



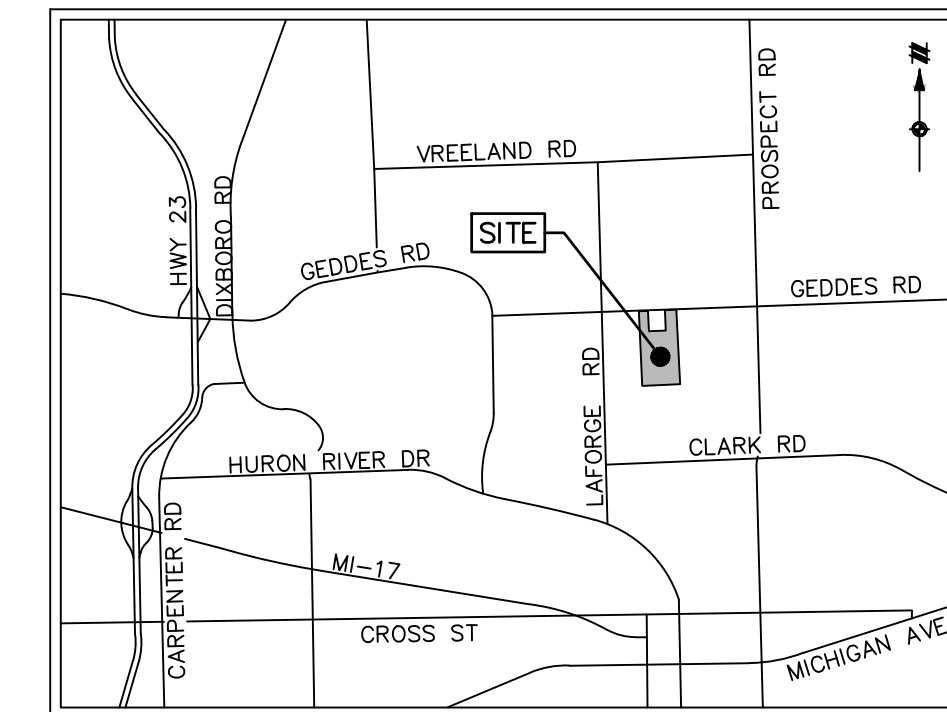
# THE MEADOWS

## AT HAWTHORNE MILL

### A SINGLE FAMILY DEVELOPMENT

#### SUPERIOR TOWNSHIP, WASHTENAW COUNTY, MICHIGAN

# PRELIMINARY SITE PLAN



VICINITY MAP  
NOT TO SCALE



Know what's below.  
Call before you dig.

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. 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.

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### PROJECT CONTACTS

<b>OWNER/DEVELOPER / APPLICANT</b> EYDE COMPANY 2947 EYDE PARKWAY, SUITE 200 EAST LANSING, MICHIGAN 48823 CONTACT: SAMUAL EYDE PHONE: (517) 351-2480	<b>CIVIL ENGINEER</b> ATWELL, LLC TWO TOWNE SQUARE, SUITE 700 SOUTHFIELD, MICHIGAN 48076 CONTACT: JARED KIME PHONE: (248) 447-2000
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### LEGAL DESCRIPTION

EXHIBIT "A" PROPERTY DESCRIPTION PER COMMITMENT FOR TITLE INSURANCE ISSUED BY WFG NATIONAL TITLE INSURANCE COMPANY, ISSUING AGENT: DIVERSIFIED NATIONAL TITLE AGENCY, LLC, COMMITMENT NUMBER: 19-4464, COMMITMENT DATE: 12/11/2019:

PROPERTY 17:  
A PART OF THE NORTHWEST 1/4 OF SECTION 33, TOWN 2 SOUTH, RANGE 7 EAST, SUPERIOR TOWNSHIP, WASHTENAW COUNTY, MICHIGAN, BEING MORE PARTICULARLY DESCRIBED AS: COMMENCING AT THE NORTH 1/4 CORNER OF SAID SECTION 33 FOR A POINT OF BEGINNING; THENCE SOUTH 00 DEGREES 19 MINUTES 48 SECONDS EAST 2659.09 FEET ALONG THE NORTH AND SOUTH 1/4 LINE TO THE CENTER OF SAID SECTION 33; THENCE NORTH 89 DEGREES 55 MINUTES 54 SECONDS WEST 1344.77 FEET ALONG THE EAST AND WEST 1/4 LINE OF SAID SECTION 33; THENCE NORTH 00 DEGREES 01 MINUTE 27 SECONDS WEST 2657.44 FEET ALONG THE WEST LINE OF THE EAST 1/2 OF THE NORTHWEST 1/4 TO THE NORTH LINE OF SAID SECTION 33; THENCE EAST 326.30 FEET ALONG THE NORTH LINE OF SAID SECTION 33; THENCE SOUTH 00 DEGREES 00 MINUTES 29 SECONDS EAST 725.92 FEET; THENCE NORTH 89 DEGREES 59 MINUTES 45 SECONDS EAST 599.99 FEET; THENCE NORTH 00 DEGREES 00 MINUTES 10 SECONDS WEST 725.88 FEET (PREVIOUSLY RECORDED NORTH 726.00 FEET) TO THE NORTH LINE OF SAID SECTION 33; THENCE EAST 404.20 FEET ALONG THE NORTH LINE OF SAID SECTION 33 TO THE POINT OF BEGINNING.

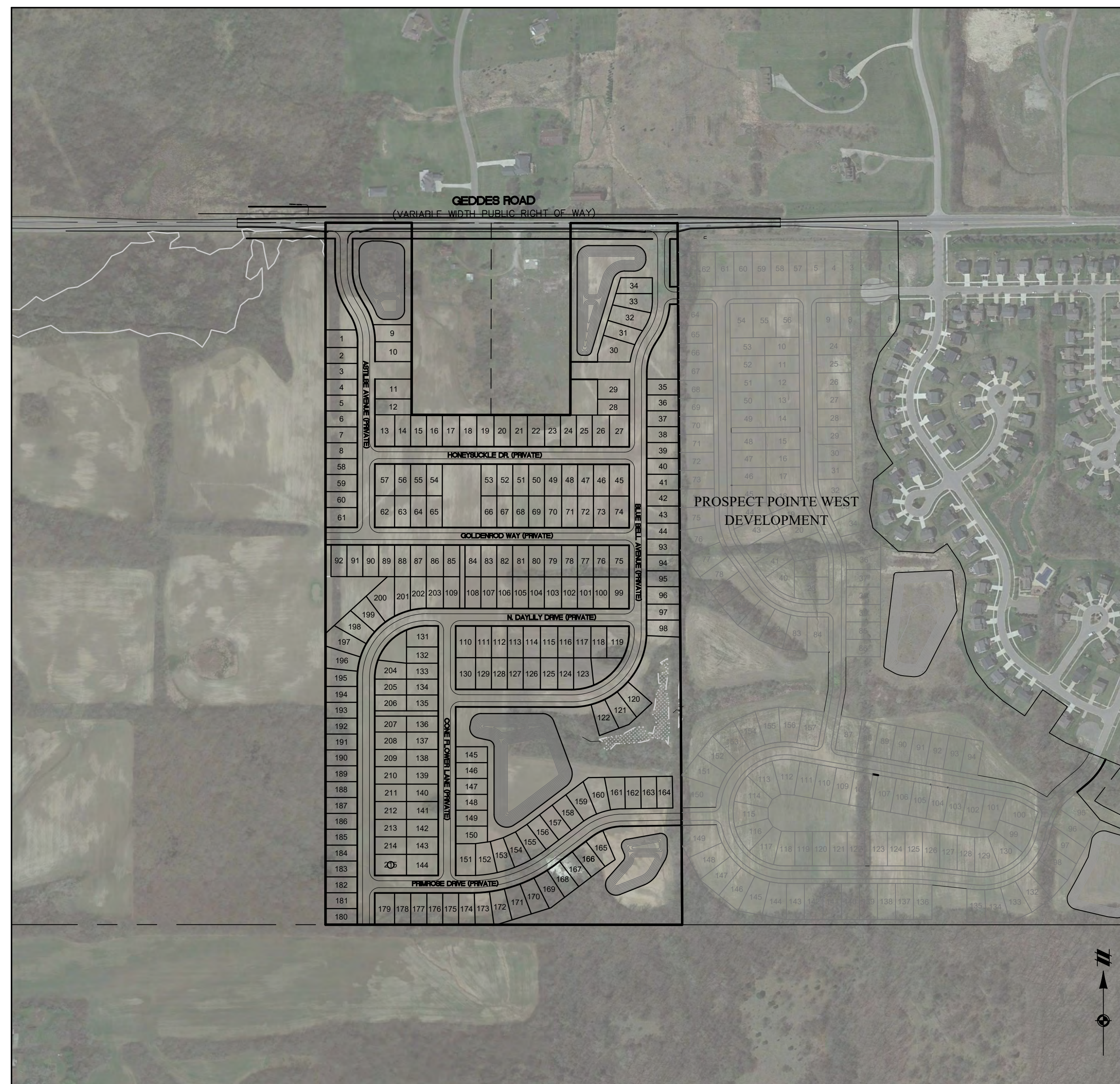
ALSO DESCRIBED BY SURVEY AS FOLLOWS:  
BEGINNING AT THE NORTH 1/4 CORNER OF SECTION 33, TOWN 2 SOUTH, RANGE 7 EAST, SUPERIOR TOWNSHIP, WASHTENAW COUNTY, MICHIGAN; THENCE SOUTH 02 DEGREES 42 MINUTES 24 SECONDS EAST 2652.38 FEET (RECORDED AS SOUTH 00 DEGREES 19 MINUTES 48 SECONDS EAST 2659.09 FEET) ALONG THE NORTH-SOUTH 1/4 LINE OF SAID SECTION; THENCE SOUTH 87 DEGREES 41 MINUTES 15 SECONDS WEST 1348.00 FEET (RECORDED AS SOUTH 89 DEGREES 55 MINUTES 54 SECONDS WEST 1344.77 FEET) ALONG THE EASTWEST 1/4 LINE OF SAID SECTION; THENCE NORTH 02 DEGREES 19 MINUTES 48 SECONDS WEST 2654.07 FEET (RECORDED AS NORTH 00 DEGREES 01 MINUTE 27 SECONDS WEST 2657.44 FEET) ALONG THE WEST LINE OF THE EAST 1/2 OF THE NORTHWEST 1/4 OF SAID SECTION 33; THENCE NORTH 87 DEGREES 45 MINUTES 47 SECONDS EAST 326.37 FEET (RECORDED AS EAST 326.30 FEET) ALONG THE NORTH LINE OF SAID SECTION 33 AND THE CENTERLINE OF GEDDES ROAD (66.00 FEET WIDE); THENCE SOUTH 02 DEGREES 14 MINUTES 13 SECONDS EAST 726.00 FEET (RECORDED AS SOUTH 00 DEGREES 00 MINUTES 29 SECONDS EAST 725.92 FEET); THENCE NORTH 87 DEGREES 45 MINUTES 47 SECONDS EAST 600.00 FEET (RECORDED AS NORTH 89 DEGREES 59 MINUTES 45 SECONDS EAST 599.99 FEET); THENCE NORTH 02 DEGREES 14 MINUTES 13 SECONDS WEST 726.00 FEET (RECORDED AS NORTH 00 DEGREES 00 MINUTES 10 SECONDS WEST 725.88 FEET); THENCE NORTH 87 DEGREES 45 MINUTES 47 SECONDS EAST 404.20 FEET (RECORDED AS EAST) ALONG THE NORTH SECTION LINE OF SAID SECTION 33 AND THE CENTERLINE OF SAID GEDDES ROAD TO THE POINT OF BEGINNING.

### PROJECT NARRATIVE

THE MEADOWS AT HAWTHORNE MILL IS A PROPOSED RESIDENTIAL SITE CONDOMINIUM CONSISTING OF 215 SINGLE FAMILY HOMES ON APPROXIMATELY 71 ACRES OF LAND. THIS PARCEL OF LAND WAS PREVIOUSLY APPROVED FOR A VERY SIMILAR RESIDENTIAL DEVELOPMENT IN 2004 BUT CONSTRUCTION NEVER COMMENCED BECAUSE OF THE RECESSION AND ALL OF THE PREVIOUS ENTITLEMENTS AND PERMITS HAVE SINCE EXPIRED. EYDE DEVELOPMENT, A MICHIGAN FAMILY OWNED DEVELOPMENT COMPANY, IS AIMING TO COMMENCE CONSTRUCTION ON THE MEADOWS IN THE SPRING OF 2021. THE SITE IS BEING DESIGNED WITH PRIVATE ROADS THAT WILL PROVIDE MULTIPLE ACCESS POINTS TO GEDDES ROAD, CONNECT TO THE CURRENTLY PROPOSED PROSPECT POINTE WEST DEVELOPMENT AND PROVIDE STUBS FOR FUTURE DEVELOPMENT TO THE SOUTH AND EAST.

THE SITE DOES CONTAIN NATURAL FEATURES WITH TWO EGLE REGULATED STREAM BEDS AND 0.49 ACRES OF REGULATED WETLANDS PROPOSED TO BE PRESERVED AS PART OF THE DEVELOPMENT. 17.09 ACRES OF OPEN SPACE IS PROPOSED THAT INCLUDE PRESERVATION OF 155 REGULATED TREES. A PASSIVE TRAIL SYSTEM IS DESIGNED TO MEANDER THROUGHOUT THE NATURAL OPEN AREAS AND CONNECT INTO THE DEVELOPMENTS SIDEWALK SYSTEM AS WELL AS 4 POCKET PARKS LOCATED THROUGHOUT THE DEVELOPMENT.

THE PROPOSED DEVELOPMENT WILL BE SERVICED WITH PUBLIC UTILITIES. SEWER WILL CONNECT FROM LEFORGE ROAD AND THE PROSPECT POINTE DEVELOPMENT AND WATER WILL BE LOOPED THROUGHOUT THE DEVELOPMENT FROM GEDDES ROAD. STORMWATER MANAGEMENT WILL BE HANDLED WITH 4 PROPOSED DETENTION PONDS LOCATED THROUGHOUT THE DEVELOPMENT.



OVERALL DEVELOPMENT MAP

SCALE: 1" = 300'

SHEET LIST	
Sheet Number	Sheet Title
1	COVER SHEET
2	OVERALL EXISTING CONDITIONS
3	EXISTING CONDITIONS - NORTH
4	EXISTING CONDITIONS - SOUTH
5	NATURAL FEATURES PLAN
6	OVERALL LAYOUT PLAN
7	LAYOUT PLAN - NORTH
8	LAYOUT PLAN - SOUTH
9	OVERALL UTILITY PLAN
10	UTILITY PLAN - NORTH
11	UTILITY PLAN - SOUTH
12	STORM WATER MANAGEMENT PLAN
13	STORM WATER MANAGEMENT CALCULATIONS
14	LANDSCAPE PLAN
15	DETAILS

### SITE DATA

GROSS AREA:	71.57 ACRES
GEDDES ROAD ROW:	0.55 ACRES
NET AREA:	71.02 ACRES
EXISTING ZONING:	PC (PLANNED COMMUNITY)
PROPOSED ZONING:	PC (PLANNED COMMUNITY)
NUMBER OF PROPOSED LOTS:	215 LOTS
PROPOSED DENSITY (GROSS):	3.00
PROPOSED DENSITY (NET):	3.03
MIN. LOT AREA PER DWELLING UNIT:	60' x 120' = 7,200 SF (TYPICAL)
MINIMUM LOT WIDTH:	60'
LOT SETBACKS:	
FRONT-	25'
SIDE-	6' MIN. (16' TOTAL)
REAR-	35'
PROPOSED GENERAL COMMON ELEMENT (G.C.E.):	17.09 ACRES
WETLAND IMPACTS:	
REGULATED	0.44 ACRES
NON-REGULATED	0.36 ACRES

SECTION 33

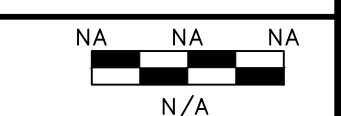
TOWN 2 SOUTH, RANGE 7 EAST  
SUPERIOR TOWNSHIP  
WASHTENAW COUNTY, MICHIGAN

EYDE COMPANY  
THE MEADOWS AT HAWTHORNE MILL  
PRELIMINARY SITE PLAN  
COVER SHEET

DATE  
AUG. 26, 2020

2020-09-29 PER TWP.

