

**PHYSICAL/CAPITAL NEEDS ASSESSMENT  
RESERVE ELEMENTS REVIEW**

**of**

**NEW COLUMBIA OWNERS ASSOCIATION**

4605 N TRENTON ST.  
PORTLAND, OR

OCTOBER 2017



New Columbia is a planned community of single-family privately owned and multi-family rental housing located on approximately 82 acres in North Portland.



*Prepared For*  
HOME FORWARD/NEW COLUMBIA OWNERS ASSOCIATION

*Prepared By*  
Asset & Property Management Services, LLC  
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**2.b. EXECUTIVE SUMMARY**

The following report is an update to the Physical Needs Assessment and Reserve Elements Review of New Columbia Owners Association (NCOA) originally provided to Home Forward for the Owners Association of New Columbia dated July 24, 2016. Scope includes a 30-year replacement schedule.

New Columbia is a Planned Unit Development (PUD) composed of land and improvements located on approximately 82 acres in North Portland. The New Columbia Owners Association manages and maintains the land and improvements for the owners of dwellings within the New Columbia development. The development and structures are approximately 11 years old.

I conducted a follow-up inspection of the common areas and improvements associated with the Owners Association on July 26, 2017. The property and most elements are generally in average condition.

With exception of two irrigation controllers and repairs to controllers vandalized improvements/repairs/replacements suggested in last years' assessment have not been completed.

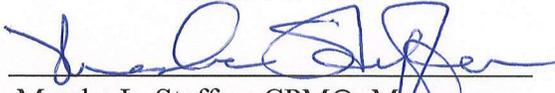
Due to the nature of the elements and land, most items will reach the end of their useful life within the next 30 years. However, some elements are approaching the end of their useful life and will likely need to be replaced within the next five to 10 years. Elements include play structures, playground surfacing, benches and park tables, pavers, sand filter, cement walks, and asphalt surfacing.

A component summary by category is provided on page 17.

A 30-year repair/replacement/improvement schedule is located on page 23 and provides a quick view of projected costs over the next 30 years. This is supported by detailed narratives for each item listed in the schedule on pages 24-56. Time frames suggested for replacement or repair of items are not cast in stone as there is little control over exactly when an item will fail. The spreadsheet is designed as a rolling tool to be adjusted as new information becomes available.

As requested, photos are included within the narrative below the item being discussed for illustration purposes.

SUBMITTED TO: Juli Garvey, Asset Manager  
Home Forward

BY:   
Marsha L. Steffen, CPM®, Manager  
Asset & Property Management Services, LLC

DATE: January 16, 2017

## **2.c. PURPOSE OF THE PHYSICAL NEEDS/RESERVE ASSESSMENT**

This Assessment was prepared for the Owners Association and management of this property. It is a review of the components of the common area property located throughout the New Columbia development in North Portland that are the responsibility of the Association to maintain. This includes common areas and common area appurtenances throughout the 82 acre neighborhood. On-site inspections/reviews of all common areas were conducted to determine the condition and needs relative to the following:

Lighting

Grounds (including storm drain pavers, concrete sidewalks, concrete pavement, irrigation systems, landscaping, and sand filters)

Asphalt pavement

Park and Playground Equipment

(Will discuss accessibility issues if noted)

Assessment will only include site items that are the Association's responsibility as identified by NCOA and Home Forward.

This report includes:

Table of Contents

Introduction

Executive Summary

Assessment and report on the useful life of elements

Statement regarding present condition of the elements

Narrative report of the physical improvements deemed necessary

30-year repair/replacement/improvement schedule including timeline and estimated costs

Supporting photos as necessary integrated into the narrative

Additional attachments if appropriate including but not limited to contractor bids

## **2.d. TIME FRAME OF THE ASSESSMENT**

The physical inspections for the original assessment were conducted on March 14 and 18, April 27, and May 4, 2016 with additional site visits in April and May of 2016; the inspection for this update was conducted on July 26, 2017. Research was conducted through October 31, 2017.

The author is not accountable for and does not assume responsibility for unknown events that may occur subsequent to completing the research and assessment or for information not provided regarding the subject property.

## 2.e. BASIC ASSUMPTIONS AND LIMITING CONDITIONS

- No opinion is intended to be expressed on legal matters or on matters that would require specialized knowledge or investigation beyond that ordinarily employed by property and/or asset managers, although such matters may be discussed in the assessment.
- On-site inspections were limited to features that are readily visible, accessible, and discernible to the assessor's eye. No materials testing or probing was done. Conclusions were drawn from obtainable data, and sometimes required assumptions. These assumptions may not be verifiable without additional expense or destruction of materials.
- This report is unable to address all possible deficiencies, and some areas noted may require additional investigation and more detailed analysis to fully understand the scope of repairs/improvements required.
- This report is based on on-site conditions observed and accessible at the time of the inspections only. Inspection of hidden or inaccessible areas is not included as part of the assessment, unless specifically noted. This report does not imply any warranty of the site or improvements on/within the site.
- Maps and exhibits are for illustration only to aid in visualizing matters expressed in the assessment. They should not be considered as surveys or relied on for other purposes.
- Maps and site maps presented are not necessarily to scale.
- All data given by owner and its personnel is assumed to be accurate.
- Additional comparative bids to complete improvements, additions, or major repairs should be obtained before beginning work on any of those items.
- Amounts listed for repairs, replacements, and improvements in this report **are estimates** based on information provided by the owner, its management, contractors, vendors, and this assessor's experience. Certain costs outlined in the Reserve Elements Review are subjective and, as a result, are for planning purposes only. The Association should obtain firm bids at the time of work. Actual costs will depend on the scope of work as defined at the time the repair, replacement, or restoration is performed. The estimates are as accurate as is practical and are all presented in terms of present dollar values. Amounts listed for future work do not include an inflation factor. All future costs and life expectancies should be reviewed and adjusted annually.
- All information regarding the useful lives and costs of reserve components were derived by vendors, the Association's prior reserve studies provided to this Assessor by management, and various construction pricing and scheduling manuals.

- This Assessment and Reserve Elements Review, unless specifically stated in the report, assumes there are no fungi, mold, asbestos, lead paint, urea-formaldehyde foam insulation, termite control substances, other chemicals, toxic wastes, radon gas, electro-magnetic radiation, other potentially hazardous materials (on the surface or sub-surface), or termites on the property. The existence of any of these substances may adversely affect the accuracy of this Reserve Elements Review. Asset & Property Management Services, LLC assumes no responsibility regarding such conditions, as we are not qualified to detect substances, determine the impact, or develop remediation plans/costs.
- Destructive testing was not performed; this Reserve Elements Review does not attempt to address latent and/or patent defects. Neither does it address useful life expectancies that are abnormally short due to improper design installation, or subsequent improper maintenance. This Reserve Elements Review assumes all components will be reasonably maintained for the remainder of their life expectancy.
- This Reserve Elements Review should be read carefully. It may not include all common and limited common element components that will require major maintenance, repair, or replacement in future years, and may not include regular contributions to a reserve account for the cost of such maintenance, repair, or replacement. The failure to include a component in a Reserve Elements Review, or to provide contributions to a reserve account for a component, may, under some circumstances, require both homeowners and multi-family building owners to pay a special assessment representing their share of common expenses for the cost of major maintenance, repair, or replacement of a reserve component.

This report has been prepared for the sole use of Home Forward, the New Columbia Owners Association, and Income Property Management. Use by any other party constitutes use without permission.

### **3. PROPERTY DESCRIPTION**

New Columbia is a Planned Unit Development of 852 housing units including public housing, affordable rental housing, elderly housing, and privately owned single-family homes, and is located in Portland, Ore. in an area referred to as North Portland. The property was constructed in 2005-2006. New Columbia Owners Association is responsible for managing and maintaining the common area land and improvements for the owners of dwellings within the New Columbia development (see Common Areas map on page 13). However, the Association is not responsible for the maintenance, repair, or replacement of any part of the individual housing units or improvements to private property.

The Association will maintain a variety of infrastructure improvements including but not limited to asphalt and concrete pavement, common area lighting, park areas and playground equipment, and the lawn irrigation system.

The individual homeowners are responsible for all maintenance and repair of their homes.

This report uses information supplied by the Association's prior reserve studies, which were provided by Robert Black of IPM and Juli Garvey of Home Forward, as well as information from vendors and various construction pricing and scheduling manuals to determine useful lives and replacement costs.

Site visits were performed by Marsha Steffen of Asset & Property Management Services, LLC in 2016 for the initial report dated July 24, 2016 and July 26, 2017 for this update.

Funds are being accumulated in the replacement fund based on estimates of future need for repairs and replacement of common property components. However, actual expenditures, investment income, and provisions for income taxes may vary from estimated amounts and the variation may be material. Therefore, amounts accumulated in the replacement fund may not be adequate to meet future funding needs.

If additional funds are needed, the Association has the right, subject to board approval, to increase regular assessments and/or levy special assessments; otherwise the Association may delay repairs or replacements until funds are available.

**3. a. IDENTIFICATION OF PROPERTY:**

**NEW COLUMBIA OWNERS ASSOCIATION  
COMMON AREAS  
4605 N TRENTON ST.  
PORTLAND, ORE.**



A community with 852 housing units including public housing, affordable rental housing, elderly housing, and privately owned single-family homes.

### **3.b. DESCRIPTION OF THE LAND AND LEASEHOLD INTEREST**

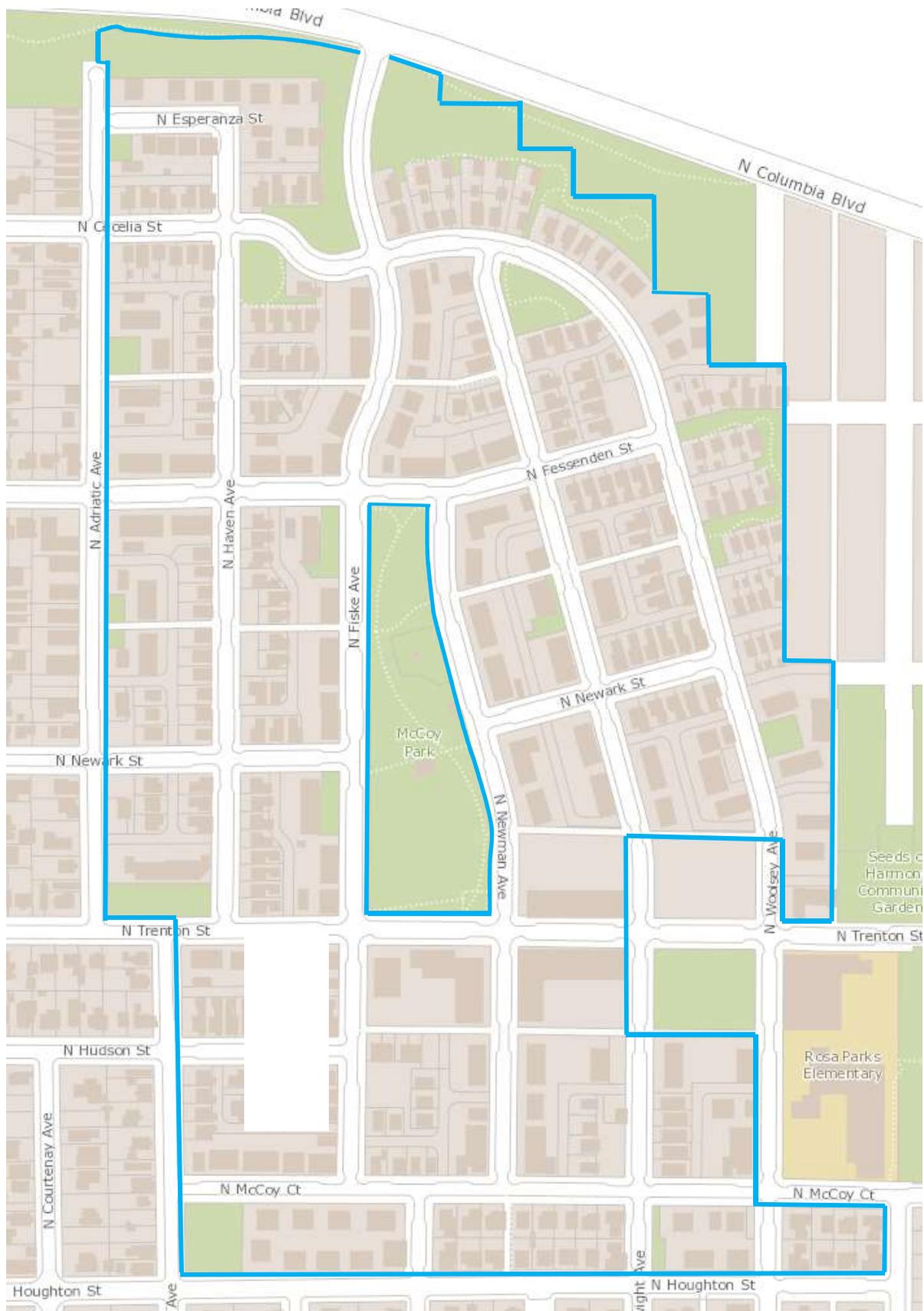
**SIZE:** Approximately 81.68 acres (according to plans).

