The table below summarizes confirmed staffing levels for each division or work group that will be accommodated at the new facility. As space programming work was in development, the City was concurrently finalizing staffing level changes across all Public Works groups.

Table 1.1 **SUMMARY OF STAFF**

Department/Work Group	**Existing Staffing Levels** 2020	**Projected Staffing Levels** Base Program	**Projected Staffing Levels** Future Build Out
Utilities Administration	30	40	40
Operations Administration	9	13	13
Streets & Transportation	61	118	118
Water	39	41	41
Grounds	23	28	28
Greenway	20	35	35
Surface Water	24	36	36
Wastewater	32	43	43
Warehouse	6	8	8
Fleet Services	26	39	39
Facilities Maintenance	12	28	28
Construction Services	29	Not Included	56
Finance & Asset Management	14	Not Included	13
Marine Park	42	Not included	58
Totals	**367**	**429**	555

Table 1.2 **SUMMARY OF VEHICLE & EQUIPMENT PARKING**

Vehicle/Equipment Parking Space Size	**Enclosed / Heated**	**Canopy Covered***	**Open**	**Total**
Extra Large (14x45)	22	5	8	35
Large (12x40)	33	31	71	135
Medium (10x20)	13	26	200	239
Small	9	84	51	144
Total	77	146	330	553
Employee Parking	-	-	379	379
Visitor Parking	-	-	29	29

City of Vancouver Public Works Operations Center

- Buildings A & B – Admin & Office, Crew spaces, Shops
  - 2 stories, 39,400 square feet first floor enclosed space, 56,480 square feet second floor enclosed space, and 31,000 square feet canopy cover
  - Includes Public lobby area, Office and Crew areas, Shops, Enclosed parking, and Canopy covered parking
  - Occupancies: A-2, A-3, B, F-1, S-1, S-2; Construction Type: II-B
- Building C – Crew spaces, Shops
  - 1 story, 39,080 square feet enclosed space and 1,745 square feet canopy cover
  - Includes Crew areas, Shops, Enclosed parking, Canopy covered parking
  - Occupancies: B, F-1, H, S-1, S-2; Construction Type: II-B
- Building D – Warehouse, Shops
  - 1 story, 20,205 square feet enclosed space and 8,735 square feet canopy cover
  - Includes Warehouse storage and office, Shops
  - Occupancies: A-3, B, F-1, S-1, S-2; Construction Type: II-B
- Building E – Fleet Services
  - 1 story, 49,980 square feet enclosed space and 5,180 square feet canopy cover
  - Includes (18) Repair bays, Office and Crew areas, Shops, Chassis wash
  - Occupancies: A-3, B-, S-1; Construction Type: II-B
- Building F – Fuel building
  - 1 story, 400 square feet enclosed space and 3,785 square feet canopy cover
  - Includes (4) Fueling lanes
  - Occupancies: S-1; Construction Type: II-B
- Building G – Wash building
  - 1 story, 430 square feet enclosed space and 5,460 square feet canopy cover
  - Includes (4) Wash bays
  - Occupancies: S-1; Construction Type: II-B
- Building H – Bulk storage
  - 8,800 square feet canopy cover
  - Includes Brine operations, Decant station, Canopy covered bulk storage
  - Occupancies: S-1, S-2; Construction Type: II-B
- Building I – Chemical mixing
  - 1 story, 2,315 square feet enclosed space and 3,640 square feet canopy cover
  - Includes Chemical wash and mixing, Chemical storage
  - Occupancies: S-1; Construction Type: II-B
- Buildings J & K – Covered parking
  - 11,365 square feet canopy cover
  - Includes Canopy covered parking
  - Occupancies: S-1; Construction Type: II-B

Program and Staffing Summary

As of 2023, a total of 428 projected staff are included in the base program, and a planned future expansion of the project would include a total of 555 projected staff. Discussions regarding future growth and staffing changes due to annexation are ongoing.

