

City Council Introduction: **Monday**, October 29, 2007
Public Hearing: **Monday**, November 5, 2007, at **1:30** p.m.

Bill No. 07R-223

FACTSHEET

TITLE: COMPREHENSIVE PLAN AMENDMENT NO. 07001, by the Director of Planning, at the request of the Director of the Public Works & Utilities Department and the General Manager of the Lower Platte South Natural Resources District, to amend the 2030 Lincoln-Lancaster County Comprehensive Plan, adopting the **Cardwell Branch Watershed Master Plan** and amending the Lincoln Area and Lancaster County Future Land Use Maps.

SPONSOR: Planning Department

BOARD/COMMITTEE: Planning Commission
Public Hearing: 10/10/07
Administrative Action: 10/10/07

RECOMMENDATION: Approval (7-0: Esseks, Cornelius, Sunderman, Taylor, Larson, Gaylor-Baird and Francis voting 'yes'; Carroll and Moline absent).

STAFF RECOMMENDATION: Approval.

FINDINGS:

1. This is a request by the Public Works & Utilities Department and the Lower Platte South NRD to amend the 2030 Lincoln-Lancaster County Comprehensive Plan to adopt the proposed ***Cardwell Branch Watershed Master Plan***, including associated amendments to the Lincoln Area and Lancaster County Future Land Use Maps to show two "Opportunity Areas", one northeast of the Yankee Hill dam and one on either side of S.W. 27th Street, south of Ridgewood Boulevard, as "Green Space" and "Environmental Resources". The watershed master plan includes 7.7 square miles of the 16.3 square mile stream drainage basin located generally between Bennett Road on the south, one-half mile north of Denton Road on the north, S.W. 40th Street on the west and Nebraska Highway 77 on the east.
2. A color copy of the "Executive Summary" of the Master Plan is being provided under separate cover. The entire Master Plan document is being provided on CD and is available on the internet at <www.lincoln.ne.gov/city/pworks/watshed/mplan/cardwell/index.htm>.
3. The staff recommendation of approval is based upon the "Analysis" as set forth on p.4-6, concluding that the proposed Cardwell Branch Watershed Master Plan is in conformance with the Comprehensive Plan. This Master Plan will provide long term planning tools and improvement projects to address water quality, flood management and stream stability to provide guidance for sustainable urban growth in the watershed. The staff presentation is found on p.8-9 (a copy of the Power Point presentation is found on p.12-18). The Fact Sheet setting forth the public participation efforts is found on p.11. Exhibits showing the "Opportunity Areas" submitted by staff at the public hearing are found on p.19-20.
4. There was no testimony in opposition.
5. On October 10, 2007, the Planning Commission agreed with the staff recommendation and voted 7-0 to recommend approval (Cornelius, Taylor, Larson, Gaylor-Baird, Esseks, Francis and Sunderman voting 'yes'; Carroll and Moline absent).
6. This Comprehensive Plan Amendment requires review and action by both the City Council and the Lancaster County Board. The public hearing before the Lancaster County Board of Commissioners is scheduled for Tuesday, November 6, 2007, at 9:30 a.m.

FACTSHEET PREPARED BY: Jean L. Walker

DATE: October 22, 2007

REVIEWED BY: _____

DATE: October 22, 2007

REFERENCE NUMBER: FS\CC\2007\CPA.07001

LINCOLN /LANCASTER COUNTY PLANNING STAFF REPORT
for October 10, 2007 Planning Commission Meeting

PROJECT #.: **Comprehensive Plan Amendment #07001**
Cardwell Branch Watershed Master Plan

PROPOSAL: To amend the 2030 Lincoln-Lancaster County Comprehensive Plan to adopt the proposed “Cardwell Branch Watershed Master Plan,” including associated amendments to the Future Land Use Map of the Plan.

CONCLUSION: The proposed Cardwell Branch Watershed Master Plan is in conformance with the 2030 Lincoln-Lancaster County Comprehensive Plan. The Cardwell Branch Watershed Master Plan will provide long term planning tools and improvement projects to address water quality, flood management, and stream stability to provide guidance for sustainable urban growth in the watershed.

<u>RECOMMENDATION:</u>	Approval of the proposed amendment
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GENERAL INFORMATION:

LOCATION: Includes 7.7 square miles of the 16.3 square mile stream drainage basin located generally between Bennett Road on the south, one half mile north of Denton Road on the north, SW 40th Street on the west and Nebraska Highway 77 on the east.

