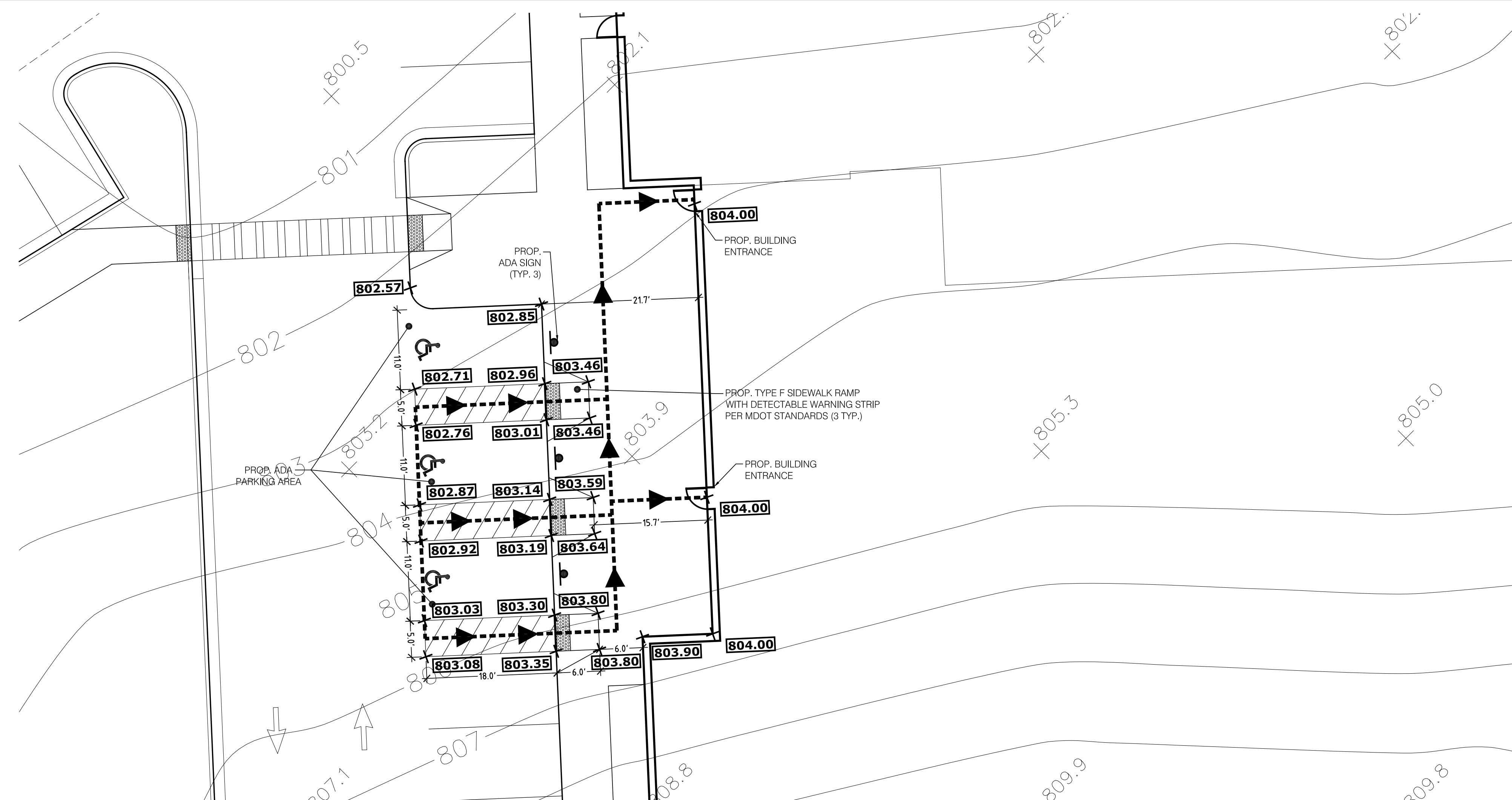


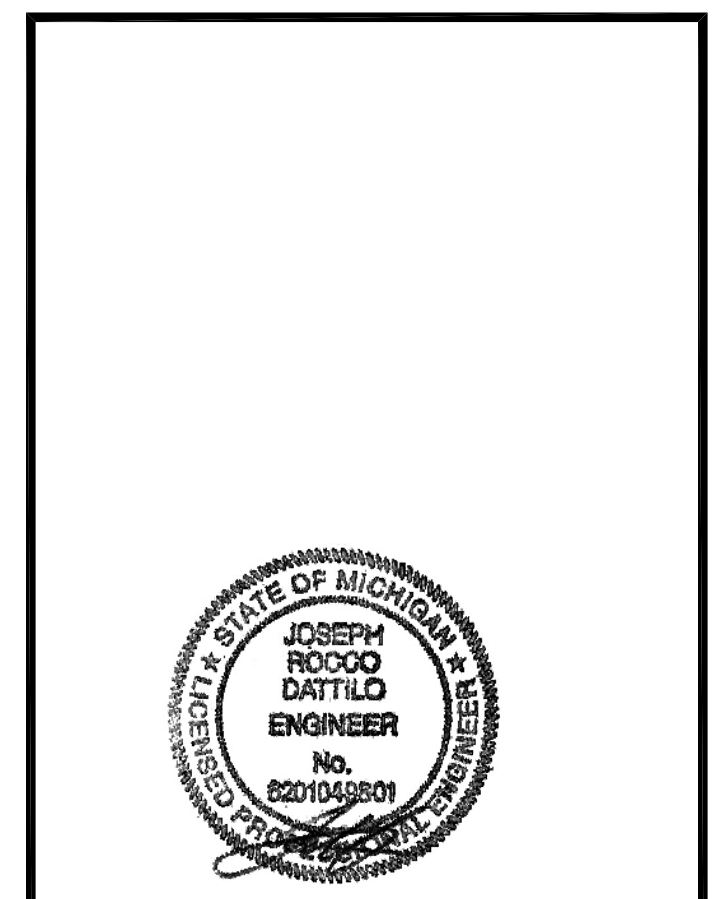
1 ADA Access Plan - Building 2
 SCALE: 10' = 1" NORTH

ADA NOTES

1. THE CONTRACTOR SHALL MAINTAIN A MAXIMUM 2.00% SLOPE IN ANY DIRECTION WITHIN THE ADA PARKING SPACES AND ACCESS AISLES.
2. THE CONTRACTOR SHALL PROVIDE COMPLIANT SIGNAGE AT ALL ADA PARKING AREAS IN ACCORDANCE WITH STATE GUIDELINES.
3. THE CONTRACTOR SHALL MAINTAIN A MAXIMUM 5.00% RUNNING SLOPE AND A MAXIMUM OF 2.00% CROSS SLOPE ALONG WALKWAYS WITHIN THE ACCESSIBLE PATH OF TRAVEL (SEE THE SITE PLAN FOR THE LOCATION OF THE ACCESSIBLE PATH). THE CONTRACTOR IS RESPONSIBLE TO ENSURE THE ACCESSIBLE PATH OF TRAVEL IS 36 INCHES WIDE OR GREATER UNLESS INDICATED OTHERWISE WITHIN THE PLAN SET.
4. THE CONTRACTOR SHALL MAINTAIN A MAXIMUM 2.00% SLOPE IN ANY DIRECTION AT ALL LANDINGS. LANDINGS INCLUDE, BUT ARE NOT LIMITED TO, THE TOP AND BOTTOM OF AN ACCESSIBLE RAMP, AT ACCESSIBLE BUILDING ENTRANCES, AT AN AREA IN FRONT OF A WALK-UP ATM, AND AT TURNING SPACES ALONG THE ACCESSIBLE PATH OF TRAVEL. THE LANDING AREA SHALL HAVE A MINIMUM CLEAR AREA OF 60 INCHES BY 60 INCHES UNLESS INDICATED OTHERWISE WITHIN THE PLAN SET.
5. THE CONTRACTOR SHALL MAINTAIN A MAXIMUM 8.33% RUNNING SLOPE AND A MAXIMUM 2.00% CROSS SLOPE ON ANY CURB RAMPS ALONG THE ACCESSIBLE PATH OF TRAVEL. WHERE PROVIDED, CURB RAMP FLARES SHALL NOT HAVE A SLOPE GREATER THAN 10.00% IF A LANDING AREA IS PROVIDED AT THE TOP OF THE RAMP. FOR ALTERATIONS, A CURB RAMP FLARES SHALL NOT HAVE A SLOPE GREATER THAN 8.33% IF A LANDING AREA IS NOT PROVIDED AT THE TOP OF THE RAMP. CURBS RAMPS SHALL NOT RISE MORE THAN 6 INCHES IN ELEVATION WITHOUT A HANDRAIL. THE CLEAR WIDTH OF A CURB RAMP SHALL BE NO LESS THAN 36 INCHES WIDE.
6. ACCESSIBLE RAMPS WITH A RISE GREATER THAN 6 INCHES SHALL CONTAIN COMPLIANT HANDRAILS ON BOTH SIDES OF THE RAMP AND SHALL NOT RISE MORE THAN 30" IN ELEVATION WITHOUT A LANDING AREA IN BETWEEN RAMP RUNS. LANDING AREAS SHALL ALSO BE PROVIDED AT THE TOP AND BOTTOM OF THE RAMP.
7. A SLIP RESISTANT SURFACE SHALL BE CONSTRUCTED ALONG THE ACCESSIBLE PATH AND WITHIN ADA PARKING AREAS.
8. THE CONTRACTOR SHALL ENSURE A MAXIMUM OF 1/4 INCHES VERTICAL CHANGE IN LEVEL ALONG THE ACCESSIBLE PATH. WHERE A CHANGE IN LEVEL BETWEEN 1/4 INCHES AND 1/2 INCHES EXISTS, CONTRACTOR SHALL ENSURE THAT THE TOP 1/4 INCH CHANGE IN LEVEL IS BEVELED WITH A SLOPE NOT STEEPER THAN 1 UNIT VERTICAL AND 2 UNITS HORIZONTAL (2:1 SLOPE).
9. THE CONTRACTOR SHALL ENSURE THAT ANY OPENINGS (GAPS OR HORIZONTAL SEPARATION) ALONG THE ACCESSIBLE PATH SHALL NOT ALLOW PASSAGE OF A SPHERE GREATER THAN 1/2 INCH.



2 ADA Access Plan - Building 3
 SCALE: 10' = 1" NORTH



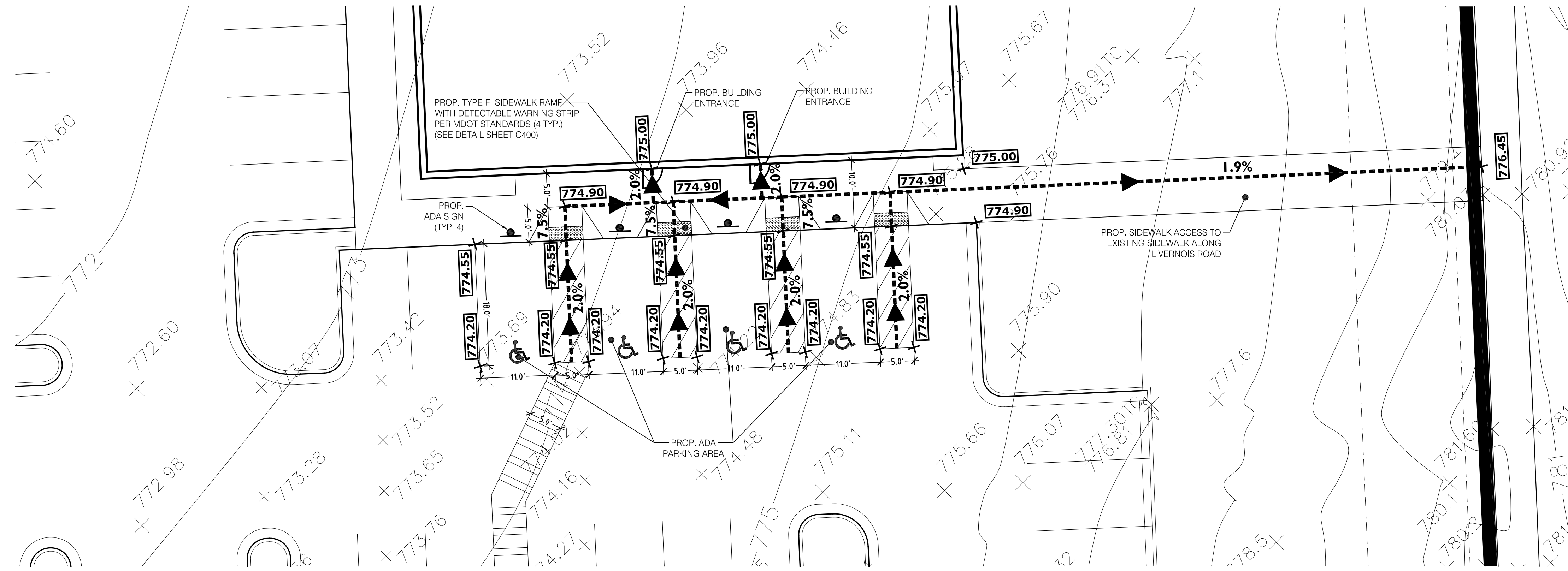
No.	Revision/Issue	Date
	PUD Review #7	03.11.20
	PUD Review #6	1.9.2020
	PUD Review #5	11.25.19
	PUD Review #4	10.07.19
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	PUD Review	03.29.19
	Owner Review	03.20.19
	PUD Review Submission	10.24.18

Rochester Hills Research Park
 1400 S. Livernois
 Rochester Hills, MI 48307

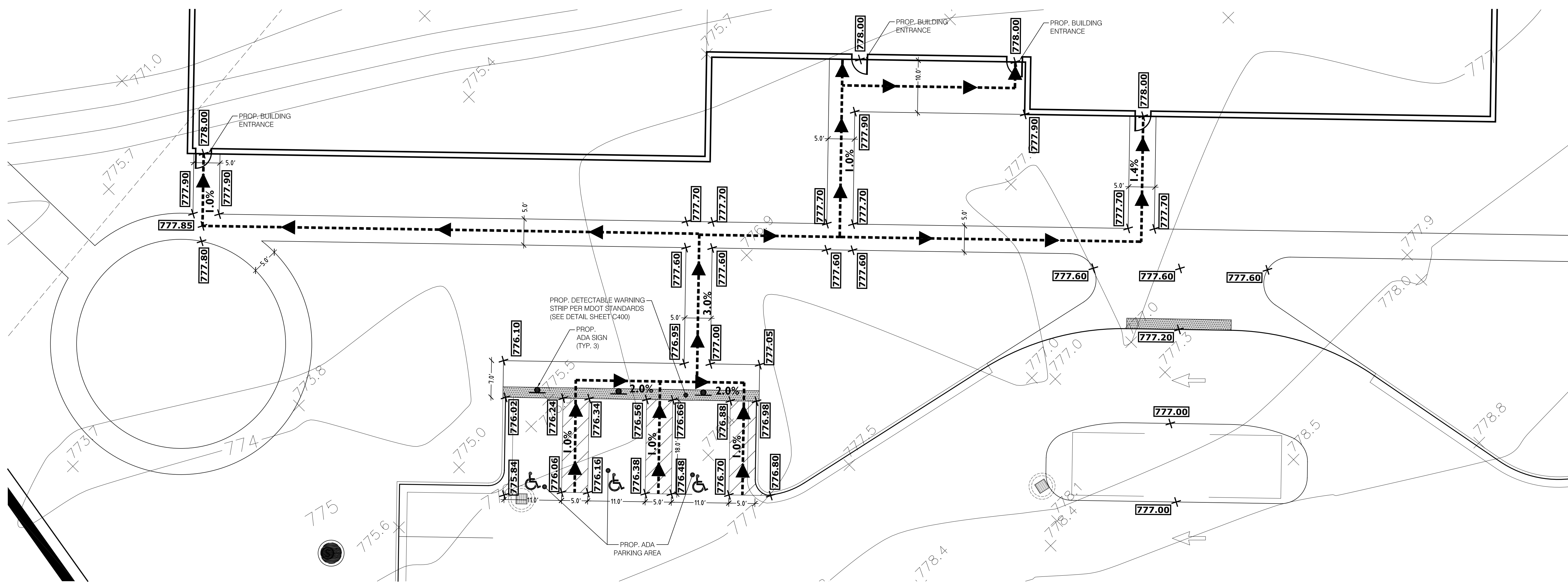
ROCHESTER HILLS
 CITY FILE #18-021 Section #21

ADA Access Plan

C202 017170



3 ADA Access Plan - Building 4
SCALE: 10' = 1"



4 ADA Access Plan - Building 5
SCALE: 10' = 1"

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	PUD Review Submission	10.24.18

Rochester Hills Research Park
1400 S. Livernois
Rochester Hills, MI 48307

ROCHESTER HILLS
CITY FILE #18-021 Section #21

ADA Access Plan

C203 017170

C202 ADA Access Plan.dwg

3/9/2020

Francesca Aragona

DETENTION CALCULATION

VOLUME CALCULATION:

25 Year Storm (Based on Rochester Hills Stormwater Standards):
 Area of Site (A) = 25.04 Acres
 $Q_a = 25.04 \times 0.20 = 5.01$ CFS
 $C_{PAVED} = 0.95$ $C_{GRASS1} = 0.30$ $C_{GRASS2} = 0.25$
 Weighted Value $C_{IMPERV.} = (735,845 \text{ SF}) \times (0.95) = 699,053 \text{ SF}$
 Weighted Value $C_{GRASS1} = (177,449 \text{ SF}) \times (0.30) = 53,235 \text{ SF}$
 Weighted Value $C_{GRASS2} = (177,449 \text{ SF}) \times (0.25) = 44,363 \text{ SF}$
 $C_{AVG} = (699,053 \text{ SF} + 53,235 \text{ SF} + 44,363 \text{ SF}) / (735,845 \text{ SF} + 177,449 \text{ SF} + 177,449 \text{ SF}) = 0.73$
 $Q_o = 5.01 \text{ CFS} / (25.04 \times 0.73) = 0.274$
 $T25 = -25 + \text{Sq.Rt.} (8,062.5/Q_o) = 146.54 \text{ min.}$
 $V_s = (12,900 \text{ T} / (T + 25)) - 40$ $Q_o \text{ T} = 9,414 \text{ CF}$
 $V_t = V_s \times A \times 0.73 = 172,078 \text{ CF}$
 Required Total detention volume = 172,078 CF

DETAILS OF DETENTION BASIN :

High Water Elevation : 764.50
 Area at High Water : 12,350 SF
 Low Water Elevation : 758.50
 Area at Low Water : 185 SF
 Depth of the Basin : 6 LF
 Volume = $[(12,350 + 185) / 2] \times 6 = 37,605 \text{ CF}$

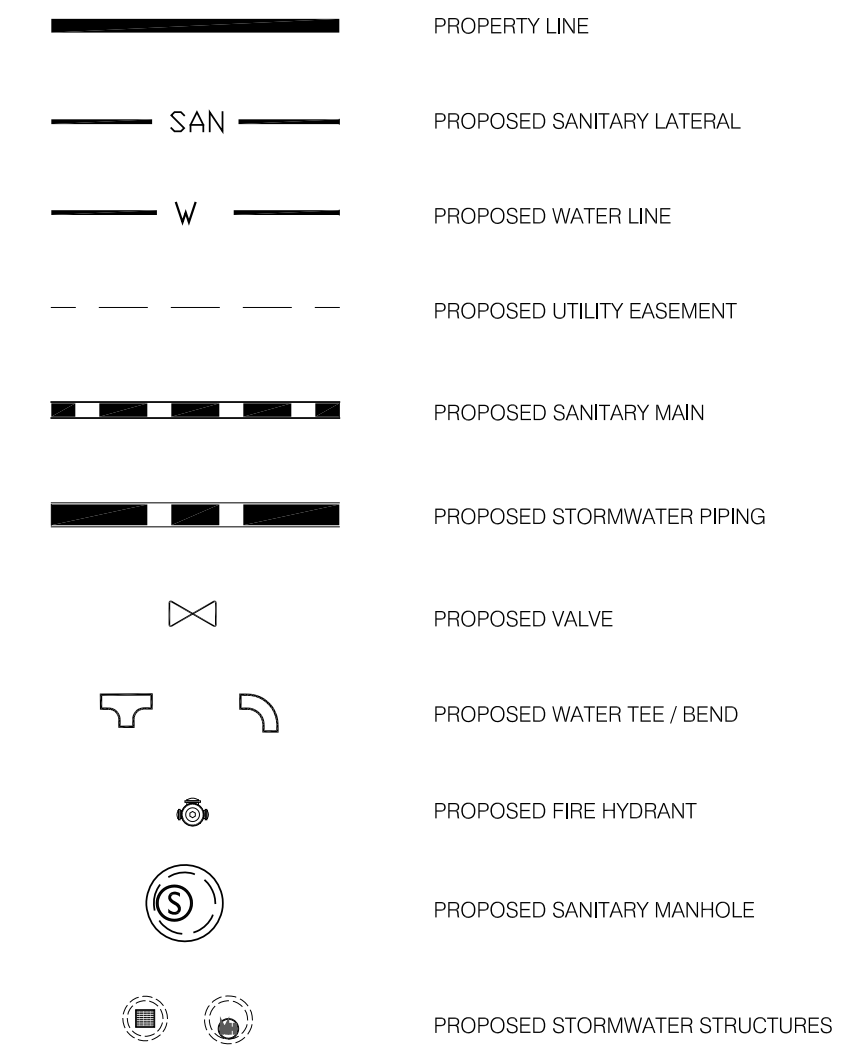
DETAILS OF PIPE STORAGE :

Proposed pipe size = 6" dia. = 72"
 Pipe area = 28.27 SF
 Provided length of pipe = 5,201 LF
 Pipe Volume = $(28.27 \text{ SF}) \times (4,766 \text{ LF}) = 134,735 \text{ CF}$
 Bottom of 6" Pipe in Underground Basin: 758.50
TOTAL PROVIDED DETENTION VOLUME = 172,340 CF

DETAIL OF PIPE RESTRICTOR :

$Q = 0.62 \times A \times (2 \times g \times H)^{1/2}$
 $5.01 = 0.62 \times A \times (2 \times 32.2 \times 4.5)^{1/2}$
 $A = 0.474 \Rightarrow d = 6" \text{ RESTRICTOR}$

LEGEND

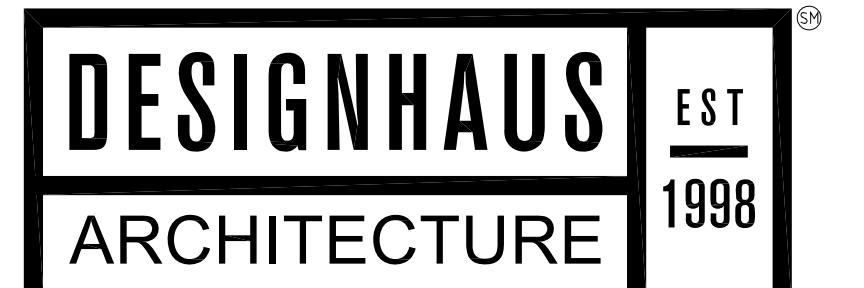


INFILTRATION CALCULATIONS

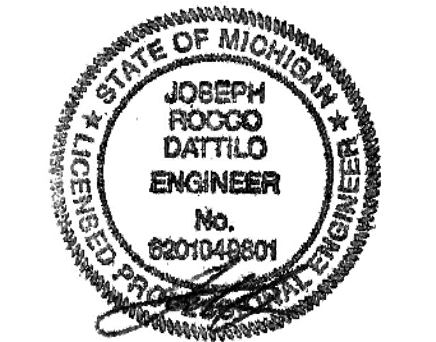
$Re_v = 1,815(A)(C_{AVG}) = (1,815)(25.04 \text{ Acres})(0.74) = 33,631 \text{ CF}$
 Required Infiltration Volume = 33,631 CF
 Soil on Site: Blount Loam, Infiltration rate = 0.20" per hour
 $0.20" \times 24 \text{ hours} = 0.4 \text{ FT}$
 Area of Underground Detention Basin = 54,693 SF
 Provided Infiltration Volume (Blount Loam): $54,693 \text{ SF} \times 0.4 \text{ FT} = 25,315 \text{ CF}$
 Soil on Site: Marquette Sandy Loam, Infiltration rate = 0.57" per hour
 $0.57" \times 24 \text{ hours} = 1.14 \text{ FT}$
 Area of Underground Detention Basin = 8,595 SF
 Provided Infiltration Volume (Marquette Sandy Loam): $8,595 \text{ SF} \times 1.14 \text{ FT} = 9,798 \text{ CF}$
 Total Infiltration Volume = 9,798 + 25,315 = 35,113 CF

