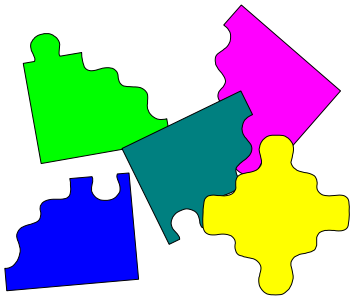

LANESVILLE INTERCHANGE

MASTER PLAN

Prepared For:

Harrison County Plan Commission
124 S. Mulberry Street
Corydon, Indiana 47112

Prepared By:

Birch, Trautwein & Mims, Inc
3001 Taylor Springs Drive
Louisville, Kentucky 40222

LANESVILLE INTERCHANGE MASTER PLAN

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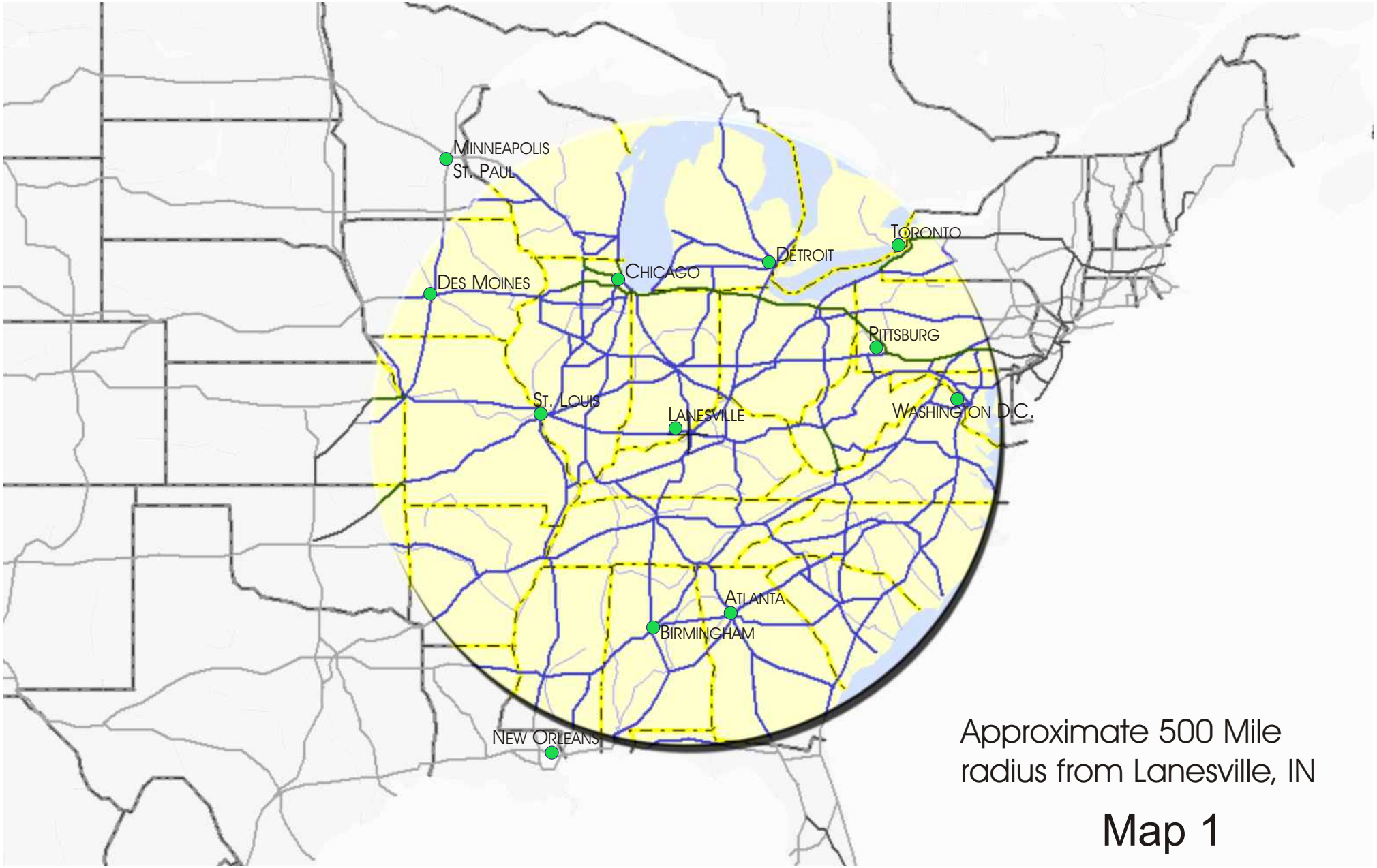
I. INTRODUCTION

The Harrison County Commissioners and the Harrison County Plan Commission, recognized the development pressures on the area surrounding the Lanesville interchange with Interstate Highway 64 (#113) and determined that it is appropriate to develop a more detailed supplement to the Comprehensive Plan to guide decisions in land use requests in this eastern fringe of the county. The 10 square mile study area includes portions of Franklin and Jackson Townships.

Lanesville and Harrison County (a part of the Louisville Metropolitan Statistical Area) are located within 500 miles of a substantial portion of the population of the United States **(Map 1)**. The interstate highway system makes this area easily accessible by automobile and truck transportation. The study area is also convenient to Interstate Highways 65 and 71 in the Louisville area.

The Louisville Metropolitan Statistical Area (MSA) has experienced growth in employment and population during the past decade (1990 – 2000). Harrison County's growth rate has exceeded that of the surrounding areas and the study area has been the focal point of much of the growth. The Lanesville interchange, seventeen miles west of downtown Louisville, is the next interchange available for development. The population and economic growth pressures being experienced in this area will encourage future land use change applications by property owners and developers. The County, in recognizing that growth and change are inevitable, desires to ensure that the growth will be in an orderly, well planned manner.

The major employment center currently in Harrison County surrounds the Corydon interchange on I-64 (#105). This area south of the interchange includes commercial development (highway service and retail). The area north of the interchange is primarily industrial, with limited highway service uses. The Harrison County Chamber of Commerce owns 43 acres of land at the Corydon interchange available for development. Approximately 160 acres of land zoned industrial is available at the Corydon Interchange. This area has developed because of the availability of public utilities, including water, sewer, electricity and telephone along with rail service.



Approximate 500 Mile radius from Lanesville, IN

Map 1

METHODOLOGY

This plan is an extension of the Comprehensive Plan adopted by the County in 1996. It may be considered a Small Area Study or a detailed appendix to the Comprehensive Plan. Developed through the cooperation and input of residents, property owners, community leaders, government and utility officials, the plan provides an outline for future land use decisions, planning expansion of infrastructure and design considerations for future development.

The planning team has consulted with government officials and agencies, citizens and utility providers in gathering of data to be analyzed for the development of this master plan. The topographic and existing land use conditions were also considered in developing the planning document.

The Harrison County Engineer and the Indiana Department of Transportation (INDOT) provided traffic count information for the area roadways. Utility companies provided mapping and data on the various systems serving the study area.

Two meetings were conducted at the Lanesville School to present plan ideas and obtain input from the residents of the study area. The input from the residents combined with the statistical and infrastructure data collected was assembled to create the resulting plan.

The ten square mile study area includes portions of Jackson and Franklin Townships **(Map 2)**. The planning team has included additional statistical data for Harrison Township (Corydon area) and Georgetown Township (Floyd County) because of the proximity of these locations to the study area.

MAP 2

LANESVILLE
INTERCHANGE
STUDY AREA

LANESVILLE / I-64
INTERCHANGE
STUDY AREA

JUNE 2001

1" = 1000'

SHEET 1 OF 1

II. COMPREHENSIVE PLAN

The Comprehensive Plan, prepared by Cole Associates and adopted by Harrison County in 1996, divides the County into three general areas, the Northern Townships, the Central Townships and the River Townships. The study area includes portions of Franklin (central) and Jackson (northern) townships. The Comprehensive Plan projects the area between I-64, Lanesville, Corydon and the Floyd County line as the area of most significant growth in the county.

According to the plan, there are areas of "highly productive farmlands or prime farmland soils" in the Jackson and southern Franklin Townships outside of the study area. The plan suggests that these areas be protected where possible and that residential and commercial development occur on adjoining lands.

MISSION STATEMENT

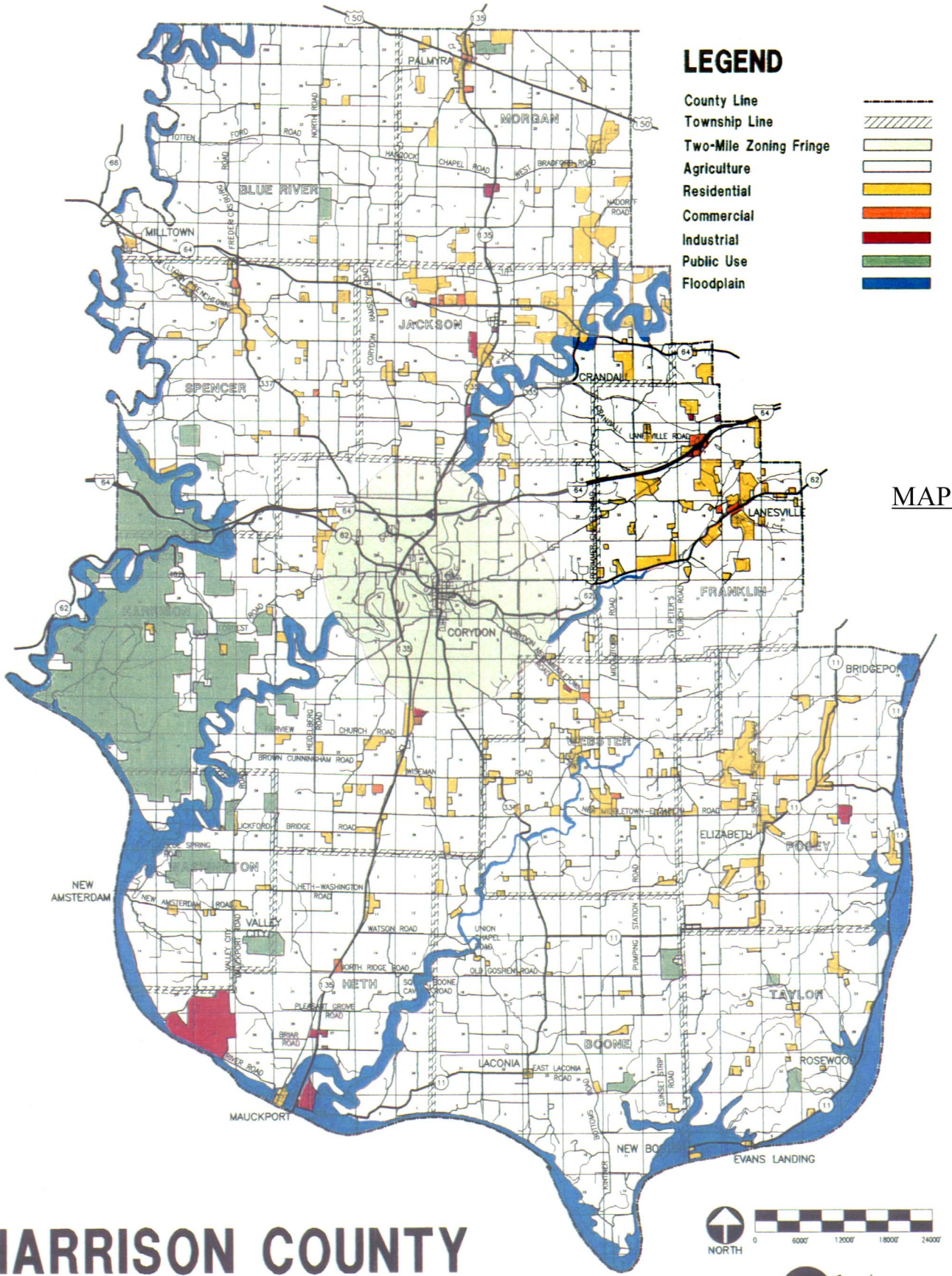
The Mission Statement of the 1996 Comprehensive Plan states: **"The mission of the Harrison County planning, zoning and subdivision process is to protect the health, safety and welfare of county citizens while promoting desired growth in an orderly and efficient manner, in areas with sufficient infrastructure, and at an acceptable cost to county taxpayers."** This study is a more detailed examination of conditions in an area experiencing growth pressures caused by its location within the Louisville, Kentucky metropolitan area.

The **Existing Land Use Map (Map 3)** of the Comprehensive Plan depicts the general land use of the county. Residential growth pockets are scattered throughout the county with most residential areas located in the eastern half of the county close to highways 11, 62, 64, U.S. 150 and I-64. Commercial clusters are confined to the small communities of the area.

The **Land Use Plan (Maps 4 & 5)** projects most residential growth to continue to occur in the eastern half of the county, with the majority of the growth occurring in the Lanesville / Indiana Highway 62 corridor toward Corydon. The land surrounding the interchange is projected to develop with commercial and industrial land uses with residential development occurring between Corydon, Lanesville, I-64 and Indiana Highway 62.

The Comprehensive Plan **Transportation Plan (Map 9)** recognizes Lanesville – Crandall Road, Lanesville – Georgetown Road and Indiana 62 as Major Collector roadways. Highway 62 is also designated as an Ohio River Scenic Route.

EXISTING LAND USE MAP



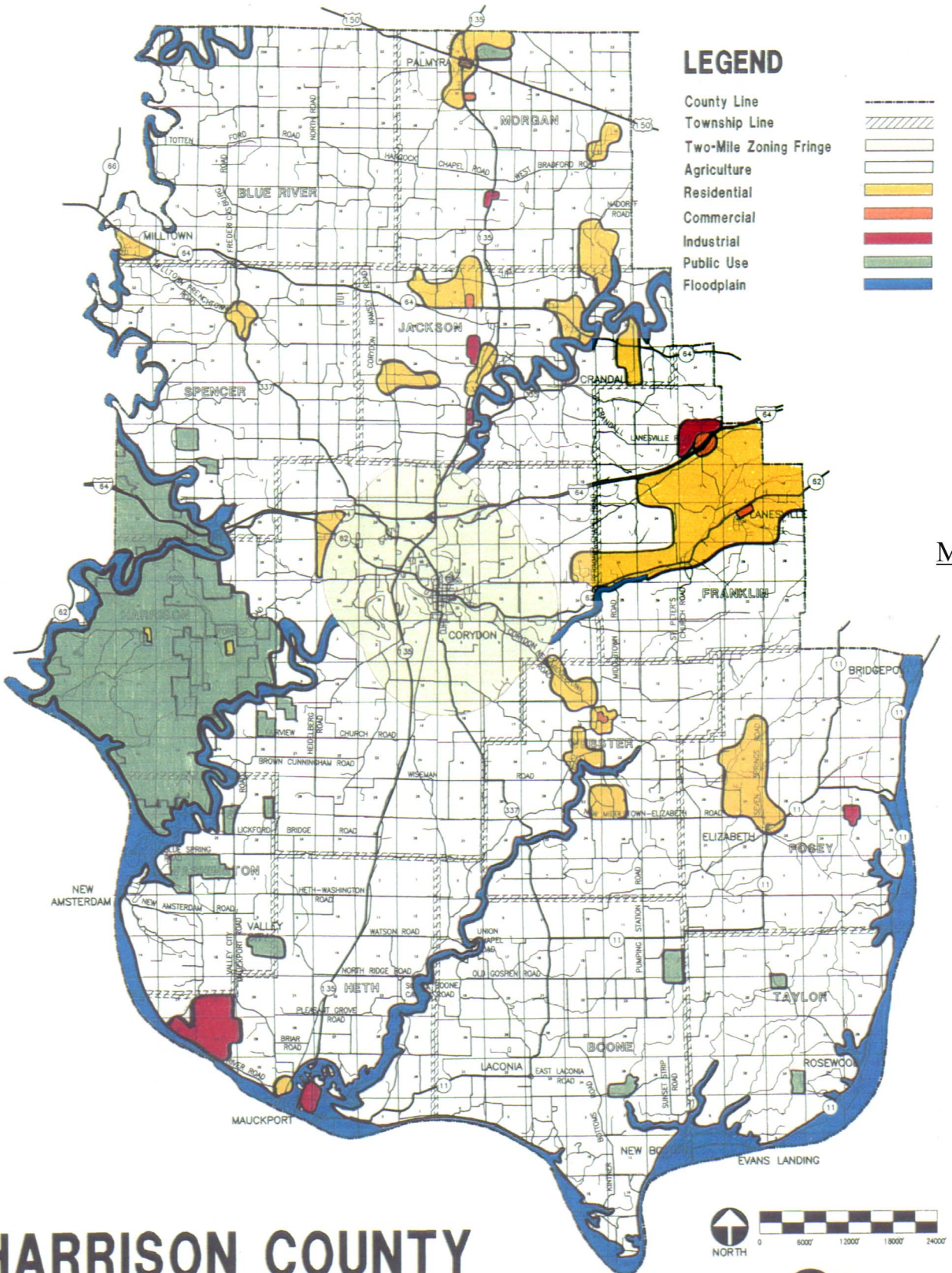
MAP 3

HARRISON COUNTY COMPREHENSIVE PLAN

HARRISON COUNTY PLAN COMMISSION

Cole Associates, Inc.

LAND USE PLAN



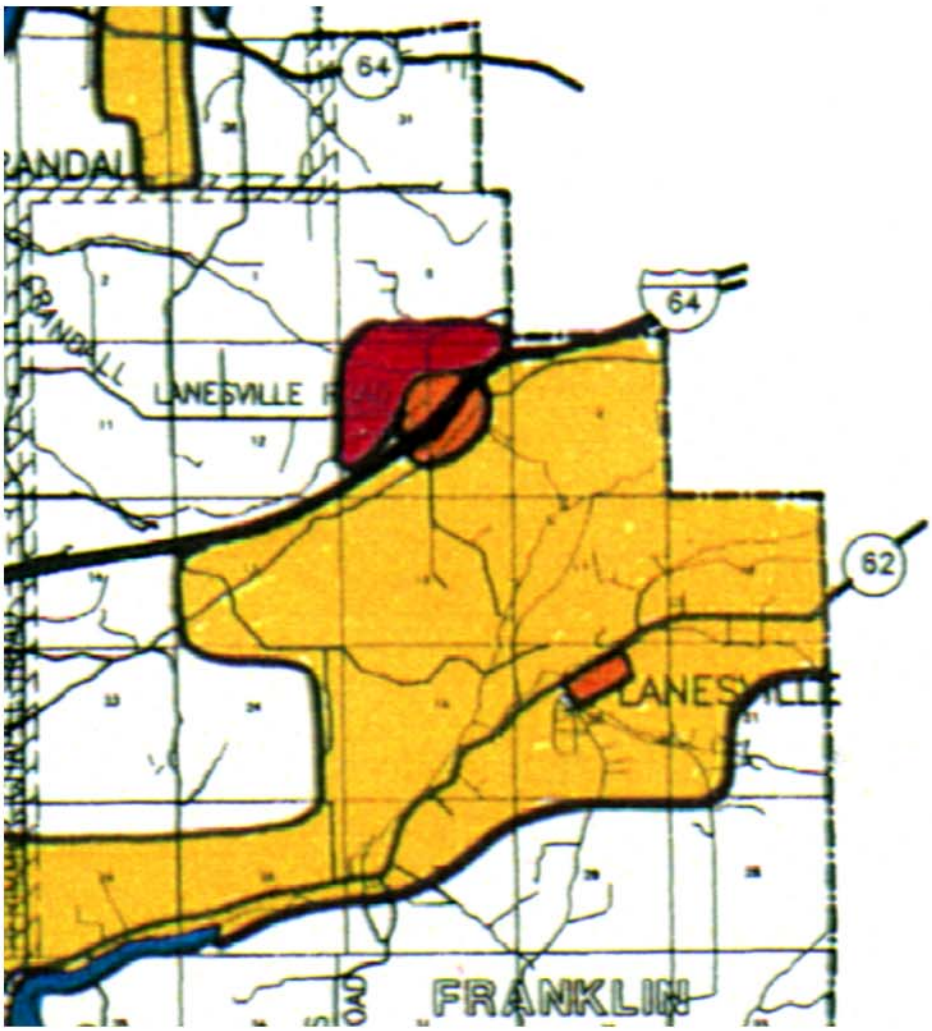
MAP 4

HARRISON COUNTY COMPREHENSIVE PLAN

HARRISON COUNTY PLAN COMMISSION

Cole Associates, Inc.

MAP 5
Land Use Plan



LEGEND

- County Line
- Township Line
- Two-Mile Zoning Fringe
- Agriculture
- Residential
- Commercial
- Industrial
- Public Use
- Floodplain

III. GOALS AND OBJECTIVES

The Goals and Objectives of the 1996 Comprehensive Plan were examined and found apply to the current study area and should be considered in review and planning for the development of the area. The goals include the following:

Goal 1: **Encourage a wide range of residential development in areas of existing residences with sufficient infrastructure in place prior to development.**

Goal 2: **Preserve and protect agricultural lands within the County.**

Goal 3: **Promote the use of full utility services for all new development in the County.**

Goal 4: **Promote the creation of new industrial and commercial development in areas with necessary infrastructure in place.**

Goal 5: **Identify long-range transportation improvement and promote continuation of rail service.**

Goal 6: **Preserve and protect unique natural resources including timberland, karst systems (caves), flood plains, soils and waterways.**

Goal 7: **Provide appropriate areas in the county for the development of manufactured homes and manufactured home parks with development standards.**

Goal 8: **Promote community-wide cooperation and coordination regarding planning and development.**

Goal 9: **Preserve the small town and rural character of the county through innovative ordinances and design standards.**

Goal 10: **Revise the development ordinances and administrative procedures to comply with the goals and objectives of the comprehensive plan.**

Goal 11: **Maintain a sufficient supply of owner-occupied, on-site constructed, affordable single-family housing units that can be purchased by low and moderate income households.**

Goal 12: **Maintain a sufficient supply of affordable multi-family housing units.**

Goal 13: **Maintain and improve the condition of the existing housing stock.**

Goal 14: **Establish transitional housing in the county to meet the needs of the homeless.**

Goal 15: **Meet the housing needs and desires of elderly county residents.**

Goal 16: **Provide adequate housing and support services to individuals and family members who find themselves in abusive relationships.**

Goal 17: **Develop a homeless shelter satellite in the county since the nearest homeless shelter is in Jeffersonville.**

Goal 18: **Meet the rising cost of providing well maintained outdoor recreational opportunities for Harrison County residents.**

Goal 19: **Preserve open space for future outdoor recreation development.**

Goal 20: **Provide access to recreational opportunities by all residents of Harrison County.**

Goal 21: **Encourage the development of scenic and historic attractions in Harrison County.**

Goal 22: **Meet the needs of Harrison County residents for developed recreational facilities.**

IV. DEMOGRAPHICS

POPULATION

Harrison County has experienced significant growth during the past decade both in population and employment. The Louisville metropolitan area has also experienced growth in population and employment, however, at a lower rate than Harrison County.

The 1970 population of Harrison County was 20,500. The Indiana Business Research Center projected that Harrison County would reach a population of 31,500 in the year 2000 and 32,500 in 2010. However, the recently published U.S. Bureau of Census 2000 data shows actual growth to have exceeded the 2010 projection by 1,825 persons, to 34,325 by the year 2000. This results in a net population increase of 14% in the decade and 69.4% since 1970.

The Indiana Business Research Center, in its Harrison County Profile (http://www.stats.indiana.edu/profiles) currently projects that the 2020 population of Harrison County will reach 42,317 persons or a 23% increase over the 2000 population.

Table 1 depicts the 1990 and 2000 population figures for Harrison County as a whole, Franklin, Harrison and Jackson Townships, along with Georgetown Township in Floyd County. Harrison Township is listed because of its proximity to the study area and the fact that it is the economic center of Harrison County. Georgetown Township is also depicted because of its location immediately adjacent to the study area.

Significant residential development has occurred in the area around Corydon, Crandall and Lanesville. The two townships, which include the study area, account for 25.7% of the Harrison County population. The 1990 – 2000 growth in the two townships account for 3205 persons, also 25.7% of the County's increase. The Town of Georgetown population, according to the 2000 census is 2,227 or 3% of the Floyd County population. Georgetown Township has a population of 8,337 or 11.7% of the county population. The Floyd County population grew by 10% or 6,419 persons in the 1990 – 2000 decade compared to Harrison County's growth of 14% or 4,435 persons.

Table 2 summarizes population data for Harrison County and the counties making up the Louisville Metropolitan Statistical Area (MSA).

