Chapter 2: Land Use

2.1 Introduction

Welcome to the Land Use Chapter of the Lyon County Land Use Comprehensive Plan, a vital document shaping future development and strategies within our diverse county. This chapter serves as a blueprint for managing our land resources, balancing growth, and fostering sustainable communities for current and future generations. Lyon County, renowned for its agricultural heritage, and vibrant communities, faces the dual challenge of accommodating growth while maintaining sustainability for the future and safeguarding our values. Through thoughtful land use policies, collaborative planning efforts, and community engagement, this chapter aims to guide sustainable development, protect valuable natural resources, and enhance the quality of life for all residents.

2.2 Current Land Use

Lyon County, located in southwestern Minnesota, exhibits a diverse range of land uses that reflect its rich agricultural heritage, growing urban centers, and commitment to preserving natural resources.

Lyon County's landscape is predominantly agricultural, with approximately 90% of its land dedicated to farming activities. The fertile soils and favorable climate conditions make it ideal for cultivating crops such as corn and soybeans. This extensive agricultural activity not only supports local economies but also positions the county as a significant contributor to Minnesota's overall agricultural output.

Marshall, the county seat, serves as a regional center for Southwest Minnesota. The city hosts a variety of industrial and commercial establishments, including manufacturing plants, retail businesses, and service providers. The presence of Southwest Minnesota State University further enhances the city's economic and cultural landscape. Development in Marshall and its surrounding areas continues to expand, accommodating residential and commercial growth along with infrastructure improvements.

Beyond agriculture, Lyon County has diversified its economy through industrial and commercial development. These areas attract businesses in manufacturing, technology, and services, providing employment opportunities and contributing to the county's economic diversity. The Minnesota Department of Employment and Economic Development (DEED) reports that Lyon County is the largest employment center in the region, with 13,713 jobs at 847 firms.

Lyon County's infrastructure supports its diverse land uses, with a network of roads, highways, and rail lines facilitating the movement of goods and people. The county is served by major highways, including U.S. Highway 59 and Minnesota State Highways 19, 23, and 68, which provide critical regional connectivity for commerce and daily travel. Rail transportation also plays a key role in supporting agricultural and industrial operations, with freight rail services available to transport commodities such as grain and manufactured goods to national and international markets. Future planning efforts aim to enhance transportation safety, improve public transit access, and support the development of walking and biking infrastructure in both urban and rural areas.

Lyon County is also home to numerous parks, wildlife management areas, and bodies of water that offer recreational opportunities and conserve natural habitats. These areas provide residents and visitors with spaces for outdoor activities like hiking, fishing, camping, hunting, and wildlife observation, contributing to the county's quality of life and environmental sustainability.

Residential areas in Lyon County range from urban neighborhoods in Marshall to rural homesteads scattered throughout the townships. Housing development trends indicate a steady growth in residential construction, catering to the needs of a diverse population. The county's land use planning efforts aim to balance residential growth with the preservation of agricultural lands and natural resources.

This overview of Lyon County's land use illustrates a dynamic interplay between agriculture, urban development, industrial growth, transportation infrastructure, environmental conservation, and residential expansion. Such a balanced approach ensures sustainable development and enhances the quality of life for its residents.

2.3 Growth & Development

Lyon County is committed to managing and accommodating growth through a collaborative approach. Recognizing the diverse growth patterns across its communities, Lyon County includes rural agricultural areas and smaller towns like Balaton and Minneota. These communities, along with the regional center of Marshall, each play a vital role in the county's growth and development. The County will work closely with cities and townships to direct development toward designated growth areas and city cores.

By aligning efforts, local governments can optimize infrastructure investments, promote efficient land use, and preserve valuable agricultural lands. This cooperative approach enhances access to schools, healthcare facilities, recreational opportunities, and other amenities while minimizing developmental impacts. By working together, communities can foster a strong sense of place, improve the quality of life for residents, and ensure that future growth benefits the entire region.

Furthermore, the County seeks to accommodate projected population growth and economic development while maintaining the unique character and identity of Lyon County's communities. Policies support a diverse range of housing options to meet the needs of a growing population, including affordable housing initiatives and strategies to promote housing diversity. Through thoughtful planning and proactive land use policies, Lyon County strives to achieve sustainable growth that balances economic prosperity with community stewardship, ensuring a resilient and thriving future for all county residents.

