGBs would not affect the two city's ability to continue to meet their Goal 10 housing needs obligations for the next 20-year period, and beyond.

2. POLICIES

9.3 COMMERCE AND INDUSTRY

A. The City shall encourage and support activities intended to improve or diversify the local economy. Such encouragement and support shall be rendered consistent with the Harney County Overall Economic Development Plan, and the work of the County Economic Development Committee.

B. In order to support information dissemination on local economic opportunities, the City shall maintain and make available information describing available commercial and industrial lands, labor force characteristics, public facilities and services, and related economic resources.

C. The City shall encourage and support major commercial and industrial development where public facilities and services presently exist, or where they can be readily, efficiently, and economically provided.

D. The City shall focus its economic growth and diversification efforts on the target industries of: Other Crop Farming, Cattle Ranching & Farming, Motor Vehicle Parts Manufacturing, and utilitarian use of surplus federal lands; and in general on those industries which have the following characteristics:

(1) The industry should have a regionally-oriented market rather than a local one;

(2) The industry should be engaged in a market with positive growth trends;

(3) The industry should be able to use local raw materials (e.g., alfalfa, pine lumber, *diatomite), or have a cost-effective means of importing such materials;

(4) The industry should facilitate secondary processing of local raw materials;

(5) The industry should be non-seasonal in nature or operate during months of high unemployment;

(6) The industry should help absorb the local unemployed labor force by creation of new jobs in basic employment sectors as opposed to importing new labor skills;

(7) The industry must be able to provide on-the-job training;

(8) The industry should have cost-effective means of transporting its finished product to regional markets, or have local demands;

(9) The industry should have shipping requirements that could be met by its own equipment, or that could be back-hauled with other shippers;

(10) The industry should not exceed the carrying-capacity of the area's natural resources;

(11) The industry should make optimum use of renewable energy resources (biomass, geothermal, solar, wind) wherever available and practical;

(12) The industry should either be a relatively low energy consumer, or should produce alternate energy as an end or by-product;

(13) The industry should not exceed the capacity of public facilities and services; and

(14) The industry must be consistent with land-use plans and development regulations.

E. In recognition of the current supply of serviced commercial and industrial lands and unoccupied buildings, the City shall encourage and support use of these existing sites.

F. Coordinate among the City of Burns, City of Hines, Harney County and Burns Paiute Tribe to promote the regional economy through specific commercial/industrial development actions.

G. Expand the Burns UGB to include the Burns Municipal Airport and consider annexation.

H. Market the airport site to potential commercial and industrial users identified in the Industry Concentration Analysis.

I. Amend the Burns Zoning ordinance to limit each zone to its intended use, consistent with Goal 9 Rule.

J. Create a Business Park Zone and apply it to suitable sites including the southern 40 acres of Tax Lot 100 in Township 23, Range 30, Section 12, located on West Monroe Street.

K. Pursue Oregon Industrial Site Certification for all sites which qualify within the Burns Urban Growth Boundary.

L. Encourage existing organizations such as the Eastern Oregon Technology Group to expand their services to increase the technological capacity and infrastructure of the Burns-Hines area.

M. Consider rezoning the area south of West Pierce Street between US Highway 20 and the former railroad right-of-way, and the area north of West Pierce Street between the former railroad right-of-way and the eastern city limits, from industrial to residential uses to compensate for the airport UGB expansion.

N. The Cities of Burns and Hines shall work cooperatively to maintain an adequate supply of serviceable industrial land that is not constrained by the floodplain. The cities shall consider review of additional industrial land needs whenever the supply of serviceable and/or unconstrained industrial land becomes or is anticipated to become less than 50 acres.

O. The City of Burns, in coordination with the Economic Revitalization Team, will seek certification of the 100-acre industrial site located east of Monroe Street in the vicinity of the Oregon Youth Authority facility.

P. A trip cap shall be applied to the city's 100 acre industrial site located east of Monroe Street which corresponds to the level of traffic generated by acknowledged zoning prior to amendments which have enabled the 100-acre site to be used for industrial uses. The trip cap shall be apply to either total daily or peak hour trips, which ever would trigger the trip cap threshold first. The trip cap requirements shall be included in the city's Industrial / Energy Development (I-ED) zone district and enforced and monitored through permit conditions set for with site plan approval(s). The Oregon Department of Transportation will be informed whenever applications for development occur within the I-ED zone district.

Q. The City of Burns will pursue application for a planning grant(s) to manage development of industrial land located east of Monroe Street near the Oregon Youth Authority facility. The grant will analyze the transportation impacts of land use alternatives in the vicinity, determine internal circulation for industrial level streets and

local connections to the surrounding neighborhoods, and include implementing code amendments. The planning grant(s) shall also review and recommend any needed updates to the city's trip cap program for this industrial area, including feasible alternatives to the trip cap that continue compliance with the State Transportation Planning Rule.

Application for planning grant(s) should also assist the city in updating its Transportation System Plan on a citywide basis, and include capital improvement plans and financing strategies, which will assist the city in gaining and retaining economic development opportunities over the medium and long-term.

Section 10

HOUSING

Findings

10.1 CURRENT HOUSING STOCK

An inventory of the Burns housing stock, taken in 1980 by the U.S. Census Bureau, is summarized in Table 10.1. The most recent data on changes and trends in the Burns housing market is summarized in Table 10.2. This data indicates an overall trend towards a high percentage of home ownership, a relatively low vacancy rate, and a high proportion of mobile homes.

The desire of the people of the community to own their structure has remained high, and has been satisfied to a certain degree through the availability of the mobile homes. While mobile home use has increased significantly, multi-family units have posted only a modest increase. The percentage of renter-occupied units, which includes single-family homes, has decreased. The percentage of the community's housing stock that is available for rent dropped slightly between 1970 and 1980.

Another factor that can be seen in Table 10.2 is the reduction in the number of persons per dwelling unit for all types of dwelling units from 1970 to 1980. Of particular significance here is the decrease in persons per rental dwelling unit. The availability of mobile homes has helped to satisfy a significant housing need of larger families who cannot afford conventional single-family housing. The figures in Table 10.2 also indicate an overall lowering of population density within Burns as the urban area expands. If this trend continues, greater amounts of land will be necessary to accommodate future housing units than would be required if a higher person per dwelling unit level were maintained. This will also be the result of greater physical constraints (primarily shallow bedrock) to development in outlying areas, resulting in lower overall densities.

The affordability of housing continues to be a dominant issue in the community. Average household income is expected to continue rising as a result of inflation, and because of the incidence of unrelated wage earners joining together to rent or purchase housing. Alternatively, although family incomes will increase, the rate of growth will likely be slower because families will be smaller and be made up more often of a single parent with children. During the next 20 years, home purchase costs will continue to rise, but the rate of increase may slow as interest rates level off. Energy costs will continue to increase as a proportion of the household budget; however, for certain individual households these costs will

decrease over time as energy-conserving features are incorporated into both old and new houses. As is the case now, most households new to the buying market will be unable to afford a home without receiving some form of subsidy. Rental costs are expected to rise as a result of inflation and increased market demand for rental units. Rental vacancies are also expected to increase due to reorientation of the local economic base, which is likely to cause higher than average fluctuations in the labor force.

An 1978 City survey determined that approximately 10% of the housing stock is in poor condition, approximately 25% in good condition but needing some repair work, and approximately 65% is in good to excellent condition.

Table 10.1
CITY HOUSING DATA, 2002
BURNS OREGON, 97720

Housing units (including vacant, seasonal, and migratory units):

Total	1,487

Year-round housing units by occupancy status:

Total	1,487
Occupied	1,272
Vacant	215

Vacant housing units by vacancy status:

For sale only:	
For rent:	
Held for occasional use:	
Other vacancies:	

Occupied housing units by tenure:

Total	2,965
Renter occupied	422

Year-round housing units by rooms:

One room	35
Two rooms	77
Three rooms	205
Four rooms	375
Five rooms	358
Six or more rooms	444
Median	4.7

Table 10.1 - continued

Mean rooms in year-round housing units by tenure and vacancy status:

Total	4.8
Owner occupied	5.4
Renter occupied	4.0
Vacant for sale only	3.8
Vacant for rent	3.2
Other vacancies	3.7

Persons in occupied housing units by tenure:

Total	2,965
Renter occupied	387

Owner occupied housing units by value:

Less than $10,000	8
$10,000-$14,999	25
$15,000-$19,999	28
$20,000-$24,999	8
$25,000-$29,999	17
$30,000-$34,999	60
$35,000-$39,999	34
$40,000-$49,999	80
$50,000-$79,999	243
$80,000-$99,999	78
$100,000-$149,999	54
$150,000-$199,999	1
$200,000 or more	1
Median value	$60,800

Renter occupied housing units by contract rent:

$200-$249	26
$250-$299	54
$300-$399	125
$400-$499	125
$500 or more	31
No cash rent	
Median cash rent	$352

Renter occupied, paying cash rent or vacant, units by occupancy status:

	Renter Occupied	Vacant For Rent
Total	422	215
Mean contract rent or rent asked	$352	$461

Year-round housing units by plumbing facilities:

Complete plumbing for exclusive use	1,473
Lacking complete plumbing for exclusive use	21

Year-round housing units by dwelling units at address:

1	1,046
2 to 9	96
10 or more	45
Mobile home	207

Table 10.2
HOUSING TRENDS

(1970 - 1980)

	1970	1978	% Change
Total Units	1295	1494	+ 15.4%
% of Total	100.0%	100.0%	
Single-Family	1030	1046	+ 1.6%
% of Total	79.5%	70.0%	
Multiple-Family	210	241	+ 14.8%
% of Total	16.7%	16.1%	
Mobile Homes	49	207	+422.4%
% of Total	3.8%	13.9%	
Owner-Occupied	694	953	+ 37.3%
% of Total	53.6%	63.8%	+ 10.1%
Renter-Occupied	437	433	- 6.6%
% of Total	33.7%	27.3%	- 6.4%
Vacant	153	133	- 15.0%
% of Total	11.8%	8.9%	- 2.9%
Occupancy Rate	0.8647	0.9110	+5.4%
Persons/Dwelling Unit	2.9	2.4	- 17.2%

10.2 HOUSING NEEDS

Projections of future demands for housing are necessary to accommodate their land and public facility requirements, and to assure that City policies are consistent with the needs revealed in such projections.

Based on population projections discussed in Section 14, and the housing information presented above, future housing needs have been projected as shown in Table 10.3. The assumptions used in calculating these projections include: a slight increase in average vacancy rate, from 8 percent to 9.5 percent, due to economic fluctuations, and changes over time in the local economic base and resulting impacts to housing occupancy; a minor decrease in the average persons per dwelling unit, from 2.6 to 2.3, consistent with household size trends; changes in the ratio of housing types consistent with market trends (single-family dwellings from 70 percent to 67 percent, apartments from 16 percent to 17 percent, and mobile homes from 14 percent to 16 percent); and a decrease in housing densities for single-family and mobile home dwellings, as the result of greater physical development constraints (primarily shallow bedrock) in outlying urbanizable areas (3.5 single-family units or mobile homes per acre to 3.0). It is assumed that future mobile homes will be divided equally between mobile home parks and single placements, and that the density of apartment units per acre will remain constant, based on past trends.

10.3 BUILDABLE LANDS

In order to determine locations for needed housing a buildable lands inventory has been prepared. This inventory includes vacant land in the City which is already urbanized, and urbanizable areas that are suitable, available, and necessary for residential use. Suitable and available land means residentially-designated vacant and redevelopable land within the Urban Growth Boundary, which is not constrained by natural hazards, nor subject to natural resource protection measures, and for which public facilities are planned or could be made available. Publicly-owned land is not considered available for residential use. Redevelopable land is land zoned for residential use on which development has already occurred, but on which, due to present or expected market forces, there exists strong likelihood that existing development will be converted to more intensive residential uses during the planning period. There is no evidence or expectation that such redevelopment will occur in Burns during the planning period. The buildable lands inventory is summarized in Table 10.4. The inventory is presented in terms of net acreage available to meet future housing needs, and the allocation of that acreage among the various types and densities of housing required. The locations of these allocations are shown on Map 2.1.

Table 10.3
HOUSING PROJECTIONS TO ACCOMMODATE GROWTH

Table 10.4
LAND-USE AND BUILDABLE LANDS INVENTORY

Policies

10.4 HOUSING

A. The City shall encourage and support the provision of adequate numbers of housing units, at affordable price ranges and rent levels, and in various locations, types, and densities, consistent with the needs reflected in local housing data and trends.

B. The City shall continue to collect local housing data so as to assess current problems and future needs, and implement appropriate measures for addressing these issues. Residential zoning allocations, densities, and standards shall be the principal means of implementing this policy.

C. The conversion of urbanizable land to urban land for housing purposes shall be consistent with housing needs and the availability of necessary public facilities and services.

D. The City shall assure efficient and orderly conversion of urbanizable land to urban residential purposes through appropriate land development implementation measures, such as subdivision and partitioning regulations.

E. The City shall encourage and support housing rehabilitation through available state and federal programs to the greatest extent practical.

F. The City shall encourage and support residential site design and construction techniques which conserve energy consumption and allows solar access, protects open space, and lowers development costs.

G. The City shall support small commercial activities in residential areas through home occupation regulations.

Section 11

PUBLIC FACILITIES AND SERVICES

Findings

11.1 WATER SYSTEM

The water system is supplied by five wells (Wells 1 and 2 are located west of Slater Grade School; Well 3 is located at Grand and Madison Streets; Well 4 is located at Railroad Avenue and Alvord Avenue; and Well 5 is located north of the High School). The characteristics of these wells are summarized in Table 11.1. A 100,000 gallon storage tank adjacent to Wells 1 and 2 provide back up storage in the system. Overflow elevation of the tank is approximately at the 4,304 foot elevation, therefore making the system capable of serving all areas below approximately the 4,230 foot elevation. This elevation is the approximate upper limit of the water system without additional pumping, storage or pressure systems. The distribution system consists of approximately 5,000 lineal feet of 12-inch main extending from the tank to the central business district along C and D streets, and approximately 12,000 lineal feet of 10-inch main extending from the tank southerly along Egan and Diamond Avenues to Railroad Avenue, then easterly along Taylor, Filmore and Hines Blvd., to Well 5. The quality of water is excellent. The City has never had to chlorinate or treat in any way its water to maintain purity.

In 2003, a new 2 million gallon water tank was put into service. Located on West Monroe Street in the foothills at an elevation of 4,325 feet. The project cost approximately $846,430.

The current water service area is shown on Map 11.1. In addition to City customers, the City also provides water service to the Norris Addition (the unincorporated area within the Urban Growth Boundary) and the Harney County Fairgrounds south of the City limits. The City provides water service to 1501 accounts as shown in Table 11.2 Presently, there are no users classified as industrial in Burns. Current water usage is summarized in Table 11.3.

Future water needs have been projected to the year 2000 using the City's high population estimate of 5,109 persons. The projection of these water needs is based on the following four criteria: peak hourly demands for the entire system

are to be met with pressures remaining the 30-70 psi range; peak hourly demands are to be met for a 4-hour period without depleting the system's storage capacity by more than 50%; fire flows to a single fire hydrant are to be met while maximum daily demand is also being met; and fire flows are to be met while the system meets maximum daily demands without depleting storage capacity by more than 67%. Using these criteria, the City's year 2000 water needs are projected to be: 1.18 mgd (816 gpm) in average daily demand; 2.55 mgd (1,774 gpm) in maximum daily demand; 3.88 mgd (2,700 gpm) in peak hourly demand; and 4,000 gpm for four hours in the

Table 11.1
WATER SYSTEM WELL INFORMATION

Map 11.1
WATER & SEWER SERVICE AREAS

Table 11.2
WATER ACCOUNTS
(1982)

Type	Accounts
Residential - Inside City	1190
- Outside City	60
Residential Subtotal	1250
Commercial - Inside City	250
- Outside City	1
Commercial Subtotal	251
TOTAL	1,501

Table 11.3
PRESENT WATER USAGE

Per_Capita_Demands

Average Daily per Capita Demand	230 gpcd
Maximum Daily per Capita Demand	510 gpcd
Peak Instantaneous per Capita Demand	0.53 gpm/person

Equivalent_Population

Residential (Accounts)	1276
Commercial (Accounts)	232
Total Equivalent Population	3300

Total_Demands

Average Daily Demand	760,000 gpd
Maximum Daily Demand	1,682,000 gpd
Peak Instantaneous Demand	1,750 gpm

11.2 SEWER SYSTEM

The entire developed portion of the City, as well as the Burns Paiute Indian Reservation and the Norris Addition, is served by a sanitary sewer system. The City currently has 1,510 sewer accounts as shown in Table 11.4. The present sewer service area is shown on Map 11.1. The majority of the system was installed in 1955. Three pump stations operate the system (Lift Station 1 is located at Railroad Avenue and South Egan, serving the majority of southwest Burns; Pump Station 2 is located at Davidson Park, serving the northern part of Burns and the Paiute Indian Reservation; and Pump Station 3 is located at the old treatment plant on South Date Street, transporting all sewage from the City through a 15-inch force main to the sewage lagoon). Sewage treatment is provided by three stabilization lagoons in series. The lagoons have a total surface area of 89 acres. Two of the lagoons were constructed in 1957 to replace the old sewer plant. These lagoons are designed as non-overflow lagoons where the liquid portion of the sewage is disposed of by evaporation and ground seepage. These lagoons provide secondary treatment for approximately 85 percent BOD's and suspended solids removal. Table 11.5 presents current flows experienced at the treatment facilities. Waste loadings, such as BODs and suspended solids are estimated, based on an average per capita contribution from similar communities.

