Urbana and Champaign Sanitary District

Strategic Plan 2023

Background

Incorporated on May 24, 1921, the Urbana and Champaign Sanitary District (UCSD) operates two wastewater treatment plants and maintains over 95-miles of interceptor sewers, 36-miles of collector sewers, 28 pump stations, and 18-miles of force main. The District focuses on the activities supporting the continued provision of wastewater collection and treatment from residential, industrial and commercial rate payers within its service area. The UCSD service area encompasses approximately 44 square miles of land, serving a total population of approximately 150,000 residents of which about 11,100 live in unincorporated subdivisions (based on the 2020 US census). UCSD owns and maintains approximately 10% of the collector sewers in the service area. The other 90% of the collector sewers are owned and maintained by the City of Urbana, City of Champaign, Village of Savoy, the Village of Bondville, and the University of Illinois. District staff work from its Northeast and Southwest Treatment Plants.

The District provides services around six core processes:

1. Collect wastewater: Operate and maintain sewers by cleaning, televising and repairing/rehabilitation. Operate and maintain pump stations.

2. Treat wastewater: Operate and maintain the treatment plants in compliance with Illinois Environmental Protection Agency (IEPA) discharge regulations.

3. Regulate connections: Provide construction permits, inspect, and approve new infrastructure and connections to the sanitary sewer system.

4. Provide capacity: Manage capital improvement projects to increase or maintain capacity in the sanitary sewer system and at the treatment plants to accommodate community growth and development.

5. Regulate discharges: Provide wastewater discharge permits to industrial dischargers, regulate commercial discharges, and educate the public about allowable wastewater discharges.

6. Beneficial recovery/reuse: Recover/reuse treated wastewater, bio-solids, nutrients, energy, and other waste streams in compliance with regulations.

Organizational Structure

UCSD is a municipal unit of government that is governed by an appointed, three-member Board of Trustees. The Champaign County Executive appoints the Board of Trustee members. Day-to-day operations are managed by the Executive Director. Directors of Operations, Maintenance,

Finance/Administration, and Engineering report to the Executive Director. Supervisors and coordinators in each Division manage hourly staff and report to their assigned Director. A majority of the hourly staff are members of the General Teamsters Local Union 226.

