SECTION 6

ENVIRONMENTAL STEWARDSHIP

Sandy GENERAL PLAN
PACE OF PROGRESS

ENVIRONMENTAL STEWARDSHIP EXECUTIVE SUMMARY

Introduction

Sandy City is unique because of the incredible natural resources and beauty within and surrounding the community. It lies at one of the Wasatch Front's most spectacular and ecologically significant environments. Situated at the mouth of Little Cottonwood Canyon, the community is defined by the towering Wasatch Mountains to the east and the creeks and drainages that flow from them to the Jordan River. This environment carries with it an obligation for wise stewardship, as the water quantity, water quality, natural hazards, sensitive lands, stormwater runoff, and other environmental phenomena can have a significant impact on Sandy residents' safety, well-being, and quality of life. This section outlines key considerations, strategies, and What We Heard from the public regarding Environmental Stewardship.

Key Takeaways

SANDY VALUES
COMMUNITY
PREMIUM LOCATION
OPPORTUNITY
STEWARDSHIP
WELL-BEING

Environmental Stewardship corresponds to the Stewardship Value of the General Plan, which is defined as "responsible management of the city's resources and a consideration for potential impacts in an effort to ensure adequate capacity, foster a healthy resiliency, and pursue a sustainable balance of economic, environmental, and social outcomes." Sandy's natural environment is well-known for the backdrop of the Central Wasatch, Little Cottonwood Canyon, Bell Canyon, a distinction shared by no other community along the Wasatch Front. This chapter seeks to capture Sandy's unique setting and to protect its features through the lens of Stewardship.

80% 80% of residents feel that Sandy City does a good job of preserving natural resources

89% 89% of residents feel that becoming a more environmentally sustainable City is a priority when planning for the future

Community

Nurturing a sense of belonging and connection is crucial for preserving Sandy's natural environment. Community fosters a feeling of fellowship through shared attitudes, interests, and goals, promoting a sense of connection, which then causes residents to care not only about their community, but the natural spaces in and around it. Wise stewardship of the natural environment not only preserves the environmental and recreational features found within it, but also a sense of community among the diverse individuals that live there.

Premium Location

Sandy City stands out due to its remarkable natural resources and scenic surroundings. It is positioned within one of the most dramatic and ecologically important areas along the Wasatch Front. The city also lies at the base of Little Cottonwood Canyon, one of the world's most renowned ski destinations. Bordered by the majestic Wasatch Mountains to the east, the Jordan River on its west, and the Jordan's tributaries throughout, Sandy's location is truly premium.

Opportunity

The natural environment plays a pivotal role in fostering economic opportunities within a community. It provides the foundation for various industries such as tourism, agriculture, and renewable energy, which generate income and employment opportunities. Additionally, a well-maintained natural environment enhances the overall quality of life, attracting businesses and skilled workers to the area. This symbiotic relationship between economic prosperity and the natural environment underscores the importance of preserving and investing in sustainable practices that support both aspects of community development.

Stewardship

Environmental Stewardship aligns with the Stewardship Value outlined in the General Plan, which emphasizes the responsible management of the city's resources and the consideration of potential impacts to ensure resilience and sustainable outcomes across economic, environmental, and social spheres. Sandy's natural landscape, highlighted by the Central Wasatch, Little Cottonwood Canyon, and Bell Canyon, distinguishes it from any other community along the Wasatch Front. This chapter aims to acknowledge Sandy's distinctive environment and safeguard its characteristics through the principles of Stewardship.

Well-being

Residing in a neighborhood characterized by safety, beauty, and supportiveness, while offering ample opportunities to engage with nature and enhance one's health, fosters a profound sense of well-being. The principles and objectives outlined in this General Plan prioritize the preservation and enrichment of environments and infrastructures that contribute to well-being. This includes identifying avenues to enhance convenient access to essential goods, services, and amenities, as well as ensuring the preservation and growth of the city's urban forest for future generations to enjoy.

Water Preservation

Sandy's water conservation efforts recognize water as a finite resource, aiming to maximize efficiency. Despite anticipated growth, the city's water capacity is unlikely to increase, highlighting the significance of conservation. Implementing conservation measures is projected to yield substantial water savings while maintaining residents' high standards of living. Current water usage primarily serves residential connections, with the City employing tiered water rates and purchasing most culinary water from the Metropolitan Water District of Salt Lake and Sandy (MWD). Sandy has ample water to meet existing and projected demands through 2060, with conservation efforts central to achieving this. The Water Conservation Plan, adopted in 2021, underscores water's value and Sandy's commitment to long-term conservation goals, targeting reductions in per capita usage. Efforts encompass various initiatives, from public awareness campaigns to rebate programs and system improvements, aimed at promoting efficient water use. As Sandy continues to grow, maintaining water sustainability hinges on continued conservation efforts and strategic planning to address challenges such as water scarcity and population expansion.

Natural Hazards

Sandy faces various natural hazards including earthquakes, floods, wildfires, and landslides. With a changing climate, the City is working to mitigate risks, particularly regarding wildfires and seismic activity. Sandy continues to participate in regional planning for natural hazards and collaborates with state, local, and regional entities. The City also follows best practices in natural hazards planning and response, including maintaining wildfire prevention strategies and enforcing geotechnical standards for development. Regarding climate change, public feedback and City officials recommend that Sandy develop a climate action plan to mitigate climate change impacts and promote environmental sustainability.

Air Quality

Sandy faces air quality challenges due to inversions trapping pollutants in the valley basin. The City actively engages in initiatives to improve air quality, including advocating for energy conservation and alternative transportation, implementing sustainable practices, and emphasizing tree planting programs. Collaborating with various stakeholders and implementing strategies such as promoting idle-free practices and expanding electric vehicle infrastructure are key components of Sandy's air quality strategy. Additionally, maintaining Tree City USA recognition and considering canopy coverage standards contribute to efforts to enhance air quality and overall livability.

Sensitive Areas

As Sandy grows, there will be a need to conserve open spaces, natural areas, and wildlife habitats alongside urbanization. Public input highlights the potential for smart growth policies to align with conservation efforts. New development proposals impacting hillsides, vegetation, and riparian areas may require careful assessment to understand potential ecosystem disruptions. Balancing development with natural preservation may involve flexibility in building and engineering standards, especially in areas with significant natural constraints. Sandy will steward its natural environment wisely, considering enhancements to wildlife protection measures. This includes maintaining standards for sensitive areas and exploring administrative relief procedures for exemplary environmental practices. Collaborating with state and local partners, Sandy should consider standards to protect key wildlife, plant species, and natural slopes in sensitive areas.

Stormwater

Stormwater management in Sandy will continue focusing on controlling runoff that could cause flooding, erosion, and pollution while enhancing community resilience to severe storms. This involves implementing effective practices and establishing robust response mechanisms. The Sandy Comprehensive Stormwater Management Program (CSWMP) oversees various plans and practices to ensure compliance and efficiency in maintaining the stormwater system with an eye toward water quality. Sandy's Low Impact Development (LID) practices are included in the City's stormwater management practices and include features that mimic natural drainages to improve the quality of runoff. Regarding the management of stormwater overall, Sandy's emergency response efforts are coordinated among City departments and volunteer organizations to respond to flooding events. These events also warrant the exploration of streambank undercutting standards along water bodies like the Jordan River to mitigate erosion, address flooding events, improve water quality, and preserve aquatic habitats.

CHAPTER 6.1

Water Preservation

Sandy GENERAL PLAN PACE OF PROGRESS

Introduction & Background

The State of Utah requires most cities within the state (including Sandy) to include a water use and preservation element in their General Plans (Utah Code Annotated §10-9a-408). Specifically, the element must address the effect of permitted development or patterns of development on water demand and water infrastructure, methods of reducing water demand and per capita consumption for future development, methods of reducing water demand and per capita consumption for existing development, and opportunities for the municipality to modify the municipality's operations to eliminate practices or conditions that waste water.

Fortunately, Sandy has been proactive in addressing water use and preservation, thereby complying with state statutes. Most of Sandy's water conservation efforts are guided by the 2021 Water Conservation Plan, recognizing water as a finite resource with an aim to maximize efficiency. Though the city is likely to grow, its water capacity is unlikely to follow suit. However, the potential for conserving water is significant, which may yield significant water savings while maintaining the high standards of beauty and quality of life city residents have come to expect.

Existing Conditions

Sandy operates a water service system serving its incorporated area and surrounding regions, including unincorporated areas like Granite and county islands. Residential connections account for 92% of meters and 77% of total water use.

Currently, the city has enough water to supply existing residents and anticipated growth through 2060. The primary tool for implementing these measures is the 2021 Sandy Water Conservation plan, the efforts of which are supported by congruent efforts such as the Sandy Water Master Plan.

The Water Conservation Plan recognizes water as a valuable commodity requiring careful management. Sandy has embraced water conservation as integral to its long-term plans, already achieving significant reductions in per capita use since 2000. With a focus on residential, commercial, and institutional connections, Sandy City aims to maximize existing water resources and efficiency.

Although the population is only projected to increase to 103,305 (without including existing annexations into the city) the projected growth of Sandy's population can pose challenges for future water supply and demand, as opportunities for increased capacity are limited. Analysis of water production requirements, with and without conservation measures, reveals that existing supplies can meet projected demands until at least 2060 with conservation efforts.

Based on existing water use patterns in Sandy City, water conservation potential is highest in the category of residential outdoor irrigation. Future development is most likely to be redevelopment of existing developed areas. If redevelopment occurs in the form of smaller irrigated outdoor areas, then water conservation opportunities are significant. The graph below shows water usage as a function of residential development density.

