Boone Creek Watershed
McHenry, Illinois

Growth Management Study

Prepared for:
The Nature Conservancy

Prepared by:
Center for Governmental Studies
Northern Illinois University

December, 2002

Executive Summary

Typically, communities have land use plans and development regulations that promote conventionally designed residential subdivisions, commercial areas, and office/industrial parks. Conventional land development can result in excessive land consumption which can threaten natural resources, destroy open space, and have negative fiscal impacts over the long term. With growth occurring at such a rapid pace in the Chicago metropolitan region and at other locations throughout the State of Illinois (State), it is important that communities have adequate background knowledge to consider new approaches to land use planning; approaches that can produce plans that will enhance the environment, the economy, and quality of life. Contemporary techniques for land use planning such as land capacity analysis can allow communities to make mistakes on paper rather than on the landscape. Yet, there are few, if any, communities in the State accessing the informed output available from those techniques.

Land capacity models utilize land use designations from the comprehensive plan and site development standards from local development regulations to create a matrix of land development factors which are applied to raw acreage figures for the study area. The use of specific land use plans and development standards allows the projection of development patterns unique to a given area. Further, the models are designed to link to external data sources measuring local service standards and to apply such standards to demand unit data thereby generating public service projections.

This study represents Phase1 of a project intended to analyze planned development within the Boone Creek watershed and to present alternative scenarios for that development within the component communities in the watershed including: the City of McHenry, the Village of Bull Valley, the City of Woodstock, and McHenry County. The basic hypothesis behind the study is that there is a positive relationship between environmentally sensitive land development and fiscally responsible land development. Although the analytical techniques applied in support of this effort are capable of generating data for a broad range of variables associated with land development practices, this effort focuses primarily on the analysis of impervious surface as a factor representative of environmental conditions and fiscal impact analysis as a representation of balanced economic growth for the component communities.

Although the procedures employed in preparing the study are somewhat complex, the findings for the various land development alternatives are straightforward and can be summarized as follows:

Alternative 1, Conventional Residential Development - This alternative is comprised of Medium Density and Low Density residential land use categories with minimum lot sizes of 10,890 and 30,000 square feet, respectively. The development pattern is

conventional with respect to rights-of-way, stormwater control, and park land. Infrastructure improvements include storm sewers, sidewalks, and full urban cross-section (curbs and gutters) in standard street widths.

Among the three alternatives analyzed, Alternative 1 produces the greatest impervious surface and imposes the greatest public cost based on an analysis that attempts to consider both land-based and population-based fiscal impacts.

Alternative 2, Cluster Design 1 Residential Development - This alternative represents a form of residential development in which lots sizes are set at 8,000 and the overall development pattern is flexible with respect to topography in general and natural drainage patterns in particular. The flexibility is a result of the concise nature of the development pattern leaving approximately 58% of the land area undisturbed. Infrastructure is minimal with reduced rights-of-way and street widths, and use of natural land features in support of stormwater control.

Among the three alternatives analyzed, Alternative 2 produces the least impervious surface and imposes the least public cost based on an analysis that attempts to consider both land-based and population-based fiscal impacts. It should be noted that, in order to realize the potential public cost savings to the maximum extent, the clustering of development should be focused in a compact and contiguous form locating development at the periphery of the community wherever possible.

Alternative 3, Cluster Design 2 Residential Development - This alternative represents a form of residential development in which lots sizes are set at 10,500 and the overall development pattern is flexible with respect to topography in general and natural drainage patterns in particular. The flexibility is a result of the relatively concise nature of the development pattern leaving approximately 49% of the land area undisturbed. Infrastructure is reduced with narrowed rights-of-way and streets, and use of natural land features in support of stormwater control.

Among the three alternatives analyzed, Alternative 3 represents a “middle ground” with respect to impervious surface and public cost based on an analysis that attempts to consider both land-based and population-based fiscal impacts. It should be noted that, in order to realize the potential public cost savings to the maximum extent, the clustering of development should be focused in a compact and contiguous form locating development at the periphery of the community wherever possible. In truth, Alternative 3 can be considered somewhat of a hybrid residential design in that the lot sizes are greater than those commonly associated with cluster development but the pattern is unconventional in layout.

Introduction

This study (Phase 1) and its subsequent phase (Phase 2) are intended to function as elements of a larger project designed to bring improved information to land use planning in an effort to help communities achieve balanced growth. The larger project represents an attempt to present a model planning project for consideration by communities in the Boone Creek Watershed in McHenry County, Illinois. The entire project consists of five elements as identified below:

1. An ecological assessment of the watershed.

2. An evaluation of current development plans and patterns in the watershed.

3. The design of alternative development scenarios that better protect the environment and provide for responsible fiscal management.

4. Identification of the preferred development scenario by local stakeholders.

5. Assist the Boone Creek communities in changing their land-use plans and ordinances to reflect the desired development and conservation strategy.

Specifically, the work included in this document is intended to support elements two through five above.

The Boone Creek Watershed

The Boone Creek watershed represents a relatively concise natural drainage system located in McHenry County, Illinois. Boone Creek flows 12.3 miles from its headwaters in Bull Valley, Woodstock, and McHenry County before discharging to the Fox River in the City of McHenry. The Boone Creek watershed is illustrated on Map 1. The majority of the watershed is comprised of extensive natural areas, agricultural uses, and low density residential development. Development is more intensive in downstream areas in the City of McHenry although it should be noted that the City has established land design policies intended to preserve and protect the undeveloped portion of the Boone Creek watershed located in the City of McHenry planning area. These policies include the protection of an 800 foot greenway along Boone Creek as part of a residential planned development.*[1]

The watershed is exceptional for the presence of unique, high quality habitats. These include wetlands, savannas, and woodlands that are registered as natural areas in the State of Illinois and McHenry County natural areas inventories. The creek itself is in relatively good condition in terms of habitat, water quality, and aquatic life. The health of Boone Creek and associated wetlands is dependent on a hydrologic system comprised of relatively undegraded, permeable glacial soils and subsurface deposits.

Relatively high permeability produces a steady groundwater flow that provides consistent and clean recharge of the creek and a series of fens lining the floodplain particularly in headwater areas.*2

Given the relatively pristine environmental nature of the Boone Creek watershed, it is ironic that its location in the Chicago metropolitan area makes it a prime location for land development from a market perspective. That observation is supported by the findings presented in the comprehensive plans of all component communities. The challenge for current and future residents of the Boone Creek watershed will be to accommodate an appropriate level of land development while preserving and enhancing the unique environmental qualities of the area.

Land Capacity Models

Land capacity models are computer programs designed to project various data elements of land use development patterns and to generate information for estimating the service demands likely to result from the development of defined areas of land.*3 The models may be supported by a data base containing land parcel information or land use data may be entered directly into the model. Land use modeling is based on the fact that each local or regional government will have its own set of land use development controls which, given adequate service capabilities, will dictate the future development pattern in its planning area. These controls are expressed as basic land use designations in comprehensive plans, and as zoning and site development standards in local ordinances and regulations.

If the land capacity analysis employs a land use data base for gross acreage input, operation begins with the assembly of basic information for all parcels of land located in the study area. Land capacity models can accept data for individual parcels in the form of a computer data base including entry fields for land use designation, parcel size, parcel identification, and any relevant subarea designations. Although not required, it is often desirable to include field entries in the data base for other available information such as tax parcel number, ownership, locational (mapping) reference, and site development constraints. The land capacity modeling developed for this report is supported by a geographic information system (GIS). The GIS brings detailed land use data and mapping capabilities to the land capacity modeling effort and greatly enhances program flexibility.

The Boone Creek Watershed (City of McHenry portion)

The initial study area for this project was the entire unincorporated and undeveloped portion of the Boone Creek Watershed located in the City of McHenry planning area as it is portrayed in the City of McHenry Comprehensive Plan (Plan). That area is illustrated on Map 2. However, the planning area has been adjusted to account for land with little or no development potential, recent jurisdictional boundary agreements, and land development projects approved since the formulation of the Plan.

The resulting study area contains about 600 gross acres and is illustrated on Map 3. Approximately 114 acres of the study area are located along Boone Creek and designated as a conservation corridor in the City of McHenry Comprehensive Plan. Therefore, the resulting acreage available for development is reduced to 486. It should be noted that the boundaries of two parcels of land included in the study area actually extend somewhat beyond the Boone Creek watershed. However, those parcels are included in their entirety under the assumption that they would be developed in a unified manner.

Land use categories for the Boone Creek Watershed land capacity model have been

derived from land use designations in the Plan with additions for Cluster Design Residential 1 and 2, and Countryside Estate Residential 1 and 2. As a result, the land capacity model prepared for this report is capable of providing projections for land use categories as follows:

Cluster Design Residential 1
Cluster Design Residential 2
Countryside Estate Residential 1
Countryside Estate Residential 2
Estate Residential
Low Density Residential
Medium Density Residential
High Density Residential.
Commercial
Business Park
Industrial

In addition, a category has been included for land areas unsuitable for development due to physical constraints or environmental sensitivity. Although many of these land use categories are not relevant to this Phase 1 effort, the grouping has been structured to accommodate additional land uses required for Phase 2 analysis.

Land development standards have been derived from a variety of sources including the City of McHenry Comprehensive Plan and Zoning Ordinance. Development standards and factors for development support functions such as rights-of-way and storm water detention have been applied to the gross acreage of the study area through a series of calculations. These calculations result in data output for the following:

1. Net developed acreage for individual land use categories.

2. Land area yields in dwelling units for residential development.

3. Land area yields in square footage for non-residential development.

4. Population for residential development.

5. Population equivalents (PE's) for non-residential development.

6. Impervious surfaces.

7. Average daily vehicle trip generation.

8. Demand units for selected public services.

Land capacity output for the above items is illustrated in the Tables and Figures section of this study.

Although any of the data generated by a land capacity model could be obtained through manual calculation, use of a model permits the rapid processing of large amounts of data that would require many hours of manual work. As a result, once a study area is established, a model can be used to generate hypothetical land use scenarios incorporating a variety of assumptions regarding alternative combinations of land uses and the resulting service area impacts. Analysis of the alternatives can be used to forecast the effects of a continuation of recent development trends or to project the effects of possible changes in existing trends.*4 Additionally, when linked to a site capacity model, a land capacity model can be used to examine and evaluate the potential long-term, large-scale effects of proposed revisions to site development standards.*5

Impervious Surface Ratio

Of particular interest, from an environmental perspective, is the projection of impervious surfaces in the watershed. For example, a number of studies conducted throughout the nation indicate that there is a robust correlation between the introduction of impervious surfaces and degradation of the ground and surface water quality in a watershed. Specifically, these studies indicate that there are thresholds of hard surface development that appear to be linked to the degradation of water quality. The average value at which degradation first occurs is approximately 10% with degradation almost unavoidable at 30%.*6 Perhaps the most often cited threshold is the "15% factor". Simply stated, this means that there is a high probability of water quality degradation in any watershed when 15% or more of the land is covered in impervious surfaces.*7 The significance of impervious surface as an indicator of probable water quality stems from the relative ease of measurement compared to the methodologies employed in previous studies focused on the identification of a multitude of non-point sources of tainted storm water runoff throughout an entire watershed.*8

After-the-fact measurements of impervious surface usually rely on survey techniques or aerial photography while projections are often generated through the application of data from empirical studies of sites judged to be similar to the subject site.*9 However, to date, few studies of impervious surface have been conducted to identify appropriate methodologies for identifying the site specific factors that contribute to impervious surface levels in a watershed. Specifically, there have been few, if any, attempts to link the content of local development regulations to the creation of impervious surfaces in the watershed(s) affected by those regulations. As a result, local land use agencies have no firm basis for evaluating their regulatory standards with respect to impacts on water quality. Often, the situation is further complicated by the multiplicity of land use regulatory bodies found in a particular watershed.

Site capacity analysis offers a means to quickly analyze the probable levels of imperviousness for specific land uses subject to specific development controls. Site Capacity Table 1 illustrates data output from a site capacity model for a commercial site including a measurement of the impervious surface. Site Capacity Table 2 illustrates output for the same site with a 10% reduction in impervious surface vehicle parking area. The reduction could be achieved in a variety of ways including, but not limited to, shared parking facilities or alternative parking surface materials. However, the important point of the illustrations is that the effect of the change can be determined immediately, and the site-based output can be extrapolated to the entire watershed by linking the original and revised site capacity data to a land capacity model.

Measurements of impervious surface included in this study have been generated through the application of site capacity analysis linked to land capacity modeling. Also, it should be noted that impervious surface has been defined with a strict, absolute interpretation (i.e. roofs and pavement) although it is recognized that there are multiple

levels of true imperviousness associated with various natural and man-made materials. Alternative land use scenarios presented later in this study focus primarily on fiscal impact, but the narrative for each alternative references a projected measurement of impervious surface ratio. Detail regarding impervious surface calculations is provided in the Technical Appendix.

