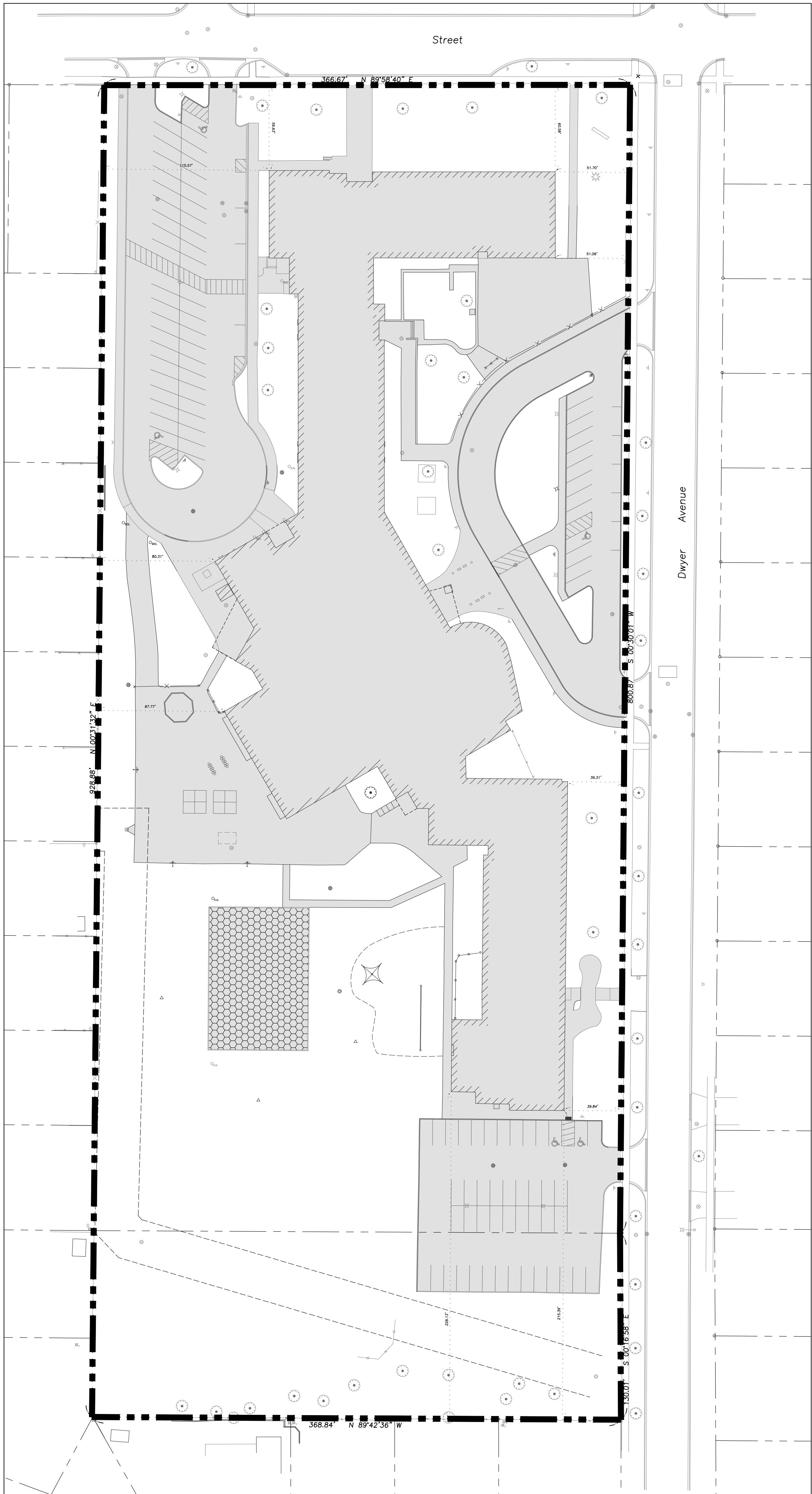
