MARION TOWNSHIP
BOARD OF TRUSTEES
REGULAR MEETING
Thursday, May 24, 2018
7:30 p.m.

Call to Order

Pledge of Allegiance

Members Present/Members Absent

Call to the Public
1.) Approval of Agenda
2.) Consent Agenda
   a.) Approval of May 10, 2018 Regular Meeting Minutes
   b.) May 16, 2018 MHOG Agenda/Minutes
   c.) May 16, 2018 HAFA

3.) Brent Drive SAD
4.) Brent Drive Public Hearing
5.) Conceptual Review PUD#01-18 Golf Ranch
6.) Fire Hall Roof
6.) Sewer Ordinance
7.) Crystalwood Sewer Leads/Roads
9.) Camp Innisfree Representative

Correspondence and Updates
   Hasenbusch Curb Stop Installation

Call to the Public
Adjournment

DRAFT

MARION TOWNSHIP
BOARD OF TRUSTEES
REGULAR MEETING
MAY 10, 2018

MEMBERS PRESENT:	Tammy Beal, Les Andersen, Greg Durbin, Dan Lowe, Scott Lloyd, Bob Hanvey, and Duane Stokes
MEMBERS ABSENT:	None
OTHERS PRESENT:	Phil Westmoreland, Spicer; Dave Hamann, Zoning Administrator

****

CALL TO ORDER

Bob Hanvey called the meeting to order at 7:30 p.m.

PLEDGE OF ALLEGIANCE

BOARD MEMBERS PRESENT

The board members introduced themselves.

CALL TO THE PUBLIC

No response.

APPROVAL OF AGENDA

Items #9—Crossroads Bicycle Event, #10—Carlisle Wortman Training, and #11—Crystalwood Roads were added to the agenda. Les Andersen motioned to approve the agenda as amended. Duane Stokes seconded. **Motion carried**.

CONSENT AGENDA

Greg Durbin motioned to approve the consent agenda. Les Andersen seconded. **Motion carried.**

FINAL REVIEW PARDIAC SHELL SPR #02-18 & SUP #02-18

Tammy Beal said she feels that the two parcels should be combined because one is zoned rural residential and one is highway service, and they share a parking lot and parking spaces. Bob Hanvey said the parcel where the auto shop is would have to be rezoned. Dave Hamann said the owners of the two parcels are not interested in combining them. Dan Lowe also feels it needs to be cleaned up. Annette McNamara, representative for owner, said they are only asking for approximately 600 square feet of cooler space; they're not adding additional retail space. She said this is a legally, non-conforming lot and it's a lot to ask of the owners when they've already paid fees and put funds in an escrow account. Bob Hanvey said the township doesn't have the authority to require them to combine the parcels. Bob Hanvey passed out a list of minor concerns he has. Les Andersen said he wants the attorney to review the requirement for buffering between land uses.

Les Andersen motioned to send this item to the attorney for review prior to granting final approval. Scott Lloyd seconded. **Motion carried**.

FINAL REVIEW SCHROEDER BODY SHOP SPR #01-18 & SUP #01-18

Bob Hanvey passed out an updated review from the engineer. After discussion, Les Andersen motioned to approve SUP #01-18 for Schroeder Body Shop contingent on the site plan being modified to move fence to rear of building, and verification will be done by the zoning administrator and township engineer. Tammy Beal seconded. **Motion carried 6-0** (Lowe abstained.)

Les Andersen motioned to approve SPR #01-18 for Schroeder Body Shop contingent on nine items being addressed. Greg Durbin seconded. **Motion carried 6-0** (Lowe abstained.)

SEWER ORDINANCE

Bob Hanvey said the attorney has reviewed and added a few words; he also said the fines can't be imposed until 30 days after the ordinance is published. Dan Lowe said the fees should be $1,000 for the first offense, $2,500 for the second, and $5,000 after that. Les Andersen motioned to adopt a resolution to change the sewer ordinance with the attorney's suggestions as presented, and to change the amounts of the fines as discussed. Tammy Beal seconded. Roll call vote: Hanvey, Lowe, Durbin, Beal, Lloyd, Stokes, Andersen—all yes. **Resolution passed 7-0**. Bob Hanvey said the publication needs to be finalized first; the ordinance will take effect 30 days after publication.

HASENBUSCH WATER & SEWER TIME PAYMENT REQUEST

Bob Hanvey provided the board members with a copy of the water lead sheet for the parcel; the new parcel will not have a lead. Any cost beyond the total REU cost could be paid by the owner. Dan Lowe asked Mr. Hanvey to check with MHOG on whether they install the lead before making a decision.

2018 TOWNSHIP ROAD PROJECTS—CRACK SEALING LISTS

The LCRC reviewed the list submitted by the township and will take a look at the roads. No action at this time.

MARION OAKS SITE PLAN MODIFICATION

Dan Lowe said he is opposed to allowing the modification. The board members discussed the need for a cul-de-sac and suggested the builder would have to remove four units.

Les Andersen motioned to accept the minor changes to the site plan provided they remove four units and add a cul-de-sac that meets the LCRC standards. Scott Lloyd seconded. **Motion carried**.

CROSSROADS CHURCH BICYCLE EVENT

Greg Durbin motioned to approve the Crossroads church bicycle event to be held in the township parking lot on June 9 from 9 am-12 noon and to place signage at the hall prior to the event. Duane Stokes seconded. **Motion carried**.

CARLISLE WORTMAN TRAINING

Les Andersen motioned to get an estimate from Carlisle Wortman for ZBA training. Bob Hanvey seconded. **Motion carried**. Dave Hamman will follow-up with John Enos.

CRYSTALWOOD ROADS

Dan Lowe said there are only eight lots left and the road escrow situation hasn't been settled. He wants it to go on record that he's been asking for two years that this be settled. Bob Hanvey explained that

nothing in the consent judgment specifies the time for paving. Mr. Lowe would like land use permits withheld until it is finalized. Bob Hanvey motioned to ask the attorney if the township can withhold land use permits. Tammy Beal seconded. **Motion carried.**

CORRESPONDENCE/UPDATES

No items.

CALL TO THE PUBLIC

Steve Williams, 5118 Hinchey, thanked the board for the repairs on Coon Lake Road. He also said he's running for Livingston County commissioner and would appreciate the board's support.

ADJOURNMENT

Duane Stokes motioned to adjourn at 9:10 pm. Les Andersen seconded. **Motion carried.**

Submitted by: S. Longstreet

Tammy L. Beal, Township Clerk Date

Robert W. Hanvey, Township Supervisor Date

MHOG Water Authority Meeting

May 16, 2018
5:00 PM at Oceola Township Hall

AGENDA

1. **Approval of the Minutes of April 18, 2018**

2. **Call to Public**

3. **Reports**

   - **Staff Reports: Greg Tatara and Tesha Humphriss**
   - **Treasurer (Robin Hunt)**
   - **Engineer (Gary Markstrom)**
   - **CPA (Ken Palka)**

4. **New Business**

   - **Correspondence**

5. **Old Business**
6. **Adjournment**

Marion Howell Oceola Genoa

WATER AUTHORITY

MHOG Water Authority Meeting
MINUTES

The Marion, Howell, Oceola, Genoa Water Authority met on April 18, 2018 at 5:00 PM at the Oceola Township Hall. Members present were Bamber, Coddington, Rogers, Howard, Hanvey, Schuhmacher, Lowe and Hunt.

The meeting was called to order by Chairman Hanvey.

A motion was made by Schuhmacher to approve the minutes of the March 21, 2018 meeting. The motion was seconded by Coddington and carried.

A call to the public was held.

A motion was made by Rogers to approve the purchase of an easement from Cole's. The motion was seconded by Schuhmacher and carried.

A motion was made by Coddington to approve the Cole's compensation for the easement. The motion was seconded by Howard and carried.

A motion was made by Schuhmacher to approve a Tetra Tech Survey from County Farm Rd. to Peavy Rd. in the amount of $24,000.00. The motion was seconded by Hunt and carried.

A motion was made by Hunt to approve the easement for Trans West Well House and Utility Easement. The motion was seconded by Howard and carried.

A motion was made by Schuhmacher to approve expenditures of $125,596.98 from the M.H.O.G. Operating Fund represented by checks numbered 7594 thru 7617 and for direct deposit debits 364 thru 371. The motion was seconded by Howard and carried.

A motion was made by Coddington to approve an expenditure of $76,315.00 from the M.H.O.G. Capital Reserve Replacement Fund represented by check number 1041-1044. The motion was seconded by Rodgers and carried.

A motion was made by Hunt to adjourn. The motion was seconded by Schuhmacher and carried.

William J. Bamber, Secretary

HOWELL AREA FIRE AUTHORITY MEETING

Oceola Township Hall

1577 N. Latson Rd. – Howell, MI

May 16, 2018 – 6:00 PM

Authority Board Members and Other Officials:

Bill Bamber
Oceola Township
Chairman

Mike Coddington
Howell Township
Vice Chairman

Mark Fosdick
Cohoctah Township
Secretary

Robert Hanvey
Marion Township
Member

Nick Proctor
City of Howell
Treasurer

Andy Pless
Fire Chief

Laura Walker
Asst. Sec/Treasurer

1. Meeting called to order at 6:00 pm.
2. Pledge of Allegiance (all stand)
3. Approve minutes of the regular meeting of April 18, 2018
4. Call to Public (items not on agenda)
5. Discussion/Approval: Resolution 03-18 HAFA Fiscal Year 2017/2018 Amended Budget
6. Chief's Comments:
   a. Discussion on Fire and EMS reporting
   b. Marion Township Fire Station roof leak
7. Approve payment of bills and payroll in the amount of $145,206.95
8. New Business
9. Old Business
   a. Update on Main Station building addition status
10. Adjourn

WELCOME!

Visitors are invited to attend all meetings of the Howell Area Fire Authority Board.
If you wish to address the Board you will be recognized by the Chairman.

HOWELL AREA FIRE AUTHORITY

April 18, 2018 – 6:00 pm

Oceola Township Hall – 1577 N. Latson Rd. Howell, MI 48843

Present: Chairman Bill Bamber, Vice Chairman Mike Coddington, Secretary Mark Fosdick, Treasurer Nick Proctor, Member Bob Hanvey, Fire Chief Andy Pless, Asst. Sec/Treas. Laura Walker, Attorney Kevin Gentry

Chairman Bill Bamber called the meeting to order at 6:05 pm

Approve the minutes of the regular meeting of March 21, 2018: MOTION by Mr. Proctor, SUPPORT by Mr. Hanvey to approve the minutes of the regular meeting of March 21, 2018.
MOTION CARRIED UNANIMOUSLY.

Call to Public: No Response

Discussion/Approval to adopt the 2018-2019 Howell Area Fire Authority Budget: MOTION by Mr. Proctor, SUPPORT by Mr. Fosdick to adopt the 2018-2019 Howell Area Fire Authority.
MOTION CARRIED UNANIMOUSLY.

Discussion/Approval Resolution to authorize Chief Pless to select Contractor for building addition and issue payment to begin project: MOTION by Mr. Hanvey, SUPPORT by Mr. Proctor to authorize Chief Pless to select a Contractor for the Main Station building addition, execute a contract after review and approval by HAFA Attorney, and issue payments within parameters of the current budget.
MOTION CARRIED UNANIMOUSLY.

Approve Payment of Bills and Payroll: MOTION by Mr. Proctor, SUPPORT by Mr. Fosdick to authorize payment of bills and payroll in the amount of $157,213.25. MOTION CARRIED UNANIMOUSLY.

Adjourn: MOTION by Mr. Proctor, SUPPORT by Mr. Fosdick to adjourn the meeting at 6:22pm.
MOTION CARRIED UNANIMOUSLY.

Respectfully Submitted: _____
Laura Walker, Asst. Secretary/Treasurer

Approved By: _____
Mark Fosdick, Secretary

MONTHLY UPDATE TO THE BOARD

TO: HOWELL AREA FIRE AUTHORITY BOARD OF DIRECTORS

FROM: ANDREW PLESS, FIRE CHIEF

SUBJECT: MONTHLY HAFD REPORT FOR APRIL, 2018

DATE: MAY 08, 2018

During the month of April the HAFD responded to a total of 124 calls for service. There were 128 calls in April of 2017. The total year-to-date runs for 2018 was 464. Last year's total at the end of April was 558.

Some of the more significant events for the month included:

There were no building fires reported in our area however we assisted Fowlerville, Brighton and Putnam on scene with building fires throughout the month.

Even with the burn ban on during most of the month of April we had several open burns that got away from our residents. Most of the field and brush fires were brought under control quickly. Due to the quick response from our firefighters there was no property damage at any of the fires.

We sent several members to the Midwest Fire Rescue Expo in Novi for a conference and vendor show

Members participated in the annual Howell Home show. Firefighters manned a booth at the show and conducted a medical stand-by during the Taste of Livingston event.

Congratulations to Nicholas Hess and Randy Sturos! Both have been promoted to Probationary firefighter status since they have completed their OJT packets and are nearly done with their Firefighter I and II training.

We have taken delivery of the Lucas CPR machine. The $21,000 device was donated to the Department through a grant request sent to Firehouse Subs. There will be a formal presentation that we will be participating in later in the month of May.

Due to the extremely dry brush conditions and the very wet field conditions we have continued the open burning ban until the vegetation greens up and the fire danger is decreased. Please advise your residents to check our website prior to any open burning as that will have the most up to date information.

Training for the month of April consisted of Rural water supply operations. Our Dry hydrants were tested and flushed and the annual review of Aerial Apparatus operations was conducted.

The next meeting of the Howell Area Fire Authority Board is scheduled for Wednesday May 16th, 2018 at 6:00 pm.

HOWELL AREA FIRE DEPARTMENT
FIRE MARSHAL DIVISION

1211 W. Grand River
Howell, MI 48843
517-546-0560
FAX: 517-546-6011
firemarshal@howellfire.net

DATE: May 11, 2018
TO: Chief Pless
Fire Authority Board
FROM: Jamil Czubenko, Battalion Chief/Fire Marshal
REF: April 2018 Month End

The month of April 2018 was busy in the Fire Marshal Division.

The FMD also participated in emergency responses and department training throughout the month. The FMD has also participated with Howell Schools, LESA and St Joes School during their required fire, tornado and lock down drills. An Engine crew is on site during these drills to witness and participate as needed.

The Sunday Farmer's Market has begun and the Engine and crew has started to be out in the community passing out fire safety materials and talking with their visitors.

The Fire Department had a booth at the Home Show again this year. The Home Show was April 13-15, 2018 at the Howell High School Field House. Planning has also begun for the 2018 Michigan Challenge Balloonfest, scheduled for June 22-24. The Air Show at the County Airport has been postponed until next year.

Several Food Truck/Trailer events are being planned throughout our jurisdiction, where the FMD will be performing fire safety inspections. This is our second year for Mobile Food Vendors (MFV) to apply to the HAFD and then be inspected for compliance. The Howell DDA and the Tanger Outlets are kicking this season off first with events in May.

The FMD has been involved with buyers and sellers of property for vacant property and existing buildings throughout our jurisdiction. A few proposals for projects have been submitted for review and comment.

To date 180 kids and 650 adults have made public education contact with the HAFD, totaling approximately 46 personnel hours.

The HAFD visited 7 homes and installed a total of 6 smoke detectors, 2 CO/Smoke detectors and replaced batteries in 20 detectors. To date, 53 working smoke detectors plus the 32 smokes and 9 CO/Smoke detectors we've installed.

30 new inspections and 10 re-inspections were completed. 39 plan reviews/consultations and 2 fire safety test was also completed.

May 2018 brings us more planning for future projects and various fire prevention events.

STATION RESPONSES
April 2018

STA. 20 - Main Station	
Oceola Twp.	0
Cohoctah Twp.	5
Howell Twp.	29
Marion Twp.	8
City of Howell	51
Mutual Aid	3
TOTAL:	**96**

STA. 22 - Oceola Twp.	
Oceola Twp.	12
Cohoctah Twp.	1
Howell Twp.	1
Marion Twp.	0
City of Howell	0
Mutual Aid	2
TOTAL:	**16**

STA. 23 - Marion Twp.	
Oceola Twp.	0
Cohoctah Twp.	0
Howell Twp.	0
Marion Twp.	8
City of Howell	0
Mutual Aid	2
TOTAL:	**10**

STA. 24 - Cohoctah Twp.	
Oceola Twp.	1
Cohoctah Twp.	7
Howell Twp.	6
Marion Twp.	0
City of Howell	0
Mutual Aid	1
TOTAL:	**15**

MARION TWP

Howell Area FD

Incident List by Alarm Date/Time

Alarm Date Between {04/01/2018} And {04/30/2018}
and Township = "MTP "

Incident-Exp#	Alm Date	Alm Time	Location	Incident Type
18-0000357-000	04/05/2018	14:03:28	964 SPIREA	311 Medical assist, assist EMS c
18-0000375-000	04/09/2018	16:21:49	240 BRIGHTON RD	424 Carbon monoxide incident
18-0000387-000	04/12/2018	01:26:25	4080 HILLSIDE DR	300 Rescue, EMS incident, other
18-0000388-000	04/12/2018	05:55:27	893 HURLEY DR	311 Medical assist, assist EMS c
18-0000392-000	04/13/2018	07:21:47	461 BONNIE CIR	311 Medical assist, assist EMS c
18-0000406-000	04/15/2018	21:35:19	205 FRANCIS RD	311 Medical assist, assist EMS c
18-0000409-000	04/17/2018	06:23:00	MASON RD & AMOS RD	322 Motor vehicle accident with
18-0000416-000	04/18/2018	08:07:48	1218 PORTSMOUTH DR	551 Assist police or other gover
18-0000422-000	04/19/2018	21:56:50	E I96 & E I96 REST AREA	131 Passenger vehicle fire
18-0000426-000	04/20/2018	21:08:27	PINCKNEY RD & BRIGHTON RD	650 Steam, Other gas mistaken fo
18-0000433-000	04/22/2018	13:08:33	2645 PEAVY RD	142 Brush or brush-and-grass mix
18-0000449-000	04/26/2018	15:11:42	2759 BLACK EAGLE RDG	142 Brush or brush-and-grass mix
18-0000453-000	04/27/2018	14:48:52	3201 JEWELL RD	311 Medical assist, assist EMS c
18-0000455-000	04/28/2018	06:42:26	865 MASON RD	736 CO detector activation due t
18-0000463-000	04/30/2018	16:58:54	1006 E SCHAFER RD	631 Authorized controlled burnin

Total Incident Count 15

Request for Zoning Administrator, Dave Hamann, to be present at the Board of Trustee meeting on MAY 24, 2018.

Date

Requested by Robert Wrenn.

Signature

MARION TOWNSHIP

www.mariontownship.com

RESOLUTION ON BRENT DRIVE SNOW REMOVAL AND MAINTENANCE SPECIAL ASSESSMENT DISTRICT

WHEREAS, the township board of Marion Township acting in the interest the residents of Brent Drive and of the proposed special assessment district described hereinafter, determined to proceed under the provisions of PA 188 of 1954, as amended, to provide snow removal, salting service, and maintenance together with a proposed special assessment district for assessing the costs of the proposed service, and to schedule a public hearing upon the Assessment Roll, and

WHEREAS, the estimated cost and proposed special assessment district were filed with the Township Clerk for public examination and notice of the hearing upon same was published and mailed in accordance with the law and statute provided as shown by affidavits pertaining thereto on file with the Township Clerk, and

WHEREAS, in accordance with the aforesaid notices, a hearing was held on May 24, 2018 commencing at 7:30 PM and all persons given the opportunity to be heard in the matter, and

WHEREAS, the following written objections were received and filed:

Parcel Number	Frontage	% Frontage	Owner Name

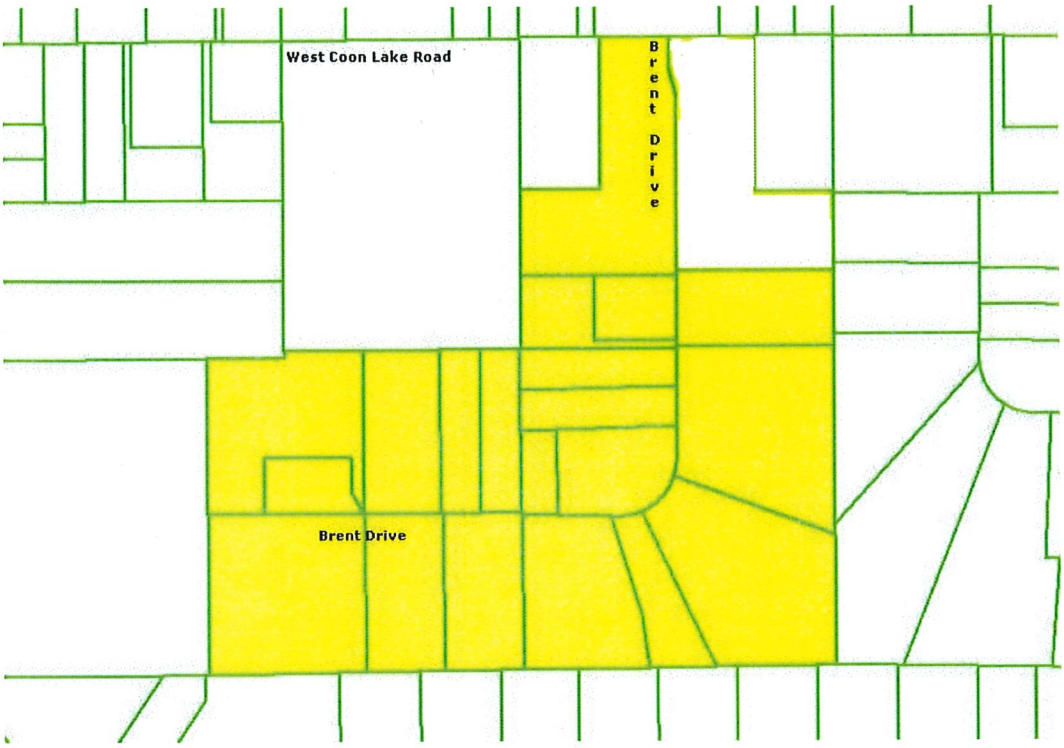
WHEREAS, the written objections constitute less than twenty percent of the frontage,

WHEREAS, as a result of the foregoing, the township board believes the project to be in the best interests of the township and of the district proposed to be established therefore;

NOW THEREFORE BE IT HEREBY RESOLVED as follows:

1. That this township board does hereby approve the provision of snow removal, salting service, and maintenance and total cost estimate of $8,000.00 per year.

2. That this township board does hereby create, determine and define as a special assessment district to be known as Brent Drive Special Assessment District within which the costs of such improvements shall be assessed according to the benefits, the following described area within said township:



Parcel Numbers

4710-19-400-010	4710-19-400-021	4710-19-400-027	4710-19-400-034
4710-19-400-012	4710-19-400-022	4710-19-400-028	4710-19-400-035
4710-19-400-013	4710-19-400-023	4710-19-400-029	4710-19-400-036
4710-19-400-014	4710-19-400-024	4710-19-400-030	4710-19-400-037
4710-19-400-019	4710-19-400-026	4710-19-400-033	4710-19-400-038

3. That on the basis of the foregoing, this township board does hereby direct the Supervisor and Assessing Officer to make a special assessment roll in which shall be entered all the parcels of land to be assessed together with the names of the respective owners thereof, and an estimated total amount to be assessed against each parcel of land which amount shall be the relative proportion of the whole sum levied against the parcels of land in the special assessment district as the benefit to the parcel of land bears to the total benefit to all the parcels of land in the special assessment district. When the same has been completed, the Supervisor shall affix thereto his certificate stating that it was made pursuant to this resolution and that in making such assessment roll he has, according to his best judgment, conformed in all respects to the directions contained in this resolution and the applicable state statutes.

