



King County

Department of
Natural Resources and Parks
Solid Waste Division

Waste
Prevention

Resource
Recovery

Waste
Disposal

South County Recycling & Transfer Station

Project Description

Design, permit and construct a new recycling and transfer station to replace the existing Algona Transfer Station.

- Demolition of existing facilities, fill, stream relocation
- Transfer station, admin building, moderate risk waste (MRW) retaining walls, road realignment
- Building information model (BIM) 360; Sustainability Goal– ILFI Petal Certification



South County Recycling & Transfer Station

Project Manager: Doug Chin

- Schedule: 2019-2023
- Current status: Preliminary Design Phase
- Procurements:
 - Construction management - 2019
(\$5 to 6 million)
 - Construction 2021 (\$70 to 75 million)



South County Recycling & Transfer Station

Project Description

Replace the Houghton Transfer Station (Kirkland) with a modern waste transfer and recycling station in the northeast county service area.

Deliver improved operations and expanded recycling services while reducing impacts on surrounding communities and the environment.

Project services will include: public involvement, siting, environmental review, acquisition, site and building design, permitting and sustainability.

- Schedule: *2019 - 2028*
- Budget: *\$165 million*
- Status: *Planning*
- Procurements: *Siting & Environmental Review \$1.5 to \$2.0 million*
Design \$12 to \$14 million
Construction Management \$5.5 to \$7.0 million
Construction \$75 to \$80 million

Project Description

Development of new disposal capacity in the southeast section of the landfill, requiring:

- excavation of approximately two million cubic yards of soil
- construction of a retaining wall
- construction of a bottom liner system and environmental controls



CHRLF Area 9 Development

Project Managers: Molly Paterson, Margaret Bay

- Schedule: *2019-2026*
- Contract Budget: *\$40 to \$50 million*
- Status: *Planning*
- Procurements anticipated: *Design, Construction Management, Construction*

Project Description

Design and construction of new facilities to replace those currently located at CHRLF

- Programming of new facilities
- Design of new office, truck maintenance, and laboratory facilities
- Construction of new office, truck maintenance, and laboratory facilities



CHRLF Facilities Relocation

Project Manager: Molly Paterson

- Schedule: *2019-2026*
- Budget: *\$40 to \$80 million*
- Status: *Planning*
- Procurements anticipated: *Design, Construction*



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CHRLF Area 7 Closure and Liner Tie-In

Project Manager: Stephanie Moller

- Area 7 Closure:
 - Installation of liner and cover system
 - Installation of landfill gas, leachate, and surface-water control facilities
- Area 7/8 Liner Tie-In:
 - Connection of Area 7 and Area 8 liners

- Project status: Final Design/Implementation
- Procurements anticipated: Construction and Construction Management (CM)
- When: Late 2019/Early 2020
- Construction schedule: Spring/Summer 2020
- Construction and CM Budget:
 - Area 7 Closure: \$10 to \$12 million
 - Liner Tie-In: Approx. \$3.5 million



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CHRLF Pump Station Repairs

Project Manager: Stephanie Moller

- Inspect, evaluate, and implement identified repairs to CHRLF pump stations 1A, 2, 3, and 4 that will extend the life of the landfill while managing landfill leachate and ensuring environmental compliance.
- Inspection & Evaluation → Design → Implementation
- Environmental, health & safety, and operational project drivers
- More to come? Most likely?

- Project status: Preliminary Design
- Procurement anticipated: Construction
- When: Early 2020
- Construction schedule: Spring/Summer 2020
- Construction budget: Around \$1 million



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Harbor Island Dock Demolition

Project Manager: Stephanie Moller



- 64,000 square foot derelict dock, western shoreline of Harbor Island in West Waterway at mouth of Duwamish
- Demolish dock, remove pilings and debris, install sand cap and/or shoreline stabilization prior to August 2022
- Environmental and contractual project drivers
- Fish passage window, permitting, and lease expiration are major constraints

- Project status: Preliminary Design
- Procurement anticipated: Construction
- When: Early 2021
- Construction schedule: July 2021 – February 2022
- Construction budget: \$2 to \$4 million

Project Description

Completion of Area 8 Cell Development. Construction contract to include the following work:

- Installation of a mid-slope liner flap
- Stormwater pond maintenance
- Installation of a ground water monitoring well



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CHRLF Area 8 Development

- Schedule:
 - *Bid advertisement: 2019*
 - *Construction: 2020*
- Contract Budget: \$500,000

Project Description

Replace an existing electrical panel with an enclosed building and transfer control panel into the building.

