



March 23, 2022

Kelly VanMarter
Genoa Charter Township
Planning Department
2911 Dorr Road
Brighton, MI 48116

RE: Summerfield Pointe P.U.D. Amendment & Site Plan Applications

Dear Ms. VanMarter:

Please find enclosed two (4) sets of revised, signed and sealed set of plans for the proposed improvements to take place at the Summerfield Pointe PUD. These revisions have been done based on review letters as received by the Township and dated 03/16/22 & 03/18/22.

A summary of the revisions to the plan set are as follow:

TETRA TECH Review Comments:

2. Sections 8.4a & 8.4b of the PUD agreement have been revised per review comments. The document has been included on the revised package for the Township.
3. The sidewalk x-sec has been revised to 6" of CLII sand base. A note has been included stating the sidewalk width shall be 6" of class "A" concrete at all driveway crossings. Likewise, the aggregate x-sec for the proposed roads has been revised to 8" of 22A. Summer Ridge drive has been included on the proposed pavement detail title for construction.
4. A 25' wd. wetland setback has been revised and shown on plan sheets accordingly.

PRIVATE ROAD:

1. Final road construction plans will be provided for construction submittal after final site plan approval has been procured from the Township.

SANITARY & WATER SERVICES:

1. Construction plans will be submitted to MHOG for review after final site plan approval has been granted by the Township.

2. The sanitary sewer lines that are shown running at slopes less than 0.40% are existing sewer lines. The information shown is per As Built information collected on-site.

3. A copy of the utility plan for Westbury Phase-2 has been provided by Genoa Township. No sanitary connection is proposed with the Summerfield Pointe development. Proposed sanitary manhole 42-B has been removed from construction plans and calculations.

DRAINAGE & GRADING:

1. Article II, Note 4 of the PUD agreement has been revised per review comments. The document has been included on the revised package for the Township.

2. A virtual meeting was held with Ken Recker & Paul Lewesly from the Livingston Drain Office on March 23, 2022 @ 10:45 A.M. The existing and proposed conditions were discussed at this meeting and we have reached an agreement to the revisions required for the existing control structure and detention pond on-site per submitted plans to the Township. Approval from the drain office will be submitted to the Township once received. A note has been included under the PUD agreement (Article II, Note 4)

3. A soil stabilization note has been included on sheet GR2 of plans for the described areas with slopes exceeding 1 on 4. A detail has been included on sheet DT2 of plans.

BRIGHTON FIRE AUTHORITY Review Comments:

1. The proposed fire Hydrant "C" has been relocated approximately 60 ft. South of its previous location per review comment.

2. A new Hydrant "H" has been located at the intersection of Lawson Drive & Summer Ridge Drive, Southeast of proposed Unit-29.

3. A note has been added on sheets SP1 & SP2 of plans stating "The address shall be a minimum of 4" high letters of contrasting colors and be clearly visible from the street. The location and size shall be verified prior to installation".

SAFEBUILT Review Comments:

Preliminary Site Condominium Plan:

b. The proposed area for units 1-6 had been revised per third amendment to the Summerfield master deed No.2014R-006883. Under this amendment, the area for the proposed lots 1-6 was left as possible expansion/future development area "B". The type of single homes proposed for this area, will match the existing adjacent condominiums façade to allow for a similar look in this area. The owner is requesting the Township approval for this proposal.

c. The Site Data on sheet SD of plans has been updated to show zoning for MDR district per review comment.

- d. Additional side & rear elevations have been included for the proposed model houses for the site.
- e. A copy of the Warranty Deed has been provided as proof of ownership to the Township. The existing Aster Blvd. connection is proposed at the property line. All proposed road improvements will be done within the owner's property. No improvements on adjacent parcels are proposed at this time.
- f. A private road application has been included with these revised documents to the Township. The private road restriction are included in the Master Deed and Bylaws as provided to the Township.
- g. A revision to the proposed landscape plan has been provided on the set. Additional trees have been provided in the proposed "Open Space" areas on-site and, at the corner intersections.
- i. An exhibit and legal descriptions for the conservation easement have been provided for Township review.
- j. Township Engineer & Fire Marshall review comments have been addressed above.

2. Dimensional Requirements.

See item "c" review comment above.

3. Buildings.

See item "d" review comment above.

5. Vehicular Circulation.

The proposed cross section for Lawson Drive & Summer Ridge Drive has been revised on sheet DT1 per Engineer & Planner review comments.

6. Landscaping Plan.

See item "g" review comment above.

9. Park/Open Space.

See item "I" review comment above.

Please find enclosed for your use the following:

- One (1) Private Road application for review signed by the owner
- Four (4) sets of 24" x36" signed & sealed plans dated March 23, 2022
- Two (2) copies of 11" x 17" plans dated March 23, 2022

Kelly VanMarter
March 23, 2022
Page 2

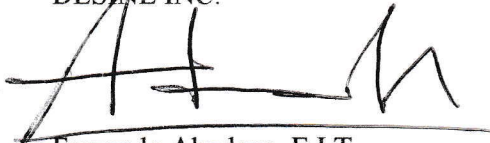
- Four (4) sets of 8-1/2" x 14" plans depicting the 75' Wd. Conservation Easement area
- x4 copies of revised PUD amendment document
- x4 copies of conservation easement exhibits and legal description
- x4 copies of the warranty deed as proof of ownership
- One (1) USB device containing a digital copy of all the provided documents for this PUD & Site Plan Revision submittal dated March 23, 2022

If you should have any questions or comments, please contact our office.

Respectfully

Respectfully submitted,

DESINE INC.



Fernando Abudeye, E.I.T.

Attachments

GENOA TOWNSHIP
APPLICATION FOR PRIVATE ROAD
2911 Dorr Road, Brighton MI 48116 (810) 227-5225

A private road requiring approval of the Township shall be any road providing access to more than four dwelling units or two non-residential principal buildings. This does not include drives within a multiple family complex or parking lot aisles, but does include collector type roadways within such a development.

APPLICANT: *Healy Homes at Summerfield LLC*

OWNER ADDRESS: *32696 Sleeth Rd, Commerce Twp., 48362 (248) 684-1699*

SITE ADDRESS: *Lawson Drive. 1,300 ft. North of Grand River Ave. Intersection*

APPLICABILITY OF PUBLIC VS. PRIVATE ROAD STANDARDS

All private roads in Genoa Township shall be constructed to the standards of the Livingston County Road Commission unless the Planning Commission and Township Board determine your road qualifies under the following ordinance criteria:

1. Explain how there will be no need for the roadway to be dedicated as a public road in the future.

SEE ATTACHED

2. Explain how dedication of the road as a public street would not result in continuity in the public street system at the present time or in the future.

SEE ATTACHED

3. What uses (number of lots, number of residential units, number of buildings, etc) will have access from the private road. Will the expected traffic volumes along the roadway be below three hundred vehicles per average weekday, based on accepted trip generation figures?

SEE ATTACHED

4. Are there any significant natural features such as mature trees, natural slopes, wetlands or other water bodies would be preserved through construction and maintenance as a private road?

SEE ATTACHED

5. What financial and administrative mechanisms will be provided to ensure maintenance of the private road?

SEE ATTACHED

AFFIDAVIT

The undersigned says that they are the Owner (owner, lessee, or other specified interest) involved in this petition and that the foregoing answers and statements herein contained and the information herewith submitted are in all respects true and correct to the best of his/her knowledge and belief.

By: Jack Healy

Address: 32696 Sleeth Rd, Commerce Twp., 48362 Phone: (248) 684-1699

Contact Information - Review Letters and Correspondence shall be forwarded to the following:
1.) Fernando Abudeye of Desine Inc. at (810) 227-9460
Name Business Affiliation Fax No.

FEE EXCEEDANCE AGREEMENT

As stated on the site plan review fee schedule, all site plans are allocated two (2) consultant reviews and one (1) Planning Commission meeting. If additional reviews or meetings are necessary, the applicant will be required to pay the actual incurred costs for the additional reviews. If applicable, additional review fee payment will be required concurrent with submittal to the Township Board. By signing below, applicant indicates agreement and full understanding of this policy.

PROJECT NAME: Summerfield Pointe Estates

PROJECT LOCATON & DESCRIPTION: Lawson Drive. 1,300 ft. North of Grand River Ave.
Amendment to approved PUD plan

SIGNATURE: _____ DATE: _____

PRINT NAME: _____ PHONE: (248) 684-1699

COMPANY NAME & ADDRESS: Healy Homes at Summerfield LLC

5. What financial and administrative mechanisms will be provided to ensure maintenance of the private road?

SEE ATTACHED

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PROJECT NAME: Summerfield Pointe Estates

PROJECT LOCATON & DESCRIPTION: Lawson Drive, 1,300 ft. North of Grand River Ave.
Amendment to approved PUD plan

SIGNATURE: Jack Healy DATE: 3/22/2022

PRINT NAME: _____ PHONE: (248) 684-1699

COMPANY NAME & ADDRESS: Healy Homes at Summerfield LLC

APPLICABILITY OF PUBLIC VS. PRIVATE ROAD STANDARDS

1. Explain how there will be no need for the roadway to be dedicated as a public road in the future.
*The proposed PUD will not impact the existing through traffic of the existing roads adjacent to the site (Lawson Drive, Whitehorse Drive & Grand River Ave.)
 All future maintenance and improvements on this road will be done by the home owners association for the development.*

2. Explain how dedication of the road as a public street would not result in continuity in the public street system at the present time or in the future.
The proposed road will connect to an existing private road, Aster Blvd. within the adjacent Lakewood Knolls No. 2 PUD development. This connection does not provide continuity of the public street system.

3. What uses (number of residential units, number of buildings, etc) will have access from the private road. Will the expected traffic volumes along the roadway be below three hundred vehicles per average weekday, based on accepted trip generation figures?
*Per proposed traffic impact study analysis for "Stone Edge Pointe PUD" and dated August 31, 1999, the projected peak hour traffic for the development is expected in the P.M. hours with 102 vehicles entering, and 61 vehicles exiting.
 A summary of the existing and proposed condominiums, and single-family homes is as follows:*

SUMMERFIELD POINTE PRIVATE ROAD ACCESS SUMMARY				
ROAD	TYPE OF UNIT	UNIT NUMBER	No. UNITS W/1 CAR GARAGE	No. UNITS W/2 CAR GARAGE
Summer Ridge Drive	Attached Condominium (Existing)	9-24, 29-52	40	0
Summer Ridge Drive	Attached Condominium (Proposed)	1-4	4	0
Summer Ridge Drive	Single Family Homes (Proposed)	6, 15-29, 30-49	0	36
$\Sigma =$			44	72
Lawson Drive	Attached Condominium (Existing)	5-8	4	0
Lawson Drive	Single Family Homes (Proposed)	1-5, 7-14, 50-108	0	72
$\Sigma =$			4	144

A total of 72 single-family homes and 4 condominiums will have access to Lawson Drive, and 36 single-family homes and 48 condominiums will have access to Summer Ridge Drive.

4. Are there any significant natural features such as mature trees, natural slopes, wetlands or others water bodies that would be preserved through construction and maintenance as a private road?
The proposed PUD amendment maintains the previously approved road layout. The overall geography of the site will be modified with as minimum fill as required to provide adequate utility ground cover and provide sewer service to the proposed units. Existing grades will be match at all property lines and at all construction limits of disturbance. Existing trees located outside of limits

RECORDED

2003 JUN 18 P 4:15

NANCY HAVILAND
REGISTER OF DEEDS
LIVINGSTON COUNTY, MI.
48843

LIVINGSTON COUNTY TREASURER'S CERTIFICATE
I hereby certify that there are no TAX
LIES or TILES due by the state or any
individual against the within description,
and all TAXES are same as paid for five
years previous to the date of this instrument
or appear on the records in this
office except as stated.

8211

6-13-03

Dianna H. Hardy
Dianna H. Hardy, Treasurer
Sec. 135 Act 205, 1997 as Amended
Taxes not examined

STATE OF
MICHIGAN
Dept. of Taxation
Livingston County
0129563 19 Jun 2003



REAL ESTATE
TRANSFER TAX
\$5,077.60-C
\$34,620.00-S
#0052457

WARRANTY DEED



Metropolitan Title Company
America's Premier Independent Title Agency

(Unplatted Land)

Limited Liability Company

Know All Persons by These Presents: That Adler Enterprises Company, L.L.C., a Michigan Limited Liability Company

whose address is 719 E. Grand River, Brighton, MI 48116

Convey(s) and Warrants(s) to Healy Homes At Summerfield LLC, a Michigan Limited Liability Company

whose address is 3696 Sleeth Rd., Commerce Twp., MI 48382

the following described premises situated in the Township of Genoa, County of Livingston and State of Michigan, to-wit:

Part of the Southeast ¼ and part of the Northeast ¼ of Section 4, Town 2 North, Range 5 East, Township of Genoa, Livingston County, Michigan, described as follows: Beginning at the South ¼ corner of said Section 4; thence along the North-South ¼ line of said Section 4, as previously surveyed and monumented, on the following two (2) courses: 1) North 01 degrees 50 minutes 59 seconds East, 1365.88 feet; 2) North 01 degrees 50 minutes 44 seconds East, 1524.77 feet, to the center of said Section 4; thence along the East-West ¼ line of said Section 4, as previously surveyed and monumented, South 87 degrees 40 minutes 06 seconds East 1162.17 feet; thence North 02 degrees 19 minutes 54 seconds East, 16.05 feet; thence along an existing chain link fence line, South 84 degrees 42 minutes 06 seconds East, 140.66 feet; thence continuing along an existing chain link fence line, South 13 degrees 29 minutes 03 seconds West 81.90 feet; thence South 19 degrees 08 minutes 24 seconds East 39.61 feet; thence South 01 degrees 53 minutes 15 seconds West 374.11 feet (previously recorded as South) to a found iron pipe; thence along a previously surveyed and monumented line, South 88 degrees 06 minutes 46 seconds West 683.63 feet (previously recorded as South 86 degrees West 686 feet); thence South 01 degrees 26 minutes 28 seconds West 400.04 feet to a found iron rod; thence South 01 degrees 17 minutes 41 seconds West 510.39 feet to a found iron pipe; thence North 87 degrees 29 minutes 24 seconds East 79.92 feet (previously recorded as East 78 feet); thence along a line 10 feet West of and parallel to the West line of SUNRISE PARK, a subdivision as recorded in Liber 2 of Plats on page 23 of the Livingston County Records, South 02 degrees 21 minutes 39 seconds West 243.95 feet; thence South 01 degrees 45 minutes 17 seconds West 227.42 feet to a found iron rod; thence South 87 degrees 01 minutes 22 seconds East 186.47 feet (previously recorded as East 167 feet); thence along the West line of said SUNRISE PARK, South 48 degrees 20 minutes 08 seconds East (previously recorded as South 51 degrees 35 minutes East) 240.00 feet; thence continuing along said West line, South 37 degrees 37 minutes 38 seconds East 146.14 feet (previously recorded as South 37 degrees 34 minutes East 148 feet); thence continuing along said West line, South 01 degrees 42 minutes 54 seconds West, 386.00 feet (previously recorded as South, 434.00 feet); thence North 88 degrees 17 minutes 06 seconds West (previously recorded as West), 10.00 feet; thence along a line 10 feet West of and parallel to the West line of said SUNRISE PARK, South 01 degrees 42 minutes 54 seconds West

Drafted by:

Mark Adler
719 E. Grand River
Brighton MI 48116

Assisted by: Metropolitan Title Company

Return To:

Jack D. Healy ✓
3696 Sleeth Road
Commerce Township MI 48382

Send Tax Bills To:

Jack D. Healy
3696 Sleeth Rd.
Commerce Twp. MI 48382

Recording Fee: \$21.00

File Number: CM-463577

State Transfer Tax: \$34,620.00

County Transfer Tax: \$5,077.60

Tax Parcel No.:

11-04-400-001-401-47070

(Attached to and becoming a part of Warranty Deed dated: May 23, 2003, between Adler Enterprises Company, L.L.C., a Michigan Limited Liability Company, as Seller(s) and Healy Homes LLC, a Michigan Limited Liability Company, as Purchaser(s).)

(previously recorded as South), 241.14 feet; thence continuing along a line 10 feet West of and parallel to said SUNRISE PARK, South 11 degrees 13 minutes 33 seconds East 48.86 feet; thence along the South line of said Section 4, as monumented, North 89 degrees 43 minutes 06 seconds West 473.99 feet; thence along the East line of Lawson Drive, North 02 degrees 12 minutes 21 seconds West 150.00 feet; thence along the North line of Lawson Drive, North 89 degrees 43 minutes 06 seconds West 150.00 feet; thence along the West line of Lawson Drive, South 02 degrees 12 minutes 21 seconds East 150.00 feet; thence along the South line of said Section 4, as monumented North 89 degrees 43 minutes 06 seconds West 546.16 feet to the point of beginning.

More commonly known as Summerfield Pointe

For the full consideration of: **Four Million Six Hundred Sixteen Thousand and 00/100 Dollars (\$4,616,000.00).**

Subject to: Building and use restrictions, reservations, and easements of record. A sewer and/or water assessment which the purchaser agrees to assume and pay according to the terms thereof.

If the property conveyed is unplatted, the following applies:

The grantor grants to the grantee the right to make **ALL** division(s) under section 108 of the land division act, Act No. 288 of the Public Acts of 1967. (If no number is inserted, the right to make divisions stays with the portion of the parent tract retained by the grantor; if all of the parent tract is conveyed, then all division rights are granted.) This property may be located within the vicinity of farmland or a farm operation. Generally accepted agricultural and management practices which may generate noise, dust, odors, and other associated conditions may be used and are protected by the Michigan Right To Farm Act.

Dated this 23rd day of May, 2003.

Witnesses:

Kenneth E. Burchfield
Kenneth E. Burchfield
Darlene G. Swaney
Darlene G. Swaney

Signed and Sealed:

Adler Enterprises Company, L.L.C.

By Mark Adler
Mark Adler, Member

State of Michigan
County of LIVINGSTON

Yvonne C. Brewer
Notary Public: Yvonne C. Brewer
County in Michigan: Oakland
Acting in County: Livingston
Commission Expires: 10/22/2004

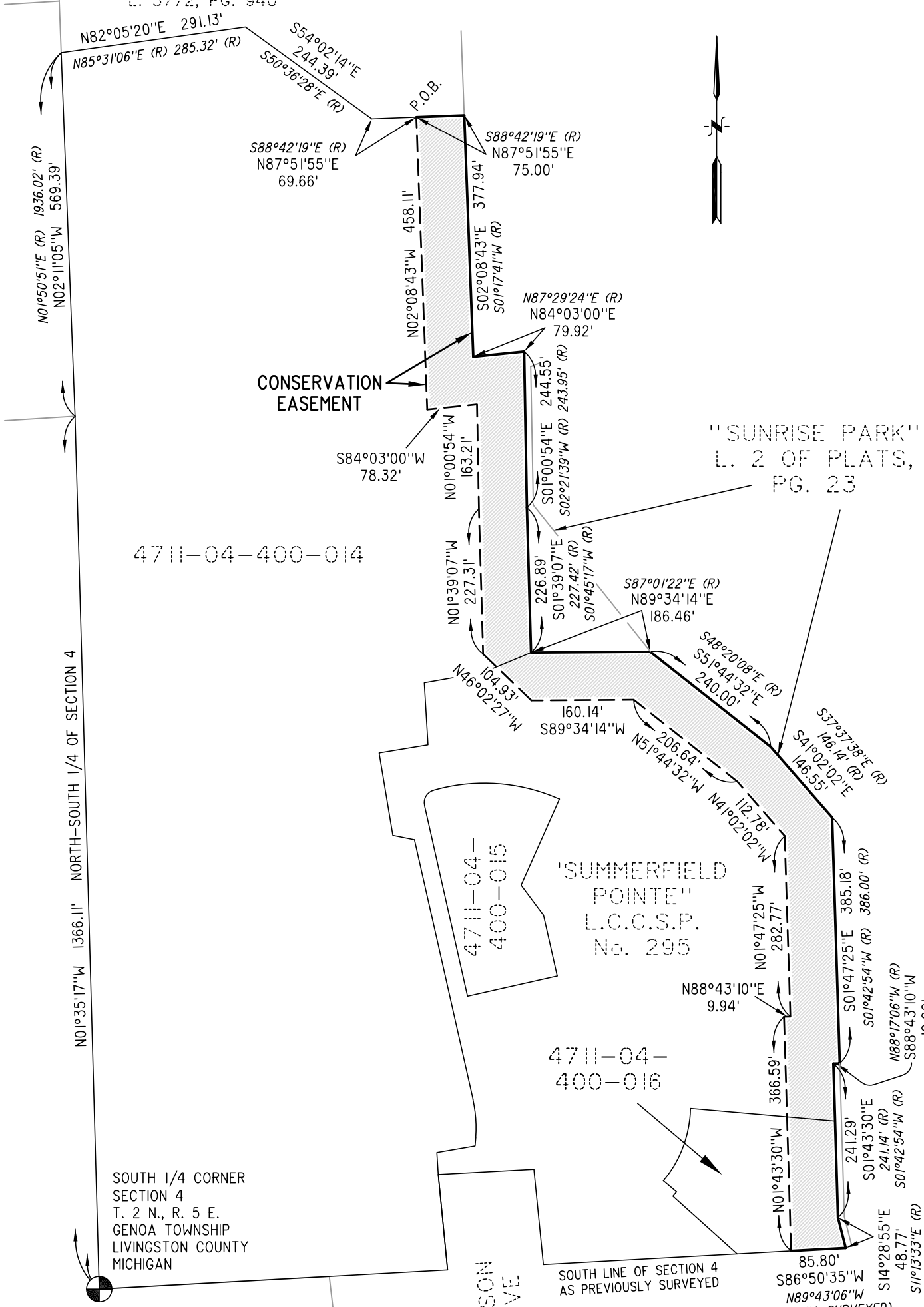
The foregoing instrument was acknowledged before me this May 23, 2003, by Mark Adler as Member of Adler Enterprises Company, L.L.C., a Michigan Limited Liability Company



4711-04-400-013

NATURE PRESERVE
L. 3772, PG. 940

EXHIBIT "___" DEPICTION OF EASEMENT AREA



CIVIL ENGINEERS
LAND SURVEYORS



PH (810) 227-9533
 FAX (810) 227-9460
 EMAIL: desine@desineinc.com
 2183 PLESS DRIVE
 BRIGHTON, MICHIGAN 48114

SCALE 1" = 100"

PREPARED FOR

SUMMERFIELD POINTE ESTATES

SECTION 4, TOWN 2 NORTH, RANGE 5 EAST
GENOA TOWNSHIP, LIVINGSTON COUNTY, MICHIGAN

JOB No. 1-10-04-214159

DATE 03/25/22

DWG No. 214159-CONS

DRAWN LMC

CHECKED TRP

EXHIBIT " _ "
LEGAL DESCRIPTION OF EASEMENT AREA

CONSERVATION EASEMENT

*(Part of Parcels No. 4711-04-400-014, 4711-04-400-016 and "Summerfield Pointe" Replat #2, being a part of the Northeast 1/4 of Section 4, Town 2 North, Range 5 East, Genoa Township, Livingston County, Michigan, according to the Master Deed thereof, as recorded in Liber 4218, Page 874, Livingston County Records, as amended in Replat No. 1 as recorded in Document No. 2008R-028520 and *Replat No. 2 as recorded in Document No. 2014R-006883, Livingston County Records, and designated as Livingston County Condominium Subdivision Plan No. 295, and as described in Act 59 of the Public Acts of 1978, as amended.)*

Part of the East 1/2 of Section 4, Town 2 North, Range 5 East, Genoa Township, Livingston County, Michigan; described as:

Commencing at the South 1/4 Corner of said Section 4;

thence along the North-South 1/4 line of Section 4 to following two courses:

- 1) N01°35'17"W 1366.11 feet and
- 2) N02°11'05"W 569.39 feet (recorded as N01°50'51"E 1936.02 feet);

thence along the South line of a Nature Preserve as recorded in Liber 3772, Page 940, Livingston County Records, the following four courses:

- 1) N82°05'20"E 291.13 feet (recorded as N85°31'06"E 285.32 feet),
- 2) S54°02'14"E (recorded as S50°36'28"E) 244.39 feet,
- 3) N87°51'55"E (recorded as S88°42'19"E) 69.66 feet to the **PLACE OF BEGINNING** and
- 4) continuing N87°51'55"E 75.00;

thence S02°08'43"E (recorded as S01°17'41"W) 377.94 feet;

thence N84°03'00"E (recorded as N87°29'24"E) 79.92 feet;

thence along a line 10.00 feet West of and parallel to the Westerly line of "Sunrise Park", a subdivision recorded in Liber 2 of Plats, Page 23, Livingston County Records, S01°00'54"E 244.55 feet (recorded as S02°21'39"W 243.95 feet);

thence S01°39'07"E 226.89 feet (recorded as S01°45'17"W 227.42 feet);

thence N89°34'14"E (recorded as S87°01'22"E) 186.46 feet;

thence along the West line of said "Sunrise Park" the following three courses

- 1) S51°44'32"E (recorded as S48°20'08"E) 240.00 feet,
- 2) S41°02'02"E 146.55 feet (recorded as S37°37'38"E 146.14 feet) and
- 3) S01°47'25"E 385.18 feet (recorded as S01°42'54"W 386.00 feet);

thence S88°43'10"W 10.00 feet (recorded as N88°17'06"W feet);

thence along a line 10 feet West of and parallel to the West line of said "Sunrise Park" the following two courses:

- 1) S01°43'30"E 241.29 feet (recorded as S1°42'54"W 241.14 feet) and
- 2) S14°28'55"E 48.77 feet (recorded as S11°13'33"E 48.86 feet);

thence along the South line of said Section 4, as previously surveyed, S86°50'35"W (recorded as N89°43'06"W) 85.80 feet;

thence N01°43'30"W 366.59 feet;

thence N88°43'10"E 9.94 feet;

thence N01°47'25"W 282.77 feet;

thence N41°02'02"W 112.78 feet;

thence N51°44'32"W 206.64 feet;

thence S89°34'14"W 160.14 feet;

thence N46°02'27"W 104.93 feet;

thence N01°39'07"W 227.31 feet;

thence N01°00'54"W 163.21 feet;

thence S84°03'00"W 78.32 feet;

thence N02°08'43"W 458.11 feet to the Place of Beginning.

Containing 3.73 acres of land, more or less. Subject to and together with all easements and restrictions affecting title to the above described premises.

CIVIL ENGINEERS
LAND SURVEYORS



PH (810) 227-9533
FAX (810) 227-9460
EMAIL: desine@desineinc.com
2183 PLESS DRIVE
BRIGHTON, MICHIGAN 48114

PREPARED FOR

SUMMERFIELD POINTE ESTATES

SECTION 4, TOWN 2 NORTH, RANGE 5 EAST
GENOA TOWNSHIP, LIVINGSTON COUNTY, MICHIGAN

JOB No. 1-10-04-214159

DATE 03/25/22

DWG No. 214159-CONS

DRAWN LMC

CHECKED TRP

**FIRST AMENDMENT TO SUMMERFIELD POINTE PLANNED UNIT DEVELOPMENT
AGREEMENT**

THIS FIRST AMENDMENT TO SUMMERFIELD POINTE PLANNED UNIT DEVELOPMENT AGREEMENT (“Amendment”) is made and entered into this ____ day of _____, 2022 (“Effective Date”), by and between the CHARTER TOWNSHIP OF GENOA, a Michigan municipal corporation (“Township”), whose address is 2911 Dorr Road, Brighton, Michigan 48116 and HEALY HOMES AT SUMMERFIELD, LLC, a Michigan limited liability company (“Developer), whose address is 3696 Sleeth Road, Commerce Township, Michigan 48382.

RECITALS

A. The Township and Developer’s predecessor in interest, Adler Enterprises Company, L.L.C., entered into that certain Summerfield Pointe Planned Unit Development Agreement dated April 19, 2002, and recorded on September 25, 2002 in Liber 3533, Page 0900, Livingston County Records (the “**PUD Agreement**”), pertaining to the real property described in **Exhibit A** attached hereto and incorporated herein (the “**Property**”).

B. Developer desires to reconfigure the lay-out, configuration, number and type of condominium units, and changes to related specifications and set-back, to be developed under the PUD Agreement as further described and depicted on the amended PUD Site Plan attached as **Exhibit B** to this Agreement (“**Amended PUD Site Plan**”) as it relates to a portion of the Property further described on **Exhibit C** to this Amendment (the “**Future Phases**”).

C. To facilitate the development of the Future Phases, the Township and Developer desire to amend the PUD Agreement to incorporate the Amended PUD Plan.

D. All provisions and terms of the PUD Agreement not addressed by this Amendment shall remain in full force and effect.

A M E N D M E N T

The PUD Agreement is amended as follows:

1. **Amended PUD Site Plan.** The PUD Site Plan defined in the PUD Agreement, as it relates to the Future Phases, is hereby amended and replaced with the Amended PUD Site Plan. The Pulte Property shall no longer be subject to the terms and conditions of the PUD Agreement. The remainder of the Property shall continue to be subject to the terms and conditions of the PUD Agreement.

2. **Land Use Authorization and Standards.** Article II of the PUD Agreement is hereby deleted in its entirety and replaced with the following:

“ARTICLE II. LAND USE AUTHORIZATION AND STANDARDS

2.1 The Planned Unit Development as set forth on the PUD Plan reflects the change in the zoning for the Property from Rural Residential to medium density residential (MDR) consisting of the following use:

Not more than 108 single family units and 13 Buildings of 4 units a total of 52 attached units of which 48 have already been built. A total of 160 residential units.

2.2 The number of residential units permitted on the Property are a maximum of 52 attached condominium units for occupancy as single family residences. Also permitted on the property are 108 single family detached units.

2.3 **Setbacks for the attached condominium buildings are:**

<u>Perimeter Setback</u>	<u>Sidewalk Setback</u>	<u>Setback Between Building</u>	<u>Wetlands Setback</u>
North (rear) 50 ft West (side) Min 30 ft South (front) Min 34 ft East (side) 75 ft.	Min 20 ft from back of sidewalk to front of residential building improvements. 30 ft from back of curb.	Min 30 ft	Min 25 ft.

Setbacks for Single Family detached units are:

<u>Perimeter Setback</u>	<u>Front Setback</u>	<u>Rear Setback</u>	<u>Side Setback</u>
North(rear) 50 ft West (side) Min 30 ft South (front) Min 35 ft East (side) Min 75 ft	30 ft from back of curb 20 ft from back side of walk	Min 30 ft	5 ft Min 14 ft between houses”

Proposed Dimensional Deviations from the MDR Zoning Requirements

<u>MDR Zoning Requirements</u>	<u>Unit Width</u>	<u>Unit Area</u>
<u>Deviations Proposed by Applicant</u>	<u>75'</u> <u>55'</u>	<u>10,000 sq ft</u> <u>6,600 sq ft (5,934 sq ft for Unit #29)</u>

2.4 Developer and the Developer’s successors in interest, including, but not limited to the association established to operate and manage the condominium, and the future owners of units shall preserve and protect the woodlands along the perimeter setback of the property on the east side and the PUD Plan shall identify the area within the east side perimeter setback as a permanent conservation area. The permanent conservation area shall be preserved and protected and maintained by association.”

3. Schedule of Construction. Developer shall install and construct improvements for the Future Phase in accordance with the phasing plan set forth PUD Site Plan and as further described below:

- a. **Phase I.** The Lawson Road and Grand River road improvements and installation as required by the PUD Agreement have been completed. Developer shall be entitled to start clearing, grading, construction and installation of utilities and roads for Phase I as identified on the PUD site plan, which includes (i) fourteen (14) site condominium units, and (ii) Building A of the attached condominium units, unit 1-4, inclusive. Developer shall be entitled to two (2) model units for both the site condominium portion and the attached condominium portion. Upon execution of this Amendment, and Developer complying with all outside agency regulations and approvals, the Township shall issue all necessary building and land use permits to Developer to commence clearing, grading, site work, installation and construction. The Township shall issue, and Developer shall be entitled to final certificates of occupancy for each structure it completes within Phase I. Developer shall have no obligation to complete any improvements in subsequent phases prior to receiving the certificates of occupancy for Phase I.
- b. **Phase II.** Prior to issuance of building permits for any units located in Phase II, Developer shall start construction of the portion of Lawson Drive which will serve as the connector road to Hampton Ridge. The portion of Lawson Drive which must be started by Developer is located along units 107-108, 50-62, 66-74 (the "Connector Road"). When the Connector Road is substantially completed and usable, then the Township shall, and Developer shall be entitled to, issuance of any and all required building and land use permits for units 107-108, 50-62, or 66-74.
- c. **Phase III-IV.** Developer shall install the remainder of improvements as follows:
 - i. Developer shall install the utilities and roads to service units 75-106. Upon completion of installation of such improvements, Developer shall be entitled to issuance of all building and land use permits for units 75-106.
 - ii. Developer shall install the utilities and roads to service units 15-49. Upon completion of installation of such improvements, Developer shall be entitled to issuance of all building and land use permits for units 15-49.

4. **Drainage.** Developer has completed installation of all drainage systems required to be installed pursuant to the PUD Agreement, including all drainage facilities required for the Future Phase. Developer shall have no obligation to install further stormwater drainage facilities for the Future Phase, provided, however, that Developer will make any and all changes and install any additional improvements as required by the Livingston County Drain Commission or the Township pursuant to County and Township requirements for such system, to the extent the existing systems are not compliant/do not meet the requirements of each governmental agency.

5. **Utilities.** Article VIII of the PUD is amended to add the following at the following in relation to the Future Phase:

FUTURE PHASE UTILITIES

"8.1 Public sanitary sewer and public water are provided to the development by the Township and/or the responsibly governmental authority.

8.2 Owner shall provide and dedicate easements to the Township and/or the responsible governmental authority to allow for ingress, egress maintenance, repair and improvements of the public sanitary and public water systems.

8.3 Owner shall construct and pay the cost of the infrastructure required by the Township and the Township's consulting engineers to connect the property to the public sanitary system and the public water system.

8.4 The Township has water supply capacity and sewage disposal capacity to provide public sanitary and public water to the Property. The cost of water supply and sewage disposal to be paid by Owner will be:

- a) Forty Four Thousand One Hundred Sixty and No/100 (\$44,160.00) Dollars due upon issuance of the grading permit. Owner has already paid for grading permit;
- b) ~~Sixteen Thousand and No/100 (\$16,000.00) Dollars for sewer payable upon issuance of each land use and building permits for the construction of each building, or~~ Four Thousand and No/100 (\$4,000.00) Dollars for sewer payable upon land use permit for each single family home.
- c) ~~Twelve Thousand Eight Hundred and No/100 (\$12,800.00) Dollars for water payable upon issuance of each land use permit for the construction of each building, or~~ Three Thousand Two Hundred and No/100 (\$3,200.00) Dollars payable for each land use permit for water tap per single family home.
- d) The Owner and the Township agree that the costs imposed upon the Owner by the Township represents the amount due to the Township for the acreage assessment at 38.48 acres of developable land (excluding the Nature Preserve), 150 front feet (the front footage assessment for sewer) and 160 condominium units.

8.5 Upon Completion of construction of the above infrastructure and the approval by the Township, the Owner shall convey the infrastructure components (the sewer, water mains and their appurtenant components) to the Township and thereafter the Township shall be responsible for maintenance, repair and replacement of the same. The Owner and its successors and assigns shall be responsible for the maintenance and repair and replacement of:

- a) The water supply leads extending from the curb stops to the buildings; and;
- b) The sanitary sewer leads from the main to the buildings.”

6. Conflict. In the event of a conflict between provisions of this Amendment and the provision of any ordinance or regulation of the City, the provision of this Amendment shall prevail.

7. Entire Agreement. This Amendment constitutes the entire agreement between the parties with respect to the subject of this Amendment and may not be amended or its terms varied except in writing and executed by all parties.

8. Successors and Assigns. This Amendment shall run with the land and shall bind and inure to the benefit of their parties and their successors and assigns.

9. Recording. Following execution of the Amendment by the parties, this Amendment shall be recorded with the Livingston County Register of Deeds. Any amendment shall be recorded with the LivingstonCounty Register of Deeds.

10. Counterparts. This Amendment may be executed by the parties in one or more counterparts, and, when all counterpart documents are executed, the counterparts shall constitute a single binding instrument.

11. Effect of Amendment. The PUD Agreement, as amended by this Amendment continues in full force and effect. The terms of this Amendment supersede any contrary provisions in the PUD Agreement. Undefined terms in this Amendment shall have the meaning set forth in the PUD Agreement unless the context otherwise requires. The Recitals are incorporated in this Amendment by reference.

IN WITNESS WHEREOF, the parties have caused this Amendment to be executed as of the day and year recited above.

[signatures on the following pages]

TOWNSHIP

CHARTER TOWNSHIP OF GENOA, a Michigan municipal corporation

By: _____
Supervisor

By: _____
Clerk

ACKNOWLEDGEMENT

STATE OF MICHIGAN)
) ss
COUNTY OF LIVINGSTON)

On this _____ day of _____, 2022, before me, a notary public in and for Livingston County personally appeared _____ to me known to be the Supervisor and Clerk, of the Charter Township of Genoa, a Michigan municipal corporation, respectively, who were duly authorized by the Genoa Township Board to sign this Agreement on behalf of Genoa Township.

_____, Notary Public
_____, County, Michigan
My Commission expires: _____
Acting in Livingston County

PREPARED BY

Alexandra E. Dieck
Bodman PLC
201 S. Division, Suite 400
Ann Arbor, Michigan 48103

WHEN RECORDED RETURN TO:

Nancy Willson (32620-319)
Bodman PLC
201 W. Big Beaver Road, Suite 500
Troy, Michigan 48084

EXHIBIT A

Legal Description of the Property

EXHIBIT B
(Amended PUD Site Plan)

EXHIBIT C

Legal Description of the Future Phase

Document comparison by Workshare Compare on Thursday, March 24, 2022
11:21:25 AM

Input:	
Document 1 ID	netdocuments://4858-4190-4145/2
Description	Healy-Summerfield Pointe-First Amendment to Summerfield Pointe Planned Unit Development (PUD) Agreement
Document 2 ID	netdocuments://4858-4190-4145/3
Description	Healy-Summerfield Pointe-First Amendment to Summerfield Pointe Planned Unit Development (PUD) Agreement
Rendering set	Standard

Legend:	
<u>Insertion</u>	
Deletion	
Moved from	
<u>Moved to</u>	
Style change	
Format change	
Moved deletion	
Inserted cell	
Deleted cell	
Moved cell	
Split/Merged cell	
Padding cell	

Statistics:	
	Count
Insertions	11
Deletions	3
Moved from	0
Moved to	0
Style changes	0
Format changes	0

Total changes	14
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March 9, 2022

**AMENDED P.U.D. PLAN
SUMMERFIELD POINTE ESTATES
Genoa Township, Michigan
Site Plan Application**

IMPACT ASSESSMENT

Owner:

Healy Homes at Summerfield, L.L.C.
3696 Sleeth Road
Commerce Township, Michigan 48382

Prepared by:

DESINE INC.
2183 Pless Drive
Brighton, Michigan 48114

A. INTRODUCTION (Sec. 18.07.01)

This impact assessment has been prepared pursuant to Article 18 – SITE PLAN REVIEW of the Zoning Ordinance for the Township of Genoa, Livingston County, Michigan. This assessment addresses the impact of the proposed amendment for 108 single family unit building additions on the surrounding community and, the economic condition and social environment of the Township.

This Impact Assessment has been prepared under the direction of Wayne Perry, P.E., DESINE INC., 2183 Pless Drive, Brighton, Michigan 48114. Mr. Perry is a licensed Civil Engineer, providing professional engineering services in Livingston County since 1988 with experience in private and municipal development including projects within Genoa Township and Livingston County.