**OWNERSHIP:** Multiple lots presumed to be Fee Simple.

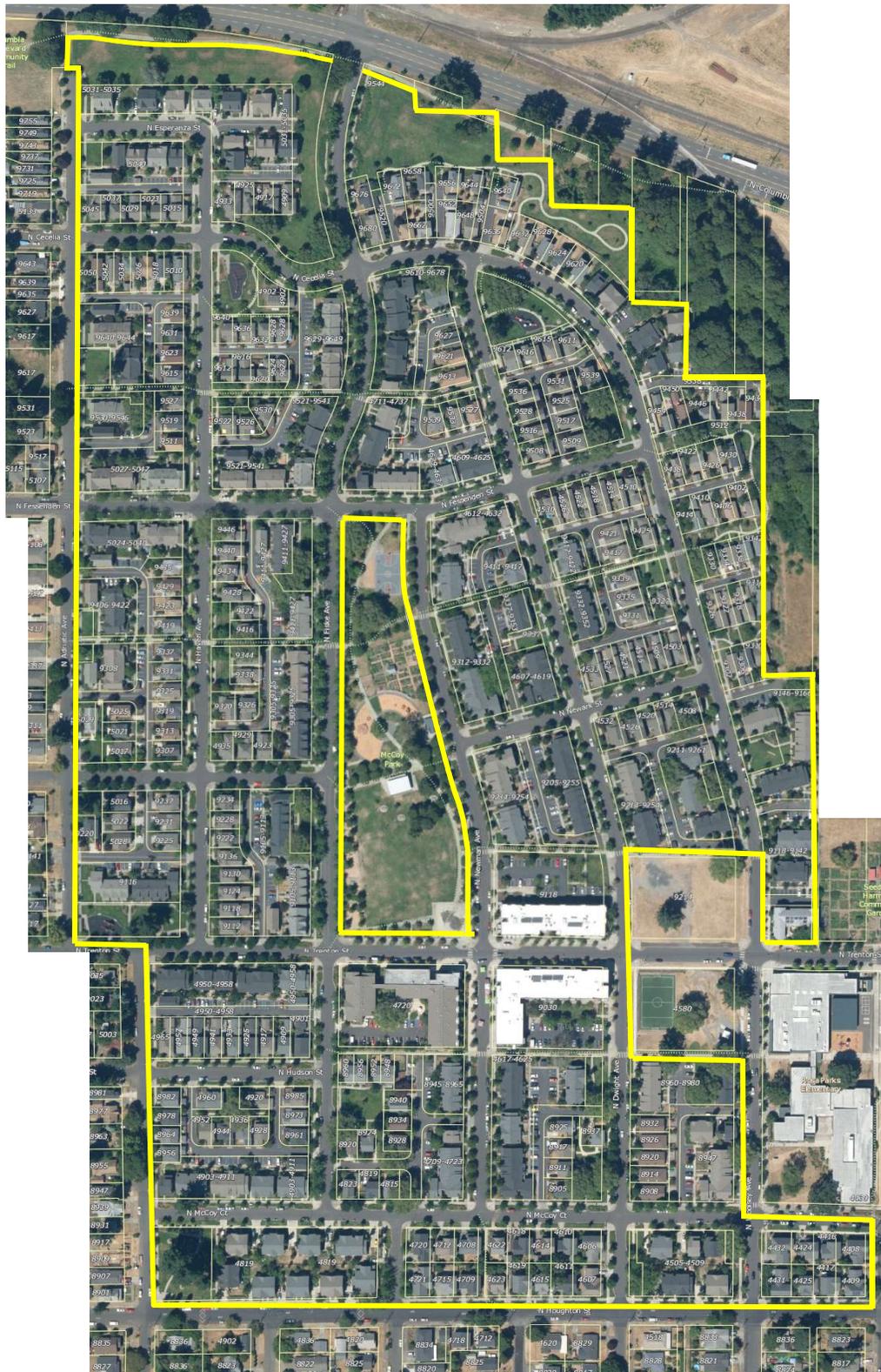
**CONFIGURATION:** See maps on pages 11-13.

**TOPOGRAPHY:** Primarily level on the west portion; sloping to the east on the northeast portion.

**ACCESS:** Good. Pedestrian access along all community streets. Vehicular parking is available along streets and in designated parking lots, as well as in personal driveways of single family homes and duplexes on north end of property.

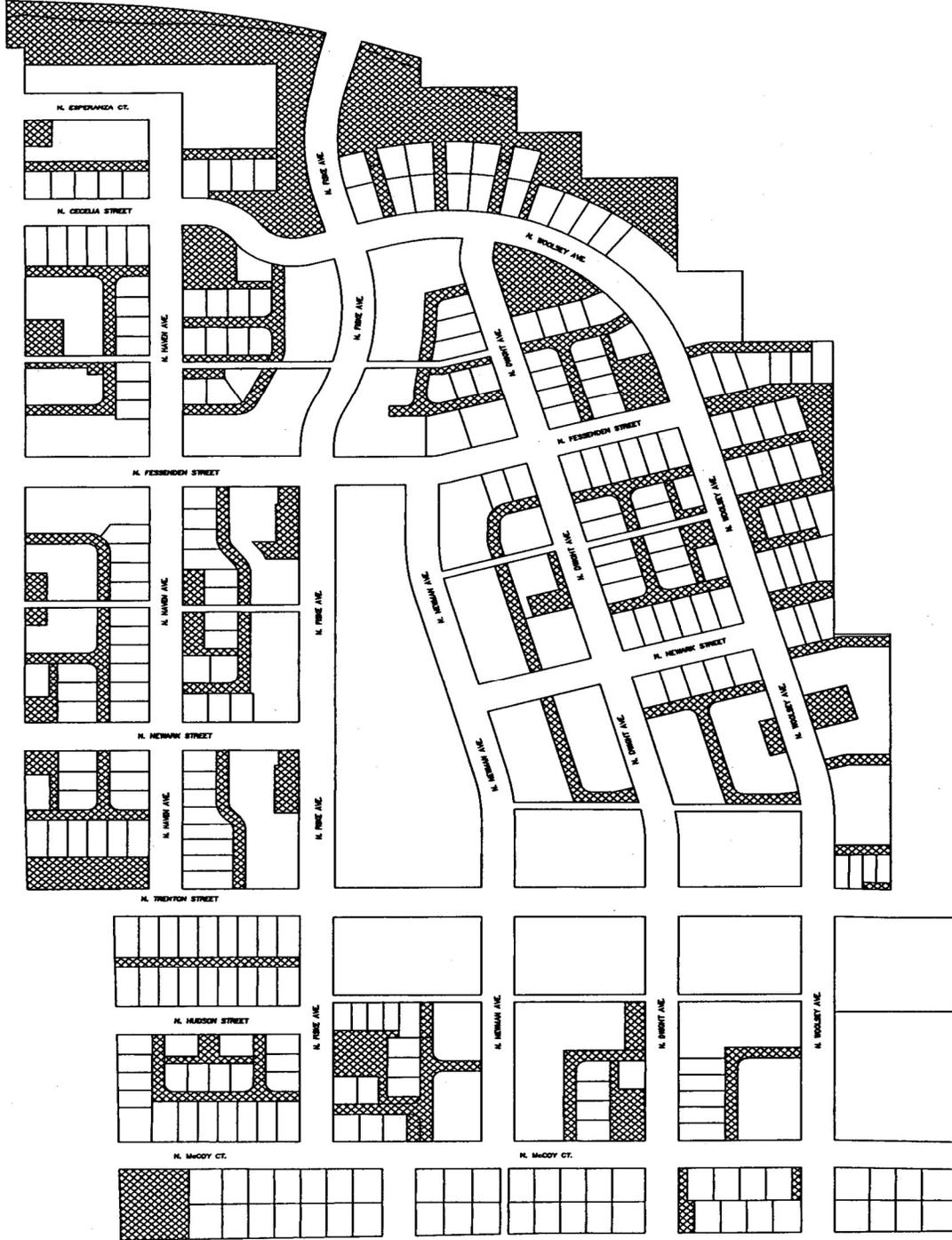


Property Site Map



Aerial View of New Columbia Property

RESTATED EXHIBIT B: PROPERTY MAP  
COMMON AREAS



#### **4.a. MANAGEMENT**

New Columbia Owners Association is managed by Income Property Management (IPM).

Robert Black is the portfolio manager for New Columbia Owners Association. He reports to Angela Henry, the director of affordable housing for IPM.

##### **NEW COLUMBIA STAFFING:**

Senior Property Manager	Alana Wilson
Community Manager	Robert Coleman
Leasing Manager	Terrie Fogoros
Leasing Agent 1	Priscilla Soto
Leasing Agent 2	Chris Espersen
Receptionist/Leasing Agent	Daisy Betancourt
Senior Maintenance Supervisor	Curtis McNack
Lead Maintenance	Frank Granillo
Maintenance Tech 1	Open
Maintenance Tech 2	James Kaiyala
Maintenance Tech 3	Robert Harris
Maintenance Tech 4	Hugo Adrian Gonzales
Maintenance Tech 5	Radley Gordon
Grounds 1	Almas Hussein
Grounds 2	Chance Scroggins
Grounds 3	Seymour McCarty
Compliance Manager	Eduardo Salcido Solis
Accountant	Teresa Lyon

Additional maintenance is provided by contractors and individual vendors.

## **5.a. RENOVATION/IMPROVEMENTS HISTORY**

This project was redeveloped and built by Home Forward with construction completion in 2005-2006. Records provided and information from staff indicate the project had the following improvements completed since the buildings were constructed:

### **2012**

- Replaced wood slats on 20 park benches in pocket parks throughout property - \$19,708.80
- Replaced wood on 10 park tables in pocket parks throughout property - \$10,000 (approximately)
- Pavement/walkway repairs/replacement (Blocks 1, 2, and 5) - \$2,262

### **2013**

- Replaced 5 Irrigation Controllers - \$27,000

### **2014**

- Seal coat approximately 266,963 square feet of pavement throughout the property, crack sealing, pavement striping (573 stalls, 70 handicap stall stencils, 51 handicap access x-hatch areas, 2 miscellaneous x-hatch areas, 12 directional arrows, 468 12-inch stall stencils, 14,085 LF of 4-inch red line to indicate fire lanes, and 1 cross wall) - \$42,517.80
- Exterior lighting upgrade/replacement (approximately 243 light fixtures were replaced with energy efficient LED fixtures) - \$226,198 (Energy Trust incentives - \$25,655)
- Replaced 9 landscape irrigation controller clocks - \$57,221
- Pavement/walkway repairs/replacement (Blocks 8, 9, and 10) - \$2,556

### **2017**

- Replaced 2 landscape irrigation controller clocks - \$3,458.75

It is recommended that a schedule of improvements and renovations be kept to assist ownership and management in planning, financing, and managing the property.

Below is an example of a simple log for tracking improvements, renovations, and other work completed at the property.

<b>NEW COLUMBIA OWNERS ASSOCIATION IMPROVEMENTS/RENOVATIONS LOG</b>				
<b>DATE</b>	<b>Description</b>	<b>Contractor(s) Used</b>	<b>Cost</b>	<b>Comments/Notes</b>

A component summary is provided on the following page including all components including non-capital maintenance items.