- A&E contract to carry current design plans to 100% completion and provide support during construction.
- Construction contract for construction of new electrical building and demolition of existing control panel



North Flare Station (NFS) Electrical Project

- Schedule:
 - Bid advertisement: late 2019 for A&E and spring/summer 2020 for construction contracts
 - Construction: 2021
- Budget:
 - A&E contract about \$250,000
 - Construction contract about \$2.5 million

Project Description

Provide technical support, develop plans and work in rendering 4 closed landfills to reach stabilization for termination of post closure maintenance.

Identify whether need updating

- 1) landfill gas control and treatment systems
- 2) leachate collection and treatment systems
- 3) landfill cover systems

to facilitate the landfills reaching stabilization and reducing or concluding landfill operations.

“Stabilization” is determined by “showing there is little or no settlement, gas production or leachate generation” as defined by Washington State landfill regulations.

Coordinate with regulatory agencies for the above work



- Schedule: 2020 - 2029
- Budget: around \$10 million
- Status: *Iterative*
- Procurement anticipated:
Consulting Services for Design,
Construction Assistance and Monitoring



Hobart Closed Landfill

- The 35-acre landfill closed in 1994 with an engineered composite cover and an active flared gas collection system.
- A leachate containment and extraction system is installed. Leachate pumping was discontinued in 1995.
- Groundwater and landfill gas monitoring are in place.
- A model airplane community group uses the 11 property to fly model planes.





Hobart Landfill Project goal

- Evaluate the existing shallow groundwater cutoff wall and extraction wells system to provide recommendations on what modifications are needed to protect the surrounding groundwater quality.
- Completed first phase of cutoff wall, landfill cover and groundwater modeling. Initiating second phase to evaluate potential modification alternatives.
- Completing landfill gas evaluation to determine whether treatment by flare is still required.
- Project Goal - conclude improvements, obtain stabilization status and provide property for secondary beneficial use.



- The 24-acre landfill closed in 2002 with an engineered composite liner, leachate collection (gravity pipes with an aeration pond), and gas collection with activated carbon filters.
- Storm water drainage, and groundwater, surface water and landfill gas monitoring are ongoing.

Vashon Island Closed Landfill



- Identify improvements needed to the leachate collection, cover and landfill gas system to address impacts to groundwater. Recommendations for needed improvements will be completed in 2020.
- **Project Goal** - conclude improvements, obtain stabilization status and provide property for secondary beneficial use.

Vashon Landfill Project Goals



- The 12-acre landfill closed in 1985 with a composite geomembrane cover
- Passive gas collection and a bio-berms for landfill gas treatment.
- Groundwater, surface water, and landfill gas monitoring are ongoing.
- **Project Goal - conclude monitoring, obtain stabilization status and provide property for secondary beneficial use.**

Cedar Falls Closed Landfill (Option)



- The 39-acre landfill closed in 1993 with a composite geomembrane cover and soil cover planted with grass and trees.
- A landfill gas collection system with a flare installed at closure was updated in 2017.
- Stormwater controls and groundwater and landfill gas monitoring are ongoing.
- Project Goal - conclude monitoring, obtain stabilization status and provide property for secondary beneficial use.

Enumclaw Closed Landfill (option)

Capital Asset Management Program (CAMP)

- Handouts available



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Building Information Modeling (BIM)

- **Building Information Modeling** will be required on all design, construction, and construction management projects for the Solid Waste Division



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Sustainability



King County

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Serving
Community

Protecting
Environment

Operating
Excellence

2019 Solid Waste Division Comp Plan



Chapter 2 - Policy ES-4: Consider climate change impacts and sustainability when planning for facilities, operations, and programs.

Chapter 5 - Policy T-4: Build, maintain, and operate SWD facilities with the highest green building and sustainable development practices.

SWD Leadership in Green Building



Bow Lake –
LEED
Platinum



Shoreline – 1st
LEED Platinum
industrial
project in U.S.



Factoria –
LEED Gold



Houghton – 1st
Project to pilot
Sustainable
Infrastructure
Scorecard

King County Strategic Plan

Goal:

Environmental Sustainability – safeguard and enhance County’s natural resources and environment.