In 1998, the City of Burns, City of Hines, Department of Environmental Quality, and other state agencies expanded the storage lagoons for both cities. With the engineers, a seven person joint advisory committee was put together to facilitate the project.

Finished in 2006, Burns has a new 19 acre storage pond south east of the two existing ponds, and Hines has a new 15.6 acre storage pond south west of their main pond. Both ponds will be pivot irrigated to meadow land. Main pivot #1 will irrigate 160 acres, pivot #2 will irrigate 18 acres and pivot #3 will irrigate 7 acres. The project cost approximately $2.3 million for the City of Burns and $1.5 million for the City of Hines. Ownership of the new lagoons and irrigation is 70% Burns and 30% Hines.

The capacity of the sewer system to accommodate future growth is more than ample for projected City and Indian Reservation growth. The treatment facility design capacity is 1.14 mgd, or the equivalent of 11,400 persons, which is nearly double the projected urban area population in the year 2020.

11.3 STORM DRAINAGE

The control of storm runoff is of critical concern to the City. Of particular concern is the southern and western portions of the community. Virtually all runoff that occurs on the hillsides to the west of both Burns and Hines flows through these

areas and into the Silvies floodplain. This situation has caused a significant amount of flooding throughout the Monroe Street and Oregon Avenue areas in the past when the storm drainage system has been inadequate, or where no system has existed. Major drainages are shown on Map 7.1 in relation to flood hazards; their discharge is summarized in Table 7.1.

Table 11.4
SEWER ACCOUNTS
(1982)

Type		Accounts
Domestic	Inside City	1,190
	Outside City	69
Commercial	Inside City	250
	Outside City	1
TOTAL		1,510

Table 11.5

SEWAGE FLOWS AND WASTE LOADINGS
(2007)

Current Populations		
Inside City	3,020	
Flows (Inside City)		
Average Daily Flows	313,602	gpd
Peak Flow	2,321,000	gpd
BODs (Inside City)		
Per Capita Daily Loading	0.25	lbs/day
Total Daily Loading	761.00	lbs/day
Average Concentration	112.50	mg[1]
Suspended Solids (Inside City)		
Per Capita Daily Loading	0.28	lbs/day
Total Daily Loading	827.00	lbs/day
Average Concentration	117.40	mg[1]

Source: Portland State University/City of Burns Public Works Dept.

There is the potential for an extremely large amount of additional runoff in the future with commercial and residential development occurring inside the Burns and Hines Urban Growth Boundaries, and in the County jurisdiction to the west of the Growth Boundaries. Increased residential development will inevitably bring new streets and new runoff problems that could seriously overtax the existing storm sewer system, and cause damage to southwest Burns. It is critical to the City's interest that careful consideration and planning be given to all development that occurs in these areas.

11.4 POLICE AND FIRE SERVICES

The City currently has a police force providing coverage to the City. The Police Department facilities are located beside the Burns City Hall; jail facilities are shared with Harney County, and are located at the County Courthouse. The Harney County Sherriff's Department serves as the central emergency service dispatcher for Burns and Hines Police, Burns ambulance and fire, Tribal Police, and the County Sheriff. Four other police agencies provide law enforcement services in the Burns area: City of Hines Police, the County Sheriff, Oregon State Police, and the Burns Paiute Indian Reservation Police.

The City maintains a volunteer fire department of 24 volunteers, one full-time personnel, and four pieces of fire-fighting equipment. The Harney District Hospital operates three ambulances. The City has a fire insurance rating of Class 5.

11.5 MEDICAL AND HEALTH FACILITIES

All medical and health facilities for the Harney County area are located in Burns. These include Harney District Hospital (49 beds); the offices of ten physicians and four dentists and various health programs.

11.6 SOLID WASTE DISPOSAL

Approximately 85 percent of Harney County's solid waste is generated in the Burns/Hines urban area, amounting to approximately 31 cubic yards daily. The single Burns/Hines waste disposal site is located immediately west of Burns. It is owned and operated by a private individual who also has a franchise for waste collection in the Burns/Hines area. With the amount of land at this site, it is expected to last in excess of 25 years. With facilities for recycling and recovery, the life of the site could be lengthened beyond the estimated 25 years.

11.7 SCHOOLS

Public schools in Harney County are provided by 10 independent school districts. Burns is served by the Burns – Hines School district. This district operates one

pre-school, one elementary school, one middle school, and one high school, with a combined student enrollment of approximately 974 students. The Burns High School has a current enrollment of approximately 317 students. Administrative and support services are provided by the Harney County Education Service District.

Policies

11.8 GENERAL

A. The City shall seek to develop a timely, orderly, and efficient arrangement of public facilities and services for the community.

B. The City shall encourage new development first in areas where adequate public facilities and services currently exist, and secondly, in areas where such facilities and services can be readily extended.

C. The location and sizing of public facilities and services shall reflect the design requirements of land-use designations for a given area.

11.9 WATER SERVICES

A. The City shall continue to monitor its ground water supplies to assure that sufficient and acceptable supplies continue to be available for future community needs.

B. New development which is highly consumptive of water shall be allowed in the City only upon a finding that the municipal system and associated ground water resources will not be adversely affected by such development.

C. New development in the City shall be required to install water improvements which meet minimum pressure and flow standards of the City.

D. The City shall continue to develop, whenever practical, a loop-configured distribution system and standard pipe sizes.

E. The City shall continue to require connection to the municipal system by land-uses inside the City whenever practical; however, it shall also continue to allow individual water wells to supply land-uses where City water service is impractical, but only when such individual wells are approved by the Oregon Water Resources Department.

F. The City shall continue to provide water service primarily to land-uses inside the City, as well as for the Norris Addition and Harney County Fairgrounds. Water service shall not be extended to land-uses outside the City except in extraordinary cases deemed to be in the best interest of the City, or when required by compelling reasons of public health and welfare.

G. The City shall support and encourage the use of water saving devices and the reclamation of used water wherever practical.

11.10 SEWER SERVICE

A. The City shall continue to rehabilitate and improve the sewer system whenever practical, including elimination of inflow and infiltration problems, and replacement of deteriorated pipelines and pumps.

B. The City shall continue to require connection to the sewer system for all land-uses inside the City, except in those cases where such connection is physically impractical, in which case individual septic disposal systems shall be acceptable if approved by the Oregon Department of Environmental Quality.

C. The City shall continue to provide sewer service primarily to land-uses inside the City, as well as for the Burns Paiute Indian Reservation and the Norris Addition. Sewer service shall not be extended to land-uses outside the City except in extraordinary cases deemed to be in the best interest of the City, or when required by compelling reasons of public health and welfare.

11.11 STORM DRAINAGE

A. The City shall treat storm drainage as a major public facility and serve consideration in community development. The City shall support and encourage, and may require from new development, storm drainage facilities which, emphasize the use of natural drainage ways; emphasizes the use of detention or other holding facilities; minimizes amount of impervious surfaces; provides storm water easements conforming substantially to natural drainage ways; maintains unrestricted flow from run-off originating elsewhere; allows a mechanism to control the rate of run-off discharge so that excess capacity of drainage ways does not occur; protects each structure and lot from run-off damage; insures the downstream properties and/or structures will not be harmed from run-off originating from the new development; and connects to an approved drainage way.

B. The City shall carefully review all development proposals for projects in the western urban area and immediately west of the Urban Growth Boundary, so as to evaluate the potential for storm drainage impacts on surrounding areas, and to suggest measures to prevent potential

problems.

C. The City shall manage storm drainage through detention techniques rather than pipeline or ditch conveyances, to the greatest extent practical. The City shall cooperate with private land owners in developing storm drainage detention facilities which will either retain run off for year-round use; recharge ground water supplies; enhance vegetative and wildlife habitats; or serve as a source of irrigation water.

D. The City shall not allow new development to drain significant amounts of storm water into the Highway 20/395 drainage system; but instead, shall require that such drainage be directed toward the sump area in southwest Burns.

11.12 POLICE AND FIRE SERVICES

A. The City shall plan for increases in police and fire services, commensurate with community growth and increased service demands.

B. The City shall continue to coordinate its police and fire services with those of other agencies in the area.

11.13 SOLID WASTE DISPOSAL

A. The City shall continue to monitor the private solid waste operation which serves the community, so as to assure the continued availability of adequate disposal facilities and services.

B. The City shall support and encourage solid waste recycling efforts wherever practical.

11.14 MEDICAL AND HEALTH FACILITIES

The City shall continue to coordinate community development activities with the affected medical and health programs of other agencies, so as to support and encourage adequate medical and health services.