4. That the actual amount of the assessment will be annually redetermined based on actual costs and assessed without further notice.

5. That all resolutions and parts of resolutions insofar as the conflict with the provisions of the within resolutions be and the same are hereby rescinded.

6. That the Township Clerk shall schedule a hearing on the Assessment Roll for June 28, 2018 at 7:30 P.M., and provide notice as required by PA 188 of 1954.

Upon roll call vote, the following voted "Aye":

The following voted "Nay"

The Supervisor declared the motion carried and the resolution duly adopted.

MARION TOWNSHIP
2877 W. COON LAKE ROAD
HOWELL, MI 48843
Phone 517-546-1588
Fax 517-546-6622

TRANSMITTAL

TO: Board of Trustees

DATE May 17, 2018

PROJECT Conceptual **REVIEW**
PUD#01-18
Golf Ranch

VIA Hand Delivery

WE ARE SENDING: __X__ Herewith ____ Under Separate Cover

THE FOLLOWING:

- **REVISED** Conceptual Site Plan review for PUD#01-18 Casa Villa Golf Ranch
- Carlisle/Wortman Review letter dated May 17,2018
- Spicer Group Review letter dated May 17, 2018
- Howell Fire letter dated April 3,2018
- Planning Commission Minutes from March 27,2018 meeting
- LCRC letter dated March 9,2018 from Kim Hiller
- LCHD letter dated February 9,2018 from Aaron Aumock

FOR YOUR: __X__ approval/ denial ___ as requested
____ other ___ review & comment

REMARKS:

The attached **REVISED Conceptual** Site Plan for PUD#01-18 Casa Villa Golf Ranch. This information is for **Review and approval/denial.** Let me know if you have any questions.

FROM: Dave Hamann, Zoning Administrator

Copy: file

Carlisle | Wortman
ASSOCIATES, INC.
117 NORTH FIRST STREET SUITE 70 ANN ARBOR, MI 48104 734.662.2200 734.662.1935 FAX

Site Plan and PUD Review
Marion Township, Michigan

GENERAL INFORMATION

Applicant:	Boss Engineering
Project Name:	Casa Villa Golf Ranch
Plan Revision Date:	May 10, 2018
Location:	Southwest side of Peavy Road, just south of the intersection with Mason Road.
Zoning:	Suburban Residential
Action Requested:	Site Plan and PUD Preliminary Approval
Required Information:	Deficiencies are noted in the sections below.

PROJECT AND SITE DESCRIPTION

The applicant is proposing to develop a forty-five (45) unit single family residential Planned Unit Development (PUD) project on 20.53 acres. The current zoning is Suburban Residential allowing for twenty-six (26) at the minimum lot/unit sizes, this is if developed traditionally with no open space or other amenities of 32,670 square feet. The applicant intends under the PUD process to develop lots/units at a minimum lot size of 5,850 square feet each, but provide a significant amount of open space and other amenities. These amenities include such improvements as:

- 53% Open space preserved
- Pedestrian and sidewalks constructed throughout the project
- A community gazebo and park area
- Visitor parking spaces
- Woodland preservation
- Emergency vehicle access
- Public road improvement funding

This analysis is intended to allow the Township to review the plan as to whether it meets the intent and purpose of a PUD which is a project that is flexible in the design of residential neighborhoods, encourages the conservation of natural features such as, but not limited to, woodlots, slopes, meadows, floodplains, and wetland areas and achieve economies of design related to vehicular and pedestrian circulation ways, utility construction, and dwelling unit siting.

The Ordinance allows for flexibility in lot sizes within the SR district under a PUD. Based on section 13.03B the overall density based on unit size cannot exceed 20,000 square feet. If developed under the typical SR zoning only twenty-six (26) units could be developed. **We are of the opinion based on the Ordinance and based on the parcel size of 20.53 acres the maximum number of units cannot exceed forty-five (45).**

Items to be addressed: *None.*

PUD REQUIRMENTS

An applicant for planned unit development must demonstrate at least three (3) of the following to qualify as a site for a PUD. We are of the opinion the plan demonstrates even more than the required three issues which include the following:

1. The parcel to be developed has frontage on a major or secondary thoroughfare. ***Peavy Road.***

2. The parcel is shaped in such a way that it contains angles which would make a normal subdivision difficult to achieve and has frontage on a major or secondary thoroughfare. ***The parcel is oddly shaped and triangular.***

3. The parcel contains substantial natural assets which could be preserved through the use of a PUD/cluster development. Such assets may include natural stands of large trees, land which serves as a natural habitat for wildlife, unusual topographic features, or other natural assets. ***The project is proposing to save much of the existing woodland to the south east. In addition, almost fifty-three (53%) of the site will be preserved as open space.***

4. The proposed project incorporates sound land use policies and provides several unique design features and amenities such as, but not limited to: a) increased open space; b) active-use parks including tot lots; c) community buildings and structures; d) recreational facilities, i.e., swimming pools, tennis courts, ball fields, etc.; e) additional landscaping, signage treatment, etc. ***As indicated, approximately half the project will be preserved as open space, trails are throughout the site, and landscaping is robust.***

Items to be addressed: *None.*

AREA, WIDTH, HEIGHT, SETBACKS

The following table summarizes the required and proposed area, width, height and setbacks for this project.

Table 1. *– SR, Schedule of Regulations*

	Required	Proposed*	Compliance
Minimum Lot Area	32,670 sq. ft.	5,850 sq. ft.	✓
Minimum Front Yard	35 ft.	25 ft.	✓
Minimum Rear Yard	25 ft.	25 ft.	✓
Minimum Side Yard	15 ft.	5 ft.	✓
Maximum Height	35 ft.	Provided	✓

**These bulk regulations are based on a typical SR Development. The Ordinance allows flexibility dependent upon several factors. Note we would only consider these regulations in compliance with a PUD if the number of units is reduced to forty-five (45).*

As proposed, the building additions meet the majority of dimensional standards of the ordinance as presented.

Items to be addressed: *None.*

SITE ACCESS/CIRCULATION/PARKING

The proposed circular circulation pattern and internal road network appear reasonable. The boulevard entrance off of Peavy Road is just south of the poorly configured Mason/Peavy intersection. The applicant has indicated they would explore partially funding the improvement of this intersection as one of the incentives allowed by a PUD. This should be further discussed between the Livingston County Road Commission, the applicant and the Township.

"Eyebrow" curves provide for areas of open space view and allows additional units. The thirty (30) foot road is wide enough to allow parking on both sides. However, the plan indicates vehicles will not park on the fire hydrant side, allowing access. This and other safety/access issues should be reviewed by the Fire Department.

Items to be addressed: *1.) Fire Department review and approval of road network. 2.) Explore improving Peavy/Mason Road intersection.*

LANDSCAPING

A detailed and robust landscape plan has been provided. In addition significant woodlands will be preserved along the southeast boundary as a PUD amenity. The entire Peavy Road frontage will be landscaped on a berm acting as compatible screen. In addition, the west and southern boundaries will be planted with a mix of evergreen and deciduous trees and bushes. The central open space are will also be planted and a gazebo will be installed as will benches.

The applicant has provided ample open space in terms of preserved woodland and a detention area that is at a slope not needing fencing.

We question whether each home will include at least one street tree, we would suggest this be required by the developer.

Items to be addressed: *Take special care in preserving existing woodlands on south side.*

LIGHTING

No lighting plan has not been provided. However plan notes indicate that carriage lights will be attached to each home. This should limit the impact on the surrounding area and should not contribute to any "light pollution". We are pleased with this lighting option.

Items to be addressed: *None.*

ESSENTIAL SERVICES

The Township Engineer should review for public water/sewer and storm sewer impacts.

Items to be addressed: *Review and approval by Township Engineer.*

SIGNS

No new signs is proposed excepting an entrance sign and new street signs. The entrance sign location and size has been provided in order to prevent and view angle issues.

Items to be addressed: *None.*

FLOOR PLANS AND ELEVATIONS

Floor plans and unit elevations been provided and appear to be an excellent example of smaller home for seniors, singles or empty nesters. Features include two (2) story, with a walk out basement, two car garages, three bedrooms and comfortable elevations and nice facades are all proposed.

Items to be addressed: *None.*

RECOMMENDATIONS

We recommend the Planning Commission and Board approve the preliminary plan conditional upon the following issues being addressed to their satisfaction.

1. Fire Department review and approval of road network.
2. Explore improving Peavy/Mason Road intersection.
3. Take special care in preserving existing woodlands on south side.
4. Review and approval by Township Engineer and other outside agencies.

May 17, 2018

Mr. Dave Hamann, Zoning Administrator
Marion Township
2788 West Coon Lake Road
Howell, MI 48843

RE: Golf Ranch – PUD Plan Review – 3rd Resubmittal
PUD #01-18

Dear Mr. Hamann:

Per your request, we have the reviewed the revised conceptual Planned Unit Development (PUD) site plans for the proposed Golf Ranch located at 860 Peavy Road. The site is located immediately west of the I-96 interstate on the west side of the road. Boss Engineering Co. prepared the plans, which are dated May 10, 2018, on behalf of Casa Villa Builders. A general review of these items is provided below:

General
The proposed development is located on a 20.53-acre parcel which is zoned SR – Suburban Residential. It is surrounded by other SR parcels and the Foxcroft neighborhood, which is zoned ERS-1 – Existing Residential Subdivision. A legal description of the property is on the cover sheet of the plans and closes within acceptable tolerances.

The objective of the site plan is to redevelop an abandoned driving range facility into a 45-unit PUD. The units will be accessed via a private roadway connecting to Peavy Road and provided with water and sewer connections. The site will also be serviced by a dedicated storm water system utilizing a retention basin.

To qualify as a PUD, the ordinance lists eight (8) criteria of which at least three (3) must be met (13.02. C). Per the submittal, the applicant states the proposed development meets the following:

1. The parcel to be developed has frontage on a major or secondary thoroughfare.
2. The parcel is shaped in such a way that it contains angles which would make a normal subdivision difficult to achieve and has frontage on a major or secondary thoroughfare.
5. The parcel contains substantial natural assets which could be preserved through the use of a PUD/cluster development. Such assets may include natural stands of large trees, land which serves as a natural habitat for wildlife, unusual topographic features, or other natural assets which, in the opinion of the Planning Commission, should be preserved. Requests for qualifications under these conditions must be supported by documented evidence which indicates that the natural assets would qualify the parcel under the PUD Overlay District.
8. The proposed project incorporates sound land use policies and provides several unique design features and amenities such as, but not limited to:
   a. increased open space
   b. active-use parks including tot lots
   c. community buildings and structures
   d. recreational facilities, i.e., swimming pools, tennis courts, ball fields, etc.
   e. additional landscaping, signage treatment, etc.

We offer the following comments on the above criteria:

Item 1. The subject parcel is located on Peavy Road, which qualifies as a major or secondary thoroughfare.
Item 2. The shape of the parcel does contain awkward angles.
Item 5. The site was previously used as a driving range, so it is difficult to consider the existing condition as containing substantial natural assets. There is a 3+ acres stand of trees on the southeastern portion of the site, but more than half of it is depicted to be cleared. Additionally, the required supporting documentation has not yet been provided.
Item 8. The project has added a community gazebo and benches. There is also an increase in the proposed undeveloped area and a walking path through the remaining stand of trees.

The developer is proposing 45 very small parcels. The proposed minimum parcel size listed is 5,850 square feet. The number of parcels was arrived at by dividing the total site area (20.53 acres) by the underlying zoning (SR) minimum lot size. The standard minimum lot size for the SR district is 20,000 square feet (for lots provided with public sewer – 32,670 sq. ft. without).

$$\frac{20.53\ acres\ \times 43{,}560\ \frac{sq\ ft}{acre}}{20{,}000\ \frac{Sq\ ft}{Lot}} = 45\ Lots$$

However, this calculation ignores the area occupied by proposed roads and easements, which per the ordinance are to be removed from the total site area. We defer to the Planner as to the adequacy of the number of parcels.

The minimum lot frontage is 85-feet SR zoning district (w/sewer) and 45-feet for UR (w/sewer). The proposed typical lot has a reduced frontage of 70-feet.

In conjunction with the small parcel size, the developer is proposing reduced setbacks as well. The proposed setbacks are 25 ft. front, 5 ft. side, and 25 ft. rear. The setbacks listed for the SR district (Section 13.03.B) are 35 ft. front, 10 ft. side, and 25 ft. rear.

Besides the individual lot setbacks, there is a perimeter setback requirement for the entire development. 13.03. H reads in part:

> There shall be a ninety (90) foot perimeter setback from any building with a landscaped buffer area from all boundaries of the PUD and landscaping and/or berming, as recommended by the Planning Commission, for the purpose of buffering the adjacent properties from the planned unit development.

The proposed development includes a landscape buffer along Peavy Road, but does not meet the 90-foot requirement at two of the parcels (31 & 32).

Utilities

All parcels are proposed to be provided with public water and sewer connections. The utility plan depicts a looped water main connecting to an existing water main located along Peavy Road at the proposed

entrance. Hydrants along Peavy Road in front of the proposed site indicate the presence of a main where a potential connection can be made. We defer to MHOG on matters regarding the water service.

The sanitary sewer is depicted connecting: "into existing M.H.OG. [sic] sanitary main" where the parcel fronts Mason Road. This note should be revised to match Utility Notes #5: "Marion Township has jurisdiction over sanitary main."

Conceptual elevations have been provided for the proposed sewer system as well as finished floor elevations. The proposed sewer connection at Mason Road appears to be of sufficient depth to provide a feasible sanitary connection for all the homes in the development. However, it is unclear if this property was originally master planned to connect to the sewer near Mason and Foxfire or if it was planned to go a different direction. The property is clearly in the sewer service area but the map doesn't depict exact connections points. During the site plan review process the developer's engineer will need to provide calculations demonstrating capacity in the sewer along Foxfire. If the sewer doesn't have capacity, an alternative design will be required.

Grading & Stormwater Management

The retention basin is proposed along the western edge of the property. The overall topography of the site slopes westward, ranging in elevation from 944 near the existing entrance to 920 midway along the western edge. The site plan shows stormwater piping collecting runoff from the proposed roadways and connecting to a forebay located at the north end of the basin.

Calculations for the sizing of the retention basin are now provided. The calculated required volume for the basin is 273,637 cu ft. Proposed basin storage is 305,871 cu. ft., which exceeds the required volume. The proposed forebay is also adequately sized, providing 7,598 cu. ft. of storage which meets the LCDC requirement – 5% of the 100-year storm volume or 6,841 cu. ft.

Notes indicate the intention of grading the site so that emergency overflow from the basin is directed north to Mason Road. A rip-rap spillway has been added to the north end of the basin. However, an overflow assessment is required as Mason Road does not appear to have ditching or the capacity to convey large volumes of additional stormwater.

Geotechnical Report

A geotechnical report was included with the submittal, which was previously reviewed separately. In general, we found the conclusions made in the report to be reasonable, indicating that a retention basin in the proposed location to be feasible provided that the basin bottom not be deeper than elevation 916. The proposed retention basin bottom is listed at elevation 917. A summary of our review is as follows:

McDowell & Associates performed three soil borings in the general location of the proposed stormwater retention basin. The soils were found to be varying layers of cohesive and granular soils for the first 10- to 15-feet. Water was observed during the borings around 4- to 6-feet below existing grade. The remaining depth of the borings indicated stiff blue sandy clay and compact wet gravelly sand.

The presence of water at the shallower depth indicates that the proposed retention basin can be excavated to approximately 5-foot below grade before wet sandy soils are encountered. We recommend keeping the bottom of the basin a minimum 1-foot above the ground water, or approximately elevation 916'.

Permeability rates are estimated to be on the order of 1x10-3 cm/sec, or 1.4-inches per hour, which is deemed adequate for storm water seepage. Minimum acceptable infiltration rate for a retention basin is 1.0-inch per hour.

Private Roads

The conceptual plan depicts a private roadway within the development which loops around and connects to itself near the proposed connection to Peavy Road. An additional "emergency vehicle access" has been added connecting to Mason Road with a gate and lock box. The entrance has been revised from a boulevard to only having a small island at Peavy Road. Scaling from the drawings, the island measures 10-foot wide with the ingress and egress lanes measuring 12-foot and 20-foot respectively. The Township PUD ordinance requires both ingress and egress lanes to be 24-foot wide with a 30-foot minimum width landscaped median extending to the first internal private road intersection with in the development.

The roadways are denoted as 30-foot wide within a 66-foot easement, which meets township requirements. A separate 12-foot wide utility easement is being provided outside of the 66-foot easement.

A permit and approval will be required from the Livingston County Road Commission for the proposed connections to Peavy Road and Mason Road.

Recommendations

We would make the following comments and recommendations for improvements prior to acceptance by the Township:

- Development is does not meet the 90-foot perimeter setback along Peavy Road.
- Revise the proposed entrance to a boulevard with 24-foot ingress and egress lanes and a 30-foot wide median extending to the first internal road intersection within the development, per Township ordinance requirements. (Section 13.03.L)
- Obtain and incorporate LCDC review comments for the retention basin.
- Obtain and incorporate LCRC review comments for the roadway entrances.

If you have any questions or need anything further, please feel free to contact our office.

Sincerely,

Daniel Warren, P.E.
Project Engineer
SPICER GROUP, INC.
125 Helle Blvd., Suite 2
Dundee, MI 48131

Philip A. Westmoreland, P.E.
Senior Project Manager
SPICER GROUP, INC.
125 Helle Blvd., Suite 2
Dundee, MI 4813

CC: SGI File
Ken Recker, P.E., Livingston County Drain Commissioner
Kim Hiller, P.E., Livingston County Road Commission
John Enos, AICP, Carlisle/Wortman, Twp. Planner

Approved by: _____
Larry Grunn, Chair

MARION TOWNSHIP
2877 W. COON LAKE ROAD, HOWELL MI 48843
PLANNING COMMISSION
REGULAR MEETING MINUTES
MARCH 27, 2018
7:30 P.M.

MEMBERS PRESENT: LARRY GRUNN- *CHAIRPERSON*
BOB HANVEY
BRUCE POWELSON- *VICE CHAIR*
CHERYL RANGE- *SECRETARY*
CLAIRE STEVENS

MEMBERS ABSENT: NONE

OTHERS PRESENT: DAVE HAMANN- *ZONING ADMINISTRATOR*
JOHN ENOS- *TOWNSHIP PLANNER, CARLISLE WORTMAN*

****

CALL TO ORDER

Larry Grunn called the meeting to order at 7:30 p.m.

PLEDGE OF ALLEGIANCE

INTRODUCTION OF MEMBERS

The members of the Planning Commission introduced themselves. John Enos from Carlisle Wortman introduced himself.

APPROVAL OF AGENDA

March 27, 2018 Regular Meeting Agenda

Cheryl Range motioned to approve the agenda. Claire Stevens seconded. ***Motion carried***

APPROVAL OF MINUTES

February 27, 2018 Regular Meeting Minutes

Cheryl Range motioned to approve the minutes as presented. Bruce Powelson seconded. ***Motion carried***

CALL TO THE PUBLIC

No response.

Minutes Taken By: Jessica Timberlake

PUBLIC HEARING

PUD#01-18 Casa Villa Ent. Golf Ranch Conceptual Review

Brent Lavanway presented a conceptual PUD for the Casa Villa Golf Ranch project. This project will be located on the southwest corner of Peavy and Mason Road. They are requesting 52 lots, leaving 45% available for open space. They will have a buffer along Peavy Road. This development is designed for, but not limited to, "empty nesters" in the $200,000 price range. This can be a maintenance-free development for those interested.

Rose Hasenbusch resides at 1335 Mason Road. She is very concerned about where the water from the retention pond is going to end up once it drains. They have property at the bottom of the slope, next to this retention pond. They are planning to build a home with a basement on this property and worry that their basement is going to flood every time it rains.

Danielle Soderman resides at 672 Glenlivet. She is hoping that the developer plans on keeping the natural wood line behind their home. This was the reason they purchased their home and one of the main advantages of their property.

Jennifer Provencal resides at 245 Foxfire Drive. Jennifer is also concerned about the wooded area between her neighborhood and this new development. She is hoping that it will remain as it is, and will not be destructed.

Bill Soderman resides at 672 Glenlivet. Bill asked if any traffic studies have been done, with 52 more homes being added to this area.

Brent Lavanway responded to these concerns. Brent has spoken with Mike at the Livingston County Road Commission about contributing to future improvements on Mason Road. The county is considering putting in a center turn lane on Mason Road to help with the increased traffic. Brent explained that $500 would be contributed for each home/lot sold in Casa Villa, which is $26,000 for 52 homes/lots sold. Brent also explained that this would be a retention basin that wouldn't actually hold water all the time. It is a basin that stores water until it soaks into the ground. It would be roughly 100 feet away from the property lines. They do not plan on putting any kind of fencing around this basin, nor do they want to. This basin will actually help stop and prevent any flooding to the properties backing up to the development.

Rose Hasenbusch is also concerned about the safety of the children playing nearby, including her own. Is this retention basin going to be a safety hazard to small children if they happen to wander near the basin?

Brent Lavanway told her that the children should be safe since this has a gentle slope and water is not typically retained for long.

Bob Hanvey wanted to discuss the increased traffic and possible improvements along Mason and Peavy Road.

Brent Lavanway explained that the Road Commission thought it would be more beneficial to contribute any of these funds to Mason Road, and not Peavy. This new development is not going to make much of an impact on Peavy Road. The left turn lane would be on Mason Road, between Foxfire and the bridge.

NEW BUSINESS:

Date for April Planning Commission Meeting

The Planning Commission Meeting for April was rescheduled due to the MTA conference. The meeting will now be on Wednesday, April 18, 2018 at 7:30pm at the township hall.

Cheryl Range motioned to approve the Planning Commission meeting for Wednesday, April 18, 2018, at 7:30pm. Larry Grunn seconded. ***Motion carried***

Date for Special Meeting Regarding the Master Plan

The Planning Commission scheduled a special meeting to review/discuss/update the Township Master Plan. This meeting will take place on Tuesday, May 1, 2018, at 7:30pm at the township hall. The Planning Commission would like to invite the residents of Marion Township to this meeting to provide their input and opinions. The Township Board and Zoning Board of Appeals members will also be invited to this meeting.

Cheryl Range motioned to approve the Master Plan special meeting that will take place on Tuesday, May 1, 2018, at 7:30pm at the township hall. Claire Stevens seconded. ***Motion carried***

PUD# 01-18 Casa Villa Golf Ranch Conceptual Review

John Enos said that Casa Villa is doing a good job in preserving the natural woodland in this area. This development offers a lot of natural features and amenities. They are also promising to contribute to some of the future road improvements. There will be 45% open space throughout this development, partly because they are only requesting 52 lots. The retention basin being installed will not be filled with water at all times and there will be plenty of buffers surrounding the development. John does recommend approval with the following recommendations: more parking options, limited lighting throughout, and also wants to discuss decreasing the amount of lots being requested. Brent Lavanway said the lowest they would be willing to go would be 49 lots. Lowering the number of lots also lowers the available funds for the different amenities, road improvements and so forth.