**NEW COLUMBIA HOME OWNERS ASSOCIATION - Component Summary by Category as of October 2017**

Capital item	Non-capital item	Item	Placed in service	Est. Useful Life	Adj.	Est. Repl Year	Est. # of Units	Est. Repl Cost/Unit	Estimated Cost
<b>Site Drainage &amp; Systems</b>									
x		Storm drain pavers - alleys	2005	25		2030	10,500 SF	20	210,000
	x	Catch Basins/soakage drywell/ sediment tank - maintenance	2014	1		all	69	55	3,795
	x	Sandfilters - maintenance	2011	5		every 5 yrs	22	2500	55,000
	x	Storm drain pavers - maint.	2013	1		all	1	10000	10,000
	x	Civil Engineer Review				2017	1	8000	8,000
	x	Quarterly Systems Inspections				all	1	10000	10,000
<b>Hardscapes</b>									
x		Alleys - Asphalt - repair/replace		2		every other yr	5,339 SF	5	26,695
x		Alleys - Asphalt - overlay	2005	25		2030	266,963 SF	2	600,667
	x	Alleys - Asphalt - sealcoat	2014	7		every 7 yrs	266,963 SF	0	48,053
x		Alleys - Concrete sidewalk - part. Repl	2005	25		2030	6,660 SF	14	89,910
	x	Concrete Pavement - maintenance	2012	4		every 4 yrs	94,090	0	23,523
x		Concrete Sidewalk - partial repl. Block	2005	25		2030	780 SF	14	10,530
x		Concrete Sidewalk - partial repl. Block	2005	25		2030	1,080 SF	14	14,580
x		Concrete Sidewalk - partial repl. Block	2005	25		2030	7,090 SF	14	95,715
x		Concrete Sidewalk - partial repl. Block	2005	25		2030	3,208	14	43,308
x		Parking stops/blocks							
x		Bollards							
<b>Landscaping &amp; Irrigation Systems</b>									
x		Irrigation System - upgrade I	2014						
x		- upgrade II	2005	25		2030	1	27500	27,500
x		- upgrade III	2005			2055	1	27500	27,500
x		- Controller Replacement	2005	10	+3	2018	6	5880	35,280
x		- Controller Replacement	2005	10	+4	2019	5	5880	29,400
x		- Controller Replacement	2013-17	10		2024-2027	5	5880	29,400
x		- Controller Replacement	2018	10		2028	4	5880	23,520
x		- Controller Replacement	2019	10		2029	3	5880	17,640
x		Landscaping - major renovation	2005	25		2030	1	50000	50,000
	x	Landscaping - tree maintenance				all	1	9250	9,250
	x	Landscaping - ongoing replacement	various			all	1	5500	5,500
	x	Landscaping - bark mulch/soil amendments	various	2		every other yr	1	15000	15,000
<b>Park &amp; Playground Equipment</b>									
x		Pocket Park Benches	2012	7		every 7 yrs	20	1000	20,000
x		picnic tables	2012	7		every 7 yrs	10	1000	10,000
x		Rubber Tiles - Pocket Parks 2 & 4	2005	15		2020	1	102600	102,600
x		Rubber Tiles - Pocket Parks 1 & 3	2005	15	+5	2025	1	102600	102,600
x		Pocket Parks equipment repair/part repl				2018	1	15000	15,000
x		Pocket Park 1 - Bellatrix	2005	20			1	57500	57,500
x		Spica	2005	20		2025	2	3380	6,760
x		Pocket Park 2 - Argo	2005	20		2025	1	7624	7,624
x		Decorative Metal Fence	2005	20		2025	60 LF	70	4,200
x		Play Structure II	2005	15		2020	1	60000	60,000
x		Supernova	2005	20		2025	1	10760	10,760
	x	Repaint Metal Fence	2005	7		2018	60 LF	25	1,500
x		Pocket Park 3 - Double Shifter	2005	20		2025	1	15426	15,426
x		Triple Shifter	2005	20		2025	1	15426	15,426
x		Homestead	2005	20		2025	1	51800	51,800
x		Satellite Binocular	2005	20		2025	1	2490	2,490
x		Ziggy	2005	20		2025	1	1045	1,045
x		Pocket Park 4 - Play Structure I	2005	15		2020	1	60000	60,000
x		Spica	2005	20		2025	2	3380	6,760
<b>Lighting</b>									
x		Exterior Lights - poles	2005	30+		2026/2046	10	2000	20,000
x		- ballasts	2014	14		2028/2042	243	156	37,966
<b>Total Capital items</b>									2,129,223

**5.b. PRESENT CONDITION**

I conducted a physical inspection of the property on July 27, 2017. All common areas, grounds, alleys, pocket parks, equipment, and walks were inspected. The portions of the property that are the responsibility of the Owners Association and corresponding elements were generally found to be in average condition with some exceptions. Current management and maintenance of the project appears to be good.

Management has put together a Planned Maintenance Schedule identifying systems/elements and what maintenance is planned, frequency, date completed, and notes. This is a very helpful tool for management in keeping up with the various systems.

If management doesn't already have one, it would be helpful for planning of replacements if management kept a log similar to the one below for each type of element (sprinkler controllers, pavement sealing/stripping, drainage system maintenance, walk way maintenance/replacement etc.).

<b>SPRINKLER CONTROLLERS</b>					
<b>DATE</b>	<b>Item Repaired/Replaced</b>	<b>Location(s)</b>	<b>Contractor Used</b>	<b>Cost</b>	<b>Notes</b>

Ideally there should be a log for each major element: roof, brick/masonry, electrical, plumbing, boiler, hot water system, kitchen equipment, etc. The log above could be combined with the improvement/renovation log. The information should be kept up to date and readily available so that management and maintenance can easily access the information in order to make informed decisions and to track costs of each area more effectively.

<b>DRAINAGE SYSTEM MAINTENANCE/REPLACEMENTS</b>					
<b>DATE</b>	<b>Item Repaired/Replaced</b>	<b>Location(s)</b>	<b>Contractor Used</b>	<b>Cost</b>	<b>Notes</b>

<b>EXTERIOR LIGHTING</b>					
<b>DATE</b>	<b>Item Repaired/Replaced</b>	<b>Location(s)</b>	<b>Contractor Used</b>	<b>Cost</b>	<b>Notes</b>

PAVEMENT MAINTENANCE					
DATE	Item Repaired/Replaced	Location(s)	Contractor Used	Cost	Notes

CONCRETE REPAIRS/REPLACEMENT					
DATE	Item Repaired/Replaced	Location(s)	Contractor Used	Cost	Notes

LANDSCAPE MAINTENANCE/IMPROVEMENTS					
DATE	Item Repaired/Replaced	Location(s)	Contractor Used	Cost	Notes

BENCHES/TABLES					
DATE	Item Repaired/Replaced	Location(s)	Contractor Used	Cost	Notes

PLAY STRUCTURES					
DATE	Item Repaired/Replaced	Location(s)	Contractor Used	Cost	Notes

PLAY TILES					
DATE	Item Repaired/Replaced	Location(s)	Contractor Used	Cost	Notes

### **5.c. 504 CONSIDERATIONS**

The development was constructed in 2005 after the regulations were effective. According to the plans, accessible standards in place at the time were used.

Management indicated that a 504 Compliance Analysis has not been completed for New Columbia Owners Association. HUD's UFAS Accessibility Checklist can be accessed for use in self-evaluation at:

<http://www.hud.gov/offices/fheo/library/UFASAccessibilityChecklistforPHAs-5-7-08.pdf>

### **ENVIRONMENTAL CONSIDERATIONS**

Management completed an Environmental Hazards Questionnaire indicating there were no known hazards. A copy of the completed Questionnaire can be found in the Appendix. Discussion regarding certain hazards follows in the narrative under items 31 through 35.

### **PARKING**

Approximately 573 on-site parking spaces, including 70 designated handicapped spaces, are provided in lots located on alleys between buildings. In addition, there are approximately 484 street parking spaces along all streets. Single-family homes have personal driveways for use by the residents of the home.

#### **5.d. POTENTIAL RESOURCES**

Resources may be available in the future for a number of energy improvements that are made to residential and commercial buildings. The US Department of Energy keeps a Database of State Incentives for Renewables and Efficiency (DSIRE™). The database can be found at <http://www.dsireusa.org/>.

Incentives are available through The Energy Trust of Oregon for energy improvements made to residential and commercial buildings including heating and cooling, windows, appliances, water heating, weatherization, and lighting including ballasts and fixtures. For information regarding existing multi-family projects contact Program Manager Tracy Scott at 503-278-3015. The Energy Trust can provide a building assessment regarding which projects might qualify for incentives.

Another program available is the MPower Oregon program designed to finance energy efficiency upgrades at affordable multi-family apartment projects. The fund invests in energy efficiency upgrades at the project that, in turn, lower owner and tenant utility bills. Contact MPower Managing Director Faith Graham at 503-501-5685 or [faithg@MpowerOregon.com](mailto:faithg@MpowerOregon.com) for more information regarding that program.

**5.e. NEEDS OF THE PROPERTY**

To assist in the budget preparation process, all repairs, replacements, and improvements are itemized using the repair and descriptive titles as listed on the previous Reserve Elements Review. The estimated dates for repairs, replacements, or improvements are categorized as follows:

- Priority A      Immediate and Health/Safety - to be completed in the current year or in this case 2017.
  
- Priority B      Near Term - to be completed in the second through the eighth year from the date of inspection or in this case 2018 through 2024,
  
- Priority C      Long Term - to be completed in the ninth through the 30th year from the date of inspection or in this case 2025 through 2046.
  
- Priority  
Ongoing      On-going - to be addressed/completed throughout the entire 30-year period

The Repair/Replacement/Improvement Schedule on the following page summarizes needs, either in process, planned by management, or recommended based on my overall review of the property and property elements. The schedule includes projected improvements, replacements, and repairs over the next 30 years. Additional detail is subsequently provided in the line item narrative discussion based on this assessor’s inspections and review of the property.



## 5.g. NARRATIVE - NEW COLUMBIA OWNERS ASSOCIATION

The following items were present at the property and identified in the plans as Common Property of the Owners Association, and will normally require replacement, in whole or in part, in fewer than thirty years. Some items noted may require maintenance and/or repair in order to extend the useful life of that element/item. Amounts listed below are estimates based on information provided by the owner, its management, contractors, vendors, and this assessor's experience. The estimates are as accurate as is practical and are all presented in terms of present dollar values. Additional comparative bids to complete improvements, additions, or major repairs should be obtained before beginning work on any of these items.

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### SITE DRAINAGE AND SYSTEMS

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New Columbia has a stormwater management system that employs Low Impact Development (LID) strategies. The system uses a variety of applications to naturally infiltrate rain water into the groundwater aquifer where it falls: catch basins, drywells, sand filter vaults, sedimentation manholes, soakage trenches, permeable paver strips, topography, bio-swales, vegetation, soil features, etc. This LID system eliminated the need for expensive conveyance systems at the time of construction.

Stormwater facilities remove pollutants, including suspended solids, by capturing sediment. Sediment can include dirt, leaves, and litter.

The stormwater facilities at New Columbia should be maintained regularly to ensure that each element is functioning properly. An Operating and Maintenance Plan was provided by KPFF Consulting Engineers for the stormwater management system. Maintenance of each specific element is important as all elements in this system impact the efficiency of the entire system.

#### System Inspections/Monitoring:

*Priority A/Ongoing*

Bravo Environmental provided a quote in late 2013, effective through 2014, for a one year maintenance agreement including quarterly inspections of the facility elements and corresponding logs in the amount of \$5,760. Additional service required based on the inspections were quoted for all elements of the system. Of the items quoted, only two services were performed: the catch basins were cleaned/serviced and the pervious paver strips were serviced, both completed in 2014.

I spoke with Josh Lighthipe, an engineer at KPFF, regarding the system. He indicated that in 2013 his firm provided a proposal to BC Group, Inc. for four functions related to the stormwater system at New Columbia. A copy of that proposal is attached in the Appendix. The four tasks included a system-wide inspection and assessment to determine the functionality of the system and identify issues where maintenance is, or is not, needed; system-wide maintenance management to provide a work schedule for maintaining the system and soliciting bids; quarterly inspection services including completion of logs with maintenance needs identified; and quarterly maintenance management to prepare work orders and prioritize maintenance needs. The proposed cost for each task was \$8,000, \$10,000, \$12,000, and \$10,000 respectively.

In discussing the system elements with Josh Lighthipe, he informed me that at the time the system was designed and installed requirements were in place, with respect to the paver strips, that are no longer in place for a project of this type. He indicated that the paver strips in Blocks 1-7 (see below) are likely no longer required for this property, which may impact the costs to maintain the alleys in which these are located. There are some problems with the paver strips that are listed in detail below. This aspect of the system should be reviewed by management and KPFF to determine if the strips should be scheduled for removal or left in place.

As a condition of New Columbia having its own stormwater management facility, the City of Portland Environmental Services Department requires maintenance/inspection logs be kept for the elements of the system and available for inspection on request. It is not appear that inspections have been conducted on a regular basis by qualified individual or organization.