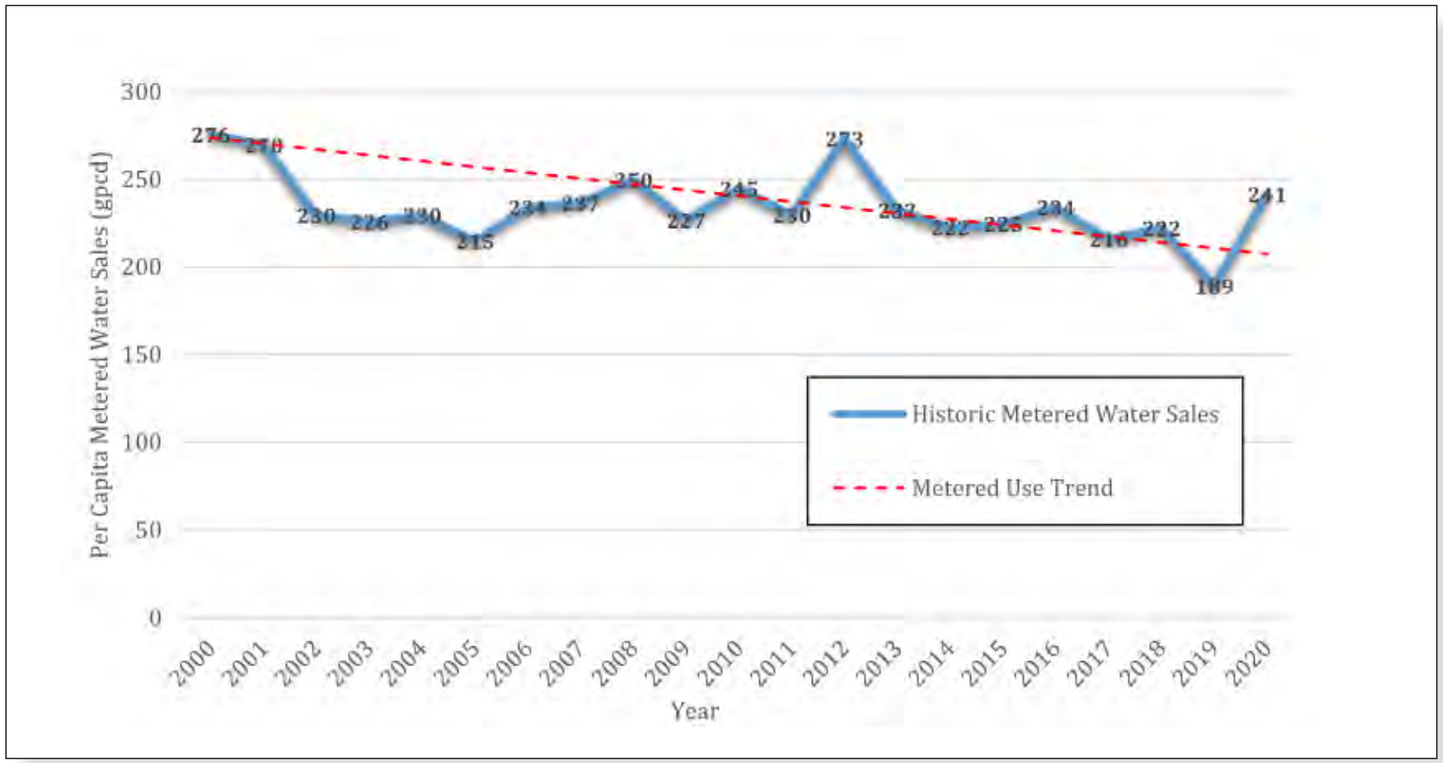


FIGURE 6.1.1: WATER USAGE

Source: 2021 Water Conservation Plan

The Water Conservation plan positioned Sandy to implement various new conservation practices from 2021-2026 aimed at enhancing water sustainability. Plans include developing a detailed water shortage and drought plan, integrating conservation messaging into utility bills, and expanding public education efforts through initiatives like water conservation classes at Sego Lily Gardens and increased outreach to classrooms.

Rebate programs for Localscapes and park strip renovations, along with updates to existing ordinances and the current water rate structure have contributed to water conservation goals. Additionally, the City plans to participate in the American Water Works Association (AWWA) Water Audit Program to quantify system water loss.

Much of Sandy's water is supplied through the Metropolitan Water District (MWD). The district's Environmental Mission Statement encompasses various initiatives aimed at supporting water conservation and best management practices for energy. This includes participating in the Utah State University water audits program, supporting member cities' conservation programs through participation in the Governor's Water Conservation Team and implementing the district's water conservation plan. Additionally, the plan involves implementing effective supply-side conservation measures, planning and participating in aquifer storage and recovery efforts, adopting best management practices for energy and water conservation at all District lands, properties, and facilities, and promoting public education regarding water conservation.

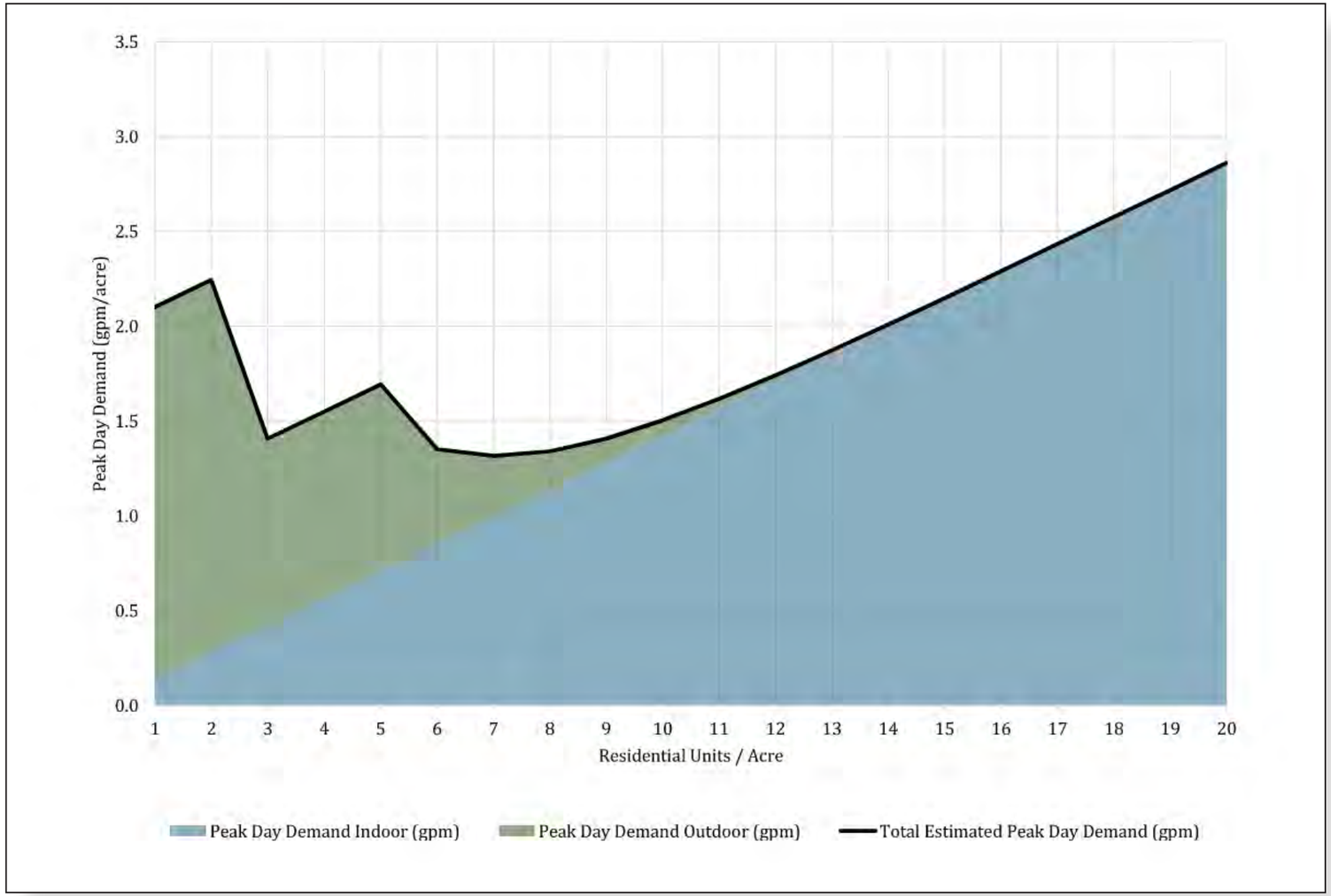


FIGURE 6.1.2: RESIDENTIAL WATER DEMAND

Source: 2021 Water Conservation Plan

What the Community Said

Throughout the public engagement process, City officials and members of the public actively participated in discussions to address several critical issues regarding water preservation. Stakeholders shared insights, concerns, and perspectives on various aspects of water conservation and management.

Sandy residents are widely concerned about water scarcity in the face of future demand. Both officials and residents stress the vital role of water conservation practices in protecting the city's water resources amidst increasing demand and stagnating supplies. Residents are also likely to embrace water conservation measures if aesthetic standards are maintained. Though water conservation is embraced by the Sandy public, many are concerned about what landscapes will look like if water conservation techniques are applied. Sandy residents also expressed concern that water-wise landscaping is "no landscaping" to some. Countering this misconception will require Sandy to continue its public education efforts, including awarding property owners for exemplary water-wise landscaping designs.

