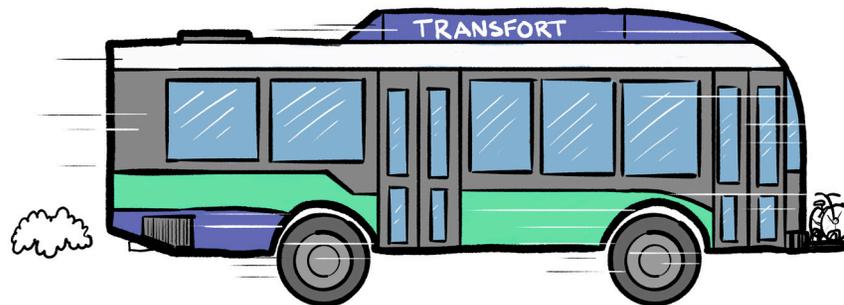


TRANSFORT

TRANSFORT MAINTENANCE FACILITY MASTER PLAN

**6570 Portner Road
Fort Collins, Colorado 80525**

December, 2021



Prepared By:

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Introduction

Purpose

This Master Plan addresses the Transfort Portner Facility, an older site on the south end of Fort Collins, which has undergone several renovations over time. This document will make recommendations for site, landscape, and irrigation changes for a potential future site-wide improvement project. These changes address current issues related to the parking lot, building entrances, perimeter landscaping, employee spaces, snow storage and removal, and water efficiency and sustainability.

Process

In the summer and fall of 2021, BHA Design Inc. and Aqua Irrigation toured this site to understand its existing conditions and issues. This process began with a site assessment based on feedback heard from City employees. Issues have been summarized on the Site Wide Evaluation in this document. From these site visits, as well as review by City staff, recommendations are being made within this Master Plan for improvement. Additionally, some conceptual design ideas in important areas like the building entry and employee spaces, have been made to create a framework for development in the future.

Principles

- **Employee Use** – A desire for expanded and improved outdoor employee spaces
- **Efficiency and Functionality** – Address issues like drainage, snow storage, and landscape improvements as they relate to the use of the site.
- **Water use reduction** – Reduce overall water consumption for landscape on the site. Efforts such as converting areas of bluegrass turf to native seed and efficiency improvements to irrigation will help assist in this goal.



1. Parking Lot
2. West Building Entrance
3. North Building Entrance
4. Employee Space
5. Perimeter Landscape
6. Snow Storage
7. Bluegrass Turf Conversion
8. Perimeter / Buffer Planting
9. Corner Parkway Swale
10. Drainage & Infrastructure
11. Future Electric Bus Charger Installation
12. Future Maintenance Shed
13. Miscellaneous Landscaping



Summary of Improvements

[1] Parking Lot

The existing parking lot at this facility has a number of issues that make it one of the more important features in need of improvements. Recommendations include:

- Several parking spots are too steep and may not provide accessible routes to the building.
- Provide striped and clearly signed motorcycle and accessible parking nearest to the building
- Evaluate the potential of orienting the parking drive aisles east-west rather than north-south. This provides more direct routes to the building but may reduce total number of spaces.
- Re-establish landscaped parking lot islands
- Evaluate Low-Impact Development opportunities for parking run-off.
- Assess the need for fleet vehicle parking improvements: asphalt striping, signage, bollards, EV Charging stations and foundations.

[2] West Building Entrance

This existing building entrance is an important aesthetic focal point for entry to the facility and site/landscape improvements should support this. Consider:

- Moderate hardscape improvements. Remove or partially remove existing walks, plaza, stairs, ramps, seat walls, furniture, and railings and develop a new design.
- Major landscape improvements. Remove all existing landscape areas and replace with new plant species that better speak to the landscaping philosophies of the City: native, water-wise, appropriate selections.
- Provide improved seating, lighting, signage, and overall aesthetics.
- Preserve and protect existing trees



[3] North Building Entrance

Recommendations include:

- Minor site improvements. Assess hardscapes condition, accessibility, and functionality. Enhance existing concrete wall with stone veneer or artwork.
- Moderate landscape improvements. Remove flagstone, replace with landscape areas and seating.
- Provide sheltered bicycle parking. 8-20 spaces. 'Bike Depot – Bike Shelter – Dero,' or 'Brasco International – Aspen' products. Evaluate need for signage to direct cyclists.