Linking Land Capacity and Fiscal Impact Analysis

The analysis of the fiscal impacts associated with land development may be considered one of the most critical components of local or regional growth management. Communities that ignore such impacts over a prolonged period of time may be unpleasantly surprised in the future. The simple fact is that growth requires an allocation of resources to support expanded operational and capital improvement programs. The balance between anticipated revenues and expenditures can vary substantially among the three basic private sector land use categories (residential, commercial, and industrial) and among individual development projects. Yet, the number of communities that consider the specific linkage between land use planning and fiscal impact remains relatively small.*[10]

Many communities receive fiscal impact analysis reports for individual development proposals. Fiscal impact analyses may be submitted voluntarily by developers, or they may be required by communities based on some selected threshold of size or complexity. Although fiscal impact reports may include some reference to the community's comprehensive plan, this reference is usually limited to a statement or brief paragraph indicating the level of relative conformance of the development proposal with the basic land use designation(s) for the subject property. In general, the fiscal impact analysis is conducted apart from any specific linkage to the comprehensive land use plan.*[11]

The comprehensive land use plans of most communities include some mix of residential and non-residential land uses. Although there are significant variations from place to place, it has become fairly common knowledge that the great majority of residential development does not "pay its way" and that some level of non-residential development is required in order to support residential development.*[12] In addition, more subtle variations in fiscal impact may exist within various categories of land development. Yet, the process for determining the type and amount of land use designations in comprehensive plans is usually determined without any formal consideration of the fiscal balance that may result from the designations. To some extent, the lack of consideration may be attributable to a general inability to transform gross land use designations into detailed land use projections and to use the land use projections as input for fiscal impact analysis.

This report utilizes the Fiscal Impact Land Use Model (FILUM) to create a linkage between land use planning and fiscal impact analysis.*[13] The FILUM program represents a form of land use driven fiscal impact analysis. The land use input for the FILUM program is provided through a land capacity model based on land use designations in the local comprehensive plan and on local land development regulations. Although this form of analysis requires information regarding the community's development regulations and predominant development patterns in addition to the usual types of information required for a standard fiscal impact analysis,

land use inputs are not limited to individual sites or specific development proposals; and output is representative of prevailing local conditions. Experimental applications of the FILUM program suggest that, in many instances, there is a linkage between environmentally sound land use planning and fiscally responsible land use planning. This report explores the practical reality of the experimental findings.

Fiscal Impact Analysis

Fiscal impact analysis is a process for projecting the overall balance between revenues and expenditures likely to occur over time as a result of the development of land within a municipality or service district. Fiscal impact analysis differs from economic impact analysis in that the objective of fiscal impact analysis is limited to evaluating the balance between direct revenues and expenditures whereas economic impact analysis usually implies some level of effort aimed at evaluating indirect revenues and expenditures over a broader base of factors.*[14]

Fiscal impact methodologies can be classified generally as average cost or marginal cost techniques. The basic difference between these techniques can be summarized by noting that average cost techniques will be based on linear relationships meaning that as the value of one variable changes the value of other dependent variables will change a like amount. Conversely, marginal costing techniques are based on non-linear relationships that may be supported by derived factors or data regarding individual situations.*[15]

For all forms of fiscal impact analysis, some projection time frame is chosen. These time frames often range from five to 20 years with 10 years being the most commonly employed period. In general, longer time frames imply greater assumptions and decreased accuracy. Because fiscal impact analysis is performed for extended periods of time, some assumptions must be made regarding absorption rates for the land development being analyzed. Absorption simply refers to the rate at which any given level of development is projected to be built-out.

Most fiscal impact analyses are expressed in constant, current dollar amounts with no assumptions regarding appreciation in property values, inflation rates, revisions to tax rates, or changes in fee structures throughout the projection period. That approach eliminates the potentially distorting influence of changes in these factors. Although it is possible to generate fiscal impact projections for any public service function, most analyses focus on impacts on the municipality and the school district(s).

Revenue Methodologies

In order to provide an accurate projection of the property tax revenues likely to be generated by a development, it is necessary to make assumptions regarding the value of the development and apply factors relevant to the local property tax structure. In Illinois, there is basically a four step process involved in the computation of real estate tax revenue as follows:*[16]

1. Determining fair market value (FMV).

2. Applying the local assessment factor.

3. Applying the state equalization factor to obtain the equalized assessed value (EAV).

4. Applying the real estate tax rate to the EAV.

To determine the fair market value (FMV) of a development, assumptions must be made regarding the value of land and improvements. The FMV of a development is usually based on one, or some combination, of three basic real estate valuation techniques: market approach, income approach, and cost approach.

The assessed value of a property is the basis upon which its tax liability is computed. For example, in McHenry County, Illinois, developed residential, commercial, and industrial property is assessed at one-third of its FMV. Residential owner-occupied property receives a homeowner's exemption of $3,500.

The Illinois Department of Revenue (DOR) establishes an annual equalization factor intended to ensure that property throughout the state is being assessed at one-third of its true FMV. However, regardless of assessment and equalization practices, it is the EAV that forms the base for the application of property tax rates and, therefore, revenue from that source.

Sales tax distributions comprise a significant portion of revenue in many municipal budgets. In Illinois, sales tax distributions are based on “point of sale”. Therefore, for fiscal impact analyses conducted within tightly developed metropolitan area, a conservative projection of sales tax receipts is usually based on the sales potential associated with additional retail commercial space and not on assumptions regarding the retail and service expenditures of new resident households.*[17] Further, prudent fiscal impact analysis should consider a "redistribution factor" that accounts for the overlap of new retail commercial operations with existing operations in the community.*[18] A 20% redistribution factor has been applied in this study.

Most other revenues accruing to the municipality or service district are projected on the basis of population and dwelling units. For example, Illinois municipalities receive revenues from motor fuel tax and state income tax on a per capita basis, whereas building permit fees and development impact fees are usually received on a per dwelling unit basis. A calculation of the current per capita and per dwelling unit revenue from other sources is illustrated in the Tables and Figures section of this study. It should be noted that the figures for per capita revenue are indicative of the *value* of residents based on the assumption that they will be counted for per capita revenue purposes. However, the extent to which the new residents will actually be a factor in some revenue calculations will depend upon the timing of special census efforts to ensure their contribution to the per capita revenue base. The value approach reflects the primary intent of this study, which is to illustrate the relative difference between

basic patterns of development rather than attempting to predict the timing of specific land development projects or local government actions.

Expenditure (Cost) Methodologies

All expenditure calculations are based on the assignment of operational and capital costs to development. As noted above, there are two basic approaches to estimating costs for fiscal impact purposes: average cost and marginal cost. Average cost methods include proportional valuation, cost per developed acre, cost per capita, and a combination of cost per developed acre and cost per capita. Marginal cost methods include case study, comparable municipality (service district), and cost per employee. Proportional valuation and cost per employee methods are usually limited to non-residential development.*[19] Average costing is more commonly employed because it is easier to understand and is more relevant in high growth environments that require an on-going, long-term response to development and, consequently, generate a demand for fiscal impact analysis.

Each type of fiscal impact methodology may be appropriate in a given situation. However, recent trends have favored some combination of cost per developed acre and cost per capita for mixed use developments (residential and commercial) in high growth environments due to flexibility and reasonable data requirements. Basically, that methodology applies the ratio of developed land in the three principal private sector land use categories (residential, commercial, and industrial) to the budget to derive an assignment of cost per developed acre. The resulting residential component of the budget is then divided by the population to derive a cost per capita.

Although the cost per developed acre/cost per capita methodology has a number of advantages, there are two weaknesses in that form of analysis. First, it is possible to over-estimate costs associated with non-residential development. That weakness results from the assumed equal distribution of certain public service functions, such as solid waste collection, among the basic land use categories. However, the problem can be largely overcome by adjustments to cost assignment among the basic land use categories.

The second problem with the cost per developed acre/cost per capita methodology, in its basic form, is the lack of sensitivity to geographically induced service costs. That is to say that some components of public service cost are influenced to a greater degree by land area than by population count. For example, it is likely that a compact community with a concise street pattern would have a lower public service cost for street reconstruction and maintenance than a sprawling community with the same population. That limitation of the cost per developed acre and cost per capita methodology can be overcome through the use of a “blended methodology” that allocates individual components of the local budget based on perceived sensitivity to

land area or population. In this process, it should be noted that allocation of the "streets" budget to the land-based element of the analysis does not imply that population is not a factor in demand for that service, but rather that the streets budget will likely be influenced to a greater extent by land area than by population counts. This report utilizes the blended methodology to maximize sensitivity to both geographic and demographic variables.

Summary of Revenues and Expenditures for the Community

Communities receive revenues from development, and incur operating and capital improvement costs in serving development. Examples of major sources of municipal revenues and expenditures are as follows:

REVENUES	EXPENDITURES
Real Estate Taxes	General Fund
Motor Fuel Tax Rebates	Special Funds
State Income Tax Rebates	Debt Service Fund
Sales Tax Distributions	Capital Funds
Park Site Impact Fees	Proprietary Funds
Building Permit Fees	Pension Funds

For illustration purposes, it is assumed that the study area will be annexed to the City of McHenry in a single action.

Land Use Alternatives

Baseline - Alternative 1

Table Series 1 is output from a land capacity model and output from the fiscal impact land use model (FILUM) illustrating the hypothetical build-out of the unincorporated, undeveloped portion of the City of Henry's planning area in the Boone Creek watershed. The FILUM output provides a projected fiscal impact of that development over a 10 year period. Table Series 1 is based on the land use designations and land development regulations in effect presently for the City of McHenry. That is the "baseline" alternative for this study.

In the baseline alternative, 464 acres are assigned to conventional residential development with 100 acres of Medium Density Residential (10,890 square foot lots) and 364 acres of Low Density Residential (30,000 square foot lots). A total of 114 acres are dedicated to land conservation and 22 acres are devoted to commercial land use. The commercial (retail) development is projected for year three of the analysis. Based on the applicable land development factors and an annual absorption rate of 10 percent, the Medium Density Residential and Low Density Residential land use categories could be expected to produce 600 dwelling units over the term of the projection (10 years). The bedroom mix is set at 20% three bedroom, 65% four bedroom, and 15% five bedroom with the average fair market value of homes set at $202,400, 269,500, and $297,000, respectively.

With respect to this study, items of particular note include the projected impervious surface ratio (22.2) and the 10 year fiscal impact balance (positive $2,408,455). It is interesting to note that the fiscal balance trends to a negative figure toward the end of the projection period. That trend could be indicative of a long-term negative balance. The fiscal impact analysis is detailed in the Tables and Figures section.

Cluster Design - Generally

Cluster design refers generally to a form of residential land development that focuses actual development on a portion of the entire development site, or sites, while leaving some significant portion of the site undeveloped and in a natural state. As a result, cluster development results in higher localized densities (smaller individual lot sizes) but can be designed to accommodate the same number of lots and dwelling units as conventional residential subdivisions on the entire site. Designed in this fashion, cluster development is said to be "density neutral" with respect to conventional development patterns. An illustration of the cluster design alternative is provided in the Technical Appendix.

Cluster development relies heavily on building orientation and buffering with natural plant materials to achieve levels of privacy and "personal space" comparable to large lot

and estate lot development. Additionally, cluster development creates common, natural open space that can serve as habitat for wildlife and areas of recharge for groundwater systems. Several studies conducted throughout the nation indicate that there may be notable enhancements to property values associated with residential development in close proximity to natural open space areas.*[20]

Cluster Design 1 - Alternative 2

Table Series 2 is output from a land capacity model and output from FILUM illustrating the hypothetical build-out of the unincorporated, undeveloped portion of the City of Henry's planning area in the Boone Creek watershed under an alternative development pattern. In this alternative, Cluster Design Residential 1 has been chosen as the sole residential land use (464 acres) with 114 acres dedicated to land conservation and 22 acres devoted to commercial land use. Cluster Design Residential 1 represents detached single family dwelling units on 8,000 square foot lots with land development factors representative of that form of development.

Based on the assigned land development factors and an annual absorption rate of 10 percent, the Cluster Design Residential 1 land use category could be expected to produce 600 dwelling units over the term of the projection (10 years). The bedroom mix is set at 20% three bedroom, 65% four bedroom, and 15% five bedroom with the average fair market value of homes set at $202,400, 269,500, and $297,000, respectively. The commercial (retail) development is projected for year three of the analysis. It should be noted that the development parameters for this alternative have been chosen purposely to produce a "density neutral" scenario with respect to prevailing land use designations and development regulations. Also, dwelling unit values and bedroom characteristics have been held constant.

With respect to this study, items of particular note include the projected impervious surface ratio (14.8) and the 10 year fiscal impact balance (positive $4,370,386). Additionally, 57.8% of the gross land area is preserved as natural areas. The fiscal impact analysis is detailed in the Tables and Figures section.

Cluster Design 2 - Alternative 3

Table Series 3 is output from a land capacity model and output from FILUM illustrating the hypothetical build-out of the unincorporated, undeveloped portion of the City of Henry's planning area in the Boone Creek watershed under an alternative development pattern. In this alternative, Cluster Design Residential 2 has been chosen as the sole residential land use (464 acres) with 114 acres dedicated to land conservation and 22 acres devoted to commercial land use. Cluster Design Residential 2 represents detached single family dwelling units on 10,500 square foot lots with land development factors representative of that form of development.

Based on the assigned land development factors and an annual absorption rate of 10 percent, the Cluster Design Residential 2 land use category could be expected to produce 600 dwelling units over the term of the projection (10 years). The bedroom mix is set at 20% three bedroom, 65% four bedroom, and 15% five bedroom with the average fair market value of homes set at $202,400, 269,500, and $297,000, respectively. The commercial (retail) development is projected for year three of the analysis. It should be noted that the development parameters for this alternative have been chosen purposely to produce a "density neutral" scenario with respect to prevailing land use designations and development regulations. Also, dwelling unit values and bedroom characteristics have been held constant.

With respect to this study, items of particular note include the projected impervious surface ratio (15.9) and the 10 year fiscal impact balance (positive $4,071,684). Additionally, 49.0% of the gross land area is preserved as natural areas. The fiscal impact analysis is detailed in the Tables and Figures section.