The Sandy Parks and Recreation Department has undergone a design process to convert three park strips around the city into waterwise landscaping following localscapes guidelines that will be built in 2024. This process has been done to not only convert more underutilized turf areas into waterwise practices, but to showcase the beauty that localscapes conversion can offer.

When asked to allocate from a hypothetical $100 City budget, residents express the most interest in investing financial capital into crime reduction, neighborhood maintenance, water conservation, and open spaces.

69%

69% of Sandy residents say that water conservation is the most or second most important environmental issue to address in Sandy

Key Strategies

CONSERVE OPEN SPACE & NATURAL RESOURCES

Future development types will greatly affect the conservation of water in Sandy. As noted in the preceding Residential/Units per acre graph, most of the water consumption in Sandy is for irrigation of yards. Sandy's high percentage of low-density housing neighborhoods is a challenge that will hinder overall water conservation efforts in Sandy City, largely due to outdoor water usage for these development types being high. Also, it is unlikely that Sandy will have access to increased water capacity. To address future growth without expanding water capacity, Sandy must enhance water efficiency through various strategies, particularly those in the Sandy Water Conservation Plan. Fortunately, Sandy has most of the tools necessary to save water, and public education about these tools will advance much of this Key Strategy.

Current water usage in Sandy averages 241 Gallons per Capita per Day (GPCD). The Sandy Water Conservation Plan seeks to reduce usage to 200 Gallons per Capita per Day (GPCD) by 2045.

To further reduce water consumption, Sandy City has implemented additional measures such as expanding outreach and education programs to increase awareness of water saving efforts. This includes offering increased incentives for residents to adopt water-efficient technologies, and implementing regulations that promote reduced outdoor water use. Sandy can continue to leverage programs offered by federal, state, and regional entities to help implement this strategy.

USER TYPE	INDOOR USE (GPCD)	OUTDOOR USE (GPCD)	TOTAL USE (GPCD)
Residential	55	130	185
Commercial	12	29	41
Institutional	1	14	15
Total	**68**	**173**	**241**

FIGURE 6.1.3: WATER USE ACROSS COMMUNITY

Sandy residents giving input on water preservation in Open House 1

Goals, Objectives, Policies, & Actions

GOAL

Sandy water policies recognize the role of water utilization in protecting the water cycle

OBJECTIVE

Sandy will promote and implement policies that protect the watershed and drinking water resources

Policies

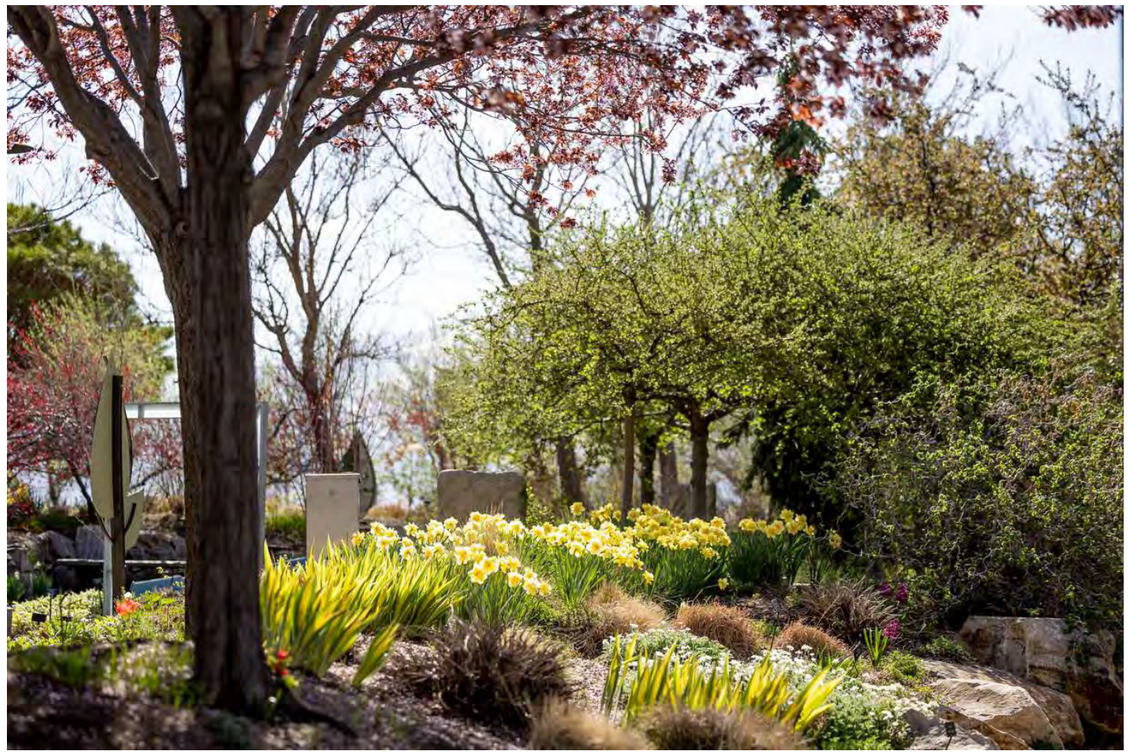
- Continue to participate in and protect the resources of the Salt Lake City & Sandy Metropolitan Water District
- Promote policies that protect the watershed and drinking water resources
- Allow compact development and redevelopment that minimizes the development of hillsides and watershed
- Promote development types that use water efficiently

OBJECTIVE

Sandy will meet future water needs in a growing city without expanding existing culinary and irrigation water capacity

Policies

- Continue to implement and update on a regular basis the City's Water Conservation Plan
- Identify and implement best practices in reducing water utilization in households, businesses, and governmental functions



Jordan Valley Conservation Yard

CHAPTER 6.2

Natural Hazards

Sandy GENERAL PLAN PACE OF PROGRESS

Introduction & Background

In Sandy, natural hazards like earthquakes, floods, and wildfires pose significant risks, and require mitigation and response. Strategies include participation in regional planning, updating emergency response plans, and developing a climate action plan. Key actions involve engaging in hazard training exercises, maintaining comprehensive wildfire prevention strategies, and enforcing geotechnical standards for development. By prioritizing collaboration, preparedness, and policy implementation, Sandy aims to minimize risks and enhance community resilience in the face of evolving environmental challenges.

Existing Conditions

With changing climate patterns ushering in hotter and drier seasons, Sandy recognizes the need to be aware of the threat of wildfires. The community is fervently discussing strategies to bolster its defenses against this natural hazard. From advocating for fire-safe landscaping practices to fostering a culture of community-wide wildfire preparedness, Sandy is forging ahead with determination and unity to mitigate wildfire risk.

Sandy also faces seismic challenges. Situated along major fault lines, including the Wasatch Fault, Sandy is prone to earthquakes. In 2020, an earthquake struck an epicenter northeast of Magna that registered 5.7 on the Richter Scale, demonstrating the presence of seismic activity in and around Sandy.

What the Community Said

Sandy prioritizes emergency preparedness through regional planning, training, and response plan updates that incorporate public feedback. It collaborates with the US Federal Emergency Management Agency (FEMA) and local agencies, advocating for climate action while engaging stakeholders.

Sandy's approach to emergency preparedness includes participating in regional planning and conducting hazard training exercises. After feedback from the public and discussions with community members, it was clear that addressing potential threats such as flooding, earthquakes, and landslides were top of mind.