[4] Employee Space

The small lawn to the south of the Main (West) Building Entry is a great location for space dedicated to employees.

- Provide formal and informal seating opportunities.
- Retain some lawn
- Provide landscape and/or other barriers along south and west sides of seating areas to provide buffer from vehicle operations.

- Assess the opportunities for powered furniture for employees to connect phones and laptops
- Preserve and protect existing trees

[5] Perimeter Landscape

With relatively large areas of concrete and asphalt that require snow removal, the landscape areas surrounding the site have been damaged.

- Provide landscape between the designated snow storage areas using large, hardy, salt-tolerant shrubs to provide a visual buffer to adjacent neighborhoods. Set back plantings from curb and provide landscape boulders where appropriate to create a buffer from road salts and de-icers..

[6] Snow Storage

- Provide designated snow storage areas that are clearly marked with signage. Consider concrete pads for larger snow storage areas to minimize damage from snow removal operations.



[7] Bluegrass turf conversion

Bluegrass turf is extensively used on this site, requiring a significant amount of irrigation and mowing maintenance. Consider converting large areas of turf to non-irrigated native seed. The Zone Plan indicates areas that are not likely to experience foot traffic or areas that are more difficult to access with mowers. This will help reduce overall water use for the site.

[8] Perimeter/Buffer Planting

With the increased use of this facility, consider enhancing the landscape buffer on the east side of the site. Increasing trees and large native shrubs will help reduce light and noise to the adjacent neighborhood.

[9] Portner Parkway Swale

The two long swales along Portner Road with concrete pans at the bottom appear to be in good condition. Some areas have seen significant plant growth over and around the swales, though seem to be healthy and mature and only add to the buffering between the building and public right-of-way. It is recommended no action is taken to change or improve these so long as they function properly and drain these swales to storm lines effectively.

[10] Drainage & Infrastructure

Several areas throughout the site have low-spots on concrete or asphalt that are not draining adequately. It is recommended a grading assessment be made prior to site-wide improvement to ensure these are addressed properly. In addition, there appears to be a water leak near the southeast entry drive that should be investigated and repaired.



[11] Future Electric Bus Charger Installation

A space dedicated for Future Electric Bus Chargers along the east end of the site within the secured perimeter.

[12] Future Maintenance Shed

A space dedicated for maintenance and storage shed.

[13] Miscellaneous Landscaping

A handful of other minor landscape improvements can be made to make this site more appealing.

- Remove juniper plant species. They have become unsightly and a maintenance burden. There are some that are not highly visible and may provide habitat and environmental benefits that may be assessed to remain.
- Wherever there may be suggested landscape improvements, replacing plants with native, water-wise, and climate appropriate plants is recommended.
- The small landscape area on the north end of the building, at the ends of the island that contains EV Charging stations should be renovated with plantings added.
- The small landscape area on the north end of the modular building contains some existing plants, but could be improved. Irrigation should be provided to this area.

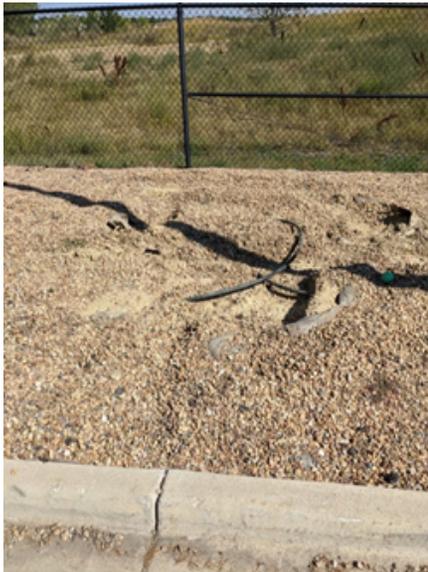


Irrigation

The purpose of this memorandum is to present irrigation design guidelines for the future irrigation system renovation at Portner Maintenance Facility. These guidelines are based on the current observed condition of the existing irrigation system and standards used for the City of Fort Collins Parks.

On Site Observations of Existing Irrigation System

A site visit was conducted August 26, 2021 to observe the condition of the existing landscaping and irrigation system. The irrigation system was not operated during the visit, but a general understanding of the equipment being used and irrigation preferences was discussed. Turf and native grass areas are irrigated with pop-up sprinklers, shrub beds are irrigated with point source drip, and individual trees not in turf areas are irrigated with drip lateral loops around the tree with punch-in emitters. The irrigation system



is supplied by potable water which originates from the maintenance building. The size of the irrigation water source and available pressure are not known.