Miscellaneous Data Output

Because the purpose of this study is to explore potential relationships between environmentally sensitive development and fiscally responsible development, the focus of data output has been directed to two significant measures of those factors: impervious surface and fiscal impact. However, the analytical techniques employed in support of this study are capable of generating data output for a wide variety of variables associated with the development of raw land including, but not limited to; average daily vehicle trips, public protection requirements (police and fire personnel), school sites and park sites, and water and wastewater demand.

For example, a general engineering standard default for public water demand is 100 gallons per capita per day. Similarly, wastewater demand for non-residential land uses is measured in population equivalents (PE) per acre with one PE equaling 100 gallons per day. As a result, once raw land data is converted to projected development, a projection of public water demand is a relatively straightforward process. Data for water and sewer factors are illustrated on land capacity model output. Detail regarding average vehicle trip generation and school and park site demand is provided in the Technical Appendix.

A summary of study area data for these miscellaneous factors is provided in the Technical Appendix. Because some of these factors are associated with population or dwelling unit counts, impacts do not vary with the alternative land use scenarios presented for the study area. The lack of variation is based on the density neutral approach to generating the alternatives.

Summary

Although the procedures employed in preparing the study are somewhat complex, the findings for the various land development alternatives are straightforward and can be summarized as follows:

Alternative 1, Conventional Residential Development - This alternative is comprised of Medium Density and Low Density residential land use categories with minimum lot sizes of 10,890 and 30,000 square feet, respectively. The development pattern is conventional with respect to rights-of-way, stormwater control, and park land. Infrastructure improvements include storm sewers, sidewalks, and full urban cross-section (curbs and gutters) in standard street widths.

Among the three alternatives analyzed, Alternative 1 produces the greatest impervious surface and imposes the greatest public cost based on an analysis that attempts to consider both land-based and population-based fiscal impacts.

Alternative 2, Cluster Design 1 Residential Development - This alternative represents a form of residential development in which lots sizes are set at 8,000 and the overall development pattern is flexible with respect to topography in general and natural drainage patterns in particular. The flexibility is a result of the concise nature of the development pattern leaving approximately 58% of the land area undisturbed. Infrastructure is minimal with reduced rights-of-way and street widths, and use of natural land features in support of stormwater control.

Among the three alternatives analyzed, Alternative 2 produces the least impervious surface and imposes the least public cost based on an analysis that attempts to consider both land-based and population-based fiscal impacts. It should be noted that, in order to realize the potential public cost savings to the maximum extent, the clustering of development should be focused in a compact and contiguous form locating development at the periphery of the community wherever possible.

Alternative 3, Cluster Design 2 Residential Development - This alternative represents a form of residential development in which lots sizes are set at 10,500 and the overall development pattern is flexible with respect to topography in general and natural drainage patterns in particular. The flexibility is a result of the relatively concise nature of the development pattern leaving approximately 49% of the land area undisturbed. Infrastructure is reduced with narrowed rights-of-way and streets, and use of natural land features in support of stormwater control.

Among the three alternatives analyzed, Alternative 3 represents a “middle ground” with respect to impervious surface and public cost based on an analysis that attempts to consider both land-based and population-based fiscal impacts. It should be noted that, in order to realize the potential public cost savings to the maximum extent, the

clustering of development should be focused in a compact and contiguous form locating development at the periphery of the community wherever possible. In truth, Alternative 3 can be considered somewhat of a hybrid residential design in that the lot sizes are greater than those commonly associated with cluster development but the pattern is unconventional in layout.

It should be noted that, for each alternative, the positive fiscal balance experienced in the early years of the projection period declines over time. That trend results from the ongoing development of vacant land added to the municipal real estate tax base at the time of annexation. The vacant land has value for real estate tax purposes but generates no service demands, thereby contributing to a positive fiscal balance. The fiscal benefits of the more concise pattern of development represented by cluster development result from the simple fact that reduced resources are required to support infrastructure extensions and to support service delivery. In a given study area, it is likely that the extent of the benefit could vary considerably whereas the existence of the benefit would remain constant.

Footnotes:

1. City of McHenry Comprehensive Plan,

2. Dreher, Dennis, Watershed Restoration Action Strategy for Boone Creek, August 2002.

3. Dahlstrom, Roger K., "Practical Computer Applications for Land Use Planning", Northern Illinois University Law Review, Summer 1997.

4. Kelly, Eric Damian, "Planning for Public Facilities: A Primer for Local Officials", Planning Advisory Service, Report No. 447, American Planning Association, 1993.

5. Dahlstrom, Roger K., "Practical Computer Applications for Land Use Planning", Northern Illinois University Law Review, Summer 1997.

6. Arnold, Chester l. and C. James Gibbons, "Impervious Surface Coverage - The Emergence of a Key Environmental Indicator", Journal of the American Planning Association, Volume 62, No. 2, Spring 1996.

7. Schueler, Tom, "Site Planning for Urban Stream Protection", Environmental Land Planning Series, Department of Environmental Programs, Metropolitan Washington Council of Governments, December 1995.

8. Jeer, Sanjay, Megan Lewis, Stuart Meck, Jon Witten, Michelle Zimet, "Nonpoint Source Pollution: A Handbook for Local Governments", Planning Advisory Service, Report No. 476, American Planning Association, 1997.

9. Arnold, Chester l. and C. James Gibbons, "Impervious Surface Coverage - The Emergence of a Key Environmental Indicator", Journal of the American Planning Association, Volume 62, No. 2, Spring 1996.

10. "Approaches to Fiscal Impact Analyses", Public Investment, American Planning Association, September 2001.

11. Ibid.

12. Burchell, Robert W., and David Listokin, Fiscal Impact Handbook: Projecting the Local Costs and Revenues Related to Growth, 1978

13. Dahlstrom, Roger K., Linking the Comprehensive Land Use Plan and Fiscal Impact Analysis, Mid-continent Regional Science Association, June 2000.

14. Burchell, Robert W., and David Listokin, Fiscal Impact Handbook: Projecting the Local Costs and Revenues Related to Growth, 1978

15. Ibid.

16. Practical Guide to Illinois Real Estate Taxation, Taxpayer's Federation of Illinois, 1994.

17. Brian O'Leary, "Retail Market Analysis in the Suburbs", Public Investment, American Planning Association 1996.

18. Peters, Dawn S., Retail Potential Analysis: A Case Study of Retail Potential for the City of DeKalb, Northern Illinois University, 1997.

19. Burchell, Robert W., and David Listokin, Fiscal Impact Handbook: Projecting the Local Costs and Revenues Related to Growth, 1978

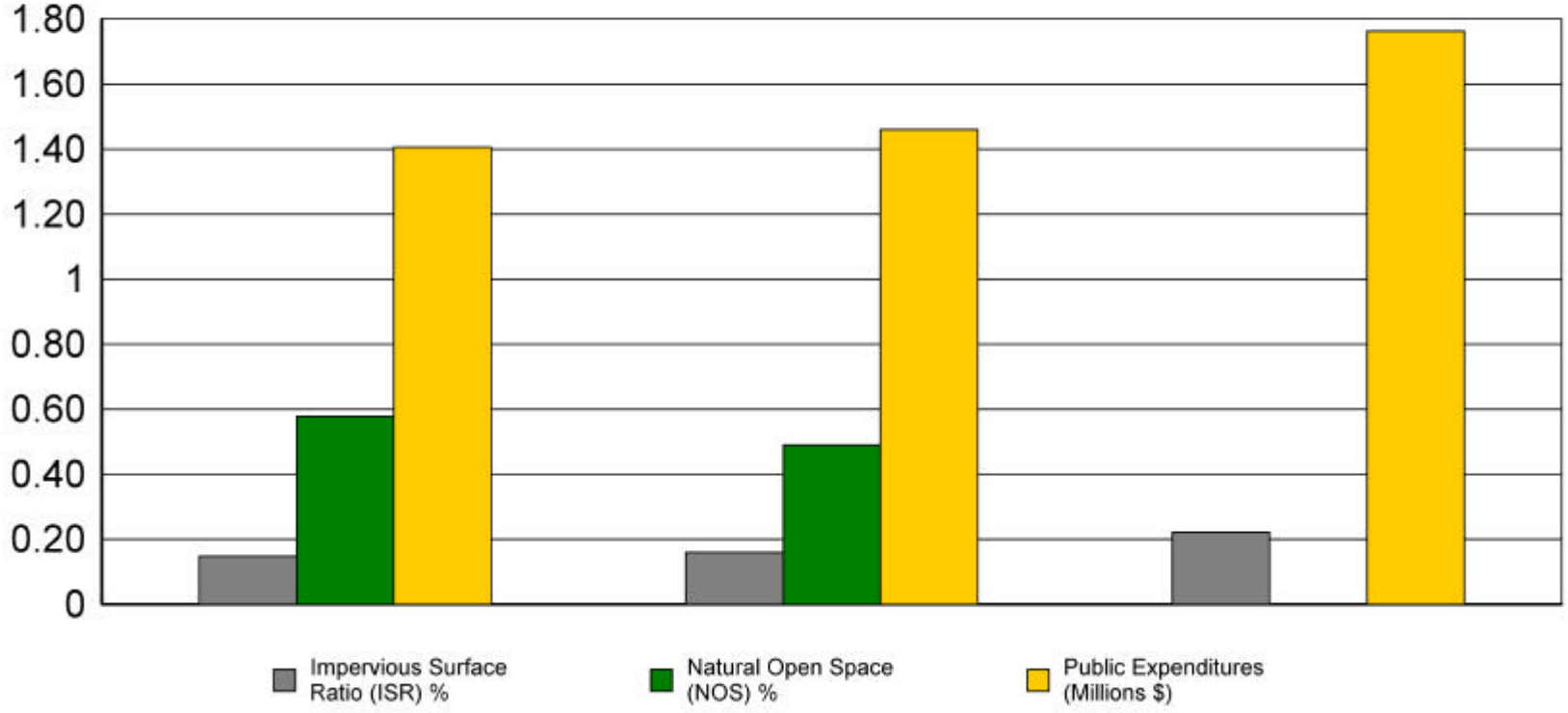
20. Does Land Conservation Pay? Determining the Fiscal Implications of Preserving Open Land, Lincoln Institute of Land Policy, Resource Manual, 1994.

RKD

TECHNICAL APPENDIX

Boone Creek Study

Selected Factors



TABLES & FIGURES

TABLE SERIES 1
Conventional Development

RESIDENTIAL **TABLE 1**

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Development Gross Acreage Added	20	20	20	20	20	20	20	20	20	20
Development Gross Acreage Total	20	39	59	78	98	117	137	157	176	196
Net Acreage Added	11	11	11	11	11	11	11	11	11	11
Net Acreage Total	11	22	33	44	55	66	77	88	99	109
Dwelling Unit Distribution:										
Owner Units - Detached SF										
Two (2) Bedroom	0	0	0	0	0	0	0	0	0	0
Three (3) Bedroom	12	12	12	12	12	12	12	12	12	12
Four (4) Bedroom	39	39	39	39	39	39	39	39	39	39
Five (5) Bedroom	9	9	9	9	9	9	9	9	9	9
Owner Units - Attached SF										
One (1) Bedroom	0	0	0	0	0	0	0	0	0	0
Two (2) Bedroom	0	0	0	0	0	0	0	0	0	0
Three (3) Bedroom	0	0	0	0	0	0	0	0	0	0
Four (4) Bedroom	0	0	0	0	0	0	0	0	0	0
Annual Owner DU's	60	60	60	60	60	60	60	60	60	60
Rental Units - Attached SF										
One (1) Bedroom	0	0	0	0	0	0	0	0	0	0
Two (2) Bedroom	0	0	0	0	0	0	0	0	0	0
Three (3) Bedroom	0	0	0	0	0	0	0	0	0	0
Four (4) Bedroom	0	0	0	0	0	0	0	0	0	0
Rental Units - Apartments										
Studio (0) Bedroom	0	0	0	0	0	0	0	0	0	0
One (1) Bedroom	0	0	0	0	0	0	0	0	0	0
Two (2) Bedroom	0	0	0	0	0	0	0	0	0	0
Three (3) Bedroom	0	0	0	0	0	0	0	0	0	0
Annual Rental DU's	0	0	0	0	0	0	0	0	0	0

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
RESIDENTIAL SUMMARY										**TABLE 2**
Owner Units (O) Added	60	60	60	60	60	60	60	60	60	60
Rental Units (R) Added	0	0	0	0	0	0	0	0	0	0
Total Owner Units (O)	60	120	180	240	300	360	420	480	540	600
Total Rental Units (R)	0	0	0	0	0	0	0	0	0	0
Total All Units	60	120	180	240	300	360	420	480	540	600
Annual Market Value (O)	15,612,300	15,612,300	15,612,300	15,612,300	15,612,300	15,612,300	15,612,300	15,612,300	15,612,300	15,612,300
Annual Market Value (R)	0	0	0	0	0	0	0	0	0	0
Total Market Value (O)	15,612,300	31,224,600	46,836,900	62,449,200	78,061,500	93,673,800	109,286,100	124,898,400	140,510,700	156,123,000
Total Market Value (R)	0	0	0	0	0	0	0	0	0	0
Assessed Value Owner Units	5,204,095	10,408,190	15,612,284	20,816,379	26,020,474	31,224,569	36,428,664	41,632,758	46,836,853	52,040,948
Assessed Value Rental Units	0	0	0	0	0	0	0	0	0	0
Base EAV All Dwelling Units	5,204,095	10,408,190	15,612,284	20,816,379	26,020,474	31,224,569	36,428,664	41,632,758	46,836,853	52,040,948
Homeowners Exemption	210,000	420,000	630,000	840,000	1,050,000	1,260,000	1,470,000	1,680,000	1,890,000	2,100,000
Total Residential EAV	4,994,095	9,988,190	14,982,284	19,976,379	24,970,474	29,964,569	34,958,664	39,952,758	44,946,853	49,940,948
POPULATION & ENROLLMENT ESTIMATES										
Annual Population Increase	216	216	216	216	216	216	216	216	216	216
Total Accrued Population	216	431	647	862	1,078	1,293	1,509	1,724	1,940	2,155
Annual Enrollment Increase	63	63	63	63	63	63	63	63	63	63
Total Accrued Enrollment	63	126	189	252	315	378	442	505	568	631

