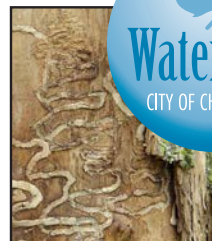


Sustainability

REPORT 2017



Committed to protecting natural resources now and into the future.



Prepared by the Chanhassen Environmental Commission

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CITY OF CHANHASSEN
Sustainability Report 2017



CITY OF CHANHASSEN

Sustainability Report 2017

The City of Chanhassen is committed to protecting its natural resources now and into the future. To ensure the continuation of this effort, the city strives to develop sound policies, take advantage of new technologies, and engage the community in environmental topics. Sustainable management of our natural resources is endeavored through protection, conservation, and best management practices.

In 2011, the Chanhassen Environmental Commission was interested in knowing if our city was growing and functioning in a sustainable fashion. This report is the result of that curiosity. Each year since then, the commission has compiled the successes and challenges of the previous year for four main topics: Surface Water Quality, Stormwater, Water Conservation, and Urban Forestry. In each of these areas, the group investigated the current goals established by the city's comprehensive plan. Through interviews with city employees, the commission determined the current status of those goals along with trends and improvements or challenges and any recent activities. Ultimately, the commission documented a baseline inventory for each of the topic areas.

This 2017 edition of the Sustainability Report includes the ongoing goals and provides annual updates from 2016 and recent activities. Information about these activities were collected from interviews with city staff and publicly available information. The report achieves the goal of educating Chanhassen residents in the Environmental Commission's target areas.

Surface Water

CITY OF CHANHASSEN SUSTAINABILITY REPORT 2017

Over 26% of Chanhassen's 24 square miles are covered by lakes, streams, ponds or wetlands. Water quality, lakeshore preservation, lake level variability, and flood management are some of the important issues that impact the quality of life enjoyed by all residents. Maintaining, protecting, and instilling a preventative approach is a high priority for the city, which is currently preparing its third Surface Water Management Plan (SWMP). The plan outlines goals for managing these resources and implementation recommendations to achieve them. These goals strive to be realistic, attainable/implementable and affordable in their execution.

Surface Water Goals

The initial goals for surface water were based primarily on maintaining and improving water quality, which has largely been met. New priorities are being developed to address changes in land use, aging of infrastructure, new data on surface water resources, and changes in watershed science. The city's strategy takes into account the continued growth and redevelopment activity that Chanhassen is experiencing. A focus on prevention first and treatment second is the concept to be followed.

Community Resources

Chanhassen contains more than 355 wetlands covering more than 2395 acres, 4 creeks spanning over 37 miles including one designated trout stream, and 12 lakes, 7 of which are recreational and 5 that are natural environment lakes. The city is also home to a rare and unique calcareous fen, a state protected Scientific and Natural Area. Efforts to preserve these important natural resources require partnerships between the city, county, watershed districts, Met Council, MNDNR, and MPCA. Portions of major watershed districts exist within the city: Carver County WMO (1.9%), Lower Minnesota River Watershed District (8.4%), Minnehaha Creek Watershed District (18.8%), and Riley-Purgatory-Bluff Creek Watershed District (70.9%).



Recent City & Community Activities

Chanhasen High School Stormwater Capture and Reuse Project

The City of Chanhasen, in cooperation with the Riley Purgatory Bluff Creek Watershed District, has completed plans for a stormwater capture and reuse project at Chanhasen high school. The project would entail capturing stormwater from the impervious area from the buildings, parking lots, and surrounding areas. This stormwater would then be reused in irrigation of sports fields and landscaped areas within the High School grounds, significantly reducing the amount of runoff that would otherwise flow to adjacent Bluff Creek, an impaired water. The project will go out for bid in May of 2017.

Monitor Waters

The city continues to monitor its waters for temperature, dissolved oxygen, pH, and turbidity through monitoring stations, grab sampling, and the Citizen Assisted Lake Monitoring Program (CAMP). As our city continues to develop/redevelop, the potential exists for increased runoff volumes, sedimentation, and stormwater discharge.