APPENDIX A

Based on the City's established staffing levels, vehicle and equipment inventory, and programming sessions with each division, the design team prepared a comprehensive Program organized by department and space type. The Program also provides the required quantities of crew and administrative staff lockers and workstations, based on an employee's work functions.

Existing Operational Deficiencies

Vancouver's Public Works Department currently operates from multiple locations including Vancouver Public Works Center at 4711 East 4th Plain Boulevard, the Vancouver Fire Department Vehicle Maintenance Facility at 7110 NE 63rd Street, the English Pit Facility at 912 NE 192nd Avenue, and the Water Production Shops at Water Station #1, Water Station #4, and the Bagley Fabrication Shop at 4405 Plomondon. The new Vancouver Public Works Operations Center will consolidate these operations at one facility.

There are numerous operational deficiencies at these existing facilities, and below is a summary of the deficiencies that need to be addressed at the new facility. Note that these are representative examples and are not intended to be a comprehensive list of all deficiencies.

Operational Efficiency

- Operations are split between multiple sites creating significant operational inefficiencies. Consolidation to one site will also improve communications.
- Separation of related functions across the site results in more time than necessary to perform simple tasks. Related functions should be in close proximity to reduce pedestrian and vehicle travel. For example, the sign shop is across the street from sign storage when they should be adjacent.
- Vehicle traffic flow is not well organized, with functions split on both sides of General Anderon.
- Most of the facilities do not meet ADA requirements.

Crew Areas

- Crew meeting spaces are inadequately sized and equipped.
- Dry locker space is inadequate. Wet locker space is inadequate or non-existent and not conveniently located.
- Shower facilities are inadequate and not conveniently located.
- Break areas and collaboration spaces are inadequate or non-existent.

Vehicle Parking

- Vehicle circulation lanes are not clearly delineated and are not wide enough to safely accommodate turning movements of large vehicles or trailered equipment.
- Parking spaces are not adequately sized to safely accommodate vehicles and equipment.
- Access to enclosed / heated and canopy covered parking spaces is inadequate.
- Not all parking spaces are paved or adequately drained.

Shops / Storage

- Almost all shops are undersized. Shops do not provide adequate circulation space around equipment to be safely operated.
- Access to many shops is not adequate, either doors too small or shops being at dock level.
- Utilities (electrical and compressed air) in the shops are not adequate or are non-existent.

Vehicle Maintenance

- Vehicle Maintenance is split between two sites, which requires duplicate support spaces such as mechanic spaces, restrooms, tire shops, lube/compressor rooms, and parts storerooms. Split facilities do not allow for efficient or flexible use of staff.
- Repair bays are not appropriately sized (length or width) to accommodate the range of vehicles in the city fleet. For example, there are no bays sized to accommodate the city's ladder trucks.
- Crane coverage over repair bays is inadequate or non-existent.
- Lube pumps and air compressors are not acoustically separated from adjacent workspaces.
- Parts storage space is inadequate at both facilities.
- Wash facilities are very inadequate and have no lifting capability.
- Tire storage is inadequate and located in multiple containers on-site.
- Circulation within the maintenance facility is inadequate and not clearly marked.

Warehouse

- Warehouse space is inadequate resulting in parts and materials being stored in numerous places across the site. Consolidating into one space will improve inventory control.
- The Warehouse operates as an open warehouse and is not secure.
- Easy access to the Warehouse is not equal for all groups.
- Many items are stored outdoors and should be canopy covered.
- Physical archives are on the Warehouse mezzanine without ADA access and must be accessed through the Warehouse. Physical archives should be converted to digital format as much as possible to reduce space requirements and improve retrieval time while increasing security.
- The Warehouse floor is elevated with truck docks on each side making access difficult and often unsafe.

Bulk Material Storage

- Bulk material bins are not properly covered where necessary.
- Truck and loader access drives in front of the material bins are too narrow.
- Bulk material bins are located throughout the site, creating dusty and unsafe conditions.