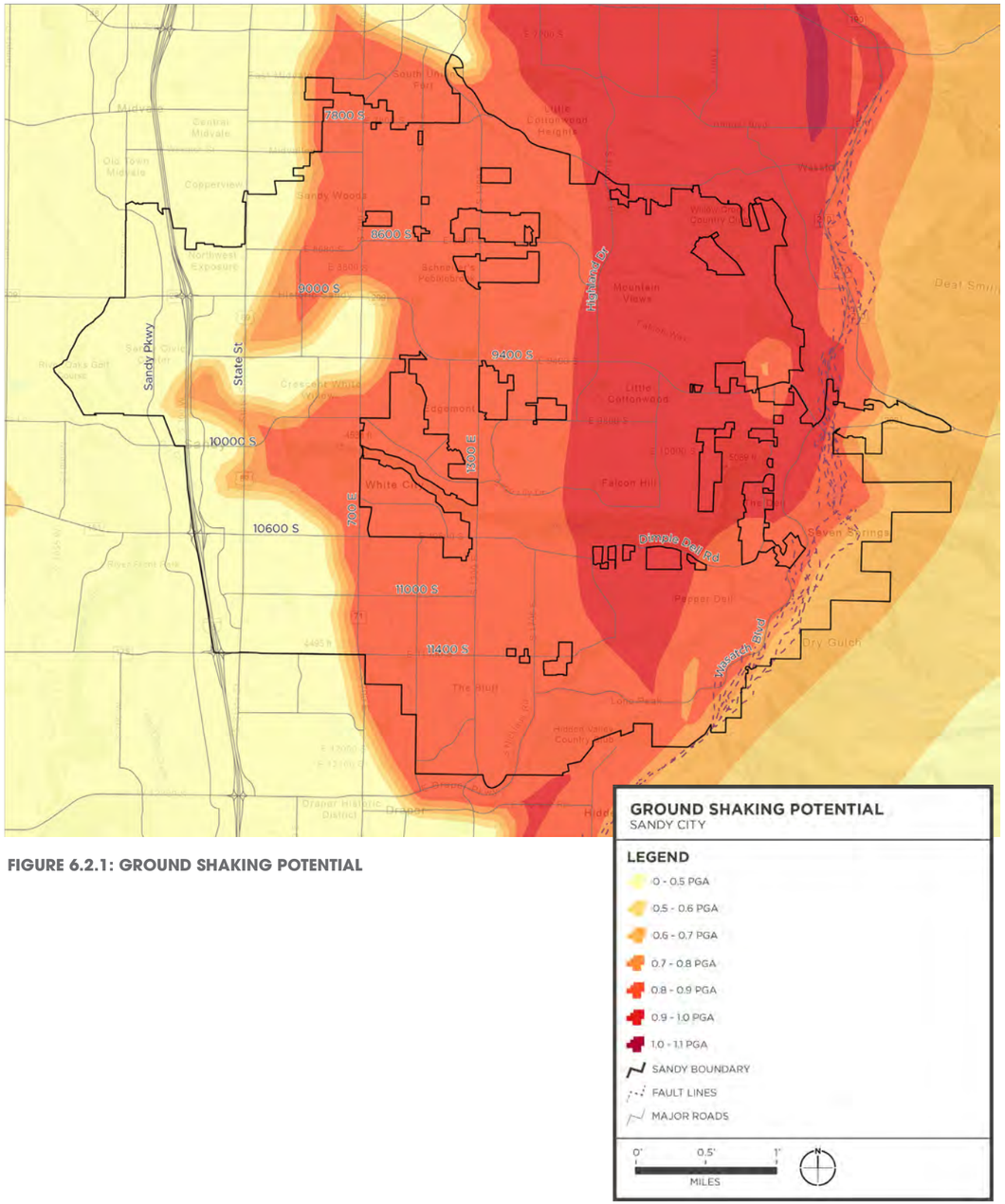


FIGURE 6.2.1: GROUND SHAKING POTENTIAL

Emergency Preparedness & Response

Sandy already plans effectively for natural hazards by participating in regional planning, conducting hazard training exercises, updating emergency response plans, and identifying and addressing potential threats such as flooding events. Furthermore, Sandy already commits to implementing best practices for natural hazards planning and response, utilizing resources from organizations like FEMA, The Utah Division of Emergency Management, and Sandy's own Emergency Management Division.

Going forward, a climate action plan will identify future natural disaster challenges, engaging stakeholders and advocating for supportive policies to respond to the evolving nature of natural disasters.

Key Strategies

Engage Responsibly with Regional Partners

Sandy plans to continue engaging in regional planning for natural hazards, collaborating with agencies like the Utah Division of Emergency Management (UDEM) and neighboring jurisdictions to develop emergency preparedness strategies. The city plans to continue participating in programs like Shake Out to test earthquake response plans, update community emergency response plans, and implement best practices recommended by organizations like FEMA, the National Oceanic and Atmospheric Administration (NOAA), the International Association of Environmental Managers (IAEM), and the American Planning Association (APA). Additionally, Sandy plans to continue comprehensive wildfire risk reduction strategy, including Wildland-Urban Interface (WUI) standards, public education, collaboration with fire agencies, emergency preparedness, and early detection measures to enhance community resilience.

Sandy's continued coordination includes facilitating emergency preparedness, response, and recovery efforts within the city. Sandy will continue coordinating with neighboring jurisdictions (e.g. Draper, Cottonwood Heights, Salt Lake County) to develop plans to address natural hazards.

The "Shake Out" program is organized by FEMA and the Utah Department of Public Safety (DPS). The program provides guidance for conducting earthquake drills at various levels of complexity, emphasizing the importance of preparedness and coordination to mitigate the impact of earthquakes.

Sandy City's Emergency Management Division manages a comprehensive emergency program covering Preparedness, Response, Recovery, and Mitigation. This program addresses disasters such as Acts of Terrorism, Earthquakes, Flooding, Hazardous Materials Incidents, Tornadoes, and Wildfires. Continued funding of the division and programs should be used to update each program activity. By having a dedicated division focused on emergency management, the City can maintain and implement strategies for prevention, preparedness, response, recovery, and mitigation.

Sandy's MyAlerts System is used to contact city residents about impending emergencies and their response

For best management practices, FEMA provides emergency response guidelines, NOAA offers weather-related hazard data, and the International Association of Emergency Managers (IAEM) hosts conferences for emergency managers. APA provides climate resiliency information, while both the U.S. Geological Survey (USGS) and Utah Geological Survey (UGS) conduct hazard research. Together, these resources provide a broad base for the development of best practices. Sandy is well positioned to this, particularly with the City's Emergency Management Division serving as a clearinghouse for best practices.

A comprehensive approach is key to minimize wildfire risks, including maintaining WUI standards, providing extensive public education and outreach programs, and closely working with local fire agencies to develop and implement wildfire response plans and joint training exercises. Additionally, the city's emergency preparedness efforts among residents, businesses, and volunteers will support overall community resilience.

Strengthen Neighborhoods

Sandy will continue to identify and respond to events such as spring stormwater runoff and major snowstorms by activating City emergency responses as needed. Proactive stormwater management, including regulations on development in flood-prone areas, investment in stormwater management infrastructure, collaboration with regional agencies, and public education initiatives, helps mitigate potential flooding. Additionally, evaluating the possibility of flooding events from the Lower Bell Canyon Reservoir and maintaining requirements for geotechnical studies for development on steep slopes are crucial measures to enhance preparedness and minimize risks.

Sandy should continue its proactive approach for several reasons. Firstly, regulations on development in flood-prone areas (and other sensitive lands) and investing in stormwater infrastructure, may help reduce the amount of property damage, financial losses, and harm experienced by residents during flood events. Secondly, ongoing collaboration with regional agencies strengthens preparedness and response capabilities, ensuring a coordinated and effective emergency response when floods occur. Thirdly,

public education initiatives raise awareness about flood risks, empowering residents to take preventive measures and make informed decisions to protect themselves and their properties. By continuing with these measures, Sandy will be able to continue building its institutional knowledge of these threats.

Lower Bell Canyon Reservoir is located uphill from many Sandy neighborhoods. To date, the reservoir has not experienced any breach, however excessive snowmelt or an intense summertime cloudburst could cause the reservoir to spill over its banks. Such a breach could be exacerbated by mudflows enabled by burn sears from past wildfires. Sandy, in coordination with internal and external partners, should continue to evaluate the possibility of a flooding event from the reservoir.

Lower Bell Canyon Reservoir could create downstream flooding in the event of a breach). (Credit: Utah Geological Survey)

Sandy's Land Development Code requires Geotechnical Studies for developments located on steep slopes and/or sensitive areas. The Code further requires that these studies are stamped by a licensed engineer. As such, the standard of care for development is placed upon the developer. In April 2023, two homes in Draper collapsed after underlying fill gave way to spring runoff after an extremely wet winter. Because the City of Draper required a stamped Geotechnical Report for the subdivision in which these two homes were developed, the developer was held responsible for all damage created by the landslide. Sandy's geotechnical ordinance's are mirrors of Draper's and are similar to most jurisdictions in Utah. Sandy should maintain its current standards and update as necessary.

CONSERVE OPEN SPACE & NATURAL RESOURCES

Climate action plans often focus on greenhouse gas emissions reduction and sustainability promotion. Initiatives include targets for transitioning to renewable energy sources, implementation of energy efficiency programs, promotion of sustainable transportation options, waste reduction and recycling efforts, and climate resilience planning. Engagement with residents, businesses, and stakeholders is encouraged to raise awareness and foster collaboration, while advocacy for supportive policies at the local, state, and federal levels is prioritized. A climate action plan will allow Sandy to mitigate the impacts of climate change, promote environmental sustainability, enhance public health and quality of life, foster economic resilience, and fulfill its responsibility to current and future generations.

Sandy City Watershed

Goals, Objectives, Policies, & Actions

GOAL

Sandy will have a plan for an effective response to natural hazards of all types

OBJECTIVE

Continue to participate in regional planning for natural hazards

Policies

- Coordinate with regional entities in planning for wildfires, flooding, earthquakes, wind events, and other natural hazards
- Identify opportunities to partner with regional entities to implement best practices in natural hazard prevention and response

OBJECTIVE

Identify and implement best practices in wildfire prevention and response

Policies

- The wildland/urban interface on Sandy's eastern boundary represent best practices in wildfire prevention
- Sandy's fire department implements best practices and has the tools necessary to prevent and respond to wildfire

OBJECTIVE

Review best practices for Geotechnical Standards of Care as industry standards evolve and modify small area plans as needed.

Policies

- The City's sensitive lands overlay reflects best practices
- Development standards include provisions enforcing geotechnical standards for development

Sandy's Wasatch Mountians

CHAPTER 6.3

Air Quality

Sandy GENERAL PLAN PACE OF PROGRESS

Introduction & Background

Sandy is located at the southeastern area of Salt Lake County. Unfortunately, Salt Lake County exhibits the poorest air quality in the state according to the American Lung Association. In 2023, the county experienced eight red air quality days throughout the year, twice as many as experienced in nearby Utah County.

The US Environmental Protection Agency (EPA) has developed the Air Quality Index (AQI) as a standardized way to report daily air quality. AQI is a general measure and includes various pollutants. Any day with an Air Quality Index (AQI) of more than 100 is regarded as having bad air quality. Ground-level ozone measures can be reduced through a variety of strategies. While air quality is a regional issue and has a lot to do with certain industrial practices and environmental disasters such as wildfires, there is a certain amount of pollutants that residents can do thier part with. These include minimizing vehicular miles traveled by carpooling, using public transportation, or walking and biking in addition to buying non-toxic cleaning materials, and cutting down on household energy use (Utah Clean Air Partnership).