The age of the irrigation system is not known as there are no design or record drawings. However, based on the condition, it appears to be the original system when the facility was constructed. It is assumed the existing mainline piping, wiring, and remote control valves are operational and in good condition for the age of the system.

Concern was expressed during the site visit that individual trees in rocked shrub beds are dying and it's suspected that the existing drip loops were not providing sufficient water to the trees. No concerns were expressed about the turf and native grass sprinklers or for shrub bed drip irrigation. Concern was expressed about the west parking lot with regard to grading and how any overspray or rain collects in low spots.

The existing irrigation controller is a standalone Rain Bird ESP-12-LX controller, and no rain sensor was observed. The existing irrigation controller does not make automated runtime adjustments based on weather conditions to conserve water.

It was not apparent that the existing irrigation system uses a master valve and/or flow sensor to automate the shut down the irrigation system due to catastrophic pipe breakage, provide leakage warnings (ie. broken sprinklers), and to report water use data.

[Left photo] Tree Drip Lateral Loop - Dead tree removed and drip lateral loop remains.

[Right photo] Existing irrigation controller

Irrigation Design Guidelines

Based on the City of Fort Collins Parks Standards, it is recommended that when the irrigation system is renovated, the following guidelines should be utilized:

1. Install a master valve and flow sensor, if possible. It's understood the water source and irrigation controller locations may make installation of a master valve and flow sensor difficult or impossible. A decision will need to be made during the pre-design phase, if a master valve and flow sensor can be installed after locating the water source, mainline and potential sensor wire routing.
 - a. Master Valve – Rain Bird PEB
 - b. Flow Sensor – FloMec QS200P
2. Recommended irrigation equipment:
 - a. Class 200 PVC mainline. Size mainline so that flow velocity does not exceed 5 ft/s.
 - b. Sleeving – Class 200 PVC
 - c. Lateral Pipe – Class 200 PVC
 - d. Drip Manifold Pipe – Class 200 PVC
 - e. Drip Lateral Pipe – Rain Bird XT-700
 - f. Emitters – Rain Bird Xeri Bug with check valve
 - g. Tree Rings – Rain Bird XFCV-06-12 dripline (three loops per tree)
 - h. Gate Valve – Nibco T113 (2.5-inch and smaller), Matco 10RT (3-inch and larger)
 - i. Air Vacuum Relief Valve – Waterman AV series
 - j. Remote Control Valve – Rain Bird PEB
 - k. Drip Remote Control Valve – Rain Bird XCZ-100-PRB-COM
 - l. Spray Sprinklers – Rain Bird MPR with 1800-SAM-PRS

series body

- m. Rotor Sprinkler – Rain Bird 5000 series (medium range), Rain Bird Falcon (large range)
- n. Irrigation Controller – Weathertrak ET (traditional or two wire decoder)
- o. Wire Splices – 3M DBR/Y-6
- p. Valve Boxes – Rain Bird PVB Series (green lids in turf, brown lids in mulch or rock areas)

Note: The recommendations are being made without knowledge of potential landscape or site renovations. Actual approach and equipment used should follow Parks Standards at the time of the renovation.

City of Fort Collins Parks Irrigation Design Standards

The City of Fort Collins Parks irrigation design standards were developed in 2019 and can be found on the City website. These are noted since these standards are comprehensive and should be used when the irrigation system is renovated.

FORT COLLINS IRRIGATION SYSTEM PLANNING TOOLBOX

Irrigation Standards

Implementation

Phasing

These site improvements can be broken into phases if desired. The more immediate landscape concerns including the perimeter of the site may be important to accomplish before funding is available to authorize a consultant team to design and engineer more complicated improvements. Phase 1 landscape improvements can be tied into a new irrigation controller that will also service future phases. Alternatively a new irrigation controller may service phase 1 improvements in addition to the existing controller servicing existing landscape areas.

Opinion of Cost

The Opinion of Cost is broken into two phases as per the phasing plan on this page. The opinion of cost associated with Phase 2 improvements are landscape related estimates only. Other assessments with additional consultants will be required to fully understand the scope of phase 2 improvements.