Larry Grunn is still concerned about the increased traffic on Mason Road. Brent assured Larry, that MDOT is going to require a road study be completed as one of the requirements.

Bob Hanvey asked about the second entrance that the fire department requested. Brent said they would be willing to put in an emergency only exit/entrance, if needed.

Cheryl Range motioned to recommend approval to the board. Bruce Powelson seconded. ***Motion carried***

Adopt revised Planning Commission Rules and Procedures

Cheryl Range started by explaining that Bruce Powelson attended a Board meeting in February and brought in a request regarding our conflict of interest policy involving applicants. He believes that this should be more defined and specific. Larry Grunn thought this was already discussed back in November. Cheryl Range suggested we add some more detail so there is no more confusion going forward.

Cheryl Range motioned to add the following proposed text, to page 4, option 11 of the bylaws:

"Recess to another night: The Chairman may recess a Planning Commission Meeting to the next monthly meeting or special meeting after a request by a commissioner and a vote to finish an agenda item only after 9:30pm or if the meeting has been over two (2) hours upon a majority vote of the members. In order for a recess to be in order, the time, day, month, date, year and location to reconvene shall be stated as part of the action to recess/table. Must complete any agenda item in process and all items where an applicant is involved."

Larry Grunn seconded. ***Motion carried***

SPR# 02-18 Pardiac Shell Addition and SUP# 02-18 Section 17.04B

Cheryl Range motioned to set a public hearing for the Pardiac Shell addition for April 18, 2018 at 7:30pm. Bruce Powelson seconded. ***Motion carried***

OLD BUSINESS:

SUP# 03-17 Meadows West 17.21 Multiple Family Development

John Enos has a variety of concerns regarding the traffic, roads within, trees and berm removal. His biggest concern is the private road that would be coming off of another private road. The conditions of approval are road maintenance, clarification on fire lanes, limit lighting and special care of the woodlands to use as a buffer.

Bob Hanvey is not comfortable with the idea that according to the site plan, Mitch Harris is allowed to move these units wherever he wants. Jim Barnwell with Desine Engineering is a designer for Mitch Harris. He explained that they would still be required to stay a certain distance away from the property lines. Jim would like to get this site plan and special use permit worked out before they move forward. Bob Hanvey said that the setbacks still have to be resolved. Larry Grunn is concerned about the usage of the main road located in the original Meadows. Jim explained that Mitch Harris has always had rights to use that road. They did contribute to some of the repairs, which were done in the past. There is not currently anything in place regarding any future repairs or contributions, but Mitch Harris is willing to discuss that with the current owners.

Rich Parker resides at 852 Spirea. Rich said that their current bylaws state that homeowners who live in the Meadows have access to the roads. So if this new development is an extension of the Meadows, then they would have access. If it is separate from the Meadows, then they would not be allowed access.

Jennie Robison resides at 1025 Yarrow. Jennie said that in the past, Mitch Harris did not maintain the existing road, so she is concerned that he will not maintain the road in the future. She suggests that Mitch Harris should use Peavy Road for all their construction needs. The new residents should be involved in the future maintenance of these roads. She firmly believes that none of Mitch Harris' crew should be allowed to use their existing roads.

John Enos recommends that we wait on making any decisions until some of these issues are addressed and the current legalities are worked out. John is comfortable with the layout of this development, but has some major concerns about the legalities and thinks that the Marion Township Board would be better suited to handle this request.

Cheryl Range made a motion to send this special use permit and site plan request to the Board, with consideration of the residents' concerns and other involved issues. Bob Hanvey seconded.
Motion carried 4 YES – 1 NO

TXT# 06-17 proposed 6.07.12 Roof pitch and 6.22 LCBD Reference

Cheryl Range motioned to set a public hearing to introduce the new language for the proposed text amendment, TXT# 06-17 6.07.12 Roof pitch and 6.22 LCBD Reference, on Wednesday, April 18, 2018 at 7:30pm. Bruce Powelson seconded. ***Motion carried***

TXT# 07-17 Proposed Changes; Lots

Bob Hanvey motioned to postpone this topic until the next meeting. Bruce Powelson seconded. ***Motion carried***

GO Proposed # 01-17 Land Division

Bob Hanvey motioned to postpone this topic until the next meeting. Bruce Powelson seconded. ***Motion carried***

GO proposed # 05-17 Change Cemetery and Change Park & Recreation

Bob Hanvey motioned to postpone this topic until the next meeting. Bruce Powelson seconded. ***Motion carried***

Proposed Ordinance Change List

Bob Hanvey only found one private road in Marion Township that is under 750 feet. Dave Hamann said that our ordinance states that someone should only have one driveway, but also have room for fire and EMS to turn around. Some driveways are not big enough for a turn around. Maybe we should let people have two driveways on one lot if it ends up being safer in the long run? Dave also said that if we want to implement/enforce/edit an existing ordinance, then we need to ask the board first to see if they are even interested in doing so before we spend time and resources in setting a public hearing.

CALL TO THE PUBLIC

Jennifer Provencal resides at 245 Foxfire. Jennifer wanted to make another statement regarding Casa Villa development. This development backs right up to her property line. She is worried about many things like an increase of mosquitos due to the retention basin, along with other unwanted bugs. Also she is worried about her children's safety because this basin will only be 15 feet behind her house. They should put this retention basin somewhere else so the existing neighbors don't have to deal with the issues that could result from having this basin installed.

ADJOURNMENT

Claire Stevens motioned to adjourn the meeting at 10:00pm. Larry Grunn seconded. ***Motion carried***

Minutes Taken By: Jessica Timberlake

Dave Hamann

From: Kim Hiller <khiller@livingstonroads.org>
Sent: Friday, March 09, 2018 7:27 AM
To: Dave Hamann
Subject: RE: Casa Villa Ent. PUD#01-18 Golf Range

Hi Dave,

The location of the proposed approach appears to be at the same location as the existing commercial approach, which is acceptable.

We will perform a detailed review once the applicant submits a private road approach permit application.

Thank you,

Kim Hiller, P.E.
Utilities and Permits Engineer
Livingston County Road Commission
3535 Grand Oaks Dr.
Howell, MI 48843
Ph. (517) 546-4250

From: Dave Hamann [mailto:za@mariontownship.com]
Sent: Thursday, March 08, 2018 2:29 PM
To: Kim Hiller
Subject: RE: Casa Villa Ent. PUD#01-18 Golf Range

Hi Kim, here is the second submittal for the above PUD attached for your review. We have a public hearing set for March 27,2018 for this project.

Dave Hamann
Zoning Administrator
Marion Township
za@mariontownship.com

From: Kim Hiller [mailto:khiller@livingstonroads.org]
Sent: Wednesday, February 07, 2018 2:27 PM
To: Dave Hamann <za@mariontownship.com>
Cc: philaw@spicergroup.com
Subject: RE: Casa Villa Ent. PUD#01-18 Golf Range

Dave,

A sight distance review has not been completed for this sight plan. In a previous review from 2016, it was determined that the existing commercial approach was the only location along the frontage of Peavy Road that meet our sight distance requirements.

The westerly approach (near Mason Road) needs to be a minimum of 250' from the intersection. Our specifications also state that 2 road approaches on the same property shall be 660' apart. The site plan does not meet these requirements.

The site plan also does not show the standard road approach.

Please let me know if you have any questions.

Thank you,

Kim Hiller, P.E.
Utilities and Permits Engineer
Livingston County Road Commission
3535 Grand Oaks Dr.
Howell, MI 48843
Ph. (517) 546-4250

From: Dave Hamann [mailto:za@mariontownship.com]
Sent: Wednesday, February 07, 2018 9:50 AM
To: Kim Hiller
Subject: Casa Villa Ent. PUD#01-18 Golf Range

Hi Kim, , Attached is a new conceptual PUD #01-18 for the old Family Golf site at Peavy and Mason to be reviewed at the February 27,2018 Planning Commission meeting. Included is the application, the impact analysis, and the prints in PDF form. Please let me know if you prefer paper prints.

Please send your review comments by 2/26/2018.

Dave Hamann
Zoning Administrator
Marion Township
za@mariontownship.com

HOWELL AREA FIRE DEPARTMENT

FIRE MARSHAL DIVISION

1211 W. Grand River
Howell, MI 48843
517-546-0560
FAX: 517-546-6011
firemarshal@howellfire.net

DATE: May 14, 2018

TO: Dave Hamann
Marion Township Zoning Administrator

FROM: Jamil Czubenko, Battalion Chief/Fire Marshal

PROJECT: PUD#01-18 Golf Ranch Site Plan, Marion Township

REF: Site Plan Review-**Approved w/exceptions noted**

COMMENTS:
I have reviewed the above listed site plan and find that it is ***satisfactory*** as presented as long as the following conditions are met:

1. Where the road is 20' wide to 26' wide then I would require that no parking be allowed on both side of the street and be posted with "No Parking-Fire Lane" signs. Where the road is more than 26' wide to 32' wide then I would require that no parking be allowed on the hydrant side of the street and be posted with "No Parking this side of street" signs. (2012 IFC D103.6.1)

2. Developments of one- or two-family dwellings where the number of dwelling units exceeds 30 shall be provided with separate and approved fire apparatus access roads and shall be placed a distance apart equal to not less that one half of the length of the maximum overall diagonal dimension of the property or area to be served, measured in a straight line between accesses. (2012 IFC D107.1)

3. Fire Hydrants shall be installed at all street intersections and at intermediate locations so that in no case will the distance between hydrants exceeds 400' via dedicated right-of-away. Where near a street intersection, hydrants shall be located 15' in back of the intersecting street ROW. Hydrants shall generally be located between the edge of road and sidewalk, if applicable, minimum of 3 feet, maximum of 10 feet off pavement. A Fire hydrant shall be installed on the end of dead end mains.

4. All roads in this development shall not exceed 10 percent in grade.

Any changes in this site plan shall be submitted to the Howell Fire Department for additional approval. If there is anything further that you need, please feel free to give me a call. Thank you for the opportunity to review this site plan.

Dave Hamann

From: Aaron Aumock <AAumock@livgov.com>
Sent: Friday, February 09, 2018 2:36 PM
To: Dave Hamann
Subject: RE: Casa Villa Ent. PUD#01-18 Golf Range
Attachments: 850 Peavy Rd..pdf

Dave,

The existing facility at 850 Peavy Rd. has two 4" wells that would need to be properly abandoned by a licensed Michigan well driller and the "abandoned well plugging records" submitted to the Health Department. I am not sure if the facility was ever connected to sewers, but attached is the location of the wells and existing septic system. We would need verification that the existing septic tank and pump chamber have been pumped by a licensed septage hauler and both tanks have been crushed and filled or removed from the site. Because a demolition permit would be required from the Building Department for the existing building, a waiver would be required from the Health Department prior to issuance of said Building permit. Once the existing well and septic tanks have been properly abandoned, the Health Department would have no further issues with proposed development.

Any questions let me know,

Aaron Aumock, REHS, PEM
Field Program Coordinator
Livingston County Health Department
2300 E. Grand River, Suite 102
Howell, MI 48843-7578
P: 517.552.6873
F: 517.546.9853
aaumock@livgov.com

LIVINGSTON COUNTY
Health Department

From: Dave Hamann [mailto:za@mariontownship.com]
Sent: Wednesday, February 7, 2018 9:48 AM
To: Aaron Aumock <AAumock@livgov.com>
Subject: Casa Villa Ent. PUD#01-18 Golf Range

Mimecast Attachment Protection has deemed this file to be safe, but always exercise caution when opening files.

Hi Aaron, Attached is a new conceptual PUD #01-18 for the old Family Golf site at Peavy and Mason to be reviewed at the February 27,2018 Planning Commission meeting. Included is the application, the impact analysis, and the prints in PDF form. Please let me know if you prefer paper prints.

Please send your review comments by 2/26/2018.

Dave Hamann
Zoning Administrator
Marion Township
za@mariontownship.com

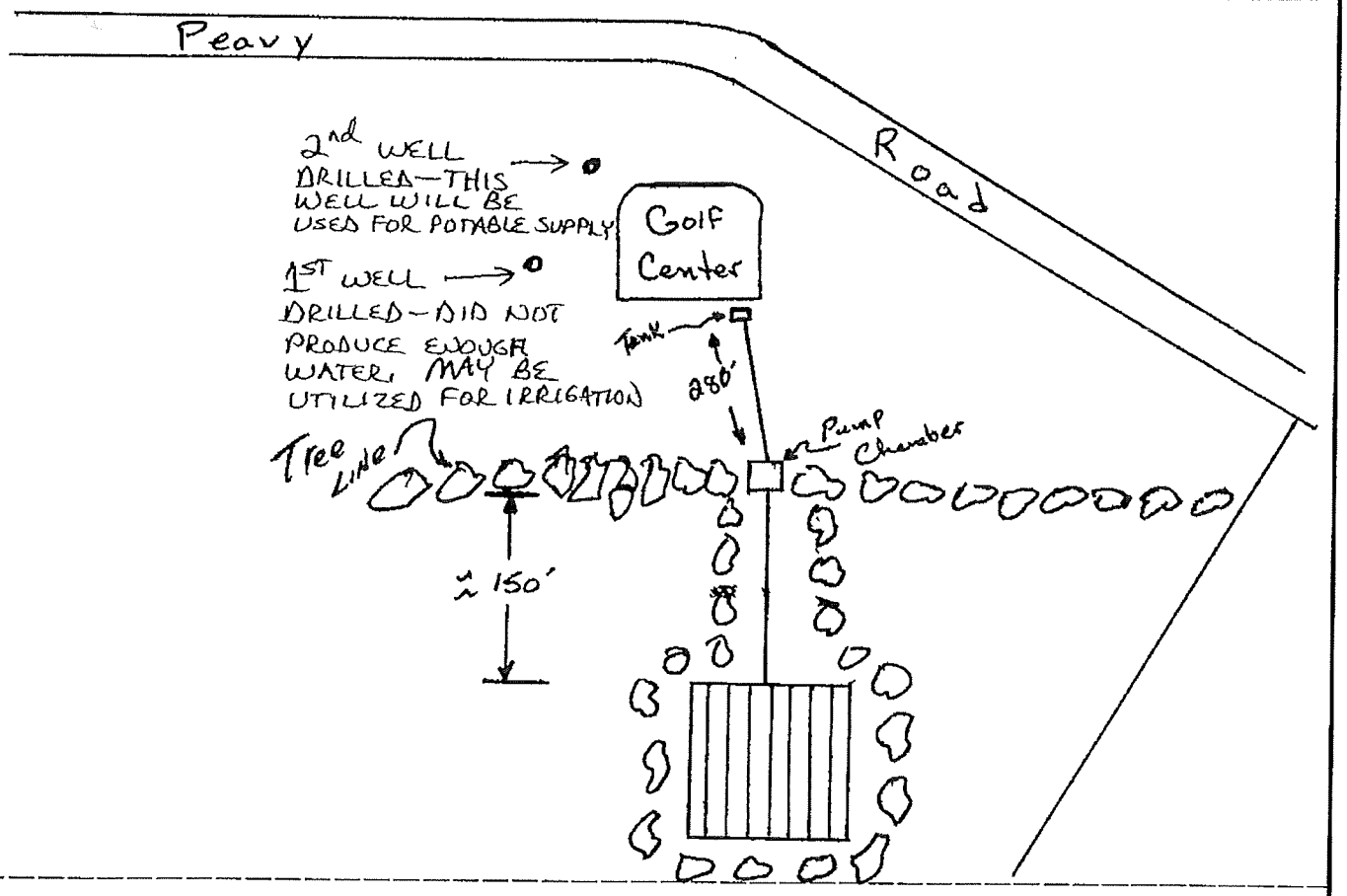
Livingston County Health Department—Environmental Health Division
204 S Highlander Way, Howell, Michigan 48843
(517) 546-9850

HOMEOWNER INFORMATION SHEET FOR WATER SUPPLY AND/OR SEWAGE DISPOSAL FACILITIES

The following sketch represents the location of the on-site sewage disposal system and/or water well supply for the dwelling located at
850 Peavy Rd. Howell, Mi. 48843 (Family Golf Center

Septic Tank Size _____ Dimensions of System 34'x35'

Absorption Bed/~~Trench~~ 1200 No of Lines 9



Well Driller PAT KLUESNER Sewage Disposal Contractor R. Wellman

Water Supply Approved 8/19/87 J.M. Date Sewage Disposal Facilities Approved 8-13-87 Date

Please read the attached information regarding maintenance and care of the on-site sewage disposal facilities The on-site sewage disposal system was inspected and approved in accordance with the Livingston County Sanitary Code The water supply system was approved after reviewing the well log submitted by the well driller and receiving acceptable water quality analysis If you did not receive a copy of your well log from the driller, please contact the Environmental Health Division of the Livingston County Health Department

Since many interrelating factors contribute to the failure of a sewage disposal system and/or changes in water quality, approval cannot be considered as a guarantee by the Environmental Health Division that successful operation or quality of drinking water is assured On-site sewage disposal systems under the best of installation conditions and practices are in no way the equivalent of municipal sewer collection and treatment facilities

Form 4922 • Haviland Printing & Graphics Howell MI (517) 546-7030

IMPACT ASSESSMENT
FOR
CONCEPTUAL PUD PETITION
"GOLF RANCH"
MARION TOWNSHIP, LIVINGSTON COUNTY
MICHIGAN

Prepared for:

CASA VILLA BUILDERS
37603 S. GROESBECK HWY
CHARTER TWP OF CLINTON, MICHIGAN 48036
(586) 783-3200

Prepared by:

BOSS ENGINEERING COMPANY
3121 E. GRAND RIVER
HOWELL, MI 48843
(517) 546-4836

February 6th , 2018
REVISED: March 6th, 2018
REVISED: April 3rd, 2018
REVISED: May 10th, 2018

17-228EIA

INTRODUCTION

The purpose of this Impact Assessment (IA) report is to show the effect that this proposed development may have on various factors in the general vicinity of the project. The format used for presentation of this report conforms to the general outline presented in Section 13.04 of the Marion Township Zoning Ordinance.

DISCUSSION ITEMS

A. Name(s) and address(es) of person(s) responsible for preparation of the impact assessment and a brief statement of their qualifications.

Prepared By :
Brent W. LaVanway, P.E.
BOSS ENGINEERING COMPANY
Civil Engineers, Land Surveyors, Landscape Architects and Planners
3121 E. Grand River
Howell, MI 48843
(517) 546-4836

Prepared For :
Casa Villa Builders
Client
37603 S.Groesbeck Hwy
Clinton Twp of Clinton, MI 48036
(734) 449-4715

B. Map(s) and written description / analysis of the project site.
The site is located on the west side of Peavy Road immediately west of the I-96 interstate. The subject property is currently a vacant driving range facility. The site contains an existing clubhouse/office, a parking lot, an outbuilding structure, and a small tee box area. The majority of the rest of the site is an open field.

C. Impact on natural features:
The total site area is 20.53 acres. As mentioned previously the site is a vacant driving range and is mostly an open field with minimal vegetative cover with the exception being the south east corner which contains a modest amount of wooded tree cover. Due to the previously developed nature of the site, the impact on natural features will be minimal. A portion of the wooded area in the south-east corner will be removed but, enough of the wooded area should be preserved to help maintain a natural buffer between the proposed development and the development to the south. No wetlands, streams, or open bodies of water are present on the site.

D. Impact on public facilities and services:
The impact on public facilities and services for the proposed development is anticipated to be rather small. The proposed development only consists of 45 units that will feature homes of modest size. The impact for services such as the fire and police department is merely that 45 more homes are being added into an area that is already populated with homes, and given that the development is of higher

density by nature, the access to more homes is easier than say a typical 1 acre residential development. Fire hydrants will be provided throughout the development aiding the fire departments responsibility to protect 45 more homes. The target buyer of the homes for the proposed development are those seeking to downsize from their current home, looking for less maintenance around the house, and like having an individual unit rather than a "common wall" with a neighbor. For the previously stated reason the anticipated impact on the local school system should be minimal.

In regard to utilities, storm water will be handled on site through the use of a retention basin and series of pipes routing storm water runoff into the proposed basin. Water and sanitary sewer service will be accessed by tying into the existing water main and sanitary that exist within the R.O.W of Peavy and Mason Rd respectively. With tying into an existing system there will be a small impact on water demand and a sanitary waste increase but, again, these impacts will be minor.

To assess the impact of traffic on Peavy Rd we first need to explain the method of measuring traffic impact which is done through what is called Level of Service (LOS). LOS is a qualitative measure used to relate quality of traffic service broken down into letter grades from A-F. The letter grades are further described below:
A-free flow; Traffic flows at or above the posted speed limits and motorists have complete mobility between lanes with an average spacing between vehicles of approximately 550 feet.
B-reasonably free flow; LOS A speeds are maintained, maneuverability within the traffic stream is slightly restricted with the lowest average vehicle spacing of approximately 330 feet.
C- stable flow, at or near free flow; Ability to maneuver through lanes is noticeably restricted and lane changes require more driver awareness with a minimum vehicle spacing of approximately 220 feet.
D- approaching unstable flow; Speeds slightly decrease as traffic volume slightly increases, freedom to maneuver within the traffic stream is much more limited and driver comfort level decreases with vehicle spacing approximately at 160 feet.
E- unstable flow, operating at capacity; Flow becomes irregular and speed varies rapidly because there are virtually no usable gaps to maneuver in the traffic stream and speeds rarely reach the posted speed limit.
F-forced or breakdown flow; Every vehicle moves in lockstep with the vehicle in front of it, with frequent slowing required where travel times cannot be predicted. A road in a traffic jam.

Using the ITE Trip Generation Guide a development like this could anticipate around 6.5 daily trips per unit which would equate to about 293 total trips for the proposed development. SEMCOG data from 2015 shows that 1,178 trips occur along Peavy Rd between Tracilee and Mason Rd. With traffic volumes that low Peavy Rd would be considered a LOS A presently. Adding the daily trips from the proposed development will surely impact the traffic on Peavy Rd however, even with daily trips going from approximately 1,200 to 1,500 still results in a LOS A for Peavy Rd. In short, the proposed development will have a minimal impact on traffic for Peavy Rd.

E. A list of all sources shall be provided.

Marion Township Zoning Ordinances

Soil Survey of Livingston County, Michigan, U.S.D.A. Soil Conservation Service

National Wetland Inventory Plan, United States Department of the Interior, Fish and Wildlife Service

SEMCOG Website

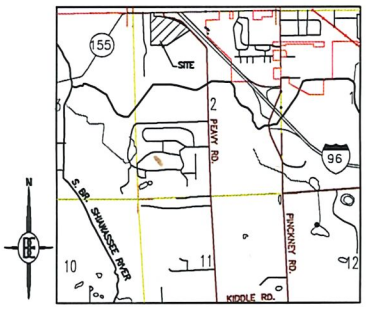
ITE Trip Generation Guide 6th Edition

CONCEPTUAL PLANNED UNIT DEVELOPMENT PLAN
FOR
GOLF RANCH
PART OF NW 1/4, SECTION 2
MARION TOWNSHIP, LIVINGSTON COUNTY, MI

PROPERTY DESCRIPTION:

DESCRIPTION PER COMMONWEALTH TITLE INSURANCE AGENCY, INC., COMMITMENT NO. 368931-31, DATED JANUARY 7, 2015 AT 8:00AM:

Part of the Northwest 1/4 of Section 2; thence North 89 degrees 23 minutes 15 seconds East 663.80 feet along the North line of Section 2 and centerline of Mason Road; thence South 02 degrees 00 minutes 13 seconds East 50 feet to the Point of Beginning; thence North 89 degrees 23 minutes 15 seconds East 113.31 feet; thence South 02 degrees 00 minutes 13 seconds East 136 feet; thence North 89 degrees 23 minutes 13 seconds East 288.88 feet; thence South 00 degrees 35 minutes 38 seconds East 23 feet; thence South 78 degrees 56 minutes 18 seconds East 421.28 feet; thence along arc of a curve to the right 428.88 feet with a radius of 743.51 feet central angle 32 degrees 53 minutes 39 seconds and long chord bears South 62 degrees 29 minutes 28 seconds East 421.02 feet; thence North 43 degrees 57 minutes 21 seconds East 40 feet; thence South 44 degrees 02 minutes 39 seconds East 147.73 feet; thence South 49 degrees 34 minutes 57 seconds West 818.43 feet; thence South 89 degrees 23 minutes 15 seconds West 831.80 feet to East line of Fawcett Subdivision; thence North 02 degrees 00 minutes 13 seconds West 1074.51 feet along said line to the Point of Beginning.