Implement Attainability Assessments Given to Improve Water Quality

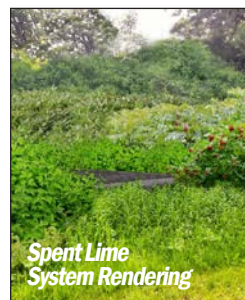
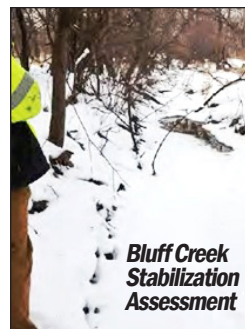
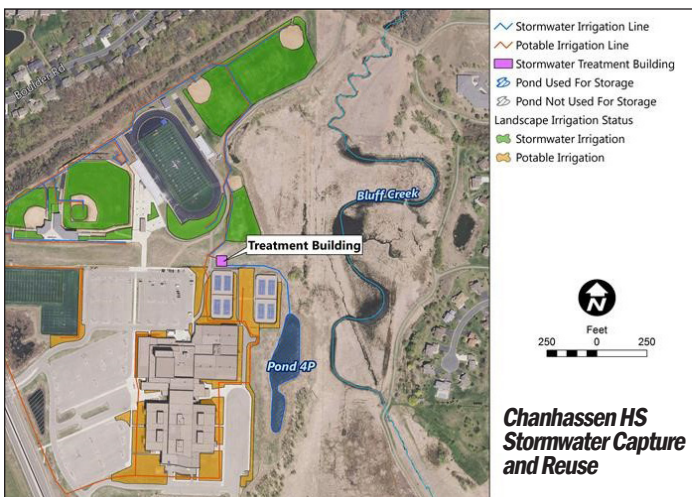
Use Attainability Assessments have been completed for the following lakes: Ann, Lucy, Rice Marsh, Riley, and Susan. These assessments identify subwatershed loading rates and potential best management practices that can be implemented to improve and/or preserve water quality in all of the lakes.

Lake Susan Spent Lime Treatment Facility

Chanhasen, in conjunction with Riley-Purgatory-Bluff Creek Watershed District, has completed the spent lime treatment facility south of Lake Susan in January of 2016. A 325-acre watershed flows through this outlet into Lake Susan and contributes 76 lbs of phosphorous to Lake Susan on an annual basis. This amount of phosphorous can support the growth of 19 tons of algae. The spent lime facility will decrease the annual load of phosphorous to Lake Susan by nearly about 45 pounds or 60%.

Resources Chanhasen Surface Water Projects

www.ci.chanhasen.mn.us/surfacewater



METROPOLITAN COUNCIL



MNDNR



MINNEHAHA CREEK WATERSHED DISTRICT
QUALITY OF WATER, QUALITY OF LIFE



LOWER MINNESOTA RIVER WATERSHED DISTRICT



Stormwater

CITY OF CHANHASSEN SUSTAINABILITY REPORT 2017

Stormwater management is crucial to preserving Chanhassen's natural environment and protecting our surface water resources. Stormwater runoff is rain and snow melt that runs off surfaces such as rooftops, paved streets, highways, parking lots and compacted lawns. As water passes over these surfaces, it can pick up pollutants such as soil, fertilizers, herbicides, trash or pet waste. If not treated appropriately, this polluted water might flow into a local stream, lake, or wetland. Stormwater mitigation seeks to reduce, control, and prevent stormwater runoff through a variety of strategies. As open land in Chanhassen continues to develop, the city looks for every opportunity to incorporate best management practices that minimize the volume and impact of water runoff as well as protect water quality in surface waters.

Goals

The City of Chanhassen strives to ensure that development projects minimize soil erosion, sedimentation, and stormwater runoff. City personnel manages this task by maintaining primary responsibility for managing water resources at the local level but continue coordination with other agencies and organizations. In an effort to engage the public, the city provides information and educational resources to improve knowledge and promote an active public role in managing water resources.



Storm Drain Markers

These highly visible storm drain markers are the first step in public education in stormwater pollution prevention.



Rain Garden Plantings

To allow rainwater runoff from impervious urban areas, like roofs, driveways, walkways, parking lots, and compacted lawn areas, the opportunity to be absorbed.