SANITARY BASIS OF DESIGN CALCULATION

PROPOSED BUILDINGS			
USAGE	AREA	UNIT FACTOR	R.E.U.
Existing Building 1 (To Livernois)			
Office	129,410 SF	0.40 units / 1000 SF	51.8
Warehouse	4 Fixtures	0.12 per fixture	0.48
Building 2 and Expansion (To on-site main)			
Office	41,400 SF	0.40 units / 1,000 SF	16.56
Warehouse	2 Fixtures	0.12 per fixture	0.24
Building 3 (To Livernois)			
Office	36,040 SF	0.40 units / 1,000 SF	14.42
Warehouse	10 Fixtures	0.12 per fixture	1.20
Building 4 (To Livernois)			
Office	16,000 SF	0.40 units / 1000 SF	6.4
Building 5 (To on-site main)			
Office	47,590 SF	0.40 units / 1,000 SF	19.04
Warehouse	10 Fixtures	0.12 per fixture	1.20
Total	111.34		Rounded = 112.00
Overall Development			
POPULATION EQUIVALENT	= 3.5 Persons per R.E.U.		
POPULATION	= 392 Persons		
AVERAGE FLOW RATE	= 100 Gallons per capita per day		
AVERAGE FLOW RATE	= $(350 \text{ GPD/REU}) \times (112 \text{ REU}) = 39,200 \text{ GPD} = 0.0606 \text{ CFS}$		
PEAK FACTOR	= $(18 + \text{SQRT}(\text{Pop}/1000)) / (4 + \text{SQRT}(\text{Pop}/1000)) = 4.03$		
PEAK FLOW	= $(4.03) \times (0.0606 \text{ CFS}) = 0.244 \text{ CFS}$		
To on-site main (38.00 REU)			
POPULATION EQUIVALENT	= 3.5 Persons per R.E.U.		
POPULATION	= 133 Persons		
AVERAGE FLOW RATE	= 100 Gallons per capita per day		
AVERAGE FLOW RATE	= $(350 \text{ GPD/REU}) \times (38.00 \text{ REU}) = 13,300 \text{ GPD} = 0.0206 \text{ CFS}$		
PEAK FACTOR	= $(18 + \text{SQRT}(\text{Pop}/1000)) / (4 + \text{SQRT}(\text{Pop}/1000)) = 4.21$		
PEAK FLOW	= $(4.21) \times (0.0206 \text{ CFS}) = 0.09 \text{ CFS}$		
To Livernois (74.00 REU)			
POPULATION EQUIVALENT	= 3.5 Persons per R.E.U.		
POPULATION	= 259 Persons		
AVERAGE FLOW RATE	= 100 Gallons per capita per day		
AVERAGE FLOW RATE	= $(350 \text{ GPD/REU}) \times (74.00 \text{ REU}) = 25,900 \text{ GPD} = 0.0400 \text{ CFS}$		
PEAK FACTOR	= $(18 + \text{SQRT}(\text{Pop}/1000)) / (4 + \text{SQRT}(\text{Pop}/1000)) = 4.10$		
PEAK FLOW	= $(4.10) \times (0.0400 \text{ CFS}) = 0.16 \text{ CFS}$		



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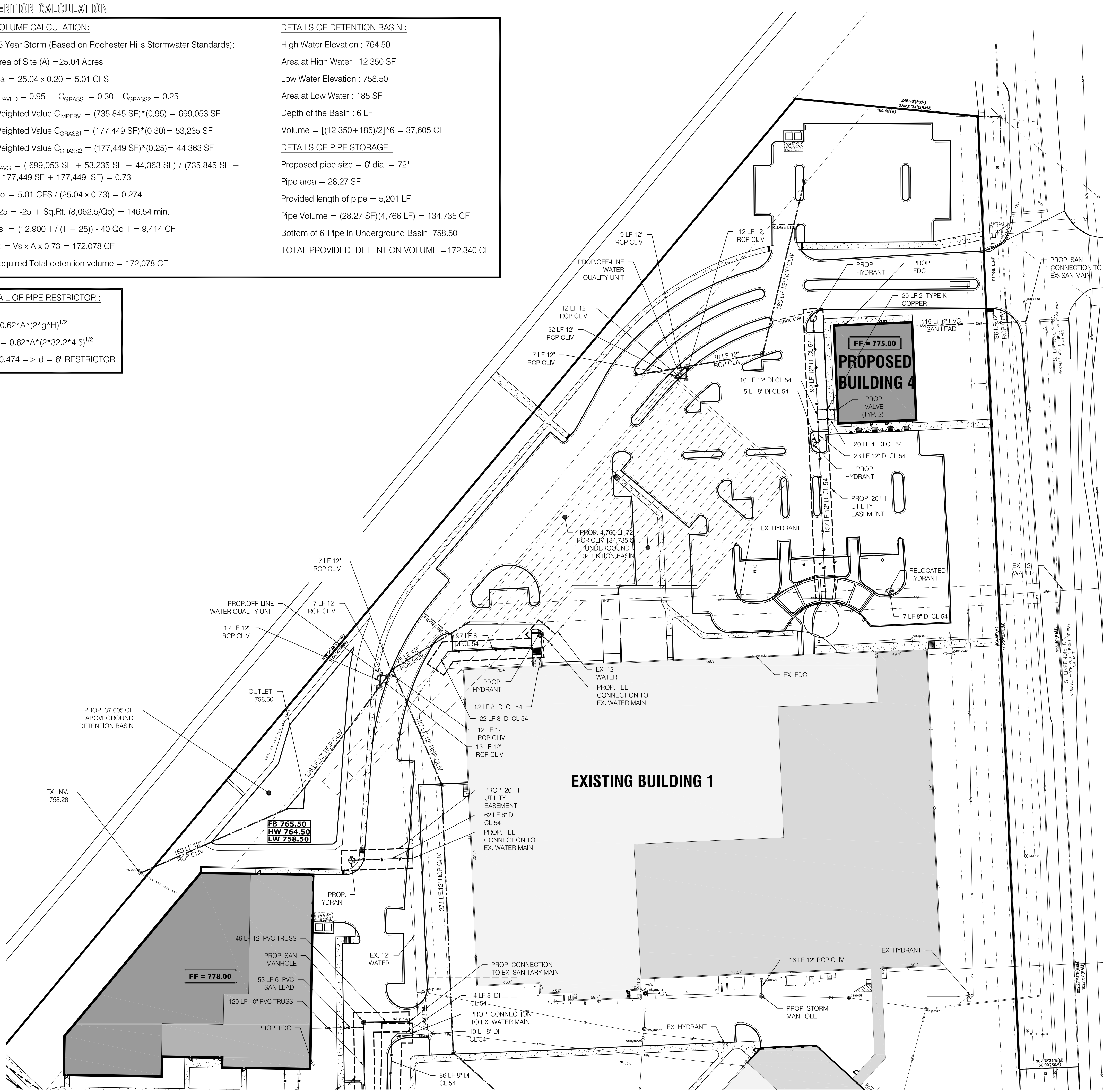


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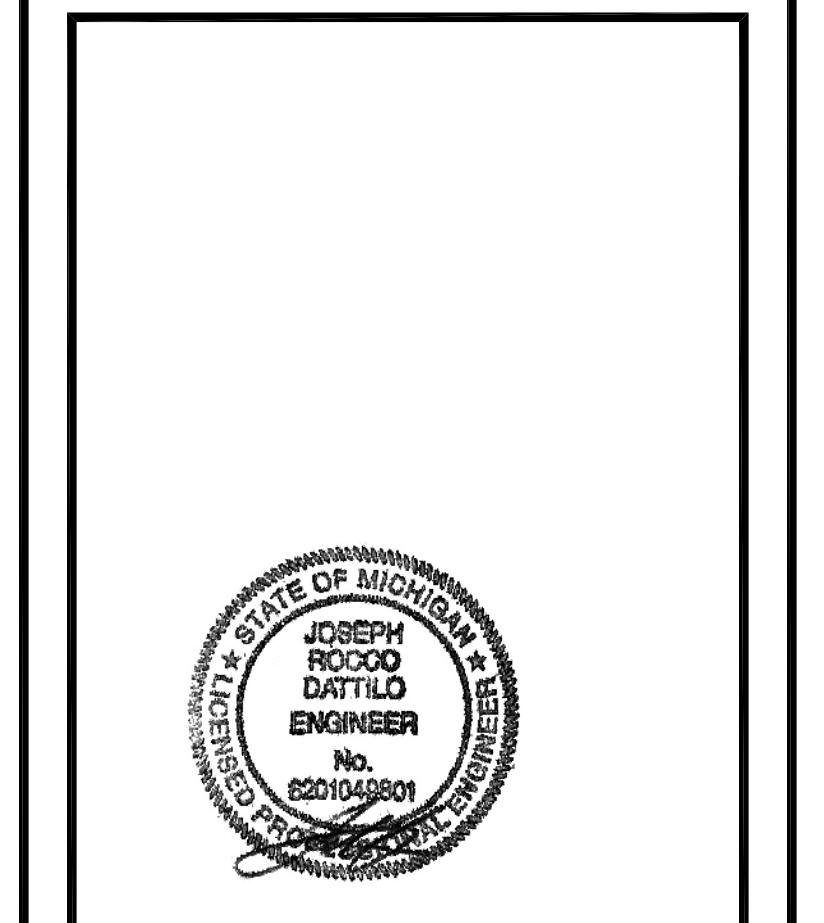
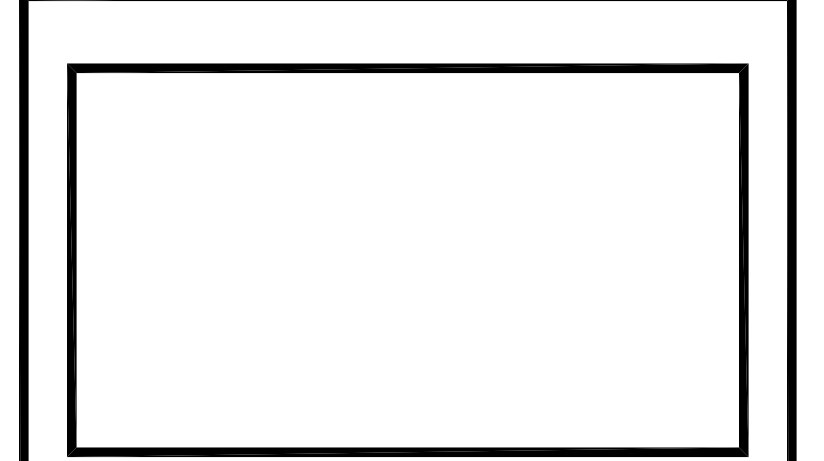
Rochester Hills Research Park
 1400 S. Livernois
 Rochester Hills, MI 48307
 ROCHESTER HILLS
 CITY FILE #18-021 Section #21

Preliminary Utility Plan (North)

C300 017170



C:\300 - Preliminary Utility Plan.dwg 3/9/2020 Greg Ezzo



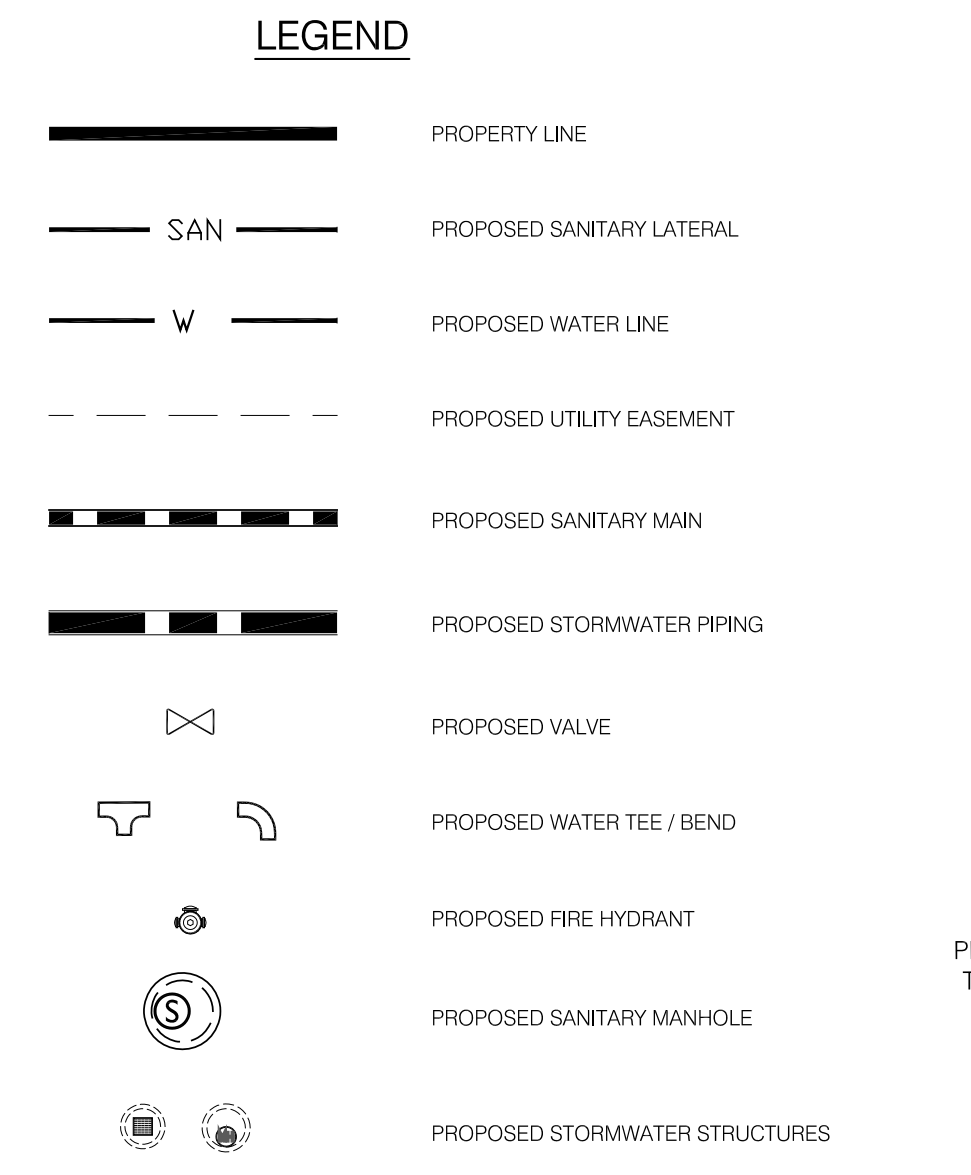
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Rochester Hills Research Park
 1400 S. Livernois
 Rochester Hills, MI 48307

ROCHESTER HILLS
 CITY FILE #18-021 Section #21

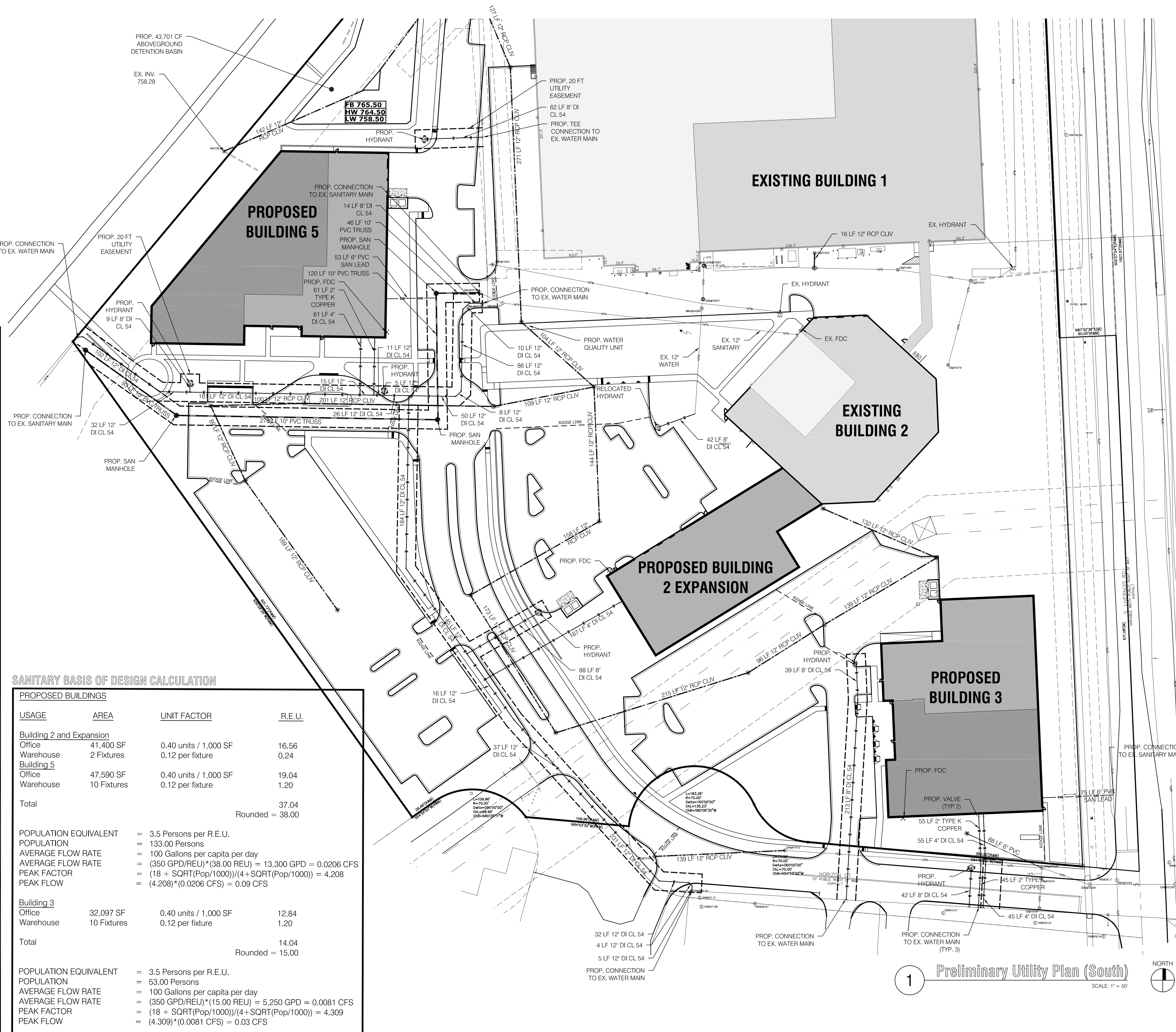
Preliminary Utility Plan (South)

C301 017170



GENERAL UTILITY NOTES

1. ALL CONSTRUCTION PROCEDURES AND MATERIALS SHALL CONFORM TO THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF ROCHESTER HILLS.
2. A PRE-CONSTRUCTION MEETING SHALL BE SCHEDULED BY THE CITY OF ROCHESTER HILLS AND HELD PRIOR TO THE START OF CONSTRUCTION.
3. CONTRACTOR MUST CONTACT MISS DIG (811) AT LEAST THREE WORKING DAYS PRIOR TO THE START OF CONSTRUCTION FOR UNDERGROUND UTILITY LOCATIONS. ALL UTILITIES SHALL BE STAKED BEFORE CONSTRUCTION BEGINS.
4. ALL WATER MAIN EASEMENTS SHALL BE PROVIDED PRIOR TO CONSTRUCTION AND ACCEPTANCE OF THE WATER DISTRIBUTION SYSTEM.
5. WATER MAINS SHALL BE CONSTRUCTED WITH A MINIMUM COVER OF 6 FEET BELOW FINISHED GRADES, INCLUDING OPEN DRAINAGE COURSES.
6. ALL TRENCHES UNDER OR WITHIN A 1:1 RATIO OF EXISTING OR PROPOSED PAVEMENT OR DRIVEWAYS, SHALL BE BACKFILLED WITH COMPACTED CLASS II SAND TO GRADE (95% MAXIMUM UNIT DENSITY).
7. WHERE TWO UTILITIES CROSS, PROVIDE CLASS II BACKFILL MATERIAL IN SIX (6) INCH COMPACTED LAYERS TO TOP HIGHEST UTILITY.
8. WHERE WATER MAINS DIP UNDER OTHER UTILITIES, THE SECTIONS WHICH ARE DEEPER THAN NORMAL SHALL BE CONSTRUCTED WITH 11-1/4° VERTICAL BENDS, 22 1/2° OR 45° BENDS MUST BE RODDED AND PROPERLY ANCHORED.
9. ALL PRECAST CONCRETE GATE WELL SECTIONS SHALL BE IN ACCORDANCE WITH A.S.T.M. C478, STANDARD SPECIFICATIONS FOR PRECAST REINFORCED CONCRETE MANHOLE SECTIONS. WALL THICKNESS SHALL BE AS SHOWN ON THESE DETAILS. ALL JOINTS FOR PRECAST CONCRETE GATE WELL SECTIONS SHALL BE "MODIFIED GROOVE TONGUE" WITH GASKET MANUFACTURED TO CONFORM WITH A.S.T.M. C443, STANDARD SPECIFICATION FOR JOINTS FOR CIRCULAR CONCRETE SEWER AND CULVERT PIPE USING RUBBER GASKETS.
10. CONTRACTOR SHALL INSTALL VALVES, TAPPING SLEEVES, AND GATE WELL STRUCTURES IN STRICT COMPLIANCE WITH MEASUREMENTS PROVIDED ON SHEET 1 (2'-0" BETWEEN GATE WELL WELL AND CENTERLINE OF OPERATING NUT) TO ALLOW PROPER OPERATION OF VALVE THROUGH GATE WELL OPENING.
11. ALL CROSS-CONNECTION CONTROL DEVICES SHALL BE INSTALLED AS REQUIRED BY THE ROCHESTER HILLS PLUMBING INSPECTOR AND IN ACCORDANCE WITH THE STANDARDS OF THE OAKLAND COUNTY DRAIN COMMISSIONER OPERATION AND MAINTENANCE DIVISION AND THE MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY, DIVISION OF DRINKING WATER AND RADIOLOGICAL PROTECTION.
12. ALL WATER SERVICE CONNECTIONS TWO (2) INCHES AND SMALLER SHALL BE MADE BY THE CITY OF ROCHESTER HILLS, DEPARTMENT OF PUBLIC SERVICES AFTER WATER MAIN ACCEPTANCE AND APPLICABLE PERMITS ARE OBTAINED.
13. ALL FITTINGS AND BENDS SHOULD BE BLOCKED IN ACCORDANCE WITH THRUST BLOCK DETAILS, UNLESS ALTERNATE THRUST RESTRAINT SYSTEM, AS INDICATED PLANS AND SPECIFICATIONS, IS APPROVED BY THE CITY OF ROCHESTER HILLS DEPARTMENT OF PUBLIC SERVICES.