Table 1
Study Area
Population Trends

Area	1990	2000	# +/-	% +/-
Harrison County	29,890	34,325	4,435	14.8 %
Franklin Township	3,087	3,642	555	18 %
Harrison Township	8,239	10,303	2,064	25.1 %
Jackson Township	4,627	5,213	586	12.7%
Georgetown Township	6,940	8,337	1,397	20.1%

Source: **Indiana State Data Center**
http://www.stats.indiana.edu

- **Harrison Township population constitutes 30 % of county.**
- **Harrison / Franklin Township constitutes 40.6 % of county.**
- **Harrison / Franklin / Jackson Townships constitute 55.8 % of county.**

Table 2
Population Breakdown
Louisville MSA Counties

	1970	*1980*	*1990*	*2000*	*Growth 1970-2000*	*Percent Change 1970-2000*	*Percent Change 1990-2000*
INDIANA							
Clark County	**76,200**	**88,900**	**87,696**	**96,472**	**20,272**	**26.6%**	**10.0%**
Floyd County	**55,600**	**61,400**	**64,817**	**70,823**	**15,223**	**27.4%**	**9.3%**
Harrison County	**20,500**	**27,400**	**29,937**	**34,325**	**13,825**	**67.4%**	**14.7%**
Scott County	**17,200**	**20,400**	**21,026**	**22,960**	**5,760**	**33.5%**	**9.2%**
KENTUCKY							
Bullitt County	**26,500**	**43,500**	**47,896**	**61,236**	**34,736**	**131.1%**	**27.9%**
Jefferson County	**696,200**	**684,300**	**665,480**	**693,604**	**-2,596**	**-0.4%**	**4.2%**
Oldham County	**14,700**	**27,900**	**33,568**	**46,178**	**31,478**	**214.1%**	**37.6%**

Source*: The Louisville Economic Monitor*
http://monitor.cbpa.louisville.edu/lem_popcountiesloumsa.html

EMPLOYMENT

The growth in business and other non-farm employment within Harrison County has also been substantial during the 1990 – 1998 period. According to current U.S. Census data the growth in non-farm employment between 1990 and 1998 was 49.5%, reflecting the increasing growth in business development and employment opportunities in the Harrison County area.

Table 3 summarizes the census data for employment in Harrison County and the other counties within the Louisville MSA. The majority of the non-farm employment growth has occurred in Corydon / Harrison Township in the area surrounding the Corydon interchange (Highway 135) at I-64. This interchange (#105) is located eight miles west of the Lanesville interchange. The Harrison County Chamber of Commerce, local government and property owners in this area have developed an industrial park with the necessary infrastructure to support an employment center.

Several automobile manufacturing oriented businesses have located in the park and the Tyson poultry processing plant in Corydon has expanded in recent years. Numerous motels and other highway services businesses have developed around the Corydon interchange because of the availability of sanitary sewers. The Walmart Supercenter located at this interchange appears to serve an eight county area, including Indiana and the Meade County, Kentucky region, as noted by frequent observation of automobile license plates in the parking lot. These factors have resulted in the Corydon interchange serving as a regional commercial area offering shopping, dining, service, entertainment and employment opportunities.

Table 3
Employment Breakdown
Louisville MSA Counties

	Civilian Labor 1999	*Total Indiana Civilian Labor Force*	*Private Non-Farm Employment 1998*	*Non-Farm Employment Percent Change 1990-1998*
INDIANA				
Clark County	**52,170**	**3,077,612**	**39,066**	**30.8%**
Floyd County	**38,784**	**3,077,612**	**25,635**	**31.7%**
Harrison County	**18,593**	**3,077,612**	**7,731**	**49.5%**
Scott County	**10,903**	**3,077,612**	**5,935**	**51.3%**
KENTUCKY				
Bullitt County	**33,772**	**1,969,791**	**10,066**	**76.5%**
Jefferson County	**382,623**	**1,969,791**	**396,681**	**18.6%**
Oldham County	**24,837**	**1,969,791**	**8,623**	**51.3%**

Source: US Census 2000
http://quickfacts.census.gov

V. EXISTING CONDITIONS

LAND USE

The predominant land use within the study area continues to be agriculture. According to the U.S. Census data for the year 2000, Harrison County's 485 square miles includes 161,378 acres of farm land, the largest amount of farmland in the Louisville MSA. **Table 4** outlines the land area and area devoted to farmland for each county in the Louisville MSA.

Single-family residential homes were constructed in increasing numbers during the 1990 – 2000 decade. However, few commercial and industrial businesses are located within the study area. The lack of sanitary sewers and a wastewater treatment facility has prevented development of businesses offering significant employment opportunities around the interchange. Water, electricity and telecommunications facilities are in place. A 500,000 gallon water storage tank has been constructed on property adjacent to the interchange by the Ramsey Water Company.

HOUSING

The proximity of the interchange to the Louisville metropolitan area has resulted in construction of many residential structures either within subdivisions or on individual lots subdivided by property owners along roadways. **Chart 1** depicts the construction rate for single-family residential structures during the 1990 – 2000 decade. The chart, provided by the Harrison County Plan Commission shows generally increasing numbers of residences being constructed through 1999. The year 2000 saw a 24% drop in the construction of residential dwellings. The most significant decreases were in single family and duplex construction.

According to current U.S. Census data Harrison County has 13,699 residential dwelling units, with 7,704 (56%) of those units within the three townships surrounding the study area. The three townships examined as a part of this study have experienced significant single-family construction in the form of single–family homes, modular homes and mobile home placement during the 1990 – 2000 decade. 2,464 housing units (32% of total) were constructed in the three townships during the 1990 – 2000 decade. Due to the lack of wastewater treatment systems most residences are located on lots of at least one acre in area necessary to support septic tanks and lateral systems.

Multi-family development within the two townships in the study area is limited. During the 1990 – 2000 decade 72 multi-family were constructed in Franklin Township and 6 in Jackson Township. The Franklin Township units were constructed in the town of Lanesville. **Table 5** summarizes the type of units constructed in each township. Harrison Township experienced the most significant growth in multi-family housing with 303 apartment and duplex units being constructed.

Table 4
Size of Louisville MSA Counties

	Area (Square Miles)	*Farm Land (Acres)*
INDIANA		
Clark County	**375**	**108,773**
Floyd County	**148**	**28,708**
Harrison County	**485**	**161,378**
Scott County	**190**	**57,372**
KENTUCKY		
Bullitt County	**299**	**56,570**
Jefferson County	**385**	**34,028**
Oldham County	**189**	**70,535**

Source: US Census 2000
http://quickfacts.census.gov

Chart 1
Housing Trends
1990 - 2001

Source: Harrison County Plan Commission

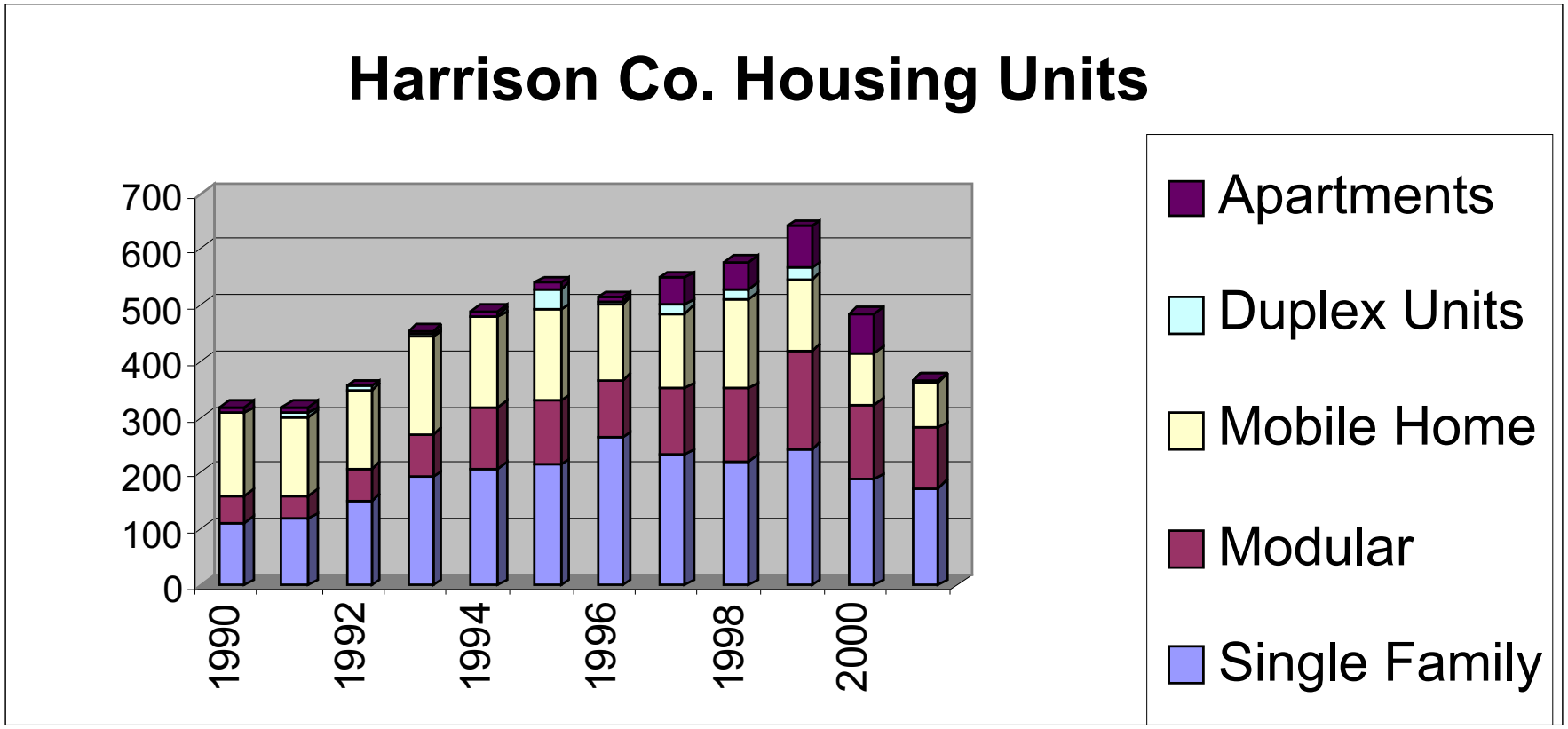


TABLE 5

RESIDENTIAL BUILDING PERMITS*
1990 – 2001

Township	Single Family	Modular	Mobile Homes
Franklin	305	81	74
Harrison	698	299	345
Jackson	366	205	240
TOTAL	1,369	585	659

*** Source: Harrison County Plan Commission**

COMMERCIAL

Non-residential development in the study area is limited due to the lack of wastewater treatment facilities. Existing development surrounding the interchange includes two modular housing sales businesses, a propane distribution business, a charter bus business, an equipment sales business and a miscellaneous industrial business.

These businesses are not labor intensive and do not require extensive infrastructure support. One hundred and one building permits for commercial uses were issued during the 1990 – 2001 period. The distribution of the permits is outlined in **Table 6.**

TABLE 6
MULTI-FAMILY / COMMERCIAL
BUILDING PERMITS*
1990 - 2001

Township	Apartment	Duplex	Commercial
Franklin	36	36	10
Harrison	239	65	57
Jackson	0	7	34

***Source, Harrison County Plan Commission**

ZONING

The study area is zoned predominately A-R Agricultural Residential, while the area immediately surrounding the Lanesville interchange with I-64 includes property in the R-3 Multi-family Residential, B-2 Central Business District, B-3 Highway Service, B-4 Shopping Center and I-1a Light Industrial classifications**. Map 6** depicts the existing zoning classifications in the study area.

These zoning classifications permit:

A-R Agricultural, horticultural, public and semi-public land uses along with residential uses at a density of one unit per acre.

R-3 Multi-family residential uses at a density of 7.26 dwelling units per acre.

B-2 Concentrated neighborhood and central business district commercial uses including general retail, banks, convenience stores, drug stores, furniture stores, hardware stores, hotels and motels, automobile service and repair stations, restaurants and other similar uses.

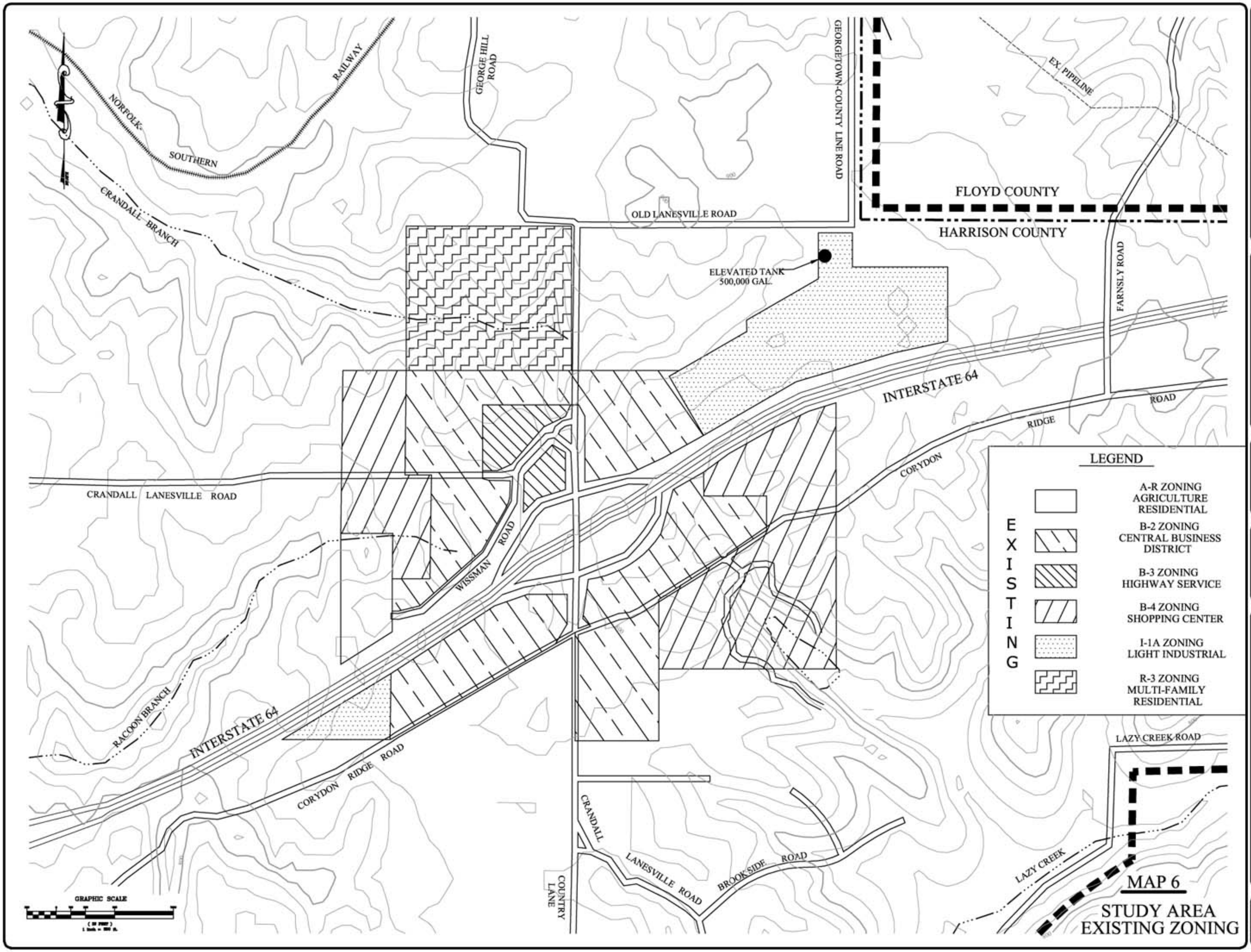
B-3 Highway service facilities are permitted within this district, including hotels, motels, restaurants and automobile service stations/convenience stores.

B-4 Community level commercial uses including department stores, theaters, professional offices, restaurants & lounges and other similar uses.

I-1a The district is limited to light industrial uses and accessory retail uses including; repair garages, farm machinery sales and repair, fuel oil and bottled gas distribution, warehousing and other similar uses.

Approximately 400 acres surrounding the interchange is presently zoned for uses other than agricultural and single family. This includes:

R-3	**59 Acres**
B-2	**136.5 Acres**
B-3	**21.9 Acres**
B-4	**106.7 Acres**
I-1a	**71.5 Acres**
Total	**395.6 Acres**



~ REVISIONS ~

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LANESVILLE / I-64
INTERCHANGE
STUDY AREA

DATE: AUGUST 2001
DRAWING: EX. LAND USE
SCALE: NOT TO SCALE
SHEET 1 OF 1

UTILITIES

The study area has access to water, electricity and telephone utilities. Wastewater treatment is not available within the study area.

SANITARY SEWERS

The Town of Lanesville operates a wastewater treatment plant located just west of the town above Little Indian Creek. According to town officials, the treatment facility has a capacity of 75,000 gallons per day**.** The present volume of treatment is approximately 35,000 gallons per day. The plant was originally constructed with the intention of expanding it to 150,000 gallons per day.

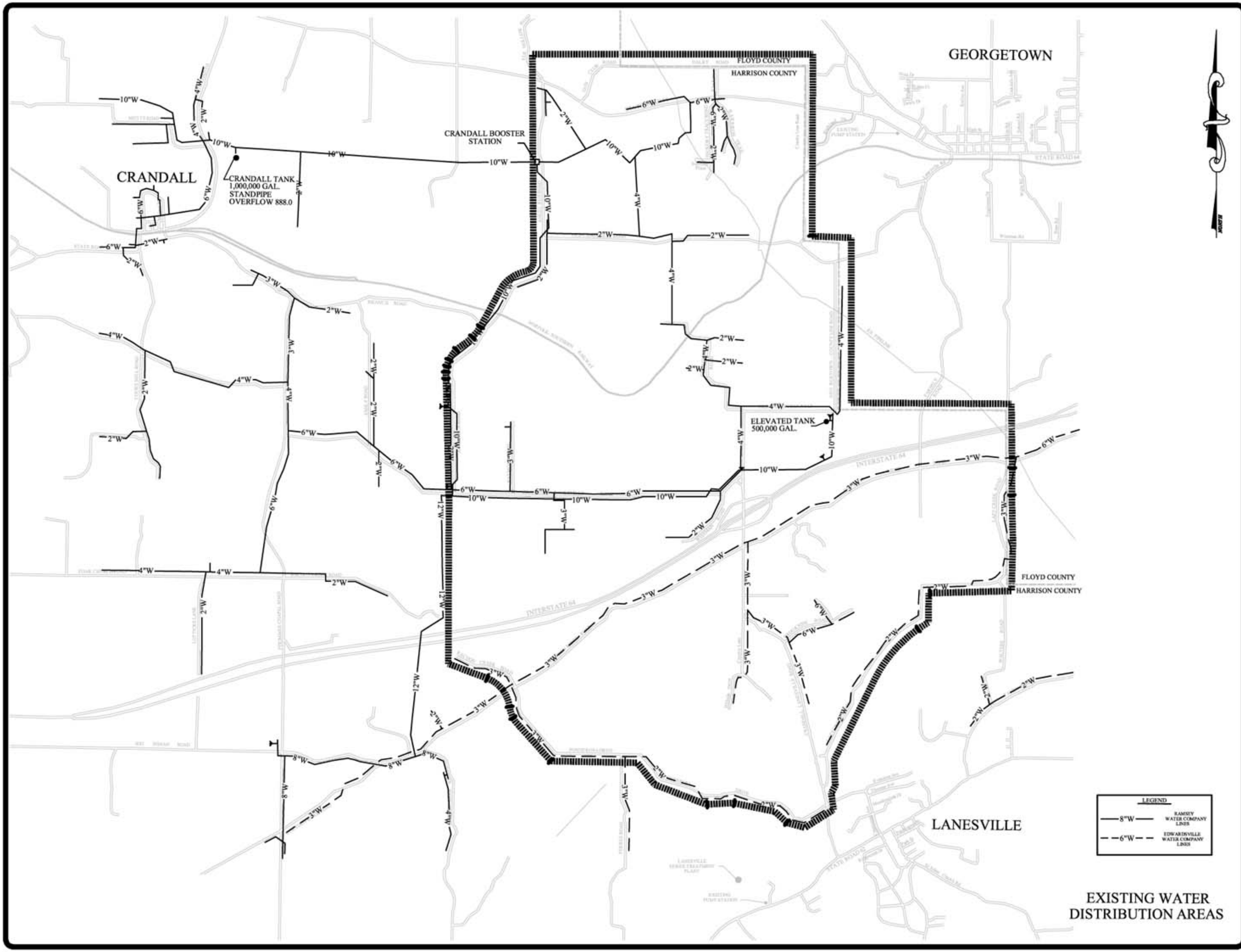
WATER

The current water systems have been developed primarily as rural systems, however, the Ramsey Water Company is upgrading its distribution system and is providing elevated storage tanks to serve the area. The water company constructed a 500,000 gallon elevated water storage tank on property adjacent to the interchange. A 10-inch water line extends from the Spring Valley water tank paralleling the Lanesville-Crandall Road westward from the interchange. The Ramsey system includes both PVC and ductile iron pipe for water distribution.

The water district has a pumping capacity of 8 million gallons per day and is presently pumping approximately 2.6 million gallons per day. These facilities should be able to provide adequate water for potable and fire-fighting purposes, if adequate distribution lines and fire hydrants are installed in the area around the interchange. Additionally, a one million gallon storage tank is located near Crandall which is serviced by a 12 inch water transmission main.

The Edwardsville Water Company serves the area south of I-64. The Edwardsville distribution system, within the study area, is predominately 2” and 3” PVC piping. According to company officials the system can produce approximately 1 million gallons per day. The present demand utilizes nearly all of the available water. The limitations imposed by this type of rural system will not support extensive development.

Map 7 depicts the existing water distribution system within the study area and surrounding areas.



LANESVILLE / I-64 INTERCHANGE STUDY AREA

JUNE 2001

1" = 1000'

1 of 1

ELECTRICITY AND TELEPHONE

Electric service is provided by Harrison County REMC through its Lanesville, Indian Creek and Georgetown substations. Three-phase electrical transmission lines traverse the north and portions of the east, west and southern fringes of the study area. A three-phase line also traverses the central portion of the study area around the interchange. Three phase service is necessary for non-residential development, such as that proposed for the interchange area. The remaining electrical service is single-phase which supports residential development.

CINERGY, formerly Public Service Indiana, serves the Lanesville area and other areas southeast of the study area.

Telephone service to the area is provided by Verizon Communications. Fiber optic and standard copper cable service is available in the area. The fiber optic service runs from Lanesville to the Georgetown area along Lanesville – Crandall and Lanesville – Georgetown Roads. As the area develops as an employment center the businesses will need to contact Verizon to obtain service.

According to Indiana Utilities there is no natural gas service in this area.

TRANSPORTATION

The immediate study area is served by highway and rail transportation. The minor arterial roadways include Indiana Highways 62 and 64, while Interstate Highway 64 is classified as an expressway. Local collector level roadways are listed in **Table 7** below. Several other local county roadways serve the area and are shown on **Map 8.**

The Norfolk Southern Railroad traverses the study area and provides rail freight service to this region. Switching areas (sidings) are located at Crandall, New Salisbury and Georgetown. Amtrak Passenger rail service is available in Louisville. The Cardinal operates daily connecting to Indianapolis and Chicago. This rail service in process of being enhanced for future service improvements.

River transportation is available at the Clark Maritime Center (IN) and at the Jefferson Riverport (Louisville). Passenger and cargo air service is available at Louisville International Airport, approximately 30 minutes east of the interchange. The United Parcel Service airfreight hub is located at Louisville International Airport. Clark County (IN) Airport and Bowman Field (Louisville) also provide general aviation services, including the ability to handle corporate jet aircraft. These facilities are also within a 30-minute drive of the interchange.

HIGHWAY TRANSPORTATION

Some roadway classifications assigned in this plan have been updated from the 1996 Comprehensive Plan **(Maps 9 & 10)**. State Highways 62 and 64 are defined as “major collectors” in the Comprehensive Plan. Arterial level roadways are considered to be through routes carrying traffic between communities or regions. Collector level roads are intended to provide access to abutting properties as well as carrying traffic from local and collector streets to arterial or through roads. The portion of the Harrison County Subdivision Control Ordinance pertaining to roadway definitions was amended in 1998 establishing definitions for primary and secondary arterial roadways.

Highways 62 and 64 parallel Interstate 64 across Southern Indiana providing access to this region, and therefore, meet the intent of the definition of primary arterial roadways. **Map 8** designates classifications of roadways within the study area. These classifications are based upon definitions in the Subdivision Ordinance.