Strategic Planning Process

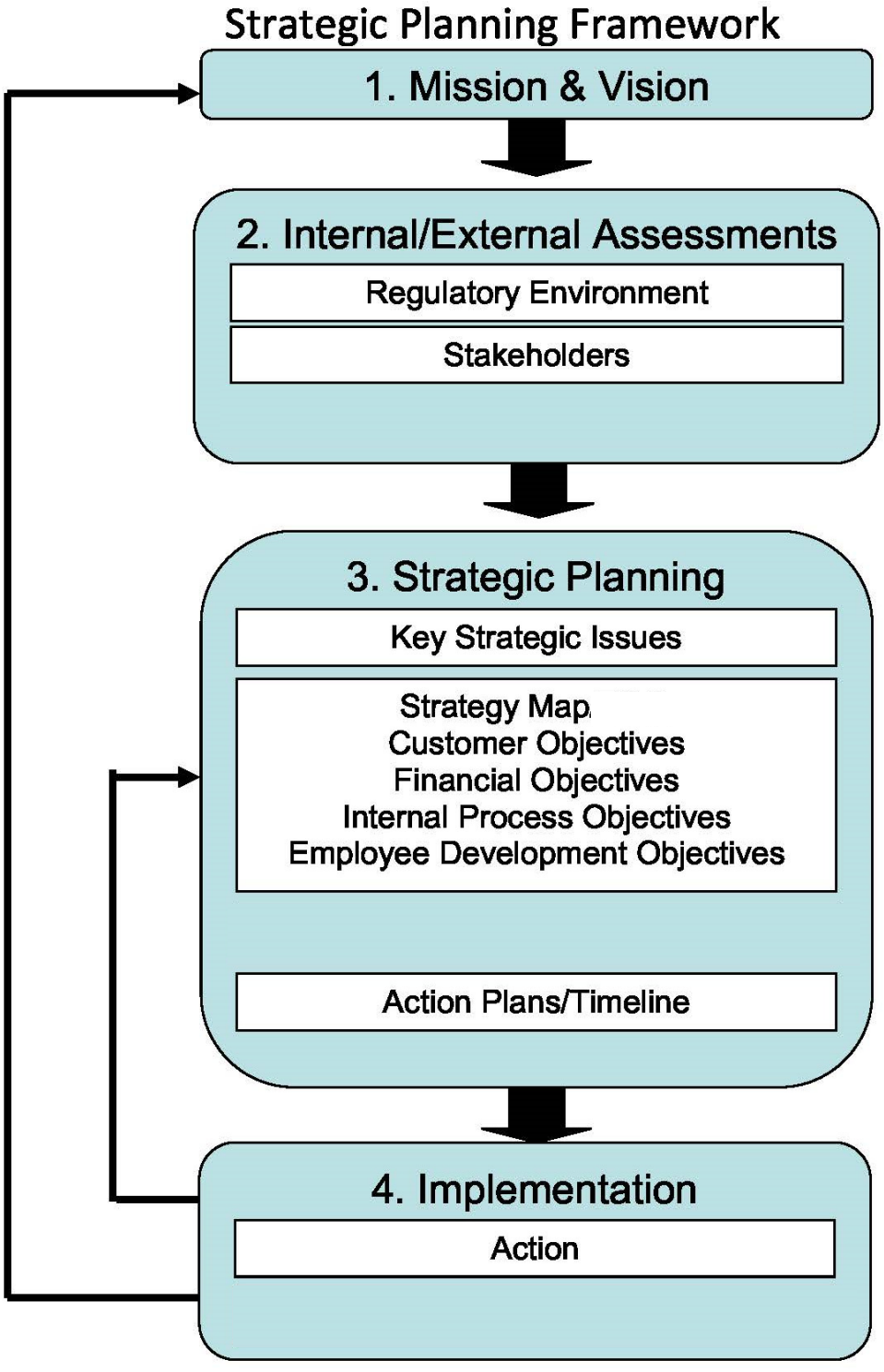
Strategic planning is a process that organizations conduct to plan their near, mid, and long-term strategies. A robust strategic planning process arms the organization with clearly defined strategic objectives across all time horizons and prepares the organization for successful strategy development and execution. Strategic planning is an organization's process of defining its strategy, or direction, and making decisions on allocating its resources to pursue this strategy. It may also extend to control mechanisms for guiding the implementation of the strategy.

The management team (Executive Director and Directors) reviewed planning studies, benchmarking data (where available), new/potential regulations and industry trends, economic projections, climate change, and internal challenges. During subsequent meetings, the management team prioritized driving forces and internal challenges, and identified strategies, objectives and initiatives to address them. A map of strategic objectives was developed, along with measures and initiatives to support those objectives.

UCSD's strategic planning efforts utilized the following studies and reports:

- 2019 Southwest Treatment Plant Long Range Facility Plan (Completed in 2021)
- 2021 Northeast Treatment Plant Long Range Facility Plan (Completed in 2023)
- 2011 Collection System Long Range Facility Plan (Completed in 2011 with updates since including the 2nd Street Pump Station (2014), Staley Road Interceptor Study (2018), and East Urbana Pump Station Study (2022))
- Five-Year Capital Improvement Plan (Updated Annually in April)
- Rate Study and Financial Analysis (Completed in 2023)
- Capacity, Management, Operation, and Maintenance (CMOM) Plan (Updated in 2023)

The strategic planning framework process utilized is presented on page 3.


Strategic Planning Framework
1. Mission & Vision
2. Internal/External Assessments
Regulatory Environment
Stakeholders
3. Strategic Planning
Key Strategic Issues
Strategy Map
Customer Objectives
Financial Objectives
Internal Process Objectives
Employee Development Objectives
Action Plans/Timeline
4. Implementation
Action

1. Mission & Vision

The District's mission statement serves as the foundation for strategic planning efforts and is always reviewed at the beginning of the process to ensure that they are in alignment with the core values and resultant activities.

Our Mission Statement

The Mission of the Urbana and Champaign Sanitary District is to protect public health and safety, preserve the public trust, and protect the natural environment. We accomplish this by meeting present and future community needs, efficiently collecting and treating wastewater, and retaining and developing qualified staff.