SANITARY BASIS OF DESIGN CALCULATION

PROPOSED BUILDINGS	USAGE	AREA	UNIT FACTOR	R.E.U.
Building 2 and Expansion	Office	41,400 SF	0.40 units / 1,000 SF	16.56
	Warehouse	2 Fixtures	0.12 per fixture	0.24
	Building 5	Office	47,590 SF	0.40 units / 1,000 SF
	Warehouse	10 Fixtures	0.12 per fixture	1.20
Total				37.04
				Rounded = 38.00

POPULATION EQUIVALENT	= 3.5 Persons per R.E.U.
POPULATION	= 133.00 Persons
AVERAGE FLOW RATE	= 100 Gallons per capita per day
AVERAGE FLOW RATE	= (350 GPD/REU)*(38.00 REU) = 13,300 GPD = 0.0206 CFS
PEAK FACTOR	= (18 + SQRT(Pop/1000))/(4+SQRT(Pop/1000)) = 4.208
PEAK FLOW	= (4.208)*(0.0206 CFS) = 0.09 CFS

Building 3	Office	32,097 SF	0.40 units / 1,000 SF	12.84
	Warehouse	10 Fixtures	0.12 per fixture	1.20
Total				14.04
				Rounded = 15.00

POPULATION EQUIVALENT	= 3.5 Persons per R.E.U.
POPULATION	= 53.00 Persons
AVERAGE FLOW RATE	= 100 Gallons per capita per day
AVERAGE FLOW RATE	= (350 GPD/REU)*(15.00 REU) = 5,250 GPD = 0.0081 CFS
PEAK FACTOR	= (18 + SQRT(Pop/1000))/(4+SQRT(Pop/1000)) = 4.309
PEAK FLOW	= (4.309)*(0.0081 CFS) = 0.03 CFS

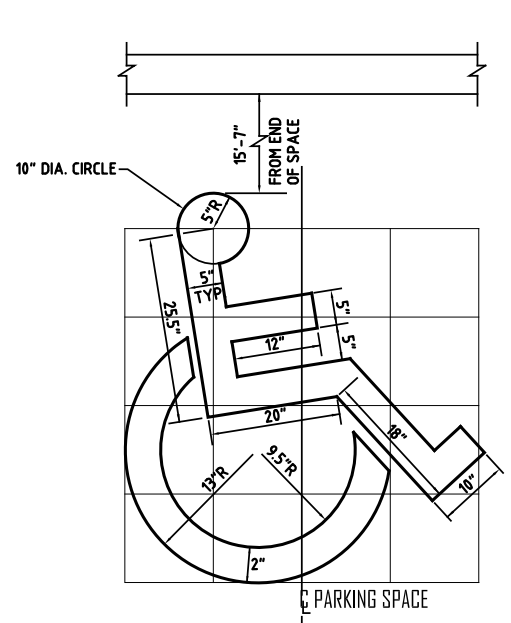
1 Preliminary Utility Plan (South)
 SCALE: 1" = 50'

C300 - Preliminary Utility Plan.dwg
 3/9/2020
 Greg Ezro



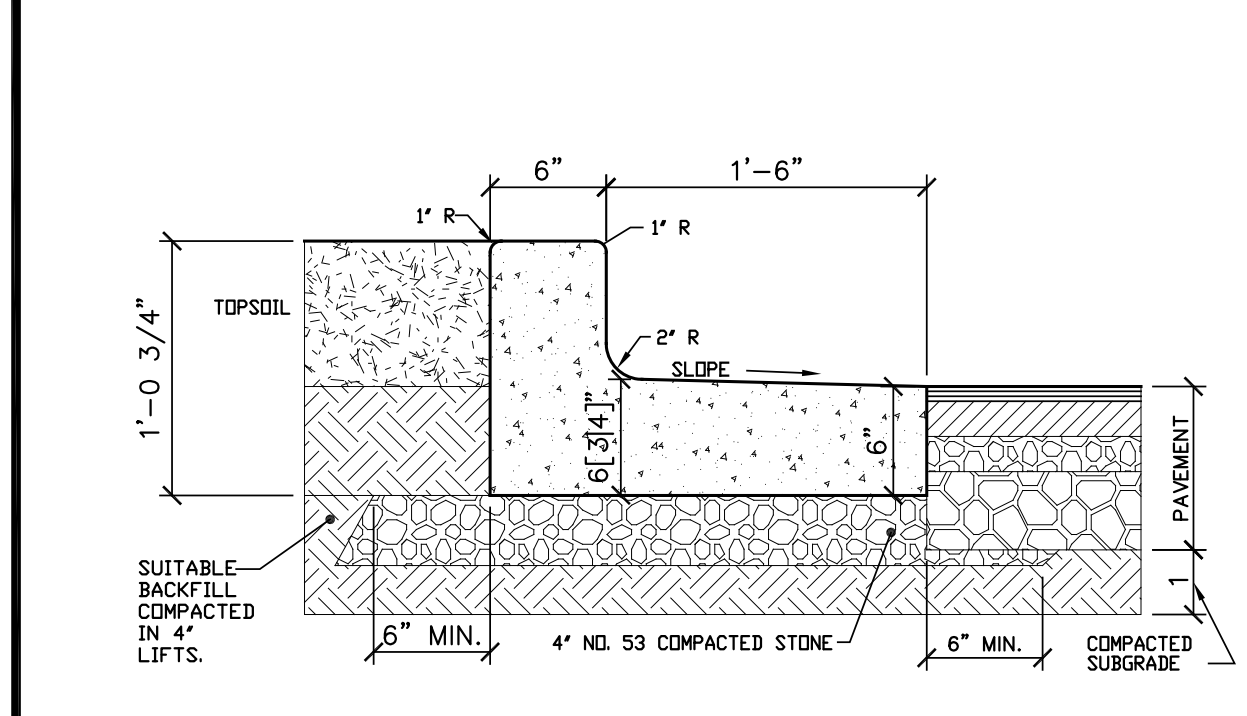
12" x 18"
GREEN BORDER AND LEGEND
WHITE SYMBOL, BLUE BACKGROUND.
REFLECTORIZED
60" MINIMUM ABOVE GRADE MEASURED FROM
BOTTOM OF SIGN.
NOT TO SCALE

BARRIER FREE SIGN DETAIL

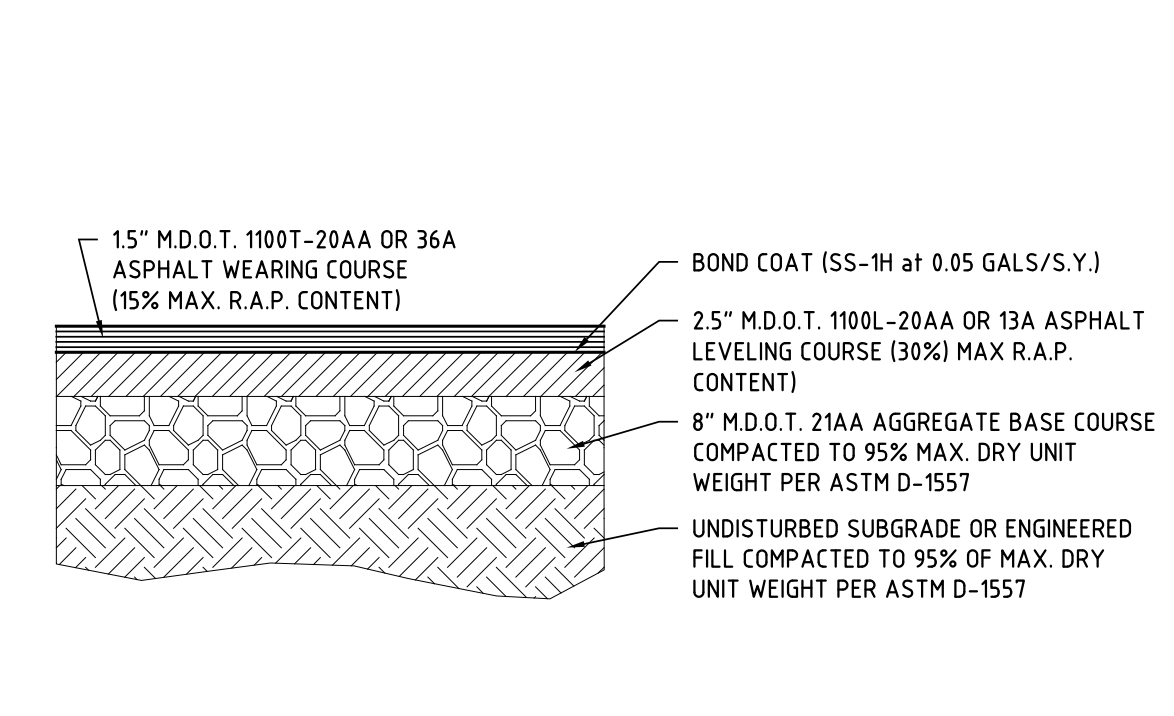


NOTE: SYMBOL SHALL BE PAINTED WITH
BLUE TRAFFIC PAINT. WITHIN OUTLINE SHOWN.
NOT TO SCALE

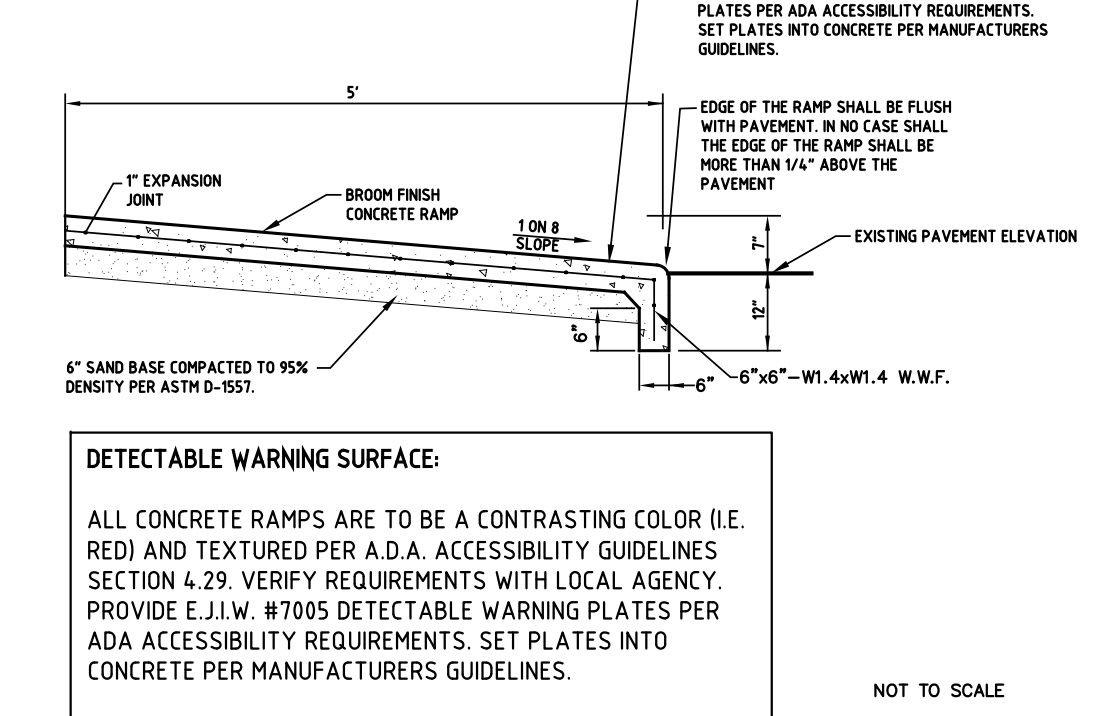
BARRIER FREE PARKING SYMBOL



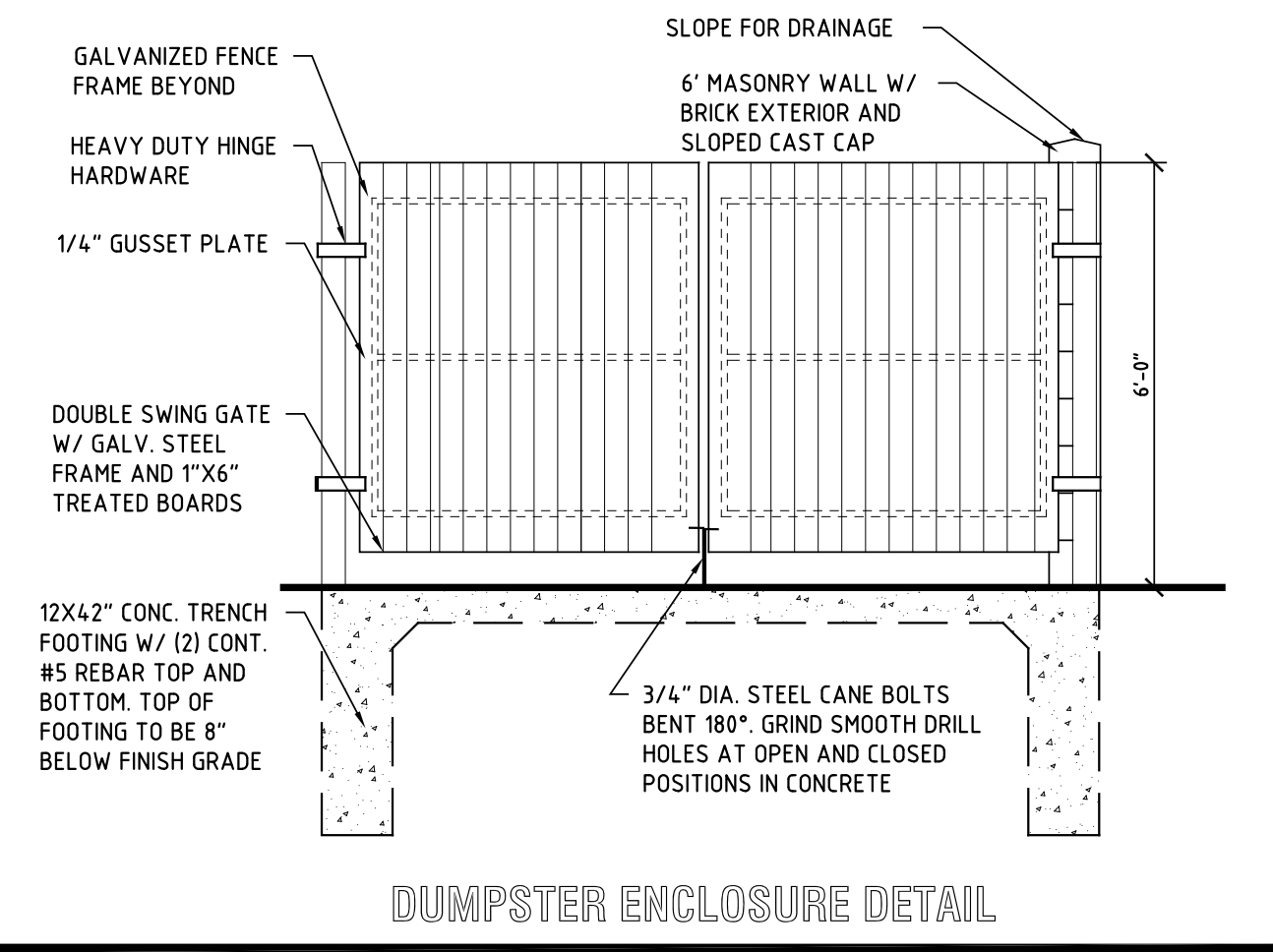
COMBINED CONCRETE CURB & GUTTER DETAIL



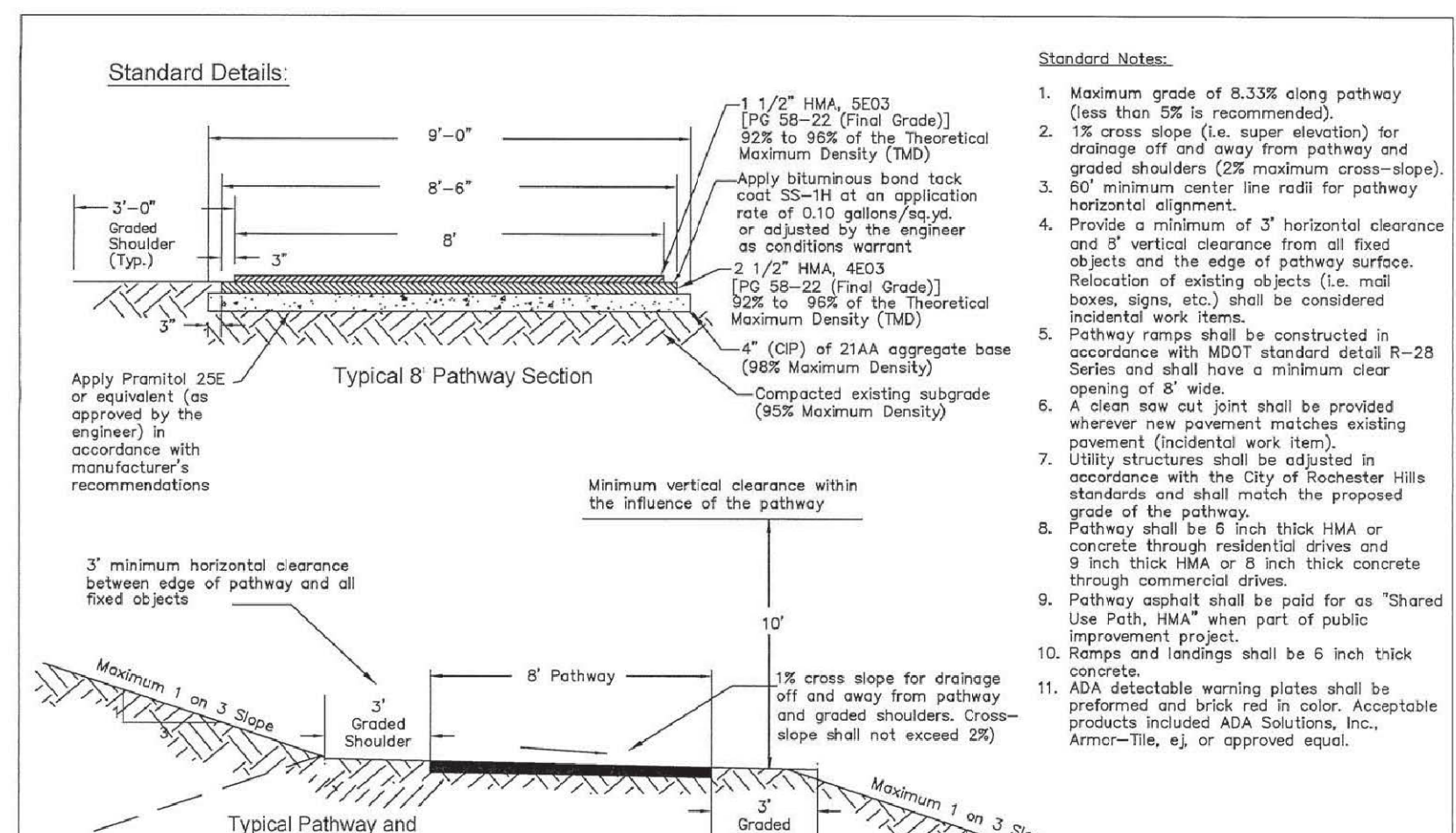
STANDARD DUTY ASPHALT DETAIL



CONCRETE RAMP DETAIL



DUMPSTER ENCLOSURE DETAIL

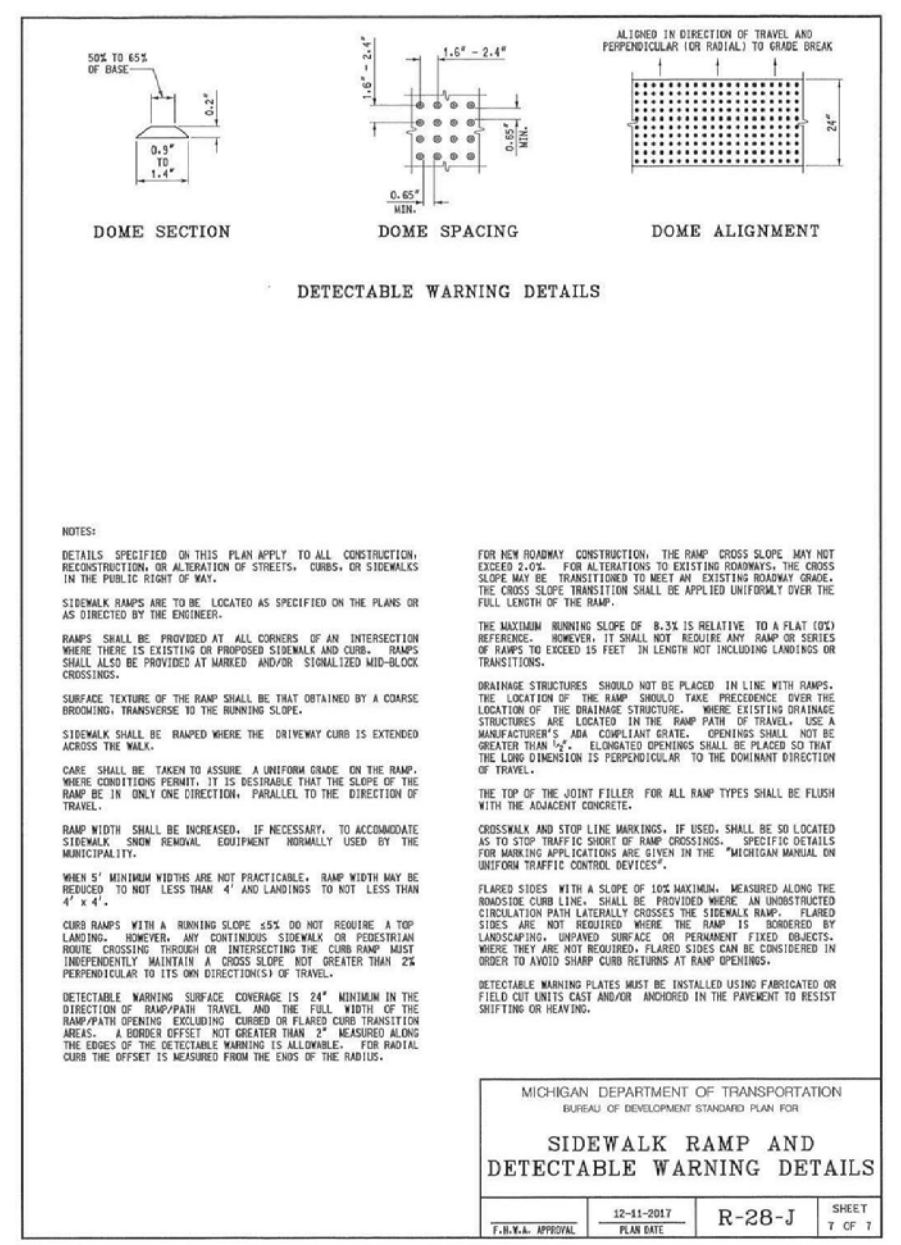


CITY OF ROCHESTER HILLS
STANDARD DETAIL FOR:
Pathway Details
Hot-Mixed Asphalt Pathway
Construction, Extensions and Relocations

