

March 21, 2018

Genoa Township  
2911 Dorr Road  
Brighton, MI 48116

ATTN: Kelly VanMarter

RE: Family Farm & Home-Comments/Changes from  
Planning Commission Meeting 3/12/2018 for  
Planning Commission Meeting 4/9/2018


Dear Kelly,

1. Owner to agree to grant access easement for cross access between Meijer. Details TBD.  
**Township to provide easement language for Ownership approval and confirmation that Meijer will bear the majority of the cost of this work.**
2. Revise plan detailed below:
  - Moving trailer storage to south end of outside storage.
  - Add (2) sections of 17' – 8' high fencing on two sides
  - Add (4) spaces of temporary 10 min customer parking.
  - Make drive lane
  - Relocate hydrant.
  - Relocate OH door**See attached revised plans by Metro Group Architects**
- 3.) Sharpen impervious calcs (Alpine)  
**See attached revised plans by Alpine Engineering**

Should you require any additional information please do not hesitate to contact me.

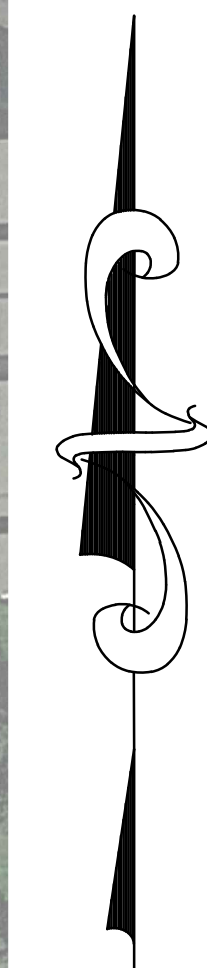
Sincerely,

ASHMARK CONSTRUCTION, LLC



Martin J. Renel  
Managing Member





LOCATION MAP:  
NOT TO SCALE

**SITE DATA:**

SITE AREA: 12.74 ACRES± (GROSS)  
 PARCEL ID: 4711-05-400-032  
 EXISTING/PROPOSED ZONING: RCD REGIONAL COMMERCIAL DISTRICT  
 BUILDING AREA: 28,151 S.F. FAMILY FARM AND HOME RENOVATION  
 75,706 S.F. EXISTING RETAIL  
 103,857 S.F. BUILDING TOTAL

REQUIRED PARKING:  
 1 SPACE FOR EACH 250 SQUARE FEET OF GROSS RETAIL FLOOR AREA FOR THE FIRST 50,000 SQUARE FEET.  
 ONE FOR EACH 275 SQUARE FEET FOR THE NEXT 50,000 TO 450,000 SQUARE FEET OF GROSS RETAIL FLOOR  
 AREA. ONE FOR EACH 300 SQUARE FEET FOR THAT AREA IN EXCESS OF 450,000 SQUARE FEET OF GROSS  
 RETAIL FLOOR AREA. NON-RETAIL USES SUCH AS RESTAURANTS, BARS AND THEATERS SHALL BE CALCULATED  
 SEPARATELY BASED UPON THEIR RESPECTIVE REQUIREMENTS

$50,000 \text{ S.F. (RETAIL)} / 250 + 48,857 \text{ S.F. (RETAIL)} / 275 + 5,000 \text{ S.F. (ASIAN FUSION)} / 100 = 428$

428 TOTAL PARKING SPACES REQUIRED  
 467 TOTAL PARKING SPACES PROVIDED (INCLUDES 18 B.F. SPACES)

IMPERVIOUS SURFACE CALCULATION:  
 DRAINAGE AREA: 12.74 ACRES + 13.76 ACRES = 26.50 ACRES  
 IMPERVIOUS SURFACE EXISTING = 19.86 ACRES (BUILDING/PAVING) / 26.50 ACRES = 75%  
 IMPERVIOUS SURFACE PROPOSED = 19.99 ACRES (BUILDING/PAVING) / 26.50 ACRES = 75%

NOTE: THE APPLICANT PROPOSES TO ENLARGE THE EXISTING DETENTION BASIN TO ACCOMMODATE THE  
 INCREASE IN IMPERVIOUS AREA IF NECESSARY. ADDITIONAL INFORMATION TO BE PROVIDED IN THE DETAILED  
 ENGINEERING PLAN STAGE.

**SITE PLAN GENERAL NOTES:**

- 1) ALL CONSTRUCTION SHALL CONFORM TO THE CURRENT STANDARDS AND SPECIFICATIONS OF GENOA TOWNSHIP.
- 2) THE CONTRACTOR SHALL NOTIFY "MISS DIG" AT LEAST THREE (3) WORKING DAYS PRIOR TO START OF CONSTRUCTION.
- 3) CONTRACTOR TO FIELD VERIFY LOCATION, ELEVATION, AND SIZE OF EXISTING UTILITIES.
- 4) PRELIMINARY SITE STUDY ONLY. A SURVEY WILL BE PROVIDED AT DETAILED ENGINEERING PLAN STAGE.
- 5) GRADING AND STORM WATER MANAGEMENT DETAILS WILL BE PROVIDED AT DETAILED ENGINEERING PLAN STAGE.

**NOTICE:**

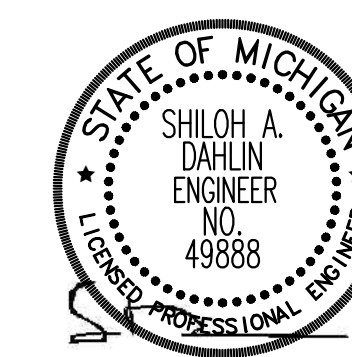
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

**NOTE:**

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AS DISCLOSED BY AVAILABLE UTILITY COMPANY RECORDS AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE COMPANY. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. THE CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER IMMEDIATELY IF A CONFLICT IS APPARENT.