11.15 SCHOOLS

The City shall continue to coordinate community development activities with local school districts, so as to support and encourage long-range school facility and program planning consistent with community growth trend.

11.16 PUBLIC FACILITIES & SCHOOLS

In 1998 the Eastern Oregon Youth Correctional Facility was opened on West Monroe Street. The Two housing units is run by the State of Oregon and holds up to 40 youth from Baker, Grant, Harney, Malheur, Morrow, Umatilla, Union, Wallowa and Wheeler Counties. The compound covers approximately 4.5 acres. The total cost of the 33,337sq.ft project was approximately $8,537,000

Section 12

TRANSPORTATION

Findings

12.1 STREETS

The street pattern of Burns is characterized by a conventional grid pattern. Broadway Avenue and Monroe Boulevard (Highway 20/395) are the most heavily traveled in Burns. This thoroughfare services the central business district and allows for traffic traveling east from Bend and west from Boise to pass through the central core of the City. Broadway is a two lane thoroughfare with on-street parking allowed on both sides. West Monroe Street is currently a four lane thoroughfare from the intersection with Broadway to Hines Boulevard continuing as Oregon Boulevard to the south City limits and into Hines. At the present time, all traffic uses Highway 20/395 through Burns. There is no designated truck route in the Burns area and none is anticipated in the near future.

Most of the paved streets in Burns are surfaced to a width of 36 feet, and a number are paved to 44 and 56 foot widths. Paved streets in Burns have curbs and gutters, but there are several streets in the City that are unpaved, notably in the Fairview, Morrison and Bennet Additions. The streets in Brown's Second and Northwest Townsite Additions have never been opened. Map12.1 shows the City's street plan and designations. Table 12.1 presents the average daily traffic counts for major points in the Burns area.

Many factors contribute to the traffic patterns in a community. In a small community such as Burns, where no public transportation system exists, virtually every trip of greater than walking or bicycling distance is accomplished in a private automobile, either as a driver or as a passenger. People drive from their homes to work, to shop, or to school. The traffic pattern within the area is thus strongly influenced by the locations of those activities, and land-use is a key determinent of the distribution of traffic volumes in the area. In most communities, trips to and from home account for about two-thirds of all local automobile travel. Thus, the location of residential land-uses is a significant factor in automobile travel. About one-third of these home-based trips are made to or from work, another third to or from shopping or recreational activities, and the balance for miscellaneous trips.

Map 12.1
STREET SYSTEM

Table 12.1
1981,1997-1998 TRAFFIC VOLUMES
(Average Daily Traffic)

Highway	Location	Vehicles	
US 20/395	South City limits of Hines	4,900	
	Hines/Burns City limits	7,900	9,589 7/08/98
	W. Monroe Blvd.	9,700	
	Court on Monroe	11,000	11,966 6/20/97
	Highway 78 on Monroe	10,300	
	US 395/78 intersection	8,800	
	Northeast City limits	2,500	
Oregon 78[1]	US 395/78 intersection	3,800	
	East City limits of Burns	1,150	

[1] 1977 data

12.2 AIRPORT

The Burns Municipal Airport is located on 800 acres of city-owned land, five miles east of the City (considerably beyond the Urban Growth Boundary). The airport houses a fixed base operation, which provides aircraft repair and related services, flight training, air charter, and car rental. Land-use planning responsibility for the airport and vicinity lies with the City of Burns.

12.3 BUS AND TAXI SERVICE

There is no intra-city bus service in the Burns/Hines area, except for limited senior citizen service provided by the County. There is one taxi company serving Burns/Hines.

12.4 MOTOR CARRIERS

Reddaway Freight Lines provides week day service from the east and north; Burns and Pendleton; and Oak Harbor provides service between Portland, John Day and Burns.

12.5 BIKEPATHS

A bikepath parallels Highway 20/395 from Hines to Burns, for a distance of approximately 2 miles.

Policies

12.6 GENERAL

A. The City shall encourage and support a safe, convenient, and economic transportation system for the community.

B. The City shall encourage all appropriate modes of transportation, including vehicle, pedestrian, bicycle, rail, air, and mass transit, wherever practical. Handicapped access shall be promoted in all transportation modes.

C. The City shall seek to avoid principal reliance upon any one mode of transportation, and to minimize adverse social, economic, environmental, or energy impacts resulting from transportation activities.

D. The Transportation System Plan is an element of the City of Burns Comprehensive Plan. It identifies the general location of transportation improvements. Changes in the specific alignment of proposed public road and highway projects that shall be permitted without plan amendment if the new alignment falls within a transportation corridor identified in the Transportation System Plan.

E. Operation, maintenance, repair, and preservation of existing transportation facilities shall be allowed without land use review, except where specifically regulated.

F. Dedication of right-of-way, authorization of construction and the construction of facilities and improvements, for improvements designated in the Transportation System Plan, the classification of the roadway and approved road standards shall be allowed without land use review.

G. For state projects that require an Environmental Impact Study (EIS) or Environmental Assessment (EA), the draft EIS or EA shall serve as the documentation for local land use review, if local review is required.

H. The City of Burns shall include a consideration of a proposal's impact on existing or planned transportation facilities in all land use decisions.

I. The City of Burns shall preserve right-of-way for planned transportation facilities through exactions, voluntary dedication, or setbacks.

J. The City of Burns shall coordinate with the Department of Transportation to implement the highway improvements listed in the Statewide Transportation Improvement Program(STIP) that are consistent with the Transportation System Plan and comprehensive plan.

K. The City of Burns shall provide notice to ODOT of land use applications and development permits for properties that have frontage or access onto a state highway.

L. The City of Burns shall consider the findings of ODOT's draft Environmental Impact Statements and Environmental Assessments as integral parts of the land use decision-making procedures. Other actions required, such as goal exception or plan amendment, will be combined with review of the draft EA or EIS and land use approval process.

M. All development proposals, plan amendments, or zone changes shall conform with the adopted Transportation System Plan.

12.7 **STREETS**

A. The City shall designate streets to be arterials, collectors, or minor in accordance with the provisions of this ordinance, and as shown in Map 12.1, so as to provide a street network appropriate to surrounding land-uses.

B. The City shall continue to improve streets to current City standards wherever needed and practical.

C. New direct access to arterials shall be granted during commercial zone site plan reviews, and particular consideration shall be given to the land-use and traffic patterns in the area of development, not just at the specific site. Frontage roads and access collection points along arterials shall be encouraged.

D. The City shall plan, improve, and designate streets, such that through traffic in residential neighborhoods is minimized; and through traffic in commercial and industrial areas is disbursed, to the greatest extent practical.

E. Adequate off-street parking shall be provided to avoid street congestion and hazards.

F. The City of Burns shall protect the function of existing and planned roadways as identified in the Transportation System Plan.

The City shall continue to support the availability of the present rail service in Burns, recognizing its significant transportation and economic value to the community.

12.8 **AIRPORT**

A. The City shall continue to use the Airport Master Plan to guide future airport activities.

B. In the event the City annexes the airport and/or surrounding property in the future, the City shall, at that time, implement airport hazard zoning measures to assure continued compatibility between aviation and surrounding uses. The City shall support County implementation of such measures in the interim.

12.9 **COMMERCIAL CARRIERS**

The City shall continue to support and encourage the availability of bus, taxi, and motor freight services, recognizing their significant transportation and economic value to the community.

12.10 **BICYCLES**

The City shall continue to support and encourage bicycle transportation, and the use of bike paths and other appropriate rights-of-way for such activities, recognizing their significant transportation, energy, and social values to the community.

Section 13

ENERGY

Findings

13.1 ENERGY SUPPLIES

Conventional fuels presently available in Burns include: heating oil and propane gas, which are available from several local distributors; electricity from C.P. National; and wood from nearby private and National Forest lands. Natural gas and coal are unavailable in the area, although coal was commonly used in the past and may be again in the future. Transportation fuels (gasoline, diesel, aviation fuel) are distributed by local oil distributors.

The market shares or penetration rates of electrical and fossil energies in Burns have been estimated according to degree-days, as shown in Table 13.1. Recent prices for fuels in Burns are shown in Table 13.2.

In the 1980's electricity prices are projected to increase dramatically, due mainly to the cost of new generation resources. Since there are few suitable large-scale hydro sites left to develop in the Pacific Northwest, the region is shifting to a mixed hydro-thermal generation base. The addition of relatively higher-priced thermal resources, combined with the effects of inflation on the general price level, are likely to result in a sharply upward movement of electricity prices. Increases probably will be most noticeable in the first half of the 1980's, when the region starts paying the costs of the Washington Public Power Supply System's nuclear plants. The retail price of residential fuel oil is projected to increase in real terms an average of 2.3 percent annually during the 1980's and 2.2 percent annually during the 1990's.