In addition to residential growth and development, the county also addresses the importance of commercial and industrial growth. They play a significant role that commercial and industrial sectors play in the county's economy, providing employment opportunities, generating revenue, and supporting community vitality. Policies and strategies are outlined to guide the location, expansion, and development of commercial and industrial activities in a manner that complements the county's overall growth objectives and preserves the rural character of many areas.

Furthermore, the County supports policies that encourage sustainable development practices within the commercial and industrial sectors. This includes promoting energy efficiency, water conservation, and waste reduction measures to minimize environmental impacts. The plan also emphasizes the importance of integrating sustainable design principles into new developments and redevelopment projects. By fostering a business-friendly environment that values environmental stewardship and community well-being, Lyon County aims to attract and retain businesses that contribute positively to the local economy while preserving the county's natural and cultural heritage.

2.4 Agriculture & Natural Resources

This section outlines strategies to sustain and enhance agricultural operations, recognizing both crop and livestock farming as integral components of the local economy and our cultural heritage. Policies often focus on promoting agricultural best practices, supporting farmers with resources and infrastructure, and addressing challenges such as water management, soil conservation, and pest control. By safeguarding agricultural lands from encroaching development, the focus aims to maintain a robust agricultural sector that contributes to economic stability.

Lyon County also prioritizes the preservation and enhancement of its existing outdoor recreation opportunities, recognizing their value in promoting community well-being, tourism, and environmental stewardship. Parks, trails, lakes, and other natural spaces provide residents and visitors with access to activities such as hiking, fishing, hunting, and camping. Maintaining and improving these assets requires ongoing collaboration among local governments, recreation organizations, and landowners to ensure long-term accessibility and sustainability. Strategies may include investing in trail connectivity, upgrading park facilities, and conserving open spaces that support both recreation and natural habitat preservation. By protecting and enhancing these outdoor amenities, Lyon County seeks to foster a high quality of life while supporting economic growth through outdoor tourism and recreation-based businesses.

Additionally, the county emphasizes the importance of conserving diverse natural resources. This includes protecting wildlife habitats, watersheds, and promoting sustainable land management practices. Emphasizing issues such as biodiversity conservation, recreational opportunities in natural areas, and mitigating the impacts of climate change on local ecosystems. Strategies may include habitat restoration projects, land acquisition for conservation purposes, and partnerships with environmental organizations and state agencies to leverage resources and expertise in natural resource management.

Moreover, there is a deep need to collect community input to guide policies that balance economic development with environmental stewardship. It serves as a blueprint for maintaining the county's rural character while supporting responsible growth that respects natural resources and enhances quality of life for residents. By fostering a collaborative approach among stakeholders, including landowners, conservation groups, and local governments, the plan strives to achieve a sustainable future where agriculture thrives alongside protected natural landscapes, ensuring Lyon County remains a desirable place to live, work, and visit.

2.5 Water Planning

Water planning is a critical component of Lyon County’s comprehensive land use strategy, ensuring the protection and sustainable management of surface and groundwater resources. The county’s approach aligns with regional and state agencies, including the Redwood-Cottonwood Rivers Control Area (RCRCA), the Minnesota Pollution Control Agency (MPCA), the Board of Water and Soil Resources (BWSR), as well as the local Soil and Water Conservation District (SWCD). These organizations provide guidance, funding, and technical support for conservation practices, stormwater management, and pollution reduction efforts that protect Lyon County’s lakes, rivers, and aquifers.

The RCRCA plays a key role in watershed planning, focusing on the protection and restoration of the Redwood and Cottonwood River watersheds. Through projects such as streambank stabilization, sediment reduction, and wetland restoration, the RCRCA helps improve water quality while also

mitigating the impacts of flooding and erosion. Lyon County's land use policies will continue to support these efforts by promoting best management practices (BMPs) in agricultural and urban settings, ensuring that land development minimizes adverse effects on water resources.

The MPCA's role in water resource planning includes monitoring water quality, enforcing regulations on pollutants, and implementing strategies to reduce contaminants such as nitrates, phosphorus, and sediment in local waterways. Lyon County will work in collaboration with the MPCA to meet the goals outlined in the Minnesota Clean Water, Land, and Legacy Amendment, supporting initiatives that reduce stormwater runoff, enhance wastewater treatment, and protect drinking water sources.

The BWSR and the Lyon County SWCD provide critical support for soil and water conservation projects, assisting landowners with erosion control, wetland preservation, and buffer strip implementation along water bodies. These agencies help secure funding for conservation easements and habitat restoration projects that benefit both water quality and wildlife. Lyon County's land use plan will emphasize continued participation in BWSR's One Watershed, One Plan (1W1P) framework, integrating water resource management across jurisdictional boundaries to achieve long-term sustainability.