B. SITE LOCATION / DESCRIPTION (Sec. 18.07.02)

The site is comprised of three parcels, containing a total of 28.52 acres of property, bordered on the North by a nature preserve, Summer Ridge & Sunset Park Condominiums on the East, Lawson Drive on the South and a vacant parcel zoned MUPUD to the West, as shown on Figure 1. The existing North and Southwesterly parcels are zoned “Mixed Use Planned Unit Development” (MUPUD) district, the Northwesterly Parcels are zoned “Residential Planned Unit Development” (RPUD) district, the Southeast Parcel is zoned “Industrial” (IND) district, and the East parcels being zoned “Lakeshore Resort Residential” (LRR) district.

The existing site is comprised of wooded vacant land along the West and, existing lawn areas for the central portion of the site and parcels situated on the East. Access to the site is by an existing road to the South, Lawson Drive. A new access route is proposed from Lawson Drive in the Northwest portion of the project, connecting to the existing Aster Blvd. The Existing Conditions Plan provides a detailed overview of the existing site features.

The Summerfield Pointe Estates PUD Site Plan depicts proposed site improvements to be constructed on the site. Improvements consist of 108 single family residential units in place of 140 attached condominiums provided on the approved PUD plan. These units are planned to be constructed in four (4) phases. Additionally, the site will feature access drives for each unit, open space and common yard areas, a common space for children’s playground and activities, landscaping & screening, an on-site storm water management system and related site improvements. Illumination is to be provided by each home owner following the current layout of the surrounding “Summer Ridge” condominiums.

Parking for each proposed unit is to be provided within garages. Public sanitary sewer, water utilities, electric, gas, phone and cable system services are to be provided. Utility easement plan sheets provide a detailed overview of the location and layout for the proposed easements on-site. Appurtenant features including lot lines, sidewalks and proposed access drives are also presented in the site plan.

Relevant adjacent uses include the Lake Trust Credit Union located to the Southwest and across Whitehorse Drive, a Sunoco gas station located due South and adjacent to Lawson Drive and, the DTE Service Center to the Southeast. Properties to the North, West and Southwest of the site are currently vacant. An aerial photograph depicting the proposed site improvements is provided in Figure 2 & Figure 3.

C. IMPACT ON NATURAL FEATURES (Sec. 18.07.03)

Existing soils on the property are primarily Wawasee loam. These soils are well drained soils found in till plains and moraines, with slopes of 2%-6%. Surface runoff is medium, permeability is moderately low and the soil erosion hazard is light. The Soils Map, shown in Figure 4, shows the locations of specific soil types as classified.

Soil classifications are prepared by the United States Department of Agriculture, Soil Conservation Service, and “Soil Survey of Livingston County”. On-site soils consist of the following:

CONOVER LOAM (CvraaB): CONOVER LOAMS are typically somewhat poorly drained soils found on till plains and moraines, with slopes of 0%-4%. Surface runoff is slow, permeability is moderately slow, and the erosion hazard is light.

GILFORD SANDY LOAM (Gd): GILFORD SANDY LOAMS are typically poorly drained soils found on sandy drift depressions and coarse-loamy drift over sandy and gravelly outwash, with slopes of 0%-2%. Surface runoff is very slow to ponded, permeability is moderate and the soil erosion hazard is light.

HOUGHTON MUCK (Ho): HOUGHTON MUCKSS are typically nearly level soils found in depression areas of lake plains, outwash plains, glacial drainage ways, and moraines, with soil slopes of 0% -1%. Surface runoff is very slow to ponded, permeability is moderately rapid, and the erosion hazard is moderate.

WAWASEE LOAM (MoB): WAWASEE LOAMS are typically well drained soils found in till plains and moraines, with slopes of 2%-6%. Surface runoff is medium, permeability is moderately low and the soil erosion hazard is light.

WAWASEE LOAM (MoB): WAWASEE LOAMS are typically well drained soils found in till plains and moraines, with slopes of 6%-12%. Surface runoff is high, permeability is moderate and the soil erosion hazard is light.

MIAMI LOAM (MoD): MIAMI LOAMS are typically well drained soils found in till plains and moraines, with soil slopes of 12%-18%. Surface runoff is medium, permeability is moderate and the soil erosion hazard is moderate.

MIAMI LOAM (MoE): MIAMI LOAMS are typically well drained soils found in till plains and moraines, with soil slopes of 18%-25%. Surface runoff is medium, permeability is moderate and the soil erosion hazard is moderate.

MIAMI LOAM (MoF): MIAMI LOAMS are typically well drained soils found in till plains and moraines, with soil slopes of 12%-18%. Surface runoff is medium, permeability is moderate and the soil erosion hazard is moderate.

SPINX-OAKVILLE LOAMY SAND (SvB): SPINX-OAKVILLE LOAMY SANDS are typically well drained soils found on till plains, outwash plains, and moraines, with soil slopes of 0%-6%. Surface runoff is slow; permeability is moderately rapid in the Spinks soil and is rapid in the Oakville soil. The erosion hazard is light.

The property contains a variety of natural features consisting of primarily wooded upland in the northwest portion of the property, with field grasses and shrub/scrub brush areas in the southerly and easterly portions. Wooded areas within the site are comprised of hardy, native species such as Oak, Hickory, Maple and Pine. Elm, Cottonwood, Willow, Poplar, Black Locust and other less desirable tree species are also present. The proposed improvements will require removal of existing trees within upland areas to allow for construction of the proposed roads, residential homes and improvements. These areas are depicted on the development plan. Trees outside of the unit limits and areas of construction will be preserved.

Existing topography of the site is generally flat to gently sloping terrain. The elevation of the property varies from an elevation of 997 at the Southwest property corner, to approximately 983 at the North portion of the site. Surface water drainage on the property generally flows to the North.

The proposed construction and improvements will require filling and grading in the Southwest and Northwest portion of the property. Development of this project will require earthwork to construct the proposed roads, and modify site grades with useable materials from the site, requiring the export of excess soil and importing of additional structural fill material. The proposed elevations and grading of the site mesh with the existing grades at the property lines. The limits of disturbance have been depicted on the grading plan.

Surface drainage characteristics on the property will be affected by the construction of the proposed drainage swales, roads, driveways, sidewalks and single family home units. Construction of the proposed improvements will reduce the permeable area of the property, resulting in an increase in the surface water runoff generated. The existing storm water management system will be modified to collect and control the surface water runoff, reducing the discharge rate from the property and increasing the infiltration of surface water runoff. Modifications will be required to the existing control structure located in the detention basin on-site, in order to restrict the discharge rate from the property to an agricultural runoff rate. The Utility Plan sheets provide a detailed overview of the storm water management site features and conditions.

The proposed changes and modifications to the surface drainage conditions will not

significantly impact local aquifer characteristics or groundwater recharge capacity. All surface water runoff from the site will be directed into the existing detention on-site. Reduction in the surface permeability will affect onsite infiltration, surface water flow path and duration. Surface water runoff from the development will be reduced and no significant impacts to adjacent properties are anticipated from the proposed construction and development of the site.

Landscaping is proposed for the developed portion of the site to reduce the visual impact of the proposed project. All proposed landscaping areas and plantings have been designed per the requirements of Genoa Township's current Zoning Ordinance and are intended to improve the aesthetics of the property. Within the developed portion of the site, areas not otherwise covered, shall have lawn or other vegetative surface cover established.

Upland wildlife habitats on the property include primarily small woodland, field grass and shrub/scrub brush areas. Wildlife supported in these areas are generally smaller woodland creatures, field animals, and birds. Larger animals, such as deer, may traverse the site. Wetland habitats on the property support a variety of wildlife including transient waterfowl and various small wetland animals. The wetland and water habitats will remain undisturbed during construction and development of the property.

The National Wetlands Inventory Plan prepared by the United States Department of the Interior, Fish and Wildlife Service indicates that there are two (2) freshwater emergent wetlands located North & Northeast of site, and one (1) freshwater forested/shrub wetland located Northwest of site. The Wetland Inventory Map, shown in Figure 6, shows the locations of specific wetland types surrounding the site.

D. IMPACT ON STORM WATER MANAGEMENT (Sec. 18.07.04)

The existing detention basin is located on the Northwest portion of the site. Side slopes for this basin meet or exceed one-foot-vertical to five-feet-horizontal as required by the Livingston County Drain Commissioner's office. No excavation or grading is proposed for the existing storm water detention basin to accommodate these improvements. Earthwork will be required to modify the existing and construct new underground storm water conveyance pipes, and direct storm water flow into the storm water collection system. This system will discharge surface water runoff generated by the development of the property to the existing sedimentation basin and detention basin. Site grading will mesh with existing grades on adjoining properties. No adverse impact to adjacent parcels is anticipated due to the construction and grading of the property.

Surface water runoff generated from all improved areas of the site will be collected by catch basins, conveyed through a storm sewer system, and discharged to the sedimentation and detention basin located on the North side of the property. Storm water will be detained within the basin during a storm event and slowly discharged from the basin through a new control structure proposed. Design for this control structure followed the design guidelines of the Livingston County Drain Commissioner.

Soil erosion and sedimentation are controlled by the Soil Erosion Control Act No. 347 of the Public Acts of 1972, as amended and is administered by the Livingston County Drain Commissioner. Silt fencing will be installed around a majority of the site during construction. The Contractor shall comply with all regulations including control during and after construction.

Impact on adjoining properties due to the construction of this site will be minimized by implementing soil erosion control methods. No adverse impact to adjacent properties due to surface water runoff will be created as a result of the proposed improvements.

E. IMPACT ON SURROUNDING LAND USES (Sec. 18.07.05)

Surrounding land uses to the Southwest of the site and located on the North side of White Horse Drive, are zoned Mixed-Use Planned Unit Development (MU-PUD). Current use consists of an industrial user and vacant property. Land to the Southeast is zoned Industrial (IND) and contains an industrial user “DTE Energy Howell”. Properties to the East are zoned Lakeshore Resort Residential (LRR) and to the Northwest, are zoned Residential Planned Unit Development.

The proposed Site Plan deviates from the approved PUD plan. The construction of 108 single family homes in place of 140 attached condominiums reduces the overall density for the site. No adverse impact to adjacent properties is anticipated due to construction of these improvements.

Ambient noise levels on and around the property are largely generated by sporadic vehicular traffic on Lawson Drive and homeowner activities such as lawn care maintenance. Daily activities within the proposed buildings are not anticipated to create an increase in the sound level in the area.

All site lighting is proposed to match the existing conditions of the Summer Ridge Condominiums on-site. Proposed building mounted fixtures will be shielded and down directed on the site.

Four types of architectural designs will be proposed for construction. The façades along the building front side elevation will be most visible from Lawson Drive. The materials for these units will resemble the adjacent Summer Ridge condominiums on the Southeast, and the Hampton Ridge condominiums to the Northwest. Brick and mortar are proposed for the front elevation along the main access road. Vinyl siding material is proposed for the rear and side elevations. A two car garage is proposed for each unit and ample space on each driveway allows for two cars to park along the proposed driveway for visitors.

A nature preserve to the north equivalent of 22.22 Ac., a 75 ft. wide conservation easement along the East property line of 3.73 Ac. and a total of 6.53 Ac. of common yard areas between the existing Summer Ridge condominiums & the proposed Summerfield Pointe Estates PUD, allow for an overall space area on-site equivalent to 53% open space.

The best quality woodlands and wetland are concentrated to the North of the site. Proposed areas to be developed will occur in existing open areas and where non-desirable tree species are located. When possible, quality trees such as Hickory and Maple varieties will be preserved.

The proposed use of the property does not create any significant emissions of smoke, airborne solids, odors, gases, vibrations, noise or glare discernable and substantially annoying or injurious to person and/or property beyond the lot lines. No significant change in air pollution is anticipated.

The Contractor shall be responsible for initiating and maintaining adequate dust control measures during and after construction until the project site is fully stabilized and a vegetative cover established. Dust control measures used during construction may consist of site watering, mulching of completed areas, installation of windbreak fencing, and application of chemical dust control materials. The site will comply with the performance standards contained in Section 13.05 of the Township Zoning Ordinance.

Soil erosion control measures such as silt fence, geotextile silt sack filters and construction track mats will be used during construction to control siltation and sedimentation from entering the storm water system and have an adverse impact on adjacent properties.

F. IMPACT ON PUBLIC FACILITIES AND SERVICES (Sec. 18.07.06)

The Livingston County Sheriff and Michigan State Police will provide Police protection. Public safety services required to accommodate the proposed use are anticipated to be minor.

The Brighton Area Fire Department as a part of an existing governmental agreement will provide fire protection service. Two existing fire hydrants are located along Lawson Drive West curblin. One situated just North of the existing roundabout, and the second located at the north intersection of Summer Ridge & Lawson Drive. Seven fire hydrants are proposed to be constructed per the proposed site plan to provide adequate fire protection capabilities. The building addresses will be located at the front of the units to meet the Fire Departments requirements. No significant change in fire protection services are anticipated as a result of the proposed plan modifications.

The property is accessed from Lawson Drive, and connecting to Grand River Ave. providing adequate access for emergency vehicles. A future connection to the existing Aster Blvd. on the Northwest corner of the site will provide an additional connection to Latson Road, further increasing the emergency vehicles access route to the site.

The proposed plan modifications will not create any direct adverse impact on the public schools.

G. IMPACT ON PUBLIC UTILITIES (Sec 18.07.07)

The property is presently within municipal sewer & water districts and the existing

Summer Ridge condominium buildings are connected to the municipal utilities.

Water service to the proposed units will be provided from a new 8” ductile iron water main extension to be constructed along the new Lawson Drive road. Domestic service leads are connected to this main to supply the service required. A total of nine (9) fire hydrants situated throughout the property will provide adequate fire suppression services on-site. Water main easement for repair, maintenance and access is provided for this extended water main on-site. Capacity is available within the existing water system to provide adequate service to this site.

Capacity is available within the existing sanitary sewer system to provide adequate service for the site. Sanitary sewer connections for the south portion of the site will be provided by connecting to the existing sewer lines for units 1 through 6, and by extending the sewer main for units 7 through 49. Sanitary sewer service to the North portion of the site will be provided by extending the existing sewer main situated on Hampton Ridge Condominiums and will provide service for units 50 through 108. A sanitary sewer manhole is proposed for construction at the west property line, between units 61 & 62 in order to provide future sanitary sewer service for the vacant parcel along the Southwest. Sanitary sewer easement for repair, maintenance and access is provided for the extended sewer main. The utility plans provide a detailed overview of these features.

The site is currently serviced by electric, gas, phone and cable systems located along Lawson Drive. A 10 foot wide easement for public utilities has been provided along Lawson drive in order to allow the future services required for the proposed units.

Delivery services are generally limited to parcel trucks, such as UPS, and similar single axle vehicles. These delivery service providers use available street parking temporarily while dropping off deliveries. No large vehicles accessing the site are expected for the development.

- H. STORAGE AND HANDLING OF ANY HAZARDOUS MATERIALS (Sec. 18.07.08)**
The proposed residential use within the site will not use, store, generate and/or discharge potentially polluting materials. Small quantities of material such as cleaning products and chemicals may be stored in single family homes. No adverse effect is expected due to hazardous materials on-site.
- I. TRAFFIC IMPACT STUDY (Sec. 18.07.09)**
For Traffic Impact Study, please see Municipal Partners Traffic Impact Study prepared and previously submitted under separate cover. No adverse impact on pedestrian traffic in the area is anticipated as a result of developing the proposed project.
- J. HISTORIC AND CULTURAL RESOURCES (Sec. 18.07.10)**
The existing buildings on the property do not have any major historic significance on a local, regional or state level.

K. SPECIAL PROVISIONS

No special provisions or requirements are currently proposed for this facility.

FIGURE 1

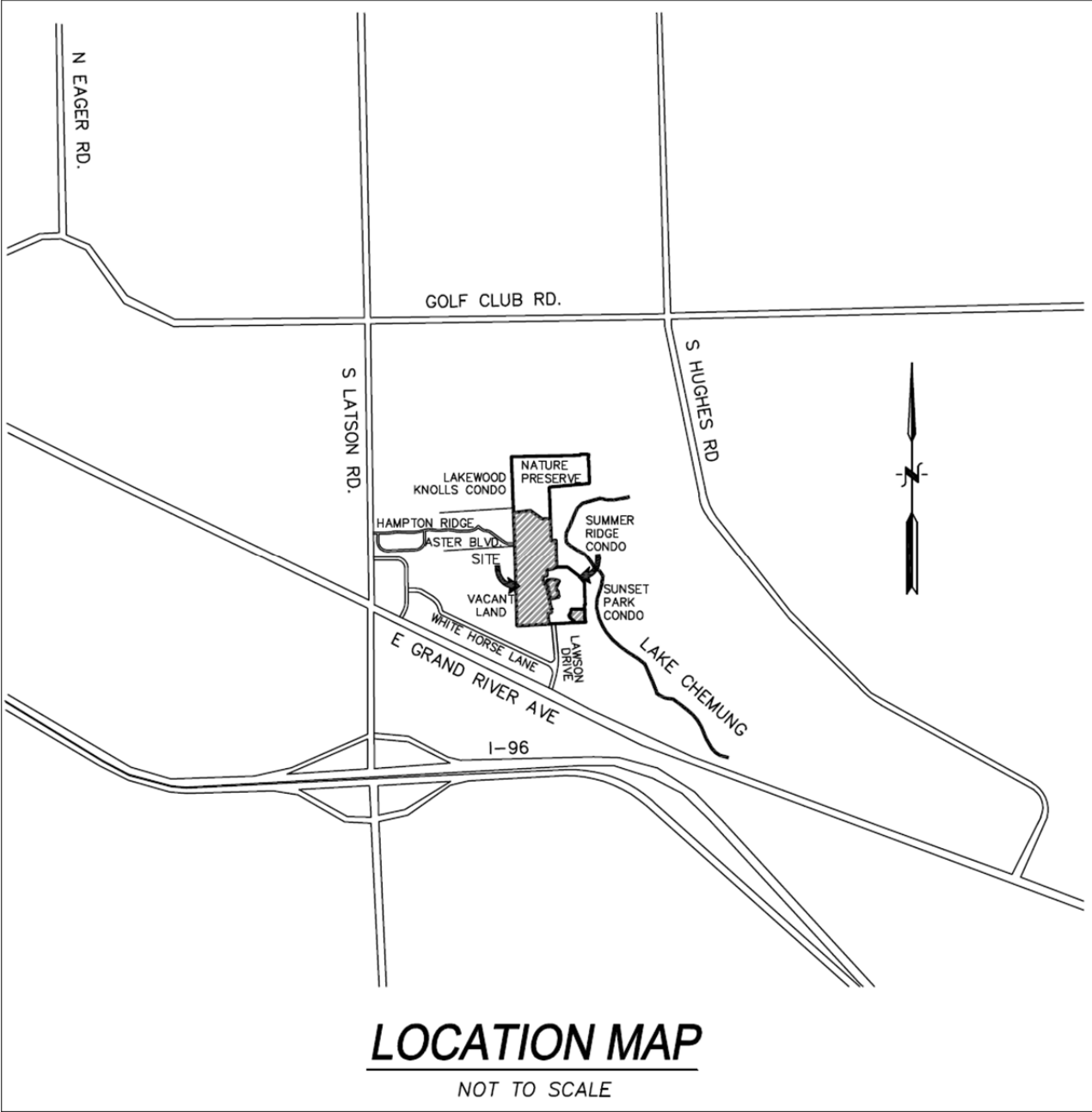
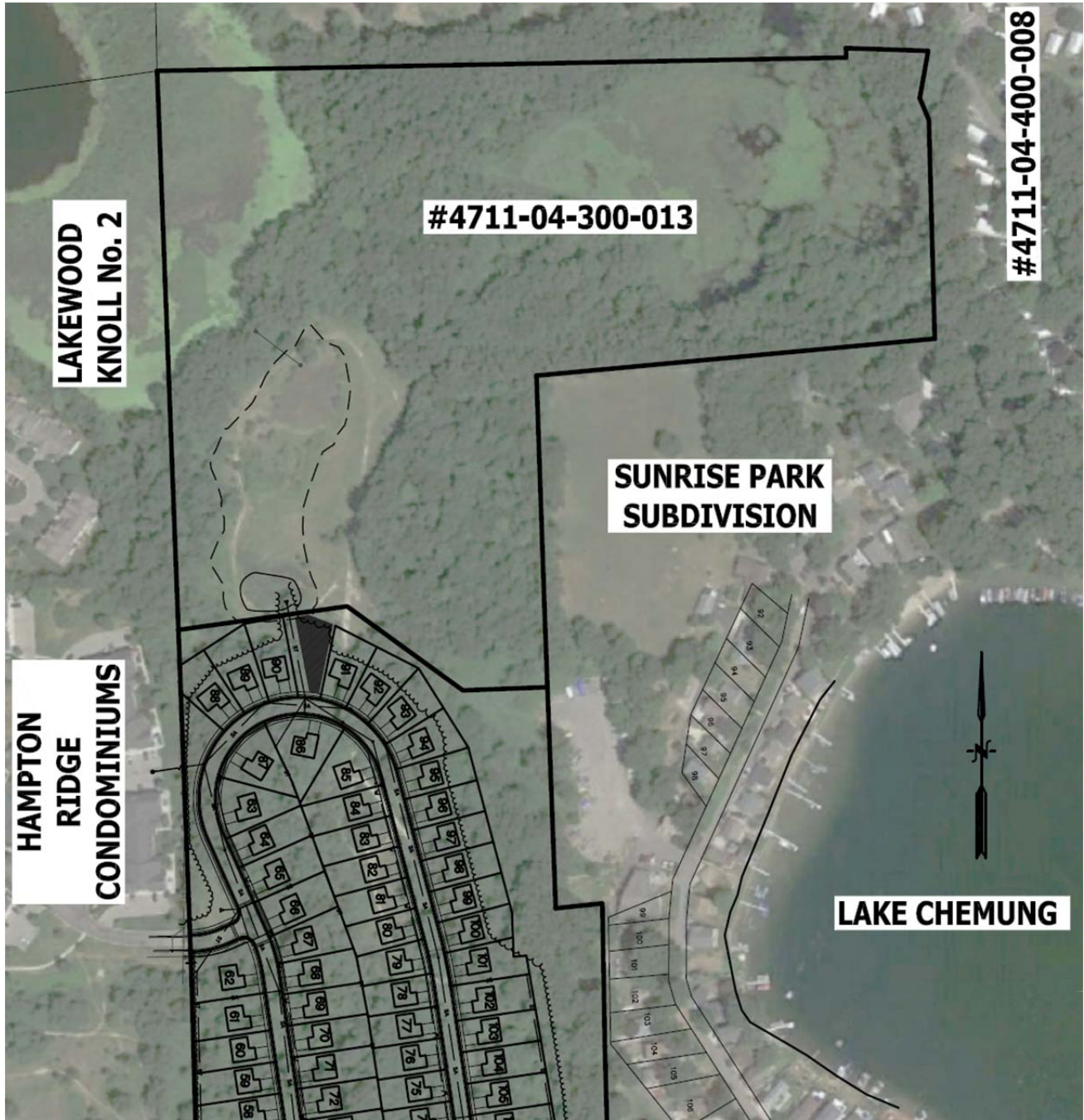
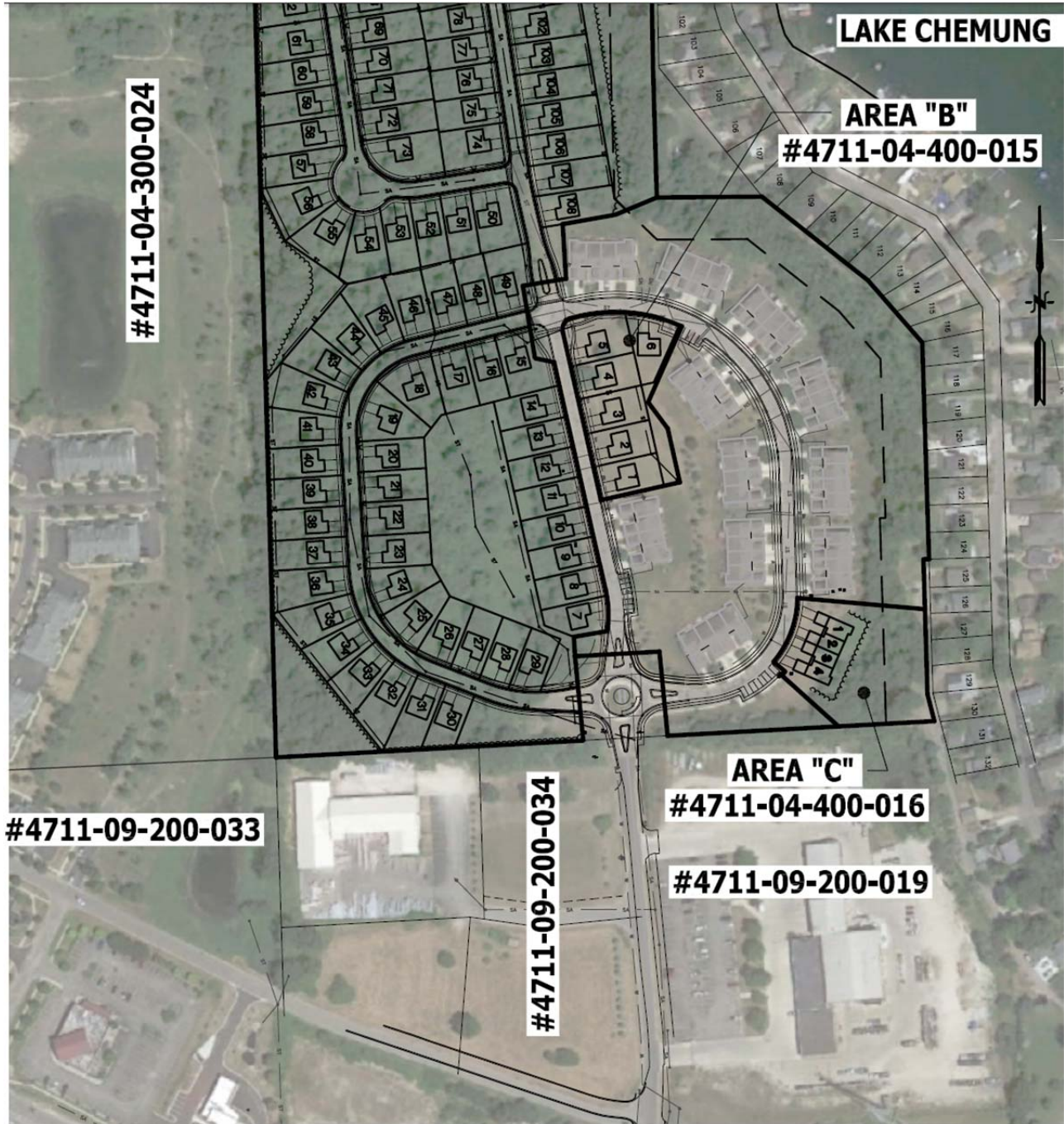


FIGURE 2



SITE IMPROVEMENTS (NORTH)
NOT TO SCALE

FIGURE 3



SITE IMPROVEMENTS (SOUTH)
NOT TO SCALE

FIGURE 4



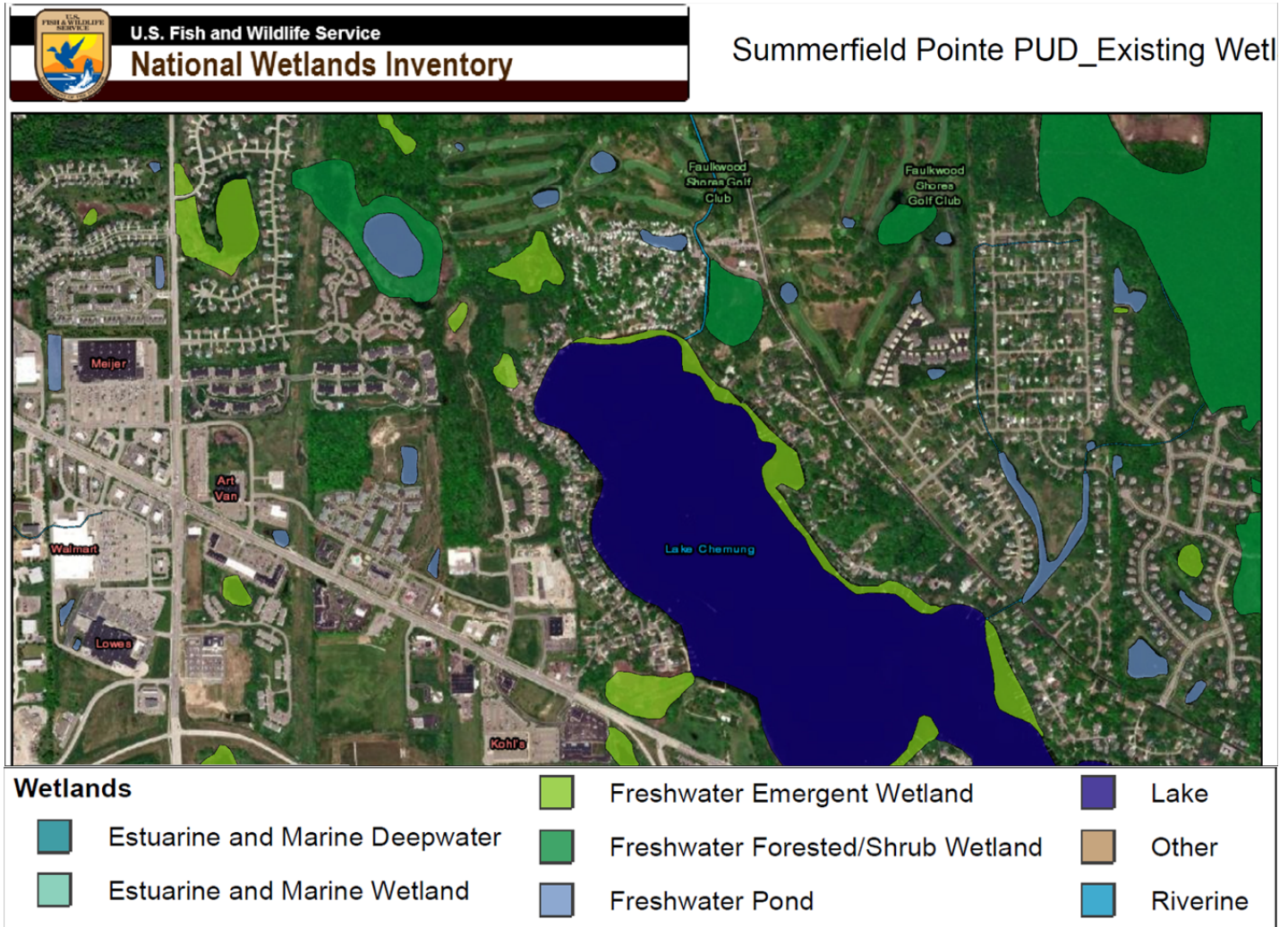
SOILS MAP
(NOT TO SCALE)

FIGURE 5

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Cc	Carlisle muck, 0 to 2 percent slopes	5.0	3.2%
CvraaB	Conover loam, 0 to 4 percent slopes	3.4	2.2%
Gd	Gilford sandy loam, 0 to 2 percent slopes, gravelly subsoil	11.5	7.3%
Ho	Houghton muck, 0 to 1 percent slopes	4.3	2.7%
MoB	Wawasee loam, 2 to 6 percent slopes	62.4	39.7%
MoC	Wawasee loam, 6 to 12 percent slopes	20.0	12.7%
MoD	Miami loam, 12 to 18 percent slopes	4.9	3.1%
MoE	Miami loam, 18 to 25 percent slopes	11.7	7.4%
MoF	Miami loam, 25 to 35 percent slopes	13.3	8.5%
SvB	Spinks-Oakville loamy sands, 0 to 6 percent slopes	6.4	4.0%
W	Water	14.4	9.1%
Totals for Area of Interest		157.3	100.0%

SOILS MAP LEGEND
(NOT TO SCALE)

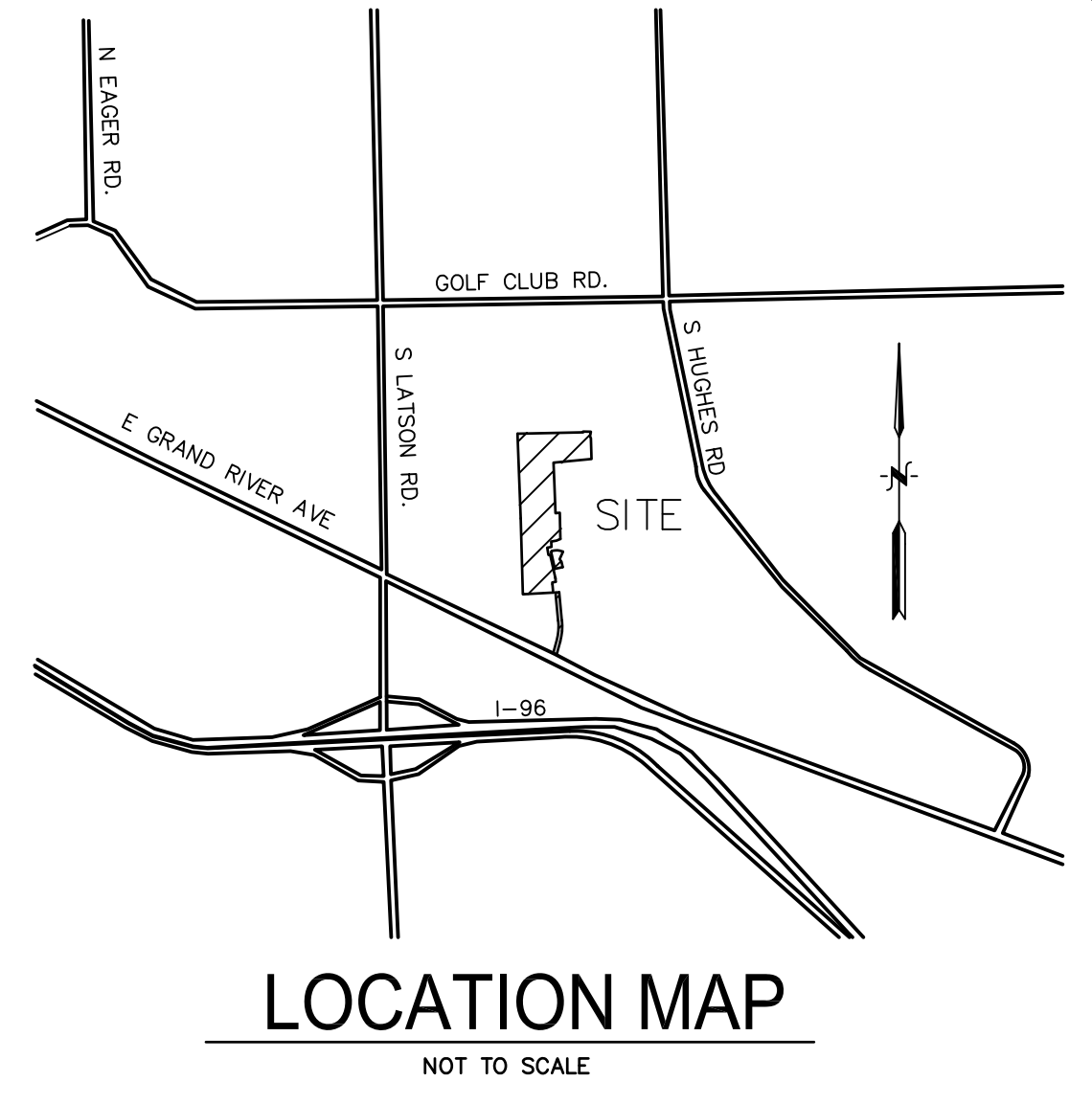
FIGURE 6



WETLANDS INVENTORY MAP
(NOT TO SCALE)

AMENDED P.U.D. PLAN FOR SUMMERFIELD POINTE ESTATES

A PART OF THE SOUTHEAST 1/4 OF SECTION 4
T2N, R5E, GENOA TOWNSHIP, LIVINGSTON COUNTY, MICHIGAN



LEGAL DESCRIPTIONS SUBSEQUENT TO SURVEY

Reference: "Summerfield Pointe", a part of the Southeast 1/4 and part of the Northeast 1/4 of Section 4, Town 2 North, Range 5 East, Genoa Township, Livingston County, Michigan, according to the Master Deed thereof, as recorded in Liber 4218, Page 874, Livingston County Records, as amended in Replat No. 1 as recorded in Document No. 2008R-028520 and "Replat No. 2 as recorded in Document No. 2014R-006883, Livingston County Records, and designated as Livingston County Condominium Subdivision Plan No. 295, and as described in Act 59 of the Public Acts of 1978, as amended.

OVERALL PARCEL 60.732 Acres

(Parcels 4711-04-400-013, 014, 015, 016 and "Summerfield Pointe" Replat #2 Combined)
Part of the East 1/2 of Section 4, Town 2 North, Range 5 East, Genoa Township, Livingston County, Michigan; described as:
BEGINNING at the South 1/4 Corner of said Section 4;
thence along the North-South 1/4 line of Section 4 to following two courses:
1) N01°35'17"W 1366.11 feet and
2) N02°11'05"W 1525.13 feet
thence along the East-West 1/4 line of Section 4, N88°53'35"E 1177.52 feet (recorded as S87°40'06"E 1162.17 feet);
thence N01°06'25"W (recorded as N02°19'54"E) 16.05 feet; thence S88°08'25"E (recorded as S84°42'06"E) 140.66 feet;
thence S10°02'44"W (recorded as S13°29'03"W) 81.90 feet; thence S22°34'43"E 40.64 feet (recorded as S19°02'24"E 38.81 feet);
thence S01°33'04"E 373.67 feet (recorded as S01°53'15"W 374.11 feet); thence S84°41'09"W (recorded as S88°06'46"W) 683.63 feet;
thence S01°59'18"E (recorded as S01°26'28"W) 400.04 feet; thence S02°08'43"E 510.56 feet (recorded as S01°17'41"W 510.59 feet);
thence N84°03'00"E (recorded as N87°29'24"E) 79.92 feet; thence along a line 10.00 feet West of and parallel to the Westerly line of "Sunrise Park", a subdivision recorded in Liber 2 of Plats, Page 23, Livingston County Records, S01°00'54"E 244.55 feet (recorded as S02°21'39"W 243.95 feet); thence S01°39'07"E 226.89 feet (recorded as S01°42'17"W 227.42 feet); thence N85°34'16"E (recorded as S87°01'22"E) 188.47 feet; thence along the West line of said "Sunrise Park" the following three courses:
1) S51°44'32"E (recorded as S48°20'08"E) 240.00 feet;
2) S41°00'22"E 146.55 feet (recorded as S37°37'39"E) 146.14 feet and
3) S01°47'25"E 385.18 feet (recorded as S01°42'54"W 386.00 feet);
thence S88°43'10"W 10.00 feet (recorded as N88°17'06"W 10.00 feet); thence along a line 10 feet West of and parallel to the West line of said "Sunrise Park" the following two courses:
1) S01°43'30"E 241.52 feet (recorded as S11°25'24"W 241.14 feet) and
2) S14°28'55"E 48.77 feet (recorded as S11°13'33"E 48.86 feet);
thence along the South line of said Section 4, as previously surveyed, S88°50'35"W (recorded as N89°43'06"W) 473.99 feet; thence along a line coincident with Lawson Drive the following three courses:
1) N82°38'45"W (recorded as N02°12'21"W) 150.00 feet;
2) S86°50'35"W (recorded as N89°43'06"W) 150.00 feet and
3) S02°08'43"E (recorded as S01°17'41"W) 132.62 feet; thence along the East line of a Nature Preserve as recorded in Liber 3772, Page 940, Livingston County Records, the following three courses:
1) N82°38'45"W (recorded as N02°12'21"W) 150.00 feet;
2) N54°02'14"W (recorded as N50°36'28"W) 244.39 feet and
3) S82°05'20"W 291.13 feet (recorded as S85°31'06"W 285.32 feet) to the Point of Beginning. Containing 60.73 acres of land, more or less. Subject to and together with all easements and restrictions affecting title to the above described premises.