Fuel and Wash

- The fueling facility requires two-way traffic (unsafe) and does not provide an adequate number of fueling positions to efficiently accommodate fueling multiple vehicles simultaneously. The fueling facility does not have adequate vehicle circulation or queueing space.
- All wash facilities are outdoor and should be canopy covered.
- Vehicle circulation to and from wash facilities is not adequate.
- No provisions are made in the wash facilities to safely wash tall vehicles. There are no splash walls to contain overspray from surrounding areas.
- Lighting in the wash facilities is inadequate.

Chemical Storage / Mixing

- Chemical storage and mixing is inadequate and inappropriately located in several places around the site.

SCADA Room

- The control room is in a high traffic area and is not secure.
- Monitoring equipment is outdated and does not have redundant fiber optic connections.

Public Interaction

- There is no clear entry for customers, or appropriate area to interact with customers.

- There is no drive-through drop-off area for making Utility payments.

Safety & Security

- Employee, visitor, and city vehicle traffic is intermingled and should be separated.
- Entry to all areas of the site is open to anyone during the day and is not secure.
- Pedestrian circulation paths are not clearly delineated anywhere on the site.
- Site lighting is inadequate.

DESIGN FOR RESILIENCE

Aligned with the City of Vancouver's *Climate Action Framework*, resilience and the ability to maintain operations in the face of an emergency event is a high priority. The Public Works Operations Center is being designed to withstand additional weather or seismic challenges, and in addition, will function as an Emergency Operation Center in the event of a local natural disaster. All occupied spaces, enclosed and canopy-covered vehicle parking, warehouse and fleet mechanic service facilities are being designed to a high level of life safety and collapse prevention.

Risk category IV criteria as defined by the IBC will be implemented, which requires the design to accommodate immediate occupancy under a design-level earthquake (⅔ of maximum considered earthquake) as well as life safety egress/exiting standards in accordance with maximum considered earthquake.

During the Schematic Design phase, building, systems and site design will be further explored, including:

- Evaluating mechanically attached architectural features and appurtenances such as sunshades and canopies for appropriate seismic strength and ductility.

- Determining Fuel & Wash building requirements to meet elevated criteria

- Researching the requirements of the City's building insurance policy as it relates to risk category design

- Exploring additional topics such as flood event design to 500-year storm criteria and power redundancy

CAF Crosswalk Overview

	Equity & Green Economy	Buildings & Energy	Transportation & Land Use	Natural Systems & Water Resources	Solid Waste & Wastewater	City Governance
Public Works' Essential Services						

Project Environmental Sustainability Goals

Align with City of Vancouver Climate Action Framework and Green Building Policy						
Design for Carbon Neutral: develop plan and target date for campus-wide carbon neutrality based on operations and available cost-effective technology						
Renewable Energy: design + install photovoltaic (PV) renewable on-site power energy, and plan for expansion of PV system in future						
Design for Energy Efficiency: set reduced EUI targets for project, and select high-efficiency HVAC systems, lighting, and building envelopes						
Design for Resilience: include back-up power on-site with low carbon fuel, plan for EOC function in emergencies						
Right-sized Parking: review staff, visitor, and city fleet parking quantities for short-term and long-term operations						
Design for Electric Vehicles: provide 25% EV-charging for staff and visitor parking, and EV-charging for City fleet parking						
Design for Alternative Transportation: provide infrastructure to encourage pedestrian, biking, and public transit use						
Enhanced Tree Canopy: provide 15% tree canopy on-site per City TreeCAP program						
Ecosystem Resilience: design landscapes using native, drought-tolerant, resilient, and/or habitat plantings						
Mitigate heat island effect on-site						
Design for Water Efficiency: utilize high-efficiency fixtures, and reuse rainwater and process water on-site						
Waste Management: meet City requirements regarding composting + recycling, plan for reduced pollution and waste during construction						
Design for the Future: implement Design for Disassembly principles in design and material selection						
Partner with Utilities for shared sustainable practices						
Update equipment + systems per current standards and best practices during cyclical renewals						