Through a combination of regulatory measures, voluntary conservation programs, and interagency collaboration, Lyon County is committed to protecting its water resources for future generations. By incorporating science-based planning and community engagement, the county will enhance resilience to climate change, maintain healthy ecosystems, and support a thriving agricultural and residential landscape while preserving its vital water assets.

Water Planning - Subsection 1. Rural Water Systems

Rural water systems play a vital role in Lyon County's land use planning by ensuring reliable and safe drinking water for residents, businesses, and agricultural operations. These systems provide a critical alternative to private wells, reducing the risks associated with groundwater contamination and supply shortages. The Lincoln-Pipestone Rural Water System (LPRW), and the Red Rock Rural Water System (RRWS) serves much of the region, delivering treated water to rural households and farms that might otherwise lack access to a consistent water source. As the county grows and land use patterns evolve, maintaining and expanding rural water infrastructure will be essential to supporting sustainable development while protecting groundwater reserves.

The expansion of rural water systems also promotes public health and environmental protection by reducing reliance on individual wells, which are susceptible to contamination from nitrates, bacteria, and other pollutants. A well-managed rural water system helps mitigate the impacts of agricultural runoff and improper septic system maintenance, both of which can threaten water quality. By ensuring access to treated and monitored water supplies, Lyon County can improve the quality of life for its rural residents while reducing the strain on natural water sources. Coordination with regional water providers, the Minnesota Department of Health (MDH), and local agencies will be key to maintaining the long-term viability of these systems.

As part of the county's comprehensive land use strategy, planning for rural water infrastructure must consider future population growth, agricultural demands, and recent trends in residents wanting to locate in rural areas that have access to rural water systems as well as other amenities. Investments in water distribution networks, storage capacity, and emergency preparedness will be critical to adapting to changing water needs. Additionally, policies that encourage efficient water use, conservation practices, and infrastructure upgrades will ensure that Lyon County remains proactive in managing its

rural water supply. By integrating rural water planning into broader land use decisions, the county can promote balanced development that sustains both its communities and natural resources.

Water Planning - Subsection 2. One Watershed Planning Efforts

One Watershed, One Plan (1W1P) is a collaborative approach to watershed management that integrates the efforts of multiple local governments within a watershed to address water quality and natural resource issues comprehensively. In the context of Lyon County, several watershed management organizations and local governments participate in 1W1P initiatives aimed at protecting and improving water resources across the region. These plans typically involve watershed districts, soil and water conservation districts, municipalities, and other stakeholders working together to develop coordinated strategies for managing water quality, flood prevention, habitat restoration, and recreational opportunities within their respective watersheds.

The 1W1P process in Lyon County focuses on identifying priority areas and implementing targeted actions to address specific water quality concerns. By aligning efforts across political boundaries and jurisdictions, these plans enhance efficiency in resource allocation and implementation of conservation practices. They also promote community engagement and public participation in decision-making processes related to water management, fostering a shared responsibility for environmental stewardship among local residents and stakeholders.

{Info Graphic on recent One Watershed Plans in the area}

Furthermore, 1W1P initiatives including Lyon County contribute to the protection and enhancement of natural ecosystems, including rivers, lakes, wetlands, and DWMSA's. By adopting a holistic approach to watershed management, these plans aim to achieve measurable improvements in water quality and ecosystem health over time. They also support sustainable agricultural practices and urban development that minimize impacts on water resources while promoting economic growth and community resilience. Through ongoing collaboration and adaptive management, Lyon County and its neighboring communities are actively working to preserve their natural heritage and ensure clean and abundant water resources for future generations.

Water Planning - Subsection 3. Groundwater & Irrigation

Groundwater is a vital resource for Lyon County, supporting municipal water supplies, agricultural irrigation, and industrial operations. As land use patterns evolve and agricultural practices become more intensive, ensuring the sustainable use of groundwater is critical to maintaining long-term water availability. The county relies on aquifers to meet its water demands, making it essential to monitor groundwater levels and recharge rates to prevent over-extraction. Expanding conservation practices, promoting efficient irrigation technologies, and encouraging responsible water use among agricultural producers are key strategies to safeguard this critical resource.

Irrigation plays a significant role in Lyon County's agricultural sector, particularly during dry growing seasons when supplemental water is needed to maintain crop yields. However, increased reliance on groundwater for irrigation can lead to declining aquifer levels and potential conflicts over water availability. To address these challenges, the county will work closely with the Minnesota Department of Natural Resources (DNR), local Soil and Water Conservation Districts (SWCDs), and agricultural stakeholders to promote best management practices for irrigation. This may include adopting precision

irrigation systems, utilizing soil moisture monitoring technology, and implementing crop rotation strategies that reduce water demand.