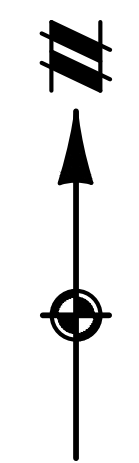
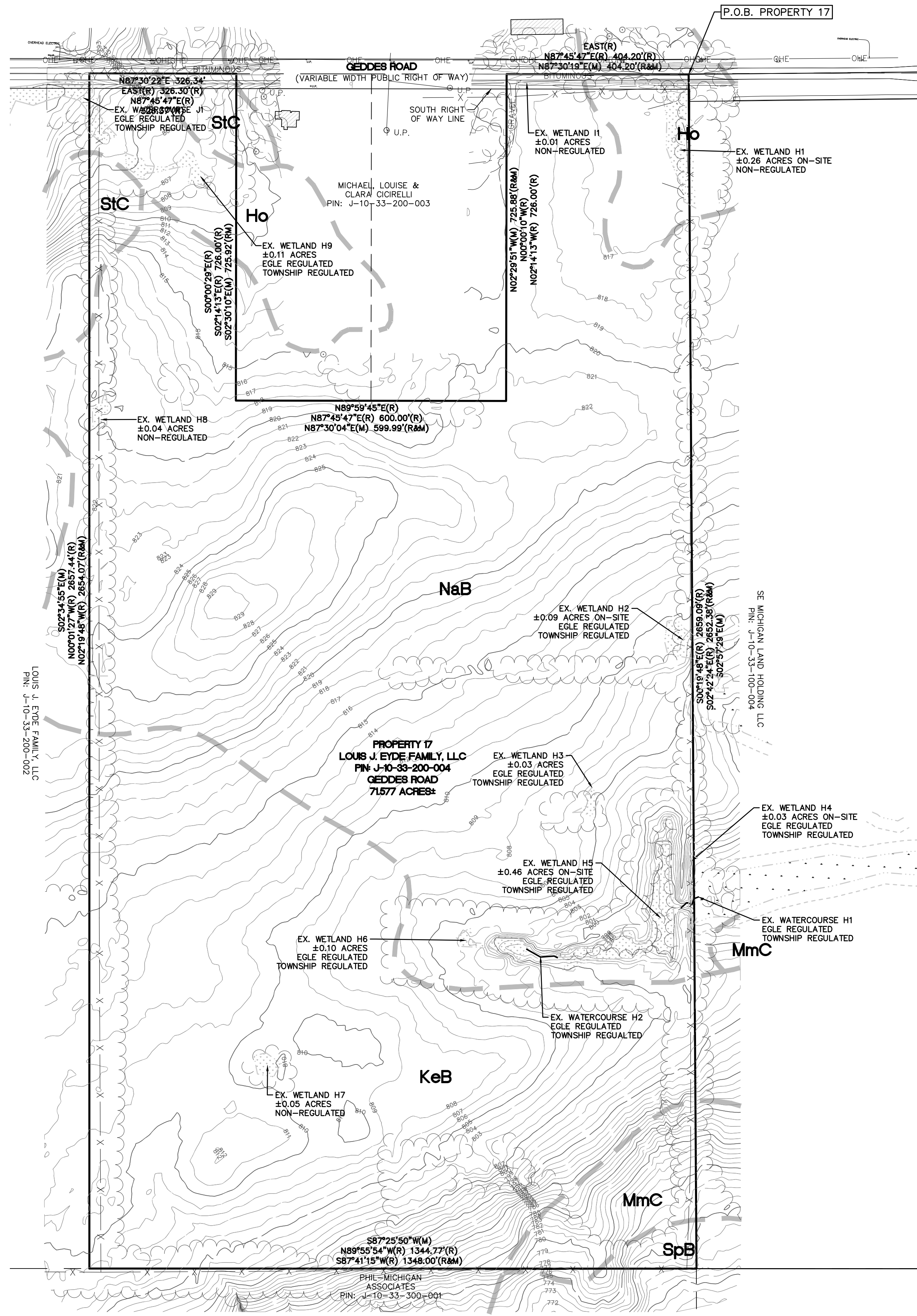
REVISIONS	



DRAWN BY: KS  
CHECKED BY: JK  
P.M.: J. KIME  
JOB #: 19004443  
FILE CODE: -  
SHEET NO. 1

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K:\19004443\DWG\PLAN SET\SITE--PRELIMINARY\19004443.PSP--02--DEC.DWG 9/29/2020 2:21 PM KEVIN SULLIVAN



LEGEND

- BOUNDARY LINE
- EXISTING EASEMENT
- SECTION LINE
- BOUNDARY/PROPERTY LINE
- EX. CONTOUR
- EX. WATER MAIN
- EX. SANITARY
- EX. GAS
- EX. STORM
- EX. OVERHEAD ELECTRICAL LINE
- EX. TELEPHONE LINE
- EX. WETLAND
- EX. TREE LINE
- EX. CURB AND GUTTER
- EX. FENCE
- EX. BUILDING
- EX. CATCH BASIN/INLET/CULVERT
- EX. HYDRANT
- EX. VALVE
- EX. SANITARY SEWER

SOIL INFORMATION

- HO HOYTVILLE SILTY CLAY LOAM
  - KEB KENDALLVILLE LOAM, 2 TO 6 PERCENT SLOPES
  - MmC MIAMI LOAM, 6 TO 12 PERCENT SLOPES
  - NAB NAPPANEE SILTY CLAY LOAM, 2 TO 6 PERCENT SLOPES
  - SPB SPINKS LOAMY SAND, 0 TO 6 PERCENT SLOPES
  - STC ST. CLAIR CLAY LOAM, 6 TO 12 PERCENT SLOPES
- NOTE: ALL SOILS INFORMATION HAS BEEN SUPPLIED BY THE U.S. DEPT. OF AGRICULTURE SOIL CONSERVATION SERVICE.



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SECTION 33

TOWN 2 SOUTH, RANGE 7 EAST  
SUPERIOR TOWNSHIP  
WASHTENAW COUNTY, MICHIGAN

**EYDE COMPANY**  
 THE MEADOWS AT HAWTHORNE MILL  
 PRELIMINARY SITE PLAN  
 OVERALL EXISTING CONDITIONS

DATE: AUG. 26, 2020  
2020-09-29 PER TWP.

NO.	DATE	DESCRIPTION

REVISIONS

0 75 150

SCALE: 1" = 150 FEET

DRAWN BY: KS

CHECKED BY: JK

P.M.: J. KIME

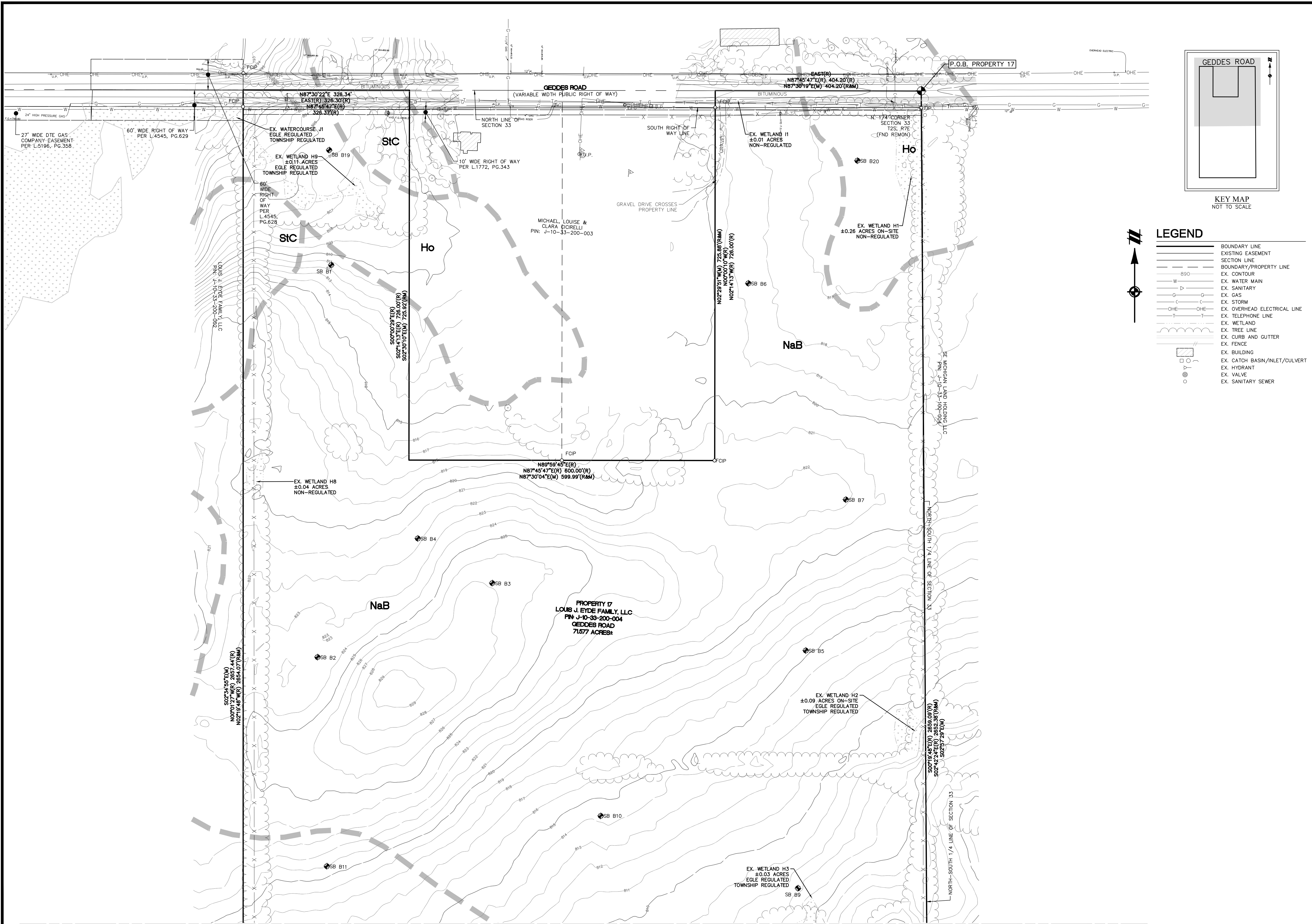
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FILE CODE: -

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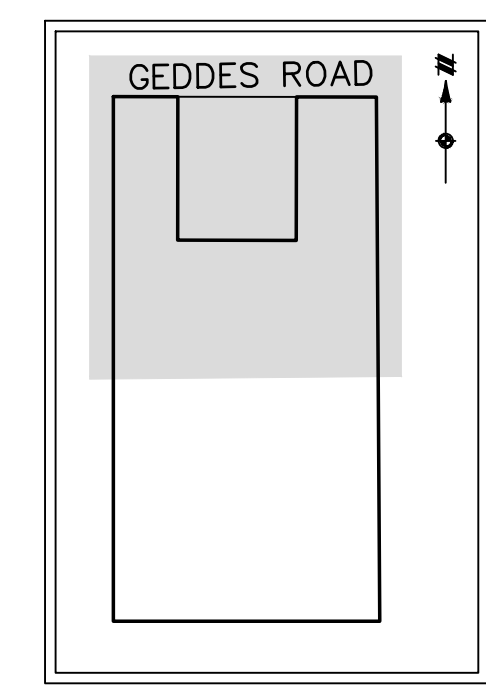


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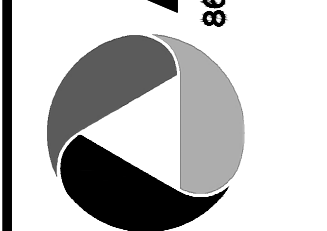


KEY MAP  
NOT TO SCALE

LEGEND

	BOUNDARY LINE
	EXISTING EASEMENT
	SECTION LINE
	BOUNDARY/PROPERTY LINE
	EX. CONTOUR
	EX. WATER MAIN
	EX. SANITARY
	EX. GAS
	EX. STORM
	EX. OVERHEAD ELECTRICAL LINE
	EX. TELEPHONE LINE
	EX. WETLAND
	EX. TREE LINE
	EX. CURB AND GUTTER
	EX. FENCE
	EX. BUILDING
	EX. CATCH BASIN/INLET/CULVERT
	EX. HYDRANT
	EX. VALVE
	EX. SANITARY SEWER

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SECTION 33  
TOWN 2 SOUTH, RANGE 7 EAST  
SUPERIOR TOWNSHIP  
WASHTENAW COUNTY, MICHIGAN

EYE COMPANY  
THE MEADOWS AT HAWTHORNE MILL  
PRELIMINARY SITE PLAN  
EXISTING CONDITIONS - NORTH

DATE  
AUG. 26, 2020  
2020-09-29 PER TWP.

REVISIONS

NO.	DATE	DESCRIPTION

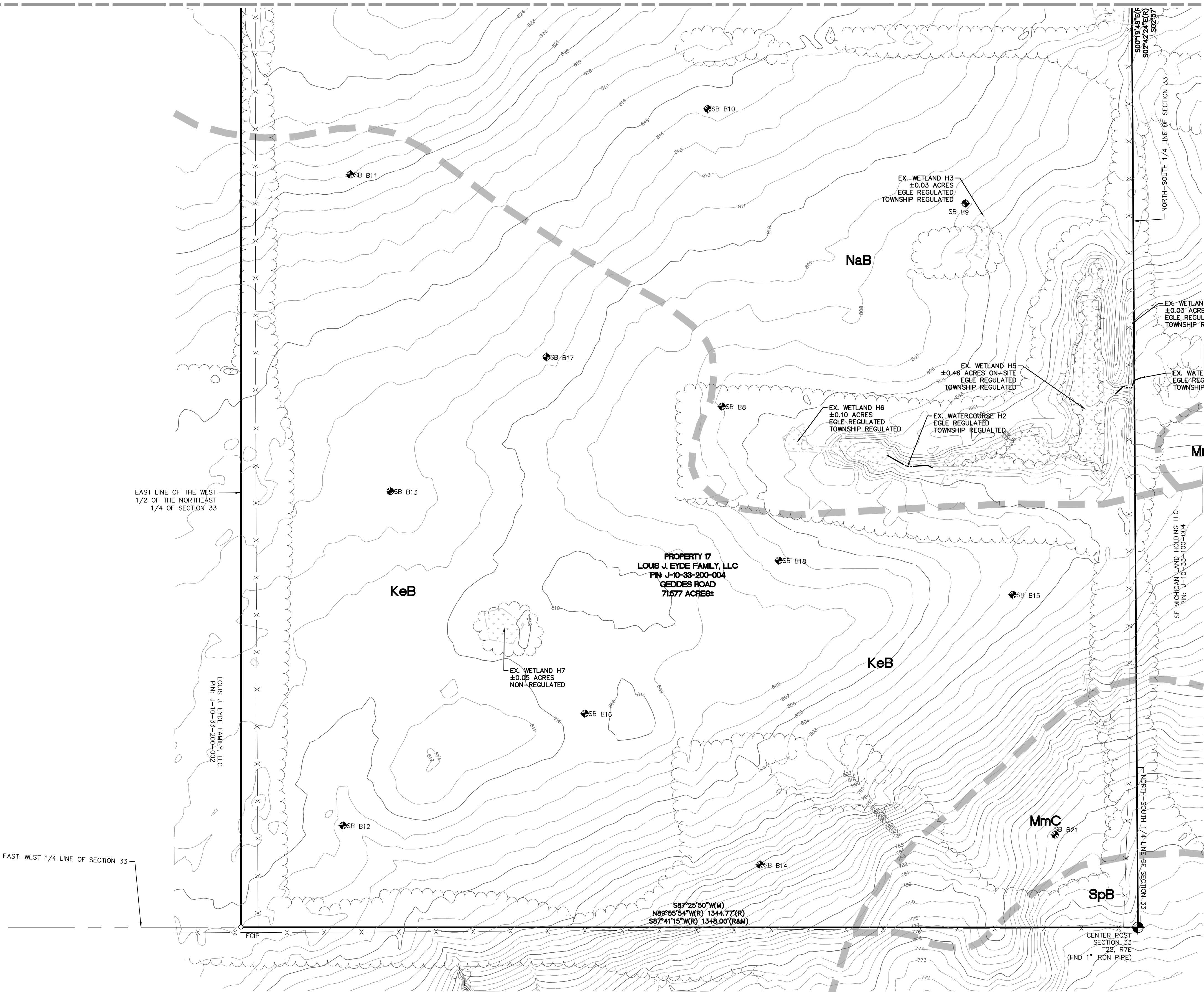
SCALE: 1" = 80 FEET

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CHECKED BY: JK  
P.M.: J. KIME  
JOB #: 19004443  
FILE CODE: -  
SHEET NO. 3

SEE SHEET 4 FOR CONTINUATION

NOT FOR CONSTRUCTION

SEE SHEET 3 FOR CONTINUATION



EAST LINE OF THE WEST  
1/2 OF THE NORTHEAST  
1/4 OF SECTION 33

EAST-WEST 1/4 LINE OF SECTION 33

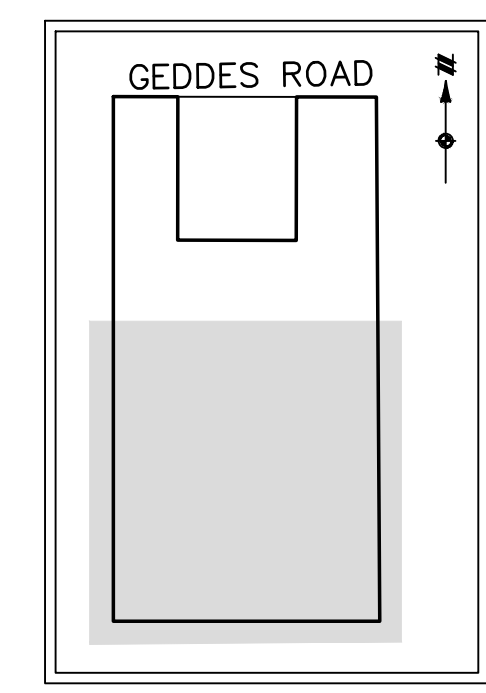
LOUIS J. EYDE FAMILY, LLC  
PIN: J-10-33-200-002