PARCEL 4711-04-400-013 22.22z Acres

(Nature Preserve as recorded in Liber 3772, Page 940, Livingston County Records)
Part of the East 1/2 of Section 4, Town 2 North, Range 5 East, Genoa Township, Livingston County, Michigan; described as:
Commencing at the South 1/4 Corner of said Section 4; thence along the North-South 1/4 line of Section 4 to following two courses:
1) N01°35'17"W (recorded as N01°50'51"E) 1366.11 feet and
2) N02°11'05"W (recorded as N01°50'51"E) 955.74 feet to the center of Section 4;
thence along the East-West 1/4 line of Section 4, N88°53'35"E 1177.52 feet (recorded as S87°40'06"E 1162.17 feet); thence N01°06'25"W (recorded as N02°19'54"E) 16.05 feet; thence S88°08'25"E (recorded as S84°42'06"E) 140.66 feet; thence S10°02'44"W (recorded as S13°29'03"W) 81.90 feet; thence S22°34'43"E 40.64 feet (recorded as S19°02'24"E 38.81 feet); thence S01°33'04"E 373.67 feet (recorded as S01°53'15"W 374.11 feet); thence S84°41'09"W (recorded as S88°06'46"W) 683.63 feet; thence S01°59'18"E (recorded as S01°26'28"W) 400.04 feet; thence S02°08'43"E (recorded as S01°17'41"W) 132.62 feet; thence along the East line of a Nature Preserve as recorded in Liber 3772, Page 940, Livingston County Records, the following three courses:
1) N82°38'45"W (recorded as N02°12'21"W) 150.00 feet;
2) N54°02'14"W (recorded as N50°36'28"W) 244.39 feet and
3) S82°05'20"W 291.13 feet (recorded as S85°31'06"W 285.32 feet) to the Place of Beginning. Containing 22.22 acres of land, more or less. Subject to and together with all easements and restrictions affecting title to the above described premises.

PARCEL 4711-04-400-014 26.25z Acres

(*Part of Possible Expansion/Future Development Area "A")
Part of the East 1/2 of Section 4, Town 2 North, Range 5 East, Genoa Township, Livingston County, Michigan; described as:
BEGINNING at the South 1/4 Corner of said Section 4;
thence along the North-South 1/4 line of Section 4 to following two courses:
1) N01°35'17"W 1366.11 feet and
2) N02°11'05"W 569.39 feet
(recorded as N01°50'51"E 1936.02 feet);
thence along the East line of a Nature Preserve as recorded in Liber 3772, Page 940, Livingston County Records, the following three courses:
1) N82°09'20"E 291.13 feet (recorded as N85°31'06"E 285.32 feet);
2) S54°02'14"E (recorded as S50°36'28"E) 244.39 feet and
3) N87°51'55"E (recorded as S88°42'19"E) 144.66 feet;
thence S02°08'43"E (recorded as S01°17'41"W) 377.94 feet;
thence N84°03'00"E (recorded as N87°29'24"E) 79.92 feet;
thence along a line 10.00 feet West of and parallel to the Westerly line of "Sunrise Park", a subdivision recorded in Liber 2 of Plats, Page 23, Livingston County Records, S01°00'54"E 244.55 feet (recorded as S02°21'39"W 243.95 feet); thence S01°39'07"E 226.89 feet (recorded as S01°42'54"W 227.42 feet); thence S67°21'52"W 79.51 feet (recorded as S70°51'31"W 80.28 feet); thence S79°56'57"W (recorded as S82°20'15"W) 95.00 feet; thence S02°24'18"E (recorded as S02°00'00"W) 97.26 feet; thence S86°50'35"W (recorded as S84°01'44"W) 77.58 feet; thence S02°28'23"E (recorded as S06°04'05"E) 130.52 feet; thence S78°24'48"E 34.85 feet (recorded as S75°00'30"E 34.93 feet); thence S12°42'28"E 416.34 feet (recorded as S09°16'02"E 416.23 feet); thence Southeastly 59.62 feet along the arc of a 200.00 foot radius curve to the right, through a central angle of 17°04'52" and having a chord bearing S04°10'00"E (recorded as N00°43'38"E) 59.40 feet; thence N04°22'28"W (recorded as S07°48'50"W) 13.56 feet; thence S80°11'15"W (recorded as S83°37'39"W) 60.77 feet; thence S03°26'24"E (recorded as S00°00'00"W) 34.61 feet; thence along the West line of Lawson Drive, S05°38'45"E (recorded as S02°12'21"E) 150.00 feet; thence along the South line of Section 4, as previously surveyed, S88°50'35"W 546.06 feet (recorded as N89°43'06"W 546.16 feet) to the Point of Beginning. Containing 26.25 acres of land, more or less. Subject to and together with all easements and restrictions affecting title to the above described premises.

PARCEL No. 4711-04-400-015 1.12z Acres

(*Possible Expansion/Future Development Area "B")
Part of the Southeast 1/4 of Section 4, Town 2 North, Range 5 East, Genoa Township, Livingston County, Michigan; described as:
Commencing at the South 1/4 Corner of said Section 4; thence along the South line of Section 4, as previously surveyed, N88°50'35"E 546.06 feet (recorded as S89°43'06"E 546.16 feet); thence along the West line of Lawson Drive, N05°38'45"W (recorded as N02°12'21"W) 150.00 feet; thence N03°26'24"W (recorded as N00°00'00"E) 34.61 feet; thence N80°11'15"E (recorded as N83°37'39"E) 60.77 feet;
thence N04°22'28"E (recorded as N07°48'50"E) 13.56 feet; thence Northwesterly 59.62 feet along the arc of a 200.00 foot radius curve to the left, through a central angle of 17°04'52" and having a chord which bears N04°10'00"W (recorded as N00°43'38"E) 59.40 feet; thence N12°42'28"W (recorded as N09°16'02"W) 159.13 feet; thence N77°18'10"E (recorded as N80°43'58"E) 27.00 feet to the **POINT OF BEGINNING**; thence N12°42'28"W (recorded as N09°16'02"W) 306.30 feet; thence Northwesterly 30.26 feet along the arc of a 200.00 foot radius curve to the right, through a central angle of 86°41'26" (recorded as 86°41'33") and having a chord bearing N30°27'50"E (recorded as N34°04'42"E) 21.46 feet; thence Southeastly 201.82 feet along the arc of a 289.00 foot radius curve to the right, through a central angle of 40°00'52" (recorded as 40°00'44") and having a chord bearing S86°00'33"E (recorded as S82°34'07"E) 197.75 feet; thence S23°59'50"W (recorded as S27°58'14"W) 147.43 feet; thence S38°36'45"E (recorded as S33°10'21"E) 58.47 feet; thence S12°42'28"E (recorded as 09°16'02"E) 97.80 feet; thence S77°17'34"W (recorded as S80°43'58"W) 143.83 feet to the Point of Beginning. Containing 1.13 acres of land, more or less. Subject to and together with all easements and restrictions affecting title to the above described premises.

PARCEL No. 4711-04-400-016 1.14z Acres

(*Possible Expansion/Future Development Area "C")
Part of the Southeast 1/4 of Section 4, Town 2 North, Range 5 East, Genoa Township, Livingston County, Michigan; described as:
Commencing at the South 1/4 Corner of said Section 4; thence along the South line of Section 4, N88°50'35"E (recorded as S89°43'06"E) 999.68 feet to the **POINT OF BEGINNING**;
thence N88°50'35"W (recorded as N44°37'04"W) 135.18 feet; thence N41°10'45"E (recorded as N44°37'04"E) 9.00 feet; thence N50°03'17"W (recorded as N46°36'58"W) 27.00 feet; thence Northwesterly 123.38 feet along the arc of a 182.00 foot radius curve to the left, through a central angle of 38°50'33" (recorded as 38°50'33") and having a chord bearing N20°31'27"E (recorded as N23°07'46"E) 121.03 feet;
thence S84°58'38"E 227.08 feet (recorded as S81°32'11"E 227.01 feet); thence along a line 10.00 feet West of and parallel to the Westerly line of said "Sunrise Park" the following two courses:
1) S01°43'30"E 151.43 feet (recorded as S01°42'54"W 151.38 feet) and
2) S14°28'55"E 48.77 feet (recorded as S11°13'33"E 48.86 feet);
thence along the South line of Section 4, S88°50'35"W 170.37 feet (recorded as N89°43'06"W 170.47 feet) to the Point of Beginning. Containing 1.14 acres of land, more or less. Subject to and together with all easements and restrictions affecting title to the above described premises.



AERIAL PHOTOGRAPH
SCALE: 1in. = 300ft.

AERIAL PHOTOGRAPHY BY:
Google maps

PLAN DISTRIBUTION LIST

DATE OF APPLICATION	CONST. SET DATE	AGENCY	CONTACT NAME	DESCRIPTION	STATUS
March 02, 2022	Feb. 23, 2022	Genoa Twp.	Kelly VanMarter	PUD / Site Plan Review	Pending
March 24, 2022	March 23, 2022	Genoa Twp.	Kelly VanMarter	PUD / Site Plan Review	Pending

PERMITTING AGENCY LIST

AGENCY	PERMIT
Genoa Township	P.U.D. Amendment, Site Plan, Land Use, Construction
M.H.O.G.	Water & Sanitary Sewer
Livingston County Drain Commission	Drain & Soil Erosion
Livingston County Building Department	Building
Livingston County Road Commission	Roads

SUMMERFIELD POINTE P.U.D. UTILITIES QUANTITY

Water Main		
8" CL54 D.I. Watermain	3,331	LF.
6" CL54 D.I. Watermain	80	LF.
8" Gate Valve in Well (5' Dia.)	5	Each
Hydrant + Valve Assembly	8	Each
8"x8"x8" Tee	2	Each
8"x8"x6" Tee	8	Each
8" Tapping Sleeve & Valve in Well	1	Each
8" Valve In Well	4	Each
8"-11.25" Bend	16	Each
8"-22.25" Bend	7	Each
8"-45" Bend	2	Each
6" 90° Bend	6	Each
2" Copper Water Lead	4,943	LF.
Water Shutoff	108	Each
Sanitary Sewer		
8" SDR, 26 PVC Sanitary Sewer Main	3,987	LF.
6" SDR, 26 PVC Sanitary Sewer Lead	3,300	LF.
Sanitary Cleanouts	108	Each
4' Dia. Concrete Manhole w/solid Manhole Cover	22	Each

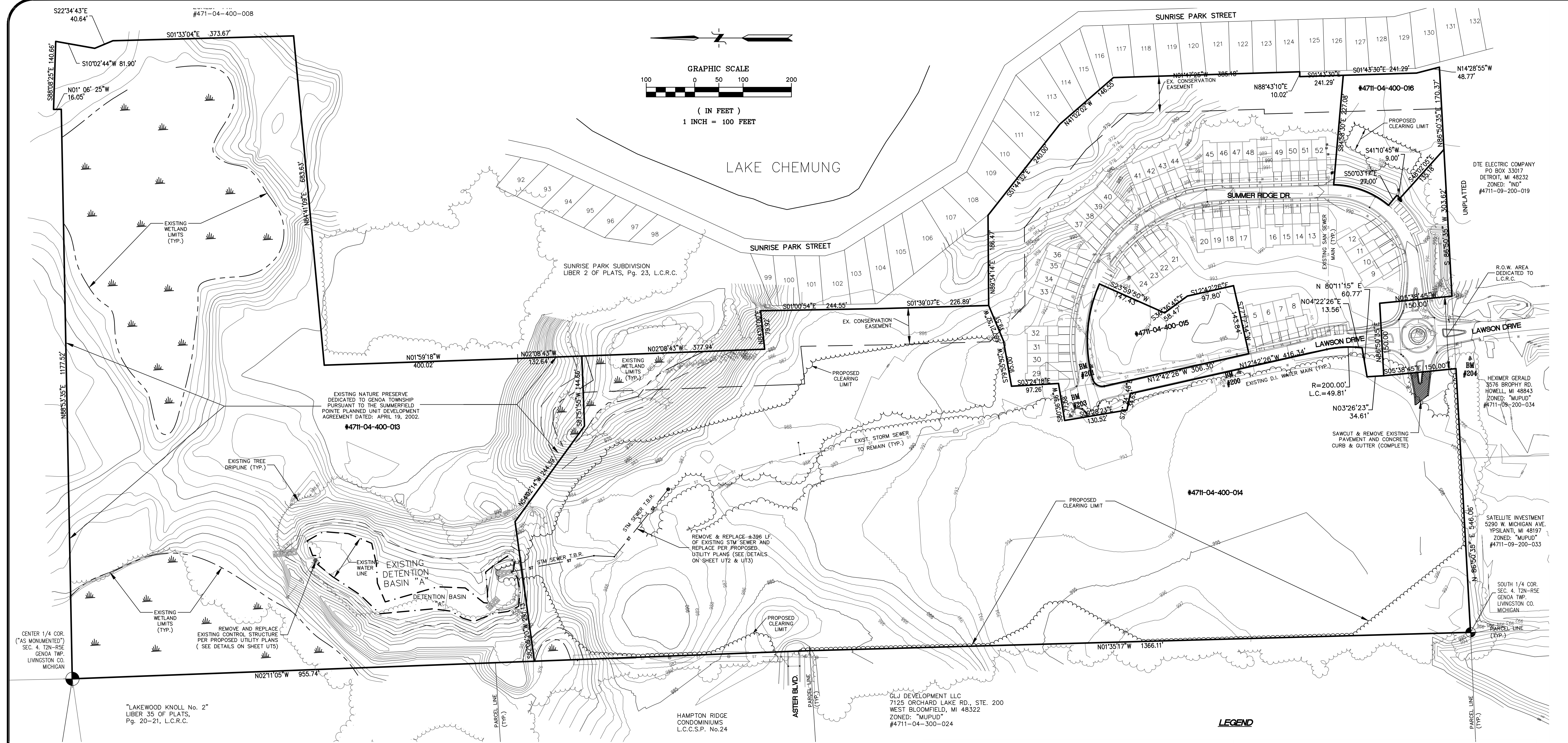
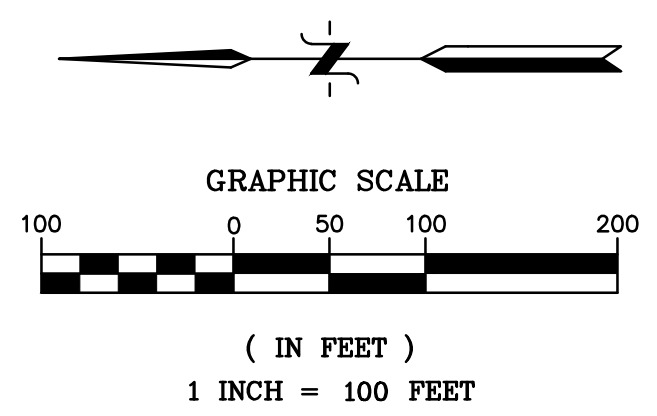
ENGINEER/SURVEYOR
DESINE INC.
2183 PLESS DRIVE
BRIGHTON, MICHIGAN 48114
PHONE: (810) 227-9533

OWNER / DEVELOPER
HEALY HOMES AT SUMMERFIELD LLC
3696 SLEETH ROAD
COMMERCE TWO, MICHIGAN 48382

LANDSCAPE ARCHITECT
ALLEN DESIGN
557 CARPENTER
NORTHVILLE, MI 48167
PHONE: (248) 467-4668

DESINE INC.
(810) 227-9533
CIVIL ENGINEERS
LAND SURVEYORS
2183 PLESS DRIVE
BRIGHTON, MICHIGAN 48114

REVISED	SCALE: 1"=300'
03/23/22	PROJECT No.: 214159
	DWG NAME: 4159-COV
	PRINT: MARCH 23, 2022



DEMOLITION NOTES:

- The demolition specifications of the Local Municipality are a part of this work. Refer to the General Notes on the project plans for additional requirements.
- Contractor shall contact the 811 Underground Public Utility Locating System or other appropriate local underground utility locating Agency, a minimum of three (3) working days prior to performing demolition work. Existing utility information on the project plans may be from information disclosed to this firm by the Utility Companies, Local, County or State Agencies, and/or various other sources. No guarantee is given as to the completeness or accuracy thereof. Prior to construction, locations and depths of all existing utilities (in possible conflict with the proposed improvements) shall be verified in the field.
- Contractor shall contact the appropriate Agencies to coordinate disconnect of the electric, gas, phone, cable and other public utilities as necessary prior to performing demolition work.
- Contractor shall contact the appropriate Agencies to coordinate removal and/or relocation of any underground and/or overhead public utility lines as necessary prior to performing demolition work.
- Contractor shall recycle and/or dispose of all demolition debris in accordance with the appropriate Local, County, State and Federal regulations.
- All bituminous and concrete pavement to be removed shall be saw cut at the limits of removal to provide for a clean straight edge for future abutment.
- All existing irrigation lines to be removed shall be terminated at the limits of demolition or as necessary to allow for construction of the proposed site improvements. Ends of pipe shall be capped and the location marked for future connection.

- All existing water main and sanitary sewer to be removed shall be terminated at the limits of demolition or as indicated on the project plans. Temporary plugs shall be installed in the ends of pipe in accordance with the appropriate Agency and the locations of marked for future connection. Permanent plugs shall be installed in the ends of pipe in accordance with the appropriate Agency. The Contractor shall record the location of all permanent plugs and provide the location information to the appropriate Agency.
- All existing storm sewer to be removed shall be terminated at the limits of demolition or as indicated on the project plans. Temporary plugs shall be installed in the ends of pipe in accordance with the appropriate Agency and the locations of marked for future connection. Permanent bulkheads shall be installed in the ends of pipe and/or openings in terminating structures in accordance with the appropriate Agency. The Contractor shall record the location of all permanent bulkheads and provide the location information to the appropriate Agency.
- All existing light sources to be removed shall have their power cables removed up to the power source or properly terminated for future connection at the limits of demolition or as necessary to allow for construction of the proposed site improvements. Removal and termination of power cables shall be performed in accordance with local electric codes.
- All existing utility meters to be removed shall be properly removed to allow for reuse. Any existing utility meters that are not to be reused as a part of this project shall be returned to the appropriate Agency.
- All trenches and/or excavations resulting from the demolition of underground utilities, building foundations, etc., that are located within the 1 on 1 influence zone of proposed structures, paved areas and/or other areas subject to vehicular traffic shall be backfilled with MDOT Class III granular material (or better) to the proposed subgrade elevation. Backfill shall be placed using the controlled density method (12" maximum lifts, compacted to 95% maximum unit weight, modified proctor).

BENCHMARKS

- DATUM BASED ON PREVIOUS BENCHMARK AS DEPICTED ON REPLAT No. 2 OF "SUMMERFIELD POINTE," LIVINGSTON COUNTY CONDOMINIUM SUBDIVISION PLAN No. 295. DATUM REFERS TO "U.S.G.S." NO DATUM SPECIFIED. SITE ADJUSTED TO NAVD 88 (-0.50) FROM PLATTED ELEVATION.
- BENCHMARK #201 (PRIMARY) SPIKE IN THE EAST SIDE OF A POWER POLE, LOCATED ON THE WEST SIDE OF LAWSON DRIVE, AND THE ENTRANCE TO "SUMMERFIELD POINTE." ELEVATION = 993.93 (NAVD 88) REF: FIELD BOOK 1483, PG. 34 POINT #201
 - BENCHMARK #203 (PRIMARY) ARROW ON HYDRANT, LOCATED NEAR WEST SIDE OF LAWSON DRIVE, 377.8 FEET NORTH OF SILVER LEAF DRIVE. ELEVATION = 995.39 (NAVD 88) REF: FIELD BOOK 1483, PG. 34 POINT #203
 - BENCHMARK #204 (PRIMARY) SPIKE IN THE EAST SIDE OF A POWER POLE, LOCATED ON THE WEST SIDE OF LAWSON DRIVE, AND THE ENTRANCE TO "SUMMERFIELD POINTE." ELEVATION = 993.93 (NAVD 88) REF: FIELD BOOK 1483, PG. 34 POINT #204
 - BENCHMARK #205 (PRIMARY) ARROW ON HYDRANT, LOCATED NEAR WEST SIDE OF LAWSON DRIVE, 377.8 FEET NORTH OF SILVER LEAF DRIVE. ELEVATION = 995.39 (NAVD 88) REF: FIELD BOOK 1483, PG. 34 POINT #205

LEGEND

•	= MISC. STRUCTURE (AS LABELED)	○	= SANITARY SEWER MANHOLE W/IDENTIFIER
•	= MONITOR WELL	— SA — SA —	= SANITARY SEWER PIPE
•	= BOLLARD	— SW — SW —	= STORM WATER MANHOLE W/IDENTIFIER
—	= SIGN	— CB —	= CATCH BASIN W/IDENTIFIER
•	= LIGHT BASE	— FE —	= FLARED END SECTION
•••••	= UTILITY METERS & BOXES (ELECTRIC METER, GAS METER, WATER METER, PHONE BOX, CATV BOX, MAIL BOX)	— SD — SD —	= STORM WATER DRAINAGE PIPE
—	= UTILITY POLE W/GUY WIRE	— V —	= HYDRANT
—	= OVERHEAD UTILITY LINES (ELECTRIC/PHONE/CABLE)	•	= WATER VALVE
— PH — PH —	= U/G UTILITY LINES (PHONE/FIBER OPTIC/ELECTIC/CABLE TV/MISC UTILITIES)	•	= WATER VALVE BOX
— EL — EL —	= EDGE OF WOODS / TREE DRIP LINE	••	= GAS/GASOLINE COVER
— CTV — CTV —	= DECIDUOUS TREE W/IDENTIFIER	— R —	= GAS SHUT OFF
— UT — UT —	= CONIFEROUS TREE W/IDENTIFIER	— GAS — GAS —	= U/G GAS
—	= FENCE (CHAIN LINK UNLESS OTHERWISE STATED)	—	= 1' CONTOUR
—	= EDGE OF GRAVEL	—	= 5' CONTOUR
—	= CONCRETE CURB (UNLESS OTHERWISE STATED)	—	= TRN. EX. WATER
		—	= APPROX. WETLANDS LINE

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BRIGHTON, MICHIGAN 48114

DESIGN: FAF	REVISION #	DATE	REVISION-DESCRIPTION	REVISION #	DATE	REVISION-DESCRIPTION
DRAFT: JHG						
CHECK: WMP						

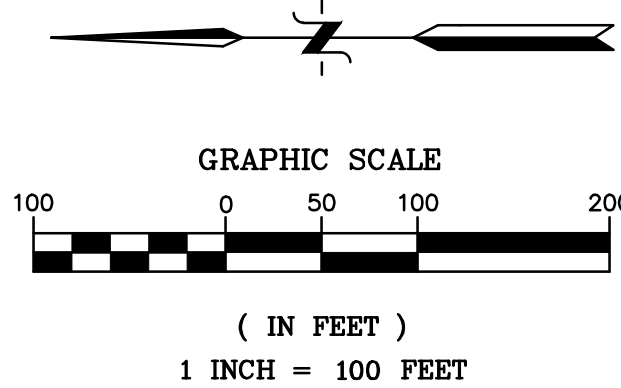
SUMMERFIELD POINTE ESTATES

EXISTING CONDITIONS & DEMOLITION PLAN

CLIENT: HEALY HOMES AT SUMMERFIELD LLC 3696 SLEETH RD, COMMERCE TOWNSHIP, MICHIGAN 48382 248-684-1699	SCALE: 1in. = 100ft. PROJECT No.: 214159 DWG NAME: 4159 EX ISSUED: MARCH 23, 2022
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EX

LAKE CHEMUNG OUTDOOR RESORT
 320 S. HUGHES RD.
 HOWELL, MI 48843-9178
 ZONED: "PRF"
 #471-04-400-008



LAKE CHEMUNG

SUNRISE PARK SUBDIVISION
 LIBER 2 OF PLATS, Pg. 23, L.C.R.C.

EXISTING NATURE PRESERVE
 DEDICATED TO GENOA TOWNSHIP
 PURSUANT TO THE SUMMERFIELD
 POINTE PLANNED UNIT DEVELOPMENT
 AGREEMENT DATED: APRIL 19, 2002.
 #4711-04-300-013

"LAKEWOOD KNOLL No. 2"
 LIBER 35 OF PLATS,
 Pg. 20-21, L.C.R.C.

SITE DATA & ZONING TABLE

FEATURE	PROPOSED	COMMENTS
Setbacks:		
Front Building Setback =	30 ft	See Plan Sheets SP1 & SP2 for Details
Side Building Setback =	14 ft Max. / 5 ft Min.	
Rear Building Setback =	30 ft	
Road Right of Way =	30 ft. Min.	
Buildings:		
Max. Building Height =	2 Story	Single Family Homes (x108) Attached Condominiums (x4)
Max. Building Height =	35 ft	
Units with Basement =	Yes	
Min. Building Footprint =	1,400 sf	
Site Area & Coverage:		
Gross Site Area =	26.25 Ac.	#4711-04-400-014
	1.13 Ac.	#4711-04-400-015
	1.14 Ac.	#4711-04-400-016
	28.52 Ac.	Combined Site Area
Nature Preserve Area =	22.21 Ac.	#4711-04-400-013 Dedicated to Genoa Twp.
Open Space Area =	7.30 Ac.	
% Open Space Area =	25.5%	25% Min.
% Lot Coverage =	12.6%	35% Max. (Building Footprint)
Bituminous Pavement Area =	2.0 Ac.	Private
Concrete Sidewalk Area =	0.97 Ac.	Private
% Impervious Surface =	10.4%	50 % Max.

†: Proposed Site will be serviced by public Water & Sanitary Sewer service.

NOTES:

- See sheets SP1 & SP2 for Overall Site layout
- See sheets UT2 & UT3 for site setbacks
- The following permits are required for these proposed site improvements:
 - Genoa Twp. (PUD Amendment, Site Plan, Land Use & Construction)
 - MHO (Sanitary & Watermain)
 - LCRC (Roads)
 - LCDC (Drainage & Soil Erosion)
 - Liv. County (Building Permits)
- Overall Utility Providers:
 - Consumers Energy (Natural Gas)
 - DTE (Electric)
 - AT&T (Telephone)
 - Comcast (Fiber Optic)
 - MHO (Water & Sewer)

PHASE SCHEDULE

PHASE 1: UNIT 1 - UNIT 14
 PHASE 2: UNIT 50 - UNIT 87
 PHASE 3: UNIT 88 - UNIT 108
 PHASE 4: UNIT 15 - UNIT 49

BENCHMARKS

- DATUM BASED ON PREVIOUS BENCHMARK AS
 DEPICTED ON REPLAT No. 2 OF "SUMMERFIELD
 POINTE," LIVINGSTON COUNTY CONDOMINIUM
 SUBDIVISION PLAN No. 295. DATUM REFERS TO
 "U.S.G.S." NO DATUM SPECIFIED.
 SITE ADJUSTED TO NAVD 88 (-0.50) FROM
 PLATTED ELEVATION.
- BENCHMARK #204 (PRIMARY)
 SPIKE IN THE EAST SIDE OF A POWER POLE,
 LOCATED ON THE WEST SIDE OF LAWSON DRIVE
 AND THE ENTRANCE TO "SUMMERFIELD POINTE."
 ELEVATION = 993.43 (NAVD 88)
 ELEVATION = 993.93 (PLATTED)
 REF: FIELD BOOK 14B3, PG. 34
- BENCHMARK #203
 ARROW ON HYDRANT, LOCATED NEAR WEST
 SIDE OF LAWSON DRIVE, 33± FEET NORTH OF
 SILVER LEAF DRIVE.
 ELEVATION = 993.88 (NAVD 88)
 ELEVATION = 994.38 (PLATTED)
 REF: POINT #203
- BENCHMARK #200
 ARROW ON HYDRANT, LOCATED NEAR WEST
 SIDE OF LAWSON DRIVE, 37± FEET NORTH OF
 SILVER LEAF DRIVE.
 ELEVATION = 995.39 (NAVD 88)
 ELEVATION = 995.89 (PLATTED)
 REF: FIELD BOOK 14B3, PG. 34
 POINT #200
- BENCHMARK #201
 CENTERLINE OF GATE VALVE, LOCATED NEAR
 SOUTH SIDE OF SILVER LEAF DRIVE, 48± FEET
 EAST OF LAWSON DRIVE.
 ELEVATION = 991.29 (NAVD 88)
 ELEVATION = 992.14 (PLATTED)
 REF: FIELD BOOK 14B, PG. 34
 POINT #201

- = EXISTING TREE DRIP LINE
- = EDGE OF GRAVEL
- = CONCRETE CURB (UNLESS OTHERWISE STATED)
- = SANITARY SEWER MANHOLE W/IDENTIFIER
- = SANITARY SEWER PIPE
- = CLEAN OUT
- = STORM WATER MANHOLE W/IDENTIFIER
- = CATCH BASIN W/IDENTIFIER
- = FLARED END SECTION
- = STORM WATER DRAINAGE PIPE
- = HYDRANT
- = WATER SHUT OFF
- = WATER VALVE
- = WATER VALVE BOX
- = WATER MAIN
- = PROP. DRAINAGE AREA

LEGEND

- = PROPOSED SANITARY SEWER
- = PROPOSED WATER MAIN
- = PROPOSED STORM SEWER
- = PROPOSED STORM STRUCTURES
- = PROPOSED CURB AND GUTTER
- = PROPOSED CONCRETE WALK
- = PROPOSED STANDARD DUTY BITUMINOUS PAVEMENT
- = PROPERTY LINE
- = EX. EDGE OF PAVEMENT
- = EX. EASEMENT LINE
- = APPROX. WETLAND LINE
- = PROP. EDGE OF PAVEMENT

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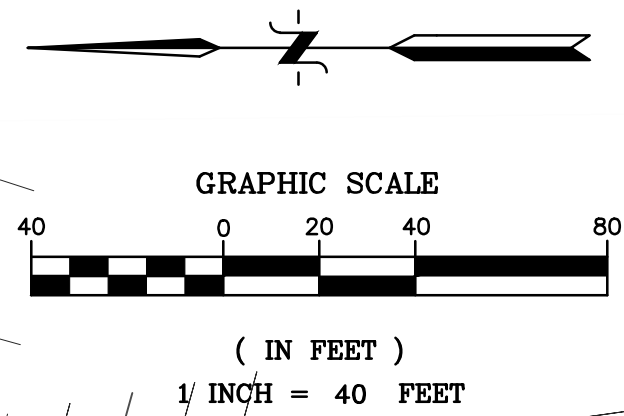
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 BRIGHTON, MICHIGAN 48114

DESIGN: JHG	REVISION #	DATE	REVISION-DESCRIPTION	REVISION #	DATE	REVISION-DESCRIPTION
DRAFT: JHG						
CHECK: JMB						

SUMMERFIELD
 POINTE ESTATES PUD

SITE DEVELOPMENT PLAN

CLIENT: HEALY HOMES AT SUMMERFIELD LLC 3696 SLEETH RD, COMMERCE TOWNSHIP, MICHIGAN 48382 248-684-1699	SCALE: 1in. = 100ft. PROJECT No.: 214159 DWG NAME: 4159 SD ISSUED: FEB 23, 2022	SD
---	--	----



LEGEND

- = MISC. STRUCTURE (AS LABELED)
- = CONCRETE CURB (UNLESS OTHERWISE STATED)
- = SANITARY SEWER MANHOLE W/IDENTIFIER
- = SANITARY SEWER PIPE
- = CLEAN OUT
- = STORM WATER MANHOLE W/IDENTIFIER
- = CATCH BASIN W/IDENTIFIER
- = FLARED END SECTION
- = STORM WATER DRAINAGE PIPE
- = HYDRANT
- = WATER SHUT OFF
- = WATER VALVE
- = WATER VALVE BOX
- = WATER MAIN
- = GAS SHUT OFF
- = U/G GAS
- = SPOT ELEVATION
- = 1' CONTOUR
- = 5' CONTOUR
- = PROPERTY LINE
- = EX. EDGE OF PAVEMENT
- = EX. SANITARY SEWER
- = EX. STORM SEWER
- = EX. WATERMAIN
- = EX. EASEMENT LINE
- = APPROX. WETLAND LINE
- = PROP. EDGE OF PAVEMENT
- = PROP. CENTERLINE OF ROAD
- = PROPOSED SANITARY SEWER
- = PROPOSED WATER MAIN
- = PROPOSED STORM SEWER
- = PROPOSED STORM STRUCTURES
- = PROPOSED CURB AND GUTTER
- = PROPOSED CONCRETE WALK
- = PROPOSED STANDARD DUTY BITUMINOUS PAVEMENT
- = PROPOSED HEAVY DUTY BITUMINOUS PAVEMENT

BENCHMARKS
 DATUM BASED ON PREVIOUS BENCHMARK AS DEPICTED ON REPEAT NO. 2 OF "SUMMERFIELD POINTE," LIVINGSTON COUNTY CONDOMINIUM SUBDIVISION PLAN NO. 295. DATUM REFERS TO "N.A.S.S." NO DATUM SPECIFIED.
 SITE ADJUSTED TO NAVD 88 (-0.50) FROM PLATTED ELEVATION.

BENCHMARK #204 (PRIMARY)
 SPIKE IN THE EAST SIDE OF A POWER POLE, LOCATED ON THE WEST SIDE OF LAWSON DRIVE AND THE ENTRANCE TO "SUMMERFIELD POINTE," ELEVATION = 993.43 (NAVD 88)
 ELEVATION = 993.93 (PLATTED)
 REF: FIELD BOOK 14B3, PG. 34
 POINT #204

BENCHMARK #200
 ARROW ON HYDRANT, LOCATED NEAR WEST SIDE OF LAWSON DRIVE, 377A FEET NORTH OF SILVER LEAF DRIVE.
 ELEVATION = 995.39 (NAVD 88)
 ELEVATION = 995.89 (PLATTED)
 REF: FIELD BOOK 14B3, PG. 34
 POINT #200

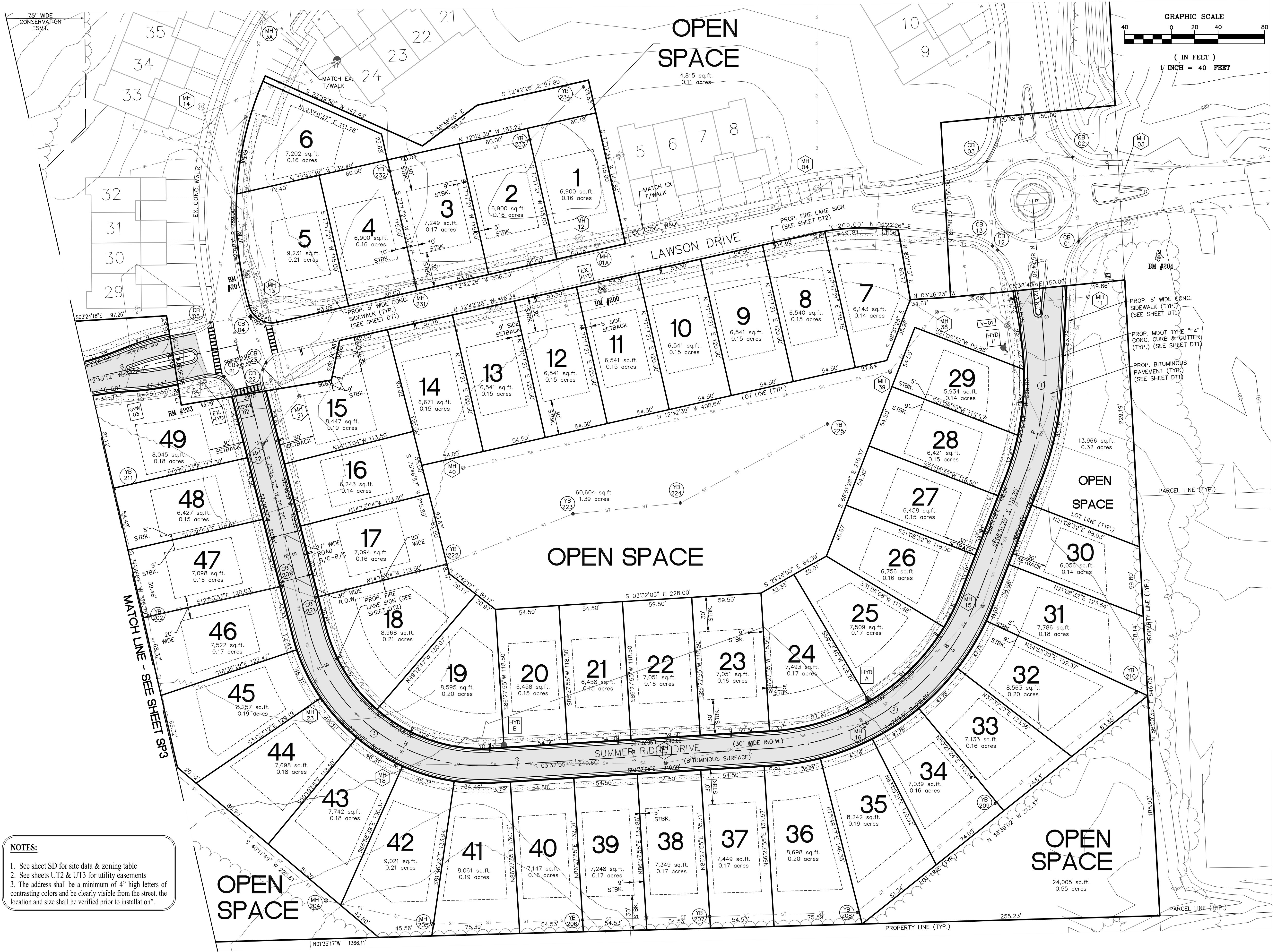
BENCHMARK #201
 CENTERLINE OF GATE VALVE, LOCATED NEAR SOUTH SIDE OF SILVER LEAF DRIVE, 488 FEET EAST OF LAWSON DRIVE.
 ELEVATION = 991.29 (NAVD 88)
 ELEVATION = 992.14 (PLATTED)
 REF: FIELD BOOK 14B, PG. 34
 POINT #201

BENCHMARK #203
 ARROW ON HYDRANT, LOCATED NEAR WEST SIDE OF LAWSON DRIVE, 33A FEET NORTH OF SILVER LEAF DRIVE.
 ELEVATION = 993.88 (NAVD 88)
 ELEVATION = 994.38 (PLATTED)
 REF: POINT #203

CURVE TABLE				
CURVE	RADIUS	LENGTH	CHORD	BEARING
1	250.00'	112.30'	111.36'	S81°43'34"E
2	200.00'	228.02'	215.87'	S36°11'47"E
3	153.00'	211.80'	195.29'	S36°07'26"W

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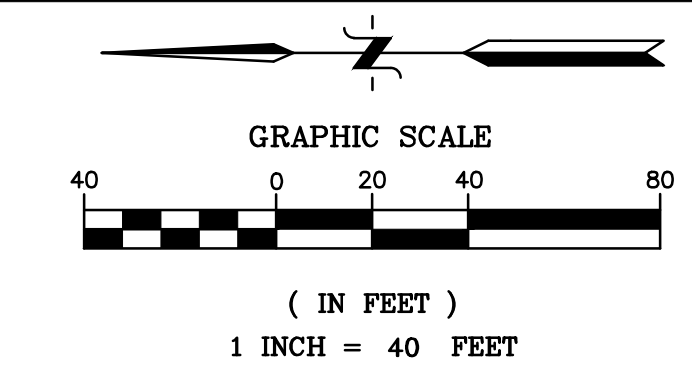
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NOTES:

- See sheet SD for site data & zoning table
- See sheets UT2 & UT3 for utility easements
- The address shall be a minimum of 4" high letters of contrasting colors and be clearly visible from the street, the location and size shall be verified prior to installation".