Redevelopment of existing Operations Center sites						

CAF Crosswalk Detail

	Equity & Green Economy			Buildings & Energy		Transportation & Land Use			Natural Systems & Water Resources			Solid Waste & Wastewater		City Governance
	EQ-1	EQ-2	EQ-3	BE-1	BE-2	TLU-1	TLU-2	TLU-3	NS-1	NS-2	NS-3	SW-1	SW-2	GOV-1
Public Works' Essential Services														
Project Elements														
Planning for Carbon Neutral by 2040														
Energy performance 15% below Washington State Clean Building Act														
Installed Photovoltaics upfront, with additional PV-ready area for future Carbon neutrality														
All-electric and natural gas-free														
Compliance with Vancouver Green Building Policy (includes efficient HVAC and lighting, Dark Skies lighting)														
Planning for Resilience with back-up power with low-carbon fuel on-site														
New EOC center for City response														
Right-sizing staff and city fleet parking														
Providing lighting and infrastructure for walking, biking, and future transit														
Providing bicycle facilities including long-term and e-bike parking on-site														
Reviewing commute and telework options as part of relocation														
25% on-site EV charging for Staff and City fleet parking														
Native, resilient, and drought-tolerant plantings														
Pollinator habitat and/or carbon-sequestering plantings														
15% Tree Canopy on-site (above % required for light industrial)														
Existing significant trees on-site to be preserved or relocated, based on existing tree assessment														
Mitigating heat island mitigation as feasible (tree canopy, cool roofing + pavement, canopy cover)														
Including high-efficiency water fixtures														
Stormwater inflitration and management on-site														
Rainwater capture for reuse on-site as feasible														
Meeting Vancouver recycling and composting requirements														
Incorporating local & recycled materials and aligning with Design for Disassembly principles as feasible														
Documenting aligment with CAF														
Meeting Vancouver environmental purchasing policy (EPP)														

DESIGN FOR DIVERSITY, EQUITY, & INCLUSION

The City of Vancouver has created a Diversity, Equity & Inclusion Plan that is influencing the process and design of their new Public Works Operations Center.

A DEI-focused branch of the project's Interior Environments group, comprised of members from the City, Public Works and TCF Architecture met in November of 2022 to discuss opportunities for creating a facility that is welcoming and supportive of diverse building-user groups. From the City's DEI Plan, the project can meet DEI goals in the following ways:

1. COV creates, develop, and supports a culture that values and advances DEI.

1.2 DEI common language – Create an COV centric DEI terms and definition. This guide will also include DEI terms to avoid and/or outdated.

Response: All members of the Design Team (TCF Architecture + consultants) will be made aware of those DEI terms that are appropriate to use in meetings held both in-house and with Public Works and City staff.
Response: At consultant kick-off meetings all members of the Design Team will be educated on the DEI goals being targeted, to collaborate on realizing a project that is welcoming and accessible to all.

1.5 Employee resources groups - Create and convene Employee Resources Groups that focus on underrepresented employees within career fields and/or departments.

Optional Response: Provide a Public Works (or City-wide) job application station inside the Customer Lobby. Design the station to be aesthetically welcoming and physically accessible. Provide accommodations for those needing assistance by locating it near the Customer Service counter.

1.6 Restorative practices – Development a system/model to strengthen relationships between individuals, reduce bias incidents and conflict.

Response: Embrace and produce a working climate that is less siloed and more collaborative. Create spaces that encourage dialogue and the exchange of ideas through both formal and casual gathering places. When possible, create meeting rooms more square in shape, to lessen an implied hierarchy and equally welcome ideas from around the table or through the video conferencing monitors.

1.7 Celebrate cultural difference - Create an inclusive organizational culture where difference is celebrated; DEI learning and adaptation are prioritized. Develop citywide avenues to recognize and celebrate cultural difference.

Response A: In drawings and renderings, TCF will insert scale figures so that the heights and massing of spaces and other design elements can be understood by all viewers.