Sandy actively engages in various initiatives to enhance the valley's air quality, including advocating for resident actions like energy conservation and alternative transportation, implementing sustainable practices across City departments, emphasizing the importance of trees through programs like Tree USA City and Heritage Tree Program, and collaborating with organizations such as Utah Clean Air (UCAIR) to address health effects of pollution.

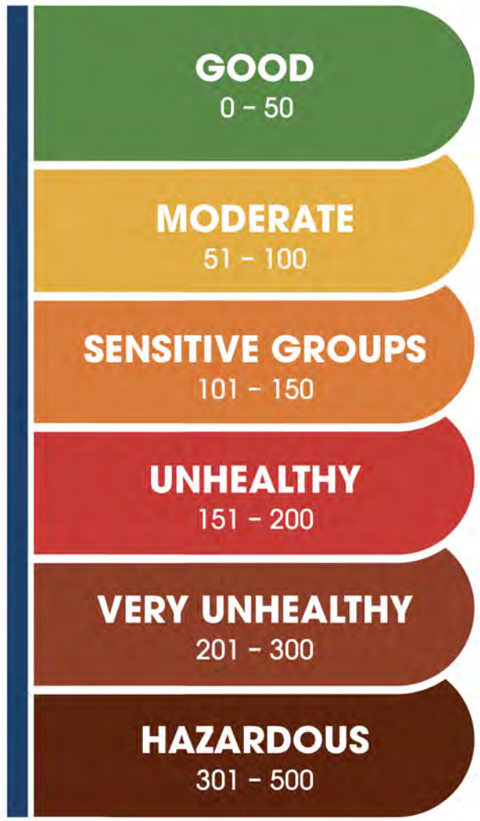


FIGURE 6.3.1: AIR QUALITY MEASUREMENT

Existing Conditions

Located in the Salt Lake Valley along the Wasatch Front, Sandy faces air quality challenges that also affect the entire region, especially during inversions when pollutants get trapped in the valley basin. Public input stressed the significance of reducing emissions from various sources like vehicles and industries to enhance air quality and safeguard public health. Solutions to air quality will require partnering with local, state, and federal partners. Sandy's overall air quality strategy can focus on three key areas: collaboration, increasing alternative fuels use, and enhancing the city's tree canopy.

What the Community Said

The public appears deeply concerned about air quality issues, particularly during inversions. Public input has highlighted the urgent need to improve air quality and protect public health. In response, Sandy's existing air quality strategy emphasizes collaboration with local, state, and federal partners.

> **"I'd love to see building codes for any new developments have tougher energy efficiency requirements (ideal result would be lower water usage, lower utilities and cleaner air)."**
>
> *Online Comment*

Inversion & Air Quality Concerns

As a regional problem, Sandy-led efforts is not enough to solve air quality concerns. Commitment from regional neighbors for regulations surrounding air quality is a common theme Sandy residents would like to see.

Traffic as a Contributor to Air & Noise Pollution

Sandy residents are cognizant of the fact that vehicular transportation and increased traffic in the city due to regional growth not only affect their air quality, but also affects noise pollution. Noise pollution is unwanted or harmful sounds in city surroundings. Balancing traffic circulation with measures that help reduce noise and air pollution was a common theme heard from the community.

59% 59% of residents feel that air quality is the first or second most important environmental issue to address in Sandy

Key Strategies

ENGAGE RESPONSIBLY WITH REGIONAL PARTNERS

Sandy's collaboration with a range of stakeholders may prove effective in tackling air quality issues. Through initiatives such as promoting idle-free practices, exploring alternative fuels, enhancing transit systems, and advocating for water and energy conservation, Sandy can do its part to reduce emissions and improve air quality, positioning itself as a leader in regional efforts for cleaner air.

Sandy collaborates with various stakeholders including the Central Wasatch Commission, Canyons School District, Dominion Energy, UCAIR, Utah Clean Cities Coalition, Rocky Mountain Power, Utah Department of Environmental Quality, Utah Transit Authority, Utah Department of Transportation, and Metro Water District to address air quality issues. Initiatives include promoting idle-free practices, exploring alternative fuel options, partnering on sustainability initiatives, working towards EPA Green City status, monitoring air quality, improving transit systems, optimizing traffic flow, and promoting water and energy conservation, all aimed at reducing emissions and improving overall air quality in the region. Building upon these collaborative actions will help Sandy lead in its efforts to improve air quality in the city and the surrounding region.

CONSERVE OPEN SPACE & NATURAL RESOURCES

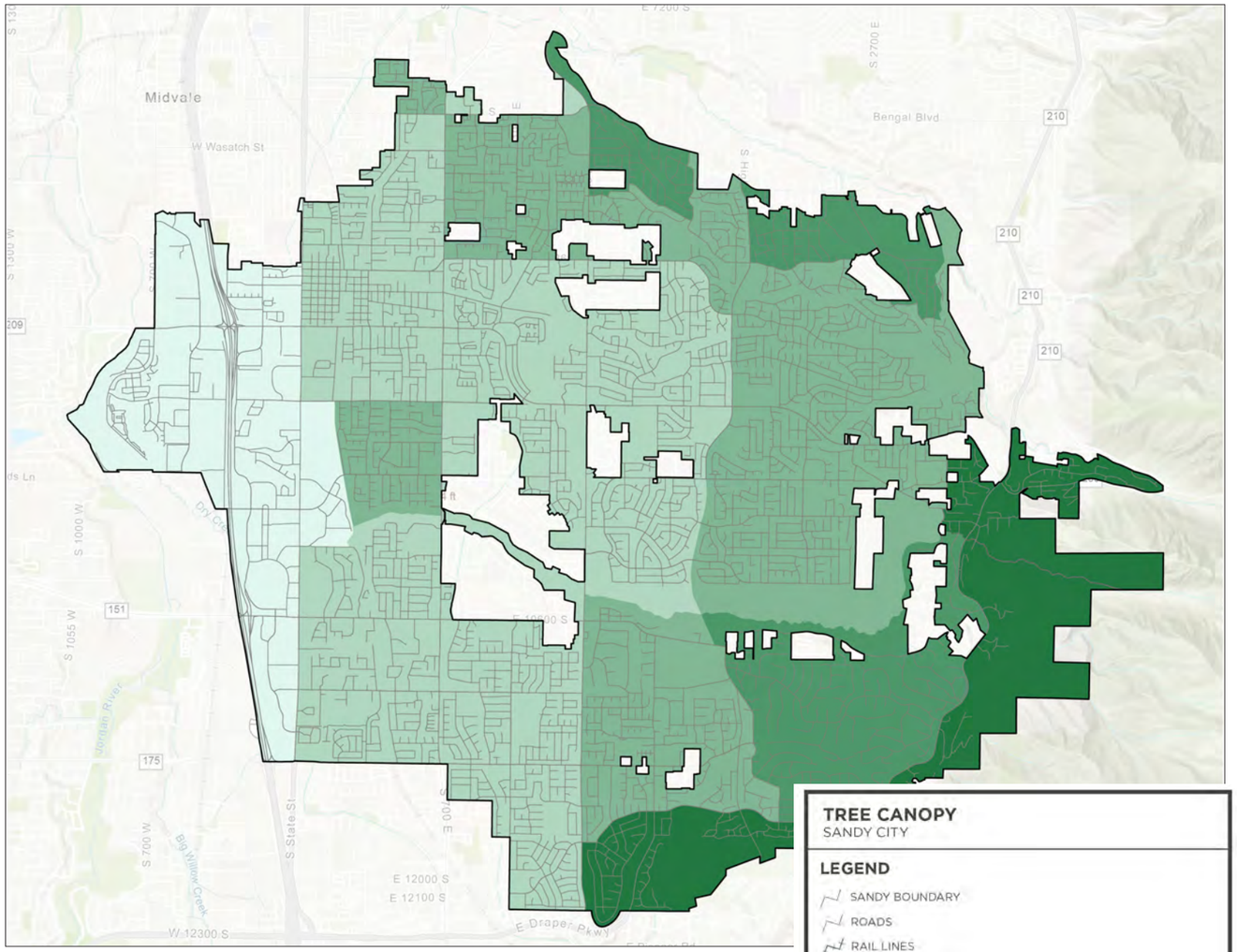
Sandy has prioritized energy efficiency and renewable energy through initiatives like the Unplug & Reconnect campaign and collaboration with Rocky Mountain Power for a community energy plan. Additionally, maintaining Tree City USA status highlights Sandy's commitment to urban forestry, with potential consideration of canopy coverage standards to enhance environmental, social, and economic benefits in the city. Many of these efforts will happen through the Sustainable Sandy 360° Initiative.

Sandy achieved Tree City USA recognition by meeting the program's four requirements: maintaining a tree board or department, having a tree care ordinance, dedicating an annual community forestry budget of at least two dollars per capita, and hosting an Arbor Day observation and proclamation. Research indicates that trees within urban environments, such as those found in Sandy, offer various benefits including enhancing mental well-being, reducing stress levels, mitigating pollution and urban heat, and bolstering economic growth.

Tree canopy coverage standards refer to guidelines or goals set by municipalities regarding the percentage of land area that should be covered by tree canopy within a given area. These standards aim to promote and maintain healthy urban forests, which provide numerous environmental, social, and economic benefits. Typically, tree canopy coverage standards vary depending on factors such as climate, geography, and urban density.