**SHEET INDEX**

1	SITE PLAN
2	TRUCK CIRCULATION PLAN



PRELIMINARY  
NOT FOR CONSTRUCTION

**ALPINE ENGINEERING, INC.**  
 CIVIL ENGINEERS & LAND SURVEYORS

**COMMERCIAL**  
 SITE PLANNING  
 SITE ENGINEERING  
 INDUSTRIAL & MULTI-UNIT  
 LAND SURVEYING  
 CONSTRUCTION LAYOUT

**SURVEYING**  
 ALTA SURVEYS  
 BOUNDARY SURVEYS  
 TOPOGRAPHIC SURVEYS  
 PARCEL SPLITS

**RESIDENTIAL**  
 SUBDIVISIONS  
 SITE CONDOMINIUM  
 MULTI-FAMILY  
 PLOT PLANS  
 CONSTRUCTION LAYOUT

48692 WEST ROAD  
 SUITE 109  
 NOVI, MICHIGAN 48377

(248) 996-3701 (BUS)  
 (248) 926-3765 (FAX)  
 WWW.ALPINE-INC.NET

**811**  
 Know what's below  
 Call before you dig.

CLIENT: ASHMARK CONSTRUCTION, LLC

**SITE PLAN**

FAMILY FARM AND HOME - 3685 E. GRAND RIVER AVE.  
 SECTION: 5 E TOWNSHIP: 5 RANGE: 2 N  
 GENOA TOWNSHIP LIVINGSTON COUNTY MICHIGAN

REVISED

2018-02-22 REVISED PER CLIENT  
 2018-03-20 REVISED PER CLIENT  
 2018-03-29 REVISED PER CLIENT

DATE: 2018-01-23  
 DRAWN BY: TG  
 CHECKED BY: TG/SD

SCALE: HOR 1"=60 FT.  
 VER 1"=6 FT.

17-516







## GRAND RIVER PLAZA

Suite	Tenant	SF
1	Carson's/Elder-Beerman	72,873
3	Dunham's Sport	44,500
6	Asian Fusion	5,000
8	H&R Block	2,500
10	Sally Beauty supply	1,600
12	Available	4,200
14	Available	9,000
16	Available	2,000
17	Availalbe	3,200
18	Blue Frog	2,100
19	Perfect Edge Hockey	5,000
20	Available	2,800
22	Available	1,400
23	Available	1,400
24	Available	1,500
26	GNC	1,600
28	Kolt Jewelers	900
30	Gordin's Hair Center	1,200
32	Big Lots	29,674
35	TJ Maxx	28,297