PROPERTY 17  
LOUIS J. EYDE FAMILY, LLC  
PIN: J-10-33-200-004  
GEDDES ROAD  
71.677 ACRES±

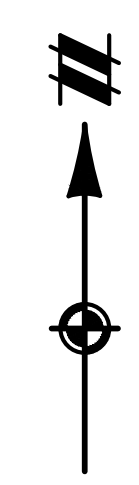
SE MICHIGAN LAND HOLDING LLC  
PIN: J-10-33-100-004

S87°25'50"W(W)  
N89°55'54"W(R) 1344.77'(R)  
S87°41'15"W(R) 1348.00'(R&M)

CENTER POST  
SECTION 33  
125, 976  
(FND 1" IRON PIPE)



KEY MAP  
NOT TO SCALE



LEGEND

- BOUNDARY LINE
- EXISTING EASEMENT
- SECTION LINE
- BOUNDARY/PROPERTY LINE
- EX. CONTOUR
- EX. WATER MAIN
- EX. SANITARY
- EX. GAS
- EX. STORM
- EX. OVERHEAD ELECTRICAL LINE
- EX. TELEPHONE LINE
- EX. WETLAND
- EX. TREE LINE
- EX. CURB AND GUTTER
- EX. FENCE
- EX. BUILDING
- EX. CATCH BASIN/INLET/CULVERT
- EX. HYDRANT
- EX. VALVE
- EX. SANITARY SEWER

**811**  
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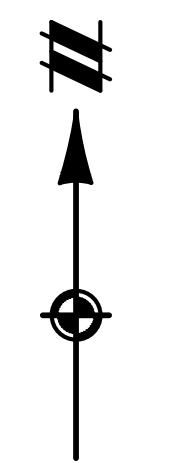
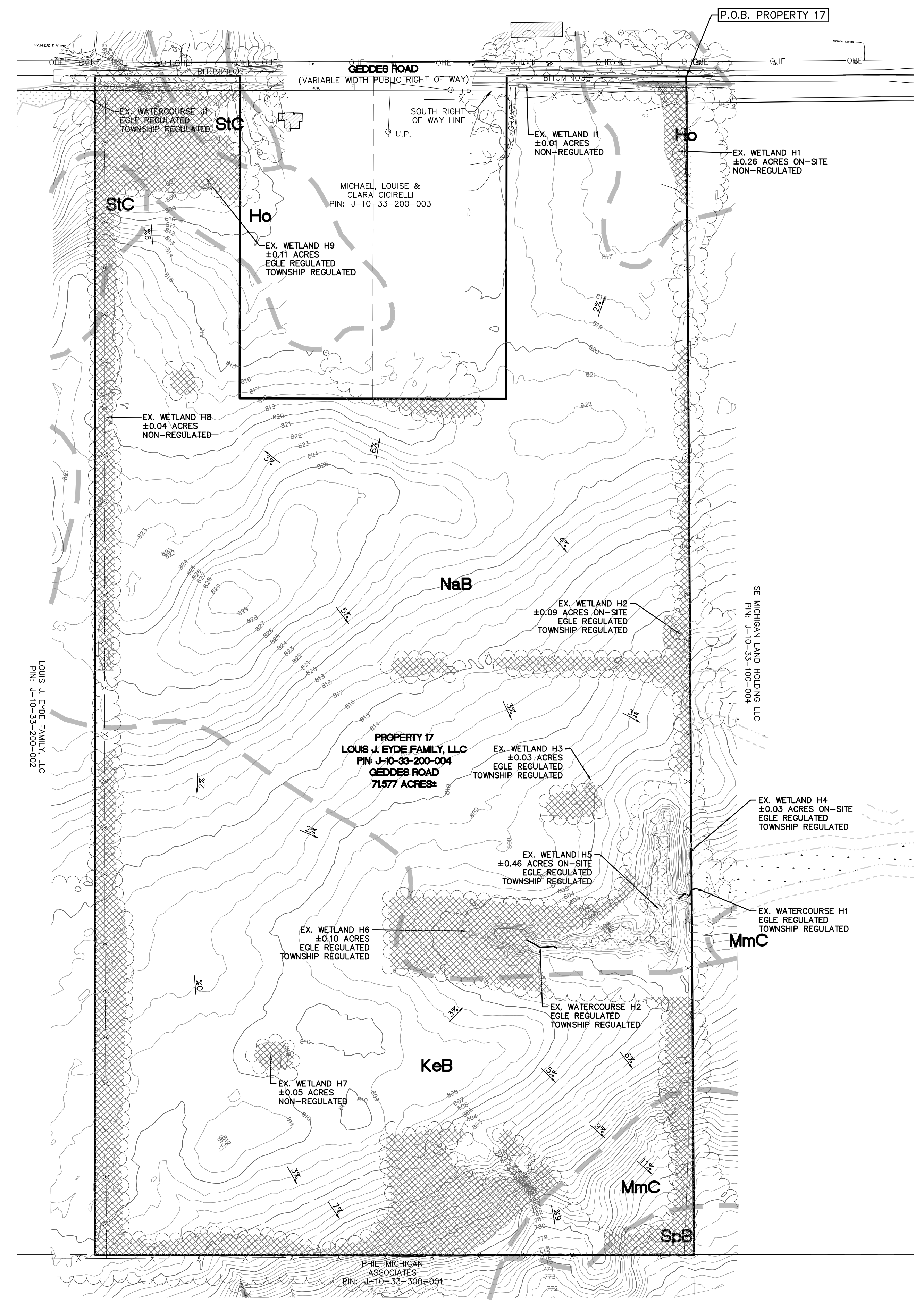
SECTION 33
TOWN 2 SOUTH, RANGE 7 EAST
SUPERIOR TOWNSHIP
WASHTENAW COUNTY, MICHIGAN

EYDE COMPANY
THE MEADOWS AT HAWTHORNE MILL
PRELIMINARY SITE PLAN
EXISTING CONDITIONS - SOUTH

DATE	AUG. 26, 2020
2020-09-29 PER TWP.	
REVISIONS	

SCALE: 1" = 80 FEET
DRAWN BY: KS
CHECKED BY: JK
P.M.: J. KIME
JOB #: 19004443
FILE CODE: -
SHEET NO. 4

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**LEGEND**

- BOUNDARY LINE
- EXISTING EASEMENT
- SECTION LINE
- BOUNDARY/PROPERTY LINE
- EX. CONTOUR
- EX. WATER MAIN
- EX. SANITARY
- EX. GAS
- EX. STORM
- EX. OVERHEAD ELECTRICAL LINE
- EX. TELEPHONE LINE
- EX. WETLAND
- EX. TREE LINE
- EX. CURB AND GUTTER
- EX. FENCE
- EX. BUILDING
- EX. CATCH BASIN/INLET/CULVERT
- EX. HYDRANT
- EX. VALVE
- EX. SANITARY SEWER
- TO BE REMOVED/IMPACTED

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SECTION 33  
 TOWN 2 SOUTH, RANGE 7 EAST  
 SUPERIOR TOWNSHIP  
 WASHTENAW COUNTY, MICHIGAN

EYDE COMPANY  
 THE MEADOWS AT HAWTHORNE MILL  
 PRELIMINARY SITE PLAN  
 NATURAL FEATURES PLAN

DATE AUG. 26, 2020  
 2020-09-29 PER TWP.

NO.	DATE	DESCRIPTION

REVISIONS  
 0 75 150  
 SCALE: 1" = 150 FEET  
 DRAWN BY: KS  
 CHECKED BY: JK  
 P.M.: J. KIME  
 JOB #: 19004443  
 FILE CODE: -  
 SHEET NO. 5

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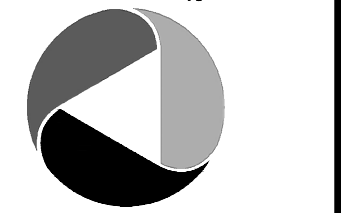
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SECTION 33

TOWN 2 SOUTH, RANGE 7 EAST  
SUPERIOR TOWNSHIP  
WASHTENAW COUNTY, MICHIGAN

EYDE COMPANY  
THE MEADOWS AT HAWTHORNE MILL  
PRELIMINARY SITE PLAN  
OVERALL LAYOUT PLAN

DATE  
AUG. 26, 2020

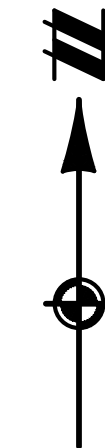
2020-09-29 PER TWP.

Table with 2 columns: Description, Date/Time. Includes revision history.

REVISIONS  
SCALE: 1" = 150 FEET  
DRAWN BY: KS  
CHECKED BY: JK  
P.M.: J. KIME  
JOB #: 19004443  
FILE CODE: -  
SHEET NO. 6

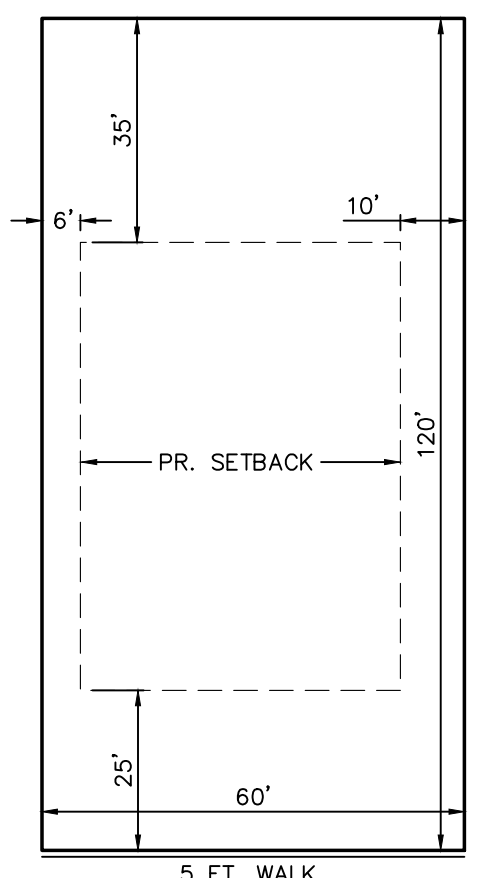
LEGEND

- BOUNDARY LINE
EX. EASEMENT
SECTION LINE
BOUNDARY/PROPERTY LINE
EX. SETBACK
EX. TREE LINE
EX. CURB AND GUTTER
EX. WETLAND BUFFER
PR. SETBACK
PR. LOT LINE
PR. ROAD CENTERLINE
PR. BACK OF CURB
EX. WETLAND
PR. PHASE LINE
PR. WALK
PR. ASPH.
GENERAL COMMON ELEMENT



PHASING SUMMARY

- PHASE 1 = 39 UNITS
PHASE 2 = 53 UNITS
PHASE 3 = 43 UNITS
PHASE 4 = 40 UNITS
PHASE 5 = 40 UNITS
TOTAL = 215 UNITS



TYPICAL 60' LOT DETAIL N.T.S.

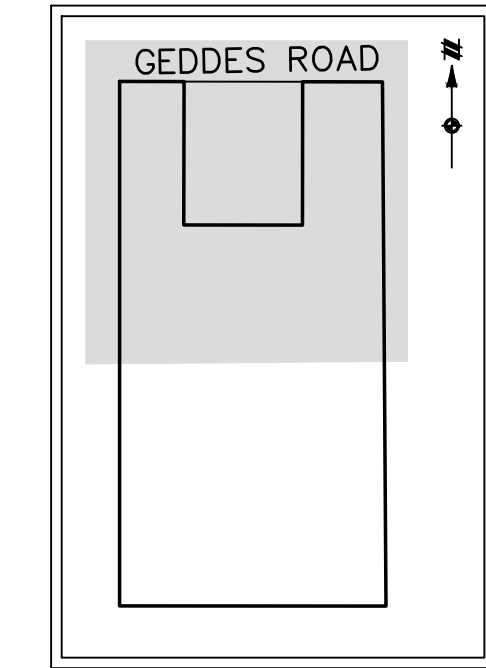
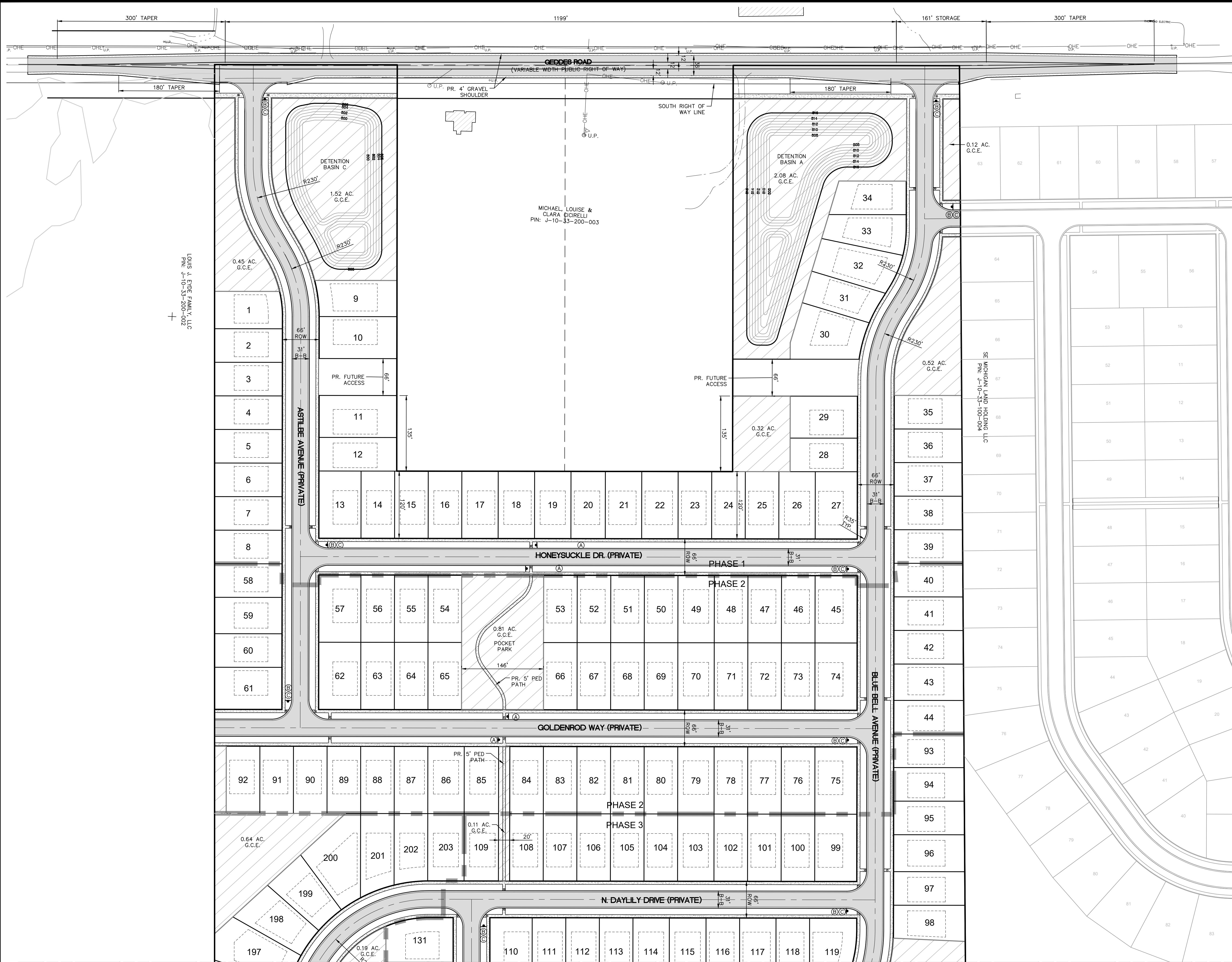
Parcel Table with 5 columns. Each column lists Parcel # and Area (S.F.) for various lots across the site.

Parcel Table with 5 columns. Each column lists Parcel # and Area (S.F.) for various lots across the site.

NOT FOR CONSTRUCTION

K:\19004443\DWG\PLAN SET\SITE-PRELIMINARY\19004443PSP-05-OLD.DWG 9/29/2020 2:24 PM KEVIN SULLIVAN

K:\19004443\DWG\PLAN\_SECTA SITE - PRELIMINARY\19004443\SP-06-LDWG\_9/29/2020 2:25 PM KEVIN SULLIVAN



KEY MAP NOT TO SCALE

LEGEND

- BOUNDARY LINE
- EX. EASEMENT
- SECTION LINE
- BOUNDARY/PROPERTY LINE
- EX. SETBACK
- EX. TREE LINE
- EX. CURB AND GUTTER
- EX. WETLAND BUFFER
- PR. SETBACK
- PR. LOT LINE
- PR. ROAD CENTERLINE
- PR. BACK OF CURB
- EX. WETLAND
- PR. PHASE LINE
- PR. WALK
- PR. ASPH.
- GENERAL COMMON ELEMENT
- GENERAL COMMON ELEMENT
- GARAGE/DRIVEWAY

SIGN LEGEND

- W11A-2 PEDESTRIAN CROSSING SIGN
- R1-1 STOP SIGN
- D3-1 STREET NAME SIGN

**811**  
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SECTION 33  
TOWN 2 SOUTH, RANGE 7 EAST  
SUPERIOR TOWNSHIP  
WASHTENAW COUNTY, MICHIGAN

EYDE COMPANY  
THE MEADOWS AT HAWTHORNE MILL  
PRELIMINARY SITE PLAN  
LAYOUT PLAN - NORTH

DATE: AUG. 26, 2020  
2020-09-29 PER TWP.