A review of the entire system should be conducted to determine functionality of the system and identify maintenance needs. Management indicates that KPFF will be conducting the review of the system in November. (Note: as of January 10, 2018 management indicated the report and recommendations is expected within the month.)

- For the purpose of this report, anticipate receiving the completed system review in year 1. Estimate \$8,000.

Effective functioning of the system depends on regular and appropriate maintenance of each element. Therefore, once specific maintenance needs are determined as indicated above, it is recommended that a professional firm be retained to conduct regular inspections and service the elements as necessary to extend the life of the system elements. Pricing for servicing each element is generally lower when a maintenance contract is in place as opposed to “one-time” or on call service pricing.

- For the purpose of this report, anticipate an annual service agreement to conduct quarterly inspections and provide corresponding log reports for the system. Estimate \$7,000 – \$12,000.

Note: I spoke with a representative of Bravo Environmental in 2016, at that time he indicated Bravo no longer services pervious paver systems. The representative suggested that River City Environmental likely provides service for all the elements contained in New Columbia’s stormwater system.

Catch Basins/Soakage Drywell/Sediment Tanks - Maintenance:

*Priority Ongoing*

According to the plans, there are approximately 69 catch basins, 40 sedimentation manholes, 42 drywells, and 42 soakage trenches. All should be monitored and serviced as specified by the Operating and Maintenance Plan.

Catch basins should be cleaned out regularly to keep them functioning properly. Many of the catch basins throughout the property had debris and some standing water in them; these need to be cleaned out and possibly flushed. It is generally recommended that catch basins be cleaned out no less than once per year. Although some can be cleaned manually, generally a vector truck is used

for this purpose. Records provided indicated that the last time the catch basins were cleaned out by a vactor truck was in 2014. Approximate cost was \$4,485. I spoke with Jonathan Sheekard from River City USA in 2016 and he indicated that the current cost to clean catch basins if not on contract is \$85 to \$125 per basin. If the property is on a service contract the cost would be \$45 to \$55 per basin.

- For the purpose of this report, anticipate a cost \$55 per basin assuming an annual contract is in place. Annual cost \$3,795. (Estimate \$100 per basin without an annual contract. Annual cost \$6,700.)

Other services will be required for drywells, soakage trenches, and sedimentation manholes. Such services will need to be done as necessary. An amount should be set aside annually based on input from KPFF's 2017 review of the site systems.

#### Sand Filters - Maintenance:

*Priority Ongoing*

There are approximately 22 sand filter vaults. According to the plans, there are six located in Sector 2 (Blocks 8-15) and 16 located in Sector 3 (Blocks 18-26). Sand filter vaults help to filter pollutants in stormwater through a 16 inch layer of sand before the water is conveyed to an outlet pipe back to the site. The sand in the vaults should be maintained regularly to remove sediment and debris accumulation on the surface. Over time, finer sediments penetrate deeper into the sand resulting in water not being able to filter through at acceptable levels. When this occurs the sand will need to be replaced.

Currently, management has estimated replacement of the sand every five years. Depending on weather and other conditions this timeframe may vary.

It is unclear if the filters have been serviced. Records are not available to confirm servicing or inspection of the vaults.

- For the purpose of this report, anticipate complete replacement of media (sand) in sand vaults every 5 years starting in year two. Frequency of replacement will vary depending on conditions. Estimate \$2,500 per vault.

Management should be aware that more frequent servicing may be recommended by the engineers after reviewing the system. This may extend the life of the media.

#### Alleys – Storm Drain Pavers - Maintenance:

*Priority Ongoing*

Twelve of the approximate 35 alleys are designed with a strip of permeable/pervious paver system over a soakage trench with a drywell system down the center of the alley and asphalt along either side of the paver system. These are all located in Blocks 1-7.

This system helps convey surface runoff to the underlying soakage trenches that treat and dispose of the runoff. According to KPFF Consulting Engineers which designed the system, "Near the low-point of each paver strip is an overflow catch basin, which only collects runoff that has overflowed the paver strips. These catch basins drain to the piped storm system."

According to the Operations and Maintenance Plan provided by KPFF, the permeable paver strips should be maintained regularly following specific steps in order to keep the system functioning properly. Conditions to watch for include a clogged surface, cracked or settled pavement (more than 1 inch), vegetation in paver strips, large shrubs or trees and weeds, and oil spills. According to the plan, strips should be vacuum swept annually or as needed, aggregate material added to refill drainage voids in pavers if necessary after cleaning, and cracked or settled pavement repaired or replaced. Vegetation in paver strips should be mechanically removed (use of pesticides and/or herbicides is strictly prohibited); sweep leaf litter and sediment to prevent clogging and ponding. Oil spills should be removed using a pressure washer and a light detergent, allowing oil to dissipate over time. (See page 14 of KPFF Operations and Maintenance Plan)

At the time of my inspections in 2016, there were multiple areas of the paver strip that had ponding of water, vegetation, and settled pavement of more than 1 inch. Based on my inspection in July 2017 these conditions do not appear to have changed. Although water ponding was not visible at the time as there had not been rain for some time, vegetation, and settled pavers were observed.



Water ponding on paver strip<sup>2016</sup>



Water ponding<sup>2016</sup>



Vegetative growth/settlement<sup>2016</sup>



Vegetative growth/settlement<sup>2016</sup>



Settlement of paver strip<sup>2016</sup>



Settlement of paver strip<sup>2016</sup>



Vegetative growth/silt/fractured cement<sup>2016</sup>

It does not appear that the paver strips are functioning as well as was originally intended, with water ponding, settlement of pavers, vegetative growth between pavers, and an accumulation of silt evident.

As indicated above, it may not be necessary to maintain the paver strips as part of the stormwater system due to changes in DEQ rules. However, until the system review by KPFF is completed and a decision is made regarding the paver strips, management should anticipate continued maintenance of the strips.

At a minimum depressions should be repaired and broken pavers/cement replaced.

Typically, maintenance of pervious paver strips entails regular sweeping/vacuuming of debris from joints, replacement of broken pavers, and leveling of sunken areas.

- For the purpose of this report, anticipate regular maintenance of the strips with at least annual sweeping/vacuuming of the strips, removal of vegetation, and any necessary repairs. Estimate \$10,000 per year starting in year two. (This item will change if it is decided to eliminate the paver strips.)

Alleys – Storm Drain Pavers - Replacement:

*Priority C*

The estimated life of pavers may vary from 25 to 50 years depending on quality, maintenance, and conditions. In the previous reserve analysis this item was listed for replacement after 25 years.

As stated above, maintenance is key to the effectiveness of a pervious paver strip. Additionally, should management decide to eliminate the paver strips, the item will no longer be necessary in the reserve analysis.

Until such time as it is decided to eliminate this element it will be included in the reserve analysis.

- For the purpose of this report, anticipate replacing the paver strips in year 14 (or when they are 25 years old). Estimated square footage of paver strips in previous reserve reports was 3,350; however, according to plans, there is approximately 3,566 linear feet of strips that are approximately 3 feet wide. Therefore, based on the plans, the estimated square footage of paver strips is 10,500 square feet. Estimate \$20 per square feet or \$210,000.

*When the time comes to replace the paver strips some of the pavers may be reusable which should reduce the cost.*

Also see Drainage under Landscaping and Irrigation below.

(Note: The preliminary recommendation by KPFF is to eliminate the paver system. Upon receipt of the report and recommendations management should obtain estimates to remove and replace the pavers with a more suitable material).

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## HARDSCAPES

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### Alleys – Asphalt:

There are approximately 35 alleys throughout the property, most of which also contain parking spaces for residents. Of the 35 alleys, 12 include a permeable/pervious paver system over a soakage trench with a drywell system down the center of the alley and asphalt along either side of the paver system. There are approximately 573 parking stalls in the alleys including 70 spots designated for handicapped/accessible parking.



Example of alley with asphalt only<sup>2017</sup>



Example of alleys with asphalt and pervious paver strips<sup>2017</sup>

According to most professionals, the asphalt surface is only as good as the base layers below the pavement. If there is movement or failure at the base it will impact the asphalt and the surface layer will start to show signs of degradation. Cracks in asphalt pavement begin at the bottom of the asphalt. Once a crack is noticeable on the surface the volume of water penetrating to the base increases significantly. Cracks that are not sealed will continue to widen and the pavement will eventually fail.

Most professionals agree that new parking lots with an aggregate base have an estimated useful life of approximately 20 to 25 years with good maintenance. Good maintenance includes regular cleaning and sealcoating along with surface and crack repairs. The lot may be usable for much longer than that depending on use.

**Alleys – Asphalt - Repairs:**

*Priority Ongoing*

As stated above, there are areas that currently appear to be failing and will need to be repaired. Most of the 12 alleys with pervious paver strips have asphalt on either side of the pavers with alligating and cracks. There are alleys that are all asphalt that also have cracks and fractures that will need to be repaired. It was noted that large garbage trucks utilize these alleys to collect garbage. The weight of the trucks, particularly on the alleys with pervious paver strips, may be breaking down the asphalt at a quicker rate than anticipated.



Alligating of pavement in alley<sup>2016</sup>



Alligating of pavement<sup>2017</sup>



Fractures/cracks in pavement in alley<sup>2016</sup>



Fractures/cracks in alley<sup>2016</sup>

The failure of the asphalt in the alleys with the pervious paver strips and soakage trenches should be reviewed by your contractor or engineer to determine how best to address this condition and to keep it from recurring. This can be done in conjunction with the drainage issues listed above under Storm Drain Pavers.

It is likely that the portions that have severe alligating will need to be replaced. Max Hobbs of Pavement Maintenance estimated the cost of replacement to be approximately \$5 per square foot. This includes removal of the failed asphalt and installing new asphalt. Any repairs to the base may increase the cost.

Since it is difficult to predict how much of the asphalt will need to be replaced/repared over a 30 year period, it may be prudent to use a percentage of the total to set aside funds for this purpose.

- For the purpose of this report, anticipate repairing 2 percent of the total every other year. This would result in 5,339 square feet of repairs at \$5 per square foot or \$26,696 every other year. As an alternative, budgeting replacement/repair of 1 percent every year would result in a total of 2,670 square feet per year for a total of \$13,348 every year.

Alleys – Asphalt - Sealcoat:

*Priority Ongoing*

It is generally recommended that asphalt be sealed within approximately two years of installation and then resealed every five to eight years depending on use. According to management and the Reserve Study dated 2015, the asphalt alleys and parking areas were sealed in 2014 including cleaning, crack sealing, pavement restriping, and moving one sign. Total cost paid was \$47,242. Sealing the asphalt helps to retain the oils in the asphalt and prevent it from drying out, which results in the asphalt becoming loose and rough.

Max Hobbs with Pavement Maintenance indicated that the cost to seal coat a property of this size will range from 17 to 19 cents per square foot. Using satellite software, Pavement Maintenance found the square footage of New Columbia to be 266,963. This may be more than what is listed on the plans due to variances during construction. Although the previous reserve reports listed 258,000 square feet, to be conservative I will use 266,963 square feet in this report. You should anticipate any future bids to list total square footage between those two numbers.

The seal coating price above includes cleaning all pavement, filling any surface cracks, patching any damaged pavement surfaces, and restriping all lot demarcation lines including accessible signs. Any major repairs should be done prior to sealcoating. See Alleys – Asphalt - Repairs above.

- For the purpose of this report, anticipate resealing the asphalt lots, excluding non-pervious portions of the lots, in year 5 (2021) and then every seven years thereafter (years 12, 19, and 26). Estimate \$48,053 (based on 18 cents per square foot) to clean, seal, and restripe the parking lots.

Oil stains: A few instances of oil stains were noted while inspecting the property. It appears that the oil stains are from automobiles parking at the property. It is important to keep oil from sitting on top of the asphalt as it tends to soften the surface. Recommend all areas with oil stains be cleaned regularly. Repairs should be made as necessary.



Oil stains/degradation of asphalt<sup>2016</sup>



Oil stains on asphalt<sup>2017</sup>

Alleys – Asphalt - Overlay:

*Priority C*

The previous reserve report included a provision for this item anticipating an overlay of all alleys and parking lots after approximately 25 years of useful life.

A standard asphalt overlay consists of a new layer of asphalt (generally 1.5 inches to 2 inches thick) applied over the existing asphalt surface. An overlay can be done when the existing asphalt is in overall good condition but may have some problem areas. Most professionals agree that an overlay should not be done on a surface that is severely cracked, crumbling, wavy, or has sinking and/or soft spots. These areas need to be repaired prior to an overlay installation. See Alleys – Asphalt - Repairs above.