EXISTING LAND USE: Mainly rural farming and acreages with areas of commercial, industrial and urban residential currently being developed in the lower portion of the watershed, public utilities, and Yankee Hill Wildlife Management Area at the upper extent of the study area.

ASSOCIATED APPLICATIONS: None

HISTORY: The City and the Lower Platte South NRD are in the process of developing a *Comprehensive Watershed Management Plan for the City of Lincoln* and its future growth areas. This comprehensive watershed plan is being developed basin by basin, through the completion of watershed master plans for individual basins. To date, three of these watershed master plans have been completed and are adopted as subarea plans and amendments to the 2030 Comprehensive Plan; the Beal Slough, Southeast Upper Salt Creek, and Stevens Creek Master Plans.

This master plan is the second phase of a two phase watershed planning process for Cardwell Branch. Phase 1, called the *Cardwell Branch Watershed Assessment*, was completed by the United States Geological Survey (USGS) and provided the foundation for Phase 2 - the *Cardwell Branch Watershed Master Plan*. As part of the watershed assessment, floodplain mapping was updated. The City Council adopted the Cardwell Branch Floodprone Area as “best available” flood information for local flood regulation purposes in January of 2006. The floodway and flood prone areas identified are shown as “Environmental Resources” and “Agricultural Stream Corridor”, respectively, on the adopted 2030 Future Land Use Map and reflected on the County Flood Plain Map.

COMPREHENSIVE PLAN SPECIFICATIONS: The 2030 Comprehensive Plan for this area includes Lincoln growth Tiers I, II, and III and generally shows the subarea as Agriculture and Residential Low Density as well as future areas for Urban Residential, Industrial, Commercial,

Green Space, Environmental Resources, Agriculture Stream Corridor, and Public/ Semi-Public uses. Some of the relevant language of the Plan is:

From Comprehensive Plan Vision: Environmental Stewardship - *“Natural and environmentally sensitive areas are preserved and thrive. Wetlands, native prairies and streams (riparian) corridors are preserved to ensure the ecological health of the community. Other natural features, such as tree masses, in areas for future development, are integrated into new development to provide for green spaces within the built environment.”* (P. 7)

From The Urban Environment: Overall Form - *Streams, trees, open space, and other environmentally sensitive features should be preserved within new developments as design standards allow. The natural topography and features of the land should be preserved by new development to maintain the natural drainageways and minimize land disturbance.* (P. 10)

From Implementation -

Green Space: Areas predominantly used for active recreational uses, such as parks, golf courses, soccer or ball fields, and trails. Green space areas may be either public or privately owned. While some isolated environmentally sensitive features may be within these areas, they are predominantly for active recreation, with some passive recreation uses also possible.

Environmental Resources: Land and water masses which are of particular importance for maintenance and preservation, such as saline wetlands, native prairie, and some floodway and riparian corridors. Such areas may be either publicly or privately owned. (P. 16)

From Environmental Resources - *Integrate the “Core Resource Imperatives” and natural resources feature concepts into future city and county studies that implement the Comprehensive Plan.* (P. 62)

From Utilities: Watershed Management Strategies -

Use public projects as an opportunity to set positive examples for the community relative to stormwater and floodplain management. Seek opportunities for “Rain to Recreation” project approaches that reduce flood damages, protect water quality and natural areas, while providing for recreational and educational opportunities so as to realize multiple benefits.

Develop a Watershed Management Master Plan for Lincoln and its future growth areas. Integrate existing neighborhoods and growth areas into watershed planning.

Utilize basin master plan recommendations and components as analysis tools to be referenced and compared with proposed development within the basin, and as a guide in the preparation of future capital improvement projects.

Future master planning efforts for largely undeveloped basins will rely more heavily on pro-active better management practice (BMP) measures and the conservation of existing natural drainage features to most effectively manage stormwater and floodplains. Designs of human made features should seek to utilize bioengineering and other naturalized techniques, incorporating trail systems and other linear park features where possible. (P. 80)

From Parks, Recreation & Open Space:

Public and private partnerships are important in the development of recreational opportunities and the preservation of environmental resources that bring a high quality of life to the City and County. (P. 133)

Continue to develop a cooperative relationship with the Nebraska Game and Parks Commission and the Lower Platte South Natural Resource District to provide recreational facilities within rural areas of the community.