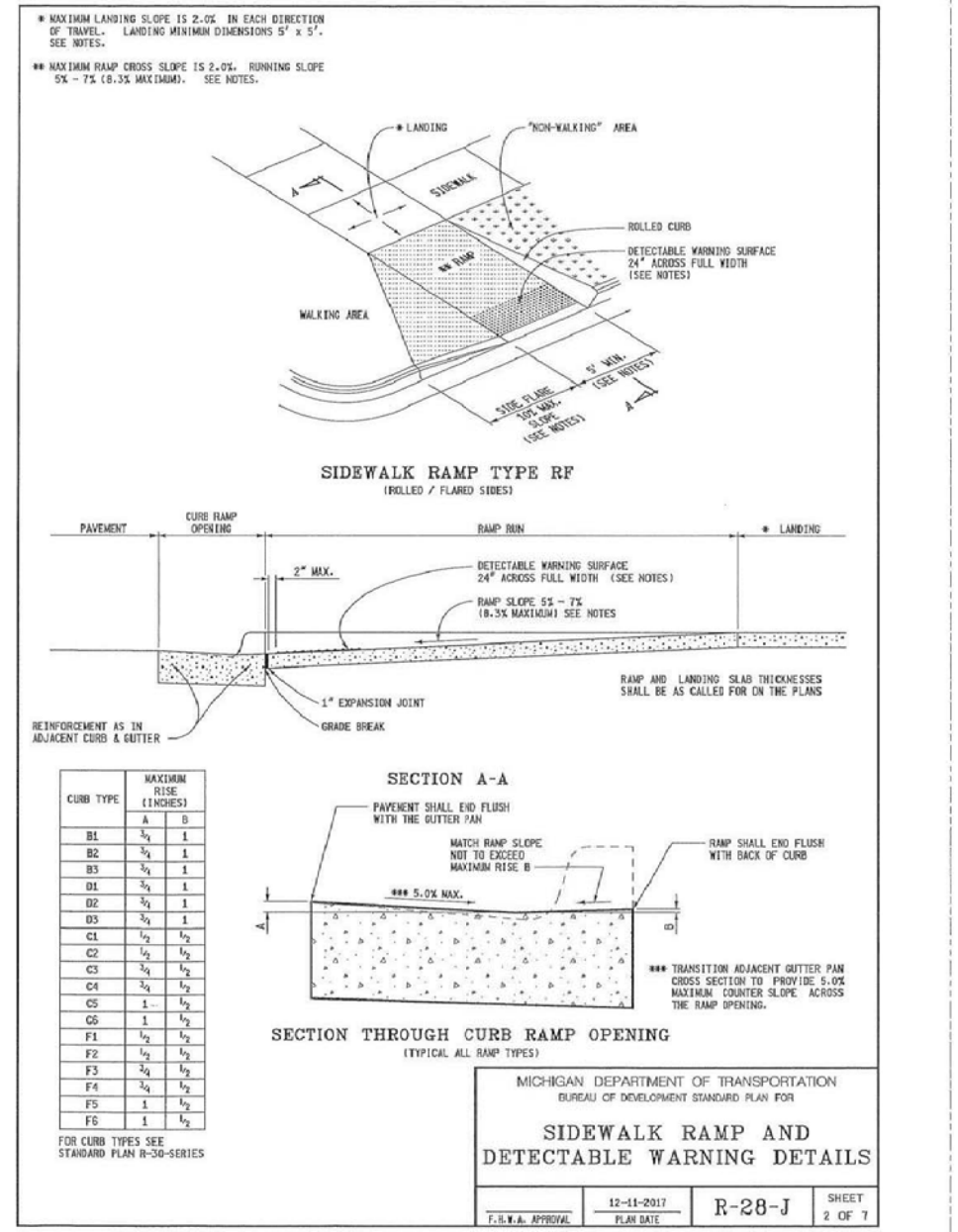
APPROVED BY: PAUL SHAWBLO, P.E., PTOE
CITY TRANSPORTATION ENGINEER

NOT TO SCALE

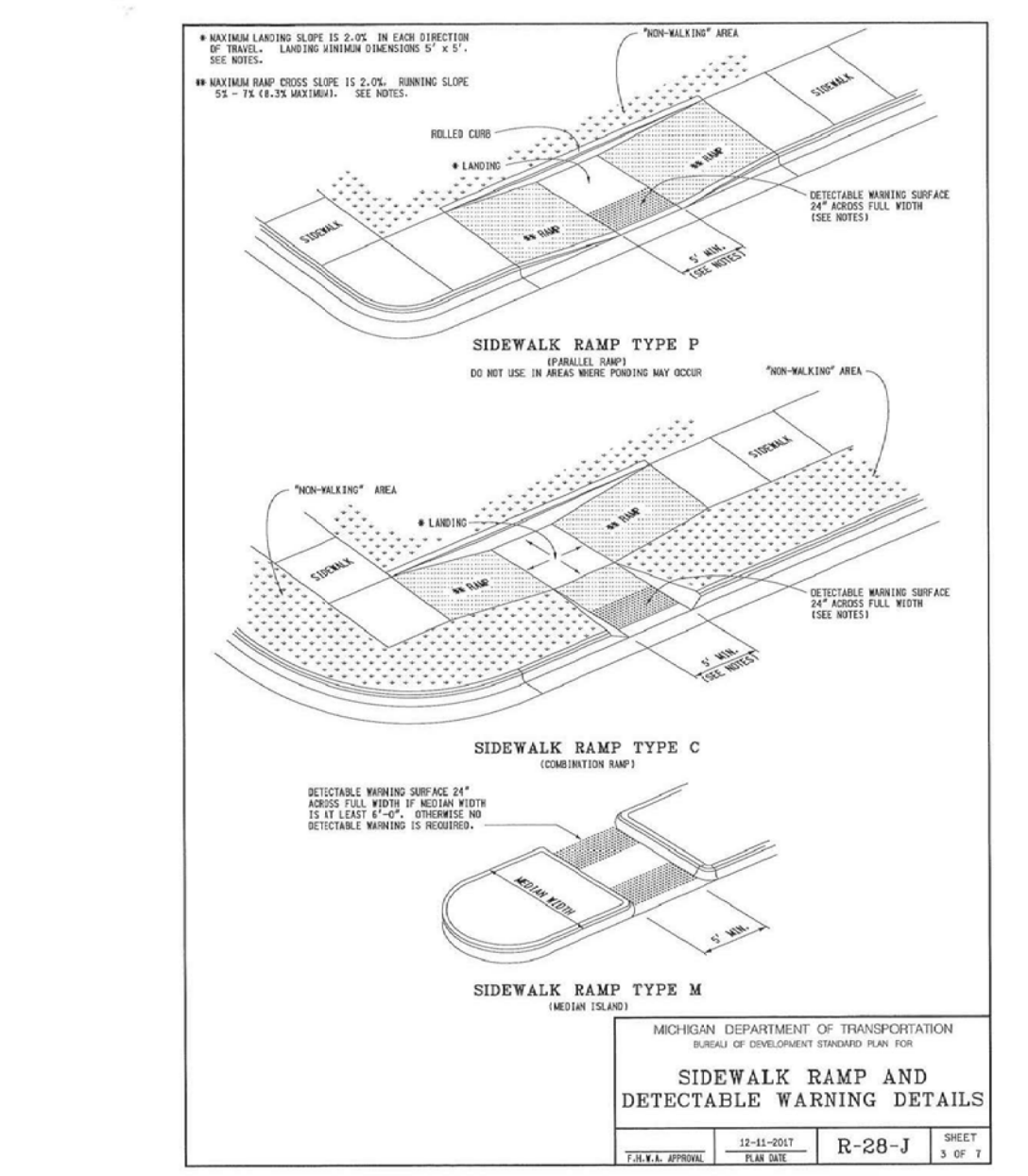
SHEET 1 OF 4



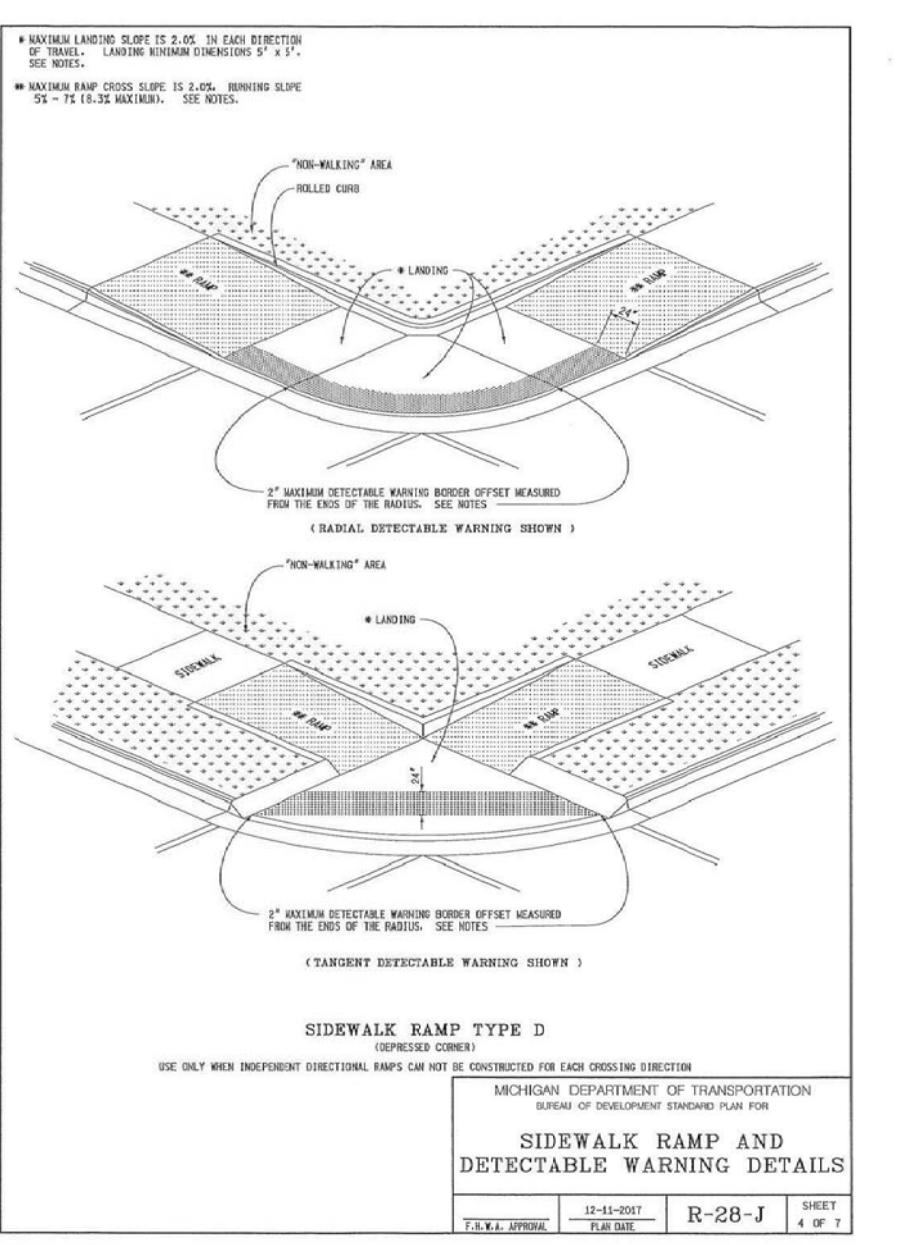
SIDEWALK RAMP AND
DETECTABLE WARNING DETAILS



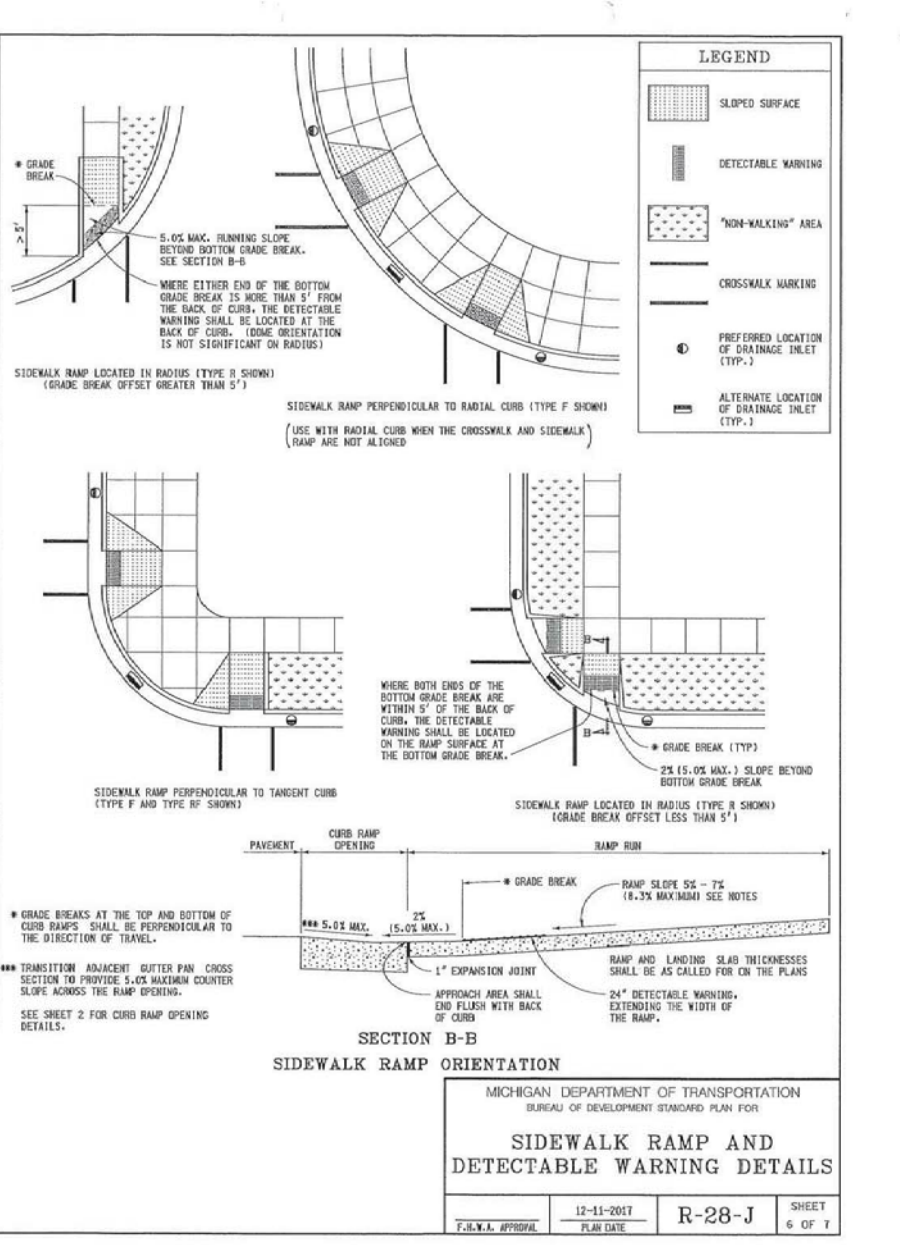
SIDEWALK RAMP AND
DETECTABLE WARNING DETAILS



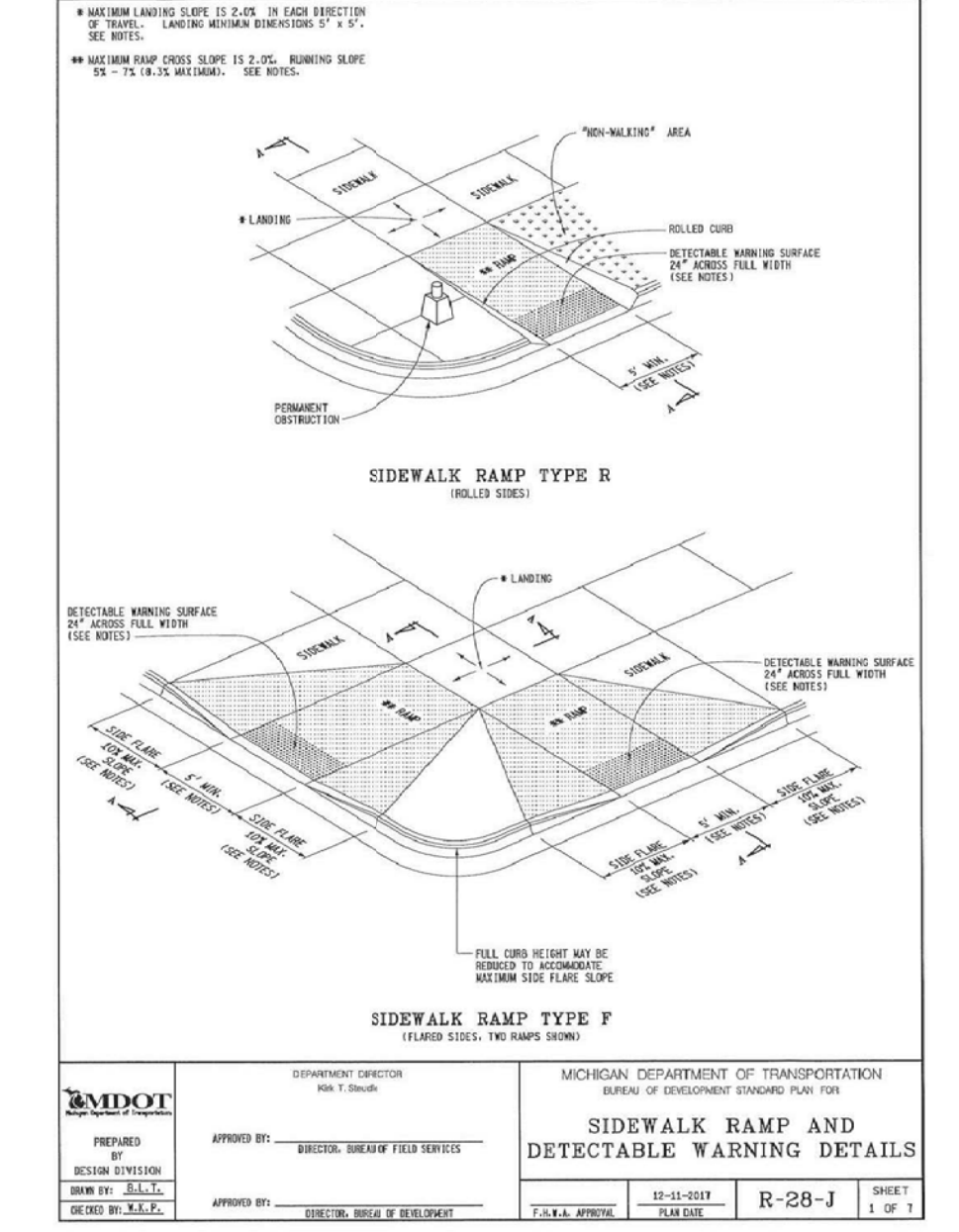
SIDEWALK RAMP AND
DETECTABLE WARNING DETAILS



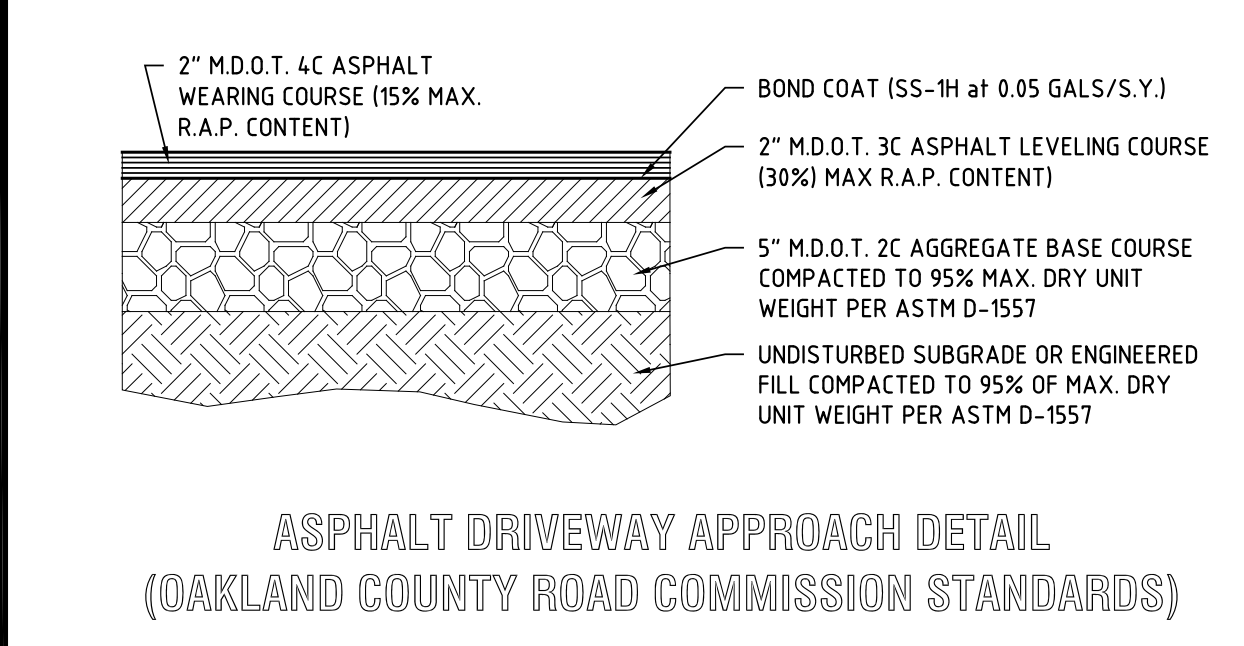
SIDEWALK RAMP AND
DETECTABLE WARNING DETAILS



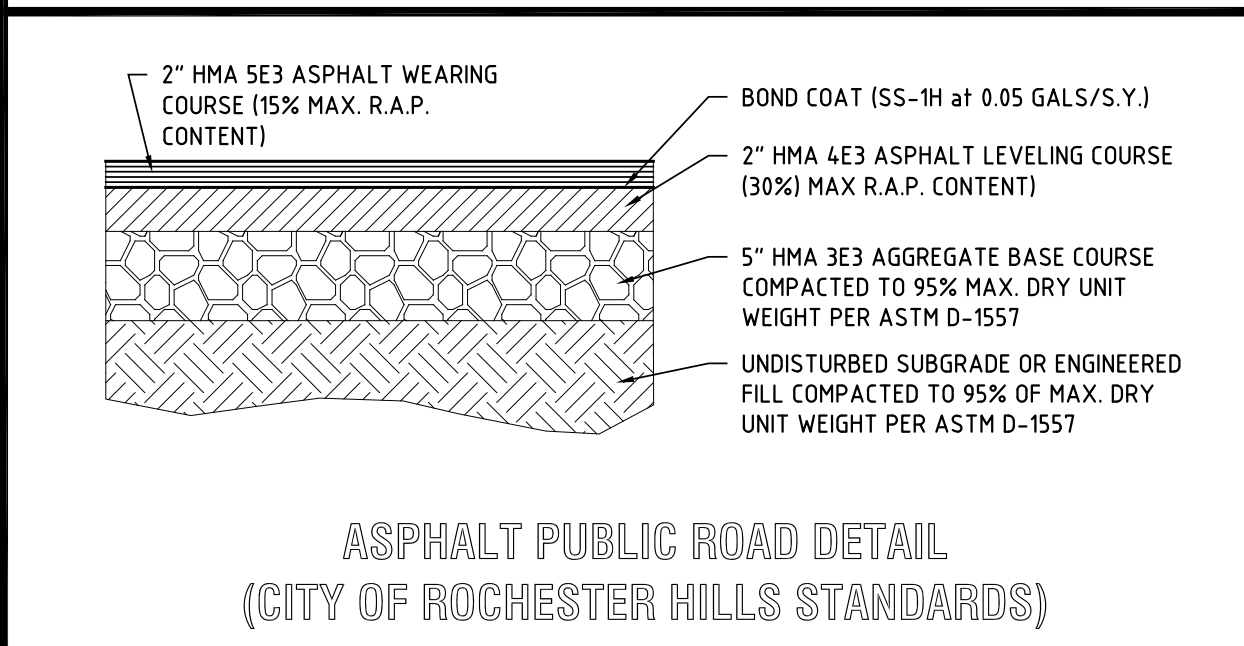
SIDEWALK RAMP AND
DETECTABLE WARNING DETAILS



SIDEWALK RAMP AND
DETECTABLE WARNING DETAILS



ASPHALT DRIVEWAY APPROACH DETAIL
(OAKLAND COUNTY ROAD COMMISSION STANDARDS)