Healthy tree canopies are important in reducing the levels of PM 2.5 and Ozone in the air, as well reduce the effects of the urban heat island effect, noise, and water pollution. It is recommended by American Forests that the tree canopy be around 25%-35% in the West. The average tree canopy coverage in Sandy City is 22.3%, with the largest tree canopy percentage located closer to Bells and Little Cottonwood Canyons. The area around I-15 has the lowest tree canopy percentage, with some census tracks having as little as 11% coverage.

FIGURE 6.3.2: SANDY TREE CANOPY COVERAGE



91%

91% of residents listed increasing Sandy's tree canopy through public tree planting programs as extremely or somewhat important

AIR QUALITY

The two pollutants to be concerned about are PM2.5 and Ozone in the Salt Lake County area (Healthy Environment Alliance of Utah).

WHAT IS PM2.5?

PM2.5 is a fine particulate matter that reduces visibility and causes the air to look hazy in high quantities. This matter comes from indoor and outdoor sources, mainly vehicle exhausts, fires, tobacco smoke, burning candles or lamps, and can be carried over long distances from their source (for example: wildfires from the West).

PM2.5 affect the respiratory tract. It can affect human health by causing short-term effects such as shortness of breath and irritation, but can also cause long-term health effects over time, such as asthma, chronic bronchitis, lung cancer, and heart disease (Department of Health).

Outdoor PM2.5 levels are worse during periods of stagnant air (very little wind), creating a need for greenspace "breezeways" which help move the particles out of the city.

WHAT IS OZONE?

Depending on where it is in the atmosphere, Ozone can both positively and negatively affect one's health. Stratospheric Ozone is good-it reduces the amount of UV radiation that reaches the earth's surface. Tropospheric-- or ground-level ozone has negative effects on human health and contributes to inversion. This ground-level ozone comes from vehicular exhaust, motorized lawn equipment, power plants, emissions released from autobody shops and print shops, as well as paints and cleaners. (US EPA)

Ozone not only absorbs UV light, reducing human exposure to the radiation that causes skin cancer and cataracts, but ground-level ozone concentrations can also have adverse health effects on the respiratory system, similar to PM2.5.

Ground-level ozone can be reduced by reducing vehicular miles traveled (by carpooling, using public transportation, or by walking/biking), buying non-toxic cleaning materials, and cutting down on energy use (Utah Clean Air Partnership).

INCREASE SUSTAINABLE MOBILITY & CONNECTIVITY

Sandy has implemented a strategy to increase access to electric vehicle charging stations. Continued implementation of strategies to encourage the use of low-emissions options will further contribute to improvements in regional air quality.

In 2019, Sandy City installed 45 electric vehicle charging stations after a grant award from Rocky Mountain Power. Charging stations for electric vehicles (EVs) play a crucial role in improving air quality by promoting the adoption of cleaner transportation options. As more vehicles switch from traditional gasoline-powered engines to electric ones, there is a decrease in harmful emissions, particularly PM2.5 matter. By expanding the infrastructure for electric vehicle charging, Sandy can incentivize the transition to cleaner transportation options, ultimately leading to improved air quality and public health. This is done in concert with other mobility improvements such as better transit, more pedestrian and biking options, and opportunities for the workforce to live near jobs. Redeveloping the Neighborhood Activity Centers along 9400 South and 1300 East with internal road networks and transit supportive land use would play a crucial role in mitigating air pollution.

SANDY RESIDENTS FEEL THAT:

1. Requiring developers to design new developments to be pedestrian accessible by allowing visitors and residents to park in one location and easily and comfortably access the rest of the development on foot
2. Any redevelopment of existing commercial areas needs to support current or future transit ridership

ARE MOST IMPORTANT TO IMPROVE AIR QUALITY IN SANDY CITY

EV Charging Stations

EV Charging Stations

Goals, Objectives, Policies, & Actions

GOAL

Sandy will provide leadership in promoting good air quality in Utah and the Wasatch Front.

OBJECTIVE

Work with Federal, State, and local partners to address the sources of PM2.5, ground level ozone, and other emissions.

Policies

- Identify opportunities to reduce vehicle miles traveled through investment in Sandy's active transportation and transit systems
- Identify opportunities to reduce vehicle miles traveled through development types that promote park once strategies
- Pursue non-emitting industries and commercial enterprises as part of Sandy's Economic Development strategy

GOAL

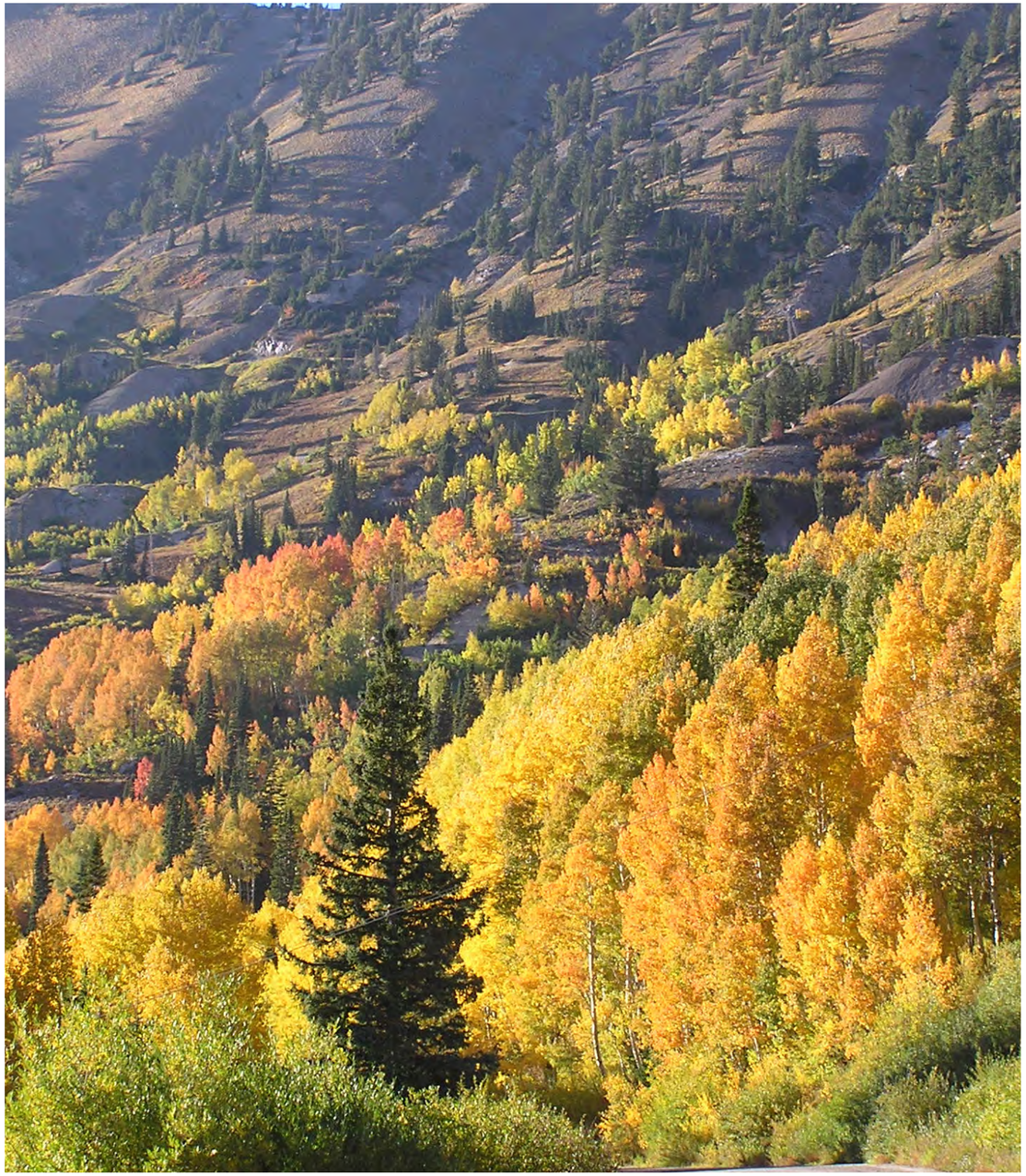
Sandy will identify opportunities to promote overall environmental stability and mitigate climate impacts

OBJECTIVE

Sandy's development policies contribute to overall ecological health and sustainability

Policies

- Maintain Tree City USA status
- Develop and apply canopy coverage standards for new development and redevelopment areas
- Sandy's city-wide tree canopy coverage is increased to the U.S. Forest Service standard of at least 25 percent
- Consider the inclusion of incentives to developer to increase the tree canopy
- Sponsor tree planting programs for residents



Little Cottonwood Canyon

CHAPTER 6.4

Sensitive Areas

Sandy GENERAL PLAN PACE OF PROGRESS

Introduction & Background

As Sandy undergoes population growth and urbanization, there's a call to preserve open spaces, natural areas, and wildlife habitats. Public feedback emphasizes the potential for smart growth policies to coexist with conservation efforts. With New development applications, it is important to preserve sensitive areas that are prone to natural disasters, wildlife corridors, and hillsides. This involves understanding potential disruptions to ecosystems and habitats, as well as lands along the Jordan River. Overall, Sandy prioritizes finding a balance between development and preserving its natural features. This may require flexibility in the application of planning, building, and engineering standards, especially in areas with significant natural constraints like steep slopes or sensitive ecosystems. it is important to clearly define when lands are fundamentally unsuitable for development. Lands that lie above water tanks/reservoirs or are outside of serviceable areas may be examples.