Locate community parks on a collector or arterial street to accommodate automobile access and parking. Park sites shall also be readily accessible by pedestrians and bicyclists from a commuter/recreation trail.

Community parks shall be adjacent to greenway linkages.

Select sites for community parks that allow for multiple functions, such as storm water management or habitat conservation. (P. 135)

“Utilize a “Rain to Recreation” approach to open space and greenway linkages that is coordinated with the City’s watershed management program and the Lower Platte South Natural Resources District to reduce flood damages, protect water quality and natural areas, while providing for recreational and educational opportunities so as to realize multiple benefits.” (P. 139)

ANALYSIS:

The full text of this report, and materials from public meetings, can be found at www.lincoln.ne.gov (Key word: watershed) under “Master Plans”.

1. This amendment has two related parts proposed by the Public Works and Utilities Department and the Lower Platte South Natural Resources District (NRD):
 - A. Adoption of the Cardwell Branch Watershed Master Plan as a subarea plan of the 2030 Lincoln/Lancaster County Comprehensive Plan,
 - B. Amend Land Use Plan to show areas identified as “Opportunity Areas’ in the Cardwell Branch Watershed Master Plan as follows:
 - From “Agriculture” to “Environmental Resources” areas identified as native prairies which are valuable as an environmental resource and serve water quality and infiltration functions.
 - From “Agriculture” to “Green Space” areas where landscape features provide an opportunity to have a positive impact on water resources while realizing other goals, such as recreation and education.
2. The Cardwell Branch Watershed Master Plan Subarea Plan is the fourth watershed master plan to come forward for adoption. Previously adopted plans include the Beal Slough, Southeast Upper Salt Creek, and Stevens Creek Master Plans. The Cardwell Branch Master Plan involved a year and a half long process, including a public outreach program that included two open houses, meetings with stakeholders, a web site and three newsletters.

3. Watershed master planning is important to identify needs for stormwater and floodplain management prior to future development, to provide a database of watershed information and a computer modeling system to be used as analysis tools, and to identify capital projects needed to address flood control, water quality, or stream stability issues in the watershed. Project components and recommendations are intended to be referenced during the review of development proposals and evaluated relative to their impact on the watershed. Master planning provides the opportunity to identify and reserve regional detention sites during early planning stages in advance of development. Master planning and the performance and adequacy of stormwater storage basins to prevent increases in peak flows will require continued assessment with the growth of the City, and upstream flood storage is critical to preventing further increases to the floodplain.
4. There are four elements of the Cardwell Branch Watershed Master Plan;
 - 1) Floodplain Management Tools. Recommending the enforcement of the City's Minimum Flood Corridor standard in this area and recommending vegetative maintenance and restoration efforts.
 - 2) Stormwater Management Practices. Application of site-specific best management practices (BMPs) as either; 1) Integrated Detention Facilities, or 2) Alternative Site Design.
 - 3) Opportunity Area Locations. Identification of two general areas that provide an opportunity to have a positive impact on water resources while realizing other recreational and educational goals.
 - 4) Capital Improvement Projects. The Master Plan identifies nine capital improvement projects; eight of which address stream instability and one of which addresses a flooding problem.
5. This amendment would amend the Land Use Map to change "Opportunity Areas", shown in the Cardwell Branch Master Plan, to "Green Space" and "Environmental Resources", as described below. In these areas, landscape features provide an opportunity to have a positive impact on water resources while realizing other goals, such as recreation and education. This approach recognizes that floodplains, tributaries and upland areas are all part of a comprehensive integrated watershed system. This approach integrates the Comprehensive Plan strategies of providing multiple benefits through the "Rain to Recreation" project approach. Specific areas to be changed are shown on the attached map and described below:

Approximately 35 acres currently shown as Agriculture and proposed to be changed to Green Space. This area lies east of the Yankee Hill Dam and includes the outlet of the spillway as well as a portion of the main stem of Cardwell Branch. This area is valuable as green space that could be developed as play fields and/or passive recreation, as well as serving water quality and infiltration functions.

Approximately 64 acres currently shown as Agriculture and proposed to be changed to Green Space. This area is west of SW 27th Street, from what would be Yankee Hill Road to one-half mile south. This area would encompass a section of the south, un-named tributary where a major stream stabilization project is identified, and the confluences of two secondary tributaries. This area is valuable as green space that could be developed as play

fields and/or passive recreation, as well as serving water quality and infiltration functions. The two secondary tributaries would be incorporated into a proposed Cardwell Branch Trail System..