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
COMMERCIAL										**TABLE 3**
Net Acreage Added	0	0	20	0	0	0	0	0	0	0
Total Net Acreage	0	0	20	20	20	20	20	20	20	20
Square Footage Added	0	0	356,827	0	0	0	0	0	0	0
Total Square Footage	0	0	356,827	356,827	356,827	356,827	356,827	356,827	356,827	356,827
Average Value per Net Acre	174,240	174,240	174,240	174,240	174,240	174,240	174,240	174,240	174,240	174,240
Average Value per Square Foot *1	60.36	60.36	60.36	60.36	60.36	60.36	60.36	60.36	60.36	60.36
Total Market Value	0	0	25,060,891	25,060,891	25,060,891	25,060,891	25,060,891	25,060,891	25,060,891	25,060,891
Estimated Assessed Value	0	0	8,353,622	8,353,622	8,353,622	8,353,622	8,353,622	8,353,622	8,353,622	8,353,622
Total Commercial EAV	0	0	8,353,622	8,353,622	8,353,622	8,353,622	8,353,622	8,353,622	8,353,622	8,353,622
Estimated Sales per Square Foot *2	214.93	214.93	214.93	214.93	214.93	214.93	214.93	214.93	214.93	214.93
BUSINESS PARK/INDUSTRIAL										
Net Acreage Added	0	0	0	0	0	0	0	0	0	0
Total Net Acreage	0	0	0	0	0	0	0	0	0	0
Square Footage Added	0	0	0	0	0	0	0	0	0	0
Total Square Footage	0	0	0	0	0	0	0	0	0	0
Average Value per Net Acre	130,680	130,680	130,680	130,680	130,680	130,680	130,680	130,680	130,680	130,680
Average Value per Square Foot	49.57	49.57	49.57	49.57	49.57	49.57	49.57	49.57	49.57	49.57
Total Market Value	0	0	0	0	0	0	0	0	0	0
Estimated Assessed Value	0	0	0	0	0	0	0	0	0	0
Total Industrial EAV	0	0	0	0	0	0	0	0	0	0
UNDEVELOPED										
Total Gross Acres	553.60	507.20	438.80	392.40	346.00	299.60	253.20	206.80	160.40	114.00
Value per Gross Acre	68,000	68,000	68,000	68,000	68,000	68,000	68,000	68,000	68,000	68,000
Estimated Market Value	37,644,800	34,489,600	29,838,400	26,683,200	23,528,000	20,372,800	17,217,600	14,062,400	10,907,200	7,752,000
Estimated Assessed Value	12,548,254	11,496,522	9,946,123	8,894,391	7,842,659	6,790,927	5,739,194	4,687,462	3,635,730	2,583,997
Total Undeveloped EAV	12,548,254	11,496,522	9,946,123	8,894,391	7,842,659	6,790,927	5,739,194	4,687,462	3,635,730	2,583,997

REVENUE ESTIMATES **TABLE 4**

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Real Estate Tax Revenue:										
Municipal EAV	17,542,349	21,484,711	33,282,030	37,224,392	41,166,755	45,109,117	49,051,480	52,993,842	56,936,205	60,878,567
School District EAV *3	4,994,095	9,988,190	23,335,906	28,330,001	33,324,096	38,318,191	43,312,286	48,306,380	53,300,475	58,294,570
Total Municipal Tax	0	103,763	127,082	196,863	220,182	243,501	266,820	290,140	313,459	336,778
Total School Dist. Tax	0	229,728	459,457	1,073,452	1,303,180	1,532,908	1,762,637	1,992,365	2,222,093	2,451,822
Other Revenue (Municipal):										
State Income Tax	16,603	33,206	49,810	66,413	83,016	99,619	116,222	132,826	149,429	166,032
Tax Distributions (per capita)	9,640	19,280	28,920	38,560	48,200	57,840	67,480	77,120	86,759	96,399
Local Revenue (per capita)	3,405	6,811	10,216	13,621	17,027	20,432	23,837	27,242	30,648	34,053
Adjusted Sales Tax	0	0	613,543	613,543	613,543	613,543	613,543	613,543	613,543	613,543
Fees & Taxes/Residential (temp)	26,400	26,400	26,400	26,400	26,400	26,400	26,400	26,400	26,400	26,400
Fees & Taxes/Residential	0	0	0	0	0	0	0	0	0	0
Fees & Taxes/Comm. & Ind. (temp)	0	0	24,978	0	0	0	0	0	0	0
Fees & Taxes/Comm. & Ind.	0	0	0	0	0	0	0	0	0	0
Park Site Impact Fee	323,271	323,271	323,271	323,271	323,271	323,271	323,271	323,271	323,271	323,271
Fees per D.U. (misc.) *4	31,800	31,800	31,800	31,800	31,800	31,800	31,800	31,800	31,800	31,800
Household Retail Sales Tax	0	0	0	0	0	0	0	0	0	0
Total Other Revenue	411,119	440,768	1,108,938	1,113,608	1,143,257	1,172,905	1,202,554	1,232,202	1,261,850	1,291,499
Total Municipal Revenue	411,119	544,531	1,236,020	1,310,471	1,363,439	1,416,406	1,469,374	1,522,342	1,575,309	1,628,277

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10

COST ESTIMATES **TABLE 5**

Municipality:										
Per Capita Service Costs (R)	463	463	463	463	463	463	463	463	463	463
Per Acre Service Costs (R)	1,330	1,330	1,330	1,330	1,330	1,330	1,330	1,330	1,330	1,330
Per Acre Service Costs (C)	7,340	7,340	7,340	7,340	7,340	7,340	7,340	7,340	7,340	7,340
Per Acre Service Costs (BP/I)	2,308	2,308	2,308	2,308	2,308	2,308	2,308	2,308	2,308	2,308
Annual Incremental Costs *5	125,813	125,813	274,214	125,813	125,813	125,813	125,813	125,813	125,813	125,813
Total Accrued Project Costs	125,813	251,625	525,839	651,652	777,464	903,277	1,029,089	1,154,902	1,280,714	1,406,527

FISCAL IMPACT

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Municipality:										
Revenue Surplus	285,307	292,906	710,180	658,820	585,975	513,130	440,285	367,440	294,595	221,750
Revenue Deficit	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Revenue/Cost Balance per Year	285,307	292,906	710,180	658,820	585,975	513,130	440,285	367,440	294,595	221,750
Revenue/Cost Balance (10 yrs)	4,370,386									

*1 Weighted average of construction type (BOCA) commercial (3A) with Illinois adjustment and updated by ENR Building Cost Index factor.

*2 Gross sales estimate from Dollars and Cents of Shopping Centers: 2002, Urban Land Institute.

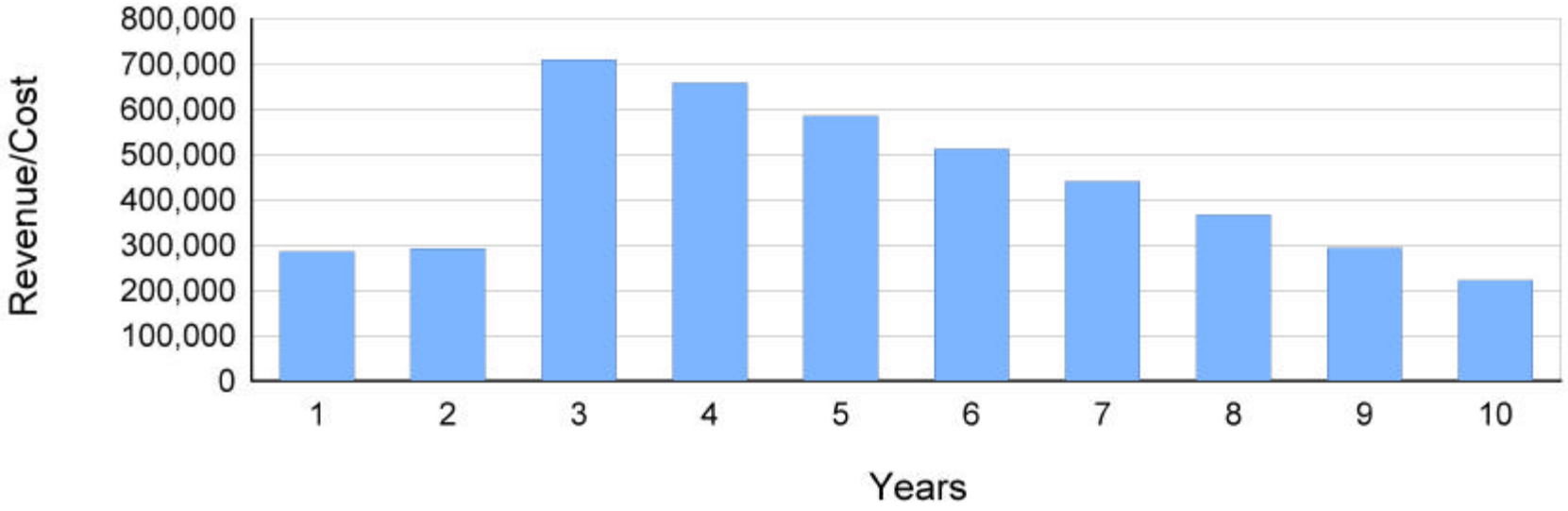
*3 School District EAV assumes land is located in the district at the time of annexation and experiences no impact from annexation of undeveloped land to the municipality.

*4 The City of McHenry charges development impact fees for library and fire protection.

*5 Figures represent the additional annual costs associated with the additional population or acreage resulting from project build-out.

Fiscal Impact Balance

Cluster Development 1



23-Mar-09

LAND CAPACITY MODEL

Cluster Development 1

Project Location: City of McHenry, Illinois
Project Name : Boone Creek Watershed
Project Number : 01-02

Gross Land by Use Category:	Land Area	Percentages	Development Standards Minimum Lot Area	Floor Area Yields (net)
Cluster Design 1	464.0	77.3%	8,000	
Cluster Design 2	0.0	0.0%	10,500	
Countryside Estate Residential 1	0.0	0.0%	217,800	
Countryside Estate Residential 2	0.0	0.0%	130,680	
Estate Residential	0.0	0.0%	43,560	
Low Density Residential	0.0	0.0%	30,000	
Medium Density Residential	0.0	0.0%	10,890	
High Density Residential	0.0	0.0%	5,000	
Commercial	22.0	3.7%		17,658
Business Park	0.0	0.0%		19,076
Industrial	0.0	0.0%		29,544
Undeveloped Area =	114.0	19.0%		
Total Gross Area =	600.0	100.0%		

Land Development Factors:	Natural Areas	Rights-of-Way	Storm Water Detention	Park Land/ Open Space
Cluster Design 1	0.578	11.3%	2.5%	4.9%
Cluster Design 2	0.490	12.1%	2.5%	4.9%
Countryside Estate Residential 1	0.000	15.2%	4.8%	4.9%
Countryside Estate Residential 2	0.000	14.4%	4.8%	4.9%
Estate Residential	0.000	17.9%	5.7%	4.9%
Low Density Residential	0.000	20.2%	7.6%	4.9%
Medium Density Residential	0.000	21.3%	9.6%	9.3%
High Density Residential	0.000	18.8%	15.2%	11.4%
Commercial	0.000	1.1%	7.0%	
Business Park	0.000	6.4%	5.0%	
Industrial	0.000	2.4%	3.3%	

23-Mar-09

Net Land by Use Category:	Acreage	Density Factors (per acre):		
		Net	Gross	Dev. Gross
Cluster Design 1	109.0	5.45	1.28	3.03
Cluster Design 2	0.0	4.15	NA	NA
Countryside Estate Residential 1	0.0	0.20	NA	NA
Countryside Estate Residential 2	0.0	0.33	NA	NA
Estate Residential	0.0	1.00	NA	NA
Low Density Residential	0.0	1.45	NA	NA
Medium Density Residential	0.0	4.00	NA	NA
High Density Residential	0.0	8.71	NA	NA
Commercial	20.2	17,658	16,228	
Business Park	0.0	19,076	NA	
Industrial	0.0	29,544	NA	

Project Area Yield:	Dwelling Units/Square Feet		Population Equivalents	Impervious Surface
Cluster Design 1	594	Dwelling Units		70.7
Cluster Design 2	0	Dwelling Units		0.0
Countryside Estate Residential 1	0	Dwelling Units		0.0
Countryside Estate Residential 2	0	Dwelling Units		0.0
Estate Residential	0	Dwelling Units		0.0
Low Density Residential	0	Dwelling Units		0.0
Medium Density Residential	0	Dwelling Units		0.0
High Density Residential	0	Dwelling Units		0.0
Commercial	357,009	Square Feet	330	18.2
Business Park	0	Square Feet	0	0.0
Industrial	0	Square Feet	0	0.0
Total Dwelling Units *1	594			
Total Population	2,133			
Total Population Equivalents (PE)			330	
Study Area Impervious Surface Acres				88.8
Study Area Impervious Surface Ratio				14.8%
Study Area Water Demand (GPD)	246,265			
Study Area Average Daily Vehicle Trips	21,064			
Study Area Additional Police Personnel	4.1			
Study Area Additional Fire Personnel	13.0			

*1 Dwelling unit figure may vary from other forms due to rounding conventions.