At the time of my inspections, there were several areas that had depressions, alligatoring, and severe cracks. All of these issues would likely need to be repaired prior to an overlay being applied. Consequently, a provision for repairs during the life of the asset should be included. See Alleys – Asphalt - Repairs above.

Max Hobbs with Pavement Maintenance indicated that an overlay may not be the best approach for maintaining the alleys/lots at New Columbia. He indicated that if surfaces are cleaned, sealed, and repaired regularly, an overlay may not be necessary as a maintenance plan. However, since it is unclear if the surfaces will require an overlay or not, we will include this item in the plan. Mr. Hobbs estimated the cost to overlay the alleys/parking areas to be between \$2 and \$2.50 per square foot.

- For the purpose of this report, anticipate overlaying the lot in year 14. Estimated cost of \$600,667 based on 266,963 square feet at \$2.25 per square foot.

Concrete Pavement/Sidewalks - Maintenance:

*Priority Ongoing*

According to management, there is approximately 94,090 square feet of concrete pavement walks throughout the property that the Owners Association is responsible for maintaining. Currently, management has scheduled cleaning of the exposed surfaces to remove dirt and surface deposits every four years. Particularly slick surfaces may require more frequent cleaning to prevent a tripping or slip hazard. This can be done as needed on a small scale basis.



Fractured sidewalk/1½” change in grade at near 9668 N. Woolsey Avenue<sup>2017</sup>



Uneven sidewalk between buildings on N. Woolsey by lamp W401<sup>2017</sup>



Fractured sidewalk<sup>2017</sup>



Uneven sidewalk<sup>2017</sup>



Uneven sidewalk<sup>2017</sup>

When using a pressure washer, it is recommended that care be taken to use a low pressure so as not to damage the cement. Best practice and installer’s recommendations should be followed.

A previous reserve elements review listed a cost of 20 cents per square foot for cleaning and minor maintenance. In checking national data, the cost listed ranges from 15 to 35 cents per square foot. Based on this, an average of 25 cents per square foot will be used.

- For the purpose of this report, anticipate cleaning/minor maintenance of concrete walks throughout the property every four years. Anticipate maintenance in years 2, 6, 10, 14, 18, 22, 26, and 30. Estimate \$23,523.

**Concrete Sidewalks - Partial Replacement:**

*Priority C*

Concrete walks have an estimated useful life of 50 years. However, portions of concrete walks may fail, crack, fracture, or rise, requiring replacement prior to 50 years. The previous reserve report provided for replacement of 20 percent of the concrete sidewalks every 25 years.

I spoke with a local concrete professional who confirmed that budgeting for 20 percent replacement every 25 years was a reasonable assumption. He indicated that the cost for replacement will range from \$12 to \$15 per square foot if the areas to be replaced are not continuous.

- For the purpose of this report, anticipate replacement of 20 percent in year 14. Estimate \$13.50 per square foot.

Alleys:

*Priority C*

Management estimated 33,300 square feet of concrete sidewalk in alleys.

- For the purpose of this report, anticipate replacement of 6,660 square feet in year 14. Estimate \$89,910.

Block 19 Common Green:

*Priority C*

Management estimated 3,900 square feet of concrete sidewalk in Block 19 common greens.

- For the purpose of this report, anticipate replacement of 780 square feet in year 14. Estimate \$10,530.

Block 20 Common Green:

*Priority C*

Management estimated 5,400 square feet of concrete sidewalk in Block 20 common greens.

- For the purpose of this report anticipate replacement of 1,080 square feet in year 14. Estimate \$14,580.

Other Common Greens:

*Priority C*

Management estimated 35,450 square feet of concrete sidewalk in the other common greens.

- For the purpose of this report, anticipate replacement of 7,090 square feet in year 14. Estimate \$95,715.

Pedestrian Connections:

*Priority C*

Management estimated 16,040 square feet of concrete sidewalk in pedestrian connections.

- For the purpose of this report, anticipate replacement of 3,208 square feet in year 14. Estimate \$43,308.

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## LANDSCAPING AND IRRIGATION SYSTEMS

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### Landscaping:

*Priority Ongoing*

The property is located on approximately 82 landscaped acres with both mature and immature trees. Grass is typically located in front of homes and apartment buildings, with shrubs in beds along the building perimeters and in green strips throughout the property. There are also four pocket parks and several common areas that are all landscaped. The property has a built-in irrigation system and management has contracted with a professional firm to maintain the grounds and the irrigation system. The fenced backyards of homeowners and multi-family residents are not maintained by the landscape firm; those areas are the responsibility of each individual resident.



Walking path between single family homes<sup>2017</sup>



One of many common areas<sup>2017</sup>



Walking path between buildings<sup>2017</sup>



Landscaped area near center of property<sup>2017</sup>



Landscaping on N Fiske Ave.<sup>2017</sup>



Common area on N. Adriatic<sup>2017</sup>



Pocket Park 1<sup>2017</sup>



Pocket Park 2<sup>2017</sup>



Pocket Park 3<sup>2016</sup>



Pocket Park 4<sup>2017</sup>

Planting Beds:

*Priority A/Ongoing*

At the time of my inspection, the surface of the planting beds was bare dirt with little or no ground cover and little if any garden mulch/chips. Most of the planting beds were dry however there were a few areas in which standing water was observed. (There had not been rain for several weeks.) Bark chips, garden mulch, or a ground cover will help minimize erosion and dirt splashing on the foundation and hardi-board surfaces while providing a nice appearance. Liverwort (a weed commonly found in northwest nurseries) appeared to still be present in some beds which may signify poor drainage and/or overly moist soil. Improving the soil structure and drainage will help minimize unwanted weeds and encourage growth of desirable plants.

- For the purpose of this report, anticipate adding amendments to the soil to improve drainage and soil health, and to top dress all beds with 2 inches of bark mulch/chips annually. Estimate \$15,000 every other year starting in year 2.

There were also areas in which plant material has died leaving bare dirt subject to erosion, which negatively impacts the stormwater system, in addition to being unsightly.



Examples of bare ground subject to erosion<sup>2017</sup>

All sprinkler heads should be adjusted or replaced to spray away from foundations and buildings. Steps should be taken to stabilize the soil in these areas to minimize/prevent erosion. Suggestions from the Civil/Soils Engineer should be obtained at the same time they are looking at drainage. Certain plants will help stabilize the soils as will retaining walls. This was discussed in the respective partnership reports completed in 2016.

During the period leading up to my inspections it had rained heavily. All beds were moist and many lawns were not draining resulting in a soggy condition. As stated above, many beds had liverwort and several were bare. System settings should be checked and adjusted as necessary to provide an appropriate amount of irrigation to all areas without overwatering. It is recommended that all heads and sprinklers be adjusted to spray away from buildings, doors, and posts.

The system had been operating for several months at the time of my inspection. Several conditions suggest watering system settings should be checked and adjusted to provide adequate water without overwatering and reduce any erosion around sloped areas and steps. This should be done at least annually.



Evidence of overwatering<sup>2017</sup>



Evidence of inadequate irrigation<sup>2017</sup>

There are also several areas in which sprinklers are located where plants have subsequently died leaving bare ground. Plants should be replaced to minimize erosion and stabilize the ground. If the plants are not going to be replaced in the near future, it is suggested that the sprinkler heads be capped until the plant material can be replaced.



Examples of beds with missing plant material<sup>2017</sup>

- For the purpose of this report, anticipate installing plant material in the areas in which original plants died or are diseased in year 2. Management should plan for ongoing replacement of dead/diseased plant material. New plants should be selected based on sun exposure and soil type to give them the best chance to thrive. Estimate \$5,550 annually based on information from ValleyScapes.

As the landscape matures, more extensive replacements/renovations will be required. Mr. Lowery of ValleyScapes suggested that major renovations to landscape should be planned in 10 to 15 years.

- For the purpose of this report, anticipate major renovations in year 14. Based on information from ValleyScapes estimate \$40,000 to \$50,000.

#### Trees/Shrubs:

#### *Priority A & Ongoing*

Some of the trees and shrubs around the property are overgrown and either touching or are unacceptably close to building siding and/or roofs. All plants, shrubs, and trees should be trimmed away from the buildings so that they do not touch the buildings or overhang the roof and so that there is sufficient airflow between the plants and the buildings.

Heritage trees are present on the property and should be inspected by an arborist regularly to determine health and remove dead or dying branches that may fall. Younger trees will need to be inspected periodically for thinning, root trimming, and treatments when diseased.

It is recommended that all trees be evaluated by a qualified arborist to determine the health of the trees and identify those that should be pruned and/or removed to keep the trees healthy and the property safe from trees that are diseased and prone to falling.

Although I recommended in the 2016 Reserve Review that an audit of trees on the property be conducted management indicated that after consulting with professionals the cost for a complete audit was cost prohibitive. Management has secured Mike's Pruning and Tree Care to provide maintenance of trees on an as needed basis.



Example of heritage tree on left<sup>2017</sup>



Example of heritage tree<sup>2017</sup>



Example of trees hanging over/on building<sup>2017</sup>



Example of trees on property<sup>2017</sup>



Example of leaning tree<sup>2017</sup>



Example of leaning tree 9130 N Woolsey<sup>2017</sup>

Due to the number of trees on the property, management may want to consider adopting a community Tree Care Plan. Part of the process of developing a plan includes putting together an inventory of trees in the community. Original landscape plans which specified the number of trees present and proposed addition of trees for each block within New Columbia may be useful in this regard. Volunteers could assist in inventorying trees. Included in the appendix is a sample of a Tree Care Plan that was put together for the Virginia Tech campus and The City of Portland's current Urban Forest Action Plan. The City of Portland also has an ongoing Tree Inventory Project. Training may be available for volunteers and communities desiring to inventory trees

- For the purpose of this report, anticipate annual tree maintenance. ValleyScapes suggested an estimated budget of \$7,400 to \$11,100. Estimate \$9,250.

### Irrigation System:

*Priority Ongoing*

According to management and records provided, there are approximately 27 irrigation system controllers located throughout the property that control the frequency and amount of water for grass and landscaped area irrigation.

Of the 27 controllers, five were replaced in 2013 for approximately \$27,000 and nine in 2014 for approximately \$57,221. The controllers were originally installed in 2005-2006 and were Hunter controllers. Management is replacing these with HydroPoint WeatherTrak smart water controllers. The new controllers have the ability to reduce water usage and costs while providing sufficient irrigation to the multiple areas of the landscape.

Unfortunately, sometime this year several controllers were vandalized. According to the current landscape company “The vandalism was very specifically meant to impact master valves and flow sensors.” The company was able to manually open or by-pass the sensors which enables the water to flow but the controllers no longer function as intended with respect to sensing moisture/weather.

According to management the cost to determine and repair the wire paths that were cut is labor intensive. In addition the cost to replace flow sensor parts including labor is high. A proposal for the repairs has not been obtained. Consideration should be given to contacting HydroPoint directly and explaining what happened to see if there is a less expensive option for repairing the controllers so they function as intended. Consideration should also be given to reporting this to the police.

Two of the controllers that were installed in 2005-2006 were replaced this year with new controllers. The cost for each was \$1,977.25 and \$1,481.50. The new controllers are not smart water controllers.

Until management determines whether it will continue with smart controllers or convert to standard controllers this reserve review will reflect the original plan to utilized smart controllers. The estimated cost for a new controller is \$5,880. Controllers have an estimated useful life of 10 years.

- For the purpose of this report anticipate replacement of:
  - 1) The remaining controllers over the next three years as follows: six in year 2 and five in year 3.
  - 2) Smart controllers as follows: five per year in years 8 through 11, four in year 12, and three in year 13. Repeat this pattern starting in years 18 and 28.

Additionally, as the system ages other components will need to be replaced, and according to landscape professionals, management should plan for more extensive replacements when the system is 20 to 30 years old.

- For the purpose of this report, anticipate major repair/replacements of the system in year 14 (when the system is 25 years old). Estimate \$25,000 to \$30,000 based on information from ValleyScapes.

**Bio-Swales:**

In addition to the above, there are bio-swales located on streets throughout the property that are part of the stormwater system. My understanding from management is that these areas are to be maintained by the City of Portland. It was noted during my inspections that several of the bio-swales are overgrown with a couple that appear to have had plant material that died off leaving bare ground. Additionally, on one occasion in 2016 the swales at the north end of the property were flooding after a rain storm. This area should be monitored for further flooding. City officials should be notified regarding the condition of the swales and the flooding issue at the north end of the property.



Overflowing bio-swale and standing water at N Fiske Ave. and N Cecelia St. <sup>2016</sup>



↑2017

Sparse vegetation in bio-swale on N Esperanza St.