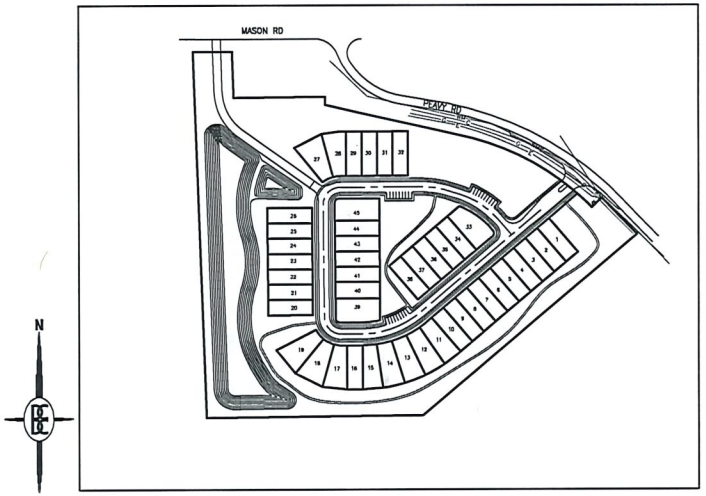


LOCATION MAP
NO SCALE

CONSTRUCTION NOTES

THE CONTRACTOR SHALL COMPLY WITH THE FOLLOWING NOTES AND ANY WORK INVOLVED SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.

1. THE CONTRACTOR SHALL HOLD HARMLESS THE DESIGN PROFESSIONAL, MUNICIPALITY, COUNTY, STATE AND ALL OF ITS SUB CONSULTANTS, PUBLIC AND PRIVATE UTILITY COMPANIES, AND LANDOWNERS FOR DAMAGES TO INDIVIDUALS AND PROPERTY, REAL OR OTHERWISE, DUE TO THE OPERATIONS OF THE CONTRACTOR AND/OR THEIR SUBCONTRACTORS.
2. DO NOT SCALE THESE DRAWINGS AS IT IS A REPRODUCTION AND SUBJECT TO DISTORTION.
3. A GRADING PERMIT FOR SOIL EROSION-SEDIMENTATION CONTROL SHALL BE OBTAINED FROM THE GOVERNING AGENCY PRIOR TO THE START OF CONSTRUCTION.
4. IF DUST PROBLEM OCCURS DURING CONSTRUCTION, CONTROL WILL BE PROVIDED BY AN APPLICATION OF WATER, EITHER BY SPRINKLER OR TANK TRUCK.
5. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH LOCAL MUNICIPAL STANDARDS AND SPECIFICATIONS.
6. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED TOWNSHIP, COUNTY, AND STATE OF MICHIGAN PERMITS.
7. PAVED SURFACES, WALKWAYS, SIGNS, LIGHTING AND OTHER STRUCTURES SHALL BE MAINTAINED IN A SAFE, ATTRACTIVE CONDITION AS ORIGINALLY DESIGNED AND CONSTRUCTED.
8. ALL BARRIER-FREE FEATURES SHALL BE CONSTRUCTED TO MEET ALL LOCAL, STATE AND A.D.A. REQUIREMENTS.
9. ANY DISCREPANCY IN THIS PLAN AND ACTUAL FIELD CONDITIONS SHALL BE REPORTED TO THE DESIGN ENGINEER PRIOR TO THE START OF CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL SETBACKS, EASEMENTS AND DIMENSIONS SHOWN HEREON BEFORE BEGINNING CONSTRUCTION.
10. THE CONTRACTOR SHALL CONTACT ALL OWNERS OF EASEMENTS, UTILITIES AND RIGHTS-OF-WAY, PUBLIC OR PRIVATE, PRIOR TO THE START OF CONSTRUCTION.
11. THE CONTRACTOR SHALL COORDINATE WITH ALL OWNERS TO DETERMINE THE LOCATION OF EXISTING LANDSCAPING, IRRIGATION LINES & PRIVATE UTILITY LINES. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO EXISTING LANDSCAPING, IRRIGATION LINES, AND PRIVATE UTILITY LINES.
12. THE CONTRACTOR SHALL REMOVE ALL TRASH AND DEBRIS FROM THE SITE UPON COMPLETION OF THE PROJECT.
13. THE CONTRACTOR SHALL MAINTAIN THE SITE IN A MANNER SO THAT WORKMEN AND PUBLIC SHALL BE PROTECTED FROM INJURY, AND ADJOINING PROPERTY PROTECTED FROM DAMAGE.
14. THE CONTRACTOR SHALL KEEP THE AREA OUTSIDE THE "CONSTRUCTION LIMITS" BROOM CLEAN AT ALL TIMES.
15. THE CONTRACTOR SHALL CALL MISS DIG A MINIMUM OF 72 HOURS PRIOR TO THE START OF CONSTRUCTION.
16. ALL EXCAVATION UNDER OR WITHIN 3 FEET OF PUBLIC PAVEMENT, EXISTING OR PROPOSED SHALL BE BACKFILLED AND COMPACTED WITH SAND (MDOT CLASS II).
17. ALL PAVEMENT REPLACEMENT AND OTHER WORKS COVERED BY THESE PLANS SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF THE TOWNSHIP, INCLUDING THE LATEST MICHIGAN DEPARTMENT OF TRANSPORTATION (MDOT) SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.
18. THE CONTRACTOR IS RESPONSIBLE FOR ALL DAMAGE TO EXISTING UTILITIES.
19. NO ADDITIONAL COMPENSATION WILL BE PAID TO THE CONTRACTOR FOR ANY DELAY OR INCONVENIENCE DUE TO THE MATERIAL SHORTAGES OR RESPONSIBLE DELAYS DUE TO THE OPERATIONS OF SUCH OTHER PARTIES DOING WORK INDICATED OR SHOWN ON THE PLANS OR IN THE SPECIFICATION OR FOR ANY REASONABLE DELAYS IN CONSTRUCTION DUE TO THE ENCOUNTERING OR EXISTING UTILITIES THAT MAY OR MAY NOT BE SHOWN ON THE PLANS.
20. DURING THE CONSTRUCTION OPERATIONS, THE CONTRACTOR SHALL NOT PERFORM WORK BY PRIVATE AGREEMENT WITH PROPERTY OWNERS ADJACENT TO THE PROJECT.
21. IF WORK EXTENDS BEYOND NOVEMBER 15, NO COMPENSATION WILL BE DUE TO THE CONTRACTOR FOR ANY WINTER PROTECTION MEASURES THAT MAY BE REQUIRED BY THE ENGINEER.
22. NO TREES ARE TO BE REMOVED UNTIL MARKED IN THE FIELD BY THE ENGINEER.
23. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO THE PROPERTY BEYOND THE CONSTRUCTION LIMITS INCLUDING BUT NOT LIMITED TO EXISTING FENCE, LAWN, TREES AND SHRUBBERY.
24. ALL AREAS DISTURBED BY THE CONTRACTOR BEYOND THE NORMAL CONSTRUCTION LIMITS OF THE PROJECT SHALL BE SODDED OR SEEDED AS SPECIFIED OR DIRECTED BY THE ENGINEER.
25. ALL ROOTS, STUMPS AND OTHER OBJECTIONABLE MATERIALS SHALL BE REMOVED AND THE HOLE BACKFILLED WITH SUITABLE MATERIAL. WHERE GRADE CORRECTION IS REQUIRED, THE SUBGRADE SHALL BE CUT TO CONFORM TO THE CROSS-SECTION AS SHOWN IN THE PLANS.
26. TRAFFIC SHALL BE MAINTAINED DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL SIGNS AND TRAFFIC CONTROL DEVICES. FLAG PERSONS SHALL BE PROVIDED BY THE CONTRACTOR IF DETERMINED NECESSARY BY THE ENGINEER. ALL SIGNS SHALL CONFORM TO THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AT NO COST TO THE TOWNSHIP. NO WORK SHALL BE DONE UNLESS THE APPROPRIATE TRAFFIC CONTROL DEVICES ARE IN PLACE.
27. ALL DEMOLISHED MATERIALS AND SOIL SPOILS SHALL BE REMOVED FROM THE SITE AT NO ADDITIONAL COST, AND DISPOSED OF IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.
28. AFTER REMOVAL OF TOPSOIL, THE SUBGRADE SHALL BE COMPACTED TO 95% OF ITS UNIT WEIGHT.
29. ALL GRADING IN THE PLANS SHALL BE DONE AS PART OF THIS CONTRACT. ALL DELETERIOUS MATERIAL SHALL BE REMOVED FROM THE SUBGRADE PRIOR TO COMPACTING.
30. NO SEEDING SHALL BE DONE AFTER OCTOBER 15 WITHOUT APPROVAL OF THE ENGINEER.
31. ANY EXISTING APPURTENANCES SUCH AS MANHOLES, GATE VALVES, ETC. SHALL BE ADJUSTED TO THE PROPOSED GRADE AND SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
32. SOIL EROSION MEASURES SHALL BE MAINTAINED BY THE CONTRACTOR UNTIL VEGETATION HAS BEEN RE-ESTABLISHED.
33. ALL PERMANENT SIGNS AND PAVEMENT MARKINGS SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST REVISION OF THE MICHIGAN MUTCD MANUAL AND SHALL BE INCIDENTAL TO THE CONTRACT.



OVERALL SITE MAP
NO SCALE

SHEET INDEX

SHEET NO.	DESCRIPTION
1	COVER SHEET
2	EXISTING CONDITIONS & DEMOLITION PLAN
3	LAND USE ANALYSIS PLAN
4	SITE PLAN
5	GRADING & DRAINAGE PLAN
6	UTILITY PLAN
7	LANDSCAPE PLAN
8	PARALLEL PLAN (SR ZONING)
9	ARCHITECTURAL ELEVATIONS
10	ARCHITECTURAL FLOOR PLANS

INDEMNIFICATION STATEMENT

THE CONTRACTOR SHALL HOLD HARMLESS THE DESIGN PROFESSIONAL, MUNICIPALITY, COUNTY, STATE AND ALL OF ITS SUB CONSULTANTS, PUBLIC AND PRIVATE UTILITY COMPANIES, AND LANDOWNERS FOR DAMAGES TO INDIVIDUALS AND PROPERTY, REAL OR OTHERWISE, DUE TO THE OPERATIONS OF THE CONTRACTOR AND/OR THEIR SUBCONTRACTORS.

GOLF RANCH

PREPARED FOR:

CASA VILLA BUILDERS
37603 SOUTH GROESBECK
CLINTON TOWNSHIP, MI 48036
CONTACT: VITO SERRA
PHONE: (586) 783-3200

PREPARED BY:

BEBOSS Engineering
Engineers Surveyors Planners Landscape Architects
3121 E. GRAND RIVER AVE.
HOWELL, MI. 48843
800.246.6735 FAX 517.548.1670

FOR SITE PLAN APPROVAL ONLY! NOT FOR CONSTRUCTION

NO	BY	CK	REVISION	DATE
3	CH		PER TOWNSHIP BOARD	5-10-18
2	CH		PER PLANNING COMMISSION	4-3-18
1	CH		PER FIRST CONCEPTUAL MEETING	3-6-18

1

ISSUE DATE: 2-6-18
JOB NO. 17-226

SCALE 1 INCH = 60 FEET

N

SOILS INFORMATION

CvA – CONOVER LOAM 0%–2%

MoB– MIAMI LOAM 2%–6%

*SOILS BASED UPON WE SOIL SURVEY PER USDA–NATURAL RESOURCES CONSERVATION SERVICE

LEGEND

PROPOSED (PR)	EXISTING (EX)	
900	900	CONTOUR
		STORM DRAINAGE FLOW
922.00	922.08	SPOT ELEVATION
FF	FF	FINISHED FLOOR ELEVATION
FG	FG	FINISHED GRADE ELEVATION
T/A	T/A	TOP OF ASPHALT
T/C	T/C	TOP OF CURB / CONCRETE
T/W	T/W	TOP OF WALK
F/L	F/L	FLOW LINE
T/P	T/P	TOP OF PIPE
B/P	B/P	BOTTOM OF PIPE
RIM	RIM	RIM ELEVATION
INV	INV	INVERT ELEVATION
MH	MH	MANHOLE STRUCTURE
IN	IN	INLET STRUCTURE
CB	CB	CATCHBASIN STRUCTURE
RY	RY	REARYARD STRUCTURE
ES	ES	END–SECTION
GV	GV	GATEVALVE STRUCTURE
HY	HY	HYDRANT
UP	UP	UTILITY POLE
SM	SM	SANITARY SEWER
SL	SL	SANITARY LEAD
FM	FM	FORCE MAIN
PS	PS	PRESSURE SEWER
ST	ST	STORM SEWER
WM	WM	WATER MAIN
WL	WL	WATER LEAD
FO	FO	FIBER OPTIC
OH	OH	OVERHEAD WIRE
C	C	CABLE
E	E	ELECTRIC
G	G	GAS
T	T	TELEPHONE
		MANHOLE
		INLET / CATCHBASIN
		FLARED END–SECTION
		GATE VALVE
		HYDRANT
		UTILITY POLE
		FENCE
		SIGN
TBR	NFV	NOT FIELD VERIFIED
CSB		TO BE REMOVED
		COMPACTED SAND BACKFILL
		SANITARY SEWER LABEL
		STORM SEWER LABEL
		WATER MAIN LABEL
		SOIL EROSION CONTROL MEASURE (P=PERMANENT, T=TEMPORARY)
		SILT FENCE
		LIMITS OF GRADING/CLEARING
		WETLAND BOUNDARY
TBR		TO BE REMOVED

GENERAL SURVEY NOTES:

1. BEARINGS WERE ESTABLISHED FROM A PREVIOUS SURVEY BY PATRICK BENTON, JOB NO. 88–S–4611, DATED OCTOBER 28, 1988.
2. SUBSURFACE UTILITIES NOT LOCATED FOR THIS SURVEY MAY EXIST. IT IS THE RESPONSIBILITY OF THE OWNER OF THE RESPECTIVE UTILITY TO ACCURATELY LOCATE SUCH UTILITIES.
3. EASEMENTS OR RESTRICTIONS OF RECORD NOT DEPICTED ON THIS DRAWING MAY EXIST.
4. MICHIGAN OIL AND GAS LEASE, AS RECORDED IN LIBER 305, PAGE 149 AND GAS STORAGE AGREEMENT AND OIL AND GAS LEASE, AS RECORDED IN LIBER 313, PAGE 187 AND AFFIDAVIT OF NOTICE TO RETAIN MINERAL RIGHTS, AS RECORDED IN LIBER 893, PAGE 823, LIVINGSTON COUNTY RECORDS ARE BLANKET AGREEMENTS OVER THAT PART OF SUBJECT PROPERTY LOCATED WITHIN THE WEST 1/2 OF THE NORTH PART OF THE NORTHWEST FRACTIONAL 1/4 OF SECTION 2. ALSO COVERS OTHER LANDS.
5. MICHIGAN OIL AND GAS LEASES, AS RECORDED IN LIBER 223, PAGE 32 AND LIBER 224, PAGE 20, AND GAS STORAGE AGREEMENT AND OIL AND GAS LEASE, AS RECORDED IN LIBER 313, PAGE 198 AND AFFIDAVIT OF NOTICE OF INTENTION TO RETAIN MINERAL RIGHTS, AS RECORDED IN LIBER 694, PAGE 5, LIVINGSTON COUNTY RECORDS ARE BLANKET AGREEMENTS OVER THAT PART OF SUBJECT PROPERTY LOCATED WITHIN THE EAST 1/2 OF THE NORTHWEST FRACTIONAL 1/4 OF SECTION 2. ALSO COVERS OTHER LANDS.
6. AFFIDAVIT OF PIPELINE LOCATION, AS RECORDED IN LIBER 384, PAGE 533, LIVINGSTON COUNTY RECORDS INDICATES THAT PANHANDLE EASTERN PIPE LINE COMPANY HAS CONSTRUCTED A HIGH PRESSURE NATURAL GAS PIPELINE WITHIN THE NORTH 1/2 OF FRACTIONAL SECTION 2. THE PIPELINE IS LOCATED ALONG THE NORTHEASTERLY SIDE OF PEAVY ROAD AND SOUTHWESTERLY SIDE OF I–96 AND DOES NOT CROSS SUBJECT PROPERTY.

DESCRIPTION PER COMMONWEALTH TITLE INSURANCE AGENCY, INC. COMMITMENT NO. 365931–31, DATED JANUARY 7, 2015 AT 8:00AM:

Part of the Northwest 1/4 of Section 2; thence North 89 degrees 23 minutes 13 seconds East 883.80 feet along the North line of Section 2 and centerline of Mason Road; thence South 02 degrees 00 minutes 13 seconds East 50 feet to the Point of Beginning; thence North 89 degrees 23 minutes 13 seconds East 113.31 feet; thence South 02 degrees 00 minutes 13 seconds East 130 feet; thence North 89 degrees 23 minutes 13 seconds East 268.08 feet; thence South 00 degrees 33 minutes 39 seconds East 23 feet; thence South 76 degrees 58 minutes 18 seconds East 421.28 feet; thence along arc of a curve to the right 428.86 feet with a radius of 743.31 feet, central angle 32 degrees 53 minutes 39 seconds and long chord bears South 60 degrees 29 minutes 28 seconds East 421.02 feet; thence North 43 degrees 57 minutes 21 seconds East 40 feet; thence South 44 degrees 02 minutes 39 seconds East 147.73 feet; thence South 49 degrees 34 minutes 57 seconds West 818.45 feet; thence South 89 degrees 23 minutes 13 seconds West 631.80 feet to East line of Foxcroft Subdivision; thence North 02 degrees 00 minutes 13 seconds West 1074.51 feet along said line to the Point of Beginning.

THE LOCATION OF SERVICES OR UTILITIES SHOWN ON THESE PLANS IS BASED ON INFORMATION OBTAINED FROM RECORDS OF THE RESPECTIVE UTILITY COMPANIES AND FIELD SURVEY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION AND ELEVATION OF ALL UTILITIES AND SERVICES AFFECTED BY THE PROPOSED CONSTRUCTION, AND SHALL CONTACT THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION IS TO BEGIN. IT IS ALSO THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY MISS DIG AT 1-800-482-7171 OR 811 AT LEAST 72 HOURS BUT NOT MORE THAN 10 WORKING DAYS PRIOR TO THE START OF ANY EXCAVATION.

BOSS Engineering
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HOWELL, MI. 48843
800.246.6735 FAX 517.548.1670

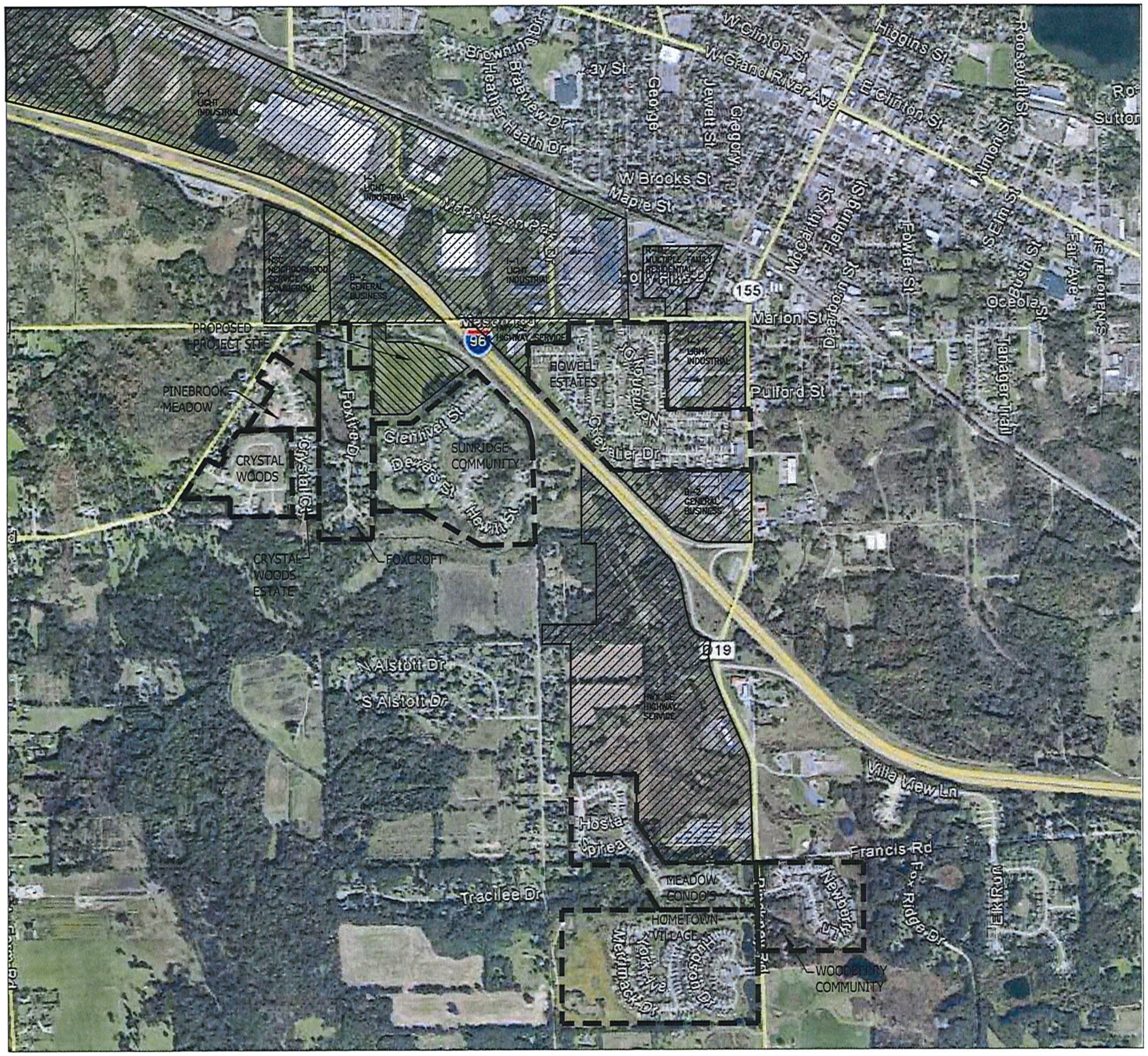
PROJECT: GOLF RANCH

PREPARED FOR: CASA VILLA
37633 S. GROESBECK HWY
CHARTER TOWNSHIP OF CLINTON, MI 48035
(586) 783-5200

TITLE: EXISTING CONDITIONS & DEMOLITION PLAN

NO	BY	REVISION PER	DATE
3	CH	PER PRE-CONSTRUCTION MEETING	5-10-18
2	CH	PER PLANNING COMMISSION	4-5-18
1	CH	PER FIRST CONCEPTUAL MEETING	3-6-18

DESIGNED BY:
DRAWN BY: CH
CHECKED BY:
SCALE 1" = 60'
JOB NO. 17-228
DATE 2/6/18
SHEET NO. 2



DENSITY CALCULATIONS:

SUNRIDGE- APPROXIMATELY 73.66 ACRES
99 UNITS / 73.66 AC = 1.34 UNITS/AC

HOWELL ESTATES- APPROXIMATELY 64.21 ACRES
458 UNITS / 64.21 AC = 7.13 UNITS/AC

WOODBERRY- APPROXIMATELY 30.04 ACRES
120 UNITS / 30.04 AC = 4 UNITS/AC

MEADOW CONDO'S- APPROXIMATLEY 36.64 ACRES
118 UNITS / 36.64 AC = 3.22 UNITS/AC

HOMETOWN VILLAGE- APPROXIMATELY 79.91 ACRES
173 UNITS / 79.91 AC = 2.16 UNITS/AC

FOXCROFT - APPROXIMATELY 31.65 ACRES
24 UNITS/ 31.65 AC = .76 UNITS/AC

PINEBROOK MEADOW - APPROXIMATELY 10.38 ACRES
17 UNITS / 10.38 AC = 1.64 UNITS/AC

CRYSTAL WOODS ESTATE- APPROXIMATELY 9 ACRES
21 UNITS / 9 AC = 2.33 UNITS/AC

CRYSTAL WOODS - APPROXIMATELY 20.07 ACRES
76 UNITS / 20.07 AC = 3.79 UNITS/AC

PROPOSED PROJECT SITE- 20.53 ACRES
45 UNITS / 20.53 AC = 2.19 UNITS/AC

THE LOCATION AND ELEVATION OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THESE DRAWINGS ARE ONLY APPROXIMATE. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL BE EXCLUSIVELY RESPONSIBLE FOR DETERMINING THE EXACT LOCATION AND ELEVATION OF EXISTING UTILITIES AND PROPOSED UTILITY CROSSINGS IN THE FIELD PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IF ANY CONFLICTS ARE APPARENT OR IF THE LOCATION OR DEPTH DIFFERS SIGNIFICANTLY FROM THE PLANS.