TABLE SERIES 2
Cluster Development 1

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
RESIDENTIAL										**TABLE 1**
Development Gross Acreage Added	24	24	24	24	24	24	24	24	24	24
Development Gross Acreage Total	24	47	71	95	118	142	166	189	213	237
Net Acreage Added	15	15	15	15	15	15	15	15	15	15
Net Acreage Total	15	29	44	58	73	87	102	116	131	145
Dwelling Unit Distribution:										
Owner Units - Detached SF										
Two (2) Bedroom	0	0	0	0	0	0	0	0	0	0
Three (3) Bedroom	12	12	12	12	12	12	12	12	12	12
Four (4) Bedroom	39	39	39	39	39	39	39	39	39	39
Five (5) Bedroom	9	9	9	9	9	9	9	9	9	9
Owner Units - Attached SF										
One (1) Bedroom	0	0	0	0	0	0	0	0	0	0
Two (2) Bedroom	0	0	0	0	0	0	0	0	0	0
Three (3) Bedroom	0	0	0	0	0	0	0	0	0	0
Four (4) Bedroom	0	0	0	0	0	0	0	0	0	0
Annual Owner DU's	60	60	60	60	60	60	60	60	60	60
Rental Units - Attached SF										
One (1) Bedroom	0	0	0	0	0	0	0	0	0	0
Two (2) Bedroom	0	0	0	0	0	0	0	0	0	0
Three (3) Bedroom	0	0	0	0	0	0	0	0	0	0
Four (4) Bedroom	0	0	0	0	0	0	0	0	0	0
Rental Units - Apartments										
Studio (0) Bedroom	0	0	0	0	0	0	0	0	0	0
One (1) Bedroom	0	0	0	0	0	0	0	0	0	0
Two (2) Bedroom	0	0	0	0	0	0	0	0	0	0
Three (3) Bedroom	0	0	0	0	0	0	0	0	0	0
Annual Rental DU's	0	0	0	0	0	0	0	0	0	0

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
RESIDENTIAL SUMMARY										**TABLE 2**
Owner Units (O) Added	60	60	60	60	60	60	60	60	60	60
Rental Units (R) Added	0	0	0	0	0	0	0	0	0	0
Total Owner Units (O)	60	120	180	240	300	360	420	480	540	600
Total Rental Units (R)	0	0	0	0	0	0	0	0	0	0
Total All Units	60	120	180	240	300	360	420	480	540	600
Annual Market Value (O)	15,612,300	15,612,300	15,612,300	15,612,300	15,612,300	15,612,300	15,612,300	15,612,300	15,612,300	15,612,300
Annual Market Value (R)	0	0	0	0	0	0	0	0	0	0
Total Market Value (O)	15,612,300	31,224,600	46,836,900	62,449,200	78,061,500	93,673,800	109,286,100	124,898,400	140,510,700	156,123,000
Total Market Value (R)	0	0	0	0	0	0	0	0	0	0
Assessed Value Owner Units	5,204,095	10,408,190	15,612,284	20,816,379	26,020,474	31,224,569	36,428,664	41,632,758	46,836,853	52,040,948
Assessed Value Rental Units	0	0	0	0	0	0	0	0	0	0
Base EAV All Dwelling Units	5,204,095	10,408,190	15,612,284	20,816,379	26,020,474	31,224,569	36,428,664	41,632,758	46,836,853	52,040,948
Homeowners Exemption	210,000	420,000	630,000	840,000	1,050,000	1,260,000	1,470,000	1,680,000	1,890,000	2,100,000
Total Residential EAV	4,994,095	9,988,190	14,982,284	19,976,379	24,970,474	29,964,569	34,958,664	39,952,758	44,946,853	49,940,948
POPULATION & ENROLLMENT ESTIMATES										
Annual Population Increase	216	216	216	216	216	216	216	216	216	216
Total Accrued Population	216	431	647	862	1,078	1,293	1,509	1,724	1,940	2,155
Annual Enrollment Increase	63	63	63	63	63	63	63	63	63	63
Total Accrued Enrollment	63	126	189	252	315	378	442	505	568	631

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
COMMERCIAL										**TABLE 3**
Net Acreage Added	0	0	20	0	0	0	0	0	0	0
Total Net Acreage	0	0	20	20	20	20	20	20	20	20
Square Footage Added	0	0	356,827	0	0	0	0	0	0	0
Total Square Footage	0	0	356,827	356,827	356,827	356,827	356,827	356,827	356,827	356,827
Average Value per Net Acre	174,240	174,240	174,240	174,240	174,240	174,240	174,240	174,240	174,240	174,240
Average Value per Square Foot *1	60.36	60.36	60.36	60.36	60.36	60.36	60.36	60.36	60.36	60.36
Total Market Value	0	0	25,060,891	25,060,891	25,060,891	25,060,891	25,060,891	25,060,891	25,060,891	25,060,891
Estimated Assessed Value	0	0	8,353,622	8,353,622	8,353,622	8,353,622	8,353,622	8,353,622	8,353,622	8,353,622
Total Commercial EAV	0	0	8,353,622	8,353,622	8,353,622	8,353,622	8,353,622	8,353,622	8,353,622	8,353,622
Estimated Sales per Square Foot *2	214.93	214.93	214.93	214.93	214.93	214.93	214.93	214.93	214.93	214.93
BUSINESS PARK/INDUSTRIAL										
Net Acreage Added	0	0	0	0	0	0	0	0	0	0
Total Net Acreage	0	0	0	0	0	0	0	0	0	0
Square Footage Added	0	0	0	0	0	0	0	0	0	0
Total Square Footage	0	0	0	0	0	0	0	0	0	0
Average Value per Net Acre	130,680	130,680	130,680	130,680	130,680	130,680	130,680	130,680	130,680	130,680
Average Value per Square Foot	49.57	49.57	49.57	49.57	49.57	49.57	49.57	49.57	49.57	49.57
Total Market Value	0	0	0	0	0	0	0	0	0	0
Estimated Assessed Value	0	0	0	0	0	0	0	0	0	0
Total Industrial EAV	0	0	0	0	0	0	0	0	0	0
UNDEVELOPED										
Total Gross Acres	553.60	507.20	438.80	392.40	346.00	299.60	253.20	206.80	160.40	114.00
Value per Gross Acre	68,000	68,000	68,000	68,000	68,000	68,000	68,000	68,000	68,000	68,000
Estimated Market Value	37,644,800	34,489,600	29,838,400	26,683,200	23,528,000	20,372,800	17,217,600	14,062,400	10,907,200	7,752,000
Estimated Assessed Value	12,548,254	11,496,522	9,946,123	8,894,391	7,842,659	6,790,927	5,739,194	4,687,462	3,635,730	2,583,997
Total Undeveloped EAV	12,548,254	11,496,522	9,946,123	8,894,391	7,842,659	6,790,927	5,739,194	4,687,462	3,635,730	2,583,997

REVENUE ESTIMATES **TABLE 4**

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Real Estate Tax Revenue:										
Municipal EAV	17,542,349	21,484,711	33,282,030	37,224,392	41,166,755	45,109,117	49,051,480	52,993,842	56,936,205	60,878,567
School District EAV *3	4,994,095	9,988,190	23,335,906	28,330,001	33,324,096	38,318,191	43,312,286	48,306,380	53,300,475	58,294,570
Total Municipal Tax	0	103,763	127,082	196,863	220,182	243,501	266,820	290,140	313,459	336,778
Total School Dist. Tax	0	229,728	459,457	1,073,452	1,303,180	1,532,908	1,762,637	1,992,365	2,222,093	2,451,822
Other Revenue (Municipal):										
State Income Tax	16,603	33,206	49,810	66,413	83,016	99,619	116,222	132,826	149,429	166,032
Tax Distributions (per capita)	9,640	19,280	28,920	38,560	48,200	57,840	67,480	77,120	86,759	96,399
Local Revenue (per capita)	3,405	6,811	10,216	13,621	17,027	20,432	23,837	27,242	30,648	34,053
Adjusted Sales Tax	0	0	613,543	613,543	613,543	613,543	613,543	613,543	613,543	613,543
Fees & Taxes/Residential (temp)	26,400	26,400	26,400	26,400	26,400	26,400	26,400	26,400	26,400	26,400
Fees & Taxes/Residential	0	0	0	0	0	0	0	0	0	0
Fees & Taxes/Comm. & Ind. (temp)	0	0	24,978	0	0	0	0	0	0	0
Fees & Taxes/Comm. & Ind.	0	0	0	0	0	0	0	0	0	0
Park Site Impact Fee	323,271	323,271	323,271	323,271	323,271	323,271	323,271	323,271	323,271	323,271
Fees per D.U. (misc.) *4	31,800	31,800	31,800	31,800	31,800	31,800	31,800	31,800	31,800	31,800
Household Retail Sales Tax	0	0	0	0	0	0	0	0	0	0
Total Other Revenue	411,119	440,768	1,108,938	1,113,608	1,143,257	1,172,905	1,202,554	1,232,202	1,261,850	1,291,499
Total Municipal Revenue	411,119	544,531	1,236,020	1,310,471	1,363,439	1,416,406	1,469,374	1,522,342	1,575,309	1,628,277

COST ESTIMATES **TABLE 5**

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Municipality:										
Per Capita Service Costs (R)	463	463	463	463	463	463	463	463	463	463
Per Acre Service Costs (R)	1,330	1,330	1,330	1,330	1,330	1,330	1,330	1,330	1,330	1,330
Per Acre Service Costs (C)	7,340	7,340	7,340	7,340	7,340	7,340	7,340	7,340	7,340	7,340
Per Acre Service Costs (BP/I)	2,308	2,308	2,308	2,308	2,308	2,308	2,308	2,308	2,308	2,308
Annual Incremental Costs *5	131,243	131,243	279,645	131,243	131,243	131,243	131,243	131,243	131,243	131,243
Total Accrued Project Costs	131,243	262,487	542,132	673,376	804,619	935,863	1,067,106	1,198,349	1,329,593	1,460,836

FISCAL IMPACT

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Municipality:										
Revenue Surplus	279,876	282,044	693,888	637,096	558,820	480,544	402,268	323,992	245,716	167,440
Revenue Deficit	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Revenue/Cost Balance per Year	279,876	282,044	693,888	637,096	558,820	480,544	402,268	323,992	245,716	167,440
Revenue/Cost Balance (10 yrs)	4,071,684									

*1 Weighted average of construction type (BOCA) commercial (3A) with Illinois adjustment and updated by ENR Building Cost Index factor.

*2 Gross sales estimate from Dollars and Cents of Shopping Centers: 2002, Urban Land Institute.

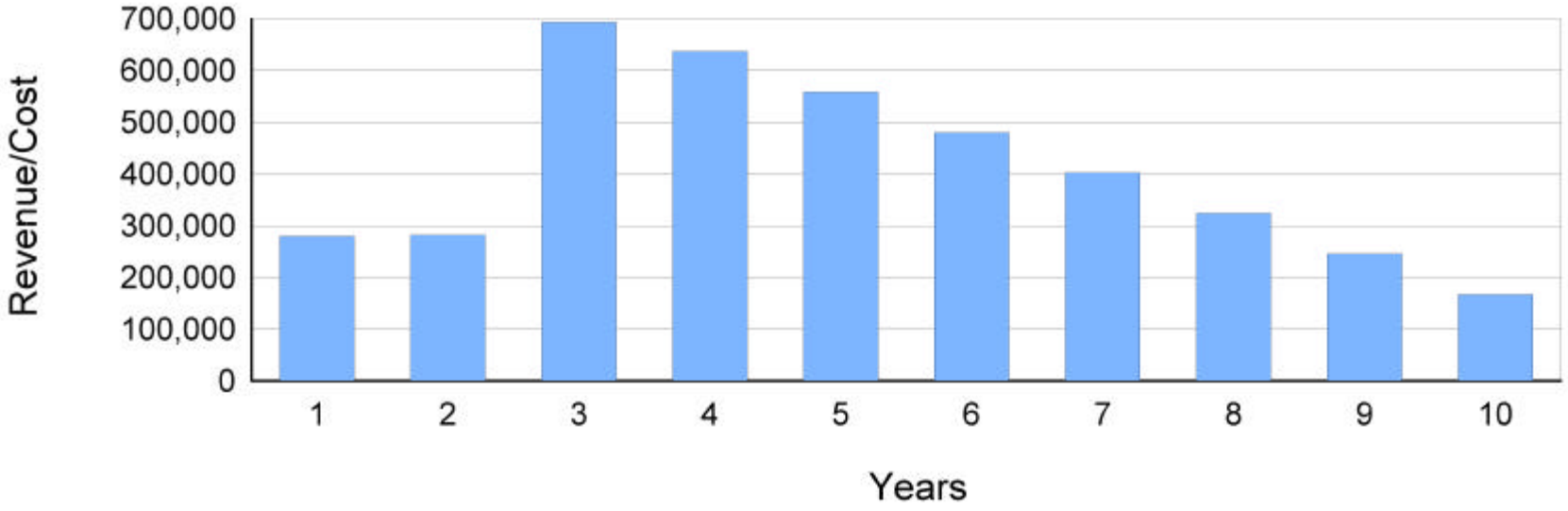
*3 School District EAV assumes land is located in the district at the time of annexation and experiences no impact from annexation of undeveloped land to the municipality.