Objective:

Minimize County’s operational environmental footprint

Green Building and Sustainable Development Ordinance 17709

The intent of this policy is to ensure that the planning, design, construction, remodeling, renovation, maintenance and operation of any King County-owned or financed capital project is consistent with the latest green building and sustainable development practices.

In April 2011, King County Executive Dow Constantine proposed a series of actions that will reduce climate emissions from county operations, save energy and money, and promote joint efforts with cities to reduce community-scale green house gas emissions.



Executive Dow Constantine



"By embracing the highest green-building standards in the nation, we are taking action to meet our goal of cutting in half the climate impact of County operations. At the same time, we will save money on the energy needed to operate our facilities."

Green Building Ordinance 17709

- Platinum level
- Minimum Performance Requirements
 - Meet SCAP and Energy Plan requirements for emission and energy reductions
 - 80% C&D diversion rate by 2016, 85% by 2025
 - Use of King County Stormwater Design Manual
- Green building reporting
- Life Cycle Cost Analysis (LCCA)
- Green O&M
- Ecocharrette





Scorecard Organization

Categories	Points
Required Elements	-
Planning & Designing for Sustainable Development	8
Construction Best Management	7
Preserve and Maintain Natural Site Amenities	8
Equity and Social Justice	27
Reduce Energy Use and Promote the use of Renewable Energy	15
Water Management	6
Use of Sustainable Materials	10
Enhanced Performance	6

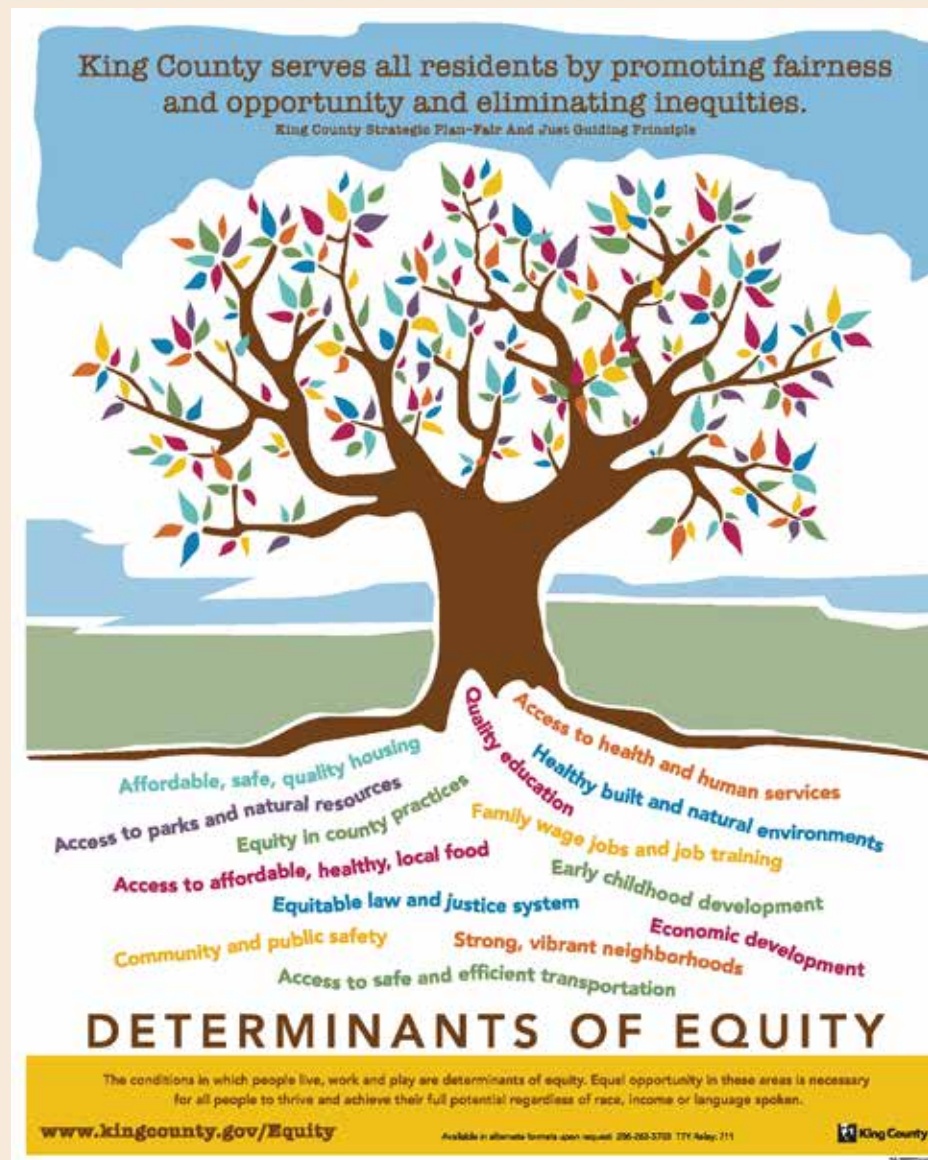
Third Party Green Building Rating Systems



