

July 14, 2022

City of Independence
111 East Maple Avenue
Independence, MO 64050

Re: Independence Senior Living Facility – Storm Memo

To Whom it May Concern:

This memo has been prepared to assess the stormwater impact of the proposed Independence Senior Living Facility development located at 810 E Walnut Street, Independence, MO 64050. This memo has been prepared in accordance with the American Public Works Association (APWA) Section 5600 “Storm Drainage Systems and Facilities,” approved and adopted March 21, 1990, per section 20.02.001 of the Independence, Missouri Municipal Code.

The existing site consists of a senior living facility, the associated parking infrastructure, and a future building expansion on the east side of the existing facility. The new proposed site will consist of a building expansion on the east side of the existing facility, along with additional sidewalks and associated parking infrastructure. The site has an existing detention basin located in the lower southeast corner of the lot that has been previously sized for the anticipated future project expansion. The information listed below in Table 1 is from the previously approved site development plan for the Redwood of Carmel Hills senior living facility. The calculated CN value for the previous approved site is **88**. See Exhibit A for an impervious area plan of the previous approved site development.

Table 1 – Previous Approved Site Development Data

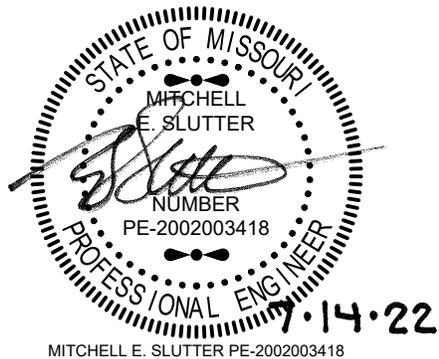
Impervious Drainage Area	Area (Ac)
Sidewalk	0.300
Buildings	2.217
Pavement	2.134
Total Impervious Area:	4.651

The TR-55 Curve Number (CN) for the newly proposed building addition was calculated as **87.00** based on the total existing/proposed impervious area. The information listed below in Table 2 is for the new proposed building addition and associated sidewalks and parking infrastructure for the Redwood of Carmel Hills senior living facility. See Exhibit B for an impervious area plan for the new proposed site development.

Table 2 – New Proposed Site Development Data

Impervious Drainage Area	Area (Ac)
Sidewalk	0.310
Buildings	1.938
Pavement	2.022
Total Impervious Area:	4.270