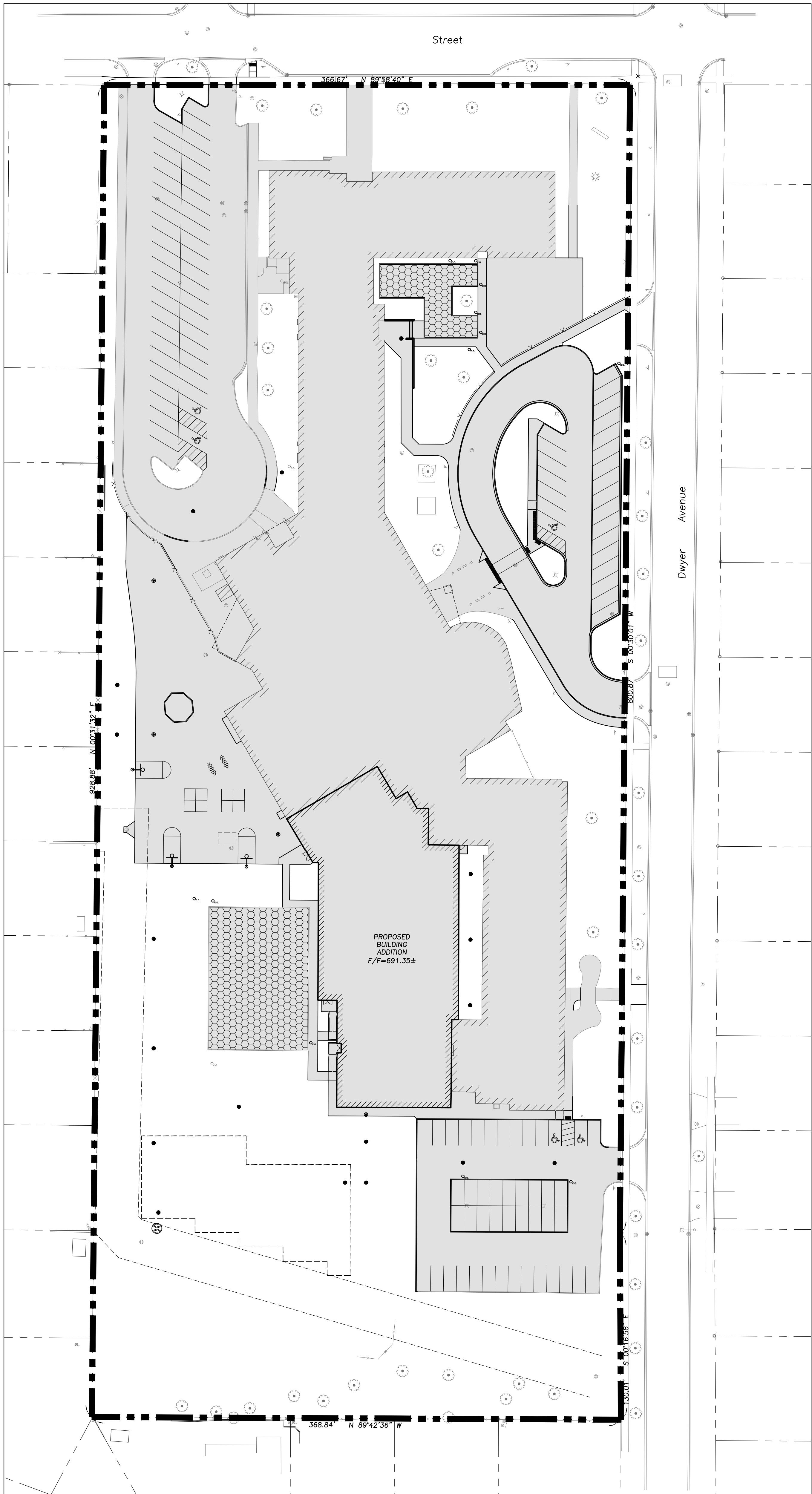