13.2 ENERGY DEMANDS

A. Climatic Conditions

Burns has a semi-arid climate. Average annual precipitation is 11 inches and humidity is generally low. This makes for an abundance of sunshine and a wide range between daily maximum and minimum temperatures. Nighttime frosts may occur any month of the year. Table 13.3

summarizes climatological data for Burns.

Table 13.1
ESTIMATED ENERGY MARKET SHARES[1]

(%)

	Electrical	Fossil
Residential Space Heating	44.5	55.5
Residential Water Heating	91.0	9.0
Commercial Space Heating	25.0	75.0
Commercial Water Heating	35.0	65.0

1Market share as a percentage of a typical community with 7,000-8,000 heating degree-days. Institutional and industrial estimates not available.

Table 13.2
LOCAL ENERGY PRICES
(2007)

Type	Unit Cost ($)[1]	Cost/MMBtu ($)[2]
Fuel Oil No. 2 (Avg. Bulk Rate)	2.20/Gal.	11.24
Propane	1.90-2.05/Gal.	15.61
Electricity		
Residential	.06495/kWh	10.75
Commercial (<7,000 kWh)	.0637/kWh	11.54
Commercial (>7,000 kWh)	.04487/kWh	9.50
Small industrial	.04231/kWh	9.19
Large industrial	.04112/kWh	8.94
Municipal	--[3]	
Street lights	NA	
Sewer/water pumps	0.04043/kWh	11.85
All other	0.03914/kWh	11.54
Wood (pine)	90.00/cord	NA

[1] Exclusive of demand charges.

[2] 100% efficiency for electric, 70% for oil & propane.

[3] Flat rate of approximately $9/month per street light.

Table 13.3
CLIMATOLOGICAL DATA

Elevation (ft.)	4151
Years of Record	41
Average Daily Temp (^{O}F)	
January Minimum	15.0
January Maximum	35.4
July Minimum	51.l
July Maximum	85.6
Lowest Temperature of Record (^{O}F)	-26
Highest Temperature of Record (^{O}F)	l03
Average Annual Days	
Maximum of 90^{O}F or more	21
Minimum of 32^{O}F or less	18
Growing season	110
Average Precipitation (inches)	
Annual precipitation	11.55
Annual snowfall	47.8
January precipitation	1.72
July precipitation	0.35
Annual Heating Degree-Days	7212
Annual Cooling Degree-Days	289

Source: National Weather Service, 1979

The physical setting and climate of Burns combine to produce a significant number of local heating degree-days. The number of heating degree-days is obtained by multiplying the number of days on which the average temperature is lower than a base temperature, i.e. $65^{O}F$, by the difference between the base and average temperatures. Degree-days are useful to indicate energy needed to raise building temperature to the base temperature.

Based on National Weather Service (NWS) records for the 1941-1970 period, heating degree-days annually average 7,212 in Burns. For the calendar year 1979, the total was 7,049 heating degree-days. For comparison, areas in the Willamette Valley typically have less than 5,000 heating degree-days. The higher number of heating degree-days result in a higher energy demand per unit of building area, making space heating a major sector of the area's energy needs.

NWS records indicate 289 annual cooling degree-days for Burns, which indicates the relative quantity of days which require building cooling to a base temperature. This number of cooling degree-days is not substantial when compared to other Oregon cities possessing 700 to 1,000 cooling degree-days. Thus, the Burns climate produces winter-oriented energy demands for heating.

B. Heating and Power Requirements

Table 13.4 contains a preliminary estimate of the residential, commercial, and institutional heating (space and water) and power requirements for Burns. Requirements are estimated in British Thermal Units (Btu). A Btu is the quantity of heat required to raise the temperature of one pound of water by one degree Fahrenheit. No estimate is made for industrial requirements, since no major industries are located in the City; and the only major industrial energy consumer in the surrounding area uses self-generated wood waste for their energy requirements, and will probably continue to do so in the forseeable future. In fact, this operation, the Edward Hines Lumber Co., was the site of a recent 38MW cogeneration proposal, which would have produced power for local consumption through the Harney Electric Cooperative; this proposal may still be pursued in the years ahead, depending on economic feasibilities and the ability to sell surplus power to non-local utilities.

C. Transportation

There were 8,465 motor vehicles registered in Harney County in 1982. Based on population ratios, approximately 3,640 of these vehicles are assumed to be operated in the City. Using statewide averages for miles

traveled per vehicle, and miles per gallon per vehicle, the total estimated transportation energy demands of the City are approximately 34.8 million miles, or approximately 2.9million gallons of fuel per year.

Table 13.4
ESTIMATED ANNUAL ENERGY REQUIREMENTS
(Billion Btu/Yr)

Use	Estimated 1982	Estimated 2000
Residential		
Space Heating	67.10	90.86
Water Heating	18.71	25.34
Power (lights, appliances)	34.31	46.46
Subtotal	120.12	162.66
Commercial		
Space Heating	6.56	8.88
Water Heating	0.07	0.09
Power (lights, appliances)	3.57	4.83
Subtotal	10.20	13.80
Public/Institutional		
Space Heating	6.96	9.42
Water Heating	0.07	0.09
Power (lights, appliances)	3.79	5.13
Subtotal	10.82	14.64
TOTAL	141.14	191.10

Derived from Lund, 1980.

D. Municipal Operations

The City's energy demands include heating and power for its buildings; fuels and lubricants for its vehicles; and power for its sewer and water systems, street lights, and parks. Table13.5 summarizes these energy requirements and their costs for the 1981-82 municipal fiscal year.

13.3 NONRENEWABLE ENERGY RESOURCES

There is no geologic evidence of oil or gas resources in or near Burns. Although speculative leasing activity has occurred recently in rural areas of the County, there is no evidence of any oil or gas deposits near the City. For purposes of OAR 660-16-000, the City has determined that there are no fossil energy resources to be included in the ordinance inventory.

13.4 RENEWABLE ENERGY RESOURCES

Burns is situated in an area of abundant renewable energy resources. Solar, geothermal, biomass, hydro, and wind resources have all been identified at various sites in the County. All of these resources, except for wind, also occur within and around Burns.

A. Solar

Since 1979 the University of Oregon has been continuously monitoring the direct and global radiation of Burns. Table 13.6 summarizes the total available (global) solar radiation on a horizontal surface for Burns during the three-year period of 1979-81. This data applies throughout the City. A comparison of this solar radiation with that of other sites in Oregon and the western United States is given in Table 13.7. This data indicates an abundant resource is available to Burns for space conditioning, water heating, industrial process heating, and in the future, electrical generation. Recent investigations in Deschutes County, which has a comparable type of solar resource, resulted in the following estimates (COPE, 1982):

> Active solar hot water systems may provide as much as 40% of a home's hot water needs (saving 1900-3600 kwh/year for a typical residence).

Table 13.5
MUNICIPAL ENERGY CONSUMPTION
(FY 2005-2006)

Use	PROPANE	ELECTRICITY	PETROLEUM	TOTAL
Buildings (heating				
and lighting)				
City Hall		$8,460		$8,460
Fire	$4,721			$4,721
Police		$1,546		$1,546
Public Works	$6,793			$6,793
Airport		$6,751		$6,751
Cemetery		$1,417		$1,417
Vehicles/Equipment				
Police and Fire			$8,968	$8,968
Streets			$11,096	$11,096
Sewer and Water			$4,450	$4,450
Sewer & Water				
Pumps		$11,722		$11,722
Street Lights		$29,832		$29,832
Parks				
Lighting		$3,797		$3,797
	$11,514	$63,525	$24,514	$99,553

Table 13.6
MONTHLY AVERAGED GLOBAL SOLAR RADIATION AT BURNS
(Btu/M^2/day, except Monthly total)

Month	1979	1980	1981	Average	Total
Jan	---	6,172	5,350	5,761	178.6
Feb	---	7,448	9,187	8,317	232.9
Mar	---	12,347	12,632	12,490	387.2
Apr	17,891	18,923	18,003	18,272	548.1
May	22,775	19,731	21,290	21,265	659.2
Jun	25,547	22,912	24,510	24,323	729.7
Jul	26,013	24,129	27,418	25,853	801.5
Aug	19,716	23,394	23,157	22,089	684.7
Sep	17,950	16,811	17,190	17,317	519.5
Oct	10,000	11,146	10,003	10,383	321.9
Nov	7,394	6,124	---	6,759	202.8
Dec	4,595	5,406	---	5,001	155.1

Source: University of Oregon

Table 13.7
GLOBAL SOLAR RADIATION AT BURNS AND OTHER SELECTED SITES

Site	Years	Annual Total MBtu/M^2	Winter Total MBtu/M^2
Burns	1979-81	5,422	1,479
Hermiston	1979-81	4,963	1,117
Eugene	1979-81	4,540	1,141
Seattle	1978-81	3,999	945
Phoenix	1978-80	6,806	2,236

Source: University of Oregon

Passive solar systems, e.g. trombe wall, may provide 38-73% of the entire space heating needs of a home.