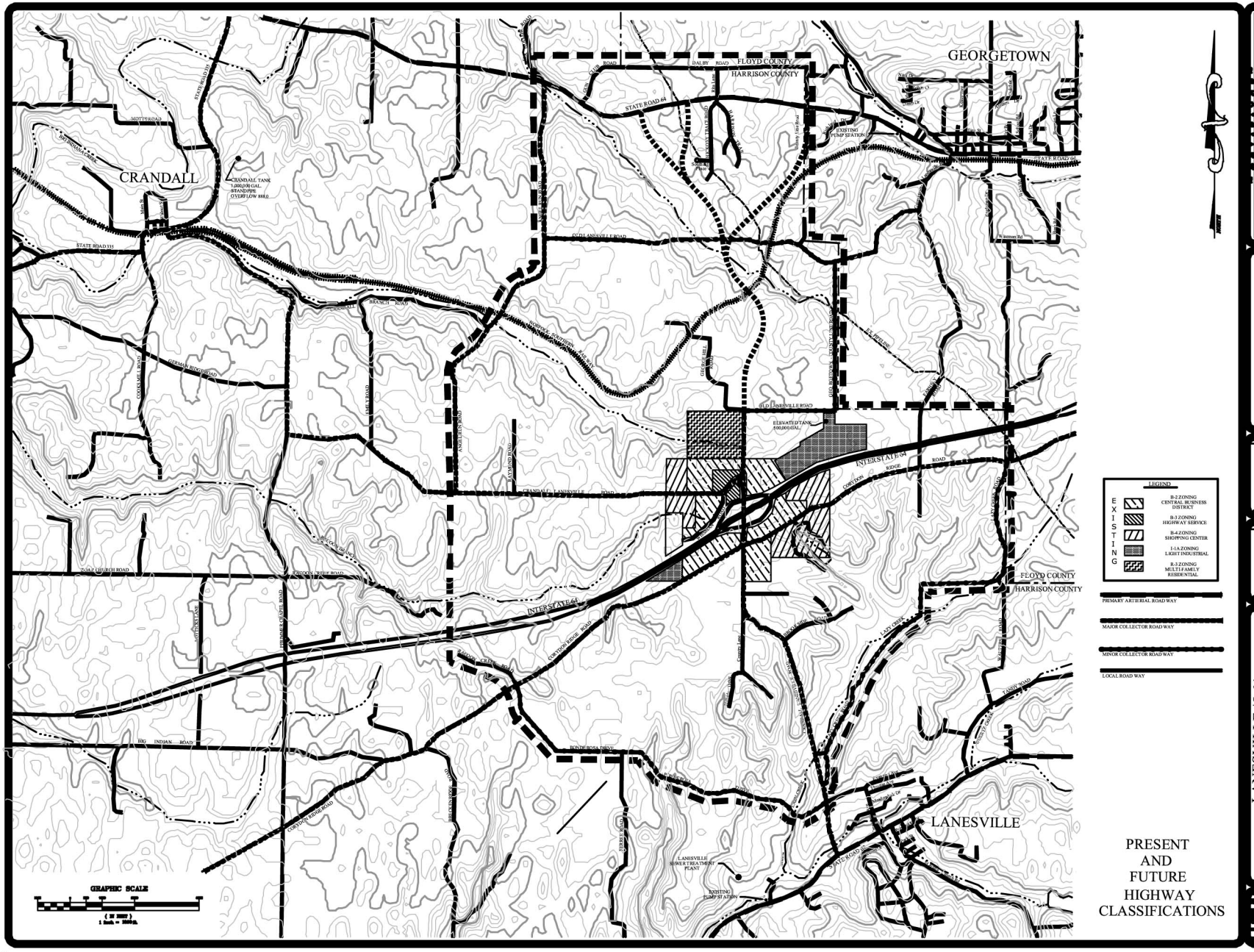
Table 7

Roadway Classifications

Road	Classification
I-64	Expressway
Indiana 62	Primary Arterial
Indiana 64	Primary Arterial
Lanesville-Crandall Road	Major Collector
Corydon Ridge Road	Major Collector
Angel Run Road	Major Collector

Interstate Highway 64 provides the major expressway transportation artery connecting the study area to the Louisville metropolitan area. The Indiana Department of Transportation (INDOT) indicates that the 1999 traffic flow along this artery averaged 28,220 vehicles per 24 hours (ADT) at the Lanesville interchange. This is an increase of 2,480 vehicles per day since the 1995 counts.

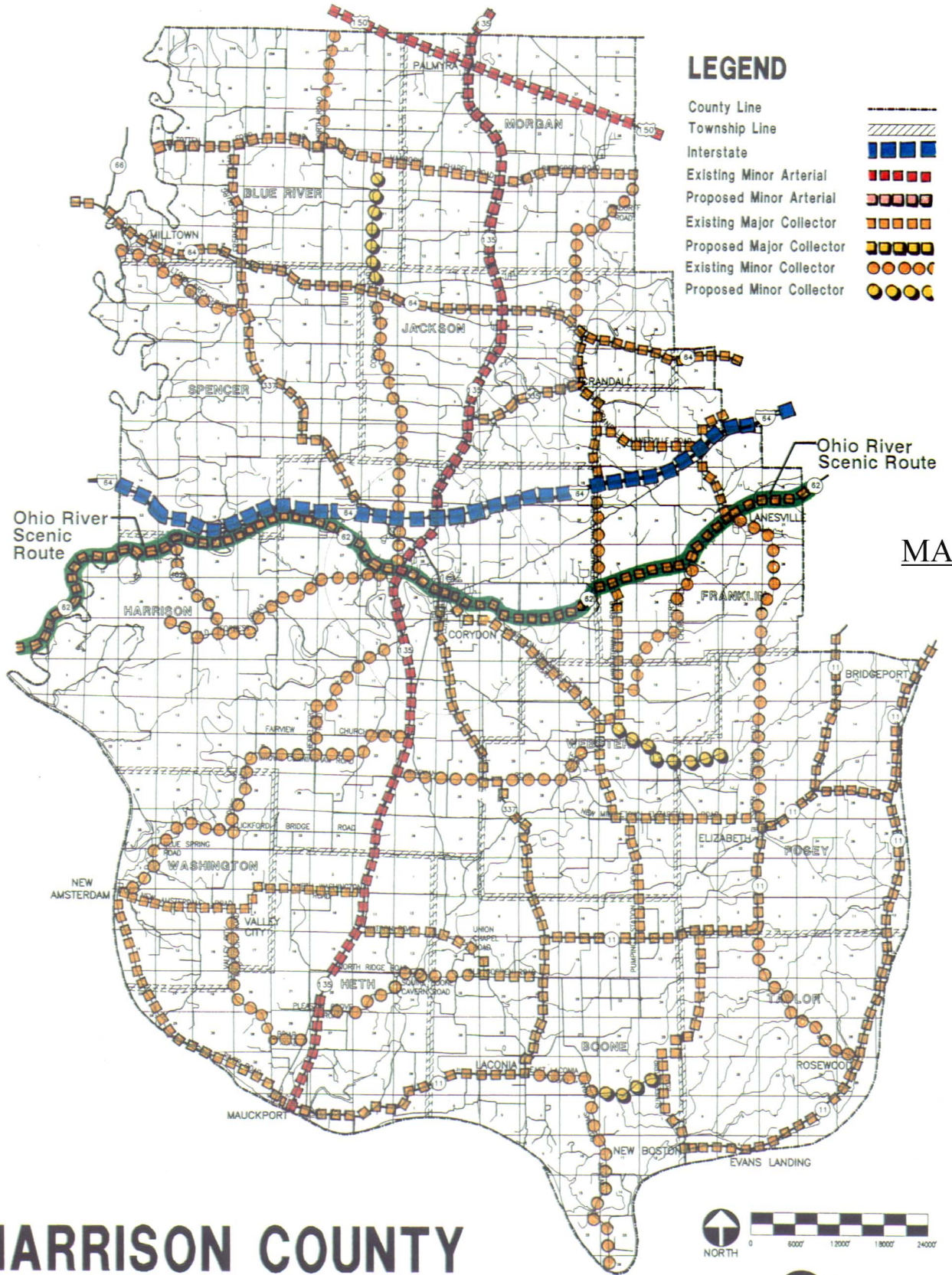
The ADT increases substantially at the Georgetown Interchange. The 1999 count, 54,670, between Georgetown and U.S. 150, indicates that more than 26,000 vehicles enter and exit at Georgetown in each 24 hour period. These vehicles utilize highways 62 and 64 to access the surrounding Floyd and Harrison County areas. The peak hour congestion is evident between 3:30 and 5:30 PM each weekday. The third westbound lane on I-64, which terminates at Georgetown, is frequently backed up one-half mile or more from the interchange.



LANESVILLE / I-64
INTERCHANGE
STUDY AREA

PRESENT
AND
FUTURE
HIGHWAY
CLASSIFICATIONS

TRANSPORTATION PLAN



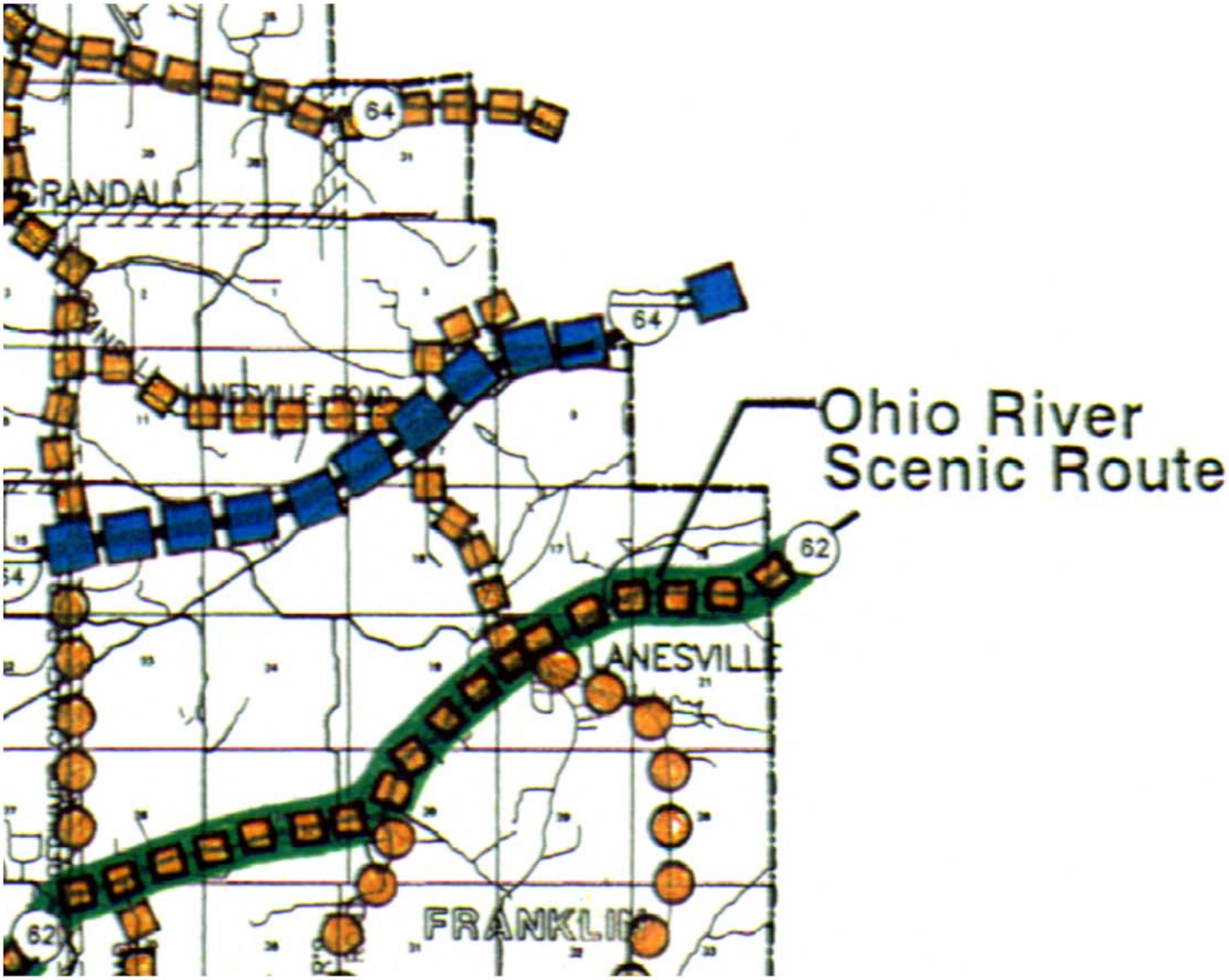
MAP 9

HARRISON COUNTY COMPREHENSIVE PLAN

HARRISON COUNTY PLAN COMMISSION

Cole Associates, Inc.

MAP 10
Transportation Plan



LEGEND

County Line

Township Line

Interstate

Existing Minor Arterial

Proposed Minor Arterial

Existing Major Collector

Proposed Major Collector

Existing Minor Collector

Proposed Minor Collector

The Indiana Department of Transportation (INDOT) provided average daily traffic (ADT) count data for 1995, 1999 and 2000 for various state roadways in the study area. **Table 8** provides a summary of this information. Indiana routes 62 and 64 provide the surface transportation connections in the area. Highway 62 carried 4,190 ADT at the west edge of Lanesville in 2000. This is an increase of 640 vehicles per day between 1995 and 2000. Highway 64 carried 8,900 ADT west of Georgetown in 2000. This was an increase of 271 vehicles between 1995 and 2000. Highway 64 connects to I-64 in Georgetown.

Table 8

State / Federal Highway
24 Hour Average Traffic Counts (ADT)

Location	ADT
I-64 Exit 113 to Georgetown	**28,220 (1999)**
I-64 Georgetown to U.S. 150	**54,670 (1999)**
Highway 64 (At County Line)	**8,900 (1999)**
Highway 62 (Lanesville)	**4,190 (2000)**

Source: Indiana Department of Transportation (INDOT)

The primary Harrison County roadways serving the interchange are Lanesville – Crandall Road (north /south) and Corydon Ridge Road. These roadways have a total ADT of 7129 **(Table 9)**. The southbound portion of Lanesville – Crandall Road was reconstructed when the interchange was built and has a 24 foot wide section with shoulders and drainage swales. The roadway has also been improved for a short distance north of the interchange. This portion of the road can adequately handle current and short term future traffic loads.

The remaining County roadways in the study area are narrow with no shoulders. Substantial improvements would be required. **Figure 3** depicts a desirable sections for roadway designs of local, collector and arterial roadways.

Table 9

Harrison County Roads

24 Hour AverageTraffic Counts (ADT)

Road	ADT
Corydon Ridge Road (West)	1729
Corydon Ridge Road (East)	1316
Crandall-Lanesville Road (North)	1271
Crandall-Lanesville Road (South)	2813

Source: Harrison County Engineer

TOPOGRAPHY / SOILS

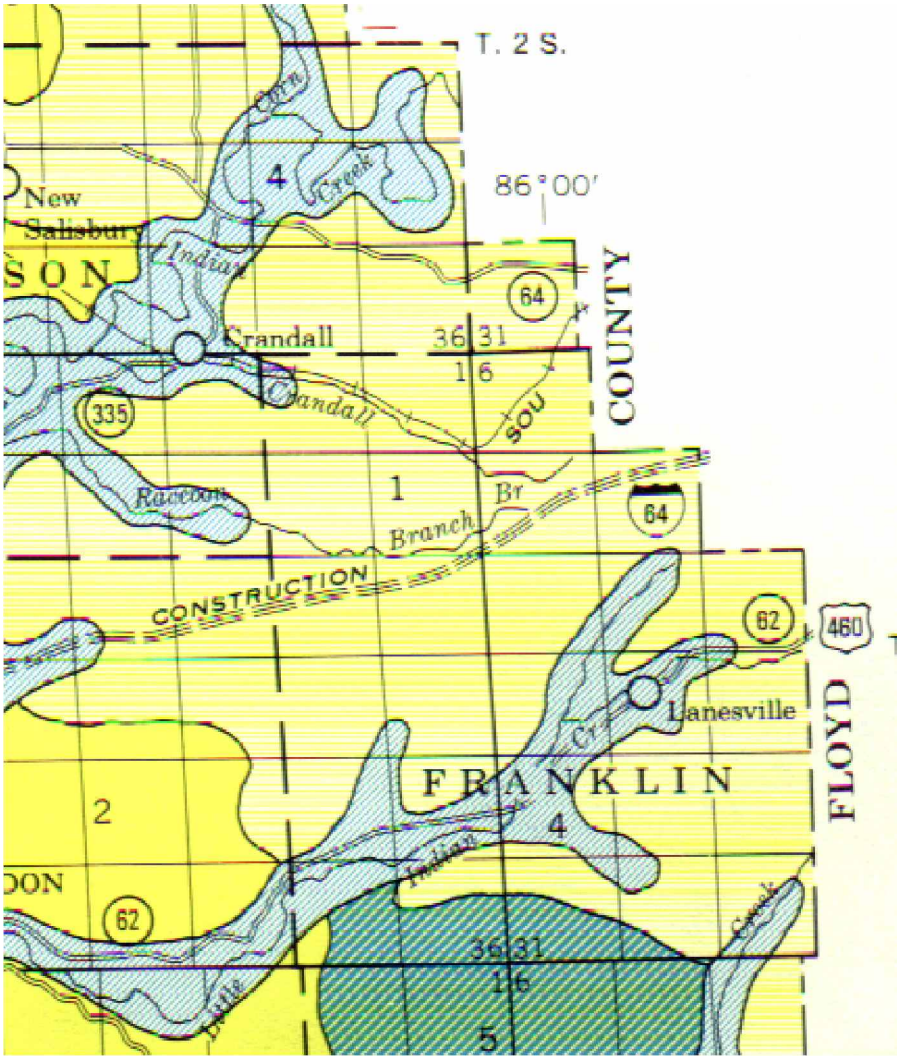
The primary soils in the study area are of the Crider-Baxter association, generally characterized as rolling, deep, well-drained, medium textured, cherty soils on uplands.

The **Baxter Series** soils consist of ***"deep, gently sloping to steep, well-drained soils on uplands. These soils formed in 0 – 20 inches of loess and underlying material weathered from cherty limestone." "Baxter soils are moderate or low in content of organic matter and low in natural fertility."***

The **Crider Series** soils consist of ***"deep, gently sloping and moderately sloping, well-drained soils on uplands. They formed in 20 to 40 inches of loess and underlying material weathered from cherty limestone."***

The topography of the study area is gently rolling to steep. The area immediately surrounding Interchange 113 on I-64 is level to gently rolling and is a high point in the general vicinity, as evidenced by the location of the elevated water storage tank recently constructed.

Map 11 depicts the soil classifications of the study area.



1 Crider-Baxter association: Rolling, deep, well-drained, medium textured, cherty soils on uplands.

2 Baxter-Crider association: Mainly rolling and hilly, deep, well-drained medium-textured, cherty soils on uplands.

3 Corydon-Gilpin-Berk's association: Steep and very steep, shallow and moderately deep, well-drained, medium-textured soils on uplands.

4 Haymond-Huntington association: Nearly level, deep, well-drained, medium-textured soils formed in alluvium on bottom lands

5 Bedford-Bartle association: Nearly level and gently sloping, deep, moderately well drained and somewhat poorly drained, medium-textured soils with a brittle, very slowly permeable subsoil (fragipan); on uplands

MAP 11

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

PURDUE UNIVERSITY AGRICULTURAL EXPERIMENT STATION

GENERAL SOIL MAP
HARRISON COUNTY, INDIANA

VI. IMPLEMENTATION / RECOMMENDATIONS

PROPOSED LAND USE

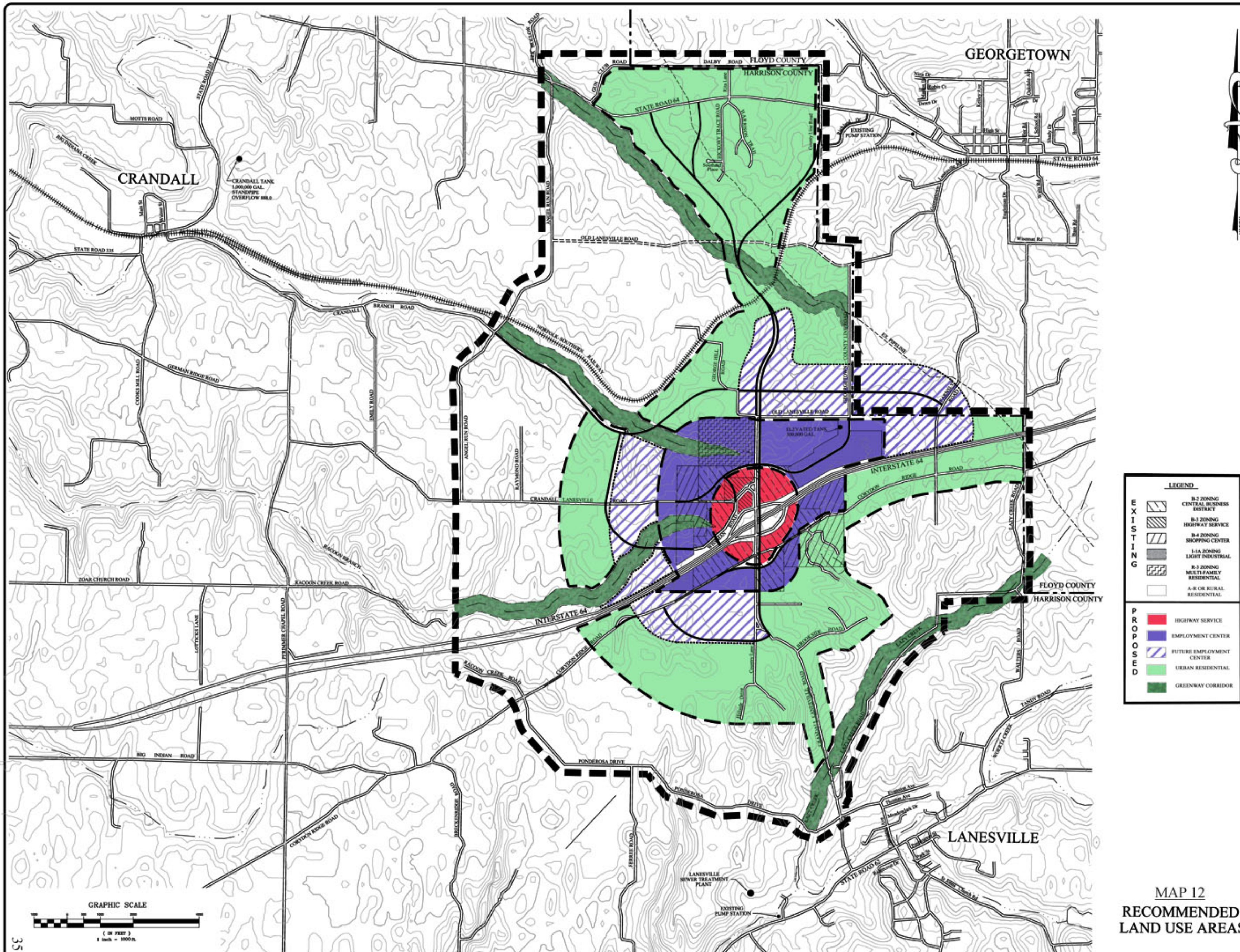
Several factors were considered in preparing the land use recommendations shown on **Map 12.** The interchange is located at the top of a ridge running generally northeast – southwest. The land is also topographically well suited for non-residential development. Defined channels provide drainage from the area into the surrounding blue line streams. These topographic features also offer the opportunity for installation of sanitary sewer collectors, with minimal need for pump stations.

The study area consists of land of varying character and development potential. The area immediately surrounding the I-64 interchange (#113) can be expected to develop intensively when wastewater treatment facilities are made available. The gently rolling land is suitable for development for commercial / industrial uses.

The recent construction of a 500,000 gallon water storage tank in the immediate interchange area is a significant infrastructure enhancement for the area. The Ramsey Water Company is making other infrastructure improvements to its system to further enhance water distribution to the Crandall / Lanesville Interchange area.

The area surrounding the interchange currently zoned for commercial and industrial uses should be enlarged to encompass the land area identified as “employment center” on the proposed land use map. There are, however, no design standards in the current zoning regulations to ensure that aesthetic design features are considered. It is suggested that the Planning Commission adopt landscape and other design regulations to enhance future development in the area.

Figures 1 & 2 provide examples of landscape design along streets. Landscaping in parking lots should be required to provide a minimum of 5% of the parking surface area in trees and other landscape features. Regulations should be considered to prevent the proliferation of tall signs and to establish a standard for future development of the area. Harrison County’s control of billboards along I-64 is a good example for other counties in the area to follow.