EXISTING CONDITIONS



PROPOSED CONDITIONS

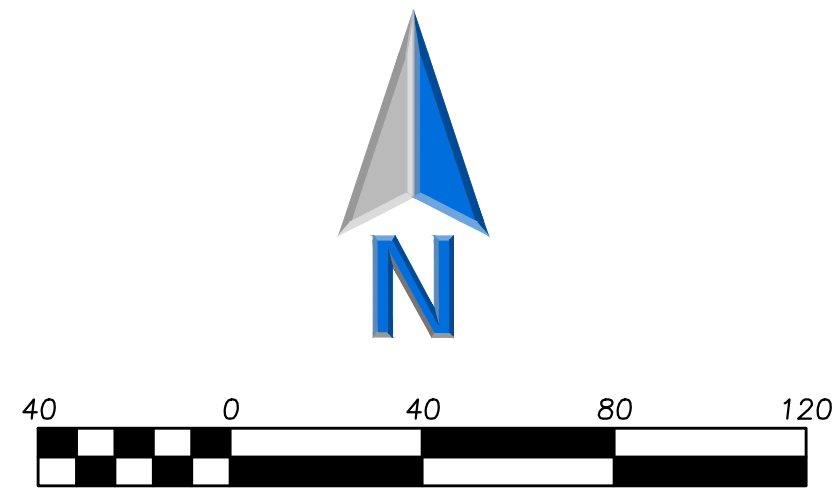


EXHIBIT LEGEND

- IMPERVIOUS AREA
- PERMEABLE PLAYGROUND AREA
- PROPERTY LINE
7.83 ACRES

EXISTING SITE CONDITIONS

IMPERVIOUS AREA
169,215 SF = 3.88 ACRES
PERMEABLE PLAYGROUND AREA
6,850 SF = 0.16 ACRES
PERVIOUS AREA
165,181 SF = 3.79 ACRES
RUNOFF COEFFICIENT
C = 0.73

PROPOSED SITE CONDITIONS

IMPERVIOUS AREA
189,745 SF = 4.35 ACRES
PERMEABLE PLAYGROUND AREA
9,060 SF = 0.21 ACRES
PERVIOUS AREA
142,441 SF = 3.27 ACRES
RUNOFF COEFFICIENT
C = 0.76

SUMMARY

IMPERVIOUS AREA
= +0.47 ACRES
PERMEABLE PLAYGROUND AREA
= +0.05 ACRES
PERVIOUS AREA
= -0.52 ACRES

SWM REQUIREMENTS

EXISTING CONDITIONS (Site, MRM B-75, Village Allowable Release)
= 2.374 AC-FT

PROPOSED CONDITIONS (Site, MRM B-75, Village Allowable Release)
= 2.495 AC-FT

ALLOCATED IN WILKE-KIRCHOFF BASIN (Site, TP-40 MWRD PERMIT 77-535)
= 2.021 AC-FT

Assumes:
A = 7.53 AC
C = 0.66 (Per Record Permit)
Release Rate = 0.284 CFS (0.036 CFS/AC Per Record Permit)



145 COMMERCE DRIVE, SUITE A
GRAYSLAKE, ILLINOIS 60030
PHONE: (847) 223-4804
FAX: (847) 223-4864
EMAIL: INFO@EEA-LTD.COM
PROFESSIONAL DESIGN FIRM
LICENSE NO. 184-003220
EXPIRES: 04/30/2023

WESTGATE ELEMENTARY SCHOOL
BUILDING ADDITION AND RENOVATIONS
500 S. DWYER AVENUE
ARLINGTON HEIGHTS, ILLINOIS

Reserved for Seal:

No.	Date	Description
11/17/22	11/17/22	ISSUE FOR PLAN COMMISSION

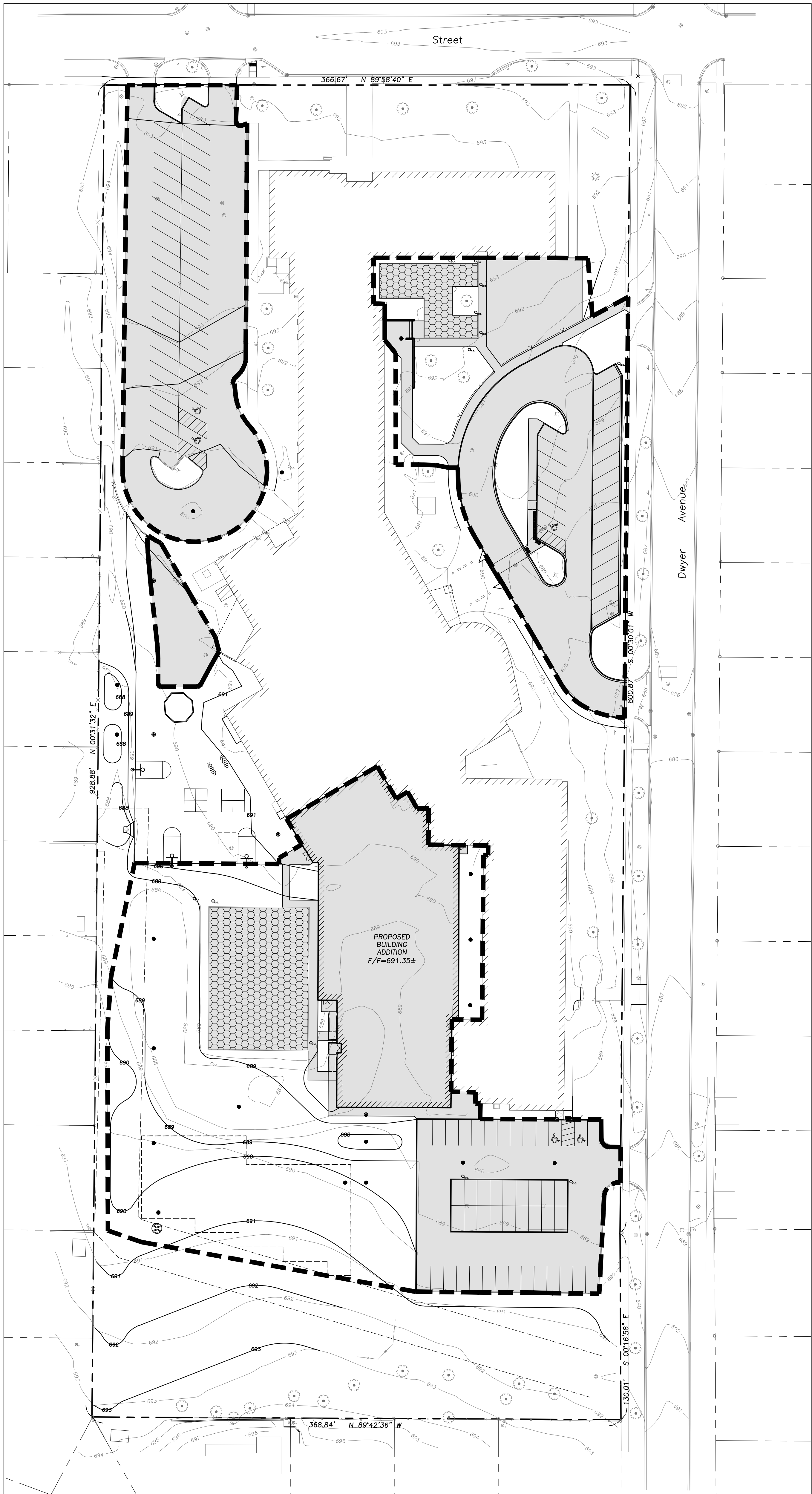
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Design By: JJC Approved By: TH Date: 11/17/22