Approximately 9 acres currently shown as Agriculture and is proposed to be changed to Environmental Resources. This area is native prairie identified during the Natural Resource Assessment conducted by Applied Ecological Services, Inc, and is directly south of the above area. This area is valuable as an environmental resource and serves water quality and infiltration functions.

Approximately 24 acres currently shown as Agriculture and proposed to be Environmental Resources. This area lies on the east side of SW 27th Street, directly south of what would be Yankee Hill Road. It includes native grasses and tree masses that are identified both in the Natural Resource Assessment and on the Natural Resources GIS map as Native Grassland. This area is valuable as an environmental resource and serves water quality and infiltration functions.

These opportunity areas may be preserved through fee simple purchase, conservation easements, conservation development techniques, transfer of development rights should it become available as a tool, or other means. Opportunities for public/private partnerships in preserving these areas will be sought out.

PROPOSED AMENDMENT:

Amend the 2030 Lincoln-Lancaster County Comprehensive Plan as follows:

1. Add the “Cardwell Branch Watershed Master Plan, 2007” to the list of approved subarea plans on Page 155.
2. Add to the end of the Watershed Management section on Page 81 as follows:

The following watershed studies are adopted in order to provide guidance to watershed management activities within the basin:

- Stevens Creek Watershed Study and Flood Management Plan, 1998 (for rural watershed)
- Beal Slough Stormwater Master Plan, May 2000
- Southeast Upper Salt Creek Watershed Master Plan, 2003
- Stevens Creek Watershed Master Plan, 2005
- Cardwell Branch Watershed Master Plan, 2007

3. Amend the "Lincoln/Lancaster County Land Use Plan", figure on pages 17 and 19, (see attached exhibit) to show an area to the east of the Yankee Hill dam and areas south of Ridgewood Blvd, both east and west of SW 27th Street as "Green Space" and "Environmental Resources".

Prepared by:

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DATE: September 28, 2007

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COMPREHENSIVE PLAN AMENDMENT NO. 07001 CARDWELL BRANCH WATERSHED MASTER PLAN

PUBLIC HEARING BEFORE PLANNING COMMISSION:

October 10, 2007

Members present: Cornelius, Taylor, Larson, Gaylor-Baird, Esseks, Francis and Sunderman; Carroll and Moline absent.

Ex Parte Communications: None.

Staff recommendation: Approval.

Staff presentation: **Sara Hartzell of Planning staff** submitted this proposal as the first amendment to the 2030 Comprehensive Plan that was approved last November. This proposal is to add the Cardwell Branch Watershed Master Plan as a subarea plan and to modify the land use plan to show some “opportunity areas” as “green space” and “environmental resources”.

The watershed master planning process in Lincoln is a strategy used for management of our watersheds, floodplains and stream corridors. The City has already approved watershed master plans for Stevens Creek, Beal Slough and Southeast Upper Salt Creek. These master plans are important to identify needs for stormwater and floodplain management prior to development; to provide a database of watershed information and a computer modeling system to be used as analysis tools; and to identify capital improvement projects needed to address flood control, water quality or stream stability issues in the watershed.

This represents the second phase of a two-phase process for Cardwell Branch, including an update of the floodplain map with floodprone areas identified and adopted as best available information. This amendment would add the master plan to the list of subarea plans on p.155 of the Comprehensive Plan; would add it to the list of watershed master plans in the Utilities section on p.81; and would amend the land use plan to show some “opportunity areas” identified in the project.

The “opportunity areas” are shown on p.ES-5 of the Executive Summary, and are believed to have some benefits for water quality, stream stability, flood control and recreation. These areas are proposed to be shown as “green space” and “environmental resources”.

Esseks inquired whether the “opportunity areas” are now privately owned. Hartzell responded, “yes, for the most part.” Some of the area shown as “environmental resources” is in public ownership, i.e. Department of Education. Esseks inquired whether there would be conservation easements on these areas. Hartzell advised that there is a variety of techniques being considered, i.e. conservation easements, development proposals, purchase, etc. Esseks confirmed with Hartzell that the owners will be compensated. Hartzell concurred.