How We Accomplish Our Mission

Human health and environmental stewardship

- Limiting health risks through treatment of wastewater
- Meeting or exceeding all permit requirements
- Preventing sanitary sewer overflows and back-ups
- Responding to emergencies and after-hour incidents with On-Call Program
- Enhancing water quality in local creeks and streams
- Utilizing a holistic watershed approach on water quality issues
- Promoting pollution prevention through outreach and educational programs
- Maximizing use of green energy sources when feasible and cost-effective
- Reducing our carbon footprint
- Improving our climate change resilience

Commitment to safety:

- Continually reviewing our safety program for opportunities to improve
- Focusing on protecting employees and the community in all our activities
- Allocating resources to ensure safe operations (equipment, training, staff)
- Collaboratively promoting a safe work environment
- Having a safety committee to solicit input on safety from Staff
- Recognizing and celebrating safety achievements and milestones

Responsibility:

- Being accountable for our actions and decisions
- Being fiscally prudent
- Maintaining and upgrading infrastructure
- Anticipating and meeting future District and stakeholder needs
- Compliance with laws and regulations (local, state, federal)
- Effective asset management
- Effective use of technology
- Looking for innovative ways to reduce or reuse our waste streams

Collect, treat, and recover/reuse wastewater:

- Providing capacity in the interceptor system and plants
- Regulating connections – Ensuring quality of new infrastructure while mitigating I&I
- Increasing efforts for resource recovery (biogas, biosolids, nutrients, energy, etc.)
- Exploring ways to increase water reclamation and reuse potential

We benefit our stakeholders by:

Community

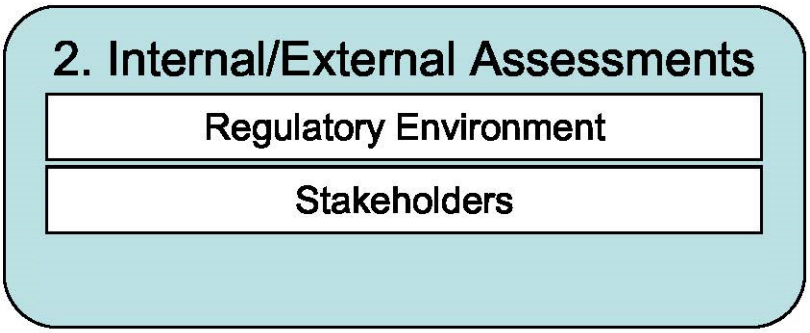
- Cleaning and reclaiming 6 billion gallons of water per year
- Stabilizing and reducing the pathogens in 12,000 wet tons of biosolids per year, creating a soil amendment with complex organic materials and nutrients
- Complying with all local, state, and federal regulations, protecting the environment
- Communicating with the public and bringing awareness about wastewater issues
- Responding to emergencies and providing mutual aid
- Participating in community outreach activities including tours and open houses
- Contributing to the wastewater treatment profession by participating in professional associations, partnering with other agencies and organizations, and sharing best practices
- Participating in legislative and regulatory process to encourage regulation that is rational and protective
- Working cooperatively with cities and other government agencies

Customer

- Providing high quality and reliable service 24/7
- Being fiscally responsible and cost effective, and providing value
- Promptly responding to customers' needs
- Being professional and courteous
- Proactively and creatively meeting customer needs
- Supporting businesses through permitting, education, and by providing capacity

Employees

- Providing a safe work environment
- Recognizing employee contributions
- Encouraging cooperation and collaboration
- Demonstrating equality and fairness
- Valuing employee input, and offering opportunities for involvement and creativity
- Providing training and resources
- Providing competitive wages and benefits in a stable work environment
- Communicating and sharing information openly and honestly



Regulatory Environment

The District holds National Pollution Discharge Elimination System (NPDES) permits from the Illinois Environmental Protection Agency (IEPA) for discharge from its two treatment plants and for its land application of biosolids.

The Northeast Plant (NEP) operates under NPDES permit number IL0031500, which went into effect October 1, 2020 and will expire September 30, 2025. The NEP has two permitted outfalls that include the treatment plant effluent and excess flow.

The Southwest Plant (SWP) operates under NPDES permit number IL0031526, which went into effect September 1, 2019 and will expire August 31, 2024. The SWP has three permitted outfalls that include the treatment plant effluent, excess flow, and combined (plant effluent and excess flow) discharges.

These permits set limits for wastewater discharged, including the contaminants that are allowable in the discharge, operating conditions, and reporting requirements. The NPDES permits also include requirements regarding stormwater, Capacity Management Operation and Maintenance (CMOM) collection system, and Nutrient Assessment Reduction Plan (NARP). The District is required to file monthly, quarterly, and annual reports on the activities covered under the NPDES permits.