Sheet Title:
EXISTING VS.
PROPOSED SITE
COVERAGE

Sheet No:
CX101

NOT FOR CONSTRUCTION



PROPOSED CONDITIONS

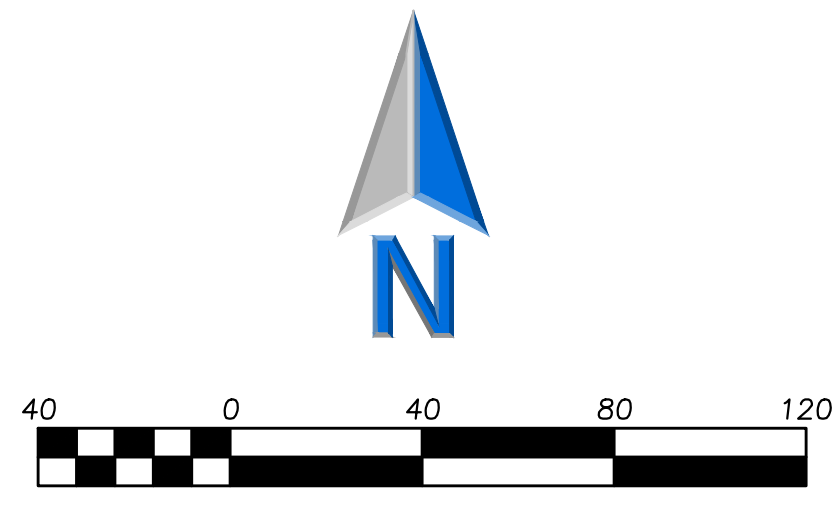


EXHIBIT LEGEND	
	IMPERVIOUS AREA
	PERMEABLE PLAYGROUND AREA
	PROPERTY LINE 341,246 SF 7.83 ACRES
	DEVELOPMENT AREA (VILLAGE) ± 154,380 SF 3.54 ACRES

PROPOSED CONDITIONS	
IMPERVIOUS AREA	
92,925 SF	= 2.13 ACRES
PERMEABLE PLAYGROUND AREA	
9,060 SF	= 0.21 ACRES
PERVIOUS AREA	
52,395 SF	= 1.20 ACRES
RUNOFF COEFFICIENT	
C	= 0.79

SWM REQUIREMENTS	
VILLAGE:	
PROPOSED CONDITIONS (MRM B-75, Village Allowable Release)	
= 1.189 AC-FT	
ALLOCATED IN WILKE-KIRCHOFF BASIN	
(TP-40 MWRD PERMIT 77-535)	
= 2.021 AC-FT	
Assumes:	
C	= 0.66 (Per Record Permit)
Release Rate	= 0.284 CFS (0.036 CFS/AC Per Record Permit)



ERIKSSON
ENGINEERING
ASSOCIATES, LTD.

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WESTGATE ELEMENTARY SCHOOL
BUILDING ADDITION AND RENOVATIONS
500 S. DWYER AVENUE
ARLINGTON HEIGHTS, ILLINOIS

Reserved for Seal:

No.	Date	Description
	11/17/22	ISSUE FOR PLAN COMMISSION

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Design By:	Approved By:	Date:
JC	TH	11/17/22

Sheet Title:
EXISTING VS.
PROPOSED
DEVELOPMENT AREA
(VILLAGE SWM)

Sheet No:
CX201

NOT FOR CONSTRUCTION

COMPOSITE RUNOFF COEFFICIENT (C)

PROJECT: AHSD 25 KINDERGARTEN ADDITIONS

PERMIT NUMBER:

LOCATION: WESTGATE ELEMENTARY - EXISTING

DATE: 12/13/2022

TYPE OF AREA (SELECT WITH DROP-DOWN)

☐ DETAINED AREA

☐ MAJOR STORMWATER SYSTEM

☐ UNRESTRICTED AREA

☒ OTHER: SITE

☐ UPSTREAM AREA

CONDITION (SELECT WITH DROP-DOWN)

☐ PROPOSED CONDITION

☒ EXISTING CONDITION

RUNOFF COEFFICIENT

Surface Description	C	Area (acres)	Product (C)(Area)
Impervious (Village C)	0.95	3.88	3.69
Permeable Playground	0.75	0.16	0.12
Pervious (Village C)	0.50	3.79	1.90

TOTALS:

7.83

5.70

COMPOSITE RUNOFF COEFFICIENT

$$\text{Composite C} = \frac{\text{Total Product}}{\text{Total Area}} = \frac{5.70}{7.83} \rightarrow \text{Composite C} = 0.73$$