Additionally, maintaining water quality alongside quantity is a priority, as excessive groundwater withdrawals can concentrate contaminants such as nitrates, impacting drinking water supplies. By integrating groundwater planning with broader land use policies, Lyon County can ensure that irrigation needs are balanced with long-term resource sustainability. Investments in groundwater research, water reuse initiatives, and infrastructure improvements will help support both agricultural productivity and the preservation of high-quality drinking water for residents. Through collaboration and proactive planning, Lyon County can continue to meet its growing water needs while protecting its groundwater resources for future generations.

Water Planning - Subsection 4. Adapting to Evolving Weather Patterns and Challenges

Lyon County recognizes the increasing variability in weather patterns and their impact on water resources, including fluctuating precipitation levels, prolonged dry periods, and more frequent extreme weather events. These shifts can strain local water systems, affecting both surface and groundwater availability for residents, agriculture, and industry. To ensure long-term water security, the county will prioritize strategies that enhance resilience, improve water management, and support sustainable land use practices. By strengthening infrastructure, implementing conservation measures, and promoting innovative water management techniques, Lyon County aims to safeguard its water resources against these changing conditions.

One key focus is improving water storage and drainage systems to better handle periods of excessive rainfall or extended dry spells. Investing in stormwater management infrastructure, wetland restoration, and floodplain protection can help mitigate the effects of heavy precipitation while also preserving critical water recharge areas. Additionally, promoting soil health practices such as cover cropping, reduced tillage, and buffer strips can improve water retention in agricultural fields, reducing runoff and protecting both surface and groundwater supplies.

Collaboration among local governments, farmers, and water resource agencies will be essential in addressing these challenges. Encouraging the use of efficient irrigation systems, expanding water reuse efforts, and supporting policies that enhance water conservation will help maintain a reliable water supply for all users. By taking a proactive approach to managing evolving water conditions, Lyon County can strengthen its resilience, protect its natural resources, and ensure that residents, businesses, and agricultural operations continue to have access to safe and sufficient water well into the future.

By promoting development in less environmentally sensitive areas, the county can reduce the pressure on its natural resources while still accommodating growth and maintaining a high quality of life for residents. Public education on the importance of shoreland and floodplain conservation, along with active engagement with property owners and developers, will also be key to ensuring that future development in these areas aligns with long-term environmental and community goals. Through a combination of regulatory measures, incentives, and collaboration, Lyon County can protect its water resources and ensure that its shoreland and floodplain areas continue to provide ecological, recreational, and aesthetic benefits for generations to come.

2.6 Future Development

Lyon County's approach to guiding and managing growth in a way that aligns with its long-term goals for sustainability, community well-being, and economic vitality. By focusing on strategic planning, efficient land use, and infrastructure investments, the county seeks to create vibrant, and resilient communities while preserving its rural character and natural resources. This section highlights key policies and strategies to accommodate growth in designated areas, support diverse housing and business opportunities, and ensure that development is well-integrated with environmental considerations, water resource management, and infrastructure capacity. Through collaboration with local governments, stakeholders, and residents, Lyon County will shape a future that balances growth with quality of life for all.

Future Development - Subsection 1. Emergence of Business Diversification Efforts

An emerging trend in Lyon County is the establishment of agricultural-related businesses on farm acreages, reflecting a growing diversification of the agricultural sector. These businesses, which may include value-added food production, renewable energy projects, specialty crop production, maintenance businesses, storage, and technology innovations, are being developed to capitalize on the increasing demand for locally produced goods, sustainable farming practices, and technological advancements in agriculture. As farmers seek new ways to supplement traditional crop and livestock operations, these businesses provide additional income streams while enhancing the economic resilience of rural areas.

The shift toward these enterprises is driven by several factors, including changes in consumer preferences, advances in technology, and the need for farmers to adapt to evolving market conditions. As demand for organic products, locally sourced food, renewable energy, and sustainable farming practices grows, farm acreages are increasingly seen as ideal locations for such ventures. These developments can also help revitalize rural communities by creating jobs and supporting local economies. By embracing this trend in a sustainable and responsible manner, Lyon County can foster a more diversified, sustainable economy that supports both traditional farming and emerging industries.