*4 The City of McHenry charges development impact fees for library and fire protection.

*5 Figures represent the additional annual costs associated with the additional population or acreage resulting from project build-out.

Fiscal Impact Balance

Cluster Development 2



23-Mar-09

LAND CAPACITY MODEL

Cluster Development 2

Project Location: City of McHenry, Illinois
Project Name : Boone Creek Watershed
Project Number : 01-02

Gross Land by Use Category:	Land Area	Percentages	Development Standards Minimum Lot Area	Floor Area Yields (net)
Cluster Design 1	0.0	0.0%	8,000	
Cluster Design 2	464.0	77.3%	10,500	
Countryside Estate Residential 1	0.0	0.0%	217,800	
Countryside Estate Residential 2	0.0	0.0%	130,680	
Estate Residential	0.0	0.0%	43,560	
Low Density Residential	0.0	0.0%	30,000	
Medium Density Residential	0.0	0.0%	10,890	
High Density Residential	0.0	0.0%	5,000	
Commercial	22.0	3.7%		17,658
Business Park	0.0	0.0%		19,076
Industrial	0.0	0.0%		29,544
Undeveloped Area =	114.0	19.0%		
Total Gross Area =	600.0	100.0%		

Land Development Factors:	Natural Areas	Rights-of-Way	Storm Water Detention	Park Land/ Open Space
Cluster Design 1	0.578	11.3%	2.5%	4.9%
Cluster Design 2	0.490	12.1%	2.5%	4.9%
Countryside Estate Residential 1	0.000	15.2%	4.8%	4.9%
Countryside Estate Residential 2	0.000	14.4%	4.8%	4.9%
Estate Residential	0.000	17.9%	5.7%	4.9%
Low Density Residential	0.000	20.2%	7.6%	4.9%
Medium Density Residential	0.000	21.3%	9.6%	9.3%
High Density Residential	0.000	18.8%	15.2%	11.4%
Commercial	0.000	1.1%	7.0%	
Business Park	0.000	6.4%	5.0%	
Industrial	0.000	2.4%	3.3%	

23-Mar-09

Net Land by Use Category:	Acreage	Density Factors (per acre): Net	Gross	Dev. Gross
Cluster Design 1	0.0	5.45	NA	NA
Cluster Design 2	146.2	4.15	1.31	2.56
Countryside Estate Residential 1	0.0	0.20	NA	NA
Countryside Estate Residential 2	0.0	0.33	NA	NA
Estate Residential	0.0	1.00	NA	NA
Low Density Residential	0.0	1.45	NA	NA
Medium Density Residential	0.0	4.00	NA	NA
High Density Residential	0.0	8.71	NA	NA
Commercial	20.2	17,658	16,228	
Business Park	0.0	19,076	NA	
Industrial	0.0	29,544	NA	

Project Area Yield:	Dwelling Units/Square Feet		Population Equivalents	Impervious Surface
Cluster Design 1	0	Dwelling Units		0.0
Cluster Design 2	606	Dwelling Units		77.4
Countryside Estate Residential 1	0	Dwelling Units		0.0
Countryside Estate Residential 2	0	Dwelling Units		0.0
Estate Residential	0	Dwelling Units		0.0
Low Density Residential	0	Dwelling Units		0.0
Medium Density Residential	0	Dwelling Units		0.0
High Density Residential	0	Dwelling Units		0.0
Commercial	357,009	Square Feet	330	18.2
Business Park	0	Square Feet	0	0.0
Industrial	0	Square Feet	0	0.0
Total Dwelling Units *1	606			
Total Population	2,178			
Total Population Equivalents (PE)			330	
Study Area Impervious Surface Acres				95.6
Study Area Impervious Surface Ratio				15.9%
Study Area Water Demand (GPD)	250,803			
Study Area Average Daily Vehicle Trips	21,064			
Study Area Additional Police Personnel	4.2			
Study Area Additional Fire Personnel	13.3			

*1 Dwelling unit figure may vary from other forms due to rounding conventions.

TABLE SERIES 3
Cluster Development 2

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
RESIDENTIAL										**TABLE 1**
Development Gross Acreage Added	46	46	46	46	46	46	46	46	46	46
Development Gross Acreage Total	46	93	139	186	232	278	325	371	418	464
Net Acreage Added	30	30	30	30	30	30	30	30	30	30
Net Acreage Total	30	61	91	122	152	183	213	244	274	305
Dwelling Unit Distribution:										
Owner Units - Detached SF										
Two (2) Bedroom	0	0	0	0	0	0	0	0	0	0
Three (3) Bedroom	12	12	12	12	12	12	12	12	12	12
Four (4) Bedroom	39	39	39	39	39	39	39	39	39	39
Five (5) Bedroom	9	9	9	9	9	9	9	9	9	9
Owner Units - Attached SF										
One (1) Bedroom	0	0	0	0	0	0	0	0	0	0
Two (2) Bedroom	0	0	0	0	0	0	0	0	0	0
Three (3) Bedroom	0	0	0	0	0	0	0	0	0	0
Four (4) Bedroom	0	0	0	0	0	0	0	0	0	0
Annual Owner DU's	60	60	60	60	60	60	60	60	60	60
Rental Units - Attached SF										
One (1) Bedroom	0	0	0	0	0	0	0	0	0	0
Two (2) Bedroom	0	0	0	0	0	0	0	0	0	0
Three (3) Bedroom	0	0	0	0	0	0	0	0	0	0
Four (4) Bedroom	0	0	0	0	0	0	0	0	0	0
Rental Units - Apartments										
Studio (0) Bedroom	0	0	0	0	0	0	0	0	0	0
One (1) Bedroom	0	0	0	0	0	0	0	0	0	0
Two (2) Bedroom	0	0	0	0	0	0	0	0	0	0
Three (3) Bedroom	0	0	0	0	0	0	0	0	0	0
Annual Rental DU's	0	0	0	0	0	0	0	0	0	0

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
RESIDENTIAL SUMMARY										**TABLE 2**
Owner Units (O) Added	60	60	60	60	60	60	60	60	60	60
Rental Units (R) Added	0	0	0	0	0	0	0	0	0	0
Total Owner Units (O)	60	120	180	240	300	360	420	480	540	600
Total Rental Units (R)	0	0	0	0	0	0	0	0	0	0
Total All Units	60	120	180	240	300	360	420	480	540	600
Annual Market Value (O)	15,612,300	15,612,300	15,612,300	15,612,300	15,612,300	15,612,300	15,612,300	15,612,300	15,612,300	15,612,300
Annual Market Value (R)	0	0	0	0	0	0	0	0	0	0
Total Market Value (O)	15,612,300	31,224,600	46,836,900	62,449,200	78,061,500	93,673,800	109,286,100	124,898,400	140,510,700	156,123,000
Total Market Value (R)	0	0	0	0	0	0	0	0	0	0
Assessed Value Owner Units	5,204,095	10,408,190	15,612,284	20,816,379	26,020,474	31,224,569	36,428,664	41,632,758	46,836,853	52,040,948
Assessed Value Rental Units	0	0	0	0	0	0	0	0	0	0
Base EAV All Dwelling Units	5,204,095	10,408,190	15,612,284	20,816,379	26,020,474	31,224,569	36,428,664	41,632,758	46,836,853	52,040,948
Homeowners Exemption	210,000	420,000	630,000	840,000	1,050,000	1,260,000	1,470,000	1,680,000	1,890,000	2,100,000
Total Residential EAV	4,994,095	9,988,190	14,982,284	19,976,379	24,970,474	29,964,569	34,958,664	39,952,758	44,946,853	49,940,948
POPULATION & ENROLLMENT ESTIMATES										
Annual Population Increase	216	216	216	216	216	216	216	216	216	216
Total Accrued Population	216	431	647	862	1,078	1,293	1,509	1,724	1,940	2,155
Annual Enrollment Increase	63	63	63	63	63	63	63	63	63	63
Total Accrued Enrollment	63	126	189	252	315	378	442	505	568	631

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
COMMERCIAL										**TABLE 3**
Net Acreage Added	0	0	20	0	0	0	0	0	0	0
Total Net Acreage	0	0	20	20	20	20	20	20	20	20
Square Footage Added	0	0	356,827	0	0	0	0	0	0	0
Total Square Footage	0	0	356,827	356,827	356,827	356,827	356,827	356,827	356,827	356,827
Average Value per Net Acre	174,240	174,240	174,240	174,240	174,240	174,240	174,240	174,240	174,240	174,240
Average Value per Square Foot *1	60.36	60.36	60.36	60.36	60.36	60.36	60.36	60.36	60.36	60.36
Total Market Value	0	0	25,060,891	25,060,891	25,060,891	25,060,891	25,060,891	25,060,891	25,060,891	25,060,891
Estimated Assessed Value	0	0	8,353,622	8,353,622	8,353,622	8,353,622	8,353,622	8,353,622	8,353,622	8,353,622
Total Commercial EAV	0	0	8,353,622	8,353,622	8,353,622	8,353,622	8,353,622	8,353,622	8,353,622	8,353,622
Estimated Sales per Square Foot *2	214.93	214.93	214.93	214.93	214.93	214.93	214.93	214.93	214.93	214.93
BUSINESS PARK/INDUSTRIAL										
Net Acreage Added	0	0	0	0	0	0	0	0	0	0
Total Net Acreage	0	0	0	0	0	0	0	0	0	0
Square Footage Added	0	0	0	0	0	0	0	0	0	0
Total Square Footage	0	0	0	0	0	0	0	0	0	0
Average Value per Net Acre	130,680	130,680	130,680	130,680	130,680	130,680	130,680	130,680	130,680	130,680
Average Value per Square Foot	49.57	49.57	49.57	49.57	49.57	49.57	49.57	49.57	49.57	49.57
Total Market Value	0	0	0	0	0	0	0	0	0	0
Estimated Assessed Value	0	0	0	0	0	0	0	0	0	0
Total Industrial EAV	0	0	0	0	0	0	0	0	0	0
UNDEVELOPED										
Total Gross Acres	553.60	507.20	438.80	392.40	346.00	299.60	253.20	206.80	160.40	114.00
Value per Gross Acre	68,000	68,000	68,000	68,000	68,000	68,000	68,000	68,000	68,000	68,000
Estimated Market Value	37,644,800	34,489,600	29,838,400	26,683,200	23,528,000	20,372,800	17,217,600	14,062,400	10,907,200	7,752,000
Estimated Assessed Value	12,548,254	11,496,522	9,946,123	8,894,391	7,842,659	6,790,927	5,739,194	4,687,462	3,635,730	2,583,997
Total Undeveloped EAV	12,548,254	11,496,522	9,946,123	8,894,391	7,842,659	6,790,927	5,739,194	4,687,462	3,635,730	2,583,997

REVENUE ESTIMATES **TABLE 4**

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Real Estate Tax Revenue:										
Municipal EAV	17,542,349	21,484,711	33,282,030	37,224,392	41,166,755	45,109,117	49,051,480	52,993,842	56,936,205	60,878,567
School District EAV *3	4,994,095	9,988,190	23,335,906	28,330,001	33,324,096	38,318,191	43,312,286	48,306,380	53,300,475	58,294,570
Total Municipal Tax	0	103,763	127,082	196,863	220,182	243,501	266,820	290,140	313,459	336,778
Total School Dist. Tax	0	229,728	459,457	1,073,452	1,303,180	1,532,908	1,762,637	1,992,365	2,222,093	2,451,822
Other Revenue (Municipal):										
State Income Tax	16,603	33,206	49,810	66,413	83,016	99,619	116,222	132,826	149,429	166,032
Tax Distributions (per capita)	9,640	19,280	28,920	38,560	48,200	57,840	67,480	77,120	86,759	96,399
Local Revenue (per capita)	3,405	6,811	10,216	13,621	17,027	20,432	23,837	27,242	30,648	34,053
Adjusted Sales Tax	0	0	613,543	613,543	613,543	613,543	613,543	613,543	613,543	613,543
Fees & Taxes/Residential (temp)	26,400	26,400	26,400	26,400	26,400	26,400	26,400	26,400	26,400	26,400
Fees & Taxes/Residential	0	0	0	0	0	0	0	0	0	0
Fees & Taxes/Comm. & Ind. (temp)	0	0	24,978	0	0	0	0	0	0	0
Fees & Taxes/Comm. & Ind.	0	0	0	0	0	0	0	0	0	0
Park Site Impact Fee	323,271	323,271	323,271	323,271	323,271	323,271	323,271	323,271	323,271	323,271
Fees per D.U. (misc.) *4	31,800	31,800	31,800	31,800	31,800	31,800	31,800	31,800	31,800	31,800
Household Retail Sales Tax	0	0	0	0	0	0	0	0	0	0
Total Other Revenue	411,119	440,768	1,108,938	1,113,608	1,143,257	1,172,905	1,202,554	1,232,202	1,261,850	1,291,499
Total Municipal Revenue	411,119	544,531	1,236,020	1,310,471	1,363,439	1,416,406	1,469,374	1,522,342	1,575,309	1,628,277