MODIFIED RATIONAL METHOD: BULLETIN 75 RAINFALL DATA

PROJECT: AHSD 25 KINDERGARTEN ADDITIONS

PERMIT NUMBER:

LOCATION: WESTGATE ELEMENTARY - EXISTING

DATE: 12/13/2022

DEVELOPMENT INFORMATION

1. Detained Area

7.830

acres

2. Composite Runoff Coefficient

0.730

3. Actual Release Rate

1.400

cfs

REQUIRED DETENTION VOLUME

4. Required Detention Volume

2.374

ac-ft

CALCULATION TABLE

Storm Duration	Rainfall Intensity (in/hr)	Inflow Rate (cfs)	Stored Rate (cfs)	Required Storage (ac-ft)
5 min	12.36	70.65	69.25	0.477
10 min	10.80	61.73	60.33	0.831
15 min	9.28	53.04	51.64	1.067
20 min	8.04	45.96	44.56	1.227
30 min	6.34	36.24	34.84	1.440
40 min	5.28	30.18	28.78	1.586
50 min	4.55	26.01	24.61	1.695
1 hr	4.03	23.04	21.64	1.788
1.5 hr	3.03	17.32	15.92	1.973
2 hr	2.49	14.23	12.83	2.121
3 hr	1.83	10.46	9.06	2.246
4 hr	1.48	8.46	7.06	2.334
5 hr	1.25	7.14	5.74	2.374
6 hr	1.07	6.12	4.72	2.339
7 hr	0.96	5.49	4.09	2.365
8 hr	0.86	4.92	3.52	2.324
9 hr	0.79	4.52	3.12	2.317
10 hr	0.72	4.12	2.72	2.244
11 hr	0.67	3.83	2.43	2.209
12 hr	0.62	3.55	2.15	2.134
18 hr	0.45	2.56	1.16	1.723
24 hr	0.36	2.04	0.64	1.272

←

COMPOSITE RUNOFF COEFFICIENT (C)

PROJECT: AHSD 25 KINDERGARTEN ADDITIONS

PERMIT NUMBER:

LOCATION: WESTGATE ELEMENTARY - PROPOSED

DATE: 12/13/2022

TYPE OF AREA (SELECT WITH DROP-DOWN)

☐ DETAINED AREA

☐ MAJOR STORMWATER SYSTEM

☐ UNRESTRICTED AREA

☒ OTHER: SITE

☐ UPSTREAM AREA

CONDITION (SELECT WITH DROP-DOWN)

☒ PROPOSED CONDITION

☐ EXISTING CONDITION

RUNOFF COEFFICIENT

Surface Description	C	Area (acres)	Product (C)(Area)
Impervious (Village C)	0.95	4.35	4.13
Permeable Playground	0.75	0.21	0.16
Pervious (Village C)	0.50	3.27	1.64

TOTALS:

7.83

5.93

COMPOSITE RUNOFF COEFFICIENT

$$\text{Composite C} = \frac{\text{Total Product}}{\text{Total Area}} = \frac{5.93}{7.83} \rightarrow \text{Composite C} = 0.76$$

MODIFIED RATIONAL METHOD: BULLETIN 75 RAINFALL DATA

PROJECT: AHSD 25 KINDERGARTEN ADDITIONS

PERMIT NUMBER:

LOCATION: WESTGATE ELEMENTARY - PROPOSED

DATE: 12/13/2022

DEVELOPMENT INFORMATION

1. Detained Area

7.830

acres

2. Composite Runoff Coefficient

0.760

3. Actual Release Rate

1.400

cfs

REQUIRED DETENTION VOLUME

4. Required Detention Volume

2.495

ac-ft

CALCULATION TABLE

Storm Duration	Rainfall Intensity (in/hr)	Inflow Rate (cfs)	Stored Rate (cfs)	Required Storage (ac-ft)
5 min	12.36	73.55	72.15	0.497
10 min	10.80	64.27	62.87	0.866
15 min	9.28	55.22	53.82	1.112
20 min	8.04	47.84	46.44	1.279
30 min	6.34	37.73	36.33	1.501
40 min	5.28	31.42	30.02	1.654
50 min	4.55	27.08	25.68	1.768
1 hr	4.03	23.98	22.58	1.866
1.5 hr	3.03	18.03	16.63	2.062
2 hr	2.49	14.82	13.42	2.218
3 hr	1.83	10.89	9.49	2.353
4 hr	1.48	8.81	7.41	2.449
5 hr	1.25	7.44	6.04	2.495
6 hr	1.07	6.37	4.97	2.463
7 hr	0.96	5.71	4.31	2.495
8 hr	0.86	5.12	3.72	2.458
9 hr	0.79	4.70	3.30	2.455
10 hr	0.72	4.28	2.88	2.384
11 hr	0.67	3.99	2.59	2.352
12 hr	0.62	3.70	2.30	2.278
18 hr	0.45	2.66	1.26	1.879
24 hr	0.36	2.12	0.72	1.438

←

COMPOSITE RUNOFF COEFFICIENT (C)

PROJECT: AHSD 25 KINDERGARTEN ADDITIONS

PERMIT NUMBER:

LOCATION: WESTGATE ELEMENTARY - PROPOSED

DATE: 12/13/2022

TYPE OF AREA (SELECT WITH DROP-DOWN)

☐ DETAINED AREA

☐ MAJOR STORMWATER SYSTEM

☐ UNRESTRICTED AREA

☒ OTHER: DEVELOPMENT AREA

☐ UPSTREAM AREA

CONDITION (SELECT WITH DROP-DOWN)

☒ PROPOSED CONDITION

☐ EXISTING CONDITION

RUNOFF COEFFICIENT

Surface Description	C	Area (acres)	Product (C)(Area)
Impervious (Village C)	0.95	2.13	2.02
Permeable Playground	0.75	0.21	0.16
Pervious (Village C)	0.50	1.20	0.60

TOTALS:

3.54

2.78

COMPOSITE RUNOFF COEFFICIENT

$$\text{Composite C} = \frac{\text{Total Product}}{\text{Total Area}} = \frac{2.78}{3.54} \rightarrow \text{Composite C} = 0.79$$

MODIFIED RATIONAL METHOD: BULLETIN 75 RAINFALL DATA

PROJECT: AHSD 25 KINDERGARTEN ADDITIONS

PERMIT NUMBER:

LOCATION: WESTGATE ELEMENTARY - PROPOSED

DATE: 12/13/2022

DEVELOPMENT INFORMATION

1. Detained Area

3.540

acres

2. Composite Runoff Coefficient

0.790

3. Actual Release Rate

0.630

cfs

REQUIRED DETENTION VOLUME

4. Required Detention Volume

1.189

ac-ft

CALCULATION TABLE

Storm Duration	Rainfall Intensity (in/hr)	Inflow Rate (cfs)	Stored Rate (cfs)	Required Storage (ac-ft)
5 min	12.36	34.57	33.94	0.234
10 min	10.80	30.20	29.57	0.407
15 min	9.28	25.95	25.32	0.523
20 min	8.04	22.48	21.85	0.602
30 min	6.34	17.73	17.10	0.707
40 min	5.28	14.77	14.14	0.779
50 min	4.55	12.72	12.09	0.833
1 hr	4.03	11.27	10.64	0.879
1.5 hr	3.03	8.47	7.84	0.972
2 hr	2.49	6.96	6.33	1.047
3 hr	1.83	5.12	4.49	1.113
4 hr	1.48	4.14	3.51	1.160
5 hr	1.25	3.50	2.87	1.184
6 hr	1.07	2.99	2.36	1.171
7 hr	0.96	2.68	2.05	1.189
8 hr	0.86	2.41	1.78	1.174
9 hr	0.79	2.21	1.58	1.175
10 hr	0.72	2.01	1.38	1.143
11 hr	0.67	1.87	1.24	1.131
12 hr	0.62	1.74	1.11	1.098
18 hr	0.45	1.25	0.62	0.925
24 hr	0.36	1.00	0.37	0.731

←