Kimley»Horn

MEMORANDUM

To: City of Naperville

From: Eric Tracy, P.E.
Kimley-Horn and Associates, Inc.

Date: May 20, 2022
Revised: August 18, 2022
Re: ***Proposed Casey's Naperville (Ogden) Redevelopment***
1304 Plainfield-Naperville Road
Naperville, IL 60565

Introduction

Kimley-Horn and Associates, Inc., serves as the engineering consultant for Casey's Retail Company. The proposed redevelopment is a larger convenience store. The sitework includes demolition, grading, storm sewer, water, sanitary sewer, and paving installation.

Existing Conditions

The 0.87 acre site is currently an existing gas station and has been acquired by the Casey's Retail Company. There is a detached restroom on the southern side of the property, and there are currently two accesses along Plainfield-Naperville Road and one access along 75th Street. The site overland drainage splits north to south through the middle of the site. There is offsite flow to the north east corner and the southwest corner of the site. The stormwater infrastructure drains to a 0.06 ac-ft detention basin that ultimately outfalls to a storm line in the southeast corner of the site.

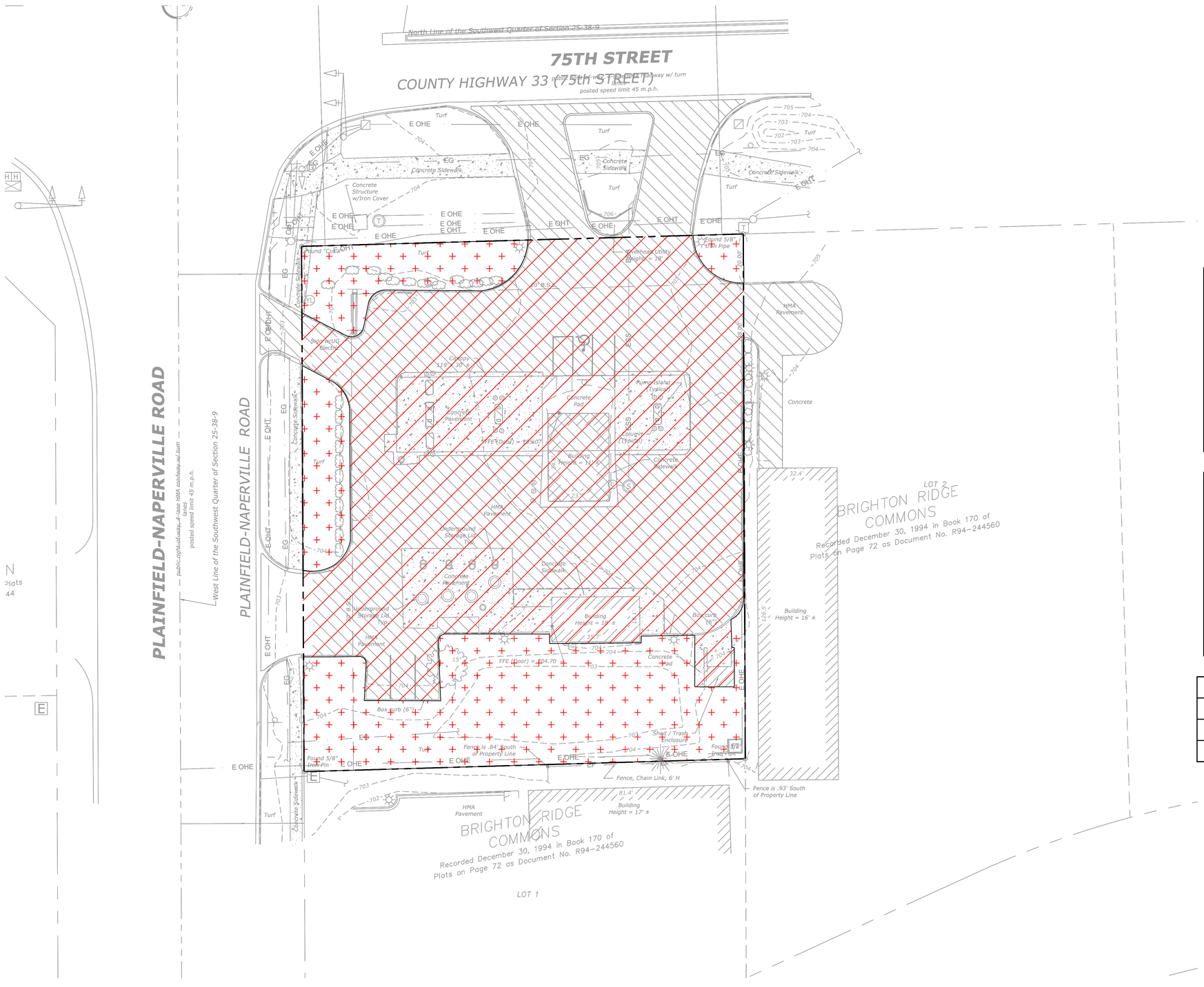
See the attached Existing Impervious Area Exhibit for more information.