3 WORKING DAYS BEFORE YOU DIG CALL MISS DIG 1-800-482-7171

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PROJECT
GOLF RANCH

PREPARED FOR
CASA VILLA
37603 S. GROESBECK HWY
CHARTER TOWNSHIP OF CLINTON, MI 48036
(586) 783-3200

TITLE
LAND USE ANALYSIS PLAN

NO	BY	REVISION PER	DATE
3	CH	PER TOWNSHIP BOARD	5-10-18
2	CH	PER PLANNING COMMISSION	4-3-18
1	CH	PER FIRST CONCEPTUAL MEETING	3-6-18

DESIGNED BY:
DRAWN BY: CH
CHECKED BY:
SCALE NO SCALE
JOB NO. 17-228
DATE 2/6/18
SHEET NO. 3

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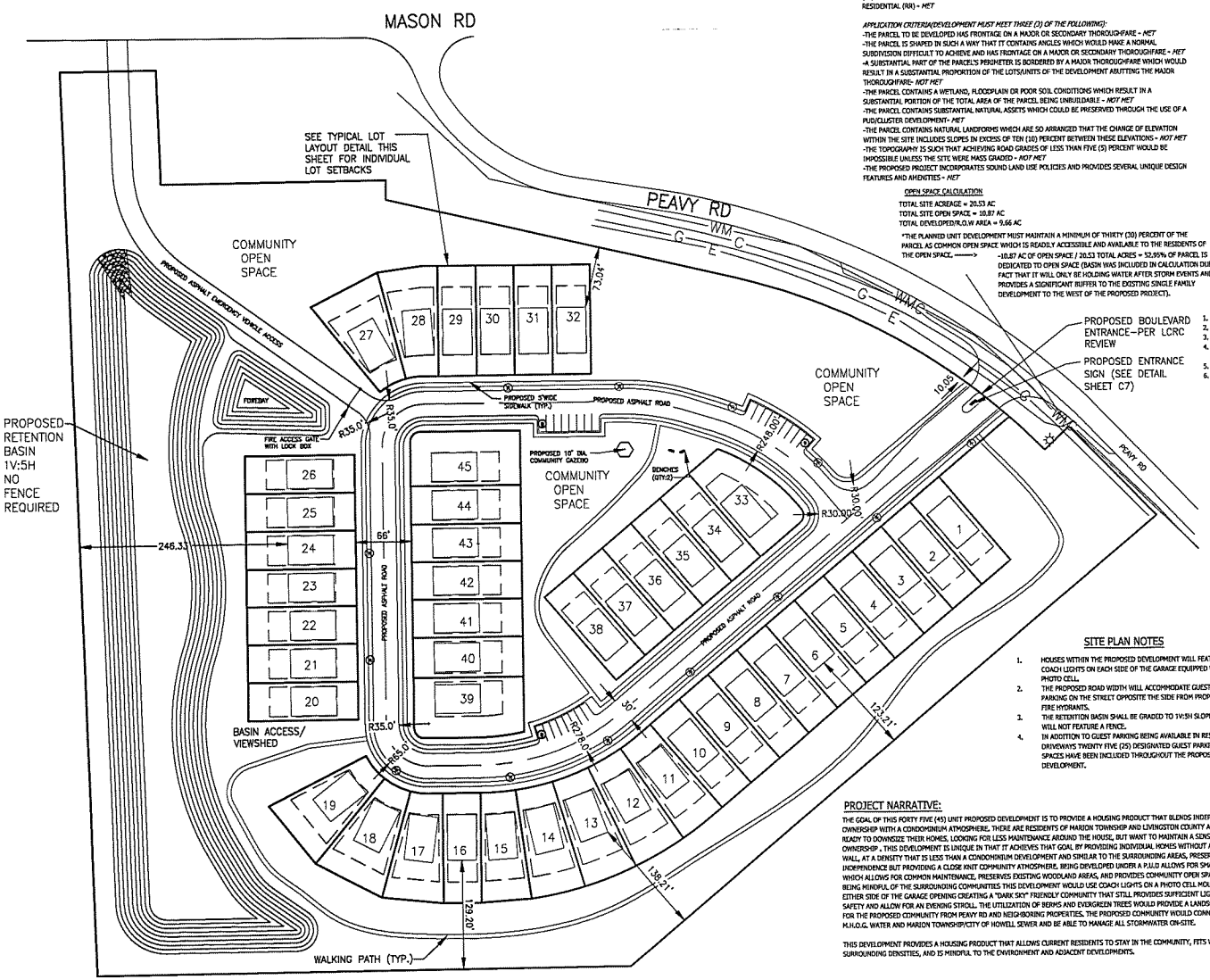


PUD DEVELOPMENT CRITERIA PER MARION TOWNSHIP ZONING ORDINANCE SECTION 13.02 (C)

MINIMUM PARCEL CRITERIA: PROVISIONS OF THIS SECTION MAY BE APPLIED TO ANY PARCEL OF LAND TWENTY (20) ACRES OR GREATER, LOCATED IN ALL RESIDENTIAL DISTRICTS WITH THE EXCEPTION OF RURAL RESIDENTIAL (RR) - *MET*

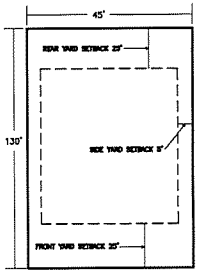
APPLICATION CRITERIA/DEVELOPMENT MUST MEET THREE (3) OF THE FOLLOWING):
-THE PARCEL TO BE DEVELOPED HAS FRONTAGE ON A MAJOR OR SECONDARY THOROUGHFARE - *MET*
-THE PARCEL IS SHAPED IN SUCH A WAY THAT IT CONTAINS ANGLES WHICH WOULD MAKE A NORMAL SUBDIVISION DIFFICULT TO ACHIEVE AND HAS FRONTAGE ON A MAJOR OR SECONDARY THOROUGHFARE - *MET*
-A SUBSTANTIAL PART OF THE PARCELS PERIMETER IS BORDERED BY A MAJOR THOROUGHFARE WHICH WOULD RESULT IN A SUBSTANTIAL PROPORTION OF THE LOTS/UNITS OF THE DEVELOPMENT ABUTTING THE MAJOR THOROUGHFARE- *NOT MET*
-THE PARCEL CONTAINS A WETLAND, FLOODPLAIN OR POOR SOIL CONDITIONS WHICH RESULT IN A SUBSTANTIAL PORTION OF THE TOTAL AREA OF THE PARCEL BEING UNBUILDABLE - *NOT MET*
-THE PARCEL CONTAINS SUBSTANTIAL NATURAL ASSETS WHICH COULD BE PRESERVED THROUGH THE USE OF A PUD/CLUSTER DEVELOPMENT- *MET*
-THE PARCEL CONTAINS NATURAL LANDFORMS WHICH ARE SO ARRANGED THAT THE CHANGE OF ELEVATION WITHIN THE SITE INCLUDES SLOPES IN EXCESS OF TEN (10) PERCENT BETWEEN THESE ELEVATIONS - *NOT MET*
-THE TOPOGRAPHY IS SUCH THAT ACHIEVING ROAD GRADES OF LESS THAN FIVE (5) PERCENT WOULD BE IMPOSSIBLE UNLESS THE SITE WERE MASS GRADED - *NOT MET*
-THE PROPOSED PROJECT INCORPORATES SOUND LAND USE POLICIES AND PROVIDES SEVERAL UNIQUE DESIGN FEATURES AND AMENITIES - *MET*

OPEN SPACE CALCULATION
TOTAL SITE ACREAGE = 20.53 AC
TOTAL SITE OPEN SPACE = 10.87 AC
TOTAL DEVELOPED/R.O.W AREA = 9.66 AC

*THE PLANNED UNIT DEVELOPMENT MUST MAINTAIN A MINIMUM OF THIRTY (30) PERCENT OF THE PARCEL AS COMMON OPEN SPACE WHICH IS READILY ACCESSIBLE AND AVAILABLE TO THE RESIDENTS OF THE OPEN SPACE. ——>

-10.87 AC OF OPEN SPACE / 20.53 TOTAL ACRES = 52.95% OF PARCEL IS DEDICATED TO OPEN SPACE (BASIN WAS INCLUDED IN CALCULATION DUE TO THE FACT THAT IT WILL ONLY BE HOLDING WATER AFTER STORM EVENTS AND IT PROVIDES A SIGNIFICANT BUFFER TO THE EXISTING SINGLE FAMILY DEVELOPMENT TO THE WEST OF THE PROPOSED PROJECT).

SCALE: 1 INCH = 60 FEET



TYPICAL LOT LAYOUT
(NOT TO SCALE)

SITE DATA

EXISTING		PROVIDED	
1.	SUBURBAN RESIDENTIAL (SR)	1.	SR WITH PUD OVERLAY
2.	SITE AREA - 20.53 ACRES	2.	SITE AREA - 20.53 ACRES
3.	MAX. BLDG. HT. ALLOWED - 35 FT.	3.	MAX. BLDG. HT. ALLOWED - 35 FT.
4.	MIN. LOT AREA - 32,670 SQFT (.75 AC), OR 20,000 SQFT (.46 AC) W/ PUBLIC SEWER	4.	MIN. LOT AREA - 5,850 SQFT (.13 AC)
5.	MAX. LOT COVERAGE- 35 %	5.	MAX. LOT COVERAGE- 30 %
6.	SETBACKS FRONT - 35 FT. SIDE - 15 FT. REAR - 25 FT.	6.	SETBACKS FRONT - 25 FT. SIDE - 5 FT. REAR - 25 FT.

SITE PLAN NOTES

1. HOUSES WITHIN THE PROPOSED DEVELOPMENT WILL FEATURE COACH LIGHTS ON EACH SIDE OF THE GARAGE EQUIPPED WITH A PHOTO CELL.
2. THE PROPOSED ROAD WIDTH WILL ACCOMMODATE GUEST PARKING ON THE STREET OPPOSITE THE SIDE FROM PROPOSED FIRE HYDRANTS.
3. THE RETENTION BASIN SHALL BE GRADED TO 1V:5H SLOPE AND WILL NOT FEATURE A FENCE.
4. IN ADDITION TO GUEST PARKING BEING AVAILABLE IN RESIDENT'S DRIVEWAYS TWENTY FIVE (25) DESIGNATED GUEST PARKING SPACES HAVE BEEN INCLUDED THROUGHOUT THE PROPOSED DEVELOPMENT.

PROJECT NARRATIVE:

THE GOAL OF THIS FORTY FIVE (45) UNIT PROPOSED DEVELOPMENT IS TO PROVIDE A HOUSING PRODUCT THAT BLENDS INDEPENDENT HOME OWNERSHIP WITH A CONDOMINIUM ATMOSPHERE. THERE ARE RESIDENTS OF MARION TOWNSHIP AND LIVINGSTON COUNTY ALIKE THAT ARE READY TO DOWNSIZE THEIR HOMES. LOOKING FOR LESS MAINTENANCE AROUND THE HOUSE, BUT WANT TO MAINTAIN A SENSE OF HOME OWNERSHIP , THIS DEVELOPMENT IS UNIQUE IN THAT IT ACHIEVES THAT GOAL BY PROVIDING INDIVIDUAL HOMES WITHOUT A SHARED WALL, AT A DENSITY THAT IS LESS THAN A CONDOMINIUM DEVELOPMENT AND SIMILAR TO THE SURROUNDING AREAS, PRESERVING THEIR INDEPENDENCE BUT PROVIDING A CLOSE KNIT COMMUNITY ATMOSPHERE. BEING DEVELOPED UNDER A P.U.D ALLOWS FOR SMALLER LOTS WHICH ALLOWS FOR COMMON MAINTENANCE, PRESERVES EXISTING WOODLAND AREAS, AND PROVIDES COMMUNITY OPEN SPACE AREAS. BEING MINDFUL OF THE SURROUNDING COMMUNITIES THIS DEVELOPMENT WOULD USE COACH LIGHTS ON A PHOTO CELL MOUNTED TO EITHER SIDE OF THE GARAGE OPENING CREATING A "DARK SKY" FRIENDLY COMMUNITY THAT STILL PROVIDES SUFFICIENT LIGHT TO ENSURE SAFETY AND ALLOW FOR AN EVENING STROLL. THE UTILIZATION OF BERMS AND EVERGREEN TREES WOULD PROVIDE A LANDSCAPE BUFFER FOR THE PROPOSED COMMUNITY FROM PEAVY RD AND NEIGHBORING PROPERTIES. THE PROPOSED COMMUNITY WOULD CONNECT INTO M.H.O.G. WATER AND MARION TOWNSHIP/CITY OF HOWELL SEWER AND BE ABLE TO MANAGE ALL STORMWATER ON-SITE.

THIS DEVELOPMENT PROVIDES A HOUSING PRODUCT THAT ALLOWS CURRENT RESIDENTS TO STAY IN THE COMMUNITY, FITS WELL WITH SURROUNDING DENSITIES, AND IS MINDFUL TO THE ENVIRONMENT AND ADJACENT DEVELOPMENTS.

LEGEND

PROPOSED (PR)	EXISTING (EX)	
900	900	CONTOUR STORM DRAINAGE FLOW
T/C XXX.XX	+ 922.00	SPOT ELEVATION
FF	FF	FINISHED FLOOR ELEVATION
FG	FG	FINISHED GRADE ELEVATION
T/A	T/A	TOP OF ASPHALT
T/C	T/C	TOP OF CURB / CONCRETE
T/W	T/W	TOP OF WALK
F/L	F/L	FLOW LINE
T/P	T/P	TOP OF PIPE
B/P	B/P	BOTTOM OF PIPE
RIM	RIM	RIM ELEVATION
INV	INV	INVERT ELEVATION
MH	MH	MANHOLE STRUCTURE
IN	IN	INLET STRUCTURE
CB	CB	CATCH-BASIN STRUCTURE
RY	RY	REARYARD STRUCTURE
END	END	END-SECTION
CV	CV	CATCH-VLV STRUCTURE
HY	HY	HYDRANT
UP	UP	UTILITY POLE
SN	SN	SANITARY SEWER
SL	SL	SANITARY LEAD
FM	FM	FORCE MAIN
PS	PS	PRESSURE SEWER
ST	ST	STORM SEWER
WM	WM	WATER MAIN
WL	WL	WATER LEAD
FO	FO	FIBER OPTIC
OHW	OHW	OVERHEAD WIRE
CA	CA	CABLE
E	E	ELECTRIC
G	G	GAS
T	T	TELEPHONE
		MANHOLE
		INLET / CATCHBASIN
		FLARED END-SECTION
		GATE VALVE
		HYDRANT
		UTILITY POLE
		FENCE
		SIGN
		NOT FIELD VERIFIED TO BE REMOVED
TBR		COMPACTED SAND BACKFILL
DSB		
SN 1'		SANITARY SEWER LABEL
ST		STORM SEWER LABEL
GV 12		WATER MAIN LABEL
SAT		SOIL EROSION CONTROL MEASURE (P=PERMANENT, T=TEMPORARY)
		SILT FENCE
		LIMITS OF GRADING/CLEARING
		WETLAND BOUNDARY
		NO PARKING "FIRE LANE" SIGN

BOSS Engineering
Engineers Surveyors Planners Landscape Architects
3121 E. GRAND RIVER AVE.
HOWELL, MI. 48843
800.246.6735 FAX 517.548.1670

PROJECT: GOLF RANCH
PREPARED FOR: CASA VILLA
37633 S. GROESBECK HWY
CHARTER TOWNSHIP OF CLINTON, MI 48036
(586) 263-3000

NO	BY	REVISION PER	DATE
1	CH	PER TOWNSHIP REVIEW	2-7-18
2	CH	PER PLANNING COMMISSION	2-15-18
3	CH	PER FIRE DEPARTMENT REVIEW	3-8-18

DESIGNED BY:
DRAWN BY: CH
CHECKED BY:
SCALE 1" = 60'
JOB NO. 17-228
DATE 2/8/18
SHEET NO. 4

STILE: SITE PLAN

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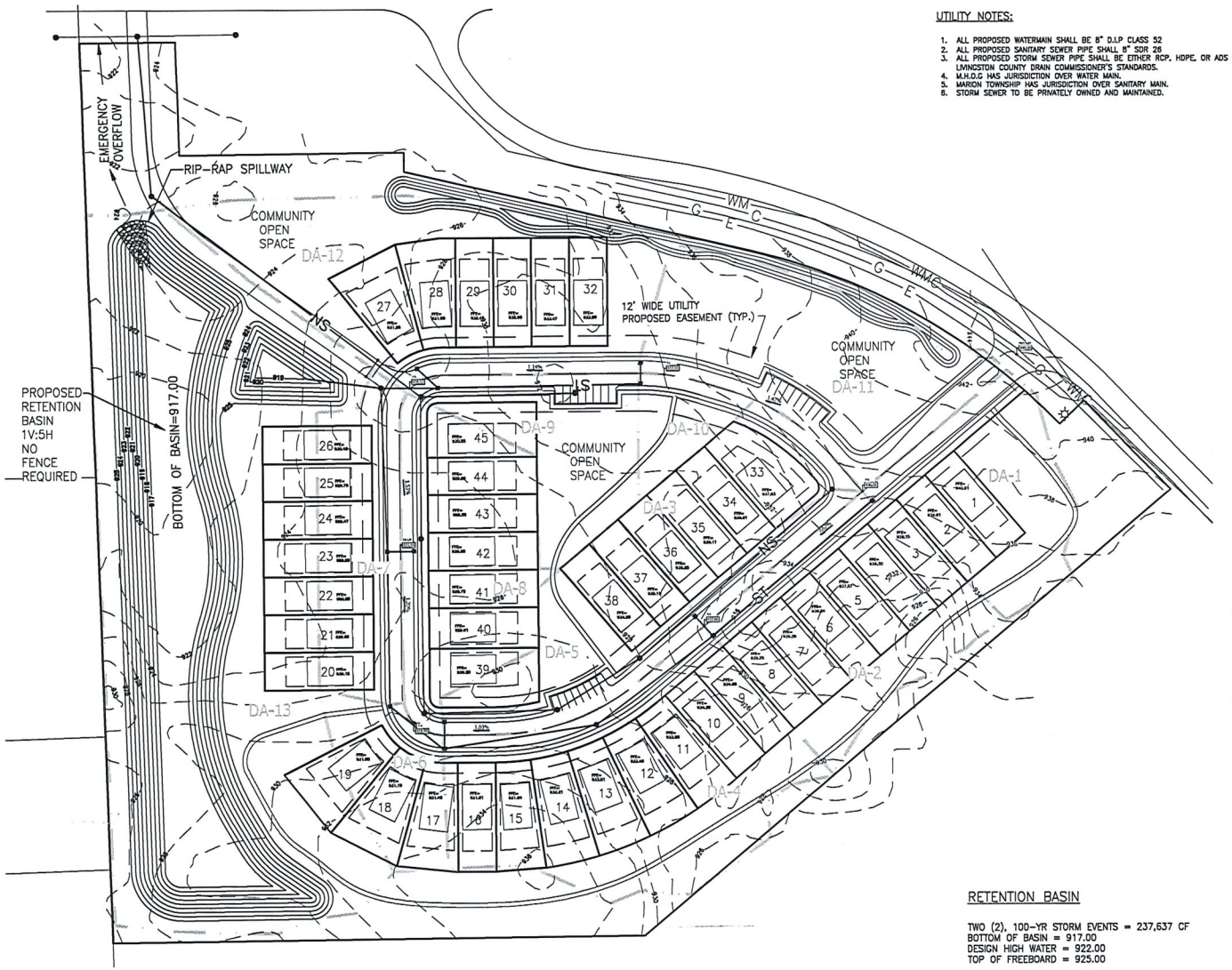


UTILITY NOTES:

1. ALL PROPOSED WATERMAIN SHALL BE 8" D.I.P CLASS 52
2. ALL PROPOSED SANITARY SEWER PIPE SHALL 8" SDR 26
3. ALL PROPOSED STORM SEWER PIPE SHALL BE EITHER RCP, HDPE, OR ADS N12 AS SPECIFIED IN LIVINGSTON COUNTY DRAIN COMMISSIONER'S STANDARDS.
4. M.H.O.G HAS JURISDICTION OVER WATER MAIN.
5. MARION TOWNSHIP HAS JURISDICTION OVER SANITARY MAIN.
6. STORM SEWER TO BE PRIVATELY OWNED AND MAINTAINED.