South wall insulation performs 40% more effectively if its unshaded.

The solar gain from south-facing windows may save 2028-4056/kwh annually in a typical home.

For purposes of OAR660-16-000, the City is able to identify this resource with particularity, and has determined that it is sufficiently important to include in this ordinance.

B. Geothermal

Geothermal resources have been identified as underlying approximately 90% of Burns. Resources beneath Burns are part of a large low-temperature resource identified as the Burns-Hines geothermal site (No.G2) in the Harney County Comprehensive Plan resource inventory. The portion of this resource site which is within Burns is estimated at 1,834 acres, lying in the southern most areas of the City. Subsurface temperature estimates range from 104 to 136 degrees Fahrenheit. Depth to the resource is estimated to range from 200 to 3,000 feet. Volumes of existing warm wells have flows of 100 gallons per minute (gpm) artesian, up to 2,000 gpm pumped. The chemistry of the resources is good, particularly when compared to other geothermal resources in Harney County. Because the geothermal resource is relatively shallow, it is thought to be meteoric in origin, and therefore fed by annual snow melt and precipitation in surrounding hills. Thus, with proper management, the aquifer life is believed to be infinite. Within the City, the resource has confirmed potential for operating heat pumps, and inferred potential for direct-use systems and low-temperature rankine-cycle electrical generators. For purposes of OAR 660-16-000, the City is able to identify this resource with particularity, and has determined that it is sufficiently important to include in this ordinance.

C. Biomass

Biomass resources in Burns are limited to solid wastes. The exact amounts and energy content of these solid wastes are unknown at this time. Approximately 31 cubic yards of compacted solid waste from both Burns and Hines are disposed of daily in the Burns/Hines waste disposal site (see Section 11). It is doubtful that significant amounts of energy are available to the community from this resource, although the City does support efforts towards recycling or otherwise conserving biomass values. For purposes of OAR 660-16-000, there is presently insufficient information to identify the resource's quantity and quality with particularity.

D. Hydro

Hydro resources in Burns are limited to the flows of the Silvies River as it borders the northeast corner of the City. An adjacent 19-mile reach of the River has been identified as a potential resource site (see Harney County Comprehensive Plan Hydro Site H1212). The average slope of the reach is 1.8 feet per mile, which combined with an average discharge of 36 cubic feet per second, would allow only a very small, e.g. 200 kw, low- head power project to be developed. For purposes of OAR 660-16-000, the City is able to identify this resource with particularity, and has determined that it is sufficiently important to include in this ordinance.

E. Wind

Based on the aforementioned Harney County Comprehensive Plan inventory, no wind energy sites have been identified within the City. In fact, the Burns/Hines urban area is largely shielded on the west and north from prevailing northwesterly winds by nearby hills. For purposes of OAR 660-16-000, the City has found no wind resources to include in the ordinance inventory.

F. Renewable Energy Summary

For those renewable energy resources which have been adequately inventoried by the City (solar, geothermal, hydro), consideration must be given to protection of resource values within the context of future urban development. An examination of land-uses permitted in the City's zones indicates that there are no conflicts between these energy resources and permitted development, except for potential conflicts between solar access and surrounding development which may reduce or encroach upon such solar access; and potential conflicts between unmanaged geothermal production and protection of reservoir characteristics. An analysis of the consequences of such conflicts is as follows:

(1) The economic consequences may include: increased energy costs for persons whose solar access is lost to, or reduced by, surrounding development; and similar increased costs for persons unable to make optimum use of geothermal resources;

(2) The social consequences may include: less affordable housing, due to the economic consequences described above;

(3) The environmental consequences may include: in the case of reduced solar access, continued or increased fossil fuel air emissions; and, in the case of exceeding the carrying-capacity of the geothermal reservoir, continued fossil emissions, along with potential degradation of groundwaters; and

(4) The energy consequences may include: in the case of reduced solar access, continued or increased reliance on non-renewable energy resources, which are subject to unstable prices and fluctuating supplies; similar consequences would follow from reduced geothermal reservoir productivity.

In summary, hydro resources have no conflicting uses which may jeopardize future resource development. It should be noted that this lack of identified urban conflicts differs from the agricultural and wildlife conflicts cited in the Harney County comprehensive plan. This analysis has been limited to residential, commercial, industrial, and public facility

evaluations only. The conflicts of permitted urban land-uses with solar access appear to have significant consequences, which, if unresolved, may impede future resource development, and deny citizens a valuable tool in meeting their energy needs. The conflicts of uses with geothermal development, while not specifically related to a particular land use, but instead to the potential for overall development to exceed the carrying capacity of the reservoir, appears to have significant consequences, which, if unresolved, may impede future resource development, and deny the community a valuable tool in meeting local energy and economic development needs.

Policies

13.5 CONSERVATION

A. The City shall encourage residents and businesses to conserve energy wherever feasible. The City's efforts in this regard shall be coordinated with, and implemented through, the energy conservation programs of local utilities and government agencies.

B. The City shall allocate and designate land-uses so as to minimize or reduce the need to travel within the City by vehicle. In this connection the City shall encourage alternative modes, such as walking, bicycling, or car pooling, wherever appropriate and feasible.

C. The City shall consider energy conservation to be a regular practice in purchasing, operating, and maintaining its buildings, vehicles, and equipment. Acquisitions of new facilities and equipment shall include energy or fuel efficiency as a key determinant. Whenever feasible, the City shall take appropriate conservation measures for reducing its energy operating costs.

13.6 DEVELOPMENT STANDARDS

A. The City shall encourage and support development standards or designs which promote energy conservation.

B. The City shall encourage developments to be designed, wherever possible, to assure and/or improve access to renewable energy resources.

C. The City shall encourage developments to be designed, wherever practical, to include pedestrian or bicycle walkways or paths.

D. The City shall encourage energy-efficient development standards and design through incentives for energy-efficient features.

13.7 RENEWABLE ENERGY RESOURCES

A. The City shall protect and conserve the energy and economic value of its renewable energy resources, so as to assure their continued availability and productivity in a timely, orderly, and environmentally-sound manner.

B. In order to identify and protect the undefined energy value of its biomass resources, the City shall support future resource assessment activities; in this regard the City shall incorporate additional resource data which may be available during future ordinance revisions, and thereafter complete the process required by OAR 660-16-000.

C. Having identified no conflicting uses with its hydro resources, the City shall continue to support the policies and rules of the Oregon Department of Water Resources, which provide for the protection and conservation of hydro resource.

D. Having determined that the City's permitted uses may conflict with solar access, the City shall limit such conflicting uses by implementing solar access regulations designed to allow potentially conflicting uses in such a way as to limit their encroachment into the solar envelope of surrounding properties.

E. Having determined that the City's permitted uses, if allowed to exceed the carrying capacity of the City's geothermal reservoir, may conflict with the conservation and protection of said geothermal resource, the City shall request monitoring and management of said reservoir by the Oregon Water Resources Department in accordance with that agency's statutory responsibilities to avoid such a conflict.

Section 14

URBANIZATION

Findings

14.1 POPULATION GROWTH

Burns and Harney County have experienced steady population growth since 1940. Annual increases have averaged approximately 1.3 percent over the last 40 years. The decade realizing the greatest gain was the 1970's. Population growth is limited by the area's remoteness and the lack of a diversified industrial base. Population forecasts prepared by several agencies in recent years differ only slightly in magnitude, but a continued modest growth trend is nearly the same in all forecasts. The community's expected population growth is summarized in Table 14.1. Of the three growth rates shown in Table 14.1, the City has selected the high growth rate of approximately 1.5% per year as the basis for projecting future community needs. This rate has been selected because it is most closely aligned with the statewide growth rate projected for the same period, and because it better anticipates expected diversifications in the community's economic base. In addition, this population projection has been coordinated with Harney County and the City of Hines, such that projected growth for the area has been allocated among these jurisdictions according to historical experience and projected trends.

14.2 LAND NEEDS

The future land needs of the community include lands necessary for housing, commerce and industry, natural resource conservation, natural hazard protection, and public facilities. These needs are discussed in detail in the respective sections of this ordinance dealing with each topic. A summary of allocations in response to these needs is given in Table 14.2.

Table 14.1

PROJECTED POPULATION GROWTH[1]

Year	Population
1980	3,579
1985	
Low	3,813
Medium	3,948
High	4,086
1990	
Low	3,909
Medium	4,149
High	4,402
1995	
Low	4,008
Medium	4,361
High	4,742
2000	
Low	4,109
Medium	4,583
High	5,109

[1]Derived from U.S. Census Bureau, Oregon Employment Division, and Bonneville Power Administration data.