MAP 12

RECOMMENDED LAND USE AREAS

~ REVISIONS ~

NO.	DATE	DESCRIPTION	BY

BIRCH, TRAUTWEIN & MIMS, INCORPORATED
Consulting Engineers Landscape Architects Planners
3001 Taylor Springs Drive
Louisville, Kentucky 40220
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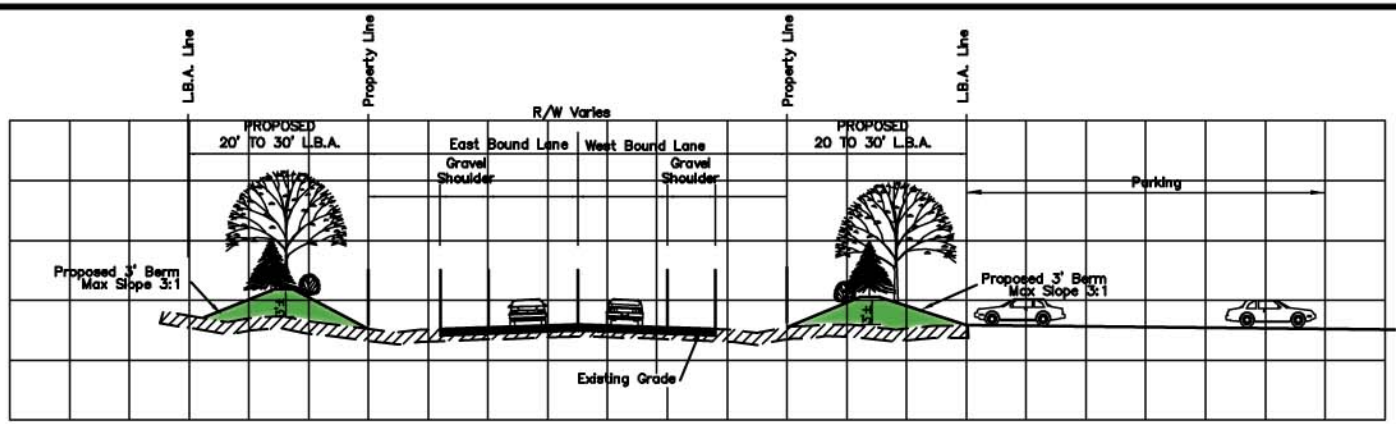
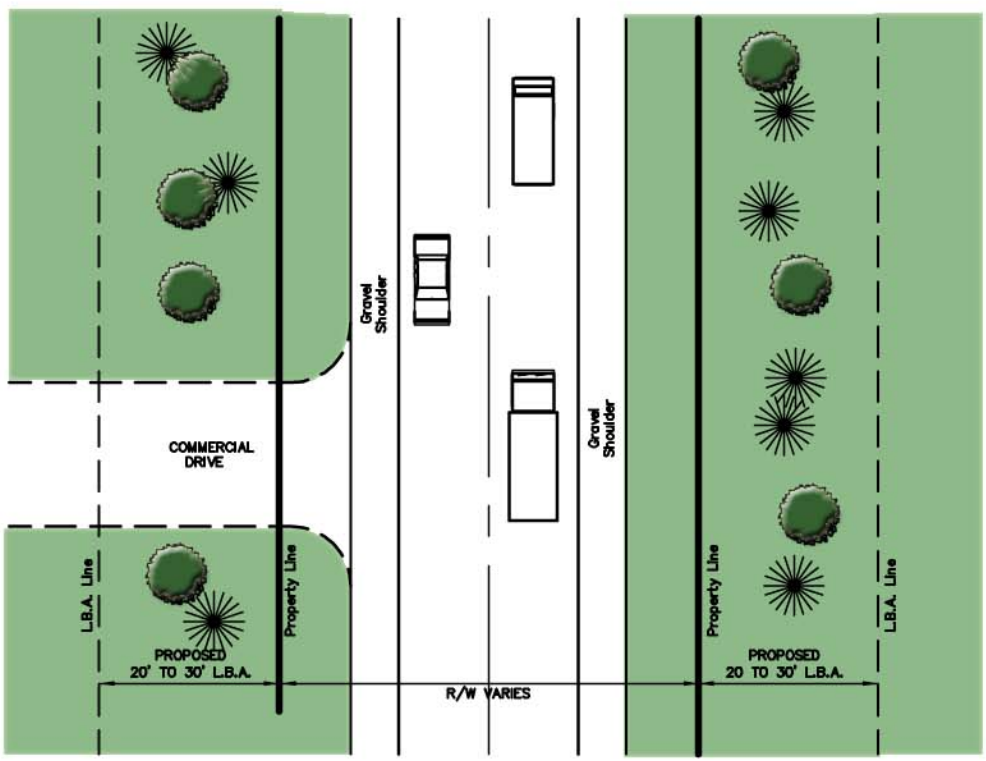
LANESVILLE / I-64 INTERCHANGE STUDY AREA

DATE: JUNE 2001
DRAWING: LANESVILLE BASE MAP
SCALE: 1" = 1000'
SHEET 1 OF 1



CROSS-SECTION

NOT TO SCALE



PLAN VIEW

FIGURE 1

PROPOSED TWO-LANE ROADWAY

NOT TO SCALE

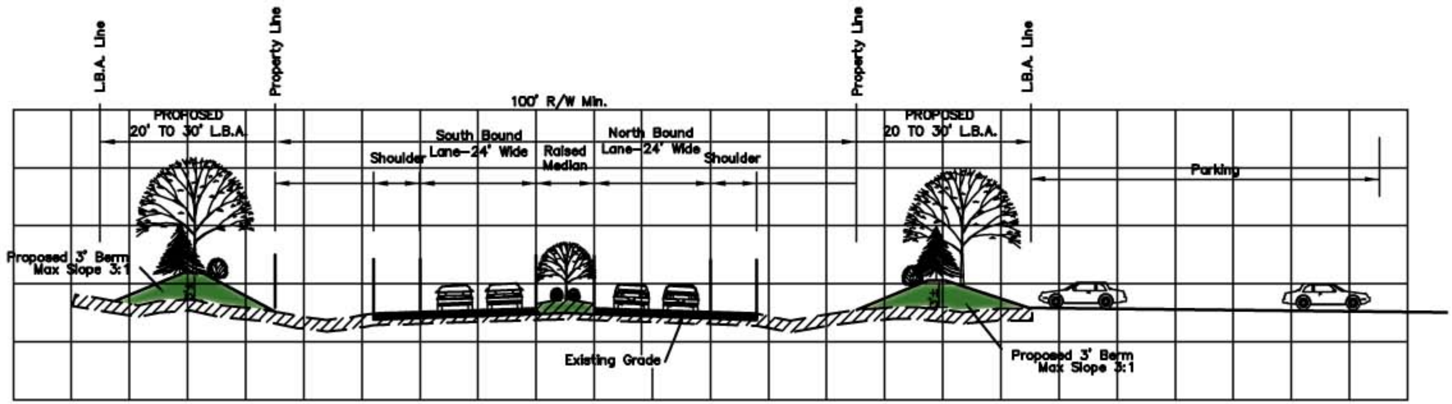
BTM

PROJECT DATA

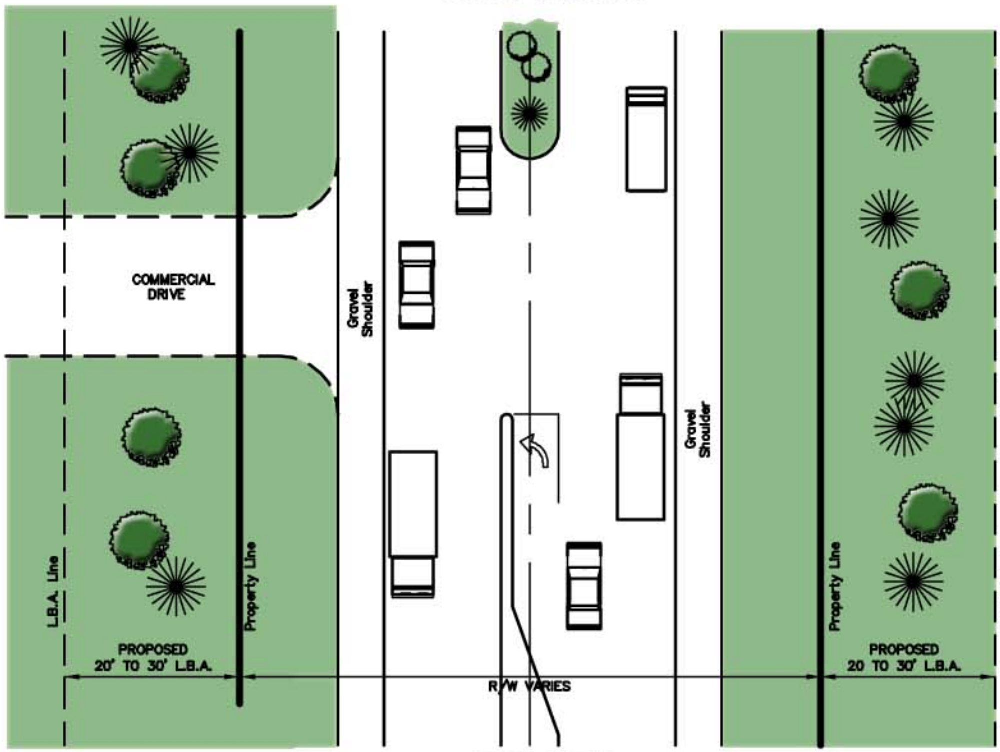
NO.

SCALE NTS

DATE 2/16/2000



CROSS-SECTION



PLAN VIEW

FIGURE 2

PROPOSED DIVIDED ROADWAY

NOT TO SCALE

PROJECT DATA

SCALE NTS

DATE 2/16/2000

INTERCHANGE AREA

The existing zoning classifications surrounding the interchange permit a wide range of residential and business land uses. Approximately 336 acres of the area permit industrial, commercial and highway service uses. An additional 59 acres is zoned for multi-family uses. The location, acreage and uses permitted in these classifications are described in the **Existing Zoning** section of this study.

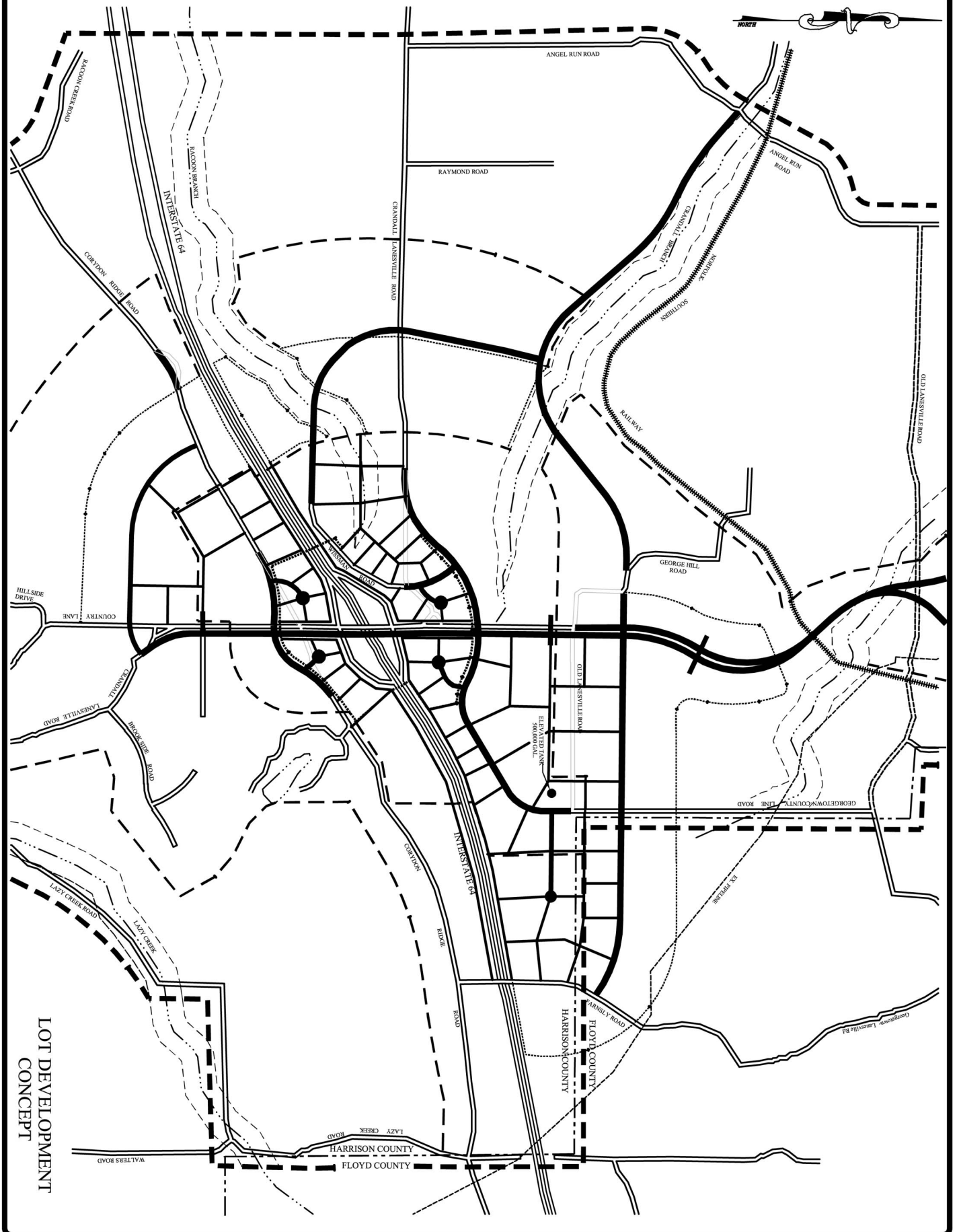
The area immediately surrounding the Lanesville interchange should be developed as an employment center with a variety of commercial and light industrial uses. Development of this area as an employment center will also promote a closer home – work relationship, reducing driving times to employment areas. Further, such uses enhance the tax base of the area. These uses will be supportive of the residential development occurring in Franklin, Harrison and Jackson Townships, as well as, highway service uses for travelers along I-64.

Map 13 depicts potential lot patterns and roadway systems for the area surrounding the interchange. Lots fronting on Lanesville – Crandall Road should not have direct access to the road. Access to this road should be prohibited within the first 1,000 to 1,200 feet in order to prevent congestion at the interchange. This map also depicts minimum spacing for future roadway intersections. Spacing should be designed to allow for future installation of traffic signals and prevent traffic conflicts along the interchange road.

Lots of varying sizes are proposed to promote various business types. The area closest to the interchange should be reserved for highway service uses, such as hotels, restaurants, convenience stores and service stations. Lots further from this highway service core should be larger to provide locations for larger businesses, such as manufacturing or distribution centers. Much of the land surrounding the interchange is level to gently rolling and suitable for larger structures.

The plan proposes designs for roadway connections permitting multiple, integrated traffic flow within and into the area. Employment centers should have multiple points of access within the developments. Such design ensures that if a roadway is blocked there are secondary points of access available. As each parcel is developed the Plan Commission, utility companies and the County Engineer should give attention to the impact of the proposed design on adjoining parcels. Stub streets and proper utility easements should be provided to ensure proper interconnections of the infrastructure system.

It is anticipated that the growth that has occurred in Harrison, Franklin, Jackson and Georgetown townships will continue into the next decade. As the surrounding area develops for residential use a demand will be created for community level services, such as grocery stores, convenience stores and similar uses. There are areas properly zoned for these types of uses at present.



LOT DEVELOPMENT CONCEPT

LANESVILLE / I-64
INTERCHANGE
STUDY AREA

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NO.	DATE	REVISIONS DESCRIPTION	BY

NORTH FRINGE AREA

The north fringe area (toward Indiana Highway 64) is zoned A-R Agricultural Residential and is most suitable for single family residential development. This zoning classification permits agricultural and single-family uses on parcels of at least one acre. This area is west of Georgetown, a community that has also experienced substantial growth in recent years. It is reasonable to expect this growth to continue as infrastructure improvements are made.

The extension of the interchange connector road to the north to intersect Highway 64 is a critical infrastructure improvement needed for this area. As cited earlier in this report, the present volumes of traffic exiting Interstate 64 at Georgetown result in delays extending onto the interstate highway during the PM peak hours. According to INDOT information approximately 26,000 vehicles enter and exit this interchange daily. These trips split to use highways 62 and 64 west of the interchange. Over 16,000 vehicles travel on Highway 64 through Georgetown each day, with nearly 9,000 continuing on Highway 64 as it enters Harrison County.

The construction of the northbound interchange connector would reduce the volume of traffic exiting at Georgetown, by offering an alternative location for exiting the expressway system and reducing the congestion within the town. This alternative roadway connector would, effectively create a bypass around Georgetown, as well as, providing safe and efficient access to the northern portion of the study area.

The eastern half of the northern area is proposed for “suburban residential” development. That is development similar to present conditions with residential lots of approximately one acre. Examples of this type of development may be found along Hickory Trace and Harrison Trail. Topographic features include slopes of less than 20%, suitable for the suburban densities found in the Georgetown area. If sanitary sewers become available lots in the one-half acre range would be suitable for this area, where slopes are less than 12%.

A portion of the western half of the northern area is characterized by slopes exceeding 20%. Lots in these areas should not be less than one acre in size in order to protect the topographic features. When designed properly, housing in these areas will have minimal disturbance on the slopes and be more rural residential in character.

Topographic conditions along Old Lanesville Road are suitable for increased density, however, such development should not occur until wastewater treatment is available. In the alternative one acre lots would be required in order to accommodate the septic system / lateral field method of wastewater disposal. Old Lanesville Road is one of the few gravel surfaced roads in the area. Development should not occur along this roadway until adequate right-of-way is

provided and improvements are made to the shoulders in addition to the paving. The proposed Franklin Hills Subdivision is an example of the type of development anticipated in this area on slopes of less than 20%.

SOUTHERN FRINGE AREA

The southern fringe area (south of Corydon Ridge Road) has developed with a strong residential character. Subdivisions, such as Brookside, and the areas along Country Lane, Hillside Drive, Corydon-Ridge Road and Crandall – Lanesville Road have established the area as a solid suburban residential neighborhood that should be protected. The topography of the area upland of Ponderosa Road is suitable for continued development of this character.

The residential area should be buffered from the existing and future areas of non-residential development surrounding the interchange. Buffering should be planned in the form of substantial landscape areas with berms and extensive plantings of vegetation.

While there are areas south of Corydon Ridge Road are zoned for commercial uses some sites are not suitable because of topographic limitations. The Cedar Brook camp is zoned B-4 Shopping Center, however, it is unlikely that the site will be developed for commercial uses because of topographic considerations.

RECOMMENDATIONS:

1 **Require larger lot sizes where slopes exceed 20%.** While residential structures can be constructed on steeper slopes, land disturbance activities should be minimized. Soil analysis and detailed grading plans should be provided to ensure protection of slopes.

2 **Encourage provisions for sanitary sewers to serve future residential development.** The Lanesville Wastewater Treatment Plant has capacity to handle additional flows. Sewer collection systems can be extended along Lazy Creek and adjoining ravines to reach the south side of the interchange area. In order to provide wastewater treatment service to the north side of the interstate it would be necessary to extend a collection beneath I-64. Because of topographic features it would be necessary to install a pump station to transfer wastewater to the south side of the highway. While the cost of such an

improvement is substantial it could provide the most immediate service to the area. Separate casing pipes would be required for water and sewer. This could be a immediate but temporary resolution to the problem. A future consideration should be the construction of a wastewater treatment facility in the Crandall area. Such a facility would provide wastewater treatment for the Crandall area and the ability to extend a collection system along Crandall Branch to service the north side of the interchange. The natural drainage pattern on the north side of the interchange will support a gravity flow system of wastewater collection, minimizing or eliminating the need for pump stations.

3 **Work with property owners to develop understanding of needs for access limitations along major through roadways to ensure proper traffic movement in the future.**

4 **Adopt standards for site design, including: landscaping, access, signage and parking, among other items.**

5 **Begin working with the Indiana Department of Transportation to develop plan for construction of northbound connector leading from I-64 interchange to Indiana Highway 64.**

DRAINAGE / GREENWAYS / OPEN SPACE

The topography of the study area includes four drainage areas, Lazy Creek, along with the headwaters of Crandall Branch, Raccoon Branch and an unnamed tributary of Big Indian Creek. These corridors should be protected from adverse impacts of development such as erosion and sedimentation. Further, open spaces can be created along the drainage ways to protect the integrity of the streams.

Prior to development of the area, standards for drainage, erosion and sedimentation control should be adopted by Harrison County. These features include construction of individual or area detention and sedimentation basins and silt control fencing around work sites or areas of disturbance. The interchange area is located at the top of a ridge line with resulting stormwater flows feeding four streams north and south of the interchange. The intensity of development anticipated in this area will result in substantial increases in stormwater volumes.

Proper design of retention or detention facilities will minimize the impact on downstream areas. Disturbance or development setbacks should be established along these streams to protect the stream quality and for possible future greenway development.

Buffer or setback areas a minimum of 25 feet from the top of stream bank should be provided to ensure protection of the streams. The size and type of stream should determine the width of the buffer area. Where the streams are adjacent to existing or future roadways, such as along Crandall Branch, the buffer areas may be wider to encourage the protection of these corridors as open space areas resulting in scenic drives as well as water quality protection areas. Areas left in natural vegetation act as filters to water flowing toward the streams reducing the amount of silt and, thereby, enhancing the quality of water entering the drainage system. The tree canopies over the waterways also help preserve water quality and enhancing fish and wildlife habitat.

The areas of steeper slopes in the study area contain significant stands of upland hardwood trees. While these areas are frequently cut for timber prior to development the preservation of trees within future residential areas will enhance the quality of the living environment for future residents of the area. Timber can be selectively removed along roadway and utility rights-of-way.

RECOMMENDATIONS:

1. **Establish standards for buffer areas along drainage corridors.** A zone of "no disturbance" of 50 to 100 feet from the top of bank along blue line streams should be established.

2. **Adopt stormwater and erosion and sedimentation control ordinances to protect downstream areas.**

TRANSPORTATION IMPROVEMENTS

In order to accommodate growth in the study area a priority and timeline plan for roadway improvements should be developed. The Harrison County Subdivision Control Ordinance (Sections 4.4, 4.5 & 4.6) outlines right-of-way and pavement design standards for subdivision streets. The standards should be upgraded to include collector and arterial level streets, which typically carry heavier volumes and loads. **Figures 3A, 3B and 3C** provide standards for construction of local, collector and minor arterial roadways. It is recommended that these standards be adopted into the Subdivision Control Ordinance.

The construction of the northbound connector to Indiana Highway 64 should be given a high priority. The roadway should follow one of the alignments shown on **Map 14.** These alignments were chosen to intersect Highway 64 at locations with the best sight distance. The preferred alignment is the western corridor. The suggested corridor also permits a crossing of the Norfolk Southern Railroad at a location where the existing railroad tracks are located within a cut. This will permit construction of a grade separation with minimal construction cost. This roadway will permit an alternative access to Highway 64 reducing the traffic loads utilizing the Georgetown interchange with Interstate 64.

A second high priority item should involve relocation of the intersection of Corydon-Ridge Road with Lanesville-Crandall Road and the intersection of Crandall-Lanesville Road with Georgetown-Lanesville Road north of the interchange. These intersections should be reconstructed prior to permitting any significant development to occur.

A third priority item should be reconstruction of a curve along Cordon Ridge Road approximately one mile west of the Lanesville-Crandall Road intersection. This curve is unsafe because of the fact that there are no shoulders and it is a flat curve. The pavement edge is immediately adjacent to ditches. Reconstruction can eliminate the curve and provide proper shoulders for vehicles traveling the road.

Other improvements, with the exception of the four-lane section of Lanesville-Crandall Road, depicted on **Map 14A** can be accomplished by developers of adjoining properties. This map depicts, in greater detail, suggested intersection spacing along Lanesville-Crandall Road. Spacing the intersections 1,000 to 1,200 feet apart will result in optimal operation of traffic signals in the future.

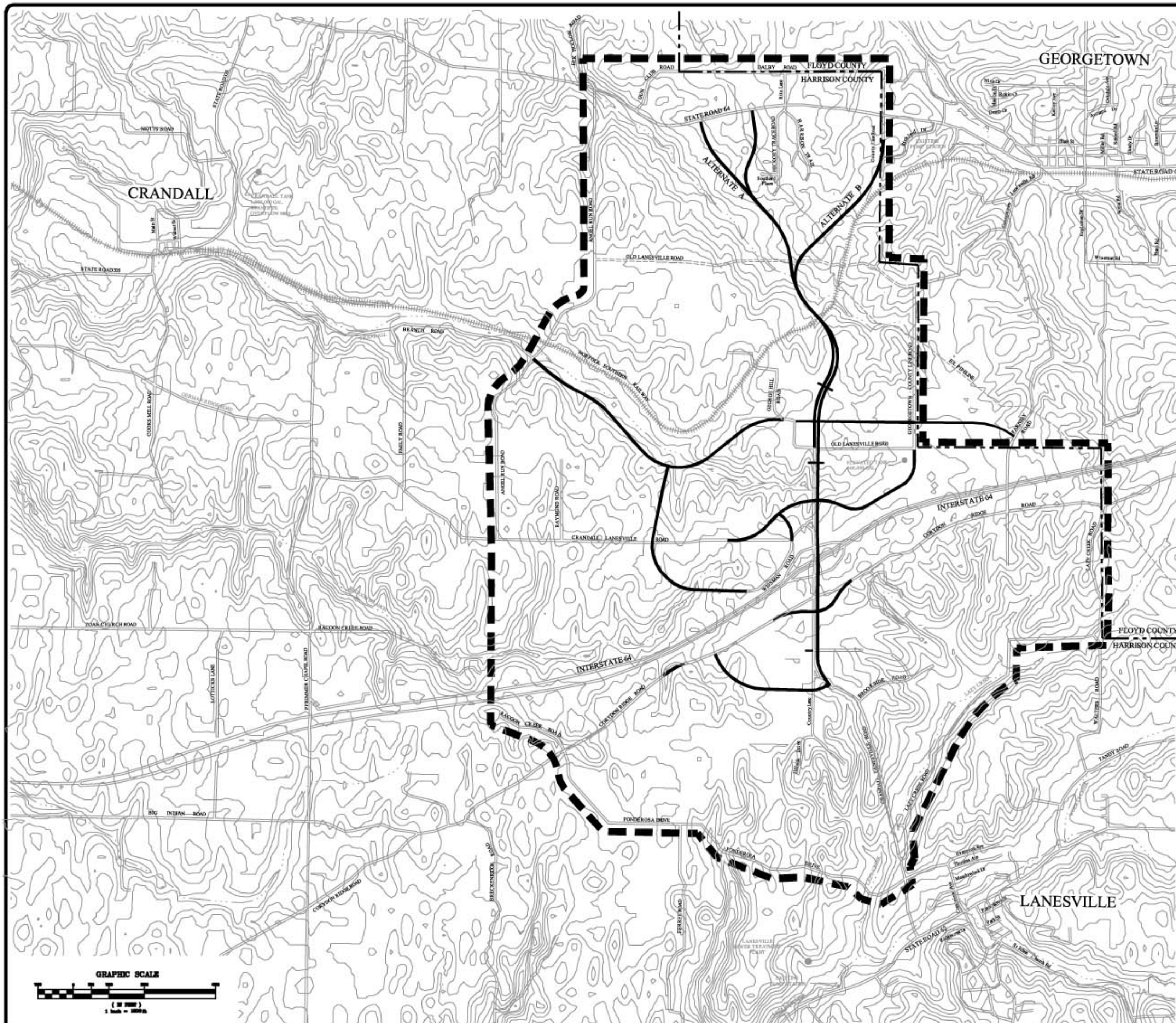
No access should be permitted from abutting property directly to Crandall-Lanesville Road between the two intersections proposed for relocation. Such a limitation will prevent future traffic congestion around the interchange. Access to the lots abutting Crandall-Lanesville Road should be from the rear as depicted on Map 14A.