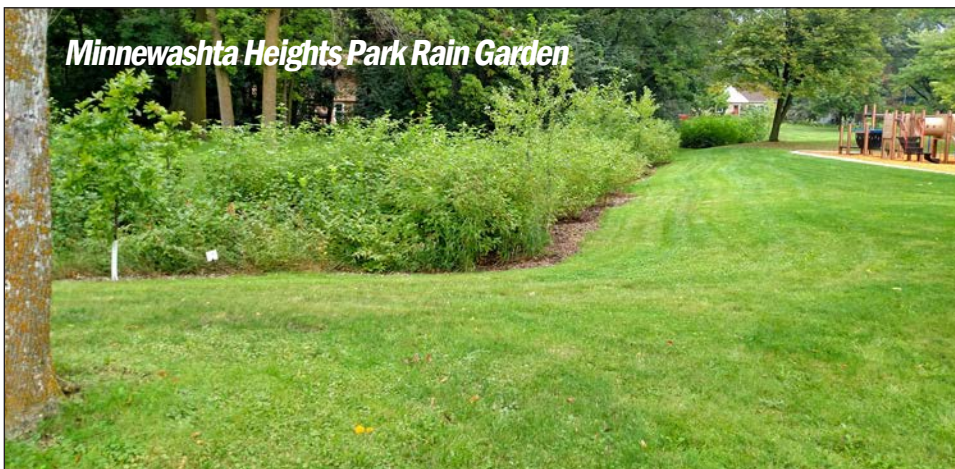
Recent Community Activities

Grant Received to Study Downtown Stormwater Management

The Riley Purgatory Bluff Creek Watershed District, in cooperation with Chanhassen, has been awarded a grant to study stormwater management in the “downtown” area of Chanhassen. This study will look at potential opportunities to retrofit best management practices into an area that developed under conditions not subject to the stormwater management standards of today. The findings will guide stormwater management as the downtown area redevelops and will reduce pollutant loading to Rice Marsh Lake and Lake Riley as well as mitigate flooding at Market Boulevard and W 79th Street.

Improve Methods of Stormwater Flow

The city utilizes improved methods of allowing stormwater to flow into the ground instead of directly into lakes and streams. One example is through rain gardens. A large neighborhood rain garden was completed as part of the Minnewashta Street Reconstruction, completed in 2015-2016. This rain garden was designed to treat stormwater runoff before discharging into Lake Minnewashta from the Minnewashta Heights neighborhood.



GET INVOLVED!

As residents of Chanhassen, there are opportunities to get involved to help with stormwater management. With any road construction project, city staff works to educate neighborhood groups about the benefits of Low Impact Development (LID) installation opportunities, such as rain gardens and rain barrels.

Residents, in general, are encouraged to learn more about incorporating rain gardens into their yards.

The city also partners with Metro Blooms to provide education on environmentally sound gardening and landscape practices. Additionally, community volunteers continue to install storm drain markers on neighborhood storm drains since storm drains can lead directly to a city water resource. Marking the drains help raise awareness that anything carried by these storm drains can impact our natural resources.

If you are impacted by a 2016 road construction project and are interested in an LID opportunity, reach out to City Staff for more information. Call 952.227.1100

Water Conservation

CITY OF CHANHASSEN SUSTAINABILITY REPORT 2017

The Prairie du Chien aquifer supports 83 communities in the Twin Cities Metropolitan area, including the city of Chanhassen. Reliable, high-quality water plays a large part in our city's growth and prosperity. The city distributes water to over 7,000 residential and nearly 300 commercial properties daily. There are 11 wells, 3 reservoirs, and 2 water treatment facilities.

Sustainability is a high-priority of the Metropolitan Council as the region grows and pressure is increased on the region's aquifers. The Met Council is projecting a drawdown on the Prairie du Chien aquifer of 10 to 30 feet by 2030 given the current growth projections and water usage. In order to continue to provide quality water, the Met Council has developed a policy on Sustainable Water Supplies that includes collaboration with agency partners, identifying desired groundwater levels, providing technical assistance to local governments, and promoting water supply resiliency. All metro community's comprehensive plans are expected to accommodate the forecasted population increase specified in the Council's Thrive MSP 2040 plan. The Met Council also encourages communities to look at ways to reuse stormwater runoff for irrigation. The City of Chanhassen is exploring several such projects in 2017 such as:

- Working with District 112 and Riley-Purgatory-Bluff Creek Watershed District to explore stormwater reuse opportunities at Chanhassen High School.
- Performing a study for downtown Chanhassen stormwater reuse
- Participating in the Southwest Reconnection Stormwater Reuse Project
- Encouraging developers to participate in current incentives and credits for stormwater reuse in proposed developments.
- Exploring the possibility of creating a stormwater reuse project at the Lake Susan Park ball fields, using stormwater from the adjacent stormwater pond.

Water Conservation Goals

Each year, as presented in the city's comprehensive plan, the city shall review, develop, and implement the current water conservation strategies and practices suitable for our community. The city continues to endorse and promote water conservation through the dissemination of educational materials and programs offered to city residents.