DESIGN: FAF	REVISION #	DATE	REVISION-DESCRIPTION	REVISION #	DATE	REVISION-DESCRIPTION	SUMMERFIELD POINTE ESTATES PUD	DIMENSIONAL SITE PLAN (SOUTH)	CLIENT:	SCALE:	SP1
DRAFT: JHG	1	03/23/22	REVISED PER TWP. REVIEW COMMENTS DATED 03/16/22 & 03/18/22						HEALY HOMES AT SUMMERFIELD LLC	1in. = 40ft.	
CHECK: JMB									3696 SLEETH RD, COMMERCE TOWNSHIP, MICHIGAN 48382 248-684-1699	PROJECT No.: 214159 DWG NAME: 4159 SP2-3 ISSUED: MARCH 23, 2022	



LEGEND

- MISC. STRUCTURE (AS LABELED)
- CONCRETE CURB (UNLESS OTHERWISE STATED)
- SANITARY SEWER MANHOLE W/IDENTIFIER
- SANITARY SEWER PIPE
- CLEAN OUT
- STORM WATER MANHOLE W/IDENTIFIER
- STORM WATER DRAINAGE PIPE
- HYDRANT
- WATER SHUT OFF
- WATER VALVE
- WATER VALVE BOX
- WATER MAIN
- GAS SHUT OFF
- U/G GAS
- SPOT ELEVATION
- 1' CONTOUR
- 5' CONTOUR
- PROPERTY LINE
- EX. EDGE OF PAVEMENT
- EX. SANITARY SEWER
- EX. STORM SEWER
- EX. WATERMAIN
- EX. EASEMENT LINE
- APPROX. WETLAND LINE
- PROP. EDGE OF PAVEMENT
- PROP. CENTERLINE OF ROAD
- PROPOSED SANITARY SEWER
- PROPOSED WATER MAIN
- PROPOSED STORM SEWER
- PROPOSED STORM STRUCTURES
- PROPOSED CURB AND GUTTER
- PROPOSED CONCRETE WALK
- PROPOSED STANDARD DUTY BITUMINOUS PAVEMENT
- PROPOSED HEAVY DUTY BITUMINOUS PAVEMENT

BENCHMARKS

DATUM BASED ON PREVIOUS BENCHMARK AS DEPICTED ON RE-PLAT No. 2 OF "SUMMERFIELD POINTE," LIVINGSTON COUNTY CONDOMINIUM SUBDIVISION PLAN No. 295. DATUM REFERS TO "NAD 83" NO DATUM SPECIFIED. SITE ADJUSTED TO NAVD 88 (-0.50) FROM PLATTED ELEVATION.

BENCHMARK #204 (PRIMARY)
SPRUE IN THE EAST SIDE OF A POWER POLE, LOCATED ON THE WEST SIDE OF LAWSON DRIVE AND THE ENTRANCE TO "SUMMERFIELD POINTE," ELEVATION = 993.43 (NAVD 88)
REF: FIELD BOOK 1483, PG. 34
POINT #204

BENCHMARK #200
ARROW ON HYDRANT, LOCATED NEAR WEST SIDE OF LAWSON DRIVE, 377A FEET NORTH OF SILVER LEAF DRIVE.
ELEVATION = 995.39 (NAVD 88)
ELEVATION = 995.89 (PLATTED)
REF: FIELD BOOK 1483, PG. 34
POINT #200

BENCHMARK #201
CENTERLINE OF GATE VALVE, LOCATED NEAR SOUTH SIDE OF SILVER LEAF DRIVE, 48A FEET EAST OF LAWSON DRIVE.
ELEVATION = 991.29 (NAVD 88)
ELEVATION = 992.14 (PLATTED)
REF: FIELD BOOK 148, PG. 34
POINT #201

BENCHMARK #203
ARROW ON HYDRANT, LOCATED NEAR WEST SIDE OF LAWSON DRIVE, 33A FEET NORTH OF SILVER LEAF DRIVE.
ELEVATION = 993.88 (NAVD 88)
ELEVATION = 994.38 (PLATTED)
REF: POINT #203



CURVE TABLE

CURVE	RADIUS	LENGTH	CHORD	BEARING
4	750.00'	56.19'	56.18'	S10°40'25"E
5	660.00'	72.73'	72.69'	N11°41'03"W
6	158.00'	521.46'	315.00'	S70°36'34"W
7	230.00'	61.91'	61.72'	N16°13'44"W
8	100.00'	158.88'	142.67'	S54°01'37"E
9	150.00'	60.30'	59.90'	N77°34'37"E

NOTES:

1. See sheet SD for site data & zoning table
2. See sheets UT2 & UT3 for utility easements
3. The address shall be a minimum of 4" high letters of contrasting colors and be clearly visible from the street. The location and size shall be verified prior to installation.

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DESIGN/FAF	REVISION #	DATE	REVISION-DESCRIPTION	REVISION #	DATE	REVISION-DESCRIPTION
DRAFT: JHG	1	03/23/22	REVISED PER TWP. REVIEW COMMENTS DATED 03/16/22 & 03/18/22			
CHECK: JMB						

SUMMERFIELD POINTE ESTATES PUD

DIMENSIONAL SITE PLAN (NORTH)

CLIENT: HEALY HOMES AT SUMMERFIELD LLC
3696 SLEETH RD., COMMERCE TOWNSHIP, MICHIGAN 48382
248-684-1699

SCALE: 1in. = 40ft.
PROJECT No.: 214159
DWG NAME: 4159 SP2-3
ISSUED: MARCH 23, 2022

SP2

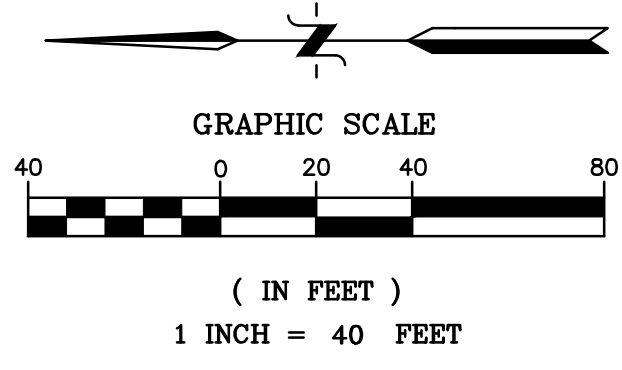
STRUCTURE INVENTORY

SAN SEWER MH-03 RM 1991.83 INVERTS N 8" PVC 981.48 W 8" PVC 981.48 S 8" PVC 981.43	SAN SEWER MH-04 RM 992.58 INVERTS N 8" PVC 982.58 E 8" PVC 982.68 S 8" PVC 982.48	SAN SEWER MH-13 RM 992.07 INVERTS NE 8" PVC 984.72 SE 8" PVC 984.69 S 8" PVC 984.72	SAN SEWER MH-12 RM 993.95 INVERTS N 8" PVC 984.15 S 8" PVC 984.05	SAN SEWER MH-14 RM 993.67 INVERTS SE 8" PVC 985.42	STORM CATCH BASIN CB-01 RM 990.86 INVERTS E 12" RCP 984.96	STORM MANHOLE MH-01A RM 993.04 INVERTS S 18" RCP 983.41 N 21" RCP 981.74	STORM MANHOLE MH-02B RM 987.40 INVERTS SE 36" RCP 972.50 NW 36" RCP 970.35	STORM CATCH BASIN CB-03 RM 990.88 INVERTS W 15" RCP 984.28 S 15" RCP 984.28 N 18" RCP 984.08	STORM MANHOLE #03A RM 982.50 INVERTS SE 21" RCP 979.05 NW 24" RCP 979.00	STORM CATCH BASIN CB-04 RM 990.92 INVERTS SW 12" RCP 982.62 S 21" RCP 981.12 NW 21" RCP 981.02	STORM CATCH BASIN CB-05 RM 990.97 INVERTS W 18" RCP 981.27 S 21" RCP 980.87 SE 24" RCP 978.37 NW 27" RCP 977.07	STORM CATCH BASIN CB-12 RM 991.08 INVERTS W 12" RCP 985.88	STORM CATCH BASIN CB-13 RM 991.07 INVERTS SW 12" RCP 985.07 W 12" RCP 984.52 E 15" RCP 984.47	STORM CATCH BASIN CB-21 RM 991.04 INVERTS W 18" RCP 981.61 E 18" RCP 981.50	STORM CATCH BASIN CB-22 RM 991.07 INVERTS SE 12" RCP 985.27	STORM CATCH BASIN CB-23 RM 991.12 INVERTS NW 12" RCP 984.92 E 12" RCP 984.80
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NOTES:

1. See sheets UT3 & UT4 for proposed utility easement plan.
2. See sheets UT5 & UT6 for control structure, detention basin, storm sewer, & sanitary sewer calculations.
3. A permit from MHO is required for sanitary & water main connections.

Structure	Diameter (ft.)	Casting Type
Storm Sewer structures:		
Manholes	4'	EJIW 1040, Type "A" Solid Cover
Curb Catch Basin	2', 4' & 6'	EJIW 7065-T1-M1 (Flat Grate & Roll Back)
Yard Basin	2' & 4'	EJIW 1020, Type-01 (Beehive Grate)
Roof Drain	---	EJIW 15782-A
Sanitary Sewer structures:		
Manholes	4'	EJIW 1040 (Sanitary Watertight)
Cleanout	---	EJIW 1574 A



LEGEND

- MISC. STRUCTURE (AS LABELED)
- MONITOR WELL
- BOLLARD
- SIGN
- LIGHT BASE
- UTILITY METERS & BOXES (ELECTRIC METER, GAS METER, WATER METER, PHONE BOX, CATV BOX, MAIL BOX)
- UTILITY POLE W/GUY WIRE
- OVERHEAD UTILITY LINES (ELECTRIC/PHONE/CABLE)
- U/G UTILITY LINES (PHONE/FIBER OPTIC/ELECTRIC/CABLE TV/MISC UTILITIES)
- EDGE OF WOODS / TREE DRIP LINE
- DEODIOUS TREE W/IDENTIFIER
- CONIFEROUS TREE W/IDENTIFIER
- FENCE (CHAIN LINK UNLESS OTHERWISE STATED)
- EDGE OF GRAVEL
- CONCRETE CURB (UNLESS OTHERWISE STATED)
- SANITARY SEWER MANHOLE W/IDENTIFIER
- SANITARY SEWER PIPE
- STORM WATER MANHOLE W/IDENTIFIER
- CATCH BASIN W/IDENTIFIER
- FLARED END SECTION
- STORM WATER DRAINAGE PIPE
- HYDRANT
- WATER VALVE
- WATER VALVE BOX
- WATER MAIN
- GAS/GASOLINE COVER
- GAS SHUT OFF
- U/G GAS
- 1' CONTOUR
- 5' CONTOUR
- PROP. CURB
- PROP. EDGE OF PAVEMENT
- PROP. EDGE OF SEWER
- PROP. WATER MAIN

BENCHMARKS

DATUM BASED ON PREVIOUS BENCHMARK AS DEPICTED ON REPEAT NO. 2 OF "SUMMERFIELD POINTE" LIVINGSTON COUNTY CONDOMINIUM SUBDIVISION PLAN NO. 295. DATUM REFERS TO "U.S.C.S." NO DATUM SPECIFIED. SITE ADJUSTED TO NAVD 88 (-0.50) FROM PLATTED ELEVATION.

BENCHMARK #201 (PRIMARY)
SPRKE IN THE EAST SIDE OF A POWER POLE, LOCATED ON THE WEST SIDE OF LAWSON DRIVE AND THE ENTRANCE TO "SUMMERFIELD POINTE." ELEVATION = 993.43 (PLATTED) REF: FIELD BOOK 14B3, PG. 34 POINT #204

BENCHMARK #202
ARROW ON HYDRANT, LOCATED NEAR WEST SIDE OF LAWSON DRIVE, 377.7 FEET NORTH OF SILVER LEAF DRIVE. ELEVATION = 995.39 (NAVD 88) REF: FIELD BOOK 14B3, PG. 34 POINT #200

BENCHMARK #203
ARROW ON HYDRANT, LOCATED NEAR WEST SIDE OF LAWSON DRIVE, 333 FEET NORTH OF SILVER LEAF DRIVE. ELEVATION = 993.88 (NAVD 88) REF: FIELD BOOK 14B3, PG. 34 POINT #203

SUMMERFIELD POINTE P.U.D. UTILITIES QUANTITY

Water Main	
8" CL54 D.I. Watermain	3,331 LF.
6" CL54 D.I. Watermain	80 LF.
8" Gate Valve in Well (5" Dia.)	5 Each
Hydrant + Valve Assembly	8 Each
8"x8"x8" Tee	2 Each
8"x8"x6" Tee	8 Each
8" Tapping Sleeve & Valve in Well	1 Each
8" Valve in Well	4 Each
8"-11.25" Bend	16 Each
8"-22.25" Bend	7 Each
8"-45" Bend	2 Each
8" 90° Bend	6 Each
2" Copper Water Lead	4,943 LF.
Water Shutoff	108 Each

Sanitary Sewer	
8" SDR 26 PVC Sanitary Sewer Main	3,987 LF.
6" SDR 26 PVC Sanitary Sewer Lead	3,300 LF.
Sanitary Cleanouts	108 Each
4" Dia. Concrete Manhole w/solid Manhole Cover	22 Each

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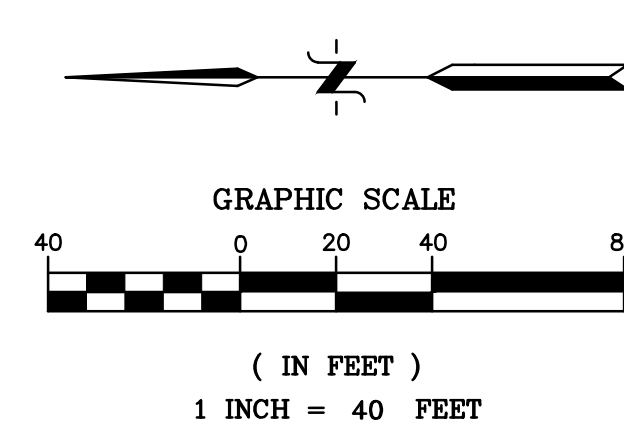
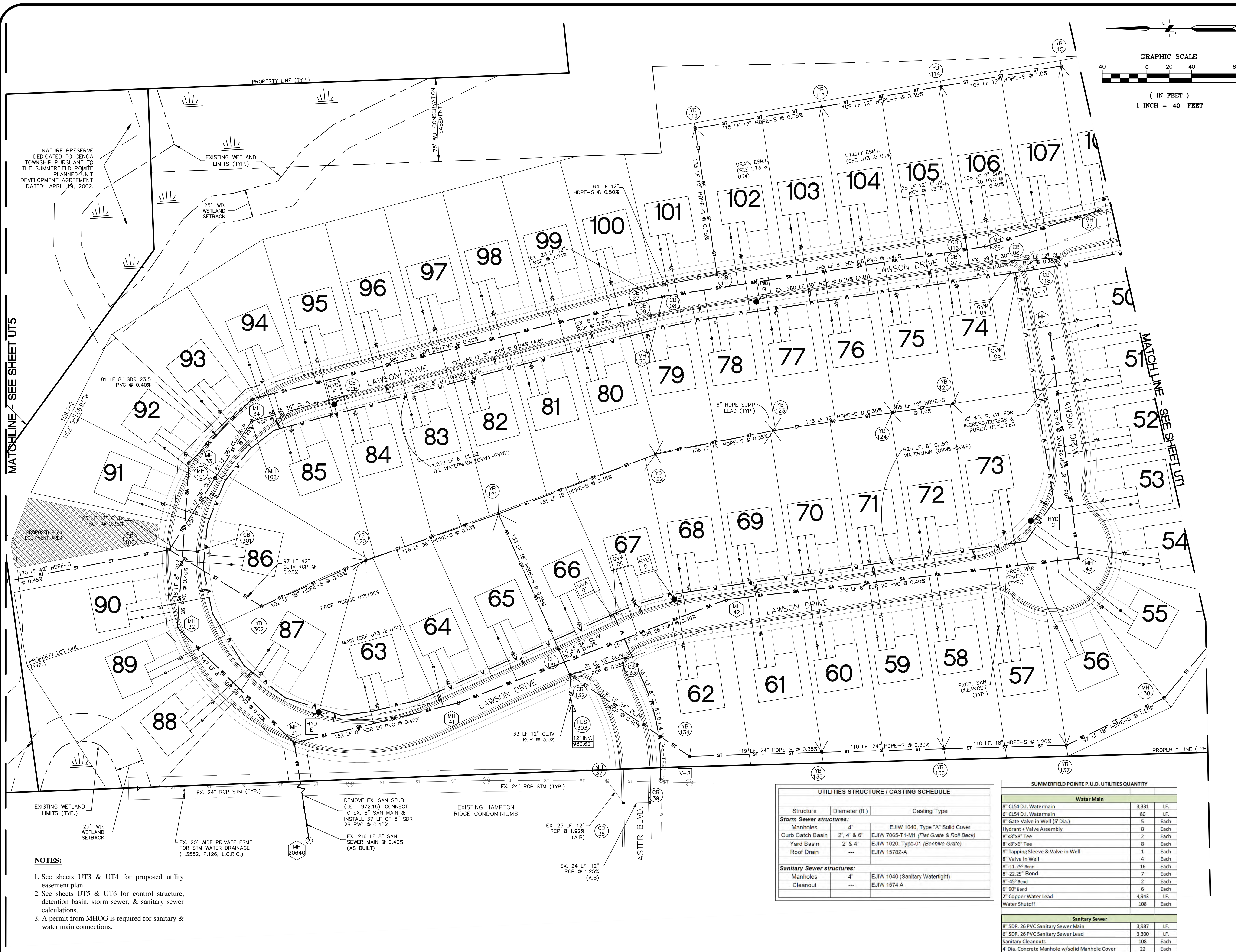
DESIGN/FAV	REVISION #	DATE	REVISION-DESCRIPTION
DRAFT: JHG	1	03/23/22	REVISED PER TWP. REVIEW COMMENTS DATED 03/16/22 & 03/18/22
CHECK: WMP			

REVISION #	DATE	REVISION-DESCRIPTION

**SUMMERFIELD
POINTE ESTATES PUD**

**UTILITY PLAN
SOUTH**

CLIENT: HEALY HOMES AT SUMMERFIELD LLC 3696 SLEETH RD, COMMERCE TOWNSHIP, MICHIGAN 48382 248-684-1699	SCALE: 1in. = 40ft. PROJECT No.: 214159 DWG NAME: 4159_UT ISSUED: MARCH 23, 2022	UT1
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- LEGEND**
- = MISC. STRUCTURE (AS LABELED)
 - ⊙ = MONITOR WELL
 - ⊙ = BOLLARD
 - ⊙ = SIGN
 - ⊙ = LIGHT BASE
 - ⊙ = UTILITY METERS & BOXES (ELECTRIC METER, GAS METER, WATER METER, PHONE BOX, CATV BOX, MAIL BOX)
 - ⊙ = UTILITY POLE W/GUY WIRE
 - ⊙ = OVERHEAD UTILITY LINES (ELECTRIC/PHONE/CABLE)
 - ⊙ = U/G UTILITY LINES (PHONE/FIBER OPTIC/ELECTRIC/CABLE TV/MISC UTILITIES)
 - ⊙ = EDGE OF WOODS / TREE DRIP LINE
 - ⊙ = DECIDUOUS TREE W/IDENTIFIER
 - ⊙ = CONIFEROUS TREE W/IDENTIFIER
 - ⊙ = FENCE (CHAIN LINK UNLESS OTHERWISE STATED)
 - ⊙ = EDGE OF GRAVEL
 - ⊙ = CONCRETE CURB (UNLESS OTHERWISE STATED)
 - ⊙ = SANITARY SEWER MANHOLE W/IDENTIFIER
 - ⊙ = SANITARY SEWER PIPE
 - ⊙ = STORM WATER MANHOLE W/IDENTIFIER
 - ⊙ = CATCH BASIN W/IDENTIFIER
 - ⊙ = FLARED END SECTION
 - ⊙ = STORM WATER DRAINAGE PIPE
 - ⊙ = HYDRANT
 - ⊙ = WATER VALVE
 - ⊙ = WATER VALVE BOX
 - ⊙ = WATER MAIN
 - ⊙ = GAS/GASOLINE COVER
 - ⊙ = GAS SHUT OFF
 - ⊙ = U/G GAS
 - ⊙ = 1' CONTOUR
 - ⊙ = 5' CONTOUR
 - ⊙ = PROP. CURB
 - ⊙ = PROP. EDGE OF PAVEMENT
 - ⊙ = PROP. STORM SEWER
 - ⊙ = PROP. WATER MAIN
 - A.B. = AS BUILT

- BENCHMARKS**
- DATUM BASED ON PREVIOUS BENCHMARK AS DEPICTED ON REPEAT No. 2 OF "SUMMERFIELD POINTE," LIVINGSTON COUNTY CONDOMINIUM SUBDIVISION PLAN No. 295. DATUM REFERS TO "3.5 C.S." NO. DATUM SPECIFIED.
- SITE ADJUSTED TO NAVD 88 (-0.50) FROM PLATTED ELEVATION.
- BENCHMARK #201
CENTERLINE OF GATE VALVE, LOCATED NEAR SOUTH SIDE OF SILVER LEAF DRIVE, 48± FEET EAST OF LAWSON DRIVE.
ELEVATION = 991.29 (NAVD 88)
ELEVATION = 992.14 (PLATTED)
REF: FIELD BOOK 1483, PG. 34
POINT #201
- BENCHMARK #204 (PRIMARY)
SPRINK IN THE EAST SIDE OF A POWER POLE, LOCATED ON THE WEST SIDE OF LAWSON DRIVE, AND THE ENTRANCE TO "SUMMERFIELD POINTE." ELEVATION = 993.43 (NAVD 88)
ELEVATION = 993.93 (PLATTED)
REF: FIELD BOOK 1483, PG. 34
POINT #204
- BENCHMARK #200 (ARROW ON HYDRANT, LOCATED NEAR WEST SIDE OF LAWSON DRIVE, 377± FEET NORTH OF SILVER LEAF DRIVE.
ELEVATION = 995.39 (NAVD 88)
ELEVATION = 995.89 (PLATTED)
REF: FIELD BOOK 1483, PG. 34
POINT #200
- BENCHMARK #203
ARROW ON HYDRANT, LOCATED NEAR WEST SIDE OF LAWSON DRIVE, 33± FEET NORTH OF SILVER LEAF DRIVE.
ELEVATION = 993.88 (NAVD 88)
ELEVATION = 994.38 (PLATTED)
REF: POINT #203

- STRUCTURE INVENTORY**
- SAN SEWER MH #20640 (OFFSITE)
RM = 989.00
INVERTS
W 8" PVC 971.30
STORM CATCH BASIN CB-02 (REPLACE CASTI)
RM = 990.81
INVERTS
W 12" RCP 984.61
N 15" RCP 984.56
STORM CATCH BASIN CB-06
RM = 989.39
INVERTS
S 27" RCP 976.81
N 30" RCP 976.64
STORM CATCH BASIN CB-07
RM = 989.53
INVERTS
S 30" RCP 976.63
N 30" RCP 973.72
STORM CATCH BASIN CB-08
RM = 986.78
INVERTS
S 30" RCP 973.26
N 30" RCP 973.26
STORM CATCH BASIN CB-09
RM = 986.97
INVERTS
E 12" RCP 978.19
S 30" RCP 973.19
N 36" RCP 973.19
STORM CATCH BASIN CB-27
RM = 986.36
INVERTS
W 12" RCP 978.90
STORM MANHOLE MH-37
RM = 984.31
INVERTS
N 24" RCP 979.36
SW 12" RCP 980.56
STORM CATCH BASIN CB-38
RM = 985.74
INVERTS
NE 12" RCP 981.14
S 12" RCP 981.04
STORM CATCH BASIN CB-39
RM = 985.74
INVERTS
N 12" RCP 981.44

NATURE PRESERVE DEDICATED TO GENOA TOWNSHIP PURSUANT TO THE SUMMERFIELD POINTE PLANNED UNIT DEVELOPMENT AGREEMENT DATED: APRIL 19, 2002.

MATCHLINE - SEE SHEET UT3

MATCHLINE - SEE SHEET UT1

- NOTES:**
- See sheets UT3 & UT4 for proposed utility easement plan.
 - See sheets UT5 & UT6 for control structure, detention basin, storm sewer, & sanitary sewer calculations.
 - A permit from MHOOG is required for sanitary & water main connections.

UTILITIES STRUCTURE / CASTING SCHEDULE

Structure	Diameter (ft.)	Casting Type
Storm Sewer structures:		
Manholes	4'	EJIW 1040, Type "A" Solid Cover
Curb Catch Basin	2', 4' & 6'	EJIW 7065-T1-M1 (Flat Grate & Roll Back)
Yard Basin	2' & 4'	EJIW 1020, Type-01 (Beehive Grate)
Roof Drain	---	EJIW 1578Z-A
Sanitary Sewer structures:		
Manholes	4'	EJIW 1040 (Sanitary Watertight)
Cleanout	---	EJIW 1574 A

SUMMERFIELD POINTE P.U.D. UTILITIES QUANTITY

Water Main	
8" CL54 D.I. Watermain	3,331 LF.
6" CL54 D.I. Watermain	80 LF.
8" Gate Valve in Well (5" Dia.)	5 Each
Hydrant - Valve Assembly	8 Each
8"x8"x8" Tee	2 Each
8"x8"x6" Tee	8 Each
8" Tapping Sleeve & Valve in Well	1 Each
8" Valve in Well	4 Each
8"-11.25" Bend	16 Each
8"-22.25" Bend	7 Each
8"-45" Bend	2 Each
6" 90° Bend	6 Each
2" Copper Water Lead	4,943 LF.
Water Shutoff	108 Each
Sanitary Sewer	
8" SDR, 26 PVC Sanitary Sewer Main	3,987 LF.
6" SDR, 26 PVC Sanitary Sewer Lead	3,300 LF.
Sanitary Cleanouts	108 Each
4" Dia. Concrete Manhole w/solid Manhole Cover	22 Each

REMOVE EX. SAN STUB (I.E. #972.16), CONNECT TO EX. 8" SAN MAIN & INSTALL 37 LF OF 8" SDR 26 PVC @ 0.40%.

EX. 216 LF 8" SAN SEWER MAIN @ 0.40% (AS BUILT)

DESIGN/FAF	REVISION #	DATE	REVISION-DESCRIPTION	REVISION #	DATE	REVISION-DESCRIPTION
DRAFT: JHG	1	03/23/22	REVISED PER TMP. REVIEW COMMENTS DATED 03/16/22 & 03/18/22			
CHECK: WMP						

SUMMERFIELD POINTE ESTATES PUD

UTILITY PLAN NORTH

CLIENT: HEALY HOMES AT SUMMERFIELD LLC
3696 SLEETH RD., COMMERCE TOWNSHIP, MICHIGAN 48382
248-684-1699

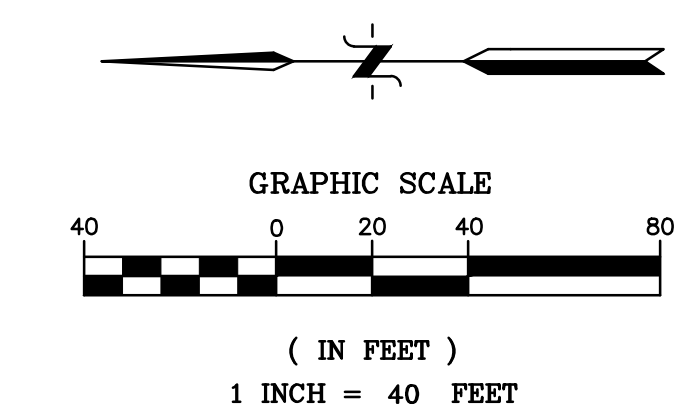
SCALE: 1in. = 40ft.
PROJECT No.: 214159
DWG NAME: 4159_UT
ISSUED: MARCH 23, 2022

811
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LAND SURVEYORS
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BRIGHTON, MICHIGAN 48114

UT2



LEGEND

- = MISC. STRUCTURE (AS LABELED)
- = MONITOR WELL
- = BOLLARD
- = SIGN
- ☆ = LIGHT BASE
- ☐☐☐☐ = UTILITY METERS & BOXES (ELECTRIC METER, GAS METER, WATER METER, PHONE BOX, CATV BOX, MAIL BOX)
- = UTILITY POLE W/GUY WIRE
- = OVERHEAD UTILITY LINES (ELECTRIC/PHONE/CABLE)
- PH = U/G UTILITY LINES (PHONE/FIBER OPTIC/ELECTRIC/CABLE TV/MISC UTILITIES)
- EL = U/G UTILITY LINES (PHONE/FIBER OPTIC/ELECTRIC/CABLE TV/MISC UTILITIES)
- CTV = U/G UTILITY LINES (PHONE/FIBER OPTIC/ELECTRIC/CABLE TV/MISC UTILITIES)
- UT = U/G UTILITY LINES (PHONE/FIBER OPTIC/ELECTRIC/CABLE TV/MISC UTILITIES)
- = EDGE OF WOODS / TREE DRIP LINE
- = DECIDUOUS TREE W/IDENTIFIER
- = CONIFEROUS TREE W/IDENTIFIER
- = FENCE (CHAIN LINK UNLESS OTHERWISE STATED)
- = EDGE OF GRAVEL
- = CONCRETE CURB (UNLESS OTHERWISE STATED)
- = SANITARY SEWER MANHOLE W/IDENTIFIER
- = SANITARY SEWER PIPE
- = STORM WATER MANHOLE W/IDENTIFIER
- = CATCH BASIN W/IDENTIFIER
- = FLARED END SECTION
- = STORM WATER DRAINAGE PIPE
- = HYDRANT
- = WATER VALVE
- = WATER VALVE BOX
- = WATER MAIN
- = GAS/GASOLINE COVER
- = GAS SHUT OFF
- = U/G GAS
- = 1' CONTOUR
- = 5' CONTOUR
- = PROP. CURB
- = PROP. EDGE OF PAVEMENT
- = PROP. STORM SEWER
- = PROP. WATER MAIN
- = PROPOSED UTILITY EASEMENT
- = PROPOSED PROPERTY SETBACK

BENCHMARKS

DATUM BASED ON PREVIOUS BENCHMARK AS DEPICTED ON REPEAT No. 2 OF "SUMMERFIELD POINTE," LIVINGSTON COUNTY CONDOMINIUM SUBDIVISION PLAN No. 295. DATUM REFERS TO "U.S.G.S." NO DATUM SPECIFIED. ELEVATION = 991.29 (NAVD 88) PLATED ELEVATION. REF: FIELD BOOK 148, PG. 34

BENCHMARK #201 CENTERLINE OF GATE VALVE, LOCATED NEAR SOUTH SIDE OF SILVER LEAF DRIVE, 48+ FEET EAST OF LAWSON DRIVE. ELEVATION = 992.14 (NAVD 88) REF: FIELD BOOK 148, PG. 34 POINT #201

BENCHMARK #203 ARROW ON HYDRANT, LOCATED NEAR WEST SIDE OF LAWSON DRIVE, 33+ FEET NORTH OF SILVER LEAF DRIVE. ELEVATION = 993.88 (NAVD 88) REF: FIELD BOOK 148, PG. 34 POINT #203

BENCHMARK #204 (PRIMARY) SPIKE IN THE EAST SIDE OF A POWER POLE, LOCATED ON THE WEST SIDE OF LAWSON DRIVE AND THE ENTRANCE TO "SUMMERFIELD POINTE." ELEVATION = 993.93 (PLATED) REF: FIELD BOOK 148, PG. 34 POINT #204

BENCHMARK #200 ARROW ON HYDRANT, LOCATED NEAR WEST SIDE OF LAWSON DRIVE, 37+ FEET NORTH OF SILVER LEAF DRIVE. ELEVATION = 995.39 (NAVD 88) REF: FIELD BOOK 148, PG. 34 POINT #200

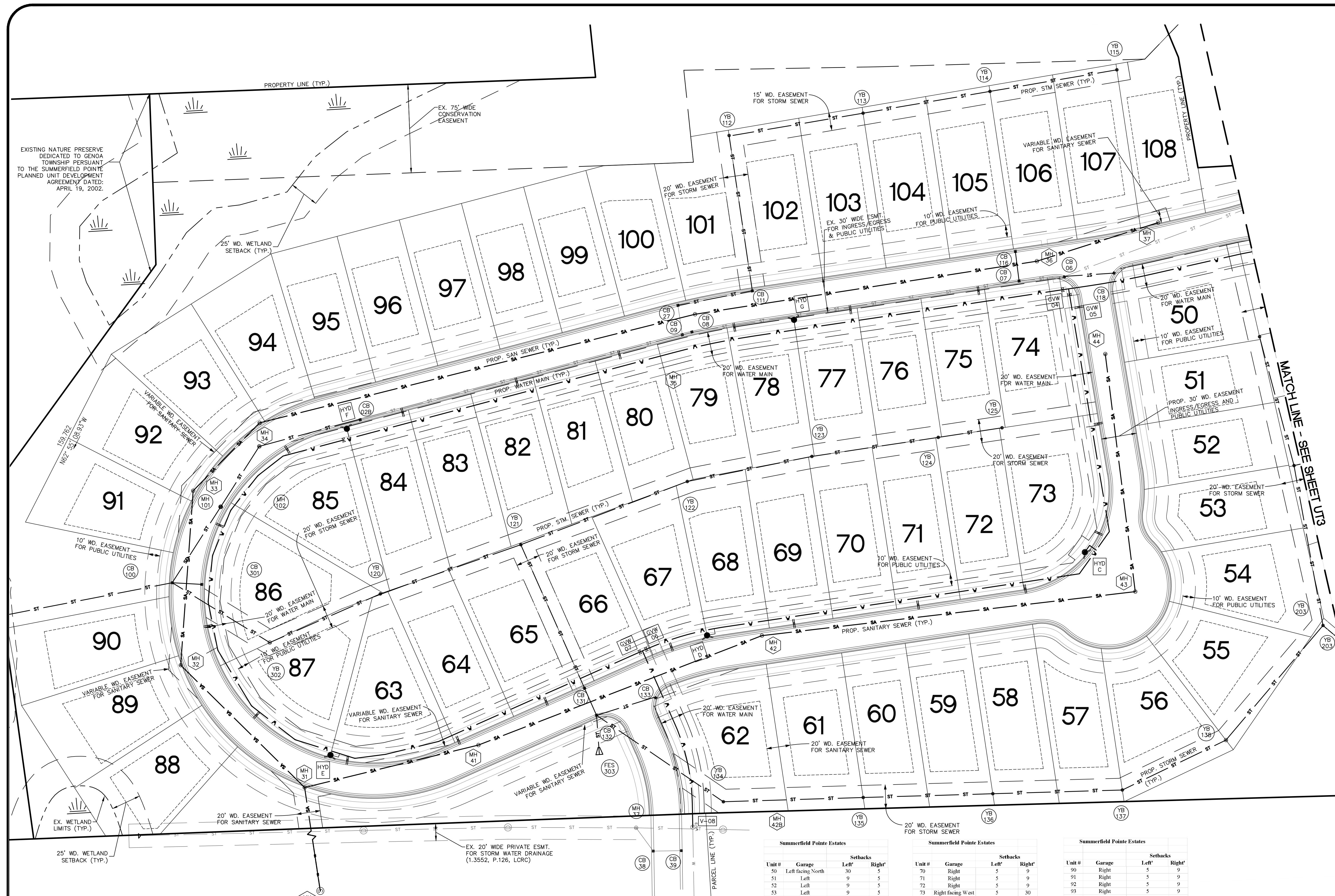
NOTES:

1. See sheets UT5 & UT6 for control structure, detention basin, storm sewer, & sanitary sewer calculations.
2. A permit from MHOG is required for sanitary & water main connections.

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Summerfield Pointe Estates				Summerfield Pointe Estates				Summerfield Pointe Estates			
Unit #	Garage	Setbacks		Unit #	Garage	Setbacks		Unit #	Garage	Setbacks	
		Left	Right			Left	Right			Left	Right
50	Left facing North	30	5	70	Right	5	9	90	Right	5	9
51	Left	9	5	71	Right	5	9	91	Right	5	9
52	Left	9	5	72	Right	5	9	92	Right	5	9
53	Left	9	5	73	Right facing West	5	30	93	Right	5	9
54	Left	9	5	74	Left facing East	30	5	94	Right	5	9
55	Left	9	5	75	Left	9	5	95	Right	5	9
56	Left	9	5	76	Left	9	5	96	Right	5	9
57	Left	9	5	77	Left	9	5	97	Right	5	9
58	Left	9	5	78	Left	9	5	98	Right	5	9
59	Left	9	5	79	Left	9	5	99	Right	5	9
60	Left	9	5	80	Left	9	5	100	Right	5	9
61	Left	9	5	81	Left	9	5	101	Right	5	10
62	Right facing East	5	30	82	Left	9	5	102	Right	10	9
63	Right	5	9	83	Left	9	5	103	Right	5	9
64	Right	5	9	84	Left	9	5	104	Right	5	9
65	Right	5	10	85	Left	9	10	105	Right	5	9
66	Right	10	9	86	Left	10	9	106	Right	5	9
67	Right	5	9	87	Right	5	9	107	Right	5	9
68	Right	5	9	88	Right	5	9	108	Right	5	9
69	Right	5	9	89	Right	5	9				

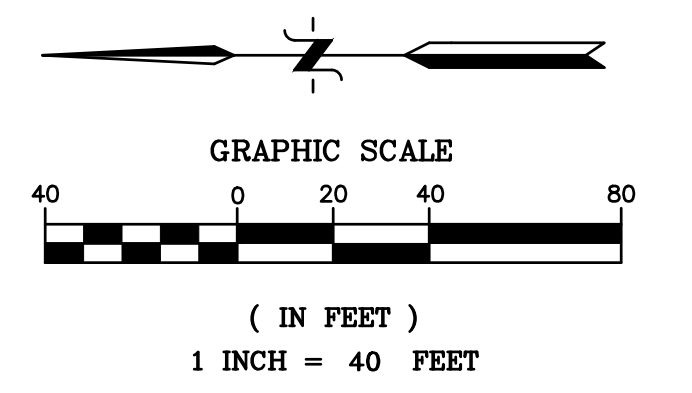
DESIGN/FAF	REVISION #	DATE	REVISION-DESCRIPTION	REVISION #	DATE	REVISION-DESCRIPTION
DRAFT: JHG	1	03/23/22	REVISED PER TWP. REVIEW COMMENTS DATED 03/16/22 & 03/18/22			
CHECK: JMB						

SUMMERFIELD POINTE ESTATES PUD
UTILITY EASEMENT PLAN NORTH

CLIENT: HEALY HOMES AT SUMMERFIELD LLC
3696 SLEETH RD., COMMERCE TOWNSHIP, MICHIGAN 48382
248-684-1699

SCALE: 1in. = 40ft.
PROJECT No.: 214159
DWG NAME: 4159_UT
ISSUED: MARCH 23, 2022

UT4



LEGEND

- = MISC. STRUCTURE (AS LABELED)
- = MONITOR WELL
- = BOLLARD
- ☆ = LIGHT BASE
- □ □ □ = UTILITY METERS & BOXES (ELECTRIC METER, GAS METER, WATER METER, PHONE BOX, CATV BOX, MAIL BOX)
- — — — — = UTILITY POLE W/GUY WIRE
- — — — — = OVERHEAD UTILITY LINES (ELECTRIC/PHONE/CABLE)
- N — — — — — = U/G UTILITY LINES (PHONE/FIBER OPTIC/ELECTRIC/CABLE TV/MISC UTILITIES)
- PT — — — — — = U/G UTILITY LINES (PHONE/FIBER OPTIC/ELECTRIC/CABLE TV/MISC UTILITIES)
- EL — — — — — = U/G UTILITY LINES (PHONE/FIBER OPTIC/ELECTRIC/CABLE TV/MISC UTILITIES)
- TV — — — — — = U/G UTILITY LINES (PHONE/FIBER OPTIC/ELECTRIC/CABLE TV/MISC UTILITIES)
- JT — — — — — = U/G UTILITY LINES (PHONE/FIBER OPTIC/ELECTRIC/CABLE TV/MISC UTILITIES)
- — — — — = EDGE OF WOODS / TREE DRIP LINE
- — — — — = DECIDUOUS TREE W/IDENTIFIER
- — — — — = CONIFEROUS TREE W/IDENTIFIER
- — — — — = FENCE (CHAIN LINK UNLESS OTHERWISE STATED)
- — — — — = EDGE OF GRAVEL
- — — — — = CONCRETE CURB (UNLESS OTHERWISE STATED)
- — — — — = SANITARY SEWER MANHOLE W/IDENTIFIER
- SA — — — — — = SANITARY SEWER PIPE
- — — — — = STORM WATER MANHOLE W/IDENTIFIER
- — — — — = CATCH BASIN W/IDENTIFIER
- — — — — = FLARED END SECTION
- ST — — — — — = STORM WATER DRAINAGE PIPE
- — — — — = HYDRANT
- — — — — = WATER VALVE
- — — — — = WATER VALVE BOX
- — — — — = WATER MAIN
- — — — — = GAS/CASOLINE COVER
- — — — — = GAS SHUT OFF
- GAS — — — — — = U/G GAS
- — — — — = 1' CONTOUR
- — — — — = 5' CONTOUR
- — — — — = PROP. CURB
- — — — — = PROP. EDGE OF PAVEMENT
- ST — — — — — = PROP. STORM SEWER
- — — — — = PROP. WATER MAIN
- — — — — = PROP. DETENTION BASIN FREEBOARD
- — — — — = TRN. EX. WATER
- — — — — = PROPOSED WATERSHED BREAKLINE

BENCHMARKS

DATUM BASED ON PREVIOUS BENCHMARK AS DEPICTED ON REFLAT NO. 2 OF SUMMERFIELD POINTE LIVINGSTON COUNTY CONDOMINIUM SUBDIVISION PLAN NO. 295. DATUM REFERS TO "U.S.C.S." NO DATUM SPECIFIED. SITE ADJUSTED TO NAVD 88 (-0.50) FROM PLATTED ELEVATION.