ASPHALT PUBLIC ROAD DETAIL
(CITY OF ROCHESTER HILLS STANDARDS)

DESIGNHAUS EST 1998
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	PUD Review Submission	10.24.18

Rochester Hills Research Park
1400 S. Livernois
Rochester Hills, MI 48307

ROCHESTER HILLS
CITY FILE #18-021 Section #21

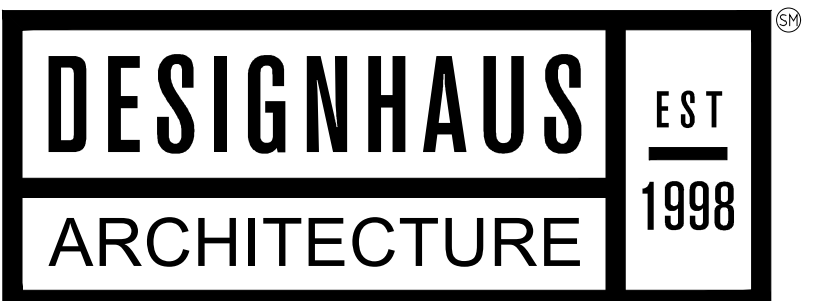
Site Details

G400

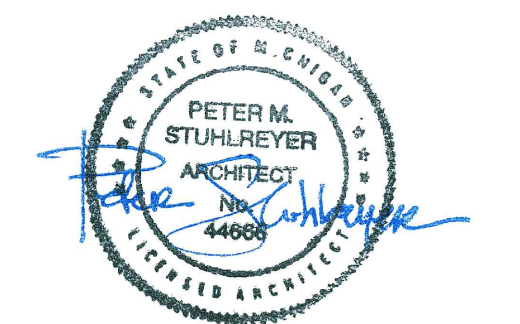
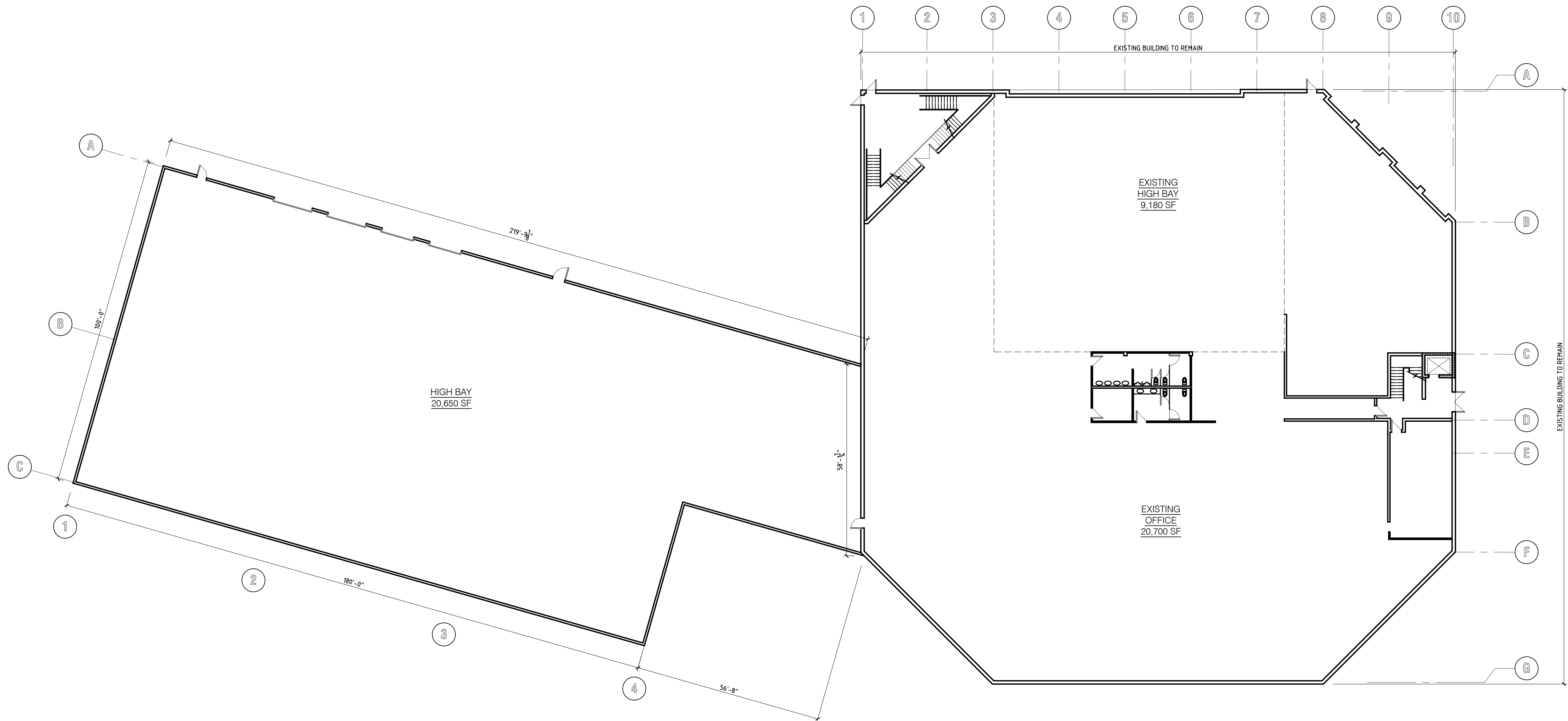
017170

BUILDING DATA CHART

Building		Office	High Bay	Building		Office	High Bay
(existing) 1		129,410 SF	88,000 SF	4	First Floor	8,000 SF	n/a
					Second Floor	8,000 SF	n/a
Subtotals:		129,410 SF	88,000 SF	Subtotals:		16,000 SF	n/a
Building 1 Total:		217,410 GSF		Building 4 Total:		16,000 GSF	
(addition to existing) 2	First Floor	20,700 SF	29,830 SF	5	First Floor	23,795 SF	14,450 SF
	Second Floor	20,700 SF	n/a		Second Floor	23,795 SF	n/a
Subtotals:		41,400 SF	29,830 SF	Subtotals:		47,590 SF	14,450 SF
Building 2 Total:		71,230 GSF		Building 5 Total:		62,040 GSF	
3	First Floor	15,242 SF	15,472 SF				
	Second Floor	16,855 SF	n/a				
Subtotals:		32,097 SF	15,472 SF				
Building 3 Total:		47,569 GSF					
Total Office on Site: 266,497 GSF							
Total High Bay on Site: 147,752 GSF							
Total Buildings on Site: 414,249 GSF							



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	PUD Review #7	03.11.20
	PUD Review #6	1.9.2020
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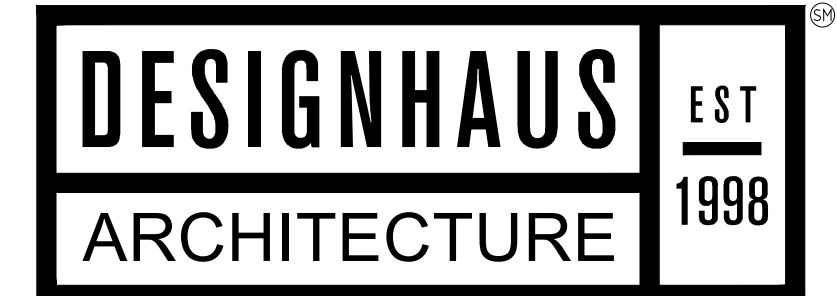
Building 2 First Floor Plan

A101 07170

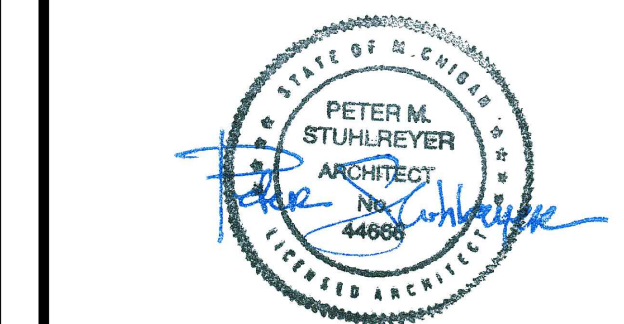
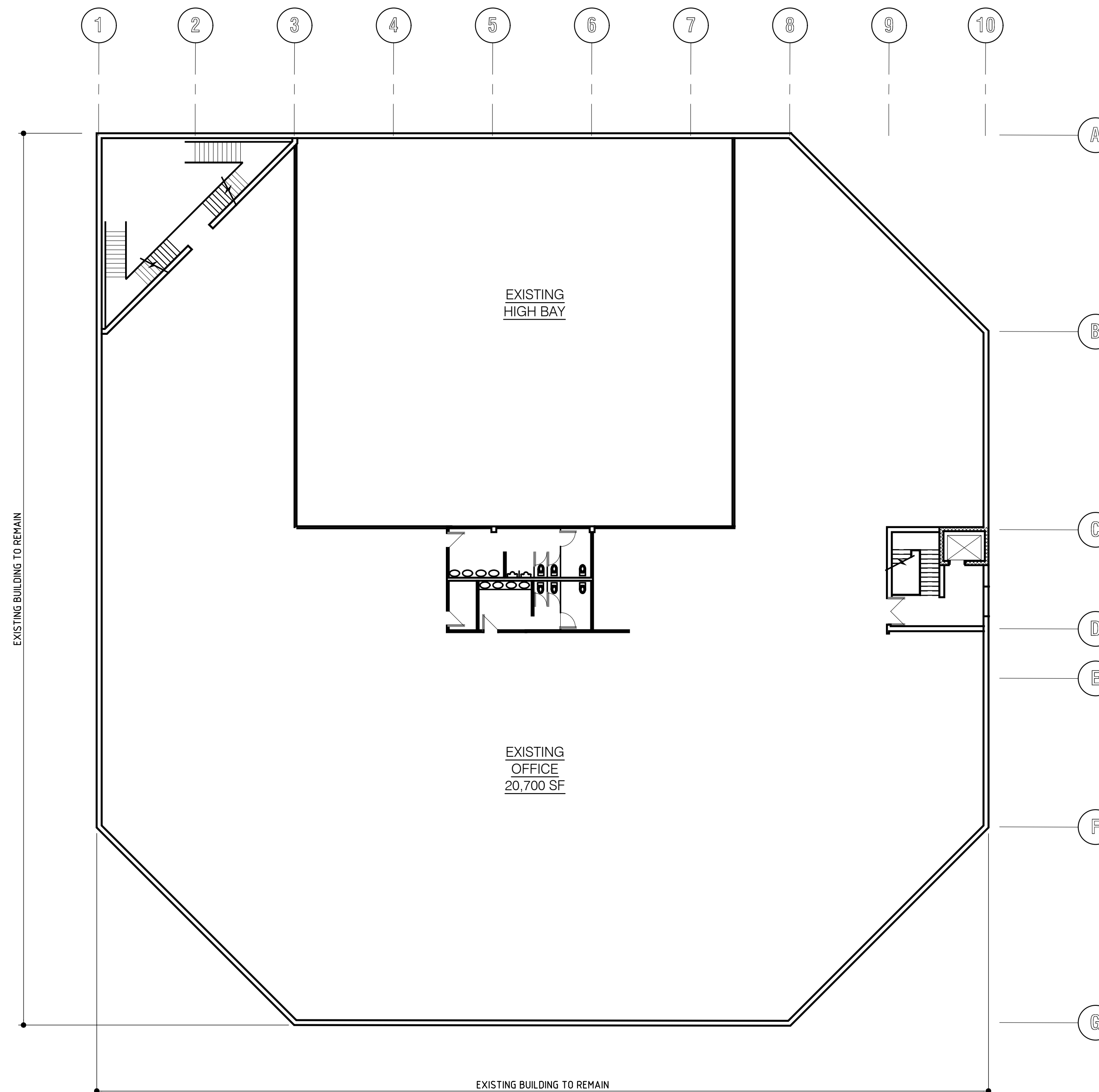
1 Building 2 First Floor Plan NORTH SCALE: 1/16" = 1'

BUILDING DATA CHART

Building		Office	High Bay	Building		Office	High Bay
(existing) 1		129,410 SF	88,000 SF	4	First Floor	8,000 SF	n/a
					Second Floor	8,000 SF	n/a
Subtotals:		129,410 SF	88,000 SF	Subtotals:		16,000 SF	n/a
Building 1 Total:			217,410 GSF	Building 4 Total:			16,000 GSF
(addition to existing) 2	First Floor	20,700 SF	29,830 SF	5	First Floor	23,795 SF	14,450 SF
	Second Floor	20,700 SF	n/a		Second Floor	23,795 SF	n/a
Subtotals:		41,400 SF	29,830 SF	Subtotals:		47,590 SF	14,450 SF
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Total Office on Site: 266,497 GSF							
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Total Buildings on Site: 414,249 GSF							



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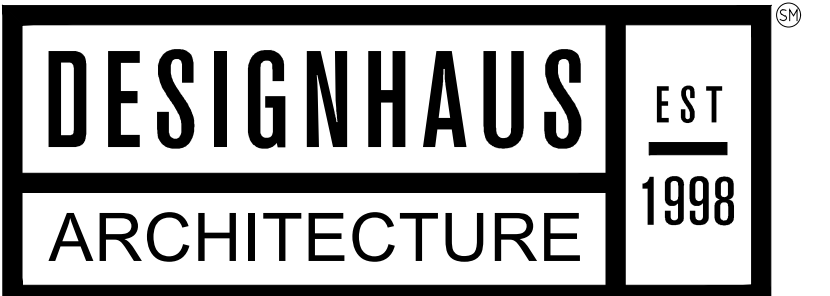
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CITY FILE #18-021 Section #21

Building 2 Second Floor Plan

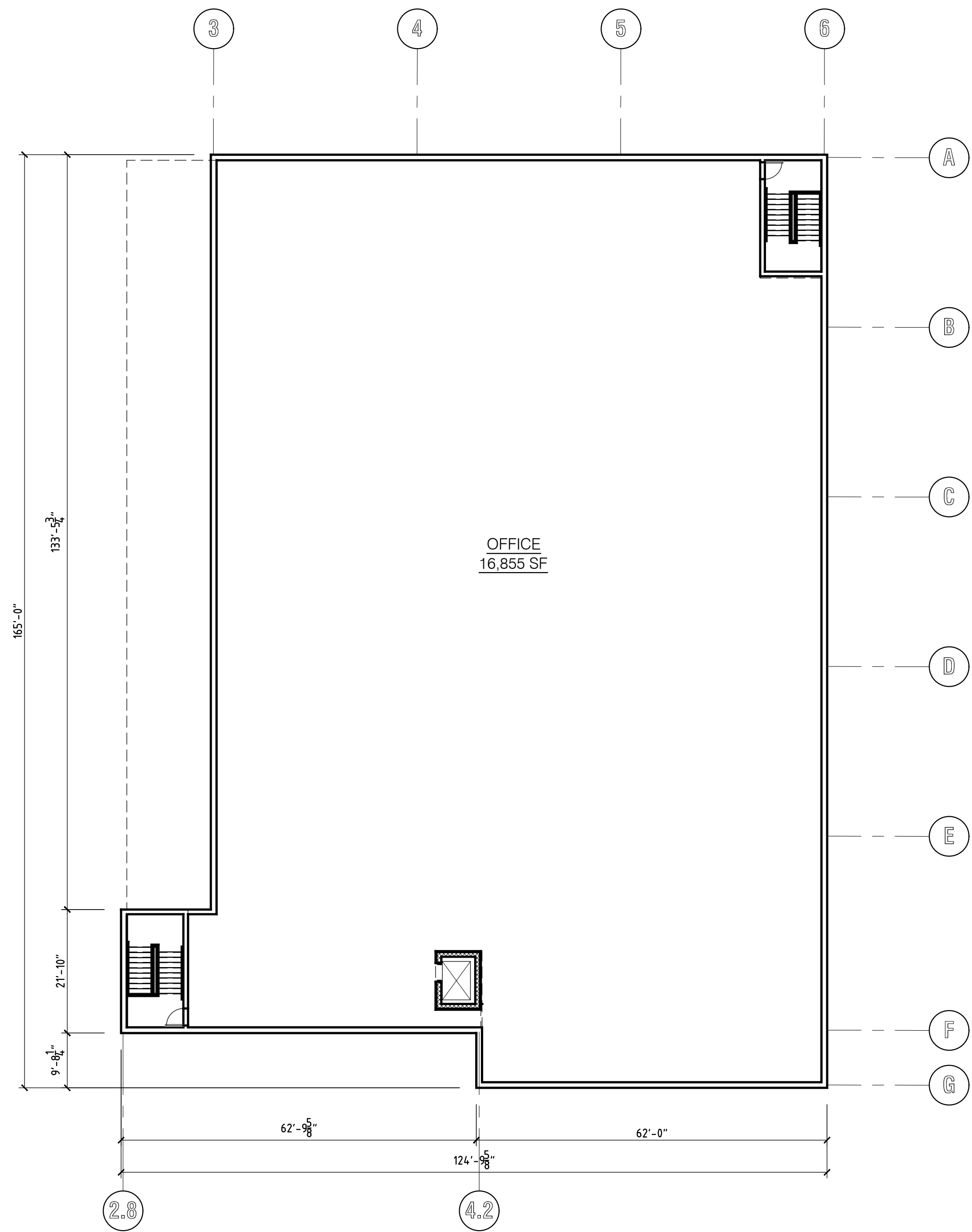
A102 01/17/20

BUILDING DATA CHART

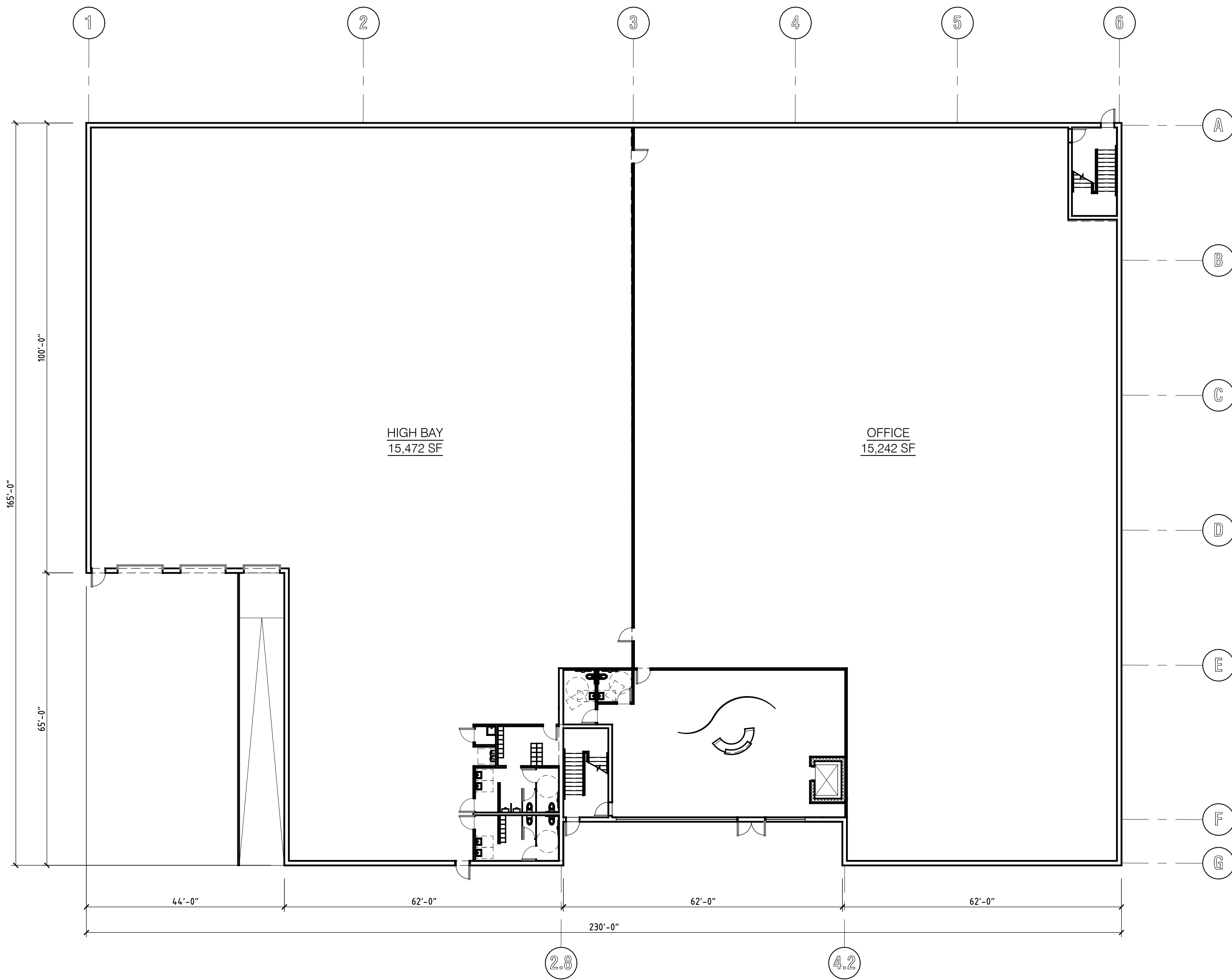
Building		Office	High Bay	Building		Office	High Bay
(existing) 1		129,410 SF	88,000 SF	4	First Floor	8,000 SF	n/a
					Second Floor	8,000 SF	n/a
Subtotals:		129,410 SF	88,000 SF	Subtotals:		16,000 SF	n/a
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(addition to existing) 2	First Floor	20,700 SF	29,830 SF	5	First Floor	23,795 SF	14,450 SF
	Second Floor	20,700 SF	n/a		Second Floor	23,795 SF	n/a
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Total Office on Site: 266,497 GSF							
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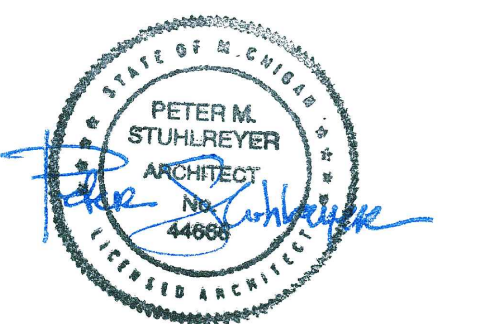
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2 Second Floor Plan
SCALE: 1/16" = 1'



1 First Floor Plan
SCALE: 1/16" = 1'



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	PUD Review Submission	10.24.18

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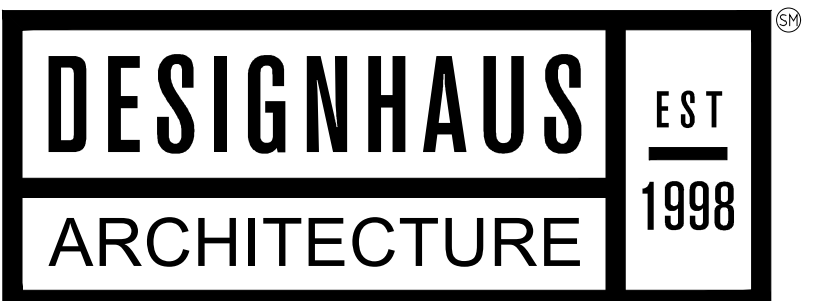
ROCHESTER HILLS
CITY FILE #18-021 Section #21