REVISIONS

SCALE: 1" = 80 FEET  
DRAWN BY: KS  
CHECKED BY: JK  
P.M.: J. KIME  
JOB #: 19004443  
FILE CODE: -  
SHEET NO. 7

CAD FILE: 19004443\SP-06-LDWG

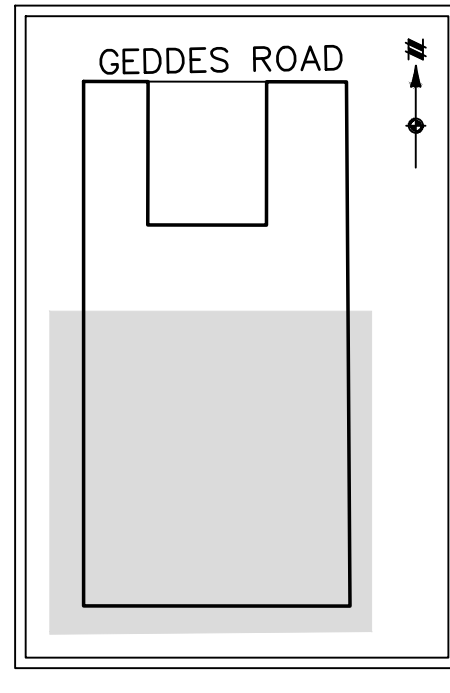
SEE SHEET 8 FOR CONTINUATION

NOT FOR CONSTRUCTION



Table with 2 columns: REVISIONS, and empty rows for revision details.

SEE SHEET 7 FOR CONTINUATION

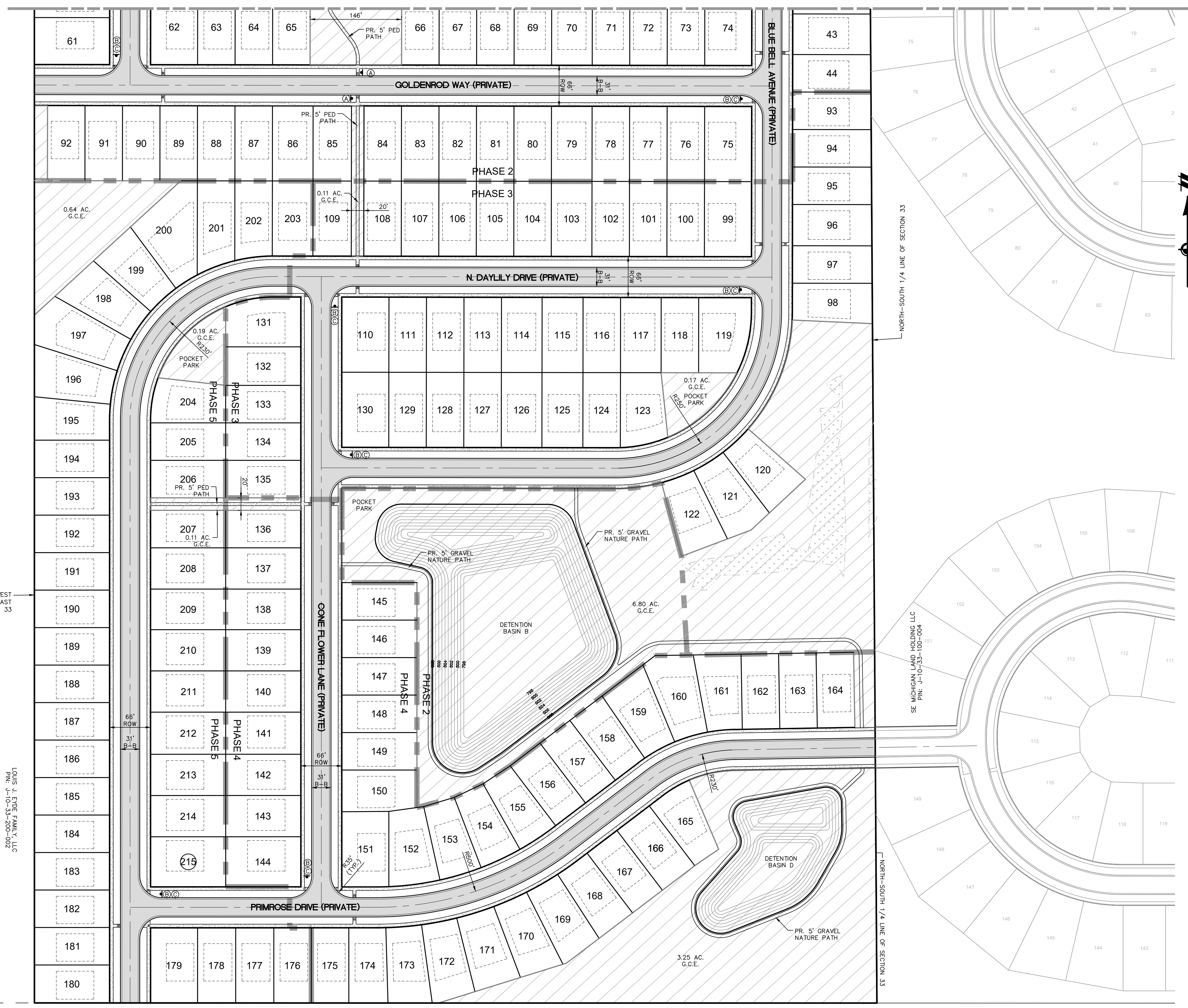


LEGEND

- BOUNDARY LINE
EX. EASEMENT
SECTION LINE
BOUNDARY/PROPERTY LINE
EX. SETBACK
EX. TREE LINE
EX. CURB AND GUTTER
EX. WETLAND BUFFER
PR. SETBACK
PR. LOT LINE
PR. ROAD CENTERLINE
EX. WETLAND
PR. PHASE LINE
PR. WALK
PR. ASPH.
GENERAL COMMON ELEMENT
GARAGE/DRIVEWAY

SIGN LEGEND

- W11-2 PEDESTRIAN CROSSING SIGN
R1-1 STOP SIGN
D3-1 STREET NAME SIGN



EAST LINE OF THE WEST 1/2 OF THE NORTHEAST 1/4 OF SECTION 33

FIGS 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215

EAST-WEST 1/4 LINE OF SECTION 33

CENTER POST SECTION 33 T2S, R7E (FND 1" IRON PIPE)

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SECTION 33  
TOWN 2 SOUTH, RANGE 7 EAST  
SUPERIOR TOWNSHIP  
WASHTENAW COUNTY, MICHIGAN

EYDE COMPANY  
THE MEADOWS AT HAWTHORNE MILL  
PRELIMINARY SITE PLAN  
OVERALL UTILITY PLAN

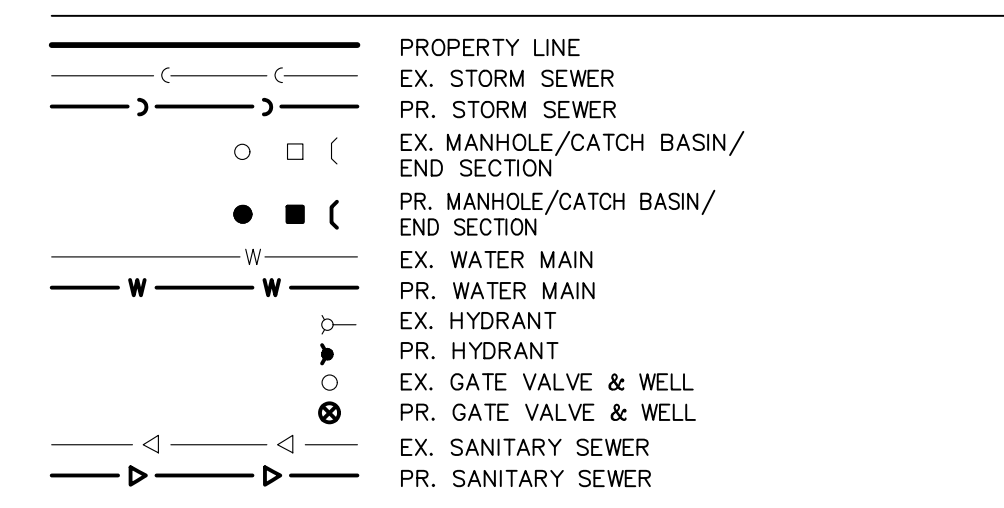
DATE  
AUG. 26, 2020  
2020-09-29 PER TWP.

REVISIONS

NO.	DATE	DESCRIPTION

SCALE: 1" = 150 FEET  
DRAWN BY: KS  
CHECKED BY: JK  
P.M.: J. KIME  
JOB #: 19004443  
FILE CODE: -  
SHEET NO. 9

### LEGEND



#### WATER MAIN BASIS OF DESIGN

No. of Single Family Lots:	215 Lots
No. of Users per Lot:	3.5 Persons
Total Expected Population Served:	753 Persons
Average Daily Flow (per capita):	100 G.P.D.
Peaking Factor: $18 + \sqrt{\text{POP}/1000} = 4 + \sqrt{\text{POP}/1000}$	3.88
Average Demand: $\text{POP} \times 100 =$	75,300 G.P.D. = 52.3 G.P.M. = 0.117 C.F.S.
Peak Demand: $75,300 \times 3.88 =$	291,868 G.P.D. = 202.7 G.P.M. = 0.452 C.F.S.

#### SANITARY SEWER BASIS OF DESIGN - LEFORGE ROAD SERVICE AREA

Total No. of Single Family Lots:	166 Lots
No. of Users per Lot:	3.5 Persons
Total Expected Population Served:	581 Persons
Average Daily Flow (per capita):	100 G.P.D.
Peaking Factor: $18 + \sqrt{\text{POP}/1000} = 4 + \sqrt{\text{POP}/1000}$	3.94
Average Flow: $\text{POP} \times 100 =$	58,100 G.P.D. = 40.3 G.P.M. = 0.090 C.F.S.
Peak Flow: $58,100 \times 3.94 =$	228,902 G.P.D. = 159.0 G.P.M. = 0.354 C.F.S.
Pipe Capacity: 10 in. diameter, 0.30% slope, 0.013 Manning's 'n'	A= 0.545 sf R= 0.208 ft
Manning's Capacity =	1.203 C.F.S.
Velocity Flowing Full =	2.21 F.P.S.

#### SANITARY SEWER BASIS OF DESIGN - PROSPECT POINTE SERVICE AREA

Total No. of Single Family Lots:	49 Lots
No. of Users per Lot:	3.5 Persons
Total Expected Population Served:	172 Persons
Average Daily Flow (per capita):	100 G.P.D.
Peaking Factor: $18 + \sqrt{\text{POP}/1000} = 4 + \sqrt{\text{POP}/1000}$	4.17
Average Flow: $\text{POP} \times 100 =$	17,200 G.P.D. = 11.9 G.P.M. = 0.027 C.F.S.
Peak Flow: $17,200 \times 4.17 =$	71,745 G.P.D. = 49.8 G.P.M. = 0.111 C.F.S.
Pipe Capacity: 8 in. diameter, 0.40% slope, 0.013 Manning's 'n'	A= 0.349 sf R= 0.167 ft
Manning's Capacity =	0.766 C.F.S.
Velocity Flowing Full =	2.20 F.P.S.

#### 6/9/2020 Prospect Pointe Pump Station Sewer Flows Summary

Existing Flows to date:		Base Flow								Peak Flow		
Acres	REUs	Population	GPD	CFS	GPM	GPD	CFS	GPM	Peak Factor	(total service area)		
Fairfax	41	143.5	14350	0.02	9.97	53818.19	0.08	38.56	3.87			
PP I	86	301	30100	0.05	20.90	116481.51	0.18	80.88	3.87			
PP II	94	329	32900	0.05	22.85	127295.14	0.20	88.40	3.87			
Totals	221	773.5	77350	0.12	53.72	299279.00	0.46	207.83	3.87			

Existing Pump Sta. capacity 382 GPM or 0.85 cfs

Proposed Future Flows:		Base Flow								Peak Flow		
Acres	REUs	Population	GPD	CFS	GPM	GPD	CFS	GPM	Peak Factor	(total service area)		
Fairfax	41	143.5	14350	0.02	9.97	53818.19	0.08	38.56	3.87			
PP I	86	301	30100	0.05	20.90	110789.36	0.17	76.94	3.68			
PP II	94	329	32900	0.05	22.85	121095.35	0.19	84.09	3.68			
PP West (Future)	157	549.5	54950	0.09	38.16	202255.00	0.31	140.45	3.68			
Meadows	49	171.5	17150	0.03	11.91	63124.17	0.10	43.64	3.68			
Totals	427	1494.5	149450	0.23	103.78	550062.06	0.85	382.00	3.68			

### UTILITY NARRATIVE

**SEWER:** THE SITE WILL BE SERVICED WITH PUBLIC SANITARY SEWER VIA CONNECTION POINTS TO TWO SEPARATE SEWER DISTRICTS. SOME CAPACITY REMAINS IN THE PROSPECT POINTE PUMP STATION FOR SANITARY SEWER. THE SOUTHERN-MOST UNITS WILL BE SERVICED BY A CONNECTION THROUGH PROSPECT POINTE WEST TO MAKE USE OF THIS REMAINING CAPACITY. IT IS ANTICIPATED THAT UP TO 49 UNITS CAN BE ACCOMMODATED IN THE AVAILABLE CAPACITY. ALL UNITS NOT SERVICED THROUGH PROSPECT POINTE WILL BE SERVICED BY CONNECTING TO EXISTING SEWER IN LEFORGE ROAD.

**WATER:** THE SITE WILL BE SERVICED WITH PUBLIC WATER BY CONNECTING TO AN EXISTING 12" MAIN IN GEDDES ROAD ROW AS WELL AS CONNECTING INTO TWO 8" MAINS FROM PROSPECT POINTE WEST.

**STORMWATER:** ATWELL HAS COORDINATED WITH THE WASHTENAW COUNTY WATER RESOURCE COMMISSION RELATED TO PRELIMINARY DESIGN REQUIREMENTS AND SOILS ANALYSIS. THIS IS DISCUSSED IN MORE DETAIL ON SHEET 12.

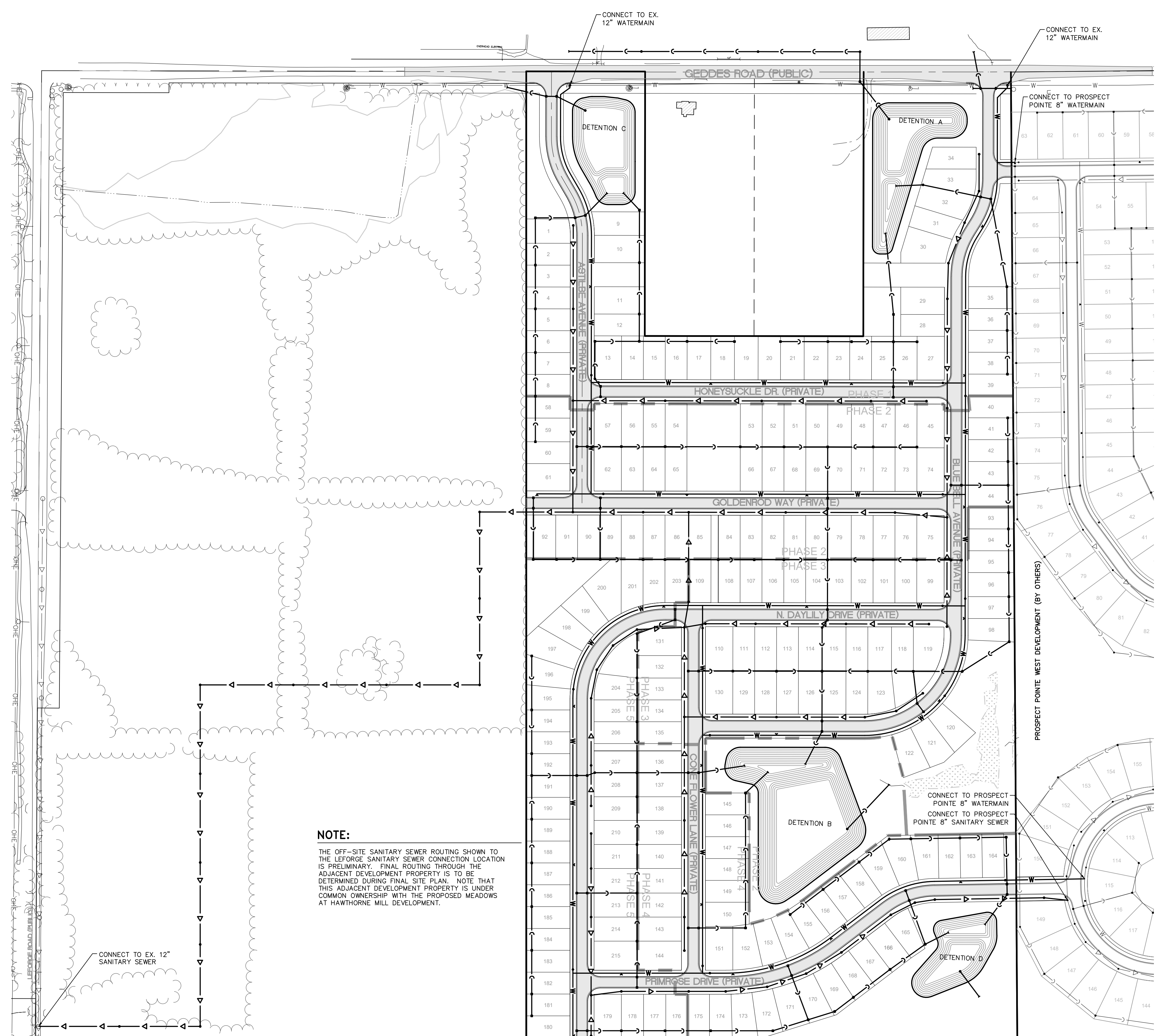
**UTILITY PHASING:** DURING THE INITIAL PHASE, ALL UTILITIES NEEDED TO SERVICE LOTS 1-39 SHALL BE INSTALLED ALONG WITH THE TWO NORTH DETENTION BASINS AND OUTLETS TO THE SNIDECAR DRAIN. THE SANITARY SEWER WILL BE EXTENDED THROUGH THE ADJACENT PARCEL OUT TO LEFORGE ROAD AND WATER MAIN WILL CONNECT TO THE EXISTING 12" MAIN ALONG GEDDES AS WELL AS THE NORTHERN CONNECTION TO THE 8" MAIN IN PROSPECT POINTE TO ENSURE A LOOPING SYSTEM. THE LATER PHASES OF THE DEVELOPMENT WILL ADD ADDITIONAL STORMWATER BASINS THAT FOLLOW EXISTING DRAINAGE PATTERNS TO THE SUPERIOR NO. 1 DRAIN. WATER AND SANITARY SEWER SERVICE WILL BE EXTENDED AS REQUIRED FROM THE PREVIOUS PHASES.