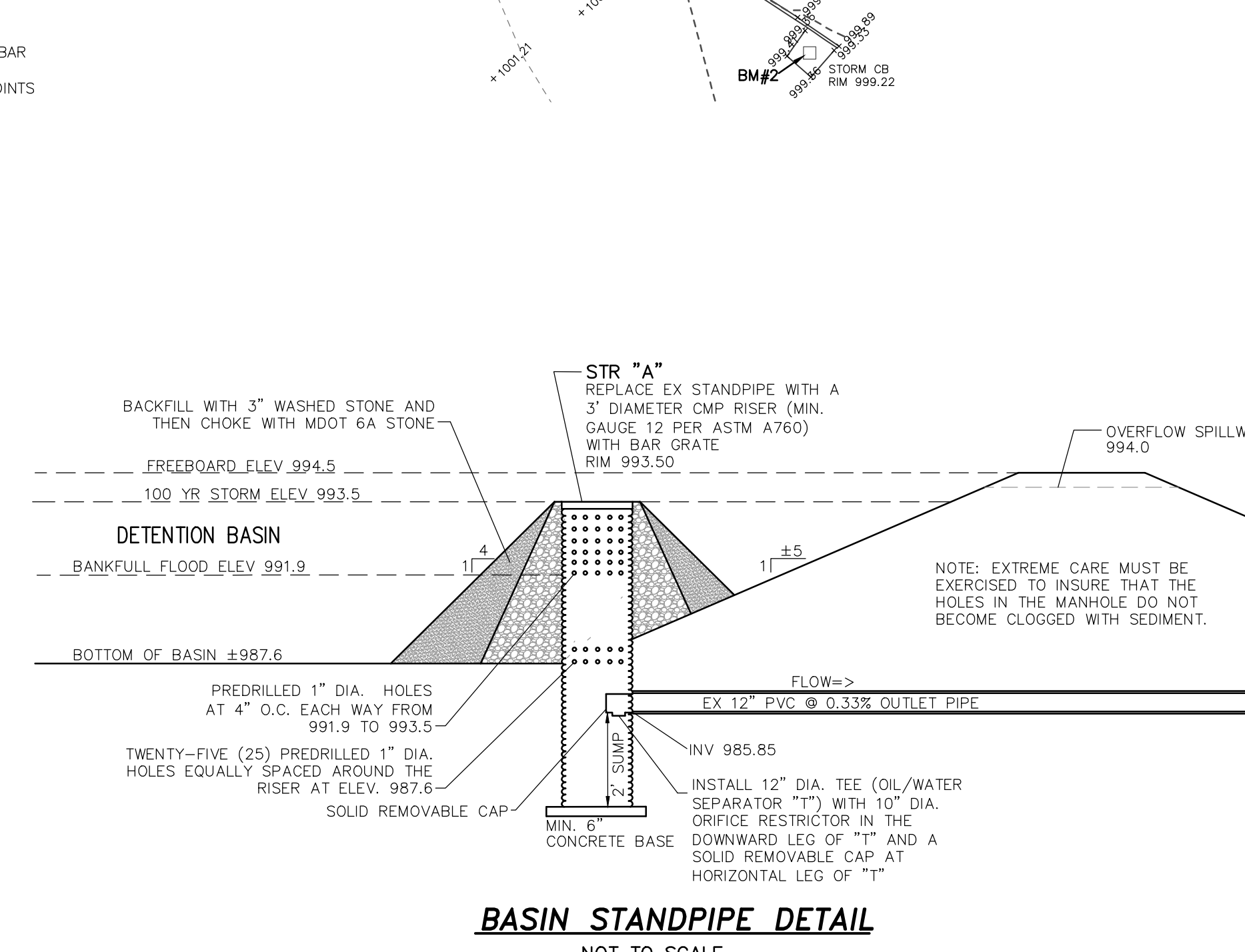
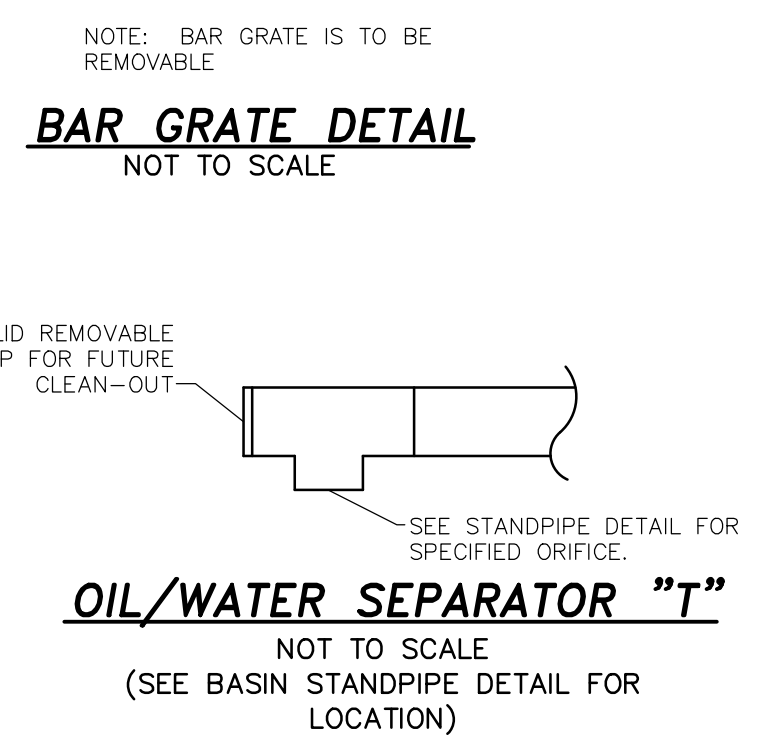
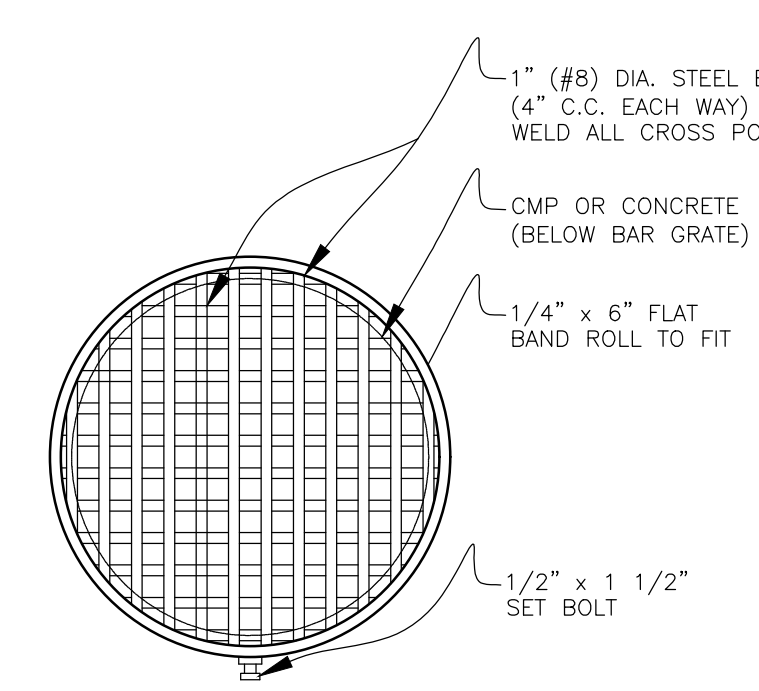
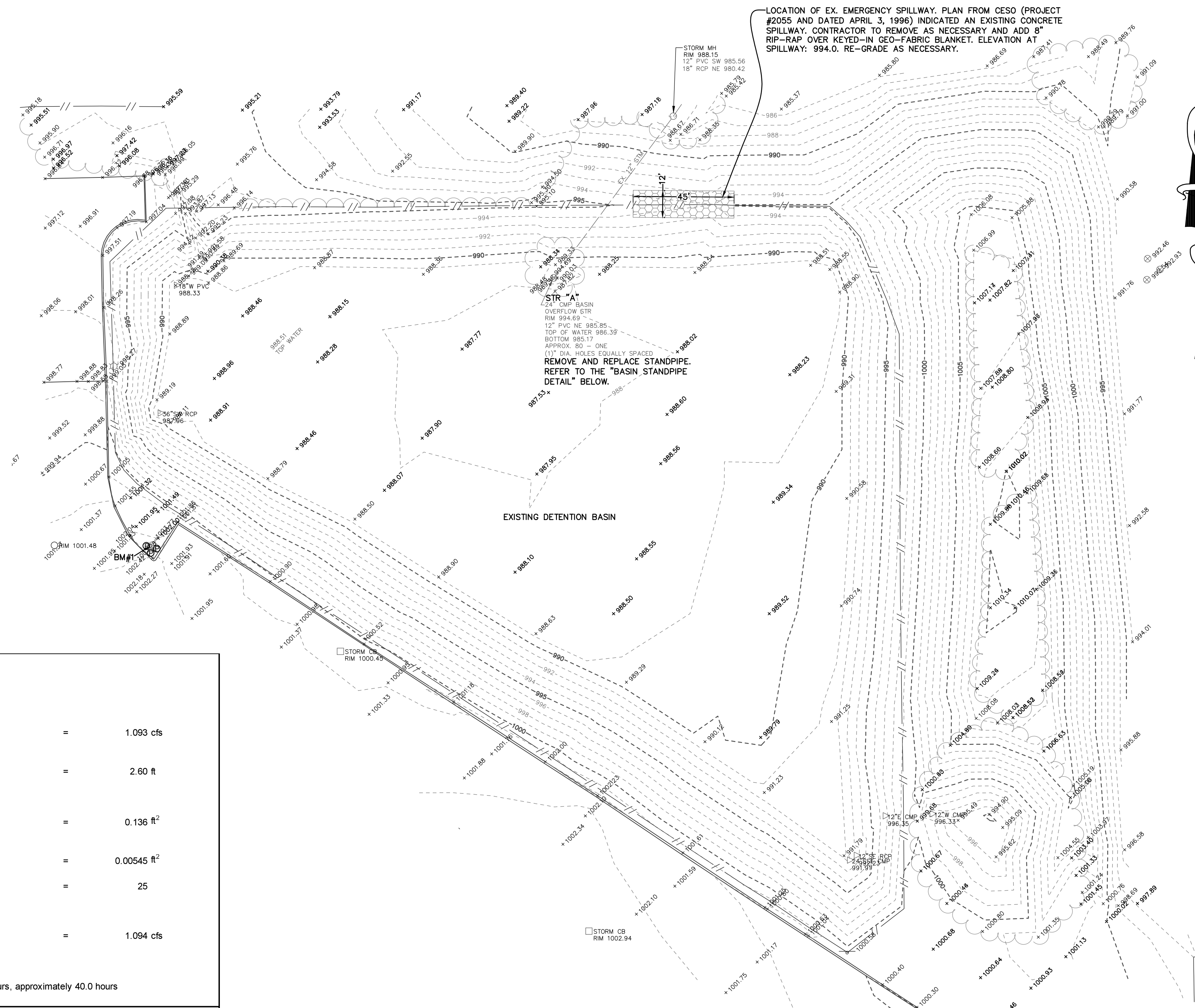
Chase Drive-thru ATM