Portner Facility Phase 1 Landscape Improvements

Landscape Opinion of Cost
 Prepared by BHA Design
 December, 2021

Item/description	Unit	Qty	Unit Price	Total
Phase 1: Finish Surface, Earthwork				
Clearing & Grubbing	LS	1	\$ 17,000.00	\$ 17,000.00
Fine Grade & Soil prep, 6" d.	SF	50000	\$ 0.70	\$ 35,000.00
Rock Mulch, 3" d.	SF	4000	\$ 3.00	\$ 12,000.00
Snow storage concrete pad, 5" d.	SF	2800	\$ 7.00	\$ 19,600.00

Phase 1: Landscape

Deciduous & Evergreen Tree	EA	25	\$ 700.00	\$ 17,500.00
Shrub, deciduous & evergreen	EA	200	\$ 55.00	\$ 11,000.00
Ornamental grass and perennials	EA	300	\$ 22.00	\$ 6,600.00
Landscape boulder buff (.75-1.5 Ton)	EA	40	\$ 300.00	\$ 12,000.00
Native Seed	SF	35000	\$ 0.15	\$ 5,250.00

*Not based on new planting plan, these estimates act as an allowance for Phase 1 improvements

Phase 1: Miscellaneous

Snowplow Signage	EA	2	\$ 400.00	\$ 800.00
Tree Protection	LS	1	\$ 5,000.00	\$ 5,000.00

Phase 1: Irrigation

Repair, adjust, and new irrigation	SF	16000	\$ 2.00	\$ 32,000.00
Controller programming adjustments	LS	1	\$ 2,600.00	\$ 2,600.00
Replace existing controller (Type to be determined)	LS	1	\$ 7,500.00	\$ 7,500.00

Line item subtotal \$ 183,850.00

Construction Contingencies & Mobilization (20%)

Total Project Total \$ 220,620.00

Portner Facility Phase 2 Landscape Improvements

Landscape Opinion of Cost
 Prepared by BHA Design
 December, 2021

Item/description	Unit	Qty	Unit Price	Total
Phase 2: Finish Surface, Earthwork				
Clearing & Grubbing	LS	1	\$ 2,600.00	\$ 2,600.00
Fine Grade & Soil prep, 6" d.	SF	7500	\$ 0.70	\$ 5,250.00
Rock Mulch, 3" d.	SF	7500	\$ 3.00	\$ 22,500.00

Phase 2: Landscape

Deciduous & Evergreen Tree	EA	15	\$ 700.00	\$ 10,500.00
Shrub, deciduous & evergreen	EA	150	\$ 55.00	\$ 8,250.00
Ornamental grass and perennials	EA	200	\$ 22.00	\$ 4,400.00
Landscape boulder buff (.75-1.5 Ton)	EA	15	\$ 300.00	\$ 4,500.00

*Not based on new planting plan, these estimates act as an allowance for Phase 1 improvements