2016↑



Bio-swales with overgrown vegetation - 2017

## PARK AND PLAYGROUND EQUIPMENT

### Pocket Park Benches:

*Priority A, B, and C*

There are approximately 20 benches located in the four pocket parks. Most of the benches are from FairWeather Site Furnishings and are Cascade Series, Model CA-2. Approximately three benches are custom frames. The wood slats on all benches were replaced in 2012 for \$19,708. The wood is likely unfinished fir or pine.



Example of standard bench<sup>2016</sup>



Example of custom bench<sup>2016</sup>

Due to how these benches are attached to the base it would cost the same or less than \$1,000 to replace the bench with a new bench that may include a warranty. With the exception of the custom bench frames, the cost of a new 5-foot, fir bench from the same manufacturer is \$805 excluding shipping.

The previous reserve analysis listed the estimated useful life of the wood on the benches as seven years. According to management this is primarily due to vandalism. If the wood were to be sealed it may last longer than the estimated seven years.

At the time of my inspections some wood slats were missing and a few bolts were loose. These should be repaired/replaced.



Loose bolt<sup>2016</sup>



Missing bolt<sup>2016</sup>



Example of missing slat on bench<sup>2017</sup>

Should management choose to replace the wood as opposed to the entire bench, consideration should be given to using a denser wood such as IPE. It is extremely dense and durable. Teak is also very durable. Estimated life of IPE is 20 years and Teak is more than 50 years.

- For the purpose of this report, anticipate replacement of the wood benches in years 2, 9, 16, and 23. Estimate \$1,000 per bench.

#### Picnic Tables:

*Priority B and C*

There are approximately 10 picnic tables located in the four pocket parks. The tables are from FairWeather and are Model F-4, 48 inches. The wood slats on all tables were replaced in 2012 for approximately \$10,000. The wood is unfinished pine. The cost to replace a table with one from the same manufacturer is \$2,000 excluding shipping and installation.



Example of picnic table<sup>2016</sup>

- For the purpose of this report, anticipate replacing the wood slats in years 2, 9, 16, 23 and 30. Estimate \$1,000 per table.

#### Pocket Park Rubber Tiles:

*Priority B and C*

Each pocket park has a play area that has been surfaced with rubber tiles. The tiles installed at the time the property was developed in 2006 were purchased from GameTime and manufactured by Bounce Back; they carried a five-year warranty against product defects. There is approximately 10,800 square feet of play surface covered with rubber tiles.

At the time of my inspections there were soft spots, areas of damage, and places in which tiles had shifted exposing gaps greater than ½ inch. Damaged tiles should be replaced to minimize tripping hazards and extend the useful life of the play surface. In talking with industry professionals, it may be possible to reinstall the tiles that have shifted to eliminate the gaps.

It is not recommended that tile surfaces be cleaned with a pressure washer as it will shorten the life of this element. Manufacturer recommendations should be followed.



1" Gap in rubber tiles<sup>2017</sup>



Example of shifted tiles<sup>2016</sup>

Mr. Doug Buell from Buell Recreation, which provided the tiles at the time of construction, indicated that 15 years is a good estimate of the useful life of this element. Martha Rainey of Marturano Recreation Equipment (MRC), which now represents GameTime in this area, indicated that tiles may last longer than 10 years but that is not typical. She also pointed out that newer tiles interlock and tend not to shift and gap as much as non-interlocking tiles. Both professionals indicated that \$15 per square foot (installed) is a good figure to use for budgeting for the replacement cost of the tiles. Mr. Buell indicated that it will cost an additional \$4 per square foot for demolition/removal/disposal of the existing tiles.

Mr. Buell provided names and phone numbers for two companies that repair soft surfaces and playground equipment: Ed Davis Precision Recreation Contractors at 503-572-8248 and Stephanie Morgan of GR Morgan Construction at 503-803-4802. Recommend that the shifted tiles be reinstalled, if possible, or replaced, and that any damaged tiles be replaced. Cost will depend on the number of tiles involved and likely can be addressed within the annual operating budget. (Note: records indicated that Ed Davis Precision Recreation Contractors originally installed most of the rubber tiles and some of the play equipment.)

It is recommended that replacement of the play surface tiles be done in conjunction with replacement of the play equipment so that the tiles are not damaged when the new equipment is installed.

- For the purpose of this report, anticipate replacement of the rubber tiles in:
  - 1) Pocket Parks 2 and 4 in year 4 and in year 19. Estimate 50 percent of the total square footage in 2021 or  $10,800/2 = 5,400 \times \$19 = \$102,600$ .
  - 2) Pocket Parks 1 and 3 in year 9 (2026) in conjunction with the replacement of the play equipment and in year 24. Estimate \$102,600.

**Play Equipment:**

*Priority A, B and C*

There are four pocket parks located throughout the property. Each park has playground equipment in addition to benches and picnic tables. The current equipment is from HAGS or KOMPAN.

Most of the equipment was made by KOMPAN, with the exception of the large play structures in Pocket Parks 2 and 4 that were made by HAGS. The HAGS equipment carried a 10-year warranty on components, a five-year warranty on structural and loadbearing pieces, and a one-year warranty

on all other items. The KOMPAN equipment carried a 20-year warranty on galvanized structural parts, a 10-year warranty on non-painted metal resin coated panels and hollow/solid plastic, and a five-year warranty on production defects.



Pocket Park 1 - N Cecilia St. & N Haven Ave.<sup>2017</sup>



Pocket Park 2 -N Adriatic Ave. & N Trenton St.<sup>2017</sup>



Pocket Park 3 - N Houghton St. & N Haven Ave.<sup>2016</sup>



Pocket Park 4 - N Dwight Ave. & N Woolsey Ave.<sup>2017</sup>

It is important that equipment be inspected regularly to ensure its safety for use by children. Standards exist that provide specific guidance for inspection. American Society for Testing Material (ASTM) International and Consumer Product Safety Commission (CPSC) publish a playground safety audit form for monthly and yearly inspections; the list provided below is not comprehensive, but gives an idea of what an audit entails and what to look for:

- Footings are secure and completely covered (not loose or exposed).
- Fasteners are secure.
- Welds are intact and free of cracks.
- Equipment is free of rust and corrosion.
- Wood is not splintered, cracked, or otherwise deteriorated.
- Paint is not chipping or peeling.
- All swivels, bearings, and moving parts are well-lubricated and in good shape.
- There are no broken or missing parts.
- There are no sharp edges or unsafe protrusions.
- Plastic is not cut or cracked.
- Surfacing areas are clean and their levels sufficient.
- Benches are securely in place

A copy of the Public Playground Safety Handbook published by U.S. Consumer Product Safety Commission in December 2015 can be found at <https://www.cpsc.gov/PageFiles/122149/325.pdf>.

I met with Eric Wride of K2 Recreation which represents KOMPAN. Mr. Wride is a playground designer in addition to being a representative for KOMPAN. Mr. Wride indicated that most of the KOMPAN equipment can last up to 25 years if maintained and repaired. He pointed out that some pieces appear to have been removed from the equipment in Pocket Parks 1 and 2, and that some pieces have elements that are missing (these will be identified under the specific park narrative). Most of these pieces can be replaced. Management indicated that they have one piece they removed; this piece likely can be reinstalled (the piece is \$4,000 new).

Mr. Wride suggested that when pieces are broken or coming off, that a representative from the company be contacted to remove or repair the part. He indicated that removing part of a structure may increase the safety hazard and that warranties could be voided if a non-authorized person removes parts.

Mr. Wride also looked at the HAGS equipment and suggested that, due to the materials used, it will likely not last longer than 15 years. I also spoke with Mr. Buell from Buell Recreation who is familiar with the HAGS structures; he also indicated that the structures likely had a 15-year estimated useful life.

**Play Equipment – all parks:**

*Priority A*

As indicated above and below most of the equipment have items that are either broken, in need of repair or servicing. In order to determine the safety of the equipment and obtain a complete list of what needs to be done in order to keep the equipment functional and safe it is recommended that a safety inspection be conducted by a Certified Playground Safety Inspector. I spoke with Ed Davis of Precision Recreation Contractors. He indicated that \$350 per park would be a good budget figure to use for a safety inspection.

Management indicates that an inspection has been performed and that recommendations will be provided by mid-November. (Note: As of January 10, 2018 - although an inspection was performed the vendor has yet to provide recommendations. Management may need to engage another firm to provide the inspection and resulting report/recommendations.)

- For the purpose of this report anticipate an inspection of all equipment in year 1. Estimate \$1,400 for the inspection and corresponding report.
- For the purpose of this report anticipate repairs and servicing of the equipment in year 2. Budget \$15,000. This amount will need to be adjusted based on the results of the safety inspection.

Play Equipment – Pocket Park 1 - Bellatrix:

*Priority A, B, and C*

The Bellatrix play structure was made by KOMPAN. Mr. Wride inspected the Bellatrix structure and indicated that there are some missing pieces, specifically a triangular deck and a bivvy seat. There are also a few bolts that have rusted and need to be replaced.



Example of missing piece<sup>2016</sup>

- Anticipate replacement of missing parts, if available, in year 2. Estimate \$2,000.
- For the purpose of this report, anticipate replacement of this structure in year 9 and again in year 29. Current cost of this structure is \$35,000 to \$40,000 plus an installation fee of approximately \$10,000. Demolition of the existing equipment is estimated to cost \$7,500. Estimate \$57,500 total.

Play Equipment – Pocket Park 1 – Spica:

*Priority A, B, and C*

The two Spicas at this park were made by KOMPAN. Mr. Wride indicated that if the pieces are wobbly then the bearings are likely out and should be replaced. Bearings can be replaced without replacing the entire Spica; contact the Spica representative.

- For the purpose of this report, anticipate replacement in year 9 and again in year 29. Current replacement cost of a Spica is \$2,250 excluding installation. Estimate installation at \$630 (28 percent of equipment cost). Removal of the existing piece is estimated at \$500. Total replacement cost per Spica is estimated at \$3,380.

Play Equipment – Pocket Park 2 - Decorative Metal Fence:

*Priority A & Ongoing*

The decorative metal fence along the south side of Pocket Park 2 is approximately 60 feet long and appears to be in good condition with the exception of the paint. Some peeling was noted on the surface of the metal. The fence is secure and not loose. Although it was listed as having a useful life of 15 years, I expect that it will last at least 20 if not 25 years. I recommend that it be repainted to extend its useful life and minimize any rusting that might occur.

Metal rails/parts should be cleaned and painted with a product appropriate for the surface being painted. It is important that the metal surfaces be prepped well to remove all rust, prime any bare surfaces, and scuff-sand the surface to ensure good adhesion.



Metal fencing Pocket Park 2<sup>2016</sup>



Example of paint chipping<sup>2016</sup>

- For the purpose of this report anticipate repainting the fence in year 2. Estimate \$25 per linear foot or \$1,500 to prep and repaint the fence.
- For the purpose of this report, anticipate an estimated useful life of 20 years (this should be reviewed annually and adjusted depending on condition). Anticipate replacement in year 9. Estimated cost of \$70 per linear foot including demolition of the old fence. Total cost \$4,200.

Play Equipment – Pocket Park 2 - Argo:

*Priority A and C*

The Argo is made by KOMPAN. It is missing a large blue piece that moves. According to management, they removed this piece and are storing it. Mr. Wride indicated that this piece can be reinstalled. Estimated cost for reinstallation was not available at the time this report was completed.



Argo in Pocket Park 2<sup>2016</sup>



Argo component<sup>2016</sup>

According to Mr. Wride, this equipment may have a useful life of more than 20 years.

- For the purpose of this report, anticipate replacement in year 9. The current replacement cost for this element is \$5,370 excluding installation. Estimate \$1,504 for installation and \$750 for demolition/removal of existing structure. Total cost \$7,624.

Play Equipment – Pocket Park 2 - Play Structure II:

*Priority B and C*

The Play Structure II shown below was manufactured by HAGS. The structure is made with more wood and has not held up well to the elements and use.



Play Structure II<sup>2016</sup>

The paint and finish on numerous areas of the structure has worn off and a platform on the structure broke but appeared to have been temporarily repaired. In talking with professionals, estimated useful life for this type of structure is 15 years.



Damage to platform<sup>2016</sup>



Temporary fix to platform<sup>2016</sup>



Play structure 1<sup>2016</sup>



Plastic sleeves tearing away from chains<sup>2016</sup>

- For the purpose of this report, anticipate replacement in year 4. I spoke with Mr. Buell of Buell Recreation and he estimated that a good budget for replacement of this structure would be \$50,000 including installation. He suggested budgeting an additional \$10,000 for demolition and removal of the existing structure.