**OUTLET CALCULATIONS**

<b>OUTLET SIZING FOR BANKFULL FLOOD</b>	
RELEASE BANKFULL FLOOD VOLUME OVER A PERIOD NO MORE THAN 40 HOURS.	
CALCULATE THE AVERAGE RELEASE RATE WHICH WILL SATISFY THIS REQUIREMENT:	
$Q_{ave\ of} = V_{100} / 40$	= 1.093 cfs
CALCULATE AVERAGE HEAD:	
$h_{ave} = 0.667 * (Z_{df} - Z_o) = 0.667 * (991.9 - 998.0)$	= 2.60 ft
DETERMINE THE ORIFICE AREA NEEDED BASED ON THE ORIFICE EQUATION:	
$A = (Q_{ave\ of}) / (0.62 * \sqrt{2 * 32.2 * h_{ave}})$	= 0.136 ft <sup>2</sup>
DETERMINE # OF ORIFI REQUIRED BASED ON AN ORIFICE DIAMETER OF 1", $A_{or}$ :	
$A_{or} = 0.00545$	= 0.00545 ft <sup>2</sup>
REQUIRED # OF ORIFI:	= 25
CALCULATE ACTUAL AVERAGE RELEASE RATE THROUGH THE ORIFI:	
$Q_{ave\ of} = 0.62 * (\# \text{ of orifi} * A_{or}) * \sqrt{2 * 32.2 * h_{ave}}$	= 1.094 cfs
CALCULATE THE ACTUAL HOLDING TIME FOR THE BANKFULL VOLUME:	
$T_{tr} = (V_{100}) / (Q_{ave\ of} * 3600)$	= 40.0 hours, approximately 40.0 hours
<b>OUTLET SIZING FOR 100 YEAR FLOOD</b>	
PER THE DETENTION BASIN VOLUME CALCULATIONS, THE MAXIMUM ALLOWABLE RELEASE RATE AT THE DESIGN WATER LEVEL OF $Z_{100}$ IS:	= 5.30 cfs
CALCULATE MAXIMUM HEAD USING UPSTREAM CROWN ELEV. OF PIPE AT $Z_o$ ASSUMING PIPE IS DESIGNED TO FLOW FULL:	
ASSUME RISER OUTLET PIPE DIAMETER:	= 12 inch
$Z_{out} = 988.0 + 0.5$	= 989.00 ft
$h_{max} = (Z_{100} - Z_{out})$	= 4.55 ft
$A = (Q_{max}) / (0.62 * \sqrt{2 * 32.2 * h_{max}})$	= 0.499 ft <sup>2</sup>
DETERMINE DIAMETER OF RISER OUTLET PIPE:	= 12.00 inch
PROVIDE A 10" DIA HOLE IN THE END CAP ON THE VERTICAL RUN OF THE OUTLET TEE, $A_o$	= 0.5454 ft <sup>2</sup>
CALCULATE ACTUAL AVERAGE RELEASE RATE:	
$Q_{max} = 0.62 * A * \sqrt{2 * g * h_{max}} = 5.79 \text{ cfs} > 5.3 \text{ cfs but within } 10\% - \text{ok}$	
DETERMINE THE RISER OUTLET PIPE SLOPE	
MANNING'S CONSTANT (n)	= 0.012 PVC
PIPE DIAMETER	= 12 inch
$R = d_{out} / 4$	= 0.250 ft
$A_{out} = 0.78540 \text{ ft}^2$	
Slope (ft/ft) = $((Q * n) / (1.486 * A * R^{2/3}))^2$	= 1.90 %
Existing 12" has a slope of 0.33%	
CALCULATE VELOCITY AT FULL PIPE FLOW CONDITION	
$V = Q / A$	= 6.8 ft/s
<b>OVERLAND OVERFLOW SPILLWAY</b>	
(SIZE SECONDARY OVERFLOW TO ACCOMMODATE 10-YEAR STORM FLOW IN THE EVENT THAT THE OVERFLOW STR GETS CLOGGED)	
ASSUME HEAD	= 0.5 ft
ASSUME INTENSITY, I = 151.8/(T+19.9); T = 35 MIN.	= 2.77 in/hr
ASSUMED 10-YEAR FLOW = $CxIx = 0.73x3.04x28.5$	= 53 cfs
WEIR LENGTH	= 45.0 ft
CALCULATE CAPACITY USING WEIR EQUATION	
$Q = 3.367 * L * H^{3/2}$	= 53.57 cfs



- NOTES:**
- ALL WORK TO CONFORM TO THE CURRENT STANDARDS AND SPECIFICATIONS OF THE TOWNSHIP AND/OR COUNTY.
  - CONTRACTOR TO FIELD VERIFY LOCATION OF ALL EXISTING UTILITIES PRIOR TO START OF CONSTRUCTION.
  - CLEAN OUT DEBRIS AS NECESSARY.
  - CONTRACTOR TO INSTALL TEMPORARY SOIL EROSION AND SEDIMENTATION CONTROL MEASURES AS NECESSARY. REFER TO THE COUNTY DETAILS.
  - PERMANENT SOIL EROSION CONTROL MEASURES (SEED AND MULCH) FOR AREAS IMPACTED BY CONSTRUCTION WITHIN 5 CALENDAR DAYS AFTER FINAL GRADING.
  - TITLEWORK WAS NOT PROVIDED. EASEMENTS HAVE NOT BEEN SHOWN. A BOUNDARY SURVEY WAS NOT PERFORMED.