Building 3 Floor Plans

A103 01/17/20

BUILDING DATA CHART

Building		Office	High Bay	Building		Office	High Bay
(existing)		129,410 SF	88,000 SF	4	First Floor	8,000 SF	n/a
1					Second Floor	8,000 SF	n/a
Subtotals:		129,410 SF	88,000 SF	Subtotals:		16,000 SF	n/a
Building 1 Total:			217,410 GSF	Building 4 Total:			16,000 GSF
(addition to existing)		20,700 SF	29,830 SF	5	First Floor	23,795 SF	14,450 SF
2	Second Floor	20,700 SF	n/a		Second Floor	23,795 SF	n/a
Subtotals:		41,400 SF	29,830 SF	Subtotals:		47,590 SF	14,450 SF
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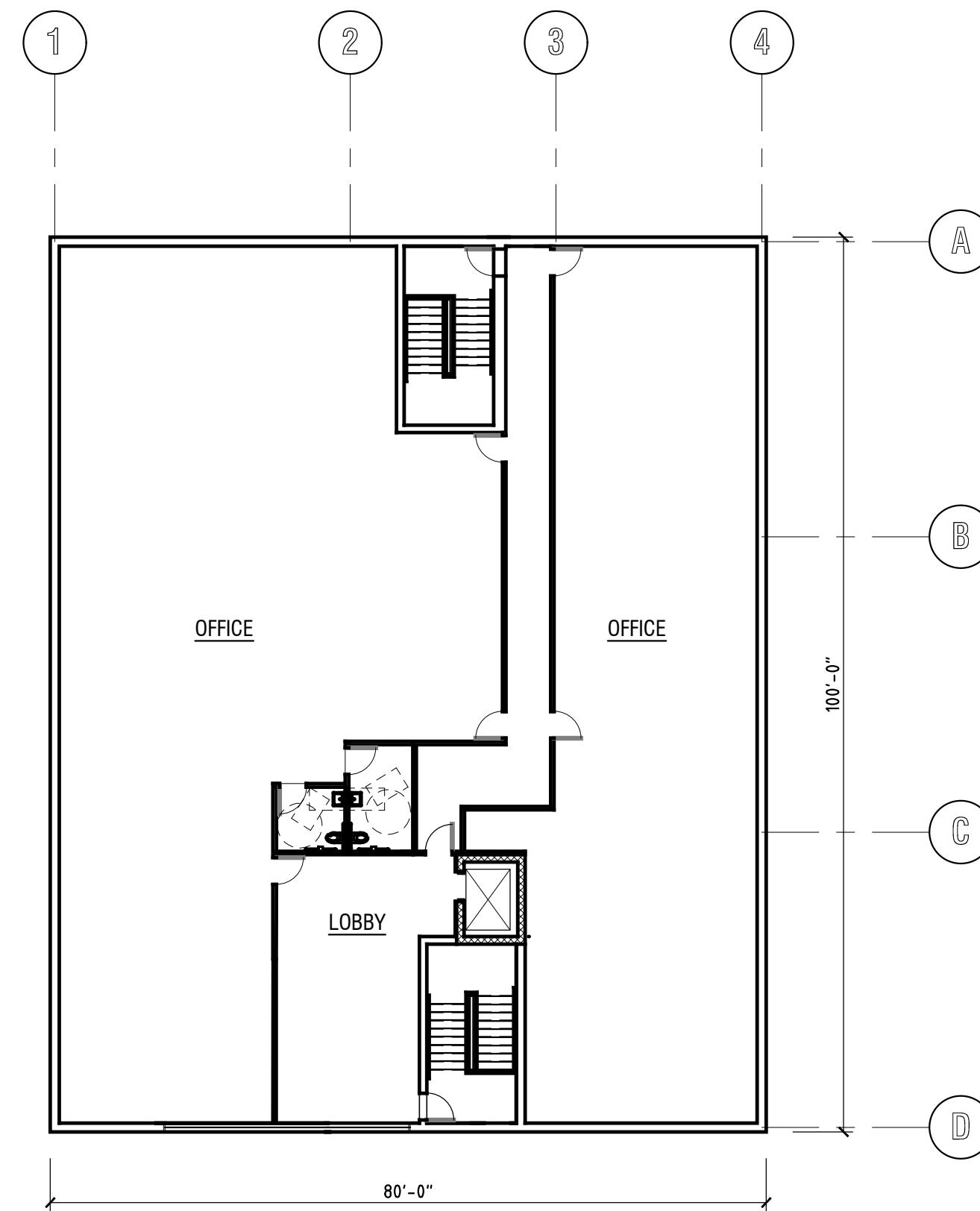
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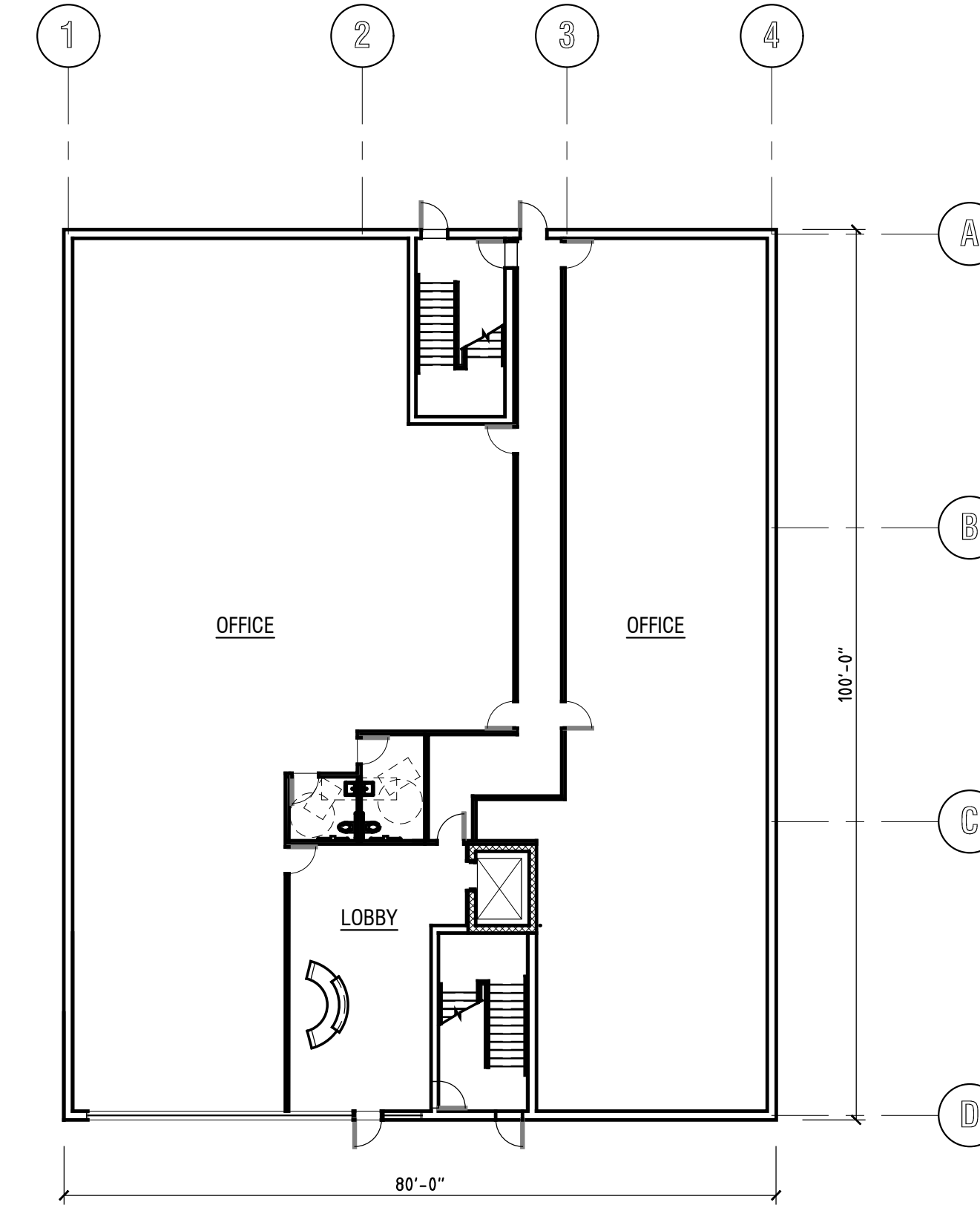
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Building 4 Floor Plans

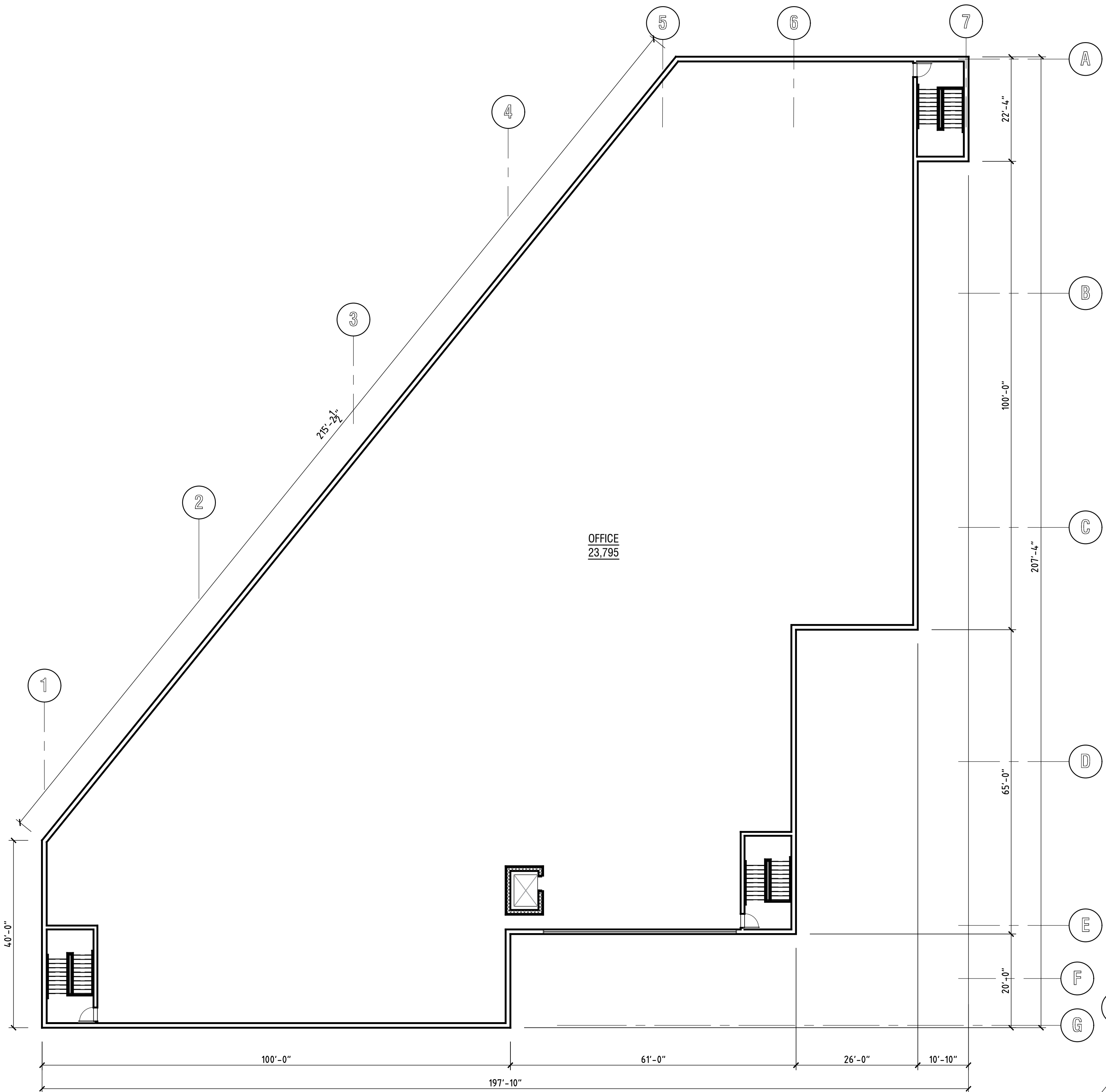
A104 01/17/20



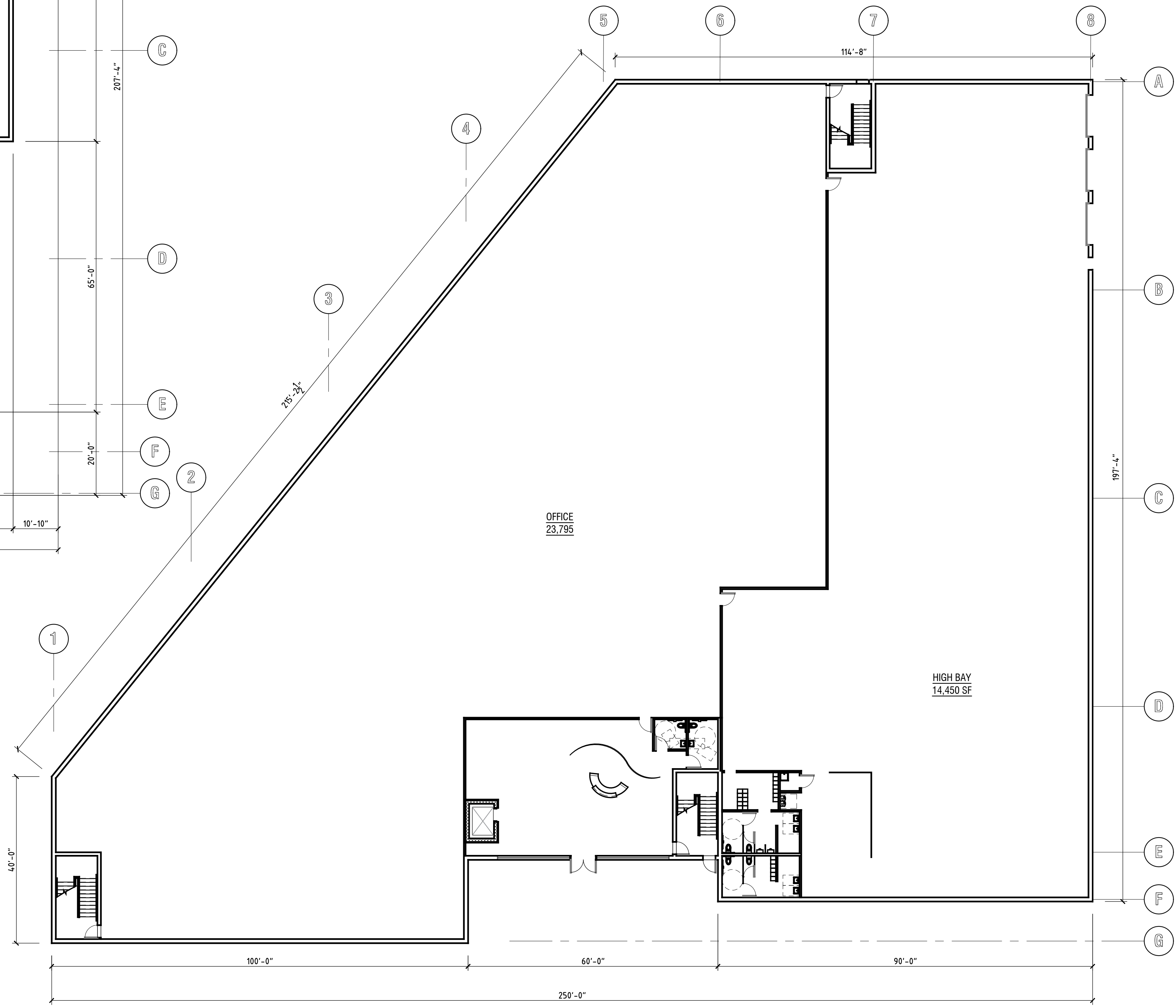
2 Second Floor Plan NORTH SCALE: 1/16" = 1'



1 First Floor Plan NORTH SCALE: 1/16" = 1'

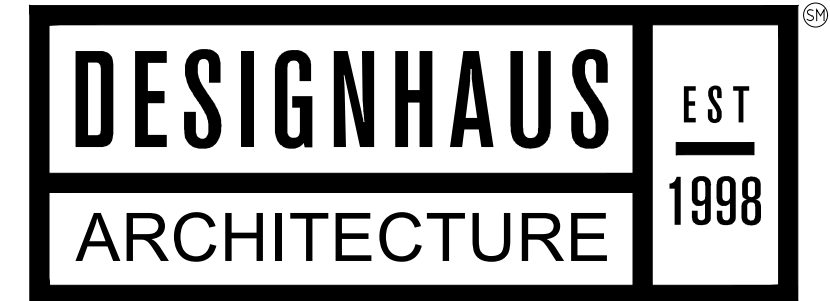


2 Second Floor Plan
SCALE: 1/16" = 1'
NORTH

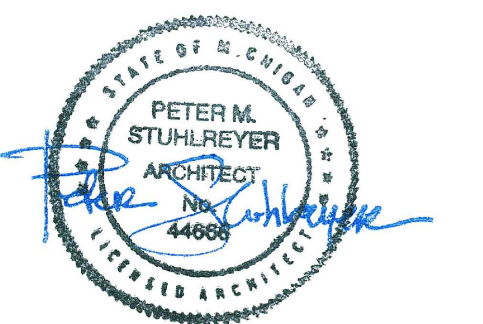


1 First Floor Plan
SCALE: 1/16" = 1'
NORTH

BUILDING DATA CHART							
Building		Office	High Bay	Building		Office	High Bay
(existing) 1		129,410 SF	88,000 SF	4	First Floor	8,000 SF	n/a
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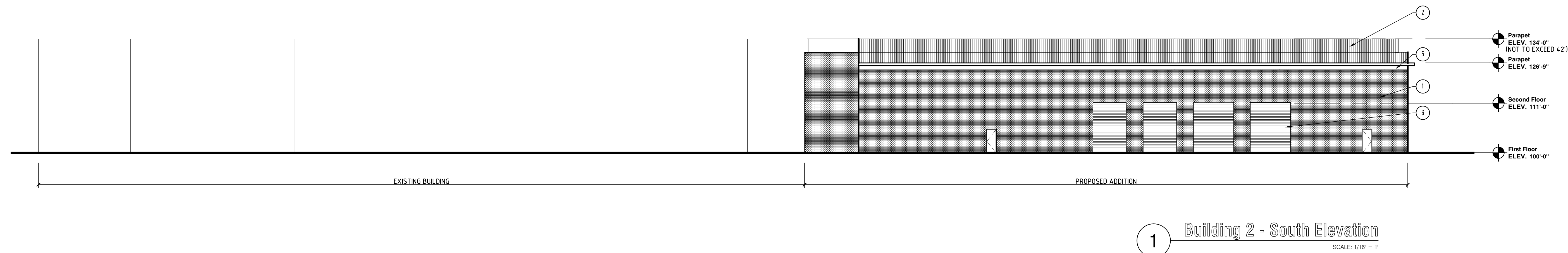
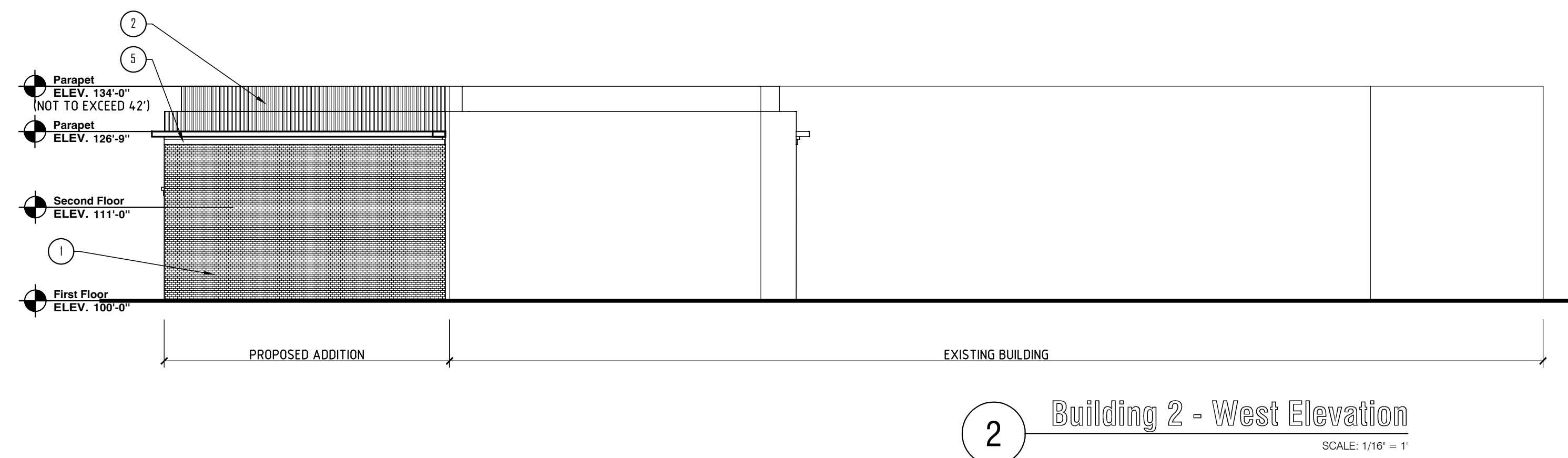
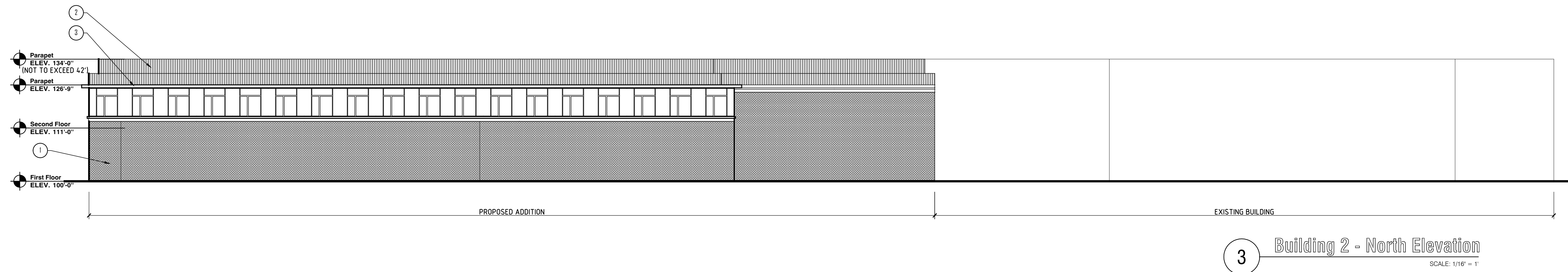
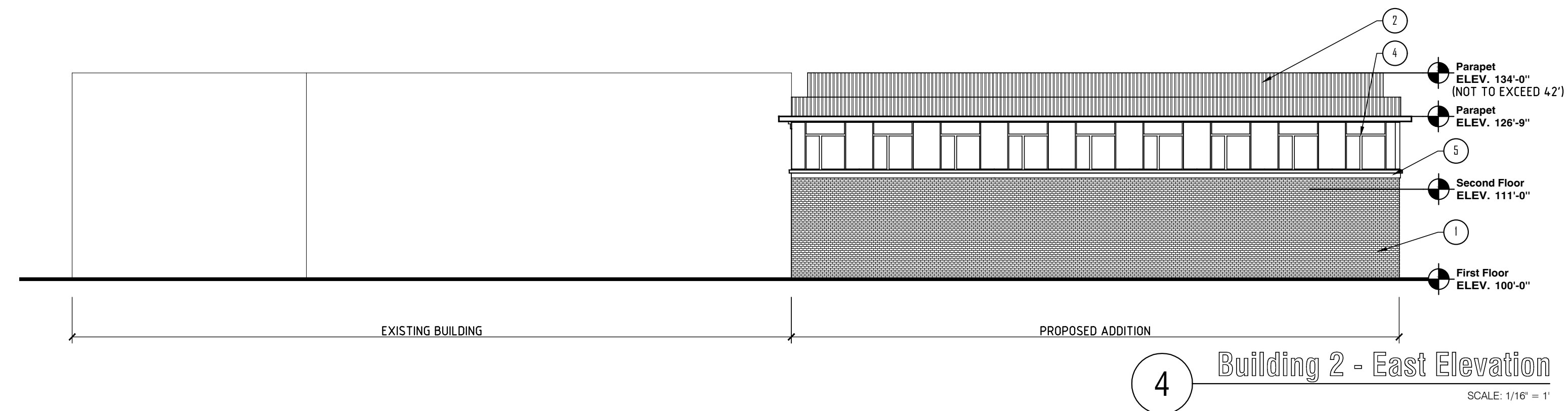
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CITY FILE #18-021 Section #21