Proposed Conditions

The proposed redevelopment is a Casey's convenience store with associated parking and utilities. The site access conditions will remain the same. The proposed drainage generally follows the existing drainage pattern. There will be 0.65 acres of onsite impervious area. In accordance with Naperville Stormwater Requirements, on-site detention is provided in order to match the existing condition. The proposed detention basin is 0.06 ac-ft, which maintains the storage from the existing basin. Proposed storm sewers will connect into the existing storm infrastructure. The detention pond maintains the same drainage pattern, and will drain to a flared end section that flows to the existing storm system.

Attachments

- Existing Impervious Area Exhibit
- Proposed Impervious Area Exhibit
- Drainage Area Map Exhibit
- Hydraflow Calculations
- Detention Calculations



NORTH

GRAPHIC SCALE IN FEET
0 10 20 40

LEGEND

EXISTING PERVIOUS AREA: 0.27

EXISTING IMPERVIOUS AREA: 0.60 AC

EXISTING IMPERVIOUS AREA BREAKDOWN	
USAGE	AREA
SIDEWALK	588.34 SF / 0.01 AC
PARKING LOT	20,391.09 SF / 0.47AC
BUILDING	1,152.20 SF / 0.03 AC
DUMPSTER AREA	361.98 SF / 0.01 AC
CANOPY COVER	3,618.47 SF / 0.08 AC
TOTAL	26,112 SF / 0.60 AC

PROPOSED IMPERVIOUS AREA BREAKDOWN	
USAGE	AREA
SIDEWALK	811.50 SF / 0.02AC
PARKING LOT	20,278.11 SF / 0.47AC
BUILDING	3,119.69 SF / 0.07 AC
DUMPSTER AREA	541.50 SF / 0.01 AC
CANOPY COVER	3,618.47 SF / 0.08 AC
TOTAL	28,369.27 SF / 0.65 AC

TOTAL IMPERVIOUS AREAS	
EXISTING	26,112 SF / 0.60 AC
PROPOSED	28,369.27 SF / 0.65 AC
NET DIFFERENCE	2,257 SF / 0.05 AC

No.	REVISIONS	DATE	BY
	CITY RESUBMITTAL #2	08/19/22	NAM
	CITY RESUBMITTAL #1	07/15/22	NAM

Kimley»Horn

© 2022 KIMLEY-HORN AND ASSOCIATES, INC.
4201 WINFIELD ROAD, SUITE 600
WARRENVILLE, IL 60555
PHONE: 630-487-5550
WWW.KIMLEY-HORN.COM