### NOTES

- ALL STORM SEWER SHALL BE PLACED IN 20' WIDE DRAINAGE EASEMENTS, CROSS LOT AND REAR LOT SWALES WILL BE PLACED IN 30' WIDE DRAINAGE EASEMENTS.
- ALL SANITARY SEWER WILL BE PLACED IN 20' WIDE EASEMENTS UNLESS WIDER EASEMENTS ARE DETERMINED TO BE NECESSARY DURING DETAILED ENGINEERING IN THE FINAL SITE PLAN PROCESS.
- ALL WATER MAIN WILL BE PLACED IN 20' WIDE EASEMENTS.
- AT THIS TIME, 25 LOTS ARE ANTICIPATED TO BE SERVICED BY HUNG PLUMBING. THIS WILL BE VERIFIED DURING DETAILED DESIGN IN THE FINAL SITE PLAN STAGE.
  - LOTS: 1, 2, 9, 10, 124-131, 142-148, 151-156

### NOTE:

THE OFF-SITE SANITARY SEWER ROUTING SHOWN TO THE LEFORGE SANITARY SEWER CONNECTION LOCATION IS PRELIMINARY. FINAL ROUTING THROUGH THE ADJACENT DEVELOPMENT PROPERTY IS TO BE DETERMINED DURING FINAL SITE PLAN. NOTE THAT THIS ADJACENT DEVELOPMENT PROPERTY IS UNDER COMMON OWNERSHIP WITH THE PROPOSED MEADOWS AT HAWTHORNE MILL DEVELOPMENT.

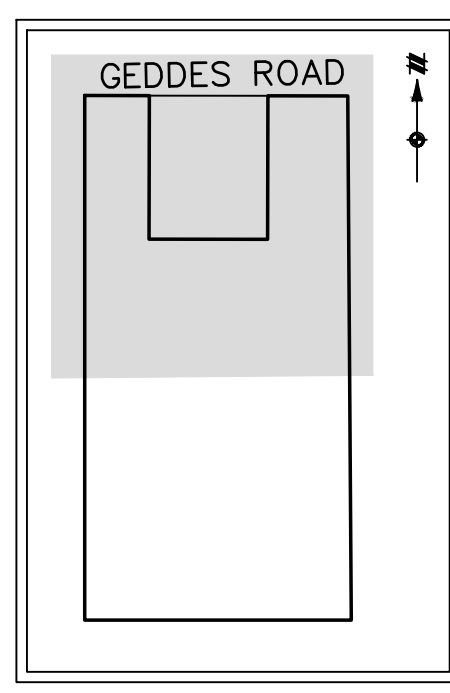
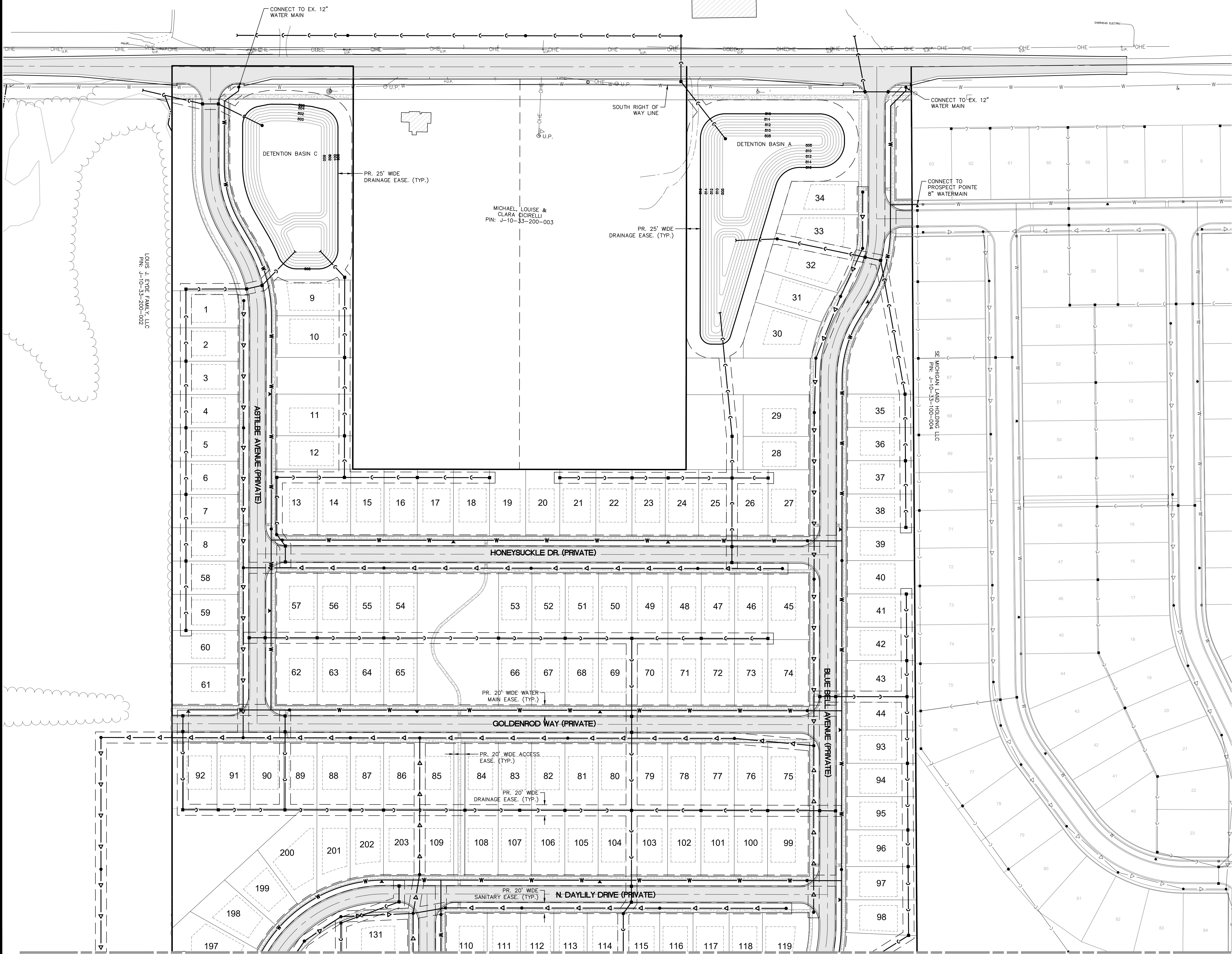


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CAD FILE: 19004443RSP-07-OLD.DWG

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KEY MAP  
NOT TO SCALE

LEGEND

- PROPERTY LINE
- EX. STORM SEWER
- PR. STORM SEWER
- EX. MANHOLE/CATCH BASIN/END SECTION
- PR. MANHOLE/CATCH BASIN/END SECTION
- EX. WATER MAIN
- PR. WATER MAIN
- EX. HYDRANT
- PR. HYDRANT
- EX. GATE VALVE & WELL
- PR. GATE VALVE & WELL
- EX. SANITARY SEWER
- PR. SANITARY SEWER
- EX. SANITARY SEWER MANHOLE
- PR. SANITARY SEWER MANHOLE
- PR. EASEMENT
- EX. WETLAND

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SECTION 33  
TOWN 2 SOUTH, RANGE 7 EAST  
SUPERIOR TOWNSHIP  
WASHTENAW COUNTY, MICHIGAN

EYDE COMPANY  
THE MEADOWS AT HAWTHORNE MILL  
PRELIMINARY SITE PLAN  
UTILITY PLAN - NORTH

DATE  
AUG. 26, 2020  
2020-09-29 PER TWP.

REVISIONS


SCALE: 1" = 80 FEET  
DRAWN BY: KS  
CHECKED BY: JK  
P.M.: J. KIME  
JOB #: 19004443  
FILE CODE: -  
SHEET NO. 10

SEE SHEET 10 FOR CONTINUATION

NOT FOR CONSTRUCTION

SEE SHEET 10 FOR CONTINUATION



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SECTION 33  
TOWN 2 SOUTH, RANGE 7 EAST  
SUPERIOR TOWNSHIP  
WASHTENAW COUNTY, MICHIGAN

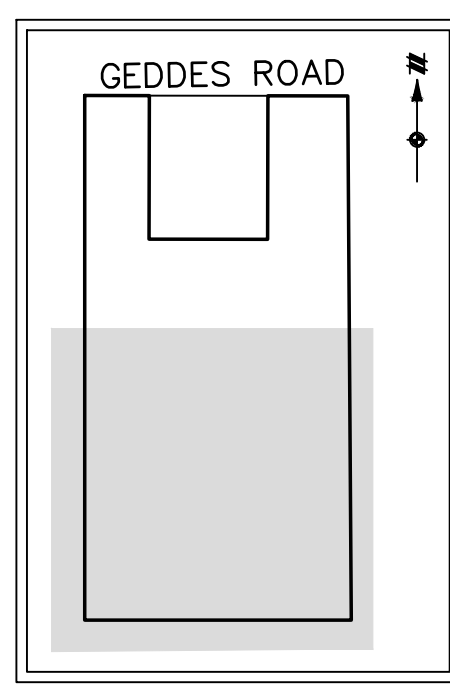
EYDE COMPANY  
THE MEADOWS AT HAWTHORNE MILL  
PRELIMINARY SITE PLAN  
UTILITY PLAN - SOUTH

DATE: AUG. 26, 2020  
2020-09-29 PER TWP.

Table with 2 columns: REVISIONS, and empty rows for revision notes.

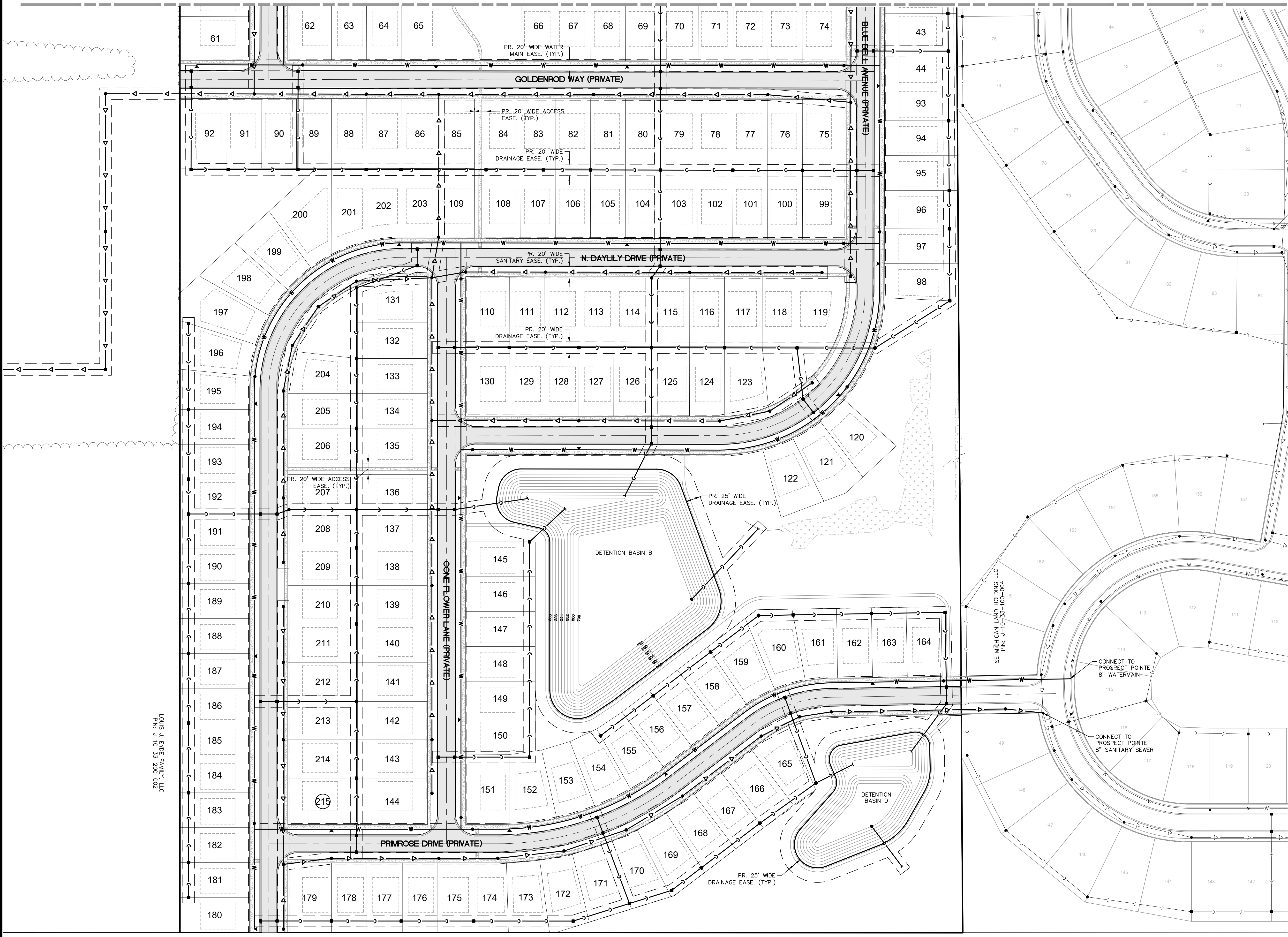
SCALE: 1" = 80 FEET

DRAWN BY: KS  
CHECKED BY: JK  
P.M.: J. KIME  
JOB #: 19004443  
FILE CODE: -  
SHEET NO. 11



LEGEND

- PROPERTY LINE
EX. STORM SEWER
PR. STORM SEWER
EX. MANHOLE/CATCH BASIN/END SECTION
PR. MANHOLE/CATCH BASIN/END SECTION
EX. WATER MAIN
PR. WATER MAIN
EX. HYDRANT
PR. HYDRANT
EX. GATE VALVE & WELL
PR. GATE VALVE & WELL
EX. SANITARY SEWER
PR. SANITARY SEWER
EX. SANITARY SEWER MANHOLE
PR. SANITARY SEWER MANHOLE
PR. EASEMENT
EX. WETLAND



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K:\19004443\DWG\PLAN SETS\SITE - PRELIMINARY\19004443PSP-07-UDWG 9/29/2020 2:28 PM KEVIN SULLIVAN

LOT 195 TO 219  
EYDE COMPANY  
300 W. WASHINGTON  
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CAD FILE: 19004443PSP-07-UDWG

# PERMANENT MAINTENANCE

TO BE PERFORMED BY OWNER OR OWNER'S REP.