Future Development - Subsection 2. Shoreland & Floodplain Considerations

Shoreland and floodplain areas in Lyon County are treated with special consideration due to their critical role in protecting water quality, preserving natural habitats, and reducing flood risks. As such, development in these areas is subject to more stringent regulations compared to other parts of the county, ensuring that these sensitive zones are preserved and protected from the potential negative impacts of unchecked growth.

As development pressures increase, particularly near lakes, rivers, and wetlands, it becomes essential to implement responsible land use policies that safeguard these sensitive areas. Shoreland areas serve as buffer zones that filter runoff, stabilize shorelines, and provide essential wildlife habitat. Similarly, floodplain areas, which are prone to periodic flooding, play a critical role in water storage, flood mitigation, and maintaining the ecological balance of local waterways. Allowing unchecked development in these areas could lead to water quality degradation, loss of biodiversity, and increased flood risks.

To manage future development in shoreland and floodplain areas, Lyon County should focus on enforcing stringent zoning regulations that limit the extent of development and promote low-impact land uses. These regulations should prioritize preservation and enhancement of natural features such as wetlands, floodplain forests, and native vegetation, which help mitigate the impacts of erosion,

stormwater runoff, and flooding. The county can encourage sustainable development practices that minimize impervious surfaces, promote water quality buffers, and require stormwater management systems that protect water resources. Additionally, the county should work closely with the Minnesota Department of Natural Resources (DNR) and other agencies to monitor and protect these sensitive areas, ensuring that development proposals meet strict environmental standards.

Future Development - Subsection 3. Land Use Map

A county-wide land use map provides a comprehensive visual representation of how land is designated and utilized across an entire county. These maps are crucial planning tools used by local governments to guide development, infrastructure projects, conservation efforts, and zoning regulations. Typically, county land use maps categorize land into different zones or designations such as residential, commercial, industrial, agricultural, recreational, and conservation areas. Each zone is identified based on its intended use and is accompanied by specific regulations governing what types of activities or development are permitted within that zone.

{Info Graphic Outlining the different zones in the Lyon County Land Use Map, using colors and identifiers.}

County-wide land use maps are created through a collaborative process involving planners, community stakeholders, and local government officials. They consider factors such as population growth projections, economic trends, environmental considerations, and social needs to ensure sustainable and orderly development. These maps help to manage urban sprawl, protect natural resources, and promote efficient land use by guiding decisions on where to allocate resources, infrastructure investments, and public services. They also provide clarity and transparency in land use decision-making processes, fostering community engagement and ensuring that development aligns with long-term strategic goals and community priorities.

{A miniature version of the county-wide zoning map here}

Future Development - Subsection 4. Urban Growth Boundaries

Urban Growth Boundaries (UGBs) are regulatory tools used by local governments to manage the expansion of cities and prevent sprawl into surrounding rural areas. These boundaries aim to concentrate growth within defined limits, typically by restricting development beyond a certain line or area. The primary goal is to preserve agricultural land, natural habitats, and open spaces while promoting efficient land use within urbanized areas. By delineating where urban development can occur, UGBs encourage sustainable growth patterns that support infrastructure efficiency and environmental conservation.

{Insert here 2 or 3 close ups on UGB's in Lyon County, Tracy and Cottonwood maybe?}

The implementation of UGBs involves careful planning and consideration of various factors, including population growth projections, economic development goals, and environmental concerns. Effective UGBs are designed to balance the needs of urban development with the preservation of rural landscapes and natural resources. They often require coordination among multiple stakeholders, including developers, landowners, and community members, to ensure that growth boundaries reflect local priorities and long-term planning objectives.

2.7 Implementation Strategies

Agriculture & Natural Resources Goals

Goal - Partner with residents and regional agencies to promote and preserve public resources

Objective: Promote and support public recreation opportunities including trails, parks, outdoor recreation, shooting sports organizations, and others.

Objective: Continue to support practices that lead to better soil health outcomes.

Water Planning Goals

Goal - Support affordable expansion of Rural Water Systems to needed areas in the county

Goal - Prepare for future weather changing patterns that affect the county

Objective: Work to implement One Watershed Goals and Objectives.

Objective: Work to mitigate altered hydrology (including Flooding, Erosion Control, etc.) in the county by pursuing grant funding and other opportunities

Future Development

Goal - Support Diversification in the local agriculture economy

Objective: Support local landowners in future developments in Agricultural Zones that provide diversification of the local economy and strengthen farm families in the region.

Goal - Continue to closely assess and develop ordinances for future development in Shoreland and Floodplain Zones.