**PROPOSED RUN-OFF COEFFICIENT (C)**

LAND USE	AREA (A) (acres)	RUNOFF COEFFICIENT (C)
PAVEMENT/BLDG	19.99	0.90
GRASS	6.51	0.20
AREA	26.50	
prop. impervious area percentage		75%
$C = \text{SUM}(A_i \times C_i) / A = (19.994 \times 0.90) + (6.506 \times 0.20)$		26.500
BM#1: STORM CB RIM ELEV: 999.22		0.73

**BENCHMARKS:**

DESIGN VARIABLES:

Tributary Area (A):	=	26.50 acres
Weighted C Coefficient	=	0.73
Design Constant (K <sub>i</sub> ) = A * C:	=	19.29
Allowable Outflow Rate (Q <sub>o</sub> ):	=	5.300 cfs

1	2	3	4	5	6	7
Duration (Minutes)	Duration (Seconds)	Intensity (100 yr Storm) (in/hr)	Col. #2 x Col. #3 Inches	Inflow Volume = Col.4 x K (Cu. Ft)	Outflow Volume Col.2 x Q <sub>o</sub> (Cu. Ft)	Storage Volume Col.5 - Col.6 (Cu. Ft)
5	300	9.17	2.751	53,072	1,590	51,482
10	600	7.86	4.716	90,981	3,180	87,801
15	900	6.88	6.192	119,456	4,770	114,686
20	1,200	6.11	7.332	141,449	6,360	135,089
30	1,800	5.00	9.000	173,628	9,540	164,088
60	3,600	3.24	11,664	225,022	19,080	205,942
90	5,400	2.39	12,906	248,983	28,620	220,363
120	7,200	1.90	13,680	263,915	38,160	225,755
180	10,800	1.34	14,472	279,194	57,240	221,954
240	14,400	1.04	14,976	288,917	76,320	212,597
300	18,000	0.85	15,300	295,168	95,400	199,768
360	21,600	0.71	15,336	295,862	114,480	181,382

**STORAGE VOLUME REQUIRED**

TOTAL =  $V_{100}$  = 225,755 cf

**BANKFULL VOLUME REQUIRED**

TOTAL =  $V_{100} = 8,160 \times \text{Acreage} \times \text{the relative impervious factor, C} = 157,423 \text{ cf}$

**FIRST FLUSH VOLUME REQUIRED**

TOTAL =  $V_{100} = 1,815 \times \text{Acreage} \times \text{the relative impervious factor, C} = 35,015 \text{ cf}$

**PROVIDED VOLUME**

100-YEAR BASIN VOLUME PROVIDED

ELEVATION	AREA (ft <sup>2</sup> )	AVG. AREA (ft <sup>2</sup> )	HEIGHT (ft)	CUMULATIVE VOLUME (cf)
988.0	6,906			
989.0	35,531	21,219	1.0	21,219
990.0	45,119	40,325	1.0	61,544
991.0	50,783	47,951	1.0	109,495
992.0	55,481	53,132	1.0	162,627
993.0	59,304	57,393	1.0	220,020
994.0	63,197	61,251	1.0	281,271
995.0	FREEBOARD			

**STORAGE ELEVATIONS DETENTION BASIN**

$V_{100}$	=	35,015 cf is provided at	$Z_o = 988.0$
$V_{100}$	=	157,423 cf is provided at	$Z_{100} = 989.3$
$V_{100}$	=	225,755 cf is provided at	$Z_{100} = 991.9$
AND THEREFORE		253,707 cf is provided at	$Z_{100} = 993.1$ USE 993.5
			$Z_{100} = 993.5$

**NOTICE:**

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STATE OF MICHIGAN  
SHILOH A. DAHLIN  
ENGINEER  
NO. 49888  
LICENSED PROFESSIONAL ENGINEER

CLIENT: ASHMARK CONSTRUCTION, LLC

REVISIONS:

DATE: 2018-04-02

DRAWN BY: SD

CHECKED BY: TG/SD

FBK: 243

CHP: RF

SCALE: HOR 1" = 30 FT. VER 1" = 10 FT.

17-516

**ALPINE ENGINEERING, INC.**  
CIVIL ENGINEERS & LAND SURVEYORS

COMMERCIAL: SITE PLANNING, SITE ENGINEERING, INDUSTRIAL & MULTI-UNIT LAND SURVEYING, CONSTRUCTION LAYOUT

SURVEYING: ALTA SURVEYS, BOUNDARY SURVEYS, TOPOGRAPHIC SURVEYS, PARCEL SPLITS

RESIDENTIAL: SUBDIVISIONS, SITE CONDOMINIUM, MULTI-FAMILY, PLOT PLANS, CONSTRUCTION LAYOUT

46892 WEST ROAD, SUITE 109, NOVI, MICHIGAN 48377  
(248) 996-3701 (BUS)  
(248) 926-3765 (FAX)  
WWW.ALPIENGINEERING.COM

**811**  
Know what's below  
Call before you dig.

**DETENTION BASIN IMPROVEMENT PLAN**

CLIENT: ASHMARK CONSTRUCTION, LLC

FAMILY FARM AND HOME - 3685 E. GRAND RIVER AVE.  
SECTION: 5 E  
TOWNSHIP: 5  
RANGE: 2 N  
GENOA TOWNSHIP  
LIVINGSTON COUNTY  
MICHIGAN