RECOMMENDATIONS:

1. **Connecting roadway from interchange northbound to Indiana Highway 64.** The County should approach the Indiana Department of Transportation to assist in the development of plans and funding for the construction of the northern connector to Indiana Highway 64. The increased traffic flow exiting I-64 at Georgetown is a definite factor to be considered in support of this roadway.

2. **Relocate collector / arterial roadways or reserve right-of-way for future relocations.** Adequate right-of-way for new construction or relocation of major county roadways must be provided. Priority should be given to relocating Corydon Ridge Road, south of the interchange and the Lanesville-Crandall Road north of the interchange as shown on **Map 14**, **Roadway Improvement Recommendations.** As each parcel is developed the Plan Commission and County Commissioners must ensure that provisions are included in development proposals for necessary improvements on individual development plans.

3. **Roadway standards for improvements to existing roads.** Harrison County should adopt the standards depicted in Figures 3A, 3B and 3C as part of the Subdivision Control Ordinance. Developers of the properties should dedicate additional right-of-way and appropriate utility easements to all existing public roads and improve pavement and shoulder sections along the frontage of each development.



MAP 14

RECOMMENDED ROAD IMPROVEMENTS

LANESVILLE / I-64 INTERCHANGE STUDY AREA

~ REVISIONS ~

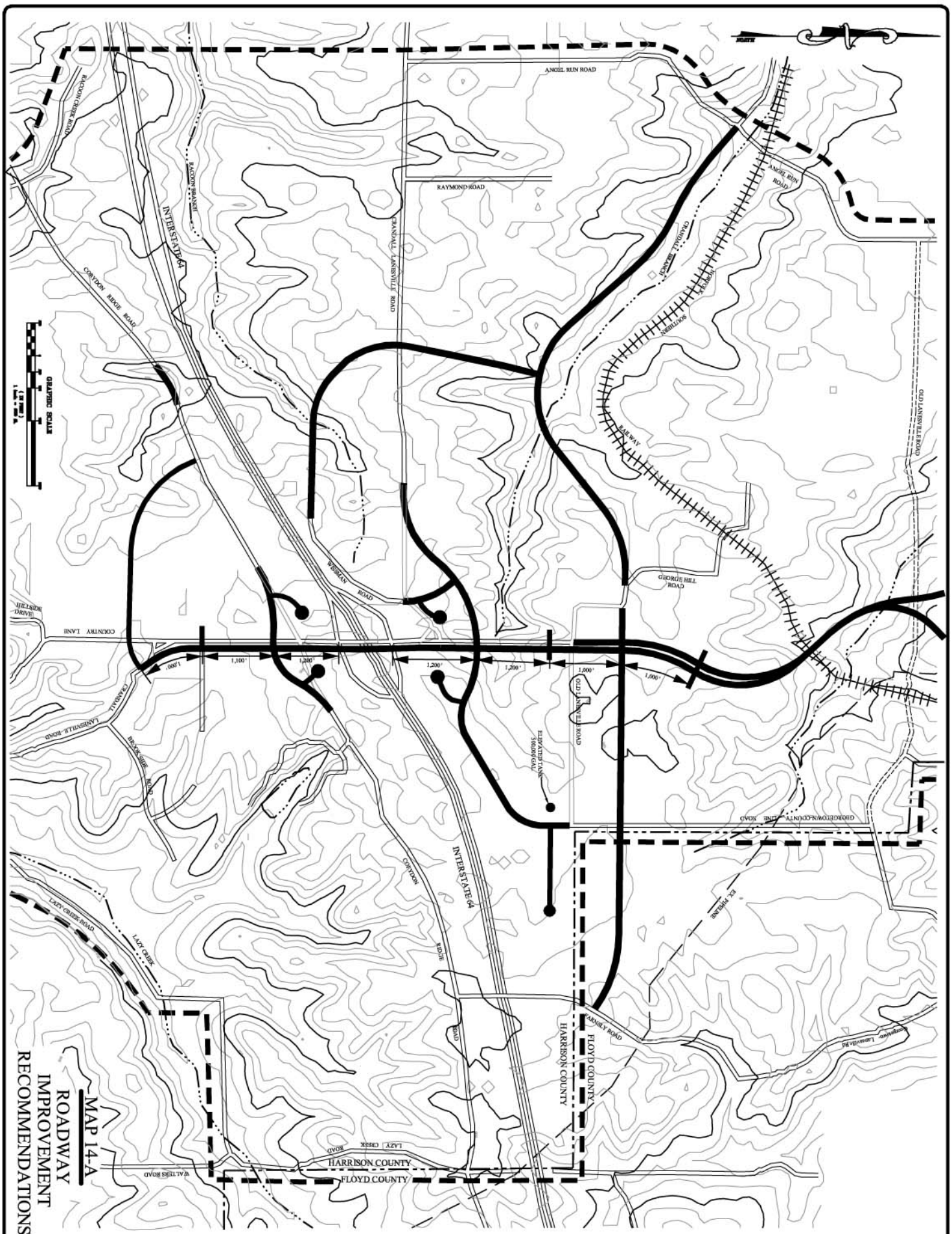
NO.	DATE	DESCRIPTION	BY

BIRCH, TRAUTWEIN & MIMS, INCORPORATED
Consulting Engineers Landscape Architects Planners
3031 Taylor Springs Drive
Louisville, Kentucky 40220
(502)-459-8402 Phone
(502)-459-8427 Fax

DATE
SIGNATURE

DATE
SIGNATURE

DATE: JUNE 2001
LANESVILLE BASE MAP
SCALE: 1" = 1000'
SHEET 1 OF 1



MAP 14-A

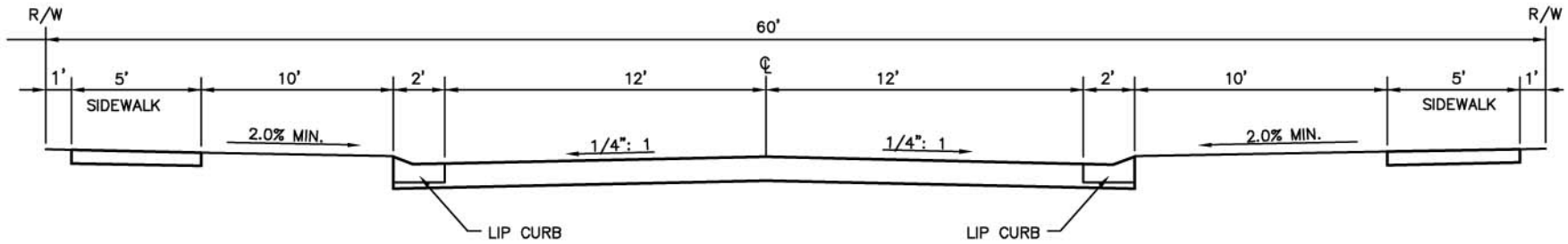
ROADWAY IMPROVEMENT RECOMMENDATIONS

LANESVILLE / I-64 INTERCHANGE STUDY AREA

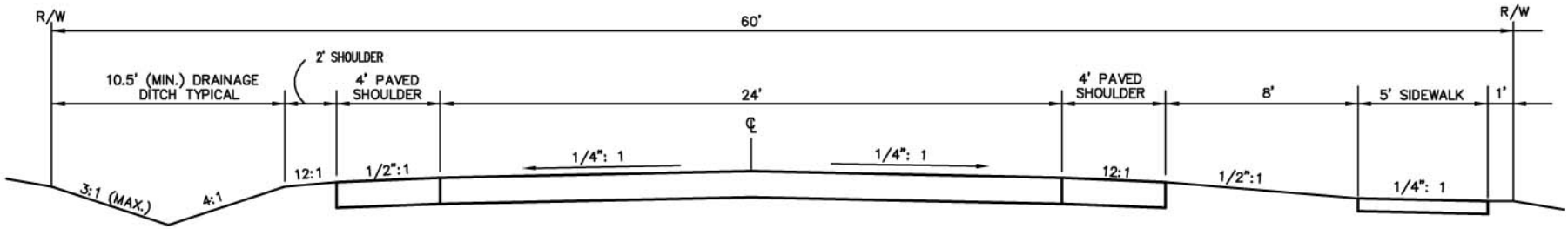
DATE	AUGUST 2001
SCALE	1" = 1,000'
SHEET	1 of 1

NO.	DATE	REVISIONS DESCRIPTION	BY

BIRCH, TRAUTWEIN & MIMS, INCORPORATED
Consulting Engineers Landscape Architects Planners
3038 Taylor Springs Drive
Louisville, Kentucky 40220
(502)-459-8402 Phone
(502)-458-8427 Fax



TYPICAL LOCAL ROADWAY SECTION – 60' R/W
24' PAVEMENT W/SIDEWALKS



TYPICAL LOCAL ROADWAY SECTION – 60' R/W
24' PAVEMENT W/O CURB & GUTTER

MINIMUM PAVEMENT DATA

CBR = 4 TO 6

SURFACE: 1 1/2" . . . COMPACTED ASPHALT CONCRETE SURFACE, CLASS I-A, OR EQUIVALENT 0.1 GALLON PER SQUARE YARD SS-1H TACK COAT.

BASE: 5" . . . COMPACTED ASPHALT BASE, CLASS I OR EQUIVALENT. (2- 2.5" COMPACTED LIFTS)

AGGREGATE: 11" . . . COMPACTED DENSE GRADED AGGREGATE USING "PLANT MIX CONSTRUCTION METHOD" OR EQUIVALENT (2-5.5" COMPACTED LIFTS) (BOTTOM LIFT MAY BE SUBSTITUTED BY #2 OR #3 STONE)

TOTAL PAVEMENT SECTION = 17 1/2"

*SUBGRADE . . . . . EXISTING SOIL WITH TOPSOIL REMOVED. EXISTING SOIL SHALL BE COMPACTED WITH SUITABLE MECHANICAL EQUIPMENT. (MINIMUM 2.0 FEET)

*BASED ON 95% STANDARD PROCTOR DENSITY AND MINIMUM SUBGRADE CBR= 4.0 A CBR TEST SHOULD BE PERFORMED AND SHOULD BE A MINIMUM OF 4.0. IF LESS THAN 4.0, A SPECIAL PAVEMENT DESIGN MUST BE SUBMITTED AND APPROVED BY A REGISTERED ENGINEER.

CBR = <7

SURFACE: 1 1/2" . . . COMPACTED ASPHALT CONCRETE SURFACE, CLASS I-A, OR EQUIVALENT 0.1 GALLON PER SQUARE YARD SS-1H TACK COAT.

BASE: 5" . . . COMPACTED ASPHALT BASE, CLASS I OR EQUIVALENT. (2-2.5 COMPACTED LIFTS)

AGGREGATE: 8" . . . COMPACTED DENSE GRADED AGGREGATE USING "PLANT MIX CONSTRUCTION METHOD" OR EQUIVALENT (2-4" COMPACTED LIFTS) (BOTTOM LIFT MAY BE SUBSTITUTED BY #2 OR #3 STONE)

TOTAL PAVEMENT SECTION = 14 1/2"

*SUBGRADE . . . . . EXISTING SOIL WITH TOPSOIL REMOVED. EXISTING SOIL SHALL BE COMPACTED WITH SUITABLE MECHANICAL EQUIPMENT. (MINIMUM 2.0 FEET)

*BASED ON 95% STANDARD PROCTOR DENSITY AND MINIMUM SUBGRADE CBR= 7.0

DENSE GRADED AGGREGATE BASE NOTE

ALL DENSE GRADED AGGREGATE BASE SHALL BE PLANT MIXED AND CONSTRUCTED IN THE NUMBER OF COURSES NECESSARY TO OBTAIN THE REQUIRED DENSITY.

EACH COMPLETED COURSE OF DENSE GRADED AGGREGATE BASE SHALL BE WETTED AND ROLLED AS NECESSARY TO PREVENT RAVELING UNTIL OVERLAYING COURSE IS APPLIED

DENSE GRADED AGGREGATE

(THE MATERIALS & GRADATION FOR D.G.A. SHALL BE IN ACCORDANCE WITH THE INDIANA DEPARTMENT OF TRANSPORTATION SPECIFICATIONS.)

SIEVE SIZE	PERCENT PASSING D.G.A.	C.S.B.
2 1/2"	–	100
1 1/2"	–	90–100
1"	100	–
3/4"	70–100	60–95
3/8"	50–80	30–70
#4	30–65	15–55
#30	10–40	5–20
#200	4–13	0–8

INDIANA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (LATEST REVISION) WILL APPLY TO ALL ITEMS NOT OTHERWISE NOTED.

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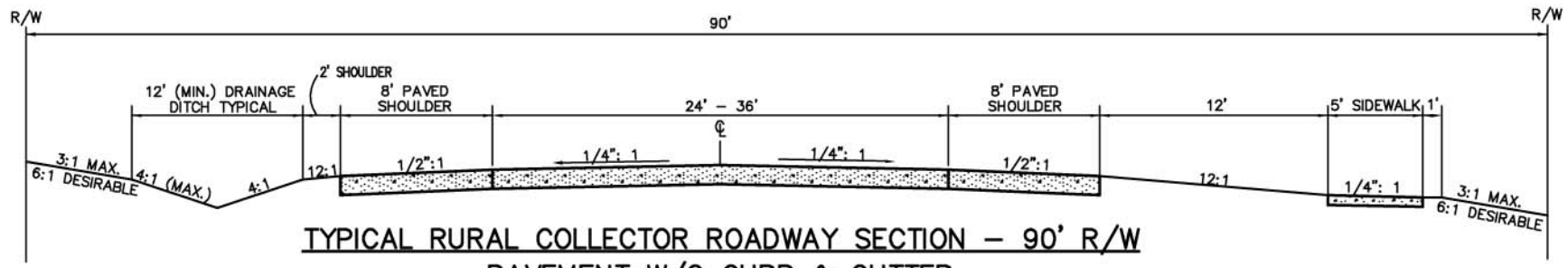
SCALE: NTS
DRW. BY: --- CHK. BY: ---
DATE: 12-12-01

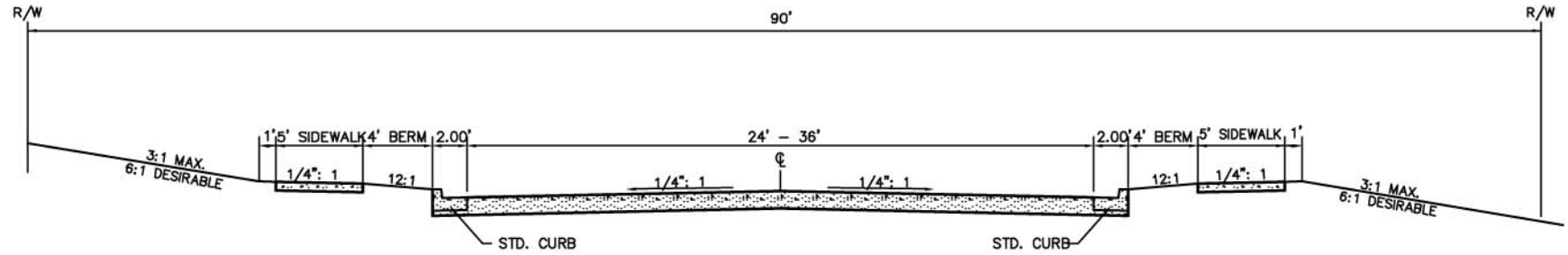
FIGURE 3-A

LANESVILLE INTERCHANGE STUDY

TYPICAL LOCAL ROADWAY SECTION



TYPICAL RURAL COLLECTOR ROADWAY SECTION – 90' R/W
PAVEMENT W/O CURB & GUTTER



TYPICAL URBAN COLLECTOR ROADWAY SECTION – 90' R/W
PAVEMENT W/ CURB & GUTTER

MINIMUM PAVEMENT DATA

CBR = 4 TO 6

SURFACE: 1 1/2" . . . COMPACTED ASPHALT CONCRETE SURFACE, CLASS I-A, OR EQUIVALENT 0.1 GALLON PER SQUARE YARD SS-1H TACK COAT.

BASE: 6" . . . COMPACTED ASPHALT BASE, CLASS I OR EQUIVALENT. (2– 3" COMPACTED LIFTS)

AGGREGATE: 14" . . . COMPACTED DENSE GRADED AGGREGATE USING "PLANT MIX CONSTRUCTION METHOD" OR EQUIVALENT (2–7" COMPACTED LIFTS) (BOTTOM LIFT MAY BE SUBSTITUTED BY #2 OR #3 STONE)

TOTAL PAVEMENT SECTION = 21 1/2"

*SUBGRADE . . . . . EXISTING SOIL WITH TOPSOIL REMOVED. EXISTING SOIL SHALL BE COMPACTED WITH SUITABLE MECHANICAL EQUIPMENT. (MINIMUM 2.0 FEET)

*BASED ON 95% STANDARD PROCTOR DENSITY AND MINIMUM SUBGRADE CBR= 4.0 A CBR TEST SHOULD BE PERFORMED AND SHOULD BE A MINIMUM OF 4.0. IF LESS THAN 4.0, A SPECIAL PAVEMENT DESIGN MUST BE SUBMITTED AND APPROVED BY A REGISTERED ENGINEER.

CBR = <7

SURFACE: 1 1/2" . . . COMPACTED ASPHALT CONCRETE SURFACE, CLASS I-A, OR EQUIVALENT 0.1 GALLON PER SQUARE YARD SS-1H TACK COAT.

BASE: 6" . . . COMPACTED ASPHALT BASE, CLASS I OR EQUIVALENT. (2– 3" COMPACTED LIFTS)

AGGREGATE: 10" . . . COMPACTED DENSE GRADED AGGREGATE USING "PLANT MIX CONSTRUCTION METHOD" OR EQUIVALENT (2–5" COMPACTED LIFTS) (BOTTOM LIFT MAY BE SUBSTITUTED BY #2 OR #3 STONE)

TOTAL PAVEMENT SECTION = 17 1/2"

*SUBGRADE . . . . . EXISTING SOIL WITH TOPSOIL REMOVED. EXISTING SOIL SHALL BE COMPACTED WITH SUITABLE MECHANICAL EQUIPMENT. (MINIMUM 2.0 FEET)

*BASED ON 95% STANDARD PROCTOR DENSITY AND MINIMUM SUBGRADE CBR= 7.0

DENSE GRADED AGGREGATE BASE NOTE

ALL DENSE GRADED AGGREGATE BASE SHALL BE PLANT MIXED AND CONSTRUCTED IN THE NUMBER OF COURSES NECESSARY TO OBTAIN THE REQUIRED DENSITY.

EACH COMPLETED COURSE OF DENSE GRADED AGGREGATE BASE SHALL BE WETTED AND ROLLED AS NECESSARY TO PREVENT RAVELING UNTIL OVERLAYING COURSE IS APPLIED

DENSE GRADED AGGREGATE

(THE MATERIALS & GRADATION FOR D.G.A. SHALL BE IN ACCORDANCE WITH THE INDIANA DEPARTMENT OF TRANSPORTATION SPECIFICATIONS.)

SIEVE SIZE	PERCENT PASSING D.G.A.	C.S.B.
2 1/2"	–	100
1 1/2"	–	90–100
1"	100	–
3/4"	70–100	60–95
3/8"	50–80	30–70
#4	30–65	15–55
#30	10–40	5–20
#200	4–13	0–8

INDIANA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (LATEST REVISION) WILL APPLY TO ALL ITEMS NOT OTHERWISE NOTED.

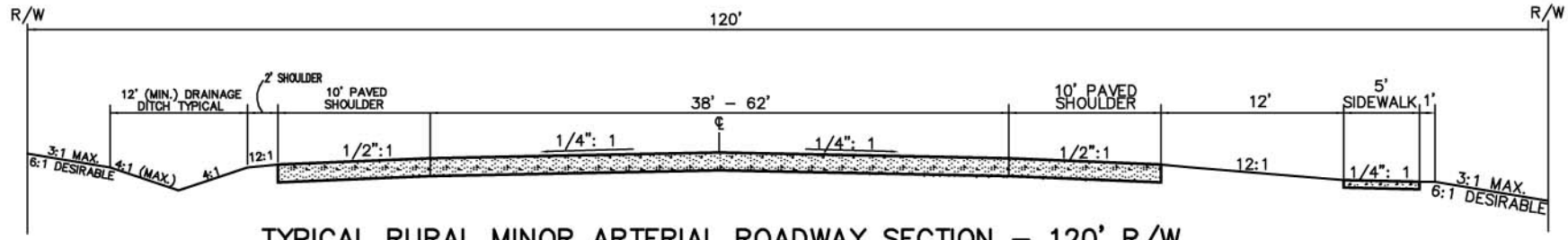
BIRCH, TRAUTWEIN & MIMS, INCORPORATED
Consulting Engineers Landscape Architects Planners
3001 Taylor Springs Drive
Louisville, Kentucky 40220
(502)459–8402 FAX (502)459–8427

SCALE: NTS
DRW. BY: --- CHK. BY: ---
DATE: 12–12–01

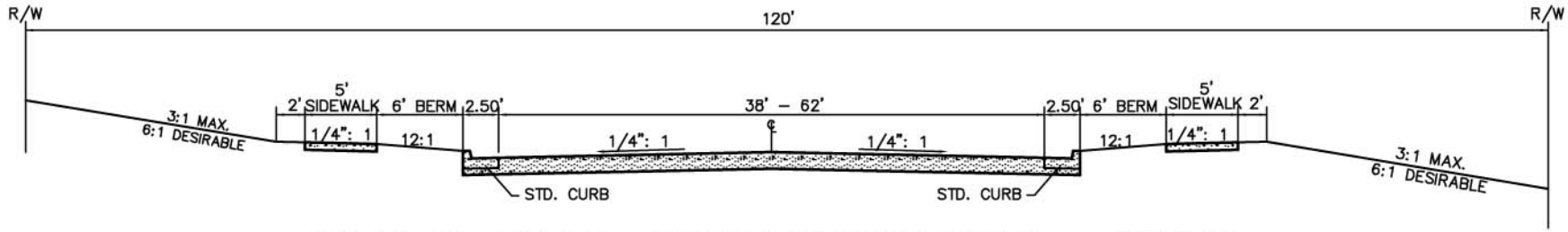
FIGURE 3–B

LANESVILLE INTERCHANGE STUDY

TYPICAL COLLECTOR ROADWAY SECTION



TYPICAL RURAL MINOR ARTERIAL ROADWAY SECTION – 120' R/W
PAVEMENT W/O CURB & GUTTER



TYPICAL URBAN MINOR ARTERIAL ROADWAY SECTION – 120' R/W
PAVEMENT W/ CURB & GUTTER

MINIMUM PAVEMENT DATA

CBR = 4 TO 6

SURFACE: 1 1/2" . . . COMPACTED ASPHALT CONCRETE SURFACE, CLASS I-A, OR EQUIVALENT 0.1 GALLON PER SQUARE YARD SS-1H TACK COAT.