Building 5 Floor Plans

A105 01/17/20

TYPICAL NOTES

SYMBOL	DESCRIPTION
①	BRICK VENEER
②	PRE-FINISHED METAL PANEL WITH VERTICAL SEAMS
③	PRE-FINISHED METAL PANEL FIN
④	TINTED GLAZING IN ANODIZED ALUMINUM FRAME
⑤	LIMESTONE SILL
⑥	METAL OVERHEAD DOOR
⑦	



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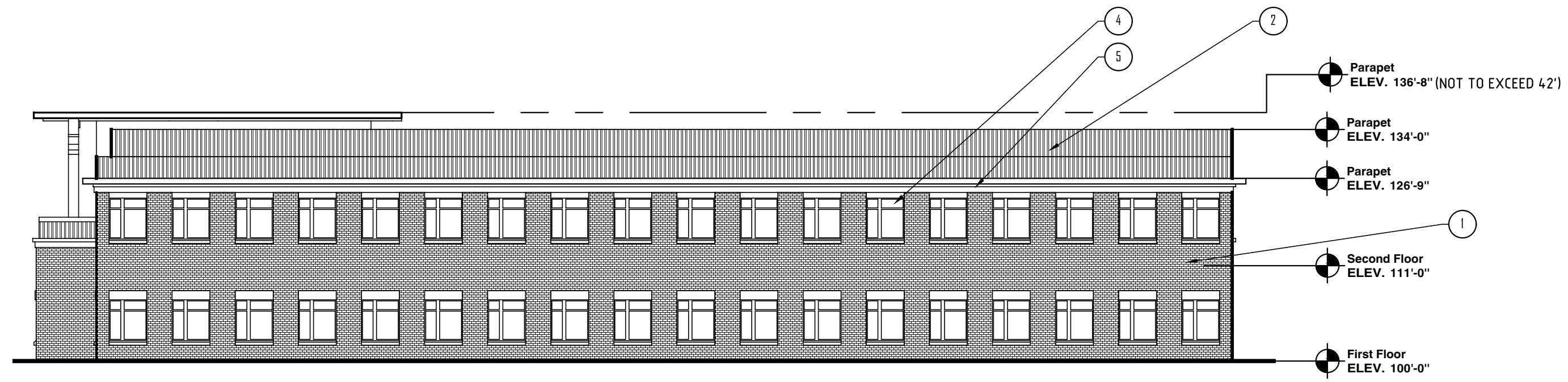
ROCHESTER HILLS
CITY FILE #18-021 Section #21

Building 2 Elevations

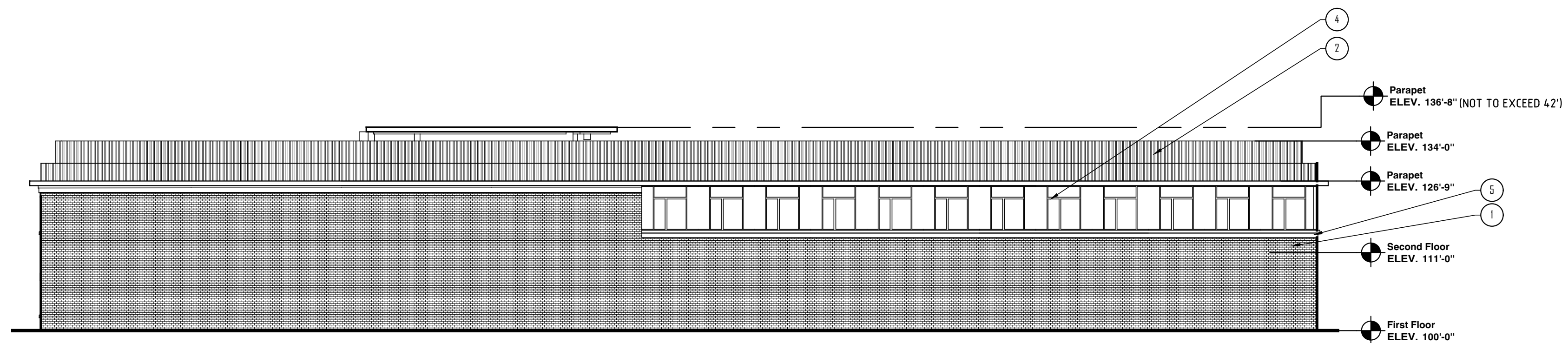
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01/17/20



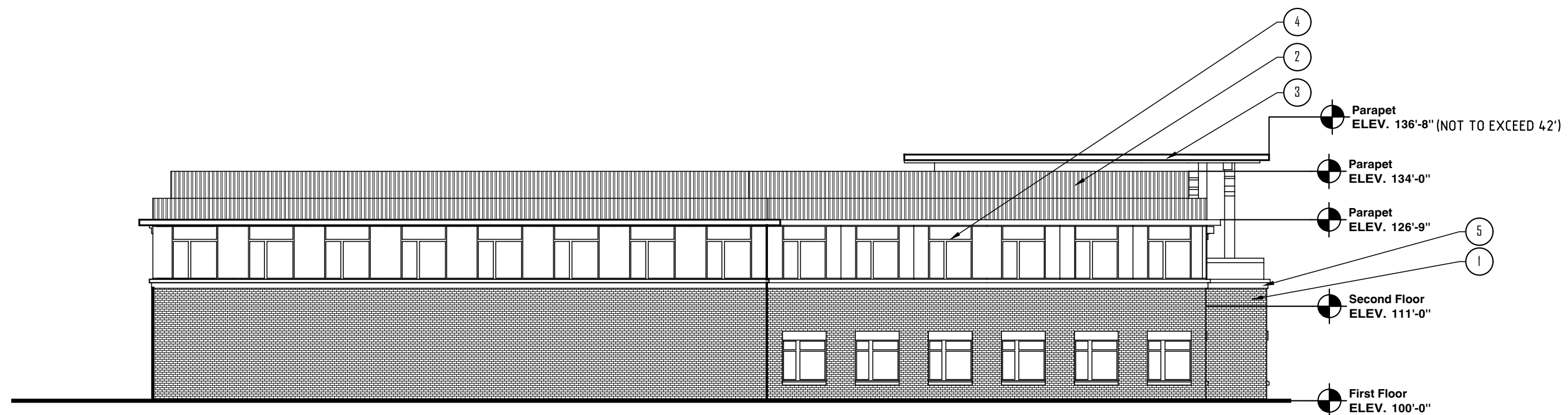
4 Building 3 - West Elevation
SCALE: 1/16" = 1'



3 Building 3 - North Elevation
SCALE: 1/16" = 1'



2 Building 3 - East Elevation
SCALE: 1/16" = 1'



1 Building 3 - South Elevation
SCALE: 1/16" = 1'

TYPICAL NOTES

SYMBOL	DESCRIPTION
1	BRICK VENEER
2	PRE-FINISHED METAL PANEL WITH VERTICAL SEAMS
3	PRE-FINISHED METAL PANEL FIN
4	TINTED GLAZING IN ANODIZED ALUMINUM FRAME
5	LIMESTONE SILL
6	METAL OVERHEAD DOOR
7	

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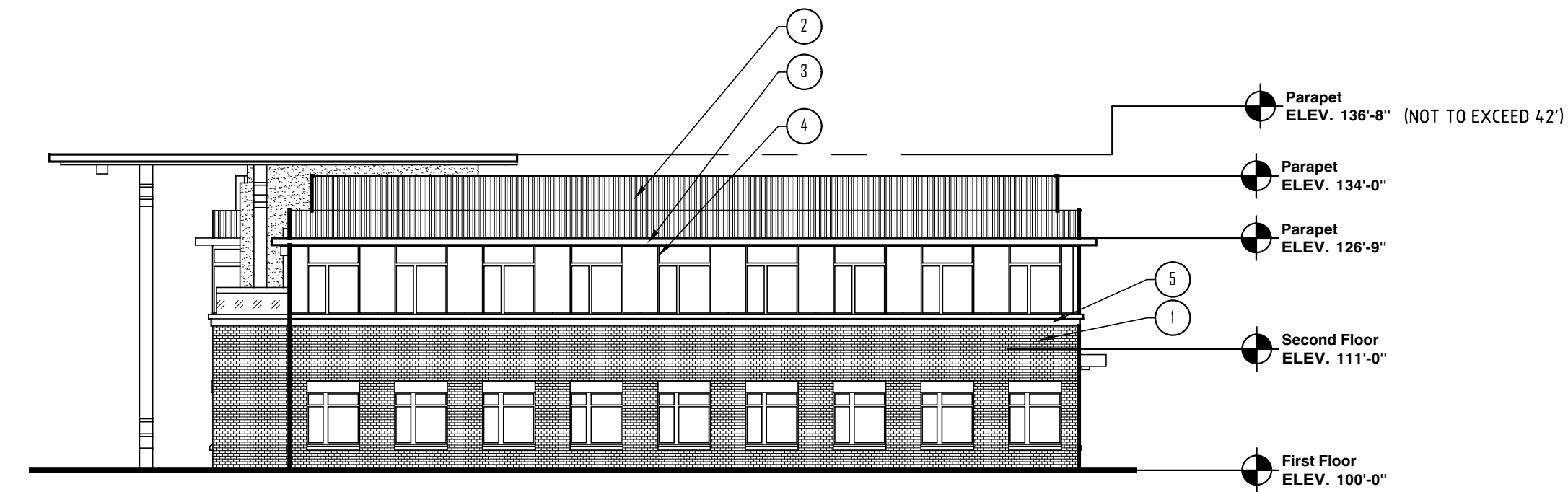
ROCHESTER HILLS
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Building 3 Elevations

A202 01/17/20



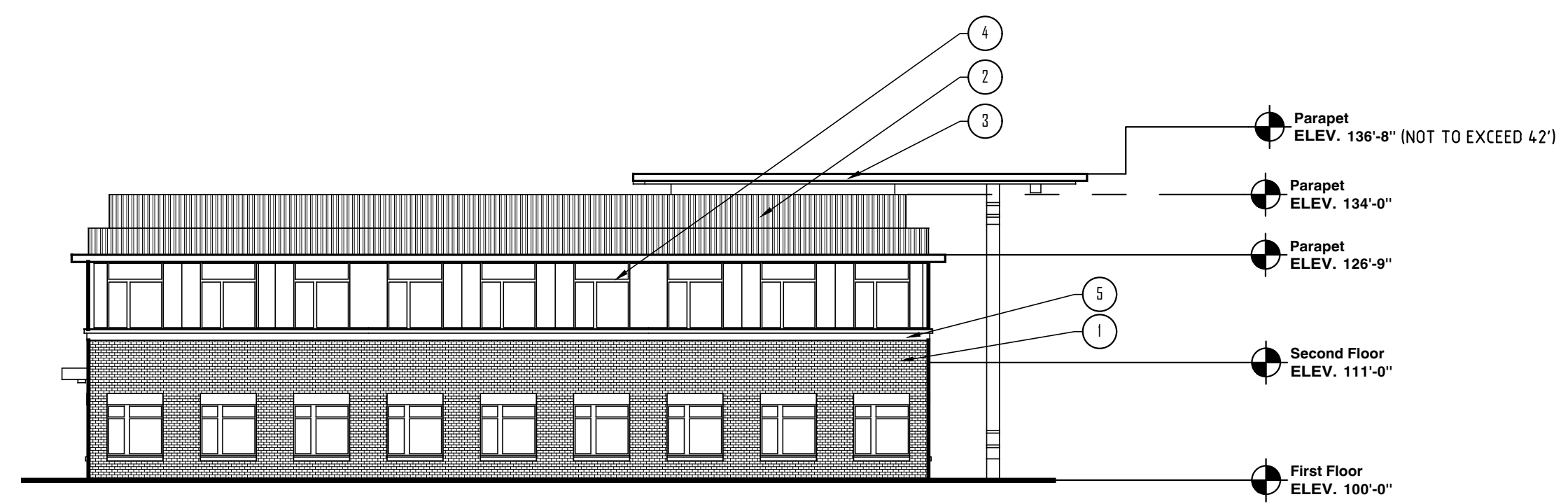
4 Building 4 - North Elevation
SCALE: 1/16" = 1'



3 Building 4 - East Elevation
SCALE: 1/16" = 1'



2 Building 4 - South Elevation
SCALE: 1/16" = 1'



1 Building 4 - West Elevation
SCALE: 1/16" = 1'

TYPICAL NOTES

SYMBOL	DESCRIPTION
①	BRICK VENEER
②	PRE-FINISHED METAL PANEL WITH VERTICAL SEAMS
③	PRE-FINISHED METAL PANEL FIN
④	TINTED GLAZING IN ANODIZED ALUMINUM FRAME
⑤	LIMESTONE SILL
⑥	METAL OVERHEAD DOOR
⑦	

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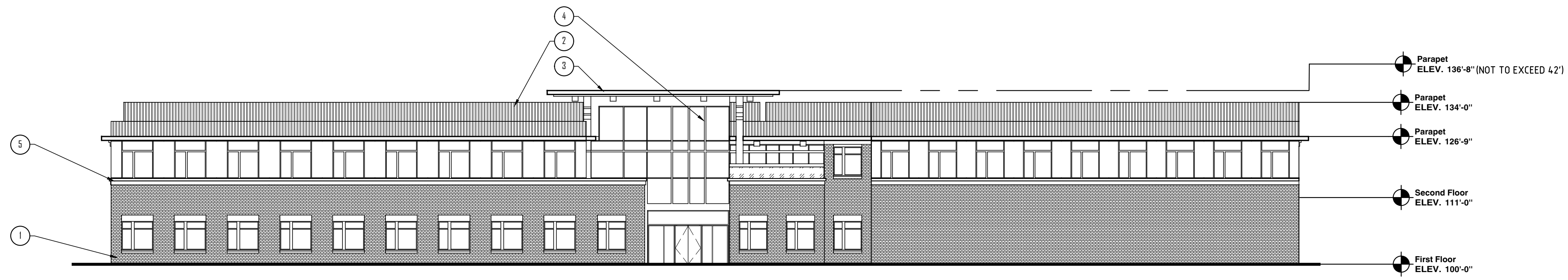
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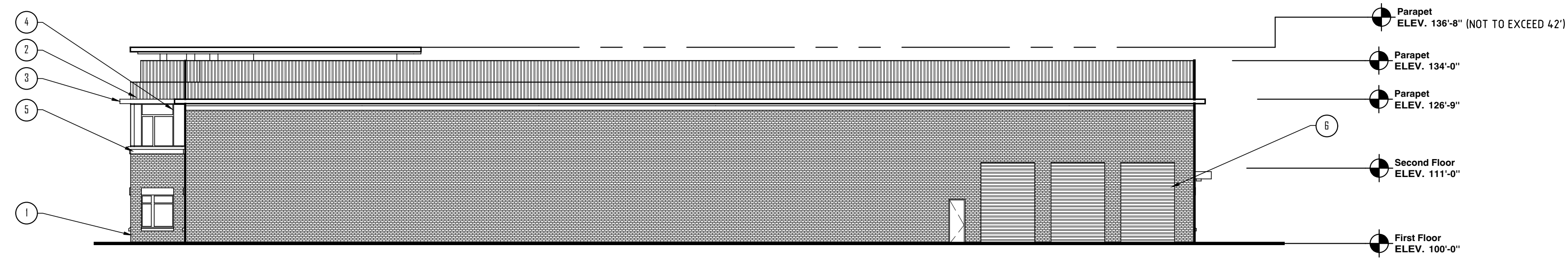
Building 4 Elevations

A203

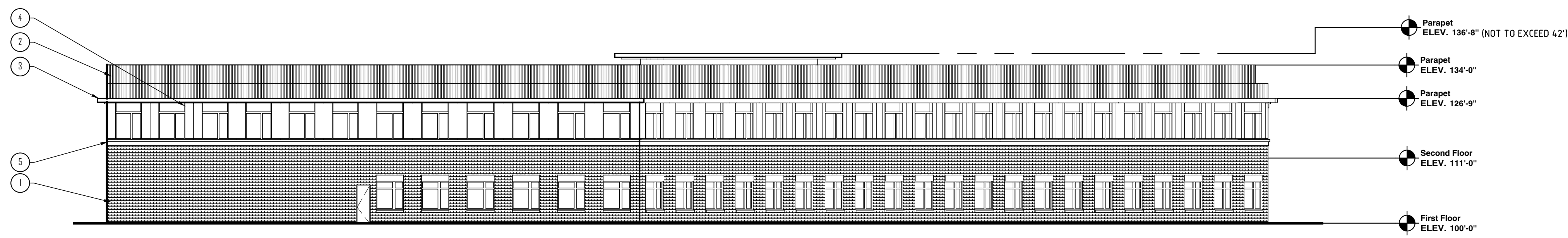
01/17/20



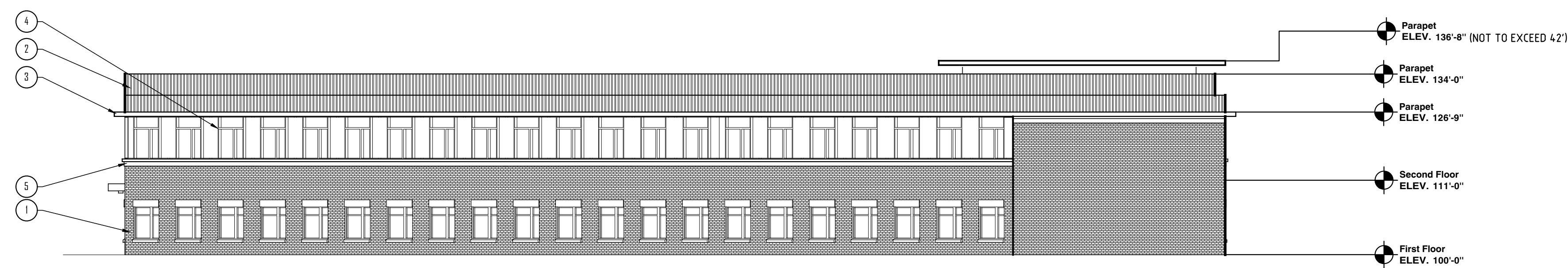
4 Building 5 - North Elevation
SCALE: 1/16" = 1'



3 Building 5 - East Elevation
SCALE: 1/16" = 1'



2 Building 5 - South Elevation
SCALE: 1/16" = 1'



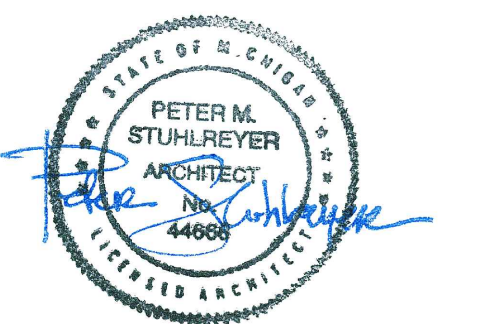
1 Building 5 - West Elevation
SCALE: 1/16" = 1'

TYPICAL NOTES

SYMBOL	DESCRIPTION
①	BRICK VENEER
②	PRE-FINISHED METAL PANEL WITH VERTICAL SEAMS
③	PRE-FINISHED METAL PANEL FIN
④	TINTED GLAZING IN ANODIZED ALUMINUM FRAME
⑤	LIMESTONE SILL
⑥	METAL OVERHEAD DOOR
⑦	

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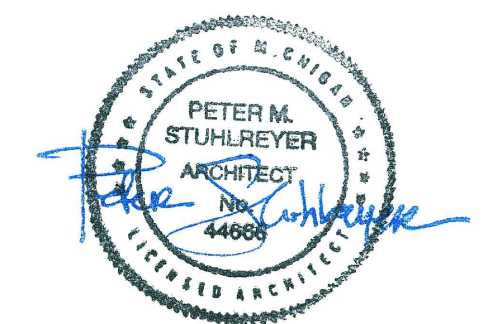
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CITY FILE #18-021 Section #21

Building 5 Elevations

A204 07/170



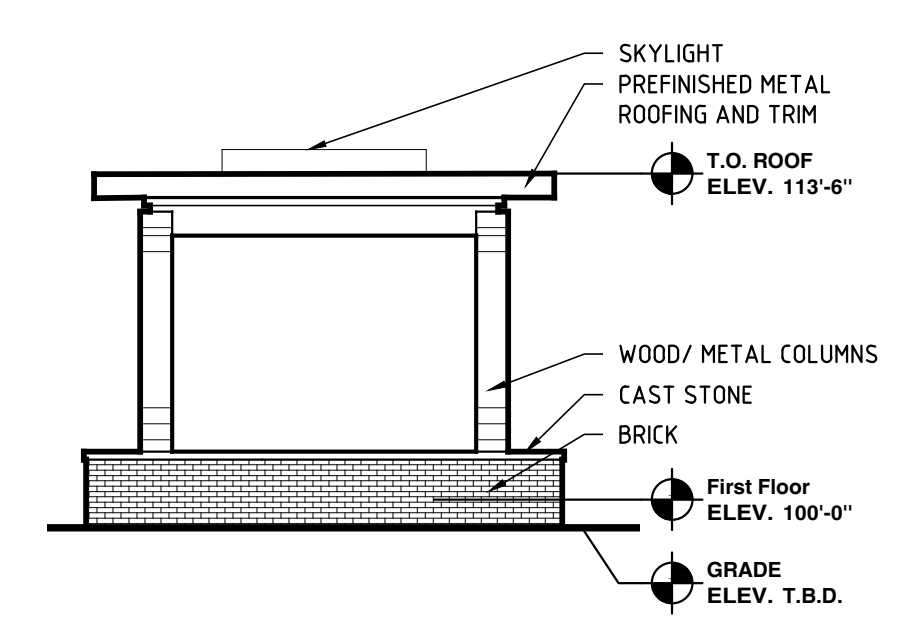
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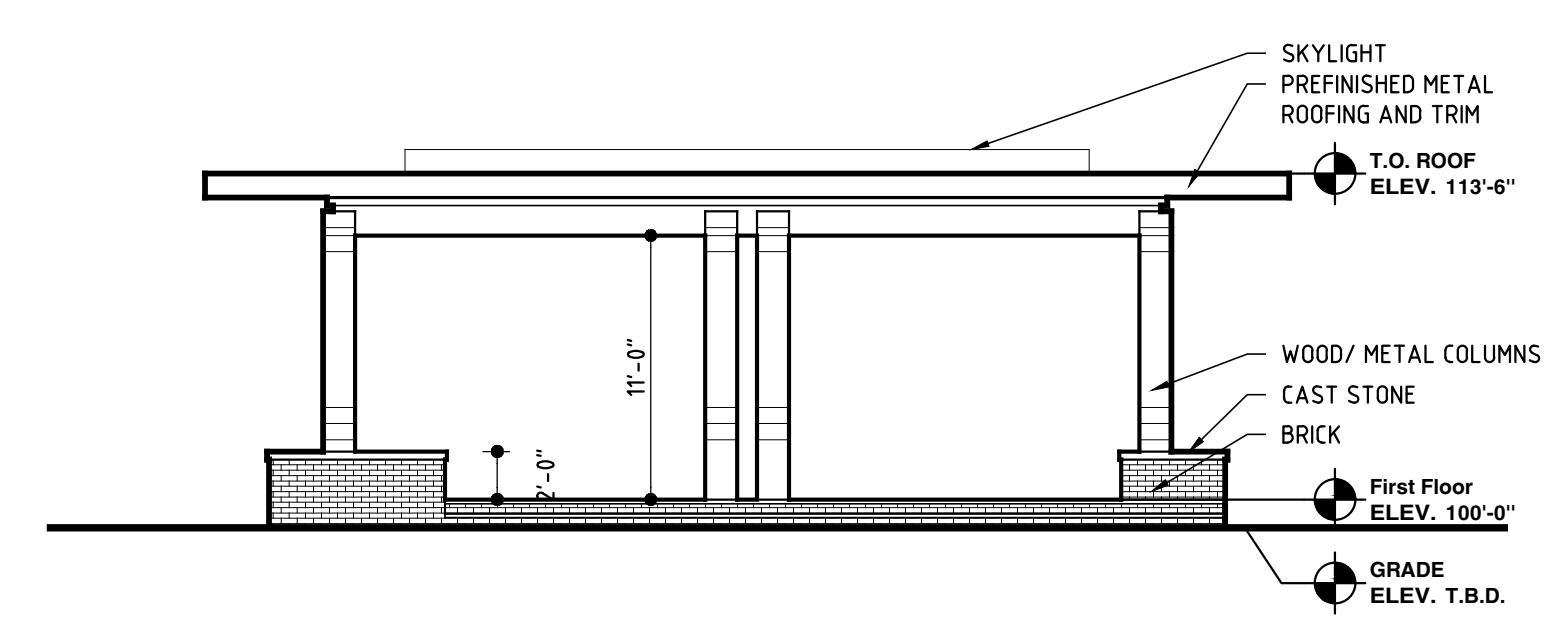
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 CITY FILE #18-021 Section #21