LEGEND

PROPOSED (PR)	EXISTING (EX)	
900	900	CONTOUR
		STORM DRAINAGE FLOW
T/C XXX.XX	+ 922.08	SPOT ELEVATION
FF	FF	FINISHED FLOOR ELEVATION
FG	FG	FINISHED GRADE ELEVATION
T/A	T/A	TOP OF ASPHALT
T/C	T/C	TOP OF CURB / CONCRETE
T/W	T/W	TOP OF WALK
F/L	F/L	FLOW LINE
T/P	T/P	TOP OF PIPE
B/P	B/P	BOTTOM OF PIPE
RIM	RIM	RIM ELEVATION
INV	INV	INVERT ELEVATION
MH	MH	MANHOLE STRUCTURE
IN	IN	INLET STRUCTURE
CB	CB	CATCHBASIN STRUCTURE
RY	RY	REARYARD STRUCTURE
ES	ES	END-SECTION
GV	GV	GATEVALVE STRUCTURE
HY	HY	HYDRANT
UP	UP	UTILITY POLE
SM	SM	SANITARY SEWER
SL	SL	SANITARY LEAD
FM	FM	FORCE MAIN
PS	PS	PRESSURE SEWER
ST	ST	STORM SEWER
WM	WM	WATER MAIN
WL	WL	WATER LEAD
FO	FO	FIBER OPTIC
OHW	OHW	OVERHEAD WIRE
C	C	CABLE
E	E	ELECTRIC
G	G	GAS
T	T	TELEPHONE
MH	MH	MANHOLE
IN	IN	INLET / CATCHBASIN
FES	FES	FLARED END-SECTION
GV	GV	GATE VALVE
HY	HY	HYDRANT
UP	UP	UTILITY POLE
X	X	FENCE
SN	SN	SIGN
NFV	NFV	NOT FIELD VERIFIED TO BE REMOVED
CSB		COMPACTED SAND BACKFILL
SM		SANITARY SEWER LABEL
ST		STORM SEWER LABEL
WM		WATER MAIN LABEL
SESC		SOIL EROSION CONTROL MEASURE (P=PERMANENT, T=TEMPORARY)
		SILT FENCE
		LIMITS OF GRADING/CLEARING
		WETLAND BOUNDARY

RETENTION BASIN

TWO (2), 100-YR STORM EVENTS = 237,637 CF
BOTTOM OF BASIN = 917.00
DESIGN HIGH WATER = 922.00
TOP OF FREEBOARD = 925.00

RETENTION PONDS ARE TO BE SIZED FOR EITHER 2 CONSECUTIVE 100-YEAR STORMS OR 2" OF RUNOFF OVER THE ENTIRE DRAINAGE AREA

AREA (ACRES)	IMPERVIOUS FACTOR	ACRE IMPERVIOUS	
5.09	1.0	0.00	Ponds
4.64	0.9	0.56	Impervious Surfaces
17.39	0.2	3.48	Pervious Surfaces

COMPOUND C: 0.29
TOTAL DRAINAGE AREA: 24.03 ACRES

KY + AxC (Design Constant) = 9.454
Q_o = OUTFLOW (CFS / ACRE) = Q FOR RETENTION = 0 CFS

DURATION MINUTES	DURATION SECONDS	INTENSITY (in/hr)	INCHES	AFLOW VOLUME (c. RUNOFF AXC	OUTFLOW DURATION SEC	OUTFLOW VOLUME INFLOW - OUTFLOW
5	300	9.17	2751	28008	0	28008
10	600	7.86	4716	44585	0	44585
15	900	6.64	6167	58539	0	58539
20	1200	5.11	7322	69317	0	69317
30	1800	5.09	9003	85048	0	85048
60	3600	3.24	11664	110271	0	110271
90	5400	2.29	12908	122013	0	122013
120	7200	1.69	13560	128181	0	128181
180	10800	1.34	14472	136818	0	136818

REQUIRED 100 YEAR DETENTION VOLUME = 136818 CF
VOLUME OF TWO CONSECUTIVE 100-YEAR STORMS = 273637 CF

REQUIRED STORAGE VOLUME (2" RUNOFF OVER ENTIRE DRAINAGE AREA):
0.99 x 43560 x 2/12 = 174408 CF

USING THE LARGEST OF ABOVE NUMBERS =
REQUIRED RETENTION POND VOLUME = 273637 CF

STORAGE PROVIDED

ELEV	AREA (FT²)	DEPTH (FT)	VOLUME (FT³)	TOTAL VOLUME (FT³)	
925.00	115871	1	110,866	594,517	FREEBOARD
924.00	105865	1	98,264	483,651	FREEBOARD
923.00	90634	1	81,956	387,387	FREEBOARD
922.00	85329	1	76,547	305,671	DESIGN HIGHWATER ELEVATION
921.00	79769	1	67,450	229,004	
920.00	67364	1	62,790	161,533	
919.00	58212	1	53,753	98,734	
918.00	48284	1	44,991	44,981	
917.00	40856	0	0	0	

FOREBAY VOLUME
V(F) = 5% OF THE 100-YEAR STORM VOLUME BASED ON THE AREA TRIBUTARY TO THE INLET

V(F)= (.05)(V100)
V(F)= 6841 CF
STORAGE VOLUME REQUIRED: 6841 CF

925.00	10405	1	9,464	26,948	FREEBOARD
924.00	8459	1	5,452	18,354	FREEBOARD
923.00	6017	1	4,407	12,928	FREEBOARD
922.00	4803	1	3,458	7,566	DESIGN HIGHWATER ELEVATION
921.00	3256	1	2,653	4,138	
920.00	2010	1	1,235	1,535	
919.00	1080	0	0	0	

BOSS Engineering
Engineers Surveyors Planners Landscape Architects
3121 E. GRAND RIVER AVE.
HOWELL, MI. 48843
800.246.6735 FAX 517.548.1670

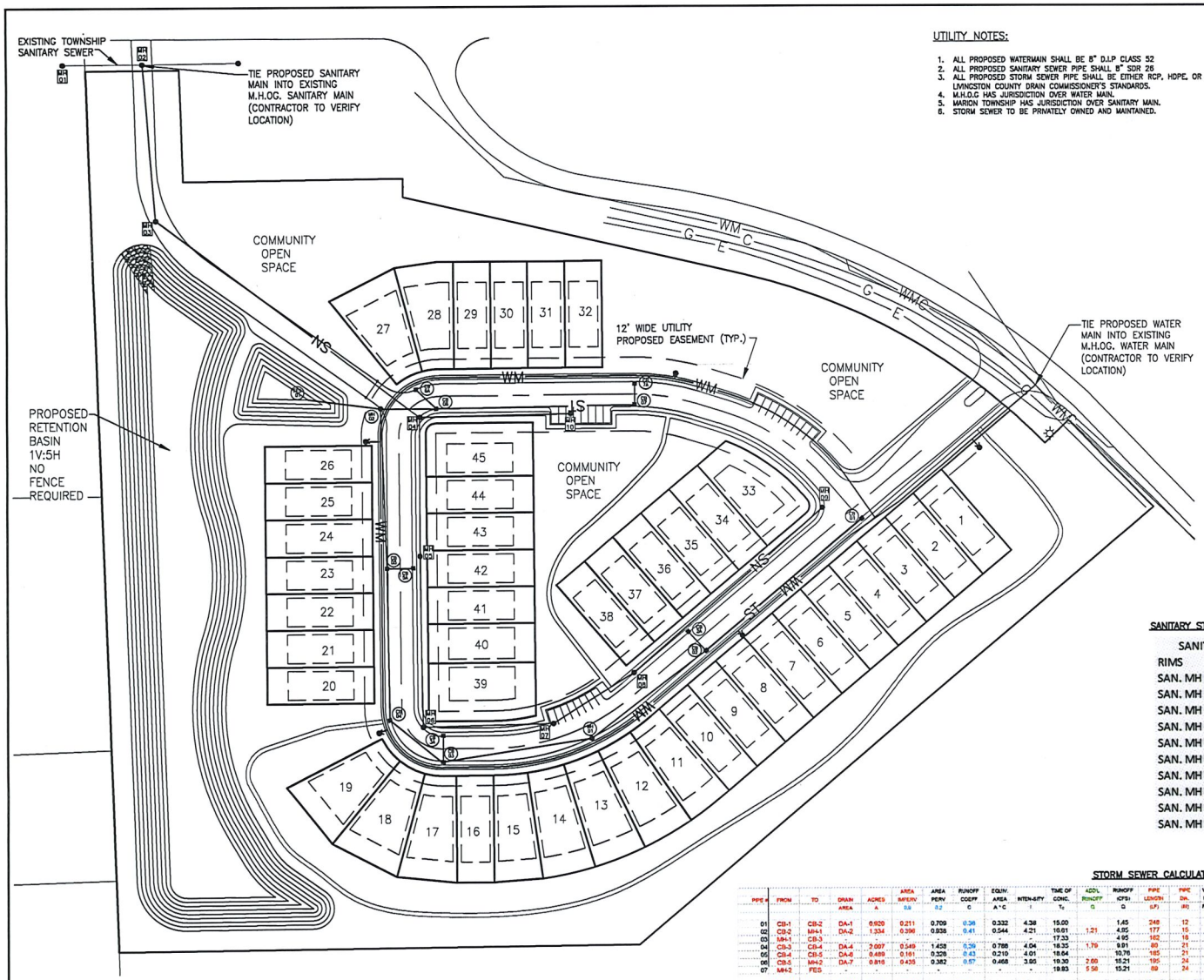
PROJECT: GOLF RANCH
PREPARED FOR: CASA VILLA
37503 S. GROESBECK HWY
CHARTER TOWNSHIP OF CLINTON, MI 48035
(586) 792-5300

TITLE: GRADING & DRAINAGE PLAN

NO	BY	REVISION PER	DATE
1	CH	PER FIRST CONCEPTUAL MEETING	3-8-18
2	CH	PER PLANNING COMMISSION	4-3-18
3	CH	PER TOWNSHIP BOARD	5-10-18

DESIGNED BY:
DRAWN BY: CH
CHECKED BY:
SCALE 1" = 60'
JOB NO. 17-228
DATE 2/8/18
SHEET NO. 5

THE LOCATION AND ELEVATION OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THESE DRAWINGS ARE APPROXIMATE ONLY AND ARE NOT GUARANTEED TO BE ACCURATE OR COMPLETE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE EXACT LOCATION OF ALL UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ANY DAMAGE TO UTILITIES RESULTING FROM HIS WORK. THE CONTRACTOR SHALL NOTIFY ALL UTILITIES IN THE AREA OF PROPOSED EXCAVATION AT LEAST 3 WORKING DAYS PRIOR TO EXCAVATION. CALL MISS DIG 1-800-482-7171 OR 811



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SCALE: 1 INCH = 60 FEET

N

LEGEND

PROPOSED (PR)	EXISTING (EX)	
900	900	CONTOUR
		STORM DRAINAGE FLOW
T/C XXX.XX	+ 922.08	SPOT ELEVATION
FF	FF	FINISHED FLOOR ELEVATION
FG	FG	FINISHED GRADE ELEVATION
T/A	T/A	TOP OF ASPHALT
T/C	T/C	TOP OF CURB / CONCRETE
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HY	HY	HYDRANT
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SS	SS	SANITARY SEWER
SL	SL	SANITARY LEAD
FM	FM	FORCE MAIN
PS	PS	PRESSURE SEWER
STM	STM	STORM SEWER
WM	WM	WATER MAIN
WL	WL	WATER LEAD
FO	FO	FIBER OPTIC
OH	OH	OVERHEAD WIRE
C	C	CABLE
E	E	ELECTRIC
G	G	GAS
T	T	TELEPHONE
MH	MH	MANHOLE
CB	CB	INLET / CATCHBASIN
FES	FES	FLARED END-SECTION
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HY	HY	HYDRANT
UP	UP	UTILITY POLE
X	X	FENCE
SIGN	SIGN	SIGN
TBR	NFV	NOT FIELD VERIFIED TO BE REMOVED
CSB		COMPACTED SAND BACKFILL
SS		SANITARY SEWER LABEL
ST 12		STORM SEWER LABEL
WM 12		WATER MAIN LABEL
S41		SOIL EROSION CONTROL MEASURE (P=PERMANENT, T=TEMPORARY)
		SILT FENCE
		LIMITS OF GRADING/CLEARING
		WETLAND BOUNDARY

SANITARY STRUCTURE SCHEDULE

SANITARY SEWER RIMS	ELEV.
SAN. MH 1	MATCH EX.
SAN. MH 2	MATCH EX.
SAN. MH 3	928.20
SAN. MH 4	925.18
SAN. MH 5	927.78
SAN. MH 6	929.89
SAN. MH 7	931.14
SAN. MH 8	935.75
SAN. MH 9	938.68
SAN. MH 10	931.50

SANITARY PIPE SCHEDULE

PIPES	START	END	SLOPE
SAN PIPE 1	911.00	912.22	0.40%
SAN PIPE 2	912.32	912.78	0.40%
SAN PIPE 3	912.88	913.51	0.40%
SAN PIPE 4	913.61	914.45	0.40%
SAN PIPE 5	914.55	915.23	0.40%
SAN PIPE 6	915.33	916.93	0.40%
SAN PIPE 7	917.03	917.79	0.40%
SAN PIPE 8	917.89	918.28	0.40%
SAN PIPE 9	915.33	915.72	0.40%

STORM SEWER CALCULATIONS

PIPE #	FROM	TO	DRAIN AREA	ACRES A	AREA IMPERV 0.9	AREA PERV 0.2	RUNOFF COEFF C	EQUIV AREA A*C	INTEN-SITY I	TIME OF CONC. T_c	ADDL RUNOFF Q	RUNOFF (CFS) Q	PIPE LENGTH (LF)	PIPE DIA. (IN)	VELOCITY FLOWING FULL (FPS)	HYDRAULIC GRADIENT SLOPE %	ACTUAL SLOPE USED	MANNING FLOW CAPACITY	MANNINGS VELOCITY (FT/SEC)	TIME (MIN)	HG ELEV UPPER END	HG ELEV LOWER END	RIM ELEV UPPER	INVERT UPPER END	INVERT LOWER END	DROP DISTANCE (FT)
01	CB-1	CB-2	DA-1	0.920	0.211	0.709	0.36	0.332	4.38	15.00		1.45	248	12	1.85	0.32%	0.32%	2.02	2.57	1.61	926.70	925.90	935.66	925.90	925.10	
02	CB-2	MH-1	DA-2	1.334	0.398	0.938	0.41	0.544	4.21	16.61	1.21	4.85	177	15	4.04	0.68%	0.60%	5.02	4.09	0.72	925.90	924.83	931.66	924.90	923.83	
03	MH-1	CB-3	-	-	-	-	-	-	-	17.33		4.95	162	15	2.80	0.22%	0.25%	5.27	2.68	1.02	924.83	924.37	929.82	923.63	923.17	1.00
04	CB-3	CB-4	DA-4	2.007	0.549	1.458	0.39	0.788	4.04	18.35	1.79	9.91	80	21	4.12	0.36%	0.50%	11.23	4.67	0.29	923.37	922.96	928.10	921.97	921.56	
05	CB-4	CB-5	DA-6	0.489	0.191	0.329	0.43	0.210	4.01	18.64		10.76	185	21	4.47	0.46%	0.50%	11.23	4.67	0.66	922.96	922.03	927.91	921.56	920.63	
06	CB-5	MH-2	DA-7	0.915	0.435	0.382	0.57	0.466	3.95	19.30	2.66	16.21	195	24	4.84	0.45%	0.50%	18.04	5.11	0.64	922.03	921.05	925.18	920.43	919.45	
07	MH-2	FES	-	-	-	-	-	-	-	19.83	5.56	15.21	89	24	4.84	0.45%	0.50%	18.04	5.11	0.29	921.05	920.60	926.68	919.45	919.00	
																					0.00					
2A	CB-2A	CB-2	DA-3	0.548	0.240	0.308	0.51	0.277	4.38	15.00		1.21	32	12	1.55	0.32%	0.32%	2.02	2.57	0.21		925.90	931.66	925.21	925.10	
3A	CB-3A	CB-3	DA-5	0.874	0.333	0.541	0.47	0.406	4.38	15.00		1.79	32	12	2.27	0.25%	0.32%	2.02	2.57	0.21	923.48	923.37	928.10	922.68	922.57	
5A	CB-5A	CB-5	DA-8	1.166	0.512	0.674	0.50	0.585	4.38	15.00		2.60	32	12	3.32	0.53%	0.55%	2.65	3.37	0.16	922.21	922.03	925.18	921.41	921.23	
08	CB-6	CB-7	DA-10	0.920	0.211	0.709	0.36	0.332	4.38	15.00	1.45	2.91	240	12	3.70	0.66%	0.70%	3.09	3.64	1.02	923.15	921.56	931.25	922.06	920.25	
09	CB-7	MH-2	DA-9	0.761	0.191	0.571	0.38	0.296	4.27	16.02	1.45	5.58	68	15	4.54	0.74%	0.75%	5.61	4.57	0.25	921.56	921.05	926.76	920.56	920.05	
8A	CB-8A	CB-8	DA-11	0.920	0.211	0.709	0.36	0.332	4.38	15.00		1.45	32	12	1.85	0.32%	0.32%	2.02	2.57	0.21	922.97	922.86	931.25	922.17	922.06	
																						921.67				
9A	CB-7A	CB-7	DA-12	0.920	0.211	0.709	0.36	0.332	4.38	15.00		1.45	32	12	1.85	0.32%	0.32%	2.02	2.57	0.21	921.67	921.56	926.35	920.87	920.76	

BOSS Engineering
Engineers Surveyors Planners Landscape Architects
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HOWELL, MI. 48843
800.246.6735 FAX 517.548.1670

PROJECT: GOLF RANCH
PREPARED FOR: CASA VILLA
27300 KENSINGTON COURT
CHARTER TOWNSHIP OF CLINTON, MI 48035
(586) 783-3300

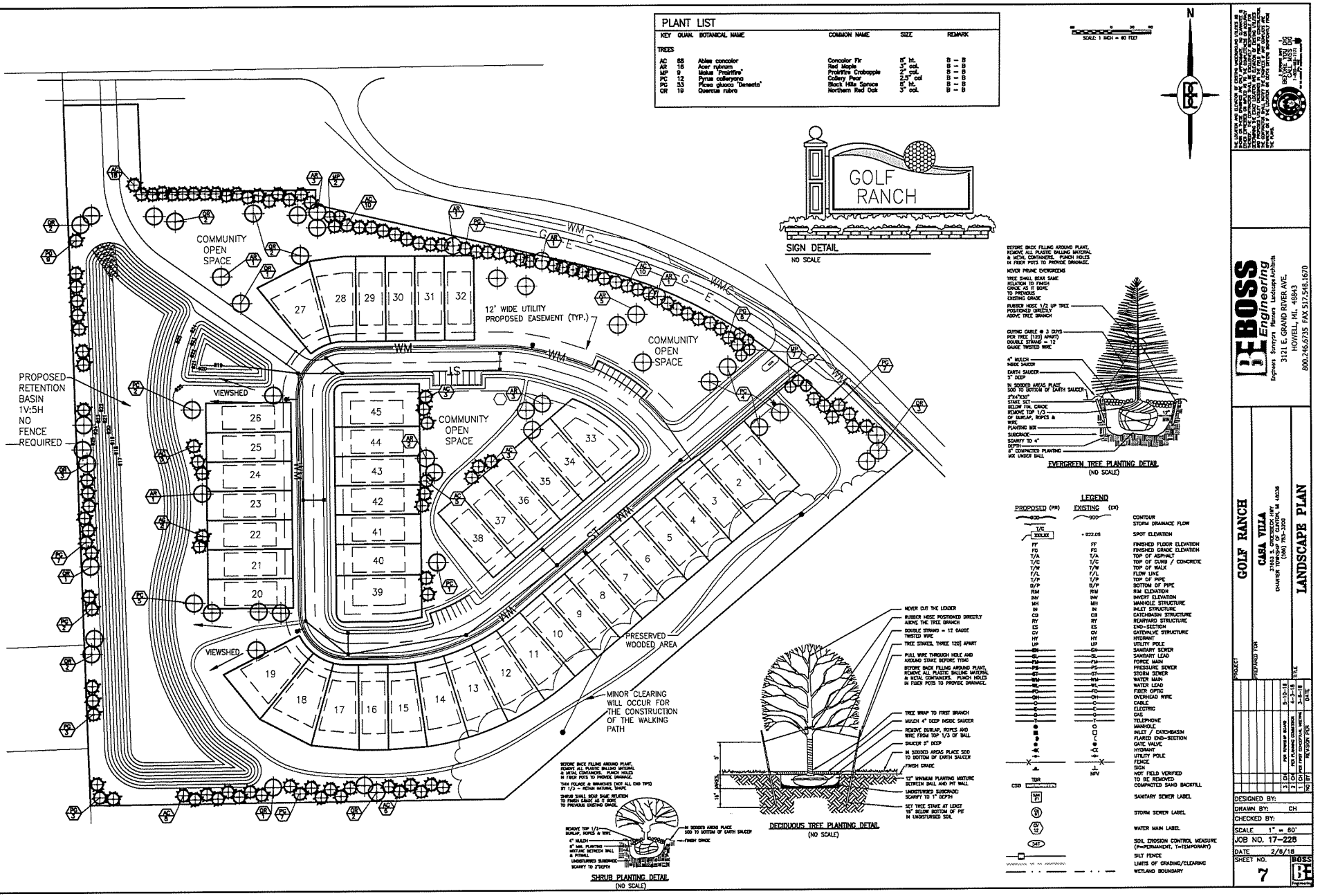
TITLE: UTILITY PLAN

NO	BY	REVISION FOR	DATE
1	CH	PER PLANNING COMMISSION	5-10-18
2	CH	PER TOWNSHIP BOARD	6-5-18
3	CH	PER ENGINEERING	9-4-18

DESIGNED BY:
DRAWN BY: CH
CHECKED BY:
SCALE 1" = 60'
JOB NO. 17-228
DATE 2/8/18
SHEET NO. 6

THE LOCATION AND ELEVATION OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THESE PLANS ARE APPROXIMATE AND NOT GUARANTEED TO BE EXACT OR COMPLETE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE EXACT LOCATION AND ELEVATION OF EXISTING UTILITIES BEFORE COMMENCING ANY WORK AND TO ASSUME ALL LIABILITY FOR DAMAGE TO SAME. THE CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES IN THE AREA OF THE WORK AT LEAST THREE WORKING DAYS BEFORE BEGINNING CONSTRUCTION.

J. BRIAN BOSS
ENGINEER 47031
LICENSED PROFESSIONAL ENGINEER



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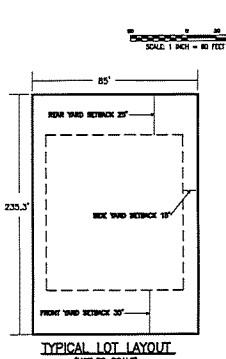


TYPICAL LOT LAYOUT
(NOT TO SCALE)

SITE DATA

	EXISTING	PROVIDED
1.	SUBURBAN RESIDENTIAL (SR)	SR
2.	SITE AREA - 20.53 ACRES	SITE AREA - 20.53 ACRES
3.	MAX. BLDG. HT. ALLOWED - 35 FT.	MAX. BLDG. HT. ALLOWED - 35 FT.
4.	MIN. LOT AREA - 32,670 SQFT (.75 AC), OR 20,000 SQFT (.46 AC) W/ PUBLIC SEWER	MIN. LOT AREA - 20,000 SQFT (.46 AC)
5.	MAX. LOT COVERAGE- 35 %	MAX. LOT COVERAGE- >15 %
6.	SETBACKS FRONT - 35 FT. SIDE - 15 FT. REAR - 25 FT.	SETBACKS FRONT - 35 FT. SIDE - 15 FT. REAR - 25 FT.