Table 14.2
ALLOCATION OF NEEDED LAND IN URBAN GROWTH AREA

	Acres
INSIDE CITY LIMITS	
Developed	
Single-family Residential	299
Single-family Residential/Mobile Home	38
Multi-family Residential	16
General Commercial	87
Highway Commercial	161
Light Industrial	9
Heavy Industrial	17
Public Facilities	70
Rights-of-Way	137
Subtotal	834
Undeveloped/Nonbuildable	
Floodway Hazard	44
Steep Slopes Hazard	30
Public Ownership	373
Open Space	212
Subtotal	659
Undeveloped/Buildable	
Single-family Residential	240
Single-family Residential/Mobile Home	35
Multi-family Residential/Mobile Home Park	30
General Commercial	15
Highway Commercial	28
Light Industrial	48
Heavy Industrial	38
Future Public Facilities & ROWs	110
Subtotal	544
OUTSIDE CITY LIMITS	
Developed	
Residential	27
Industrial	39
Right-of-Way	5
Undeveloped/Nonbuildable	0
Undeveloped/Buildable	
Residential	9
Industrial	10
Right-of-Way	5
Subtotal	95
TOTAL	2,132

14.3 LOCATIONAL FACTORS

The City finds that population growth requirements and needed lands can be accommodated through an Urban Growth Boundary (UGB) which includes the present City limits and 95 unincorporated acres known as the Norris Addition. The UGB is shown on Map 14.1. The City finds the locational basis for this UGB in the following factors:

A. The UGB contains sufficient lands to meet identified needs during the planning period.

B. The configuration of the UGB is consistent with and supportive of orderly and efficient provisions for public facilities and services; said facilities and services have been developed over time in physical conformity with the City limits and the Norris Addition (which has been serviced by the City for 10 years. In particular, the western boundary of the UGB and the open space lands immediately within it are configured so as to provide optimum management of storm drainage in accordance with this ordinance.

C. The City limits and the Norris Addition constitute a logical UGB for assuring maximum efficiency of land-uses within and on the fringe of the urban area, given the compact and sectional form consistent with the City's grid street network and utility infrastructure. This configuration does not create irregular land-use patterns (linear strips, enclaves), thus reinforcing land-use efficiency within established City limits.

D. The economic consequences of the UGB location include: provision of needed commercial and industrial lands in an orderly and efficient manner; provision of necessary public facilities and services in an orderly and efficient manner; and prevention of urban sprawl, and its attendant costs, beyond the City limits and Norris Addition. In addition, the western boundary of the UGB and the designation of open lands immediately within it will allow the City to manage storm drainage in an economical manner, and reduce potential economic loss to the community from storm drainage damage which may occur in later years.

E. The social consequences of the UGB location include: improved livability through appropriate conservation and protection of natural resources inside the City.

Map 14.1
URBAN GROWTH BOUNDARY

F. The environmental consequences of the UGB location include: appropriate conservation and protection of natural resources and environmental qualities needed for urban livability; and management of such natural resources so as to minimize conflicts during future urbanization necessary to meet demonstrated population and land needs. In addition, the western boundary of the UGB and the open space lands immediately within it will enable the City to manage storm drainage originating in this area by protecting natural drainage ways and their surrounding habitats.

G. The energy consequences of the UGB location include: increased energy-efficiency as the result of a compact and logically configured (non-linear or leap-frogged) urban area; assurance of orderly and efficient development of renewable energy resources for urban purposes; and prevention of urban sprawl, and its attendant energy inefficiencies, beyond the City limits and Norris Addition.

H. Urbanizable lands within the UGB are predominately low priority, e.g. Class VI, lands, so as to promote retention of greater amounts of higher priority agricultural lands outside the UGB

I. The configuration of the UGB promotes compatibility between urbanization and nearby agricultural activities through open space lands which will act as buffer areas, while meeting identified needs for conservation and protection of open spaces, renewable energy resources, natural areas, water resources, cultural areas, and fish and wildlife areas. Moreover, these open space buffer areas will serve to improve the ability to manage storm drainage consistent with policies in Section 11.11.

J. The configuration of the UGB enables the City to exercise joint growth area management responsibilities over the unincorporated 95-acre Norris Addition, which has been served by City sewer and water for 10 years; is bounded on two sides by the Cities of Burns and Hines; and which is approximately 70% urbanized by residential and industrial uses.

Policies

14.4 URBANIZATION

A. Land within the Urban Growth Boundary is either urban (serviced and developed) or urbanizable (unserviced and undeveloped). Urbanizable land shall be considered available over time for urban purposes subject to the following conversion factors: availability of orderly and economic public facilities and services; availability of alternative urban lands or sites, and conformance with the provisions of this ordinance. The City shall encourage and support the utilization of a majority of the urban land within the Urban Growth Boundary, prior to converting urbanizable land to urban purposes. In addition, this conversion shall occur only when adequate public facilities and services are readily available on a cost-effective basis. Also, the City shall take into consideration during land conversion the availability of sufficient land for various uses so as to ensure adequate choices in the marketplace.

B. The City shall not extend sewer or water service to a property unless it is annexed. Exceptions may be made to this policy only when annexation is impractical for the City, and when there is an imminent threat to public health and welfare by not allowing the extension of said services.

C. The City shall continue to cooperate with the City of Hines in connection with evaluating community growth and annexations on a case-by-case basis, where property will be annexed to whichever city which can most effectively and efficiently provide public facilities and services.

D. The City shall encourage and support the continued involvement of other affected agencies, particularly local school districts, in implementation of urbanization policies.

E. The City shall require an amendment of the Urban Growth Boundary prior to, or concurrent with, any annexation located outside the Boundary.

F. The City shall consider the County jurisdiction immediately west of the Urban Growth Boundary to be of critical concern to the City for two reasons: first, the potential impacts on public facilities and services from development in the area; and secondly, the location of the urban area's major storm drainages in the rural residential area, the potential for additional storm runoff from future development in the area, and the need to control such runoff so as not to adversely affect the urban area. The City shall continue to consult and coordinate development activities affecting this area with Harney County and the City of Hines. The City

shall not support development of this area at urban densities, nor does it expect to ultimately include this area inside the Urban Growth Boundary, nor does it expect to extend sewer and water service outside the City as an exception to Policy 14.4(2).

14.5 URBAN GROWTH AREA JOINT MANAGEMENT AGREEMENT

The parties to this Joint Management Agreement shall be the City of Burns and Harney County. The terms of this Joint Management Agreement shall be applicable to the Burns urban area, as defined by the Burns Urban Growth Boundary (UGB), as referenced in this ordinance as Map 14.1, and hereby made a part of this Agreement. In addition, a copy of this Agreement and the UGB map shall be separately printed, signed, and recorded with Harney County. The County shall also adopt said Agreement and map by ordinance.

This Agreement is entered into pursuant to ORS Chapters 190 and 197, and the Oregon Statewide Planning Goals, for the purpose of facilitating the orderly transition from rural to urban uses within and around the Burns urban area. Words and phrases used in this Joint Management Agreement shall be construed in accordance with ORS Chapters 92, 215, and 227, and applicable Oregon Statewide Planning Goals, unless otherwise specified. In the event two or more definitions are provided for a single word or phrase, the most restrictive definition shall be utilized in interpreting this Agreement.

A. Introductory Information

This Agreement is the culmination of a series of actions intended to facilitate the orderly and efficient development of the urban area. Such actions include the preparation of City and County comprehensive plans; the establishment of an urban growth area and policies by a joint Burns/Hines/Harney County Urbanization Committee; coordination with other affected agencies; and County review of the Burns and Hines comprehensive plans.

B. Urban Growth Management Provisions

(1) Harney County shall retain responsibility for land-use decisions and actions affecting the unincorporated urban area, and the County jurisdiction immediately west of the UGB, such responsibility to be relinquished over any land within this area upon its annexation to either Burns or Hines.

(2) The existing City limits for Burns should remain relatively unchanged until a majority of the City's urbanizable land has been developed for urban purposes. As well, expansions of the City limits should be in the direction of existing rural residential activity

around the City. Any annexation outside the UGB shall require an amendment of this Agreement and the UGB map prior to, or concurrent with, such annexation.

(3) Urban lands within the growth area shall be available for immediate development when found to be in compliance with applicable policies and standards of Burns. No land development should occur in this area without annexation and the full provision of urban facilities and services.

(4) Urbanizable lands within the growth area shall be converted to urban purposes only after adequate sewer and water services can be made available to support urban growth, and only after a majority of urban lands have been developed. Partitionings and subdivisions under County jurisdiction may be granted by the County, but only after conformance with this Agreement.