Gaylor-Baird inquired whether the property owners have been contacted about these areas. Devin Biesecker of the Watershed Management Division of Public Works & Utilities stated that Watershed Management has had conversations with both landowners in the “environmental resources” area and they have no opposition. The NRD has had conversations with the property owner downstream of the Yankee Hill reservoir who also expressed interest in having his land so shown. Hartzell assured that staff would definitely work with the landowners. Biesecker added that stakeholder

meetings were held where all of the property owners near each area that could be impacted were invited to attend.

2. Devin Biesecker of the Watershed Management Division of Public Works & Utilities explained that all watershed master plans that have been completed are joint efforts between the City and the Lower Platte South NRD. The purpose of the watershed master plan is to provide a sustainable growth for the City as we grow into the rural areas. In the past, the City and NRD have completed several master plans, all of which have been adopted as subarea plans in the Comprehensive Plan: Beal Slough, Southeast Upper Salt Creek, and Stevens Creek. They are nearing completion of the Dead Man's Run Watershed Master Plan and they have just begun the plan for Little Salt Creek. The overall goal for these master plans is to get one unified master plan that encompasses the entire City and its future growth areas. The public is included in this master planning process.

Biesecker gave a Power Point presentation. The Cardwell Branch Watershed Master Plan was a two-phase effort, the first phase being the USGS Watershed Assessment, which has been completed. The second phase is the actual production of the watershed master plan document. Phase 1 included the FEMA floodplain map update, which has been submitted to FEMA and is currently undergoing that review process. The floodplain map was adopted by the City in January of 2006. Any new development in Cardwell Branch would have to use the new floodplain for regulatory purposes. It is anticipated that FEMA will begin their public process in 2008.

Phase 2, the proposed Watershed Master Plan, was completed with a very extensive public involvement process. Biesecker submitted a Factsheet of the open houses, stakeholder meetings and other meetings held. The recommendation of the study include opportunity areas, two sensitive areas, and nine capital improvement projects.

Biesecker explained that "opportunity areas" are general planning locations with potential for multiple benefits creating some water quality features, use of existing natural resources and incorporating amenities like parks and trails. The study proposes that these "opportunity areas" be designated as "green space" and "environmental resources".

"Sensitive areas" are also general planning locations, but these are areas that have natural unique characteristics. The first area is in the lower portion of the watershed, relatively close to Hwy 77 and W. Denton Road. This area was shown to have some of the best riparian habitat. Area 2 is in the upper portion of the tributary to Cardwell Branch, which is unique with steep topography. If it were to develop in the future, there would possibly be significant erosion of the tributaries due to increased stormwater runoff. The study recommends that conservation strategies be used in these areas and the use of structural best management practices.

The capital improvement projects include eight stream stability projects and one flood control project located in the Cardwell Woods development just south of W. Denton Road on S.W. 27th Street. These projects in the future are envisioned to be a coordinated effort between the City, NRD and the County.

Esseks referred to the capital improvement projects and inquired whether those projects would qualify for any federal funding. Biesecker responded that eight of the projects are stream stability projects and he does not believe there are any venues for federal funding. A flood control project is a below cost solution, so he does not believe the City would envision seeking other funding for that project.

Francis inquired when the property owners would be contacted. Biesecker referred to the factsheet which shows that several of the property owners have already been contacted. The only one they have not had direct contact with would be the "green space" west of SW 27th Street. He assured that the property owner will be contacted.

There was no testimony in opposition.

ACTION BY PLANNING COMMISSION:

October 10, 2007

Larson moved approval, seconded by Esseks.

Francis expressed that her only concern is if there is any property owner that might be opposed. She would want to be made aware of that.

Sunderman commented that it is a good thing to get ahead of development.

Motion for approval carried 7-0: Cornelius, Taylor, Larson, Gaylor-Baird, Esseks, Francis and Sunderman voting 'yes'; Carroll and Moline absent. This is a recommendation to the City Council and the Lancaster County Board.

Cardwell Branch Watershed Master Plan Public Participation Fact Sheet

The public participation process during the development of the Cardwell Branch Watershed Master Plan offered a variety of ways to provide input to the study and to contribute to the development of alternative solutions. Each public involvement activity provided the project team with ideas for presenting and refining its recommendations. The following is a brief summary of the various components of the public participation process.