BASE: 8" . . . COMPACTED ASPHALT BASE, CLASS I OR EQUIVALENT. (2- 4" COMPACTED LIFTS)

AGGREGATE: 14" . . . COMPACTED DENSE GRADED AGGREGATE USING "PLANT MIX CONSTRUCTION METHOD" OR EQUIVALENT (2-7" COMPACTED LIFTS) (BOTTOM LIFT MAY BE SUBSTITUTED BY #2 OR #3 STONE)

TOTAL PAVEMENT SECTION = 23 1/2"

*SUBGRADE . . . . . EXISTING SOIL WITH TOPSOIL REMOVED. EXISTING SOIL SHALL BE COMPACTED WITH SUITABLE MECHANICAL EQUIPMENT. (MINIMUM 2.0 FEET)

*BASED ON 95% STANDARD PROCTOR DENSITY AND MINIMUM SUBGRADE CBR= 4.0 A CBR TEST SHOULD BE PERFORMED AND SHOULD BE A MINIMUM OF 4.0. IF LESS THAN 4.0, A SPECIAL PAVEMENT DESIGN MUST BE SUBMITTED AND APPROVED BY A REGISTERED ENGINEER.

CBR = <7

SURFACE: 1 1/2" . . . COMPACTED ASPHALT CONCRETE SURFACE, CLASS I-A, OR EQUIVALENT 0.1 GALLON PER SQUARE YARD SS-1H TACK COAT.

BASE: 8" . . . COMPACTED ASPHALT BASE, CLASS I OR EQUIVALENT. (2-4" COMPACTED LIFTS)

AGGREGATE: 11" . . . COMPACTED DENSE GRADED AGGREGATE USING "PLANT MIX CONSTRUCTION METHOD" OR EQUIVALENT (2-5 1/2" COMPACTED LIFTS) (BOTTOM LIFT MAY BE SUBSTITUTED BY #2 OR #3 STONE)

TOTAL PAVEMENT SECTION = 20 1/2"

*SUBGRADE . . . . . EXISTING SOIL WITH TOPSOIL REMOVED. EXISTING SOIL SHALL BE COMPACTED WITH SUITABLE MECHANICAL EQUIPMENT. (MINIMUM 2.0 FEET)

*BASED ON 95% STANDARD PROCTOR DENSITY AND MINIMUM SUBGRADE CBR= 7.0

DENSE GRADED AGGREGATE BASE NOTE

ALL DENSE GRADED AGGREGATE BASE SHALL BE PLANT MIXED AND CONSTRUCTED IN THE NUMBER OF COURSES NECESSARY TO OBTAIN THE REQUIRED DENSITY.

EACH COMPLETED COURSE OF DENSE GRADED AGGREGATE BASE SHALL BE WETTED AND ROLLED AS NECESSARY TO PREVENT RAVELING UNTIL OVERLAYING COURSE IS APPLIED

DENSE GRADED AGGREGATE

(THE MATERIALS & GRADATION FOR D.G.A. SHALL BE IN ACCORDANCE WITH THE INDIANA DEPARTMENT OF TRANSPORTATION SPECIFICATIONS.)

SIEVE SIZE	PERCENT PASSING D.G.A.	C.S.B.
2 1/2"	–	100
1 1/2"	–	90–100
1"	100	–
3/4"	70–100	60–95
3/8"	50–80	30–70
#4	30–65	15–55
#30	10–40	5–20
#200	4–13	0–8

INDIANA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (LATEST REVISION) WILL APPLY TO ALL ITEMS NOT OTHERWISE NOTED.

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SCALE: NTS
DRW. BY: --- CHK. BY: ---
DATE: 12-12-01

FIGURE 3-C

LANESVILLE INTERCHANGE STUDY

TYPICAL MINOR ARTERIAL ROADWAY SECTION

UTILITY IMPROVEMENTS

WATER

The utility companies serving the area should be encouraged and supported by local government to enhance service and distribution facilities to serve the area. Water distribution must be enhanced, particularly south of I-64 to support future development. The Edwardsville Water system must be upgraded to accommodate additional development. Significant commercial development cannot be served by the existing 3-inch water mains along Corydon Ridge and Lanesville – Crandall Roads. A six-inch line is located at the intersection of Corydon Ridge Road and Lazy Creek Road, however, the Edwardsville system is nearly at capacity at present.

The Ramsey Water Company has made significant efforts to upgrade its system to accommodate future growth. The company has adequate water resources to support increased growth in the area and has been installing larger lines in anticipation of future growth.

It should be noted that the Ramsey Water Company currently has 8-inch and 12-inch water mains connecting at the intersection of Corydon Ridge and Breckenridge Road, approximately 11,800 feet southwest of the interchange. A water line could be extended from Breckenridge Road to Lanesville Crandall Road to serve the south side of the interchange. It is recommended that the line be 12 inches in diameter to anticipate future growth.

Additionally, the Spring Valley water storage tank is located directly across I-64 approximately 3,000 feet from Corydon Ridge Road. An alternative method of extending the water distribution system to the south side of the interstate would be to bore beneath I-64 and provide a casing for extension of utilities to the south side of the highway.

The existing water distribution systems for Ramsey Water Company and the Edwardsville Water Company are shown on **Map 7.** A summary of infrastructure costs (2001 dollars) is provided in **Table 10.**

RECOMMENDATION: **The water distribution system in the south side of the study area must be upgraded. The most efficient method of improvement would involve extension of the Ramsey Water Company 12 inch distribution line eastward from Breckenridge Road to the Lanesville-Crandall Road area.**

Transmission lines should be at least 12 inches in diameter. The system should be designed to accommodate flows capable of providing water for fire protection. Fire hydrants should be included in developer installed improvements.

WASTEWATER TREATMENT

Wastewater treatment is the single most important factor to be considered in planning for development of the interchange area. The existing Lanesville Wastewater Treatment (WTP) facility has capacity to accommodate additional development and can be expanded to handle increased flows. Sewer collection systems can be extended along Lazy Creek and adjoining ravines to reach the south side of the interchange area. However, as previously noted, adequate water is not available on the south side of the interchange and improvements must be made to provide water service to this area.

In order to provide wastewater treatment service to the north side of the interstate it would be necessary to extend a collection beneath I-64 similar to the proposal for extending a water distribution system to the south side. Because of topographic features it would be necessary to install a pump station to transfer wastewater to the south side of the highway. While the cost of such an improvement is substantial it would provide the most immediate service to the area. Separate casing pipes would be required for water and sewer.

A future consideration should be the construction of a wastewater treatment facility in the Crandall area. Such a facility would provide wastewater treatment for the Crandall area and the ability to extend a collection system along Crandall Branch to service the north side of the interchange. The natural drainage pattern on the north side of the interchange will support a gravity flow system of wastewater collection, minimizing or eliminating the need for pump stations.

Harrison County should examine the feasibility of creating a sewer district to plan for the future needs of the eastern fringe of the county as growth occurs. Numerous subdivisions have been approved or are in the planning stages within the study area and surrounding areas. The initial expense of construction of a wastewater treatment facility is substantial, however, in planning for the future it is a necessary item to be considered in protecting the public health and welfare of the community. Possible wastewater collection main locations and a general location for the Crandall WTP are shown on **Map 14.** A summary of infrastructure costs is provided in **Table 10.**

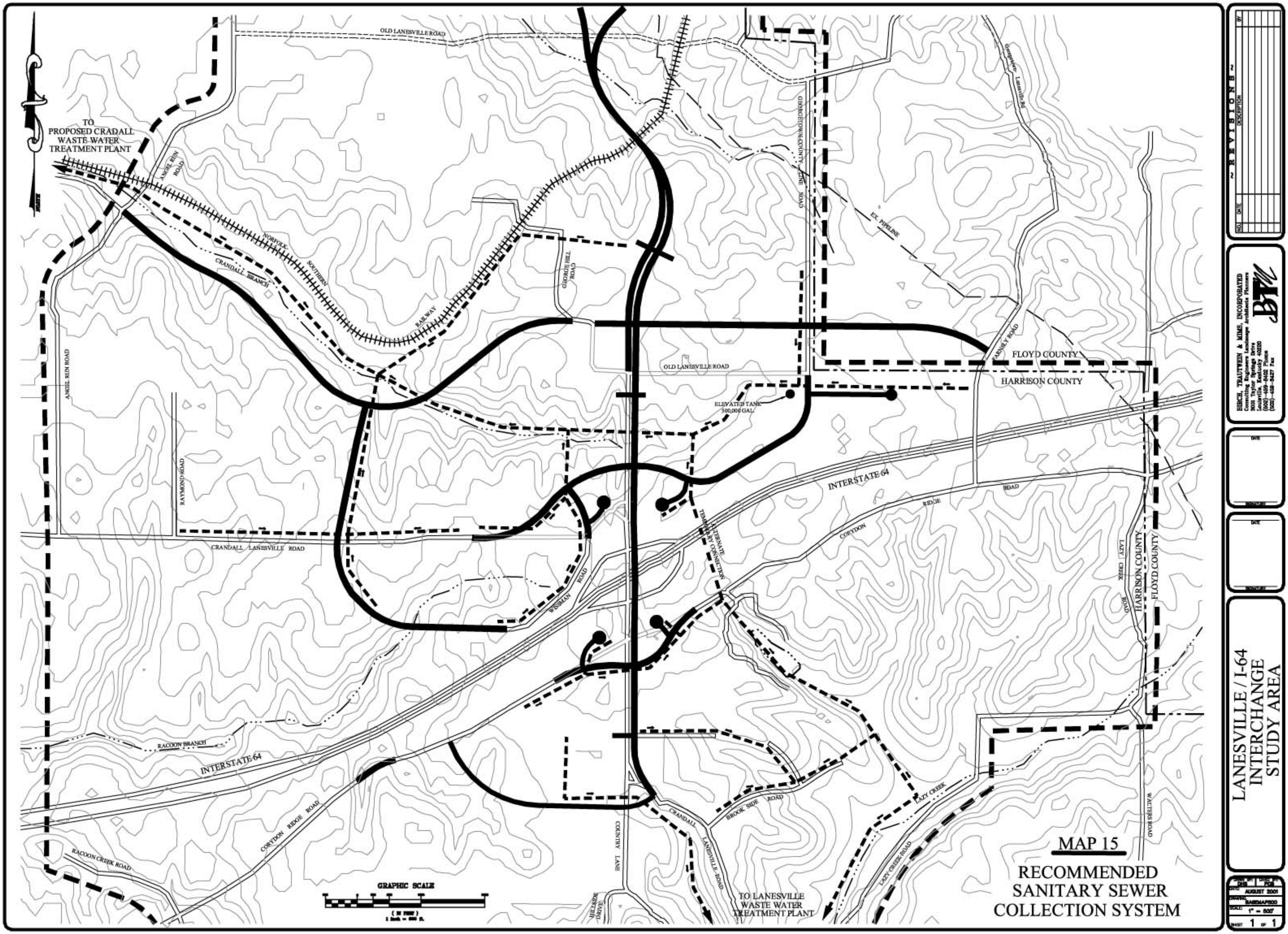
RECOMMENDATIONS:

1. **Harrison County should establish a sewer district.** The need for wastewater treatment will become necessary as the community continues to grow in the future. The need will extend throughout the county in the future. A sewer district can operate plants more efficiently than small individual governments and eliminate the possibility of developers operating small, individual wastewater treatment plants.

2. **Sewer and drainage easements of 15 to 25 feet in width should be required along streams and drainage ways and within new developments to accommodate future sewer locations and drainage improvements.** As an area is developed increased stormwater flows will result in the need for improvements to the drainage system. Additionally provisions for future installation of a sanitary sewer collection system should be made. The necessary easements should be obtained at the time of development rather than having to be purchased in the future.

3. **Extend Lanesville wastewater collection system along Lazy Creek to the interchange area.** The system can accommodate additional flows. The extension of the collection will provide additional flows to the system, making it a more efficient and cost effective system. Boring beneath I-64 to provide immediate service to the north side of the interchange will enhance the development potential for the area in a timely manner.

4. **Plan for future wastewater treatment plant in the Crandall area.** A plant in this northwest area will provide service for a large area, including the interchange area and the residential development being constructed around Crandall.


TO PROPOSED CRADALL WASTE WATER TREATMENT PLANT
OLD LANESVILLE ROAD
ANGEL RUN ROAD
NORFOLK SOUTHERN RAILWAY
CRANDALL BRANCH
GEORGE HILL ROAD
GEORGETOWN COUNTY LINE ROAD
EX. PIPELINE
FLOYD COUNTY
HARRISON COUNTY
ELEVATED TANK 500,000 GAL
RAYMOND ROAD
CRANDALL LANESVILLE ROAD
INTERSTATE 64
CORYDON RIDGE ROAD
WISEMAN ROAD
ALTERNATE TEMPORARY CONNECTION
LAZY CREEK ROAD
RACOON BRANCH
RACOON CREEK ROAD
COUNTRY LANE
CRANDALL LANESVILLE ROAD
BROOK SIDE ROAD
LAZY CREEK
WALTERS ROAD
HILLSIDE DRIVE
TO LANESVILLE WASTE WATER TREATMENT PLANT
GRAPHIC SCALE
MAP 15
RECOMMENDED SANITARY SEWER COLLECTION SYSTEM
REVISIONS
NO.
DATE
DESCRIPTION
BY
BIRCH, TRAUTWEIN & MIMS, INCORPORATED
Consulting Engineers Landscape Architects Planners
3030 Taylor Springs Drive
Louisville, Kentucky 40220
(502)-459-8402 Phone
(502)-459-8427 Fax
DATE
SIGNATURE
LANESVILLE / I-64 INTERCHANGE STUDY AREA
DATE: AUGUST 2001
DRAWING: BASEMAP500
SCALE: 1" = 500'
SHEET 1 OF 1

LANESVILLE INTERCHANGE STUDY AREA

APPROXIMATE SANITARY SEWER UTILITY COSTS

I. Collection Lines to Existing Lanesville Plant

A. From pump station along Lazy Creek to commercial properties north of I-64

15,250 feet @ $80.00 / foot $1.22 Mil

Boring under interstate – approximately $400.00 / foot

B. From Lazy Creek along Crandall-Lanesville Road to interchange

7,800 feet @ $80.00 / foot $624,000

C. Corydon Ridge Road

3,600 feet @ $80.00 / foot $288,000

II. Collection Lines to Possible Crandall Treatment Plant

A. From Crandall area to Crandall Lanesville Road at interchange

20,400 feet @ $80.00 / foot – $1.63 Mil

B. From Crandall-Lanesville Road to Farnsly Rd

5,250 feet @ $80.00 / foot - $420,000

III. Wastewater Treatment Plant

Treatment Plant	**$7.00 - $10.00 per gallon**
100,000 gallon plant	**$700,000 - $1,000,000**
250,000 gallon plant	**$1,750,000 - $2,500,000**

TABLE 10

LANESVILLE INTERCHANGE
INFRASTRUCTURE COSTS

ITEM	LINEAR FEET	APPROX. COST / FOOT	COMMENTS
WATER LINES			
12 INCH LINE		$17.00	PVC
16 INCH LINE		$29.00	DUTILE IRON
FIRE HYDRANTS		$2,800.00	EACH
SANITARY SEWERS			
8 INCH LINE		$60 - 70	INCL MANHOLES
ELECTRIC (3 PHASE)			
UNDERGROUND		$80.00	THREE PHASE
ABOVE GROUND			
TELEPHONE			
1200 PAIR COPPER CONDUIT		$50.00	
144 FIBER OPTIC STRANDS		$20.00	DIRECT BURIED
6 - 4" CONDUIT SAND ENCASED		$22.00	

ROADWAY IMPROVEMENTS

2 LANE COLLECTOR W/ CURBS	$115.50
2 LANE COLLECTOR W/O CURBS	$56.00
4 LANE COLLECTOR W/ CURBS	$172.25
4 LANE COLLECTOR W/O CURBS	$107.25

Per Food Costs Based Upon Similar Projects in Louisville Region During 2001

FUTURE ZONING

It is suggested that the Plan Commission and the County Commissioners work with the property owners in the interchange area to develop a method of plan review and establishing standards for development. One possibility would be to designate the area surrounding the interchange as a PUD district. This district will permit a full range of residential, office, commercial, industrial and other uses. The positive element in the PUD classification is that the Plan Commission will have the responsibility to review individual site plans and encourage planned development reflecting a higher standard of development.

The purpose statement of the PUD District indicates that; **"The purpose of establishing a PUD District is to encourage improved land development and site design, to encourage and allow a variety of uses, building types and arrangements, and to allow development of land areas so planned, located or situated at to merit and justify consideration as a PUD District."**

If cooperation is obtained the Lanesville Interchange Plan Land Development Concept **(Map13)** might be considered as the Preliminary Development Plan required for this district and the County would be the applicant in the rezoning. As each property develops the property owner / developers will submit detailed plans conforming to the balance of the PUD ordinance. Paragraph 605.4 of the PUD District outlines items and information required to be shown on a PUD detailed plan. Each area of development would be subject to review under the subdivision ordinance, as well as, the PUD ordinance.

The areas designated for "Suburban Residential" on the Land Use Plan would be appropriate for R-1 Suburban Residential zoning classification. This area is suitable for development similar to that occurring in the Georgetown and Lanesville areas. The land areas having steeper slopes (20% and over) should remain in the A-R Agricultural Residential classification.

RECOMMENDATION:

1. **It is suggested that the Plan Commission and County Commissioners work with the property owners in the interchange area to assign the Planned Unit Development (PUD) classification to the property zoned for other than single-family uses in the area.**

2. **Adopt regulations pertaining to site design, including; on-site landscaping, landscape buffering along roadways, access and signage, among other issues.**

VII. SUGGESTED CODE AMENDMENTS

The existing zoning ordinance, adopted in 1974, is oriented toward a rural county and development. The ordinance should be substantially rewritten to reflect the suburban development that is occurring and the fact that Harrison County is part of the Louisville Metropolitan area. The growth in housing and population depicted in the Existing Conditions section of this study clearly supports such modifications.

Zoning regulation / development code amendments should include standards of design for roadways, landscaping, signage, roadway access and recognize the change in land uses that have occurred in the past 25 to 30 years. The community and its citizens should demand higher quality design in commercial and industrial developments. The creation of higher design standards will further enhance the living environment in the study area.

Recommendations for Landscaping and Land Use Buffers

A. INTENT

The intent of this article is to improve the appearance of vehicular use areas and property abutting private and public rights-of-way; to improve buffering and screening between incompatible land uses; to protect, preserve and promote the aesthetic appeal and value of surrounding neighborhoods; to enhance the community's natural resources through preservation and replanting of native species; to soften the visual impact of development in a community; and to break up large impervious surface areas. The requirements listed in this article are not intended to prevent innovative and aesthetically pleasing landscapes that improve the appearance of the area that requires landscaping but that does not meet the stated minimum requirements. As stated the requirements listed below are the minimum standards and requirements may be varied if the quantity of plantings and site improvements proposed constitute a substantial improvement over the minimum standards listed in this ordinance. In addition, additional plantings may be required above the minimum standards listed in this ordinance if deemed necessary by the appropriate reviewing agency or the Plan Commission.

B. DEFINITIONS

1. **VEHICLE USE AREA (VUA) –** A vehicular use area (VUA) is an open or unenclosed area containing more than 1,800 square feet of area or more used by five or more of any type of vehicle, whether moving or at rest, including, but not limited to, parking lots, loading and unloading areas, mobile home parks, and vehicle sales and service areas. Driveways may be considered VUAs depending on their impact on adjacent residential uses or zones.
2. **LANDSCAPE BUFFER AREAS (LBA) –** A landscape buffer area (LBA), as used in these regulations, refers to the area that must be set aside, free from development, including but not limited to, buildings or structure, VUAs, or certain utility easements, to accommodate the required landscape and buffering materials. No buildings or structures except fences, walls or those structures attendant to public utility service shall be allowed within the required LBA.
3. **INTERIOR LANDSCAPE AREA (ILA) –** An interior landscape island is defined as a peninsular or island-shaped planting area, minimum of 200 square feet, width a minimum width of 8 feet from back of curb to back of curb located within a vehicular use area and no larger than 350 contiguous square feet in VUAs smaller than 30,000 square feet in size; additionally, ILAs shall be no larger than 1,500 contiguous square feet in VUAs equal to or greater than 30,000 square feet in size. ILAs larger than the maximums stated above are permitted provided that any ILA exceeding the maximums does not count toward fulfilling the requirements of this Article.

4. **SMALL SITES –** Small sites are defined as developments totaling 10,000 square feet or less (as measured by the combined ground area of existing and proposed buildings, structures and VUA).

C. SITES AFFECTED:

1. **NEW DEVELOPMENT** – No site development, building or structure shall hereafter be constructed nor vehicular use area created unless landscaping is provided as required by the provisions of this Article. Any building, structure or VUA Vehicular Use Area (VUA) that in its entirety is removed and reconstructed, or relocated to a new on-site location, shall be considered new development for purposes of this Article. Any

VUA that in its entirety is changed from gravel, stone or similar material to asphalt or concrete pavement shall be considered new development for purposes of this Article.

2. **EXISTING DEVELOPMENT** –

a. Existing development is subject to this Article as defined below:

1. Any reconstruction or expansion of an existing building or structure resulting in an increase of impervious surface by more than 20%.

2. Any expansion of an existing VUA by more than 20% or change in more than 20% of VUA surface (from gravel, stone or similar material to asphalt or concrete pavement).

3. Any combination of items 1) and 2) above resulting in an increase greater than 20%.

b. When such improvements are made, the following landscape provisions shall be required:

1. Expansion by greater than 20% and less than 50% - only the area of new improvements shall be subject to the requirements of this Article.

2. Expansion by 50% or greater – the entire site shall be subject to the requirements of this Article.

c. Small Sites:

1. Expansion by greater than 20% and less than 50% = no landscaping required.
2. Expansion by greater than 50% - only the area of new improvements shall be subject to the requirements of this Article.

3. **CHANGE OF USE** – Change in the use of property, from a use not required to provide landscaping and buffering to a use that is regulated by this Article, shall provide landscaping and buffering as required by this Article.

D. PERIMETER LANDSCAPING REQUIREMENTS:

1. **PERIMETER REQUIREMENTS** consist of buffer or setback area and plant materials for screening. Perimeter requirements have been divided into two types – Property Perimeter and VUA Perimeter requirements. Property Perimeter requirement are applied between adjoining lots with different land uses or zoning (see Property Perimeter Table for standards). VUA Perimeter requirements are applied between VUAs and other adjoining uses or roadways (see VUA Perimeter Table for standards).

Where both Property Perimeter and VUA Perimeter requirements apply, the more stringent standards shall be used.

2. **PERIMETER OPACITY REQUIREMENTS** –
Required hedges shall consist of evergreen trees or shrub varieties with sufficient year-round opacity as determined by Plan Commission staff to provide an effective visual screen.

3. **LOCATION** – Required landscaping generally shall be located along the property perimeter in designated Landscape Buffer Area (LBAs) as shown in the tables, but may also be provided adjacent to buildings or any other locations on site that achieve the desired screening effect. Screening should be visually continuous from adjacent properties. Discontinuous plantings, walls, etc. located away from the property perimeter or VUA, that achieve visual continually, also meet the requirements of this regulation.

4. **WHO FULFILLS PERIMETER LANDSCAPE REQUIREMENTS** –
Landscape material and LBA's required, generally shall be provided by the property owner of the activity listed under Column A of those tables, with the following exceptions:

   a. If the activity in Column A is already developed, and if the landscape material and LBA, required in the tables has not been provided, then the activity listed in Column B shall meet the requirements. Expanding small sites and single family residential are exempted from this requirement.

   b. If the landscape material and LBA required have been provided by the authority constructing the public or private street right-of-way, then the property owner in not required providing the landscape material and LBA.

   c. Schools, churches, parks or other similar community facilities are to be considered the same as multi-family residential use or zone for the purpose of application. This type of use has the option to meet the requirements of this ordinance if it is the later developing use as provided for in the section herein. Commercial, recreational and other activities allowed in a wide range of zoning classifications with a special use exception shall be considered commercial uses for purpose of application.

   d. Large-scale public utility service facilities not otherwise regulated by this section, and community facilities with potential for significant off-site impacts (government garage or storage facilities, police and fire stations, entertainment facilities) shall be considered commercial uses for the purpose of application.

5. **WHERE LANDSCAPE BUFFER AREAS (LBAs) ARE LOCATED** –
LBA and landscape materials generally shall be:

   a. Located on the land use listed under Column A of table when adjoining parcels having different owners; or
   b. Located on either an adjoining parcel, or along and astride a common boundary when both parcels are under the same ownership, or
   c. Astride a common boundary when adjoining property owners enter into a deed of restriction guaranteeing preservation of the buffer area, signed by all appropriate property owners and recorded in the appropriate governmental office.

6. **REQUIREMENT OF CONFLICTS –** The most stringent requirements will be enforced whenever a parcel or activity falls under two or more of the landscape requirements listed in the accompanying tables.

7. **LANDSCAPING IN THE RIGHT-OF-WAY** – Perimeter landscaping may be placed on right-of-way when approved by the responsible governmental agency. Written verification of such approval must be provided to the Plan Commission. Such landscaping shall not obstruct the "sight distance triangle" or be located within an area proposed for future roadway improvements.