Existing Conditions

Sandy is situated amidst rich ecological assets, which requires development strategies to safeguard these resources and maintain open space amenities for the community. To identify and protect these assets, the City established a Sensitive Area Overlay Zone, which encompasses areas with significant natural features like steep slopes, floodplains, water bodies, and high-risk zones for natural hazards.

Many lands within the overlay are on the east bench. Proposals within it require compliance with specific standards thorough assessments of factors such as drainage, vegetation, land stability, and potential hazards.

The current Sensitive Areas map includes all slopes above 30%. There are a limited number of locations that, although meeting the slope requirement, are isolated and may be appropriate for reduced Sensitive Areas overlay requirements. An evaluation of all of the areas included in the overlay is needed to ensure that the purpose of the overlay is appropriate in all of the areas identified.

Additionally, Sandy faces the challenge of managing the wildland-urban interface, where the urban environment meets undeveloped wildlands, necessitating careful consideration of human settlement needs and environmental conservation. With increasing wildfire concerns in the Western United States, measures like Wildland-Urban Interface Building Requirements are necessary and current practice in Sandy. However, wildfire prevention, detection, control, and suppression techniques will evolve with new advancements in wildland fire science. Monitoring new occurrences and advancements in wildland fire science will be necessary to protect Sandy from future wildfires.

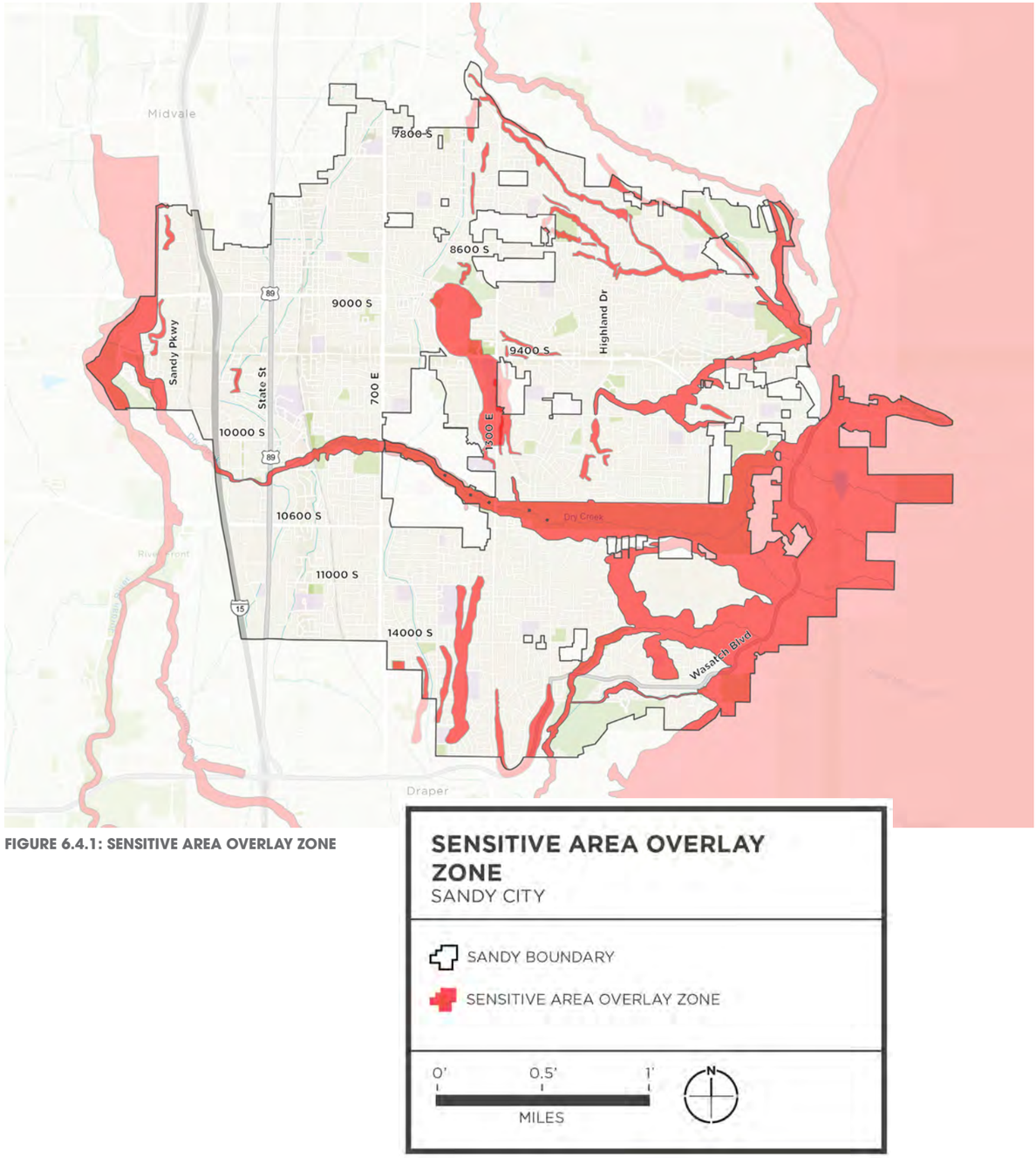


FIGURE 6.4.1: SENSITIVE AREA OVERLAY ZONE

What the Community Said

Many feel there is a pressing need to safeguard its open spaces, natural areas, and wildlife habitats. Development proposed in the Sensitive Lands Overlay Zone comes with much public concern and a desire for predictability and assurance that development proposals will receive through review.

Development Reviews

Development proposals that have the potential to impact hillsides, vegetation, and riparian zones require unique review. This is essential to ensure that development activities do not compromise the ecological integrity of the city and the surrounding area. A unique review is also necessary because lands within sensitive areas often are less suitable for development than other lands.

Balancing Development with Preservation

Sandy faces the challenge of navigating a delicate balance between development and preservation to ensure the sustainable coexistence of urbanization and the preservation of its natural features. This entails adopting policies and strategies that prioritize conservation while addressing future growth. Much of this is accomplished through this plan's goals, as areas that are more suitable for development are identified in the plan and balance is achieved on a citywide scale. Areas that are less suitable may require site-specific considerations on a much smaller scale to achieve balance between development and preservation.

Preservation of Natural Areas amid Urbanization

Sandy residents rate preserving outdoor recreation opportunities and community character, as well as having space for family to live in the community as the most important priorities. Balancing having areas for families to live in Sandy City, along with preserving natural areas and outdoor recreation opportunities is one of the biggest challenges Sandy residents face when thinking about Sandy City's future.

Lone Peak View from Sandy City

Key Strategies

CONSERVE OPEN SPACE & NATURAL RESOURCES

Sandy's Sensitive Area Overlay Zone establishes standards for hillsides, grading, vegetation preservation, impervious surfaces, and architectural/aesthetic standards. These standards seek to minimize fire threat and damage, preserve natural features, protect wildlife habitat, sustain open space, maintain public access, preserve hillside areas, and enhance their visual and environmental quality. These standards serve as a foundational framework for managing sensitive lands in Sandy. Preserving the intent of these standards in future rewrites/reorganizations of codes and policies in Sandy will maintain this foundation. Coordination with state and local partners, especially regarding wildlife protection, may provide additional building blocks for future actions.

Remaining undeveloped lands in sensitive areas in Sandy may have unique environmental conditions that warrant special consideration. To address this, Sandy may consider limited flexibility in planning, building, and engineering standards to allow for creative solutions that result in a better environmental outcome than would otherwise be achieved with default standards. However, such flexibility is best tailored for solutions possible at a site-specific level in areas envisioned for a modest level of development potential. Such flexibility is not a tool for increased density or intensity and would be considered at a decision-making level (e.g. staff/administrative, planning commission, city council) commensurate with the degree of flexibility. Areas inherently unsuitable for development would continue to be subject to default standards.

Recent development - particularly in the eastern areas of Sandy - has turned the public's attention to wildlife impacts. Protection of wildlife habitat is mentioned in Sandy's current Land Use Code, and other jurisdictions such as Salt Lake County and Summit County have adopted standards to protect specific types of habitats. Sandy could explore similar standards tailored for specific wildlife habitat and plant communities in its jurisdiction.

Neighboring jurisdictions could provide a regulatory framework for Sandy to consider, while state and federal resources could help identify the specific wildlife and plant species that warrant protection within the city. The 2015 Utah Wildlife Action Plan (WAP) is a 10-year strategic framework designed to unite stakeholders including the Utah Department of Wildlife Resources (UDWR), state and federal agencies, individuals, NGOs, and local governments, and could be the starting point from which specific protections are explored for consideration in Sandy. This could address any public concerns that continue to arise regarding wildlife impacts.

Deer in Bells Canyon

Goals, Objectives, Policies, & Actions

GOAL

Sandy will conserve open space and natural resources

OBJECTIVE

Utilize best practices to protect sensitive areas

Policies

- Review and update as necessary Sandy's hillside protection, grading, and vegetation preservation provisions
- Ensure that impervious surfaces are minimized in new development and redevelopment
- Require wildlife protection plans when new development is within currently undeveloped areas along the city's foothills

OBJECTIVE

New development preserves and protects Sandy's natural resources

Policies

- New development in Sandy's sensitive lands overlay area minimize the area of disturbance
- New development in Sandy's foothills minimizes visibility of new structures
- New development in Sandy's foothills include wildlands/fire interface strategies

Dimple Dell

CHAPTER 6.5

Stormwater

Sandy GENERAL PLAN PACE OF PROGRESS

Introduction & Background

Stormwater management is a critical consideration when new development or redevelopment occurs within the community. Development plans identify strategies to control and mitigate the effects of stormwater runoff to prevent flooding, erosion, and pollution of water bodies while protecting human health and the environment.