BENCHMARK #201: CENTERLINE OF GATE VALVE, LOCATED NEAR SOUTH SIDE OF SILVER LEAF DRIVE, 484 FEET EAST OF LAWSON DRIVE. ELEVATION = 991.29 (NAVD 88) ELEVATION = 992.14 (PLATTED) REF: FIELD BOOK 148, PG. 34 POINT #201

BENCHMARK #204 (PRIMARY): SPIKE IN THE EAST SIDE OF A POWER POLE, LOCATED ON THE WEST SIDE OF LAWSON DRIVE AND THE ENTRANCE TO "SUMMERFIELD POINTE." ELEVATION = 993.83 (NAVD 88) ELEVATION = 993.93 (PLATTED) REF: FIELD BOOK 148, PG. 34 POINT #204

BENCHMARK #203: ARROW ON HYDRANT, LOCATED NEAR WEST SIDE OF LAWSON DRIVE, 334 FEET NORTH OF SILVER LEAF DRIVE. ELEVATION = 993.88 (NAVD 88) ELEVATION = 993.88 (PLATTED) REF: POINT #203

BENCHMARK #200: ARROW ON HYDRANT, LOCATED NEAR WEST SIDE OF LAWSON DRIVE, 3774 FEET NORTH OF SILVER LEAF DRIVE. ELEVATION = 995.39 (NAVD 88) ELEVATION = 995.89 (PLATTED) REF: FIELD BOOK 148, PG. 34 POINT #200

CONTROL STRUCTURE NOTES:

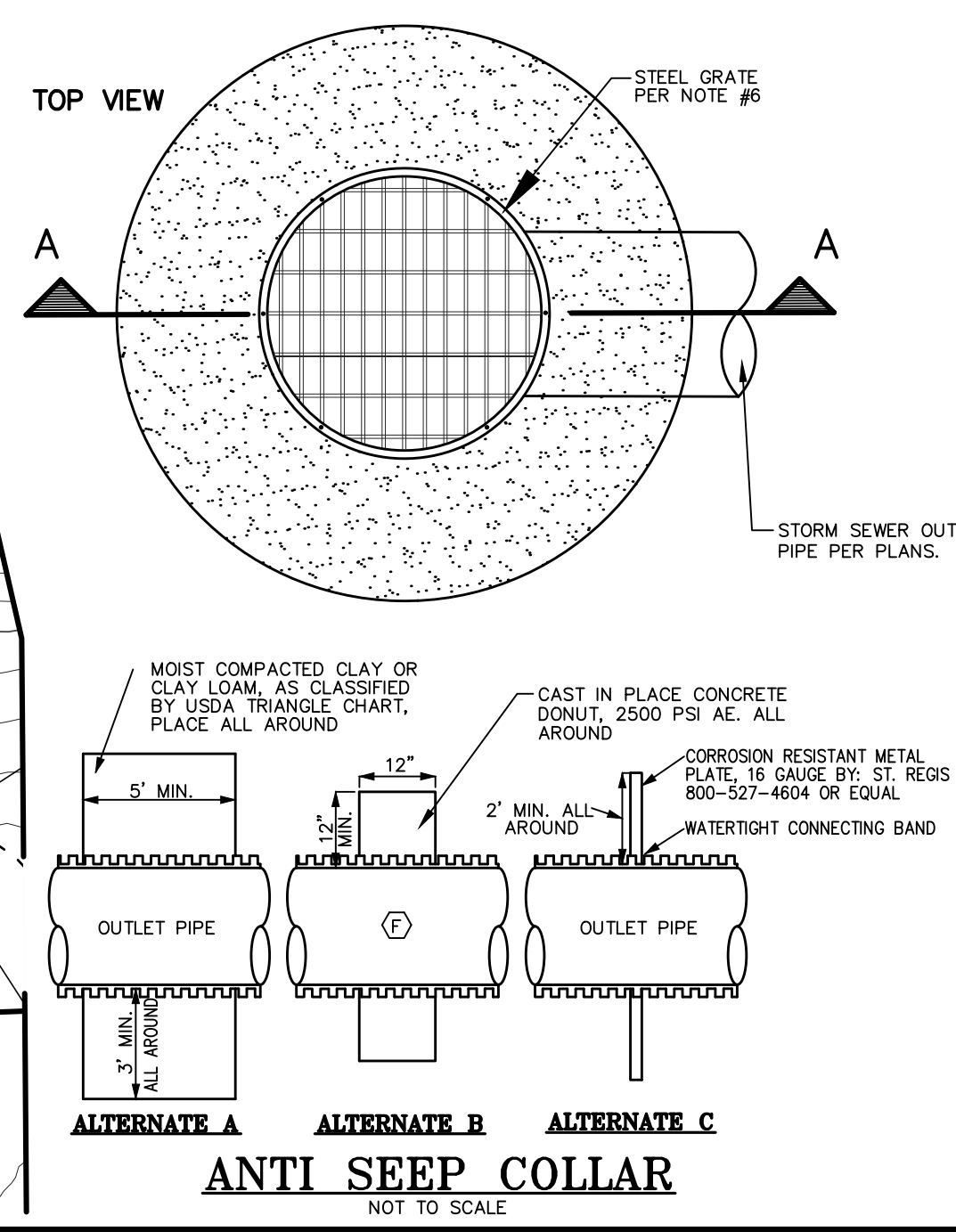
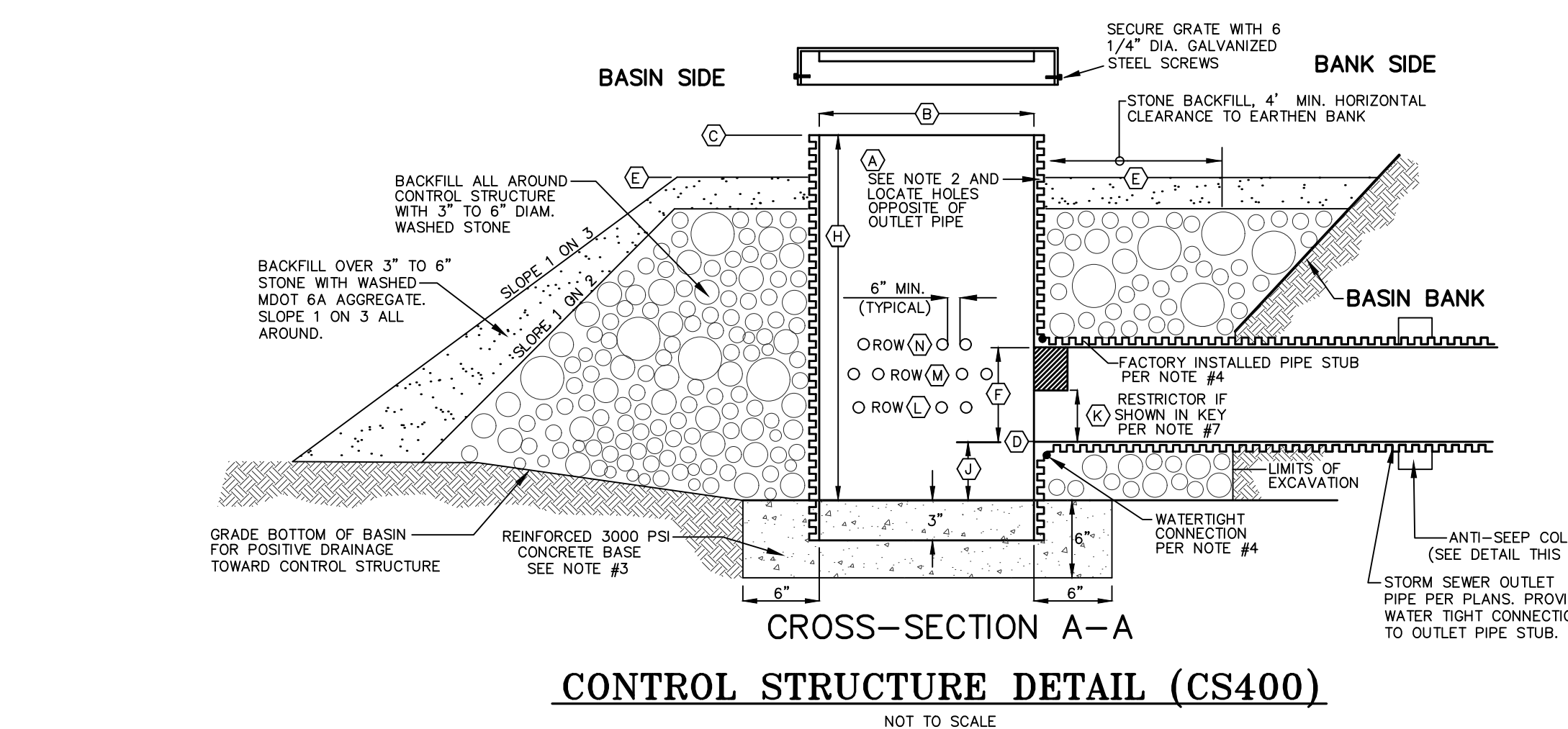
- Control Structure and Grate shall be factory built. Contractor shall provide Engineer with Shop Drawings for Control Structure and Grate. Contractor shall obtain Engineer's Approval of Shop Drawings prior to Control Structure installation.
- Control Structure shall be constructed of material noted in Item A of KEY. CMP shall be corrugated metal pipe with corrosion resistant coating and shall conform to the specifications for corrugated metal pipe per AASHTO Designation M36.
- Control Structure Base shall be a reinforced 3000 PSI air entrained concrete base. Control Structure shall be embedded into the concrete base providing a full strength water tight connection as illustrated in the Basin Control Structure Detail.
- Provide a watertight connection between the Control Structure and Outlet Pipe.
- Construct berm over Outlet Pipe as necessary to provide 12" minimum cover.
- Grate shall be built to fit over the outside edge of the Control Structure and to be secured to the Control Structure with six (6) 1/4" minimum diameter removable galvanized screws. All joints shall be welded full strength per current AWS code. Grate shall be factory coated with bitumastic or corrosion resistant paint. Grate shall be constructed of 1/2" minimum diameter round or square steel bar creating a square grid pattern with a maximum 3"x3" opening size. Outside of Grate shall be wrapped with a 1/4" minimum x 3" minimum flat stock steel.

EXISTING DETENTION BASIN "A" 100 YEAR STORM VOLUME				
Duration (Minutes)	Duration (Seconds)	Intensity (100-yr Storm) (In / Hr)	Col. 2 * Col. 3 (Cubic Feet)	Outflow Volume = Col. 2 * Col. 6 (Cubic Feet)
5	300	8.17	2750	42,347
10	600	7.86	4714	72,595
15	900	6.88	6188	95,281
20	1,200	6.11	7333	112,926
30	1,800	5.00	9000	138,591
60	3,600	3.24	11647	179,353
90	5,400	2.39	12913	198,848
120	7,200	1.90	13655	210,276
180	10,800	1.34	14488	223,069
240	14,400	1.04	14943	230,113

DETENTION BASIN "A" VOLUME CALCULATIONS				
POND DEPTH (FT)	ELEV.	CONTOUR AREA (SF)	INCREMENTAL VOLUME (CF)	TOTAL VOLUME (CF)
BOTTOM	971.00	11,751	0	0
1	972.00	18,927	15,197	15,197
2	973.00	32,624	23,467	40,664
3	974.00	46,082	39,160	79,824
4	975.00	58,441	50,689	130,513
5	976.00	69,381	65,326	195,841
FREEBOARD	977.00	74,437	69,845	265,686

PROPOSED CS-301 CALCULATIONS				
Tributary Area :	A = 33.54 Acres			
Compound Runoff Coefficient :	C = 0.46			
Orifice Flow Coefficient :	C _o = 0.6			
Allowable Outflow Rate :	Q _o = 6.71 CFS			
100 Year Flood Volume :	V100 = 162,625 CF			
Bankfull Flood Volume = 5160 x A x C :	V _{bf} = 79,611 CF			
First Flush Volume = 1815 x A x C :	V _{ff} = 28,003 CF			
Low Water Level :	LWL = 970.80 (CS #301 Outlet I.E.)			
First Flush Elevation :	X _{ff} = 973.50			
Bankfull Flood Elevation :	X _{bf} = 973.99			
Using Proposed 100 Yr. Flood Elevation :	X100 = 975.53			

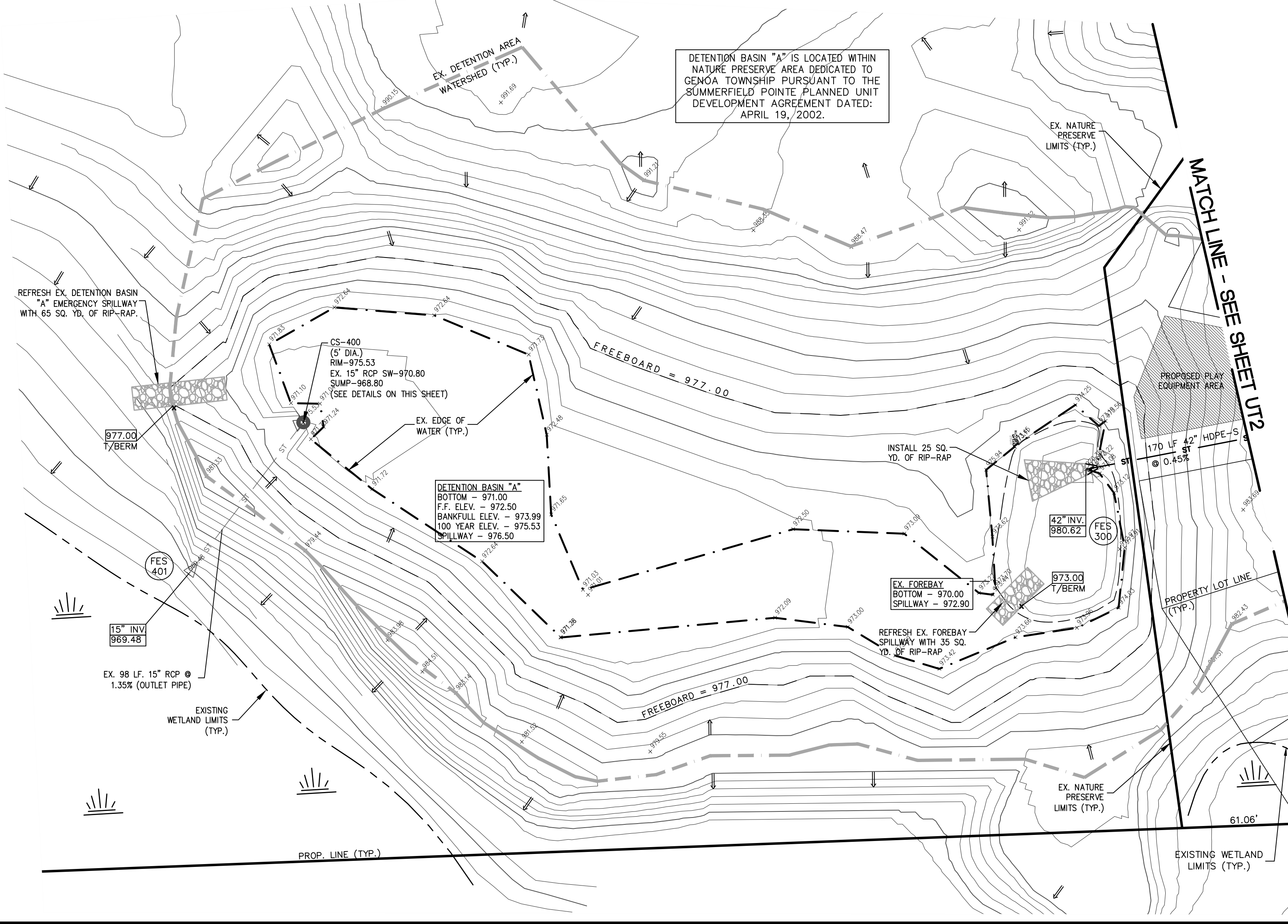
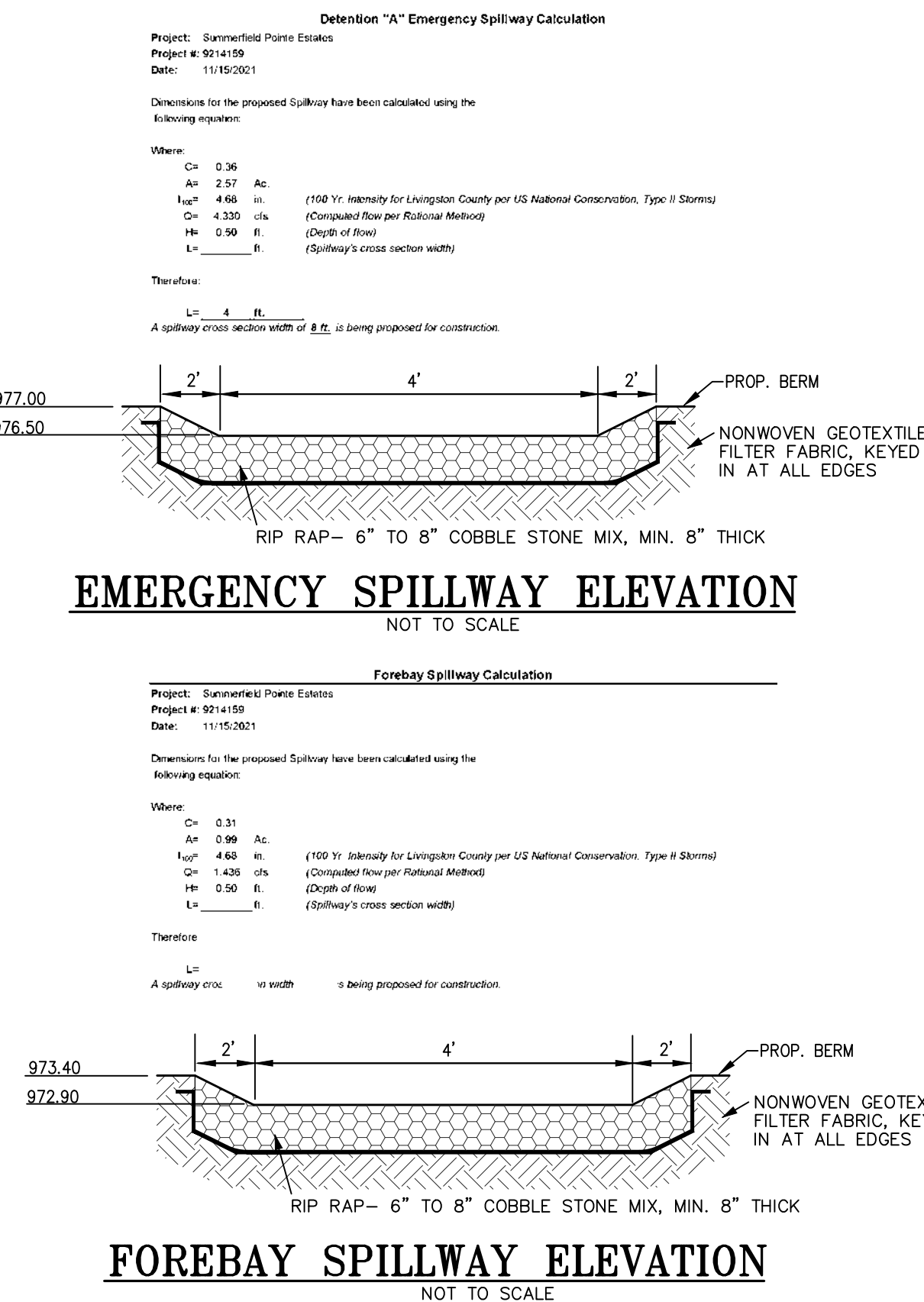
KEY		
A	MATERIAL TYPE, SEE NOTE 2	CMP
B	STRUCTURE INSIDE DIAMETER	5'
C	RIM ELEVATION WITHOUT GRATE	975.53
D	INVERT ELEVATION OUTLET PIPE	970.80
E	TOP OF STONE ELEVATION	975.13
F	OUTLET PIPE DIAMETER	15"
G	OUTLET PIPE MATERIAL	RCP
H	STRUCTURE HEIGHT WITHOUT GRATE	6.73"
J	SUMP HEIGHT	2'
K	ORIFICE PIPE DIA.	N/A
L	FIRST ROW OF HOLES	970.85
	CENTERLINE ELEVATION	1-1/4"
	HOLE DIAMETER	6
M	SECOND ROW OF HOLES	972.57
	CENTERLINE ELEVATION	1-1/2"
	HOLE DIAMETER	6
N	THIRD ROW OF HOLES	974.11
	CENTERLINE ELEVATION	2-3/4"
	HOLE DIAMETER	22



* Allowable outflow rate Q_o is computed by one of the following cases:
 Case 1: Q_o = Approved Discharge cfs / Acre
 Case 2: Q_o = q * A where q = Permissible discharge rate per acre of tributary area = 0.20 cfs / Acre

NOTES:

- See sheets UT3 & UT4 for proposed utility easement plan.
- See sheets UT6 for storm sewer, & sanitary sewer calculations.
- A permit from MHOG is required for sanitary & water main connections.



DESIGN:FAF	REVISION #	DATE	REVISION-DESCRIPTION	REVISION #	DATE	REVISION-DESCRIPTION
DRAFT: JHG						
CHECK: WMP						

SUMMERFIELD POINTE ESTATES PUD

DETENTION BASIN "A" CALCULATIONS, NOTES & DETAILS

CLIENT: HEALY HOMES AT SUMMERFIELD LLC
 3696 SLEETH RD.
 COMMERCE TOWNSHIP, MICHIGAN 48382
 248-684-1699

SCALE: 1in. = 40ft.
 PROJECT No.: 214159
 DWG NAME: 4159_UT
 ISSUED: FEB. 23, 2022

UT5

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 BRIGHTON, MICHIGAN 48114

From MH# / FES#	To MH# / FES#	Pipe Material	Area Acres	Eqv. Area 1 CA	Total Area 1 CA	T Time Min.	I Inch Per Hour	Q (CIA) c.f.s.	Dia. of pipe inch	Slope %	Slope H.G. %	Length of line ft.	Vel. Flow full ft./sec.	Time of flow min.	Cap of pipe c.f.s.	H.G. Elev. upper end	Ground Elev. Upper end	Ground Elev. Lower end	Invert Elev. Upper end	Invert Elev. Lower end	
Project: Summerfield Estates PUD Location: Genoa Township, Livingston County, MI. Design Criteria: 10 year event (I = 175i + 25)																					
RCP n= 0.013 HDPE n= 0.011 SLCPP n= 0.010 CMP n= 0.022																					
EXISTING & PROPOSED SUMMERFIELD POINT STORM SEWER SYSTEM :																					
1	2	RCP	0.78	0.62	0.49	0.49	15.0	4.38	2.12	12	0.49	0.35	72	3.16	0.4	2.48	988.77	990.88	990.81	984.96	984.61
2	3	RCP	0.05	0.62	0.03	0.52	15.4	4.33	2.24	15	0.38	0.12	73	3.28	0.4	4.00	986.51	990.61	990.88	984.56	984.28
12	13	RCP	0.65	0.63	0.41	0.41	15.0	4.38	1.79	12	13.50	0.25	6	16.68	0.0	13.09	988.61	991.08	991.07	985.88	985.07
13	3	RCP	0.43	0.70	0.30	0.71	15.1	4.36	3.11	15	0.26	0.23	72	2.70	0.4	3.32	986.59	991.07	990.88	984.47	984.28
3	01A	RCP	0.59	0.67	0.40	1.63	15.8	4.29	6.99	18	0.20	0.44	342	3.95	1.4	4.65	986.42	990.88	993.04	984.08	983.41
01A	231	RCP	0.00	0.00	0.00	1.63	17.2	4.15	6.75	21	0.20	0.18	159	2.95	0.9	7.11	983.53	993.04	993.10	981.74	981.42
234	233	HDPE-S	0.13	0.34	0.04	0.04	15.0	4.38	0.19	12	0.35	0.00	64	3.17	0.3	2.49	984.01	993.50	992.50	983.23	983.01
233	232	HDPE-S	0.25	0.34	0.09	0.13	15.3	4.34	0.56	12	0.35	0.02	123	3.17	0.6	2.49	983.50	992.50	992.50	982.91	982.49
232	231	RCP	0.43	0.37	0.16	0.29	16.0	4.27	1.23	12	0.35	0.12	102	2.88	0.6	2.11	983.36	992.50	993.10	982.38	982.02
231	4	RCP	0.00	0.00	0.00	1.92	16.6	4.21	8.05	21	0.21	0.26	144	3.35	0.7	7.23	983.24	992.50	990.92	981.42	981.12
22	23	RCP	0.22	0.65	0.14	0.14	17.3	4.13	0.59	12	5.00	0.03	7	10.14	0.0	7.96	985.92	991.07	991.12	985.27	984.92
23	4	RCP	0.38	0.51	0.20	0.34	17.3	4.13	1.39	12	5.32	0.15	41	10.46	0.1	8.21	983.68	991.12	990.92	984.80	982.62
4	5	RCP	0.60	0.60	0.36	2.61	17.4	4.13	10.77	21	0.43	0.46	35	4.48	0.1	10.37	982.78	990.92	990.97	981.02	980.87
14	15	RCP	1.58	0.52	0.81	0.81	15.0	4.38	3.54	12	0.52	0.99	23	4.51	0.1	2.57	983.90	988.58	988.52	982.79	982.67
15	17	RCP	0.88	0.70	0.62	1.43	15.1	4.37	6.23	21	0.12	0.15	349	2.59	2.2	5.56	983.21	988.52	988.64	980.02	979.59
16	17	RCP	1.22	0.45	0.55	0.55	15.0	4.38	2.42	12	1.43	0.46	23	5.43	0.1	4.27	982.85	988.92	988.64	982.07	981.74
17	3A	RCP	0.79	0.70	0.55	2.53	17.3	4.13	10.45	21	0.18	0.44	267	4.35	1.0	6.79	982.67	988.64	992.50	979.54	979.05
3A	4	RCP	0.42	0.80	0.34	2.66	18.4	4.04	11.56	24	0.24	0.26	262	3.68	1.2	11.09	981.51	992.50	990.50	979.00	978.37
21	5	RCP	0.32	0.57	0.18	0.18	15.0	4.38	0.80	18	0.47	0.01	49	4.07	0.2	7.19	982.77	991.04	990.97	981.50	981.27
5	6	RCP	0.52	0.74	0.38	6.04	19.5	3.93	23.73	27	0.10	0.59	264	5.97	0.7	9.72	980.83	990.97	990.89	977.07	976.81
118	6	RCP	0.55	0.57	0.31	0.31	15.0	4.38	1.37	12	0.35	0.15	42	2.68	0.3	2.11	979.34	991.30	990.89	977.99	977.84
6	7	RCP	0.16	0.77	0.12	6.48	20.3	3.86	25.03	30	0.03	0.37	39	5.10	0.1	6.57	979.28	990.89	990.55	976.64	976.63
118	7	RCP	0.28	0.58	0.16	0.16	15.0	4.38	0.70	12	0.35	0.04	25	2.68	0.2	2.11	977.40	990.55	990.55	975.01	974.92
7	8	RCP	0.04	0.73	0.03	6.67	20.4	3.85	25.89	30	0.16	0.39	280	5.23	0.9	16.62	977.39	990.55	987.89	973.72	973.26
8	9	RCP	0.32	0.57	0.18	6.85	21.3	3.78	25.89	30	0.87	0.40	8	7.81	0.0	38.35	976.30	987.89	987.89	973.26	973.19
115	114	HDPE-S	0.25	0.34	0.09	0.09	15.0	4.38	0.38	12	1.00	0.01	109	5.36	0.3	4.21	985.58	990.80	989.50	985.66	984.57
114	113	HDPE-S	0.30	0.32	0.10	0.16	15.3	4.34	0.79	12	0.35	0.04	109	3.17	0.6	2.49	985.13	990.80	989.50	984.47	984.09
113	112	HDPE-S	0.28	0.33	0.09	0.27	15.9	4.28	1.17	12	0.35	0.08	115	3.17	0.6	2.49	983.77	988.50	988.50	983.09	982.69
112	111	RCP	0.33	0.31	0.10	0.38	16.5	4.22	1.58	12	0.35	0.20	133	2.68	0.8	2.11	982.48	988.50	988.50	981.69	981.22
111	27	RCP	0.24	0.61	0.15	0.52	17.3	4.13	2.16	12	0.50	0.37	64	3.21	0.3	2.52	981.13	988.50	987.89	980.22	979.80
27	9	RCP	0.53	0.67	0.36	0.88	17.7	4.10	3.60	12	2.84	1.02	25	7.84	0.1	6.00	979.45	987.89	987.89	978.90	978.19
9	28	RCP	0.26	0.58	0.15	7.88	21.3	3.78	29.77	36	0.24	0.20	282	4.67	1.0	32.98	976.26	987.89	989.25	973.19	972.50
28	102	RCP	0.08	0.55	0.04	7.92	22.3	3.70	29.30	36	0.22	0.19	88	4.42	0.3	31.27	975.70	988.25	988.52	972.40	972.21
102	101	RCP	0.00	0.00	0.00	7.92	22.7	3.67	29.10	36	0.25	0.19	81	4.72	0.2	33.34	975.53	988.25	988.00	972.11	971.96
101	100	RCP	0.00	0.00	0.00	7.92	22.9	3.66	28.96	36	0.25	0.19	76	4.72	0.3	33.34	975.42	988.00	987.39	971.86	971.67
210	209	HDPE-S	0.45	0.32	0.14	0.14	15.0	4.38	0.63	12	1.00	0.02	153	5.36	0.5	4.21	990.65	994.50	995.00	991.15	989.62
209	208	HDPE-S	0.66	0.26	0.17	0.31	15.5	4.32	1.35	12	0.35	0.10	152	3.17	0.8	2.49	990.14	995.00	995.00	988.52	988.99
208	207	HDPE-S	0.35	0.30	0.11	0.42	16.3	4.24	1.77	12	0.35	0.18	126	3.17	0.7	2.49	989.67	995.00	995.00	988.89	988.45
207	206	HDPE-S	0.26	0.34	0.09	0.51	16.9	4.17	2.11	12	0.35	0.25	109	3.17	0.6	2.49	989.24	995.00	995.00	988.35	987.96
206	205	HDPE-S	0.24	0.35	0.08	0.59	17.5	4.12	2.43	12	0.35	0.33	128	3.17	0.7	2.49	988.84	995.00	997.20	987.88	987.42
205	204	HDPE-S	0.00	0.00	0.00	0.59	18.2	4.05	2.39	12	0.35	0.32	92	3.17	0.5	2.49	988.29	997.20	995.50	987.32	986.99
204	203	HDPE-S	0.00	0.00	0.00	0.59	18.7	4.01	2.36	12	0.35	0.32	168	3.17	0.9	2.49	986.84	996.80	992.50	985.99	985.41
211	202	HDPE-S	0.44	0.36	0.16	0.16	15.0	4.38	0.70	12	1.00	0.03	113	5.36	0.4	4.21	988.30	992.20	992.20	986.36	985.23
225	224	HDPE-S	1.20	0.32	0.38	0.38	15.0	4.38	1.68	12	0.35	0.16	143	3.17	0.8	2.49	988.64	992.20	992.20	987.91	987.41
224	223	HDPE-S	0.60	0.29	0.17	0.56	15.8	4.29	2.40	12	0.35	0.32	93	3.17	0.5	2.49	988.28	992.20	992.20	987.31	986.98
223	222	HDPE-S	0.82	0.29	0.24	0.79	16.2	4.24	3.37	18	0.25	0.07	117	3.51	0.6	6.20	987.88	992.20	992.50	986.58	986.29
222	221	RCP	1.07	0.33	0.36	1.15	16.8	4.19	4.82	18	0.25	0.21	115	2.97	0.6	6.25	987.65	992.50	993.77	986.19	985.90
221	201	RCP	0.49	0.59	0.29	1.44	17.4	4.12	5.93	18	0.40	0.32	30	3.76	0.1	6.64	987.28	993.77	993.57	985.80	985.68
201	202	RCP	0.58	0.59	0.33	1.77	17.6	4.11	7.27	18	0.55	0.48	118	4.41	0.4	7.79	987.00	993.57	992.20	985.58	984.93
202	203	HDPE-S	0.56	0.36	0.20	2.13	15.4	4.34	9.24	18	0.60	0.55	138	5.44	0.4	9.61	986.27	992.20	992.50	984.83	984.01
203	138	HDPE-S	1.33	0.28	0.37	3.09	19.5	3.93	12.15	18	1.20	0.96	127	7.69	0.3	13.59	994.50	993.00	994.50	983.91	982.38
138	137	HDPE-S	0.00	0.00	0.00	3.09	19.8	3.90	12.08	18	1.20	0.95	97	7.69	0.2	13.59	983.54	994.50	991.80	982.28	981.12
137	136	HDPE-S	0.35	0.30	0.11	3.20	20.0	3.89	12.43	18	1.20	1.00									

EXISTING UTILITY STRUCTURE INVENTORY

SAN SEWER MH-03 RIM 991.83 INVERTS N 8" PVC 981.48 W 8" PVC 981.48 S 8" PVC 981.43	STORM MANHOLE #03A RIM 992.50 INVERTS SE 21" RCP 979.05 NW 24" RCP 979.00	STORM CATCH BASIN CB-17 RIM 988.64 INVERTS W 12" RCP 981.74 S 21" RCP 979.59 NW 21" RCP 979.54
SAN SEWER MH-04 RIM 992.58 INVERTS N 8" PVC 982.58 E 8" PVC 982.68 S 8" PVC 982.48	STORM CATCH BASIN CB-04 RIM 990.92 INVERTS SW 12" RCP 982.62 S 21" RCP 981.12 NW 21" RCP 981.02	STORM CATCH BASIN CB-21 RIM 991.04 INVERTS W 18" RCP 981.61 E 18" RCP 981.50
SAN SEWER MH-05 RIM 990.79 INVERTS N 8" PVC 983.90 W 8" PVC 983.94	STORM CATCH BASIN CB-05 RIM 990.97 INVERTS W 18" RCP 981.27 S 21" RCP 980.87 SE 24" RCP 978.37 NW 27" RCP 977.07	STORM CATCH BASIN CB-22 RIM 991.07 INVERTS SE 12" RCP 985.27
SAN SEWER MH-06 RIM 990.92 INVERTS NE 8" PVC 985.12 S 8" PVC 985.12	STORM CATCH BASIN CB-06 RIM 989.39 INVERTS SE 27" RCP 976.81 N 30" RCP 976.64	STORM CATCH BASIN CB-23 RIM 991.12 INVERTS NW 12" RCP 984.92 E 12" RCP 984.80
SAN SEWER MH-07 RIM 991.89 INVERTS SE 8" PVC 986.09	STORM CATCH BASIN CB-07 RIM 989.53 INVERTS S 30" RCP 976.63 N 30" RCP 973.72	STORM CATCH BASIN CB-27 RIM 988.00 INVERTS SE 36" RCP 971.96 NW 36" RCP 971.86
SAN SEWER MH-13 RIM 992.07 INVERTS NE 8" PVC 984.72 SE 8" PVC 984.69 S 8" PVC 984.72	STORM CATCH BASIN CB-08 RIM 986.78 INVERTS S 30" RCP 973.26 N 30" RCP 973.26	STORM MANHOLE MH-102 (4' DIA) (8743.34, 3272.81) RIM 988.82 INVERTS SE 36" RCP 972.21 NW 36" RCP 972.11
SAN SEWER MH-12 RIM 993.95 INVERTS N 8" PVC 984.15 S 8" PVC 984.05	STORM CATCH BASIN CB-09 RIM 986.97 INVERTS E 12" RCP 978.19 S 30" RCP 973.19 N 36" RCP 973.19	STORM CATCH BASIN CB-100 (6' DIA) (8817.21, 3157.32) RIM 987.39 INVERTS SE 36" RCP 971.67 S 12" RCP 973.27 SW 42" RCP 971.37 NW 42" HDPE-S 971.27 SUMP - 969.27
SAN SEWER MH-14 RIM 993.67 INVERTS SE 8" PVC 985.42	STORM CATCH BASIN CB-10 (T.B.R.) RIM 985.12 INVERTS SE 36" RCP 970.69 N 36" RCP 970.59	STORM MANHOLE MH-101 (4' DIA) (8776.20, 3221.61) RIM 988.00 INVERTS SE 36" RCP 971.96 NW 36" RCP 971.86
SAN SEWER MH #20640 (OFFSITE) RIM 989.00 INVERTS W 8" PVC 971.30	STORM CATCH BASIN CB-11 (T.B.R.) RIM 985.33 INVERTS S 36" RCP 970.63 NW 36" RCP 970.53	STORM CATCH BASIN CB-100 (6' DIA) (8817.21, 3157.32) RIM 987.39 INVERTS SE 36" RCP 971.96 NW 36" RCP 971.86
STORM CATCH BASIN CB-01 RIM 990.86 INVERTS E 12" RCP 984.96	STORM CATCH BASIN CB-12 RIM 991.08 INVERTS W 12" RCP 985.88	STORM CATCH BASIN CB-100 (6' DIA) (8817.21, 3157.32) RIM 987.39 INVERTS SE 36" RCP 971.96 NW 36" RCP 971.86
STORM MANHOLE MH-01A RIM 993.04 INVERTS S 18" RCP 983.41 N 21" RCP 981.74	STORM CATCH BASIN CB-13 RIM 991.07 INVERTS SW 12" RCP 985.07 W 12" RCP 984.52 E 15" RCP 984.47	STORM CATCH BASIN CB-100 (6' DIA) (8817.21, 3157.32) RIM 987.39 INVERTS SE 36" RCP 971.96 NW 36" RCP 971.86
FLARED END SECTION FES-100B INVERTS S 36" RCP 970.35	STORM CATCH BASIN CB-14 RIM 988.59 INVERTS SE 12" RCP 982.79	STORM CATCH BASIN CB-100 (6' DIA) (8817.21, 3157.32) RIM 987.39 INVERTS SE 36" RCP 971.96 NW 36" RCP 971.86
STORM CATCH BASIN CB-02 (REPLACE CASTING) RIM 990.81 INVERTS W 12" RCP 984.61 N 15" RCP 984.56	STORM CATCH BASIN CB-15 RIM 988.62 INVERTS NW 12" RCP 982.67 N 21" RCP 980.02	STORM CATCH BASIN CB-100 (6' DIA) (8817.21, 3157.32) RIM 987.39 INVERTS SE 36" RCP 971.96 NW 36" RCP 971.86
STORM MANHOLE MH-02B RIM 987.40 INVERTS SE 36" RCP 972.50 NW 36" RCP 970.35	STORM CATCH BASIN CB-16 RIM 988.92 INVERTS E 12" RCP 982.07	STORM CATCH BASIN CB-100 (6' DIA) (8817.21, 3157.32) RIM 987.39 INVERTS SE 36" RCP 971.96 NW 36" RCP 971.86
STORM CATCH BASIN CB-03 RIM 990.88 INVERTS W 15" RCP 984.28 S 15" RCP 984.28 N 18" RCP 984.08		STORM CATCH BASIN CB-100 (6' DIA) (8817.21, 3157.32) RIM 987.39 INVERTS SE 36" RCP 971.96 NW 36" RCP 971.86