8. **LANDSCAPING IN EASEMENTS** – Required landscape buffer area and landscape materials may overlap certain utility easements when it is determined to be appropriate, provided

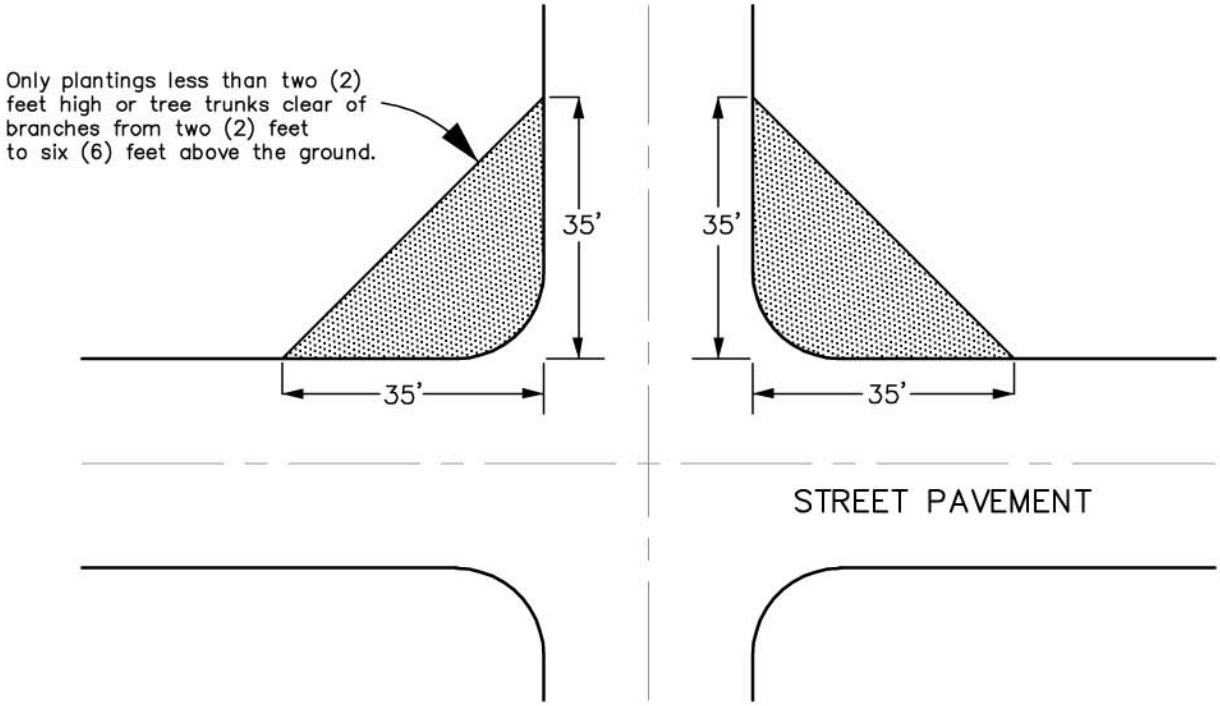
   a. the owner/developer can demonstrate prior approval of the easement holder, and
   b. If work is required within the easements causing damage or removal of landscape materials (including fences, walls, berms or plant materials), the property owner shall be responsible for the replacement and maintenance of materials.

9. **EXISTING PLANT MATERIAL –** The preservation of existing plant vegetation, fences and walls that are structurally acceptable by the Plan Commission staff or its designee is encouraged in this ordinance in order to meet the requirements of this regulation. The plant materials must be in sound condition and with the requirement that they will be replaced if new material if they become damaged or diseased.
   a. Existing vegetation that is to be preserved for either meeting the requirements or to exceed the requirements shall be shown on the landscape plan along with an appropriate and acceptable protection plan. Protection of the plant root system is an integral step in the preservation of plant material. All existing vegetation that is to preserved and maintained shall be protected from root damage and soil compaction through the use of protection fencing or other methods approved by the Plan Commission staff.
   b. The following criteria shall be used for the substitution of existing trees for new trees to meet the requirements set forth in this ordinance. As stated earlier only healthy viable trees can be substituted for meeting the requirement:
      1. An existing 6"-12" caliper tree surrounded by an area equal to the dripline of the tree to be preserved may be substituted for 2 new trees of the required minimum size.
      2. An existing 12"-24" caliper tree surrounded by an area equal to the dripline of the tree to be preserved may be substituted for 3 new trees of the required minimum size.
      3. An existing tree greater than 24" caliper surrounded by an area equal to the dripline of the tree to be preserved may be substituted for 4 new trees of the required minimum size.

10. **LANDSCAPING AT DRIVEWAY AND STREET INTERSECTION**
It is not the intent of this ordinance to require the installation of landscape material in locations that would create a driving hazard, therefore a "sight triangle" will be observed at all street intersections including street intersections (figure 1) and intersections of alleys and driveways with streets (figure 2).

LANDSCAPING AND LAND USE BUFFERS

SIGHT TRIANGLE AT INTERSECTING STREETS



SIGHT TRIANGLE AT INTERSECTION OF ALLEY OR DRIVEWAY WITH STREET

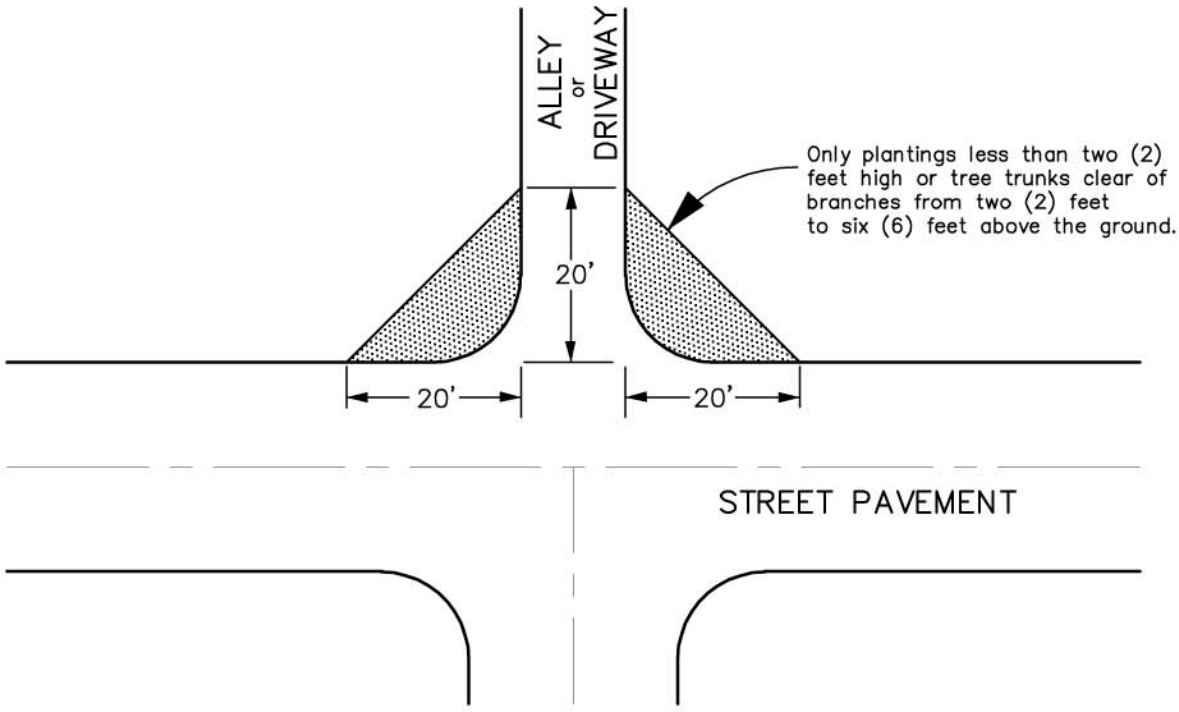


TABLE
PROPERTY PERIMETER REQUIREMENTS

A.	**B.**	**C.**	**D.**
When the following….	**Adjoins the following….**	**A minimum landscape buffer area of this width is required.**	**Which will contain this material, to achieve opacity required.**
1. Any industrial, office or commercial use or zone	Any property in any residential use or zone.	15’ adjacent to all common boundaries behind the building setback except street frontage	One tree/50’ of lineal boundary of landscape buffer area or fraction thereof from Group A, of the plant list; or 1 evergreen tree/15’o.c.; or 1 tree/20’ of lineal boundary, that is the combination of 50% deciduous trees from Group A and 50% either small flowering trees; or 1 tree/15’ o/c. of lineal boundary of small flowering trees; plus a continuous 6’ high planting, fence, hedge, wall or berm.
2. Any industrial use or zone	Any office or business use or zone	10’ adjacent to all common boundaries except for street frontage	Same as D.1.
3. Any use or zone unless the property within the zone is used for vehicular sales facilities or service stations	An expressway or arterial level street that prohibits driveways.	20’ for residential zones and 10’ for all other zones adjacent to expressway or arterial.	Same as D.1.
4. Any use or zone except for industrial	Railroads (except spur tracks)	20’ for residential zones and 10’ for commercial zones adjacent to Railroads beginning at the edge of any rail easement or right-of-way	Same as D.1.

5. Utility substations, scrap metal, or other salvage operations, landfills, sewage plants, sewage pump stations personal communications services or similar uses.	Any property boundary, including street rights-of-way	15' adjacent to all boundaries, except only 5' for utility substations and sewage pump stations measured adjacent to the enclosure	Same as D.1.
6. Any residential multi-family use or zone except when developed as buildings for single family or two family occupancy	Residential single family zone	6' adjacent to all common boundaries except for street frontage	One tree/50' of lineal boundary of landscape buffer area or fraction thereof from Group A, of the plant list; or 1 evergreen tree/15'o.c.; or 1 tree/20' of lineal boundary, that is the combination of 50% deciduous trees from Group A and 50% either small flowering trees; or 1 tree/15' o/c. of lineal boundary of small flowering trees.
7. Any commercial use or zone	Any public or private right-of-way	5' adjacent to all street frontage.	1 tree/50' lineal boundary, or fraction thereof, from Group A, B, or C of the Plant List, and any combination of decorative shrubs, trees, seasonal flowers, etc; up to 25% of the buffer may be paved for site entrance

E. **INTERIOR LANDSCAPING AREAS (ILAs) FOR VUAs**:

1. **When ILAs Shall be Required** – Where a Vehicle Use Area is newly created, altered or expanded to 6,000 or more square feet, or to accommodate twenty or more vehicular parking spaces, ILAs shall be provided. The amount of ILA provided in the overall VUA shall be in accordance with the percentage by which the VUA is expanded, as specified in Section C.2 of this Article. For each one hundred (100) square feet, or fraction thereof, of VUA requiring ILAs, five (5) square feet of ILA shall be provided. This shall be in addition to any required perimeter landscaping.

2. **VUA Areas Exempt from ILA requirements**:

   a. Loading, unloading and outdoor storage areas in an industrial zone, not accessible or visible to the general public.
   b. Loading, unloading and outdoor storage areas in a commercial zone, not accessible or visible to the general public.

3. **Maximum distances between ILAs** – The maximum distance between ILAs shall not exceed 120' measured both

   a. Radially, from the closest perimeter landscape area curb edge, and
   b. Lineally in each row of parking spaces, from the closest curb edge of each ILA

4. **Minimum ILA Tree Requirements** – A minimum of one (1) tree shall be required for every 250 square feet or fraction thereof, of required ILA. Trees shall have a clear trunk to at least six (6) feet above the ground. The remaining ILA shall be landscaped with shrubs, grass or groundcover. Shrubs shall not exceed two (2) feet in height in areas requiring sight distance for vehicular circulation.

5. **Tree Setbacks from Edge of ILA** – In all size ILAs, the minimum distance between any tree and edge of pavement, where vehicles overhang, shall be four (4) feet.

6. **Maximum allowable Vehicle Overhang –** Parked vehicles may hang over the ILA no more than two and one-half (2 ½) feet, provided that concrete or other wheel stops that are affixed to the ground are provided to limit overhang or penetration of the landscaped area.

TABLE
VEHICLE USE AREA REQUIREMENTS

A.	B.	C.	D.
When the following….	**Adjoins the following….**	**A minimum landscape buffer area of this width is required.**	**Which will contain this material, to achieve opacity required.**
1. Any properties containing any vehicular use area (VUA).	Any property in any residential use or zone.	5’ where vehicles overhang (minimum 4’ to all trees from edge of VUA paving) and 4’ (vehicular overhang prohibited) for other areas adjacent to portion of vehicular use area that adjoins residential use of zone.	One tree/50’ of lineal boundary of landscape buffer area or fraction thereof from Group A, or one tree/40’ of lineal boundary of landscape buffer area or fraction thereof from Group B or C; plus: some combination of 3’ high continuous hedge or a 3’ fence or a wall or earth mound, or a 3’ decrease in elevation from the adjoining property to the vehicular use area.
2. Any vehicular use area in any zone except vehicular sales facilities or service stations.	Any public or private street right-of-way, access road or alley (except expressways).	Same as C.1 above, applies to VUA portion facing public or private street right-of-way, access road, or service road.	Same as D.1, except trees from Group A or B only; no trees are required along alleys.
3. Any vehicular sales facility or service station.	Any public or private street right-of-way, access road, service road, expressway or arterial street.	Same as C.2 above.	One tree/50’ or fraction thereof from Group A or B, plus an 3’ height continuous planting, hedge, fence, wall or earth mound.
4. Financial institutions with drive-in facilities or night deposits.	Same as B.2.	Same as C.1.	One tree/50’ of boundary or fraction thereof from Group A (one tree/40’ of boundary or fraction thereof Group B) (deciduous only) with 5’ of clear trunk, plus an 3’ average height continuous planting, hedge, fence or wall adjoining a public or private right-of-way and a 3’ average height planting, hedge, fence or wall adjacent to all other property.

F. LANDSCAPE REQUIREMENTS FOR SERVICE STRUCTURES

For the purpose of this article, service structures shall include propane tanks, dumpsters, air conditioning units and condensers, electrical transformers and other equipment or elements providing service to a building/structure or site except for service structures located in residential zone property with the exception of dumpsters in any multi-family development.

1. Location of screening- A continuous hedge, fence or wall, or earth mound shall enclose any service structure on all sides unless such structure must be frequently serviced or moved, in which the screening shall be on all sides except for one side. The average height of the screen shall be 1 foot above the height of the structure but shall not exceed 8 feet in height. Whenever a service structure is located next to a building wall, perimeter landscape material or VUA landscape material, such walls or materials may fulfill the screening requirement of the service structure. Whenever service structures are screened using plant material then the plant material may fulfill the requirement of perimeter property screening or VUA screening requirements. Plan Commission staff may in addition determine the appropriate location for landscape screen materials.
2. Protection of material- the property owner as with all landscape plant materials must provide protection for proposed screening in particular when dumpsters are screened with plant material.

G. STANDARDS FOR LANDSCAPE MATERIALS

1. **Planting Standards** – A "planting manual or plant list" shall be maintained by the Plan Commission and shall be made available in the office to provide a more detailed list of acceptable plant materials. Plant material that is not listed in the plant list may be accepted or added as deemed appropriate by the Plan Commission if it is determined to meet the functional criteria of the requirement.
2. **Walls and fences**- Walls shall be constructed on natural stone, brick or other weatherproof materials. Fences shall be constructed of wood or other weatherproof durable material generally used in the exterior construction of buildings. Fences shall have posts that are designed to be structurally stable.

   Chain link fencing may be installed in the required landscape area only if it is in addition to the required continuous hedge, fence, wall or earth mound; plastic, metal or wooden slates are prohibited within any required LBA. Walls or fences shall not exceed height limitations specified in related ordinances. All walls and fences shall have a minimum opacity of eighty (80%). Walls and fences allowed to meet screening requirements should not be used to display any signage or advertising device.

3. **Grass or groundcover** – Gras or groundcover shall be planted on all portions of the landscape buffer area not occupied by other landscape material. Grasses may be sodded, plugged sprigged or seeded, except in swales or other areas subject to erosion where solid sod, erosion-reducing net, or suitable mulch shall be used. Grass shall be clean and free of weeds and noxious pests or diseases. Ground cover shall be planted no more than 15" on center, in such a manner as to present a finished appearance, and have 75% of complete coverage after two complete growing seasons.

4. **Earth Mounds**- Mounds shall be physical barriers that block or screen the view similar to a hedge, fence or wall. Mounds shall be constructed with proper and adequate plant material to prevent erosion. A difference in elevation between areas requiring screening does not constitute an earth mound.

5. **Slope-** In situations where a slope occurs along a boundary where zone to zone screening is required, the required landscape materials shall be placed (in relation to the slope) where they will most effectively screen the more intensive use from the adjoining property.

6. **Plant Materials -** All plant materials shall be living plants. Plants from the same group (as listed in the Plant Manual) may be substituted for plants as shown on the approved plan. The approval of the Plan Commission staff shall be necessary in order to change plants from one group to another, and this change must be reflected on a revised plan or in a change order submitted to the Plan Commission. All plants shall meet the following requirements:
   a. Plant materials used in conformance with provisions of this Ordinance shall conform to the standards of the American Association of Nurserymen and shall have passed any inspections required under State regulations. Bare root plants, with the exception of shrubs, hedges, vines and ground covers, shall be prohibited.
   b. **Deciduous trees**- (trees that normally shed their leaves in the Fall)- Shall be species having an average mature crown spread of greater than fifteen (15) feet in Harrison County, and having a trunk which can be maintained with over six (6) feet of clean wood in areas with visibility requirements. Trees with an average mature crown spread of less than 15 feet may be substituted by a grouping of the same to create the equivalent of the 15-foot crown spread as required by this Ordinance. At planting, each tree shall be a minimum of 10 feet tall and have a minimum caliper of at least one and three-fourths (1 ¾) inches measured six (6) above ground for trees up to four inches (4) caliper. Tree species whose roots are known to cause damage to public roadways or other public works facilities shall not be planted closer than fifteen (15) feet to such facilities, unless the entire tree root system is completely contained within a barrier of a minimum of five (5) square feet in area and five (5) feet deep and for which the construction requirements shall be four (4) inches thick, reinforced concrete.
   c. **Evergreen trees**- (trees that normally maintain their leaves/needles year-round)- Evergreen trees shall be a minimum of five (5) feet high with a minimum caliper of one and one-half (1 ½) inches immediately after planting.
   d. **Shrubs and hedges**- All plants shall conform to opacity, mature height, and other requirements within four (4) years after the date of final approval of each planting or replanting. Planting height shall be measured from the base of the plant. At time of planting all shrubs shall be at least:

      1. Shrubs that required providing an eighteen- (18) inch screen s hall be a minimum of twelve (12) inches (with 3 canes).

      2. Shrubs required to providing a thirty-six- (36) inch screen shall be a minimum of twenty-four (24) inches (with 3 canes).

3. Shrubs required providing a seventy-two- (72) inch screen shall be a minimum of thirty-six (36) inches (with 4 canes)

After approval by staff, all shrubs except for the twelve- (12) inch plants may be pruned to ½ the height, in accordance with acceptable horticultural practices.

e. **Vines**- Shall be at least 12-15 inches in height at time of planting, and are generally used in conjunction with walls or fences

f. Trees do not have to be equally spaced, but may be grouped depending on species' growth patterns and compatibility with other landscaping.

g. A continuous planting of evergreen trees, 15' on-center, shall be deemed to meet the requirements for both trees and a continuous planting, provided the trees meet the requirements of sections listed in appropriate tables and an opacity of seventy percent (70%) is achieved.

H. Maintenance and Installation:

Al l landscape materials shall be installed in a sound, professional manner, in accordance with the standards of the American Association of Nurserymen, and according to accepted, good construction and planting procedures. Any landscape materials with fail to meet the minimum approved requirements at time of installation, as set forth in this section, shall be removed and replaced with acceptable materials. The property owner shall be responsible for the continued proper maintenance of all landscaping materials, and shall keep them in a proper, neat, and orderly appearance free from refuse and debris, at all times. The staff of the Planning Commission may require irrigation systems or other methods of plant preservation where the plants are introduced into a stressful environment. All unhealthy or dead plant material shall be replaced within one year, or by the next planting period, whichever comes first, while other defective landscape material shall be replaced or repaired within three (3) months. Topping trees, or the severe cutting of limbs to studs larger than three (3) inches in diameter, within the tree crown, and to such a degree as to remove the normal canopy, shall not be considered proper or permitted for the maintenance of trees as required by this Ordinance.

I. PLAN SUBMISSION AND APPROVAL

Whenever any property is affected by the requirements in this Ordinance, the property owner or developer shall submit to the Plan Commission staff a landscape plan. The staff shall review the plan based on the requirements set forth in this Ordinance and with other applicable regulations for approving or disapproving the landscape plan.

1. TYPES OF SEALS REQURIED

a. For any property where the VUA accommodating 40-100 vehicles or a size ranging from 12,000 to 30,000 square feet, the landscape plan shall be prepared by a landscape designer, or prepared and signed by an architect, engineer, or a landscape architect licensed to practice in the State of Indiana.

b. For any property where the VUA accommodating 100 vehicles or more, or of a size of more than 30,000 square feet, the landscape plan shall be prepared and sealed by a landscape architect licensed to practice in the State of Indiana.

2. ALTERNATIVE LANDSCAPE PLANS

It is not the intent of this Ordinance to discourage innovative, aesthetically pleasing landscape design. Thus, the developer may choose to submit a

landscape plan that conforms to the spirit and intent of this article, while varying from its specific requirements. The plan presented must be deemed a substantial improvement over the minimum requirements of this article by the Plan Commission staff.

3. PLAN CONTENT-

a. The development plan shall be superimposed upon a print of a topographic survey of the area to be developed and include 50 feet outside of the proposed development area, with contour lines a maximum of 10 feet apart, and shall include any existing geographic or natural site conditions. Including but not limited to existing tree masses, significant outcroppings, streams, flood plains, and other natural features;
b. The development plan shall be designed to a legible engineer's scale and said scale shall be placed on the development plan;
c. The development plan shall include a site location map with measurements of existing streets;
d. The development plan shall include the names and addresses of adjoining property owners;
e. Boundary description, including area and bearings and dimensions of all property lines;
f. Other such information that the Plan Commission deems appropriate.
g. Typical elevations and or cross-sections, as may be required.
h. Title block with pertinent names and addresses; project name and full site address, property owner, design firm preparing the documents, scale, date, north arrow.
i. Proposed landscape plant materials with the common and botanical name, size at time of planting, height of plant material, number of plants used and location used on the landscape plan in a legible and readable plant list table.

4. BUILDING PERMIT AND OCCUPANCY

No building permit shall be requested until the applicant has submitted and received approval from the Plan Commission staff a required landscape plan. In addition the Plan Commission may require certain financial instruments to ensure timely compliance with this Article. There shall be no certificate of occupancy issued or requested until the required approved landscape plan has been implemented and the plant materials have been installed in conformance with the approve landscape plan, unless a full cash bond or an irrevocable letter of credit from a banking institution with offices in Harrison County, has been posted.

5. POSTING A FULL CASH BOND OR AN IRREVOCABLE LETTER OF CREDIT

a. Amount required- The amount required of the full cash bond or letter or credit shall be based upon the reasonable cost of the plants and the proper installation of the uninstalled landscape materials shown on the approved landscape plan, with the cost determined by the Plan Commission. The amount of the letter of credit or full cash bond shall also include an inflation factor and/or administrative contingency cost of no more than 25% of the base cost, as determined by the Plan Commission, to complete the work in the event of foreclosure of the letter of credit.
b. Fulfillment of Bond requirements – After a full cash bond or an irrevocable letter of credit has been posted, the landscape material required in the approved landscaping plan shall be installed within nine (9) months. Up to three one (1) month extensions of the planting period may be granted by the Plan Commission upon demonstration by

the property owner or developer that such extension is warranted because of adverse weather conditions or unavailability of required plant materials. No more than three (3) such one- (1) month extensions shall be granted.

c. Foreclosure of Bond- Foreclosure proceedings shall be brought against the irrevocable letter of credit, or the full cash bond shall be redeemed, if the required landscaping plans have not been complied with by the end of approved planting period, and the staff of the Plan Commission shall contract to have the required work completed.

J. PLANTING MANUAL OR PLANT LIST

Applicants shall refer to the Planting Manual or Plant list, which are available at the Plan Commission offices for the minimal requirements to use in meeting the provisions of this Ordinance. Any plant materials that are not listed in the plant list shall be considered and approved by the Plan Commission staff on an individual and specific basis.

K. WAIVERS

Upon filing a formal request, the Plan Commission may grant a waiver of the requirements of this ordinance. The Plan Commission may grant this authority to staff if it is deemed necessary or appoint another delegating body. At the discretion of the Commission or its committee, a public hearing may be required prior to deciding a request for waiver.

Recommendations for Sign Regulations

General Regulations

A. No signage shall be permitted unless otherwise permitted by this section. Billboards shall be permitted only in commercial or industrial zoning classifications and as a "special exception" obtained through the Harrison County Board of Zoning Appeals

B. **Sight Distance** - No sign shall be placed in such a manner to obstruct vision from driveway providing access to public streets. A 25 foot "sight distance triangle" shall be maintained to ensure proper visibility from vehicles entering and leaving a property.