Equity and Social Justice Initiative

The condition in which people live, work and play are determinants of equity. Equal opportunity in these areas is necessary for all people to thrive and achieve their full potential regardless of race, income or language spoken.

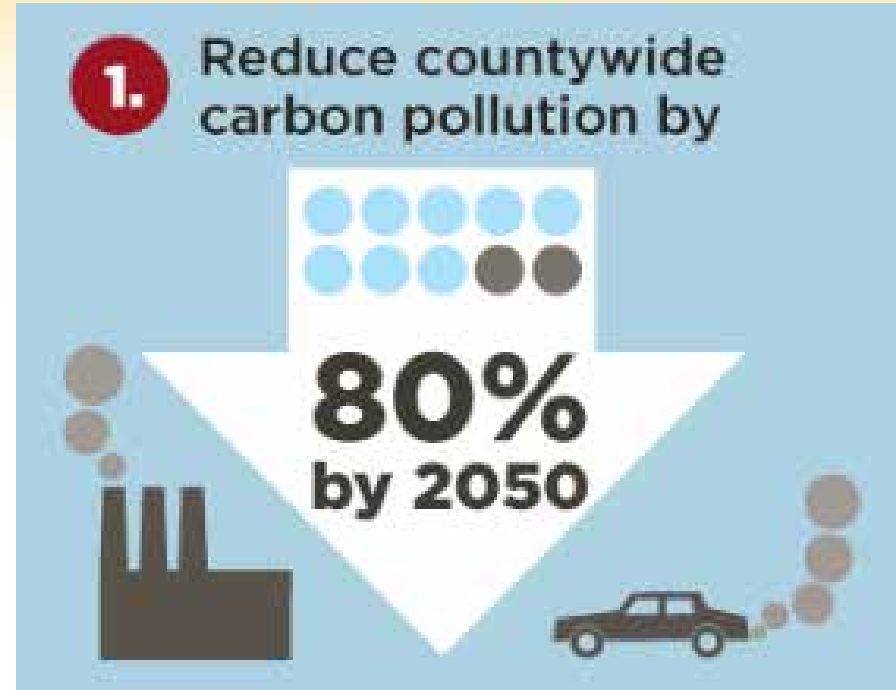
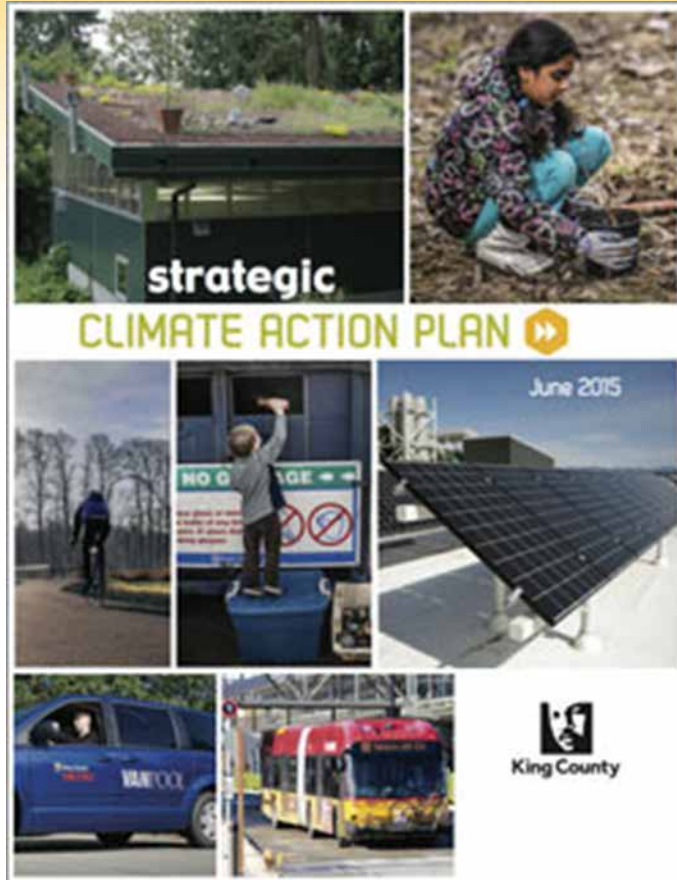
- Healthy built and natural environments.
- Family wage jobs and job training.
- Strong vibrant neighborhoods.
- Equity in county practices.