LEGEND

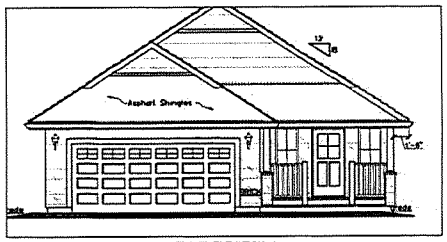
PROPOSED (PM)	EXISTING (EX)	
900	900	CONTOUR
		STORM DRAINAGE FLOW
922.06	922.06	SPOT ELEVATION
FF	FF	FINISHED FLOOR ELEVATION
FG	FG	FINISHED GRADE ELEVATION
T/A	T/A	TOP OF ASPHALT
T/C	T/C	TOP OF CURB / CONCRETE
T/W	T/W	TOP OF WALK
F/L	F/L	FLOW LINE
T/P	T/P	TOP OF PIPE
B/P	B/P	BOTTOM OF PIPE
RIM	RIM	RIM ELEVATION
INV	INV	INVERT ELEVATION
MH	MH	MANHOLE STRUCTURE
IN	IN	INLET STRUCTURE
CB	CB	CATCHBASIN STRUCTURE
RY	RY	REARYARD STRUCTURE
ES	ES	END-SECTION
GV	GV	GATEVALVE STRUCTURE
HY	HY	HYDRANT
UP	UP	UTILITY POLE
SA	SA	SANITARY SEWER
SL	SL	SANITARY LEAD
FM	FM	FORCE MAIN
PS	PS	PRESSURE SEWER
ST	ST	STORM SEWER
WM	WM	WATER MAIN
WL	WL	WATER LEAD
FO	FO	FIBER OPTIC
OH	OH	OVERHEAD WIRE
C	C	CABLE
E	E	ELECTRIC
G	G	GAS
T	T	TELEPHONE
		MANHOLE
		INLET / CATCHBASIN
		FLARED END-SECTION
		GATE VALVE
		HYDRANT
		UTILITY POLE
		FENCE
		SIGN
TBR	NFV	NOT FIELD VERIFIED
		TO BE REMOVED
CSB		COMPACTED SAND BACKFILL
SAN 01		SANITARY SEWER LABEL
ST 01		STORM SEWER LABEL
WM 12		WATER MAIN LABEL
341		SOIL EROSION CONTROL MEASURE (P=PERMANENT, T=TEMPORARY)
		SILT FENCE
		LIMITS OF GRADING/CLEARING
		WETLAND BOUNDARY

BOSS Engineering
Engineers Surveyors Planners Landscape Architects
3121 E. GRAND RIVER AVE.
HOWELL, MI. 48843
800.246.6735 FAX 517.548.1670

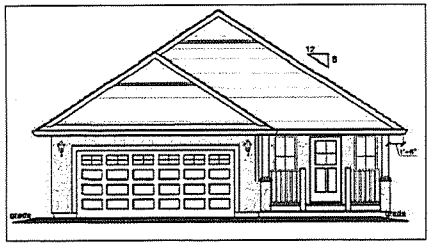
PROJECT: GOLF RANCH
PREPARED FOR: CASA VILLA
27725 STANSBURY
FARMINGTON HILLS, MI 48336
(248) 763-3300
TITLE: PARALLEL PLAN (SR)

NO.	BY	REVISION PER	DATE
1			

DESIGNED BY:
DRAWN BY: CH
CHECKED BY:
SCALE 1" = 80'
JOB NO. 17-225
DATE 2/8/18
SHEET NO. 8



FRONT ELEVATION A



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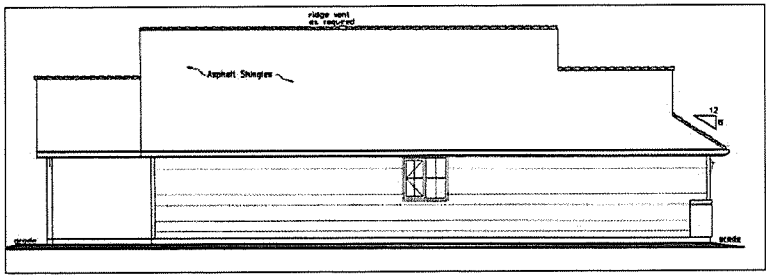
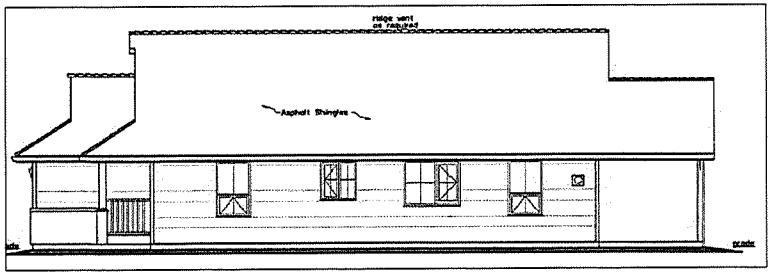


LEFT ELEVATION



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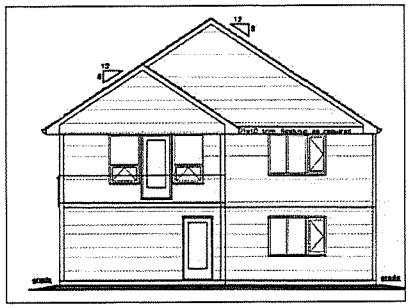
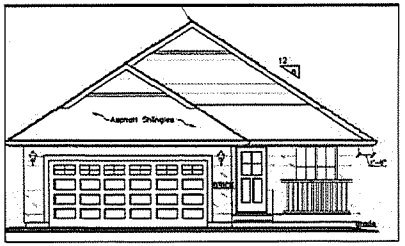


REAR ELEVATION

2 BEDROOM



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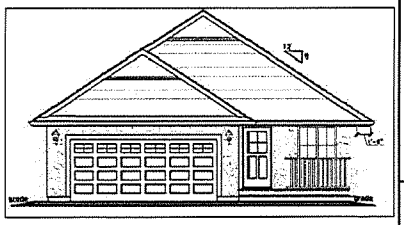

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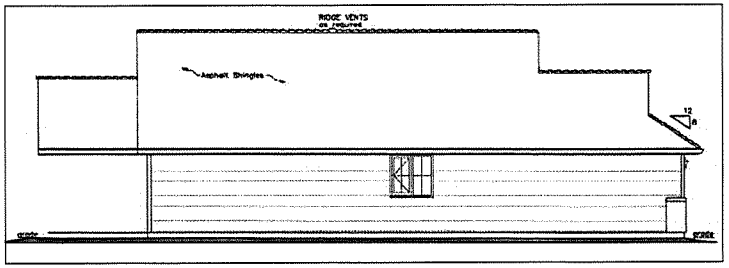
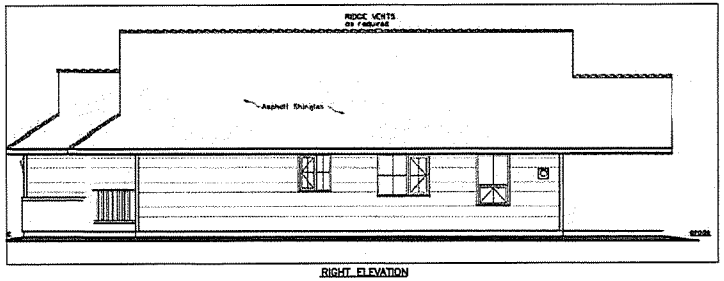
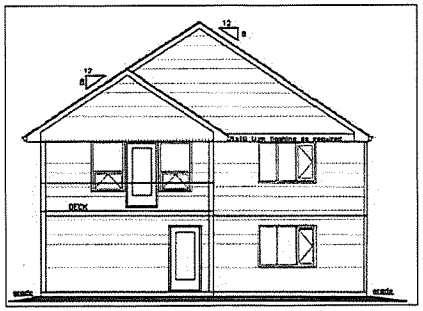


LEFT ELEVATION



RIGHT ELEVATION



REAR ELEVATION

3 BEDROOM

BOSS Engineering
Engineers Surveyors Planners Landscape Architects
3121 E. GRAND RIVER AVE.
HOWELL, MI. 48843
800.246.6735 FAX 517.548.1670

PROJECT: GOLF RANCH

PREPARED FOR: CASA VILLA
37803 S. GREENBECK HWY
CHARTER TOWNSHIP OF CLINTON, MI 48036
(586) 783-3200

TITLE: ARCHITECTURAL ELEVATIONS

NO	BY	REVISION PER	DATE
1	1	-	-

DESIGNED BY:
DRAWN BY: CH
CHECKED BY:
SCALE N/A
JOB NO. 17-228
DATE 2/8/18
SHEET NO. 9

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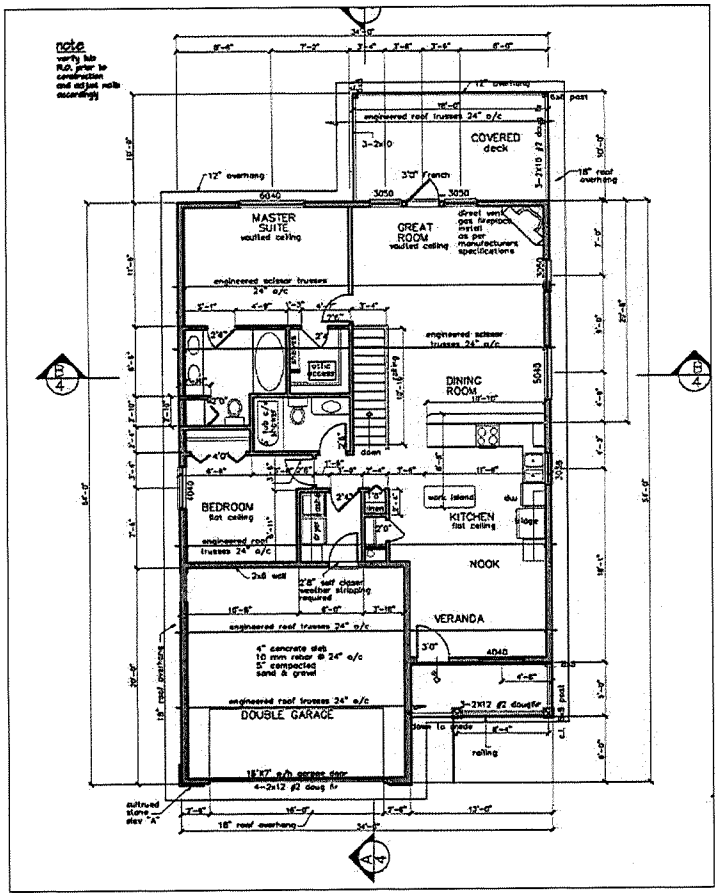
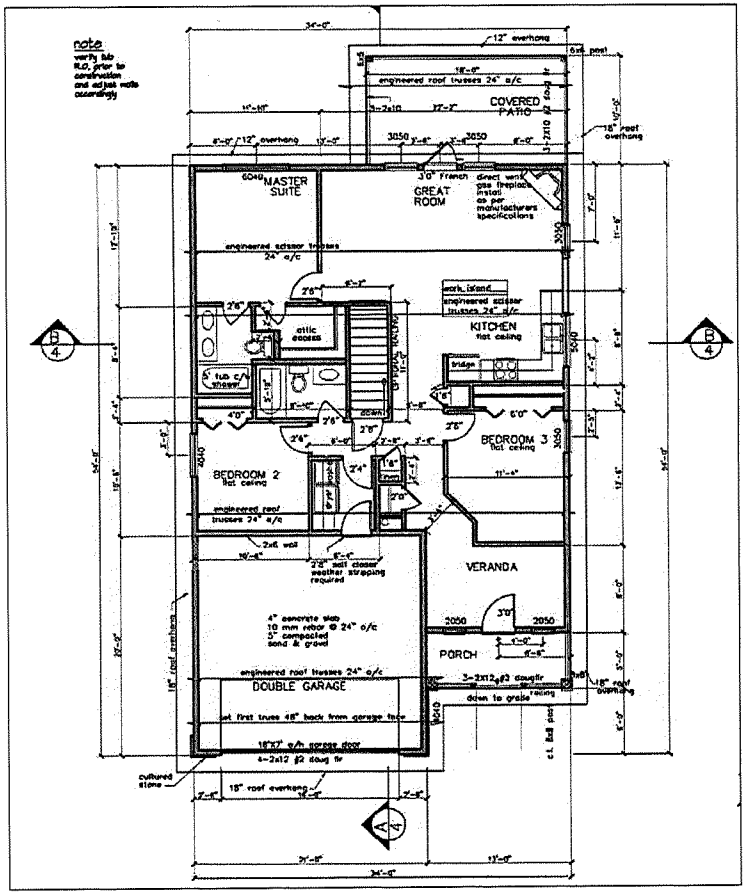


2–BEDROOM FLOOR PLAN



3–BEDROOM FLOOR PLAN

BOSS Engineering
Engineers Surveyors Planners Landscape Architects
3121 E. GRAND RIVER AVE.
HOWELL, MI. 48843
800.246.6735 FAX 517.548.1670

PROJECT: GOLF RANCH
PREPARED FOR: CASA VILLA
37603 S. GROSSBECK HWY
CHARTER TOWNSHIP OF CLINTON, MI 48036
(586) 783-3200
TITLE: ARCHITECTURAL FLOOR PLANS

NO	BY	REVISION PER	DATE
1	1	-	-

DESIGNED BY:
DRAWN BY: CH
CHECKED BY:
SCALE N/A
JOB NO. 17-228
DATE 2/8/18
SHEET NO. 10

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SOILS INVESTIGATION
GOLF DRIVING RANGE DEVELOPMENT
850 PEAVY ROAD
WATER STREET AND UNIVERSITY DRIVE
MARION TOWNSHIP, MICHIGAN

CASA VILLA HOMES
37603 GROESBECK HIGHWAY
CLINTON TOWNSHIP, MICHIGAN 48036

APRIL 20 2017
BY
McDOWELL & ASSOCIATES

McDowell & Associates
Geotechnical, Environmental & Hydrogeological Services • Materials Testing & Inspection
21355 Hatcher Avenue • Ferndale, MI 48220
Phone: (248) 399-2066 • Fax: (248) 399-2157
www.mcdowasc.com

April 20, 2017

Casa Villa Homes
37603 Groesbeck Highway
Clinton Township, Michigan 48036

Job No. 17-114

Attention: Mr. Vito Serra

Subject: Soils Investigation
Golf Driving Range Development
850 Peavy Road
Water Street and University Drive
Marion Township, Michigan

Gentlemen:

In accordance with your request, we have made a Soils Investigation at the subject project.

Three (3) Soil Test Borings, designated as 1, 2 and 3, were performed at the locations you required. The approximate locations of the borings are shown on the Soil Boring Location Plan which accompanies this report. The borings were drilled with an all-terrain track mounted drill rig and were advanced to depths of twenty feet (20') and twenty-five feet six inches (25'6") below the existing ground surface at the boring locations. Soil samples and Standard Penetration Tests were taken at five foot (5') intervals in Borings 1 and 3. Bag samples were taken of the auger spoil at five feet (5') intervals in Boring 2. Soil descriptions for Boring 2 are based on the auger spoil and driving resistances and should be considered approximate in nature.

Soil descriptions, groundwater observations and the results of field and laboratory tests are to be found on the accompanying Logs of Soil Test Borings and summary sheet of Sieve Analysis results.

The borings encountered ten inches (10") and one foot (1') of topsoil, fifteen feet (15') to twenty-two feet (22') of interlayered cohesive and granular soils consisting of medium compact to compact brown silty fine sand to sand and gravel and firm to stiff brown to variegated sandy clay, followed by very stiff to extremely stiff blue sandy clay and extremely compact gray sand to gravelly sand which were found throughout the remainder of the borings.

Soil descriptions and depths shown on the boring logs are approximate indications of change from one soil type to another and are not intended to represent an area of exact geological change or stratification. Also, the site is a golf driving range and shows signs of modification which could indicate fill and soil conditions different from those encountered at the boring locations. Water was encountered in the borings at depths of three feet nine inches (3'9"), five feet (5') and

six feet five inches (6'5") below the existing ground surface. Water was measured upon completion of the drilling operation in Boring 3 at a depth of six feet (6'). Borings 1 and 2 were found to cave in upon completion at depths of eight (8') and nine feet (9'). It should be noted that short-term groundwater observations may not provide a reliable indication of the depth of the water table. In clay soils, this is due to the slow rate of infiltration of water into the borehole as well as the potential for water to become trapped in overlying layers of granular soils during periods of heavy rainfall. Water levels in granular soils fluctuate with seasonal and climatic changes, with the amount of rainfall in the area immediately prior to the measurements, as well as any changes in the water levels of nearby ditches and wetland areas. It should be expected that groundwater level fluctuations may occur on a seasonal basis and that seams of water-bearing sands or silts could be found within the various clay strata at the site.

It is understood that a residential subdivision will be constructed at the existing golf drilling range site. A retention pond area for storm water runoff will be constructed in the vicinity of the borings.

Based on the soil and groundwater conditions encountered, it appears that the retention pond will be granular soils. Water was encountered in the borings below depths of five feet (5') and six feet five inches (6'5") in Borings 2 and 3. It appears that perched water in sand soils over clay was found at Boring 1 at a depth of three feet nine inches (3'9"). Wet granular soils were found below a depth of six feet two inches (6'2") in Boring 1. Thus it would appear that the retention pond will be excavated to depths of five feet (5') to six feet six inches (6'6") before wet sand soils are encountered. It would appear that the granular soils at these depths would have permeabilities on the order of $1x10^{-3}$ cm/sec, which is equivalent to 1.4 inches per hour. Depending on the hydrostatic head in the retention pond, these granular soils can be expected to assimilate storm water seepage.

A slope stability analysis is beyond the scope of this report. However, based on previous experience with retention pond slope construction, a properly constructed slope with an inclination of one (1) vertical to four (4) horizontal or flatter should be stable in the long term. Local regulations may require flatter slopes for safety or maintenance purposes.

Experience indicates that the actual subsoil conditions at the site could vary from those generalized on the basis of three (3) test borings made at specific locations. It is, therefore, essential that McDowell & Associates be notified of any variation of soil conditions to determine their effects on the recommendations presented in this report.

The evaluations and recommendations presented in this report have been formulated on the basis of reported or assumed data relating to the retention pond depth and finished grades. Any significant change in this data in the final design plans should be brought to our attention for review and evaluation with respect to the prevailing subsoil conditions. As stated earlier, a slope stability analysis of the slope is outside the scope of this report.

If we can be of any further service, please feel free to call.

Very truly yours,

McDOWELL & ASSOCIATES

Daniel A. Kaniarz, M.S., P.E.

DAK/wf

McDOWELL & ASSOCIATES
Geotechnical, Environmental, & Hydrogeologic Services
21355 Hatcher Avenue • Ferndale, MI 48220
Phone: (248) 399-2066 • Fax: (248) 399-2157

LOG OF SOIL BORING NO. 1

PROJECT Soils Investigation – Golf Driving Range Development

JOB NO. 17-114

LOCATION 850 Peavy Road

SURFACE ELEV. _____ DATE 4-14-17

Marion Township, Michigan

Sample & Type	Depth	Legend	SOIL DESCRIPTION	Penetration Blows for 6"	Moisture %	Natural Wt P.C.F.	Dry Den Wt P.C.F.	Unc. Comp. Strength PSF.	Str. %
	1		Moist dark brown sandy TOPSOIL with occasional black streaks						
			1'0"						
	2		Medium compact moist brown fine SAND						
	3								
	4		3'9"						
A			Medium compact wet brown fine SAND	3					
SS	5		4'6"	3	16.3				
			Firm moist brown sandy CLAY with pebbles	4			*	(3500)	
	6		6'2"						
	7								
	8								
	9								
B			Medium compact wet brown fine SAND with trace of silt	2					
SS	10			2	20.7				
	11			3					
	12		12'0"						
	13								
	14		Compact wet brown fine to medium SAND & GRAVEL with trace of silt						
C				4					
SS	15			5	10.1				
				11					
	16		15'9" Stiff moist brown sandy CLAY with pebbles						
			16'0" Very stiff moist blue sandy CLAY with pebbles						
	17		17'0"						
	18								
	19		Extremely compact wet gray gravelly SAND with trace of silt						
D				11					
SS	20			18	10.1				
				25					
	21		21'0"						
	22								
	23		Extremely stiff moist blue sandy CLAY with pebbles						
	24								
E			Note: used track rig.	26					
SS	25			42					
			25'6"	69					

TYPE OF SAMPLE
D. - DISTURBED
U.L. - UNDIST. LINER
S.T. - SHELBY TUBE
S.S. - SPLIT SPOON
R.C. - ROCK CORE
( ) - PENETROMETER

REMARKS: *Calibrated Penetrometer

Standard Penetration Test - Driving 2" OD Sampler 1' With 140# Hammer Falling 30". Count Made at 6" Intervals

GROUND WATER OBSERVATIONS

G.W. ENCOUNTERED AT	3	FT. 9		INS
G.W. ENCOUNTERED AT	6	FT. 2		INS
G.W. AFTER COMPLETION	8	FT. 0		INS
G.W. AFTER		HRS.	FT.	INS
G.W. VOLUMES	Heavy	Cave-In at 8'0"		

McDOWELL & ASSOCIATES
Geotechnical, Environmental, & Hydrogeologic Services
21355 Hatcher Avenue • Ferndale, MI 48220
Phone: (248) 399-2066 • Fax: (248) 399-2157

LOG OF SOIL BORING NO. 2

PROJECT Soils Investigation – Golf Driving Range Development

JOB NO. 17-114

LOCATION 850 Peavy Road

SURFACE ELEV. _____ DATE 4-14-17

Marion Township, Michigan

Sample & Type	Depth	Legend	SOIL DESCRIPTION	Penetration Blows for 6"	Moisture %	Natural Wt. P.C.F.	Dry Den Wt. P.C.F.	Unc. Comp. Strength PSF.	Str. %
	1		Moist dark brown sandy TOPSOIL						
			0'10"						
	2		Moist brown fine SAND						
	3		2'9"						
	4								
A Bag	5		Moist brown sandy CLAY with pebbles		16.1				
	6								
	7		6'6" Moist to wet brown fine SAND						
	8		7'6"						
	9								
B Bag	10		Moist brown sandy CLAY						
	11								
	12		11'3"						
	13		Wet brown fine SAND						
	14		14'0"						
C Bag	15		Wet brown silty SAND with trace of gravel		14.4				
	16								
	17		16'6" Moist blue sandy CLAY with pebbles						
	18		18'0"						
	19		Wet gray SAND with gravel						
D Bag	20		20'6"						
	21								
	22								
	23								
	24		Note: Used track rig.						
	25								

TYPE OF SAMPLE
D. - DISTURBED
U.L. - UNDIST. LINER
S.T. - SHELBY TUBE
S.S. - SPLIT SPOON
R.C. - ROCK CORE
( ) - PENETROMETER

REMARKS:

Standard Penetration Test - Driving 2" OD Sampler 1' With 140# Hammer Falling 30"; Count Made at 6" Intervals

GROUND WATER OBSERVATIONS

G.W. ENCOUNTERED AT	6	FT. 5		INS.
G.W. ENCOUNTERED AT	11	FT. 3		INS.
G.W. AFTER COMPLETION	9	FT. 0		INS.
G.W. AFTER	HRS.	FT.		INS.
G.W. VOLUMES	Heavy	Cave-in at 9'0"		