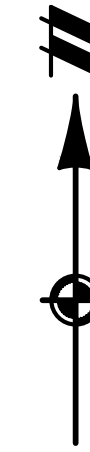
TASKS	COMPONENTS										ESTIMATED ANNUAL COST	
	PAVED AREAS	PERVIOUS AREAS	RIP-RAP/SILT FENCE	STORM DRAINAGE SYSTEM	CATCH BASIN SWALPS	CATCH BASIN INLET COVER	PERFORATED RISER	SEDIMENT FOREBAY	DETENTION AREA	EMERGENCY OVERFLOW		
INSPECT FOR SEDIMENT ACCUMULATION	X	X	X	X	X	X	X	X	X	X	SEMI-ANNUALLY/AS NEEDED*	\$100
REMOVAL OF SEDIMENT ACCUMULATION	X	X	X	X	X	X	X	X	X	X	ANNUALLY/AS NEEDED*	\$300
INSPECT FOR FLOATABLES AND DEBRIS	X	X	X	X	X	X	X	X	X	X	ANNUALLY	\$50
CLEANING FOR FLOATABLES AND DEBRIS	X	X	X	X	X	X	X	X	X	X	ANNUALLY	\$100
INSPECTION FOR EROSION	X	X	X	X	X	X	X	X	X	X	SEMI-ANNUALLY	\$50
REESTABLISH PERMANENT VEGETATION ON ERODED SLOPES	X	X	X	X	X	X	X	X	X	X	AS NEEDED	\$200
CLEAN DRIVES AND PARKING LOTS	X	X	X	X	X	X	X	X	X	X	ANNUALLY	\$300
INSPECT PRIVATE ROADS	X	X	X	X	X	X	X	X	X	X	ANNUALLY	\$100
CRACK SEALING / PAVEMENT REPAIR	X	X	X	X	X	X	X	X	X	X	AS NEEDED	\$200
MOWING	X	X	X	X	X	X	X	X	X	X	AS NEEDED, 0-2 TIMES/YEAR	\$200
INSPECT STRUCTURAL ELEMENTS DURING WET WEATHER AND COMPARE TO AS-BUILT PLANS (BY A PROFESSIONAL ENGINEER REPORTING TO THE OWNER)	X	X	X	X	X	X	X	X	X	X	ANNUALLY/AS NEEDED**	\$100
MAKE ADJUSTMENTS OR REPLACEMENTS AS DETERMINED BY ANNUAL WET WEATHER INSPECTION	X	X	X	X	X	X	X	X	X	X	AS NEEDED**	\$100

TASKS	SCHEDULE	ESTIMATED ANNUAL COST
KEEP RECORDS OF ALL INSPECTIONS AND MAINTENANCE ACTIVITIES AND REPORT TO PROPERTY OWNER	ANNUALLY	\$50
KEEP RECORDS OF ALL COSTS FOR INSPECTIONS, MAINTENANCE AND REPAIRS. REPORT TO PROPERTY OWNER	ANNUALLY	\$50
PROPERTY OWNER REVIEWS COST EFFECTIVENESS OF THE PREVENTATIVE MAINTENANCE PROGRAM AND MAKES NECESSARY ADJUSTMENTS	ANNUALLY	\$50
OWNER TO HAVE A PROFESSIONAL ENGINEER CARRY OUT EMERGENCY INSPECTIONS UPON IDENTIFICATION OF SEVERE PROBLEMS	AS NEEDED	\$100

\* "AS NEEDED" MEANS WHEN SEDIMENT HAS ACCUMULATED TO A DEPTH OF 6 INCHES OR GREATER  
 \*\* DETENTION BASIN AND FOREBAY SHALL BE INSPECTED AND REPAIRED AS NEEDED FOLLOWING STORMS OF 1 INCH OR MORE.  
 NOTE: NO CHEMICALS ARE ALLOWED IN STORMWATER FEATURES OR BUFFER ZONES WITH THE FOLLOWING EXCEPTION: INVASIVE SPECIES MAY BE TREATED WITH CHEMICALS BY A CERTIFIED APPLICATOR.

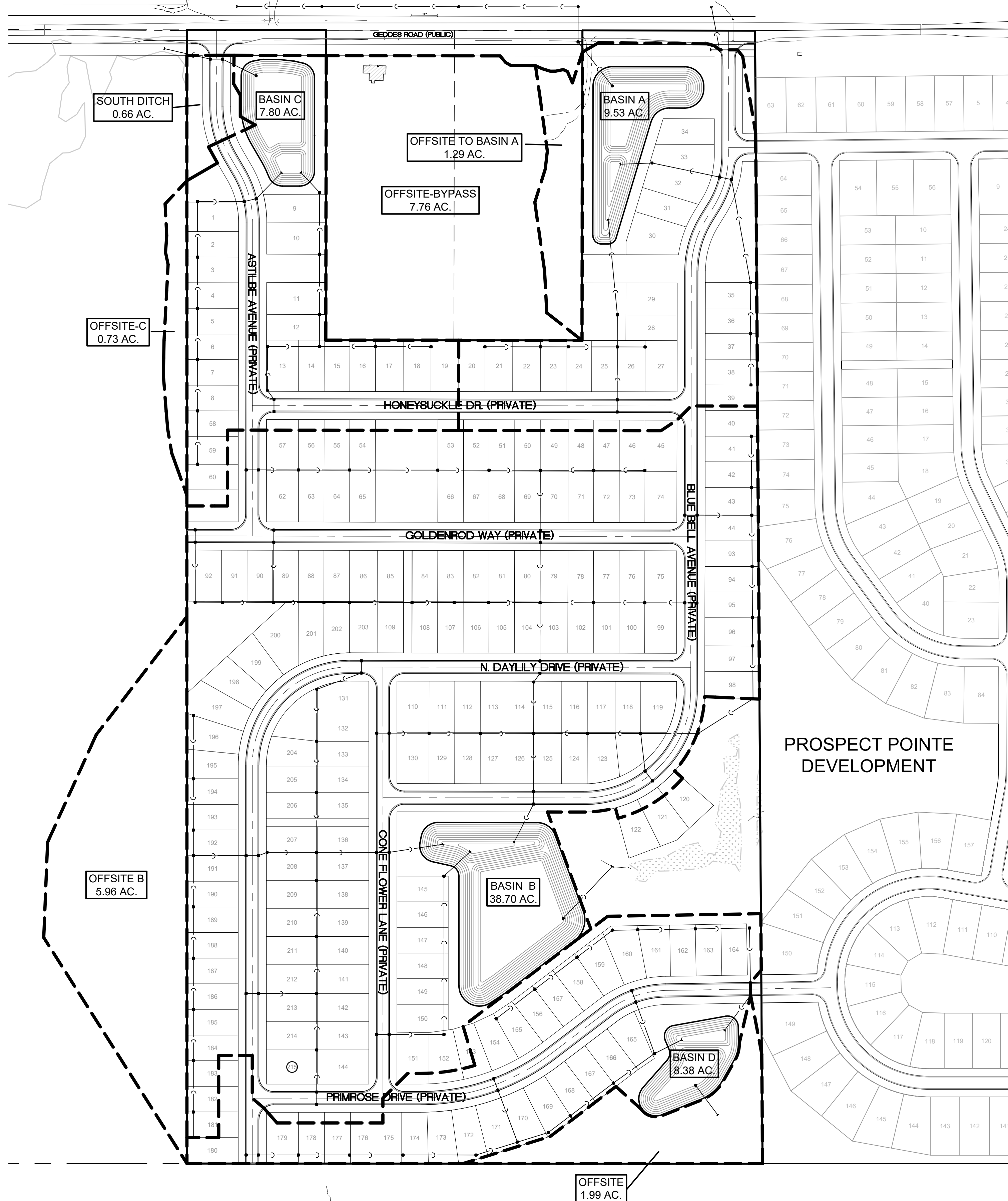
## NOTES

- TEST PITS FOR SOIL INFILTRATION TESTING WERE PERFORMED IN MAY, 2020. OF THE TWELVE TEST LOCATIONS, ONLY TP-10 CONTAINED SOILS SUITABLE FOR INFILTRATION TESTING. DUE TO THE SHALLOW DEPTH OF THE CLAYEY SAND/GRAVEL LAYER AND RELATIVELY HIGH ELEVATION OF THIS TEST LOCATION IN RELATION TO THE SURROUNDING SITE AREAS, IT WAS DETERMINED THAT THIS LOCATION WAS NOT VIABLE TO SERVE THE INFILTRATION REQUIREMENTS OF THE SITE. THEREFORE, THE PROPOSED BASINS HAVE BEEN DESIGNED WITH A TWENTY PERCENT (20%) VOLUME PENALTY, IN ACCORDANCE WITH WCVRC RULES.
- AN MDEQ PERMIT IS ANTICIPATED TO BE REQUIRED FOR THE REGULATED WETLAND IMPACTS AND FOR THE STORM WATER CONNECTIONS TO THE SNIDECAR DRAIN.
- THE DETENTION BASIN OUTLETS WILL ULTIMATELY DISCHARGE TO THE SNIDECAR DRAIN AND THE SUPERIOR NO. 1 DRAIN, WHICH FLOW SOUTH AND ULTIMATELY DISCHARGES INTO THE HURON RIVER, APPROXIMATELY 1.5 MILES SOUTHWEST OF THE PROJECT.



## LEGEND

- PROPERTY LINE
- PROPOSED STORM SEWER
- PROPOSED MANHOLE/CATCH BASIN/END SECTION
- PROPOSED DRAINAGE AREA



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SECTION 33  
 TOWN 2 SOUTH, RANGE 7 EAST  
 SUPERIOR TOWNSHIP  
 WASHTENAW COUNTY, MICHIGAN

EYDE COMPANY  
 THE MEADOWS AT HAWTHORNE MILL  
 PRELIMINARY SITE PLAN  
 STORM WATER  
 MANAGEMENT PLAN

DATE: AUG. 26, 2020  
 2020-09-29 PER TWP.

NO.	REVISIONS

SCALE: 1" = 150 FEET  
 DRAWN BY: KS  
 CHECKED BY: JK  
 P.M.: J. KIME  
 JOB #: 19004443  
 FILE CODE: -  
 SHEET NO. 12

NOT FOR CONSTRUCTION

DETENTION BASIN A

W1 Determining Post-Development Cover Types, Areas, Curve Numbers and runoff coefficients. Table with columns: Cover Type, Soil Type, Area (sf), Area (ac), Runoff Coef, C(Area).

W2 First Flush Runoff Calculations (VFI). Table with columns: A, VFI = (1-T)(1/12)(43560/1)(C)AC = 25,091 cf.

W3 Predevelopment Bankfull Runoff Calculations (VBF-pre). Table with columns: A, 2 year/24 hour storm event, P = 2.35 in, Q = 78 cfs.

W4 Perovous Cover Post-development Bankfull Runoff Calculations (VBF-post). Table with columns: A, 2 year/24 hour storm event, P = 2.35 in, Q = 78 cfs.

W5 Impervious Cover Post-development Bankfull Runoff Calculations (VBF-imp-post). Table with columns: A, 2 year/24 hour storm event, P = 2.35 in, Q = 78 cfs.

W6 Perovous Cover Post-development 100-year Storm Runoff Calculations (V100-per-post). Table with columns: A, 100 year storm event, P = 5.11 in, Q = 80 cfs.

W7 Impervious Cover Post-development 100-year Storm Runoff Calculations (V100-imp-post). Table with columns: A, 100 year storm event, P = 5.11 in, Q = 80 cfs.

W8 Determine Time of Concentration (Tc-hrs). User specified; assume 30 minutes. Total Time of Concentration (hrs) = 0.50.

W9 Runoff Summary & Onsite Infiltration Requirement. Runoff Summary from Previous Worksheets. V100-post = 167,510 cf.

W10 Detention / Retention Requirement. Qp = 238.6(Tc)^0.82. Total Site Area = 10.8 ac.

W11 Determine Applicable BMPs and Associated Volume Credits. Proposed BMP: Forebay Staging. Storage Volume = 808.0 ft^3.

W12 Infiltration / Detention Summary. Total Infiltration Required per WCWRB Rules: 25,091 cf. Total Infiltration Provided: 0 cf.

Basin Stage-Storage Summary. Table with columns: Elev, Area, Avg. Area, Depth, Volume. Total Volume Provided: 808.0 ft^3.

DETENTION BASIN B

W1 Determining Post-Development Cover Types, Areas, Curve Numbers and runoff coefficients. Table with columns: Cover Type, Soil Type, Area (sf), Area (ac), Runoff Coef, C(Area).

W2 First Flush Runoff Calculations (VFI). Table with columns: A, VFI = (1-T)(1/12)(43560/1)(C)AC = 94,111 cf.

W3 Predevelopment Bankfull Runoff Calculations (VBF-pre). Table with columns: A, 2 year/24 hour storm event, P = 2.35 in, Q = 78 cfs.

W4 Perovous Cover Post-development Bankfull Runoff Calculations (VBF-post). Table with columns: A, 2 year/24 hour storm event, P = 2.35 in, Q = 78 cfs.

W5 Impervious Cover Post-development Bankfull Runoff Calculations (VBF-imp-post). Table with columns: A, 2 year/24 hour storm event, P = 2.35 in, Q = 78 cfs.

W6 Perovous Cover Post-development 100-year Storm Runoff Calculations (V100-per-post). Table with columns: A, 100 year storm event, P = 5.11 in, Q = 80 cfs.

W7 Impervious Cover Post-development 100-year Storm Runoff Calculations (V100-imp-post). Table with columns: A, 100 year storm event, P = 5.11 in, Q = 80 cfs.

W8 Determine Time of Concentration (Tc-hrs). User specified; assume 30 minutes. Total Time of Concentration (hrs) = 0.50.

W9 Runoff Summary & Onsite Infiltration Requirement. Runoff Summary from Previous Worksheets. V100-post = 167,510 cf.

W10 Detention / Retention Requirement. Qp = 238.6(Tc)^0.82. Total Site Area = 10.8 ac.

W11 Determine Applicable BMPs and Associated Volume Credits. Proposed BMP: Forebay Staging. Storage Volume = 808.0 ft^3.

W12 Infiltration / Detention Summary. Total Infiltration Required per WCWRB Rules: 94,111 cf. Total Infiltration Provided: 0 cf.

Basin Stage-Storage Summary. Table with columns: Elev, Area, Avg. Area, Depth, Volume. Total Volume Provided: 808.0 ft^3.

DETENTION BASIN C

W1 Determining Post-Development Cover Types, Areas, Curve Numbers and runoff coefficients. Table with columns: Cover Type, Soil Type, Area (sf), Area (ac), Runoff Coef, C(Area).

W2 First Flush Runoff Calculations (VFI). Table with columns: A, VFI = (1-T)(1/12)(43560/1)(C)AC = 20,746 cf.

W3 Predevelopment Bankfull Runoff Calculations (VBF-pre). Table with columns: A, 2 year/24 hour storm event, P = 2.35 in, Q = 78 cfs.

W4 Perovous Cover Post-development Bankfull Runoff Calculations (VBF-post). Table with columns: A, 2 year/24 hour storm event, P = 2.35 in, Q = 78 cfs.

W5 Impervious Cover Post-development Bankfull Runoff Calculations (VBF-imp-post). Table with columns: A, 2 year/24 hour storm event, P = 2.35 in, Q = 78 cfs.

W6 Perovous Cover Post-development 100-year Storm Runoff Calculations (V100-per-post). Table with columns: A, 100 year storm event, P = 5.11 in, Q = 80 cfs.

W7 Impervious Cover Post-development 100-year Storm Runoff Calculations (V100-imp-post). Table with columns: A, 100 year storm event, P = 5.11 in, Q = 80 cfs.

W8 Determine Time of Concentration (Tc-hrs). User specified; assume 30 minutes. Total Time of Concentration (hrs) = 0.50.

W9 Runoff Summary & Onsite Infiltration Requirement. Runoff Summary from Previous Worksheets. V100-post = 167,510 cf.

W10 Detention / Retention Requirement. Qp = 238.6(Tc)^0.82. Total Site Area = 10.8 ac.

W11 Determine Applicable BMPs and Associated Volume Credits. Proposed BMP: Forebay Staging. Storage Volume = 808.0 ft^3.

W12 Infiltration / Detention Summary. Total Infiltration Required per WCWRB Rules: 20,746 cf. Total Infiltration Provided: 0 cf.

Basin Stage-Storage Summary. Table with columns: Elev, Area, Avg. Area, Depth, Volume. Total Volume Provided: 808.0 ft^3.

DETENTION BASIN D

W1 Determining Post-Development Cover Types, Areas, Curve Numbers and runoff coefficients. Table with columns: Cover Type, Soil Type, Area (sf), Area (ac), Runoff Coef, C(Area).

W2 First Flush Runoff Calculations (VFI). Table with columns: A, VFI = (1-T)(1/12)(43560/1)(C)AC = 17,076 cf.

W3 Predevelopment Bankfull Runoff Calculations (VBF-pre). Table with columns: A, 2 year/24 hour storm event, P = 2.35 in, Q = 78 cfs.

W4 Perovous Cover Post-development Bankfull Runoff Calculations (VBF-post). Table with columns: A, 2 year/24 hour storm event, P = 2.35 in, Q = 78 cfs.

W5 Impervious Cover Post-development Bankfull Runoff Calculations (VBF-imp-post). Table with columns: A, 2 year/24 hour storm event, P = 2.35 in, Q = 78 cfs.

W6 Perovous Cover Post-development 100-year Storm Runoff Calculations (V100-per-post). Table with columns: A, 100 year storm event, P = 5.11 in, Q = 80 cfs.

W7 Impervious Cover Post-development 100-year Storm Runoff Calculations (V100-imp-post). Table with columns: A, 100 year storm event, P = 5.11 in, Q = 80 cfs.

W8 Determine Time of Concentration (Tc-hrs). User specified; assume 30 minutes. Total Time of Concentration (hrs) = 0.50.

W9 Runoff Summary & Onsite Infiltration Requirement. Runoff Summary from Previous Worksheets. V100-post = 167,510 cf.

W10 Detention / Retention Requirement. Qp = 238.6(Tc)^0.82. Total Site Area = 10.8 ac.