Integrating Equity and Social Justice in Capital Projects

<p>1. Develop a project-specific ESJ plan – based on assessment of ESJ conditions and information gathered on priorities of stakeholders and existing and/or potential users <i>Project-specific ESJ plan or substantive ESJ guidance is included in project charter</i></p> <p>– up to 2 pts</p>	<p>3. Assemble exemplary diversity in project and design teams that guide pro-equity development and build capacity among priority populations, consultants, and in-house staff <i>Non-traditional perspectives included</i></p> <p>–up to 2 pts</p>	<p>5. Site, design, and construct to counter known disparities in conditions – enhance access to determinants through project characteristics and development model <i>Demonstration of pro-equity effect</i></p> <p>– up to 4 pts</p>	<p>7. Advance economic justice via Priority Hire, Project Labor Agreement, SCS, SOAW, apprenticeships, and selecting contracts to advantage social just enterprises, and partner with companies and community-based organizations that advance economic justice <i>Gradient based on % beyond requirements</i></p> <p>– up to 3 points</p>	<p>9. Innovation</p> <p><i>Exemplary practices, processes, or outcomes at any phase of the capital project lifecycle</i></p> <p>– up to 4 points</p>
<p>2. Stakeholder partnering and collaboration – Priority-population active participation in siting, design and/or programming, via community organization partnerships, multi-faceted outreach, and approaches to pro-equity involvement, and/or participatory budgeting <i>Substantive priority and/or non-traditional perspectives included</i></p> <p>–up to 2 pts</p>	<p>4. Conduct equity impact review processes – to inform likely equity and social justice effects of siting, design and/or construction alternatives <i>EIR is public and accessible</i></p> <p>– up to 2 pts</p>	<p>6. Realize priority elements of project’s ESJ plan – including process equity innovations, partnerships, features driven by those with the greatest need <i>Validate plan accomplishments</i></p> <p>– up to 4 pts</p>	<p>8. Pro-equity sourcing – select site and building materials, equipment, and systems which have pro-equity upstream and supply chain effects (e.g. local suppliers) <i>Based on % beyond requirements</i></p> <p>– up to 3 points</p>	