COST ESTIMATES **TABLE 5**

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Municipality:										
Per Capita Service Costs (R)	463	463	463	463	463	463	463	463	463	463
Per Acre Service Costs (R)	1,330	1,330	1,330	1,330	1,330	1,330	1,330	1,330	1,330	1,330
Per Acre Service Costs (C)	7,340	7,340	7,340	7,340	7,340	7,340	7,340	7,340	7,340	7,340
Per Acre Service Costs (BP/I)	2,308	2,308	2,308	2,308	2,308	2,308	2,308	2,308	2,308	2,308
Annual Incremental Costs *5	161,484	161,484	309,886	161,484	161,484	161,484	161,484	161,484	161,484	161,484
Total Accrued Project Costs	161,484	322,968	632,854	794,338	955,822	1,117,306	1,278,790	1,440,274	1,601,758	1,763,242

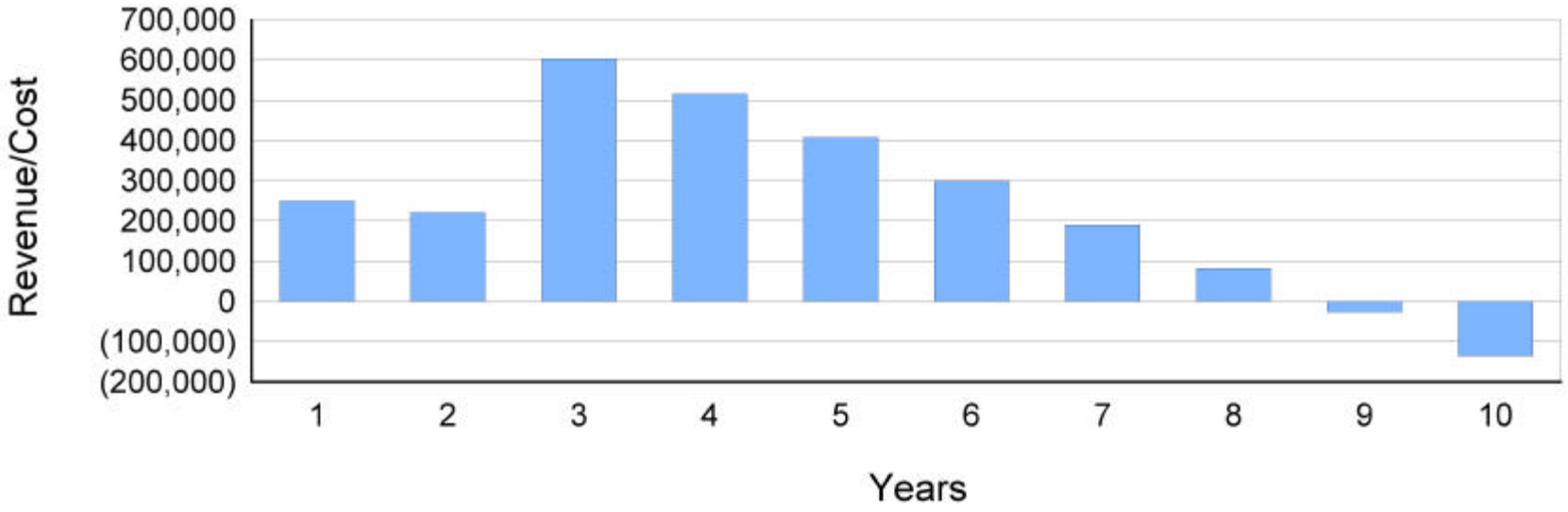
FISCAL IMPACT

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Municipality:										
Revenue Surplus	249,635	221,563	603,166	516,134	407,617	299,101	190,584	82,068	NA	NA
Revenue Deficit	NA	NA	NA	NA	NA	NA	NA	NA	26,449	134,965
Revenue/Cost Balance per Year	249,635	221,563	603,166	516,134	407,617	299,101	190,584	82,068	-26,449	-134,965
Revenue/Cost Balance (10 yrs)	2,408,455									

*1 Weighted average of construction type (BOCA) commercial (3A) with Illinois adjustment and updated by ENR Building Cost Index factor.
*2 Gross sales estimate from Dollars and Cents of Shopping Centers: 2002, Urban Land Institute.
*3 School District EAV assumes land is located in the district at the time of annexation and experiences no impact from annexation of undeveloped land to the municipality.
*4 The City of McHenry charges development impact fees for library and fire protection.
*5 Figures represent the additional annual costs associated with the additional population or acreage resulting from project build-out.

Fiscal Impact Balance

Conventional Development



23-Mar-09

LAND CAPACITY MODEL Conventional Development

Project Location: City of McHenry, Illinois
Project Name : Boone Creek Watershed
Project Number : 01-02

Gross Land by Use Category:	Land Area	Percentages	Development Standards Minimum Lot Area	Floor Area Yields (net)
Cluster Design 1	0.0	0.0%	8,000	
Cluster Design 2	0.0	0.0%	10,500	
Countryside Estate Residential 1	0.0	0.0%	217,800	
Countryside Estate Residential 2	0.0	0.0%	130,680	
Estate Residential	0.0	0.0%	43,560	
Low Density Residential	364.0	60.7%	30,000	
Medium Density Residential	100.0	16.7%	10,890	
High Density Residential	0.0	0.0%	5,000	
Commercial	22.0	3.7%		17,649
Business Park	0.0	0.0%		19,076
Industrial	0.0	0.0%		29,544
Undeveloped Area =	114.0	19.0%		
Total Gross Area =	600.0	100.0%		

Land Development Factors:	Natural Areas	Rights-of-Way	Storm Water Detention	Park Land/ Open Space
Cluster Design 1	0.578	11.3%	2.5%	4.9%
Cluster Design 2	0.490	12.1%	2.5%	4.9%
Countryside Estate Residential 1	0.000	15.2%	4.8%	4.9%
Countryside Estate Residential 2	0.000	14.4%	4.8%	4.9%
Estate Residential	0.000	17.9%	5.7%	4.9%
Low Density Residential	0.000	20.2%	7.6%	4.9%
Medium Density Residential	0.000	21.3%	9.6%	9.3%
High Density Residential	0.000	18.8%	15.2%	11.4%
Commercial	0.000	1.1%	7.0%	
Business Park	0.000	6.4%	5.0%	
Industrial	0.000	2.4%	3.3%	

23-Mar-09

Net Land by Use Category:	Acreage	Density Factors (per acre): Net	Gross	Dev. Gross
Cluster Design 1	0.0	5.45	NA	NA
Cluster Design 2	0.0	4.15	NA	NA
Countryside Estate Residential 1	0.0	0.20	NA	NA
Countryside Estate Residential 2	0.0	0.33	NA	NA
Estate Residential	0.0	1.00	NA	NA
Low Density Residential	245.0	1.45	0.98	0.98
Medium Density Residential	59.8	4.00	2.39	2.39
High Density Residential	0.0	8.71	NA	NA
Commercial	20.2	17,649	16,219	
Business Park	0.0	19,076	NA	
Industrial	0.0	29,544	NA	

Project Area Yield:	Dwelling Units/Square Feet		Population Equivalents	Impervious Surface
Cluster Design 1	0	Dwelling Units		0.0
Cluster Design 2	0	Dwelling Units		0.0
Countryside Estate Residential 1	0	Dwelling Units		0.0
Countryside Estate Residential 2	0	Dwelling Units		0.0
Estate Residential	0	Dwelling Units		0.0
Low Density Residential	356	Dwelling Units		81.7
Medium Density Residential	239	Dwelling Units		33.1
High Density Residential	0	Dwelling Units		0.0
Commercial	356,827	Square Feet	330	18.2
Business Park	0	Square Feet	0	0.0
Industrial	0	Square Feet	0	0.0
Total Dwelling Units *1	595			
Total Population	2,137			
Total Population Equivalents (PE)			330	
Study Area Impervious Surface Acres				132.9
Study Area Impervious Surface Ratio				22.2%
Study Area Water Demand (GPD)	246,688			
Study Area Average Daily Vehicle Trips	21,064			
Study Area Additional Police Personnel	4.1			
Study Area Additional Fire Personnel	13.1			

*1 Dwelling unit figure may vary from other forms due to rounding conventions.