W11 Determine Applicable BMPs and Associated Volume Credits. Proposed BMP: Forebay Staging. Storage Volume = 808.0 ft^3.

W12 Infiltration / Detention Summary. Total Infiltration Required per WCWRB Rules: 17,076 cf. Total Infiltration Provided: 0 cf.

Basin Stage-Storage Summary. Table with columns: Elev, Area, Avg. Area, Depth, Volume. Total Volume Provided: 808.0 ft^3.



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SECTION 33 TOWN 2 SOUTH, RANGE 7 EAST SUPERIOR TOWNSHIP WASHTEWNAW COUNTY, MICHIGAN

EYDE COMPANY THE MEADOWS AT HAWTHORNE MILL PRELIMINARY SITE PLAN STORM WATER MANAGEMENT CALCULATIONS

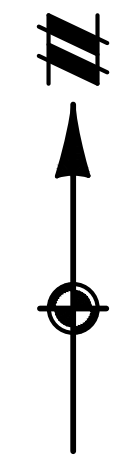
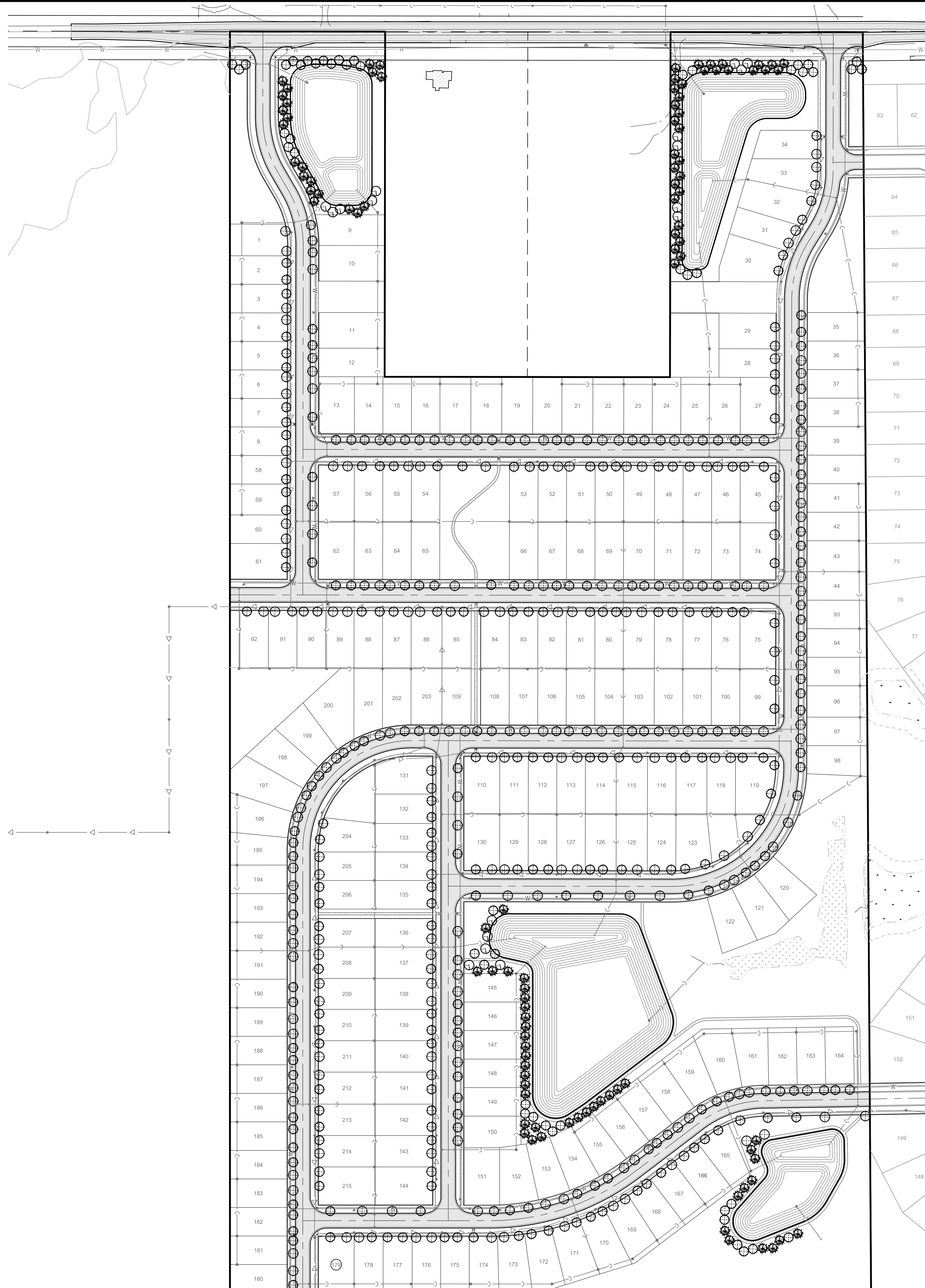
DATE AUG. 26, 2020 2020-09-29 PER TWP.

REVISIONS table with columns: No, Description, Date. Includes revisions for N/A and 808.0.

DRAWN BY: KS CHECKED BY: JK P.M.: J. KIME JOB #: 19004443 FILE CODE: - SHEET NO. 13

NOT FOR CONSTRUCTION

K:\19004443\DWG\PLAN SETS\SITE-PRE\PRELIMINARY\19004443R5P-10-DET.BASIN A



**LEGEND**

- PROPERTY LINE
- ◇—◇—◇—◇— SANITARY SEWER
- W—W—W—W—W— STORM SEWER
- >—>—>—>— WATERMAIN
- ⊕ ⊗ ⊙ ⊛ PROPOSED TREE

**LANDSCAPE REQUIREMENTS**

1. STREET TREES:
  - 2 PER LOT OR A MAXIMUM OF 60' ON CENTER (ALSO GUIDED BY UTILITY LEADS AND DRIVEWAYS)
2. GREENBELT BUFFER:
  - 1 TREE AND 3 SHRUBS PER 15' OF GREENBELT LENGTH.
  - MIN. WIDTH = 10'
  - MIN. 3' HIGH BERM
  - SITE REQUIREMENT:
    - GEDES RD BUFFER (WEST) = (260LF/15) = 18 TREES AND 54 SHRUBS
    - GEDES RD BUFFER (EAST) = (338LF/15) = 23 TREES AND 69 SHRUBS
3. DETENTION BASIN BUFFER:
  - DETENTION BASIN A: SOUTH AND WEST SIDES: (460LF/15) = 31 TREES AND 93 SHRUBS
  - DETENTION BASIN B: SOUTH AND WEST SIDES: (680LF/15) = 46 TREES AND 138 SHRUBS
  - DETENTION BASIN C: SOUTH AND WEST SIDES: (380LF/15) = 26 TREES AND 78 SHRUBS
  - DETENTION BASIN D: SOUTH AND WEST SIDES: (315LF/15) = 21 TREES AND 63 SHRUBS

**PLANTING SCHEDULE**

BOTANICAL NAME	COMMON NAME	SIZE	HEIGHT	NOTES
ACER RUBRUM 'AUTUMN BLAZE'	AUTUMN BLAZE RED MAPLE	2.5" CAL.		B & B
ACER SACCHARUM 'LEGACY'	LEGACY SUGAR MAPLE	2.5" CAL.		B & B
GLEDTISIA TRIACANTHOS V. INERMIS	THORNLESS HONEY LOCUST	2.5" CAL.		B & B
LIRIODENDRON TULIPIFERA	TULIP TREE	2.5" CAL.		B & B
PICEA ABIES	NORWAY SPRUCE		8' HT.	B & B
QUERCUS PALUSTRIS	PIN OAK	2.5" CAL.		B & B
QUERCUS RUBRA	RED OAK	2.5" CAL.		B & B
TILIA CORDATA 'GREENSPIRE'	GREENSPIRE LINDEN	2.5" CAL.		B & B

\*NOTE: QUANTITY AND LOCATION TO BE DETERMINED DURING FINAL SITE PLAN

**LANDSCAPE NOTES**

1. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING LOCATION OF ALL UNDERGROUND AND OVERHEAD UTILITIES.
2. LANDSCAPING OPERATIONS, INCLUDING PLANTING OF TREES AND SHRUBS, SHALL NOT DAMAGE ANY UTILITY OR INTERRUPT ANY UTILITY SERVICE, AND SHALL NOT DAMAGE OR CREATE A NUISANCE AFFECTING ADJACENT PROPERTY, PUBLIC STREETS, OR SIDEWALKS.
3. PLANT AND GRASS MATERIALS SHALL BE INSTALLED ACCORDING TO GENERALLY ACCEPTED PLANTING PROCEDURES.
4. ALL DISTURBED AREAS THAT ARE NOT SPECIFIED WITH OTHER PLANTING, PAVING OR SEED MIXTURES SHALL BE PLANTED WITH A STANDARD PERMANENT GRASS SEED MIXTURE TO INDUSTRY STANDARDS.
5. LANDSCAPING MATERIALS THAT ARE UNSIGHTLY, DEAD, DYING, OR THAT BECOME UNHEALTHY BECAUSE OF DAMAGE, NEGLECT, DRAINAGE PROBLEMS, DISEASE, INSECT INFESTATION, OR OTHER CAUSES SHALL BE REPLACED WITHIN ONE YEAR, OR THE NEXT PLANTING PERIOD, WHICHEVER OCCURS FIRST. REPLACEMENT MATERIALS SHALL MEET ALL STANDARDS OF THE ORIGINAL INSTALLATION.
6. ALL LANDSCAPED AREAS SHALL BE PROVIDED WITH AN ADEQUATE WATER SUPPLY. IF AUTOMATIC IRRIGATION IS PROVIDED, IT MUST HAVE A RAIN SENSOR TO SHUT OFF SO AS NOT TO SATURATE INFILTRATION BASINS.
7. THE PROPERTY OWNER (OR ANY APPLICABLE OWNER'S ASSOCIATION) SHALL BE RESPONSIBLE TO ENSURE THE PROPER CARE AND MAINTENANCE OF LANDSCAPE AREAS, INCLUDING KEEPING ALL LANDSCAPE MATERIALS IN A HEALTHY AND GROWING STATE. ALL LANDSCAPE ELEMENTS SUCH AS, BUT NOT LIMITED TO, FENCES, SCREENS, WALLS, OR LIGHTING SHALL BE KEPT IN GOOD REPAIR.
8. TOPSOIL REMOVED DURING CONSTRUCTION SHALL BE STOCKPILED IN AN APPROPRIATE MANNER TO PREVENT EROSION, AND SHALL BE REDISTRIBUTED ON RE-GRADED SURFACES TO BE LANDSCAPED, TO PROVIDE A MINIMUM OF FOUR INCHES OF EVEN COVER. THE TOPSOIL SHALL THEN BE PERMANENTLY STABILIZED BY GRASS, GROUND COVER, OR OTHER PLANTINGS.
9. NO PLANT MATERIAL SHALL BE PLANTED CLOSER THAN 4 FEET FROM ANY PROPERTY LINE.
10. REMOVE ALL TWINE, WIRE, NURSERY GUARDS, TAGS AND INORGANIC MATERIAL FROM ROOT BALL. PEEL BACK THE BURLAP FROM EARTH BALLS AND REMOVE ANY BURLAP, TWINE OR WIRE AROUND THE TRUNK FLARE AND ABOVE.
11. ALL PLANTING AREAS ARE TO BE EXCAVATED OF ALL BUILDING / CONSTRUCTION AND FILL MATERIALS AND BACKFILLED WITH GOOD MEDIUM TEXTURED PLANTING SOIL. SEEDING AREAS ARE TO BE TREATED WITH 4" OF NEW TOPSOIL AND ROTOTILLED OR OTHERWISE SCARIFIED TO BREAK UP COMPACTION AT LEAST 8" BELOW THE TOPSOIL.
12. TOPSOIL SHALL BE SCREENED AND SUITABLE FOR GROWING VEGETATION AND MEET AT A MINIMUM ASTM D-5268 AND MDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION.
13. RECOMMENDED PLANTING DATES ARE MARCH 15 TO JUNE 15 AND SEPTEMBER 15 TO NOVEMBER 15.
14. ALL DISTURBED SOIL IN STORMWATER SYSTEMS MUST BE PLANTED WITH PERENNIAL PLANTINGS TO PROVIDE FOR PERMANENT SOIL STABILIZATION AS CALLED FOR IN THE SOIL EROSION CONTROL PERMIT.
15. WITHIN AREAS ABOVE THE INFILTRATION STORAGE ELEVATION OF THE PROPOSED DETENTION BASIN, SEEDING AND/OR LIVE PLANTINGS ARE ALLOWED. ONLY NATIVE SEEDS (AS DEFINED BY MICHIGAN FLORA, MICHIGANFLORA.NET) ARE ALLOWED FOR PERMANENT SOIL STABILIZATION. ANNUAL SEEDS ARE ALLOWED IN AN AMOUNT NECESSARY TO TEMPORARILY STABILIZE THE LIMITS OF DISTURBANCE.
16. BELOW THE INFILTRATION STORAGE ELEVATION WITHIN THE DETENTION BASIN, LIVE PLANTINGS MUST COVER THE ENTIRE AREA. THE INFILTRATION STORAGE ELEVATION SHOULD BE NOTED ON THE DETAILS. NATIVE PLANTS ARE PREFERRED. CULTIVARS AND NON-NATIVE PERENNIALS ARE ALLOWABLE IF APPROVED BY WCRC. PLANTS LISTED ON THE WCRC PAIN GARDEN PLANT LIST ARE ACCEPTABLE. INVASIVE SPECIES ARE NOT ALLOWED (SEE THE CITY OF ANN ARBOR'S INVASIVE SPECIES LIST).
  - A. PLANTINGS SHOULD BE LOCALLY ADAPTED AND APPROPRIATE TO HYDRIC CONDITIONS PROPOSED. FOR MORE INFORMATION ON INDIVIDUAL SPECIES, SEE "PLANTS FOR STORMWATER DESIGN: SPECIES SELECTION FOR THE UPPER MIDWEST" BY DANIEL SHAW & RUSTY SCHMIDT.
  - B. PLANTINGS SHOULD BE SPACED ACCORDING TO EACH SPECIES SIZE AND GROWTH POTENTIAL TO ALLOW FOR SUFFICIENT COVERAGE AS REQUIRED BY THE SOIL EROSION PERMIT.
17. PLANTING SOILS MUST BE AMENDED WITH A COMPOSTED ORGANIC MATERIAL. SOILS MUST BE FREE OF CONSTRUCTION DEBRIS AND SUBSOILS. A RECOMMENDED SOIL BLEND INCLUDES 20 TO 30 PERCENT COMPOST.
18. AT THE TIME OF PLANT AND SOIL DELIVERY, A WCRC LANDSCAPE REVIEWER MUST BE PRESENT. THE QUANTITY AND SPECIES DELIVERED WILL BE REVIEWED ON SITE. CONTACT CATIE WYTYCHAK AT WYTYCHAK@WASHTENAW.ORG OR (734) 222-6813 TO COORDINATE.

**811**  
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SECTION 33  
TOWN 2 SOUTH, RANGE 7 EAST  
SUPERIOR TOWNSHIP  
WASHTENAW COUNTY, MICHIGAN

EYDE COMPANY  
THE MEADOWS AT HAWTHORNE MILL  
PRELIMINARY SITE PLAN  
LANDSCAPE PLAN

DATE: AUG. 26, 2020  
2020-09-29 PER TWP.