Sandy's stormwater management and emergency response capabilities are established, comprehensive, and consistently updated in accordance with best practices. As the climate changes and evolves, the City's stormwater management strategies must be updated to implement best practices.

Existing Conditions

The Department of Public Utilities in Sandy manages stormwater across approximately 25 square miles, much of which is directed to the Jordan River through pipes, canals, and ditches. Sandy manages stormwater runoff under a Utah Pollutant Discharge Elimination System (UPDES) permit. Major drainage systems along key streets like 8600 South, 9000 South, 9400 South, and 11400 South were historically irrigation canals, now repurposed for stormwater management. Sandy's Comprehensive Storm Water Management Program (CSWMP) charges residents based on parcel size and impervious surface area to fund initiatives like the Storm Water Capital Improvement Program (SWCIP), Best Management Practices (MCM BMPs), Storm Water Management Program (SWAMP), and Floodplain Management Program (FMP). These efforts aim to comply with regulations, enhance public safety, and improve water quality, aligning with the Clean Water Act's requirements and mitigating environmental impact.

What The Community Said

Residents and city staffers seek to increase resilience to severe storms through infrastructure improvements, emergency preparedness, and public education campaigns. Robust mechanisms to respond promptly to major storm events are widely supported.

Severe Storms

Sandy residents express concerns about enhancing community resilience to severe storms, emphasizing the importance of infrastructure improvements, emergency preparedness initiatives, and public education campaigns. Addressing these concerns requires the city to establish robust mechanisms to respond promptly to major stormwater events to minimize property damage and disruption of daily life.

Staying Informed

Effective responses to stormwater events have allowed the Sandy community to minimize impacts. Residents rely upon city departments (particularly the Emergency Management Division) and volunteer networks to stay informed and take necessary actions to protect themselves from stormwater events

Key Strategies

STRENGTHEN NEIGHBORHOODS

Strong neighborhoods are resilient neighborhoods. The Sandy Comprehensive Stormwater Management Plan is key to managing stormwater events in the city and will be effective when paired with City and volunteer response organizations.

The Sandy Comprehensive Stormwater Management Program (CSWMP) is composed of four plans/practices: the Storm Drain Master Plan (SDMP), the Minimum Control Measure Best Management Practice (MCM BMP's), the Storm Drain Asset Management Plan (SDAMP), and the Floodplain Management Program (FMP). Each program is essential for compliance with regulations, efficient maintenance of the storm water system, flood mitigation, public safety, and water quality preservation. The CSWMP ensures coordinated efforts among the programs and ongoing improvements based on identified needs. The Plan is continually updated by the Public Utilities Department and updated in association with relevant federal, state, and regional partners. The continued stewardship of the CSWMP by the Public Utilities Department is key to ensuring a baseline level of stormwater management and needs to be updated every five years.

Flooding from intense rainfall or snowmelt can overwhelm Sandy's stormwater management system, leading to events that require the dispatch of first responders and public works agencies. Implementing the CSWMP in coordination with the policies and procedures of the Sandy Emergency Management Department is crucial to maintaining overall emergency response capability. Public outreach and education provided by each department will be crucial in maintaining emergency response efforts.

CONSERVE OPEN SPACE & NATURAL RESOURCES

Considering increasing the quality of stormwater runoff through green infrastructure solutions is crucial for enhancing environmental sustainability and mitigating pollution. Additionally, exploring the incorporation of streambank undercutting standards can further bolster stormwater management efforts, ensuring the resilience and effectiveness of the city's infrastructure against erosion and water quality degradation.

Example of a stormwater retention basin next to a parking lot

Green infrastructure solutions like bioswales, ecoroofs, and well-maintained permeable pavement can be used to further mitigate runoff and improve water quality. These solutions can be incorporated into Low-Impact Development (LID) techniques and utilize stormwater infrastructure into green infrastructure assets. This could allow Sandy to substantially increase the water quality of stormwater runoff while providing pleasing green infrastructure assets that benefit both the environment and the community.

Green infrastructure is an effective way to improve stormwater quality upstream. Downstream, particularly along the Jordan River, stream bank undercutting can be addressed through planting riparian vegetation, reinforcing banks with structures like riprap or terraces, and establishing buffer zones to absorb runoff and reduce disturbances. Techniques like soil bioengineering can stabilize slopes, while minimizing activities near streams helps preserve ecosystem integrity. These measures collectively mitigate erosion, protect water quality, and maintain the stability of stream banks, ensuring the long-term health of aquatic habitats and surrounding environments. Sandy may want to explore streambank undercutting standards along the Jordan River, its tributaries, and other riparian areas where undercutting occurs.

Stormwater Management in Sandy directly affects the Jordan River

Goals, Objectives, Policies, & Actions

GOAL

Sandy utilizes best practices to manage stormwater runoff

OBJECTIVE

Stormwater management practices minimize property losses and threats to human life

Policies

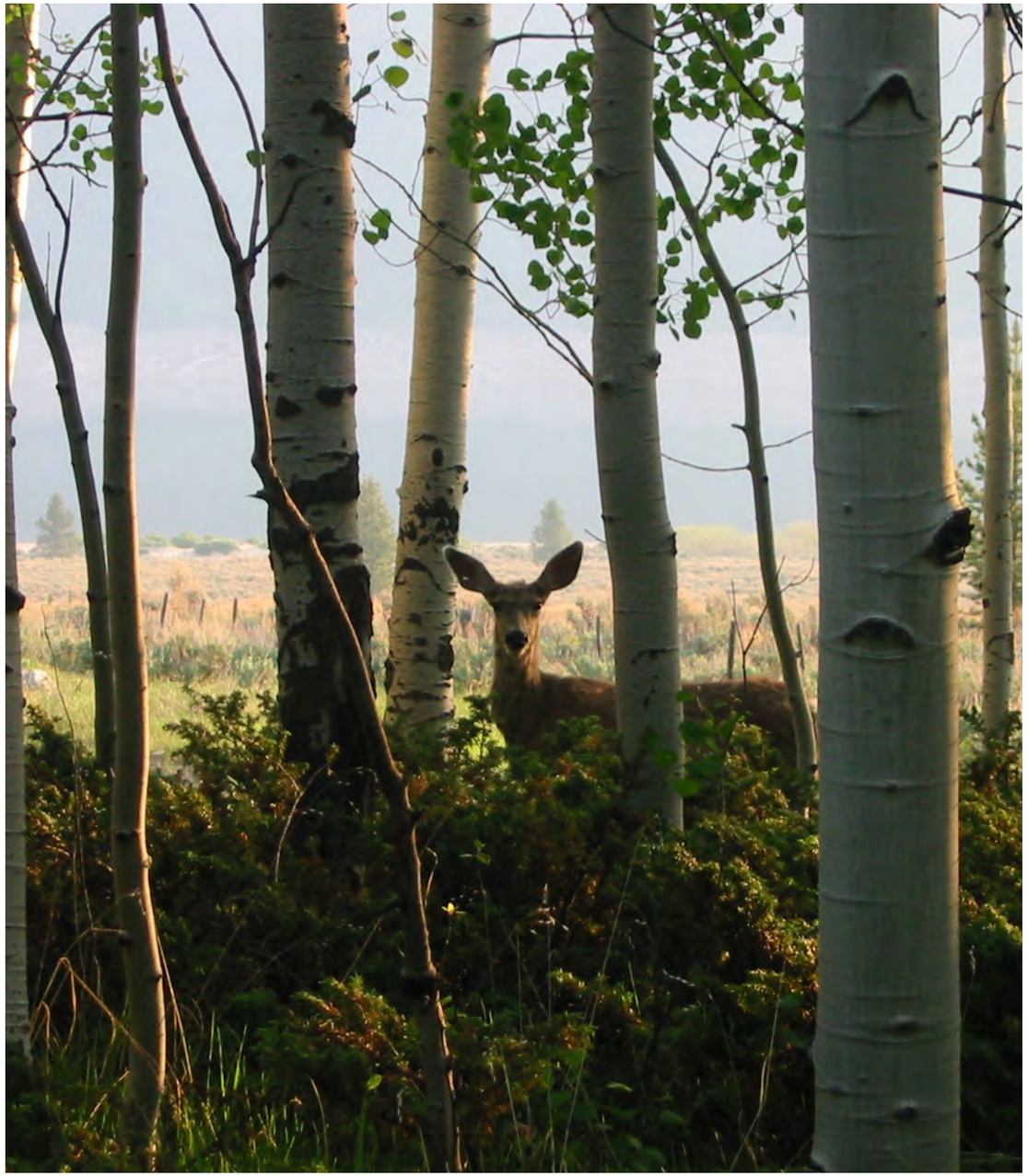
- Stormwater infrastructure is resilient and properly managed to accommodate anticipated run off
- New development utilizes best practices in minimizing impervious surfaces and planning for major storm events
- Streambanks are properly managed to minimize streambank undercutting
- Consider technology upgrades such as the Internet of Things technology to provide real-time adjustment of stormwater infrastructure capacity

OBJECTIVE

Land Use and development standards encourage the implementation of Low Impact Development and green infrastructure in new development and as retrofits in redevelopment

Policies

- Sandy's development standards provide incentives for implementation of green infrastructure strategies
- Expand the use of Low Impact Development strategies such as bioswales, rain gardens, permiable pavement, and others in urbanized areas such as the Cairns
- Incorporate water wise vegetation in park strips less than 8 feet wide



wildlife near in the foothills of Sandy City