Recommend utilizing the design consultants available from most manufacturers to determine the best structure for your needs and budgetary constraints.

Play Equipment – Pocket Park 2 – Supernova:

*Priority C*

The Supernova is made by KOMPAN. According to Mr. Wride, this equipment may have a useful life of more than 20 years.



Supernova<sup>2016</sup>

For the purpose of this report, anticipate replacement in year 9. The current replacement cost for this element is \$7,820 excluding installation. Estimate \$2,190 for installation and \$750 for demolition/removal of existing structure. Total cost \$10,760.

Play Equipment – Pocket Park 3 - Homestead:

*Priority B and C*

The Homestead play structure was manufactured by KOMPAN. According to Mr. Wride, this equipment may have a useful life of more than 20 years. Mr. Wride inspected the Homestead structure and indicated that it appears to be in good shape but could be cleaned to remove dirt and debris. However, he did point out that the ropes should be monitored and if more metal becomes visible through the fibers the ropes may need to be replaced (see picture below).



Homestead play structure<sup>2016</sup>



Homestead – alternate view<sup>2016</sup>



Rope fibers wearing exposing metal cable<sup>2016</sup>



Location of ropes with exposed metal<sup>2016</sup>

- For the purpose of this report, anticipate replacement in year 9. Current cost of this structure is approximately \$35,000 plus an installation fee of approximately \$9,800. Demolition of the existing equipment is estimated to cost \$7,000. Total cost \$51,800.

Play Equipment – Pocket Park 3 – Satellite Binoculars/Megaphones: *Priority A & C*  
 The Satellite Binoculars/Megaphones are made by KOMPAN. This equipment has a useful life of approximately 20 years. Either a binocular or megaphone is missing from one of the stands.



Binocular<sup>2016</sup>



Post missing top element<sup>2016</sup>

- For the purpose of this report, anticipate replacement of missing element in year 2. Estimate \$250.
- For the purpose of this report, anticipate replacement in year 9. The current replacement cost for the Satellite Binoculars/Megaphones is \$1,945 plus an installation fee of \$545 each. Estimate \$2,490 per Satellite Binocular/Megaphone.

Play Equipment – Pocket Park 3 - Triple Shifter/Double Shifter:

*Priority C*

The Triple Shifter and Double Shifter are both made by KOMPAN. This equipment has a useful life of approximately 20 years.



Triple Shifter<sup>2016</sup>



Double Shifter<sup>2016</sup>

- For the purpose of this report, anticipate replacing both pieces in year 9. Current cost of each piece is approximately \$11,270 plus an installation fee of approximately \$3,156 and demolition of the existing equipment at a cost of \$1,000, for a total of \$15,426 each. Estimated total cost \$30,852.

Play Equipment – Pocket Park 3 - Ziggy:

*Priority C*

This item is made by KOMPAN. This equipment has a useful life of approximately 20 years.



Ziggy<sup>2016</sup>

- For the purpose of this report, anticipate replacing this item in year 9. Current cost for this item is approximately \$680 plus \$190 for installation and \$175 for demolition of the existing item for a total estimate of \$1,045.

Play Equipment – Pocket Park 4 - Play Structure I:

*Priority B and C*

The Play Structure I shown below was manufactured by HAGS. The structure is made with wood and some plastic. It has not held up well to the elements and use.



Play Structure I<sup>2016</sup>

The paint and finish on numerous areas of the structure has worn off, a platform on the structure broke but appeared to have been temporarily repaired, and two of the roof structures are swollen and chipped along the edge, in addition to other elements that are worn out. In talking with professionals, estimated useful life for this type of structure is 15 years.



Damage to platform<sup>2016</sup>



Roof underlayment swelling<sup>2016</sup>



Base of climbing wall<sup>2016</sup>



Fractured play element<sup>2016</sup>

- For the purpose of this report, anticipate replacement in year 4. I spoke with Mr. Buell of Buell Recreation and he estimated that a good budget for replacement of this structure would be \$50,000 including installation. He suggested budgeting an additional \$10,000 for demolition and removal of the existing structure.

Recommend utilizing the design consultants available from most manufacturers to determine the best structure for your needs and budgetary constraints.

Play Equipment – Pocket Park 4 – Spica:

*Priority C*

The two Spicas at this park were made by KOMPAN. Mr. Wride indicated that if the pieces were wobbly then the bearings are out and should be replaced. Bearings can be replaced without replacing the entire Spica.

- For the purpose of this report, anticipate replacement in year 9 and again in year 29. Current replacement cost of a Spica is \$2,250 excluding installation. Estimate installation at \$630 (28 percent of equipment cost). Removal of the existing piece is estimated at \$500. Total replacement cost per Spica is estimated at \$3,380.

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## LIGHTING

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### Exterior Lights:

Exterior lights were recently upgraded in 2014. Parkin Electric installed 243 new LED fixtures including drivers (ballasts), along with 37 six-pole contactors for the fixtures. The lights are on photocells and turn on automatically. Total cost for this upgrade was \$226,198.81. The estimated incentive rebate from Energy Trust was \$25,655.

Of the 243 new fixtures, 53 were wall mounted fixtures and the remaining 190 were pole mounted fixtures.

According to information provided, there may be a total of 288 light fixtures and 208 poles.

### Ballasts/Replacement Drivers:

*Priority C*

Tonya Vian with Parking Electric, Inc. indicated that replacement drivers (similar to a ballast) for the fixtures currently cost \$156.24 each, material only. She stated that the replacement of an LED driver is very similar to the replacement of a ballast.

According to Ms. Vian, the typical useful life of the ballasts is 60,000 hours of continuous use. Assuming that the lights are on 50 percent of the time, estimate an approximate useful life of 14 years.

- For the purpose of this report, anticipate replacing 243 LED drivers in years 12 and 26. Estimated cost \$37,966.32.

### Poles:

*Priority C*

There are approximately 208 light poles at the property. According to documents provided, the original poles were manufactured by Valmont and are series DS330 Type S2/S3 poles. The poles have a long life that is likely beyond the 30 years of this report. However, Ms. Vian with Parkin Electric indicated that planning for 5 percent replacement of poles every 20 years due to vandalism or accidents would be reasonable. Ms. Vian indicated that the current cost to replace a pole is approximately \$2,000.

- For the purpose of this report, anticipate replacing 10 light poles in year 9 and 10 light poles in year 29. Estimate \$20,000 for 10 poles.

## ***APPENDIX***



Consulting Engineers

October 23, 2013

Mr. Marty Surby  
**BC Group, Inc.**  
1231 NW Hoyt Street Suite B-1  
Portland, OR 97209

Via Email: martys@bcgroup-inc.com

RE: Request for Proposal – Stormwater System Maintenance & Cleaning of Alleys  
For New Columbia Owners Association, Portland OR

Dear Marty:

We are pleased to provide you with the following proposal for Inspection and Maintenance Management Services for New Columbia, in response to your New Columbia Stormwater System Maintenance & Cleaning of Alleys Request for Proposal (RFP).

From 2001 to 2006, KPFF designed the entire civil infrastructure, including the stormwater systems throughout New Columbia's public streets, parks, residential and commercial blocks. More recently, we re-wrote and improved the New Columbia wide Stormwater Operation and Maintenance (O&M) Manual to make it clearer and more useful, and provided follow-up training to Home Forward and property management staff on its use.

Since then, in an effort to better serve our clients' needs, KPFF has developed inspection and maintenance focused post-construction services that are directly applicable to the needs identified in this RFP. These skills, combined with our intimate knowledge of New Columbia, make us uniquely qualified to resolve the existing issues and perform the ongoing inspections and maintenance services needed to ensure the entire system continues to function in the future.

In the interest of most effectively achieving the goals of the RFP, we propose the following tasks for our Scope of Services:

### Scope of Services

**Task A: System-Wide Inspection and Assessment** of all the stormwater components to determine functioning of system and identify issues where maintenance is, or is not, needed.

Deliverable: Recommended Maintenance Report identifying current conditions of all storm components (e.g., catch basins, sedimentation manholes, sand filter vaults, permeable pavers, etc.), how each should be maintained/repared and work should be prioritized. Additionally, some facilities will have more than one option for cleaning/maintenance to

111 SW Fifth Avenue Suite 2500 Portland, OR 97204 (503) 227-3251 Fax (503) 227-7980

Seattle Everett Tacoma Lacey Portland Eugene Sacramento San Francisco Walnut Creek Los Angeles Long Beach Pasadena Irvine  
San Diego Boise Phoenix St. Louis New York International offices in: Amman, Jordan Abu Dhabi, UAE

provide a range of efforts to achieve a solution that fits with the budget constraints. This report will be formatted by block and sector to easily issue specific bid requests to each type of contractor that specializes in the maintenance activities required to restore each stormwater component to full functionality; (e.g., vector truck companies to bid on pumping out all catch basins, sand filter vaults, sedimentation manholes and drywells; street sweeping companies to bid on cleaning private streets and permeable pavers; general site contractors to bid on installing new sand in sand filter vaults, securing loose manhole frames, repair of damaged or settling permeable pavers, etc.). A draft copy of the report will be provided for review and comment prior to finalizing our recommendations.

**Task B: System-Wide Maintenance Management** as identified in the Recommended Maintenance Report.

Deliverables: A work schedule for maintenance of the entire system maintained based on maintenance priorities, owner's comments and potential budget constraints or other factors. Solicit multiple bids (2 minimum) for maintenance needs and assist owner or owner's representative with selection of contractors to perform work. We would prefer maintenance contractors be directly contracted with owner or owner's representative. Maintenance work performed under the supervision of KPFF.

**Task C: Quarterly Inspection Services** of entire storm system and sites (1-year minimum contract).

Deliverable: Completed and filed inspection logs with maintenance needs identified and prioritized.

**Task D: Quarterly Maintenance Management** of storm system or other maintenance needs identified during quarterly inspections.

Deliverable: Work orders generated and prioritized to address maintenance needs. Owner or owner's representative to approve work order plans and contractors to work directly for owner, but work perform under the supervision of KPFF, similar to Task B.

### **Stormwater Facilities Count and Observations**

We have tabulated all of the stormwater facilities, also known as components, by sector and block in the attached Exhibit B. By roughly equating each 500-square-foot of permeable paver area as one component we calculated a grand total of 249.5 stormwater facilities throughout Sector 1-5 that require inspection. Most of these require some degree of maintenance. On a recent site visit in preparation for this RFP, we noticed a wide variation in the amount of debris/siltation found in some of the trapped catch basins and sedimentation manholes. This appears to be directly related to the size of the catchment area draining to each facility and the type of primary treatment facility (rain garden vs. permeable paver vs. sand filter vault) present. These factors directly affect the cleaning priority of the trapped catch basins and sedimentation manholes.

Mr. Marty Surby, BC Group, Inc.

RE: Request for Proposal – Stormwater System Maintenance & Cleaning of Alleys

October 23, 2013

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We also observed various other maintenance issues that are not specifically stormwater facility components and could easily be overlooked. Examples include erosion caused by missing or mis-aligned rip-rap where stormwater spills into the rain gardens in Block 20 or franchised utility risers that have been crushed by vehicles.

### **Previous Knowledge of Issues**

In October of 2007 a sinkhole surrounding Drywell 1A-A (in Block 1A) formed due to the sandy soil sub-grade infiltrating into the void space of the drywell. The sinkhole appeared to subside only after the sand level inside the drywell reached a point 23.5-foot below the rim. As noted in our January 23, 2008, memo (attached as Exhibit C), it was our recommendation to continue to periodically observe the level of sediment in this drywell. If the level of sediment is discovered to have risen significantly, a new sinkhole could be forming. Additionally, it was noted that sediment should not be removed below the level from this drywell or drywells 1A-B and 2A-A indicated in the memo.

### **Schedule**

**Task A** - KPFF will begin the system-wide inspection and assessment immediately upon official notice to proceed, and the effort would be completed within 6-weeks.

**Task B** – KPFF will prepare bidding documents in approximately one month and solicit bids over a 2-week period. Bids would be reviewed over a two week period and contractors selected perform the various work scope needed. We would assume, weather and complexity dependent, that within 2-months of their notice to proceed a majority of their work would be complete. (4 to 5 months total.)

**Tasks C & D** – Quarterly Inspections and maintenance management would be performed for one year with the option to extend the contract annually.