(5) The County jurisdiction immediately west of the UGB shall not be developed to urban densities, nor shall the extension of sewer or water services to this area be planned, inasmuch as the UGB is not expected to ultimately include this residential area.

(6) The Cities of Burns and Hines are the logical providers of urban services in the area. Therefore, development inside of the UGB may occur only after close coordination with the two Cities and the County.

(7) Harney County may grant requests for development in unincorporated urbanizable areas only after allowing both Cities the opportunity to comment on the proposed development. The County shall grant such a request only after it has determined that there will no adverse impacts on the provision of urban services by either City. The County shall also grant approval only if it determines that the resulting land-use and facilities pattern (lot location, size, street locations and improvements, storm drainage systems) is consistent with future urbanization, and will not detract from the ability to convert the land efficiently to more intense urban use at a later date. The County shall inform the applicant, and shall cause to be included on the plat of any such partition or subdivision, notice to the public that such property is located inside the Burns UGB, and that it and surrounding properties are subject to future urbanization.

(8) Harney County may grant requests for development in the County jurisdiction area immediately west of the UGB only after allowing both Cities an opportunity to comment on the proposed

development. The County may grant a development request that has direct storm drainage into the City only after it has determined that there will be no adverse impact on the provision of storm drainage facilities by either Burns or Hines. The County may also grant approval only if it determines that the land-use pattern (lot location, size, street locations and improvements, storm drainage systems) is consistent with future urbanization, and will not detract from the ability to convert the land efficiently to more intense urban use at a later date.

(9) Lands will only be annexed to Burns when contiguous to the existing City limits, and when there is immediate access to urban facilities, or when the land is servicable within a reasonable length of time. Any annexation of land outside the UGB shall require an amendment of this Agreement and the UGB map prior to, or concurrent with, such annexation.

(10) Urban facilities and services, including sewer and water, will not be extended to a property unless annexation of the property is impractical or economically unfeasible for the City, and there is a threat to public health by not allowing the extension of said facilities.

(11) The City limits between Burns and Hines will be determined on a case by case basis as property is developed. The property will be annexed to whichever City which can most efficiently provide public facilities and services.

(12) This Agreement and UGB map shall be reviewed every five years. It may also be reviewed at any time upon the request of any of the jurisdictions. It should be noted that this Agreement and UGB map are based on current trends and projections using assumptions which anticipate minor changes in the future character or growth patterns of the Cities. However, the introduction of many factors could significantly alter these assumptions, and could call for the immediate re-evaluation and updating of this Agreement and UGB map.

(13) A jurisdiction may initiate a review of this Agreement by resolution of its governing body, setting out the reasons for the review. The five-year review shall be initiated by the County Court. A joint Urbanization Committee, made up of members of the three local Planning Commissions, shall conduct the review and make a report of recommendations. All three full Planning Commissions shall then review the Committee's report. After a public hearing, with

due notice, the Commissions will make recommendations to the governing bodies of the jurisdictions. The three governing bodies shall consider the recommendations and, after public hearings with due notice, shall jointly amend the Agreement and/or UGB map.

C. Referred Applications

(1) Within 14 days of filing with the County, the County staff shall refer each partition, subdivision, or zone change request affecting the Burns UGB, or the County jurisdiction west of the UGB, to the City for its review and comment. Any additional information submitted by the applicant shall also be referred to the City promptly.

(2) The City shall review the application and submit its comments to the County within 30 days of their receipt from the County. The City review shall be performed by the Planning Commission. If the Commission determines that there is no conflict with its Comprehensive Plan and Development Ordinance, then a "no conflict" correspondence shall be made to Harney County. If the Commission feels a potential conflict exists, then the Commission will provide a detailed report on such conflicts, including recommended actions to eliminate or reduce such conflicts.

(3) Should no comments be made by the City within the established response time, and there has been no request for a time extension, the City shall be presumed to have no comment regarding the application.

(4) After the County makes a final decision on an application, the City shall be informed by the County within five (5) days of the action.

D. Severability

The provisions of this Agreement are severable. If a paragraph, sentence, clause, or phrase shall be adjudged by a court of competent jurisdiction to be invalid, the decision shall not affect the validity of the remaining portions of this Agreement.

Section 15

REFERENCES

Deschutes County, Solar Access Protection for Buildings, McKeever, M. et al, Central Oregon Project Energy, Bend, OR, December, 1982.

G & W Engineering, 1974, City of Burns, Oregon Storm Drainage Study.

Jackson, Royal and Lee, Jennifer, 1978, Harney County an Historical Inventory.

Oregon State Game Commission, 1968, Basin Investigations Malheur Lake Basin.

Oregon State University, Harney County Extension Office, 1969, Harney County Plans Tomorrow.

Oregon State University, University Extension Service, 1973, Resource Atlas, Natural, Human, Economic, Public.

Oregon State University, Resource Development Section, 1968, Resource Analysis Harney County Oregon.

Oregon Department of Human Resources, 1978, Quarterly Labor Market Information Review.

Oregon Department of Human Resources, 1978, Annual Planning Information Fiscal Year 1979.

Oregon Department of Human Resources, 1978, Harney County Resident Labor Force, Unemployment & Employment.

Oregon Department of Human Resources, 1978, Revision of Occupational Employment Trends in the State of Oregon.

Oregon Department of Human Resources, 1977, Area Manpower Review, Burns (Harney County) Labor area.

Oregon Department of Environmental Quality, 1978, Ambient water quality data on the Silvies River from 1965 through 1968.

Oregon Department of Geology and Mineral Industries, 1969, Mineral Land Water Resources of Oregon.

Oregon State Engineers Office, 1970, Ground-Water Resources in Harney Valley, Harney County, Oregon.

Oregon Parks and Recreation Branch, 1975, Oregon State Parks System Plan 1975-1981.

Oregon Department of Transportation, Parks and Recreation Branch, Statewide Comprehensive Outdoor Recreation Plan.

Oregon Department of Transportation, Parks and Recreation Branch, Oregon Comprehensive Outdoor Recreation Plan, 1978 (Fourth Edition).

Oregon Water Resources Board, 1969, Oregon's Long-Range Requirements for Water.

The Nature Conservancy, 1978, Oregon Natural Areas.

University of Oregon, Bureau of Governmental Research and Service, 1969, Supplemental Report Economic Analysis Burns-Hines-Harney County.

U.S. Department of Agriculture, Soil Conservation Service, 1972, An Appraisal of Potentials for Outdoor Recreational Development, Harney County Oregon.

U.S. Department of Agriculture, 1978, Silvies - Malheur Planning Unit Land Management Plan.

U.S. Department of the Army Corps of Engineers, 1971, The Silvies River Basin, Water Resource Planning.

U.S. Department of Commerce, 1971, General Population Characteristics Oregon.

U.S. Department of Interior, 1977, Water Resources Investigations in Oregon 1977.

FOREWORD

The purpose of this Foreword is to provide the reader/reviewer with an understanding of how and why the City of Burns Comprehensive Land Use Plan has been reformatted into three separate documents. The City of Burns developed a Comprehensive Land Use Plan in the late 1970s and early 1980s. The Land Use Plan was acknowledged by the Land Conservation and Development Commission in 1983. The City has been using the document since that time to guide land use in the City and its Urban Growth Boundary.

The original Comprehensive Plan, completed as one document, contained in various sections the City's Zoning Ordinance and Subdivision Ordinance and was nearly 300 pages in length. Most cities in Oregon rely on three separate documents, the first being a Comprehensive Land Use Plan which generally contains inventory and analysis information along with general policy guidelines and, in separate documents, a Zoning Ordinance and a Subdivision Ordinance by which to implement the policies of the Comprehensive Plan. In day-to-day administration, the Zoning Ordinance is used with far more frequency than the Comprehensive Plan. The Subdivision Ordinance is also used on a more frequent basis for daily administration than the Comprehensive Plan. Having all three combined into one document creates a burdensome task for both the

City administration and the citizens of Burns who must use these land use rules on a regular basis.

In the Fall of 1996, it was determined to reformat the document into three separate ordinances to ease the burden of their utilization. The first step was to place the entire document on a computer disk and then, with the aid of a consultant, the Plan was split into the three appropriate parts, the Comprehensive Land Use Plan into one. The Zoning Ordinance became the second separate document, and, finally, the Subdivision Ordinance became the third. The Comprehensive Land Use Plan is virtually unchanged from its original drafting and adoption. During this period of update, the City determined to make certain procedural changes to the Zoning and Subdivision Ordinances to ease the review process for the citizens of Burns, and make certain adjustments to the Zoning Ordinance with regard to Manufactured Homes, and to combine the two Commercial zones into one. The Subdivision Ordinance has also been modified to ease the review process of land partitions.

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REFORMATTED COMPREHENSIVE PLAN

for the

City of Burns, Oregon

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