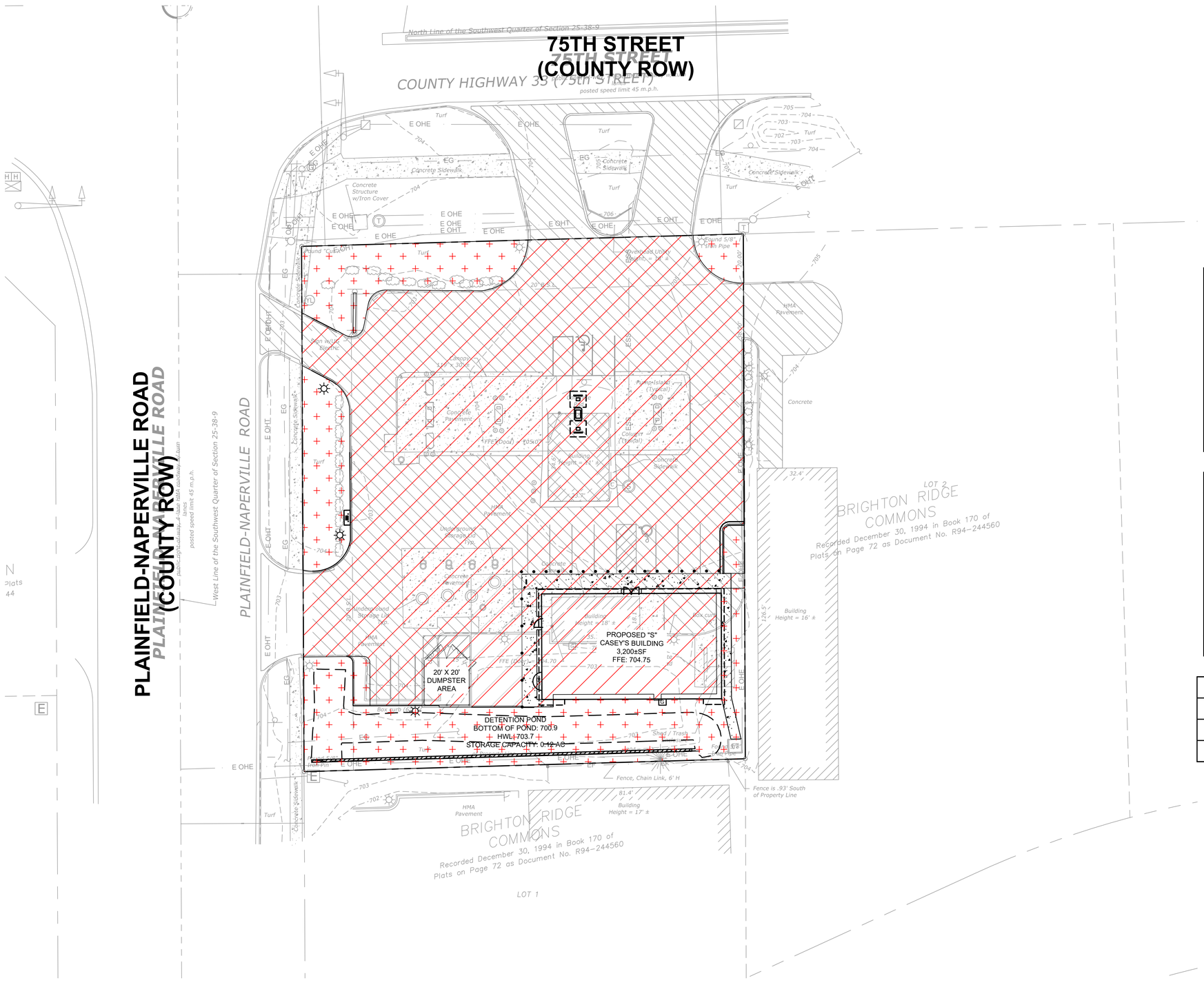
SCALE: AS NOTED
DESIGNED BY: NAM
DRAWN BY: NAM
CHECKED BY: EJT

IMPERVIOUS AREA EXHIBIT- EXISTING CONDITIONS

CASEY'S 6529
NAPERVILLE
1304 PLAINFIELD-NAPERVILLE ROAD
NAPERVILLE, IL 60565

ORIGINAL ISSUE: 04/13/2022
KHA PROJECT NO. 168865021
SHEET NUMBER
EX.1A

Drawing name: K:\CHS_LDEV\168865025_Casey's_1800 Stores\6529 - Naperville (Plainfield Rd), IL\2 Design\CAD\Exhibits\6529 - Existing Conditions Pervious Exhibit.dwg Layout1 Aug 18, 2022 - 4:34pm by: natalie.moore
This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