The UCSD biosolids management program operates under the IEPA permit number 2023-SC-68175, which went in effect on May 16, 2023 and will expire on April 30, 2028. This permit regulates all aspects of the generation, monitoring, and distribution of both our facilities biosolids.

UCSD recently received Gold Awards from the National Association of Clean Water Agencies (NACWA) for "Peak Performance" for both plants in the 2022 calendar year. This is the 36th consecutive year that NACWA has provided some level of recognition to UCSD for exemplary permit compliance. The NEP was named the 2021 Plant of the Year by the Illinois Association of Water Pollution Control Operators. The SWP was also named the 2010 Plant of Year.

Other applicable regulations include OSHA requirements, including regulations for entering confined spaces, Federal EPA and Illinois EPA regulations for controlling sewer overflows and discharges from industrial sources, and rules established by the Governmental Accounting Standards Board (GASB) and Generally Accepted Accounting Principles (GAAP) for financial and asset management.

Regulatory issues facing the District during this planning cycle include the potential future requirements for nutrient removal from the wastewater and the impacts of PFAS restrictions on biosolids.

During the creation of the Illinois Nutrient Loss Reduction Strategy in 2015, IEPA put forward the concept of optimizing treatment plant operations to remove phosphorus. This was a recognition that the state could make substantial, rapid progress if treatment plants did whatever was possible with existing equipment. As the Strategy was adopted there was also an emphasis in seeking improvement from Illinois' Major Treatment Facilities including UCSD. This emphasis on the Majors was the only way Illinois could achieve the 45% reduction envisioned in the Gulf Hypoxia Plan in a reasonable time frame. UCSD has led by example in seeking how low the two treatment plants could drive their effluent phosphorous. Both treatment plants are now discharging more than 30% less phosphorous since the optimization has been undertaken.

In 2018, IEPA began writing permits with a 0.5 mg/L annual geometric mean for effluent phosphorous. Continuing with the theme of leading by example, UCSD accepted an immediate implementation of the decrease of their effluent total phosphorus limit from 1.0 mg/l to 0.5 mg/L for the SWP. The SWP has recently been averaging effluent phosphorus levels of less than 0.3 mg/L. The Long-Range Facility Plan (LRFP) Report being completed for the NEP includes improvements to upgrade that facility to comply with a 0.5 mg/l annual geometric mean for phosphorous by 2035.

A Nutrient Assessment Reduction Plan (NARP) was incorporated into the District's current NPDES discharge permits. The purpose of the NARP is to identify phosphorous reductions and other measures needed to help ensure the dissolved oxygen and aquatic life criteria are met

throughout the watershed. The NARP serves as a substitute for a Total Maximum Daily Load (TDML) study to meet those numeric and narrative criteria. The NARP differs from the TMDL by allowing the evaluation of appropriate water quality targets and making adjustments to them through adaptive management. UCSD has been monitoring and assessing the water quality in its receiving streams since 2022 as part of its NARP study efforts.

Currently, there are no effluent loading limitations for total nitrogen (TN) in Illinois. The LRFPs for NEP and SWP are geared towards optimizing the operations for superior phosphorus removal, which is consistent with Illinois Nutrient Loss Reduction Strategy. The A/O Process, with the reliance upon a strongly anaerobic condition in the first portion of biological operations, is ideally suited towards optimal phosphorous effluent quality. The later portion of the tankage being oxic is necessary to reliably meet ammonia limits.

In reviewing TN removal treatment alternatives, computer modeling confirmed that converting some of the anaerobic tankage to anoxic conditions would improve nitrogen removal, but would sacrifice phosphorous removal. It was determined that in order to reliably obtain TN removal at the plant would require a substantial infrastructure and capital investment. The biological reactors already expanded to their practical limit and those tanks are in the center of the plant and already constrained on all sides. Therefore improvements to achieve specific TN removal are not included in the LRFPS for the NEP and SWP facilities.

Per- and Polyfluoroalkyl Substances (PFAS) have been an increasing focus of the public, legislative bodies, and the regulatory community. PFAS are a diverse group of human-made chemicals used in a wide range of consumer and industrial products. PFAS do not easily breakdown and some types have been shown to accumulate in the environment and in our bodies. UCSD participates in research projects to better understand this area of concern.