REVISIONS  
SCALE: 1" = 120 FEET  
DRAWN BY: KS  
CHECKED BY: JK  
P.M.: J. KIME  
JOB #: 19004443  
FILE CODE: -  
SHEET NO. 14

NOT FOR CONSTRUCTION

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SECTION 33

TOWN 2 SOUTH, RANGE 7 EAST  
SUPERIOR TOWNSHIP  
WASHTENAW COUNTY, MICHIGAN

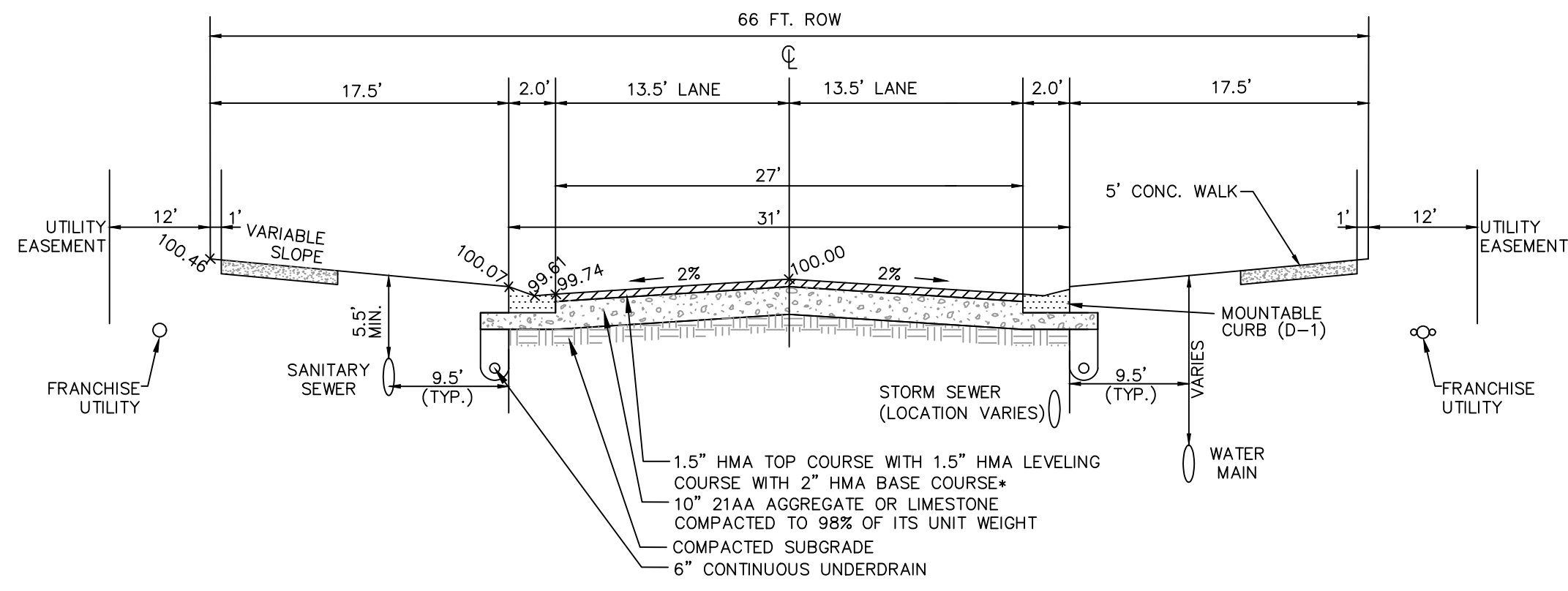
EYDE COMPANY  
THE MEADOWS AT HAWTHORNE MILL  
PRELIMINARY SITE PLAN  
DETAILS

DATE: AUG. 26, 2020  
2020-09-29 PER TWP.

Table with 2 columns: REVISIONS, and rows for NA, NA, N/A.

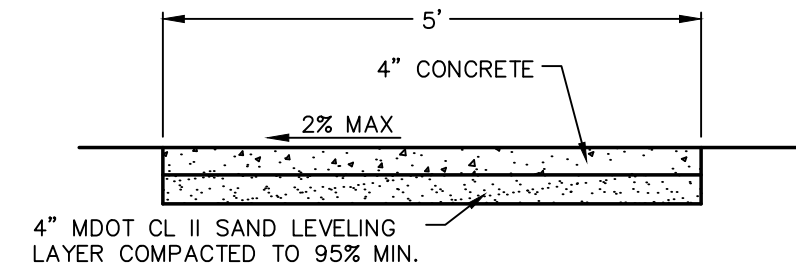
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NOT FOR CONSTRUCTION

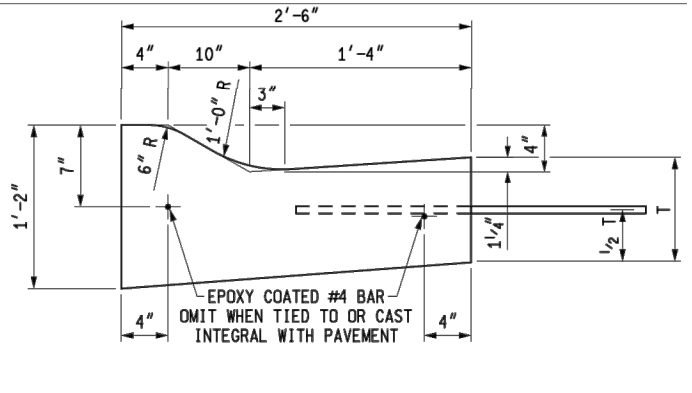


RESIDENTIAL ROADWAYS (PRIVATE)  
NOT TO SCALE

- NOTES: 1. REFER TO CURRENTLY APPROVED WRC HMA MIX DESIGNS AND BINDER REQUIREMENTS PRIOR TO CONSTRUCTION. 2. ALL PROPOSED UTILITIES SHALL BE WITHIN THE RIGHT-OF-WAY OR WITHIN AN EASEMENT OUTSIDE OF THE RIGHT-OF-WAY.
- ASSUMED SECTION:  
1.5" LVSP WEARING COURSE WITH 3% MAX AIR VOIDS  
1.5" LVSP LEVELING COURSE  
2" 4E1 BASE COURSE  
All HMA shall limit RAP to 25%

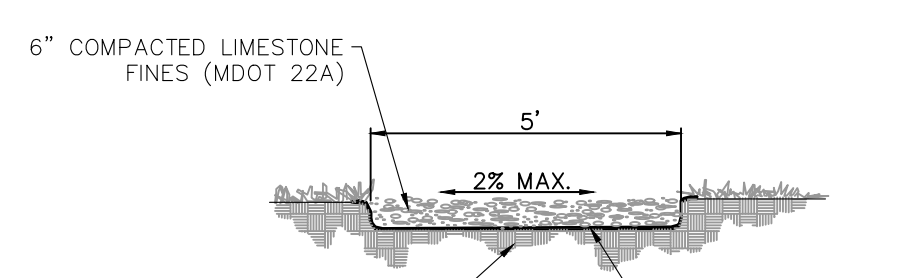


CONCRETE SIDEWALK SECTION  
NOT TO SCALE

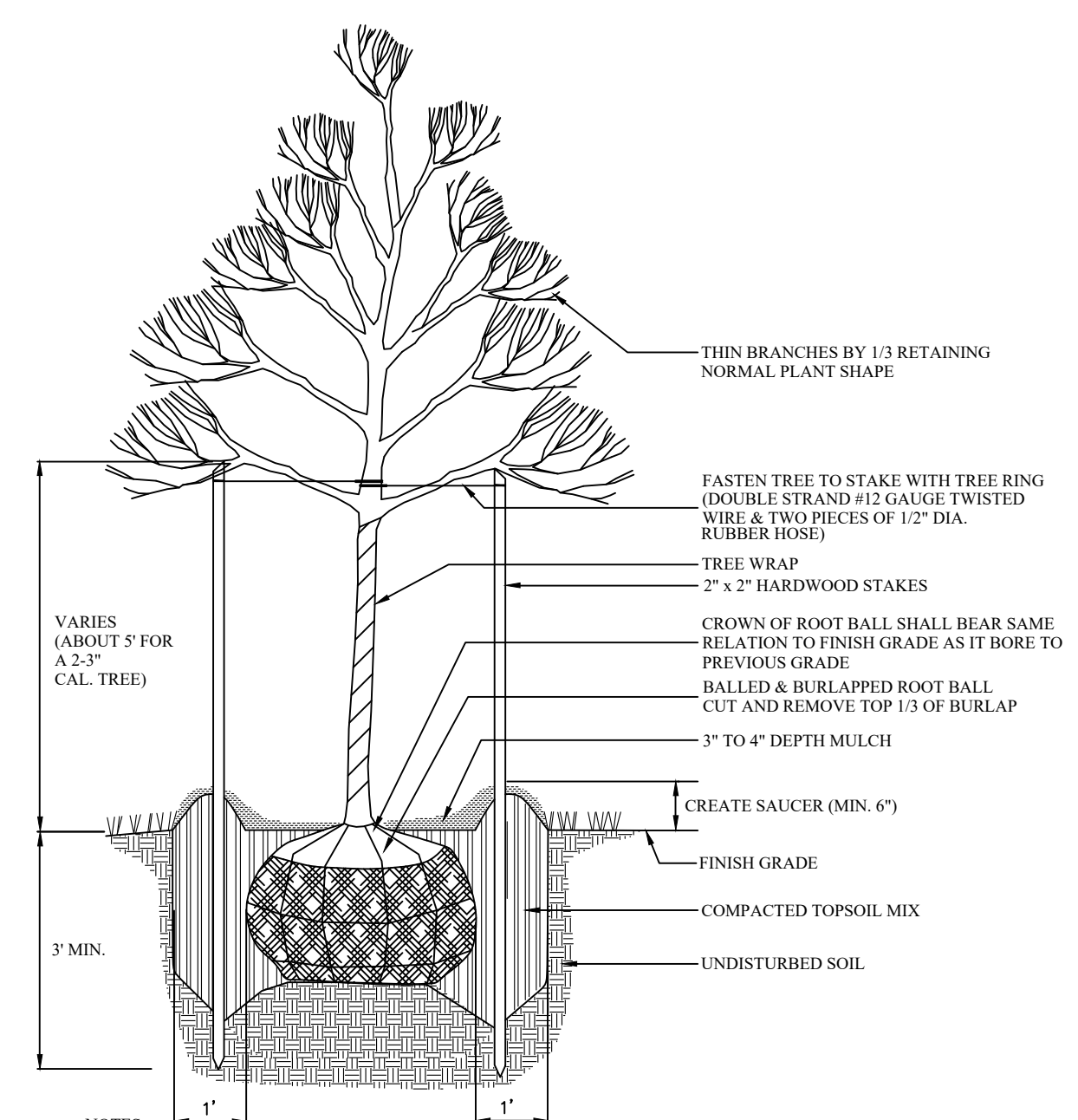


DETAIL	DIMENSION T	LANE TIES	CONCRETE CYD / LFT
D1	8"	AS SHOWN	0.2788
D2	9"	SWITCH	0.3188
D3	10"	AS SHOWN	0.3688

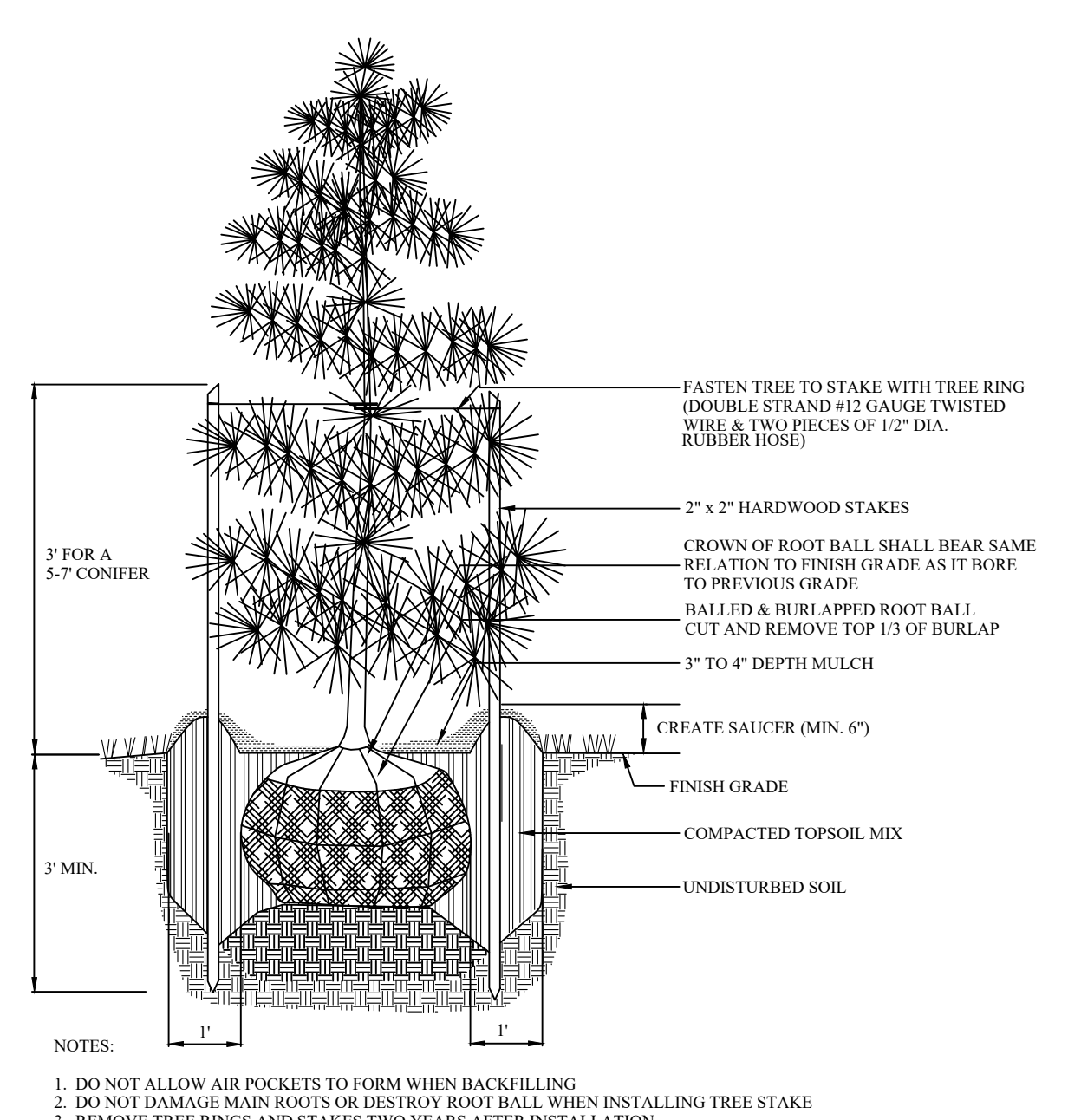
MOUNTABLE CURB & GUTTER  
NOT TO SCALE



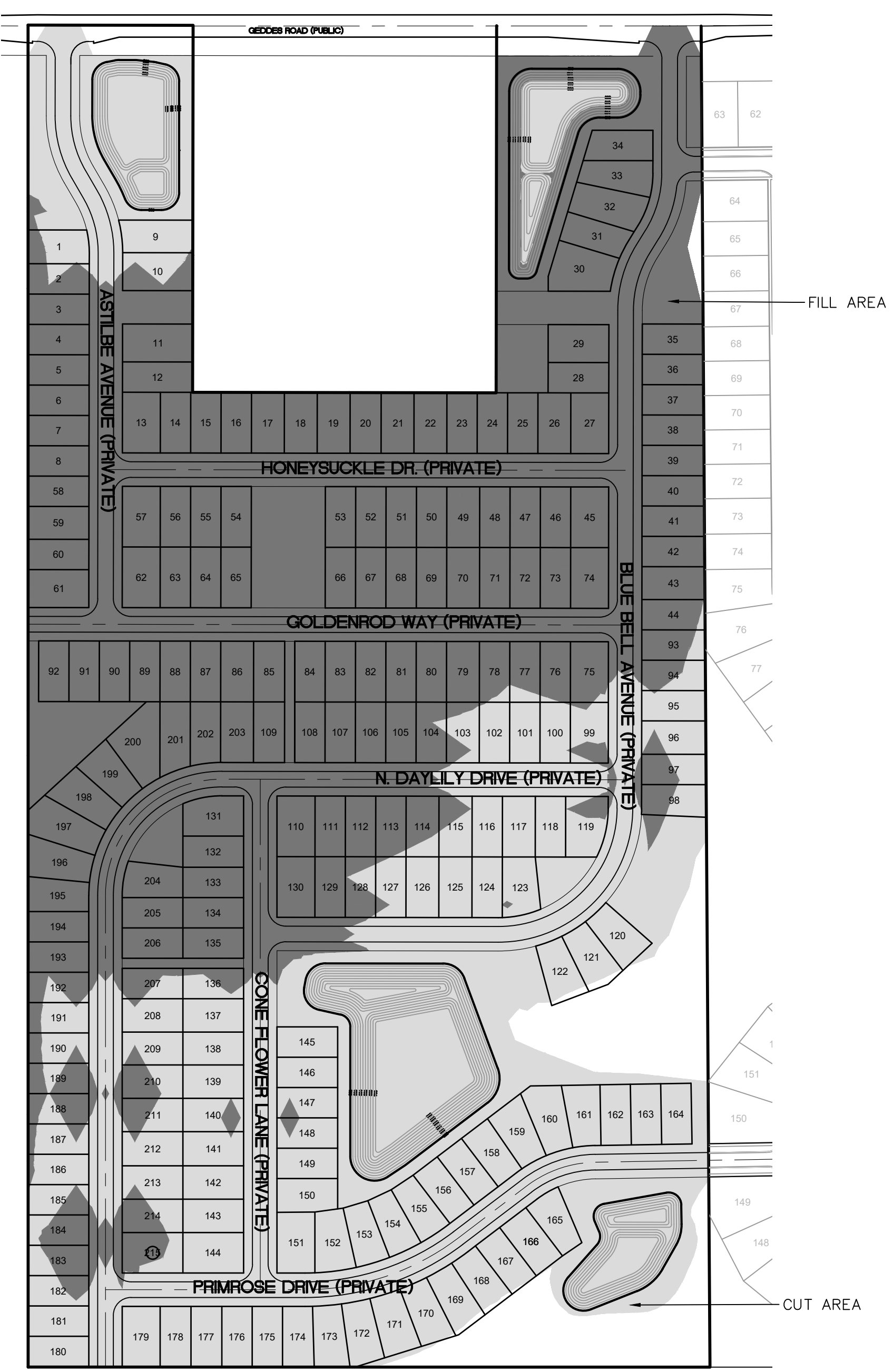
GRAVEL NATURE PATH CROSS SECTION  
NOT TO SCALE



DECIDUOUS TREE PLANTING DETAIL  
NO SCALE



CONIFEROUS TREE PLANTING DETAIL  
NO SCALE



CUT & FILL AREAS  
SCALE: 1" = 200'