PROPOSED UTILITY STRUCTURE INVENTORY

STORM MANHOLE MH-231 (4' DIA) (7638.39, 3542.97) RIM 993.10 INVERTS SE 21" RCP 981.42 NW 21" RCP 981.42 NE 12" RCP 982.02	STORM CATCH BASIN CB-131 (4' DIA) (8468.07, 3067.99) RIM 986.39 INVERTS NE 36" HDPE-S 976.78 SW 24" RCP 977.58 SUMP - 974.78	YARD BASIN YB-113 (4' DIA) (8232.22, 3554.93) RIM 988.50 INVERTS NW 12" HDPE-S 983.09 SE 12" HDPE-S 984.09
STORM CATCH BASIN CB-27 (4' DIA) (8388.97, 3392.16) RIM 987.89 INVERTS SE 12" RCP 979.90 SW 12" RCP 978.90 SUMP - 976.90	STORM CATCH BASIN CB-132 (4' DIA) (8457.90, 3045.10) RIM 986.39 INVERTS NE 24" RCP 977.73 SW 24" RCP 977.83 SE 12" RCP 978.53 W 12" RCP 979.63 SUMP - 975.73	YARD BASIN YB-114 (4' DIA) (8124.76, 3573.34) RIM 989.50 INVERTS NW 12" HDPE-S 984.47 SE 12" HDPE-S 984.57
STORM MANHOLE MH-102 (4' DIA) (8743.34, 3272.81) RIM 988.82 INVERTS SE 36" RCP 972.21 NW 36" RCP 972.11	STORM CATCH BASIN CB-133 (4' DIA) (8407.86, 3059.92) RIM 986.69 INVERTS NW 12" RCP 978.71 SUMP - 976.71	YARD BASIN YB-115 (2' DIA) (8017.28, 3591.62) RIM 990.80 INVERTS NW 12" HDPE-S 985.66
STORM MANHOLE MH-101 (4' DIA) (8776.20, 3221.61) RIM 988.00 INVERTS SE 36" RCP 971.96 NW 36" RCP 971.86	YARD BASIN YB-134 (4' DIA) (8350.55, 2971.88) RIM 984.50 INVERTS NE 24" RCP 978.35 S 24" HDPE-S 978.45	YARD BASIN YB-135 (4' DIA) (8232.10, 2975.48) RIM 985.20 INVERTS N 24" HDPE-S 978.87 S 24" HDPE-S 978.97
STORM CATCH BASIN CB-100 (6' DIA) (8817.21, 3157.32) RIM 987.39 INVERTS SE 36" RCP 971.67 S 12" RCP 973.27 SW 42" RCP 971.37 NW 42" HDPE-S 971.27 SUMP - 969.27	STORM CATCH BASIN CB-116 (2' DIA) (8103.18, 3437.85) RIM 990.55 INVERTS SW 12" RCP 975.01 SUMP - 973.01	YARD BASIN YB-136 (4' DIA) (8122.35, 2978.66) RIM 987.30 INVERTS N 24" HDPE-S 979.30 S 18" HDPE-S 979.70
YARD BASIN YB-120 (4' DIA) (8641.06, 3147.88) RIM 984.50 INVERTS NW 36" HDPE-S 972.76 SE 36" HDPE-S 974.66	STORM CATCH BASIN CB-118 (2' DIA) (8019.68, 3419.52) RIM 991.30 INVERTS N 12" RCP 977.99 SUMP - 975.99	YARD BASIN YB-137 (4' DIA) (8012.61, 2981.83) RIM 991.80 INVERTS N 18" HDPE-S 981.02 SE 18" HDPE-S 981.12
YARD BASIN YB-121 (4' DIA) (8522.03, 3189.54) RIM 984.50 INVERTS NW 36" HDPE-S 974.85 SW 36" HDPE-S 976.45 SE 12" HDPE-S 976.45	STORM CATCH BASIN CB-111 (4' DIA) (8325.94, 3404.45) RIM 988.50 INVERTS NE 12" RCP 981.22 NW 12" RCP 980.22 SUMP - 978.22	YARD BASIN YB-203 (4' DIA) (7842.66, 3121.16) RIM 992.50 INVERTS NW 18" HDPE-S 983.91 NE 18" HDPE-S 984.01 SW 12" HDPE-S 985.41
YARD BASIN YB-122 (4' DIA) (8381.08, 3243.05) RIM 986.00 INVERTS NW 12" HDPE-S 976.98 SE 12" HDPE-S 978.48	STORM CATCH BASIN CB-02B (4' DIA) (8658.03, 3295.34) RIM 989.25 INVERTS NW 36" RCP 972.40 SE 36" RCP 972.50 SUMP - 970.40	YARD BASIN YB-203 (4' DIA) (7842.66, 3121.16) RIM 992.50 INVERTS NW 18" HDPE-S 983.91 NE 18" HDPE-S 984.01 SW 12" HDPE-S 985.41
YARD BASIN YB-123 (4' DIA) (8275.56, 3264.28) RIM 987.00 INVERTS NW 12" HDPE-S 978.86 SE 12" HDPE-S 980.36	YARD BASIN YB-232 (4' DIA) (7659.95, 3638.55) RIM 992.50 INVERTS SW 12" RCP 982.38 SE 12" HDPE-S 982.48	YARD BASIN YB-203 (4' DIA) (7842.66, 3121.16) RIM 992.50 INVERTS NW 18" HDPE-S 983.91 NE 18" HDPE-S 984.01 SW 12" HDPE-S 985.41
YARD BASIN YB-124 (4' DIA) (8168.55, 3280.41) RIM 986.50 INVERTS NW 12" HDPE-S 980.73 SE 12" HDPE-S 980.83	YARD BASIN YB-233 (4' DIA) (7539.93, 3665.62) RIM 992.50 INVERTS NW 12" HDPE-S 982.91 SE 12" HDPE-S 983.01	YARD BASIN YB-209 (4' DIA) (7141.00, 3096.56) RIM 995.00 INVERTS NW 12" HDPE-S 989.52 SE 12" HDPE-S 989.62
YARD BASIN YB-125 (2' DIA) (8114.51, 3288.52) RIM 987.50 INVERTS NW 12" HDPE-S 981.38	YARD BASIN YB-234 (2' DIA) (7494.05, 3710.82) RIM 993.50 INVERTS NW 12" HDPE 983.23	YARD BASIN YB-210 (2' DIA) (7020.36, 3191.23) RIM 994.50 INVERTS NW 12" HDPE-S 991.15
FLARED END SECTION FES-300 (8984.07, 3124.97) INVERTS SE 42" HDPE-S 970.50	YARD BASIN YB-112 (4' DIA) (8345.67, 3536.03) RIM 988.50 INVERTS SE 12" HDPE-S 982.69 SW 12" RCP 981.69	YARD BASIN YB-222 (4' DIA) (7611.81, 3301.33) RIM 992.50 INVERTS NW 18" RCP 986.19 SE 18" HDPE-S 986.29
		YARD BASIN YB-223 (4' DIA) (7503.01, 3344.68) RIM 992.20 INVERTS NW 18" HDPE-S 986.58 SE 12" HDPE-S 986.98

DESIGN: FAF	REVISION #	DATE	REVISION-DESCRIPTION	REVISION #	DATE	REVISION-DESCRIPTION
DRAFT: O.M.						
CHECK: WMP						

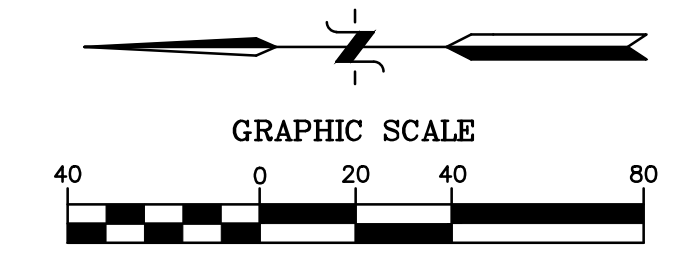
**SUMMERFIELD
POINTE ESTATES PUD**

**EXISTING & PROPOSED
UTILITY STRUCTURE
INVENTORY**

CLIENT: HEALY HOMES AT SUMMERFIELD LLC 3696 SLEETH RD, COMMERCE TOWNSHIP, MICHIGAN 48382 248-684-1699	SCALE: NOT TO SCALE PROJECT No.: 214159 DWG NAME: 4159_UT ISSUED: FEB. 23, 2022
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UT7



LEGEND

- = MISC. STRUCTURE (AS LABELED)
- = BOLLARD
- = SIGN
- = LIGHT BASE
- = STREET LIGHT
- = OVERHEAD TRAFFIC SIGNAL
- = UTILITY METERS & BOXES (ELECTRIC METER, GAS METER, WATER METER, PHONE BOX, CATV BOX, MAIL BOX)
- = AIR CONDITIONER UNIT
- = UTILITY MANHOLE (AS LABELED)
- = UTILITY POLE W/GUY WIRE
- = OVERHEAD UTILITY LINES (ELECTRIC/PHONE/CABLE)
- = U/G UTILITY LINES (ELECTRIC/PHONE/CABLE)
- = DECIDUOUS TREE W/IDENTIFIER
- = CONIFEROUS TREE W/IDENTIFIER
- = DECIDUOUS SHRUB
- = EXISTING TREE DRIP LINE
- = FENCE (CHAIN LINK UNLESS OTHERWISE STATED)
- = GUARD RAIL
- = EDGE OF GRAVEL
- = CONCRETE CURB (UNLESS OTHERWISE STATED)
- = SANITARY SEWER MANHOLE W/IDENTIFIER
- = SANITARY SEWER PIPE
- = CLEAN OUT
- = STORM WATER MANHOLE W/IDENTIFIER
- = STORM WATER DRAINAGE PIPE
- = HYDRANT
- = WATER SHUT OFF
- = WATER VALVE
- = WATER VALVE BOX
- = WATER MAIN
- = GAS SHUT OFF
- = U/G GAS
- = SPOT ELEVATION
- = 1' CONTOUR
- = 5' CONTOUR
- = EXISTING LIGHT POLE
- = PROPOSED LIGHT POLE
- = PROPOSED SANITARY SEWER
- = PROPOSED WATER MAIN
- = PROPOSED STORM SEWER
- = PROPOSED STORM STRUCTURES
- = PROPOSED CURB AND GUTTER
- = PROPOSED CONCRETE WALK
- = PROPOSED STANDARD DUTY BITUMINOUS PAVEMENT

BENCHMARKS

BENCHMARK #201
 LOCATED ON THE WEST SIDE OF LAWSON DRIVE, 484 FEET SOUTH SIDE OF SILVER LEAF DRIVE, EAST OF LAWSON DRIVE. ELEVATION = 992.14 (PLATTED) FROM REF: FIELD BOOK 1483, PG. 34 POINT #201

BENCHMARK #204 (PRIMARY)
 SPIKE IN THE EAST SIDE OF A POWER POLE, LOCATED ON THE WEST SIDE OF LAWSON DRIVE AND THE ENTRANCE TO "SUMMERFIELD POINTE". ELEVATION = 993.43 (NAVD 88) ELEVATION = 993.93 (PLATTED) FROM REF: FIELD BOOK 1483, PG. 34 POINT #204

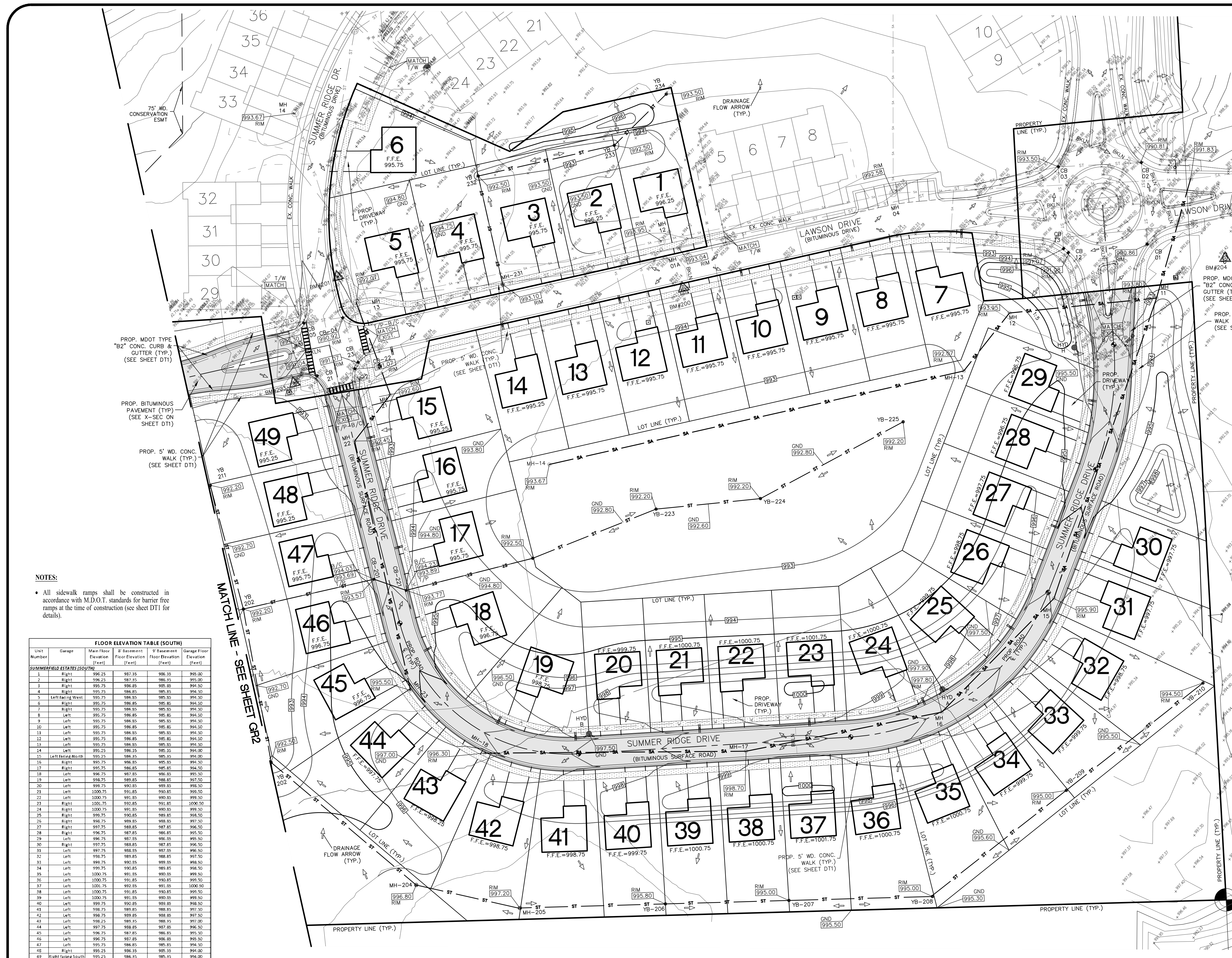
BENCHMARK #203
 ARROW ON HYDRANT, LOCATED NEAR WEST SIDE OF LAWSON DRIVE, 335 FEET NORTH OF SILVER LEAF DRIVE. ELEVATION = 993.88 (NAVD 88) ELEVATION = 994.38 (PLATTED) FROM REF: POINT #203

BENCHMARK #200
 ARROW ON HYDRANT, LOCATED NEAR WEST SIDE OF LAWSON DRIVE, 377 FEET NORTH OF SILVER LEAF DRIVE. ELEVATION = 995.39 (NAVD 88) ELEVATION = 995.89 (PLATTED) FROM REF: FIELD BOOK 1483, PG. 34 POINT #200

NOTES:

- All sidewalk ramps shall be constructed in accordance with M.D.O.T. standards for barrier free ramps at the time of construction (see sheet DT1 for details).

FLOOR ELEVATION TABLE (SOUTH)					
Unit Number	Garage	Main Floor Elevation (feet)	1st Basement Floor Elevation (feet)	2nd Basement Floor Elevation (feet)	Garage Floor Elevation (feet)
SUMMERFIELD ESTATES (SOUTH)					
1	Right	996.25	987.35	986.35	993.00
2	Right	998.25	987.35	986.35	993.00
3	Right	995.75	986.85	985.85	994.50
4	Right	995.75	986.85	985.85	994.50
5	Left facing West	995.75	986.85	985.85	994.50
6	Right	995.75	986.85	985.85	994.50
7	Right	995.75	986.85	985.85	994.50
8	Left	995.75	986.85	985.85	994.50
9	Left	995.75	986.85	985.85	994.50
10	Left	995.75	986.85	985.85	994.50
11	Left	995.75	986.85	985.85	994.50
12	Left	995.75	986.85	985.85	994.50
13	Left	995.75	986.85	985.85	994.50
14	Left	995.75	986.85	985.85	994.50
15	Left facing North	995.75	986.85	985.85	994.50
16	Right	995.75	986.85	985.85	994.50
17	Right	995.75	986.85	985.85	994.50
18	Left	995.75	986.85	985.85	994.50
19	Left	996.25	987.35	986.35	993.00
20	Left	999.75	990.85	989.85	996.50
21	Left	1000.75	991.85	990.85	997.50
22	Right	1000.75	992.85	991.85	1000.50
23	Right	1000.75	992.85	991.85	1000.50
24	Right	1000.75	992.85	991.85	1000.50
25	Right	995.75	986.85	985.85	994.50
26	Right	998.75	989.85	988.85	997.50
27	Right	997.75	988.85	987.85	996.50
28	Right	998.75	989.85	988.85	997.50
29	Left	996.75	987.85	986.85	995.50
30	Right	997.75	988.85	987.85	996.50
31	Left	997.75	988.85	987.85	996.50
32	Left	998.75	989.85	988.85	997.50
33	Left	999.75	990.85	989.85	998.50
34	Left	1000.75	991.85	990.85	999.50
35	Left	1000.75	991.85	990.85	999.50
36	Left	999.75	990.85	989.85	998.50
37	Left	998.75	989.85	988.85	997.50
38	Left	998.75	989.85	988.85	997.50
39	Left	998.75	989.85	988.85	997.50
40	Left	998.75	989.85	988.85	997.50
41	Left	997.75	988.85	987.85	996.50
42	Left	996.75	987.85	986.85	995.50
43	Left	996.75	987.85	986.85	995.50
44	Left	996.75	987.85	986.85	995.50
45	Left	995.75	986.85	985.85	994.50
46	Left	995.75	986.85	985.85	994.50
47	Left	995.75	986.85	985.85	994.50
48	Left	995.75	986.85	985.85	994.50
49	Right facing South	995.25	986.35	985.35	994.00



DESIGN/FAF	REVISION #	DATE	REVISION-DESCRIPTION
DRAFT: OM	1	03/23/22	REVISED PER TWP. REVIEW COMMENTS DATED 03/16/22 & 03/18/22
CHECK: FAF			

REVISION #	DATE	REVISION-DESCRIPTION

**SUMMERFIELD
 POINTE ESTATES PUD**

GRADING PLAN (SOUTH)

CLIENT: HEALY HOMES AT SUMMERFIELD LLC
 3696 SLEETH RD.,
 COMMERCE TOWNSHIP, MICHIGAN 48382
 248-684-1699

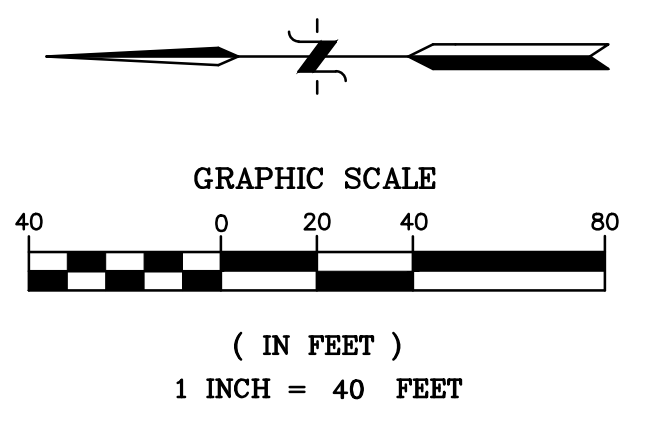
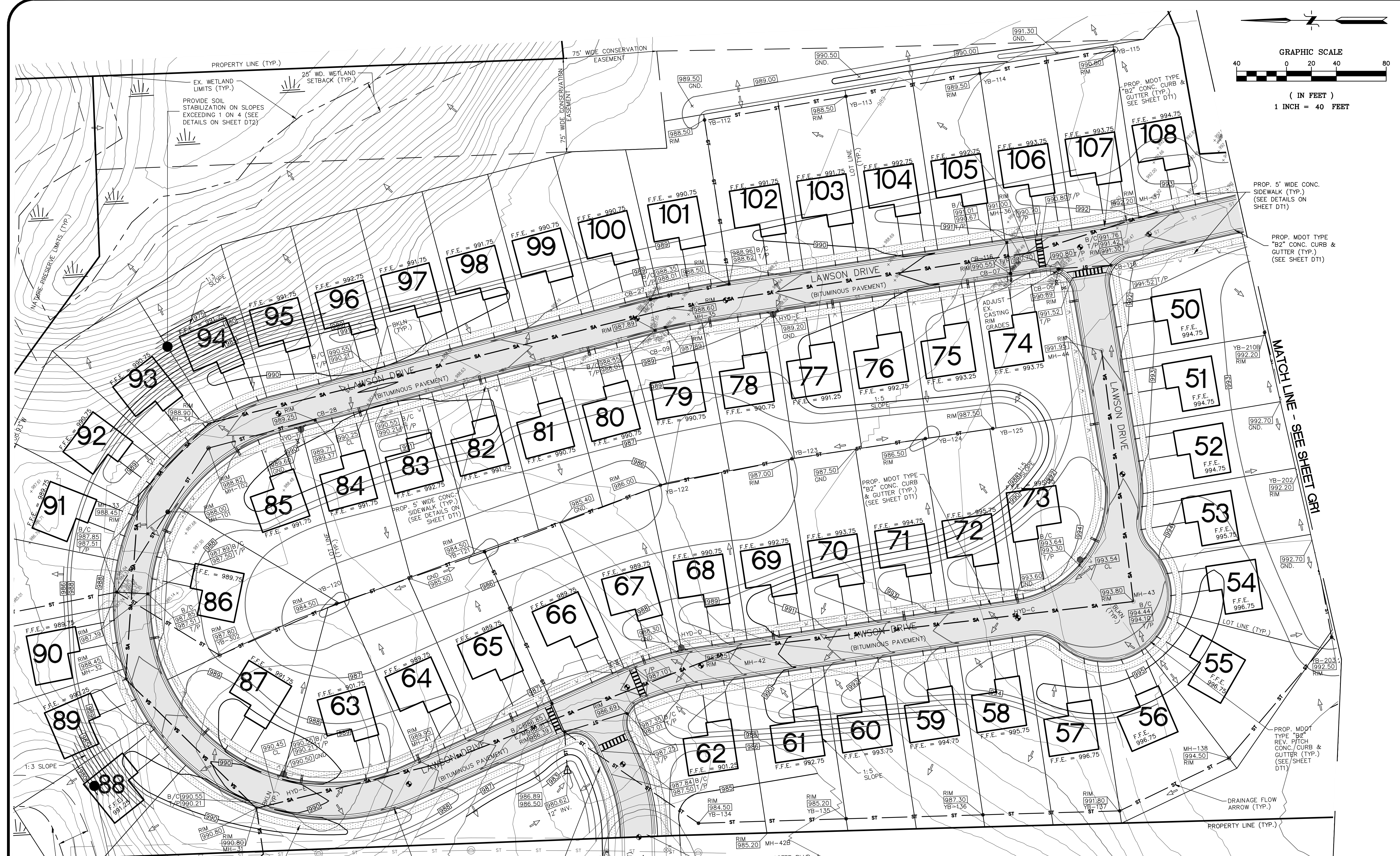
SCALE: 1in. = 40ft.
 PROJECT No.: 214159
 DWG NAME: 4159 GR
 ISSUED: MARCH 23, 2022

GR1

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 2183 PLESS DRIVE
 BRIGHTON, MICHIGAN 48114



LEGEND

- = MISC. STRUCTURE (AS LABELED)
- = BOLLARD
- = SIGN
- = LIGHT BASE
- = STREET LIGHT
- = OVERHEAD TRAFFIC SIGNAL
- = UTILITY METERS & BOXES (ELECTRIC METER, GAS METER, WATER METER, PHONE BOX, CATV BOX, MAIL BOX)
- = AIR CONDITIONER UNIT
- = UTILITY MANHOLE (AS LABELED)
- = UTILITY POLE W/GUY WIRE
- = OVERHEAD UTILITY LINES (ELECTRIC/PHONE/CABLE)
- = U/G UTILITY LINES (ELECTRIC/PHONE/CABLE)
- = DECIDUOUS TREE W/IDENTIFIER
- = CONIFEROUS TREE W/IDENTIFIER
- = DECIDUOUS SHRUB
- = EXISTING TREE DRIP LINE
- = GUARD RAIL
- = EDGE OF GRAVEL
- = CONCRETE CURB (UNLESS OTHERWISE STATED)
- = SANITARY SEWER MANHOLE W/IDENTIFIER
- = SANITARY SEWER PIPE
- = CLEAN OUT
- = STORM WATER MANHOLE W/IDENTIFIER
- = CATCH BASIN W/IDENTIFIER
- = FLARED END SECTION
- = STORM WATER DRAINAGE PIPE
- = HYDRANT
- = WATER SHUT OFF
- = WATER VALVE
- = WATER VALVE BOX
- = WATER MAIN
- = GAS SHUT OFF
- = U/G GAS
- = SPOT ELEVATION
- = 1' CONTOUR
- = 5' CONTOUR
- = EXISTING LIGHT POLE
- = PROPOSED LIGHT POLE
- = PROPOSED SANITARY SEWER
- = PROPOSED WATER MAIN
- = PROPOSED STORM SEWER
- = PROPOSED STORM STRUCTURES
- = PROPOSED CURB AND GUTTER
- = PROPOSED CONCRETE WALK
- = PROPOSED STANDARD DUTY BITUMINOUS PAVEMENT

BENCHMARKS

DATUM BASED ON PREVIOUS BENCHMARK AS DEPICTED ON RE-PLAN NO. 2 OF "SUMMERFIELD POINTE" LIVINGSTON COUNTY CONDOMINIUM SUBDIVISION PLAN NO. 295. DATUM REFERS TO "U.S.C.S." NO DATUM SPECIFIED. SITE ADJUSTED TO NAVD 88 (-0.50) FROM PLATTED ELEVATION.

BENCHMARK #201
CENTERLINE OF GATE VALVE, LOCATED NEAR SOUTH SIDE OF SILVER LEAF DRIVE, 486 FEET EAST OF LAWSON DRIVE.
ELEVATION = 991.29 (NAVD 88)
ELEVATION = 992.14 (PLATTED)
REF: FIELD BOOK 148, PG. 34
POINT #201

BENCHMARK #204 (PRIMARY)
SPIKE IN THE EAST SIDE OF A POWER POLE, LOCATED ON THE WEST SIDE OF LAWSON DRIVE, AND THE ENTRANCE TO "SUMMERFIELD POINTE".
ELEVATION = 993.43 (NAVD 88)
ELEVATION = 993.93 (PLATTED)
REF: FIELD BOOK 148, PG. 34
POINT #204

BENCHMARK #203
ARROW ON HYDRANT, LOCATED NEAR WEST SIDE OF LAWSON DRIVE, 336 FEET NORTH OF SILVER LEAF DRIVE.
ELEVATION = 993.98 (NAVD 88)
ELEVATION = 994.38 (PLATTED)
REF: POINT #203

BENCHMARK #200
ARROW ON HYDRANT, LOCATED NEAR WEST SIDE OF LAWSON DRIVE, 373 FEET NORTH OF SILVER LEAF DRIVE.
ELEVATION = 995.39 (NAVD 88)
ELEVATION = 995.89 (PLATTED)
REF: FIELD BOOK 148, PG. 34
POINT #200

- NOTES:**
- All sidewalk ramps shall be constructed in accordance with M.D.O.T. standards for barrier free ramps at the time of construction.
 - See sheet UT6 of plans for proposed Floor Elevation Table

FLOOR ELEVATION TABLE (NORTH)

Unit Number	Garage	Main Floor (Elevation)	1st Basement (Elevation)	2nd Basement (Elevation)	Garage Floor (Elevation)
50	Left Facing North	994.75	985.85	984.85	991.50
51	Left	994.75	985.85	984.85	991.50
52	Left	994.75	985.85	984.85	991.50
53	Left	995.75	986.85	985.85	992.50
54	Left	996.75	987.85	986.85	993.50
55	Left	996.75	987.85	986.85	993.50
56	Left	996.75	987.85	986.85	993.50
57	Left	996.75	987.85	986.85	993.50
58	Left	996.75	987.85	986.85	993.50
59	Left	996.75	987.85	986.85	993.50
60	Left	996.75	987.85	986.85	993.50
61	Left	996.75	987.85	986.85	993.50
62	Left	996.75	987.85	986.85	993.50
63	Left	996.75	987.85	986.85	993.50
64	Left	996.75	987.85	986.85	993.50
65	Left	996.75	987.85	986.85	993.50
66	Left	996.75	987.85	986.85	993.50
67	Left	996.75	987.85	986.85	993.50
68	Left	996.75	987.85	986.85	993.50
69	Left	996.75	987.85	986.85	993.50
70	Left	996.75	987.85	986.85	993.50
71	Left	996.75	987.85	986.85	993.50
72	Left	996.75	987.85	986.85	993.50
73	Left	996.75	987.85	986.85	993.50
74	Left	996.75	987.85	986.85	993.50
75	Left	996.75	987.85	986.85	993.50
76	Left	996.75	987.85	986.85	993.50
77	Left	996.75	987.85	986.85	993.50
78	Left	996.75	987.85	986.85	993.50
79	Left	996.75	987.85	986.85	993.50
80	Left	996.75	987.85	986.85	993.50
81	Left	996.75	987.85	986.85	993.50
82	Left	996.75	987.85	986.85	993.50
83	Left	996.75	987.85	986.85	993.50
84	Left	996.75	987.85	986.85	993.50
85	Left	996.75	987.85	986.85	993.50
86	Left	996.75	987.85	986.85	993.50
87	Left	996.75	987.85	986.85	993.50
88	Left	996.75	987.85	986.85	993.50
89	Left	996.75	987.85	986.85	993.50
90	Left	996.75	987.85	986.85	993.50
91	Left	996.75	987.85	986.85	993.50
92	Left	996.75	987.85	986.85	993.50
93	Left	996.75	987.85	986.85	993.50
94	Left	996.75	987.85	986.85	993.50
95	Left	996.75	987.85	986.85	993.50
96	Left	996.75	987.85	986.85	993.50
97	Left	996.75	987.85	986.85	993.50
98	Left	996.75	987.85	986.85	993.50
99	Left	996.75	987.85	986.85	993.50
100	Left	996.75	987.85	986.85	993.50
101	Left	996.75	987.85	986.85	993.50
102	Left	996.75	987.85	986.85	993.50
103	Left	996.75	987.85	986.85	993.50
104	Left	996.75	987.85	986.85	993.50
105	Left	996.75	987.85	986.85	993.50
106	Left	996.75	987.85	986.85	993.50
107	Left	996.75	987.85	986.85	993.50
108	Left	996.75	987.85	986.85	993.50

FLOOR ELEVATION TABLE (NORTH)

Unit Number	Garage	Main Floor (Elevation)	1st Basement (Elevation)	2nd Basement (Elevation)	Garage Floor (Elevation)
50	Right	995.75	986.85	985.85	992.50
51	Right	995.75	986.85	985.85	992.50
52	Right	995.75	986.85	985.85	992.50
53	Right	996.75	987.85	986.85	993.50
54	Right	996.75	987.85	986.85	993.50
55	Right	996.75	987.85	986.85	993.50
56	Right	996.75	987.85	986.85	993.50
57	Right	996.75	987.85	986.85	993.50
58	Right	996.75	987.85	986.85	993.50
59	Right	996.75	987.85	986.85	993.50
60	Right	996.75	987.85	986.85	993.50
61	Right	996.75	987.85	986.85	993.50
62	Right	996.75	987.85	986.85	993.50
63	Right	996.75	987.85	986.85	993.50
64	Right	996.75	987.85	986.85	993.50
65	Right	996.75	987.85	986.85	993.50
66	Right	996.75	987.85	986.85	993.50
67	Right	996.75	987.85	986.85	993.50
68	Right	996.75	987.85	986.85	993.50
69	Right	996.75	987.85	986.85	993.50
70	Right	996.75	987.85	986.85	993.50
71	Right	996.75	987.85	986.85	993.50
72	Right	996.75	987.85	986.85	993.50
73	Right	996.75	987.85	986.85	993.50
74	Right	996.75	987.85	986.85	993.50
75	Right	996.75	987.85	986.85	993.50
76	Right	996.75	987.85	986.85	993.50
77	Right	996.75	987.85	986.85	993.50
78	Right	996.75	987.85	986.85	993.50
79	Right	996.75	987.85	986.85	993.50
80	Right	996.75	987.85	986.85	993.50
81	Right	996.75	987.85	986.85	993.50
82	Right	996.75	987.85	986.85	993.50
83	Right	996.75	987.85	986.85	993.50
84	Right	996.75	987.85	986.85	993.50
85	Right	996.75	987.85	986.85	993.50
86	Right	996.75	987.85	986.85	993.50
87	Right	996.75	987.85	986.85	993.50
88	Right	996.75	987.85	986.85	993.50
89	Right	996.75	987.85	986.85	993.50
90	Right	996.75	987.85	986.85	993.50
91	Right	996.75	987.85	986.85	993.50
92	Right	996.75	987.85	986.85	993.50

FLOOR ELEVATION TABLE (NORTH)

Unit Number	Garage	Main Floor (Elevation)	1st Basement (Elevation)	2nd Basement (Elevation)	Garage Floor (Elevation)
50	Right	995.75	986.85	985.85	992.50
51	Right	995.75	986.85	985.85	992.50
52	Right	995.75	986.85	985.85	992.50
53	Right	996.75	987.85	986.85	993.50
54	Right	996.75	987.85	986.85	993.50
55	Right	996.75	987.85	986.85	993.50
56	Right	996.75	987.85	986.85	993.50
57	Right	996.75	987.85	986.85	993.50
58	Right	996.75	987.85	986.85	993.50
59	Right	996.75	987.85	986.85	993.50
60	Right	996.75	987.85	986.85	993.50
61	Right	996.75	987.85	986.85	993.50
62	Right	996.75	987.85	986.85	993.50
63	Right	996.75	987.85	986.85	993.50
64	Right	996.75	987.85	986.85	993.50
65	Right	996.75	987.85	986.85	993.50
66	Right	996.75	987.85	986.85	993.50
67	Right	996.75	987.85	986.85	993.50
68	Right	996.75	987.85	986.85	993.50
69	Right	996.75	987.85	986.85	993.50
70	Right	996.75	987.85	986.85	993.50
71	Right	996.75	987.85	986.85	993.50
72	Right	996.75	987.85	986.85	993.50
73	Right	996.75	987.85	986.85	993.50
74	Right	996.75	987.85	986.85	993.50
75	Right	996.75	987.85	986.85	993.50
76	Right	996.75	987.85	986.85	993.50
77	Right	996.75	987.85	986.85	993.50
78	Right	996.75	987.85	986.85	993.50
79	Right	996.75	987.85	986.85	993.50
80	Right	996.75	987.85	986.85	993.50
81	Right	996.75	987.85	986.85	993.50
82	Right	996.75	987.85	986.85	993.50
83	Right	996.75	987.85	986.85	993.50
84	Right	996.75	987.85	986.85	993.50
85	Right	996.75	987.85	986.85	993.50
86	Right	996.75	987.85	986.85	993.50
87	Right	996.75	987.85	986.85	993.50
88	Right	996.75	987.85	986.85	993.50
89	Right	996.75	987.85	986.85	993.50
90	Right	996.75	987.85	986.85	993.50
91	Right	996.75	987.85	986.85	993.50
92	Right	996.75	987.85	986.85	993.50

DESIGN/FAF	REVISION #	DATE	REVISION-DESCRIPTION
DRAFT: OM	1	03/23/22	REVISED PER TWP. REVIEW COMMENTS DATED 03/16/22 & 03/18/22
CHECK: WMP			

REVISION #	DATE	REVISION-DESCRIPTION

**SUMMERFIELD
POINTE ESTATES PUD
GRADING PLAN (NORTH)**

CLIENT: HEALY HOMES AT SUMMERFIELD LLC
3696 SLEETH RD., COMMERCIAL TOWNSHIP, MICHIGAN 48382
248-684-1699

SCALE: 1in. = 40ft.
PROJECT No.: 214159
DWG NAME: 4159 GR
ISSUED: MARCH 23, 2022

GR2

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BRIGHTON, MICHIGAN 48114

SUMMERFIELD POINTE ESTATES P.U.D.