**General Site Plan Notes:**

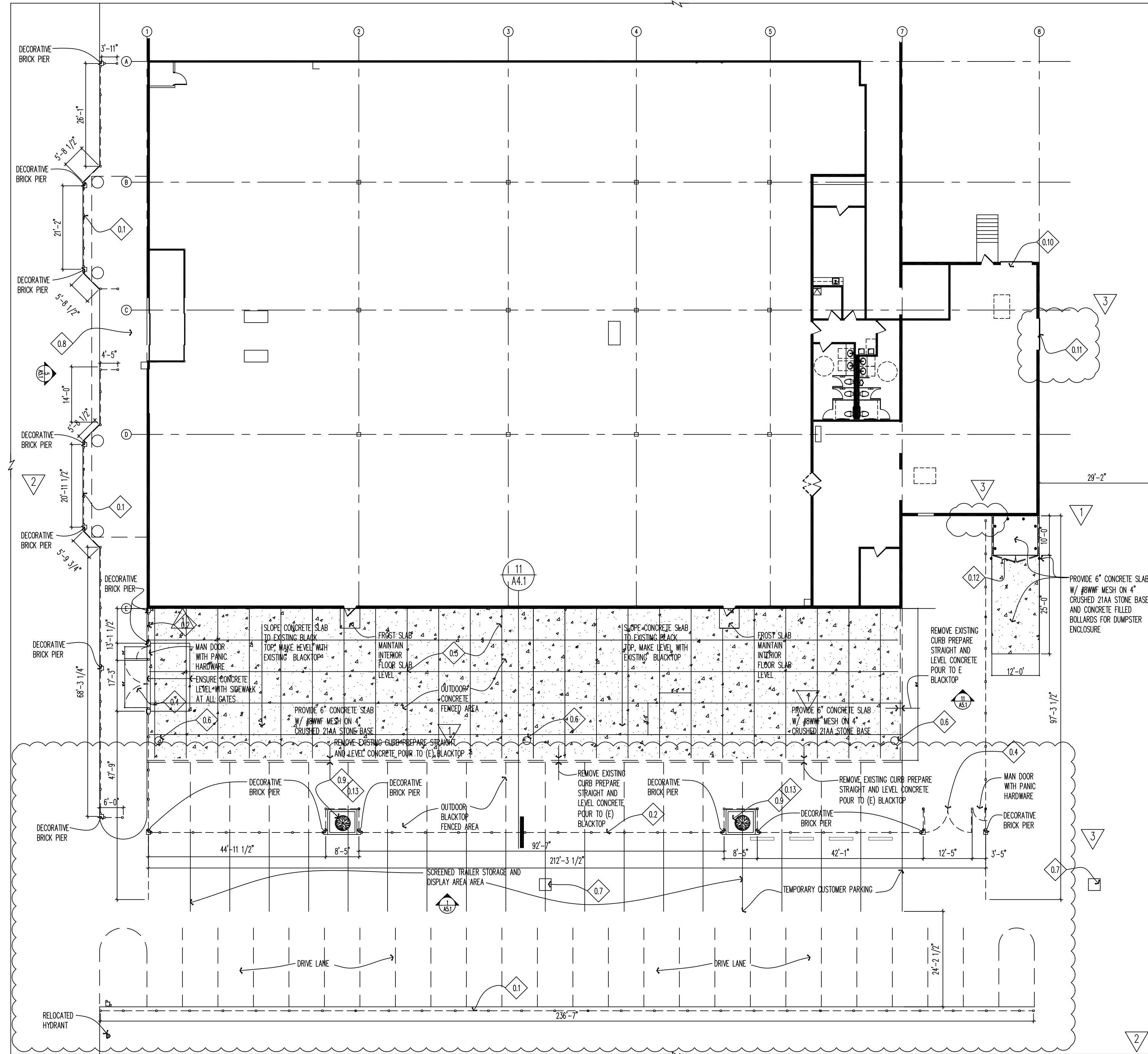
1. PLANS AND SPECIFICATIONS DO NOT FULLY REPRESENT ALL NEW WORK. THE CONSTRUCTION DOCUMENTS ARE INTENDED TO SERVE AS GENERAL GUIDELINES.
2. REPORT ANY DISCREPANCIES BETWEEN STRUCTURAL, MECHANICAL, ELECTRICAL, PLUMBING & ARCHITECTURAL DRAWINGS TO ARCHITECT IMMEDIATELY.
3. COORDINATE ALL WORK WITH STRUCTURAL, MECHANICAL, PLUMBING AND ELECTRICAL CONSTRUCTION DOCUMENTS, AND WITH APPLICABLE STRUCTURAL, MECHANICAL, PLUMBING AND ELECTRICAL CONTRACTORS.
4. REFERENCE THE FOLLOWING SHEETS: GENERAL CONDITIONS & PLAN SYMBOLS, ACCESSIBILITY GUIDELINES, GENERAL SPECIFICATIONS.
5. MASONRY CONTRACTOR SHALL COORDINATE WITH ALL OTHER TRADES.
6. SEE STRUCTURAL DRAWINGS FOR STRUCTURAL INFORMATION.
7. SEE MEP DRAWINGS FOR MECHANICAL, ELECTRICAL, & PLUMBING INFORMATION.
8. MASONRY STEEL LINTELS ABOVE DOORS WINDOWS, ETC TO BE SHOP PRIMED & PAINTED TO MATCH COLORS OF FRAMES.
9. PRIOR TO START OF WORK CONTRACTOR TO VERIFY DIMENSIONS OF BUILDING AND SITE & NOTIFY ARCHITECT IMMEDIATELY OF ANY CONFLICTS.