Recent City and Community Activities

Smart Irrigation Controller System

In 2016 the city installed a single Smart Irrigation Controller to run irrigation systems at 14 city parks and facilities. By using weather data and ground sensors, this system is estimated to save thousands of dollars in staff labor and 3.4 million gallons of water annually.

Stormwater Reuse at HWY 101 Crossing

A stormwater reuse project was implemented at the new Hwy 101 river crossing project. Stormwater is collected and used for irrigation within the traffic circles. Learnings from this site can be used to understand if other opportunities for stormwater reuse may exist within the city.

Environmental Commission 2016 Focus on Water Conservation

The Chanhassen Environmental Commission hosted a booth at the Chanhassen 4th of July celebration. Materials on water conservation issues and programs were distributed to passerby's and questions answered by the Environmental Commission members.

City Code and Water Conservation

The city has a tiered billing system in place to incent water conservation. City code limits the use of the city water supply system for lawn and garden sprinkling, irrigation, car washing, or other non-potable uses to odd-even days. The city has tree preservation and topsoil requirements for new subdivisions, as well as stringent planting requirements for new site plans.

Incentives Offered to Help Residents and Businesses Reduce Water Usage

2016-2017 Met Council/Clean Water, Land and Legacy Water Efficiency Grants: Rebates of up to \$250 offered to residents and businesses who replace an existing irrigation controller with an EPA Water Sense certified, weather-based ("smart") controller.

Rebates of up to \$50 are offered to residents who purchase an Energy Star Clothes Washing Machine

Irrigation system audits, free of charge, for Homeowners' Associations, businesses, and new residents as a way to promote water-saving best management practices.

Landscaping and conservation grants to restore irrigated spaces to more native, non-irrigated spaces.

Rain Barrel Coupons are offered that are redeemable at the Carver County Environmental Center.

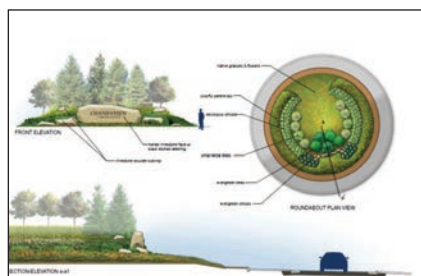
Recommended Water Conservation Resources

University of Minnesota Extension Soils and Composting: www.extension.umn.edu/garden/yard-garden/watering

WaterSense Tips to Save Water & Money: www.epa.gov/watersense/our_water/start_saving.html

Metropolitan Council Draft Water Resources Policy Plan
metrocouncil.org/METC/files/66/665454b7-662c-464f-bce4-1e19f1a2f97a.pdf

City of Chanhassen "2030 Comprehensive Plan," Chapter 9: Water
www.ci.chanhassen.mn.us/DocumentCenter/Home/View/134



Save Money and Water at Home!

Did you know that home irrigation can account for up to 40% of a household's annual water usage?

In partnership with the Metropolitan Council and the Clean Water, Land & Legacy Amendment, the city is now offering residents rebates (up to \$250) on WaterSense labeled 'smart' irrigation controllers and Energy Star washing machines (up to \$50).

These rebates will be available to existing homeowners and are on a first come, first serve basis.

Visit the city's website at www.ci.chanhassen.mn.us for more details.



Urban Forestry

CITY OF CHANHASSEN SUSTAINABILITY REPORT 2017

Our urban trees play an important role in the health, livability, and economic well-being of our community. Trees help clean the air, mitigate stormwater runoff, provide shelter to wildlife, cool our homes and make our city more beautiful. Chanhassen has long recognized these benefits and achieved Tree City USA status for the 22nd year in 2016 by meeting the four core standards of urban forestry management as laid out by the National Arbor Day Foundation.

In Chanhassen, maintaining and protecting our urban forest takes shape in many forms through city and community engagement. Unfortunately, an unavoidable threat to over 20% of our trees is the Emerald Ash Borer (EAB). The city has an active EAB management plan to lessen the impact on city resources when this invasive species reaches Chanhassen. Our trees also face additional challenges such as urban expansion, invasive pests, and changing climates.

Urban Forestry Goals

Chanhassen places a high priority on the protection of its natural resources and strives to maintain a healthy and diverse urban forest. The city continues to update its Public Tree Inventory annually. In 2016, volunteer Tree Care Advisors inventoried nearly 600 trees. According to the tree survey, the city has around 40 species of trees planted on public lands and about 30% tree cover throughout the city. Chanhassen is working to achieve 30-20-10 diversity when replanting – no more than 30% of trees should be from one family, no more than 20% from any genus and no more than 10% of any one species.