Food Truck Pavilion Plan & Elevations

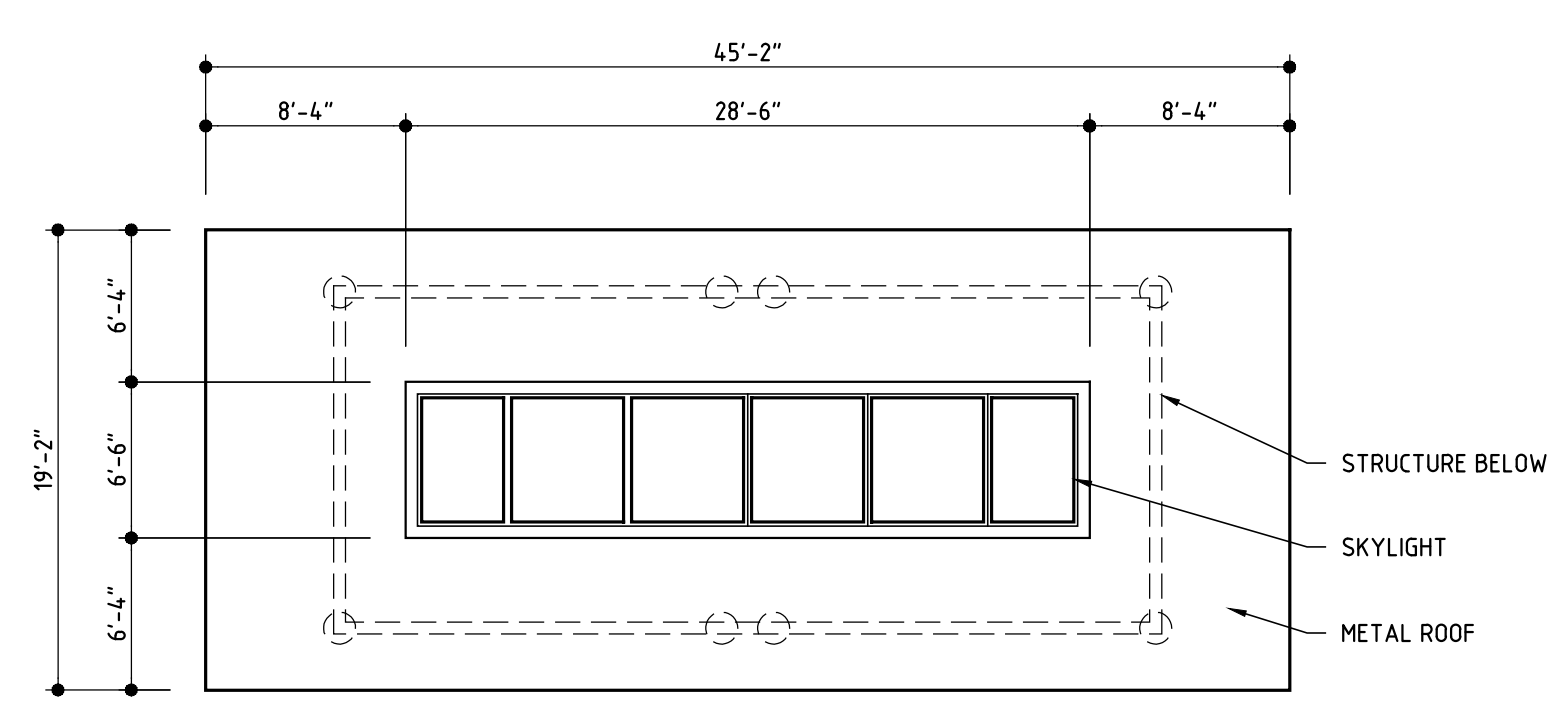
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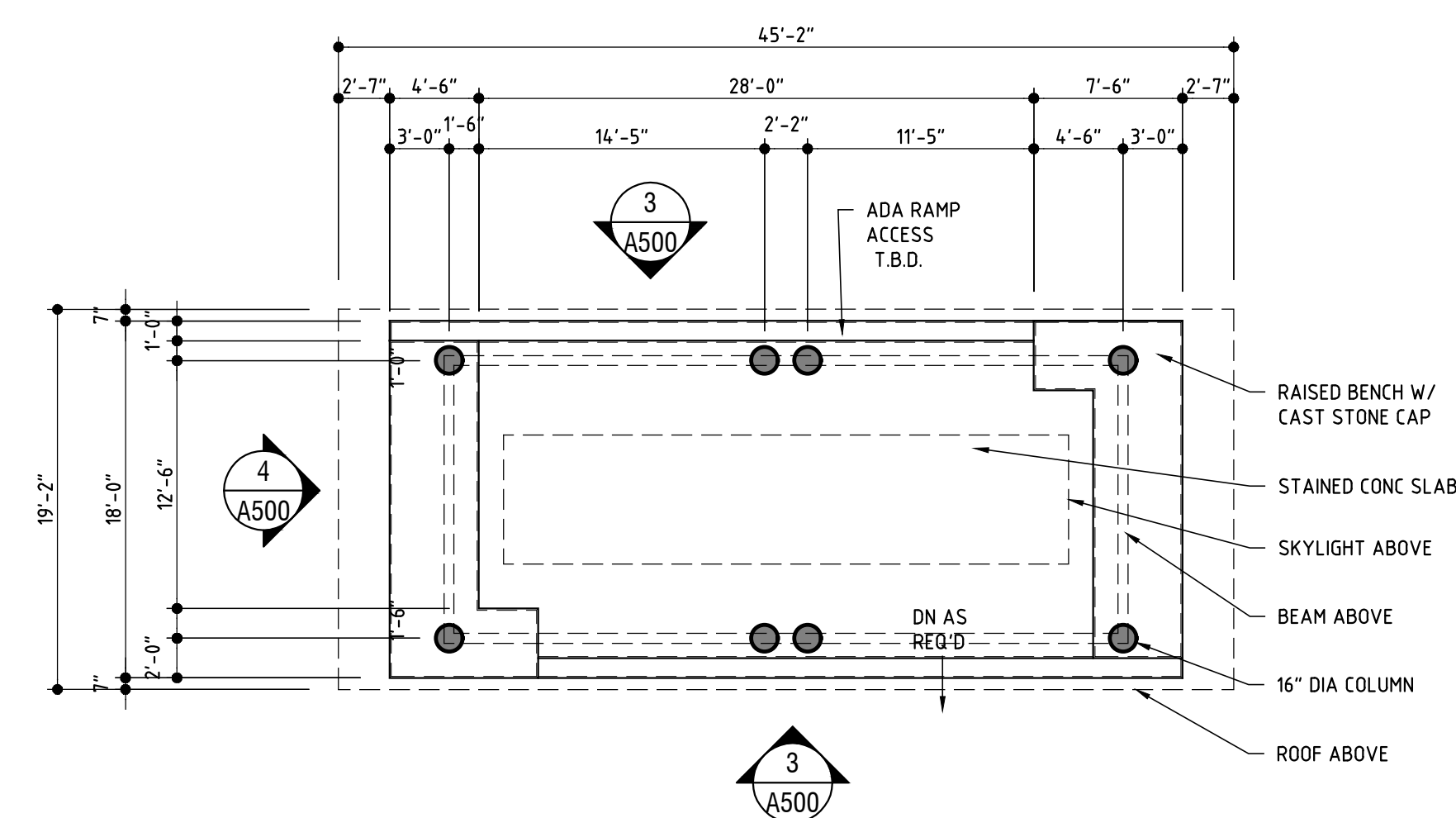
4 Food Truck Pavilion Elevation
 SCALE: 1/8" = 1'



3 Food Truck Pavilion Elevation
 SCALE: 1/8" = 1'



2 Food Truck Roof Plan
 SCALE: 1/8" = 1'



1 Food Truck Pavilion Floor Plan
 SCALE: 1/8" = 1'

- General Note**
- SEE SCHEDULE FOR LUMINAIRE MOUNTING HEIGHT.
 - SEE LUMINAIRE SCHEDULE FOR LIGHT LOSS FACTOR.
 - CALCULATIONS ARE SHOWN IN FOOTCANDLES AT: GRADE

THE ENGINEER AND/OR ARCHITECT MUST DETERMINE APPLICABILITY OF THE LAYOUT TO EXISTING / FUTURE FIELD CONDITIONS. THIS LIGHTING LAYOUT REPRESENTS ILLUMINATION LEVELS CALCULATED FROM LABORATORY DATA TAKEN UNDER CONTROLLED CONDITIONS IN ACCORDANCE WITH ILLUMINATING ENGINEERING SOCIETY APPROVED METHODS. ACTUAL PERFORMANCE OF ANY MANUFACTURER'S LUMINAIRE MAY VARY DUE TO VARIATION IN ELECTRICAL VOLTAGE, TOLERANCE IN LAMPS, AND OTHER VARIABLE FIELD CONDITIONS. MOUNTING HEIGHTS INDICATED ARE FROM GRADE AND/OR FLOOR UP.

THESE LIGHTING CALCULATIONS ARE NOT A SUBSTITUTE FOR INDEPENDENT ENGINEERING ANALYSIS OF LIGHTING SYSTEM SUITABILITY AND SAFETY. THE ENGINEER AND/OR ARCHITECT IS RESPONSIBLE TO REVIEW FOR MICHIGAN ENERGY CODE AND LIGHTING QUALITY COMPLIANCE.

UNLESS EXEMPT, PROJECT MUST COMPLY WITH LIGHTING CONTROLS REQUIREMENTS DEFINED IN ASHRAE 90.1 2013. FOR SPECIFIC INFORMATION CONTACT GBA CONTROLS GROUP AT ASG@GASSERBUSH.COM OR 734-266-6705

Statistics	Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min	Avg/Max
Grade		+	1.0 fc	15.1 fc	0.0 fc	N/A	N/A	0.1:1

Symbol	Label	QTY	Manufacturer	Description	Lamp	Number	File Name	Lumens per Lamp	LLF	Wattage	Catalog Number
	A	18	Lithonia Lighting	DSXW1 LED WITH (2) 10 LED LIGHT ENGINE, TYPE 17TH OPTIC, 4000K, @ 1000mA	LED	1	DSXW1_LED_20C_1000_40K_17TH_MVOLT.dwg	7711	0.9	73.2	DSXW1 LED 20C 1000 40K 17TH MVOLT
	D	2	Lithonia Lighting	DSX2 LED P5 40K TSW MVOLT	LED	1	DSX2_LED_P5_40K_TSW_MVOLT.dwg	39142	0.9	1284	DSX2 LED P5 40K TSW MVOLT
	E	13	Lithonia Lighting	DSX2 LED P3 40K TSW MVOLT	LED	1	DSX2_LED_P3_40K_TSW_MVOLT.dwg	39142	0.9	434	DSX2 LED P3 40K TSW MVOLT
			Lithonia Lighting	DSX2 LED P3 40K TSW MVOLT	LED	1	DSX2_LED_P3_40K_TSW_MVOLT.dwg	39142	0.9	217	DSX2 LED P3 40K TSW MVOLT
			Lithonia Lighting	DSX2 LED P3 40K TSW MVOLT	LED	1	DSX2_LED_P3_40K_TSW_MVOLT.dwg	39142	0.9	217	DSX2 LED P3 40K TSW MVOLT

D-Series Size 1 LED Wall Luminaire

Specifications

Width: 15.5" (393mm)
 Height: 10" (254mm)
 Depth: 1.5" (38mm)
 Weight: 1.5 lbs (0.7kg)

Back Box (BOW, ELCW)

Width: 15.5" (393mm)
 Height: 10" (254mm)
 Depth: 1.5" (38mm)
 Weight: 1.5 lbs (0.7kg)

Introduction

The D-Series Wall Luminaire is a stylish, fully integrated LED solution for building mount applications. It features a sleek, modern design and is carefully engineered to provide long-lasting, energy-efficient lighting with a variety of optical and control options for customized performance. With an expected service life of over 20 years of nighttime use and up to 74% in energy savings over comparable 200W metal halide luminaires, the D-Series Wall is a reliable, low-maintenance lighting solution that produces sites that are exceptionally illuminated.

Ordering Information EXAMPLE: DSXW1 LED 20C 1000 40K TSW MVOLT DDBTD

Order	LED	Color	Temp	Beam	Optic	Mount	Finish	Control	Options
DSXW1	20C	1000	40K	17TH	DSXW1	Black	None	None	
DSXW1	20C	1000	40K	17TH	DSXW1	Black	None	None	
DSXW1	20C	1000	40K	17TH	DSXW1	Black	None	None	
DSXW1	20C	1000	40K	17TH	DSXW1	Black	None	None	

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D-Series Size 2 LED Area Luminaire

Specifications

Size: 11.1" (282mm) x 11.1" (282mm)
 Length: 11.1" (282mm)
 Width: 11.1" (282mm)
 Height: 1.1" (28mm)
 Weight: 3.3 lbs (1.5kg)

Introduction

The modern styling of the D-Series is striking yet understated - making a bold, progressive statement even as it blends seamlessly with its environment. The D-Series offers the benefits of the latest in LED technology into a high-performance, high-efficiency luminaire. The outstanding photometric performance results in sites with excellent uniformity, greater color spacing, and lower power density. The Size 2 is ideal for replacing 100W metal halide in area lighting applications with energy savings of up to 80%, and expected service life of over 100,000 hours.

Ordering Information EXAMPLE: DSX2 LED P7 40K TSM MVOLT SPA NLAIR2 PIRHN DDBXD

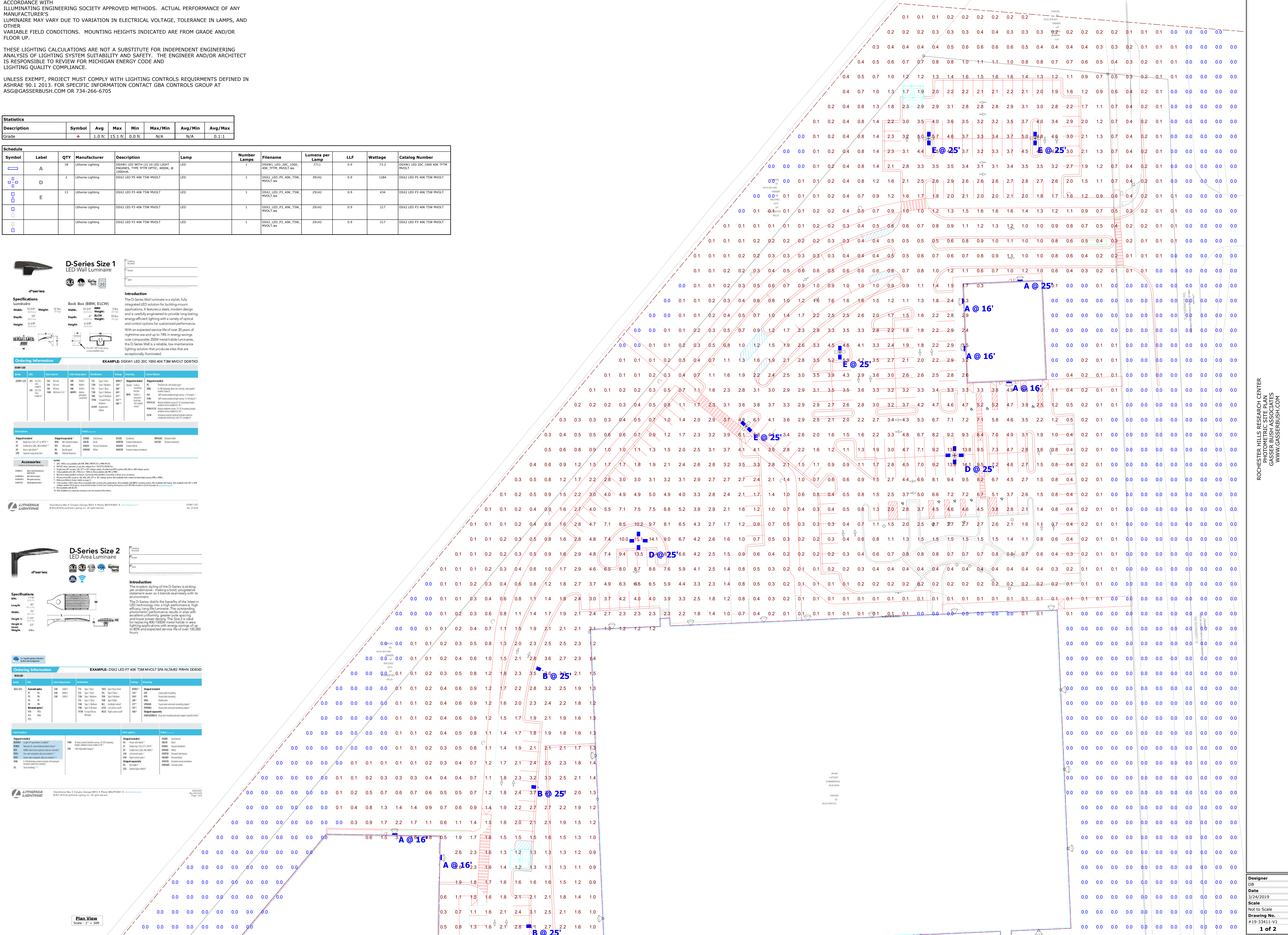
Order	LED	Color	Temp	Beam	Optic	Mount	Finish	Control	Options
DSX2	P7	40K	TSM	17TH	DSX2	Black	None	None	
DSX2	P7	40K	TSM	17TH	DSX2	Black	None	None	
DSX2	P7	40K	TSM	17TH	DSX2	Black	None	None	
DSX2	P7	40K	TSM	17TH	DSX2	Black	None	None	

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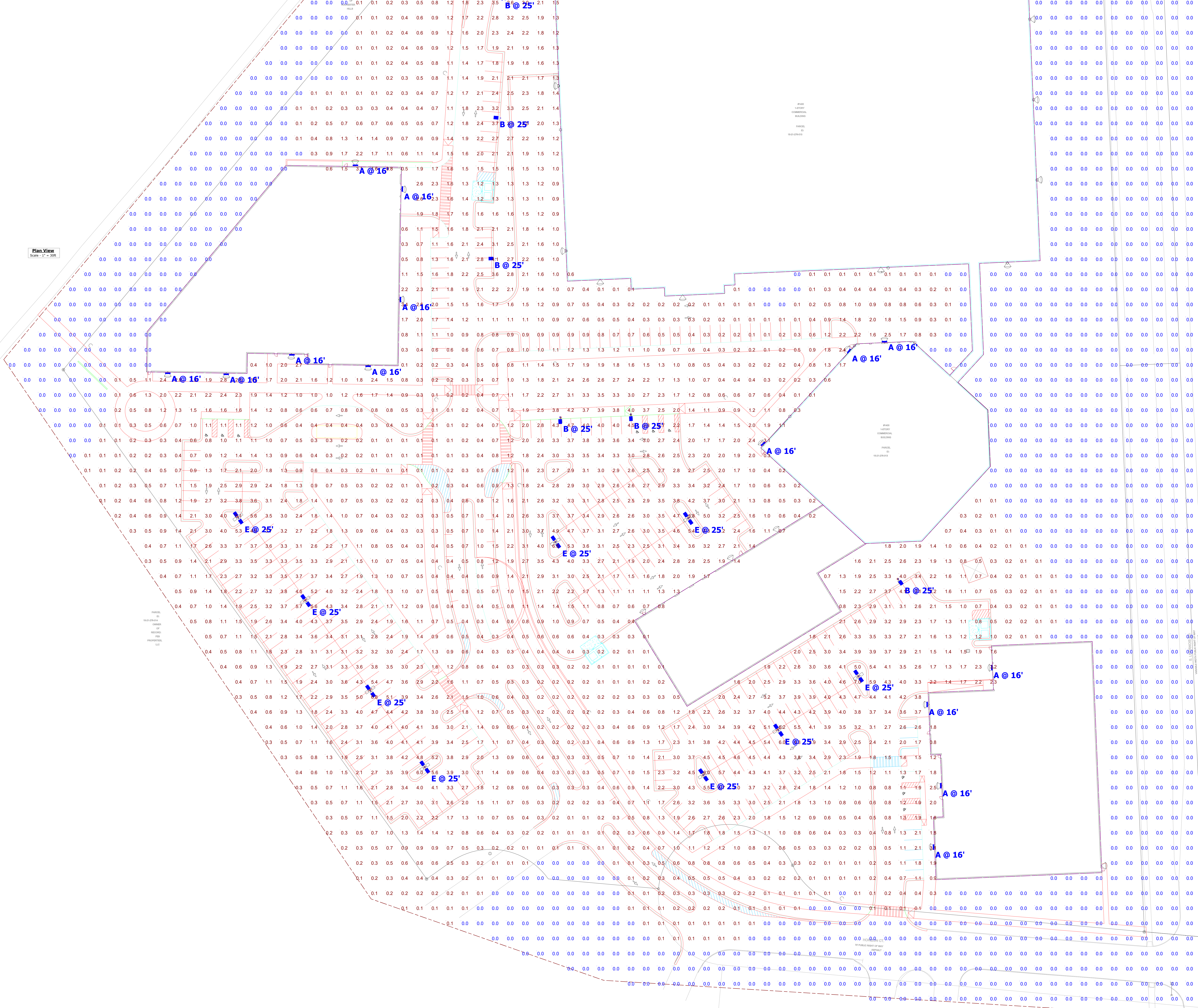
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Plan View
 Scale = 1" = 30R



Plan View
Scale: 1" = 30ft



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