Project: Summerfield Pointe PUD
 Location: Genoa Township, Livingston County, MI
 Date: 11/15/2021

PROPOSED STORM WATER RUN-OFF CALCULATIONS							
"Area"	0.90	0.80	0.70	0.60	1.00	(ACRES)	
Pavement	Gravel	Building	Lawn	Water	Area	"C" Factor	
CB-01	0.47	0.00	0.00	0.31	0.00	0.78	0.82
CB-02	0.03	0.00	0.00	0.02	0.00	0.05	0.82
CB-02B	0.04	0.00	0.00	0.04	0.00	0.08	0.85
CB-03	0.34	0.00	0.07	0.18	0.00	0.59	0.67
MH-03A	0.00	0.00	0.42	0.00	0.00	0.42	0.80
CB-04	0.24	0.00	0.00	0.26	0.00	0.60	0.80
CB-05	0.28	0.00	0.14	0.10	0.00	0.52	0.74
CB-06	0.13	0.00	0.00	0.03	0.00	0.16	0.77
CB-07	0.03	0.00	0.00	0.01	0.00	0.04	0.73
CB-08	0.17	0.00	0.00	0.15	0.00	0.32	0.87
CB-09	0.14	0.00	0.00	0.12	0.00	0.26	0.88
CB-12	0.40	0.00	0.00	0.25	0.00	0.65	0.83
CB-13	0.31	0.00	0.00	0.12	0.00	0.43	0.70
CB-14	0.41	0.00	0.35	0.80	0.00	1.56	0.82
CB-15	0.39	0.00	0.28	0.21	0.00	0.88	0.70
CB-16	0.32	0.00	0.14	0.78	0.00	1.22	0.45
CB-17	0.32	0.00	0.28	0.19	0.00	0.79	0.70
CB-21	0.17	0.00	0.00	0.15	0.00	0.32	0.57
CB-22	0.14	0.00	0.00	0.08	0.00	0.22	0.65
CB-23	0.17	0.00	0.00	0.21	0.00	0.38	0.51
CB-27	0.23	0.00	0.15	0.15	0.00	0.53	0.87
CB-100	0.21	0.00	0.09	0.07	0.00	0.37	0.74
CB-101	0.14	0.00	0.15	0.09	0.00	0.38	0.69
CB-111	0.14	0.00	0.00	0.19	0.00	0.24	0.61
YB-112	0.00	0.00	0.06	0.27	0.00	0.33	0.31
YB-113	0.00	0.00	0.06	0.22	0.00	0.28	0.33
YB-114	0.00	0.00	0.06	0.24	0.00	0.30	0.32
YB-115	0.00	0.00	0.06	0.19	0.00	0.25	0.34
CB-116	0.15	0.00	0.00	0.13	0.00	0.28	0.58
CB-118	0.29	0.00	0.00	0.26	0.00	0.55	0.57
YB-120	0.00	0.00	0.18	0.83	0.00	0.81	0.33
YB-121	0.00	0.00	0.15	0.62	0.00	0.77	0.32
YB-122	0.00	0.00	0.06	0.40	0.00	0.46	0.28
YB-123	0.00	0.00	0.06	0.28	0.00	0.34	0.31
YB-124	0.00	0.00	0.12	0.34	0.00	0.46	0.36
YB-125	0.00	0.00	0.06	0.21	0.00	0.27	0.33
CB-131	0.40	0.00	0.00	0.39	0.00	0.79	0.55
CB-132	0.14	0.00	0.00	0.03	0.00	0.17	0.78
FES-303	0.01	0.00	0.00	0.22	0.00	0.23	0.23
CB-133	0.35	0.00	0.21	0.00	0.00	0.56	0.64
YB-134	0.00	0.00	0.03	0.14	0.00	0.17	0.31
YB-135	0.00	0.00	0.06	0.20	0.00	0.26	0.34
YB-136	0.00	0.00	0.06	0.24	0.00	0.30	0.32
YB-137	0.00	0.00	0.06	0.29	0.00	0.35	0.30
CB-301	0.27	0.00	0.00	0.15	0.00	0.42	0.65
CB-201	0.31	0.00	0.00	0.25	0.00	0.56	0.59
YB-202	0.00	0.00	0.15	0.41	0.00	0.56	0.36
YB-203	0.00	0.00	0.18	1.15	0.00	1.33	0.28
YB-205	0.00	0.00	0.06	0.18	0.00	0.24	0.35
YB-207	0.00	0.00	0.06	0.20	0.00	0.26	0.34
YB-208	0.00	0.00	0.06	0.29	0.00	0.35	0.30
YB-209	0.00	0.00	0.06	0.60	0.00	0.66	0.25
YB-210	0.00	0.00	0.09	0.36	0.00	0.45	0.32
YB-211	0.00	0.00	0.12	0.32	0.00	0.44	0.36
CB-221	0.27	0.00	0.00	0.22	0.00	0.49	0.59
YB-222	0.00	0.00	0.24	0.83	0.00	1.07	0.33
YB-223	0.00	0.00	0.12	0.70	0.00	0.82	0.29
YB-224	0.00	0.00	0.09	0.51	0.00	0.60	0.29
YB-225	0.00	0.00	0.24	0.96	0.00	1.20	0.32
YB-232	0.00	0.00	0.12	0.70	0.00	0.82	0.29
YB-233	0.00	0.00	0.06	0.19	0.00	0.25	0.34
YB-234	0.00	0.00	0.03	0.10	0.00	0.13	0.34
YB-235	0.00	0.00	0.00	0.85	0.14	0.99	0.31
BASIN	0.00	0.00	0.00	2.04	0.53	2.57	0.36

TOTAL AREA = 33.54
 RUN-OFF COEFFICIENT = 0.46

EXISTING NATURE PRESERVE
 DEDICATED TO GENOA TOWNSHIP
 PURSUANT TO THE SUMMERFIELD
 POINTE PLANNED UNIT
 DEVELOPMENT
 AGREEMENT DATED:
 APRIL 19, 2002.

LEGEND

- = PROPERTY LINE
- - - = EX. EDGE OF PAVEMENT
- - - = EX. SANITARY SEWER
- - - = EX. STORM SEWER
- - - = EX. WATERMAIN
- - - = EX. EASEMENT LINE
- - - = APPROX. WETLAND LINE
- - - = PROP. EDGE OF PAVEMENT
- - - = PROP. CENTERLINE OF ROAD
- - - = PROP. DRAINAGE AREA
- - - = PROP. LIMITS OF DISTURBANCE

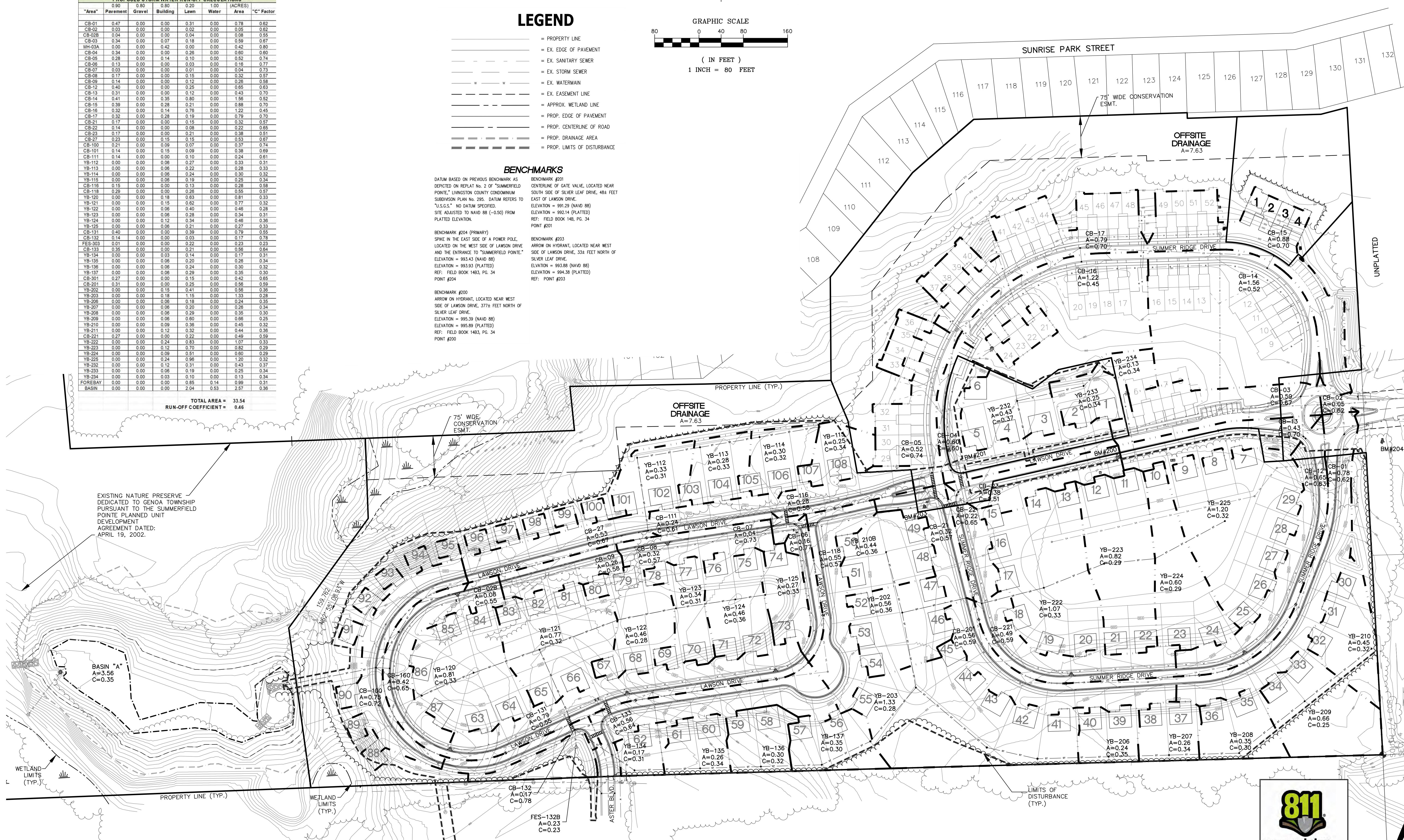
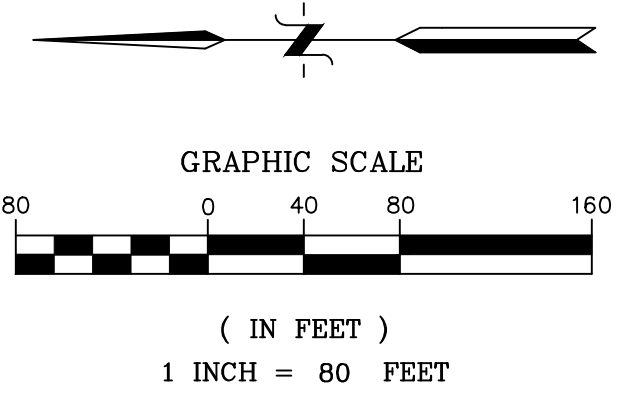
BENCHMARKS

DATUM BASED ON PREVIOUS BENCHMARK AS
 DEPICTED ON REPEAT No. 2 OF "SUMMERFIELD
 POINTE," LIVINGSTON COUNTY CONDORMIUM
 SUBDIVISION PLAN No. 295. DATUM REFERS TO
 "U.S.G.S." NO DATUM SPECIFIED.
 SITE ADJUSTED TO NAVD 88 (-0.50) FROM
 PLATTED ELEVATION.

BENCHMARK #201
 CENTERLINE OF GATE VALVE, LOCATED NEAR
 SOUTH SIDE OF SILVER LEAF DRIVE, 488 FEET
 EAST OF LAWSON DRIVE.
 ELEVATION = 991.29 (NAVD 88)
 ELEVATION = 992.14 (PLATTED)
 REF: FIELD BOOK 14B, PG. 34
 POINT #201

BENCHMARK #204 (PRIMARY)
 SPIKE IN THE EAST SIDE OF A POWER POLE,
 LOCATED ON THE WEST SIDE OF LAWSON DRIVE
 AND THE ENTRANCE TO "SUMMERFIELD POINTE."
 ELEVATION = 995.43 (NAVD 88)
 ELEVATION = 993.53 (PLATTED)
 ELEVATION = 993.58 (NAVD 88)
 ELEVATION = 994.38 (PLATTED)
 REF: FIELD BOOK 14B3, PG. 34
 POINT #204

BENCHMARK #200
 ARROW ON HYDRANT, LOCATED NEAR WEST
 SIDE OF LAWSON DRIVE, 3774 FEET NORTH OF
 SILVER LEAF DRIVE.
 ELEVATION = 995.39 (NAVD 88)
 ELEVATION = 995.89 (PLATTED)
 REF: FIELD BOOK 14B3, PG. 34
 POINT #200



TOTAL AREA OF DISTURBANCE = 23.0 AC.

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

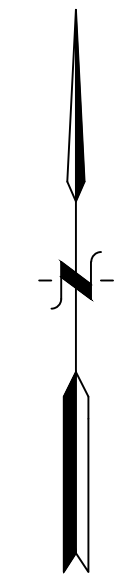
3 WORKING DAYS
 BEFORE YOU DIG
 CALL 811 OR 1-800-482-7171
 (TOLL FREE)
 OR VISIT CALL811.COM

DESIGN INC.
 (810) 227-9533
 CIVIL ENGINEERS
 LAND SURVEYORS
 2183 PLESS DRIVE
 BRIGHTON, MICHIGAN 48114

DESIGN: FAF	REVISION #	DATE	REVISION-DESCRIPTION	REVISION #	DATE	REVISION-DESCRIPTION	<p style="text-align: center;">SUMMERFIELD POINTE ESTATES PUD</p> <p style="text-align: center;">WATERSHED PLAN</p>	CLIENT: HEALY HOMES AT SUMMERFIELD LLC 3696 SLEETH RD, COMMERCE TOWNSHIP, MICHIGAN 48382 248-684-1699	SCALE: 1in. = 80ft. PROJECT No.: 214159 DWG NAME: 4159_WS ISSUED: FEB. 23, 2022	WS1
DRAFT: OM										
CHECK: WMP										

MAP LEGEND

- Area of Interest (AOI)
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points
- Special Point Features**
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features
- Water Features**
- Streams and Canals
- Transportation**
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads
- Background**
- Aerial Photography



NATURE PRESERVE AREA
#4711-04-300-013

AREA "A"
#4711-04-400-014

EXISTING SUMMERFIELD
POINTE CONDOMINIUM AREA

AREA "B"
#4711-04-400-015

AREA "C"
#4711-04-400-016

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Cc	Carlisle muck, 0 to 2 percent slopes	6.1	3.5%
CvraaB	Conover loam, 0 to 4 percent slopes	3.4	2.0%
Gd	Gilford sandy loam, 0 to 2 percent slopes, gravelly subsoil	11.2	6.6%
Ho	Houghton muck, 0 to 1 percent slopes	4.5	2.7%
MoB	Wawasee loam, 2 to 6 percent slopes	70.9	41.5%
MoC	Wawasee loam, 6 to 12 percent slopes	23.6	13.8%
MoD	Miami loam, 12 to 18 percent slopes	5.8	3.4%
MoE	Miami loam, 18 to 25 percent slopes	11.9	7.0%
MoF	Miami loam, 25 to 35 percent slopes	13.1	7.6%
SvB	Spinks-Oakville loamy sands, 0 to 6 percent slopes	6.7	3.9%
W	Water	13.7	8.0%
Totals for Area of Interest		171.0	100.0%

EXISTING SOILS MAP
NOT TO SCALE

811
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3 WORKING DAYS BEFORE YOU DIG
CALL 811 OR 1-800-482-7171 (TOLL FREE)
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LAND SURVEYORS
2183 PLESS DRIVE
BRIGHTON, MICHIGAN 48114

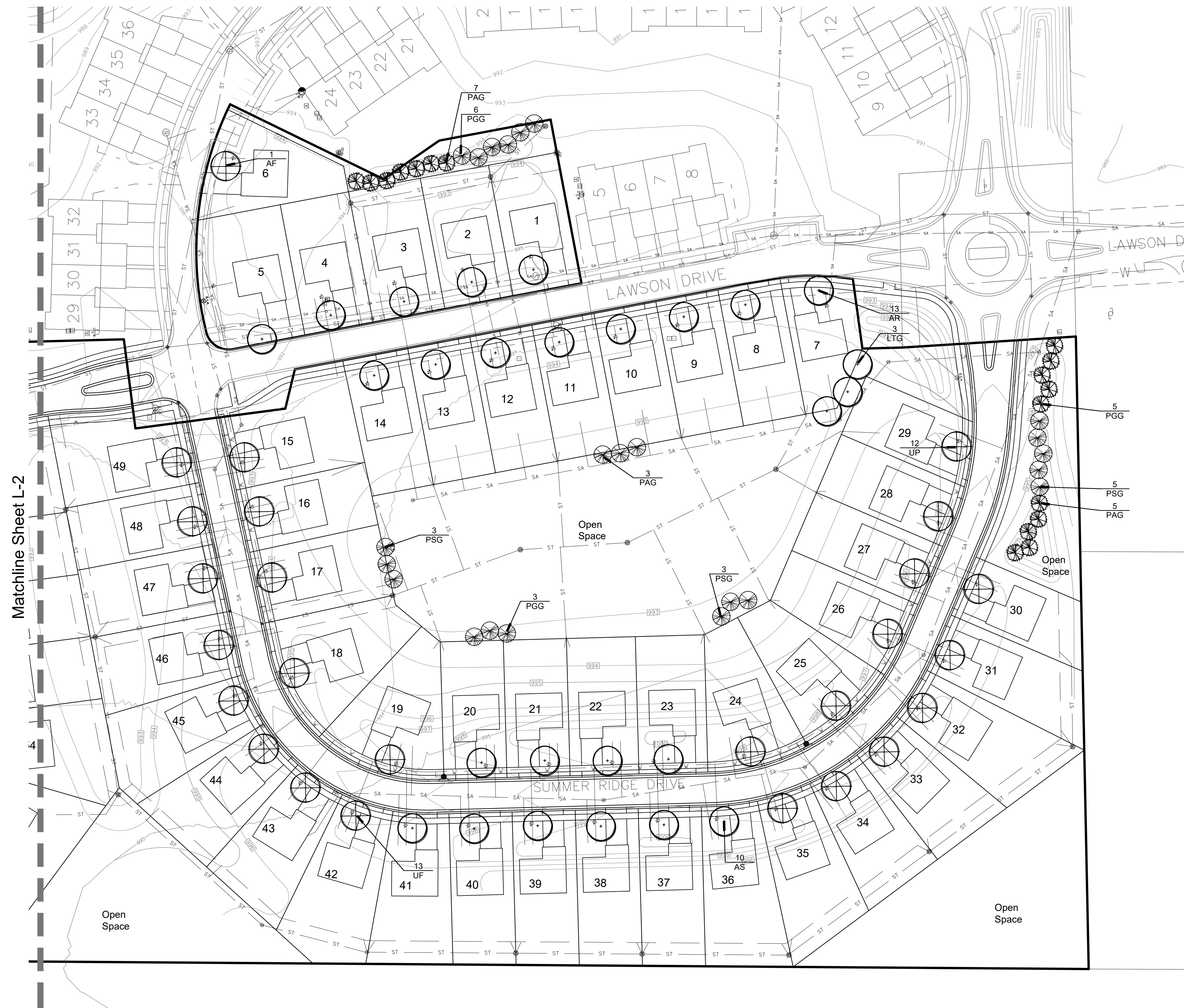
DESIGN: FAF	REVISION #	DATE	REVISION-DESCRIPTION	REVISION #	DATE	REVISION-DESCRIPTION
DRAFT: OM						
CHECK: WMP						

**SUMMERFIELD
POINTE ESTATES PUD**

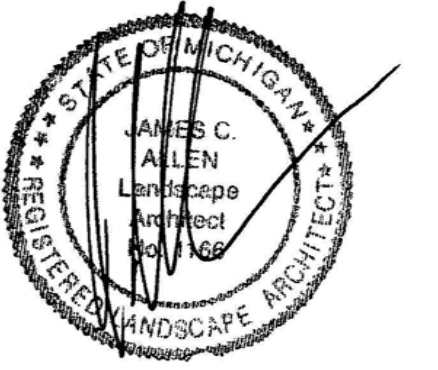
**EXISTING
SOILS MAP**

CLIENT: HEALY HOMES AT SUMMERFIELD LLC 3696 SLEETH RD, COMMERCE TOWNSHIP, MICHIGAN 48382 248-684-1699	SCALE: NOT TO SCALE PROJECT No.: 214159 DWG NAME: 4159_WS2 ISSUED: FEB. 23, 2022
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WS2



Seal: _____



Title: _____
Landscape Plan

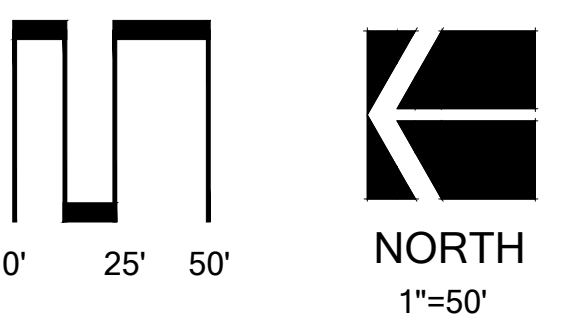
Project: _____
Summerfield Point Estates
 Genoa Township, Michigan

Prepared for: _____
 Healy Homes, LLC
 3696 Sleeth Road
 Commerce Township, Michigan 48382

Revision: _____ Issued: _____
 Review October 25, 2021
 Revised November 4, 2021

Job Number: _____
 21-068

Drawn By: _____ Checked By: _____
 jca jca



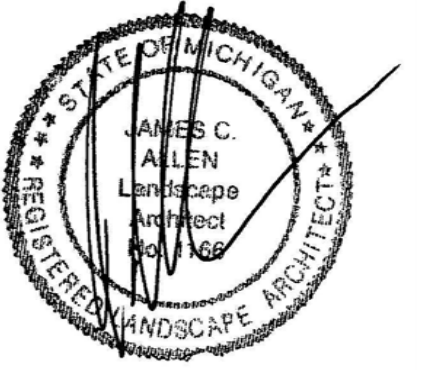
Sheet No. _____

Plant List - This Sheet

sym.	qty.	botanical name	common name	caliper	spacing	root	height
Street Trees							
AF	1	Acer x. 'freemani' 'Autumn Blaze'	Autumn Blaze Maple	2.5"	as shown	B&B	
AR	3	Acer rubrum 'October Glory'	October Glory Red Maple	2.5"	as shown	B&B	
AS	10	Acer saccharum 'Green Mountain'	Green Mountain Sugar Maple	2.5"	as shown	B&B	
UP	25	Ulmus 'Pioneer'	Pioneer Elm	2.5"	as shown	B&B	
49		Trees Provided					
General Plantings							
LTG	3	Liriodendron tulipifera	Tulip Tree	2.5"	as shown	B&B	
PAG	15	Picea abies	Norway Spruce		as shown	B&B	6'
PGG	14	Picea glauca var. densata	Black Hills Spruce		as shown	B&B	6'
PSG	11	Pinus strobus	White Pine		as shown	B&B	6'



Seal: _____



Title: _____
Landscape Plan

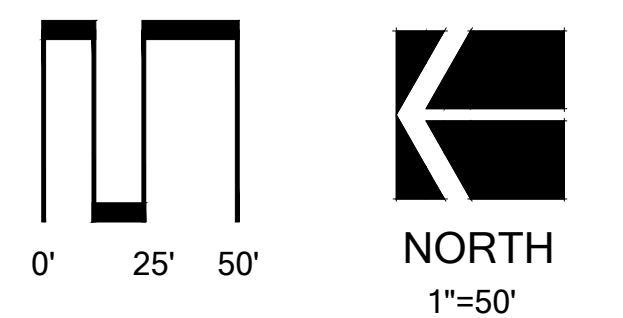
Project: _____
Summerfield Point Estates
 Genoa Township, Michigan

Prepared for: _____
 Healy Homes, LLC
 3696 Sleeth Road
 Commerce Township, Michigan 48382

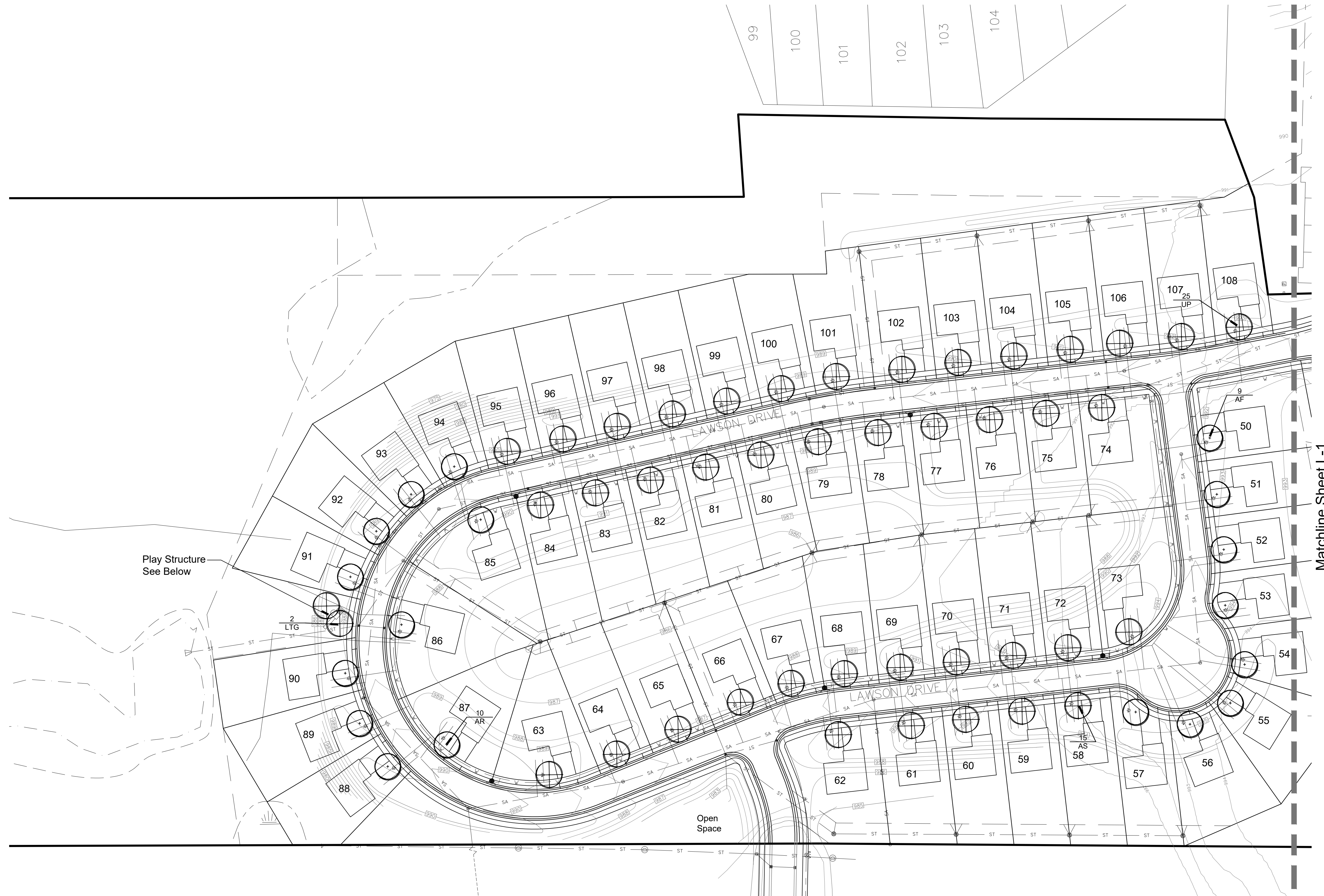
Revision: _____ Issued: _____
 Revision Revised October 25, 2021
 November 4, 2021

Job Number: _____
 21-068

Drawn By: _____ Checked By: _____
 jca jca



Sheet No. _____



Play Structure
 See Below

Open Space

Matchline Sheet L-1

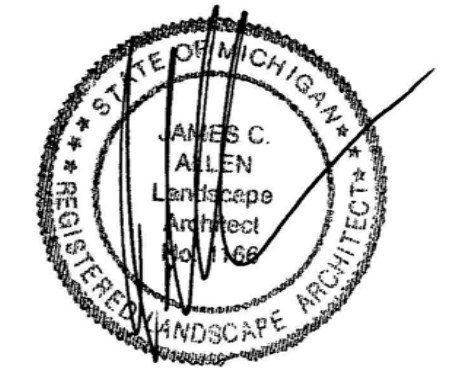
Plant List - This Sheet

sym.	qty.	botanical name	common name	caliper	spacing	root	height	
Street Trees								
AF	9	Acer x. freemani 'Autumn Blaze'	Autumn Blaze Maple	2.5"	as shown	B&B		
AR	10	Acer rubrum 'October Glory'	October Glory Red Maple	2.5"	as shown	B&B		
AS	15	Acer saccharum 'Green Mountain'	Green Mountain Sugar Maple	2.5"	as shown	B&B		
UP	25	Ulmus 'Pioneer'	Pioneer Elm	2.5"	as shown	B&B		
	59	Trees Provided						
General Plantings								
LTG	2	Liliodendron tulipifera	Tulip Tree	2.5"	as shown	B&B		

Play Structure



Port Liberty Play Structure
 by Playgroundequipment.com



Seal:
 Title:
Landscape Details

Project:
**Summerfield Point Estates
 Genoa Township, Michigan**

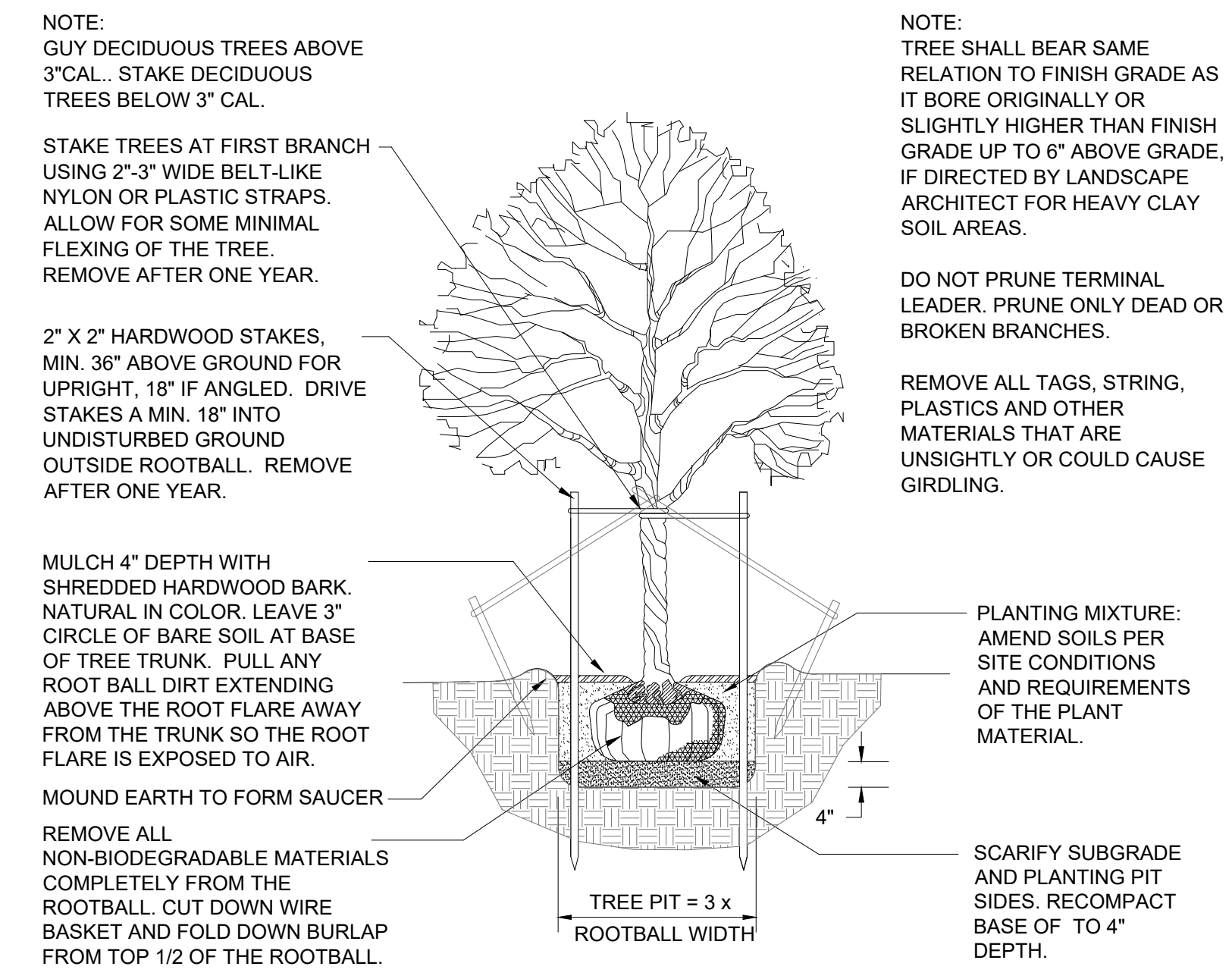
Prepared for:
 Healy Homes, LLC
 3696 Sleeth Road
 Commerce Township, Michigan 48382

Revision: Issued:
 Review October 25, 2021
 Revised November 4, 2021

Job Number:
 21-068

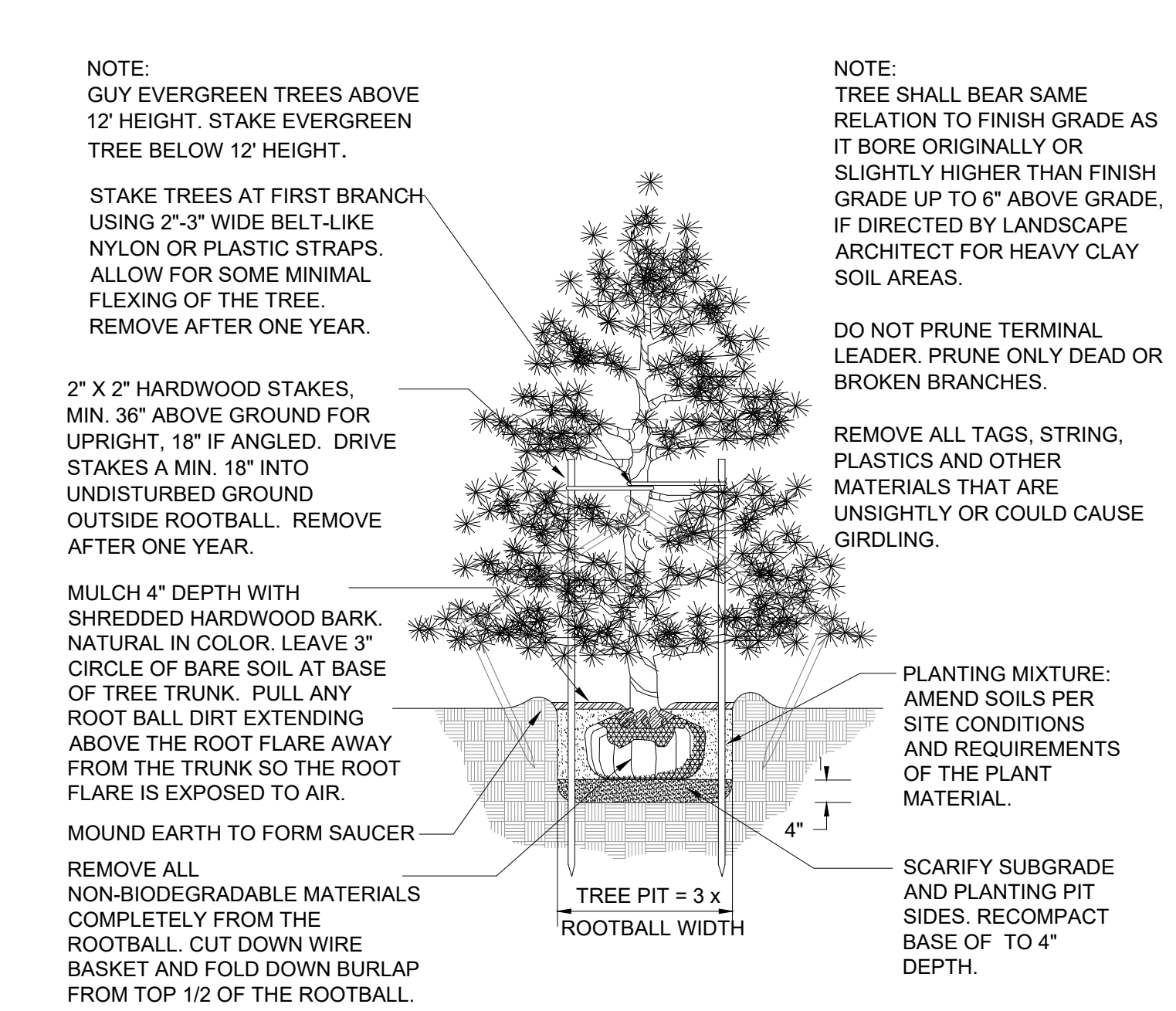
Drawn By: Checked By:
 jca jca

Sheet No.