**General:**

- ◊0.1 NEW 48" HIGH SCREEN
- ◊0.2 NEW 8'-0" HIGH PVC FENCE
- ◊0.3 NEW CONCRETE PAD FOR EXTERIOR STORAGE AREA
- ◊0.4 NEW 12'-0" WIDE GATE
- ◊0.5 REMOVE STRIPING FOR STAGING AREA
- ◊0.6 EXISTING 40'-0" HIGH LIGHT POLE
- ◊0.7 EXISTING STORM DRAIN
- ◊0.8 PATCH, REPAIR AND/OR REPLACE ALL DAMAGED SIDEWALK
- ◊0.9 NEW PLANTER
- ◊0.10 EXISTING LOADING DOCK
- ◊0.11 NEW LOADING AREA
- ◊0.12 NEW DUMPSTER ENCLOSURE
- ◊0.13 NEW 10'-0" ARBORVITAE

**Legend:**

- ⊙ COLUMN DESIGNATION
- NEW FENCING
- ▬ NEW WALL
- EXISTING LIGHT POLE
- ▬ EXISTING DOOR (TO REMAIN)
- ▬ EXISTING WALL (TO REMAIN)

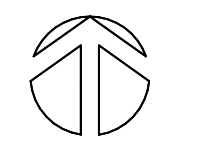


**Family Farm and Home**  
Interior Renovation

3685 East Grand River Ave  
Howell, MI 48843

3/21/18 Addendum #3  
2/22/18 Addendum #2  
1/24/18 Addendum #1  
1/3/18 Site Plan Submission  
12/22/17 Owner Review