Emerald Ash Borer Management Plan

The most significant threat to our city's urban forest is the emerald ash borer (EAB). EAB is most commonly spread through transported firewood. Our neighboring counties, Hennepin and Scott, are under quarantine and moving any ash wood out of the counties is illegal. Minnesota has the highest volume of ash trees in the United States with almost a billion forestland and urban wood ash trees. When this invasive species finds its way to Chanhassen, the impact will be noticeable. While 20% of the existing public trees are ash trees, the number of privately owned ash within the city is likely higher. The borer is fatal to all ash trees and has already had a significant impact on cities throughout the upper Midwest and Northeast.

In preparation, the city has begun measures to lessen the impact here in Chanhassen

- Annual tree plantings focus on replacing ash trees with a diversity of species.
- Depending on the size and health of an ash tree on public property, the city will either remove it or chemically treat the tree.
- In 2017, the city plans to begin treating ash trees with a trunk injection to kill larvae and adult EAB.
- The city preemptively removes and replaces ash trees at the homeowner's request in conjunction with street reconstruction projects.
- Annual public education opportunities to engage residents in thinking about their trees for the future.

What you can do:

- Become familiar with the symptoms of EAB: www.emeraldashborer.info
- If you suspect your trees may have EAB, contact Jill Sinclair, our city's Environmental Resource Specialist: jsinclair@ci.chanhassen.mn.us
- Do not transport firewood or cut trees out of county. Use firewood certified by the Minnesota Department of Agriculture: www.mda.state.mn.us/emeraldashborer
- At this time, chemical treatments could be started...or not. The insect has been confirmed in a location about 11 miles away from Chanhassen, which is inside the suggested 15-mile threshold area radius recommended for starting treatment.





Recent City and Community Activities

Arbor Day Tree Planting

The Environmental Commission, city staff, and community members gathered in May for the 6th annual Arbor Day tree planting at Roundhouse Park. Over 20 trees were planted in the park, adding diversity and beauty.

Tree Coupons to Promote Private Tree Planting

To promote private tree planting during Arbor Month, the city offers tree coupons to residents. The program has been running since 1996. The 2016 coupons were worth \$50 towards the purchase of a tree at the local nurseries, The Garden and Mustard Seed.

Arbor Day Poster Contest

Also in May, the Environmental Commission selected a winner in the 19th Annual Arbor Day Poster Contest open to Chanhassen 5th graders. The theme was “Trees are Terrific – In All Shapes and Sizes!” and the finalists received special recognition from Mayor Laufenburger at the April city council meeting. Ava C., from St Huberts’ School, was the grand prize winner in 2016.

Invasive Species Monitoring

The city continually monitors public areas for invasive species. The city currently manages seven park areas and many sections of trails were treated for buckthorn, garlic mustard, black locust, and wild parsnip. In 2016, two additional parks, Sugar-bush and Pheasant Hills, were cleared of buckthorn, increasing their usability and aesthetics. In total, the city manages over 125 acres of buckthorn removal.

Public Education Class on Homeowner Options for Emerald Ash Borer

A public educational event was held at the Chanhassen Library in the spring of 2016 to inform residents of Emerald Ash Borer. The topic of the session was “Homeowner Options for Emerald Ash Borer.” Over 79 residents attended.

Seminary Fen Walks

The Environmental Commission sponsored a Fen Walk in the fall of 2016 led by a DNR naturalist through the city’s Scientific Natural Area, the Seminary Fen. There are plans for a second tour in 2017.

GET INVOLVED!

Watch local publications and join us for the Arbor Day celebration in May 2017 at North Lotus Lake Park.

Plant trees and native plants in your yard.

Report any dead or dying ash trees.

Report and eliminate invasive species on your property including buck-thorn and garlic mustard.

Properly care for trees in your yard. A copy of the “Tree Owner’s Manual” can be downloaded here.

www.ci.chanhassen.mn.us/linkishere

Never remove trees from bluffs.

Never remove trees from public property, it is against the law and several fines have been levied in the past few years.

Check out how valuable trees are by using this calculator:

www.treebenefits.com/calculator

2017 Chanhassen Arbor Day

CHILDREN'S POSTER CONTEST



Grand Prize Winner: Nora Ganske (5th Grade)
BLUFF CREEK ELEMENTARY