Response B: In photo-real images of the project created to communicate design intent, TCF will use entourage people depicting a variety of multicultural backgrounds, physical characteristics and physical impairments.

Response C: Environmental graphics such as art and photography installed within the building in public and staff spaces will celebrate cultural differences of Public Works employees and the entire Vancouver region. Any historical references to the first people of the area will not inaccurately imply that the original inhabitants of the area were white.

2. COV hiring practices, workforce and careers reflect the diversity of the community across the range and depth of the organization.

2.2 Pre-employment career development – Development, implement and invest in a diverse and equitable talent pool by formalizing robust internship, fellowship, pre- DRAFT Diversity, Equity & Inclusion Plan 2022 – 2025 11 City of Vancouver, WA apprenticeship, and apprenticeship program(s), and provide opportunity towards permanent employment.

2.3 Recruitment - Strengthen recruitment strategies to attract and cultivate diverse candidates at all levels of the City and departments.

Response: Buildings on the new operations campus will incorporate spaces that facilitate apprenticeship and support training and on-going learning. Recruitment efforts will target a more diverse workforce.

3. COV community views the City as an equitable and inclusive governmental organization that engages all communities.

3.1 Tracking engagement - Demonstrate that participants and community engagement reflect the demographics of the communities served by the program, service, and/or project to support equitable delivery of programs, services and/or projects.

Optional Response: Design Team will conduct a "Post Occupancy Evaluation" of the new Vancouver Public Works Operations Campus at approximately 2-4 years after move-in to study what was done well and what could have been improved upon in the area of DEI. This evaluation will inform the Design Team as they create work for future clients to advance issues of diversity, equity and inclusion throughout all sectors of society.

3.2 Inclusive outreach and engagement – Convene the development of DEI best practices for outreach and engagement. Prepare introductory workshop on inclusive outreach and engagement for employees that routinely engage with the public. Develop a curriculum that includes materials and instruction for ongoing training in engagement methods and meeting facilitation skills for appropriate staff.

Response: Any TCF or consultant-led community engagement will follow the principles outlined in the *American Institute of Architect's AIA Guide for Equitable Practice/Community Engagement.* Some examples include:

- Speaking and producing graphics that use vocabulary that is understandable to the lay person. This includes avoiding the use of technical acronyms or "archi-speak" (flowery, design-related words that are unfamiliar to most people). Text appearing in documents for public distribution will target a 6th-grade reading level.
- Helping build consensus by being comfortable with dissenting opinions and working to mitigate conflict.
- Being respectful of the staff and residents, and curious about the region. Doing research to have an understanding of the history of the community.
- Listening patiently to wide-ranging perspectives and being empathetic to community needs.
- Admitting to mistakes and being humble in all interactions with staff and the community.

3.3 Language Access Action Plan – Development of a systematic approach for addressing translation and interpretation needs of community members. The plan will include strategies to communicate through traditional and non-traditional methods in regular communications and emergency situations; priorities for implementation; and methods for ongoing assessment and adaptation as community needs change.

Response A: Utilize closed-captioning text in all locations on campus in which TV monitors are provided, or where public meetings take place. This complies with RCW 49.60 for accessibility.

Optional Additional Response: Provide multi-lingual public wayfinding signage in places like the Lobby and Public Meeting Rooms.

From the TCF *Design for Belonging* Toolkit, both above responses provide opportunity for "collateral wins"; design moves that benefit a variety of people - ranging from those who require a particular accommodation, to building-users who casually benefit from an enhancement. For example, while closed-captioning allows a hearing impaired person to understand what is being verbally expressed on a TV monitor, it also aides a child or adult who is just learning to read. Likewise, providing multi-lingual signage helps those in which English is not their first language but is also welcomed by fluent English readers who are studying a new language.

3.4 Historically underrepresented and underserved communities - Develop a systematic approach for connecting historically underrepresented and under-served communities participate in all City services and opportunities. Foster a deeper understanding of the original inhabitants of the City's region to guide decisions and operations.