McDOWELL & ASSOCIATES
Geotechnical, Environmental, & Hydrogeologic Services
21355 Hatcher Avenue • Ferndale, MI 48220
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LOG OF SOIL BORING NO. 3

PROJECT Soils Investigation – Golf Driving Range Development

JOB NO. 17-114

LOCATION 850 Peavy Road

SURFACE ELEV. _____ DATE 4-14-17

Marion Township, Michigan

Sample & Type	Depth	Legend	SOIL DESCRIPTION	Penetration Blows for 6"	Moisture %	Natural Wt. P.C.F.	Dry Den Wt. P.C.F.	Unc. Comp. Strength PSF.	Str. %
	1		Moist dark brown sandy TOPSOIL						
			1'0"						
	2								
	3		Medium compact moist brown fine SAND						
	4								
A				2					
SS	5			2	17.7				
			5'0"	3					
	6		Medium compact wet brown silty fine SAND						
	7								
			7'6"						
	8		Firm moist brown sandy CLAY with trace of pebbles						
	9								
B				3					
SS	10		9'6"	5	14.6				
				7			*	(3500)	
	11		Stiff moist variegated sandy CLAY with pebbles						
	12								
			12'6"						
	13		Firm moist brown sandy CLAY						
	14								
C				3					
SS	15		14'6"	3	21.6				
				3					
	16		Medium compact wet brown fine to medium SAND with trace of silt						
	17								
			17'0"						
	18		Compact wet brown fine to medium SAND with trace of gravel						
	19								
D				6					
SS	20		20'0"	6					
				8					
	21		Stiff moist brown sandy CLAY with trace of pebbles						
	22								
	23								
			23'0"						
	24		Extremely stiff moist blue sandy CLAY						
E				11					
SS	25		Note: used track rig.	17	10.3				
			25'6"	27					

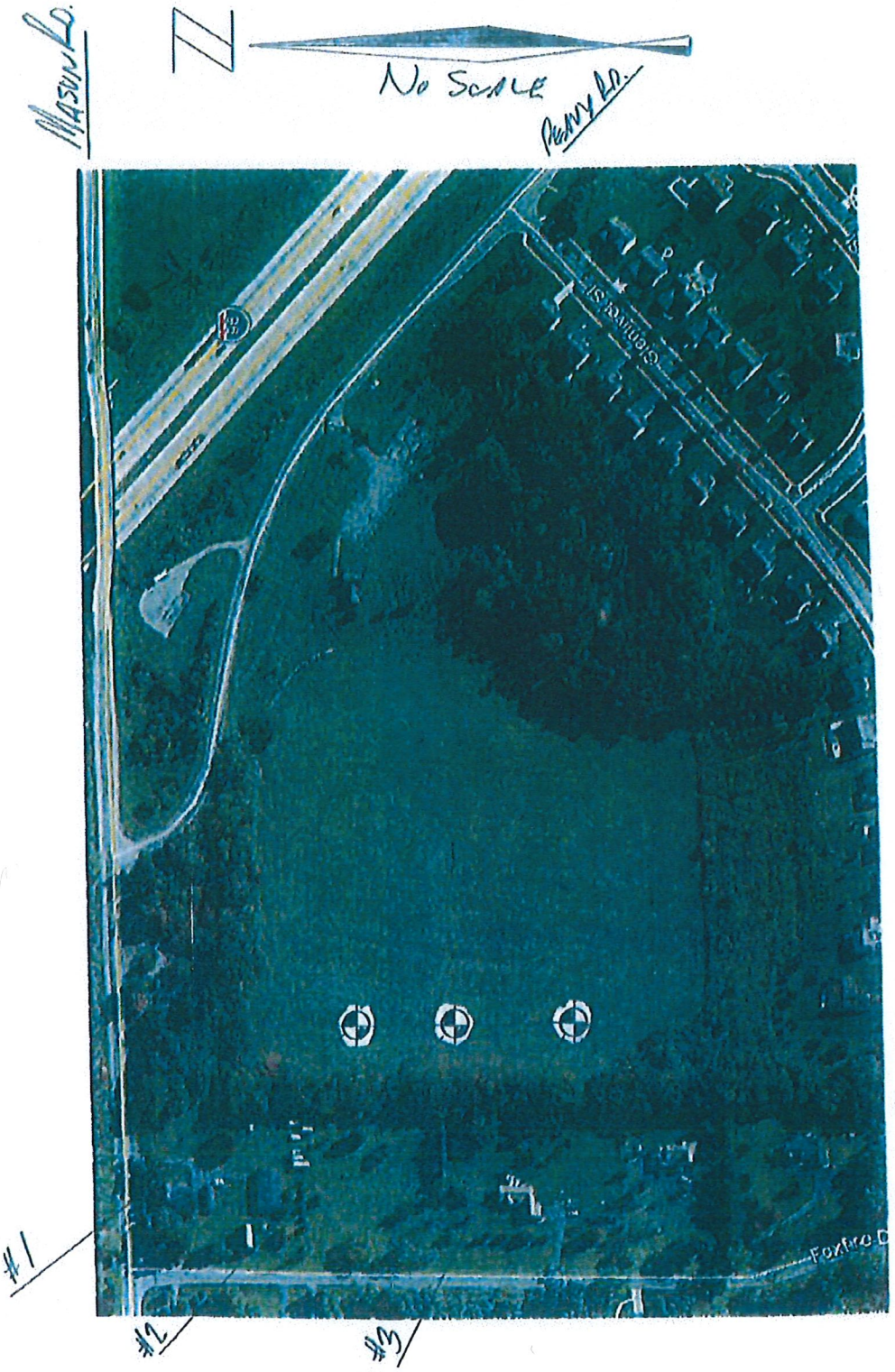
TYPE OF SAMPLE
D. - DISTURBED
U.L. - UNDIST. LINER
S.T. - SHELBY TUBE
S.S. - SPLIT SPOON
R.C. - ROCK CORE
( ) - PENETROMETER

REMARKS: *Calibrated Penetrometer

Standard Penetration Test - Driving 2" OD Sampler 1' With 140# Hammer Falling 30": Count Made at 6" Intervals

GROUND WATER OBSERVATIONS

G.W. ENCOUNTERED AT	5	FT.	0	INS.
G.W. ENCOUNTERED AT		FT.		INS.
G.W. AFTER COMPLETION	6	FT.	0	INS
G.W. AFTER HRS.		FT.		INS
G.W. VOLUMES	Heavy			



Soil Boring Location Plan

#17-114

Job No. 17-114

SIEVE ANALYSIS

Boring	Sample	% Passing #4 Sieve	% Passing #10 Sieve	% Passing #40 Sieve	% Passing #100 Sieve	% Passing #200 Sieve
1	B	100.0	100.0	99.6	92.5	5.2
	C	55.4	46.3	23.9	9.2	7.0
	D	82.5	63.0	24.3	12.5	10.1
2	C	94.3	81.2	43.7	15.7	12.6
3	A	100.0	100.0	97.5	33.9	13.1
	C	99.5	98.7	75.5	9.8	5.8

Outside

Outside

Outside

Outside

Outside

Outside

Outside

Dining Room

Dining Room

Dining Room

Kitchen

Kitchen

Kitchen

Laundry

Laundry

Living Room

Living Room

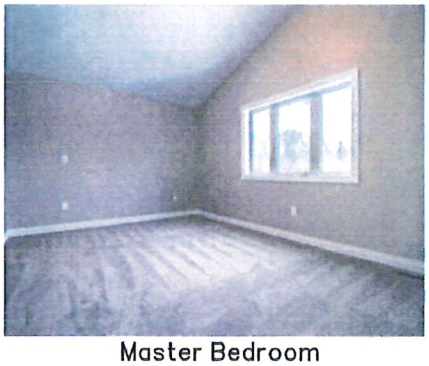
Living Room

Living Room

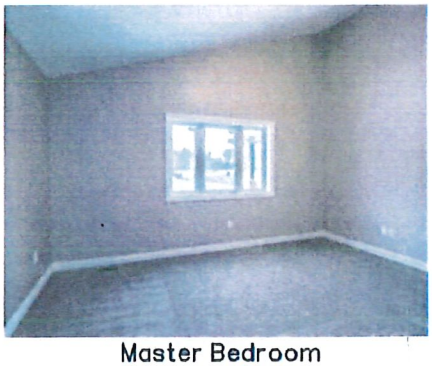
Living Room

Outside

Master Bedroom



Master Bedroom



Master Bedroom

Master Bathroom

Master Bathroom

Master Bathroom

Bedroom

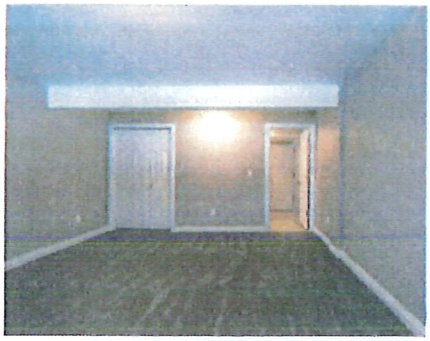
Bedroom

Bathroom

Bathroom

Family Room

Family Room



Family Room

Family Room

Bedroom

Bathroom

Bathroom

Lloyd's Homes, Inc.
5717 Pingree Rd.
Howell, MI 48843
734-878-2310

May 16, 2018

Marion Township
2877 W. Coon Lake Rd.
Howell, MI 48843

Fire Hall roof bid

Remove and replace shingles	$21,000.00
Two rows ice and water Owens Corning Duration shingle Ridge vent Plywood repair $40.00 per sheet	
Steel roof option	$31,500.00
Hidden Fasteners 16" panels	

(Estimated time mid to end of June)

ESTIMATE

Rick Johnson Construction Management, LLC
One Step Ahead of the Game!

1673 E. Lovejoy Rd.
Perry, MI 48872
(517) 861-6207
rickiegenejohnson@gmail.com

DATE: 5/8/2018

TO: Fire Station

QTY	ITEM #	DESCRIPTION	UNIT PRICE	DISCOUNT	LINE TOTAL
		• Removal of one- layer existing roof system • Replace 2 sheets of plywood • Install 15 lb. tar paper • Install ice shield • Install drip edge, ridge vent and plumbing boots. • Install GAF 30 year lifetime shingles • Removal of all waste Total price includes labor and material			
			TOTAL		$14,100.00
				SUBTOTAL	
				SALES TAX	
				TOTAL	$14,100.00

ESTIMATE

Rick Johnson Construction Management, LLC

One Step Ahead of the Game!

1673 E. Lovejoy Rd.
Perry, MI 48872
(517) 861-6207
rickiegenejohnson@gmail.com

DATE: 5/8/2018

TO: Marion Township Hall

QTY	ITEM #	DESCRIPTION	UNIT PRICE	DISCOUNT	LINE TOTAL
		• Removal of one- layer existing roof system • Repiace 6 sheets of plywood • Install 15 lb. tar paper • Install ice shield • Install drip edge, ridge vent and plumbing boots. • Install GAF 30 year lifetime shingles • Removal of all waste Total price includes labor and material			
		Dumpster fee: 700.00			
		Skytrack rental: 1200.00			
		TOTAL			$38,200.00
		SUBTOTAL			
		SALES TAX			
		TOTAL			$38,200.00

SPARTAN COMMERCIAL, INC.
PO BOX 471
HOWELL, MICHIGAN 48844
Phone 517-546-3551 Fax 517-546-5056
scimaroudis@gmail.com

PROPOSAL

DATE 05/15/2018

TO Marion Township Hall
2877 W Coon Lake Rd.
Howell, Michigan 48843
Phone 517-546-1588
Fax 517-546-6622

JOB Marion Township Hall
2877 W Coon Lake Rd.
Howell, Michigan

We hereby submit specifications and estimates for: Marion Township Hall

Firehall Roof Area

1. Remove and dispose of all existing shingles, metal drip edge and plumbing stack flashings.
2. Remove and replace any damaged wood decking at additional cost of $2.50 per square foot.
3. Install new 1.5" metal drip edge.
4. Install Certain Teed Weatherguard ice and water shield 6' up from eaves in heated area of building and 3' up from remainder of unheated canopies.
5. Install Certainteed Landmark Pro high definition shingles, per manufacturer specifications.
6. Install shingle vent II shingles over ridge vent to replace existing.
7. Install new plumbing stack flashings.

Sixteen Thousand Eight Hundred Eighty & 00/100——————————————$16,880.00

Payment to be made as follows: Net due upon completion

Authorized
Signature_____

Acceptance of Proposal—the above prices, specifications and conditions are satisfactory and are hereby accepted. you are authorized to do the work as specified. Payment will be made as outlined above

Signature_____

Date_____

SPARTAN COMMERCIAL, INC.
PO BOX 471
HOWELL, MICHIGAN 48844
Phone 517-546-3551 Fax 517-546-5056
scimaroudis@gmail.com

PROPOSAL

DATE 05/10/2018

TO Marion Township Hall
2877 W Coon Lake Rd.
Howell, Michigan 48843
Phone 517-546-1588
Fax 517-546-6622

JOB Marion Township Hall
2877 W Coon Lake Rd.
Howell, Michigan

We hereby submit specifications and estimates for: Marion Township Hall

Marion Township Offices, Meeting Room and Connection to Firehall

1. Remove and dispose of all existing shingles, metal drip edge and plumbing stack flashings.
2. Install new 1.5" metal drip edge.
3. Install Certain Teed Weatherguard ice and water shield 6' up from eaves in heated area of building and 3' up from remainder of unheated canopies.
4. Install 18" and 36" wide ice and water shield in all valley areas.
5. Install Certainteed Landmark Pro high definition shingles, per manufacturer specifications.
6. Install shingle vent II shingles over ridge vent to replace existing.
7. Install new plumbing stack flashings.

Forty One Thousand Nine Hundred Twenty & 00/100————————————————$41,920.00

Payment to be made as follows: Net due upon completion

Authorized
Signature_____

Acceptance of Proposal—the above prices, specifications and conditions are satisfactory and are hereby accepted. you are authorized to do the work as specified. Payment will be made as outlined above

Signature_____

Date_____

Question to MTA about amending general ordinances

Hello MTA:

The Township Board wants to amend our sewer and water general ordinance to include fines for contractors who allow ground water to enter into our sanitary sewer system. The changes are on one page of our 66 page general ordinance. To implement this change, do we need to publish the entire ordinance, the page we are amending, or a summary of the entire ordinance?

I don't know how to interpret MCL 41.186 which seems to conflict with MCL 41.184.

Also, do we have to include the process for collecting the fines? We do not have a Civil Infractions Bureau.

Thanks

Bob Hanvey

Answer from MTA

Hi Bob,

The way to amend your current ordinance is with another ordinance. Generally you are not going to work with your large 66 page ordinance, you will have a new ordinance, which may only be a few pages long, which will amend your large 66 page ordinance and it's this new smaller ordinance that you are adopting that gets published or a legal proper summary.

Yes, your ordinance should identify the penalties and how they will be enforced. For this and review of your draft ordinance, you will want to work with your township attorney on.

Thanks

Michael Selden
Director, Member Information Services
Michigan Townships Association

(517) 321-6467 Fax: (517) 321-8908
Email: michael@michigantownships.org

Tammy Beal

From: Duane Stokes <dstokes@mariontownship.com>
Sent: Tuesday, May 15, 2018 9:27 AM
To: 'Bob Hanvey'; 'Tammy Beal'
Subject: FW: Innisfree Memo from Crossroads Consulting
Attachments: Camp Innisfree Memo from Susan Sieger (April 2018).pdf

FYI and comment.

From: Jean Ligon [mailto:jean.ligon@gmail.com]
Sent: Monday, May 14, 2018 6:55 PM
To: Bill Sengstock <bsengstock@gssem.org>; Bob Bezotte <Rbezotte@livgov.com>; Bob Hanvey <supervisor@mariontownship.com>; Bob Wilson <Bob@michigantrails.org>; Brian P. Lick <blick@clarkhill.com>; Colonel Don E. Packard <packardcoloneldon74@gmail.com>; Dennis Brennan <supervisor@putnamtwp.us>; Doug Helzerman <DHelzerman@livgov.com>; Duane L. Tarnacki <DTarnacki@clarkhill.com>; Duane Stokes <dstokes@mariontownship.com>; Ellen VanSlyke <elvanslyk@gmail.com>; Gary Childs <gchilds@livgov.com>; Jan Packard <janpackard9@gmail.com>; Jean Ligon <jean.ligon@gmail.com>; Jeff Warder <jwarder@livgov.com>; Keefe, Theresa D. <TKeefe@clarkhill.com>; Kristie Walls <kristiewalls@gmail.com>; Matt Lincoln <lincolnm@michigan.gov>; Mike Donnelly <donnellyd@michigan.gov>; Nikki Van Bloem <vanbloemn@michigan.gov>; Norm Klein <nkleinjr@ilgi.com>; Pat Carney <treasurer@putnamtwp.us>; Paul Yauk <yaukp@michigan.gov>; Peter G. Remington <premington@remingtongroup1.com>; Randy Thomas <rthomas@insitecommercial.com>; Simon Rubin <simondrubin@gmail.com>; Susan Sieger <ssieger@crossroads-fl.com>; Tammy Beal <tammybeal@mariontownship.com>; Todd C. Gralla <Todd.Gralla@populous.com>; Maryellen Werstine <maryellen_werstine@hotmail.com>
Subject: Innisfree Memo from Crossroads Consulting

Please review carefully this memo from Susan and Todd with respect to what they see as the most beneficial way forward, and prior to undertaking a formal feasibility study.

It appears to me like we should appoint a small group - perhaps one person from each interested party, i.e., DNR, MHC, Livingston County, Howell Parks & Rec, Putnam Twp., Marion Twp., the private entity EquuSpirit Partnership LLC, and any other interested party - as a task force to work through the various suggested actions set out in Susan's attached memo.

This approach undoubtedly will require commitment and effort, but it will also likely yield the best overall results and put us in the strongest position for all parties to move forward positively and with a good result.

If each interested entity will nominate someone to serve on the task force, Col. Don Packard and either Paul Yauk or Matt Lincoln can, between them, set a date, time and place for the initial task force meeting to chart the way forward.

Very best regards,

Jean

--
Please note my contact info:

Jean Ligon

Crossroads
CONSULTING SERVICES

Memorandum

To: Ms. Jean Ligon, Michigan Horse Council

From: Susan Sieger, Crossroads Consulting Services, LLC
Todd Gralla, Populous

Date: April 30, 2018

Re: Camp Innisfree Project

Based on our recent conversations, this memo provides an update on our team's assessment of the issues surrounding the potential land uses for the Camp Innisfree property. Based on the workshop, review of materials received to date, our internal team discussions and our experience with similar projects, we believe it is premature to proceed with a feasibility study at this juncture. To provide you with a deliverable that achieves your objectives for future decision-making, it is necessary to have a solid understanding of alternative land uses including:

- Physical considerations – size, amount and type of space required
- Market considerations
- Operational considerations
- Economic considerations – both capital and on-going operational

In the interim, we have outlined a preliminary project framework sets forth the salient issues and outlines different approaches and potential next steps for your consideration that may lead you closer to having viable solutions that can be further analyzed.

Statement of Issues

The following outlines key issues related to the project that we have identified in the discovery phase:

- Multiple stakeholders (e.g., Michigan Horse Council, Department of Natural Resources (DNR), Putnam Township, Marion Township, Livingston County, Howell Parks & Recreation, EquuSpirit Partnership, etc.) have expressed interest in utilizing the Innisfree parcel. These stakeholders appear to share common ground relative to developing the property for productive use, but the actual desired uses are quite diverse in nature. Some suggested uses are not necessarily complementary and need to be further understood and defined.

- The acquisition of the land can be accomplished by DNR but is currently predicated on the Michigan Horse Council managing and operating the asset after acquisition, which may include subleases with multiple parties.

- The management and operation of the land is a substantial undertaking which carries with it significant financial responsibility. The primary financial considerations to be addressed lie in identifying a source of funds for the following: (1) capital investment to improve the existing structures, and (2) revenue stream to support the ongoing maintenance and upkeep of the property and buildings.

Crossroads
CONSULTING SERVICES

Project Approach and Next Steps

The following outlines some tactics and potential next steps that may be helpful as you continue to evaluate the merits of acquiring this property:

- Establish a formal working group or project steering committee with representatives from each key stakeholder group. Identify key leadership roles and project goal as well as critical project milestones to ensure an accountable process. This is a complex project with many moving parts and can benefit from strong project governance and accountability.

- Establish a project framework that includes the following:

  - Detailed Stakeholder Matrix that identifies each significant stakeholder, their desired use and available resources to help frame the overall organization of the project.

  - Project Plan which establishes a roadmap of prioritized alternative usages and the physical, market, operational and economic considerations of each one. A key consideration is what entity is ultimately responsible for the long-term financial sustainability and what are the potential risks.

- Research and analyze methods for acquiring and managing the land.

  - Gain an understanding of ownership and management structures that provide maximum flexibility in achieving prioritized alternative usages while complying with local laws and constraints. Are there special purpose entities that can be established and responsible for overseeing all uses? What are the revenue streams that can be derived if a new special purpose entity has flexibility to lease, sell or otherwise encumber part of the property towards the goal of supporting the overall project?

- Research potential innovative Public Private Partnership (P3) approaches.

  - In instances where the public sector lacks financial resources to drive project revenue streams and the public sector could provide regulatory relief and community incentives, a Public Private Partnership structure can be explored.

  - P3 projects can assist in realizing public sector and community benefits by activating a previously underutilized space for residents and visitors while the private sector gains access to a location or opportunity to implement a project which drives revenues and other benefits to them and the region. These projects also typically involve some shifting of project risk to the private partner which can be financial or operational in nature.

  - A key element of P3 projects is in identifying private sector partners who are seeking opportunities, who understand the nature of the relationship with the public sector, and support shared goals. The first step is to determine if there is a market for the private sector such that a partnership can be structured. Using ESP as an example, the question arises as to what other entities would be interested in discussions towards this end?

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CONSULTING SERVICES

- Identify the type of P3 that is possible and supportable by the key stakeholders. Examples include:

  - Private sector acquisition of the land with prior agreement (e.g., Memorandum of Understanding or other binding form of agreement) allowing public sector alternative uses (e.g., camping, trails, etc.) to be implemented. The private sector entity can pursue development in other areas of the property in support of its purchase.

  - Public sector acquisition of the land and pursuit of a management agreement for a private sector partner to operate and manage the property. The private sector partner can be responsible for overall management as also be subject to financial incentives and accountability under the agreement. Flexibility to allow the private entity to enter into binding agreements to implement alternative uses will be an important consideration.

In summary, key considerations include:

- Identifying potential uses that are compatible with the land owner's objectives including long-term financial sustainability of the entire project.
- Determining the best ownership structure and entity for acquiring the property to ensure preservation of desired uses and long-term financial viability.
- Determining the best entity for managing the entire property to drive sufficient funds to update and maintain the property for desired uses.
- Establishing the ownership structure is complex and requires a legal analysis.
- Identifying phasing options for the project along with financial implications.

This is a complicated project with significant financial implications. While we believe it is premature to proceed with a feasibility study at this point in the project lifecycle, we are hopeful that this suggested framework will be of assistance as you work to further define alternative uses and the physical, market, operational and economic considerations that accompany them.

Please feel free to contact me if you have any questions or want to discuss these suggestions in more detail and please keep us updated on your progress as we would certainly like to be involved in assisting you at the appropriate time.