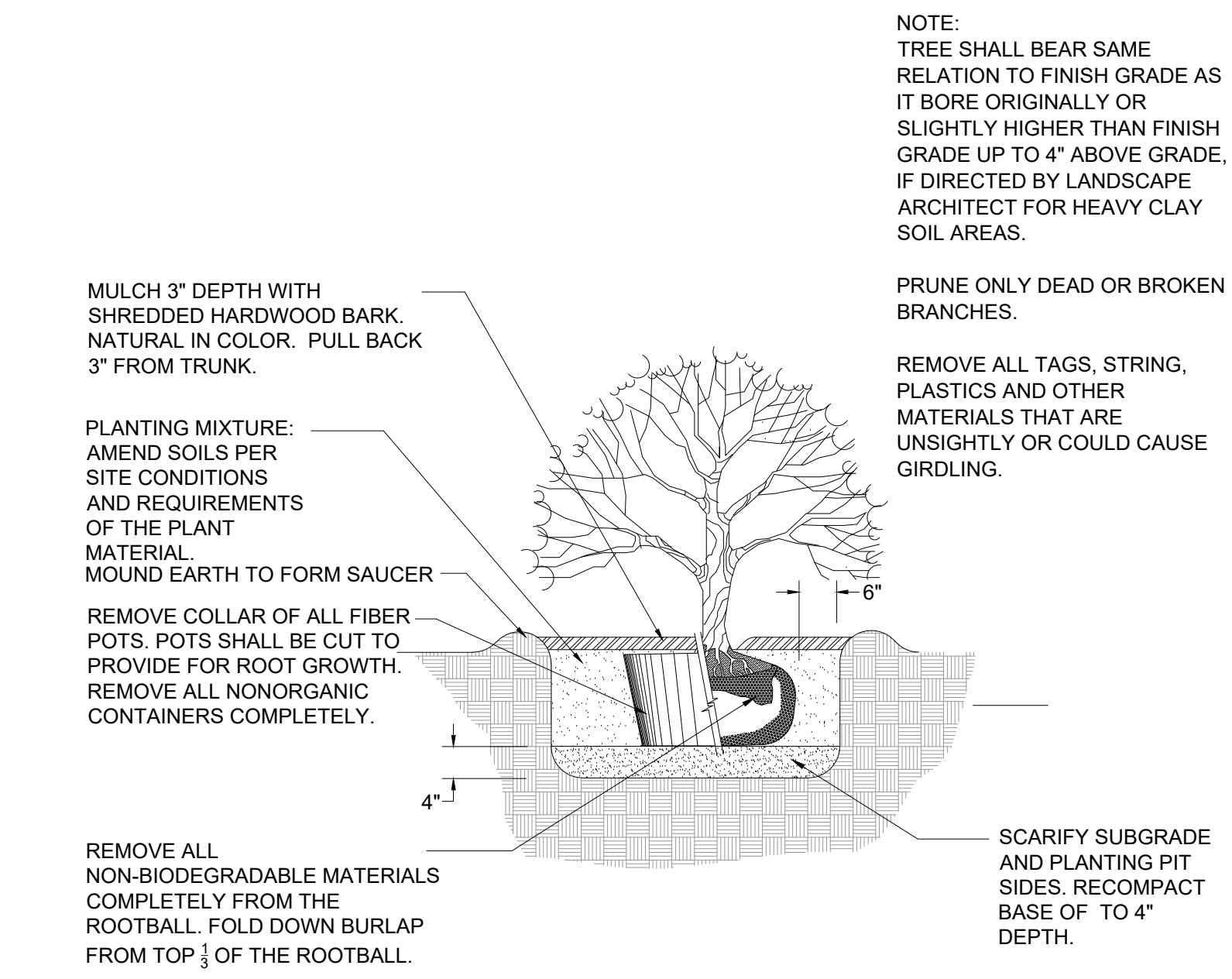
DECIDUOUS TREE PLANTING DETAIL

Not to scale



EVERGREEN TREE PLANTING DETAIL

Not to scale

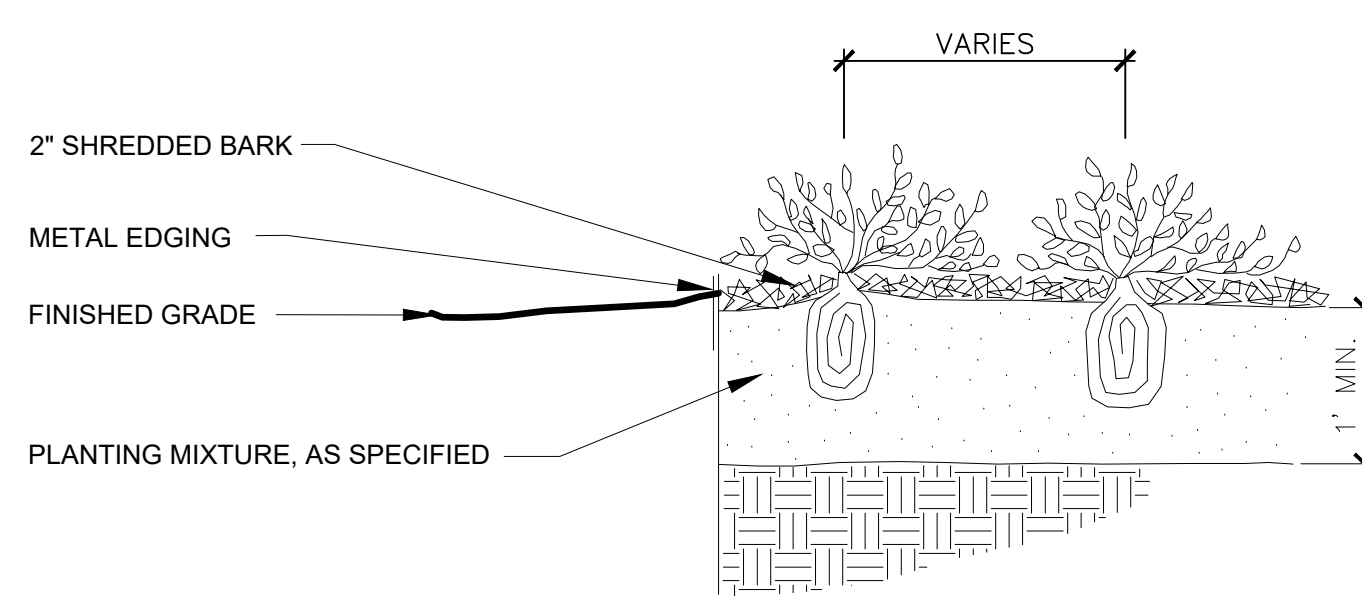


SHRUB PLANTING DETAIL

NOT TO SCALE

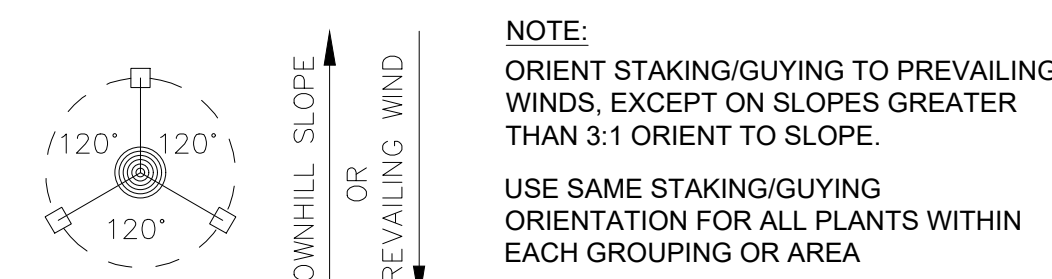
LANDSCAPE NOTES

- All plants shall be north Midwest American region grown, No. 1 grade plant materials, and shall be true to name, free from physical damage and wind burn.
- Plants shall be full, well-branched, and in healthy vigorous growing condition.
- Plants shall be watered before and after planting is complete.
- All trees must be staked, fertilized and mulched and shall be guaranteed to exhibit a normal growth cycle for at least two (2) full years following Township approval.
- All material shall conform to the guidelines established in the most recent edition of the American Standard for Nursery Stock.
- Provide clean backfill soil, using material stockpiled on site. Soil shall be screened and free of any debris, foreign material, and stone.
- "Agriform" tabs or similar slow-release fertilizer shall be added to the planting pits before being backfilled.
- Amended planting mix shall consist of 1/3 screened topsoil, 1/3 sand and 1/3 peat, mixed well and spread to the depth as indicated in planting details.
- All plantings shall be mulched per planting details located on this sheet.
- The Landscape Contractor shall be responsible for all work shown on the landscape drawings and specifications.
- No substitutions or changes of location, or plant types shall be made without the approval of the Landscape Architect.
- The Landscape Architect shall be notified in writing of any discrepancies between the plans and field conditions prior to installation.
- The Landscape Contractor shall be responsible for maintaining all plant material in a vertical condition throughout the guaranteed period.
- The Landscape Architect shall have the right, at any stage of the installation, to reject any work or material that does not meet the requirements of the plans and specifications, if requested by owner.
- Contractor shall be responsible for checking plant quantities to ensure quantities on drawings and plant list are the same. In the event of a discrepancy, the quantities on the plans shall prevail.
- The Landscape Contractor shall seed and mulch or sod (as indicated on plans) all areas disturbed during construction, throughout the contract limits.
- A pre-emergent weed control agent, "Preen" or equal, shall be applied uniformly on top of all mulching in all planting beds.
- All landscape areas shall be provided with an underground automatic sprinkler system.
- Sod shall be two year old "Baron/Cheriadelpi" Kentucky Blue Grass grown in a sod nursery on loam soil.

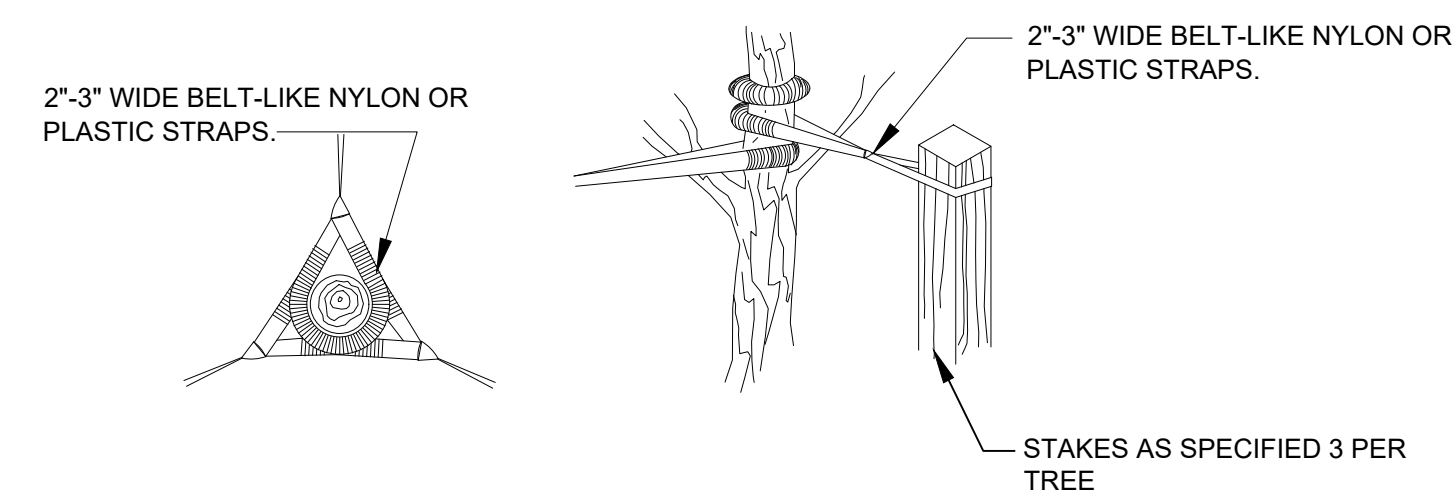


PERENNIAL PLANTING DETAIL

Not to scale



STAKING/GUYING LOCATION



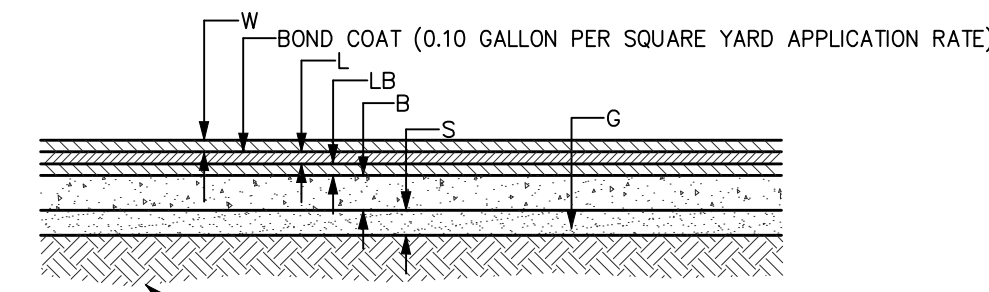
GUYING DETAIL

STAKING DETAIL

TREE STAKING DETAIL

Not to scale





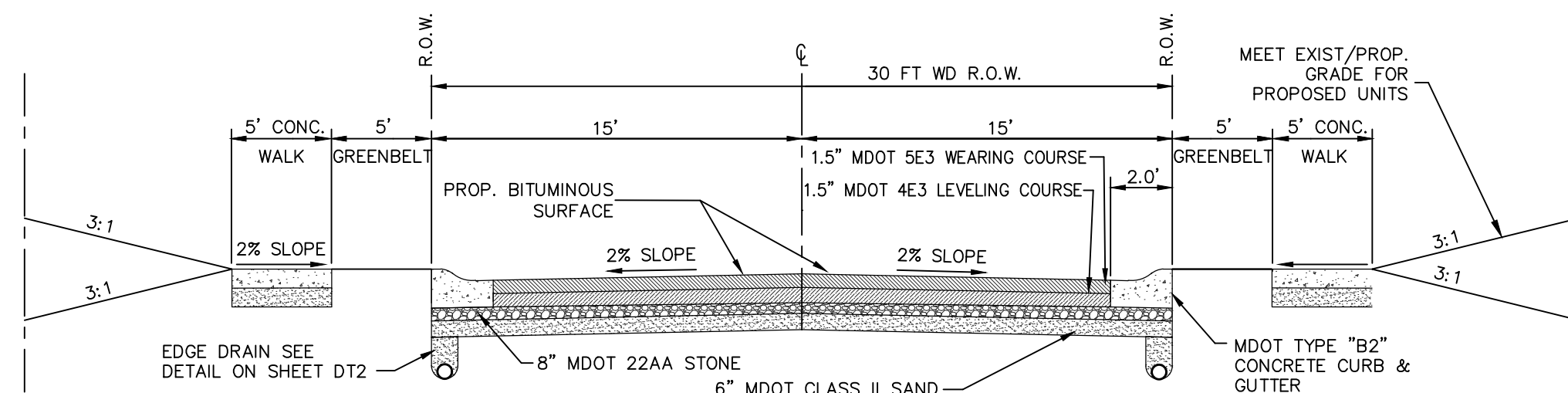
LAWSON ROAD BITUMINOUS PAVEMENT CROSS SECTION

NOT TO SCALE

KEY	DESCRIPTION	MATERIAL SPECIFICATION	MINIMUM COMPACTED THICKNESS
W	WEARING COURSE	MDOT 5E3	1.5"
L	LEVELING COURSE	MDOT 4E3	1.5"
LB	LEVELING BASE COURSE	MDOT 3E3	N/A
B	AGGREGATE BASE	MDOT 22AA	8"
S	GRANULAR SUBBASE	MDOT CLASS II	6"
G	GEOGRID	N/A	N/A

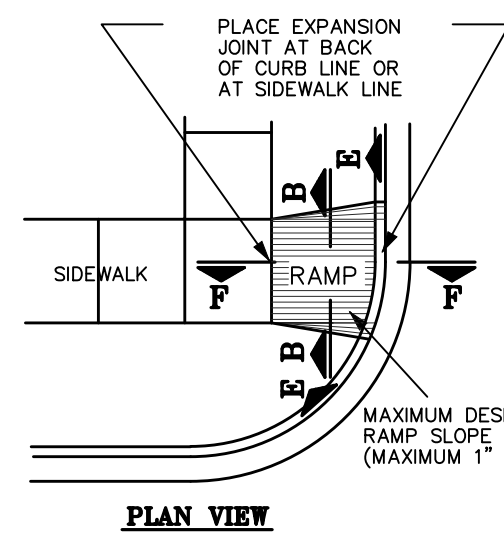
PAVEMENT NOTES:

- ABOVE CROSS SECTION APPLICABLE TO PROPOSED PRIVATE PAVEMENT WITHIN PROPOSED LAWSON DR. RIGHT OF WAY.
- THE RECOMMENDED PG BINDER FOR THIS REGION IS PG 64-28 BASED ON MDOTS HMA SELECTION GUIDELINES.
- UNUSABLE SOILS SUCH AS MUCK, PEAT, MARL, TOPSOIL, SILT OR OTHER UNSTABLE MATERIALS SHALL BE UNDERCUT AND REPLACED WITH COMPACTED SAND SUBBASE.
- AREAS OF FILL SHALL BE CONSTRUCTED TO GRADE USING 6" THICK LIFTS OF COMPACTED SAND SUBBASE.

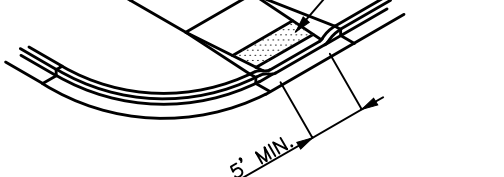


TYPICAL CROSS SECTION FOR LAWSON DRIVE & SUMMER RIDGE DRIVE PRIVATE ROADS

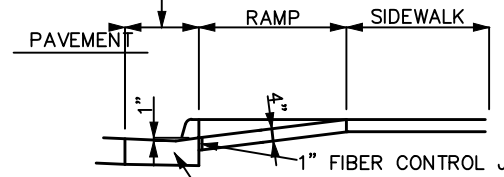
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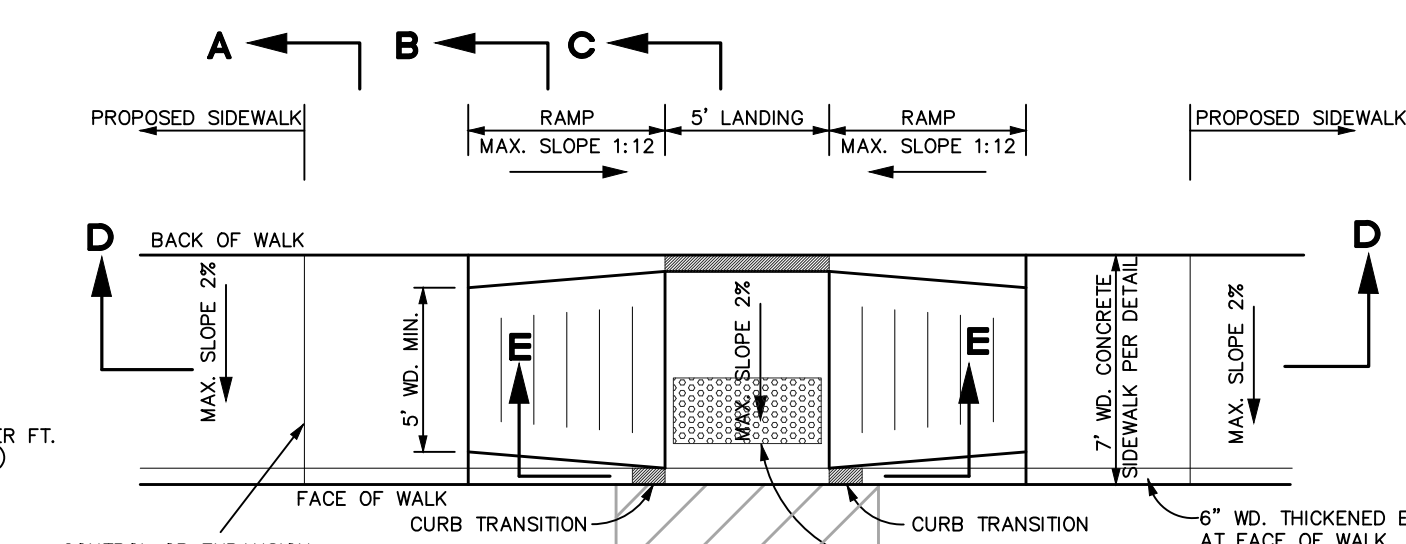
PLAN VIEW



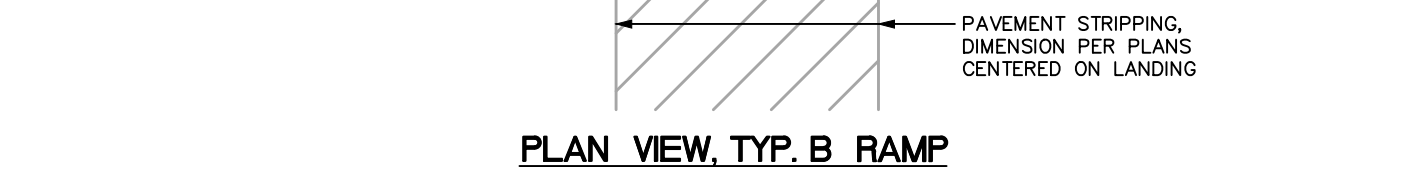
PLAN VIEW, TYP. A RAMP



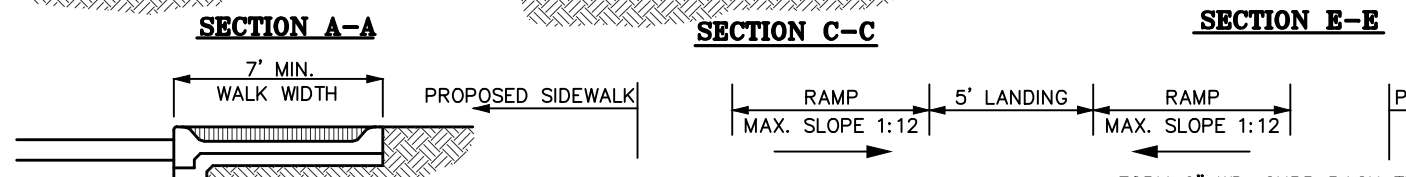
SECTION F-F



PLAN VIEW, TYP. B RAMP



SECTION A-A



SECTION B-B



SECTION C-C



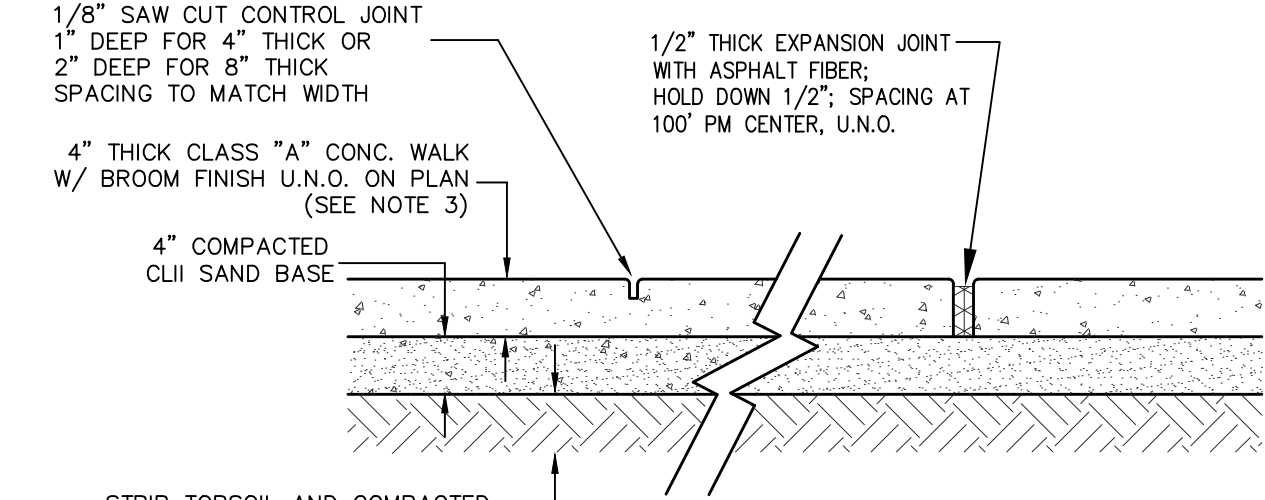
SECTION D-D

CONCRETE CURB NOTES:

- Refer to the project plans for the proposed locations of the specific curb types.
- The construction specifications of the appropriate Local Municipality are a part of this work. Refer to the Private Road Construction Notes and/or Driveway and Parking Lot Construction Notes and the General Notes on the project plans for additional requirements.
- Concrete material shall meet or exceed the specification requirements of the appropriate Local Municipality. Unless specified otherwise by the Local Municipality, concrete material shall be air-entrained and shall have a minimum 28-day class design strength of 3500 psi. Contractor shall submit concrete mix design and aggregate mechanical analysis report to the Local Municipality and Engineer for review and approval prior to use.
- Install transverse contraction control joints in accordance with the Local Municipality requirements. If not specified by the Local Municipality, then install transverse contraction control joints in curb with 1" minimum depth at 10' on center. Tool joints in fresh concrete or saw cut within 8 hours.
- Install transverse expansion control joints in accordance with the Local Municipality requirements. If not specified by the Local Municipality, then install transverse expansion control joints in curb as follows: 300' maximum on center, at spring points of intersecting streets and within 10' on each side of catch basins. Transverse expansion control joints shall be 1" thick asphalt fiber joint filler matching entire curb cross section.
- Provide 0.5" asphalt fiber control joint between back of curb and all other concrete structures, such as concrete sidewalks and concrete driveways.
- Curb Contractor shall provide final adjustment of catch basin castings in curb line. Castings shall be tucked point to structure water tight with concrete or mortar inside and outside of casting.
- Install curb cuts for all existing and proposed sidewalks and pedestrian ramps in accordance with the American Disabilities Act and the Barrier Free Design requirements of the appropriate Local, County and/or State Agency. Install curb cuts for all existing and proposed vehicular ramps and drives as noted on the project plans.

MDOT TYPE B2 CURB

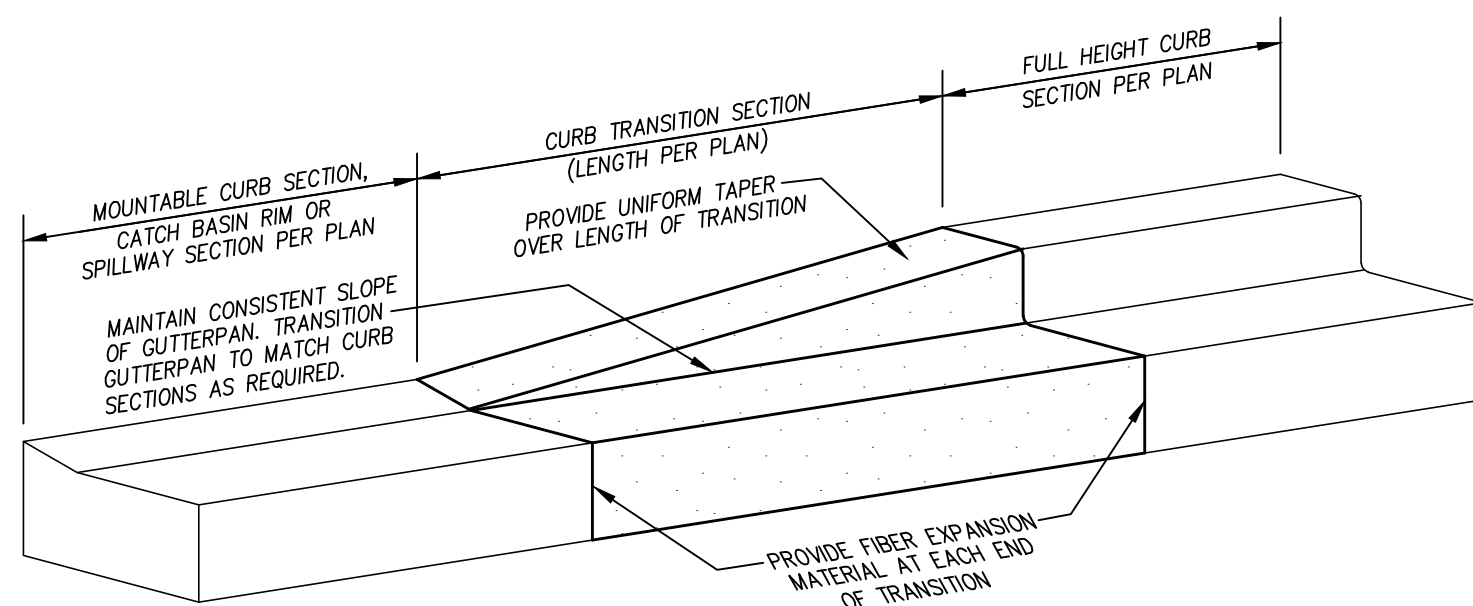
NOT TO SCALE



SIDEWALK CROSS SECTION

NOT TO SCALE

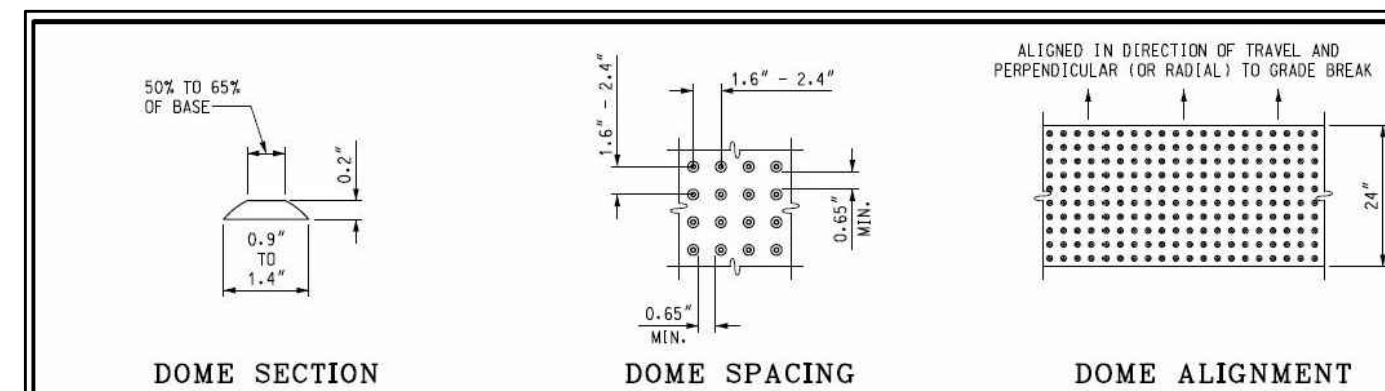
- SEE PLAN FOR WIDTH OF SIDEWALK.
- PROVIDE CONCRETE TYPE PER LOCAL CODE. (3500 PSI AIR ENTRAINMENT)
- 6" THICK CLASS "A" CONC. SHALL BE PROVIDED AT ALL DRIVEWAY ACCESS CROSSINGS.



CURB TRANSITION DETAIL

NOT TO SCALE

- CURB TRANSITIONS SHALL BE SMOOTH. PROVIDE SPECIAL FORMING AND LABOR IF NEEDED. CURB TRANSITIONS ARE INCIDENTAL TO CURB WORK.
- CONTRACTOR SHALL ADJUST THE ELEVATION OF THE TOP OF CURB AS NEEDED TO MAINTAIN THE GUTTER LINE AT A CONSTANT SLOPE BETWEEN THE DIFFERENT CURB CROSS SECTIONS.
- WHEN PRESENT, THE CURB TRANSITION MAY BEGIN AT A CATCH BASIN OR PAVED SPILLWAY SECTION.



DETECTABLE WARNING DETAILS

NOTES:

- DETAILS SPECIFIED ON THIS PLAN APPLY TO ALL CONSTRUCTION, RECONSTRUCTION, OR ALTERATION OF STREETS, CURBS, OR SIDEWALKS IN THE PUBLIC RIGHT OF WAY.
- SIDEWALK RAMP ARE TO BE LOCATED AS SPECIFIED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
- RAMPS SHALL BE PROVIDED AT ALL CORNERS OF AN INTERSECTION WHERE THERE IS EXISTING OR PROPOSED SIDEWALK AND CURB. RAMPS SHALL ALSO BE PROVIDED AT MARKED AND/OR SIGNALIZED MID-BLOCK CROSSINGS.
- SURFACE TEXTURE OF THE RAMP SHALL BE THAT OBTAINED BY A COARSE BROOMING, TRANSVERSE TO THE RUNNING SLOPE.
- SIDEWALK SHALL BE RAMPED WHERE THE DRIVEWAY CURB IS EXTENDED ACROSS THE WALK.
- CARE SHALL BE TAKEN TO ASSURE A UNIFORM GRADE ON THE RAMP, WHERE CONDITIONS PERMIT, IT IS DESIRABLE THAT THE SLOPE OF THE RAMP BE IN ONLY ONE DIRECTION, PARALLEL TO THE DIRECTION OF TRAVEL.
- RAMP WIDTH SHALL BE INCREASED, IF NECESSARY, TO ACCOMMODATE SIDEWALK SNOW REMOVAL EQUIPMENT NORMALLY USED BY THE MUNICIPALITY.
- WHEN 5' MINIMUM WIDTHS ARE NOT PRACTICABLE, RAMP WIDTH MAY BE REDUCED TO NOT LESS THAN 4' AND LANDINGS TO NOT LESS THAN 4' x 4'.
- CURB RAMPS WITH A RUNNING SLOPE 5% DO NOT REQUIRE A TOP LANDING, HOWEVER, ANY CONTINUOUS SIDEWALK OR PEDESTRIAN ROUTE CROSSING THROUGH OR INTERSECTING THE CURB RAMP MUST INDEPENDENTLY MAINTAIN A CROSS SLOPE NOT GREATER THAN 2% PERPENDICULAR TO ITS OWN DIRECTION(S) OF TRAVEL.
- DETECTABLE WARNING SURFACE COVERAGE IS 24" MINIMUM IN THE DIRECTION OF RAMP/PATH TRAVEL AND THE FULL WIDTH OF THE RAMP/PATH OPENING EXCLUDING CURBED OR FLARED CURB TRANSITION AREAS. A BORDER OFFSET NOT GREATER THAN 2" MEASURED ALONG THE SIDES OF THE DETECTABLE WARNING IS ALLOWABLE FOR RADIAL CURB THE OFFSET IS MEASURED FROM THE ENDS OF THE RADII.

- FOR NEW ROADWAY CONSTRUCTION, THE RAMP CROSS SLOPE MAY NOT EXCEED 2.0%. FOR ALTERATIONS TO EXISTING ROADWAYS, THE CROSS SLOPE MAY BE TRANSLATED TO MEET AN EXISTING ROADWAY GRADE. THE CROSS SLOPE TRANSITION SHALL BE APPLIED UNIFORMLY OVER THE FULL LENGTH OF THE RAMP.
- THE MAXIMUM RUNNING SLOPE OF 8.3% IS RELATIVE TO A FLAT (0%) REFERENCE. HOWEVER, IT SHALL NOT REQUIRE ANY RAMP OR SERIES OF RAMPS TO EXCEED 15 FEET IN LENGTH NOT INCLUDING LANDINGS OR TRANSITIONS.
- DRAINAGE STRUCTURES SHOULD NOT BE PLACED IN LINE WITH RAMPS. THE LOCATION OF THE RAMP SHOULD TAKE PRECEDENCE OVER THE LOCATION OF THE DRAINAGE STRUCTURES. WHERE EXISTING DRAINAGE STRUCTURES ARE LOCATED IN THE RAMP/PATH OF TRAVEL, USE A MANUFACTURER'S ADA COMPLIANT GRATE. OPENINGS SHALL NOT BE GREATER THAN 1/2". ELONGATED OPENINGS SHALL BE PLACED SO THAT THE LONG DIMENSION IS PERPENDICULAR TO THE DOMINANT DIRECTION OF TRAVEL.
- THE TOP OF THE JOINT FILLER FOR ALL RAMP TYPES SHALL BE FLUSH WITH THE ADJACENT CONCRETE.
- CROSSWALK AND STOP LINE MARKINGS, IF USED, SHALL BE SO LOCATED AS TO STOP TRAFFIC SHORT OF RAMP CROSSINGS. SPECIFIC DETAILS FOR MARKING APPLICATIONS ARE GIVEN IN THE "MICHIGAN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".
- FLARED SIDES WITH A SLOPE OF 10% MAXIMUM, MEASURED ALONG THE RADII OF THE CURB LINE, SHALL BE PROVIDED WHERE AN UNOBSTRUCTED CIRCULATION PATH LATERALLY CROSSES THE SIDEWALK RAMP. FLARED SIDES ARE NOT REQUIRED WHERE THE RAMP IS BORDERED BY LANDSCAPING, UNPAVED SURFACE OR PERMANENT FENCE OBJECTS, WHERE THEY ARE NOT REQUIRED, FLARED SIDES CAN BE CONSIDERED IN ORDER TO AVOID SHARP CURB REVERSALS AT RAMP OPENINGS.
- DETECTABLE WARNING PLATES MUST BE INSTALLED USING FABRICATED OR FIELD CUT UNITS CAST AND/OR ANCHORED IN THE PAVEMENT TO RESIST SHIFTING OR HEAVING.

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR
**SIDEWALK RAMP AND
DETECTABLE WARNING DETAILS**

12-11-2017
R-28-J
SHEET 1 OF 1

GENERAL NOTES:

- Contractor shall perform the work in accordance with the requirements of the appropriate Local, County and State Agencies and all other Government and Regulatory Agencies with jurisdiction over the project. Contractor shall notify the appropriate Agencies in advance of each stage of work in accordance with each Agency's requirements.
- Contractor shall comply with all permit, insurance, licensing and inspection requirements associated with the work. Prior to construction, Contractor and Owner/Developer shall determine who is responsible for obtaining each required permit. Contractor shall verify that the each required permit has been obtained prior to commencement of the stage of work associated with the required permit(s).
- Contractor shall furnish liability insurance and property damage insurance to save harmless the Owner, Developer, Architect, Engineer, Surveyor and Government Agencies for any accident occurring during the construction period. Refer to the appropriate Local, County and State Agencies for additional requirements. Copies of insurance certifications shall be made available to the Owner/Developer.
- Contractor shall conduct and perform work in a safe and competent manner. Contractor shall perform all necessary measures to provide for traffic and pedestrian safety from the start of work and through substantial completion. Contractor shall determine procedures and provide safety equipment such as traffic controls, warning devices, temporary pavement markings and signs as needed. Contractor shall comply with the safety standards of the State Department of Labor, the occupational health standards of the State Department of Health and safety regulations of the appropriate Local, County, State and Federal Agencies. Refer to the safety specifications of the appropriate Regulatory Agencies. The Contractor shall designate a qualified employee with complete job site authority over the work and safety precautions; said designated employee shall be on site at all times during the work.
- Contractor shall coordinate scheduling of all work in the proper sequence, including work by Subcontractors. Additional costs due to improper planning by Contractor or work done out of sequence as determined by standard acceptable construction practices, shall be Contractor's responsibility.
- Contractor shall contact the MISS DIG locating system, or other appropriate local underground utility locating Agency, a minimum of three (3) working days prior to construction. Existing utility information on the project plans may be from information disclosed to this firm by the Utility Companies, Local, County or State Agencies, and/or various other sources. No guarantee is given as to the completeness or accuracy thereof. Prior to construction, locations and depths of all existing utilities (in possible conflict with the proposed improvements) shall be verified in the field.
- Contractor shall coordinate scheduling a Pre-Construction Meeting with Engineer prior to commencement of work.
- The Local Municipality, County and/or State in which the project is located may require an Engineer's Certification of construction of the proposed site improvements. Contractor shall verify the certification requirements with Engineer prior to commencement of work. Contractor shall coordinate construction staking, testing, documentation submittal and observation with the appropriate Agency, Surveyor and/or Engineer as required for Engineer's Certification and Government Agency Acceptance. All materials used and work done shall meet or exceed the requirements of certification and acceptance, the contract documents and the material specifications noted on the project plans. Any materials used or work done that does not meet said requirements, contract documents and/or specifications shall be replaced and/or redone at Contractor's expense. The Owner/Developer may wait for test results, certifications and/or Agency reviews prior to accepting work.
- Engineer may provide subsurface soil evaluation results, if available, to Contractor upon request. Subsurface soil evaluation results, soils maps and/or any other documentation does NOT guarantee existing soil conditions or that sufficient, acceptable on-site granular material is available for use as structural fill, pipe bedding, pipe backfill, road subbase or use as any other granular material specified on the project plans. On-site granular material that meets or exceeds the material specifications noted on the project plans may be used as structural fill, pipe bedding, pipe backfill and/or road subbase material. On-site granular material shall be stockpiled and tested as acceptable to the appropriate Agency and/or Engineer prior to use.
- During the performance of their work, Contractor shall be solely responsible for determining soil conditions and appropriate construction methods based on the actual field conditions. Contractor shall furnish, install and maintain sheeting, shoring, bracing and/or other tools and equipment and/or construction techniques as needed for the safety and protection of the workers, pedestrians and vehicular traffic and for protection of adjacent structures and site improvements.
- Contractor shall install temporary and permanent soil erosion and sedimentation control devices at the appropriate stages of construction in accordance with the appropriate regulatory Agencies. Refer to Soil Erosion and Sedimentation Control Plans and Notes on the project plans.
- Structural fill shall be placed as specified on the project plans and within the 1 on 1 influence zone of all structures, paved areas and other areas subject to vehicular traffic. Structural fill shall be placed using the controlled density method (12" maximum lifts, compacted to 95% maximum unit weight, modified proctor). Fill material shall meet or exceed the specifications noted on the project plans or as directed by Engineer when not specified on the project plans.
- All existing monuments, property corners, ground control and benchmarks shall be protected and preserved; and if disturbed by Contractor, shall be restored at Contractor's expense. Contractor shall notify Surveyor of any conflicts between existing monuments, property corners, ground control and/or benchmarks and the proposed site improvements.
- Contractor shall notify Owner/Developer and Engineer immediately upon encountering any field conditions, which are inconsistent with the project plans and/or specifications.
- When noted on the project plans for demolition and/or removal, Contractor shall remove existing structures, building and debris and recycle and/or dispose of in accordance with Local, County, State and Federal regulations.
- Contractor shall remove excess construction materials and debris from site and perform restoration in accordance with the project plans and specifications. Disposing of excess materials and debris shall be performed in accordance with Local, County, State and Federal regulations.
- Construction access to the site shall be located as acceptable to the Owner/Developer and to the appropriate Local, County and/or State Agency with jurisdiction over the road(s) providing access to the site. Construction access shall be maintained and cleaned in accordance with the appropriate Local, County and/or State Agencies and as directed by Owner/Developer and/or Engineer.
- Contractor shall take necessary precautions to protect all site improvements from heavy equipment and construction procedures. Damage resulting from Contractor actions shall be repaired at Contractor's expense.

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DRAFT: OM	1	3-23-22	REVISED PER TWP. REVIEW COMMENTS DATED 03/16/22 & 03/18/22
CHECK: WMP			

REVISION #	DATE	REVISION-DESCRIPTION

SUMMERFIELD POINTE ESTATES PUD

SUMMERFIELD IMPROVEMENTS PAVEMENT NOTES & DETAILS

CLIENT: HEALY HOMES AT SUMMERFIELD LLC 3696 SLEETH RD. COMMERCE TOWNSHIP, MI 48382 (248) 684-1699	SCALE: AS NOTED PROJECT No.: 214159 DWG NAME: 4159 DT ISSUED: MARCH 23, 2022	DT1
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