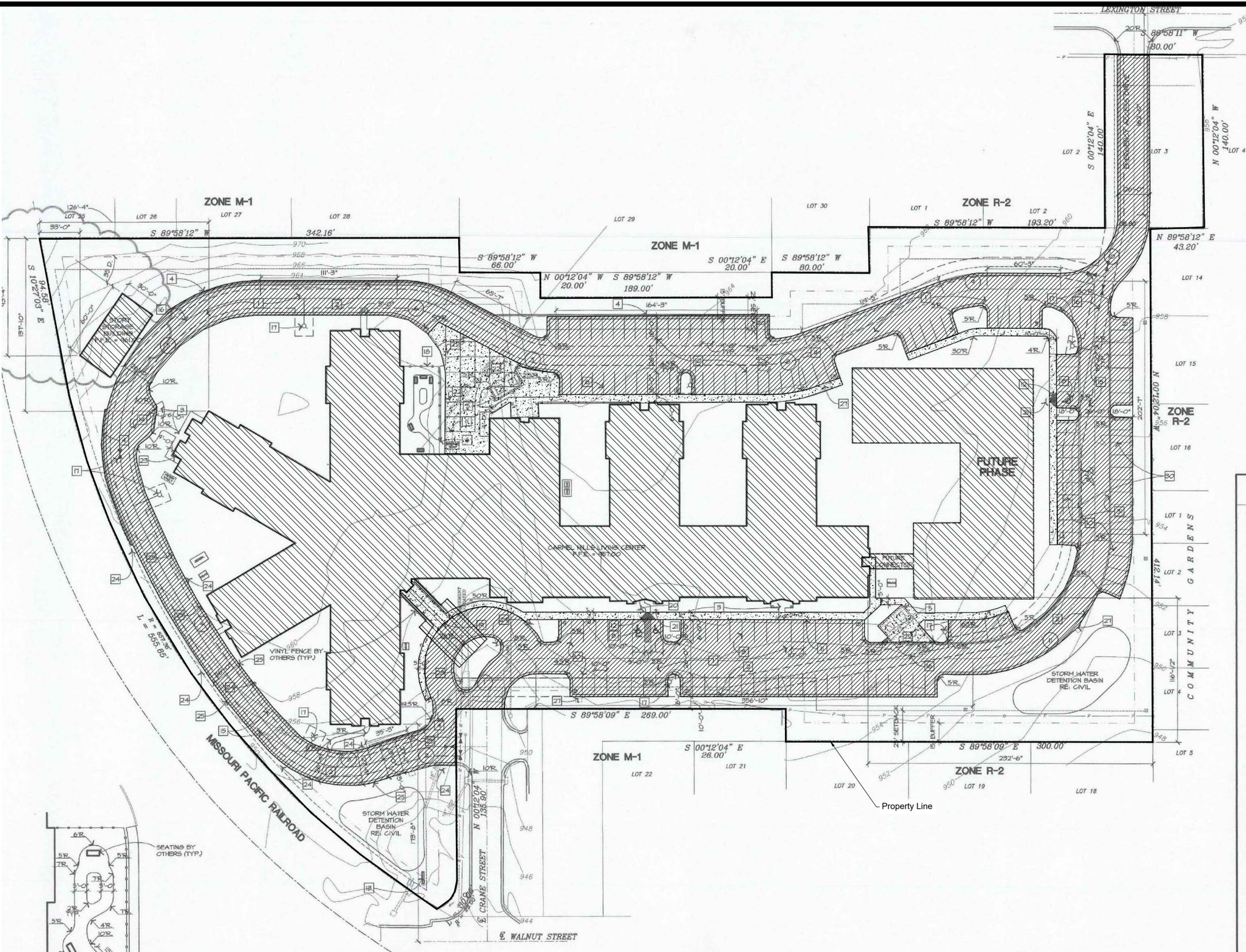
The previously approved site development plan consisted of 4.651-acres of impervious area on the 8.203-acre lot. A total proposed impervious area of 56.69% was calculated for the previous approved site plan. The new proposed site development plan will consist of 4.270-acres of impervious area. A total proposed impervious area of 52.05% was calculated for the proposed site plan. The proposed CN for this project was calculated as **87.00** based on the total proposed impervious area of 52.05%, resulting in a decrease from the original approved site plan with a CN value of **88.00**.



Mick Slutter, PE

RENAISSANCE INFRASTRUCTURE CONSULTING

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 Jul 13, 2022 2:56pm
 Z:\R\C Design\2022\22-0153\Drawings\Exhibits\22-0153 Impervious Area Plan - Exhibit A.dwg



Site Data Table
 Pavement & Sidewalk Area: 2.434 ac
 Building Impervious Area: 2.217 ac
 Total Impervious Area: 4.651 ac
 Total Site Area: 8.203 ac

LEGEND:

- Impervious Area (Pavement/Sidewalks)
- Impervious Area (Buildings)
- Pervious Area

Impervious Area Plan Exhibit
 XX-XXXX
 Project Name
 City, County, State

Impervious Area Plan

NO.	DATE	REVISION

DRAWN BY: _____ CHECKED BY: _____
 %% %%

Renaissance Infrastructure Consulting
 400 E 17th Street
 Kansas City, Missouri 64108
 816-800-0950
 www.ri-c.com
 MO Certificate of Authority: E-2010033830



Sheet
 Exhibit A

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Z:\RIC Design\2022\22-01153\Drawings\Exhibits\22-01153 Impervious Area Plan - Exhibit B.dwg



Site Data Table
Pavement & Sidewalk Area: 2.332 ac
Building Impervious Area: 1.938 ac
Total Impervious Area: 4.270 ac
Total Site Area: 8.203 ac

LEGEND:

-  Impervious Area (Pavement/Sidewalks)
-  Impervious Area (Buildings)
-  Pervious Area



Impervious Area Plan Exhibit
22-01153
APEX Senior Living Center
Independence, Jackson County, Missouri

Impervious Area Plan

NO.	DATE	REVISION

DRAWN BY: %% CHECKED BY: %%

Renaissance Infrastructure Consulting
816-800-0950
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KANSAS CITY, MISSOURI 64108



MO Certificate of Authority: E-2010033630

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Exhibit B