C. **Location -** No sign shall overhang any public right-of-way or be located within a required yard setback, unless otherwise permitted by these regulations.

D. **Attached Signage** – No attached signage shall be placed on a roof or above the parapet line of a flat roofed building.

E. **Illumination** – All illuminated signs shall be non-flashing and shall have constant intensity and color. Internal illumination is preferred. External lighting shall be mounted at ground level.

F. **Design / Appearance** - No sign shall be designed in such a manner that it may be confused with traffic signs or other traffic control devices.

G. **Sign Faces** – No freestanding sign shall have more than two faces. Each face may have the maximum sign area permitted for the sign type. (For example a monument sign permitted to have a 60 square foot sign area may have 60 square feet on each face. However, two faces may not be combined to result in a single faced sign.)

H. **"For Sale" Signs** – One on-site "For Sale" sign may be permitted for property located within the county. Each such sign is restricted to the premises which is advertised for sale. Residential for sale signs shall not exceed 10 square feet in area. Non-residential for sale signs shall not exceed 40 square feet in area.

Definitions

The terms in this section shall have the meanings below unless clearly defined otherwise in this section.

A. **Sign** is any display to public view of letters, words, numerals, figures, emblems, pictures, or any parts or combinations thereof, designed to inform or advertise or draw attention to or promote merchandise, services, or activities, except for the following:

1. Non-illuminated names of buildings, dates of erection, monument citations, commemorative tablets and the like when carved into stone, concrete, metal, or any other permanent type of construction and made an integral part of an allowed structure or made flush to the ground.

2. Signs required by law or signs of a duly constituted governmental body.

3. Signs placed by a public utility for the safety, welfare, or convenience of the public, including, but not limited to signs identifying high voltage, public telephone, or underground cables.

4. Signs upon a vehicle, provided that any such vehicle with a sign face of over two square feet is not conspicuously parked so as to constitute a sign; nothing herein prevents such a vehicle from being used for bona fide delivery and other vehicular purposes.

5. Temporary holiday decoration.

6. Numerals displayed on and denoting the address of a building or property which are not part of an otherwise existing attached or freestanding sign.

7. Signs placed within the interior of a building which are attached to and/or visible through windows or doors provided the sign occupies no more than one fourth the total square footage of the window or door.
A back-to-back or V-shaped sign constitutes one sign if it has a common set of supports. A composite group of signs integrated into one framed unit or compact structure constitutes one sign.

B. A **Billboard** is an outdoor advertising sign or other off-premises sign used to display, advertise or otherwise bring attention ot a business,

commodity, service or entertainment conducted, sold or offered at any location other than the premises on which the sign is located.

C. A **Community Facility Identification Sign** is a sign identifying a church, school or other institution of learning, library, museum, community center or similar institution on site.

D. A **Multi-family Residential Identification Sign** is a sign used to identify a multi-family development on site.

E. An **Office Building Identification Sign** is a sign used to identify an office building on site, or, where allowed, the occupants thereof.

F. A **Subdivision Identification Sign** is a permanent freestanding entrance sign used to identify a business or residential subdivision.

G. A **Construction Sign** is a sign used to identify the persons or businesses engaged in the construction of a building on site.

H. A **Rent/Sale Sign** is an on-site sign used to advertise the premises or a portion thereof for sale or lease.

I. A **Private Club Identification Sign** is a sign used to identify a club, lodge, fraternity or sorority.

J. A **Single Family Residential Occupant Sign** is a sign used to identify the individual or individuals occupying a single-family residence.

K. An **Outdoor Advertising Sign** commonly known as a "billboard" or an "off premises sign" is a sign used to display, advertise or otherwise direct attention to any business enterprise, commodity, service or entertainment conducted, sold or offered at a location other than the premises on which the sign is located.

L. **Reader Board Sign** is a business sign or part thereof that is designed so that characters, letters or illustrations can be easily changed or rearranged without altering the face or surface of the sign.

Residential Signs

A. **Single Family** - One Residential occupant sign shall be permitted for each residence. Such sign shall not exceed one square foot in area.

B. **Multi-Family** **-** One apartment complex identification sign may be permitted at each street entrance to a development. Such sign shall not exceed four feet in height and 30 square feet in area.

C. **Development Identification Signs** – Subdivision identification signs may be permitted at each entrance to a development. Such signs may be in the form of a "signature entrance" wall with a subdivision name attached. Such signs shall not exceed 30 square feet in area or 30 square feet in area when attached to a signature entrance wall. Signature entrance walls shall not be located within the public right-of-way and shall observe the "sight distance triangle" and shall not obstruct visibility of vehicles entering or exiting said development.

Office Signs

A. **Office Complex -** One office development identification sign may be located at each entrance to an office complex. No individual businesses shall be identified on such sign. Such sign shall be a monument style sign and shall not exceed six feet in height and 30 square feet in area.

B. **Individual Office Identification -** Individual offices within an office complex may have a sign attached to the façade of the building adjacent to the entrance to each office. Such sign shall not exceed 6 square feet in area or be more than 10 feet above grade (ground level).

Commercial/ Industrial Signs

Development Identification - One development identification sign may be located at each major entrance to commercial or industrial developments. Such sign shall be monument style and shall not exceed 10 feet in height and 60 square feet in area. Development identification signs may be enlarged to an area not more than a total of 100 square feet where individual businesses are identified on the main sign.

Individual Business Identification - One individual business identification sign may be permitted for free-standing businesses. Such signage shall be limited to a monument style sign not to exceed 8 feet in height and 60 square feet in area.

Individual Businesses Within Retail Centers – Individual business identification signs for businesses within an organized retail center may have attached signage. Individual free-standing signs may not be permitted. Business Center identification signs may include individual business identification. No single business identification shall exceed 10 square feet in area. Development identification signs may be enlarged to an area not more than a total of 100 square feet where individual businesses are identified on the main sign.

Attached Signage – Individual businesses may have attached signage on not more than two sides of a building. Each such sign shall not exceed 200 square feet of sign area for buildings with facades of less than 4,000 square feet. Where a building façade exceeds 4,000 square feet such attached signage may total 300 square feet.

Community Facility Signs

A. **Public Facilities** - One free-standing or attached sign may be permitted for each community facility. Such sign shall not exceed 25 square feet and 6 feet in height. Community facilities shall be considered to be schools, churches, public or governmental buildings, parks, playgrounds or other similar facilities.

B. **Semi-public or Private Facilities** – One free-standing or attached sign may be permitted for clubs, lodges, or other similar facilities. Such sign shall not exceed 25 square feet in area and shall not encroach into any required yard.

Directional Signage

A. **Freestanding directional signage** - On premise directional signage may be permitted, however, no such signage shall exceed 3 feet in height and 5 square feet in area and shall be for the purpose of providing directions only. No advertising is permitted on such signs.

B. **Menu Board** – One single-faced "menu board" sign is permitted for drive-thru facilities. Such sign shall not be counted toward other permitted free-standing signs and shall not exceed 20 square feet in area.

PEC-Planned Employment Center District

Intent of the Planned Employment Center District

1. To provide sufficient space in an appropriately located, attractive, landscaped planned center park.

2. To insure compatibility between a variety of industrial, professional office and commercial uses within a well planned center.

3. To provide opportunities for employment and services for the community's residents and reduce commuting times.

4. To protect future economic development opportunities from incompatible land uses.

A. Permitted Uses

All uses in the B-4 Zoning Classification District
All uses in the I-1b Zoning Classification District—All operations, including storage must be confined within a building
Governmentally owned and operated buildings or uses.
Automobile rental agencies with no more than 25 rental passenger vehicles stored on site, and no more than two service bays for cleaning or maintenance, and having no repair or storage/dispensing of fuel.
Automobile service stations with no more than 2 bays and with services no more than a commercial establishment supplying motor fuel or lubricating oil; or conducting minor repair and routine maintenance of automobiles including tune-ups, oil-changes, tire replacement and puncture repair, brake repair, brake drum turning provided that no more than two brake lathes are present on-site, muffler repair, car wash and similar operations.
Automobile parking areas, public or private
Hotels and Motels

B. Special Exceptions

Certain uses may be permitted in this district upon the granting of a special exception permit by the Board of Zoning Appeals. Among these uses are:

Airports, heliports
Outdoor storage (accessory to permitted industrial uses)
Hospitals and institutions

C. Property Development Regulations

1. Minimum Lot and Dimension

a. Area…….1 Acre

b. Width, at the front line or building limit line 100 feet

c. Minimum District Area
   (1) Minimum District size……. 50 acres

   (2) Minimum District addition adjoining a PEC District: 2 acres except for expansion of an existing occupant, which expansion of the PEC District area shall have no required minimum size.

2. Minimum Yard Requirements

a. Front Yard…….35 feet
But not less than 100 feet from the right-of-way of an existing or planned Expressway or 50 feet from the street right-of-way line or proposed street right-of-way line of a major or minor arterial level street.

b. Side Yard……..15 feet
But not less than 25 feet when a PEC District abuts a residential district or 100 feet from a right-of-way line of an existing or planned expressway.

c. Street Side Yard……..same as front yard

d. Rear Yard……same as side yard

Corner lots and double frontage lots shall observe a street side yard setback equal to the minimum front yard setback of 35 feet. Performance standards and exceptions to the front yard setback shall also apply to the street side setback.

3. Permissible Encroachments into Required Yards

a. Sidewalks leading from parking areas may encroach into a ten- (10) foot portion of the required front yard farthest from the public right-of-way line. Such encroachment is for the sole purpose of providing pedestrian access from parking areas to a building's doorways.

b. Any driveway entrance originating on the public street may encroach in the required front yard for the purpose of providing vehicular access from the public right-of-way to the lot. Such driveway entrance shall not include turnarounds, parking lanes, or parking areas.

4. Maximum Building Height

Two times the width of the street right-of-way adjacent to the front yard. Additional height may be added provided that yards are increased 1 foot for every 4 additional feet in building height. When abutting residential districts all yard requirements shall be increased 1 foot for each story over 3 stories or 45 feet.

5. Maximum Density or FAR

a. Floor Area Ratio……1.0

b. Structural Density: Not more than 60% of the lot may be covered by structure, including main building, accessory buildings or structures.

6. District Development Plan

No improvement location permit shall be issued on any lot in the PEC District until the Plan Commission has approved a Detailed District Development plan.

7. Parking area standards

Location and design of parking and loading;

a. Front yard and street side yards: No loading, parking or maneuvering areas are permitted in any required front yard or street side yard, nor in any required yard abutting a residential district or an existing or planned expressway

b. No parking or loading permitted within the 15-foot landscape strip along the side and rear property line.

c. All employee and visitor parking are restricted to the premises.

d. All parking surfaces, including driveway entrances and outside storage areas, shall be paved with a bituminous asphalt or concrete material.

e. Parking surfaces shall be installed within 90 days of the completion of the building construction or prior to building occupancy. Parking surfaces shall be continuously maintained in a state of good condition and repair.

f. All loading areas, including overhead doors, shall be oriented towards the side or rear property line. Loading areas oriented toward the front property line are prohibited. Loading docks are not permitted in the front or street side yards unless the Plan Commission finds that the dock(s) will: comply with the spirit and intent of these lot development standards, are designed with proper

screening, buffering and setbacks and receive prior approval by the agency responsible for traffic engineering.

g. All parking areas shall be landscaped in accordance with applicable regulations. Parking areas shall provide interior landscape areas of at least 5% of the total parking/vehicle use area square footage. One tree for every 250 square feet shall be provided in the interior parking area.

8. Street access

a. Vehicular access to a PEC District or any lots therein shall be permitted only from a major or minor arterial, from/or through another industrial district, or from a street located entirely within the PEC district. No access shall be permitted to a residential street.

b. All public or private streets in the PEC District shall meet minimum County standards in regard to pavement and right-of-way width

9. Exterior Lighting

All exterior site lighting shall not be more than 0.5-foot candle at the property line. No light source shall be visible at the property line. Exterior site lighting shall be located outside of the required side or rear yards adjoining residentially zoned areas and lighting shall be directed away from such adjoining residential areas and shall not be no more than 0.5 foot candle at the property line.

10. Outside Storage

a. Outside Storage Setbacks

There shall be no outdoor storage allowed for non-industrial land uses in the PEC District. Any permitted outdoor storage shall meet all applicable setback and screening requirements.

All outside storage**,** shall not be directly accessible by the general public, shall observe the following minimum setbacks measured from the public right-of-way lines or property lines:

Front Yard	100 Feet
Side Yard	15 Feet

Outside storage shall not encroach in the above listed front yard or side yard. Outside storage shall be prohibited in required rear yards when adjoining residentially zoned properties. Stacked items stored shall not exceed 5 feet in height. There shall be no outdoor storage permitted for properties abutting an expressway.

b. Outside Storage Screening
Outside storage shall be screened from view and not be visible from public right-of-ways and adjacent properties. Such screening may consist of privacy fence, wall, or dense evergreen hedge. Screening shall provide a barrier with an average height of one foot above the material being screened but shall not be required to exceed seven feet in height.

c. Outside Storage Screening Completion & Maintenance.
All outside storage area screening shall be installed within 90 days of the completion of the building's construction. All outside storage screening shall be continuously maintained in a state of good condition and repair.

11. Landscaping

a. Front Yard/street side yard
The required 35-foot yard shall be landscaped with a continuous cover of grass or other type of ground cover. At minimum, one (1) tree per every 40 feet of lot width shall be required and such trees shall have a minimum 2-inch caliper at the time of planting. Trees may be equally spaced or planted in-groups. All parking areas, maneuvering areas must provide a 3-foot tall continuous hedge, wall, fence or berm or a decrease of 3 feet in elevation from the adjoining property or street. Loading and unloading areas shall provide screening from street or adjacent properties in the form of a continuous hedge or evergreen screening.

b. Side Yard
The required 15-foot side yard shall be landscaped with a continuous cover of grass or other type of ground cover.
Trees, minimum of 2-inch caliper, shall be placed in all side and rear yards in numbers equal to 1 tree/ 75 lineal feet of boundary. Trees do not have to be equally spaced, but may be grouped for aesthetic appearance. All side and rear yards shall provide a 15-foot landscape strip that must be maintained and free of buildings and structures.

c. Yards Adjoining Residential Areas
Side or rear yards adjoining residentially zoned properties shall be landscaped with a combination of earthen berms and evergreen tree plantings. Such earthen berms shall be a minimum of four (4) feet in height with evergreen tree plantings equally spaced at minimum every eight- (8) feet on top of the earthen berm. The

required earthen berm shall be landscaped with a continuous cover of grass or other type of ground cover and the required evergreen trees shall have a minimum 2 inch caliper at the time of planting. White pine trees are not an allowable evergreen tree type.

d. A 100 foot landscaped strip must be maintained along expressways and shall meet the same requirements as front and street side yard requirements.

e. Landscaping Completion & Maintenance
Landscaping shall be installed within 90 days of the completion of the building's construction. Landscaping shall be continuously maintained in a state of good condition and repair.

12. Signage

Freestanding signs shall be designed and installed as a monument style sign. There shall be only one (1) sign per street frontage per lot. For lots that have double street frontage or more than 400 feet of lineal frontage on a right-of-way then there shall be a total of no more than two (2) freestanding signs per lot. Developments that have more than one use on the lot may be allowed a larger sign as a center identification sign. Approval is required by the Plan Commission for signage other than the above mentioned dimensions.

a. Free Standing Sign Minimum Setbacks
Front Yard/Street Side Yard…….20 feet
Side Yard……..15 feet
A freestanding sign cannot obstruct the view of vehicular traffic at street intersections or driveway entrances.
Freestanding signs shall not encroach into any determined clear sight triangle.

b. Free Standing Sign Size
Maximum Sign height……..6 feet
Maximum Sign Area…60 square feet per side (120 Square feet total)

Sign height shall be measured from at grade level and total sign height shall include any raised landscaped bed or foundation the sign may rest upon.

c. Wall Mounted Signs
A wall-mounted sign may be installed per building façade facing a public right-of-way. Wall signs shall not extend above the roofline of the building façade in which they are located. An attached sign mounted parallel to the exterior walls of a

building may project up to eighteen (18) inches from the surface to which it is mounted. An attached sign mounted to a slanted (inclined) exterior surface may be mounted in the vertical upright position as long as the sign does not project beyond eighteen (18) inches at the point of attachment. No such sign shall extend more than five (5) feet above the highest point of the exterior wall to which is attached. No such sign shall extend to a height greater twenty-five (25) above ground.

d. Prohibited Signs
The following types or style of signs shall be prohibited:
(1) Electronic signs with changing advertisements or display faces.
(2) Flashing Signs
(3) Mechanical signs with movement
(4) Portable signs
(5) Roof signs
(6) An "outdoor advertising sign" commonly known as a "billboard" or an "off-premise sign".

13. Building Façade

a. The first floor of any building oriented towards the front property line shall have a façade comprised of one or a series of the following materials:

Textured Concrete Block
Painted Scored Concrete Block
Brick
Tilt Up Concrete
Stucco/Dryvit

b. The second floor of any building oriented towards the front property line shall have a façade comprised of the same material as the first floor or architectural metal.

c. Accessory or auxiliary buildings shall be constructed of architectural metal or the same material as the principal building.

The Planned Unit Development Review Overlay

1. Definition and Purpose

A: Location and Definition

The PUD Review Overlay District is an overlay shown on the zoning district maps to which it is applied; the rights and obligations here in after set forth are in addition to those specified by the underlying zoning districts. The review overlay shown on the zoning district maps does constitute a second level of development standards.

B: Purpose

The purpose of the overlay district is intended to:
1. Encourage improved land development and building site design.
2. To encourage and allow for a variety of uses, building types and site design in a specified area of development.
3. To allow development of land areas so planned, located or situated as to merit and justify consideration as a PUD.
4. Promote more efficient and economic uses of land
5. Create new communities that are livable, diverse and sustainable.

2. Applicability

A. The PUD Review Overlay shall not be deemed to repeal or in any respect alter the provisions and requirements of any applicable local, state or federal regulations.
B. Where applicable by provisions of this ordinance, requirements imposed shall be in addition to those of the underlying zoning classifications.
   1. Exempt Activities – **All electric, sewer, water, natural gas, phone and similar utility infrastructure which do not involve above ground enclosures in excess of 200 square feet in area.**
   2. Regulated Activities- All proposed residential, commercial, office/business and industrial development approved by the Plan Commission and reviewing agencies after the adoption of the Overlay District. Any existing development that is proposing an expansion of more 50 percent in square footage of building or parking area or a change in use shall comply with applicable requirements set forth in the Overlay District.

3. **Review Process**

The Plan Commission or its designee, as described above allows regulated activities, only upon their approval. The Commission will review the proposed regulated activities to determine the impact on surrounding development, local infrastructure, including but not limited to, roads, utilities, nature site features and compliance with all applicable zoning ordinances. The Plan Commission shall consult with all applicable reviewing agencies in the course of this review process. The applicant/developer shall provide adequate information to allow the Plan Commission to determine the impacts of the proposal and compliance with all applicable regulations.

4**. Submittal Requirements**

All applications made for property within the PUD Review Overlay District shall meet the requirements set forth under Article 8, Section 801.1(b) and in addition shall include the following requirements:

A. The development plan shall be superimposed upon a print of a topographic survey of the area to be developed and include 50 feet outside of the proposed development area, with contour lines a maximum of 10 feet apart, and shall include any existing geographic or natural site conditions. Including but not limited to existing tree masses, significant outcroppings, streams, flood plains, and other natural features;
B. The development plan shall be designed to a legible engineer's scale and said scale shall be placed on the development plan;
C. The development plan shall include a site location map with measurements of existing streets;
D. The development plan shall include the names and addresses of adjoining property owners;
E. Boundary description, including area and bearings and dimensions of all property lines;
F. Other such information that the Plan Commission deems appropriate.

5. Public Hearing Requirement

Persons seeking approval of a regulated activity shall provide the Plan Commission with the names and addresses of all persons designated by the property valuation administrator as owners of every parcel of property adjoining at any point the subject property and directly across the street from said property, and owners of every parcel that adjoins the those affected parcels. The Plan Commission shall notify said property owners of any Public Hearing on the proposal by First Class mail not less than 7 days nor more than 10 days prior to the hearing.

6. Guidelines for Approval

A. Guidelines for Residential Development

1. All residential development, including but no limited to, multi-family developments and single family residential subdivisions, shall provide a 20-30 foot street yard setback/buffer that shall be free of any structures, parking, loading or unloading facilities. Up to twenty-five percent (25) of the buffer may be paved for site entrance.
2. The buffer area shall be landscaped to provide adequate screening of facilities to include but not limited to one (1) tree for every fifty (50) feet of lineal frontage and a three (3) high continuous wall, fence, hedge or berm when the development has parking that abuts a public, private street or access easement.
3. If the development does not have parking abutting a private or public street or access easement then the landscape requirement shall include one (1) tree for every fifty (50) feet of lineal frontage and any combination of decorative shrubs, trees or seasonal flowers, etc.
4. Parking areas shall be landscaped to include interior landscape islands of five (5) percent of the total vehicle use area (VUA). Within that area the applicant shall provide one (1) tree for every 250 square feet of VUA. Islands must be a minimum of 200 square feet in area and curbed.
5. When there is multi-family use or zone except when developed as buildings for single family or two family occupancy adjacent to single family development or zoning, then there shall be a required 6 foot landscape buffer area/setback, free of parking and structures, on all common boundaries. The landscape buffer area shall include one (1) tree every fifty (50) feet of common boundary. Or if there is parking adjacent to the common boundary, then the applicant shall provide a 3 foot high hedge, wall or fence or evergreen trees, minimum of 6 feet in height, placed on 15 foot centers in the area where the parking is located.
6. A subdivision or signature entrance is allowed for single family residential subdivisions or multi-family developments over 5 acres in size. For multi-family developments less than 5 acres, see sign requirements for non-residential development.
7. All landscape materials, fence or wall shall be maintained and replaced as needed.

B. Guidelines for Non-residential Development

1. All non-residential development shall provide a 20-30 foot street yard setback/buffer that shall be free of any structures, parking, loading or unloading facilities. Up to twenty-five (25) percent of the buffer may be paved for site entrance.

2. The buffer area shall be landscaped to provide adequate screening of facilities to include but not limited to one (1) tree for every fifty (50) feet of lineal frontage and a three (3) high continuous wall, fence, hedge or berm when the development has parking that abuts a public, private street or access easement.
3. If the development does not have parking abutting a private or public street or access easement then the landscape requirement shall include one (1) tree for every fifty (50) feet of lineal frontage and any combination of decorative shrubs, trees or seasonal flowers, etc.
4. Parking areas shall be landscaped to include interior landscape islands of five (5) percent of the total vehicle use area (VUA). Within that area the applicant shall provide one (1) tree for every two hundred and fifty square feet (250) of VUA. Islands must be a minimum of 200 SF in area and be curbed.
5. All landscape materials and fences or walls shall be maintained and replaced as needed.
6. When there is commercial/industrial zoning or use abutting a residential use or zone, or office use, then the applicant shall maintain a 15-landscape area free of structure or pavement along all common boundaries. The buffer shall provide 1 tree for every 50 lineal feet of boundary and a continuous hedge, wall or fence.
7. Signage-All signage shall be monument in style and no more than 6 feet in height and 60 square feet in area. There shall be only one (1) sign per street frontage. No sign shall be closer than 20 feet from the property line. There shall be a total of no more than two (2) freestanding signs per lot. Developments that have more than one use on the lot may be allowed a larger sign as a center identification sign. Approval is required by the Plan Commission for signage other than the above mentioned dimensions.
8. Proposed lighting shall be directed down and away from adjoining residential properties. No light source shall be visible off-site.
9. All dumpsters shall be screened with a fence or wall on three-sides of at least 6 feet in height.
10. All development within the Overlay District shall be encouraged to provide pedestrian connections, including alternative transportation paths, throughout the developed area.
11. All development within the Overlay District shall be encouraged to provide opportunities for shared parking, driveways and access easements.

C. Conditions of Approval

The plan will be reviewed to determine compliance with the Development Review Overlay District and the meeting of all other appropriate regulations, including but not Building Code requirements, Zoning District Regulations, Health Department Regulations and Floodplain regulations.

D. Length of Plan Review Period

It is the Plan Commission's goal to work with applicants, so that the delay is minimized. Within 30 business days after the submittal of all materials required under paragraph 4, above, the Plan Commission or its designee will take action on the proposed development. For proposals that require a public hearing, the plan review may be extended. Failure of the Plan Commission to act on the application within these plan review periods shall authorize the applicant to proceed in accordance with the plan filed, subject to other applicable regulatory agencies approval and permit process, unless the review period is extended by agreement between the Plan Commission and the applicant.

E. Final Actions

Action by the Plan Commission on the proposed development plan is final. Such action may be appealed in accordance with Indiana State Statutes.

F. Enforcement

Immediately after approving a development plan under this article, the Plan Commission will forward the application to the appropriate building department. Building permits shall be issued only in accordance with the approved development plan under this section. In addition, violation of any feature of an approved development plan shall be treated in the same manner as a violation of the Zoning District Regulations.