2015 Strategic Climate Action Plan



SWD Carbon Neutral Operations by 2025

goal area 3

► GREEN BUILDING continued



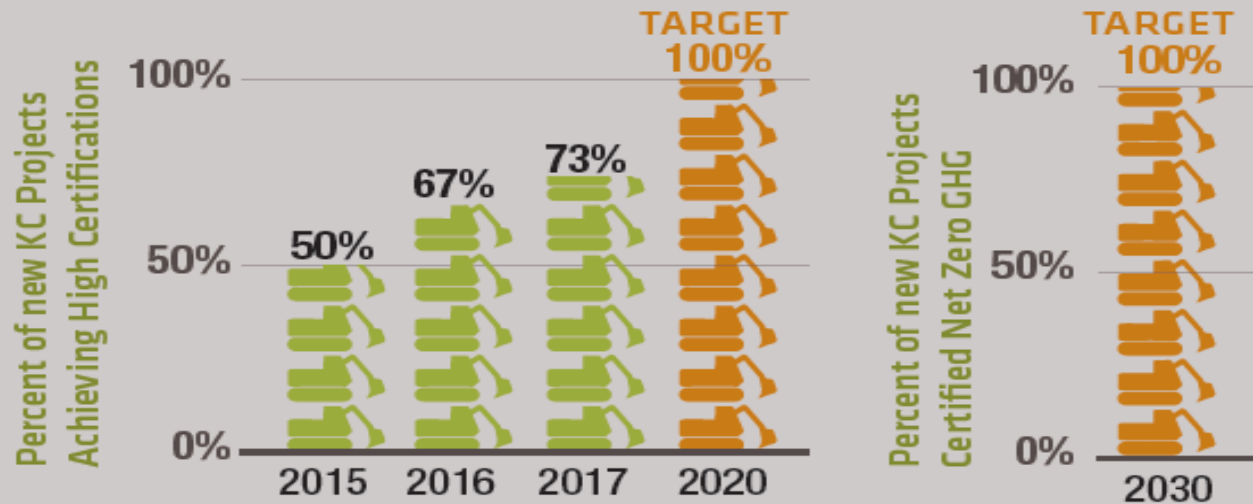
KING COUNTY OPERATIONS GOAL

King County-owned buildings and infrastructure will be built, maintained, and operated consistent with the highest green building and sustainable development practices.

County-Owned Capital Projects Achieving Highest Possible Certification Levels

Target: 100% of projects achieve Platinum by 2020

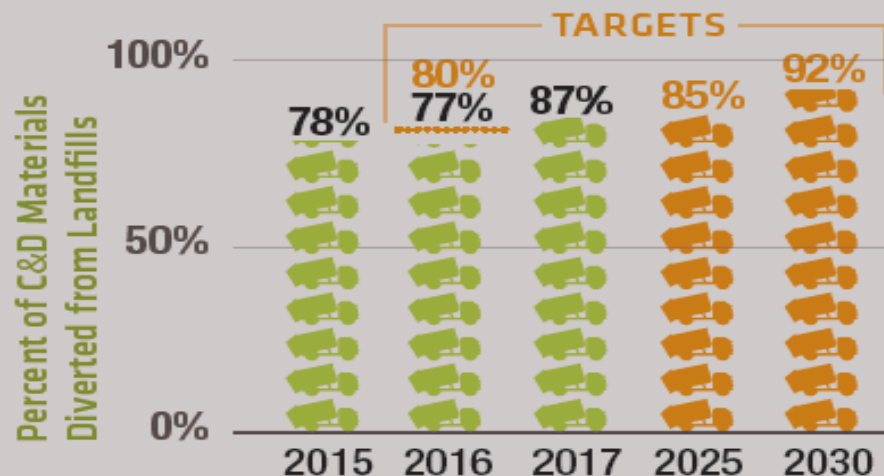
Target: 100% of new projects certified net zero GHG emissions by 2030



The number of completed projects achieving Platinum-level status has increased 23% compared to 2015 performance data.

County Project Construction and Demolition (C&D) Materials Diverted from Landfills

Target: 80% by 2016, 85% by 2025, zero waste of materials by 2030



On average, King County construction projects met the 2016 target milestone of 80% C&D diversion.