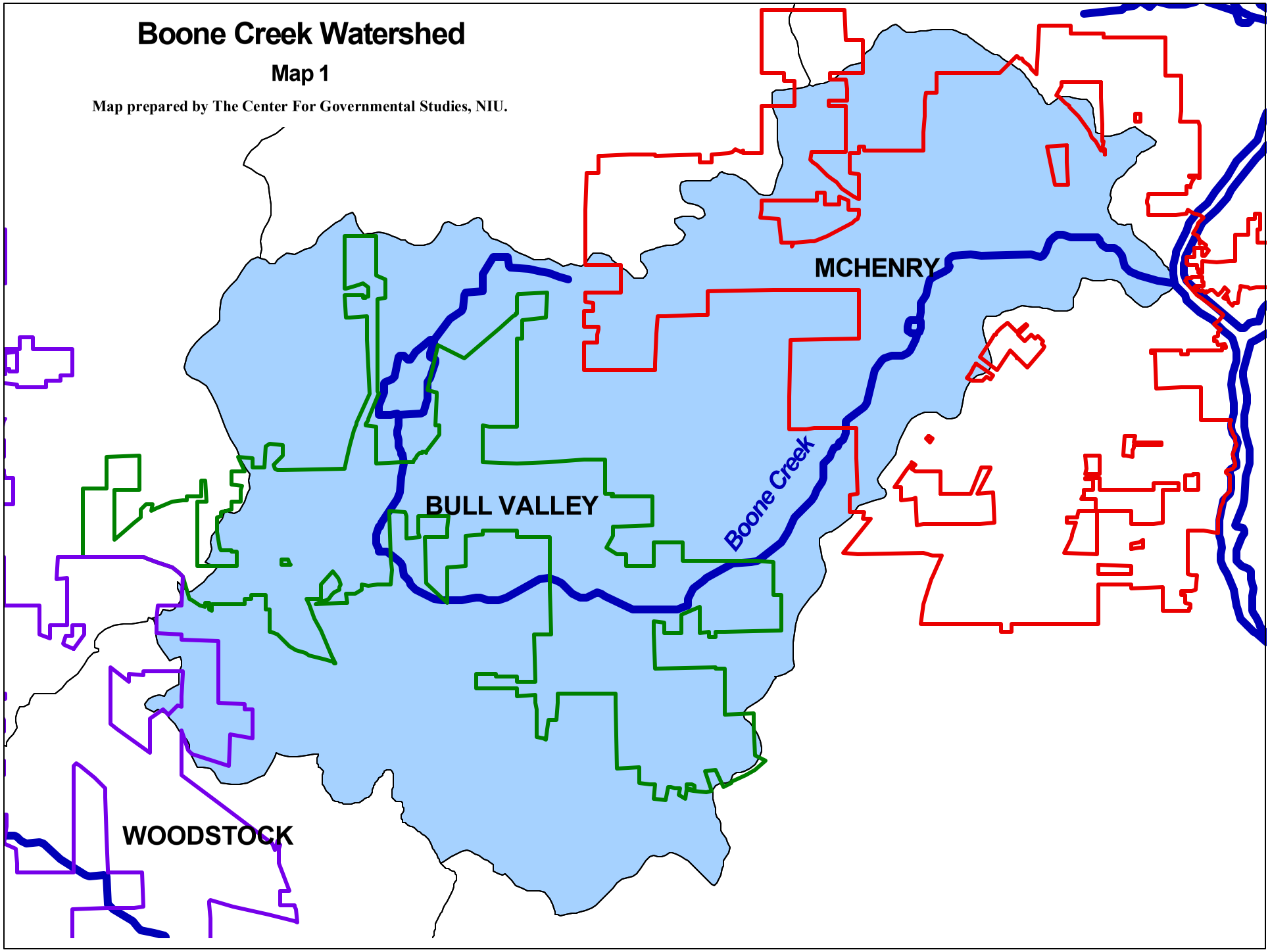
RKD

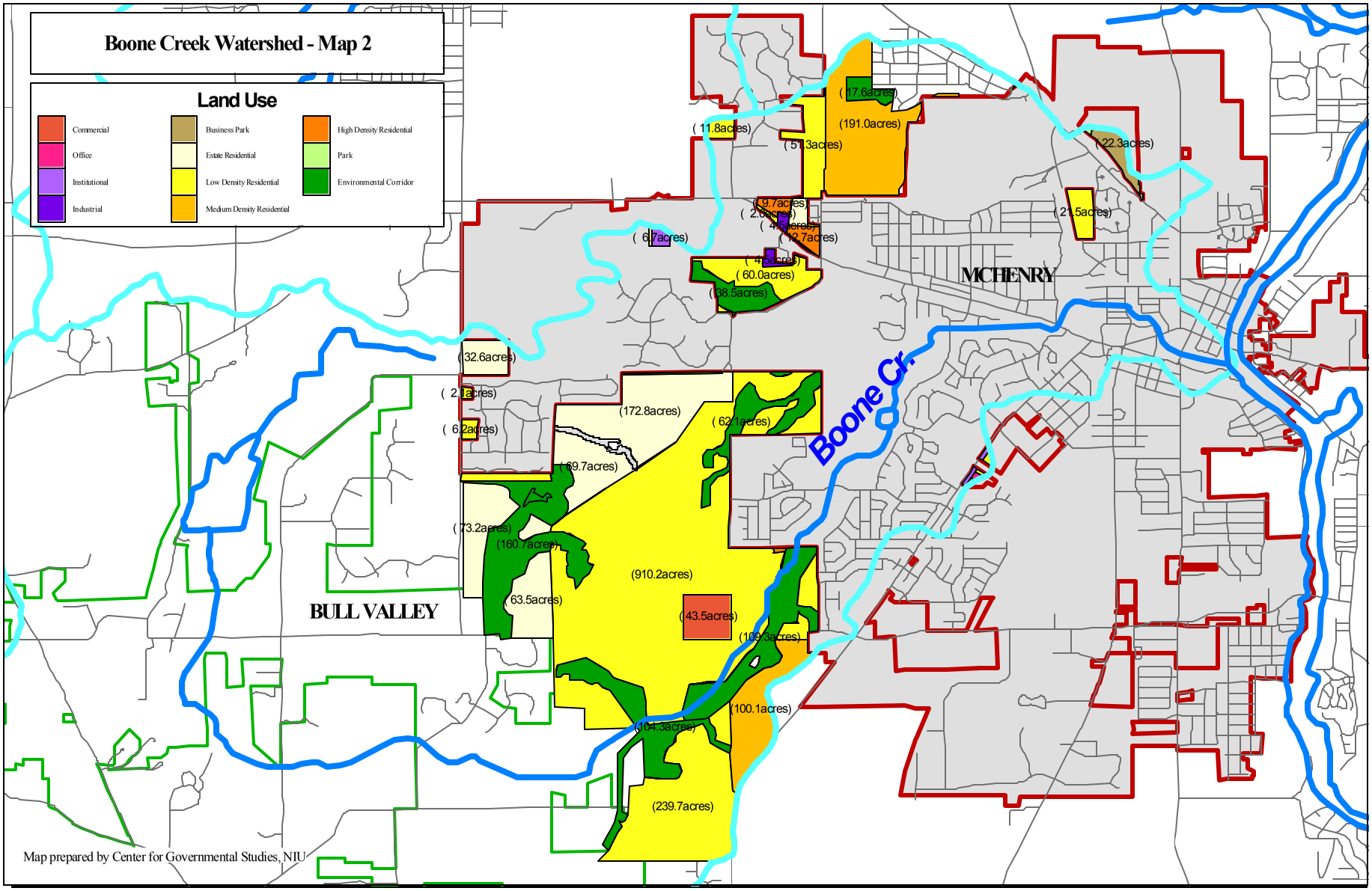
MAPS

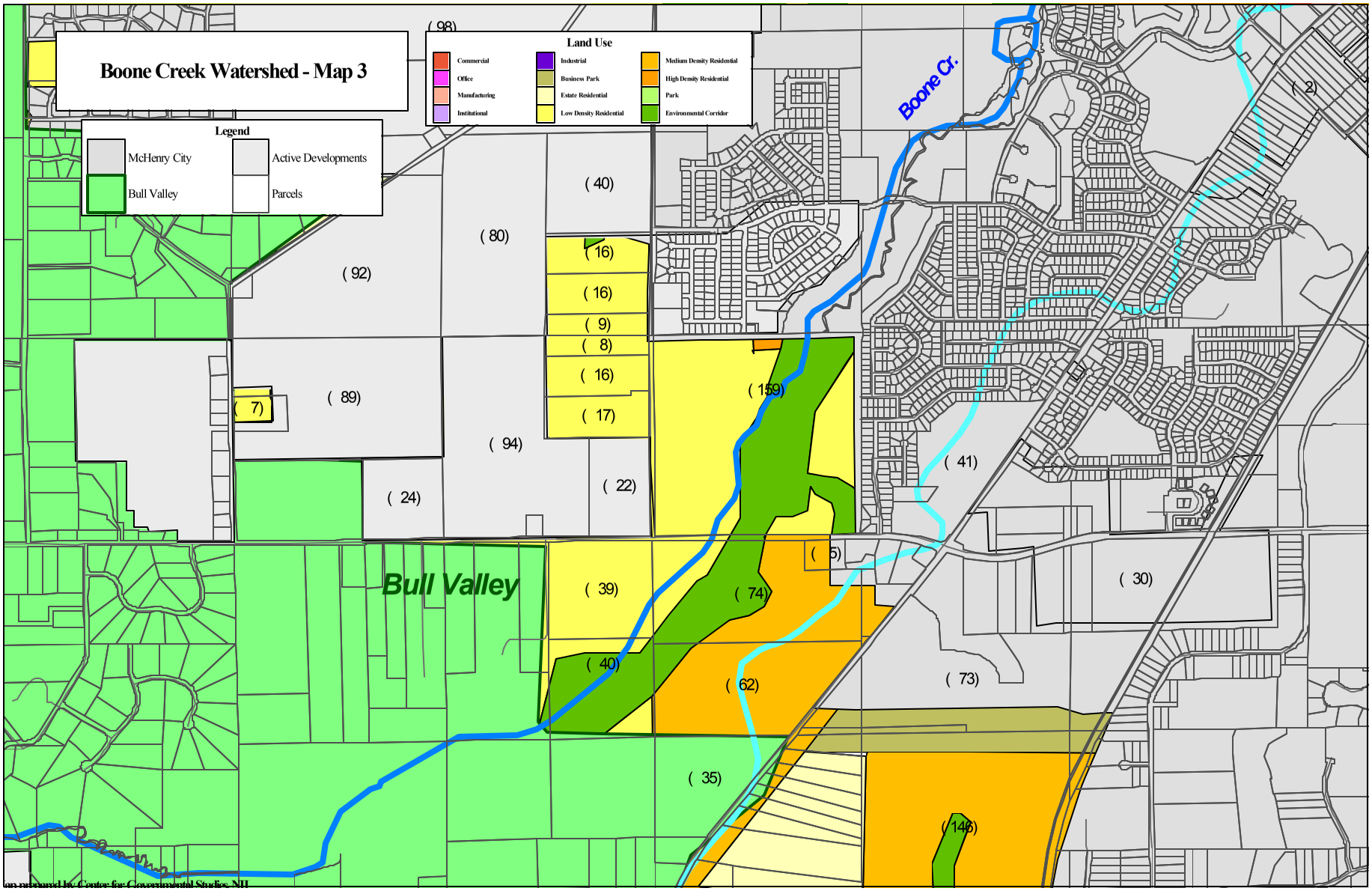
Boone Creek Watershed

Map 1

Map prepared by The Center For Governmental Studies, NIU.

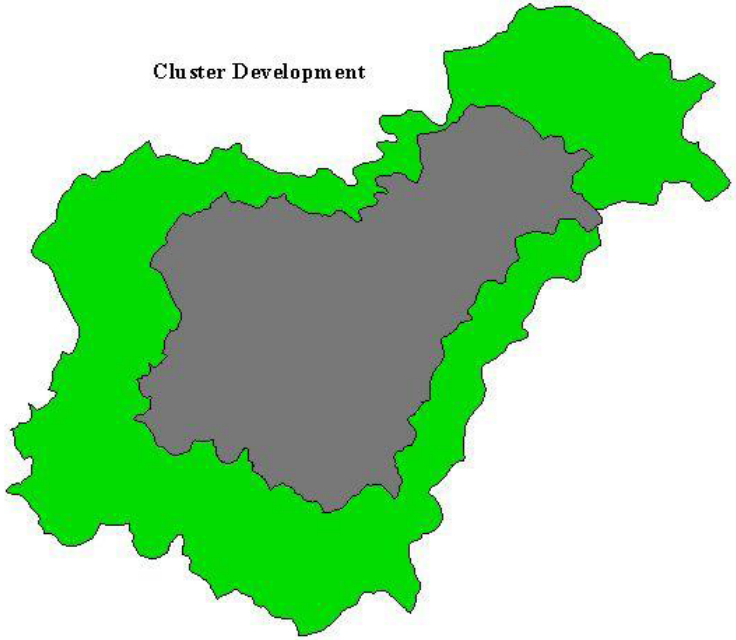



Boone Creek Watershed - Map 2
Land Use
Commercial
Office
Institutional
Industrial
Business Park
Estate Residential
Low Density Residential
Medium Density Residential
High Density Residential
Park
Environmental Corridor
(11.8acres)
(17.6acres)
(191.0acres)
(51.3acres)
(22.3acres)
(9.7acres)
(2.6acres)
(4.9acres)
(12.7acres)
(21.5acres)
(6.7acres)
(4.3acres)
(60.0acres)
(138.5acres)
MCHENRY
(32.6acres)
(2.1acres)
(6.2acres)
(172.8acres)
(62.1acres)
Boone Cr.
(69.7acres)
(73.2acres)
(160.7acres)
(910.2acres)
(63.5acres)
(43.5acres)
(109.3acres)
BULL VALLEY
(100.1acres)
(104.3acres)
(239.7acres)
Map prepared by Center for Governmental Studies, NIU

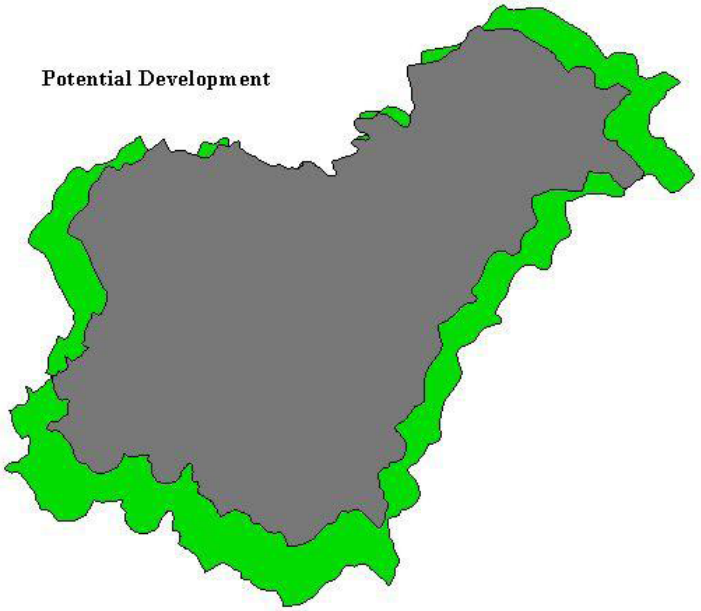

Boone Creek Watershed - Map 3
Land Use
Commercial
Office
Manufacturing
Institutional
Industrial
Business Park
Estate Residential
Low Density Residential
Medium Density Residential
High Density Residential
Park
Environmental Corridor
Legend
McHenry City
Bull Valley
Active Developments
Parcels
Boone Cr.
Bull Valley
(98)
(2)
(40)
(80)
(92)
(16)
(16)
(9)
(8)
(16)
(17)
(159)
(7)
(89)
(94)
(24)
(22)
(41)
(5)
(30)
(39)
(74)
(40)
(62)
(73)
(35)
(146)

Conventional Development

Cluster Development



Potential Development



SITE CAPACITY TABLES

23-Mar-09

Site Capacity Model

Table SC 1

Project # : 01-02
Location : McHenry, Illinois
Land Use : Commercial

Data Input		
Lot Dimensions:		
Front	1,100.00	Min. 200
Side #1	800.00	
Side #2	800.00	
Rear	1,100.00	
Site Size Area (sq ft/acres)	880,000	20.20
Aspect Ratio	0.73	
Required Building Setbacks:		
Front	30.00	
Side #1	20.00	Trans. Yard
Side #2	20.00	Trans. Yard
Rear	30.00	Trans. Yard
Number of Parking Stalls/		Office %
1,000 sq ft Floor Area	4.00	0.0%
Area/Parking Stall	300	
Required Bufferyards:		
Front Yard	30.00	Min. 5.00
Side Yard #1	20.00	
Side Yard #2	20.00	
Rear Yard	30.00	
Rectangularity Factor (site)	1.00	
Number of Floors (Building)	1.00	
Number of Levels (Parking)	1.00	

Site Capacity (unrestricted)	356,545	Percentages
Building Capacity (sq ft)	356,545	
Actual Building Coverage Area	356,545	40.5%
Required Parking Coverage Area	427,855	48.6%
Utilized Building/Parking Area	784,400	89.1%
Floor Area Ratio (FAR)	0.41	
Floor Area Yield (FAY)	17,649	
Impervious Surface Ratio (ISR)	0.891	
Landscape Surface Ratio (LSR)	0.109	Min. 10%

23-Mar-09

Site Capacity Model

Table SC 2

Project # : 01-02
Location : McHenry, Illinois
Land Use : Commercial

Data Input		
Lot Dimensions:		
Front	1,100.00	Min. 200
Side #1	800.00	
Side #2	800.00	
Rear	1,100.00	
Site Size Area (sq ft/acres)	880,000	20.20
Aspect Ratio	0.73	
Required Building Setbacks:		
Front	30.00	
Side #1	20.00	Trans. Yard
Side #2	20.00	Trans. Yard
Rear	30.00	Trans. Yard
Number of Parking Stalls/		Office %
1,000 sq ft Floor Area	3.60	0.0%
Area/Parking Stall	300	
Required Bufferyards:		
Front Yard	55.00	Min. 5.00
Side Yard #1	20.00	
Side Yard #2	20.00	
Rear Yard	45.00	
Rectangularity Factor (site)	1.00	
Number of Floors (Building)	1.00	
Number of Levels (Parking)	1.00	

Site Capacity (unrestricted)	356,731	Percentages
Building Capacity (sq ft)	356,731	
Actual Building Coverage Area	356,731	40.5%
Required Parking Coverage Area	385,269	43.8%
Utilized Building/Parking Area	742,000	84.3%
Floor Area Ratio (FAR)	0.41	
Floor Area Yield (FAY)	17,658	
Impervious Surface Ratio (ISR)	0.843	
Landscape Surface Ratio (LSR)	0.157	Min. 10%