Open Houses, Stakeholder Meetings and Other Meetings

Open Houses - The public was invited to several open houses to hear the latest developments in the master plan and also to provide the study team with feedback on the study findings. Open Houses were held on the following dates:

Nov 30, 2004
March 24, 2005
Aug 24, 2005
Oct 19, 2006
Aug 21, 2007

Stakeholder Meetings – Stakeholder meetings were held with landowners who may be affected by proposed projects in the master plan or by recommendations of the study. A series of three meetings were held on April 15, 2007

Other Meetings

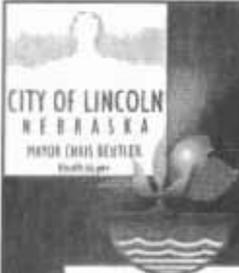
May 3, 2005 meeting with Cardwell Woods representatives to discuss floodplain mapping
May 9, 2005 meeting with Cardwell Woods Homeowners Association
July 24, 2007 meeting with Cardwell Woods Homeowners Association president
Aug 6, 2007 meeting with Cardwell Woods Homeowners Association board.
Oct. 9, 2007 meeting with officials of the Cardwell Woods Homeowners Association board.

Project Website

A project website was developed for the watershed master plan which contained the goals and objectives of the master plan, project team contact information and study documents. www.lincoln.ne.gov (keyword: watershed)

Newsletters

Three newsletters were mailed to residents in the Cardwell Branch Watershed and other interest groups to disseminate study information and findings to the public.



Cardwell Branch Watershed Master Plan



Planning Commission

October 10, 2007



Lincoln Watershed Management / NRD Partnership

- ◆ Floodplain Management
- ◆ Control Erosion & Sedimentation
- ◆ Preserve Watershed Resources
 - ◆ Water quality
 - ◆ Stream stability
 - ◆ Riparian habitat
- ◆ Provide Guidance for Sustainable Growth



... Ensure Quality of Life for Future Generations

Watershed Master Planning

- ◆ City/NRD Planning Effort
- ◆ Watershed Master Planning
 - ◆ Beal Slough
 - ◆ SE Upper Salt Creek
 - ◆ Stevens Creek
 - ◆ Cardwell Branch
 - ◆ Deadmans Run
 - ◆ Little Salt Creek
- ◆ Overall Goals
 - ◆ Unified master plan
 - ◆ Integrate public input



Cardwell Branch Watershed Master Plan *Project Overview*



- ◆ Phase 1: USGS Watershed Assessment
- ◆ Phase 2: Watershed Master Plan (CDM)

Phase 1: USGS Watershed Assessment *FEMA Floodplain Map Update*

- ◆ Floodplain map submitted to FEMA for preliminary review
- ◆ Floodplain map adopted for local regulatory purposes
- ◆ FEMA will hold public comment period



Phase 2: Watershed Master Plan



Study Recommendations

- ◆ Opportunity Areas
- ◆ Sensitive Areas
- ◆ Capital Improvement Projects



Opportunity Areas

- ◆ General planning locations
- ◆ Potential for multiple benefits
- ◆ Opportunities to protect/enhance
 - ◆ Water quality
 - ◆ Natural resources
 - ◆ Incorporate future amenities
- ◆ Designate as future Green Space on City/County Land Use Plan



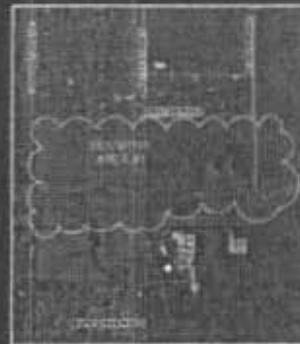
Opportunity Areas

- ◆ Proposed changes to the Future Land Use showing Green Space and Environmental Resources



Sensitive Areas

- ◆ General planning locations
- ◆ Natural and/or unique characteristics
- ◆ Recommend stormwater management practices
 - ◆ Conservation strategies
 - ◆ Structural Best Management Practices (BMPs)



Stormwater Management Practices

- ◆ Conservation Strategies
- ◆ Structural BMPs
 - ◆ Extended Wet Detention
 - ◆ Constructed Wetlands
 - ◆ Grass Swales
 - ◆ Bioretention

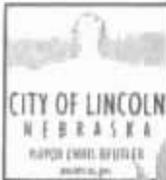


Capital Improvement Projects (CIPs)

Recommendations

- ◆ 8 stream improvement projects
- ◆ 1 flood control project
- ◆ City/NRD/County coordination to construct projects





Cardwell Branch Watershed Master Plan



Planning Commission
October 10, 2007







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