Wastewater facilities regularly receive PFAS contaminated influent flow. Certain PFAS partition to the biosolids generated during wastewater treatment. UCSD land applies its biosolids as a soil amendment and nutrient source to local agricultural fields. Some state regulatory agencies have expressed concern about PFAS contaminated land applied biosolids impacting the food supply and agricultural fields. The Maine state legislature passed a bill – L.D. 1911, An Act to Prevent the Further Contamination of the Soils and Waters of the State with So-Called Forever Chemicals that completely prohibits the land application of biosolids and the sale of compost or other agricultural products and materials containing sludge and septage in the state of Maine due to PFAS concerns.

Land application of biosolids as soil amendments and a nutrient source is a beneficial reuse that is good for the environment and the lowest biosolids processing cost available to UCSD. If land application of biosolids was banned in Illinois, UCSD would have to landfill or thermally treat the biosolids to remove the PFAS prior to land application which would be significantly more expensive than current practices. The NEP LRFP will include an evaluation of biosolids processing alternatives in case land application is prohibited due to PFAS issues.

Stakeholders

Input and feedback are informally solicited from stake holders including employees, management staff, board members, businesses, residents, governmental agencies, and other interested parties throughout the strategic planning process.

The NARP study involves engagement with watershed stakeholders. NARP Stakeholder engagement will include the Salt Fork Steering Committee, State and County Farm Bureau(s), County Soil and Water Conservation Districts (SWCD), Natural Resources Conservation Service (NRCS), Environmental groups such as Prairie Rivers Network, urban residents, agricultural industry groups such as the Illinois Fertilizer and Chemical Association or Illinois Corn Growers, and institutions of higher education and researchers.

Strategic Issues Defined

The District has created clear guideline and criteria for why an issue should be considered strategic:

1. Threatens UCSD's compliance record

2. High consequences if not addressed

3. Directly impacts ability to achieve Mission (ex. the need to attract and retain employees)

4. High dollar impact

5. Related to the big four costs: labor, chemicals, energy, cost of funding

6. Creates an opportunity for improvement that will have a long-term impact

7. Likely to get bigger, more urgent if not addressed

8. We need to do something differently to effectively address, requires change

9. Customer or stakeholder driven

Key strategic issues for the next ten years:

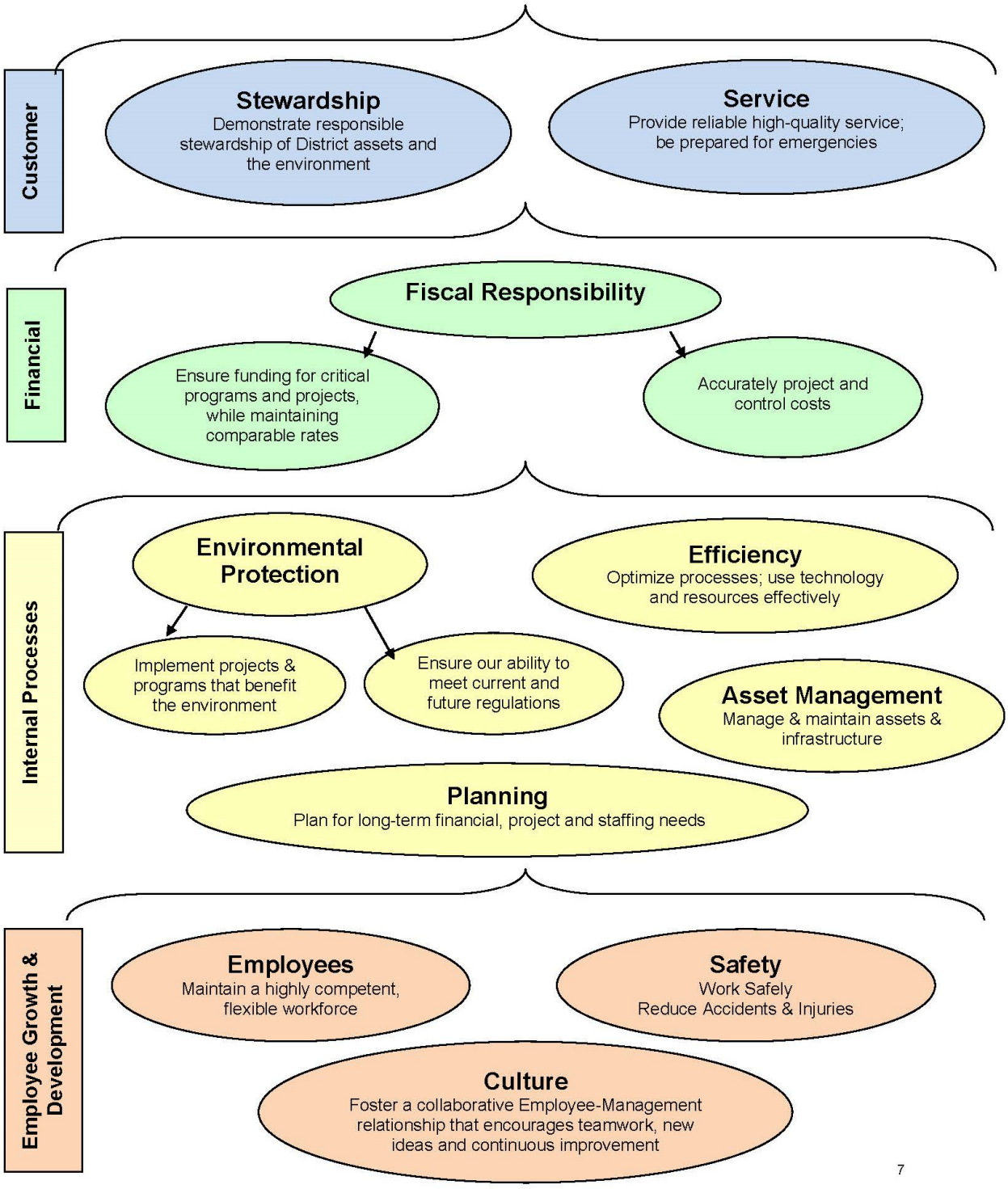
- Completing and implementing the Long Range Facility Plans for NEP and SWP
- Long-term staffing, including knowledge capture/transfer and planning for retirements
- Balancing affordability of rates with adequate funds for continued provision of service
- Maintaining permit compliance
- Emergency preparedness