Drawn: MMH Checked: RDK

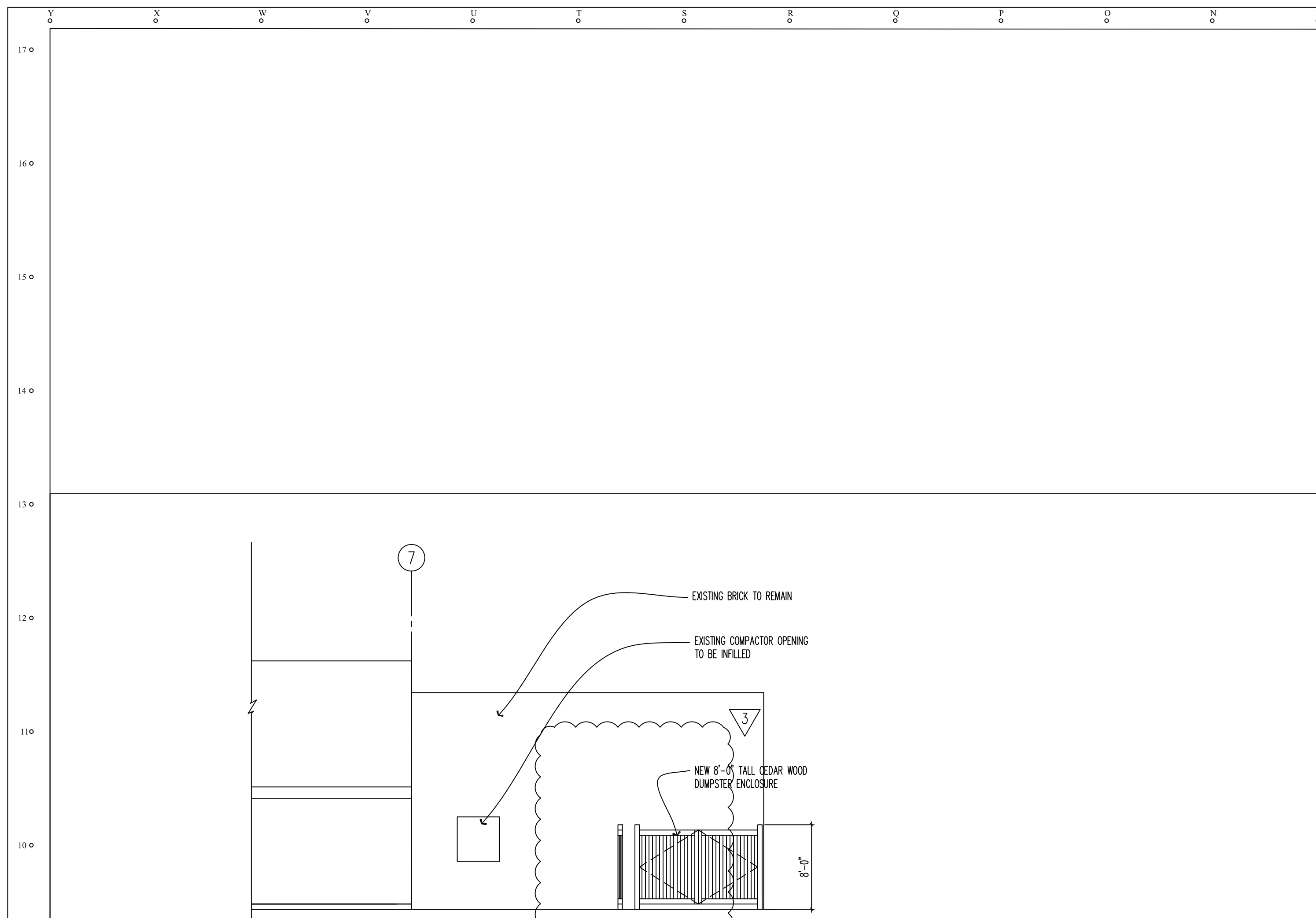


Reference North

171129

Architectural  
Site  
Plan



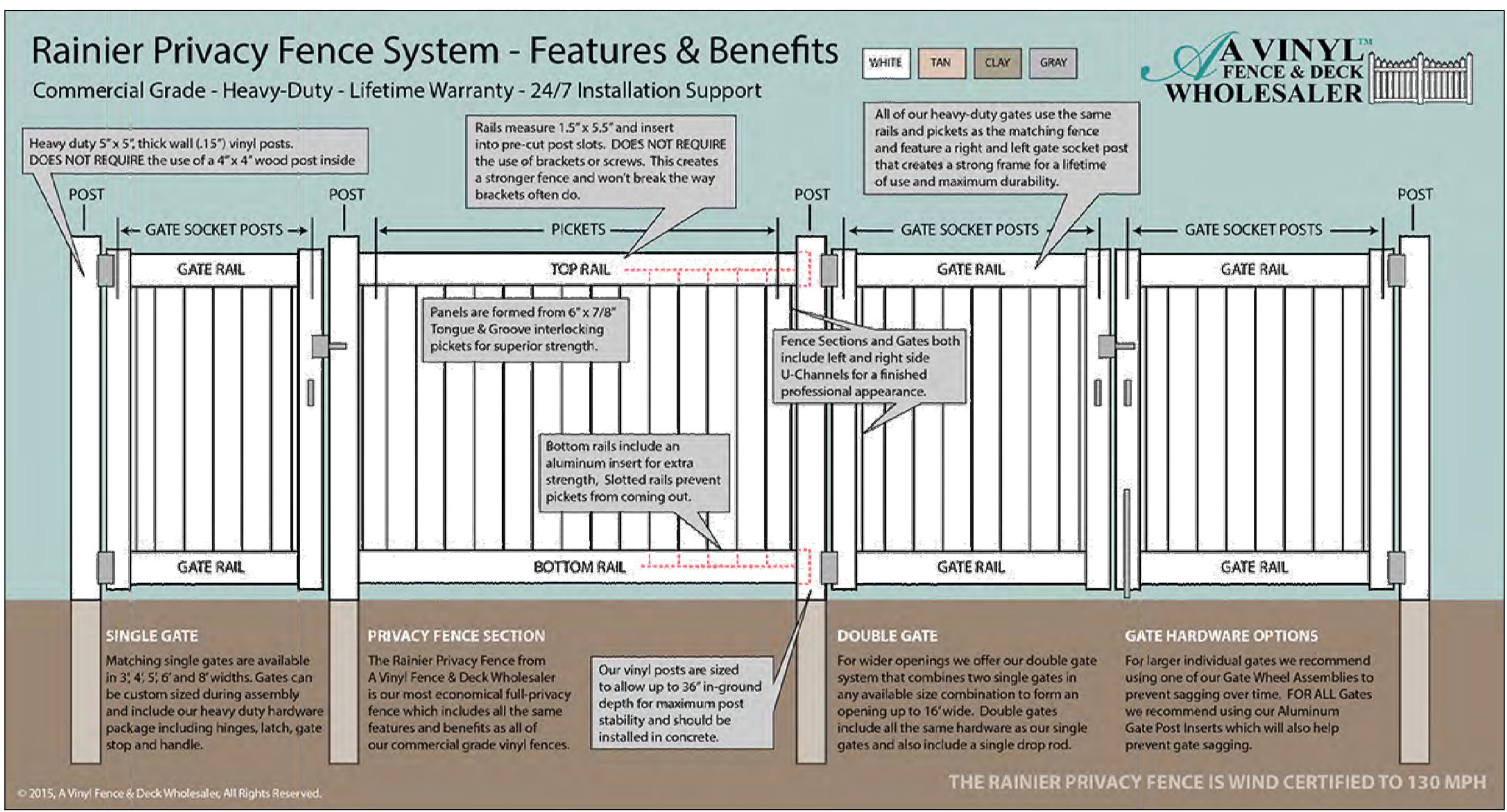


South Elevation at Loading Dock

1/8"=1'-0"  
FF&H-ee03

11

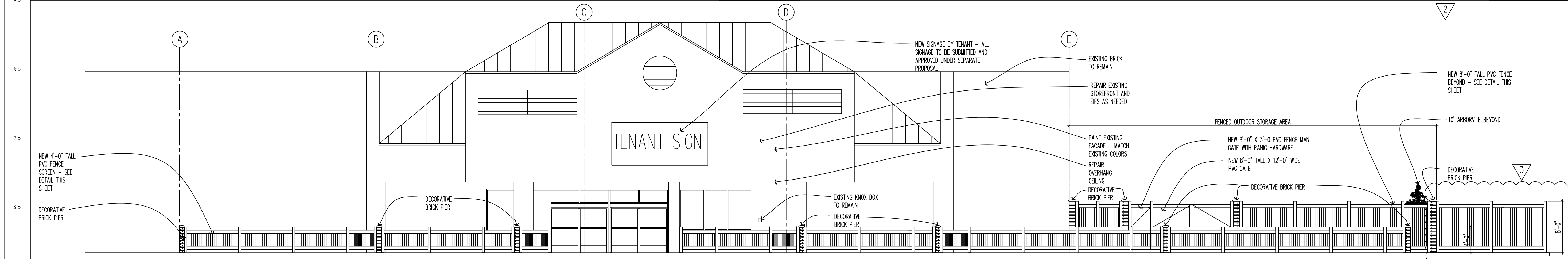
Fence Detail



2

N.T.S.  
FF&H

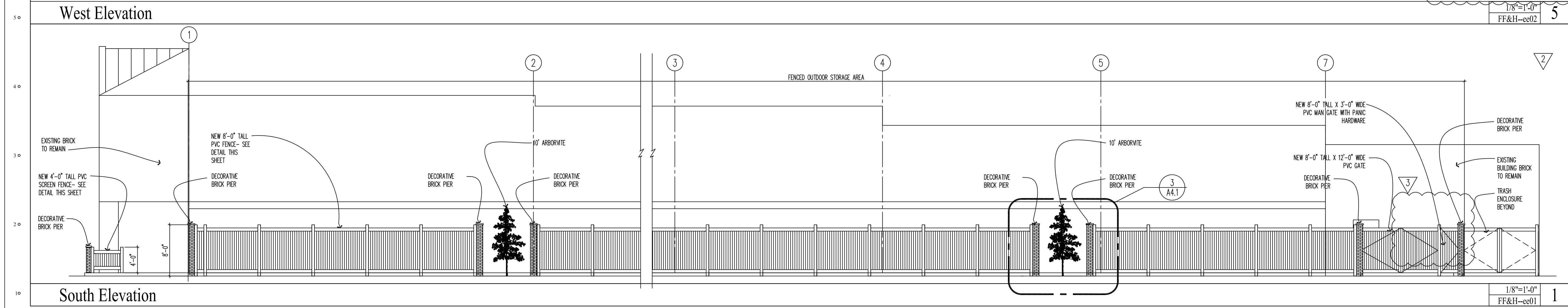
9



West Elevation

1/8"=1'-0"  
FF&H-ee02

5



South Elevation

1/8"=1'-0"  
FF&H-ee01

1

METRO GROUP ARCHITECTS  
P.O. Box 7363  
Ann Arbor, Michigan 48107  
Phone: (734) 747-8999



Family Farm and Home  
Interior Renovation  
3685 East Grand River Ave  
Howell, MI 48843

3/21/18 Addendum #3  
2/22/18 Addendum #2  
1/24/18 Addendum #1  
1/3/18 Site Plan Submission  
12/22/17 Owner Review

Drawn: MMH Checked: RDK

171129

Exterior Elevations

A5.1