Petal
Certification

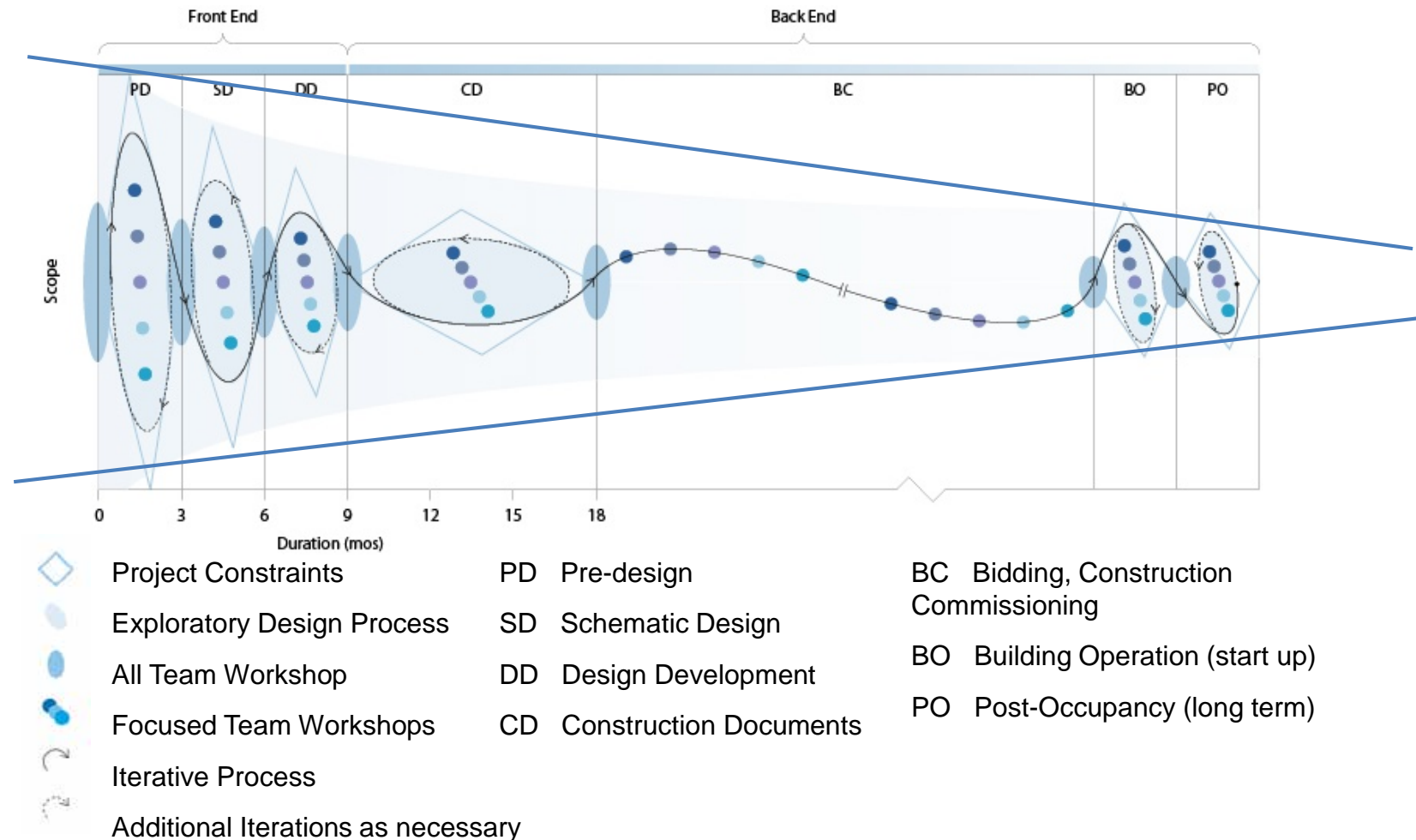


LIVING
BUILDING
CHALLENGE

SCAP Priority Action: By 2020, identify 10 Net Zero Energy or Living Building Challenge projects.

- **15 Projects have been identified**
- **8 Registered Projects**
- **6 divisions:** Parks, WTD, Transit, SWD, DCHS, KCIA
- **Project types:** Office/Workshop, industrial, affordable housing, infrastructure, classroom, comfort station, bus station

Integrative Process



Contacts and Resources

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KC Green Building Team

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206-477-5269



King County Green Building

<https://kingcounty.gov/depts/dnrp/solid-waste/programs/green-building/county-green-building.aspx>

Strategic Climate Action Plan

<http://www.kingcounty.gov/environment/climate/king-county/climate-action-plan.aspx>

Equity and Social Justice

<https://kingcounty.gov/depts/dnrp/solid-waste/programs/green-building/county-green-building/equity-social-justice.aspx>

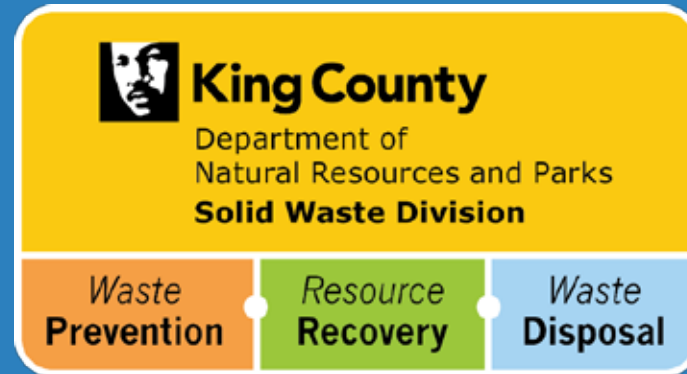
Sustainable Infrastructure Scorecard

<http://your.kingcounty.gov/solidwaste/greenbuilding/scorecard.asp>





Equity and Social Justice Innovation Plan- Andrew Larson and Laura Preftes



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