Phase 2: Miscellaneous

Tree Protection	LS	1	\$ 5,000.00	\$ 5,000.00
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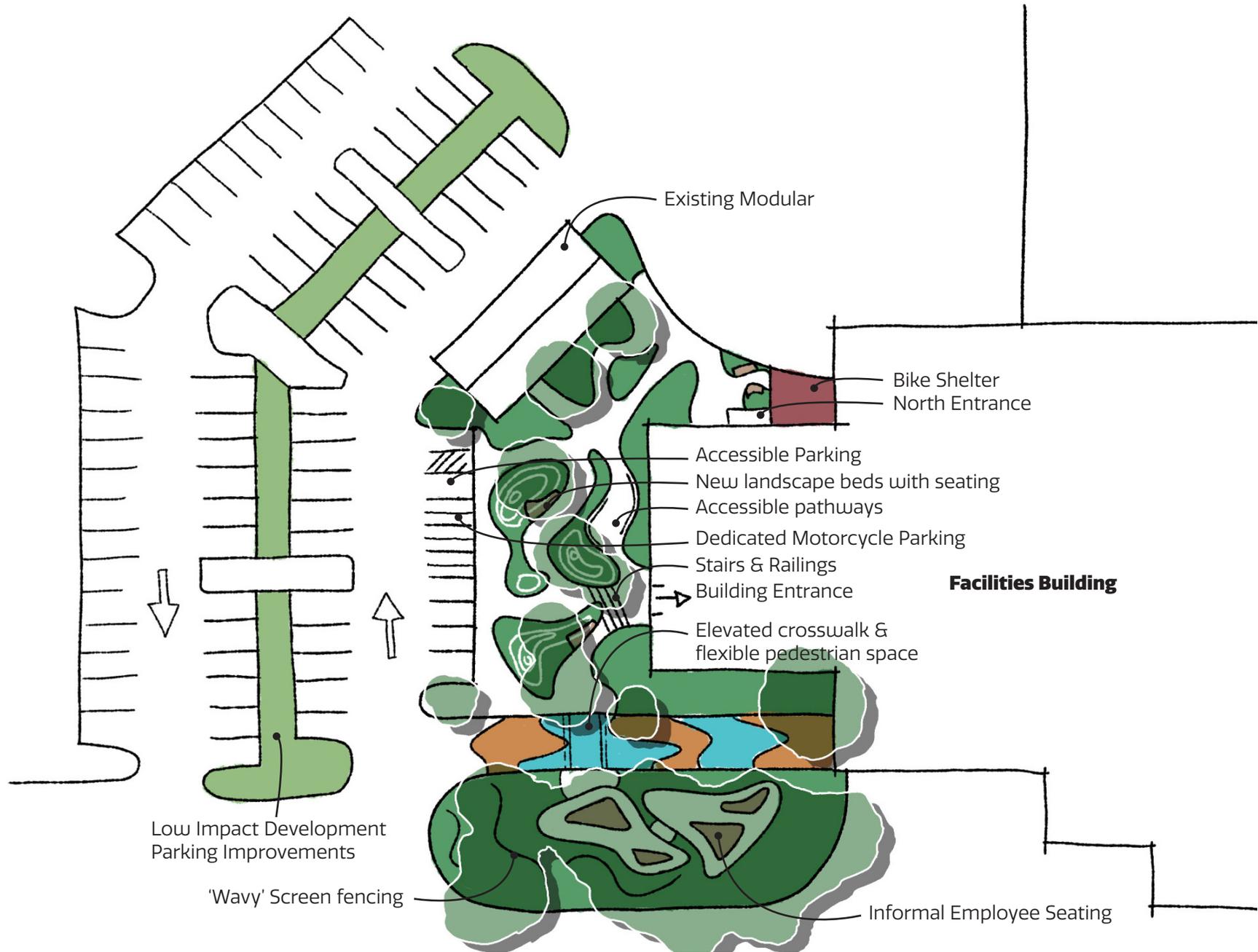
Phase 2: Irrigation

Repair, adjust, and new irrigation	SF	7500	\$ 3.00	\$ 22,500.00
Controller Programming for Phase 2 improvements	LS	1	\$ 2,500.00	\$ 2,500.00

Line item subtotal \$ 88,000.00

Construction Contingencies & Mobilization (20%)

Total Project Total \$ 105,600.00



Design

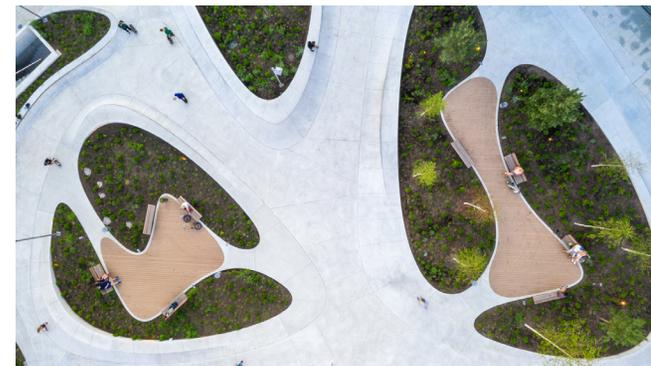
Parking

- Low-Impact Development
- Improved pedestrian connections



Building Entrance

- 'Natural' landscape aesthetic
- Modernized design



Employee Spaces

- Retain some turf-lawn
- Comfortable furniture with power
- Barriers for visual and sound mitigation



Landscaping

- Water-wise, native plant species
- Converting existing turf-lawn to native seed in low traffic areas



Bicycle Parking

- Sheltered bicycle parking 8-20 spaces
- Brasco International - 'Aspen'
- Bike Depot - 'Dero'