### **Safety**

Safety is paramount at our company. All site inspections will be performed by 2 staff members working together, trained in proper safety procedures and wearing proper safety equipment (e.g. steel-toed boots, reflective vests, hard hats, etc.). Vests identifying staff as KPFF employees will be worn at all times while onsite. Site inspections and maintenance work will only be performed during daylight hours on weekdays between the hours of 8am and 5pm.

### **References**

Having worked directly with Home Forward (previously known as the Housing Authority of Portland) since 2001 on the original design, and more recently on the stormwater maintenance follow-up training, KPFF has developed a very solid relationship with several Home Forward Staff, specifically:

Julie Livingston	(503) 802-8424	Julie.Livingston@homeforward.org
John Manson	(503) 802-8511	John.Manson@homeforward.org

Mr. Marty Surby, BC Group, Inc.

RE: Request for Proposal – Stormwater System Maintenance & Cleaning of Alleys

October 23, 2013

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Patrick Rhea

(503) 802-8311

Patrick.Rhea@homeforward.org

**Staff**

The project will primarily be staffed by:

Project Manager – Joshua A. Lighthipe, PE/Associate

Superintendent/Field Supervisor – Tyson Leggate, PE

Quality Control Supervisor/PIC – Mike Schmid, PE/Principal

**Value, Peace of Mind, Confidence, Trusted Advisor**

While we understand that the owner could, without assistance from us, directly hire the various contractors needed to perform the cleaning, maintenance and repair work, we believe that our expertise is critical to successfully and efficiently restoring the stormwater system and associated components to full functionality.

Having KPFF serve as an independent expert overseeing the needed maintenance will give the owner the peace of mind that any issues will be identified and appropriately corrected, and that maintenance contractors' work will be managed to ensure quality maintenance and repair work.

Additionally, on-going inspections and maintenance managed by KPFF and the record keeping that goes with it will ensure the system continues to function without issue. When the day comes that BES and/or DEQ requests to review the maintenance logs, KPFF will provide the complete and detailed records.

Our estimated not-to-exceed fee for this project is outlined below based on the above Scope of Services and Project Limits. The Terms and Conditions will be as provided in Exhibit A. We will bill for our work monthly based on the hours expended during that month. Reimbursable expenses, as described in AIA Document C141 will be billed at our direct cost in addition to this fee.

Task A: System-Wide Inspection and Assessment	\$8000
Task B: System-Wide Maintenance Management	10,000
Task C: Quarterly Inspection Services (1-Year Contract)	12,000
Task D: Quarterly Maintenance Management (1-Year Contract)	10,000
Estimated Not-to-Exceed Fee	40,000
Estimated Reimbursable Expenses	500
<b>Total Estimated Fee Including Reimbursables</b>	<b>\$40,500</b>

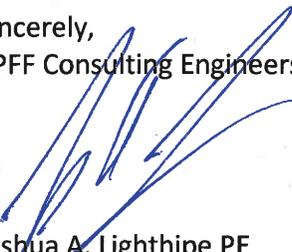
Additional or extra services, including site visits, beyond those noted in the above Scope of Services (Tasks A- D) will be billed at the following hourly rates:

	Hourly Rate
Principal-in-Charge	\$160
Project Manager	\$125
Superintendent/Field Supervisor	\$75-95
Clerical	\$65

We thank you for the opportunity to propose on this exciting project. If this scope of work, fee, and Terms and Conditions are acceptable, please indicate your acceptance by signing below and returning the original to us for signature. We will then forward a fully executed copy of this Agreement to you for your files.

If you have any questions or require additional information, please call me.

Sincerely,  
KPFF Consulting Engineers



Joshua A. Lighthipe PE  
Associate

Agreed to by:

\_\_\_\_\_  
*Signed (for) BC Group, Inc.*

\_\_\_\_\_  
*Dated*

\_\_\_\_\_  
*Signed (for) KPFF Consulting Engineers*

\_\_\_\_\_  
*Dated*

*Attachments: Exhibit A – Terms and Conditions  
Exhibit B – New Columbia – Stormwater System Facilities  
Exhibit C – New Columbia Ph. 1 Drywell Observations and Recommendations Memo*

## TERMS AND CONDITIONS

KPFF, Inc. ("KPFF") shall perform the services outlined in this agreement pursuant to the stated fee arrangement.

**1. Additional Services**

Should the Scope of Services change from those set forth in the Agreement for Professional Services, the fee for such additional services will be negotiated between Client and KPFF.

**2. Limitation of Liability**

To the greatest extent allowed by law, the aggregate liability of KPFF for any and all injuries, claims, demands, losses, expenses or damages, of whatever kind, arising out of or in any way related to this Agreement or the services provided by KPFF on this project, shall be limited to \$50,000 or the total fee received by KPFF pursuant to this Agreement, whichever is greater. Further, no officer, director, shareholder or employee of KPFF shall bear any personal liability to Client for any and all injuries, claims, demands, losses, expenses or damages, of whatever kind or character, arising out of or in any way related to this Agreement or the services provided by KPFF on this project.

**3. Mediation**

All disputes between Client and KPFF arising out of or relating to this Agreement shall be submitted to nonbinding mediation prior to commencement of any other judicial proceeding.

**4. Dispute Handling**

KPFF shall make no claim against Client without first providing Client with a written notice of damages and providing Client thirty (30) days to cure before an action is commenced. The Client shall make no claim either directly or in a third party claim, against KPFF unless the Client has first provided KPFF with a written certification executed by an independent professional currently practicing in the same discipline as KPFF and licensed in the state of the subject project. This certification shall a) contain the name and license number of the certifier; b) specify each and every act or omission that the certifier contends is a violation of the standard of care expected of a professional performing professional services under similar circumstances; and c) state in complete detail the basis for the certifier's opinion that each such act or omission constitutes such a violation. This certificate shall be provided to KPFF not less than thirty (30) calendar days prior to the presentation of any claim or the institution of any judicial proceeding.

**5. Suspension of Services**

If Client fails to make payments to KPFF in accordance with this Agreement, such failure shall provide KPFF the option to suspend performance of services under this Agreement upon seven (7) days written notice to Client. In the event of a suspension of services, KPFF shall have no liability for any delays or damages caused because of such suspension. Before resuming services, KPFF shall be paid all sums due prior to suspension and any expenses incurred by KPFF in the interruption and resumption of its services. KPFF's fees for the remaining services and time schedules shall be equitably adjusted. If any invoice is in dispute, Client shall pay under written protest to keep the project on schedule and resolve the payment dispute after substantial completion.

**6. Termination**

This Agreement may be terminated by either party with seven (7) days written notice to the other in the event of a substantial failure of performance by the other party through no fault of the terminating party. If this Agreement is terminated, KPFF shall be paid for services performed to the termination notice date, including reimbursable expenses due.

**7. Ownership of Documents**

The drawings, calculations and specifications are instruments of service and are, and shall remain, the property of KPFF, whether the project for which they are made is executed or not. They are not to be used on other projects or extensions to this project except by agreement in writing.

**8. Contract Administration**

It is understood that KPFF will not provide design and construction review services relating to safety measures of any contractor or subcontractor on the project. Further, it is understood that KPFF will not provide any supervisory services relating to the construction for the project. Any opinions solicited from KPFF relating to any such review or supervisory services shall be considered only as general information and shall not be the basis for any claim against KPFF.

**9. No Third Party Beneficiary**

Nothing in this Agreement shall create a contractual relationship with or a cause of action in favor of any third party against KPFF or Client.

**10. No Assignments**

Neither party to this Agreement shall transfer, sublet or assign any rights under or interest in this Agreement (including but not limited to monies that are due or monies that may be due) without the prior written consent of the other party.

**11. Payments**

KPFF will submit monthly invoices. Payment is due on the date of the invoice and becomes delinquent one month thereafter. A late charge will be added to delinquent amounts at the rate of one-and-one-half percent (1 ½ %) for each one month of delinquency (or the maximum allowable by law, whichever is lower). If KPFF initiates suit to recover delinquent sums owed by Client, KPFF shall be entitled to recover all reasonable costs incurred, including staff time, court costs, attorney's fees, expert fees and other related costs and expenses.

New Columbia  
Stormwater System Facilities

**EXHIBIT 'B'**

Sector	Block	Storm Facility Types									Total Facilities by Block
		CB (ea)	DW (ea)	PP (ea ~500sf)	RG (ea)	SED (ea)	SFV (ea)	ST (ea)	CS (ea)	OF (ea)	
1	1A&1B	3	3	3		3					12
	2	2	2	3		2		1		10	
	3	2	2	3		2		1		10	
	4	2	2	3.5		2		3		12.5	
	5	2	2	2		2		2		10	
	6	1	1	2		1				5	
	7	1	1	2		1		2		7	
<b>Sector 1 Totals:</b>		<b>13</b>	<b>13</b>	<b>18.5</b>	<b>0</b>	<b>13</b>	<b>0</b>	<b>9</b>	<b>0</b>	<b>0</b>	<b>66.5</b>
2	8	2	1			1	1	1		6	
	9	4	2			2	2			10	
	10		1			1		9		11	
	11	3	1			1	1	2		8	
	13	4	1			1	1	1		8	
	14	4	1			1	1	1		8	
	15		1			1		6		8	
<b>Sector 2 Totals:</b>		<b>17</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>8</b>	<b>6</b>	<b>20</b>	<b>0</b>	<b>0</b>	<b>59</b>
3	18	3	2			3	3	1		12	
	19	4	3			3	3			13	
	20	1	2		3	2	1			9	
	21	2	1			1	1			5	
	22	5	2			2	2	2		13	
	23	3	2			2	2	5		14	
	24	4	2			2	2			10	
	25	4	1			1	1	2		9	
	26	3	1			1	1	2		8	
<b>Sector 3 Totals:</b>		<b>29</b>	<b>16</b>	<b>0</b>	<b>3</b>	<b>17</b>	<b>16</b>	<b>12</b>	<b>0</b>	<b>0</b>	<b>93</b>
4	Park 1	2	1							3	
	Park 2	2	1							3	
	Park 3	2	1							3	
	Park 4	2	1							3	
<b>Sector 4 Totals:</b>		<b>8</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>12</b>
5	Trenton N	1	1		1	1		1	2	2	9
	Trenton S	1	1			1				4	7
	Tamarack				1				2		3
<b>Sector 5 Totals:</b>		<b>2</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>1</b>	<b>4</b>	<b>6</b>	<b>19</b>
<b>TOTAL FACILITY COUNT</b>		<b>69</b>	<b>43</b>	<b>18.5</b>	<b>5</b>	<b>40</b>	<b>22</b>	<b>42</b>	<b>4</b>	<b>6</b>	<b>249.5</b>

Stormwater System Facilities:

CB= Catch Basins                      RG=Rain garden                      ST=soakage trench  
 DW=Drywell                              SED=Sedimentation Manhole      CS=conveyance swale  
 PP=permeable paver strip          SFV=Sand filter vault              OF=outfall.

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**M E M O R A N D U M**

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**DATE:** 1/23/08  
**TO:** John Manson - HAP  
**CC:** Tom Stiehl - Walsh, Mike Schmid - KPFF  
**FROM:** Josh Lighthipe  
**RE:** New Columbia Ph. 1 Drywell Observations and recommendations  
**PROJECT NO.:** 307246

After the occurrence of a sink hole near Drywell 1A-A in block 1A of Phase 1 of the New Columbia project and it's subsequent repair in October of 2007, it is recommended that periodically this drywell and 2 others (1A-B and 2A-A) be inspected to determine if the level of sediment is rising. From our experience with the sinkhole at drywell 1A-A, a significant rise in the level of sediment within the drywell could correlate to a new sink hole forming.

**Observations and recommendations** as of today (1/23/08)

**Drywells 1A-A:**

Depth to sediment measured from rim: 23.5'

This depth seems consistent with the previous measure depth from October 2007. Not action recommended at this time.

**NOTE:** Sediment should not be removed below the 23.5' mark. Sediment infill to this depth seems to be necessary to prevent reforming of the previous sink hole.

**Drywells 1A-B:**

Depth to sediment measured from rim: 25.0'

This depth seems consistent with the previous measure depth from October 2007. Not action recommended at this time.

**NOTE:** Sediment should not be removed below the 25.0' mark. Sediment infill to this depth may be necessary to prevent forming of new sink hole.

**Drywells 2A-A:**

Depth to sediment measured from rim: 26.4'

This depth seems consistent with the previous measure depth from October 2007. Not action recommended at this time.

**NOTE:** Sediment should not be removed below the 26.4' mark. Sediment infill to this depth may be necessary to prevent forming of new sink hole.