- Addressing new and changing regulations
- Asset management
- Changing technology
- Sustainability: environmental, financial, social (includes green projects)
- Data and records management and analysis (includes document mgmt.)
- Internal communication and coordination
- Maintaining a positive team culture
- Maintaining safety programs
- Balancing employee workloads
- External customer service and customer relations
- Maintaining compliance with Federal and State Employment Laws

Strategy Map

A strategy map was created, incorporating the key issues. The strategy map is the expression of the District's strategic plan, showing the relationship between customer, financial, internal process and employee growth & development objectives. The map focuses on operational issues.

USCD Strategy Map



UCSD Strategy Map

Goals and Measures

Detailed goal statements were developed for each objective:

Customer objectives:

Service:

Provide reliable high-quality customer service

- Customers can easily contact the District and be connected to the correct person to receive the service they need in a timely manner (in person, by phone, by e-mail, through web site)
- Respond promptly to customer complaints, including sewer backups and odor reports
- Services are provided in manner that meets all regulatory requirements and minimizes adverse impacts of our activities on customers

Be prepared for emergencies and after-hours incidents

- Equipment and processes are in place and tested and employees are prepared to respond to emergencies and after-hours incidents
- Ensure adequate staffing and financial resources are provided for On-Call After-Hours Response Program

Stewardship:

Demonstrate responsible stewardship of District assets and the environment

- Assets are maintained in a manner that provides adequate capacity, prevents failures and minimizes disruption to service
- Outreach/education activities deliver a consistent, positive message (branding) and target messages to specific audiences
- Outreach activities differentiate UCSD from other government agencies and emphasize our role in environmental and health protection
- Conserve natural resources and protect the environment
- Intergovernmental cooperation and partnerships to share resources and cooperatively address issues (Dog Park Lease, Perkins Road Wetland Restoration Site, MTD Solar Farm Lease, Road Salt Supply, etc.)