NORTH

GRAPHIC SCALE IN FEET
0 10 20 40

LEGEND

PROPOSED PERVIOUS AREA: 0.22

PROPOSED IMPERVIOUS AREA: 0.65 AC

EXISTING IMPERVIOUS AREA BREAKDOWN	
USAGE	AREA
SIDEWALK	588.34 SF / 0.01 AC
PARKING LOT	20,391.09 SF / 0.47AC
BUILDING	1,152.20 SF / 0.03 AC
DUMPSTER AREA	361.98 SF / 0.01 AC
CANOPY COVER	3,618.47 SF / 0.08 AC
TOTAL	26,112 SF / 0.60 AC

PROPOSED IMPERVIOUS AREA BREAKDOWN	
USAGE	AREA
SIDEWALK	811.50 SF / 0.02AC
PARKING LOT	20,278.11 SF / 0.47AC
BUILDING	3,119.69 SF / 0.07 AC
DUMPSTER AREA	541.50 SF / 0.01 AC
CANOPY COVER	3,618.47 SF / 0.08 AC
TOTAL	28,369.27 SF / 0.65 AC

TOTAL IMPERVIOUS AREAS	
EXISTING	26,112 SF / 0.60 AC
PROPOSED	28,369.27 SF / 0.65 AC
NET DIFFERENCE	2,257 SF / 0.05 AC

No.	REVISIONS	DATE	BY
	CITY RESUBMITTAL #2	08/19/22	NAM
	CITY RESUBMITTAL #1	07/15/22	NAM

Kimley»Horn

© 2022 KIMLEY-HORN AND ASSOCIATES, INC.
4201 WINFIELD ROAD, SUITE 600
WARRENVILLE, IL 60555
PHONE: 630-487-5550
WWW.KIMLEY-HORN.COM

SCALE: AS NOTED
DESIGNED BY: NAM
DRAWN BY: NAM
CHECKED BY: EJT

IMPERVIOUS AREA EXHIBIT- PROPOSED CONDITIONS

CASEY'S 6529
NAPERVILLE
1304 PLAINFIELD-NAPERVILLE ROAD
NAPERVILLE, IL 60565

ORIGINAL ISSUE: 04/13/2022
KHA PROJECT NO. 168865021
SHEET NUMBER
EX.1B

Drawing name: K:\CHS_LDEV\168865025_Casey's_1800 Stores\6529 – Naperville (Plainfield Rd), IL\2 Design\CAD\Exhibits\6529 – Proposed Conditions Pervious Exhibit.dwg Layout1 Aug 18, 2022 4:34pm by: natalie.moore
This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

Kimley»Horn
Expect More. Experience Better.

POND:	6529 Naperville - Existing		
JOB NO.		Side Slopes	
PROJECT:		1	
FILE:		4	
DATE:	3/24/2022		

	Area		Average	Incremental	Cummulative	
Elevation			Area	Storage	Storage	
(ft)	(ft^2)	(acre)	(acre)	(acre-ft)	(acre-ft)	
702.34	**682**	**0.016**			**0.000**	**Normal Water Level (NWL)**
			0.032	0.01		
702.70	2,137	0.049			0.01	
			0.054	0.02		
703.00	2,565	0.059			0.03	
			0.068	0.03		
703.40	3,393	0.078			0.06	

Kimley»Horn
Expect More. Experience Better.

POND:	6529 Naperville - Proposed		
JOB NO.		Side Slopes	
PROJECT:		1	
FILE:		4	
DATE:	3/24/2022		

	Area		Average	Incremental	Cummulative	
Elevation			Area	Storage	Storage	
(ft)	(ft^2)	(acre)	(acre)	(acre-ft)	(acre-ft)	
701.20	**18**	**0.000**			**0.000**	**Normal Water Level (NWL)**
			0.002	0.00		
701.50	128	0.003			0.00	
			0.008	0.00		
702.00	548	0.013			0.00	
			0.022	0.01		
702.50	1,331	0.031			0.02	
			0.039	0.02		
703.00	2,102	0.048			0.03	
			0.056	0.02		
703.40	2,818	0.065			0.06	