Response: Provide spaces for staff with unique permanent or temporary needs – such as Quiet Rooms for nursing mothers. Make these spaces comfortable and sanitary and provide secure storage and refrigeration. If possible, exceed the code minimum of one room for nursing mothers per floor, for improved accessibility and ease of scheduling a room.

3.7 Past Harm – Research and acknowledge past governmental harm and systematic barriers at the City and County level. Implement ways to own, honor and create new opportunities to create trust within communities.

Response: Own, honor and educate via art graphics in public and staff spaces to help build understanding and trust. Under-represented groups in the Vancouver area include the BIPOC community, those with other disabilities in addition to the mobility impaired, groups under the age of 18, LGBTQ and gender queer people, renters, low-income groups, and those who rely on public transportation.

VISION & GOALS FOR THE NEW OPERATIONS CENTER

PROJECT VISION

Building a more accessible, sustainable, resilient operations center to serve the current & future City of Vancouver

Resilience & Safety | Environmental Sustainability | Equity & Inclusion | Business Case Economics

VALUES

Align Project Level Goals with broader City of Vancouver Goals, Policies, & Values

Solving Problems Across all Categories

Better defining of criteria, goals, & metrics leads to greater understanding & response by the Design Team, which results in more successful design solutions

APPENDIX E

OPERATIONAL

A Culture of
Operational Excellence
Resilience & Safety

Safe + Efficient Workflow

Reduce / Eliminate Barriers to the Workday

Increase communication and collaboration within and between work groups

Reduce / Eliminate duplicative activities

Create safe pedestrian flow patterns

Create safe vehicle flow patterns

Create safe materials handling methods

Create safe hazardous materials management

Provide healthy work environments (air / water)

Provide safe, secure, and welcoming service for outside customers

Operational Resilience

Provide for quick recovery and performance during and after major events

Provide Electrical System Redundancy

Create Emergency Operation Capabilities for the community

SOCIAL

A Culture of
Professionalism
Equity + Inclusion

Employee Engagement

Create genuine and meaningful opportunities for employee engagement

Foster a healthy and professional workplace culture

Remove / eliminate real or perceived social barriers

Encourage personal well-being of all employees

Provide a variety of work environments and opportunities for success of future workforces

ECONOMICS

A Culture of
Economic Responsibility

Budget & Life Cycle Business Case Analysis

Establish a comprehensive project budget through a process of beneficial business cases

Evaluate life cycle costs for business case decisions

Align budget under City policies and goals

Minimize long term maintenance and operational costs

Reduce costs for unnecessary redundancy in materials, tools and equipment if operational flow and efficiency can be maintained or even improved

ENVIRONMENTAL

A Culture of
Environmental Stewardship

Sustainability

Advance City-wide goals for energy conservation

Demonstrate advancement towards City-wide goals stated in their Climate Action Framework:

Reduce energy consumption

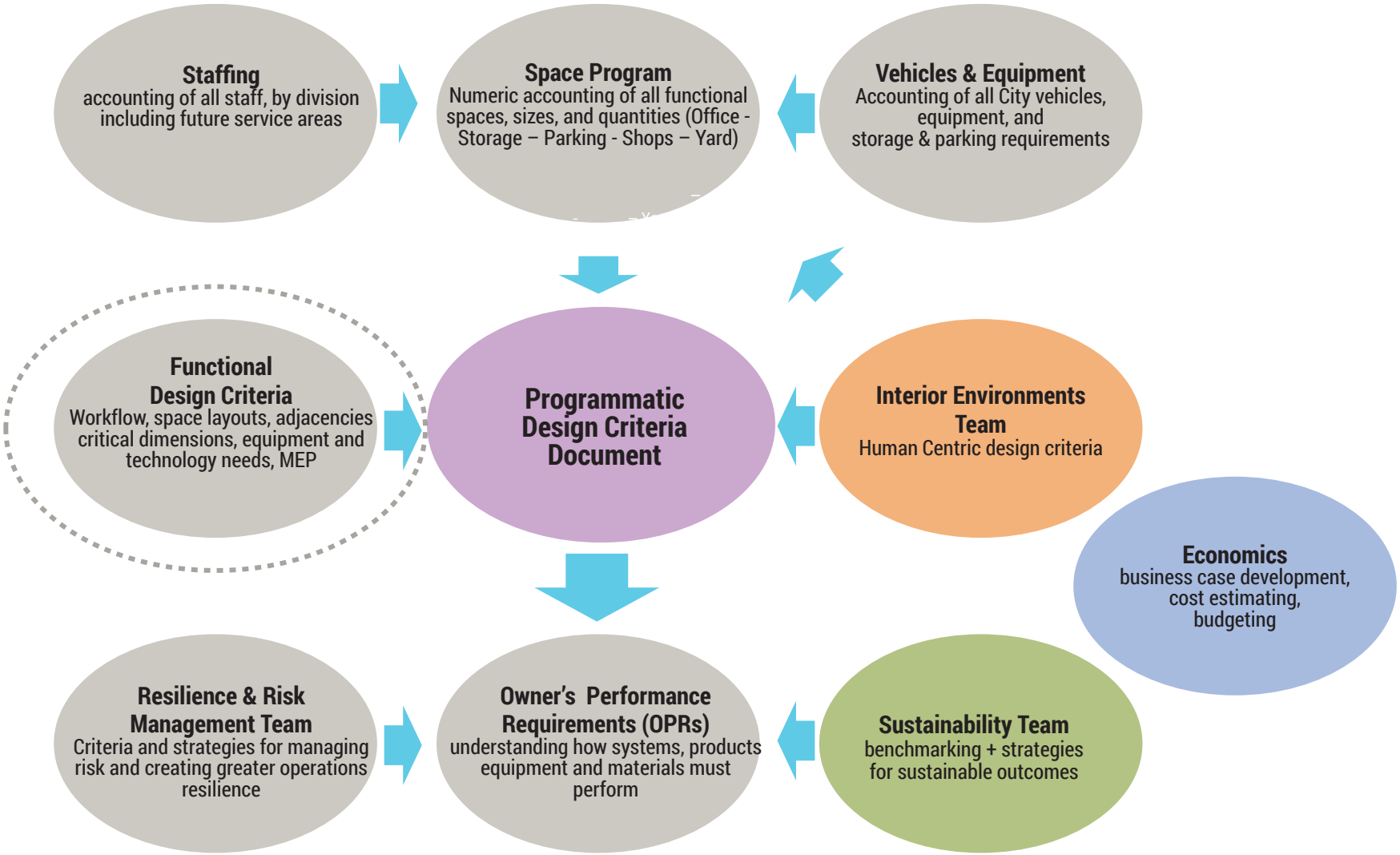
Expand tree canopy

Reduce heat island

Infiltrate stormwater on-site

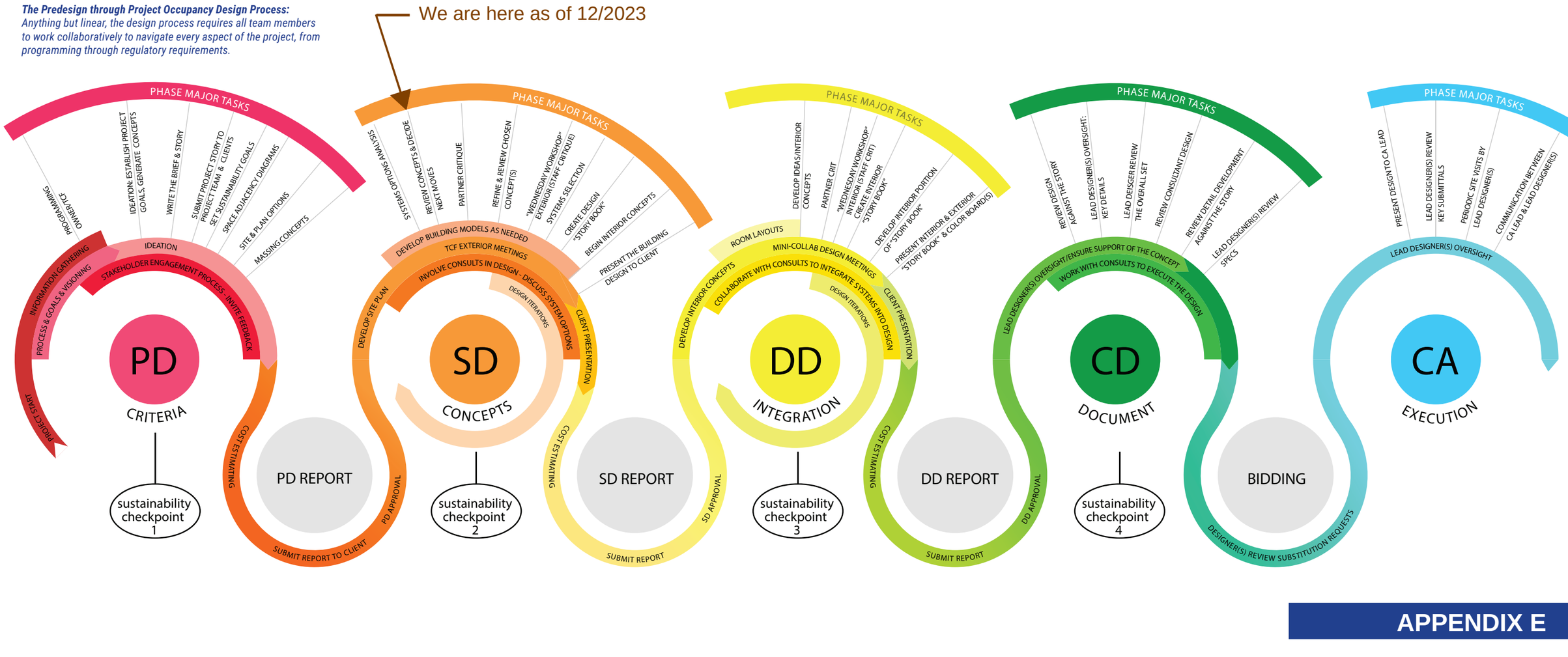
APPENDIX E

Strategies + Process + Tools for achieving *Quadruple Bottom Line* success



THE DESIGN PROCESS

The Predesign through Project Occupancy Design Process:
Anything but linear, the design process requires all team members to work collaboratively to navigate every aspect of the project, from programming through regulatory requirements.



APPENDIX E

Site layout and Circulation

NORTH

APPENDIX F

VIEW OF BUILDING A FROM PLAZA

The base of the structure combines stone veneer with concrete block to convey a sense of strength, utility, and longevity.
Floating above the base, the upper level is clad in light-toned wood siding, to exude a sense of warmth and connection to the Pacific Northwest.

APPENDIX F

VIEW OF BUILDING A TOWARD STAFF ENTRY

Dark metal accents add a machined quality to the design, reflecting the facility's industrial nature.

APPENDIX F

VIEW BETWEEN BUILDINGS A&B

Sky bridges join buildings together to promote efficient, safe circulation, collaboration, and a culture of transparency.

Viewed from 94th Avenue, the architecture expresses a welcoming and forward-looking confidence within a natural setting of trees.

APPENDIX F

The public entry plaza celebrates local landforms, including the iconic Columbia River: its shape as it flows through the city is represented in the paving.

VIEW OF WAREHOUSE

Clear sealed concrete walls are naturally beautiful, versatile and durable.

APPENDIX F

VIEW OF FLEET

Vertical strip windows aligned with panel joints create a sense of order and connection while inviting natural light into the interior.

APPENDIX F