Financial Objectives:

Fiscal responsibility:

Ensure funding for critical programs and projects, while maintaining affordable rates

- User charges and permit fees are established to adequately fund operations, and provide the maximum value to customers

- It is the goal of the District to keep rates as low as possible and frequently compare rates with other agencies as a benchmark
- Permit fees are set appropriately to equitably cover costs of capacity enhancing projects
- Alternative sources of funding (grants, loans, renewable energy certificate (REC) sales, Renewable identification numbers (RIN) sales, and lease income) are pursued

Accurately project and control costs

- Long-range plans are developed, and special studies conducted to project future needs and avoid cost spikes
- Develop accurate budgets and control expenses to stay within the budget
- Staff include financial and ethical considerations when making decisions

Internal Business Process Objectives:

Asset Management:

Manage and maintain assets and infrastructure

- Long-range and master plans are developed to project future needs and avoid cost spikes
- Assets are maintained in a manner that provides adequate capacity, prevents failures and minimizes disruption to service
- Understand the condition and value of District assets and optimize life-cycle costs of maintenance and replacement

Efficiency:

Optimize processes

- Processes are regularly evaluated and improved to reduce cost while maintaining or enhancing level of service

Use technology and resources effectively

- Technology and computer automation are used appropriately to control costs while maintaining or enhancing level of service
- Communication technology (GIS, mobile) is used appropriately to control costs while maintaining or enhancing level of service and providing data and operational security
- Data, documents and records are managed effectively to make decisions and enhance level of service

Environmental Protection:

Maintain our ability to meet current and future regulations

- Compliance with permit and other regulatory requirements

- Awareness of and preparedness for developments with new regulations and emerging pollutants
- Ability to meet current and future regulations is enhanced by participation in wastewater and professional groups and committees

Implement projects and programs that benefit the environment

- Conserve natural resources and reduce wastes and pollutants
- Adverse environmental impacts are measurably reduced

Planning:

Plan for long-term financial, project and staffing needs

- The strategic plan is developed and implemented
- Long-range plans are developed to project future needs and avoid cost spikes
- Future workforce needs are met through long-term staffing and succession planning
- Projects are planned to consider the impact on operations and staff

Employee Growth & Development Objectives:

Employees:

Maintain a highly competent, flexible workforce

- Hiring practices are designed to grow-our-own; hire for abilities and train for skill
- Education reimbursement program to assist with job-related educational goals
- Hiring, promotion and training processes are aligned with knowledge, skills, and abilities
- Job knowledge is captured and transferred
- Employees are increasingly competent to do their job and to train others
- Employees include financial and ethical considerations when making decisions
- Plan for increasing levels of employee turnover including retirements

Culture:

Foster a collaborative employee-management relationship that encourages teamwork, new ideas and continuous improvement

- Employee input is solicited and utilized
- Employee are involved in projects, committees and taskforces
- Union –Management issues are collaboratively addressed through quarterly meetings and during contract negotiations

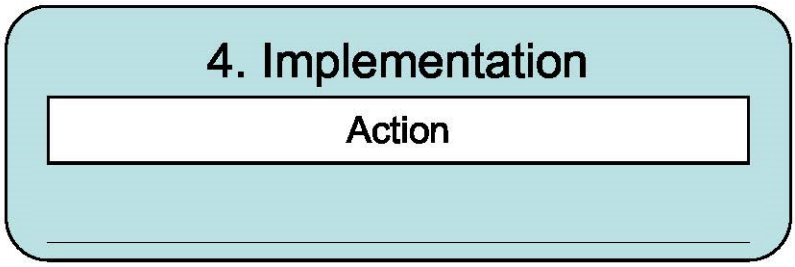
- Employees are recognized for their contributions

Safety

- Employees work safely
    - Staff receive the appropriate training and equipment to perform their jobs safely
    - The number and severity of accidents and injuries are minimized
    - Staff input on safety is solicited thru a Safety Committee that meets
    - Staff are recognized for safety accomplishments with awards and lunches

Action Plan/ Timeline

Initiatives to support the strategic plan are reviewed as needed by the Executive Director and Directors and modified as necessary.



Ongoing Performance Management

Divisions are empowered to change or adjust their measures to make them more representative, accurate, or useful. Strategic plan measures, when appropriately designed, implemented and tracked, should result in behavioral or process changes, generation of baseline data for framing new initiatives or measures, or otherwise support managerial and/or operational decision-making. All strategic plan measures are reviewed once a year to ensure they contain meaningful measures that are aligned with District-wide objectives.

Communication of the Strategic Plan

Changes to the strategic plan are presented to employees by the Executive Director focusing on how the District-wide objectives apply to each Division's work.

The final plan and all supporting documents are available to all employees through the District computer network drive and website. The final Strategic Plan was presented to the UCSD Board of Trustees and the public on October 10th, 2023.